F-806

IONOSPHERIC DATA IN JAPAN

FOR FEBRUARY 2016

VOL. 68 NO. 2

CONTENTS

≪Real Time Ionograms on the Web ・・・・・・・・・・・・・http://wdc.nict.go.jp/index_eng.html≫

NATIONAL INSTITUTE OF INFORMATION
AND COMMUNICATIONS TECHNOLOGY
TOKYO, JAPAN

INTRODUCTION

This Series contains data on ionosphere (I) and solar radio emission (S) obtained at the following stations under the National Institute of Information and Communications Technology , Japan.

Stations	Geographic(WGS84)		Geomagnetic (IGRF-10(2005))		Technical Method
	Latitude	Longitude	Latitude	Longitude	
✳Wakkanai/Sarobetsu	45˚10'N	141˚45'E	36.4˚N	208.9˚	Vertical Sounding (I)
Kokubunji	35˚43'N	139˚29'E	26.8˚N	208.2˚	Vertical Sounding (I)
Yamagawa	31˚12'N	130˚37'E	21.7˚N	200.5˚	Vertical Sounding (I)
Okinawa	26˚41'N	128˚09'E	17.0˚N	198.6˚	Vertical Sounding (I)
Hiraiso	36˚22'N	140˚37'E	27.6˚N	209.1˚	Solar Radio Emission (S)

✳We moved the observation facilities at Wakkanai to Sarobetsu on February 2009. The new observatory is located at approximately 26km south from the old observatory. The observation at Sarobetsu commenced on March 6, 2009.

IONOSPHERE

Ionospheric observations are carried out at the above four stations in Japan by means of vertical sounding using ionosondes. The ionosonde produces ionograms, which are recorded digitally on a computer storage medium. The digitally-recorded ionograms are collected from each station by the central computer and reduced to numerical values and Summary Plots by the automatic processing system. The ionograms obtained at Kokubunji are manually scaled by experienced specialists to supplement automatically-scaled parameters.

A1. Automatic Scaling

Digital ionograms are automatically scaled by the pattern recognition method. The following five characteristics of the ionospheric are listed below. The reliability of these factors has been ascertained by comparison of the automatically-scaled parameters with the manually-scaled values of large amounts of test ionograms.

The published data consist of tabulations of hourly values of three factors (*foF2, fEs*, *fmin*) and monthly medians of two factors (*h'Es* ,*h'F*), daily Summary Plots and monthly medians plot of *foF2*.

a. Characteristics of Ionosphere

foF2	Ordinary wave critical frequency for the ***F2*** layer
fEs	Highest frequency of the ***Es*** layer whether it may be ordinary or extraordinary
fmin	Lowest frequency which shows vertical iono-spheric reflections
h'Es ***h'F***	Minimum virtual height on the ordinary wave for the ***Es*** and ***F*** layers, respectively

b. Descriptive Letters

The following descriptive letters are used in the tables.

A Impossible measurement because of the presence of a lower thin layer, for example *Es* (for *foF2*).

C Impossible measurement because of any failure in observation.

G Impossible automatic scaling because of very small ionization density of the layer (for *fEs*).

N Impossible automatic scaling because of complex echoes.

Blank No digital record because of problems occurring in the auto matic data processing system, but existence of film record.

c. Definitions of CNT, MED, UQ ,and LQ

Median count (**CNT**) is the number of numerical values from which the median has been computed. In addition to numerical values, the count may include a descriptive letter G.

Median (**MED**) is defined as the middle value when the numerical values are arranged in order of magnitude, or the average of the two middle values if there is an even number of values.

Upper quartile (**UQ**) is the median value of the upper half of the values when they are ranked according to magnitude; the ***lower quartile*** (**LQ**) is the median value of the lower half.

If CNT is less than 10, there are blank spaces left.

d. Reliability of Automatic Scaling

The results of the comparison between automatically-scaled values and manually-scaled ones showed that hourly values of *foF2 , fEs* and *fmin* were scaled within a difference of 1 MHz from about 90, 90 and 99%, respectively of the test ionograms.

e. Summary Plot

Daily Summary Plots which are made from quarter-hourly digital ionograms are published to present general ionosphere conditions. The upper and middle parts of a Summary Plot show the diurnal variation of the frequency range of the echoes reflected from the *F* and *E* regions, respectively. The two solid arcing lines indicate the predicted values of *fxE* and *foE* calculated by the method described in the CCIR report 340. The lower part shows the diurnal variation of the virtual height where the echo traces become horizontal.

A2. Manual Scaling

The published data consist of tabulations of hourly values of the ionospheric characteristics and figures of daily *f*-plot.

All symbols and terminology in the tables or figures of ionospheric data are used in accordance with the "URSI Hand-book of Ionogram Interpretation and Reduction (Second Edition) 1972 " and its revision of chapters I-4, published in July 1978.

a. Characteristics of Ionosphere

fxI	Top frequency of spread ***F*** trace
foF2 ***foF1*** ***foE*** ***foEs***	Ordinary wave critical frequency for the ***F2***, ***F1***, ***E,*** and ***Es*** (including particle type ***E)*** layers, respectively
fbEs	Blanketing frequency of the ***Es*** layer, e.g. the lowest ordinary wave frequency visible through ***Es***
fmin	Lowest frequency that shows vertical ionospheric reflections
M(3000)F2 ***M(3000)F1***	Maximum usable frequency factor for a path of 3000 km for transmission by the ***F2*** and ***F1*** layers, respectively
h'F2 ***h'F*** ***h'E*** ***h'Es***	Minimum virtual height on the ordinary wave for the ***F2,*** whole ***F, E*** and ***Es*** layers, respectively
Types of ***Es***	See below b. (iii)

b. Symbols

(i) Descriptive Letters

The following letters are entered after, or used to replaced a numerical value on the monthly tabulation sheets, if necessary.

A Measurement influenced by, or impossible because of, the presence of a lower thin layer, for example *Es*.

B Measurement influenced by, or impossible because of, absorption in the vicinity of *fmin*.

C Measurement influenced by, or impossible because of, any non-ionospheric reason.

D Measurement influenced by, or impossible because of, the upper limit of the normal frequency range in use.

E Measurement influenced by, or impossible because of, the lower limit of the normal frequency range in use.

F Measurement influenced by, or impossible because of, the presence of spread echoes.

G Measurement influenced by, or impossible because the ionization density of the layer is too small to enable it to be made accurately.

H Measurement influenced by, or impossible because of, the presence of a stratification.

K Presence of particle *E* layer.

L Measurement influenced or impossible because the trace has no sufficiently definite cusp between layers.

M Interpretation of measurement questionable because the ordinary and extraordinary components are not distinguishable.

N Conditions are such that the measurement cannot be interpreted.

O Measurement refers to the ordinary component.

P Man-made perturbations of the observed parameter; or spur type spread *F* present.

Q Range spread present.

R Measurement influenced by, or impossible because of, attenuation in the vicinity of a critical frequency.

S Measurement influenced by, or impossible because of, interference or atmospherics.

T Value determined by a sequence of observations, the actual observation being inconsistent or doubtful.

V Forked trace which may influence the measurement.

W Measurement influenced or impossible because the echo lies outside the height range recorded.

X Measurement refers to the extraordinary component.

Y Lacuna phenomena, severe layer tilt.

Z Third magneto-electronic component present.

(ii) Qualifying Letters

The following letters are entered in the first column before a numerical value on the monthly tabulation sheets, if necessary.

A Less than. Used only when *fbEs* is deduced from *foEs* because total blanketing of higher layer is present.

D Greater than.

E Less than.

I Missing value has been replaced by an interpolated value.

J Ordinary component characteristic deduced from the extraordinary component.

M Mode interpretation uncertain.

O Extraordinary component characteristic deduced from the ordinary component. (Used for x-characteristics only.)

T Value determined by a sequence of observations, the actual observation being inconsistent or doubtful.

U Uncertain or doubtful numerical value.

Z Measurement deduced from the third magneto-electronic component.

(iii) Description of Types of *Es*

When more than one type of *Es* trace are present on the ionogram, the type for the trace used to determine *foEs* must be written first. The number of multiple trace is indicated after the type letter.

The types are:

f An *Es* trace which shows no appreciable increase of height with frequency.

l A flat *Es* trace at or below the normal *E* layer minimum virtual height or below the part *E* layer minimum virtual height.

c An *Es* trace showing a relatively symmetrical cusp at or below *foE*. (Usually a daytime type.)

h An *Es* trace showing a discontinuity in height with the normal *E* layer trace at or above *foE*. The cusp is not symmetrical, the low frequency end of the *Es* trace lying clearly above the high frequency end of the normal *E* trace. (Usually a daytime type.)

q An *Es* trace which is diffuse and non-blanketing over a wide frequency range.

r An *Es* trace showing an increase in virtual height at the high frequency end similar to group retardation.

a An *Es* trace having a well-defined flat or gradually rising lower edge with stratified and diffuse traces present above it.

s A diffuse *Es* trace which rises steadily with frequency and usually emerges from another type *Es* trace.

d A weak diffuse trace at heights below 95 km as-sociated with high absorption and large *fmin.*

n The designation 'n' is used to denote an *Es* trace which cannot be classified into one of the standard types.

k The designation 'k' is used to show the presence of particle *E*. When *foEs* > *foE* (particle *E*) the *Es* type precedes k.

c. Definitions of the CNT, MED, UQ and LQ

Median count (**CND**) is the number of values from which the median has been computed. In addition to numerical values, the count may include certain descriptive letters.

Median (**MED**) is the middle value when the numerical values are arranged in order of magnitude, or the average of the two middle values if there is an even number of values.

Upper quartile (**UQ**) is the median value of the upper half of the values when they are ranked according to magnitude; the ***lower quartile*** (**LQ**) is the median value of the lower half.

HOURLY VALUES OF foF2 AT Wakkanai

FEB. 2016

LAT. 45°10.0'N LON. 141°45.0'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	59	34	32	34	34	34	24	47	70	67	86	96	68	66	70	66	61	51	44	42	32	42	44	43
2	47	48	51	48	48	34	35	53	55	67	59	80	65	67	43	68	61	49	61	58	48	36	43	34
3	53	47	28	46	43	43	48	54	65	88		75	83	72	91	80	65	43	35	34	32	37	34	37
4	38	41	41	37	31	37	32	54	61	67	80	72	68	66	69	68	63	48	48	45	42	37	34	42
5	44	36	42	43	42	44	36	58	70	72	59	71	80	71	74	71	71	55	54	44	34	34	32	37
6	42	42	42	43	46	31	30	50	73	69	85	71	64	93	80	71	68	61	42	A	A	48	54	52
7	52	52	54	45	47	51	49	65	72		69	86	86	68	70	69	61	A	A	34	32	29	40	43
8	37	46	47	45	32	32	32	55	65	67	68	70		69	84	69	66	62	51	47	43	43	42	42
9	48	48	52	56	62	52	38	58	72	79		68	67	70	72	72	67	60	55	59	49	51	42	47
10	50	44	47	34	36	36	34	51	77	86	86	90	86	68	77	74	68	58	53	38	32	37	34	34
11	32	37	34	35	34	28	A	58	67	68	60	92	84	83	70	70	70	55	44	35	N	32	32	37
12	39	38	40	32	32	30	28	54	67	64	70	91	N	89	N	70	67	A	60	46	43	42	34	40
13	34	51	50	34	A	34	A	60	114	70	59	92	72	77	74	87	72	65	64	A	A	A	42	A
14	43	41	34	N	42	38	42	61	76	67	59	86	81	72	70	72	74	61	44	46	37	34	42	A
15	36	48	48	46		38	40	60	73	70	86	79	96	90	71	70	71	67	46	46	31	34	A	43
16	46	42	43	46	44	43	46	67	92	59	112	120	92	74	80	78	67	66	64	58	53	50	42	47
17	46	42	44	48	34	29	34	67	80	69	73	91	92	N	82	73	70	63	61	50	37	34	36	38
18	34	34	37	32	A	25	29	65	67	92	72	69	91	71	73	94	71	68	55	42	29	28	34	36
19	28	34	31	47	47	34	34	64	65	65	83	92		70	79	91	86	66	48	43	43	44	46	49
20	36	51	52	54	47	37	34	65	64	71	99	59	91	71	67	87	72	68	48	47	29	38	30	37
21	32	31	34	32	46	48	48	65	67	71	70	55	81	80	69	68	62	56	60	51	32	29	32	34
22	34	34	34	38	46	45	42	49	67	59	66	68	85	74	70	72	71	66	54	48	37	32	31	32
23	28	34	34	32	36	36	34	58	64	71	72	70	88		72	81	70	65	42	34	35	34	32	34
24	36	34	34	34	37	40	48	63	67	67	77	N	51	70	73	71	72	66	53	48	37	32	43	43
25	32	46	44	45	45	45	54	65	73	68	79	59	67	70	85	70	70	68	51	44	47	42	42	37
26	43	42	43	42	46	47	52	60	67	68	72	72	68	70	77	65	71	70	51	34	42	36	37	43
27	44	44	45	47	45	45	50	65	67	67	80	69	68	68	74	70	76	68	65	44	37	89	32	34
28	34	38	36	34	43	40	46	67	69	70	66	71	75	69	74	69	70	70	55	42	42	32	35	42
29	43	42	34	34	44	39	42	60	71	81	72	69	70	72	72	81	68	66	51	37	34	34	32	
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	28	26	29	27	29	29	28	27	28	26	27	28	29	29	27	28	27	26	28	28	26
MED	39	42	42	42	44	38	38	60	67	68	72	72	80	71	73	71	70	65	52	44	37	36	36	39
U Q	46	46	47	46	46	44	48	65	73	71	83	90	86	74	78	79	71	67	57	48	43	42	42	43
L Q	34	35	34	34	36	34	34	54	66	67	66	69	68	69	70	69	66	56	47	38	32	33	32	36

HOURLY VALUES OF fEs AT Wakkanai

FEB. 2016

LAT. 45°10.0'N LON. 141°45.0'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	27	26	26	24	G	G	G	G	32	41	40	40	G	54	50	41	G	G	G	G	26	26	28	31
2	33	24	G	G	G	G	G	G	41	G	G	G	G	G	40	52	62	46	50	33	33	27	G	G
3	G	G	G	G	G	G	G	28	31	34		67	43	G	G	G	31	G	G	G	G	G	G	G
4	G	28	28	G	G	25	G	G	32	35	36	G	G	G	34	35	34	34	G	G	G	G	G	G
5	G	G	G	G	G	G	G	G	48	G	42	40	38	36	37	G	G	G	G	G	G	G	G	G
6	G	32	G	26	G	G	G	28	34	G	36	63	52	44	51	79	42	26	G	48	34	G	29	G
7	G	G	24	23	G	30	24	G	48		36	G	42	37	63	50	63	70	53	30	30	27	G	G
8	G	27	39	34	33	G	G	G	G	G	G	G		38	48	G	G	55	26	31	G	28	32	G
9	G	28	34	32	30	29	G	G	69	52		G	G	G	G	G	36	28	28	G	26	G	G	G
10	G	G	G	24	G	G	29	32	40	43	G	G	G	G	G	G	37	39	33	51	27	G	G	G
11	G	26	G	24	G	26	32	36	32	66	67	G	G	G	G	G	G	33	G	G	29	33	G	G
12	26	25	G	29	G	G	29	43	96	73	49	G	G	G	G	G	39	71	35	28	G	G	26	29
13	29	46	40	G	27	G	43	G	G	G	37	41	38	37	G	G	36	40	32	70	56	36	32	41
14	33	24	G	G	G	G	26	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	25	39
15	32	G	G	G		25	G	G	G	G	40	63	G	G	G	G	48	G	G	34	34	G	40	34
16	29	29	G	G	G	G	G	G	35	38	G	G	G	G	G	G	G	G	26	G	G	G	G	28
17	24	G	23	G	G	G	G	29	35	38	43	39	G	G	G	G	G	G	34	G	G	G	G	G
18	27	32	29	34	27	G	G	G	32	42	58	G	G	G	36	G	G	11	G	G	G	G	G	G
19	G	G	G	G	G	G	G	G	32	35	G	G		G	G	39	44	G	G	G	G	G	G	G
20	G	G	G	G	G	G	G	48	33	72	55	43	48	48	45	38	43	38	35	49	29	36	38	30
21	71	28	G	24	G	G	G	34	36	40	40	G	G	G	G	35	G	G	G	11	G	G	24	G
22	G	G	G	G	G	G	G	48	48	40	40	G	G	G	G	35	G	G	G	G	G	G	G	29
23	29	23	G	26	27	26	25	G	34	39	39	G	G		40	36	50	G	G	G	G	G	G	G
24	G	G	G	G	G	G	24	48	G	N	38	39	G	G	G	G	33	G	G	G	G	31	40	24
25	30	G	G	G	G	G	G	G	32	36	G	G	G	G	G	G	G	33	37	G	G	G	G	G
26	G	G	G	G	G	G	G	G	40	G	G	G	G	G	G	G	G	G	G	32	G	32	G	G
27	G	G	G	G	G	G	G	G	G	G	38	G	G	G	G	G	G	32	G	G	G	G	G	G
28	G	G	G	G	G	G	G	G	G	G	38	G	G	N	G	G	G	G	28	28	G	26	G	G
29	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	38	G	G	G	G	G	G	G	
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	28	29	29	29	29	27	27	29	27	27	29	29	29	29	29	29	29	29	29	28
MED	G	G	G	G	G	G	G	G	32	35	38	G	G	G	G	G	G	G	G	G	G	G	G	G
U Q	29	27	23	24	G	G	24	30	40	41	40	39	G	36	38	37	40	36	32	31	28	27	27	28
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G

HOURLY VALUES OF fmin AT Wakkanai

FEB. 2016

LAT. 45°10.0'N LON. 141°45.0'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	15	15	14	14	15	15	15	15	15	14	14	14	15	17	14	15	15	14	15	15	15	15	14	14
2	14	14	14	14	14	16	14	16	14	15	17	32	15	14	15	14	14	14	14	14	14	15	14	15
3	14	14	14	14	14	14	14	14	14	14		14	14	14	14	14	14	14	15	14	15	15	15	14
4	14	14	14	14	14	14	14	17	14	14	14	14	14	14	14	14	14	14	14	14	14	14	15	14
5	15	14	15	14	14	18	14	17	14	14	15	15	14	14	15	14	14	15	14	14	15	14	15	14
6	14	15	14	15	14	14	14	14	14	14	14	16	17	16	18	14	16	14	15	14	14	14	15	14
7	14	14	14	14	14	14	15	18	14		29	26	27	20	21	17	15	14	14	14	14	14	14	14
8	14	15	14	14	14	15	15	20	27	20	20	34		26	21	21	16	14	15	14	14	15	14	14
9	14	14	14	14	14	14	14	14	15	15		17	20	21	20	27	15	15	15	14	14	15	14	14
10	14	14	14	15	14	14	15	14	15	15	14	15	14	14	14	14	14	14	14	14	14	14	15	14
11	14	14	14	15	15	15	15	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	18	14
12	15	15	14	14	14	16	14	14	16	20	21	32	34	32	29	16	15	14	14	14	15	17	14	14
13	14	14	14	14	14	15	14	14	20	18	22	23	20	20	18	15	14	14	14	14	14	14	14	14
14	14	15	15	15	15	15	14	15	14	15	14	15	16	17	16	15	14	14	14	14	15	15	17	14
15	14	14	15	14		15	15	18	16	14	14	15	16	14	14	14	14	16	14	14	14	14	14	14
16	14	14	14	14	15	14	14	14	14	14	15	16	15	14	14	14	22	16	15	14	14	14	14	14
17	15	14	15	14	14	15	18	20	14	14	14	15	16	15	16	14	14	16	15	14	14	15	15	14
18	14	14	14	14	15	15	14	14	14	14	14	33	16	15	14	14	14	16	15	14	14	14	14	14
19	14	14	14	14	14	14	14	20	14	14	14	16		14	14	14	14	17	14	14	14	14	14	14
20	14	14	14	14	14	14	15	14	14	14	16	14	16	14	14	14	14	15	14	14	14	14	14	14
21	14	14	14	15	14	14	14	14	14	14	14	14	14	14	14	14	14	16	14	14	14	15	14	14
22	14	14	14	14	14	14	14	14	14	14	14	15	15	14	14	14	14	16	14	14	14	14	15	14
23	15	14	14	14	14	14	15	21	14	14	14	14	14		14	14	14	16	14	14	14	14	14	14
24	14	15	15	15	14	14	15	20	14	14	14	15	18	17	14	14	14	16	14	14	14	15	14	14
25	14	14	14	14	14	14	14	20	14	15	15	17	18	18	20	16	14	14	14	14	14	14	15	15
26	16	14	14	14	14	14	14	18	14	14	15	17	16	18	15	14	14	17	14	14	14	14	14	15
27	14	14	14	14	14	14	15	21	15	18	20	22	44	20	18	18	15	14	14	14	15	15	15	17
28	14	15	14	14	14	14	14	21	15	16	20	20	17	17	16	16	15	14	14	14	14	16	14	14
29	15	15	14	14	14	14	14	22	14	15	17	21	17	18	16	15	14	16	14	15	14	15	14	
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	28	29	29	29	29	28	27	29	27	28	29	29	29	29	29	29	29	29	29	28
MED	14	14	14	14	14	14	14	16	14	14	14	16	16	16	15	14	14	14	14	14	14	14	14	14
U Q	14	15	14	14	14	15	15	20	15	15	17	21	18	18	18	15	15	16	15	14	14	15	15	14
L Q	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14

HOURLY VALUES OF foF2 AT Kokubunji

FEB. 2016

LAT. 35°43.0'N LON. 139°29.0'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	37	A	34	34	34	36	38	51	67	94	75	106	88	68	86	82	62	55	48	54	37	34	36	34
2	37	39	42	37	N	26	27	47	59	68	78	85	84	69	77	71	71	51	37	43	44	A	37	38
3	39	34	34	N	36	27	34	53	54	66	87	90	72	85	88	96	66	51	38	42	27	38	39	34
4	34	34	37	32	42	45	51	58	62	64	73	90	85	87	67	68	69	64	52	49	45	38	42	41
5	44	44	42	42	46	42	39	64	74	76	81	96	84	75	74	80	75	66	55	49	31	31	34	36
6	36	38	39	42	32	23	28	58	66	77	76	86	78	87	95	91	75	55	44	42	34	39	44	47
7	49	53	47	46	45	45	47	75	80	81	82	86	87	90	76	69	75	67	42	36	34	A	A	A
8	32	36	38	38	32	31	30	54	62	68	87	91	100	92	95	84	70	61	51	52	A	A	A	36
9	39	42	44	52	49	28	37	61	69	85	101	84	80	76	78	78	74	62	49	A	44	42	39	43
10	43	39	39	30	34	36	42	62	78	93	104	117	91	91	80	81	73	68	55	53	41	38	41	39
11	44	45	45	39	N	27	28	54	76	84	107	122	116	106	92	75	72	58	38	A	A	A	41	41
12	42	40	42	36	24		28	52	67	73	96	100	N	82	77	74	77	66	52	51	51	46	44	46
13	52	54	43	38	A	28	34	59	72	80	95	106	97	91	87	80	82	72	A	52	47	44	42	44
14	44	43	43	39	38	38	39	66	75	74	80	83	81	86	82	80	72	67	52	44	45	34	43	47
15	44	43		45	42	44	45	67	91	102	98	88	88	98	98	86	77	67	49	47	45	42	42	43
16	45	48	46	42	41	37	38	71	77	91	104	117	117	101	82	82	77	71	71	67	49	48	45	42
17	37	41	42	43	28	34	43	61	80	92	107	106	112	100	87	78	77	75	51	51	50	36	36	39
18	37	41	36	42	N	N	32	58	104	102	108	88	116	105	87	96	98	72	52	45	39	36	38	36
19	38	42	43	42	44	26	37	50	84	77	82	105	117	111	102	85	81	74	48	37	36	28	34	27
20	34	38	39	42	45	42	39	66	85	92	88	105	107	108	81	81	90	76	58	44	44	36	37	36
21	34	A	34	36	40	32	34	64	N	77	76	81	N	96	86	82	76	68	51	48	44	27		27
22	30	31	32	36	36		28	54	69	75	78	81	90	90	85	78	78	92	61	45	34	30	34	28
23	32	30	31	34	38	28	29	57	65	72	74	87	95	105	107	95	80	59	49	41	34	38	34	34
24	34	34	36	37	37	39	39	49	69	71	68	90	97	95	85	85	82	66	59	51	47	38	34	34
25	36	32	37	39	39	39	41	54	67	78	86	81	100	92	79	81	68	59	55	48	48	A	A	34
26	34	36	36	36	36	37	42	58	71	72	76	72	90	96	86	75	65	67	67	48	A		34	34
27	36	36	34	34	34	36	42	66	78	67	69	76	86	77	82	82	81	78	63	45	31	A	34	36
28	34	37	36	36	37	37	43	66	65	68	80	80	96	99	96	81	69	66	61	51	39	34	36	38
29	36	34	36	38	42	34	36	58	68	75	78	92	91	88	91	84	84	67	50	45	34	31	34	37
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	27	28	28	25	26	29	29	28	29	29	29	27	29	29	29	29	29	28	27	26	22	25	28
MED	37	39	38	38	38	36	38	58	70	77	82	90	91	91	86	81	75	67	52	48	42	37	37	36
U Q	43	43	42	42	42	39	42	65	78	88	97	105	100	99	91	84	80	71	56	51	45	39	42	41
L Q	34	34	36	36	34	28	31	54	66	71	76	83	85	85	79	78	70	60	48	44	34	34	34	34

HOURLY VALUES OF fEs AT Kokubunji

FEB. 2016

LAT. 35°43.0'N LON. 139°29.0'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	25	34	28	G	G	G	G	G	32	G	55	G	G	G	G	G	G	G	G	23	G	23	22	G
2	G	G	G	G	G	G	G	G	33	G	G	G	G	G	G	G	G	34	33	28	28	46	28	30
3	25	G	G	G	G	G	G	G	32	G	N	G	G	G	G	G	G	25	28	24	G	G	G	24
4	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
5	G	G	G	G	G	G	G	G	G	G	G	G	45	G	G	35	G	G	G	G	G	G	G	G
6	G	G	G	G	G	G	G	26	47	G	G	G	49	76	52	90	55	28	G	G	24	G	36	G
7	26	33	49	33	G	G	G	G	G	G	G	G	G	53	46	44	G	G	G	G	G	37	38	29
8	G	G	26	G	30	41	28	30	G	G	G	G	G	45	G	41	41	28	33	51	65	58	34	G
9	30	30	39	G	27	G	G	G	G	G	G	56	G	41	G	G	G	G	60	103	40	36	25	25
10	G	G	G	G	G	G	G	G	34	60	G	G	G	G	G	G	46	53	40	31	34	G	G	G
11	G	24	26	G	G	G	G	G	56	69	51	G	G	G	G	G	35	G	37	57	49	53	G	24
12	29	27	31	29	G		G	29	48	G	G	G	G	G	G	35	G	G	G	G	G	26	G	G
13	G	G	G	33	37	29	34	44	G	75	41	G	G	G	G	51	G	G	102	72	51	40	36	30
14	31	29	G	G	G	G	G	29	G	G	G	G	G	50	51	G	33	G	G	27	40	29	25	G
15	G	G		G	G	G	G	28	G	G	42	52	44	G	G	G	35	55	34	G	G	G	37	33
16	40	G	28	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
17	G	G	G	G	G	G	G	G	G	G	41	47	G	G	G	G	G	G	G	G	G	G	G	G
18	G	G	24	G	G	G	G	G	G	G	40	G	G	G	G	G	G	G	G	G	G	G	G	G
19	G	G	G	G	G	G	G	G	G	G	G	G	47	46	39	G	40	G	G	G	G	G	G	G
20	G	G	G	G	G	G	G	G	G	G	G	G	48	G	G	G	G	33	26	29	G	G	25	25
21	G	32	27	29	24	23	25	49	G	G	G	G	56	47	61	51	36	G	G	28	G	G		G
22	G	G	G	G	G		G	47	48	G	G	50	48	G	G	G	33	28	11	G	G	G	23	G
23	G	G	G	24	G	G	G	47	N	G	50	49	43	50	45	G	37	27	G	24	G	G	G	G
24	G	G	G	G	G	G	G	47	48	G	G	G	G	G	G	50	34	G	23	32	G	G	26	G
25	G	G	G	G	G	23	11	28	G	53	G	G	G	G	G	G	G	G	G	G	29	50	34	28
26	27	24	G	G	G	G	G	G	G	37	40	43	G	G	G	G	G	G	G	G	55		G	G
27	27	G	G	G	G	G	G	G	G	G	48	G	41	G	45	G	43	27	29	26	29	32	G	G
28	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	26	G	G	G	G	30
29	G	G	G	G	G	G	G	G	G	G	40	G	G	G	G	G	G	G	G	G	G	G	G	G
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	28	29	29	27	29	29	28	29	28	29	29	29	29	29	29	29	29	29	29	28	28	29
MED	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
U Q	25	24	26	G	G	G	G	29	32	G	40	G	43	43	20	35	35	27	31	28	31	34	27	25
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G

HOURLY VALUES OF fmin AT Kokubunji

FEB. 2016

LAT. 35°43.0'N LON. 139°29.0'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	14	13	13	14	14	14	13	17	13	14	14	13	20	18	17	18	13	18	14	13	13	13	14	13
2	13	13	13	13	13	14	13	15	13	14	15	18	20	23	14	13	13	13	14	14	14	13	13	13
3	13	14	14	14	13	13	14	15	13	17	15	13	14	13	14	13	13	20	14	14	14	14	13	13
4	14	14	15	15	13	13	15	15	13	13	15	14	18	14	13	14	13	13	14	13	14	13	13	13
5	13	13	13	13	13	14	14	20	13	15	18	15	18	18	14	13	14	17	13	13	13	13	14	14
6	14	13	14	13	13	15	14	14	13	13	14	17	18	18	17	20	13	14	14	14	14	13	13	15
7	13	13	13	13	13	13	14	20	17	21	39	40	38	26	30	22	14	20	13	14	15	13	13	13
8	15	14	13	13	13	13	13	13	24	21	38	38	40	33	38	22	18	14	13	13	14	13	14	15
9	13	14	13	14	14	13	14	22	15	17	18	20	25	26	22	18	13	20	13	13	13	13	13	13
10	17	13	13	14	15	14	14	18	14	17	17	20	18	20	18	17	13	13	13	13	14	13	13	13
11	13	14	13	13	14	14	13	18	13	14	15	17	20	15	17	14	13	18	13	13	13	13	14	13
12	13	13	13	13	13		14	15	13	15	18	18	21	20	18	15	13	13	14	14	13	13	15	13
13	13	13	13	13	13	13	13	13	13	13	15	39	20	21	14	21	17	20	14	13	13	13	14	13
14	13	13	13	13	14	13	13	14	13	13	17	15	17	29	15	40	18	22	14	14	14	14	13	13
15	13	14		14	13	13	13	14	14	13	14	14	25	20	18	15	13	14	13	13	14	14	14	13
16	14	15	14	13	14	17	14	21	17	13	20	24	18	18	13	13	17	20	13	13	14	13	13	13
17	14	15	13	13	13	13	14	13	13	15	17	23	26	20	24	17	14	20	14	15	13	13	14	14
18	13	13	14	14	17	15	14	21	15	18	15	43	38	18	20	21	14	21	13	14	13	13	13	14
19	13	13	13	13	14	13	14	21	14	14	18	18	18	18	18	17	14	18	13	13	14	14	14	18
20	14	13	14	14	13	13	13	13	13	15	18	22	20	20	20	17	15	15	14	14	14	15	14	14
21	13	14	14	13	13	13	13	17	13	14	14	17	20	20	17	14	13	14	14	13	13	13		14
22	13	13	13	13	13		13	17	13	13	15	17	31	20	17	17	14	13	14	13	13	14	13	14
23	14	14	13	13	13	13	14	22	13	15	20	18	20	20	20	17	14	13	13	13	14	13	13	13
24	13	13	13	13	13	14	13	18	13	14	14	21	20	21	18	13	13	18	13	13	14	13	13	14
25	14	14	15	14	14	13	14	13	13	13	14	20	22	42	18	15	13	22	13	14	13	13	13	13
26	13	14	14	13	15	15	13	21	13	17	17	18	17	21	20	18	13	13	13	14	13		14	13
27	13	13	14	13	13	13	14	21	18	18	18	42	39	37	31	18	13	13	13	14	14	13	13	13
28	14	14	13	13	13	13	20	20	31	37	20	21	21	21	18	14	15	18	14	14	13	13	14	13
29	13	13	13	13	13	13	14	13	14	21	21	39	37	37	34	15	14	17	13	14	14	14	14	13
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	28	29	29	27	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	28	28	29
MED	13	13	13	13	13	13	14	17	13	15	17	18	20	20	18	17	13	17	13	13	14	13	13	13
U Q	14	14	14	14	14	14	14	20	14	17	18	23	25	24	20	18	14	20	14	14	14	13	14	14
L Q	13	13	13	13	13	13	13	14	13	13	15	17	18	18	16	14	13	13	13	13	13	13	13	13

HOURLY VALUES OF foF2 AT Yamagawa

FEB. 2016

LAT. 31°12.0'N LON. 130°37.0'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	34	40	A	34	34	34	38	40	60	76	98	112	80	70	96	92	75	66	49	53	46	29	B	28
2	28	31	34	34	26	N	B	34	59	67	66	88	81	85	80	71	78	70	51	36	44	42	33	38
3	40	37	30	32	40	29	29	42	64	67	76	90	86	92	92	84	83	71	63	43	43	43	36	29
4	28	32	32	34	37	29	34	45	64	66	70	78	92	88	82	76	81	75	72	49	42	36	36	49
5	40	64	41	40	50	22	32	44	73	77	78	88	95	95	91	96	91	82	83	48	45	42	37	36
6	36	34	36	41	40	30	29	43	63	71	82	81	85	91	88	97	82	76	55	42	43	40	40	42
7	40	42	42	44	49	52	45	51	N	93	82	84	98	102	96	90	75	80	76	A	A	A	36	34
8		40	32	34	31	31	30	42	59	65	88	90	97	92	91	91	81	72	73	44	40	36	A	30
9	32	30	38	A	52	A	28	41	66	76	91	93	82	86	78	72	74	72	63	52	53	51	54	47
10	A	47	42		30	32	36	51	72	73	90	108	107	104	97	85	78	75	72	52	47	42	A	A
11	35	37	40	37	28	28	30	40	70	86	C	C	C	C	C	112	84	71	55	40	48	52	A	40
12	A	42	43	34	59	N	28	43	62	C	87	97	96	88	81	74	80	84	68	54	60	34	51	A
13	51	47	43	41	B	29	29	48	66	71	87	100	107	104	102	87	88	80	67	64	54	54	B	42
14	42	41	40	40	38	36	34	49	73	71	82	93	86	90	107	97	83	72	75	54	46	40	41	41
15	36	34	34	34	59	34	34	52	77	74	87	82	87	95	104	104	92	72	67	60	44	28	42	40
16	40	41	A	38	40	34	37	48	72	86	96	110	101	107	99	94	96	88	88	87	50		61	52
17	34	29	42	43	34	32	44	50	70	90	96	117	109	86	94	94	85	81	73	72	54	46	32	34
18	34	34	37	36	30	N	26	43	90	78	96	95	110	110	100	97	111	94	67	50	38	38	41	28
19	30	A	36	34	42	29	N	44	72	80	81	96	110	115	111	101	98	90	71	52	37	41	36	34
20	37	28	34	40	45	30	B	42	76	76	82	99	94	115	108	88	88	81	87	54	42	43	40	36
21	34	34	34	37	34	37	B	45	72	72	81	85	93	92	102	106	92	77	66	47	45	54	28	28
22	A	29	30	34	42	B	N	45	70	67	77	78	77	86	86	90	86	90	86	50	N	39	32	32
23	32	30	29	29	36	37	B	46	63	67	78	82	90	106	109	111	92	71	67	50	43	40	34	32
24	31	31	34	34	38	41	28	43	61	67	77	82	88	96	101	96	88	75	78	63	51	48	37	B
25	32	31	36	40	38	38	32	48	64	76	96	78	86	97	88	80	75	72	64	50	52	43	30	29
26	32	34	59	34	34	34	34	53	69	67	72	75	90	102	86	85	72	A	87	60	A	A	A	37
27	34	34	34	34	34	34	34	54	71	66	76	68	82	86	92	88	81	87	80	62	47	40	34	38
28	37	40	36	34	37	37	34	46	54	71	80	88	90	90	93	86	74	70	75	63	42	35	A	A
29	36	34	36	38	44	36	29	48	60	65	77	81	87	95	98	96	84	76	80	53	37	34	34	34
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	25	28	27	27	28	24	23	29	28	28	28	28	28	28	28	29	29	28	29	28	26	26	22	25
MED	34	34	36	34	38	34	32	45	68	72	82	88	90	94	95	91	83	76	72	52	45	40	36	36
U Q	38	40	41	40	43	36	34	48	72	76	89	96	97	103	101	97	89	81	79	60	50	43	41	40
L Q	32	31	34	34	34	29	29	42	62	67	77	81	86	88	88	85	78	72	65	48	42	36	34	31

HOURLY VALUES OF fEs AT Yamagawa

FEB. 2016

LAT. 31°12.0'N LON. 130°37.0'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	G	30	28	24	G	G	G	G	29	34	G	51	48	51	47	45	42	45	G	G	G	G	B	G
2	G	26	24	G	G	G	B	G	G	G	G	G	44	47	48	40	G	29	G	G	G	G	G	G
3	G	G	G	G	G	G	G	G	G	35	50	48	40	54	G	40	G	G	G	G	24	G	G	G
4	G	G	G	G	G	G	G	G	49	G	G	46	G	G	46	G	35	G	G	G	G	24	G	G
5	G	G	G	G	G	G	G	G	G	34	G	52	41	G	G	G	35	33	26	G	G	G	G	G
6	G	G	G	G	G	G	G	G	50	34	G	G	50	47	56	48	51	38	31	G	G	G	G	G
7	G	G	33	G	G	G	28	G	G	G	G	G	47	48	66	58	42	38	37	68	46	35	G	G
8	G	G	G	G	G	G	G	G	48	37	G	63	74	58	55	50	47	35	32	29	37	G	28	G
9	G	G	48	71	29	50	24	G	G	G	G	G	G	G	G	G	G	G	30	43	59	70	56	44
10	45	29	G	G	G	G	G	G	G	G	42	G	G	44	G	38	G	G	G	G	28	G	29	30
11	27	G	G	G	G	G	27	G	G	35	C	C	C	C	C	40	42	35	32	32	32	G	28	34
12	40	G	30	27	G	G	G	G	G	C	43	51	48	46	50	61	42	44	73	36	33	34	46	48
13	34	G	G	G	B	G	G	G	53	G	G	50	47	G	49	54	42	40	32	50	25	40	B	33
14	25	G	G	G	G	G	G	G	34	G	G	57	63	56	G	40	35	G	G	G	29	24	23	G
15	G	G	G	G	G	G	G	26	34	G	G	48	46	52	50	40	G	G	29	33	27	G	G	G
16	35	27	39	30	G	G	G	G	G	G	G	G	G	48	53	63	49	39	32	26	G	G	G	G
17	G	G	G	G	G	G	G	G	G	G	43	46	50	48	G	G	36	40	G	G	G	G	G	G
18	G	G	G	G	G	G	G	G	33	G	46	G	46	47	51	50	G	30	G	G	G	G	G	24
19	G	28	G	G	G	G	G	G	G	G	G	G	G	42	G	45	G	32	34	G	27	G	G	G
20	G	G	G	G	G	G	B	G	G	G	G	G	46	G	G	G	G	G	G	26	27	G	G	G
21	G	G	G	G	40	35	B	G	G	G	38	G	G	42	G	40	47	G	G	G	26	G	30	G
22	33	G	G	G	G	B	G	G	G	49	G	40	42	48	G	G	G	G	G	G	G	G	G	G
23	G	24	G	G	G	G	B	G	G	G	G	G	47	43	50	49	38	G	G	G	G	G	G	G
24	G	G	G	G	G	G	G	G	G	G	G	47	G	G	G	G	G	G	28	G	G	G	G	B
25	G	G	24	G	24	27	G	G	G	G	G	G	G	G	G	G	37	G	G	G	G	G	G	G
26	G	G	G	G	G	G	G	G	G	G	G	G	G	G	40	45	36	73	29	43	70	82	59	G
27	G	G	G	G	G	G	G	G	G	G	G	G	49	57	64	49	57	39	G	32	58	24	29	G
28	G	G	G	G	G	G	G	38	G	G	G	G	G	G	41	G	G	G	37	27	G	35	34	34
29	35	G	G	G	G	G	G	G	32	G	45	G	G	G	G	G	G	34	G	11	G	G	G	G
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	28	28	25	29	29	28	28	28	28	28	28	29	29	29	29	29	29	29	27	28
MED	G	G	G	G	G	G	G	G	G	G	G	G	43	45	40	40	35	30	G	G	24	G	G	G
U Q	26	G	12	G	G	G	G	G	32	17	19	48	47	48	50	49	42	38	32	32	30	24	29	12
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G

HOURLY VALUES OF fmin AT Yamagawa

FEB. 2016

LAT. 31°12.0'N LON. 130°37.0'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	15	15	14	16	16	14	15	15	14	14	15	15	18	18	18	17	15	15	15	15	15	15	B	17
2	15	15	14	16	15	16	B	15	15	17	17	18	20	21	20	17	15	14	16	20	15	14	16	15
3	15	15	15	15	15	15	15	15	14	14	14	20	17	35	18	15	15	14	16	15	15	18	15	15
4	18	18	15	15	14	14	14	14	15	14	15	18	16	20	18	17	14	14	16	15	15	15	16	16
5	15	15	14	14	14	14	17	15	15	14	17	15	17	17	16	14	14	14	15	14	17	15	17	17
6	15	15	15	15	14	15	16	15	14	15	18	20	20	21	24	18	15	15	15	15	15	14	15	15
7	15	15	15	14	14	15	14	15	18	17	33	22	18	24	22	24	18	16	16	15	14	15	15	15
8	66	14	15	16	15	15	16	15	24	18	21	30	33	36	32	20	20	17	15	15	15	15	14	15
9	14	15	14	14	15	15	15	16	15	16	16	21	26	21	22	21	17	14	14	14	14	14	15	15
10	14	14	17	66	15	15	15	15	14	16	17	18	20	22	18	17	14	15	17	15	14	15	15	16
11	15	15	15	15	18	16	15	16	14	16	C	C	C	C	C	17	14	14	14	14	14	15	15	14
12	14	15	14	15	18	18	15	16	18	C	14	18	17	18	20	18	16	14	14	14	14	16	14	15
13	17	16	20	14	B	17	16	16	17	14	15	17	24	23	18	18	14	14	15	14	15	15	B	14
14	16	15	15	17	15	15	15	16	14	14	16	21	20	33	28	20	17	16	17	15	15	16	15	14
15	15	15	16	15	16	15	15	17	14	14	18	21	21	20	21	21	17	16	15	15	18	18	17	17
16	16	14	14	15	15	15	15	16	14	15	16	38	28	21	22	17	15	14	14	17	15	66	15	15
17	17	18	14	15	15	15	15	16	24	14	18	18	18	27	42	18	16	16	17	15	14	15	15	17
18	17	17	14	15	14	66	18	18	14	17	17	42	18	27	23	18	14	14	17	15	14	16	15	15
19	15	15	14	15	15	15	18	17	15	16	18	18	18	20	23	21	17	15	15	15	14	15	15	16
20	16	15	16	15	15	15	B	17	17	17	18	18	20	21	18	20	18	14	17	16	16	17	15	16
21	17	16	17	15	14	14	B	17	17	14	17	20	20	18	18	17	14	15	18	15	15	18	14	16
22	14	15	15	16	14	B	15	17	14	16	20	17	20	18	20	38	16	14	16	15	17	16	15	15
23	15	15	15	16	17	14	B	17	14	15	18	20	18	20	17	18	17	15	18	15	16	15	15	15
24	15	14	14	14	15	15	15	17	14	15	17	18	18	18	20	16	16	14	14	14	15	15	17	B
25	15	17	15	15	14	14	14	18	17	14	20	16	21	21	18	17	15	14	16	15	21	15	18	15
26	15	17	15	15	15	15	14	17	15	15	18	20	26	20	21	16	16	14	14	14	15	15	14	15
27	15	17	15	15	15	15	15	16	15	15	18	20	32	21	32	30	17	14	18	14	14	16	15	16
28	15	15	14	15	15	15	15	18	14	17	21	21	40	35	18	18	14	15	14	14	18	15	14	16
29	15	16	15	15	14	14	15	15	15	17	18	18	20	21	20	18	16	17	18	14	15	17	15	15
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	28	28	25	29	29	28	28	28	28	28	28	29	29	29	29	29	29	29	27	28
MED	15	15	15	15	15	15	15	16	15	15	18	19	20	21	20	18	16	14	16	15	15	15	15	15
U Q	16	16	15	15	15	15	15	17	17	16	18	21	22	23	22	20	17	15	17	15	15	16	15	16
L Q	15	15	14	15	14	14	15	15	14	14	16	18	18	20	18	17	14	14	14	14	14	15	15	15

HOURLY VALUES OF foF2 AT Okinawa

FEB. 2016

LAT. 26°41.0'N LON. 128°09.0'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	40	42	29	31	A	34	32	38	54	72	105	104	101	80	98	112	92	88	67	67	51	40	29	N
2	28	28	41	40	50	30	B	32	65	74	78	76	86	102	91	87	92	93	81	48	53	64	54	54
3	58	50	32	34	38	30	26	41	62	72	C	C	C	C	C	C	C	107	110	89	72	66	60	38
4	A	29	31	30	37	34	26	40	72	77	C	78	86	88	83	90	96	88	93	67	52	52	43	42
5	46	44	38	37	36	29	31	41	77	87	92	91	98	118	128	137	137	127	118	89	72	71	58	43
6	40	37	34	42	42	B	26	42	67	71	74	82	95	95	92	96	101	95	C	74	67	63	48	38
7	40	34	34	36	47	40	36	44	73	86	90	102	106	111	118	130	120	108	115	93	71	78	61	53
8	50	54	42	32	30	30	29	41	73	78	82	100	91	105	98	98	98	102	97	85	86	72	43	34
9	31	34	35	42	46	A	B	36	71	80	87	C	95	91	88	C	72	72	78	54	62	66	66	54
10	52	52	42	32	29	B	32	48	75	76	87	111	116	126	131	113	96	85	54	54	55	58	48	36
11	59	32	31	34	28	B	N	34	71	94	110	141	142	147	147	141	115	97	81	66	67	81	54	60
12	46	51	46	36	34	A	B	44	64	76	86	105	107	92	87	77	81	87	81	66	61	52	52	64
13	47	38	34	34	B	N	B	47	67	75	80	110	118	125	117	105	101	90	84	A	76	67	54	47
14	46	50	45	42	40	36	34	50	78	82	75	89	95	107	122	141	131	130	127	104	77	67	62	52
15	46	37	34	34	31	32	34	52	82	92	87	92	88	91	109	117	111	104	100	88	86	67	53	42
16	41	40	A	38	36	36	30	45	73	85	104	112	102	112	137	141	146	146	140	146	110	78	101	53
17	41	40	51	52	34	45	54	65	75	94	105	127	116	95	105	118	114	106	89	88	87	74	51	42
18	32	32	38	42		B	B	40	72	75	88	108	131	116	104	117	146	122	90	76	52	50	44	41
19	B	34	34	37	38	27	B	42	66	77	86	98	124	115	107	111	122	111	106	B	53	53	48	40
20	36	B	34	38	42	B		42	71	78	84	96	111	104	114	101	110	111	100	87	63	64	60	40
21	37	38	38	42	51	A	A	38	76	81	82	105	114	116	136	138	138	128	100	80	88	88	82	52
22	50	51	48	52	54	29		42	60	64	80	99	90	90	102	94	102	102	87	78	54	42	42	36
23	34	A	34	31	40	34	B	45	60	65	77	100	110	121	124	132	117	110	101	84	81	61	48	42
24	38	40	37	38	48	45	B	42	58	67	76	90	86	97	113	107	101	98	96	88	72	72	38	26
25	29	32	34	38	42	N	B	44	61	74	85	93	82	96	100	86	86	80	75	51	52	54	38	34
26	32	32	34	36	36	30	32	54	66	67	74	80	104	108	110	105	106	107	110	88	83	72	54	A
27	52	51	43	38	42	34	36	52	61	71	85	77	78	102	112	108	110	120	120	108	110	85	54	54
28	67	64	67	64	75	52	31	44	53	64	81	109	118	92	91	101	97	97	85	62	57	45	40	37
29		37	40	46	54	32	26	45	69	71	77	90	92	113	126	128	102	102	107	88	63	47	43	34
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	26	27	28	29	26	19	16	29	29	29	27	27	28	28	28	27	28	29	28	27	29	29	29	27
MED	41	38	36	38	40	34	32	42	69	76	85	99	102	104	110	111	104	102	96	84	67	66	52	42
U Q	50	50	42	42	47	36	34	46	73	81	88	108	115	115	123	130	118	111	108	88	82	72	59	53
L Q	36	34	34	34	36	30	27	40	61	71	78	90	90	93	98	98	96	91	82	66	54	52	43	37

HOURLY VALUES OF fEs AT Okinawa

FEB. 2016

LAT. 26°41.0'N LON. 128°09.0'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

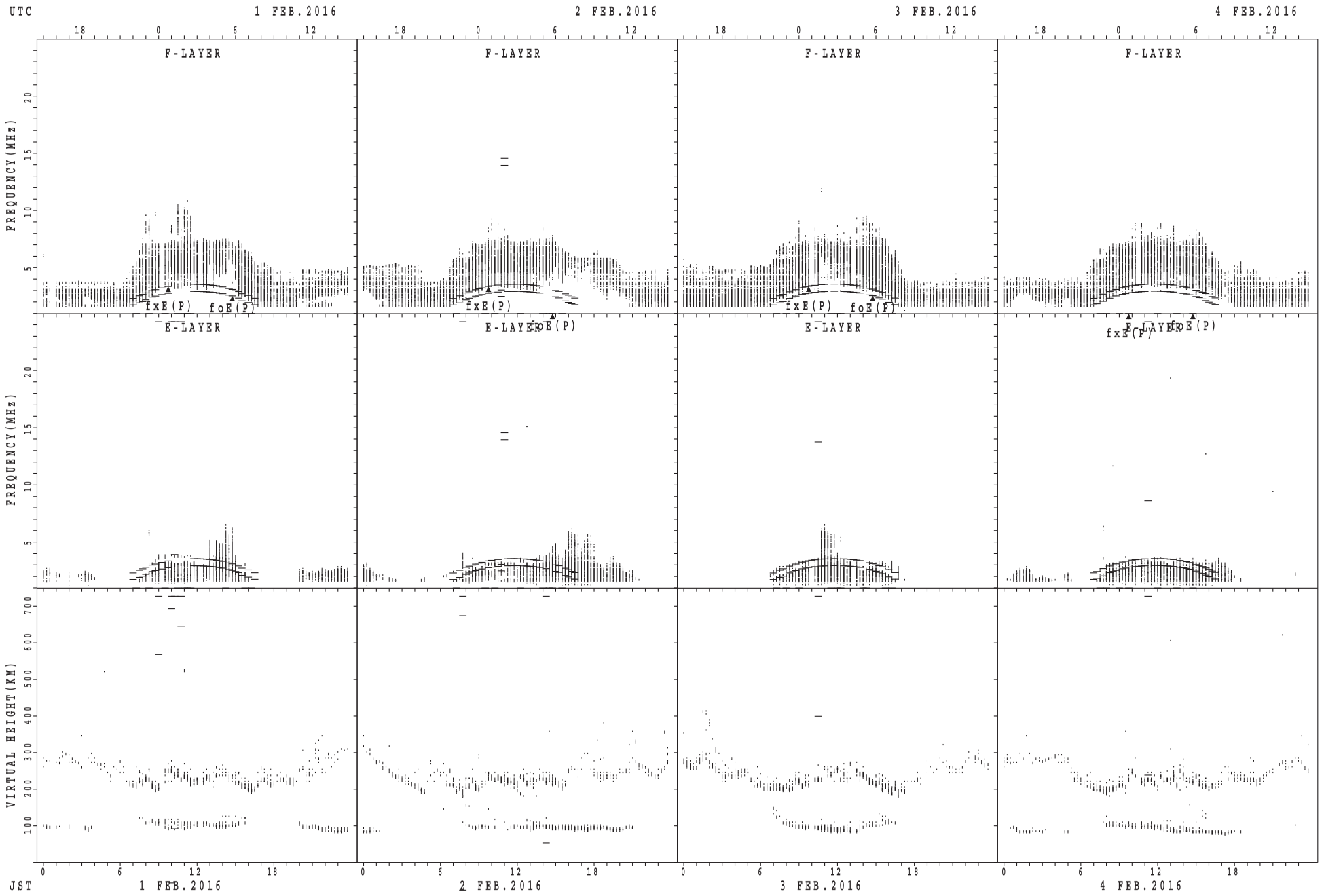
D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	G	G	G	G	32	G	G	G	29	G	G	48	50	51	54	46	44	33	G	G	G	G	G	G
2	G	G	G	26	G	G	B	G	30	G	G	G	48	45	46	43	G	G	G	G	G	G	G	G
3	G	G	G	G	G	G	G	G	G	G	C	C	C	C	C	C	C	G	G	11	G	28	G	G
4	24	G	G	G	G	G	G	G	G	42	C	47	G	53	53	46	43	49	G	11	G	G	G	G
5	G	G	G	G	G	G	G	G	G	39	40	45	48	G	50	49	36	33	G	34	27	G	G	G
6	G	G	G	G	G	B	G	G	49	G	G	G	G	G	45	53	45	37	C	11	G	G	G	G
7	G	G	G	G	G	48	G	G	G	35	48	40	G	54	57	55	78	94	79	53	29	24	G	G
8	G	G	G	G	G	G	G	G	G	G	G	50	77	68	60	61	51	50	54	43	44	32	G	G
9	G	G	G	70	43	32	B	G	G	36	G	C	G	G	G	C	G	35	30	34	G	39	46	32
10	49	40	48	G	G	B	G	G	G	G	45	54	44	44	42	42	G	40	61	48	G	G	G	G
11	G	G	G	G	G	B	G	G	G	35	G	42	46	49	48	56	43	48	34	G	G	G	G	G
12	G	G	46	25	G	28	B	25	46	40	46	48	56	55	62	52	51	36	44	32	39	49	26	32
13	G	G	G	G	B	G	B	G	51	40	47	70	52	59	62	57	66	73	57	73	36	59	45	40
14	46	31	G	G	G	G	G	G	G	G	45	50	51	56	64	81	39	32	G	11	34	29	G	32
15	G	G	G	G	G	G	G	G	G	36	G	49	52	52	45	50	46	G	G	36	30	28	G	G
16	G	G	58	G	G	G	G	G	G	G	42	40	48	46	48	G	37	34	26	G	24	G	G	G
17	G	G	G	G	G	G	G	G	G	G	G	46	56	49	G	40	38	58	35	G	G	G	G	G
18	G	G	G	36	G	B	B	G	33	G	G	G	49	51	50	46	G	G	G	G	G	G	27	G
19	B	G	G	G	G	G	B	G	G	35	G	G	G	43	48	44	51	G	G	B	G	G	G	G
20	G	B	G	G	G	B	G	G	G	35	G	G	G	90	52	46	53	49	40	11	G	G	G	G
21	G	G	G	G	G	51	28	27	G	52	G	40	50	50	48	54	G	G	34	G	G	G	G	G
22	G	44	G	G	G	G	G	G	G	G	G	G	G	53	46	G	G	G	28	11	G	G	G	G
23	G	27	25	G	G	11	B	G	G	G	G	G	47	47	48	49	60	48	G	11	11	G	G	G
24	G	G	G	G	G	11	B	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
25	G	G	G	G	G	G	B	G	78	G	G	G	G	G	G	G	38	G	G	G	G	G	G	G
26	G	G	G	G	G	G	G	G	G	G	G	G	G	G	44	58	60	43	G	29	53	G	50	71
27	28	G	G	G	G	G	G	G	48	G	G	G	G	69	63	54	52	45	33	28	33	30	24	G
28	G	G	G	G	G	11	G	G	48	G	G	G	G	74	G	46	49	49	28	G	G	26	G	28
29	G	G	34	29	22	G	G	G	G	G	41	42	50	53	53	46	43	35	G	11	G	G	G	G
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	28	29	29	28	24	20	29	29	29	27	27	28	28	28	27	28	29	28	28	29	29	29	29
MED	G	G	G	G	G	G	G	G	G	G	G	40	46	50	48	46	43	35	14	11	G	G	G	G
U Q	G	G	G	G	G	11	G	G	31	35	41	48	50	54	53	54	51	48	34	33	29	28	G	G
L Q	G	G	G	G	G	G	G	G	G	G	G	G	G	43	44	43	18	G	G	G	G	G	G	G

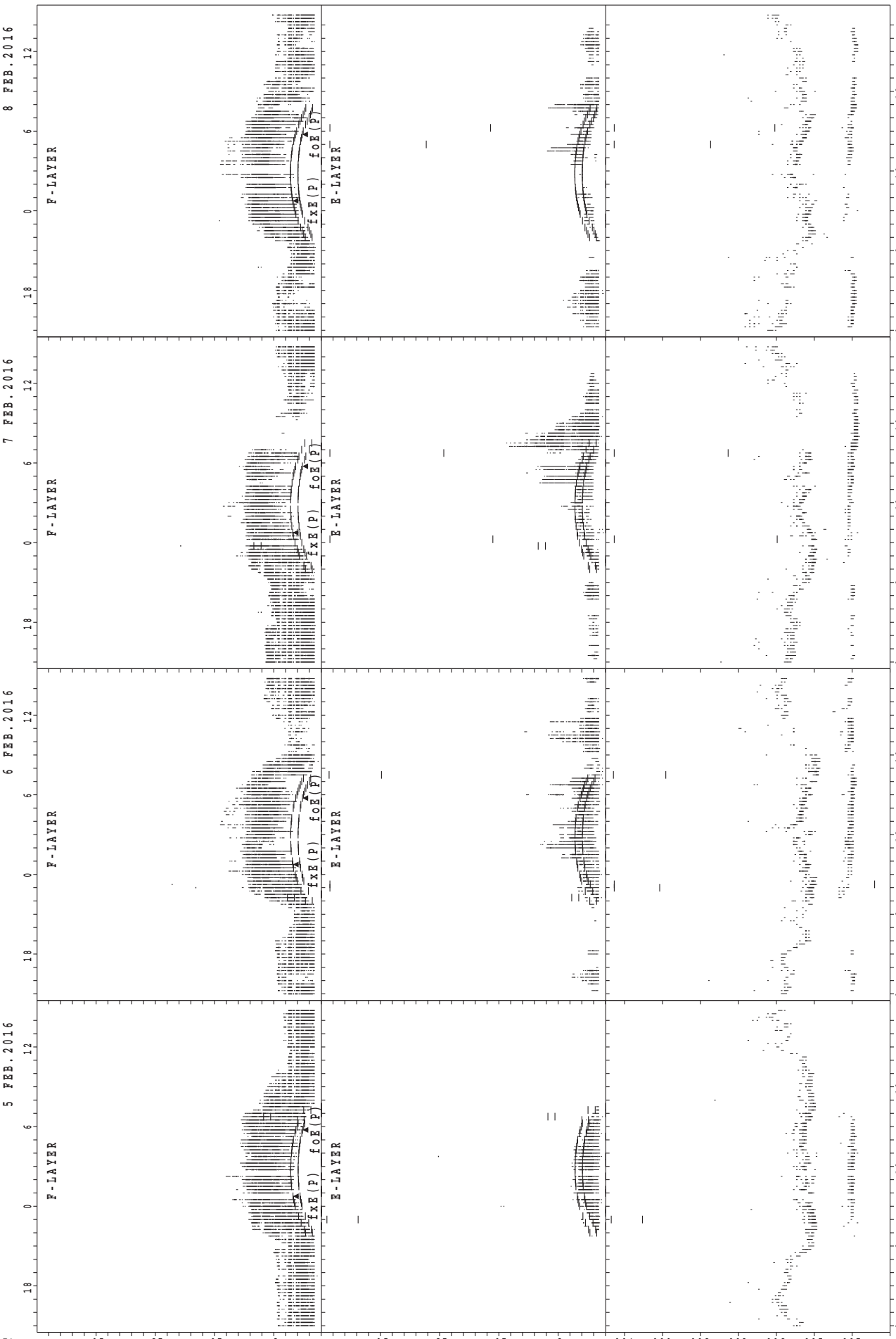
HOURLY VALUES OF fmin AT Okinawa

FEB. 2016

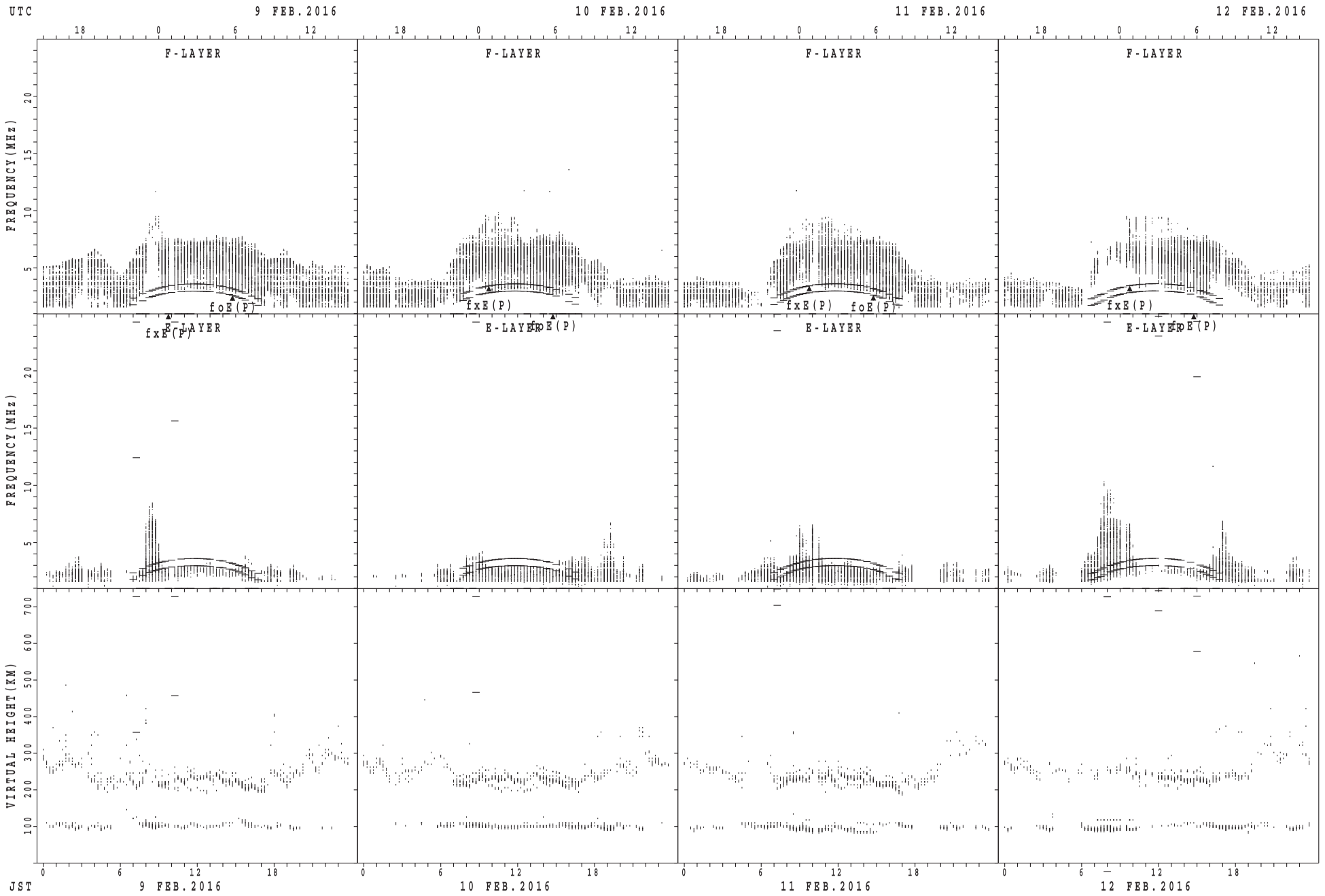
LAT. 26°41.0'N LON. 128°09.0'E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	15	15	14	14	14	14	15	15	14	14	15	18	18	17	18	18	15	15	17	14	14	14	14	16
2	15	16	15	14	15	15	B	14	17	15	18	20	16	20	21	17	15	16	14	14	15	14	15	14
3	15	14	15	15	14	14	15	14	21	14	C	C	C	C	C	C	C	14	17	14	15	14	14	15
4	15	15	15	15	14	14	14	15	14	14	C	24	21	36	34	20	15	14	15	15	15	15	14	15
5	14	14	15	14	14	14	16	15	14	15	20	18	18	40	16	15	14	14	14	14	15	15	15	14
6	15	14	15	14	16	B	15	15	15	14	18	16	41	40	21	20	20	15	C	14	15	14	15	15
7	15	16	15	15	15	14	15	14	14	14	14	16	20	26	21	21	18	15	14	14	14	16	21	15
8	14	15	15	15	14	18	15	15	26	20	34	35	38	34	33	30	26	15	14	15	14	15	15	16
9	17	15	15	14	14	14	B	15	15	17	20	C	40	44	43	C	21	15	14	14	16	14	14	14
10	14	14	14	15	17	B	15	15	17	20	30	30	30	30	26	23	17	14	14	14	15	15	15	15
11	15	17	15	15	14	B	16	15	15	15	18	22	32	32	30	20	20	14	14	17	15	14	20	15
12	15	17	14	15	15	14	B	16	15	15	17	18	34	30	24	28	21	17	15	14	15	14	14	16
13	21	15	17	15	B	18	B	18	20	16	18	20	34	24	34	30	18	16	15	14	16	15	14	15
14	16	15	17	20	27	17	15	16	26	15	20	21	24	27	26	28	22	18	20	15	14	14	17	14
15	16	20	14	16	18	16	15	16	24	15	34	35	20	33	29	23	18	17	21	14	15	15	20	18
16	14	15	15	15	15	18	18	17	15	20	20	33	28	32	26	22	20	14	15	17	16	16	20	15
17	20	16	15	16	17	15	15	14	20	18	21	34	34	33	43	23	18	17	15	17	15	16	15	20
18	18	15	17	15	17	B	B	15	20	15	17	43	34	33	30	26	20	15	21	15	15	16	15	18
19	B	20	15	15	18	15	B	17	26	18	21	24	24	29	28	27	23	15	22	B	15	15	15	17
20	16	B	15	16	14	B	66	16	15	17	21	27	44	27	26	29	18	17	14	15	17	15	17	15
21	20	15	20	15	14	14	14	16	27	18	21	24	22	27	36	20	20	17	16	17	15	16	15	15
22	15	14	15	14	15	15	18	20	16	20	21	24	24	23	24	35	21	17	14	15	16	16	17	17
23	15	14	15	17	18	15	B	17	24	18	20	26	28	28	39	26	18	16	20	15	15	16	15	16
24	15	16	14	15	15	15	B	15	17	17	20	22	24	38	44	22	20	14	14	15	15	15	16	18
25	17	15	14	18	15	14	B	17	15	17	20	40	26	28	41	21	20	17	20	15	15	15	15	18
26	16	15	17	15	14	15	15	15	14	18	35	36	45	43	32	30	21	17	15	15	15	15	14	16
27	14	16	15	16	22	15	15	17	26	17	21	36	42	35	35	33	21	15	14	14	14	14	15	22
28	16	16	17	15	14	15	15	17	26	32	38	43	43	35	35	18	20	14	14	14	17	14	15	15
29	27	15	15	14	14	15	15	17	16	17	21	26	27	36	36	30	21	17	18	15	15	17	15	17
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	28	29	29	28	24	20	29	29	29	27	27	28	28	28	27	28	29	28	28	29	29	29	29
MED	15	15	15	15	15	15	15	15	17	17	20	24	28	32	30	23	20	15	15	15	15	15	15	15
U Q	16	16	15	15	17	15	15	17	24	18	21	35	36	35	35	29	21	17	17	15	15	16	16	17
L Q	15	15	15	14	14	14	15	15	15	15	18	20	23	27	25	20	18	14	14	14	15	14	14	15


SUMMARY PLOTS AT Wakkanai
UTC
1 FEB.2016
2 FEB.2016
3 FEB.2016
4 FEB.2016
F-LAYER
E-LAYER
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
fxE(P)
foE(P)
JST
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

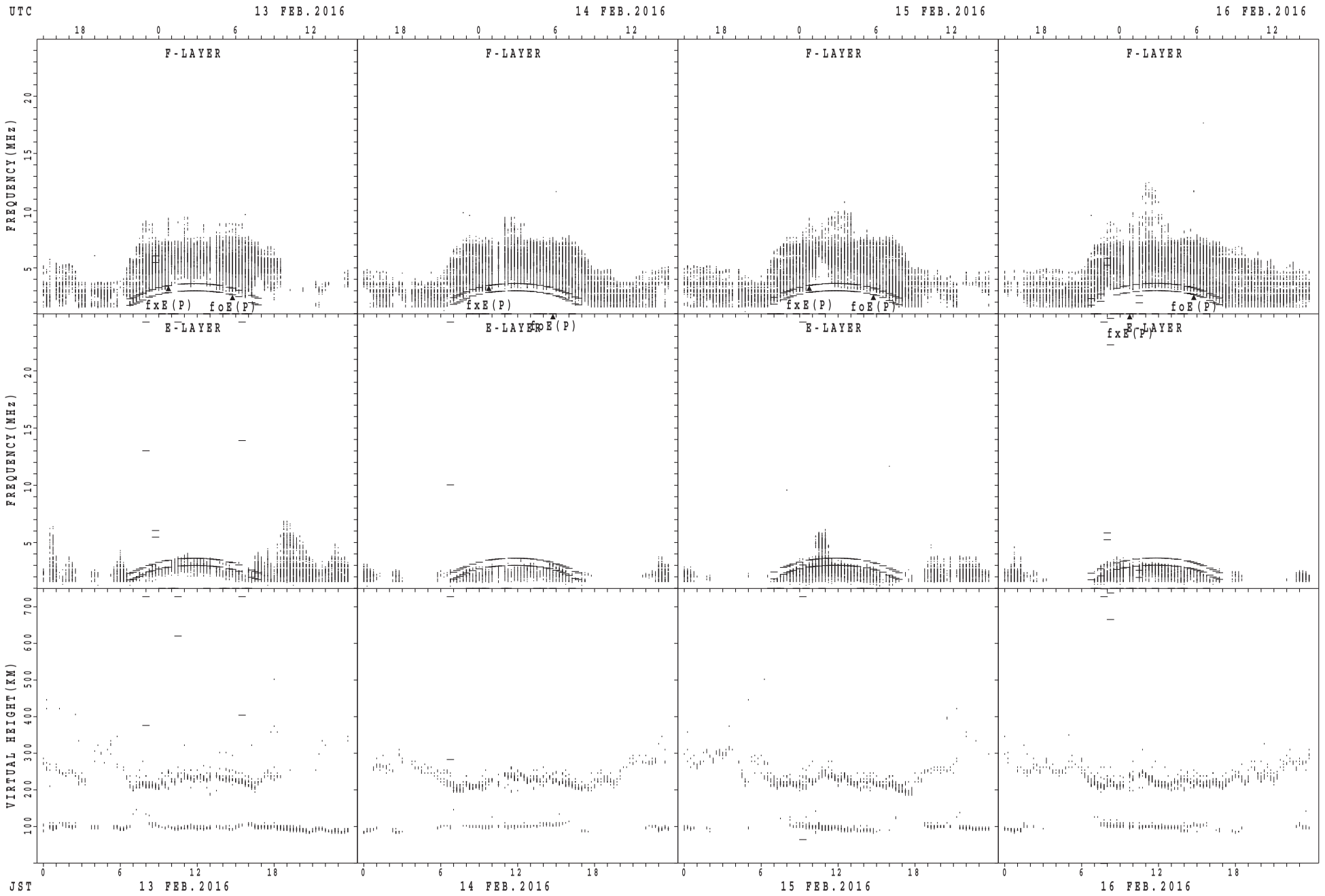

SUMMARY PLOTS AT Wakkanai
UTC
JST
5 FEB.2016
6 FEB.2016
7 FEB.2016
8 FEB.2016
F-LAYER
E-LAYER
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
fxE(P)
foE(P)
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



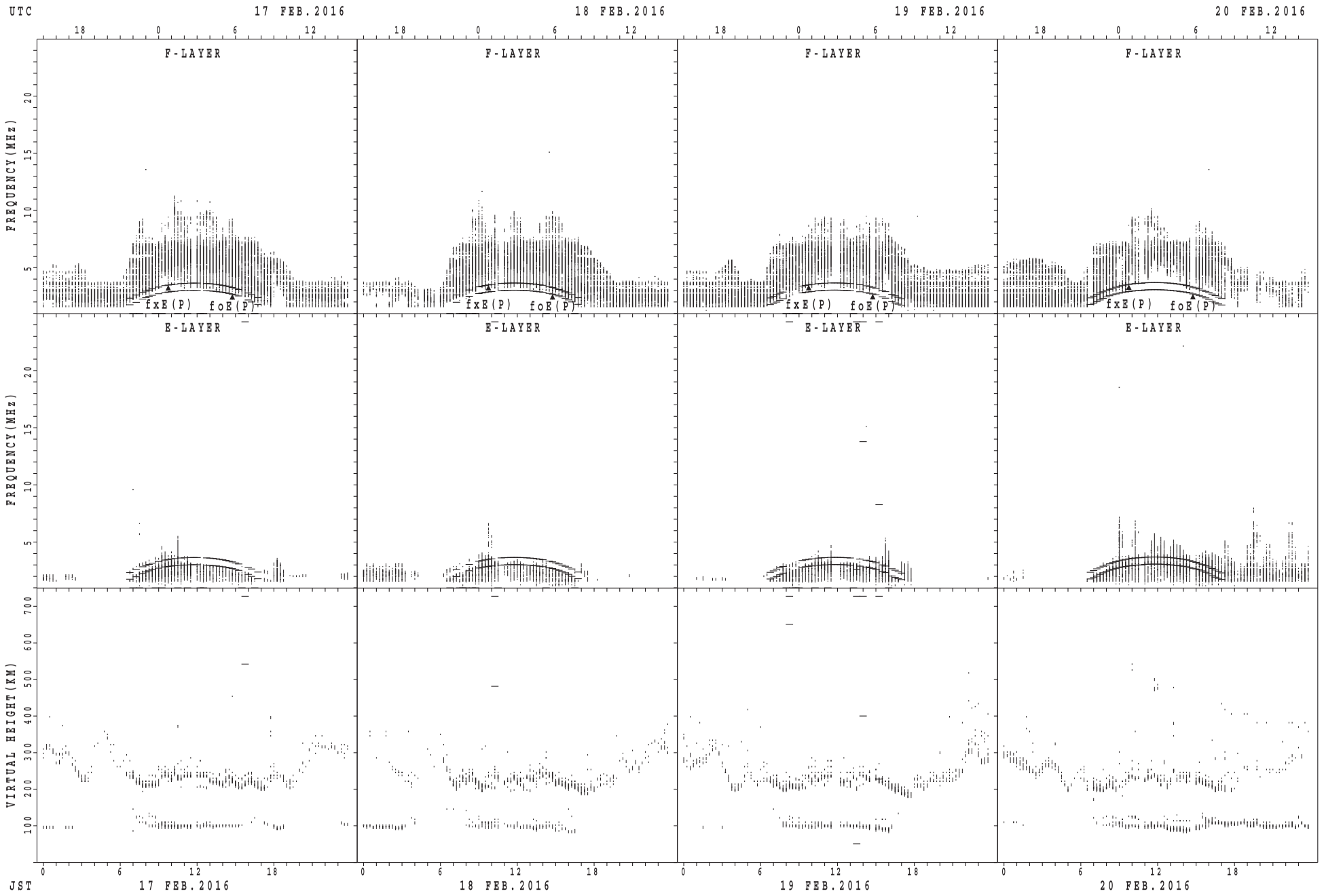
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



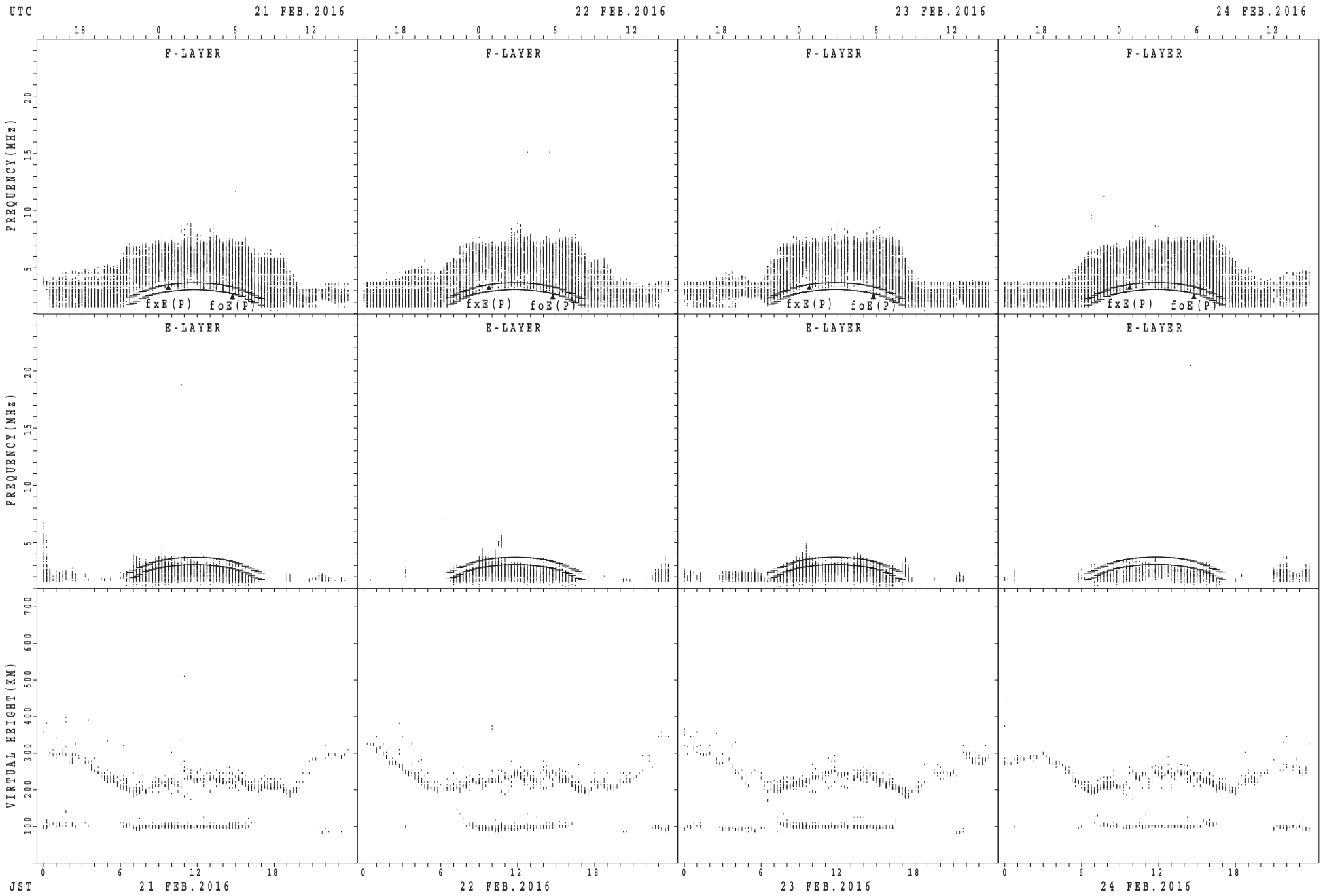
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai

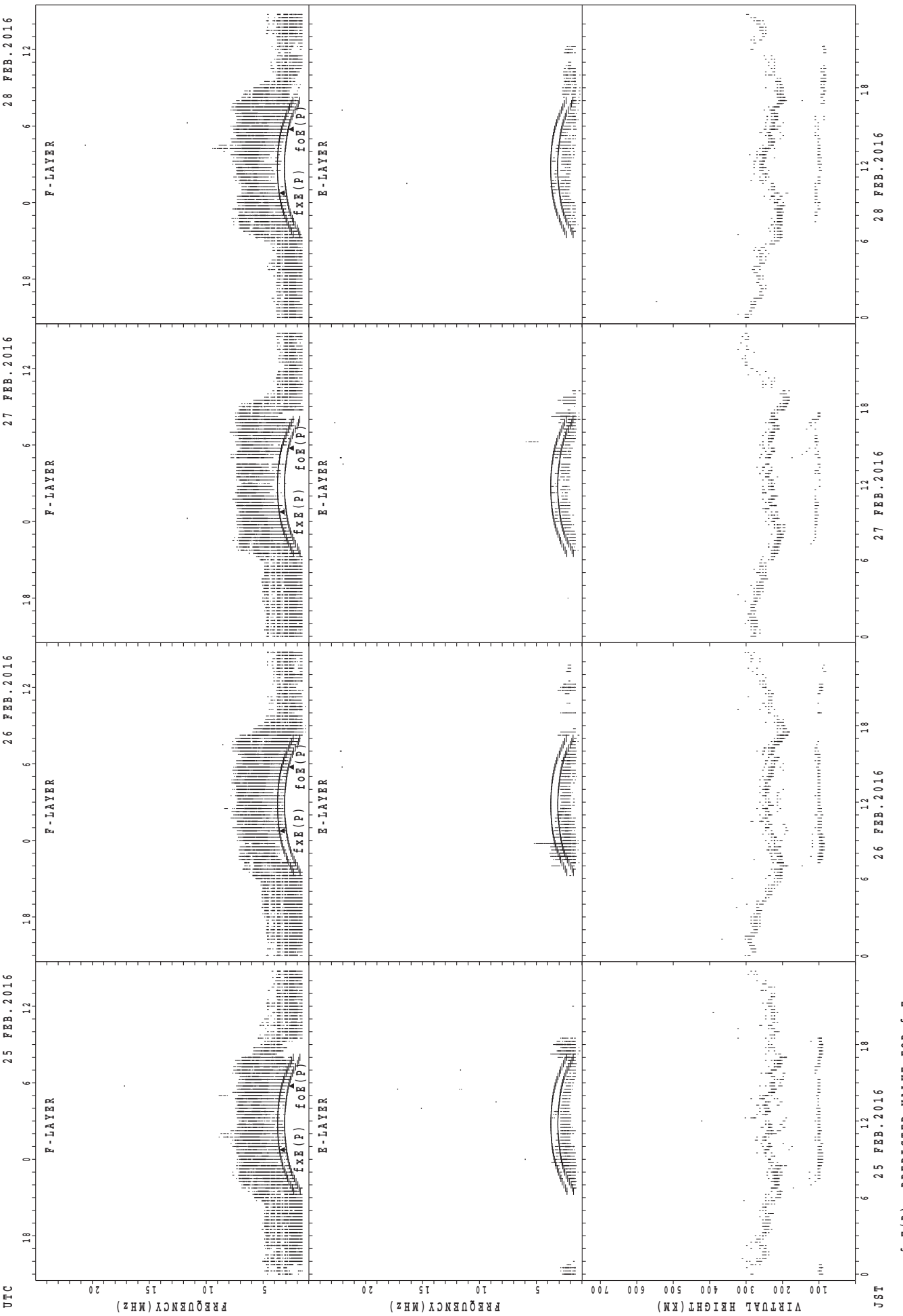


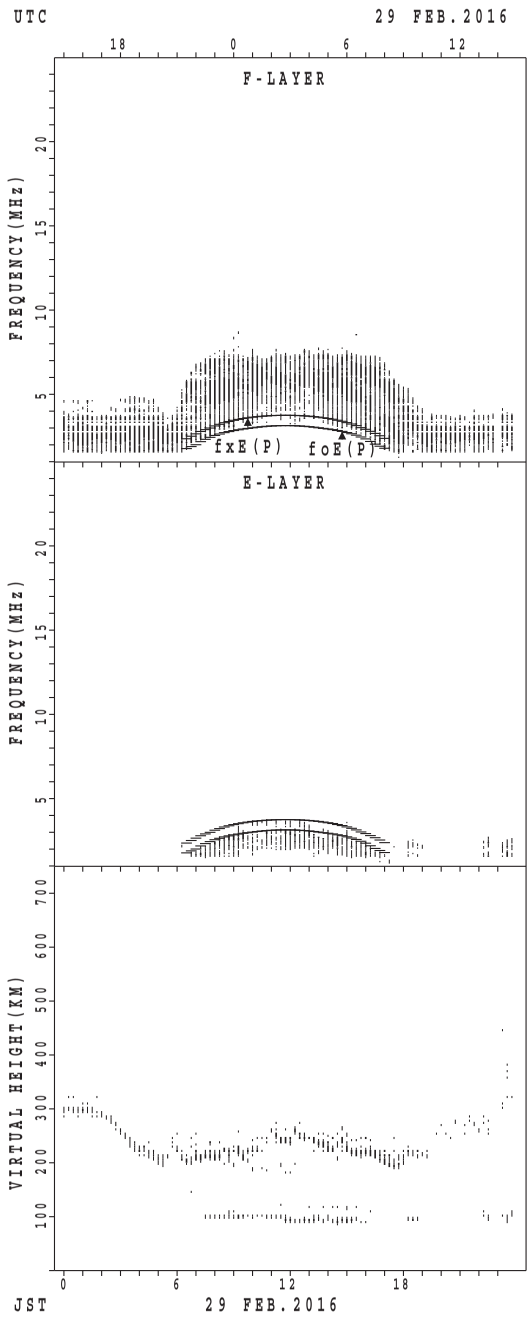
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai

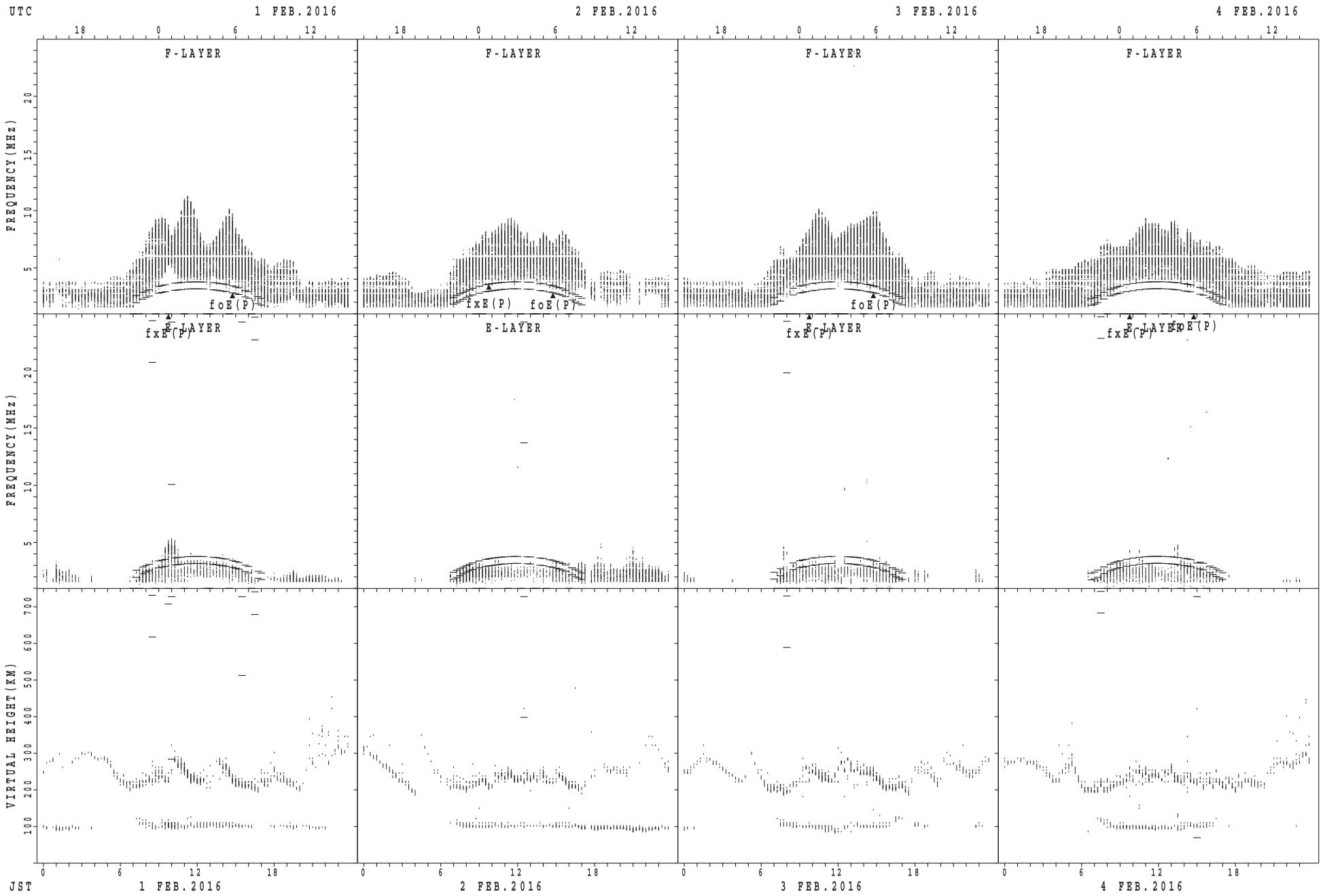


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE


SUMMARY PLOTS AT Wakkanai
UTC
JST
25 FEB.2016
26 FEB.2016
27 FEB.2016
28 FEB.2016
F-LAYER
E-LAYER
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
fxE(P) foE(P)
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

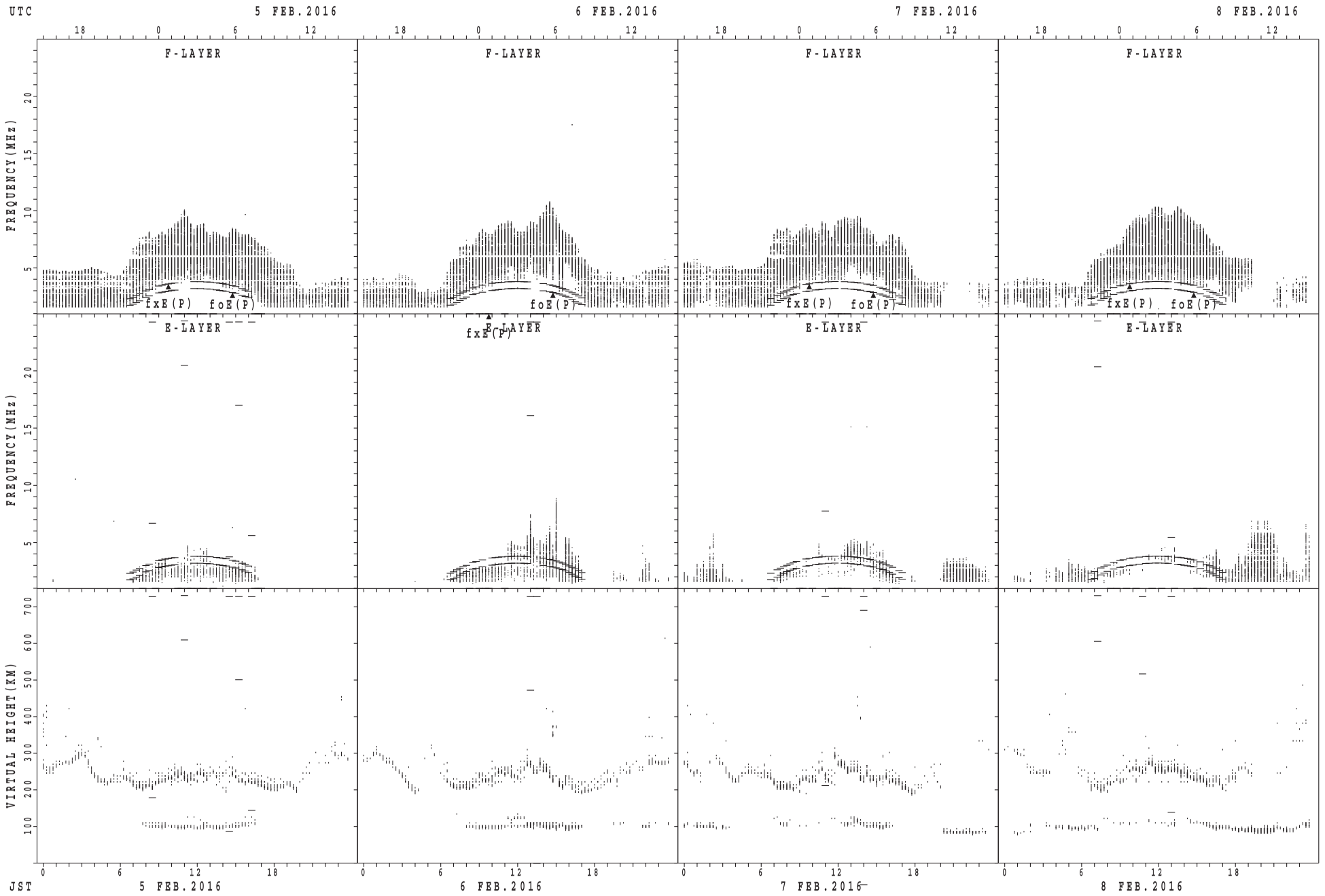

SUMMARY PLOTS AT Wakkanai
UTC
29 FEB.2016
18
0
6
12
F-LAYER
FREQUENCY(MHz)
5
10
15
20
fxE(P)
foE(P)
E-LAYER
FREQUENCY(MHz)
5
10
15
20
VIRTUAL HEIGHT(KM)
100
200
300
400
500
600
700
0
6
12
18
JST
29 FEB.2016
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



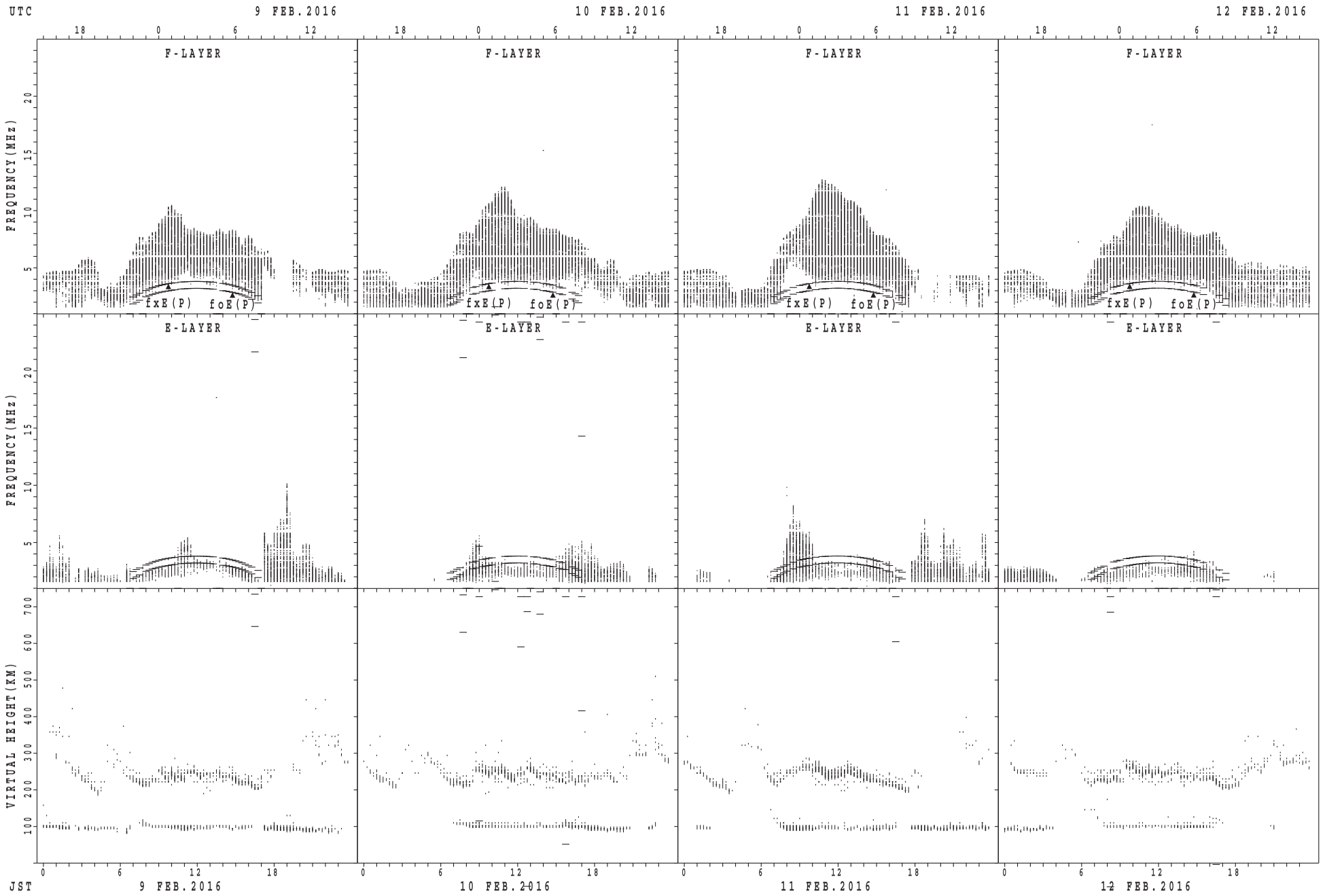
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji

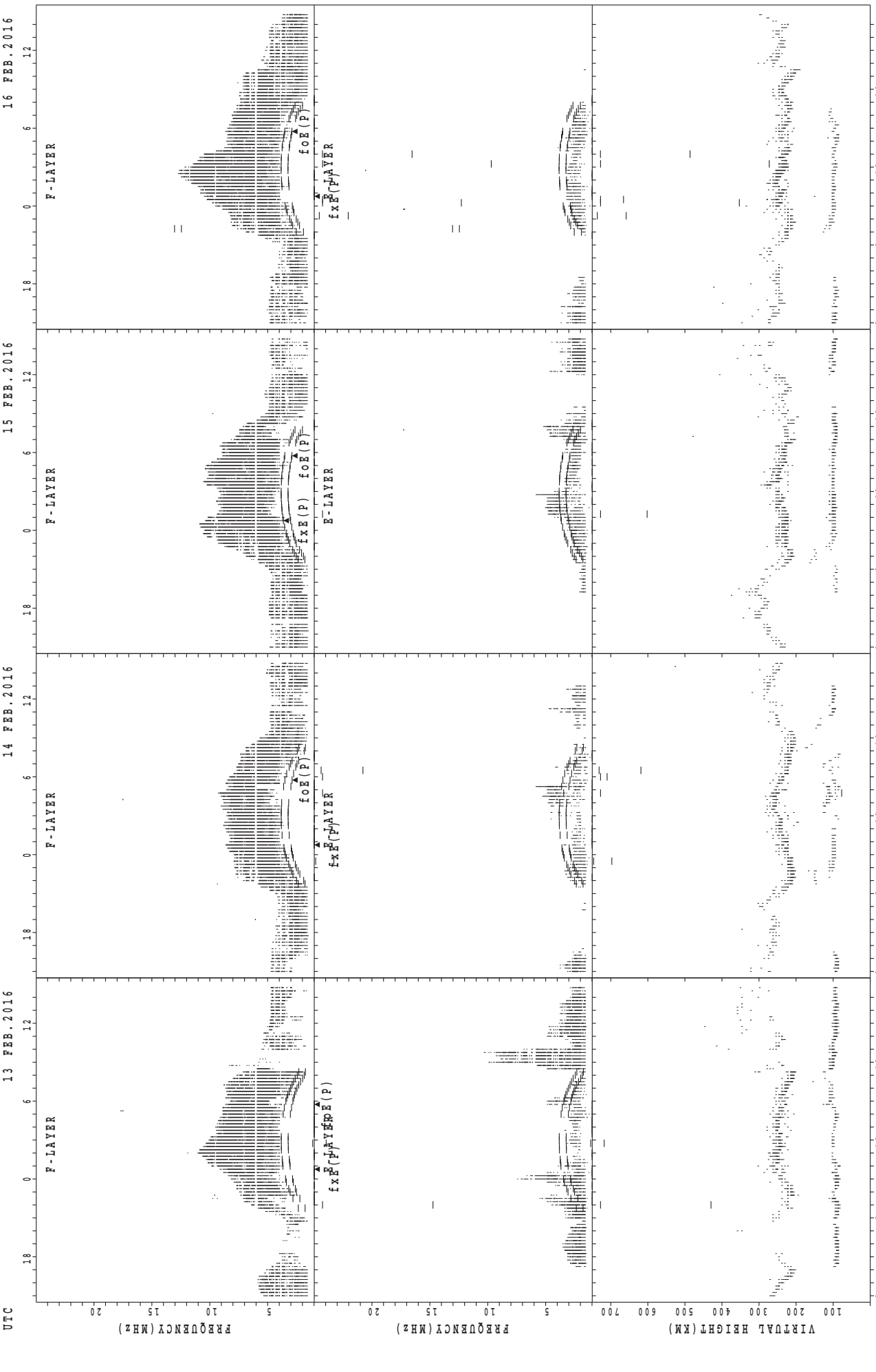


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

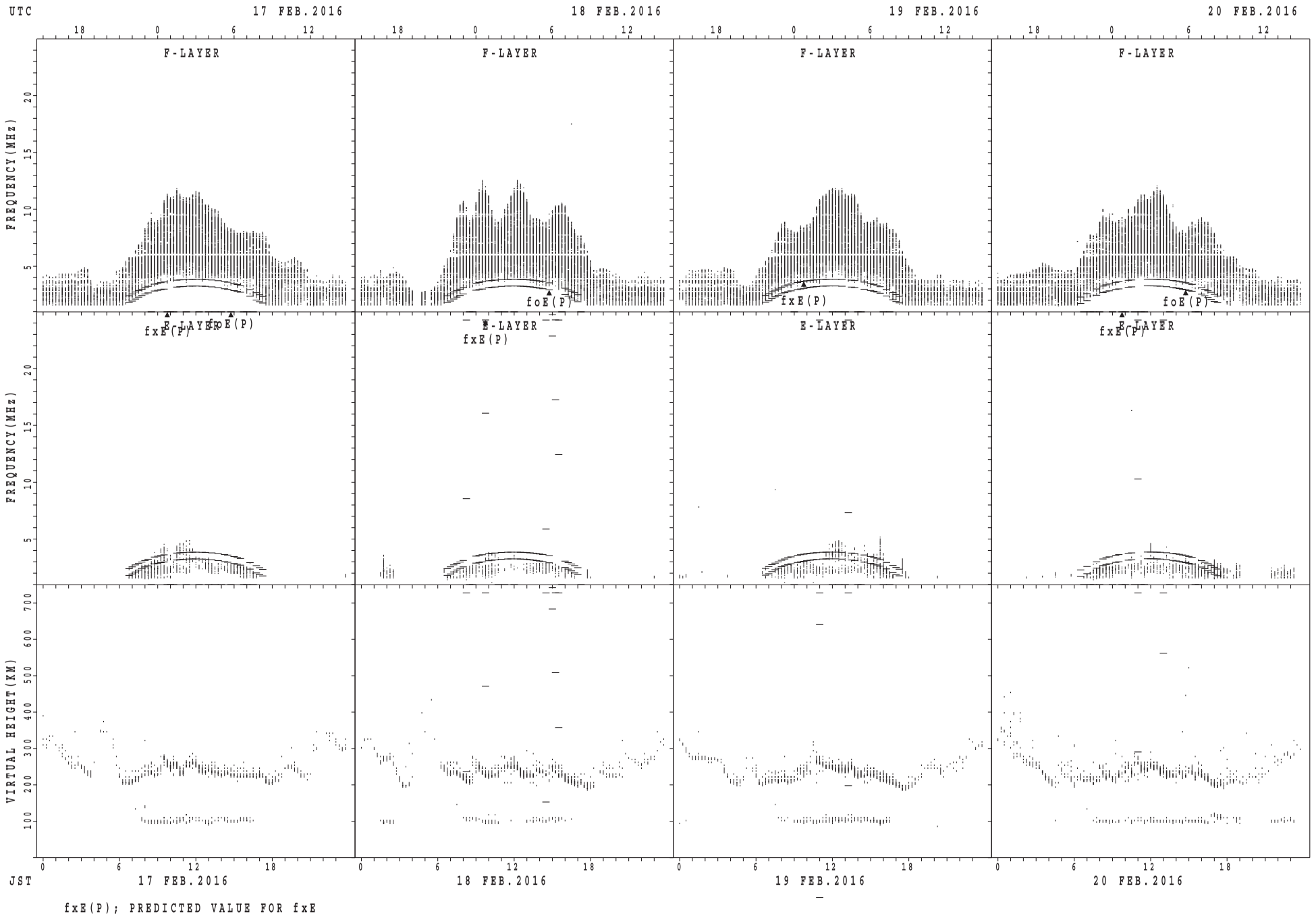
SUMMARY PLOTS AT Kokubunji



fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

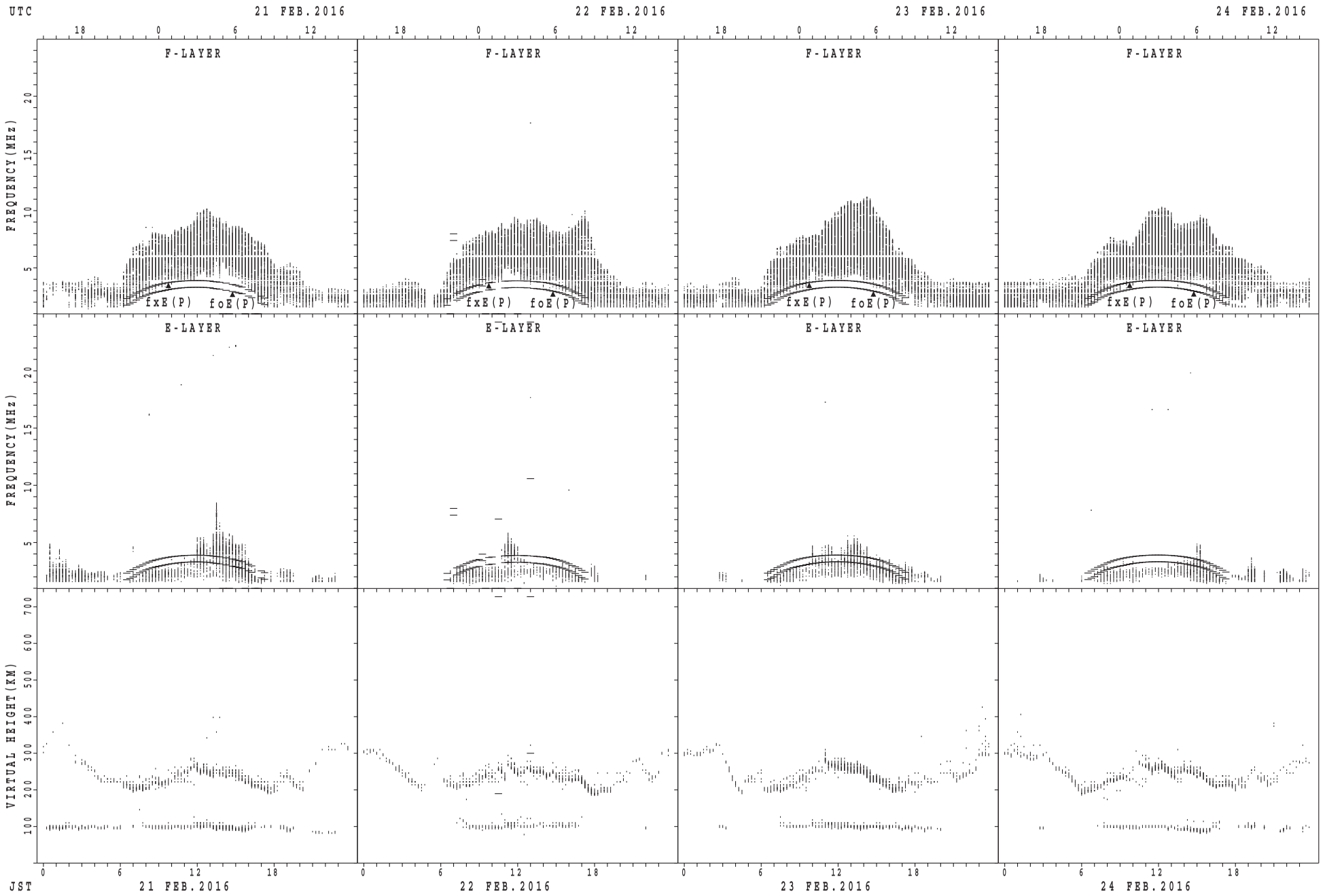

SUMMARY PLOTS AT Kokubunji
UTC
JST
13 FEB.2016
14 FEB.2016
15 FEB.2016
16 FEB.2016
F-LAYER
E-LAYER
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



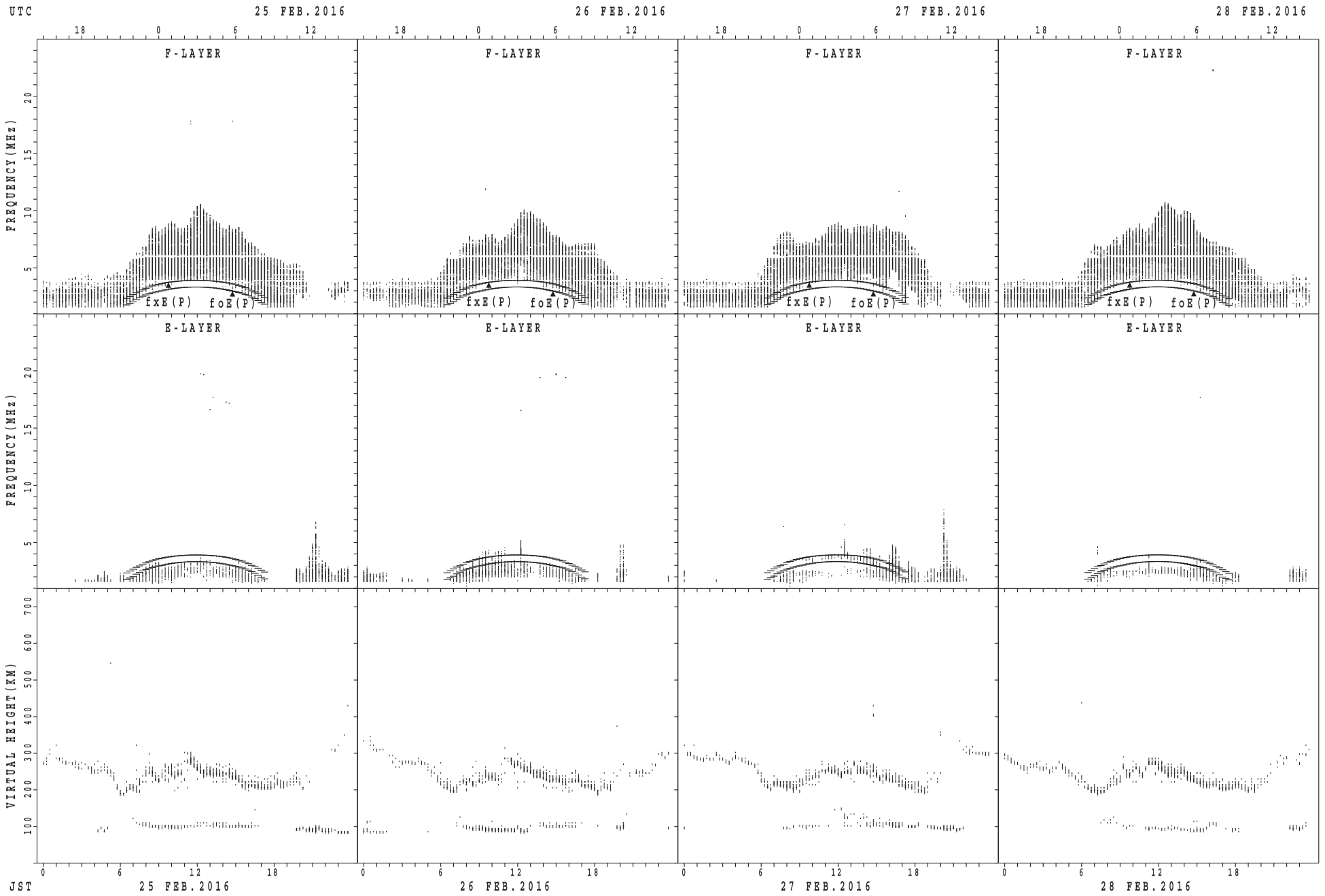
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji

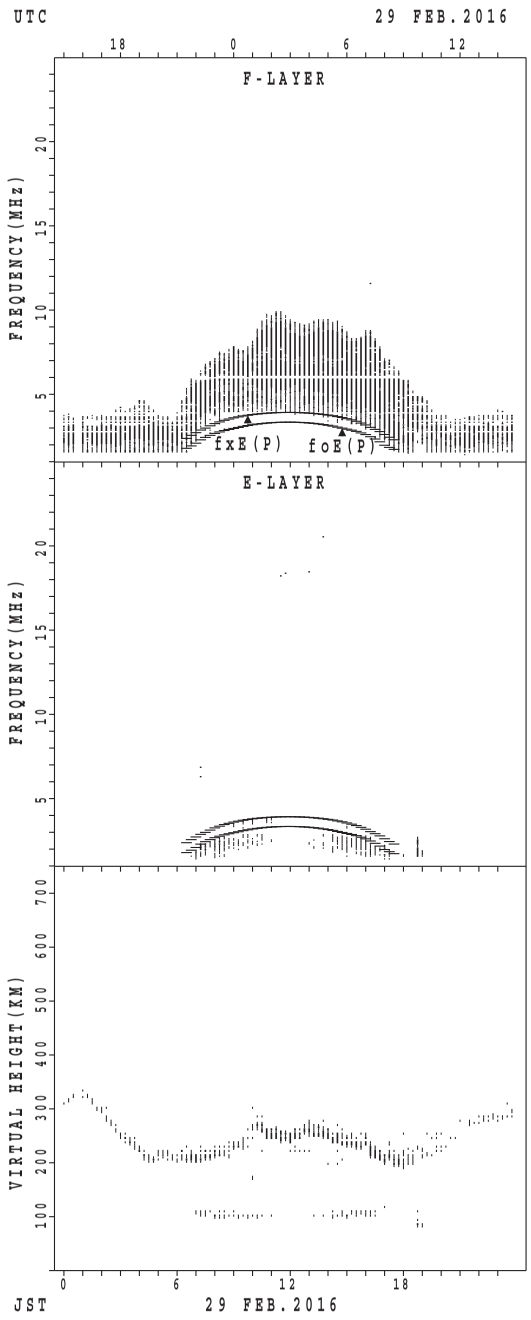


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

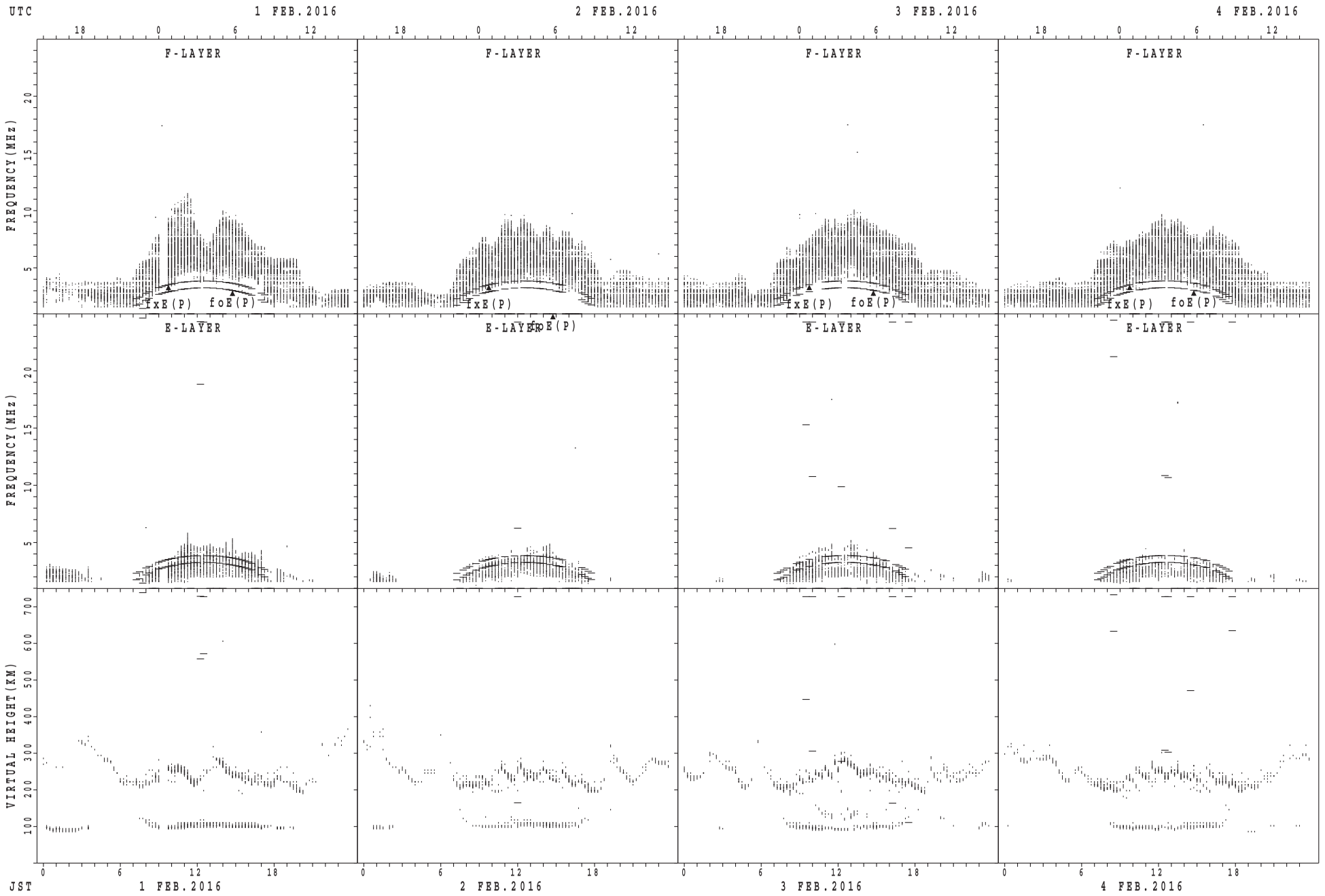
SUMMARY PLOTS AT Kokubunji



fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

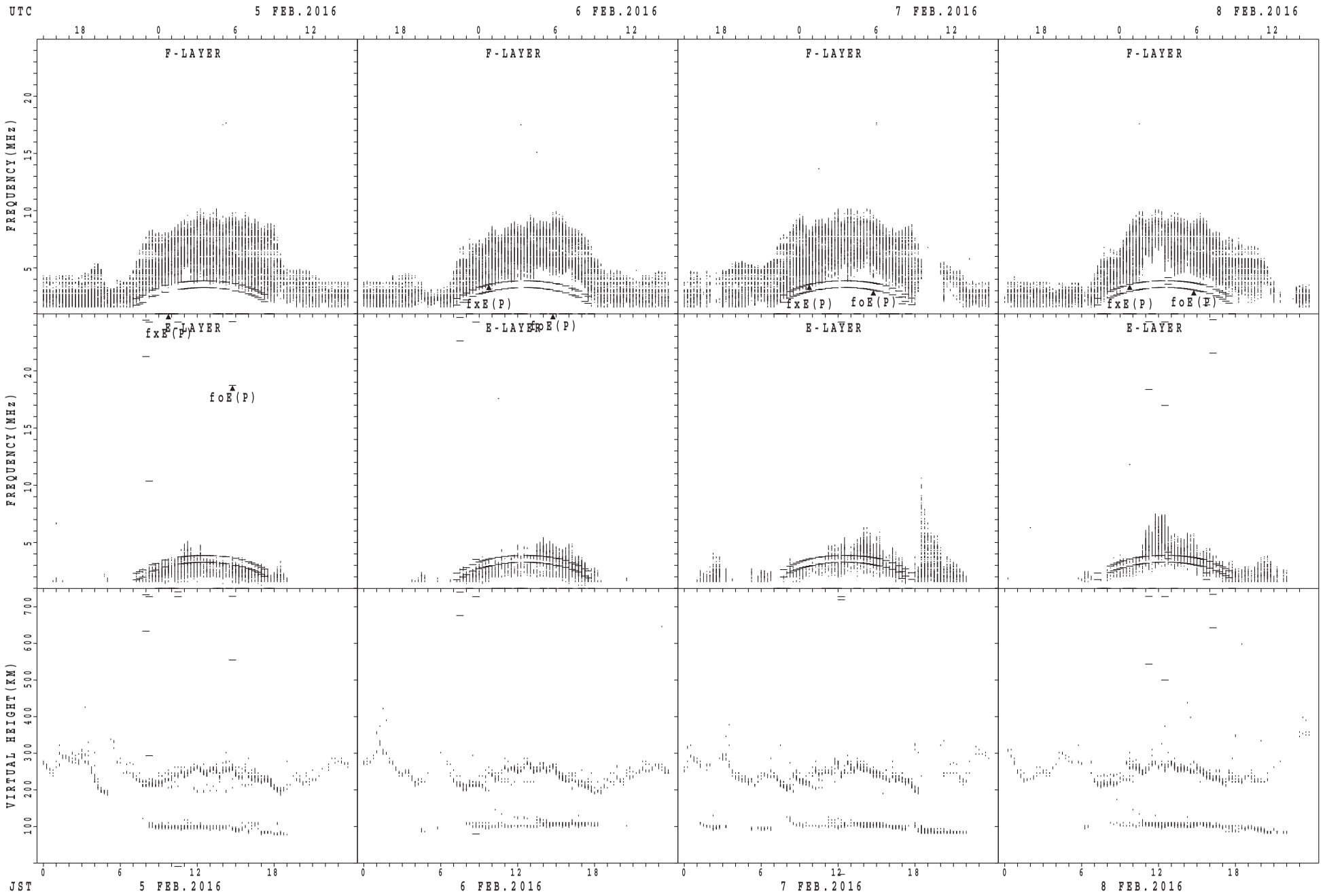

SUMMARY PLOTS AT Kokubunji
UTC
29 FEB.2016
18
0
6
12
F-LAYER
FREQUENCY(MHz)
5
10
15
20
fxE(P)
foE(P)
E-LAYER
FREQUENCY(MHz)
5
10
15
20
VIRTUAL HEIGHT(KM)
100
200
300
400
500
600
700
0
6
12
18
JST
29 FEB.2016
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



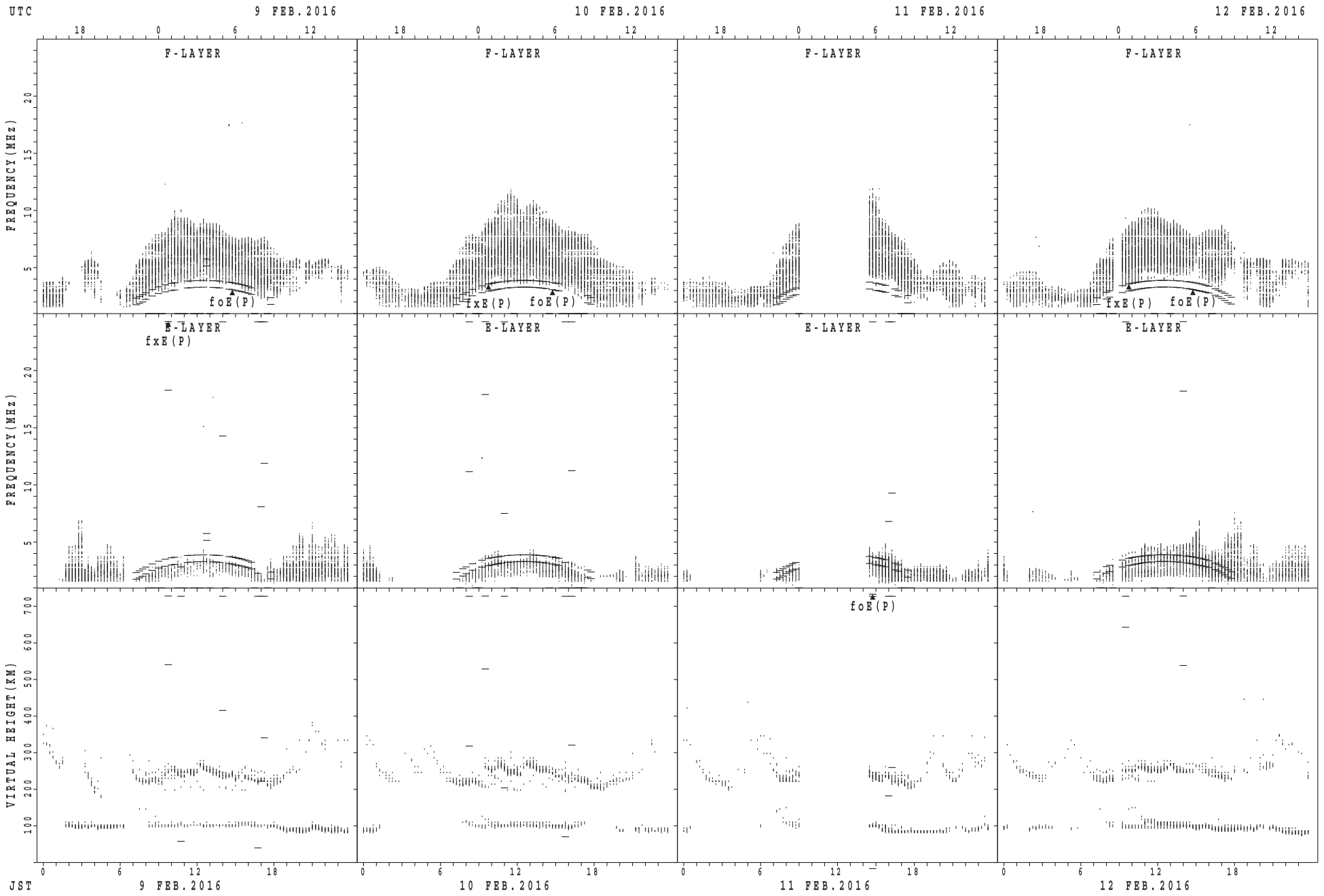
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



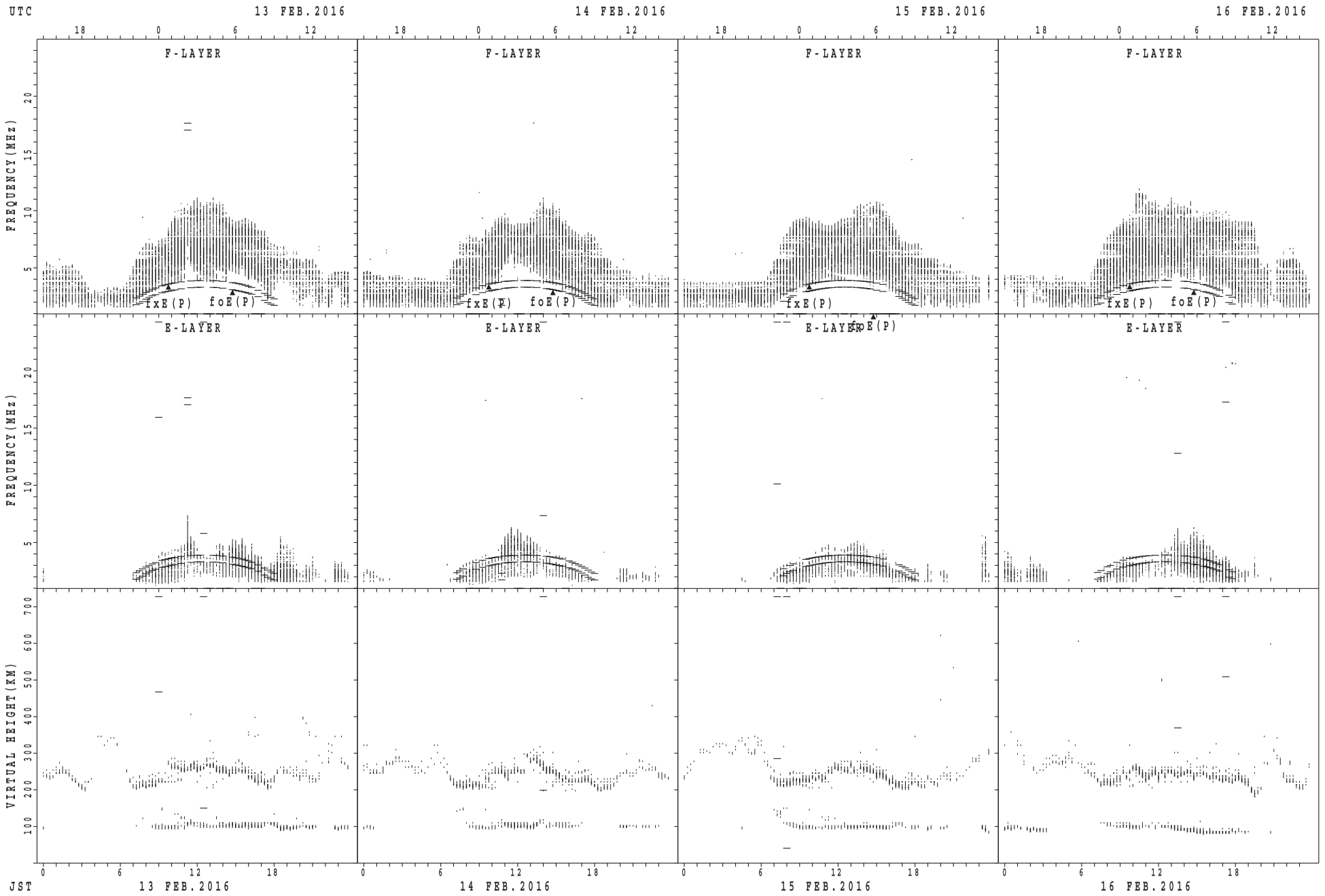
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



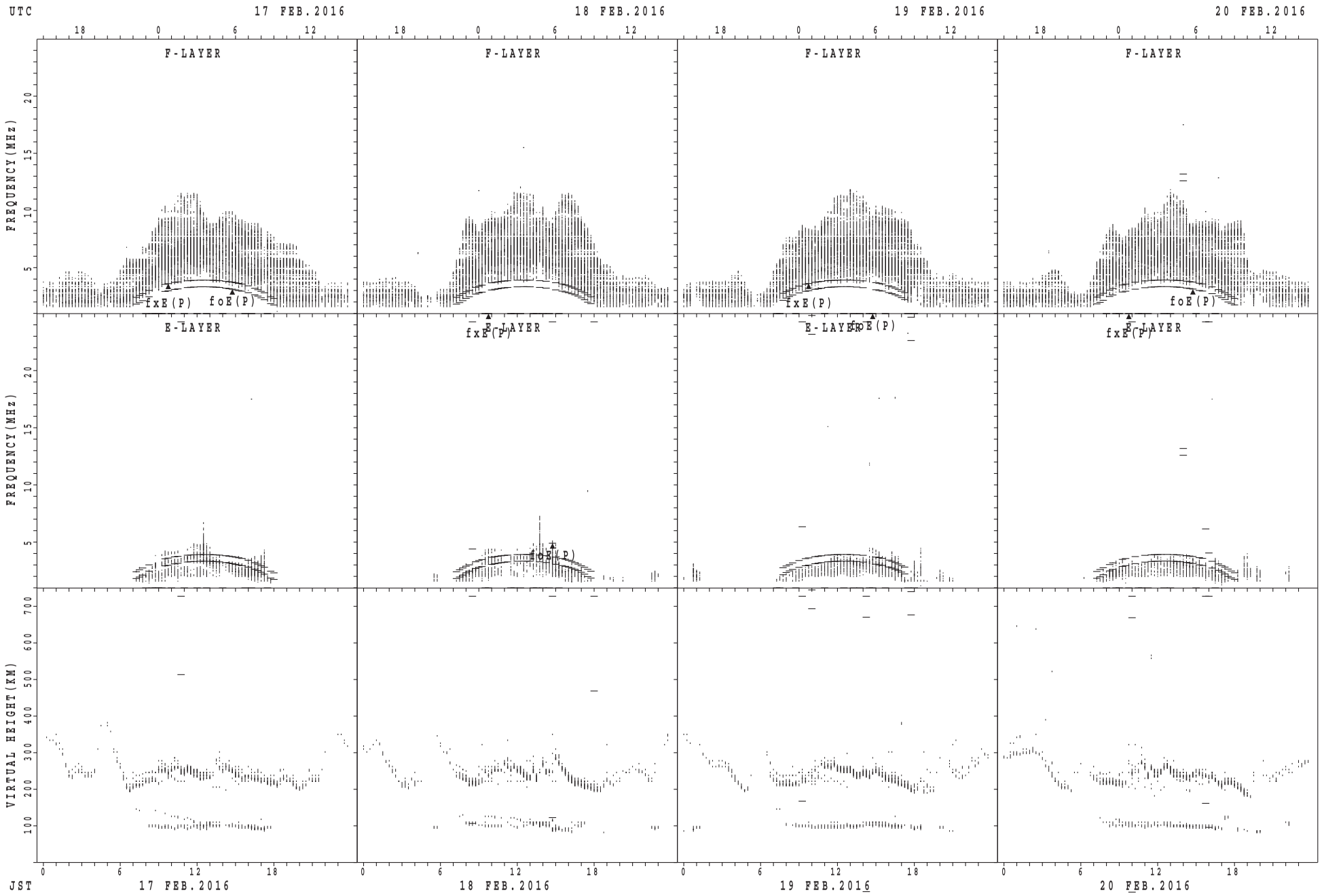
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



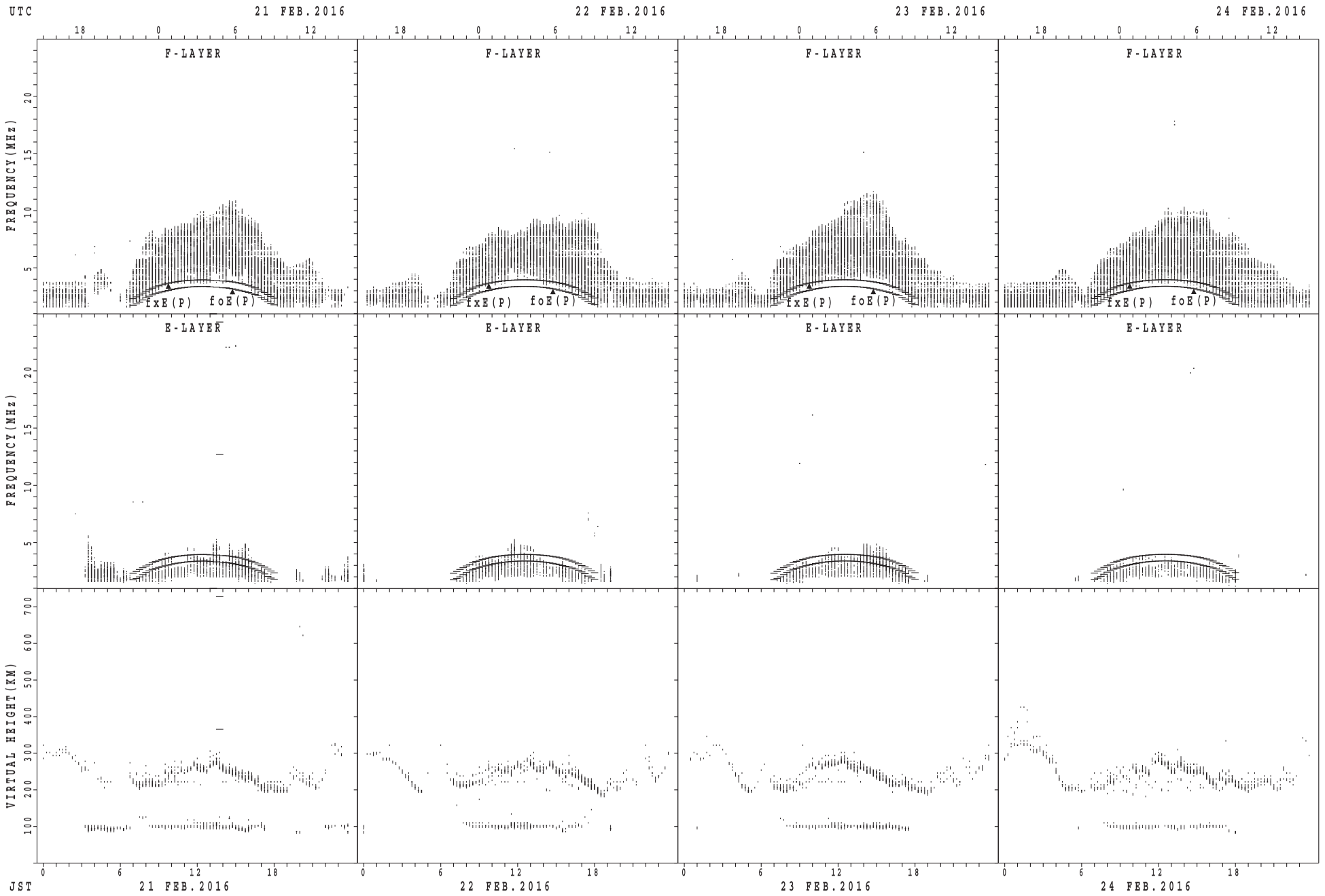
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



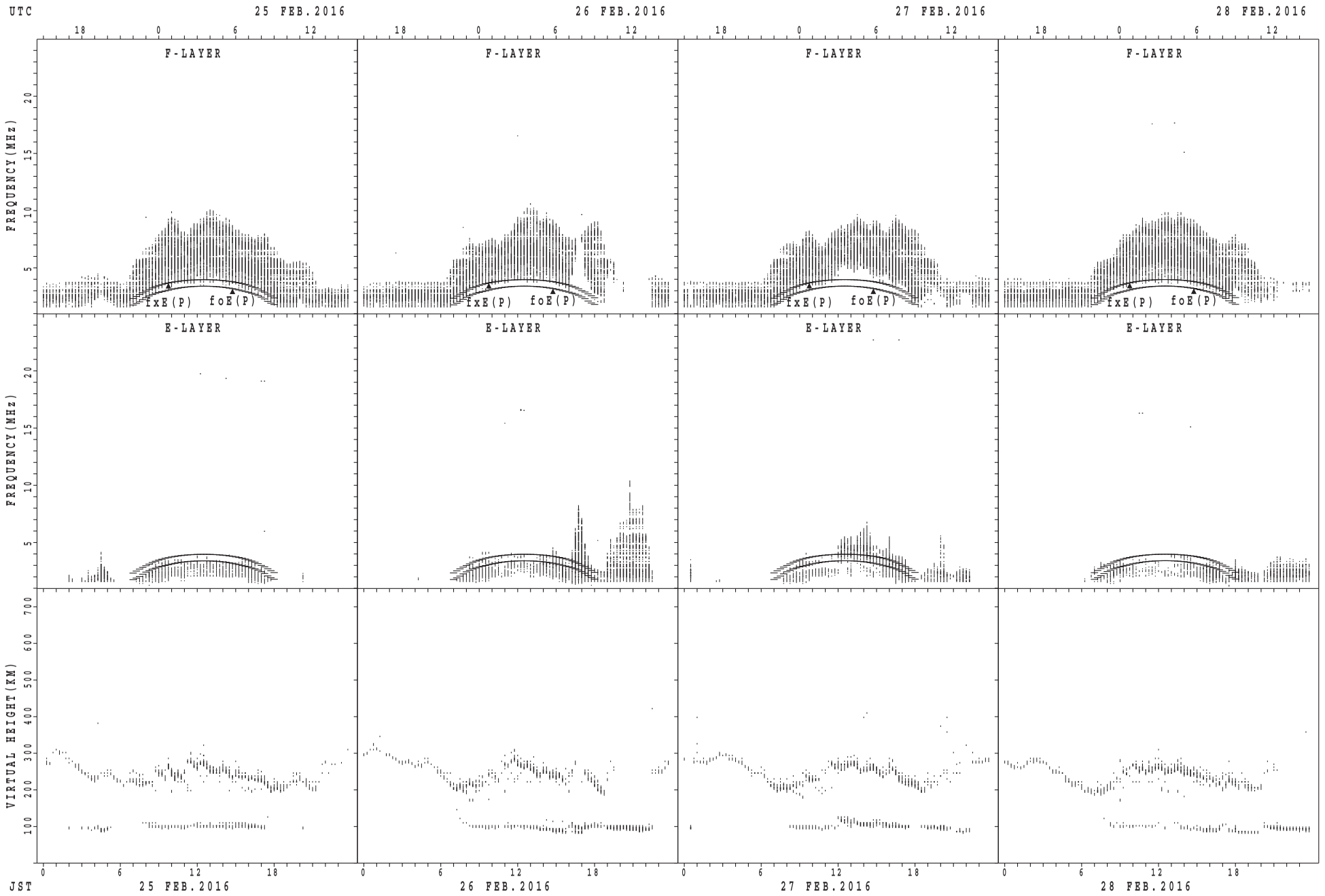
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa

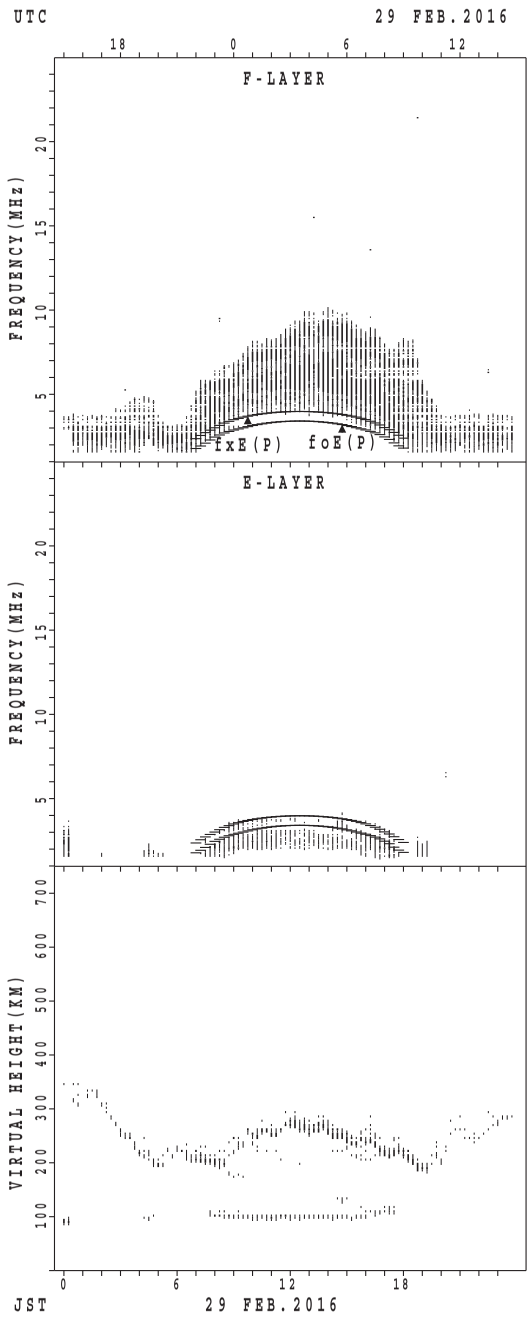


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

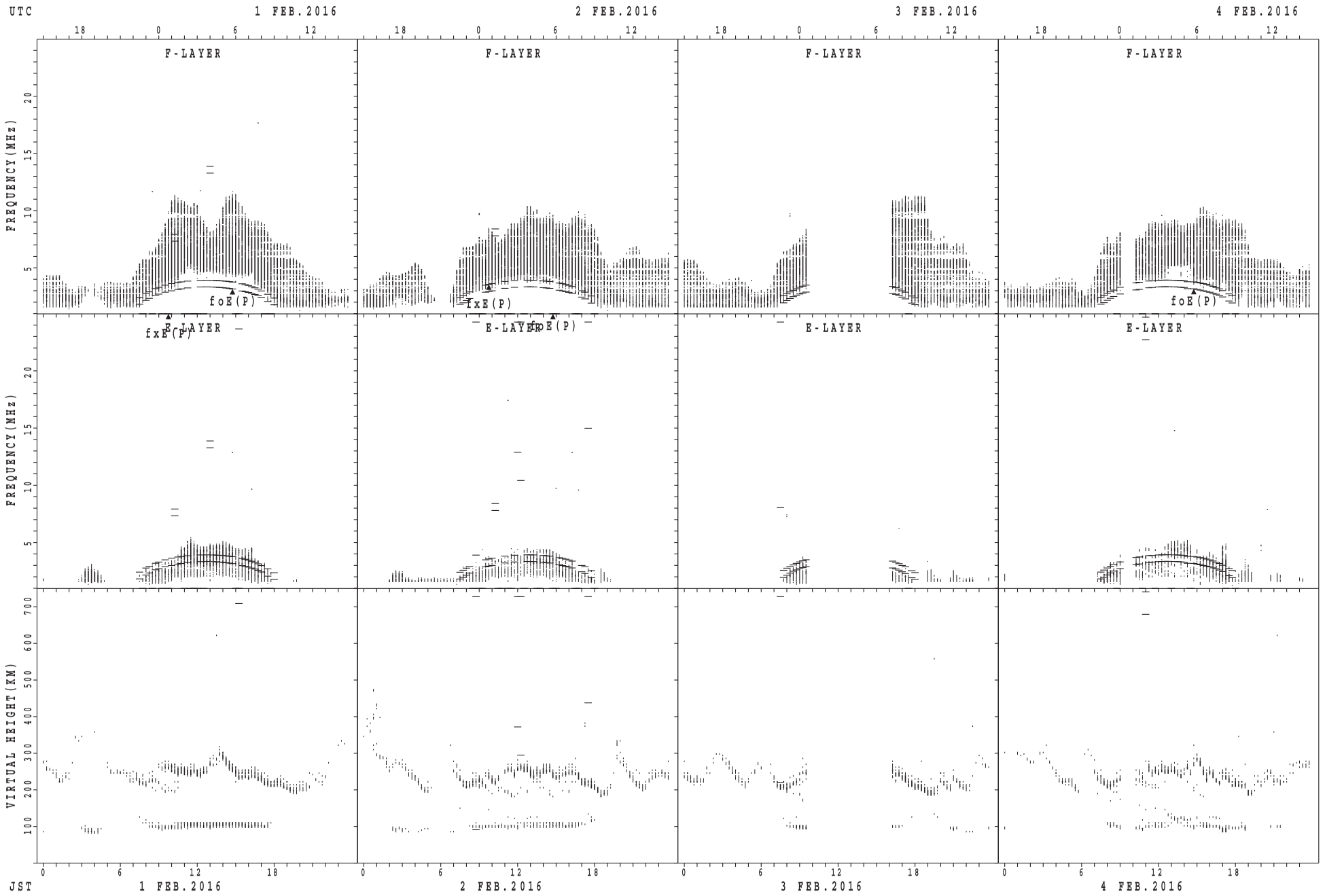
SUMMARY PLOTS AT Yamagawa



fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

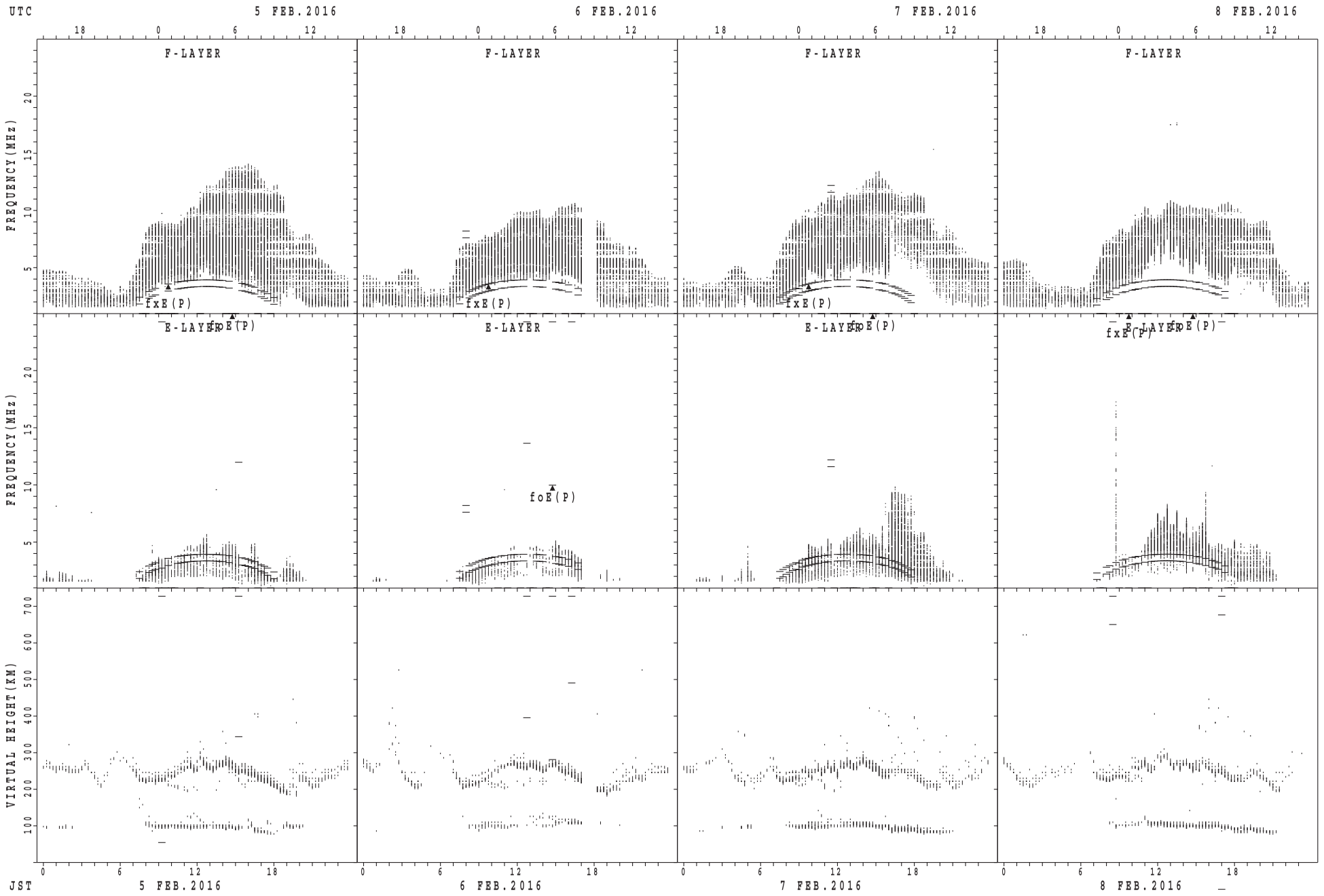

SUMMARY PLOTS AT Yamagawa
UTC
29 FEB.2016
18
0
6
12
F-LAYER
FREQUENCY(MHz)
5
10
15
20
fxE(P)
foE(P)
E-LAYER
FREQUENCY(MHz)
5
10
15
20
VIRTUAL HEIGHT(KM)
100
200
300
400
500
600
700
0
6
12
18
JST
29 FEB.2016
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



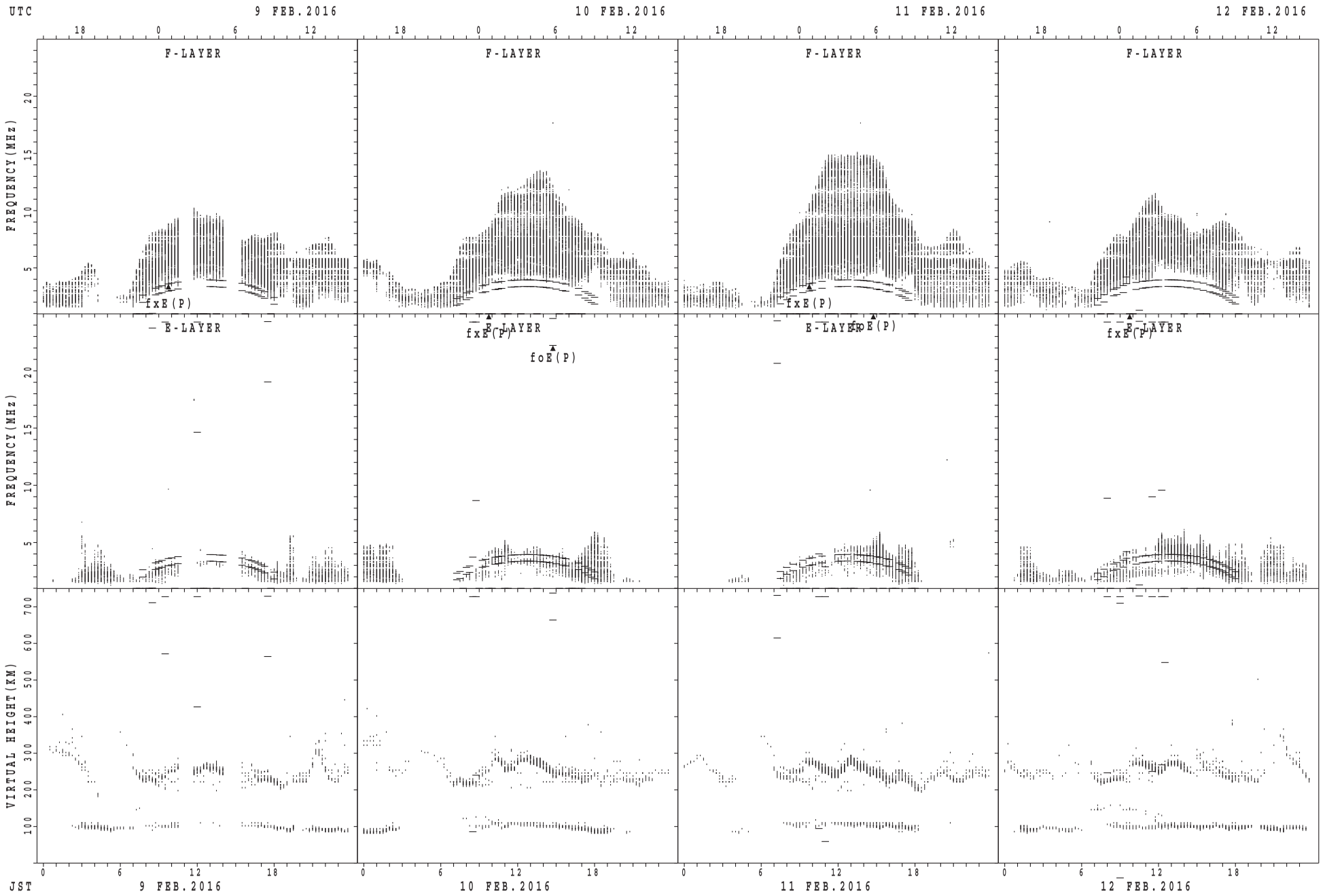
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



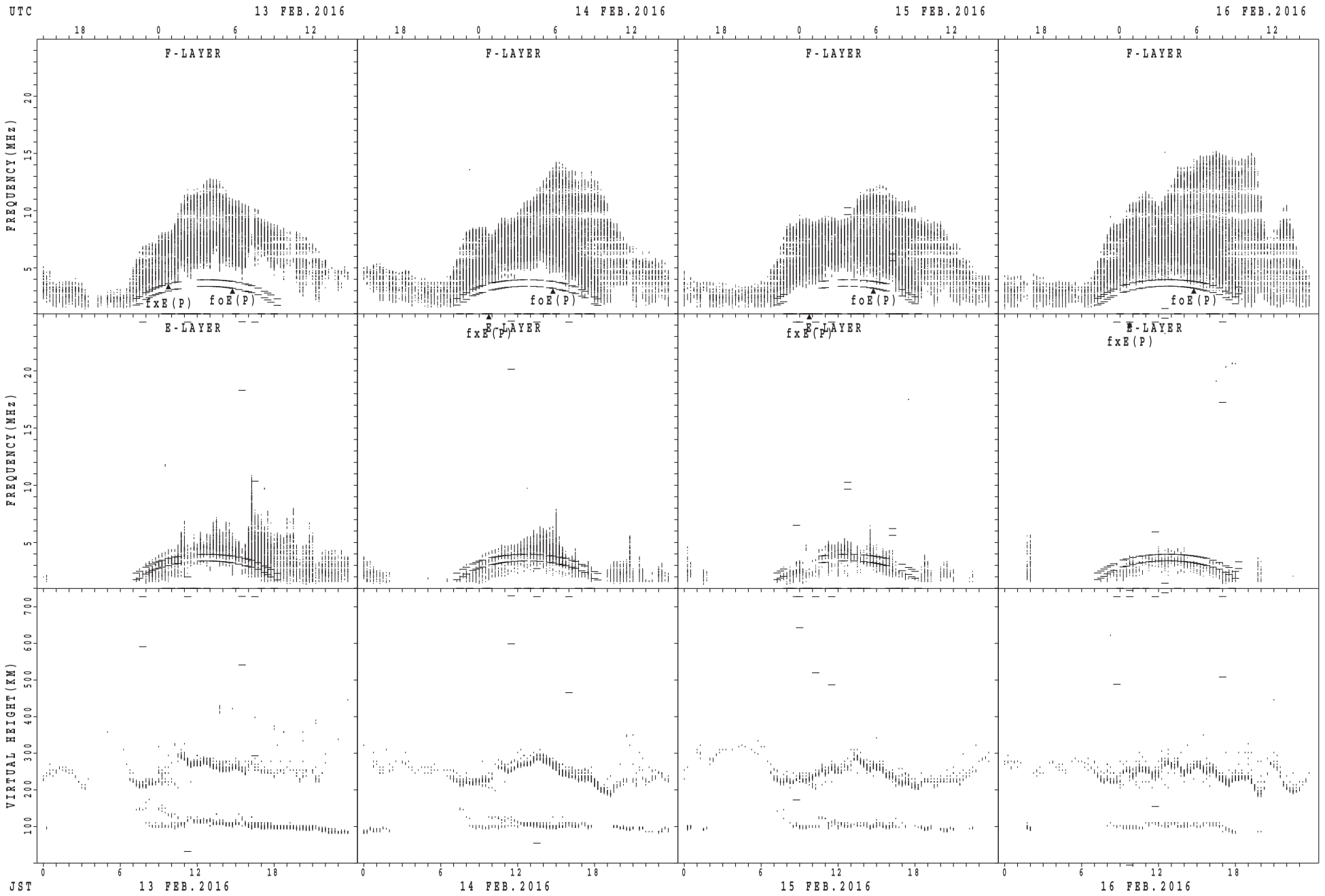
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



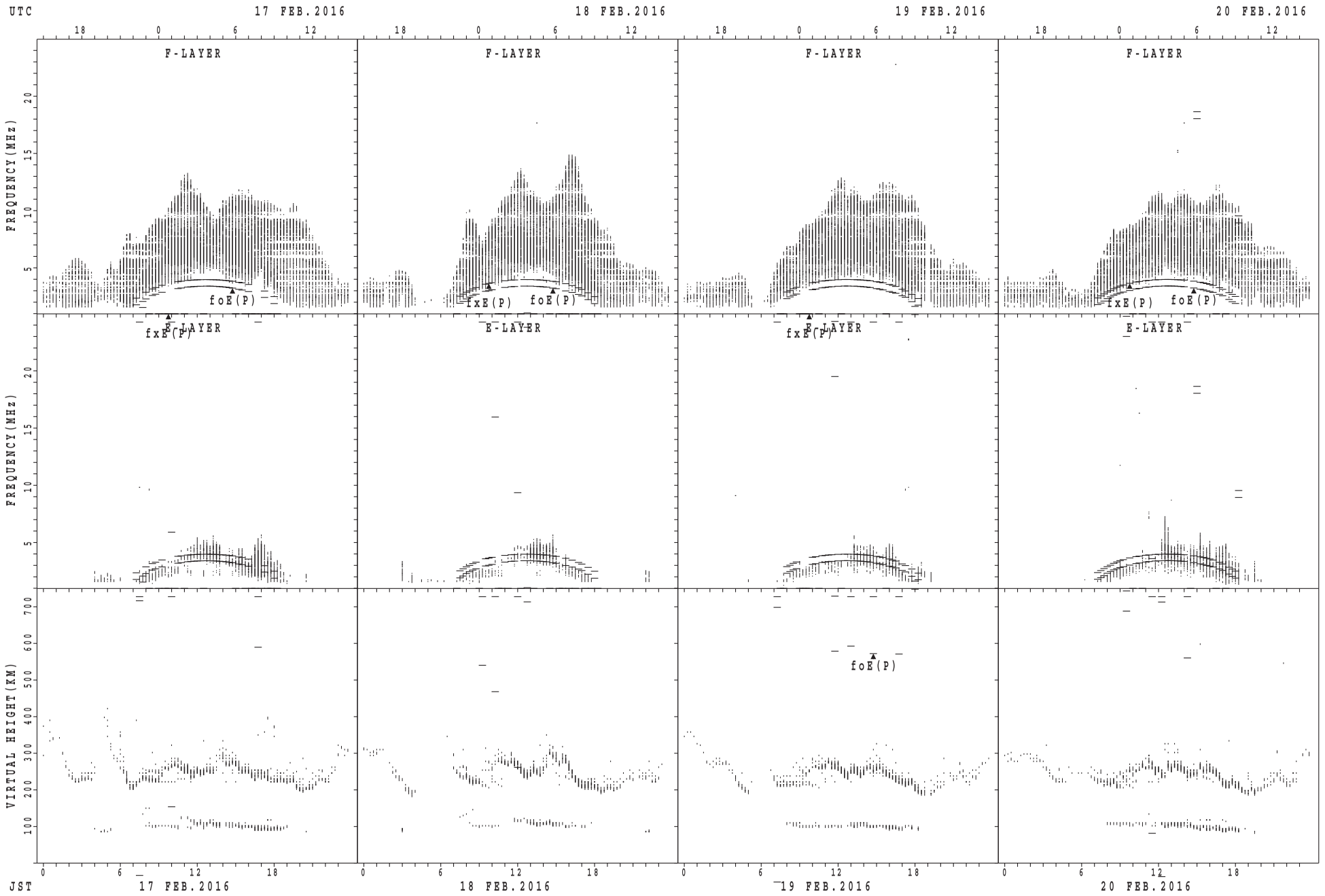
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



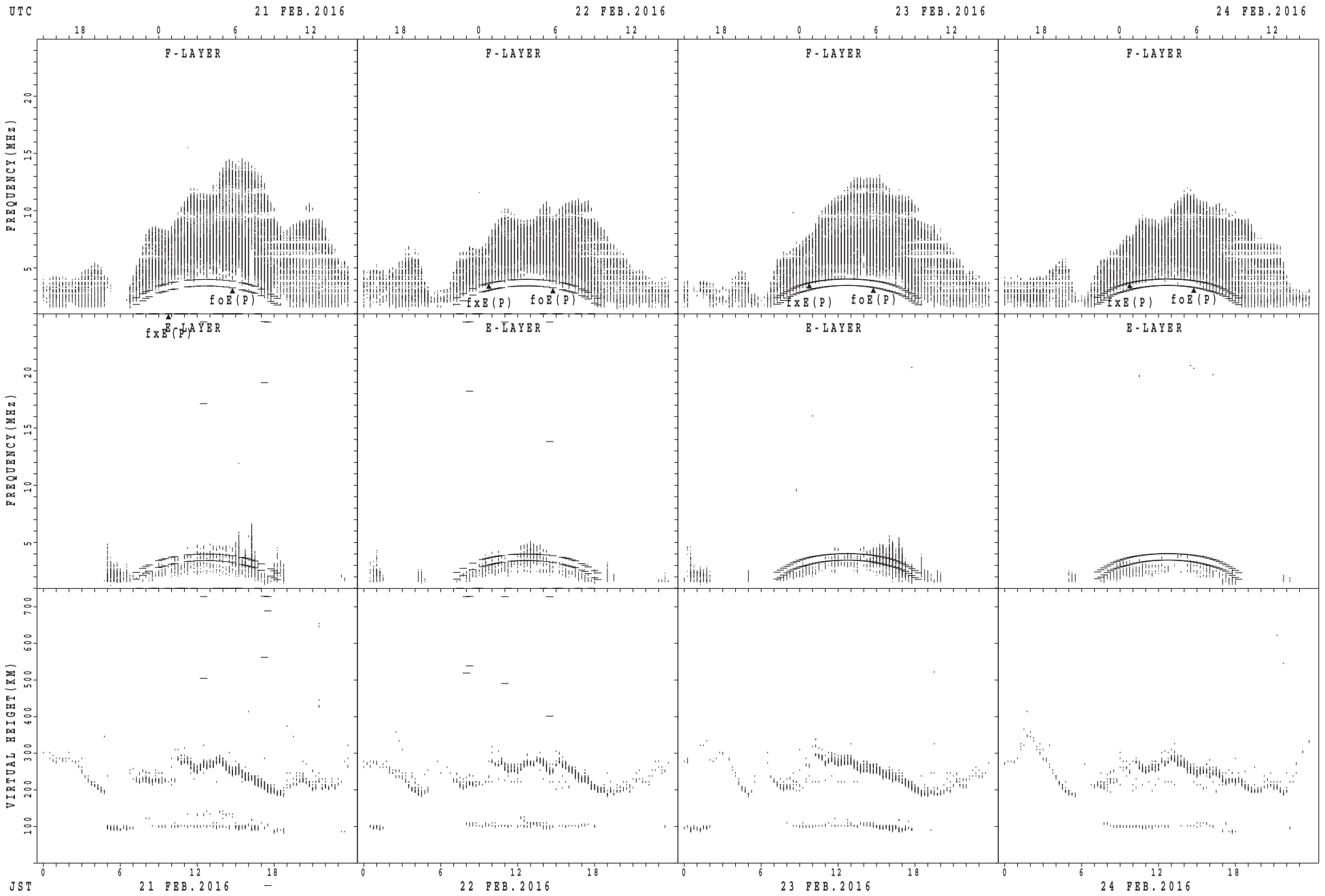
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



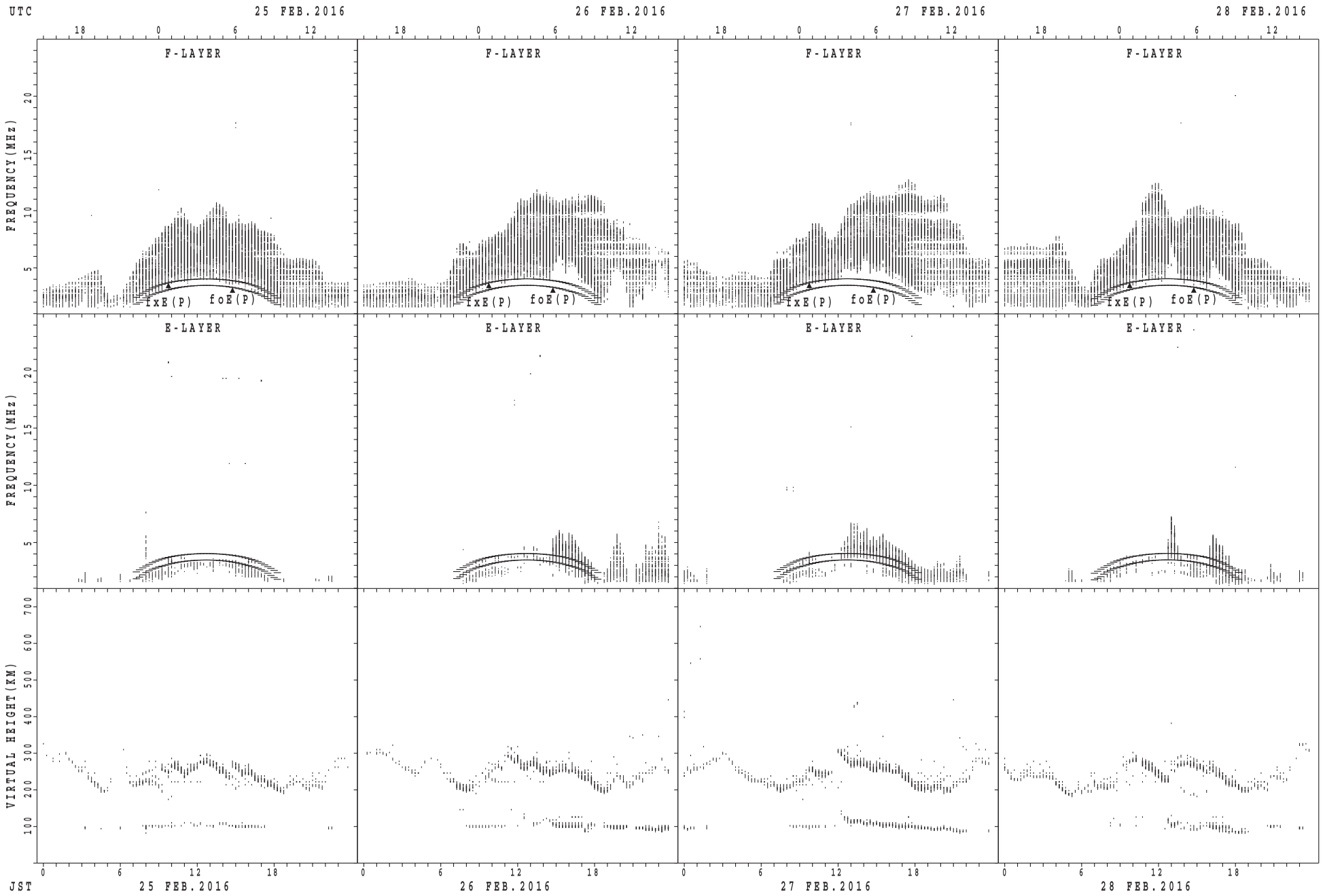
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa

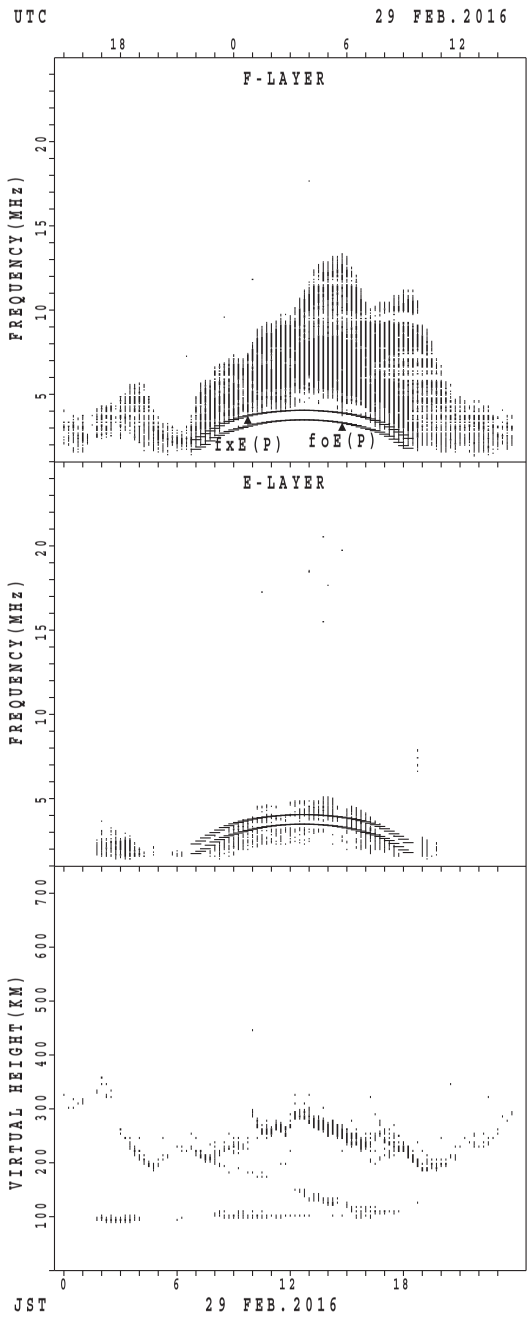


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE


SUMMARY PLOTS AT Okinawa
UTC
29 FEB.2016
18
0
6
12
F-LAYER
FREQUENCY(MHz)
5
10
15
20
fxE(P)
foE(P)
E-LAYER
FREQUENCY(MHz)
5
10
15
20
VIRTUAL HEIGHT(KM)
100
200
300
400
500
600
700
0
6
12
18
JST
29 FEB.2016
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

MONTHLY MEDIANS OF h'F AND h'Es

FEB.2016 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

h'F STATION Wakkanai LAT. 45°10.0'N LON. 141°45.0'E

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								11	24	27	24	14	9	18	28	28	24	9	1	1				
MED								232	224	228	238	236	230	235	238	231	230	222	218	260				
U Q								248	233	236	246	246	251	242	243	239	235	231	109	130				
L Q								230	214	222	230	230	224	228	230	224	222	213	109	130				

h'Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	12	14	8	11	5	6	8	10	21	16	18	9	6	7	10	11	14	13	12	11	10	10	10	9
MED	95	99	99	101	101	98	103	140	111	103	107	107	104	103	101	95	104	97	99	99	101	95	97	97
U Q	101	105	103	105	107	101	104	161	131	108	171	109	105	109	103	101	113	105	104	105	105	97	103	104
L Q	94	97	97	97	95	95	98	103	103	98	99	99	97	97	97	93	97	96	93	93	95	93	93	91

h'F STATION Kokubunji LAT. 35°43.0'N LON. 139°29.0'E

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								7	22	28	16				20	28	27	13	1					
MED								238	232	244	245				239	238	232	230	280					
U Q								244	238	253	258				247	238	240	237	140					
L Q								216	228	238	238				235	231	224	224	140					

h'Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	9	8	9	5	4	4	3	11	9	5	10	6	9	8	7	8	12	10	12	14	11	11	13	10
MED	97	96	97	99	97	97	97	143	113	97	107	107	107	108	105	103	99	103	98	98	97	95	95	95
U Q	103	101	105	102	101	100	101	159	177	142	113	111	118	112	109	109	103	109	104	105	101	101	102	99
L Q	94	94	94	92	93	94	95	107	106	95	97	95	104	104	101	98	96	99	95	95	95	93	91	89

h'F STATION Yamagawa LAT. 31°12.0'N LON. 130°37.0'E

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									13	21	27	2			1	27	29	26	13	1				
MED									234	244	250	244			266	242	240	239	232	232				
U Q									239	253	260	246			133	248	254	242	239	116				
L Q									230	235	248	242			133	238	233	232	225	116				

h'Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	8	6	7	4	3	3	3	2	9	7	7	12	17	18	15	19	17	16	14	12	15	9	10	7
MED	95	96	97	95	97	95	103	170	149	103	147	111	107	105	107	103	103	99	96	92	95	97	92	91
U Q	98	97	103	100	105	99	105	191	167	163	167	128	118	111	111	107	103	103	103	98	103	105	95	97
L Q	89	93	91	92	95	95	93	149	120	101	119	107	105	103	103	99	98	92	89	89	87	95	89	89

MONTHLY MEDIANS OF h'F AND h'Es

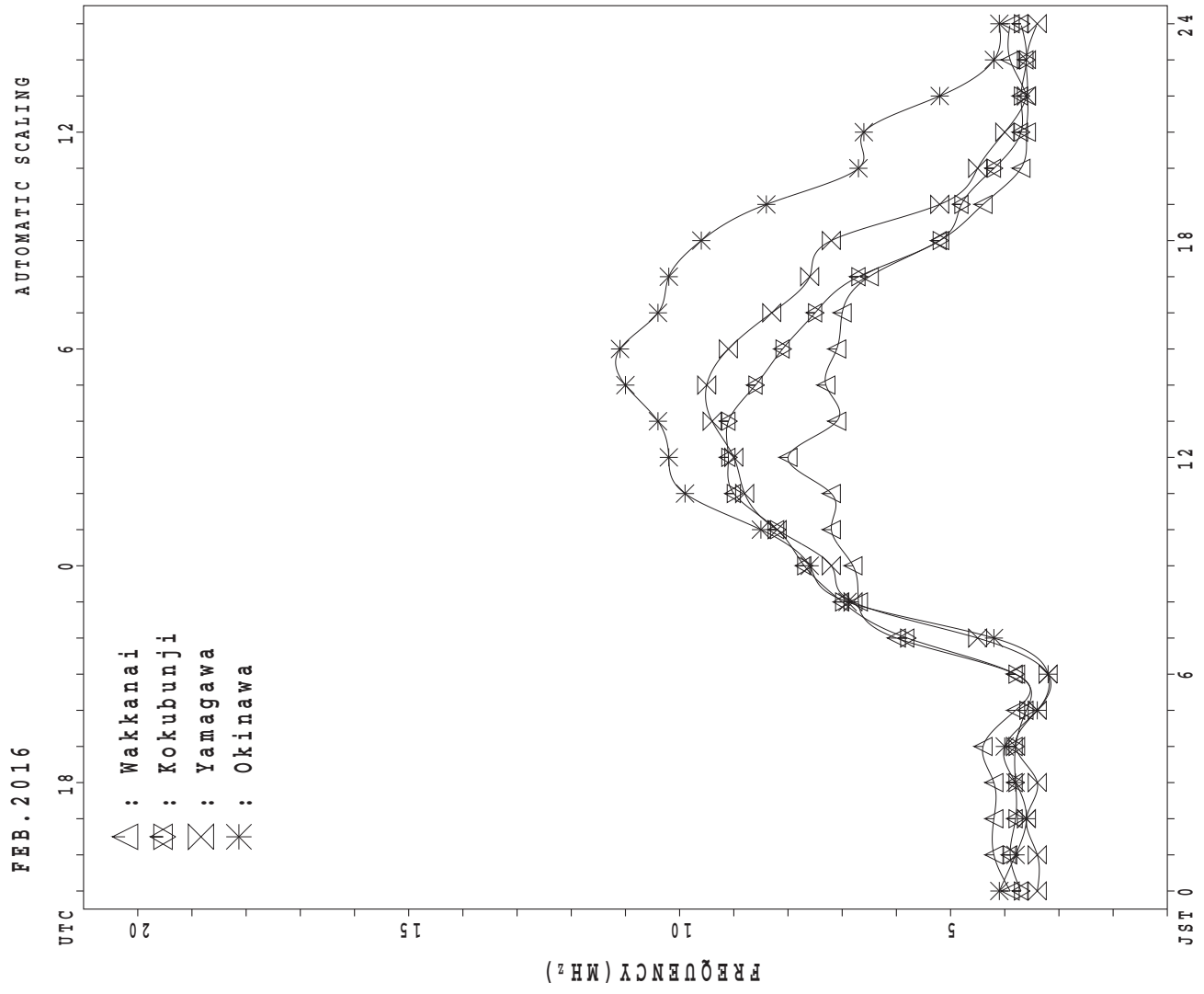
FEB.2016 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

h'F STATION Okinawa LAT. 26°41.0'N LON. 128°09.0'E

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT					2				17	25	27					16	27	29	27	16	8	4	3	
MED					238				236	240	264					258	246	232	224	224	243	245	236	
U Q					240				249	255	272					268	254	238	238	245	255	285	332	
L Q					236				226	234	246					244	238	222	216	215	228	230	216	

h'Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	4	4	5	5	3	4	1	2	9	11	8	15	16	22	23	23	21	20	14	10	10	10	6	6
MED	92	94	97	97	99	97	95	123	155	107	113	121	113	111	109	105	103	102	95	96	96	95	94	96
U Q	97	98	100	106	99	102	47	149	174	167	129	139	117	115	113	111	107	105	99	101	99	97	97	97
L Q	89	91	97	92	87	93	47	97	116	101	105	113	108	107	103	101	103	95	89	93	91	91	91	87


MONTHLY MEDIANS PLOT OF foF2
FEB.2016
AUTOMATIC SCALING
: Wakkanai
: Kokubunji
: Yamagawa
: Okinawa
UTC
JST
FREQUENCY (MHz)
0
6
12
18
24
5
10
15
20

IONOSPHERIC DATA STATION Wakkanai

FEB.2016 fxI (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0'N LON.141°45.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	X 40	X 40	X 42	X 41	X 41	X 41													X 50	X 50	X 47	X 50	X 50	X 49
2	X 52	X 55	X 55	X 54	X 53	X 42													X 65	65	X 53	X 50	X 49	X 47
3	57	X 52	55	55	X 50	56	X 53												X 42	X 39	X 39	X 42	X 42	
4	X 45	X 45	X 45	X 43	X 43	X 44	X 44												X 56	X 56	X 48	X 46	X 46	X 46
5	X 48	X 48	X 49	X 50	X 47	X 50													X 58	X 51	X 42	X 40	X 42	X 44
6	X 47	X 47	X 49	X 50	X 50	X 41													X 47	X 43	X 40	X 54	X 59	X 63
7	X 57	X 57	X 60	55	55	X 59													X 51	X 45	X 44	X 43	X 47	55
8	X 52	X 51	X 52	X 51	51	X 39													X 57	X 52	X 53	X 53	X 49	X 49
9	X 53	X 53	X 59	X 62	X 67	X 56	46												X 61	X 67	X 54	X 59	X 53	X 55
10	X 55	X 49	X 53	X 46	X 43	X 42													X 60	X 52	X 45	X 44	X 46	X 44
11	X 44	X 45	X 42	X 42	X 41														X 51	X 46	X 45	X 47	X 47	X 45
12	X 49	X 45	X 45	X 42	X 39	X 37														X 52	X 50	X 53	X 50	X 52
13	X 55	X 56	X 55	X 46	X 40	X 40														X 57	X 51	X 46	X 47	X 47
14	X 49	X 49	X 46	X 47	X 48	X 47														X 52	X 45	X 48	X 50	X 53
15	X 54	X 54	X 56	X 49	X 48	X 45	X 47													X 51	X 49	X 47	X 48	X 48
16	X 50	X 51	X 51	X 51	X 50	X 49	X 50													X 63	X 60	X 56	X 54	X 52
17	X 53	X 56	X 51	X 53	X 43	X 44														X 55	X 43	X 43	X 44	X 45
18	X 43	X 45	X 43	X 46	X 38	X 33	X 35													X 48	40	X 40	X 42	X 43
19	X 50	X 51	51	52	56	X 41														X 47	51	X 49	X 53	58
20	X 55	X 56	X 60	62	62	X 44														X 54	X 49	X 44	42	X 41
21	X 46	X 49	52	54	X 52	X 53	61													X 57	X 38	X 35	X 39	X 39
22	X 40	X 40	X 42	51	53	53	48													X 56	X 46	X 40	X 38	X 39
23	X 41	X 42	X 42	51	51	X 42														X 40	X 43	X 41	X 41	X 43
24	X 43	X 41	X 42	X 42	X 44	X 46	X 55												X 59	X 53	X 45	X 45	X 47	X 51
25	50	X 52	X 49	54	53	53														X 54	X 54	X 47	X 47	X 46
26	X 47	X 49	X 50	X 50	X 51	X 52														X 47	X 49	X 47	X 47	X 47
27	X 50	X 51	X 51	X 52	X 52	X 50													X 78	X 50	X 44	X 38	X 40	X 43
28	X 43	X 44	X 45	X 45	X 48	X 45	X 52													X 47	X 47	X 46	X 47	X 47
29	X 49	X 49	X 46	X 50	X 49	X 46	X 46													X 44	X 41	X 41	X 43	X 43
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	28	11												13	29	29	29	29	28
MED	X 49	X 49	X 50	X 50	X 50	X 45	X 48												X 57	X 52	X 46	X 46	X 47	X 47
U Q	X 53	X 52	X 54	54	52	X 51	X 53												X 60	X 56	X 50	X 50	X 50	X 52
L Q	X 44	X 45	X 45	X 46	X 43	X 42	X 46												X 50	X 47	X 43	X 42	X 42	X 44

FEB.2016 fxI (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Wakkanai

FEB. 2016 foF2 (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0'N LON.141°45.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	33	34	35	34	34	34	29	45	J R 84	72	85	102	74	72	Y 75	65	58	49	43	43	40	43	43	42
2	45	48	48	47	46	35	32	55	56	62	J R 91	R 79	66	73	81	70	60	54	58	F 52	46	43	42	40
3	F 45	45	F 40	F 40	43	40	46	52	64	86	J R 80	76	R 83	79	96	78	65	44	35	32	32	35	35	38
4	38	38	38	36	36	37	37	51	60	70	80	77	Y 77	72	77	80	60	48	49	49	41	39	39	40
5	42	41	42	43	40	43	41	54	69	74	Y 74	76	79	73	73	75	70	60	51	44	35	V 33	35	37
6	40	40	42	43	43	34	28	48	72	76	R 85	U R 81	Y 74	90	86	76	69	59	40	36	33	47	52	56
7	50	50	53	42	45	52	48	61	76	76	72	85	86	71	77	76	62	A	44	38	37	36	40	F 43
8	45	44	45	44	F 34	32	30	53	63	73	75	76	J R 86	88	86	75	66	61	50	45	46	46	42	42
9	46	46	52	55	60	49	F 36	56	78	96	74	74	73	75	80	J R 80	66	58	54	60	47	52	46	48
10	48	42	46	39	36	35	33	56	72	86	89	91	J R 84	73	80	78	69	58	53	45	38	37	39	37
11	37	38	35	35	34	24	25	50	R 75	J R 88	R 91	91	J R 85	J R 83	76	76	71	54	44	39	38	40	40	38
12	42	38	38	35	32	30	26	54	68	Y	R 86	98	95	88	79	R 78	73	66	58	45	43	46	43	45
13	48	49	48	39	33	33	36	58	86	76	Y 76	92	83	83	82	87	75	62	A	50	44	39	40	40
14	42	42	39	40	42	40	40	61	77	74	J R 83	92	J R 83	76	76	74	74	60	45	45	38	41	43	46
15	47	47	49	42	41	38	40	59	73	R 78	86	92	102	98	77	76	78	66	46	44	42	40	41	41
16	43	44	44	44	43	42	43	66	86	78	J R 95	120	J R 104	78	79	77	68	66	66	56	53	49	47	45
17	46	49	44	46	36	37	34	73	J R 80	J R 81	J R 93	Y	J R 103	J R 105	80	80	75	62	60	48	36	36	37	38
18	36	38	36	39	31	26	28	62	76	J R 108	78	J R 79	88	Y	J R 83	92	74	70	52	41	F 29	33	35	36
19	43	44	F 33	F 40	F 44	34	33	59	70	70	86	90	98	79	90	90	84	64	47	40	F 40	42	46	F 46
20	48	49	53	F 48	F 46	37	32	62	69	68	Y	J R 89	Y 96	R 74	78	87	R 78	68	48	47	42	37	F 32	34
21	39	43	F 39	F 38	45	46	F 44	60	67	Y 76	74	85	J R 79	J R 81	74	70	67	57	60	50	31	28	V 32	32
22	33	33	35	38	F 39	F 36	36	53	68	80	70	76	86	80	71	78	84	64	52	49	39	33	31	32
23	34	35	35	F 37	38	35	33	56	70	76	76	76	J R 87	85	76	81	75	64	40	33	36	34	34	36
24	36	34	35	35	37	39	48	60	66	68	76	78	Y 76	R 76	J R 79	76	78	66	52	46	38	38	40	V 44
25	F 40	45	42	F 42	F 44	F 38	51	68	75	74	78	86	V 74	R 74	J R 84	69	77	65	50	47	47	40	40	39
26	40	42	43	43	44	45	50	60	66	69	72	78	74	78	78	71	72	74	51	40	42	40	40	40
27	43	44	44	45	45	43	46	70	68	72	J R 79	75	70	74	76	72	74	74	71	43	37	31	33	36
28	36	37	38	38	41	38	45	70	75	68	66	74	83	R 90	75	75	72	72	53	40	40	39	40	40
29	42	42	39	43	42	39	39	64	75	80	72	75	75	81	76	79	69	63	51	37	34	34	36	36
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	29	29	29	29	28	28	28	29	28	29	29	29	28	28	29	29	29	29	29
MED	42	42	42	40	41	37	36	59	72	76	78	80	83	78	78	76	72	62	51	45	39	39	40	40
U Q	46	46	46	44	44	41	44	62	76	80	R 86	91	88	84	82	80	75	66	54	48	42	42	42	44
L Q	38	38	37	38	36	34	32	54	68	71	74	76	74	74	76	74	66	58	46	40	36	34	35	36

IONOSPHERIC DATA STATION Wakkanai

FEB.2016 foF1 (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0'N LON.141°45.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1											L	L 428												
2							L				L	L	L	L	L									
3										L	L		L	L	L	L		L						
4								L	264	L	400	L	L	640	396	L								
5										L	L	L	396	388	L	L								
6										360	L			L	L	L								
7										L	L	L	L	L				A						
8											L	L	L	L		364								
9										L	L		L	L	L	L								
10										L	L	L	L	L	L	L								
11												L	L	L	L	L								
12												L	L	L	L									
13											L		L	L	L	L			A					
14										L	L	452	L	L	L	L								
15										L	L	L	L	L	L		L							
16										L	L	L	L	L	L									
17											L	L	440	L		L								
18										L	L	L	L	L	L	L								
19								L	L		L	L	L	L	428	L								
20									L					L		L								
21										L	L	L	L	L	L									
22									L		L	L	L	428	L	L								
23										L	L	L 352	L	432	L	L	L							
24								216	L	L	L	L	L	L	L	L	L								
25									L	L	L	L	L	L	384	L	L							
26										L	L	L	L	424	L	L	L							
27									L	L	L	444		L	L	L	L							
28									L	L	L	L	L	L	L	L								
29										412	L	L	L	U L 412	L	L								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								1	1	2	1	3	3	6	3	1								
MED								216	264	386	400	444	428	426	396	364								
U Q												452	440	432	428									
L Q												L 352	396	412	384									

FEB.2016 foF1 (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Wakkanai

FEB. 2016 foE (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0'N LON.141°45.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								B B	196	244	284	288	288	288	260	220	B	B						
2								B 176	208	248	280	296	276	300	A	A	A	A						
3								192	216	272	292	A	A	296	276	248	R 180	B						B
4								184	220	272	300	300	308	304	292	252	220	A						
5								B 168	224	268	292	292	272	308	292	256	216	B						
6								B 200	260	284	296	312	312	300	300	272	A	A						
7								A 180	232	264	284	304	308	308	288	A	A	A						
8								B 200	236	276	296	308	308	292	280	A	A	A						
9								B A	228	256	A	304	304	A	304	256	184	184						
10								A A	196	228	264	292	316	316	280	248	176	A						
11						136		A 208	232	A	A	304	304	308	284	256	200	A						
12							196	A	A	A	A	316	316	320	300	268	220	A	A					
13								A 196	224	216	A	A	A	308	304	A	208	A	A					
14								A 208	236	264	296	308	316	308	308	264	208	180	B					
15								180	256	272	272	A	324	320	292	260	208	B	B					
16								180	260	268	304	316	316	304	300	248	208	A	212					
17								B 172	236	264	284	308	316	316	292	276	228	152	A					
18								188	232	272	276	312	312	300	300	252	212	176	4 126					
19								B 188	236	276	296	320	300	312	304	A	A	164	B					
20								B 192	236	280	296	308	316	A	A	268	216	A	A					
21								A A	240	A	A	312	312	308	296	268	208	B	B					
22								B 216	244	244	296	320	328	324	304	264	228	B 968	B					
23								A 192	256	276	308	320	324	324	300	276	212	168	B					
24								180	240	276	304	312	320	312	296	248	208	164						
25								B 200	248	284	304	316	316	324	296	252	A	A	A					
26								A 164	A	280	288	308	308	308	292	264	204	172	B					
27								B 208	256	288	304	332	B	308	308	288	236	232						
28								B 208	260	288	316	320	328	320	296	272	232	A	A					
29								B 212	256	276	324	324	316	316	304	A	220	172	B					
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT						1	1	24	27	26	24	26	26	27	27	23	22	11	2					
MED						136	196	192	236	272	296	310	314	308	296	260	210	172	169					
U Q								204	256	276	304	316	316	316	304	268	220	184						
L Q								180	224	264	284	304	308	304	292	252	208	164						

IONOSPHERIC DATA STATION Wakkanai

FEB. 2016 foEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0'N LON.141°45.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	27	25	25	23	21	22	E B 14	E B 14	J A 25	33	33	34	32	53	50	40	20	53	E B 14	22	30	27	29	33
2	34	24	27	J A 27	E B 14	E B 14	E B 14	23	26	27	34	34	32	G 22	34	J A 45	J A 59	J A 45	J A 49	32	J A 28	28	E B 14	19
3	E B 15	E B 14	E B 14	E B 14	E B 15	E B 14	E B 14	27	30	G 20	32	J A 61	43	35	30	29	J A 24	J A 17	E B 13	E B 13	E B 14	E B 14	19	E B 14
4	19	30	29	22	20	24	E B 14	19	32	28	38	38	34	34	32	28	26	34	22	E B 14	E B 15	E B 14	E B 14	28
5	E B 14	E B 15	E B 14	E B 14	27	E B 19	E B 14	J A 28	28	33	37	34	35	35	36	32	30	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14
6	E B 14	34	20	J A 25	E B 14	E B 14	E B 14	28	J A 29	33	35	63	J A 45	40	52	J A 73	J A 35	J A 21	23	J A 41	39	20	J A 23	22
7	23	20	24	24	18	30	J A 19	G	26	35	32	34	40	36	61	J A 51	J A 77	69	J A 52	29	29	28	23	20
8	E B 14	26	36	32	32	24	E B 14	G 20	28	32	G	G	37	37	J A 44	J A 45	22	J A 47	26	31	24	28	33	23
9	E B 14	28	34	28	34	28	E B 14	J A 23	J A 62	J A 44	33	33	G 24	30	G 23	G 29	29	J A 22	26	20	26	20	22	22
10	22	26	E B 12	23	21	24	J A 22	J A 25	41	J A 36	28	31	G 20	G 24	31	28	J A 30	40	J A 48	J A 51	28	E B 14	22	E B 13
11	21	30	22	23	19	28	32	J A 32	J A 25	J A 60	66	J A 31	G 27	J A 29	33	30	22	30	20	E B 14	J A 23	J A 27	J A 18	32
12	27	25	23	29	26	E B 14	29	J A 37	J A 93	J A 65	J A 44	G 25	G	G 28	32	30	33	J A 64	35	31	J A 20	J A 22	J A 20	29
13	J A 22	J A 42	38	E B 14	28	23	J A 40	G	26	30	36	40	J A 35	37	G 27	28	J A 30	J A 31	J A 51	J A 83	J A 51	38	33	J A 50
14	33	25	25	24	18	23	J A 21	G	28	31	33	G 26	G 26	33	G 27	32	24	J A 21	E B 14	E B 14	E B 14	E B 14	27	J A 39
15	J A 26	25	23	19	22	24	E B 14	20	G	30	J A 33	J A 55	G 32	34	J A 30	29	23	E B 16	E B 15	J A 29	J A 47	22	40	34
16	30	J A 26	26	34	26	24	E B 14	G	34	J A 34	J A 31	34	G 27	J A 31	G 28	30	G 18	26	J A 27	24	E B 14	E B 14	19	29
17	23	23	23	27	E B 14	E B 14	19	26	29	32	36	40	G 27	G 27	G 20	G 20	26	17	J A 27	24	23	22	22	22
18	28	33	J A 26	J A 29	27	20	20	23	26	34	J A 50	34	38	33	32	29	25	E B 14	G 24	21	21	21	E B 14	21
19	E B 14	21	21	J A 27	E B 14	E B 14	E B 14	G	31	36	34	G 20	33	34	G J A 26	J A 31	J A 37	G	E B 15	E B 14	E B 14	E B 14	E B 14	E B 15
20	22	20	E B 14	E B 14	24	E B 14	E B 14	28	34	J A 65	J A 47	43	J A 42	J A 41	J A 37	34	42	J A 31	J A 29	J A 41	J A 52	J A 35	42	J A 25
21	J A 64	J A 21	22	25	24	21	26	32	J A 28	J A 33	J A 33	J A 32	36	38	G 25	36	29	G	E B 15	E B 13	E B 14	21	25	20
22	19	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	G	30	J A 33	J A 37	37	35	34	G 26	37	29	G	E B 14	27	25	21	20	30
23	30	25	23	26	26	26	J A 19	G	34	38	39	35	38	J A 31	J A 32	J A 29	24	G 15	E B 14	21	19	23	18	E B 14
24	20	28	E B 14	22	E B 14	E B 14	J A 27	G 18	27	G 20	33	35	G 29	G 21	G 26	28	27	18	E B 14	E B 14	E B 14	31	38	26
25	J A 25	20	E B 15	E B 14	E B 14	E B 14	E B 14	G	J A 26	35	G 26	G 27	G 27	G 27	G 23	27	24	J A 26	37	E B 14	21	21	E B 14	E B 14
26	24	E B 14	E B 14	E B 14	20	E B 14	19	21	J A 33	30	G 26	G 25	34	33	G 25	29	25	18	E B 13	32	25	32	24	24
27	21	22	E B 14	26	E B 14	E B 14	E B 14	G	G	G	36	G 26	E B 45	G 24	34	31	27	J A 24	E B 14	E B 14	E B 14	22	E B 14	24
28	E B 14	E B 14	E B 14	E B 14	E B 14	18	E B 15	G	G	G 21	G 34	35	35	35	34	G 20	G 20	19	J A 23	J A 23	23	28	E B 14	E B 14
29	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	G	G	30	G 24	G 29	34	32	G 24	33	25	18	E B 15	23	23	E B 14	22	29
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
MED	22	25	22	23	20	19	E B 14	G	28	33	G	34	34	33	31	30	26	21	22	23	23	22	22	23
U Q	27	27	26	27	26	24	20	26	32	J A 36	37	38	38	36	34	35	J A 30	32	J A 28	31	28	28	26	29
L Q	E B 14	E B 20	E B 14	E B 14	E B 14	E B 14	E B 14	G	26	30	32	G	G 28	G 28	G 26	28	24	16	E B 14	E B 14	E B 14	E B 14	E B 14	E B 17

FEB. 2016 foEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Wakkanai

FEB. 2016 fbEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0'N LON.141°45.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	23	31	31	31	30	45	45	29	20	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14
2	16	16	E B 14	14	E B 14	E B 14	E B 14	G 16	25	27	32	32	31	G 21	31	42	39	28	20	17	17	15	E B 14	E B 14
3	E B 15	E B 14	E B 14	E B 14	E B 15	E B 14	E B 14	G 18	24	G 18	G 29	33	34	32	29	27	22	15	E B 13	E B 13	E B 13	E B 14	E B 15	E B 14
4	E B 14	E B 14	16	E B 15	15	14	E B 14	G 18	G 20	G 26	G 30	34	32	33	32	27	G 22	22	E B 14	E B 14	E B 15	E B 14	E B 14	E B 14
5	E B 14	E B 15	E B 14	E B 14	E B 14	E B 19	E B 14	G 16	24	G 26	35	30	33	G 30	G 29	31	G 22	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14
6	E B 14	16	E B 14	E B 14	E B 14	E B 14	E B 14	20	26	31	34	48	42	37	31	28	31	14	E B 14	20	16	E B 14	14	E B 14
7	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	G	25	32	29	32	36	34	46	32	28	A A 69	30	18	18	E B 14	E B 14	E B 14
8	E B 14	E B 14	14	16	E B 14	E B 14	E B 14	G 19	26	G 28	G	G	36	36	34	27	22	22	15	15	E B 14	14	E B 14	E B 14
9	E B 14	E B 14	E B 14	E B 14	14	E B 14	E B 14	20	45	36	32	G 30	G 22	30	G 23	G 27	27	G 18	15	E B 14	E B 14	E B 14	E B 14	E B 14
10	E B 14	E B 14	E B 12	E B 14	E B 14	14	E B 14	17	37	33	27	30	G 18	G 23	29	27	25	18	E B 14	24	E B 15	E B 14	E B 15	E B 13
11	15	E B 15	E B 14	E B 14	E B 14	E B 14	16	21	G 21	32	48	G 29	G 25	G 28	G 28	27	21	17	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14
12	16	15	15	19	14	E B 14	G 16	29	53	55	41	G 24	G	G 27	G 30	G 27	30	A 60	22	16	E B 14	E B 14	E B 15	15
13	16	20	15	E B 14	16	E B 14	E B 14	G	25	29	34	38	34	32	G 25	27	26	24	A A 51	24	30	18	20	19
14	18	E B 14	E B 14	16	16	14	14	G	25	29	32	G 24	G 24	32	G 25	28	23	G 16	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14
15	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	G 17	G	28	28	40	G 29	G 31	G 28	27	22	E B 16	E B 15	16	E B 14	E B 14	19	20
16	17	16	E B 15	14	E B 14	E B 14	E B 14	G	G 26	28	G 26	G 30	G 26	G 30	G 24	G 22	G 16	16	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14
17	E B 14	E B 14	14	E B 14	E B 14	E B 14	E B 14	20	24	28	33	G 30	G 26	G 26	G 16	G 18	G 22	G 15	16	E B 14	E B 14	E B 14	E B 14	E B 14
18	E B 14	16	E B 14	E B 14	14	E B 14	E B 14	20	25	32	34	33	35	31	30	26	23	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14
19	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	G	G 22	G 27	31	G 19	32	33	G 26	28	35	G	E B 15	E B 14	E B 14	E B 14	E B 14	E B 15
20	E B 15	E B 15	E B 14	E B 14	E B 14	E B 14	E B 14	G 19	G 23	37	37	37	37	36	34	30	30	27	19	26	19	19	15	E B 15
21	E B 15	E B 15	E B 15	E B 14	E B 14	E B 14	E B 14	22	G 22	26	30	G 30	33	G 31	G 22	29	G 21	G	E B 15	E B 13	E B 14	E B 14	E B 14	E B 14
22	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	G	26	29	31	33	G 32	G 32	G 23	28	G 21	G	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14
23	E B 14	14	E B 14	E B 14	E B 14	E B 14	E B 14	G	G 26	32	G 31	32	35	G 30	G 30	G 27	23	G 14	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14
24	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	G 16	25	G 19	32	33	G 26	G 20	G 23	27	23	17	E B 14	E B 14	E B 14	17	16	E B 14
25	E B 14	14	E B 15	E B 14	E B 14	E B 14	E B 14	G	G 22	29	G 24	G 27	G 24	G 24	G 22	G 24	23	25	20	E B 14	E B 14	E B 14	E B 14	E B 14
26	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	20	26	G 25	G 25	G 25	32	31	G 22	28	24	G 16	E B 13	20	E B 15	20	14	E B 14
27	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	G	G	G	35	G 25	E B 45	G 24	34	29	26	G 20	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14
28	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	E B 15	G	G	G 20	G 25	34	34	34	31	G 19	G 20	18	15	18	E B 14	E B 14	E B 14	E B 14
29	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	G	G	G 25	G 23	G 28	32	32	G 20	30	24	G 17	E B 15	E B 14	E B 14	E B 14	E B 14	E B 14
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
MED	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	G	25	28	31	30	32	31	G 29	27	23	18	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14
U Q	15	15	14	14	14	E B 14	E B 14	20	G	32	34	33	34	33	31	29	26	22	16	18	15	14	14	E B 14
L Q	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14	G 18	G 24	G 26	G 28	G 28	G 26	G 28	G 23	G 27	G 22	16	E B 14	E B 14	E B 14	E B 14	E B 14	E B 14

FEB. 2016 fbEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Wakkanai

FEB.2016 fmin (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0'N LON.141°45.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	14	14	14	14	14	14	14	14	15	14	14	14	15	15	14	14	15	14	14	14	14	14	14	14
2	14	14	14	14	14	14	14	12	12	15	17	15	15	14	14	14	13	14	14	14	14	14	14	14
3	15	14	14	14	15	14	14	15	13	14	12	14	12	13	13	12	14	13	13	13	13	14	14	14
4	14	14	14	15	14	14	14	15	15	14	13	13	13	13	12	12	12	14	14	14	15	14	14	14
5	14	15	14	14	15	19	14	13	14	14	15	15	11	14	13	12	14	14	14	14	14	14	14	14
6	14	14	14	14	14	14	14	14	14	13	15	16	18	15	18	14	14	13	14	13	14	14	14	14
7	14	14	14	14	14	14	14	14	14	13	12	21	16	20	20	18	16	14	14	14	14	14	14	15
8	14	14	14	14	14	14	14	14	18	17	22	26	22	16	21	21	18	13	14	14	14	14	14	14
9	14	14	14	14	14	14	14	14	14	15	17	18	19	19	19	21	16	14	13	14	14	14	14	14
10	14	14	12	14	14	14	14	14	15	16	15	15	15	14	14	13	13	14	14	14	14	14	14	13
11	14	14	14	14	14	14	15	14	15	14	14	12	14	12	13	14	14	14	14	14	14	14	14	14
12	14	14	14	14	14	14	14	14	16	20	21	22	25	22	22	15	14	14	14	14	14	14	14	14
13	14	14	14	14	12	14	14	15	14	17	21	21	21	21	16	15	13	13	15	15	14	15	14	14
14	14	14	14	14	14	14	14	14	14	14	14	13	14	15	15	15	15	14	14	14	14	14	14	14
15	14	14	14	14	14	14	14	14	14	12	14	14	16	14	14	12	12	16	15	14	14	14	14	14
16	14	14	14	14	14	14	14	14	14	12	12	16	16	15	15	14	14	14	14	14	14	14	14	14
17	14	14	14	14	14	14	14	14	14	14	14	14	13	14	14	14	14	12	14	13	14	14	14	14
18	14	14	14	14	14	14	14	14	14	14	13	21	16	16	13	12	12	14	14	14	14	14	14	14
19	14	14	14	14	14	14	14	14	14	13	14	16	16	16	16	13	13	13	15	14	14	14	14	15
20	14	14	14	14	14	14	14	14	14	12	16	13	13	13	13	13	13	13	14	14	14	14	13	14
21	15	15	15	14	14	14	14	14	11	13	14	14	14	13	13	13	13	13	15	13	14	14	14	14
22	14	14	14	14	14	14	14	14	14	13	13	13	16	14	13	13	12	14	14	14	14	13	14	14
23	14	14	14	14	14	14	14	14	13	13	14	13	14	15	15	12	12	12	14	14	14	14	14	14
24	128	14	14	14	14	14	14	14	15	14	15	17	16	16	14	13	14	13	14	14	14	14	14	14
25	14	14	15	14	14	14	14	14	14	15	16	17	19	20	20	16	14	13	14	14	14	14	14	14
26	14	14	14	14	14	14	14	13	13	13	15	16	15	20	14	14	14	14	13	14	14	14	14	15
27	14	14	14	14	14	14	14	15	16	19	19	21	45	21	18	17	16	14	14	14	14	14	14	14
28	14	14	14	14	14	14	15	15	14	16	19	20	19	16	16	16	16	11	11	14	14	14	14	14
29	14	14	14	14	14	14	14	14	14	15	16	18	18	18	18	14	16	13	15	14	14	14	14	14
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
MED	14	14	14	14	14	14	14	14	14	14	15	16	16	15	14	14	14	14	14	14	14	14	14	14
U Q	14	14	14	14	14	14	14	14	15	15	16	19	18	18	18	15	15	14	14	14	14	14	14	14
L Q	14	14	14	14	14	14	14	14	14	13	14	14	14	14	13	13	13	13	14	14	14	14	14	14

IONOSPHERIC DATA STATION Wakkanai

FEB. 2016 M(3000)F2 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0'N LON.141°45.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	309	302	291	295	300	312	317	354	R	314	347	343	354	353	Y 358	353	375	329	337	335	315	292	295	298
2	287	285	301	329	344	303	330	371	361	361	R	R 373	368	359	367	366	344	330	323	F 313	312	287	311	328
3	F 290	299	F 283	F 293	323	300	332	340	357	371	R	329	R 336	330	345	357	376	349	329	299	298	306	300	278
4	287	303	294	297	290	308	337	363	365	366	347	362	Y	231	342	364	364	326	319	328	323	318	318	284
5	307	293	287	286	296	299	354	352	372	359	Y	353	356	328	339	342	363	321	339	332	324	V 295	290	291
6	285	307	285	279	340	297	346	350	384	340	R	U R 349	Y	344	351	353	352	358	334	320	329	289	287	265
7	293	294	280	309	276	278	299	353	363	377	348	348	349	361	350	354	363	A	317	327	326	270	286	F 271
8	256	266	286	286	F 287	273	317	364	357	342	326	333	R	331	339	362	336	319	301	298	314	312	287	294
9	291	292	272	306	332	323	F 299	335	334	351	364	355	336	355	346	J R 359	350	332	305	334	302	284	273	278
10	283	292	313	311	294	291	303	337	375	333	353	346	J R 322	335	355	346	350	338	324	337	297	311	264	294
11	298	321	308	308	329	309	302	349	R 349	R	R 342	349	R	R	345	358	347	345	334	315	289	275	279	272
12	299	294	306	304	332	295	326	352	340	Y	R 338	340	348	337	359	R 353	348	322	333	331	269	285	286	271
13	300	301	332	312	297	285	308	350	380	341	Y	335	342	341	347	347	361	346	A	320	333	302	294	291
14	294	305	327	315	298	307	331	362	356	357	R	345	J R 317	351	342	349	355	343	314	331	313	295	299	284
15	277	293	278	291	299	267	307	361	354	R 358	359	334	340	360	364	359	342	360	303	312	325	291	290	295
16	292	327	306	304	311	295	308	353	338	373	R	337	R	352	344	353	339	324	299	314	317	315	286	299
17	278	294	298	341	274	265	274	349	R	R	R	Y	R	R	330	358	341	352	335	332	296	279	267	285
18	262	289	305	336	335	295	290	353	350	R	320	R	366	Y	R	369	346	358	326	327	F 258	305	287	277
19	297	273	F 283	F 290	F 335	282	289	361	365	328	342	333	354	351	339	343	370	363	316	318	F 306	301	265	F 246
20	256	282	286	F 273	F 303	345	323	370	363	335	Y	R	Y	R 365	346	351	R 362	359	321	321	343	330	F 306	306
21	269	269	F 285	F 293	285	318	F 319	377	379	Y	347	342	J R 326	R	368	326	360	342	344	370	342	307	V 269	277
22	288	271	300	307	F 288	F 337	321	361	347	373	347	335	343	352	338	340	363	368	333	342	319	324	299	306
23	295	282	282	F 295	315	330	335	368	360	360	329	331	R	346	351	364	363	372	346	317	309	319	281	288
24	285	292	285	285	294	306	350	385	373	359	340	353	Y	R 352	J R 356	350	347	347	323	330	313	301	320	V 312
25	F 274	294	317	F 287	F 293	F 307	333	361	364	348	365	358	V 276	R 350	R	359	362	386	325	311	324	329	308	303
26	297	284	293	309	302	304	324	392	361	359	353	347	346	338	359	337	345	361	332	324	326	316	290	295
27	292	287	281	309	304	305	315	358	367	362	R	362	356	339	361	334	352	352	367	338	309	293	288	279
28	302	293	317	305	308	311	333	366	382	371	341	334	330	R 339	352	360	339	372	362	331	315	298	317	318
29	286	286	293	299	341	366	349	361	369	355	366	341	349	334	370	359	346	362	334	328	307	307	317	298
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	29	29	29	27	24	19	26	20	25	27	29	29	28	28	29	29	29	29	29
MED	290	293	293	304	302	304	321	361	363	358	347	344	344	346	350	353	352	348	328	327	314	301	290	291
U Q	297	300	306	309	330	312	333	365	372	364	353	353	354	352	359	359	363	360	334	332	324	314	303	298
L Q	280	284	284	290	294	293	305	351	354	342	340	335	333	336	342	346	346	331	318	316	304	290	284	278

FEB. 2016 M(3000)F2 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Wakkanai

FEB.2016 M(3000)F1 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0'N LON.141°45.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1											L	L 387												
2							L				L	L	L	L	L									
3										L	L		L	L	L	L		L						
4								L	414	L	390	L	L	350	378	L								
5										L	L	L	415	424	L	L								
6										407	L			L	L	L								
7										L	L	L	L	L				A						
8											L	L	L	L		388								
9										L	L		L	L	L	L								
10										L	L	L	L	L	L	L								
11												L	L	L	L	L								
12												L	L	L	L									
13											L		L	L	L	L			A					
14										L	L	388	L	L	L	L								
15										L	L	L	L	L	L		L							
16										L	L	L	L	L	L									
17											L	L 383		L		L								
18										L	L	L	L	L	L	L								
19								L	L		L	L	L	L	363	L								
20									L					L		L								
21										L	L	L	L	L	L									
22									L		L	L	L	380	L	L								
23										L	L	L 426	L	380	L	L	L							
24								456	L	L	L	L	L	L	L	L	L								
25									L	L	L	L	L	L	389	L	L							
26										L	L	L	L	391	L	L	L							
27									L	L	L	392		L	L	L	L							
28									L	L	L	L	L	L	L	L								
29										407	L	L	L	U L 399	L	L								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								1	1	2	1	3	3	6	3	1								
MED								456	414	407	390	392	387	386	378	388								
U Q												L 426	415	399	389									
L Q												388	383	380	363									

FEB.2016 M(3000)F1 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Wakkanai

FEB.2016 h'F2 (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0'N LON.141°45.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1											268	248	248											
2							310				242	242	228	238	252									
3										240	246		276	280	260	234		234						
4								212	216	222	262	228	232	350	262	250								
5										234	222	240	244	250	248	250								
6										246	240			252	238	236								
7										236	236	262	266	232				A						
8											254	254	272	268		238								
9										238	242		242	236	244	248								
10										256	256	256	244	264	258	250								
11												254	270	264	242	238								
12												266	258	258	252									
13											248		252	252	252	252			A					
14										240	246	268	256	256	264	248								
15										244	242	260	246	250	250		242							
16										242	256	260	230	242	252									
17											258	260	262	244		230								
18										228	254	238	242	252	262	240								
19								240	228		252	260	246	246	262	252								
20									226					244		244								
21										242	248	278	246	262	240									
22									238		256	256	262	254	266	262								
23										236	252	250	262	272	266	254	238							
24								214	232	236	278	264	268	256	264	260	244							
25									236	266	256	260	260	262	264	248	234							
26										252	264	264	264	268	256	244	256							
27									228	248	264	238		254	260	266	252							
28									228	232	244	268	278	268	244	244								
29										258	246	270	254	256	244	248								
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							1	3	8	19	26	24	26	28	24	22	6	1						
MED							310	214	228	240	252	260	255	255	254	248	243	234						
U Q								240	234	248	256	264	264	264	262	252	252							
L Q								212	227	236	244	249	244	248	246	240	238							

FEB.2016 h'F2 (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Wakkanai

FEB.2016 h'F (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0'N LON.141°45.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	284	290	296	268	268	248	238	226	244	220	220	226	220	230	252	240	222	252	228	234	260	238	264	276
2	320	286	264	246	226	202	242	230	228	216	226	210	200	200	234	232	218	220	220	234	234	278	278	262
3	Q 264	Q 264	Q 264	Q 238	Q 238	Q 246	228	238	222	212	212	246	196	226	228	222	204	198	222	242	252	256	268	270
4	282	272	278	272	288	280	224	188	166	166	170	218	200	220	226	198	218	222	236	234	230	250	270	294
5	250	268	296	280	278	256	224	218	214	200	222	208	196	196	H 196	228	232	226	226	224	234	274	254	Q 292
6	284	290	Q 268	284	230	236	216	246	218	192	224	246	220	222	222	216	216	216	216	234	214	Q 268	278	Q 298
7	Q 274	Q 268	Q 266	Q 256	Q 272	Q 256	234	228	220	216	202	202	228	218	262	240	230	A	A 262	230	244	308	Q 272	Q 272
8	Q 308	Q 290	Q 274	Q 284	Q 284	250	252	240	238	238	196	220	236	228	260	216	230	242	250	236	254	254	278	284
9	Q 286	256	Q 290	260	232	212	224	240	240	206	204	234	204	190	210	218	226	226	248	234	256	300	300	300
10	276	276	250	254	258	286	292	246	236	218	216	216	202	202	224	220	226	222	234	222	Q 276	248	Q 308	282
11	276	266	266	266	238	246	272	234	248	244	264	196	216	210	210	212	232	210	222	240	272	322	318	324
12	290	280	270	240	256	234	244	222	258	268	254	216	216	212	212	252	238	314	242	232	322	310	324	328
13	288	264	266	240	292	320	272	230	226	218	218	250	210	196	196	210	228	222	A	242	260	260	294	310
14	298	278	266	294	256	264	248	222	238	196	208	218	202	202	212	212	242	222	230	240	256	286	290	298
15	308	274	296	308	306	224	242	242	242	210	210	222	216	216	216	240	210	220	232	254	240	270	304	304
16	302	258	258	276	260	278	278	248	236	212	204	204	222	206	206	236	240	240	266	250	246	248	298	284
17	308	294	300	250	268	298	258	258	230	230	212	212	212	216	222	222	246	230	254	232	258	314	314	314
18	348	310	288	240	236	276	298	236	242	226	196	202	224	200	198	218	226	210	224	242	Q 242	254	254	328
19	280	Q 280	Q 298	Q 278	Q 206	Q 248	238	184	190	224	224	208	208	208	208	216	230	208	232	232	Q 226	Q 234	Q 278	Q 298
20	Q 298	Q 280	Q 256	Q 260	Q 266	208	254	232	192	226	256	238	236	204	246	226	228	240	212	246	248	236	260	288
21	Q 300	Q 302	Q 276	280	Q 254	Q 232	210	212	212	198	198	H 192	214	196	196	236	228	230	230	200	208	240	240	272
22	306	Q 308	Q 280	272	Q 238	Q 214	214	220	194	238	210	200	200	200	210	224	236	216	254	226	236	242	272	278
23	304	310	304	Q 286	264	218	240	222	236	200	200	194	216	202	208	H 208	218	210	224	224	252	250	Q 298	Q 270
24	280	286	286	298	274	248	234	178	162	208	188	210	226	214	230	226	216	226	210	242	242	272	276	268
25	284	Q 272	256	Q 256	Q 242	250	234	224	214	202	190	222	200	218	232	210	204	212	212	230	234	242	236	258
26	288	292	272	278	Q 268	Q 234	234	212	228	208	194	194	206	200	200	200	218	224	230	230	248	258	286	286
27	296	Q 284	284	280	268	276	256	224	202	206	200	208	232	204	206	212	212	236	214	210	242	264	274	304
28	294	284	262	264	272	266	234	238	202	202	200	200	200	200	214	214	234	216	216	216	250	258	270	270
29	290	298	290	270	232	222	240	228	228	194	194	186	186	186	H 186	216	246	222	224	224	264	264	264	290
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	28	28	29	29	29	29	29
MED	290	280	274	270	260	248	240	228	228	212	208	210	212	204	212	218	228	222	229	234	248	258	278	288
U Q	303	291	290	280	272	271	255	239	238	225	221	222	221	217	229	230	233	230	239	241	257	276	298	302
L Q	281	270	265	255	238	228	231	221	207	201	197	201	200	200	206	212	218	216	221	225	235	248	266	272

IONOSPHERIC DATA STATION Wakkanai

FEB.2016 h'E (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0'N LON.141°45.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							B	B	120	120	120	120	120	114	114	112	B	B						
2							B	122	122	122	110	104	104	112	A	A	A	A						
3								132	118	118	118	A	A	120	114	114	114	B						B
4								E B 192	112	130	114	114	114	106	114	114	114	A						
5							B	B 162	112	130	114	114	114	114	114	120	136	B						
6							B	142	130	120	112	112	112	112	118	120	A	A						
7							A	B	120	110	104	104	116	118	118	A	A	A						
8							B	A	118	108	118	118	118	112	118	A	A	A						
9							B	A	118	118	A	118	118	A	118	118	118	104						
10							A	A	114	114	114	114	114	114	114	114	114	A 114						
11							A	124	124	A	A	118	116	116	112	106	106	A						
12							116	A	A	A	A	116	116	122	112	120	116	A	A					
13							A	148	130	110	A	A	A	110	110	110	124	A	A					
14							104	142	122	122	118	118	118	118	110	116	116	104	B					
15								128	128	114	114	A	114	114	114	114	114	B	B					
16								128	128	120	120	120	120	120	108	114	114	A	104					
17							B	A	114	114	114	114	114	114	114	112	122	122	A					
18								142	132	106	106	106	114	114	114	114	114	B	B					
19							B	140	116	110	110	116	116	124	114	A	A	132	B					
20							B	120	120	120	116	116	116	A	A	116	116	A	A					
21							A	A 116	A	116	A	116	116	116	116	116	116	B	B					
22							B	132	120	116	116	116	116	116	116	116	122	B	B					
23							A	116	122	120	120	120	120	120	120	120	112	148	B					
24								132	122	122	112	112	116	110	118	114	114	106						
25							B	124	124	116	116	116	116	116	116	116	A	A	A					
26							A	124	A	124	114	114	114	114	114	114	114	114	B					
27							B	136	124	124	114	114	B	114	114	114	124	124						
28							B	138	120	120	120	120	114	114	110	114	132	A	A					
29							B	110	120	120	112	118	114	116	116	A	116	A	B					
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							2	21	27	26	24	26	26	27	27	24	22	9	1					
MED							110	132	120	120	114	116	116	114	114	114	116	114	104					
U Q								142	124	122	118	118	116	118	116	116	122	128						
L Q								124	118	114	112	114	114	114	114	114	114	105						

FEB.2016 h'E (KM)

IONOSPHERIC DATA STATION Wakkanai

FEB.2016 h'Es (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0'N LON.141°45.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	106	106	106	106	102	108	B	B	120	120	120	120	116	114	110	108	116	178	B	104	114	106	98	Q 98
2	Q 98	98	98	98	B	B	B	120	152	106	144	132	140	100	106	106	106	106	104	104	104	104	B	104
3	B	B	B	B	B	B	B	144	122	106	176	108	106	176	170	128	116	114	B	B	B	B	96	B
4	96	100	100	94	98	98	B	G	120	120	116	116	136	126	160	140	122	96	96	B	B	B	B	90
5	B	B	B	B	110	B	B	94	118	118	118	112	118	104	110	106	142	B	B	B	B	B	B	B
6	B	106	106	110	B	B	B	166	140	138	126	118	118	116	110	122	106	108	124	114	114	128	118	118
7	118	112	112	102	112	112	112	G	164	114	124	118	110	110	110	116	112	102	102	102	102	110	102	102
8	B	112	108	108	108	118	B	94	162	92	G	G	122	116	116	122	116	106	106	106	106	100	108	108
9	B	120	112	112	112	106	B	130	118	110	100	100	108	108	108	140	118	110	118	118	102	106	106	106
10	100	100	B	112	120	120	120	110	110	110	110	148	106	106	128	124	114	114	116	110	110	B	110	B
11	110	110	96	102	96	114	112	110	110	104	102	112	106	102	96	96	126	116	128	B	108	108	108	118
12	104	104	112	106	106	B	112	104	104	104	108	108	G	108	124	124	112	112	112	96	108	108	108	108
13	108	108	108	B	108	108	108	G	114	112	106	106	106	106	106	106	116	116	116	106	106	106	106	106
14	100	100	102	94	104	96	106	G	162	154	146	108	108	122	110	136	134	98	B	B	B	B	102	102
15	106	102	96	100	100	100	B	148	G	130	110	110	110	98	110	140	152	B	B	112	114	114	108	108
16	100	108	108	98	110	110	B	G	116	116	116	114	108	122	100	204	98	98	98	98	B	B	148	118
17	108	108	102	118	B	B	180	94	128	122	110	110	110	110	104	108	136	108	108	108	108	110	96	118
18	110	110	110	110	120	152	166	158	156	126	132	132	124	138	118	118	144	B	110	110	110	120	B	114
19	B	100	100	120	B	B	B	G	108	116	116	104	108	108	108	100	100	G	B	B	B	B	B	B
20	120	120	B	B	126	B	B	132	132	122	128	124	112	100	100	142	124	124	118	118	124	108	108	142
21	110	110	116	116	130	104	112	112	112	112	112	112	112	112	108	108	120	G	B	B	B	100	100	100
22	92	B	B	B	B	B	B	G	122	104	104	104	104	104	104	118	118	G	B	100	96	96	106	106
23	106	118	108	104	104	108	106	G	124	120	118	110	110	110	110	110	160	144	B	104	104	106	102	B
24	112	130	B	102	B	B	108	114	146	112	144	126	110	108	108	118	116	112	B	B	B	102	102	108
25	108	108	B	B	B	B	B	G	114	106	106	106	112	106	106	126	116	112	108	B	108	108	B	B
26	108	B	B	B	96	B	112	146	106	106	106	102	164	150	106	124	118	112	B	112	112	102	102	96
27	96	96	B	110	B	B	B	G	G	G	160	102	B	108	180	134	144	112	B	B	B	96	B	96
28	B	B	B	B	B	96	B	G	G	110	112	166	166	164	164	100	114	98	100	100	100	100	B	B
29	B	B	B	B	B	B	B	G	G	112	104	104	130	102	104	102	138	96	B	96	96	B	112	96
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	21	23	18	20	18	15	12	16	25	28	28	28	27	29	29	29	29	23	16	19	20	21	21	22
MED	106	108	107	106	108	108	112	117	120	112	116	111	110	108	110	118	118	112	109	106	108	106	106	106
U Q	110	112	110	111	112	114	116	145	143	120	127	119	122	119	117	131	135	114	117	112	111	109	108	114
L Q	100	100	100	101	102	100	108	107	113	106	107	106	108	105	106	107	114	102	103	100	103	101	102	100

FEB.2016 h'Es (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Wakkanai

FEB. 2016 TYPES OF Es 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0'N LON.141°45.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F2	F1	F1	F1	F1	FF11			C2	C2	C2	C2	C1	C2	C2	C2	C2	H1		L1	F1	F1	F2	F2
2	F2	F2	F2	F1				C1	C1	LC21	C1	C1	C2	LC21	L2	L2	L2	L4	LQ21	F3	FQ21	F2		F1
3								C2	C3	LC12	CL12	L2	L2	C2	C2	C2	C3	L1					F1	
4	F1	F2	F4	F3	F1	F3		C1	C2	CL12	C2	C2	CL11	CL22	CL12	CL22	CL12	L3	F1					F1
5					F1			L1	C2	C2	C2	C2	C2	C2	C2	C2	C2							
6		F5	F1	F2				C3	C2	C3	C2	C2	C2	C2	C1	C3	L2	L1	F1	F3	F3	F1	F2	F1
7	F1	F1	F1	F1	F1	F1	L1		C1	C1	C2	C2	C2	C1	C2	L2	L2	L3	F4	F3	F4	F2	F1	F1
8		F2	F3	F5	F2	F1		L1	C1	C1			C1	C2	C1	L1	L1	L3	F2	F2	F1	F2	F2	F1
9		F1	F4	F2	F5	F5		L2	C2	C3	L2	L1	L1	L1	L1	C1	C2	L3	F1	F1	F1	F1	F1	F1
10	F1	F1		F1	F1	F1	L2	L2	L2	L2	C1	C1	L1	L1	C2	C2	C2	L2	F2	F4	F1		F1	
11	F1	FF11	FF11	F2	FF11	F2	L3	L3	L2	L2	L3	L1	L1	L1	L2	LC11	C1	L4	F1		F3	F1	F1	F1
12	F3	F2	F1	F3	FF11		L2	L3	L2	L2	L1	L1		L1	C2	C2	C1	L3	L4	FF11	F2	F1	F4	F3
13	F3	F4	F2		F3	F1	L2		C1	C1	C2	L2	L2	L1	L1	L2	C2	L3	L4	F5	F3	F3	F5	F3
14	F3	F1	F1	FF11	F1	FF11	L1		H1	H1	C1	L1	L1	C1	L1	C2	C1	L1					F1	F2
15	LQ21	F1	FF11	F1	F1	F1		C1		C2	C2	L2	L2	LC11	CL21	CL22	CL11			F3	F2	F1	F3	F4
16	F3	FF21	F1	F1	F1	F1			L1	C1	C1	L1	L1	L1	L1	L1	L1	L1	L1	F1			F1	F2
17	FF11	F1	F2	F1			H1	LC11	C2	C1	C2	L2	L1	L1	L1	L1	C1	L1	L3	F1	F1	FF11	FF11	F1
18	F2	F3	F2	F2	F1	F1	L1	C2	C2	C2	LC11	C2	C1	CL21	C2	C2	CL11		LL11	F1	F1	F1		F1
19		F1	F1	FF11					LC11	C2	C1	L1	C1	C1	L1	L3	L3							
20	F2	F1			F1			C1	C1	C2	C2	C2	C2	L2	L3	CL23	C3	L4	L4	FF32	F3	F4	F4	FF11
21	F2	F2	F1	F1	F1	F1	L1	L2	C2	L2	L1	C1	L1	L1	L2	C2	C2					F1	FF11	F1
22	F1								C1	C2	C2	C1	L2	L1	L2	C2	CL11			L1	F1	FF11	F1	F1
23	F2	F1	F1	F3	FQ21	FQ11	LQ11		CL21	C2	L2	LC11	CC21	L2	L3	C3	C3	L1		F1	FF11	F1	F1	
24	F2	FF11		F1			L1	L1	C2	L1	C1	C1	L1	L1	L1	C2	C2	C1				F2	F2	F1
25	FQ11	F1							L1	L2	L1	L1	L1	L1	L1	C1	C1	C3	L3		F1	F1		
26	F1				F1		L1	C1	L3	L2	L2	LC21	HL11	HL11	L1	CL11	CL21	CL11		F3	F1	F3	F1	F1
27	F1	F1		F1							H1	L1		L1	H1	C1	C1	L3				F1		FF11
28						F1				L1	L1	H1	H1	H1	H1	L1	L1	L2	L1	F3	F1	F1		
29										C1	L1	L1	H1	L1	L1	L2	H1	L1		F1	F1		F1	FF11
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
U Q																								
L Q																								

FEB. 2016 TYPES OF Es

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

FEB. 2016 fxI (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	X 40	X 41	X 41	X 40	X 39	X 41	X 45												X 54	X 59	X 43	X 39	X 40	X 40
2	X 42	X 44	X 46	X 43	X 30	X 32	X 33												X 44	X 50	X 50	A	X 41	X 42
3	X 43	X 40	X 41	X 42	X 42	X 37	X 40												X 44	X 47	X 42	X 44	X 46	X 41
4	X 41	X 41	X 42	X 45	52	X 50	X 56												X 57	X 55	X 50	X 45	X 47	X 47
5	X 49	X 49	X 48	X 48	X 50	X 47	X 46												X 61	X 56	X 39	X 37	X 40	X 41
6	X 42	X 42	X 45	X 47	X 40	X 34	X 36												X 53	X 47	X 45	X 44	X 50	X 52
7	X 54	X 55	X 52	X 51	X 49	X 49	X 51												X 48	X 41	X 40	X 38	X 39	X 40
8	X 41	X 41	X 44	X 44	X 38	X 38	X 35												X 63	X 63	A	X 40	X 40	X 44
9	X 47	X 48	X 49	X 56	X 55	44	X 42												X 55	X 57	X 54	X 48	X 50	X 49
10	X 49	X 50	X 46	X 36	X 38	X 40	X 44												X 60	X 58	X 46	X 45	X 46	X 46
11	X 48	X 50	X 51	X 45	X 32	X 32	X 34												X 46	A	X 47	X 45	X 46	X 46
12	X 47	X 51	X 47	X 42	X 34	X 33	X 35												X 58	X 58	X 57	X 53	X 56	X 53
13	X 56	X 60	X 54	X 44	A	X 37		X 68											A	X 57	X 57	X 50	X 47	X 48
14	X 50	X 49	X 48	X 45	X 46	X 44	X 46												X 60	X 50	X 52	X 46	X 50	X 52
15	X 50	X 47	X 48	X 50	X 50	X 48	X 50												X 55	X 53	X 51	X 48	X 47	X 51
16	X 50	X 53	X 51	X 47	X 46	X 43	X 44												X 77	X 73	X 57	X 55	X 51	X 47
17	X 43	X 46	X 47	X 50	X 38	X 42	X 48												X 63	X 57	X 58	X 42	X 43	X 45
18	X 44	X 46	X 48	X 47	X 28	X 28	X 37												X 58	X 50	X 45	X 43	X 45	X 43
19	X 46	X 49	X 49	X 48	X 50	X 36	X 45												X 54	X 44	X 44	X 42	X 41	X 41
20	X 41	X 43	X 44	X 47	X 52	48	48												X 64	X 54	X 49	X 42	X 41	X 41
21	X 40	X 39	X 40	X 42	X 44	X 38	X 40												X 56	X 56	X 50	X 36	X 34	X 35
22	X 36	X 38	X 38	X 41	X 41	X 32	X 35												X 68	X 51	X 41	X 38	X 41	X 36
23	X 38	X 38	X 38	X 40	X 46	X 35	X 38												X 56	X 48	X 41	X 43	X 40	41
24	41	X 41	X 42	X 42	X 42	X 45	X 44												X 66	X 57	X 55	X 44	X 40	X 41
25	X 42	X 42	X 45	X 44	X 46	X 46	X 46												X 62	X 55	X 55	A	X 37	X 42
26	X 40	X 41	X 42	X 43	X 42	X 43	X 48												X 73	X 54	X 44	X 44	X 43	X 40
27	X 42	X 42	X 42	X 42	X 41	X 41	X 47												X 70	X 52	X 41	X 39	X 41	X 42
28	X 43	X 43	X 43	X 42	X 42	X 44	X 49												X 67	X 56	X 46	X 40	X 42	X 44
29	X 42	X 41	X 41	X 45	X 48	X 41	X 41												X 62	X 51	X 42	X 38	X 40	X 42
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	28	29	28	1											28	28	28	27	29	29
MED	X 43	X 43	X 45	X 44	X 42	X 41	X 44	X 68											X 59	X 54	X 46	X 43	X 42	X 42
U Q	X 48	X 49	X 48	X 47	X 48	X 44	X 48												X 64	X 57	X 53	X 45	X 47	X 47
L Q	X 41	X 41	X 42	X 42	X 38	X 36	X 38												X 54	X 50	X 42	X 39	X 40	X 41

FEB. 2016 fxI (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

FEB. 2016 foF2 (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	34	35	35	34	33	35	38	51	69	90	75	106	89	68	86	82	63	55	48	53	36	33	34	34
2	36	38	40	36	24	26	27	48	57	68	78	85	85	68	78	70	71	50	38	44	44	A	35	36
3	37	34	35	36	36	31	34	54	54	66	88	90	72	84	88	96	65	57	38	41	36	38	40	35
4	35	35	36	39	F	44	50	57	69	65	72	90	84	88	70	71	69	63	51	49	44	39	41	41
5	43	43	42	42	44	40	40	62	73	74	81	96	83	76	73	79	74	66	54	50	33	31	34	35
6	36	36	39	40	34	28	29	56	65	78	74	86	78	86	94	90	76	56	47	41	39	38	43	46
7	48	49	46	45	43	43	45	73	78	80	80	86	87	88	80	70	73	68	42	35	34	32	33	34
8	35	35	38	38	32	32	28	55	62	68	87	89	99	92	95	84	72	60	57	57	A	34	34	38
9	41	42	42	50	49	F	36	59	69	86	100	83	80	75	78	78	74	61	49	51	48	42	44	43
10	43	44	40	30	32	34	38	60	77	90	104	118	92	89	80	81	73	68	54	52	40	37	40	40
11	42	44	45	39	26	26	28	54	74	85	108	122	114	105	91	74	72	59	40	A	41	39	40	40
12	41	45	41	36	28	27	29	53	67	71	96	99	94	83	78	74	76	67	52	52	51	47	50	47
13	51	54	48	38	A	31	34	62	71	80	95	105	96	90	87	80	83	73	A	51	51	44	40	42
14	44	43	42	39	40	38	40	66	74	75	80	82	81	86	82	80	72	66	54	44	45	40	44	46
15	44	41	42	44	43	42	44	65	90	100	97	89	88	99	99	86	78	67	49	47	45	42	40	44
16	44	47	45	41	40	36	38	66	76	92	103	116	118	100	82	82	76	70	71	67	51	48	45	41
17	37	40	41	44	32	36	42	59	80	86	106	106	111	100	88	77	77	74	57	51	52	36	37	38
18	38	40	42	41	22	22	31	62	102	102	107	88	117	104	87	95	98	73	52	44	39	36	39	37
19	40	43	43	42	44	30	39	55	84	77	82	105	115	110	101	84	84	74	48	38	37	35	35	34
20	35	37	38	41	46	F	F	64	84	83	89	104	107	109	80	82	90	76	58	49	42	36	35	35
21	34	33	34	36	38	32	34	64	69	76	76	81	94	96	86	82	75	67	50	50	44	30	28	29
22	30	32	32	35	35	26	29	57	68	76	78	80	88	89	84	78	78	93	62	45	35	32	35	30
23	32	32	33	34	40	29	32	58	64	72	74	86	94	103	106	93	79	60	50	42	35	37	34	F
24	F	35	35	36	36	39	38	55	69	71	68	90	97	94	85	87	82	67	60	51	49	38	34	35
25	36	36	39	38	40	40	40	55	67	77	85	82	100	91	80	80	68	60	56	49	49	A	31	36
26	34	35	36	37	36	37	42	59	70	71	76	72	90	95	86	74	64	67	67	49	38	38	37	34
27	36	36	36	36	35	35	41	65	78	68	69	78	86	76	82	83	80	78	64	45	35	33	35	36
28	37	37	37	36	36	38	42	66	66	68	78	80	96	98	96	79	68	65	61	50	40	33	36	38
29	36	35	35	39	42	35	35	58	68	74	80	92	90	87	90	84	84	67	56	45	36	32	34	36
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	29	29	29	27	27	28	29	29	29	29	29	29	29	29	29	29	29	28	28	28	27	29	28
MED	37	37	39	38	36	35	38	59	69	76	81	89	92	90	86	81	75	67	53	49	40	37	36	36
U Q	42	43	42	41	42	38	40	64	78	86	96	104	100	100	90	84	80	72	58	51	46	39	40	41
L Q	35	35	36	36	32	29	32	55	67	71	76	82	86	85	80	78	72	60	48	44	36	33	34	35

IONOSPHERIC DATA STATION Kokubunji

FEB.2016 foF1 (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1										L		L	L	L	L									
2											L	L		L	L									
3											L	L	L	U L 468	L									
4										L	L	L	L	L	L									
5											L	L	L	L	L	L								
6										L		L	L	A	L									
7										L	L	L	L	A	A									
8											L	L	L	L	L									
9											L		L	L	L	L								
10										L	L	L	L	L	L	L								
11										A	A	L	L	L	L	L								
12											L	L	L	L	L									
13										A	L	L	L	L	L	A								
14											L	L	L	L	A	L								
15											L	L	L	L	L	L								
16										L	L	L	L	L	L	L								
17											L	L	U L 492	L		L								
18										L			L		L	L								
19											L	L	A	L	A	L								
20											L	L	U L 504	L	L	A								
21										L	L	L	L	L		A								
22										L	L		L	U L 476	L	L	L							
23										L		L	L	L	L	L								
24									L	L	L	L	L	L	U L 468	A								
25									L	U L 392	U L 436	L	U L 468	L	L	L	L							
26									L		L	L	L	L	L	L								
27									L		L	L	A	L	L	A								
28										L	L	L	L	U L 460	U L 444									
29									L	L	L	A	L	L	U L 460	L	L							
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT										1	1		3	3	3									
MED										U L 392	U L 436		U L 492	U L 468	U L 460									
U Q													U L 504	U L 476	U L 468									
L Q													U L 468	U L 460	U L 444									

FEB.2016 foF1 (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

FEB. 2016 foE (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								B	UR 256	A	A	A	A	A	A	A	UR 244	B						
2								B	A	284	A	R	A	R	A	A	236	B						
3								B	UR 248	288	R	R	R	R	A	A	236	B						
4								B	UR 260	R	R	336	340	R	A	A	UR 244	B						
5								B	UR 244	292	A	A	A	A	R	UR 300	UR 252	B						
6								B	264	R	324	A	A	A	A	A	A	B						
7								B	UR 260	R	A	A	A	A	A	A	UR 256	B						
8								A	UR 252	300	UR 340	A	A	A	A	A	A	B						
9								B	R	UR 300	R	A	A	A	A	R	UR 256	B						
10								B	A	A	A	R	UR 368	UR 352	R	A	A	B						
11								UR 188	A	A	A	UR 352	R	UR 344	R	R	A	B						
12								172	260	UR 320	A	A	R	UA 332	A	A	A	B						
13							B		UR 264	A	A	A	A	A	A	A	260	176						
14								B	236	UR 316	A	A	UA 344	A	A	A	A	180						
15								B	UR 276	UR 320	UR 364	A	A	A	R	A	A	B						
16								UR 200	UR 284	A	A	R	R	R	R	R	UR 252	A						
17								B	264	A	A	A	A	A	A	R	A	R						
18								184	A	UR 312	A	A	A	R	R	R	UR 264	B						
19								B	A	R	A	R	A	A	A	A	A	B						
20								B	UR 260	UR 308	R	R	A	R	A	A	UR 248	B						
21								B	UR 244	R	R	A	A	A	A	A	A	B						
22								184	264	312	UR 340	A	A	A	UR 328	UR 308	R	B						
23								B	UR 272	R	A	A	A	A	A	A	A	B						
24								176	UR 264	R	UR 320	R	R	R	A	A	UR 264	B						
25								UR 212	R 276	UR 304	R	R	R	R	R	UR 312	UR 248	UR 180						
26								200	UR 264	R	A	R	UR 348	UR 360	UR 328	A	UR 268	UR 200						
27								UR 188	A	R	R	356	344	A	A	A	A	A						
28								UR 208	UR 288	R	R	R	R	R	R	R	UR 260	UR 176						
29								A	A	R	R	344	R	A	R	R	A	UR 176						
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								10	21	12	5	4	5	4	2	3	15	6						
MED								188	UR 264	UR 306	UR 340	348	U 344	UR 348	UR 328	UR 308	UR 252	UR 178						
U Q								UR 200	UR 268	UR 314	UR 352	354	UR 358	UR 356		UR 312	UR 260	UR 180						
L Q								184	UR 254	296	322	340	342	U 338		UR 300	244	176						

FEB. 2016 foE (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

FEB. 2016 foEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	J A 28	J A 32	J A 21	21	21	19	E B 15	J A 18	G	33	J A 51	37	38	37	34	32	G E 24	B 14	21	22	22	22	22	22
2	E B 15	E B 15	E B 15	E B 15	E B 14	E B 14	E B 14	J A 18	J A 31	34	37	G	40	G	36	35	28	J A 29	J A 28	J A 23	J A 24	J A 44	J A 23	J A 27
3	J A 21	20	E B 14	E B 14	E B 15	E B 15	E B 14	18	G	34	G	G	G 25	G 21	36	34	27	22	J A 22	J A 20	E B 14	E B 15	E B 15	J A 22
4	E B 16	19	E B 15	E B 15	E B 15	E B 14	E B 16	E B 15	G	G	G	40	39	G 26	39	37	G	20	E B 14	E B 15	E B 15	E B 15	18	19
5	E B 15	19	E B 15	E B 15	E B 15	E B 15	E B 14	20	G	34	36	40	40	38	G 28	G	G E 16	B	E B 14	E B 14	E B 15	E B 15	E B 15	E B 15
6	E B 16	E B 15	E B 16	E B 15	E B 15	E B 14	E B 15	21	29	G 24	36	39	42	J A 69	J A 46	J A 87	J A 48	J A 26	J A 22	E B 15	J A 21	18	J A 34	20
7	J A 21	J A 28	J A 49	J A 28	E B 15	18	E B 16	20	G	G	38	40	41	J A 48	48	J A 42	G	19	E B 14	E B 15	19	J A 31	J A 40	J A 25
8	J A 25	21	J A 23	J A 18	J A 31	J A 46	J A 25	J A 26	G	35	G	40	39	40	37	35	J A 40	J A 28	J A 27	J A 47	J A 68	J A 66	J A 28	20
9	J A 26	J A 29	J A 34	21	J A 23	24	22	22	G	G	G 30	J A 52	38	36	36	G	G E 24	B 16	J A 64	J A 98	J A 42	J A 34	J A 22	J A 24
10	E B 15	21	E B 15	E B 15	E B 15	E B 15	E B 15	20	29	J A 52	34	G	G	G	G	34	J A 42	J A 54	J A 40	J A 26	J A 32	22	22	J A 21
11	E B 14	J A 22	J A 22	E B 15	E B 15	E B 15	20	G	J A 50	J A 67	J A 45	G 30	G	G 27	G 30	G 26	31	20	J A 31	J A 52	J A 33	J A 56	J A 22	J A 18
12	J A 24	J A 24	J A 29	J A 24	21	E B 15	19	23	30	G	34	36	G 32	38	35	37	30	21	E B 14	J A 17	J A 21	J A 22	E B 15	E B 15
13	E B 15	E B 15	J A 18	J A 28	J A 32	J A 24	J A 31	J A 38	G	J A 70	36	38	38	39	37	J A 46	G	21	J A 98	J A 84	J A 50	J A 46	J A 34	J A 25
14	J A 28	J A 26	21	E B 14	E B 15	20	E B 15	24	29	G	39	39	40	42	45	38	33	G	19	J A 23	J A 38	J A 24	J A 22	E B 15
15	E B 15	18	E B 15	E B 15	19	22	21	22	G	G	G 27	J A 46	J A 40	36	G	J A 33	35	J A 50	J A 30	E B 16	E B 15	B J 34	J A 34	J A 32
16	J A 46	J A 23	J A 22	J A 20	J A 18	22	E B 15	G	G	36	37	G 32	G 30	G	G 25	G 22	G	25	J A 16	E B 15	E B 15	E B 15	E B 14	E B 15
17	E B 14	E B 14	E B 14	19	E B 15	E B 14	E B 14	23	30	34	37	J A 43	J A 40	J A 40	41	G 28	27	G	E B 16	E B 15	E B 15	E B 15	E B 14	E B 14
18	E B 15	E B 15	J A 23	19	E B 15	E B 15	E B 15	21	28	G	40	44	38	G	G	G	G E 16	B	E B 15	E B 14	E B 15	E B 16	E B 15	18
19	20	E B 14	E B 15	E B 15	E B 15	E B 15	E B 15	22	27	G	36	G	J A 44	42	J A 38	32	J A 42	E B 14	E B 15	20	20	E B 15	E B 15	E B 15
20	E B 15	E B 14	E B 15	19	E B 14	E B 14	E B 14	22	G	G	G	G	J A 43	G	34	36	G	J A 28	J A 20	J A 26	E B 14	E B 14	J A 20	J A 22
21	19	J A 38	J A 29	J A 27	J A 21	J A 19	J A 20	22	G	G 27	G 28	40	J A 51	J A 42	J A 60	J A 44	J A 34	J A 21	J A 18	J A 26	19	22	22	E B 15
22	E B 16	E B 15	E B 15	E B 15	E B 14	E B 15	E B 14	22	31	35	G	44	J A 44	37	G	G	G	22	E B 15	E B 15	E B 15	E B 15	22	18
23	E B 14	E B 15	E B 15	J A 20	E B 14	E B 15	E B 14	22	G	G	J A 43	J A 44	J A 40	J A 44	J A 43	J A 37	J A 34	J A 24	J A 21	J A 19	21	E B 16	E B 15	E B 14
24	E B 15	19	E B 15	21	E B 15	E B 16	E B 15	G	G	G	G	G 28	G 29	G 31	38	J A 45	J A 32	20	J A 18	J A 42	E B 15	E B 15	B J 23	J A 21
25	J A 21	20	E B 17	E B 14	19	22	E B 15	G	G	G	G	G	G	G	G	G	G	G	E B 15	B J 15	A J 24	A J 48	A J 31	A J 22
26	J A 24	J A 19	J A 20	20	19	20	E B 15	G	G 22	G 28	37	J A 43	G	G	G	33	G	G	E B 15	E B 15	J A 60	E B 15	E B 16	E B 14
27	J A 20	E B 14	18	E B 15	E B 15	E B 16	E B 15	G	31	G	G	41	41	39	40	35	J A 37	20	J A 25	J A 21	J A 22	A J 30	21	E B 14
28	E B 15	E B 15	E B 16	E B 15	E B 15	E B 15	E B 14	G	G	G	G 26	G 29	G 28	G 30	G 27	G 29	G	G	J A 22	E B 15	E B 16	E B 15	E B 15	J A 25
29	E B 15	E B 15	E B 14	E B 14	E B 15	E B 15	E B 14	22	34	G	G	40	G 30	40	G	G	30	23	E B 14	20	E B 14	E B 16	E B 15	E B 15
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
MED	E B 16	19	E B 16	E B 15	E B 15	E B 15	E B 15	21	G	G	34	39	39	37	36	34	27	20	J A 19	20	20	18	22	19
U Q	J A 22	J A 22	J A 22	J A 20	19	20	18	22	30	34	37	J A 42	J A 40	J A 40	40	J A 37	J A 34	J A 24	J A 26	J A 26	J A 28	J A 32	J A 23	J A 22
L Q	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	E B 14	G	G	G	G	G	G	G	G	G	G	G	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15

FEB. 2016 foEs (0.1MHz)

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IONOSPHERIC DATA STATION Kokubunji

FEB. 2016 fbEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E B 16	17	E B 15	E B 15	E B 14	E B 16	E B 15	E B 15	G	31	44	34	36	35	32	30	G 23	E B 14	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15
2	E B 15	E B 15	E B 15	E B 15	E B 14	E B 14	E B 14	E B 15	24	32	34	G	37	G	32	32	26	25	20	17	17	A A 44	E B 15	E B 15
3	E B 15	E B 15	E B 14	E B 14	E B 15	E B 15	E B 14	18	G	33	G	G	G 23	G 20	34	32	26	20	E B 15	E B 15	E B 14	E B 15	E B 15	E B 15
4	E B 16	E B 15	E B 15	E B 15	E B 15	E B 14	E B 16	E B 15	G	G	G	38	37	G 24	34	32	G	19	E B 14	E B 15	E B 15	E B 15	E B 15	E B 15
5	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	E B 14	18	G	34	35	37	38	36	G 27	G	G	E B 16	E B 14	E B 14	E B 15	E B 15	E B 15	E B 15
6	E B 16	E B 15	E B 16	E B 15	E B 15	E B 14	E B 15	21	28	G 22	35	38	38	51	35	42	39	19	E B 16	E B 15	E B 15	E B 15	18	E B 14
7	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	E B 16	18	G	G	34	38	38	40	43	31	G	18	E B 14	E B 15	17	28	22	17
8	E B 14	E B 15	E B 15	E B 15	E B 15	E B 15	E B 16	21	G	34	G	38	38	38	35	34	30	23	18	28	A A 68	17	E B 15	E B 16
9	21	E B 15	16	E B 15	E B 16	E B 16	E B 16	20	G	G	G 28	42	36	35	35	G	G 19	E B 16	24	27	20	18	E B 15	E B 16
10	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	18	26	31	32	G	G	G	G	31	34	19	22	19	18	E B 15	E B 15	E B 16
11	E B 14	E B 16	E B 15	E B 15	E B 15	E B 15	E B 15	G	33	40	39	G 30	G	G 26	G 29	G 26	27	18	23	A A 52	26	18	E B 15	E B 15
12	18	18	18	E B 15	E B 15	E B 15	E B 15	21	28	G	33	36	G 28	38	34	33	28	19	E B 14	E B 15	E B 15	E B 15	E B 15	E B 15
13	E B 15	E B 15	E B 15	23	A A 32	19	E B 15	32	G	37	35	35	36	36	35	36	G	19	A A 98	E B 15	20	20	24	16
14	20	19	E B 15	E B 14	E B 15	E B 15	E B 15	23	27	G	35	37	38	38	43	35	31	G	E B 16	18	28	20	E B 15	E B 15
15	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	22	G	G	G 26	36	37	35	G	28	30	42	24	E B 16	E B 15	E B 16	E B 15	E B 14
16	E B 15	E B 14	16	E B 15	E B 14	E B 15	E B 15	G	G	32	36	G 32	G 28	G	G 21	G 20	G	20	E B 15	E B 15	E B 15	E B 15	E B 14	E B 15
17	E B 14	E B 14	E B 14	E B 14	E B 15	E B 14	E B 14	21	29	33	35	36	36	34	35	G 28	26	G	E B 16	E B 15	E B 15	E B 15	E B 14	E B 14
18	E B 15	E B 15	18	E B 14	E B 15	E B 15	E B 15	21	27	G	35	41	37	G	G	G	G	E B 16	E B 15	E B 14	E B 15	E B 16	E B 15	E B 15
19	E B 16	E B 14	E B 15	E B 15	E B 15	E B 15	E B 15	20	26	G	E B 34	G	36	37	35	32	26	E B 14	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15
20	E B 15	E B 14	E B 15	E B 15	E B 14	E B 14	E B 14	20	G	G	G	G	39	G	34	33	G	23	17	17	E B 14	E B 14	E B 15	E B 15
21	E B 15	E B 15	E B 15	E B 15	E B 15	E B 14	E B 15	21	G	G 26	G 26	37	38	36	42	36	25	18	E B 16	17	E B 15	E B 16	E B 15	E B 15
22	E B 16	E B 15	E B 15	E B 15	E B 14	E B 15	E B 14	22	29	34	G	42	39	35	G	G	G	20	E B 15	E B 15	E B 15	E B 15	16	E B 15
23	E B 14	E B 15	E B 15	15	E B 14	E B 15	E B 14	20	G	G	38	37	38	37	36	31	25	19	E B 15	E B 15	E B 15	E B 16	E B 15	E B 14
24	E B 15	E B 15	E B 15	E B 15	E B 15	E B 16	E B 15	G	G	G	G	G 28	G 28	G 28	G 36	36	G 18	18	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15
25	E B 15	E B 14	E B 17	E B 14	E B 15	E B 15	E B 15	G	G	G	G	G	G	G	G	G	G	G	E B 15	E B 15	20	A A 48	25	17
26	16	16	E B 16	E B 15	E B 15	E B 15	E B 15	G	G 20	G 27	35	30	G	G	G	32	G	G	E B 15	E B 15	E B 15	E B 15	E B 16	E B 14
27	E B 15	E B 14	E B 15	E B 15	E B 15	E B 16	E B 15	G	28	G	G	38	39	38	38	34	30	20	21	17	18	18	E B 15	E B 14
28	E B 15	E B 15	E B 16	E B 15	E B 15	E B 15	E B 14	G	G	G	G 25	G 28	G 26	G 29	G 27	G 26	G	G	E B 15	E B 15	E B 16	E B 15	E B 15	E B 15
29	E B 15	E B 15	E B 14	E B 14	E B 15	E B 15	E B 14	21	30	G	G	40	G 26	38	G	G	29	22	E B 14	19	E B 14	E B 16	E B 15	E B 15
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
MED	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	20	G	G	33	36	36	35	34	31	25	19	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15
U Q	16	15	16	E B 15	E B 15	E B 15	E B 15	21	28	32	35	38	38	38	35	34	28	20	19	17	18	18	15	E B 15
L Q	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15	E B 14	G	G	G	G	G	G	G	G	G	G	G	E B 15	E B 15	E B 15	E B 15	E B 15	E B 15

FEB. 2016 fbEs (0.1MHz)

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IONOSPHERIC DATA STATION Kokubunji

FEB.2016 fmin (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	16	15	15	15	14	16	15	15	14	14	14	14	15	17	15	14	14	14	16	15	15	15	15	15
2	15	15	15	15	14	14	14	15	14	14	15	15	16	16	16	14	14	14	15	15	15	15	15	15
3	15	15	14	14	15	15	14	14	15	12	14	14	14	15	15	12	13	15	15	15	14	15	15	15
4	16	15	15	15	15	14	16	15	13	13	13	14	13	14	12	13	14	15	14	15	15	15	14	15
5	15	15	15	15	15	15	14	15	14	14	14	14	14	16	14	14	14	16	14	14	15	15	15	15
6	16	15	16	15	15	14	15	14	13	14	14	15	15	15	15	14	15	15	16	15	15	15	15	14
7	15	15	15	15	15	15	16	15	13	13	16	16	15	18	18	18	14	15	14	15	15	14	14	15
8	14	15	15	15	15	15	16	14	16	16	19	18	15	16	15	17	15	14	15	15	15	14	15	16
9	16	15	14	15	16	16	16	16	13	14	18	18	16	17	16	17	14	16	14	16	15	15	15	16
10	15	15	15	15	15	15	15	14	14	15	14	14	18	18	20	14	14	15	15	15	15	15	15	16
11	14	16	15	15	15	15	15	14	14	14	15	20	18	16	14	13	14	14	15	15	14	15	15	15
12	15	14	15	15	15	15	16	14	14	14	15	16	16	19	16	14	13	13	14	15	15	15	15	15
13	15	15	15	15	15	14	15	15	14	14	16	17	17	16	13	14	13	12	14	15	15	14	15	16
14	15	14	15	14	15	15	15	14	13	13	14	14	18	14	13	12	12	13	16	14	14	14	15	15
15	15	15	15	15	15	15	15	15	14	15	14	14	15	16	15	13	12	16	14	16	15	16	15	14
16	15	14	15	15	14	15	15	14	13	13	17	16	16	15	13	13	16	17	15	15	15	15	14	15
17	14	14	14	14	15	14	14	14	14	16	13	18	18	18	17	15	14	14	16	15	15	15	14	14
18	15	15	14	14	15	15	15	14	14	16	14	15	20	18	17	12	14	16	15	14	15	16	15	15
19	16	14	15	15	15	15	15	15	14	13	14	14	12	16	17	13	14	14	15	15	15	15	15	15
20	15	14	15	15	14	14	14	14	14	14	18	18	14	15	14	10	13	15	16	14	14	14	15	15
21	15	15	15	15	15	14	15	15	15	14	12	14	15	15	16	15	13	14	16	16	14	16	15	15
22	16	15	15	15	14	15	14	14	14	14	16	15	16	17	17	16	12	14	15	15	15	15	16	15
23	14	15	15	15	14	15	14	15	14	15	14	14	16	15	14	13	15	13	15	15	15	16	15	14
24	15	15	15	16	15	16	15	14	14	15	14	16	14	17	17	14	13	13	15	15	15	15	15	15
25	15	14	17	14	15	15	15	14	15	15	13	15	17	20	17	14	14	13	15	15	14	15	14	15
26	16	15	16	15	15	15	15	14	14	14	12	16	16	14	18	16	15	14	15	15	15	15	16	14
27	15	14	15	15	15	16	15	16	14	13	14	23	18	20	18	18	14	13	14	15	15	15	15	14
28	15	15	16	15	15	15	14	13	14	16	14	18	20	16	17	14	14	14	15	15	16	15	15	15
29	15	15	14	14	15	15	14	13	13	15	18	20	16	18	14	15	15	13	14	14	14	16	15	15
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
MED	15	15	15	15	15	15	15	14	14	14	14	15	16	16	16	14	14	14	15	15	15	15	15	15
U Q	16	15	15	15	15	15	15	15	14	15	16	18	18	18	17	15	14	15	15	15	15	15	15	15
L Q	15	14	15	15	15	14	14	14	14	14	14	14	15	15	14	13	13	13	14	15	14	15	15	15

IONOSPHERIC DATA STATION Kokubunji

FEB. 2016 M(3000)F2 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	321	300	305	303	304	310	349	367	323	351	313	343	372	334	333	371	373	335	325	352	377	306	296	275
2	287	291	324	338	390	307	347	361	384	366	336	357	364	356	355	345	374	384	318	313	322	A	294	309
3	317	308	305	312	332	291	345	377	386	335	342	367	314	349	331	353	358	372	320	319	300	311	324	310
4	312	302	322	312	F	303	333	355	363	365	340	356	357	346	345	320	363	363	346	333	348	309	295	274
5	298	306	284	277	331	321	315	351	356	350	351	359	345	325	345	344	345	345	341	336	304	292	302	307
6	301	294	302	341	372	295	338	371	372	348	347	342	329	335	336	362	363	357	334	330	312	305	295	300
7	296	316	304	308	331	325	326	354	374	345	354	353	323	331	339	354	338	364	342	329	310	316	287	285
8	295	296	319	317	284	280	319	356	364	325	337	324	330	331	336	343	347	360	311	327	A	303	308	268
9	280	278	298	342	368	F	303	344	358	330	348	350	347	341	350	371	363	346	336	304	321	285	292	280
10	292	320	342	293	313	296	320	351	353	332	326	335	333	341	333	346	350	356	338	332	312	274	284	284
11	294	320	334	352	363	290	292	359	347	327	322	339	339	334	354	356	361	360	332	A	308	294	285	295
12	298	331	336	339	283	304	327	345	357	331	334	338	344	333	342	336	339	349	329	305	296	272	288	289
13	303	334	356	341	A	290	321	356	360	339	323	339	333	340	335	330	336	354	A	319	321	301	295	306
14	310	301	313	311	293	294	321	362	377	351	360	346	339	332	350	351	339	351	331	310	314	304	298	302
15	323	293	283	292	272	284	304	357	347	347	359	337	327	335	343	341	345	354	329	314	325	305	278	290
16	298	318	322	314	311	299	310	358	347	334	340	334	344	348	338	342	338	334	323	329	288	321	309	322
17	278	286	313	319	286	264	345	362	336	331	341	327	331	331	343	345	339	341	319	300	328	302	288	276
18	286	287	298	345	355	289	307	314	363	324	362	314	328	345	346	327	354	348	350	315	331	295	305	295
19	270	295	306	301	344	311	339	354	360	359	333	331	337	342	356	357	346	374	345	311	312	301	308	291
20	270	292	316	328	360	F	F	356	344	361	330	335	340	355	343	335	353	377	325	344	314	310	317	305
21	289	297	307	298	338	326	335	378	362	360	332	341	338	345	345	344	357	366	335	331	334	316	306	289
22	296	290	311	335	347	313	316	361	375	341	352	343	340	343	349	348	340	359	368	353	339	311	322	297
23	298	290	280	302	346	332	337	373	363	357	340	331	328	332	341	356	378	363	342	329	315	326	311	F
24	F	259	305	298	315	331	380	367	354	355	335	326	326	352	341	339	359	345	333	321	330	326	308	305
25	304	299	304	307	306	318	370	369	333	334	346	325	336	352	352	355	370	352	325	320	361	A	292	273
26	284	298	310	306	302	305	345	380	364	359	357	322	328	350	353	361	338	356	356	352	323	312	305	293
27	296	301	298	298	292	305	335	368	384	365	339	330	355	333	344	342	356	351	343	344	326	305	292	300
28	292	310	305	312	306	315	345	381	346	351	335	313	332	346	345	363	363	347	340	342	333	307	298	314
29	294	282	293	323	353	350	351	375	362	343	327	336	343	331	341	335	348	358	339	330	323	295	300	306
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	29	29	29	27	27	28	29	29	29	29	29	29	29	29	29	29	29	28	28	28	27	29	28
MED	296	298	306	312	331	305	334	361	360	347	340	337	337	341	343	345	353	356	334	329	322	305	298	295
U Q	302	309	320	336	353	318	345	370	368	358	350	344	344	347	350	356	363	363	342	334	330	311	308	306
L Q	288	290	300	302	302	291	318	354	347	333	332	328	328	332	338	340	340	348	325	314	312	295	292	284

IONOSPHERIC DATA STATION Kokubunji

FEB.2016 M(3000)F1 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1										L		L	L	L	L									
2											L	L		L	L									
3											L	L	L	U 368 L	L									
4										L	L	L	L	L	L									
5											L	L	L	L	L	L								
6										L		L	L	A	L									
7										L	L	L	L	A	A									
8											L	L	L	L	L									
9											L		L	L	L	L								
10										L	L	L	L	L	L	L								
11										A	A	L	L	L	L	L								
12											L	L	L	L	L									
13										A	L	L	L	L	L	A								
14											L	L	L	L	A	L								
15											L	L	L	L	L	L								
16										L	L	L	L	L	L	L								
17											L	L	U 360 L	L		L								
18										L			L		L	L								
19											L	L	A	L	A	L								
20											L	L	U 373 L	L	L	A								
21										L	L	L	L	L		A								
22										L	L		L	U 371 L	L	L	L							
23										L		L	L	L	L	L								
24									L	L	L	L	L	L	U 377 L	A								
25									L	U 405 L	U 406 L	L	U 380 L	L	L	L	L							
26									L		L	L	L	L	L	L								
27									L		L	L	A	L	L	A								
28										L	L	L	L	U 391 L	U 382 L									
29									L	L	L	A	L	L	U 374 L	L	L							
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT										1	1		3	3	3									
MED										U 405 L	U 406 L		U 373 L	U 371 L	U 377 L									
U Q													U 380 L	U 391 L	U 382 L									
L Q													U 360 L	U 368 L	U 374 L									

FEB.2016 M(3000)F1 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

FEB.2016 h'F2 (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1										252		256	232	254	274									
2											264	248		236	244									
3											258	240	266	256	252									
4										238	258	252	240	254	240									
5											240	240	254	262	254	242								
6										248		254	248	270	258									
7										232	248	240	278	260	236									
8											266	266	260	258	248									
9											250		252	244	244	232								
10										264	254	250	248	264	246	248								
11										244	262	244	238	256	244	240								
12											266	248	252	256	246									
13										E A 234	270	256	252	256	252	238								
14											238	248	252	266	238	244								
15											244	252	250	250	250	246								
16										252	246	254	246	234	244	248								
17											252	252	264	250		242								
18										262			256		244	262								
19											256	266	252	246	230	240								
20											242	266	254	244	234	244								
21										236	260	260	260	252		244								
22										258	248		252	258	248	252	240							
23										240		286	266	256	254	238								
24									238	242	264	272	258	248	262	244								
25									248	230	252	282	262	250	250	236	232							
26									240		244	286	268	250	244	242								
27									238		244	258	246	254	258	246								
28										240	258	268	258	250	250									
29									236	246	274	256	256	262	248	240	240							
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									5	16	25	26	28	28	27	20	3							
MED									238	243	254	255	253	254	248	243	240							
U Q									244	252	263	266	260	258	252	246	240							
L Q									237	237	245	248	249	250	244	240	232							

IONOSPHERIC DATA STATION Kokubunji

FEB.2016 h'F (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E B 244	E A 270	E B 260	E B 270	E B 272	E B 272	218	208	214	218	226	228	202	200	192	220	212	220	222	216	204	E B 244	E B 274	E B 292
2	E B 300	E B 284	E B 252	218	192	E B 272	218	206	206	216	204	210	220	194	206	216	214	198	E A 232	E A 252	E A 246	A	E B 302	E B 278
3	E B 248	E B 256	E B 274	E B 244	E B 226	E B 250	E B 232	200	H 194	214	206	218	212	208	200	230	206	208	224	E B 236	210	E B 256	E B 238	E B 236
4	E B 258	E B 268	E B 268	E B 250	216	E B 248	212	194	H 200	H 176	196	208	198	212	192	214	216	214	204	214	204	E B 236	E B 262	E B 272
5	E B 256	E B 246	E B 258	E B 282	E B 234	212	210	214	210	222	202	210	208	204	200	190	222	216	204	210	202	E B 254	E B 266	E B 280
6	E B 276	E B 292	E B 272	E B 234	194	E B 268	E B 244	208	208	198	216	214	208	A	210	226	210	198	208	216	220	E B 244	E A 274	E B 272
7	E B 274	230	E B 244	E B 258	222	E B 238	E B 236	220	210	194	204	190	190	A	A	216	218	204	192	214	224	E A 334	E A 318	E A 318
8	E B 298	E B 282	E B 250	E B 240	E B 268	E B 300	E B 230	208	216	222	194	214	220	222	212	226	214	202	224	E A 244	A	E A 250	E B 250	E B 308
9	E A 310	E B 286	E A 266	226	198	E B 254	E B 248	226	214	218	214	230	210	202	190	198	218	206	214	E A 250	E A 236	E A 292	E B 260	E B 290
10	E B 256	E B 232	216	208	E B 242	E B 270	E B 244	216	216	194	182	206	202	208	208	204	220	210	210	228	210	E B 298	E B 284	E B 296
11	E B 268	E B 250	220	206	204	E B 288	E B 274	218	224	A	A	196	212	196	210	202	218	206	222	A	E A 278	E A 292	E B 300	E B 266
12	E A 278	E A 244	E A 232	224	E B 258	E B 274	E B 240	216	228	226	228	220	204	208	208	218	E A 234	208	208	E B 250	E B 248	E B 292	E B 262	E B 268
13	E B 258	E B 238	210	E A 238	A	E A 326	E B 234	210	210	A	216	218	206	196	202	A	226	212	A	224	224	E A 268	E A 296	E A 274
14	E A 268	E A 270	E B 256	E B 250	E B 244	E B 264	E B 232	214	208	214	208	208	200	228	A	208	224	204	204	E A 242	E A 264	E A 270	E B 262	E B 252
15	E B 226	E B 258	E B 282	E B 280	E B 290	E B 262	E B 240	214	226	226	208	204	202	204	206	200	208	214	226	226	216	228	E B 282	E B 278
16	E B 260	E B 246	E B 236	E A 234	E B 236	E B 258	E B 248	222	212	216	212	206	218	206	198	208	218	216	E B 236	E B 210	E B 250	E B 234	E B 230	222
17	E B 296	E B 304	E B 262	E B 248	E B 240	E B 340	216	206	228	220	228	214	204	210	212	206	216	220	208	E B 234	232	E B 210	E B 292	E B 310
18	E B 292	E B 298	E A 260	216	196	E B 312	E B 264	224	220	210	220	230	198	214	196	212	216	202	194	228	220	E B 260	E B 240	E B 256
19	E B 300	E B 264	E B 262	E B 262	212	204	220	208	208	206	204	200	A	216	A	206	214	202	188	220	E B 238	E B 222	E B 248	E B 290
20	E B 306	E B 286	E B 256	E B 252	214	212	190	214	212	216	212	220	214	214	204	A	214	206	192	202	214	208	E B 250	E B 266
21	E B 296	E B 302	E B 280	E B 264	E B 236	204	204	204	206	200	200	216	214	208	240	A	218	208	198	E A 230	204	226	E B 268	E B 296
22	E B 290	E B 284	E B 272	E B 240	216	E B 212	E B 234	210	216	214	212	232	212	198	208	208	214	220	192	192	206	E B 244	E B 242	228
23	E B 284	E B 284	E B 298	E B 286	216	212	220	200	204	198	E A 238	202	212	216	208	202	202	206	202	214	232	E B 234	E B 234	E B 276
24	E B 292	E B 296	E B 280	E B 286	E B 256	E B 236	196	H 184	182	192	194	206	206	212	206	A	218	214	206	204	226	210	E B 232	E B 252
25	E B 258	E B 276	E B 264	E B 260	E B 246	E B 246	196	202	190	174	196	200	222	214	206	208	198	H 190	E B 206	E B 210	210	A	E A 356	E A 290
26	E A 308	E A 294	E B 274	E B 264	E B 262	E B 252	218	200	196	220	204	198	192	196	210	202	200	224	204	208	216	E B 240	E B 238	E B 274
27	E B 284	E B 280	E B 276	E B 276	E B 278	E B 266	226	H 190	198	198	176	200	A	204	218	A	226	222	200	196	226	E A 276	E B 296	E B 294
28	E B 280	E B 260	E B 260	E B 250	E B 252	E B 234	210	198	206	210	206	224	198	206	194	226	208	204	206	196	210	E B 244	E B 268	E B 266
29	E B 298	E B 310	E B 290	E B 250	218	204	208	208	200	188	182	A	216	208	198	188	198	206	194	210	218	E B 248	E B 260	E B 270
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	28	29	29	29	29	27	28	28	27	27	26	24	29	29	28	28	28	27	29	29
MED	E B 280	E B 276	E B 262	E B 250	E B 235	E B 254	U 208	208	210	214	206	210	208	208	206	208	215	208	205	212	215	E B 244	E B 262	E B 274
U Q	E B 297	E B 289	E B 274	E B 264	E B 254	E B 272	E B 240	215	216	218	215	219	214	214	210	217	218	215	218	E A 232	E 234	E A 270	E B 288	E B 291
L Q	E B 258	E B 253	E 251	234	215	223	211	201	202	198	198	203	202	202	198	202	209	204	199	210	210	234	E B 245	E B 266

FEB.2016 h'F (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

FEB.2016 h'E (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								B	120	114	A	112	114	112	A	A	120	B						
2								B	116	118	A	116	114	114	A	120	120	B						
3								B	112	112	112	112	112	112	112	112	112	B						
4								B	116	110	114	116	114	114	114	114	114	B						
5								B	114	114	A	110	116	A	118	116	116	B						
6								B	114	112	118	120	118	A	A	A	A	B						
7								B	114	110	112	116	112	112	A	A	112	B						
8								A	116	116	116	118	118	118	116	114	A	B						
9								B	114	118	118	A	A	A	A	116	116	B						
10								B	118	A	A	116	118	114	114	110	A	B						
11								112	A	A	A	118	112	112	114	118	A	B						
12								116	110	112	A	A	122	108	A	110	120	B						
13							B		112	A	A	110	A	110	112	A	112	112						
14								B	108	108	110	110	110	112	114	112	114	114						
15								B	114	120	116	A	A	A	112	A	A	B						
16								122	116	108	A	116	116	110	114	112	112	A						
17								B	112	110	110	A	A	A	A	116	A	124						
18								124	114	110	108	116	114	114	114	116	116	B						
19								B	116	110	110	110	A	A	A	A	A	B						
20								B	112	112	114	116	A	118	112	A	114	B						
21								B	112	118	120	114	A	A	A	A	A	B						
22								116	116	112	112	112	112	118	114	114	116	B						
23								B	114	110	114	114	A	A	A	A	A	B						
24								114	112	112	112	118	116	118	A	A	110	B						
25								114	114	114	116	116	116	116	116	114	110	120						
26								118	114	118	110	110	110	110	110	110	110	114						
27								112	112	112	114	114	120	120	120	116	A	A						
28								120	116	116	118	114	112	114	114	116	110	110						
29								116	114	116	112	116	114	112	112	110	112	120						
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								11	28	26	21	25	21	21	18	19	19	7						
MED								116	114	112	114	116	114	114	114	114	114	114						
U Q								120	116	116	116	116	117	117	114	116	116	120						
L Q								114	112	110	111	112	112	112	112	112	112	112						

FEB.2016 h'E (KM)

IONOSPHERIC DATA STATION Kokubunji

FEB.2016 h'Es (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	100	100	96	100	102	104	B	118	G	118	106	114	116	120	108	106	104	B	104	104	104	104	106	106
2	B	B	B	B	B	B	B	116	116	146	102	G	120	G	104	140	154	104	100	100	100	96	96	96
3	96	96	B	B	B	B	B	138	G	154	G	G	92	90	128	132	136	154	112	108	B	B	B	102
4	B	94	B	B	B	B	B	B	G	G	G	150	134	104	118	114	G	134	B	B	B	B	108	110
5	B	104	B	B	B	B	B	144	G	156	106	120	120	108	104	G	G	B	B	B	B	B	B	B
6	B	B	B	B	B	B	B	138	162	100	148	134	120	108	108	104	98	106	112	B	112	114	104	116
7	108	104	104	100	B	100	B	120	G	G	120	118	118	124	106	104	G	144	B	B	96	88	88	88
8	90	90	102	106	102	102	100	102	G	168	G	118	116	112	116	116	104	100	98	96	92	92	96	96
9	108	104	100	100	98	96	94	160	G	G	106	100	102	102	100	G	106	B	100	96	94	94	92	92
10	B	92	B	B	B	B	B	112	126	104	108	G	G	G	G	118	104	102	98	98	96	96	100	122
11	B	102	102	B	B	B	142	G	100	100	100	100	G	98	100	98	98	116	104	100	100	100	100	100
12	100	98	92	94	100	B	146	142	172	G	104	106	106	122	104	118	118	116	B	112	112	102	B	B
13	B	B	102	94	90	94	98	94	G	94	92	118	108	110	114	108	G	156	104	104	98	96	94	94
14	98	92	100	B	B	102	B	146	148	G	130	122	118	120	114	116	120	G	86	136	104	102	100	B
15	B	92	B	B	100	98	96	142	G	G	100	104	104	106	G	102	100	98	102	B	B	132	102	104
16	100	100	98	98	98	98	B	G	G	118	104	104	100	G	100	90	G	92	92	B	B	B	B	B
17	B	B	B	102	B	B	B	136	138	114	120	106	106	102	102	106	106	G	B	B	B	B	B	B
18	B	B	102	102	B	B	B	162	124	G	120	120	120	G	G	G	G	B	B	B	B	B	B	98
19	98	B	B	B	B	B	B	144	134	G	122	G	106	104	108	104	100	B	B	92	94	B	B	B
20	B	B	B	110	B	B	B	136	G	G	G	G	108	G	114	108	G	118	112	110	B	B	100	108
21	108	102	104	98	104	104	100	146	G	104	102	124	106	108	102	94	98	100	104	96	96	92	90	B
22	B	B	B	B	B	B	B	162	162	154	G	120	116	116	G	G	G	122	B	B	B	B	100	118
23	B	B	B	104	B	B	B	150	G	G	116	118	106	104	104	104	102	104	100	98	100	B	B	B
24	B	112	B	98	B	B	B	G	G	G	G	100	102	104	102	98	94	106	104	104	B	B	100	100
25	122	100	B	B	98	98	B	G	G	G	G	G	G	G	G	G	G	G	B	B	100	98	92	90
26	90	94	92	94	96	96	B	G	96	96	122	96	G	G	G	122	G	G	B	B	102	B	B	B
27	98	B	100	B	B	B	B	G	138	G	G	140	136	128	124	120	108	108	104	104	104	98	98	B
28	B	B	B	B	B	B	B	G	G	G	104	102	98	98	98	94	G	G	94	B	B	B	B	100
29	B	B	B	B	B	B	B	128	128	G	G	156	102	116	G	G	122	140	B	94	B	B	B	B
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	13	17	13	14	10	11	7	21	13	14	20	23	25	22	22	23	18	19	18	17	17	15	18	18
MED	100	100	100	100	99	98	100	138	134	116	106	118	108	108	105	106	104	108	103	100	100	98	100	100
U Q	108	103	102	102	102	102	142	146	155	154	120	122	119	116	114	118	118	134	104	106	104	102	100	108
L Q	97	93	97	98	98	96	96	119	120	100	103	104	103	104	102	102	100	102	98	96	96	94	94	96

FEB.2016 h'Es (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

FEB. 2016 TYPES OF Es 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F2	F3	F2	F2	F1	F1		C1		C1	L3	C2	C1	C1	L1	L1	L1		F2	F1	F1	F1	F2	F1
2								C1	C1	H1	L1		C1		L1	H2	H1	L5	F3	F3	F3	F3	F2	F2
3	F2	F1						H1		H1			L2	L2	C1	C1	H2	H2	F2	F2				F2
4		F2										HL12	HL12	L2	CL12	C2		C2					F2	F2
5		F1						H2		H2	L2	CL12	CL12	L2	L2									
6								H2	H1	L2	HL12	CL12	CL22	L2	L2	L3	L3	L2	F1		F1	F1	F2	F2
7	F2	F4	F3	F2		F1		C2			C1	C1	C1	C1	L1	L1		H1			F3	F4	F2	F2
8	F1	F2	F1	F1	F3	F2	F2	L2		H1		C1	C1	C2	C2	C1	L1	L2	F3	F5	F4	F3	F3	F1
9	F3	F2	F3	F1	F1	F2	F1	H1			L2	L2	L2	L2	L2		L2		F3	F4	F4	F3	F3	F2
10		F1						C1	C1	L2	L2					C1	L2	L2	F3	F3	F3	F1	F2	F1
11		F1	F3				F1		L4	L3	L2	L2		L2	L2	L1	L3	C2	F3	F5	F6	F3	F2	F2
12	F2	F4	F3	F2	F2		F1	H2	H1		L1	L2	L1	C1	L1	CL11	CL12	C2		F1	F1	F2		
13			F1	F4	F4	F4	L2	L3		L2	L2	C1	L2	C1	CL12	L2		H1	F5	F2	F3	F3	F4	F3
14	F4	F3	F2			F1		H2	H2		C1	C1	CL12	CL12	CL22	CL22	CL22		F1	F2	F3	F3	F2	
15		F1			F1	F2	F2	H2			L1	L2	L2	L2		L2	L2	L3	F2			F2	F2	F3
16	F3	F1	F3	F2	F1	F1				C1	L2	L1	L1		L2	L2		L1	F1					
17				F1				H2	H1	C1	C1	L1	L2	L1	L1	L2	L2							
18			F3	F1				H1	C1		C1	C1	C1											F1
19	F3							H2	H1		C1		L2	L1	L1	L1	L2			F1	F1			
20				F1				H2					L2		C1	L2		C3	F4	F3			F2	F2
21	F1	F3	F2	F2	F2	F2	F1	H1		L2	L2	CL12	L2	L2	L2	L2	L2	L1	F2	F2	F1	F1	F2	
22								H2	H1	H1		C1	C1	C1				C2					F2	F1
23				F1				H1			C1	C1	L1	L2	L2	L2	L2	L2	F1	F2	F2			
24		F1		F2								L1	L1	L2	L2	L2	L2	L2	F1	F1			F2	F2
25	F1	F1			F1	F2															F3	F4	F4	F4
26	F3	F2	F2	F1	F1	F1			L2	L2	CL12	L2				C1					F3			
27	F2		F1						CL11			H1	H1	C2	C2	C1	L2	L2	F5	F2	F2	F3	F1	
28											L2	L2	L1	L1	L2	L2			F1					F2
29								C1	C1			H1	L2	C1			C1	H1		F3				
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
U Q																								
L Q																								

FEB. 2016 TYPES OF Es

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Yamagawa

FEB.2016 fxI (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0'N LON.130°37.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	X 40	X 44	X 42	X 41	X 40	X 41	X 45												X 60	X 64	X 53	X 37	X 32	X 33
2	X 35	X 37	X 39	X 39	X 37	X 31	X 29												X 56	X 42	X 51	X 48	X 43	X 43
3	X 48	X 42	X 38	X 39	X 45	X 36	X 35												X 70	X 49	X 52	X 51	X 43	X 40
4	X 36	X 39	X 38	X 39	X 42	X 37	X 40												X 78	X 58	X 49	X 42	X 42	X 44
5	X 45	X 45	X 46	46	X 51	X 30	X 39												X 88	X 55	X 53	X 48		X 42
6	X 42	X 41	X 43	X 46	X 46	X 35	X 35												X 64	X 51	X 50	X 45	X 46	X 48
7	X 48	X 49	X 47	X 48	X 58	X 57	X 51												X 82	A	X 56	X 52	X 43	X 42
8	X 43	X 46	X 41	X 42	X 39	X 39	X 37												X 78	X 72	X 70	X 46	X 34	X 36
9	X 38	X 40	X 42	X 48	X 63	X 29	X 33												X 69	X 58	X 58	X 56	X 61	X 54
10	X 49	X 52	X 47	X 36	X 37	X 38	X 40													X 58	X 54	X 48	X 41	X 43
11	X 41	X 44	X 45	X 41	X 34	34	X 37				C	C	C	C	C					X 46	X 54	X 58	X 46	X 46
12	X 44	X 48	X 49	X 42	X 36	X 34	X 34			C										X 63	X 65	X 64	X 62	X 62
13	X 56	X 53	X 55	X 47	X 35	X 36	X 36													X 70	X 66	X 60	X 44	X 47
14	X 47	X 46	X 44	X 44	X 44	X 41	X 41													X 62	X 53	X 46	X 48	X 46
15	X 43	X 40	X 40	X 40	X 41	X 42	X 41													X 67	X 57	X 53	X 48	X 46
16	X 46	X 44	X 47	X 44	X 44	X 43	X 44													O X 106	X 64	X 56	X 68	X 57
17	X 41	X 41	X 48	X 49	X 40	X 40	X 50													X 78	X 66	X 52	X 39	X 39
18	X 42	X 40	X 43	X 42	X 36	X 27	X 34													X 56	X 45	X 44	X 47	X 35
19	X 38	X 39	X 42	X 41	X 47	X 34	X 31													X 58	X 43	X 48	X 42	X 40
20	X 43	X 41	X 41	X 44	X 50	X 36	X 30													X 66	X 49	X 49	X 45	X 42
21	X 40	X 41	X 41	X 43	X 45	X 43	X 29													X 54	X 57	X 58	X 38	X 35
22	X 36	X 36	X 37	X 40	X 47	X 29	X 30													X 58	X 43	X 44	X 39	X 41
23	X 39	X 38	X 36	X 36	X 42	X 42	X 29													X 54	X 49	X 46	X 39	X 37
24	X 38	X 37	X 38	X 39	X 45	X 46	X 34													X 70	X 58	X 55	X 42	X 34
25	X 39	X 40	X 42	X 45	X 46	X 43	X 39													X 56	X 58	X 49	X 38	X 37
26	X 39	X 40	X 40	X 41	X 41	X 40	X 40													X 66	X 51	A	A	X 44
27	X 41	X 42	X 42	X 40	X 40	X 41	X 41													X 69	X 52	X 46	X 42	X 44
28	X 44	X 44	X 43	X 42	X 43	X 43	X 42													X 69	X 48	X 44	X 40	X 41
29	X 42	X 41	X 42	X 45	X 50	X 42	X 34													X 65	X 43	X 43	X 41	X 41
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	29	29												9	28	29	28	27	29
MED	X 42	X 41	X 42	X 42	X 43	X 39	X 37												X 70	X 60	X 53	X 48	X 42	X 42
U Q	X 44	X 44	X 46	X 45	X 46	X 42	X 41												X 80	X 68	X 58	X 54	X 46	X 46
L Q	X 39	X 40	X 40	X 40	X 40	X 34	X 34												X 62	X 56	X 49	X 46	X 39	X 38

FEB.2016 fxI (0.1MHz)

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IONOSPHERIC DATA STATION Yamagawa

FEB. 2016 foF2 (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0'N LON.130°37.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	U R 34	38	36	35	34	35	39	39	59	76	99	110	80	70	96	88	75	66	54	58	47	31	26	27
2	29	31	33	33	31	25	23	36	60	68	66	88	82	84	80	71	78	68	50	36	45	42	37	37
3	42	36	32	33	39	30	29	42	64	66	74	89	86	96	92	84	77	69	64	43	46	45	37	34
4	30	33	32	33	V 36	31	34	46	64	64	69	78	87	89	83	75	80	75	72	R 52	43	36	36	38
5	39	39	40	38	45	24	33	44	72	76	79	88	95	96	R 93	94	94	82	82	49	47	42		36
6	36	35	37	V 40	40	29	29	43	62	71	82	81	85	92	88	98	82	76	58	45	44	39	40	42
7	42	43	41	42	52	51	45	57	72	94	84	91	101	101	99	90	81	80	R 76	A	50	46	37	36
8	R 37	40	35	36	33	33	31	42	58	64	89	92	98	93	90	92	82	71	72	66	64	40	28	30
9	32	34	36	42	57	23	27	40	64	76	92	93	83	86	79	72	74	73	63	52	52	50	55	48
10	43	46	41	30	31	32	34	50	73	73	94	114	108	R 105	98	85	78	75	66	52	48	42	35	37
11	35	38	39	35	28	24	31	40	70	86	C	C	C	C	C	110	83	70	53	40	48	52	40	40
12	38	42	43	36	30	28	28	43	63	C	87	99	96	88	81	75	80	83	62	57	59	58	56	56
13	50	47	49	41	29	30	30	48	67	70	89	105	107	106	102	87	90	79	67	64	60	54	38	41
14	41	40	38	38	38	35	35	54	72	70	82	94	86	91	108	101		74	75	56	47	40	42	40
15	37	34	34	34	35	36	35	52	76	93	87	83	87	96	105	104	92	71	69	61	51	47	42	40
16	40	38	41	38	38	37	38	48	72	86	103	110	104	R 108	106	101	96	96	89	100	58	50	62	51
17	35	35	42	43	34	34	44	56	64	90	100	117	115	85	94	95	85	82	73	72	60	46	33	33
18	36	34	37	36	30	21	28	43	91	80	96	96	118	110	100	101	116	94	68	50	39	38	41	29
19	32	33	36	35	41	28	25	43	72	80	80	95	113	R 121	110	102	R 100	90	70	52	37	42	36	34
20	37	35	35	38	44	30	24	42	75	76	81	100	100	115	108	89	89	79	87	60	43	43	39	36
21	34	35	35	37	39	37	23	46	72	71	81	86	R 94	92	104	104	90	77	62	48	51	52	32	29
22	30	30	31	34	41	23	24	44	64	67	77	79	78	86	86	90	85	91	85	52	37	38	33	35
23	33	32	30	30	36	36	23	46	60	66	79	R 84	93	107	111	111	91	71	65	48	43	40	33	31
24	32	31	32	33	39	40	28	43	61	68	77	81	89	96	101	96	88	74	76	64	52	49	36	28
25	33	34	36	39	40	37	33	48	64	76	97	78	87	97	90	81	75	73	64	50	52	43	32	31
26	33	34	34	35	35	34	34	52	65	70	72	75	91	101	93	85	73	76	87	60	45	A	A	38
27	35	36	36	34	34	35	35	57	68	66	76	69	81	86	88	89	82	87	80	63	46	40	36	38
28	38	38	37	36	37	37	36	46	54	70	81	88	90	91	94	86	74	68	75	63	42	38	34	35
29	36	35	36	39	44	36	28	48	61	64	78	81	88	95	100	96	83	76	79	59	37	37	35	35
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	29	29	29	29	28	28	28	28	28	28	29	28	29	29	28	29	28	27	29
MED	36	35	36	36	37	33	31	46	64	71	82	88	90	96	95	90	82	76	70	54	47	42	36	36
U Q	38	38	40	38	40	36	35	49	72	78	90	98	100	103	103	101	90	82	78	62	52	48	40	40
L Q	33	34	34	34	34	28	28	42	62	68	78	81	86	88	89	85	78	71	64	50	43	40	33	32

IONOSPHERIC DATA STATION Yamagawa

FEB.2016 foF1 (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0'N LON.130°37.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									248	U L 332	L	U L 468	U L 464	L	U L 476	U L 452	L							
2									252	288	L	L 448	L	U L 472	L	L	L	L 272						
3									256	U L 348	U L 376	L 468	L 456	L	452	U L 408	U L 396	272						
4									280	L	L	L	L	L	L	L 416	U L 404	248						
5									252	300	L	L	L	L	L	L	L							
6									252	312	L	L	L	U L 500	L	L	A	L						
7										320	L	L	L	L	L	L	L							
8									276		L	A	A	L	L	L	L	L						
9									248	L 324	L	L	L	L	U L 464	U L 444	U L 352	L						
10									244	L	L	U L 484	L	U L 500	L	L	L	268						
11									256	L	C	C	C	C	C	U L 444	L							
12									264	C	L	L	U L 492	U L 492	L	A	L	L						
13									272	332	L	L	L	L	L	L	U L 388							
14									260	L	L	L	A	L	U L 464	L		284	176					
15								180	260	L	L	L	L	L	L	L	L							
16									248	L	L	U L 484	L	L	L	L	L	264						
17									256	L	L	L	L	L	U L 460	L	L	L						
18									248	L	L	L	L	L	U L 468	L	L		184					
19									248	U L 320	L	L	U L 480	U L 488	U L 464	L	L	L						
20								176	264	L	L	U L 496	L	U L 464	L	L	L	L	176					
21								176	276	336	L	L	U L 492	L	U L 484	L	U L 412	264						
22								172	264	L	L	U L 476	U L 500	L 488	U L 464	U L 440	L	272	176					
23								176	252	U L 360	L	L	U L 496	U L 488	L 476	U L 452	L	L						
24								196	U L 312	344	U L 472	U L 468	U L 516	U L 468	468	U L 448	L	L	184					
25								196	L	U L 404	L	L	444	L 476	472	U L 452	U L 404	328	196					
26									332	360	L	L	U L 500	U L 484	L	L	L	A						
27								192	L	L 356	L	L	L	A	A	L	L	L	184					
28								180	248	L	L	U L 476	U L 496	476	L 468	L	L	L						
29								L	L	U L 396	L	U L 476	U L 500	U L 480	U L 480	U L 464	L	L	176					
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								9	25	16	2	10	12	13	14	10	6	9	8					
MED								180	256	334	U L 424	U L 476	U L 494	U L 484	U L 468	U L 446	U L 400	272	180					
U Q								194	268	U L 358		U L 484	U L 500	U L 490	U L 476	U L 452	U L 404	278	184					
L Q								176	248	320		L 468	L 472	U L 474	U L 464	U L 440	U L 388	264	176					

FEB.2016 foF1 (0.01MHz)

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IONOSPHERIC DATA STATION Yamagawa

FEB. 2016 foE (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0'N LON.130°37.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								B	220	A 280	A 300	A 324	U A 340	A 348	332	A 296	U A 256	A						
2								A	200	248	308	A 332	332	340	328	U A 300	292	232						
3								B	208	A 268	308	336	340	R 348	332	332	276	220						
4								B	204	268	U A 296	344	348	352	336	320	288	A 216						
5								B	212	U A 252	312	340	344	A 320	328	324	284	A 240						
6								B	224	284	324	340	348	348	340	320	A 280	U A 248						
7								A	220	284	308	344	R 348	340	340	324	U A 280	A						
8								A	224	276	316	332	344	R 344	336	A 312	U A 272	U A 188						
9								A	216	276	320	336	R 356	U A 320	U A 316	U A 296	284	228						
10								B	220	284	A 300	328	A	U A 316	344	324	292	220	B					
11								A	228	288	C	C	C	C	C	324	A	232	A					
12								B	216	C	324	340	336	A 340	U A 324	A	A	A	A					
13								A	212	280	324	A 344	352	R 348	344	324	A 284	U A 212	B					
14								A	220	284	320	344	340	336	336	A 308		228	B					
15								A	220	288	316	336	A 340	U A 328	A	324	292	256	A					
16								B	224	292	316	A 344	A 332	A 300	A	A	A	A	U A 224					
17								B	224	284	312	R 328	328	U A 332	A 332	332	300	A	B					
18								B	U A 220	272	304	B	340	340	U A 328	A	288	244	A					
19								B	220	276	312	328	336	U A 324	U A 336	U A 312	U A 280	220	A					
20								A	232	292	324	340	348	348	U A 324	312	276	220	A					
21								204	204	268	320	336	U A 348	A 340	348	324	288	224	184					
22								B	236	A 296	324	336	348	344	324	308	280	216	B					
23								B	216	292	300	R 336	A 336	A 328	U A 328	U A 316	284	232	A					
24								B	224	280	312	316	336	340	340	320	280	220	A					
25								B	240	288	312	340	R 352	352	A 328	A 308	U A 276	228	B					
26								B	244	296	320	340	340	336	340	A	284	A	A					
27								B	216	268	320	320	356	R 344	336	328	296	U A 216	B					
28								A	216	296	R 324	R 344	348	336	336	324	296	252	252					
29								A	252	288	320	R 344	332	U R 340	352	332	296	252	A					
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								1	29	28	28	27	27	28	26	25	25	23	3					
MED								204	220	284	316	336	340	340	336	320	284	228	224					
U Q									224	288	320	344	348	346	340	324	292	240	252					
L Q									216	274	308	332	336	U A 330	A 328	A 310	280	A 220	184					

FEB. 2016 foE (0.01MHz)

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IONOSPHERIC DATA STATION Yamagawa

FEB.2016 foEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0'N LON.130°37.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	J A 19	J A 30	J A 27	J A 22	20	E B 16	E B 16	E B 16	G	31	34	J A 46	42	J A 45	40	J A 41	J A 36	J A 38	J A 17	J A 16	E B 16	19	E B 16	18
2	E B 16	J A 21	J A 20	21	20	E B 16	E B 16	J A 23	22	28	37	37	39	J A 44	41	J A 34	30	26	E B 16	21	18	18	E B 16	E B 16
3	E B 16	E B 16	E B 16	21	E B 16	E B 16	E B 16	J A 26	22	J A 32	34	41	39	47	37	G 33	30	24	J A 19	22	J A 17	J A 16	17	20
4	20	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	J A 35	29	34	40	38	38	39	G 18	32	24	18	20	17	J A 18	E B 16	20
5	E B 16	22	18	18	E B 16	E B 16	E B 16	E B 16	24	J A 28	33	J A 45	38	37	35	33	30	J A 32	J A 24	J A 23	J A 16	E B 16		E B 16
6	E B 16	E B 16	E B 16	E B 16	19	18	E B 16	17	24	30	34	37	42	39	49	42	J A 44	J A 41	J A 31	J A 17	22	E B 16	E B 16	E B 16
7	E B 16	20	J A 50	J A 27	E B 16	J A 23	J A 23	J A 19	26	30	34	39	41	42	J A 60	J A 52	J A 36	J A 32	J A 74	J A 60	J A 41	J A 31	J A 17	E B 16
8	J A 18	18	18	E B 16	21	E B 16	J A 16	J A 18	G 22	36	36	J A 56	J A 68	J A 51	J A 48	J A 44	J A 40	J A 30	J A 27	27	J A 37	28	J A 26	E B 16
9	E B 16	20	J A 50	J A 75	J A 24	J A 52	J A 23	J A 16	23	30	G	37	38	41	40	33	30	G	J A 27	J A 38	J A 53	72	J A 51	J A 50
10	J A 42	J A 30	J A 23	J A 20	E B 16	E B 16	E B 16	E B 16	24	30	35	36	36	39	G 27	G	J A 29	24	E B 16	J A 16	J A 21	J A 19	J A 32	J A 29
11	J A 24	J A 19	E B 16	E B 16	E B 16	E B 16	J A 23	21	27	32	C	C	C	C	C	J A 37	J A 36	J A 30	J A 27	J A 27	J A 27	J A 16	J A 22	J A 29
12	J A 35	J A 17	J A 25	J A 23	21	21	20	E B 16	23	C	36	J A 69	J A 44	J A 43	J A 46	J A 56	J A 39	J A 38	J A 76	J A 34	J A 33	J A 31	J A 44	J A 45
13	J A 31	E B 16	21	19	17	E B 17	E B 16	22	24	30	39	42	40	39	42	J A 47	34	J A 36	J A 32	J A 46	J A 23	J A 43	J A 23	J A 30
14	J A 27	J A 21	20	J A 23	E B 16	E B 16	E B 16	J A 16	26	32	36	J A 50	J A 57	J A 50	36	34		24	E B 16	21	J A 23	23	J A 16	J A 22
15	J A 16	18	E B 16	E B 16	E B 16	17	E B 16	20	24	31	36	40	40	J A 48	J A 47	J A 36	J A 31	29	J A 24	J A 28	J A 21	E B 16	E B 16	J A 23
16	J A 44	J A 27	J A 35	J A 27	22	J A 16	22	E B 16	24	J A 32	35	36	35	J A 42	J A 47	J A 61	J A 46	J A 36	J A 32	J A 21	22	J A 16	E B 16	18
17	E B 16	E B 16	E B 16	18	20	20	E B 16	E B 16	24	31	36	39	42	J A 41	36	34	J A 30	J A 35	E B 16	E B 16	E B 16	20	18	E B 16
18	18	E B 16	E B 16	18	19	J A 16	20	E B 16	27	30	39	38	41	42	J A 44	J A 48	30	G 17	22	21	J A 19	20	21	J A 18
19	21	J A 26	E B 16	20	E B 16	E B 16	E B 16	E B 17	24	G	G	35	39	J A 39	38	J A 40	30	J A 26	J A 28	J A 16	J A 23	J A 20	17	20
20	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	20	22	25	30	34	36	39	38	35	35	32	27	J A 20	J A 20	J A 22	E B 16	J A 26	E B 16
21	E B 16	E B 16	E B 16	E B 16	J A 45	J A 36	J A 23	23	22	28	37	35	J A 41	38	37	J A 35	J A 43	23	20	E B 16	J A 22	E B 16	J A 29	E B 16
22	J A 28	22	E B 16	E B 16	E B 16	20	E B 16	E B 16	26	33	36	39	42	41	36	G 28	30	24	E B 16	E B 16	J A 16	E B 16	E B 16	E B 16
23	E B 16	J A 18	E B 16	E B 16	E B 16	E B 16	18	E B 16	23	30	32	39	40	J A 40	J A 45	J A 47	J A 35	J A 24	J A 20	E B 16	18	E B 16	J A 16	E B 16
24	E B 16	E B 16	E B 16	20	E B 16	E B 16	21	E B 16	24	G	G	G	G	36	36	34	G	23	J A 22	J A 19	20	E B 16	E B 16	E B 16
25	E B 16	18	J A 19	22	J A 19	27	E B 16	18	G 18	32	G	36	39	38	36	34	30	24	E B 16	18	22	E B 16	E B 16	E B 16
26	E B 16	E B 16	E B 16	E B 16	E B 16	18	E B 16	E B 18	29	32	34	36	G 18	G 33	40	J A 39	30	J A 66	J A 28	J A 36	J A 72	J A 108	J A 66	E B 16
27	E B 16	J A 27	E B 16	17	E B 16	E B 16	E B 16	E B 16	23	29	35	G 26	44	J A 50	J A 58	42	J A 50	J A 33	22	J A 26	J A 64	J A 20	J A 26	20
28	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	J A 20	23	34	36	37	G 27	G 26	G	G 25	J A 32	G	J A 31	J A 28	J A 20	J A 30	J A 29	J A 30
29	J A 34	18	19	E B 16	19	19	17	J A 16	G	G	39	39	G	37	38	36	31	26	18	E B 16	E B 16	E B 16	E B 16	E B 16
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	29	29	29	29	28	28	28	28	28	28	29	28	29	29	29	29	29	28	29
MED	E B 16	18	E B 16	18	E B 16	E B 16	E B 16	16	24	30	35	38	40	40	40	36	32	26	J A 22	J A 21	J A 22	18	17	18
U Q	J A 26	J A 22	J A 20	J A 22	20	20	20	20	26	32	36	J A 40	42	J A 44	J A 46	J A 43	J A 36	J A 34	J A 28	J A 28	J A 25	J A 26	J A 26	J A 22
L Q	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	22	29	34	36	38	38	36	G 34	30	24	E B 18	E B 16	18	E B 16	E B 16	E B 16

IONOSPHERIC DATA STATION Yamagawa

FEB.2016 fbEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0'N LON.130°37.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E B 16	17	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	G	G 27	30	35	38	39	35	34	34	29	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16
2	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	21	26	32	34	36	36	39	32	30	G 22	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16
3	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	21	29	34	40	38	39	36	G 33	28	G 22	18	E B 16	E B 16	E B 16	E B 16	E B 16
4	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	21	29	31	40	37	38	38	G 18	32	23	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16
5	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	23	27	32	39	37	35	34	33	29	24	18	E B 16	16	E B 16		E B 16
6	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	24	29	34	35	41	38	48	39	44	G 23	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16
7	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	23	30	34	39	41	37	44	40	35	25	E B 16	A A 60	38	24	E B 16	E B 16
8	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	G 21	36	36	55	66	50	46	36	31	26	19	17	24	18	21	E B 16
9	E B 16	E B 16	23	E B 16	E B 16	16	E B 16	E B 16	23	28	G	36	38	38	36	33	29	G	E B 16	20	20	26	32	20
10	31	17	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	23	29	34	35	36	36	G 27	G	G 28	22	E B 16	E B 16	18	E B 16	E B 16	22
11	18	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	24	30	C	C	C	C	C	34	31	G 23	19	20	20	E B 16	E B 16	E B 16
12	20	E B 16	20	E B 16	E B 16	E B 16	E B 16	E B 16	23	C	36	37	35	36	40	47	29	31	43	E B 16	E B 16	E B 16	23	38
13	E B 16	E B 16	16	E B 16	E B 16	E B 17	E B 16	16	23	G 28	36	40	39	38	41	44	34	29	24	19	E B 16	19	E B 16	20
14	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	25	31	35	46	53	46	36	32		23	E B 16	E B 16	21	17	E B 16	E B 16
15	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	24	30	35	40	39	38	36	G 32	30	G 24	20	25	E B 16	E B 16	E B 16	E B 16
16	18	E B 16	22	17	E B 16	E B 16	E B 16	E B 16	23	30	32	U Y 36	U Y 35	37	38	41	33	23	G 19	16	E B 16	E B 16	E B 16	E B 16
17	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	24	30	35	37	42	37	36	G 33	G 30	25	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16
18	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	23	30	38	37	38	40	44	35	30	G 17	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16
19	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 17	23	G	G	35	36	37	37	34	30	24	19	E B 16	E B 16	E B 16	E B 16	E B 16
20	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	17	25	30	34	35	37	37	35	35	30	26	E B 16	E B 16	18	E B 16	E B 16	E B 16
21	E B 16	E B 16	E B 16	E B 16	22	20	16	E B 16	22	28	36	35	36	36	36	G 32	31	23	19	E B 16	19	E B 16	E B 16	E B 16
22	23	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	25	32	36	36	40	40	35	G 28	30	24	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16
23	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	22	30	31	38	38	37	36	34	30	G 23	17	E B 16	E B 16	E B 16	E B 16	E B 16
24	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	24	G	G	G	G	36	36	34	G	23	17	E B 16	E B 16	E B 16	E B 16	E B 16
25	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	17	G 18	32	G	36	39	37	36	33	28	24	E B 16	E B 16	20	E B 16	E B 16	E B 16
26	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 18	29	32	34	36	G 18	G 33	36	35	29	64	20	21	32	A A 108	A A 66	E B 16
27	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	23	29	34	G 26	41	48	48	42	36	28	16	E B 16	E B 16	E B 16	E B 16	E B 16
28	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	22	34	36	36	G 27	G 26	G	G 25	G 29	G	G 24	16	E B 16	18	26	22
29	20	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	G	G	38	38	G	U Y 37	37	35	31	26	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	29	29	29	29	28	28	28	28	28	28	29	28	29	29	29	29	29	28	29
MED	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	23	30	34	36	38	37	36	34	30	G	16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16
U Q	16	E B 16	16	E B 16	E B 16	E B 16	E B 16	E B 16	24	30	36	39	40	38	40	36	32	26	19	16	20	16	16	16
L Q	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	22	G	32	35	36	36	36	G 32	29	G 23	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16

FEB.2016 fbEs (0.1MHz)

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IONOSPHERIC DATA STATION Yamagawa

FEB.2016 fmin (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0'N LON.130°37.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	16	16	16	16	16	16	16	16	16	16	16	16	16	17	19	16	16	16	16	16	16	16	16	16
2	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	16	16	16	16	16	16	16	16	16
3	16	16	16	16	16	16	16	16	14	16	16	16	16	21	16	16	16	16	16	16	16	16	16	16
4	16	16	16	16	16	16	16	16	16	15	16	16	16	18	17	16	16	16	16	16	16	16	16	16
5	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	14	14	16	16	16	16	16		16
6	16	16	16	16	16	16	16	16	14	16	17	16	18	18	16	18	16	16	16	16	16	16	16	16
7	16	16	16	16	16	16	16	16	16	16	18	20	18	22	20	18	16	16	16	16	16	16	16	16
8	16	16	16	16	16	16	16	16	16	17	20	23	24	23	24	20	16	16	15	16	16	16	16	16
9	16	16	16	16	16	16	16	16	16	16	16	19	19	19	20	19	16	16	15	16	16	16	16	16
10	16	16	16	16	16	16	16	16	16	16	16	19	16	16	16	16	16	16	16	16	16	16	16	16
11	16	16	16	16	16	16	16	16	16	16	C	C	C	C	C	16	16	14	16	16	16	16	16	16
12	16	16	16	16	16	16	16	16	16	C	16	17	16	16	16	16	16	16	16	16	16	16	16	16
13	16	16	16	16	16	17	16	16	16	16	16	16	17	20	20	19	16	16	16	16	16	16	16	16
14	16	16	16	16	16	16	16	16	16	16	16	16	16	18	20	19		16	16	16	16	16	16	16
15	16	16	16	16	16	16	16	16	14	16	16	16	19	18	19	20	17	16	16	16	16	16	16	16
16	16	16	16	16	16	16	16	16	16	16	16	19	25	19	19	17	16	16	16	16	16	16	16	16
17	16	16	16	16	16	16	16	16	16	16	16	16	16	17	25	16	16	16	16	16	16	16	16	16
18	16	16	16	16	16	16	16	16	16	16	16	35	16	20	16	16	16	16	16	16	16	16	16	16
19	16	16	16	16	16	16	16	17	16	16	16	17	18	19	20	17	16	16	16	16	16	16	16	16
20	16	16	16	16	16	16	16	16	16	16	17	19	19	16	16	16	18	14	16	16	16	16	16	16
21	16	16	16	16	16	16	16	16	16	16	16	18	19	18	16	17	16	16	16	16	16	16	16	16
22	16	16	16	16	16	16	16	16	16	16	16	16	20	17	18	20	16	16	16	16	16	16	16	16
23	16	16	16	16	16	16	16	16	16	16	16	16	19	19	16	16	16	16	16	16	16	16	16	16
24	16	16	16	16	16	16	16	16	16	16	16	17	20	19	19	16	16	16	12	16	16	16	16	16
25	16	16	16	16	16	16	16	16	16	16	16	16	19	16	18	17	16	16	16	16	18	16	16	16
26	16	16	16	16	16	16	16	18	16	16	19	16	16	20	20	16	16	16	16	16	16	16	16	16
27	16	16	16	16	16	16	16	16	16	16	16	19	19	21	21	21	16	16	16	16	16	16	16	16
28	16	16	16	16	16	16	16	16	16	16	17	18	20	21	17	17	17	16	15	16	16	16	16	16
29	16	16	16	16	16	16	16	16	16	16	18	19	18	20	16	16	16	16	16	16	16	16	16	16
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	29	29	29	29	28	28	28	28	28	28	29	28	29	29	29	29	29	28	29
MED	16	16	16	16	16	16	16	16	16	16	16	16	18	18	18	16	16	16	16	16	16	16	16	16
U Q	16	16	16	16	16	16	16	16	16	16	16	19	19	20	20	18	16	16	16	16	16	16	16	16
L Q	16	16	16	16	16	16	16	16	16	16	16	16	16	17	16	16	16	16	16	16	16	16	16	16

IONOSPHERIC DATA STATION Yamagawa

FEB.2016 M(3000)F2 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0'N LON.130°37.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	U R 329	318	300	289	298	306	352	343	345	337	341	353	360	307	341	343	361	365	338	352	384	352	300	292
2	282	299	320	322	351	340	308	343	368	358	352	361	338	355	346	356	369	369	375	289	319	334	315	306
3	317	340	298	314	334	358	310	360	378	365	334	346	340	330	348	339	351	349	357	296	309	331	321	319
4	309	298	307	311	V 319	341	327	354	372	369	363	361	344	346	359	358	338	354	356	R 351	319	325	298	299
5	310	306	312	F 306	F 346	401	F 324	332	362	364	346	354	334	337	R 327	344	336	342	365	330	331	337		303
6	313	277	314	V 341	357	298	304	349	366	362	358	343	345	342	339	350	357	357	361	324	338	317	314	314
7	312	F 310	305	292	F 327	349	338	329	360	365	328	332	342	336	339	350	341	342	R 370	A	316	315	327	288
8	R 296	321	336	336	299	287	313	347	371	330	338	341	334	329	339	330	350	352	335	321	353	302	299	279
9	279	312	287	317	394	293	287	327	356	353	327	356	340	346	360	344	349	347	337	316	333	296	332	F 304
10	308	318	344	310	321	290	321	350	367	341	338	334	342	R 323	334	343	343	349	359	334	320	331	310	320
11	293	308	341	359	312	319	F 292	323	350	342	C	C	C	C	C	348	348	363	347	313	307	341	298	322
12	288	311	341	352	306	299	316	343	348	C	342	338	343	332	338	323	332	343	344	312	308	279	297	319
13	316	318	344	377	274	282	303	357	374	347	327	337	333	323	335	332	339	346	331	322	333	348	277	296
14	317	311	308	305	310	307	306	366	381	369	338	359	339	323	335	338		326	350	351	324	320	308	322
15	336	301	293	292	283	287	282	344	359	367	358	342	344	332	328	342	351	347	345	328	330	326	313	306
16	297	294	318	322	308	316	308	330	355	343	329	363	350	R 332	333	320	321	324	320	349	H 267	297	322	350
17	280	301	336	336	329	272	317	365	342	335	329	343	356	325	328	342	337	344	341	327	349	343	302	283
18	292	286	316	355	371	294	307	310	359	327	336	321	336	339	339	314	348	358	354	330	309	309	337	313
19	275	300	311	310	354	385	291	340	360	346	338	326	342	R 352	344	341	R 336	351	350	351	298	313	328	303
20	302	297	297	309	366	379	302	330	360	363	349	340	340	349	351	339	339	356	358	404	310	331	320	314
21	303	303	299	318	332	391	311	349	366	355	343	342	R 331	325	335	352	349	376	371	331	322	343	315	298
22	308	309	315	336	382	321	309	356	371	359	351	344	337	338	341	350	338	358	376	362	355	343	305	333
23	311	303	295	297	339	403	330	365	380	354	336	R 328	317	332	335	353	374	342	366	351	321	349	322	330
24	283	F 270	F 288	F 304	341	386	390	368	355	349	345	354	323	347	342	339	366	353	346	335	323	355	361	277
25	301	288	306	329	347	328	352	350	362	342	360	332	325	347	343	344	341	354	350	325	338	354	311	304
26	297	296	305	306	326	310	336	383	373	351	357	338	332	R 343	342	350	341	330	357	352	333	A	A	327
27	303	309	304	303	305	326	325	380	385	352	366	342	339	328	336	352	329	354	355	336	322	317	306	311
28	311	312	305	307	331	356	373	372	369	336	336	365	336	343	346	350	350	352	366	367	339	329	313	299
29	295	285	289	319	361	395	362	368	386	353	347	341	330	339	337	350	334	351	353	364	345	314	316	314
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	29	29	29	29	28	28	28	28	28	28	29	28	29	29	28	29	28	27	29
MED	303	303	307	314	331	321	313	349	366	352	342	342	339	336	339	344	342	351	354	332	323	330	313	306
U Q	312	312	319	336	352	368	333	365	372	362	352	354	342	344	344	350	350	356	363	351	338	343	322	320
L Q	292	296	298	306	309	296	305	336	358	342	336	338	334	328	335	339	338	344	344	323	313	314	302	298

FEB.2016 M(3000)F2 (0.01)

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IONOSPHERIC DATA STATION Yamagawa

FEB.2016 M(3000)F1 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0'N LON.130°37.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									428	U L 417	L	U L 379	U L 407	L	U L 364	U L 390	L							
2									466	557	L	L 397	L	U L 391	L	L	L	L 419						
3									441	U L 450	U L 459	L 398	L 400	L	L 388	U L 401	U L 383	437						
4									H 424	L	L	L	L	L	L	L 422	U L 395	496						
5									465	492	L	L	L	L	L	L	L							
6									484	478	L	L	L	U L 368	L	L	A	L						
7										446	L	L	L	L	L	L	L							
8									462		L	A	A	L	L	L	L	L						
9									462	L 435	L	L	L	L	U L 397	U L 404	U L 415	L						
10									435	L	L	U L 381	L	U L 377	L	L	L	431						
11									445	L	C	C	C	C	C	U L 391	L							
12									448	C	L	L	U L 381	U L 376	L	A	L	L						
13									484	522	L	L	L	L	L	L	U L 406							
14									524	L	L	L	A	L	U L 387	L		415	454					
15								524	511	L	L	L	L	L	L	L	L							
16									435	L	L	U L 388	L	L	L	L	L	404						
17									507	L	L	L	L	L	U L 395	L	L	L						
18									484	L	L	L	L	L	U L 376	L	L		451					
19									459	U L 437	L	L	U L 371	U L 381	U L 387	L	L	L						
20								A	442	L	L	U L 377	L	U L 397	L	L	L	L	476					
21								476	472	446	L	L	U L 376	L	U L 373	L	U L 399	434						
22								475	453	L	L	U L 386	U L 380	L 384	U L 385	U L 378	L	426	540					
23								467	512	U L 430	L	L	U L 371	U L 368	L 370	U L 381	L	L						
24								437	U L 430	436	U L 392	H 383	U L 358	H 382	384	U L 387	L	L	428					
25								431	L	U L 396	L	L	405	L 368	386	U L 402	U L 398	428	420					
26									463	H 465	L	L	H 369	U L 371	L	L	L	A						
27								415	L	H 460	L	L	L	A	A	L	L	L	471					
28								503	517	L	L	U L 379	U L 376	404	H 396	L	L	L						
29								L	L	U L 439	L	U L 387	U L 376	U L 380	U L 370	U L 378	L	L	445					
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								8	25	16	2	10	12	13	14	10	6	9	8					
MED								471	462	446	U L 426	U L 384	U L 376	U L 380	U L 386	U L 390	U L 398	428	452					
U Q								490	484	472		L 388	L 390	L 388	L 388	U L 402	U L 406	436	474					
L Q								434	442	U L 436		U L 379	U L 371	U L 370	U L 373	U L 381	U L 395	417	436					

FEB.2016 M(3000)F1 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Yamagawa

FEB.2016 h'F2 (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0'N LON.130°37.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									214	226	252	242	218	H 256	264	238	228							
2									214	208	228	242	254	236	256	224	228	218						
3									H 204	230	222	256	254	266	240	240	228	216						
4									204	214	226	234	252	250	238	226	240	220						
5									214	H 214	238	238	260	252	254	240	236							
6									200	210	244	262	250	260	260	246	222	214						
7										H 222	240	250	262	256	252	236	222							
8									214		262	248	260	268	256	262	232	222						
9									220	216	256	236	248	250	232	226	226	224						
10									218	222	248	256	240	262	252	238	234	222						
11									222	240	C	C	C	C	C	230	232							
12									222	C	254	254	250	268	246	262	250	234						
13									210	220	264	256	254	264	250	246	234							
14									210	212	248	238	248	278	256	242		224	212					
15								224	216	226	234	232	256	266	256	238	220							
16									218	230	258	228	232	250	244	242	234	224						
17									220	250	252	244	236	234	252	236	242	224						
18									224	218	248	274	252	228	266	284	232		198					
19									210	214	240	262	252	248	240	246	224	214						
20								228	218	214	242	258	236	246	234	238	232	208	208					
21								218	216	214	250	244	258	264	254	242	234	204						
22								216	208	228	246	246	266	270	248	248	250	226	204					
23								206	202	216	268	268	270	260	258	234	214	218						
24								200	212	H 218	262	244	280	246	254	246	220	226	214					
25								222	220	242	242	248	260	250	252	240	228	224	200					
26									210	212	246	272	270	256	250	234	238	288						
27								206	204	210	228	256	262	268	248	244	266	220	210					
28								188	H 184	282	266	244	260	246	242	236	230	238						
29								206	200	220	254	252	268	256	256	242	240	218	214					
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								10	28	27	28	28	28	28	28	29	28	22	8					
MED								211	214	218	248	248	254	256	252	240	232	222	209					
U Q								222	218	228	255	256	261	265	256	246	237	224	213					
L Q								206	206	214	240	242	249	249	245	236	227	218	202					

FEB.2016 h'F2 (KM)

IONOSPHERIC DATA STATION Yamagawa

FEB.2016 h'F (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0'N LON.130°37.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	264	260	254	302	292	268	218	214	196	192	H 186	226	206	198	220	214	A	220	214	216	190	216	264	302
2	316	296	262	252	210	232	296	226	H 168	128	H 196	176	196	216	204	H 194	218	170	196	H 244	248	212	244	264
3	248	228	274	254	242	206	282	212	196	176	176	206	H 198	208	214	204	196	204	204	204	220	224	234	234
4	270	286	272	272	266	214	240	214	H 156	186	H 178	230	H 188	220	214	190	194	158	210	212	220	220	266	276
5	264	246	274	282	220	188	246	236	176	168	H 184	214	194	184	H 182	204	212	218	204	196	222	224		272
6	262	292	270	236	212	234	280	226	166	178	198	H 178	228	212	A	224	A	A	194	204	218	228	250	256
7	250	270	248	276	228	214	216	236	200	198	202	208	192	198	A 254	232	210	220	196	A	280	238	218	290
8	284	240	222	238	258	264	248	220	H 168	224	224	A	A	A	A	212	218	218	218	226	212	226	310	318
9	320	268	356	258	192	350	286	244	186	196	H 196	200	214	206	H 210	210	202	216	204	222	240	298	262	272
10	306	248	220	230	242	286	244	218	212	210	216	196	188	196	210	204	204	188	204	206	220	224	262	276
11	312	268	220	210	212	246	298	250	210	H 182	C	C	C	C	C	204	208	220	200	240	270	220	258	256
12	316	258	234	220	250	270	254	228	182	C	234	232	210	210	230	A	210	A	234	232	254	260	278	278
13	238	240	242	202	272	320	282	208	164	146	218	228	216	206	222	A	220	222	214	224	224	204	290	292
14	252	240	258	268	246	248	270	216	146	206	202	A	A	254	196	204		202	184	204	228	230	246	230
15	226	272	288	304	296	296	316	132	148	216	204	212	H 198	196	206	210	212	206	216	228	214	226	242	268
16	288	286	266	252	268	266	260	236	206	206	H 178	218	218	204	202	238	224	222	228	214	202	266	224	202
17	280	304	236	238	248	346	256	204	162	216	234	216	A 244	212	202	218	218	220	214	222	198	222	260	330
18	296	314	252	204	200	364	288	250	168	214	218	214	220	214	E A 270	204	224	208	178	220	220	250	234	252
19	324	298	264	254	226	194	314	226	192	196	H 204	212	202	210	208	218	206	212	188	190	248	244	232	252
20	278	294	294	274	220	200	248	A	200	214	H 206	208	H 198	184	H 208	218	218	202	178	180	248	224	234	256
21	270	284	284	250	258	194	280	174	H 130	180	222	212	206	208	222	H 196	202	202	198	192	226	210	214	288
22	318	284	272	244	202	234	280	174	202	216	224	218	218	194	202	198	212	204	130	196	196	222	250	228
23	270	278	282	300	232	192	242	176	128	188	H 138	218	218	210	210	202	204	196	202	186	210	220	234	248
24	274	Q 316	308	290	244	198	190	174	190	184	H 188	H 180	H 182	H 176	210	214	214	206	214	196	212	202	224	246
25	270	292	268	242	218	226	210	196	206	188	H 190	222	206	206	206	H 212	202	H 202	E B 214	204	226	196	250	258
26	288	302	284	262	254	270	232	204	188	H 176	H 162	186	H 176	218	H 204	202	196	A	210	224	260		A	A 244
27	270	270	270	286	276	248	236	204	192	180	206	198	230	A	A	E A 252	224	210	172	192	196	230	278	270
28	266	258	268	268	240	216	206	150	142	208	212	H 206	204	188	H 180	H 192	210	200	208	198	200	240	302	300
29	306	310	300	248	212	190	214	E B	196	176	232	210	184	198	224	212	208	218	192	188	194	256	236	264
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	29	29	27	29	28	28	26	26	26	25	27	26	26	29	28	29	28	27	29
MED	274	278	268	254	242	234	254	214	186	190	203	212	205	206	209	207	210	207	204	205	220	224	250	264
U Q	306	295	283	275	258	270	282	228	198	209	218	218	218	212	221	218	218	218	214	223	244	239	264	283
L Q	264	258	250	238	215	203	234	196	163	179	H 187	200	194	196	203	202	204	202	193	196	206	220	234	250

FEB.2016 h'F (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Yamagawa

FEB.2016 h'E (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0'N LON.130°37.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								B	110	96	94	94	98	98	100	100	98	A						
2								A	118	100	100	100	100	100	100	100	100	100						
3								B	106	98	142	106	116	106	100	100	100	104						
4								B	104	98	98	96	96	102	100	100	100	102						
5								B	102	98	96	96	96	94	94	108	106	106						
6								B	106	98	100	100	100	100	100	102	102	106						
7								A	108	100	100	100	98	98	98	102	100	A						
8								A	112	102	102	104	104	102	102	102	102	90						
9								A	106	102	102	102	100	100	100	100	102	102						
10								B	102	102	100	100	100	100	106	102	106	106	B					
11								A	106	100	C	C	C	C	C	98	A	102	A					
12								B	104	C	94	112	96	98	98	A	A	A	A					
13								A	108	98	96	96	100	100	100	100	98	102	B					
14								A	102	106	106	98	98	98	98	102		108	B					
15								A	104	96	98	96	98	98	94	104	106	104	A					
16								B	104	98	96	98	104	98	A	A	A	A	A					
17								B	104	96	98	96	H 96	94	102	112	114	A	B					
18								B	104	104	96	B	96	102	102	A	106	102	A					
19								B	104	100	98	98	98	98	100	100	100	100	A					
20								A	112	106	102	98	98	100	100	100	112	112	A					
21								90	100	110	100	100	98	98	112	100	108	A	154					
22								B	106	100	100	96	98	94	96	108	100	100	B					
23								B	102	114	102	100	98	98	98	98	98	106	A					
24								B	100	100	98	98	98	104	98	98	100	100	A					
25								B	108	96	98	96	98	A	98	98	98	112	B					
26								B	104	100	100	96	98	110	108	A	104	A	A					
27								B	98	96	H 96	102	A	102	102	102	102	100	B					
28								A	106	98	A	98	110	110	98	104	104	104	A					
29								A	104	102	98	98	98	98	A	98	98	112	A					
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								1	29	28	27	27	27	27	26	25	25	22	1					
MED								90	104	100	98	98	98	100	100	100	102	103	154					
U Q									107	102	100	100	100	102	102	102	106	106						
L Q									103	98	96	96	98	98	98	100	100	100						

FEB.2016 h'E (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Yamagawa

FEB.2016 h'Es (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0'N LON.130°37.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	124	90	90	90	96	B	B	B	G	130	124	108	108	106	106	102	102	96	104	98	B	96	B	162
2	B	96	96	96	92	B	B	92	156	110	120	120	110	112	108	106	174	128	B	154	134	108	B	B
3	B	B	B	92	B	B	B	110	152	112	158	128	124	126	148	104	130	136	168	134	122	104	126	92
4	104	B	B	B	B	B	B	B	100	164	100	168	148	140	110	94	182	128	84	84	84	102	B	102
5	B	96	104	104	B	B	B	B	170	104	158	114	116	106	106	188	178	84	120	94	88	B	B
6	B	B	B	B	92	98	B	94	156	150	152	144	118	122	108	108	106	108	106	104	112	B	B	B
7	B	108	116	152	B	106	92	98	126	184	138	124	114	112	102	102	104	96	104	88	86	86	86	B
8	86	88	86	B	104	B	108	88	144	154	138	106	104	104	102	106	102	98	104	130	92	110	84	B
9	B	114	104	100	122	96	126	90	154	134	G	114	176	108	110	102	128	G	100	88	88	104	90	90
10	90	90	90	90	B	B	B	B	118	118	106	110	108	102	96	G	98	140	B	96	88	110	92	92
11	88	94	B	B	B	B	100	90	148	160	C	C	C	C	C	108	106	104	88	86	86	92	92	92
12	94	98	92	94	94	106	98	B	146	C	138	100	106	106	102	94	98	92	92	92	114	96	84	82
13	90	B	88	96	84	B	B	100	140	144	134	120	114	114	110	104	104	102	132	98	132	98	146	94
14	94	98	96	108	B	B	B	100	140	142	126	108	104	104	112	104		144	B	138	102	104	102	100
15	88	90	B	B	B	104	B	96	144	148	136	120	106	100	102	102	102	138	98	96	96	B	B	114
16	108	100	90	90	94	90	96	B	122	114	112	130	112	98	94	88	88	88	86	86	92	84	B	88
17	B	B	B	94	92	98	B	B	154	142	122	114	106	106	114	100	98	94	B	B	B	118	92	B
18	114	B	B	96	98	126	96	B	124	138	114	122	118	110	106	94	132	90	90	88	84	88	100	94
19	88	130	B	96	B	B	B	B	150	G	G	126	108	104	112	108	104	102	92	96	102	104	122	130
20	B	B	B	B	B	B	100	98	180	196	170	128	112	112	112	162	98	132	92	86	86	B	112	B
21	B	B	B	B	96	94	96	100	122	124	144	136	114	110	136	106	92	100	178	B	84	B	100	B
22	102	88	B	B	B	96	B	B	178	160	144	108	112	102	102	96	188	132	B	B	88	B	B	B
23	B	92	B	B	B	B	102	B	126	180	130	112	106	104	104	104	106	96	96	B	90	B	114	B
24	B	B	B	108	B	B	98	B	164	G	G	G	G	120	170	192	G	152	86	94	88	B	B	B
25	B	100	96	92	92	92	B	138	94	190	G	162	176	172	108	108	102	186	B	100	96	B	B	B
26	B	B	B	B	B	96	B	B	194	170	170	174	78	96	96	88	132	100	122	98	96	96	92	B
27	B	108	B	100	B	B	B	B	158	148	154	94	122	108	106	108	102	102	116	96	96	90	88	86
28	B	B	B	B	B	B	B	106	120	162	180	130	98	94	G	94	94	G	92	84	90	96	94	92
29	90	92	84	B	98	98	100	94	G	G	176	170	G	130	156	132	120	120	96	B	B	B	B	B
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	14	18	13	17	13	13	12	15	27	25	24	27	26	28	27	28	27	27	23	24	26	19	18	15
MED	92	96	92	96	94	98	99	98	146	148	138	120	112	107	108	104	104	102	98	96	91	98	93	92
U Q	104	100	100	102	98	105	101	100	156	163	156	130	118	113	112	108	130	132	116	99	102	104	112	102
L Q	88	90	89	92	92	95	96	92	124	127	123	110	106	104	102	98	98	96	92	88	88	92	90	90

FEB.2016 h'Es (KM)

IONOSPHERIC DATA STATION Yamagawa

FEB.2016 TYPES OF Es 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0'N LON.130°37.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	FF 11	FQ 21	FQ 21	F 2	F 1					C 1	C 1	C 1	C 2	C 2	C 1	C 2	C 2	L 4	F 1	F 2		F 1		F 1
2		FQ 21	FQ 21	FF 11	F 1			LC 11	HC 11	C 1	CL 11	C 1	C 1	C 1	C 2	C 2	H 1	C 2		F 1	F 1	F 1		
3				F 1				C 1	H 1	C 2	HL 11	CL 11	CL 11	CL 11	HL 11	C 1	C 1	H 1	FF 11	F 1	F 1	FF 11	F 1	F 2
4	F 1								LH 11	H 1	C 1	H 1	H 1	HL 11	C 2	L 1	H 1	CL 11	F 1	F 1	F 1	F 2		F 2
5		F 2	F 1	F 1					H 2	C 1	H 1	C 2	C 1	C 1	C 1	HL 12	HL 12	LH 31	FFF 11	FF 12	F 1			
6					F 1	F 1		L 1	H 1	H 1	H 1	HL 11	C 2	C 1	C 2	C 2	C 2	CQ 11	FF 21	F 1	F 1			
7		F 1	FF 23	FFF 11		F 1	F 3	L 2	C 2	H 1	H 1	C 1	C 1	C 1	CH 21	C 2	C 2	L 2	F 1	F 5	F 5	F 5	FF 21	
8	F 2	F 1	F 1		F 1		F 1	L 1	H 1	H 1	HL 11	C 3	C 2	C 2	C 3	C 1	CL 11	L 2	FF 22	FF 14	FF 41	FF 22	F 2	
9		F 1	F 4	FF 41	FF 12	F 3	FF 12	L 2	H 1	H 1		C 1	H 1	C 1	C 1	C 1	C 1		FF 11	FQ 31	F 5	FF 33	F 6	F 3
10	FQ 31	FQF 21	FF 11	FF 11					C 1	C 1	C 1	C 1	CL 11	C 2	L 1		L 1	H 1		F 1	F 4	FF 11	FF 21	F 2
11	FF 21	F 1					F 2	L 1	H 1	H 1						C 2	CL 22	CL 22	LC 31	F 4	F 4	F 2	F 3	FF 21
12	FF 41	F 1	F 4	FF 11	F 1	FF 11	F 1		H 1		H 1	LC 11	C 1	C 1	C 2	L 4	L 3	L 5	LQ 41	F 3	FF 14	FF 21	F 3	FF 41
13	F 2		F 1	F 1	F 1			L 1	H 1	H 1	H 1	C 1	C 1	C 1	C 1	C 2	C 2	C 3	HCQ 31	FQ 31	FF 11	F 2	FF 11	FQ 31
14	F 2	F 1	F 1	FF 11				L 1	H 2	HL 11	CL 11	C 2	C 2	C 2	C 1	C 1		H 1		F 1	F 4	F 2	F 2	F 3
15	F 1	F 1				F 1		L 1	H 1	H 1	H 1	C 1	C 2	C 1	C 1	C 1	C 1	H 1	L 2	F 2	F 2			F 2
16	FF 12	F 1	F 3	F 3	F 1	F 1	F 1		C 1	C 1	C 1	C 1	C 1	L 1	L 2	L 3	L 3	L 2	LC 21	F 1	F 1	F 1		F 1
17				F 1	F 1	F 1			H 1	H 1	C 1	C 1	C 2	C 1	C 1	L 1	L 1	L 2				FF 11	F 1	
18	F 1			F 1	F 1	F 1	F 1		C 2	H 1	C 1	C 1	C 1	C 1	C 1	LC 21	HL 11	L 1	L 1	F 1	F 1	F 1	F 1	F 3
19	F 2	FFF 11		F 1					H 1			C 1	C 1	C 1	C 1	C 1	C 2	C 1	L 3	F 1	FF 21	FF 12	F 1	FF 11
20							F 1	L 1	H 1	H 1	H 1	C 1	C 1	C 1	C 1	H 1	L 1	HL 22	L 2	F 1	FF 21		F 1	
21					FQ 31	FQ 21	FF 11	C 1	C 1	CL 11	H 1	H 1	C 1	C 1	HL 11	C 1	L 2	L 2	H 1		F 3		F 2	
22	FF 42	F 1				F 1			H 1	H 2	H 1	C 1	C 1	C 1	C 1	L 1	H 1	H 1			F 1			
23		F 2					F 1		C 1	HL 11	C 1	C 1	C 1	C 1	C 1	C 2	C 1	L 2	L 1		F 1		F 1	
24				F 1			F 1		H 1					CL 11	H 1	HL 11		H 1	L 3	F 1	F 1			
25		F 1	F 2	F 2	FQ 21	FQ 21		H 1	L 1	H 1		H 1	H 1	HC 11	C 1	C 1	C 1	HL 12		F 1	F 1			
26						F 1			H 1	H 1	H 1	H 1	L 1	L 1	L 2	L 3	HL 11	CL 56	CL 13	F 5	F 3	F 6	F 4	
27		F 1		F 1					H 1	H 1	H 1	L 1	CC 11	C 2	C 2	C 1	C 1	C 3	C 1	F 1	F 2	F 2	FQ 21	F 1
28								C 1	C 1	H 1	HL 11	C 1	L 1	L 1		L 1	L 1		L 2	F 3	FF 11	F 3	F 6	F 5
29	FF 42	F 1	FF 11		F 1	F 1	F 1	L 1			H 1	H 1		C 1	HC 11	H 1	C 1	C 2	L 1					
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
U Q																								
L Q																								

FEB.2016 TYPES OF Es

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Okinawa

FEB.2016 fxI (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0'N LON.128°09.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	X 45	X 48	X 37	X 38	X 39	X 41	X 39													X 74	X 58	X 46	X 36	X 33
2	X 35	X 42	51	47	X 55	X 36	26													X 59	X 60	X 71	X 61	X 61
3	X 64	X 56	X 41	X 40	X 44	X 37	X 34				C	C	C	C	C	C	C			X 106	X 91	X 74	X 68	X 48
4	X 40	X 38	X 39	X 38	X 43	X 41	X 33				C									X 76	X 59	X 61	X 49	X 51
5	X 52	X 50	X 47	X 44	X 43	X 35	X 37													X 107	X 80	X 78	X 58	X 48
6	X 46	X 42	X 40	X 47	X 47	X 33	X 34												C	X 93	X 78	X 70	X 58	X 45
7	X 43	X 40	X 41	X 42	X 53	X 45	X 42													X 112	X 93	X 90	X 68	X 62
8	X 58	X 59	X 50	X 40	X 38	X 39	X 34													X 91	X 93	X 77	X 48	X 40
9	X 38	X 39	43	X 48	X 50	X 26	X 29					C				C				X 70	X 71	X 72	X 77	66
10	62	59	49	39	X 34	X 34	X 38													X 69	X 66	X 64	X 54	X 42
11	X 38	X 38	X 40	X 40	X 33	X 29	X 30													X 72	X 76	X 86	X 71	X 66
12	X 55	X 57	X 52	X 42	X 42	X 38	X 34													X 73	X 68	X 66	X 65	X 70
13	X 56	X 46	X 42	X 40	X 32	X 33	X 34													X 87	X 84	X 73	X 58	X 52
14	X 55	X 55	X 51	X 49	X 46	X 42	X 42													X 118	X 93	X 78	X 73	X 64
15	X 59	X 44	X 41	X 40	X 39	X 40	X 40													X 96	X 98	X 79	X 62	X 48
16	X 47	X 46	X 49	X 45	X 44	X 42	X 43													X 160	X 128	X 94	X 109	X 61
17	X 44	X 46	X 57	X 58	X 42	56	67	77	80											X 105	X 105	X 92	X 64	X 45
18	X 44	X 43	X 46	X 49	X 27	X 25	X 27													X 91	X 67	X 59	X 53	X 46
19	X 39	X 40	X 42	X 44	X 47	X 34	X 26													C	X 60	X 57	X 55	X 46
20	X 44	X 42	X 42	X 44	X 47	X 36	X 34													X 97	X 80	X 72	X 69	X 48
21	X 43	X 46	X 45	X 48	X 57	X 43	X 26													X 90	X 100	X 107	X 91	X 77
22	X 58	X 60	X 57	X 60	76	38	38													X 85	X 71	X 57	X 48	X 44
23	X 43	X 41	X 40	X 38	X 46	X 41	X 28													X 100	X 91	X 68	X 61	X 47
24	X 46	X 44	X 42	48	56	X 50	X 29														X 79	X 80	X 47	X 35
25	X 37	X 39	X 40	X 44	X 49	X 30	X 34														X 66	X 62	X 44	X 40
26	X 39	X 40	X 42	X 42	X 42	X 39	X 40														X 96	X 91	X 77	X 71
27	X 68	X 58	X 50	X 46	X 49	X 47	X 45														X 129	X 105	X 86	X 69
28	X 81	X 73	X 76	X 72	X 80	X 60	X 37														X 63	X 53	X 45	X 43
29	X 45	X 44	X 46	X 51	X 61	X 40	X 34														X 78	X 54	X 50	X 46
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	29	29	1	1											22	29	29	29	29
MED	X 45	X 44	X 43	X 44	X 46	X 39	X 34	77	80											X 91	X 79	X 72	X 61	X 48
U Q	X 57	X 56	X 50	X 48	X 52	X 42	X 40													X 105	X 93	X 83	X 70	X 63
L Q	X 42	X 40	X 41	X 40	X 40	X 34	X 30													X 74	X 66	X 62	X 50	X 44

IONOSPHERIC DATA STATION Okinawa

FEB. 2016 foF2 (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0'N LON.128°09.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	39	42	31	32	33	35	33	38	55	71	105	103	101	78	101	111	91	86	68	68	52	40	30	27
2	29	36	F 40	41	49	30	F 19	33	64	73	77	76	87	100	90	86	86	89	83	53	54	65	55	55
3	58	50	35	34	38	31	28	40	63	72	C	C	C	C	C	C	C	106	111	100	R 85	68	62	42
4	34	32	33	32	37	35	27	39	74	78	C	79	86	89	84	92	96	88	88	70	53	55	43	V 45
5	46	44	41	38	37	29	31	41	77	86	86	91	100	119	127	139	139	128	120	101	74	72	52	42
6	40	36	34	41	41	27	28	41	66	70	73	82	95	95	92	96	101	100	C	87	72	64	52	39
7	37	34	35	36	47	39	36	44	72	86	91	104	107	112	120	130	119	108	114	106	87	84	62	56
8	52	53	44	34	32	33	28	40	70	79	83	100	92	105	99	98	98	102	98	85	87	71	42	34
9	32	33	F 35	42	44	20	23	36	67	79	87	C	96	92	88	C	72	72	78	64	65	66	71	F 55
10	F 52	F 50	F 40	F 30	28	28	32	47	73	76	88	114	116	127	132	113	96	84	78	63	60	58	48	36
11	32	32	34	34	27	23	24	35	71	86	112	141	147	U R 160	R 156	145	115	97	80	66	70	80	65	60
12	49	51	46	36	36	32	28	44	64	76	86	104	106	93	86	79	80	87	81	67	62	60	59	64
13	50	40	36	34	26	27	28	48	66	74	80	112	118	125	118	106	100	92	85	81	78	67	52	46
14	V 49	49	45	43	40	36	36	48	77	82	75	94	96	107	123	140	J R 139	R 135	132	112	87	72	67	58
15	53	38	35	34	33	34	34	52	83	89	87	91	88	92	115	118	114	106	103	90	92	73	56	42
16	41	40	43	39	38	36	37	44	76	84	103	115	102	119	137	144	153	R 155	144	154	122	J R 88	103	55
17	38	40	53	52	36	F 46	F 54	F 67	F 73	94	104	128	116	96	104	118	114	106	101	99	99	R 86	58	39
18	38	37	40	43	21	19	22	39	89	75	90	108	130	116	104	117	146	122	93	85	61	53	47	40
19	33	34	36	38	41	28	20	43	66	77	85	98	124	115	107	112	121	112	106	C	54	51	49	40
20	38	36	36	38	41	30	28	42	70	80	84	96	114	104	116	101	110	112	99	91	74	66	63	42
21	37	40	39	42	51	37	20	41	76	81	82	105	114	118	136	139	139	R 130	99	84	94	101	R 85	J R 71
22	52	54	51	54	55	F 32	28	43	62	64	80	98	90	90	102	94	103	102	93	79	65	51	42	38
23	37	35	34	32	40	35	22	44	60	66	78	100	111	122	125	126	117	113	104	94	R 85	62	55	41
24	40	38	36	F 38	49	44	23	41	58	67	77	90	87	98	114	107	100	99	97	90	73	74	41	29
25	31	33	34	38	43	24	28	44	60	74	86	96	82	96	99	87	85	79	74	57	60	56	38	34
26	33	34	36	36	36	33	34	55	66	68	73	80	103	110	113	105	106	109	116	100	90	85	71	65
27	62	52	44	40	43	41	39	52	62	71	85	78	79	102	110	108	112	122	125	120	123	99	J R 80	63
28	75	67	70	66	74	54	31	44	55	64	82	109	121	92	94	101	98	98	84	61	57	47	39	37
29	39	38	40	45	55	34	28	44	62	70	78	90	95	115	128	129	102	102	109	94	72	48	44	40
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	29	29	29	29	29	27	27	28	28	28	27	28	29	28	28	29	29	29	29
MED	39	38	36	38	40	33	28	43	66	76	85	98	102	104	112	111	104	102	98	86	73	66	55	42
U Q	51	50	44	42	46	36	34	46	74	82	88	108	115	117	124	129	118	112	110	100	87	77	64	56
L Q	36	34	35	34	34	28	24	40	62	70	78	90	91	94	99	98	97	90	84	68	60	56	44	38

IONOSPHERIC DATA STATION Okinawa

FEB. 2016 foF1 (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0'N LON.128°09.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1											L 460	U L 472	U L 496	U L 496	L 496	L 452	L							
2										L	L 436	L	U L 480	U L 476	L 480	L	U L 408							
3									284	L	C	C	C	C	C	C	C	L	188					
4											C	L	476	L	L	L	L 416							
5										L	L	U L 492	U L 468	L	L 520	L	L							
6										L	L	U L 488	U L 508	L 508	U L 496	U L 492	L	L	C					
7									L	L	L	L	U L 492	U L 504	L 496	A	U L 428							
8										L	L	U L 488	A	A	A	A	L	L						
9										L	L	C	L 500	L 504	U L 484	C	U L 388							
10										L	L	U L 488	U L 560	L 532	512	L	L	L						
11										L	U L 492	L 496	L 508	U L 504	U L 516	L 464	L	L						
12										L	L	L	A	L	U L 488	L		L						
13												U L 516	U L 508	L	A	A	A							
14										L	L	U L 500	U L 520	L	A	L 500	L	L	196					
15										L	L	L 488	U L 500	U L 512	U L 500	U L 488	L							
16											L	L	L	U L 488	L	L	L							
17											L	L	L	L	L	L	L							
18											L	L	U L 496	L	U L 488	L	U L 444		204					
19											L	L	U L 504	U L 492	L	L	L	L						
20											L	U L 480	L	L 440	U L 468	L	L							
21											L	U L 536	L	U L 504	L 496	L 480	L	L						
22											L	L 496	L 488	L 492	L 496	U L 480	L	L						
23											L	L	L 488	L 504	476	L 468	L	L						
24									L	L	L	L 472	L 488	U L 512	L 492	L 452	L	L						
25									260		L	U L 472	L 488	L 504	U L 472	U L 476	L 428	L	L					
26										L	L	L	L 496	U L 492	L 480	A	A	L						
27								L	280		L	L 476	U L 512	A	A	A	L	L						
28										L	U L 484	L 484	L 468	A	U L 480	U L 460	L							
29								180		L	L	L 484	U L 496	L	L	L 468	L	L	208					
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								1	3		4	17	22	17	19	12	6		4					
MED								180	280		L 472	U L 488	U L 496	U L 504	L 492	L 472	U L 422		200					
U Q									284		U L 488	U L 496	U L 508	U L 506	U L 496	U L 484	U L 428		206					
L Q									260		L 448	U L 478	L 488	U L 492	L 480	L 462	U L 408		192					

FEB. 2016 foF1 (0.01MHz)

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IONOSPHERIC DATA STATION Okinawa

FEB.2016 foE (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0'N LON.128°09.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								B	224	272	316	332	A	A	A	A	A	A	B					
2								B	192	268	308	328	340	352	U A 348	A	288	248	A					
3								B	216	268	C	C	C	C	C	C	C	224	164					
4								B	200	276	C	348	356	356	348	332	304	A	184					
5								B	212	A	336	344	356	A	A	A	308	264	A					
6								B	196	280	332	344	360	352	348	328	A	A	C					
7								B	208	288	A	U A 356	356	360	352	A	A	A	A					
8								B	212	288	324	356	A	356	348	300	A	A	A					
9								B	232	292	328	C	372	356	340	C	308	A	A					
10								B	192	A	312	324	A	A	A	A	308	A	A					
11								B	232	292	328	A	A	A	A	A	A	A	A					
12								A	216	284	324	356	352	352	A	A	A	252	A					
13								A	216	288	312	352	364	360	356	340	304	A	A					
14								B	256	284	324	352	356	356	340	A	296	A	B					
15								B	224	296	320	352	348	344	A	A	A	260	A					
16								B	240	280	A	A	A	A	A	336	308	264	A					
17								B	220	284	320	348	A	A	376	A	328	A	A					
18								B	208	280	320	B	356	356	340	A	304	264	A					
19								B	216	284	324	352	352	U A 364	A	A	A	248	A					
20								B	228	296	328	344	A	A	A	B	A	A	A					
21								B	236	284	324	352	356	348	320	332	A	248	A					
22								B	232	284	328	356	360	356	336	312	288	260	A					
23								B	244	284	340	344	356	360	344	A	A	A	172					
24								B	232	292	324	344	356	352	344	320	A	248	A	B				
25								180	232	284	324	344	364	348	A	332	304	252	B	B				
26								B	216	280	316	340	360	U A 340	U A 340	332	A	A	A	A				
27								B	220	268	320	352	356	352	352	336	300	A	A	A				
28								168	240	300	320	336	348	368	A	328	A	A	A	B				
29								B	240	288	328	352	380	372	356	328	300	U A 260	176	B				
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								2	29	27	25	24	21	21	17	13	14	13	4					
MED								174	220	284	324	348	356	356	348	332	304	252	174					
U Q									232	288	328	352	360	360	352	334	308	262	180					
L Q									212	280	320	344	354	352	340	324	300	248	168					

IONOSPHERIC DATA STATION Okinawa

FEB. 2016 foEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0'N LON.128°09.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	J A 16	E B 13	E B 13	J A 21	J A 34	J A 19	E B 13	E B 14	G	G	G	J A 42	J A 45	J A 45	J A 47	J A 41	J A 39	26	E B 16	J A 20	E B 13	E B 13	18	18
2	E B 13	E B 13	J A 16	J A 23	J A 16	J A 17	J A 17	J A 14	25	30	33	36	37	39	39	36	G	G	19	19	18	18	E B 13	E B 13
3	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	G	G	C	C	C	C	C	C	C	25	G	E B 13	18	J A 22	J A 16	18
4	J A 18	E B 13	E B 13	E B 13	E B 13	E B 13	20	E B 14	G	35	C	40	39	46	47	39	36	J A 43	J A 21	E B 13	E B 13	E B 13	J A 19	J A 17
5	20	E B 13	19	19	19	E B 13	E B 13	E B 14	25	J A 36	G	40	42	41	J A 46	J A 46	G 23	J A 28	22	J A 38	27	E B 13	17	E B 13
6	E B 13	J A 20	18	E B 13	19	21	18	19	25	G 18	G	G 23	39	41	38	J A 47	37	30	C	18	20	E B 13	E B 13	E B 13
7	E B 13	21	19	J A 16	J A 16	J A 49	J A 17	E B 14	23	G	J A 44	43	40	J A 50	J A 54	J A 51	J A 88	J A 95	J A 88	J A 56	J A 25	J A 18	20	J A 18
8	18	E B 13	E B 13	E B 13	20	20	E B 13	E B 14	24	33	35	43	J A 71	J A 62	J A 53	J A 55	J A 47	J A 45	J A 48	J A 44	J A 44	J A 32	E B 13	19
9	E B 13	E B 13	E B 13	J A 71	J A 59	J A 29	J A 18	J A 19	G	G	G	C	40	38	G	C	34	29	J A 25	J A 29	18	J A 40	J A 46	J A 30
10	J A 46	J A 44	J A 48	J A 17	J A 18	J A 17	E B 13	E B 14	23	31	38	J A 48	J A 42	J A 40	J A 40	J A 40	G	J A 36	J A 56	J A 49	J A 16	19	20	19
11	E B 13	E B 13	E B 13	E B 13	J A 17	J A 19	18	E B 14	26	33	G	37	40	J A 43	40	J A 53	35	J A 42	J A 30	J A 22	E B 13	E B 13	E B 13	E B 13
12	E B 14	J A 18	J A 62	J A 21	J A 18	J A 30	J A 17	19	26	34	39	41	48	J A 48	J A 57	J A 48	J A 50	G	J A 51	J A 26	J A 38	J A 48	J A 22	J A 30
13	J A 22	E B 13	19	E B 13	E B 13	E B 13	E B 13	16	27	34	40	J A 70	J A 50	J A 58	J A 56	J A 52	J A 61	J A 80	J A 63	J A 75	J A 34	J A 72	J A 43	J A 44
14	J A 45	J A 28	J A 26	J A 20	J A 18	J A 15	E B 13	E B 14	G	32	38	43	44	J A 50	J A 57	J A 75	J A 37	26	E B 15	18	J A 30	J A 26	22	J A 30
15	J A 16	18	E B 13	E B 13	18	E B 13	E B 13	J A 16	25	J A 28	36	42	46	45	J A 44	J A 47	J A 42	G	20	J A 32	J A 28	J A 21	J A 19	E B 13
16	E B 13	18	J A 56	E B 13	E B 13	E B 13	E B 13	E B 14	G	32	J A 38	40	J A 42	J A 41	J A 42	G	G	G 18	J A 24	E B 13	J A 22	E B 13	E B 14	E B 13
17	E B 13	E B 13	E B 13	E B 13	J A 23	J A 20	J A 17	18	26	31	35	39	J A 49	J A 45	G	J A 39	J A 33	J A 52	J A 28	J A 24	E B 13	E B 13	E B 13	E B 13
18	18	E B 13	E B 13	J A 32	E B 13	20	18	18	26	G	34	E B 41	42	46	J A 44	40	35	G 21	17	J A 16	E B 13	J A 19	J A 22	E B 13
19	E B 13	E B 13	19	J A 17	E B 13	E B 13	E B 14	E B 14	25	G	G	G	G	42	J A 43	J A 38	J A 51	J A 32	J A 21	C	E B 13	19	E B 13	E B 13
20	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	26	G	36	38	J A 43	J A 46	J A 49	J A 40	J A 47	J A 43	J A 38	J A 22	J A 19	J A 18	J A 18	E B 13
21	J A 20	E B 13	E B 13	18	E B 13	E B 46	J A 27	J A 20	26	32	36	40	45	46	42	J A 52	J A 50	G 19	J A 29	J A 21	E B 13	E B 13	E B 13	E B 13
22	J A 16	J A 47	20	E B 13	E B 13	E B 13	J A 86	18	26	32	37	38	40	47	39	35	33	G	J A 21	E B 13	E B 13	E B 13	E B 14	J A 16
23	J A 18	J A 25	J A 23	E B 13	E B 13	E B 13	E B 13	E B 14	G	G	36	38	40	41	41	J A 42	J A 60	J A 43	19	J A 16	19	E B 13	E B 13	J A 20
24	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	G	G	36	37	37	38	G	36	31	G 21	J A 21	E B 14	E B 13	19	19	E B 13
25	E B 13	E B 13	E B 13	18	E B 13	E B 14	J A 20	G	J A 75	G	36	38	39	37	39	36	34	G 24	E B 18	19	20	E B 13	E B 13	E B 13
26	J A 18	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	25	36	36	G	40	38	38	J A 50	J A 53	J A 37	22	J A 25	J A 56	18	J A 44	J A 76
27	J A 28	20	E B 13	E B 13	E B 13	E B 13	J A 29	E B 14	G	34	37	38	38	J A 64	J A 56	J A 48	J A 46	J A 38	J A 27	J A 26	J A 29	J A 28	J A 22	J A 26
28	J A 18	J A 19	18	E B 13	E B 13	E B 13	E B 13	G	27	G	35	36	38	J A 68	36	35	J A 43	J A 43	J A 27	J A 18	18	J A 21	J A 16	J A 21
29	J A 20	E B 13	J A 36	J A 31	J A 19	J A 16	J A 18	E B 14	G	G	40	42	42	47	47	39	36	28	G	E B 14	E B 13	E B 13	E B 13	E B 13
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	29	29	29	29	29	27	27	28	28	28	27	28	29	28	28	29	29	29	29
MED	16	E B 13	E B 13	E B 13	E B 13	E B 14	E B 14	E B 14	25	30	36	40	41	45	42	J A 41	J A 37	29	J A 22	J A 20	18	18	17	16
U Q	J A 19	J A 20	J A 20	J A 20	J A 18	J A 20	J A 18	17	26	33	38	42	44	J A 48	J A 48	J A 50	J A 48	J A 43	J A 30	J A 28	J A 28	J A 22	J A 21	J A 20
L Q	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	G	G	G 33	37	39	41	39	38	34	G	19	E B 16	E B 13	E B 13	E B 13	E B 13

FEB. 2016 foEs (0.1MHz)

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IONOSPHERIC DATA STATION Okinawa

FEB. 2016 fbEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0'N LON.128°09.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E B 13	E B 13	E B 13	E B 13	19	E B 13	E B 13	E B 14	G	G	G	37	38	40	41	36	36	25	E B 16	E B 13	E B 13	E B 13	E B 13	E B 13
2	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	24	29	32	35	36	37	37	34	G	G	17	E B 14	E B 14	E B 13	E B 13	E B 13
3	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	G	G	C	C	C	C	C	C	C	25	G	E B 13	E B 14	E B 13	E B 13	E B 13
4	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	G	34	C	39	39	44	43	37	35	32	G 14	E B 13	E B 13	E B 13	E B 13	E B 13
5	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	24	30	G	38	38	41	37	38	G 19	G 19	17	E B 13	E B 13	E B 13	E B 13	E B 13
6	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	25	G 16	G	G 20	38	40	38	41	36	28	C	E B 14	E B 13	E B 13	E B 13	E B 13
7	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	23	G	35	38	38	41	42	50	35	42	35	28	20	16	E B 13	E B 13
8	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	24	32	34	42	68	57	51	45	40	32	42	32	26	20	E B 13	E B 13
9	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	G	G	G	C	40	38	G	C	33	26	21	19	E B 13	E B 13	21	E B 13
10	30	21	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	23	31	37	36	37	36	36	34	G	20	46	30	E B 13	E B 13	E B 13	E B 13
11	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	25	32	G	37	39	40	39	38	35	27	21	16	E B 13	E B 13	E B 13	E B 13
12	E B 14	E B 13	20	E B 13	E B 13	17	E B 13	17	26	32	39	40	47	46	38	38	35	G	21	21	20	29	E B 13	19
13	16	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	16	26	32	37	40	42	49	51	45	52	41	36	30	22	20	29	23
14	29	22	19	E B 13	E B 13	E B 13	E B 13	E B 14	G	31	37	41	43	48	52	40	31	26	E B 15	E B 13	28	21	E B 13	22
15	E B 14	E B 14	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	25	G 21	35	41	44	44	37	36	32	G	20	26	22	20	E B 13	E B 13
16	E B 13	E B 13	23	E B 13	E B 13	E B 13	E B 13	E B 14	G	30	36	38	38	38	38	G	G	G 16	22	E B 13	20	E B 13	E B 14	E B 13
17	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	26	30	34	38	49	39	G	35	G 25	36	24	E B 13	E B 13	E B 13	E B 13	E B 13
18	E B 13	E B 13	E B 13	24	E B 13	E B 13	E B 13	E B 14	25	G	34	E B 41	41	42	39	36	G 23	G 20	16	E B 13	E B 13	16	20	E B 13
19	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	E B 14	25	G	G	G	G	39	37	35	36	G 21	20	C	E B 13	E B 13	E B 13	E B 13
20	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	26	G	35	37	38	39	37	38	32	27	23	15	E B 13	E B 13	E B 13	E B 13
21	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 16	26	32	36	40	42	43	40	36	31	G 18	24	E B 13	E B 13	E B 13	E B 13	E B 13
22	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 17	26	32	36	38	39	44	38	35	32	G	19	E B 13	E B 13	E B 13	E B 14	E B 13
23	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	G	G	35	38	39	41	41	34	32	29	G 14	E B 13	E B 13	E B 13	E B 13	E B 13
24	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	G	G	36	36	37	38	G	35	31	G 18	18	E B 14	E B 13	E B 13	E B 13	E B 13
25	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	E B 13	G	G 15	G	36	38	38	37	39	36	34	G 22	E B 18	E B 14	E B 13	E B 13	E B 13	E B 13
26	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	25	36	36	G	39	38	37	49	50	35	20	21	31	E B 13	28	41
27	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	G	34	36	37	38	48	54	46	43	35	24	19	20	20	E B 13	E B 13
28	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	G	27	G	35	36	37	62	36	35	40	37	20	E B 13	E B 13	18	E B 13	19
29	19	E B 13	17	17	E B 13	E B 13	E B 13	E B 14	G	G	40	41	42	46	45	38	35	28	G	E B 14	E B 13	E B 13	E B 13	E B 13
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	29	29	29	29	29	27	27	28	28	28	27	28	29	28	28	29	29	29	29
MED	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	24	29	35	38	39	41	38	36	34	26	20	E B 14	E B 13	E B 13	E B 13	E B 13
U Q	13	E B 13	13	E B 13	E B 13	E B 13	E B 13	14	26	32	36	40	42	45	42	40	36	32	24	20	20	17	13	13
L Q	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	G	G	G 32	36	38	38	37	35	G 31	G 22	16	E B 13	E B 13	E B 13	E B 13	E B 13

FEB. 2016 fbEs (0.1MHz)

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IONOSPHERIC DATA STATION Okinawa

FEB. 2016 fmin (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0'N LON.128°09.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	13	13	13	13	13	13	13	14	14	14	14	15	18	16	15	17	15	14	16	13	13	13	13	13
2	13	13	13	13	13	13	13	14	14	15	15	21	16	17	17	16	15	15	14	14	14	13	13	13
3	13	13	13	13	13	13	13	13	14	14	C	C	C	C	C	C	C	15	14	13	14	13	13	13
4	13	13	13	13	13	13	13	14	14	14	C	16	19	15	19	14	14	15	14	13	13	13	13	13
5	13	13	13	13	13	13	13	14	14	14	20	16	17	20	15	14	14	12	13	13	13	13	13	13
6	13	13	13	13	13	13	13	14	14	14	14	15	16	22	18	17	16	15	C	14	13	13	13	13
7	13	13	13	13	13	13	13	14	14	14	14	15	16	20	21	18	16	14	13	13	13	13	13	13
8	13	13	13	13	13	13	13	14	17	18	20	20	21	22	24	20	16	15	13	13	13	13	13	13
9	13	13	13	13	13	13	13	14	14	14	15	C	21	21	24	C	21	16	14	14	13	13	13	13
10	13	13	13	13	13	13	13	14	15	15	16	20	22	18	20	16	17	14	13	13	13	13	13	13
11	13	13	13	13	13	13	13	14	14	15	16	17	17	17	18	15	19	14	14	14	13	13	13	13
12	14	13	13	13	13	13	13	13	15	14	16	19	21	21	23	24	22	18	14	13	13	13	13	13
13	13	13	13	13	13	13	13	13	14	15	14	17	21	24	30	25	19	16	15	13	13	13	13	13
14	13	13	13	13	13	13	13	14	14	14	18	20	21	24	22	22	20	17	15	13	13	13	13	13
15	14	14	13	13	13	13	13	14	14	14	14	22	21	21	22	24	20	18	14	14	13	13	13	13
16	13	13	13	13	13	13	13	14	15	16	19	25	24	26	22	22	14	13	14	13	13	13	14	13
17	13	13	13	13	13	13	13	14	15	18	20	25	35	22	34	21	20	15	14	13	13	13	13	13
18	13	13	13	13	13	13	13	14	15	14	16	41	29	22	21	22	20	15	14	13	13	13	13	13
19	13	13	13	13	13	13	14	14	14	19	20	22	22	25	25	21	20	14	14	C	13	13	13	13
20	13	13	13	13	13	13	13	14	15	18	20	22	21	21	21	29	17	14	14	13	13	13	13	13
21	13	13	13	13	13	13	13	14	15	19	21	21	21	21	21	19	17	14	14	13	13	13	13	13
22	13	13	13	13	13	13	13	14	15	17	20	22	21	23	21	26	20	16	14	13	13	13	14	13
23	13	13	13	13	13	13	13	14	15	17	21	22	24	24	22	21	18	15	14	13	13	13	13	13
24	13	13	13	13	13	13	13	14	16	16	19	20	21	24	26	20	18	13	13	14	13	13	13	13
25	13	13	13	13	13	14	13	14	15	14	17	21	22	25	22	21	18	18	18	14	13	13	13	13
26	13	13	13	13	13	13	13	14	14	18	20	21	22	21	23	21	20	15	15	14	14	13	13	13
27	13	13	13	13	13	13	13	14	14	14	19	20	22	21	22	26	18	16	14	14	13	13	13	13
28	13	13	13	13	13	13	13	14	14	17	21	22	21	25	22	18	15	14	14	13	13	13	13	13
29	13	13	13	13	13	13	13	14	14	15	21	21	21	21	21	20	20	14	14	14	13	13	13	13
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	29	29	29	29	29	27	27	28	28	28	27	28	29	28	28	29	29	29	29
MED	13	13	13	13	13	13	13	14	14	15	19	21	21	21	22	21	18	15	14	13	13	13	13	13
U Q	13	13	13	13	13	13	13	14	15	17	20	22	22	24	23	22	20	16	14	14	13	13	13	13
L Q	13	13	13	13	13	13	13	14	14	14	15	17	20	20	20	17	16	14	14	13	13	13	13	13

IONOSPHERIC DATA STATION Okinawa

FEB.2016 M(3000)F2 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0'N LON.128°09.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	308	334	306	278	280	313	323	328	339	327	339	345	348	324	315	350	328	349	340	345	340	289	325	289
2	268	285	F 318	299	343	389	F 275	327	374	374	376	331	328	355	334	345	319	359	351	301	288	327	311	309
3	321	333	292	306	345	340	308	352	376	332	C	C	C	C	C	C	C	325	328	342	R 273	311	328	270
4	306	294	307	302	339	351	289	325	354	363	C	328	347	334	317	311	328	332	346	368	311	327	309	V 295
5	309	305	321	323	325	316	292	319	352	360	350	325	305	329	309	316	314	325	327	331	294	328	308	295
6	306	316	268	337	375	289	300	328	363	359	339	329	334	328	336	327	331	336	C	288	282	302	287	313
7	319	316	295	297	336	344	332	317	347	339	339	320	323	322	304	327	327	320	332	319	274	296	296	280
8	294	334	342	324	328	314	284	321	360	352	324	332	313	328	313	322	324	323	322	310	320	350	298	297
9	286	282	F 293	325	391	268	300	311	344	347	337	C	341	338	353	C	328	342	351	331	312	290	311	F 307
10	F 301	F 322	F 326	F 314	305	297	300	350	375	343	311	318	310	317	323	314	321	345	342	313	300	326	324	323
11	313	285	309	359	341	279	291	318	339	332	317	335	327	R	R 324	320	326	324	343	296	288	326	296	293
12	293	316	351	313	309	312	326	341	348	355	320	329	343	329	341	314	307	329	331	312	303	291	285	302
13	329	314	317	370	270	268	284	346	365	342	312	313	320	324	328	317	315	328	321	318	321	330	305	286
14	V 300	310	306	298	311	311	312	343	365	368	346	337	318	311	314	320	J R 310	R 309	333	343	300	300	278	317
15	258	287	298	294	284	282	280	324	360	357	356	354	345	306	322	323	330	310	313	312	303	313	302	294
16	310	302	310	315	300	311	306	314	346	336	348	336	314	312	312	306	314	R 331	317	321	324	J R 254	346	326
17	281	272	302	335	333	F 266	F 300	F 352	F 342	339	325	337	334	331	310	322	324	313	304	312	327	R 281	312	291
18	284	289	311	362	402	306	284	307	348	358	315	324	331	329	311	300	330	347	337	286	263	290	323	333
19	272	292	307	308	358	409	283	342	358	337	326	320	333	334	328	316	336	348	352	C	310	294	331	325
20	292	299	300	313	362	311	325	326	354	344	336	323	336	330	338	326	331	359	347	313	261	293	312	285
21	303	303	301	328	368	383	282	329	354	349	317	320	330	310	322	328	339	R 350	349	284	297	318	R 332	J R 267
22	274	259	300	329	378	F 349	299	340	357	342	324	346	342	325	320	319	330	346	364	314	320	313	337	321
23	300	294	300	296	336	394	312	348	368	332	305	318	320	326	327	334	338	335	346	297	R 301	295	282	340
24	288	284	277	F 294	337	403	315	345	348	335	313	350	329	313	327	335	328	339	318	338	307	320	363	297
25	285	301	305	334	366	373	297	359	350	330	334	350	330	334	348	335	339	351	362	322	318	339	321	299
26	312	288	293	317	338	303	317	359	392	333	336	306	322	323	327	324	323	323	340	332	303	280	308	293
27	288	276	289	283	307	342	337	357	363	355	350	353	305	322	322	324	323	331	336	323	337	315	J R 279	263
28	270	305	287	297	354	373	379	357	370	331	326	342	355	334	308	319	311	334	350	338	330	315	318	294
29	295	279	286	326	364	364	340	361	367	359	320	327	306	322	324	341	322	318	333	325	289	285	311	278
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	29	29	29	29	29	27	27	28	27	28	27	28	29	28	28	29	29	29	29
MED	295	299	302	314	338	314	300	340	357	343	326	329	330	326	322	322	326	332	338	318	303	311	311	295
U Q	308	315	310	328	363	368	320	351	366	358	339	342	338	331	328	328	330	346	348	332	320	326	324	315
L Q	284	285	293	298	310	300	286	322	348	334	317	320	319	322	314	316	320	324	328	311	288	290	297	288

IONOSPHERIC DATA STATION Okinawa

FEB.2016 M(3000)F1 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0'N LON.128°09.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1											L 370	U L 366	U L 379	U L 385	L 363	L 374	L							
2										L	L 400	L	U L 382	U L 376	L 383	L	U L 391							
3									425	L	C	C	C	C	C	C	C	L	436					
4											C	L	410	L	L	L	L 405							
5										L	L	U L 389	U L 410	L	L 369	L	L							
6										L	L	U L 380	U L 365	L 372	U L 381	U L 363	L	L	C					
7									L	L	L	L	U L 389	U L 375	L 385	A	U L 392							
8										L	L	U L 373	A	A	A	A	L	L						
9										L	L	C	L 385	L 376	U L 381	C	U L 410							
10										L	L	U L 376	U L 349	L 351	360	L	L	L						
11										L	U L 358	L 375	L 383	U L 390	U L 367	L 388	L	L						
12										L	L	L	A	L	U L 377	L		L						
13												U L 359	U L 368	L	A	A	A							
14										L	L	U L 381	U L 373	L	A	L 371	L	L	430					
15										L	L	L 383	U L 378	U L 379	U L 364	U L 367	L							
16											L	L	L	U L 380	L	L	L							
17											L	L	L	L	L	L	L							
18											L	L	U L 365	L	U L 391	L	U L 369		417					
19											L	L	U L 367	U L 379	L	L	L	L						
20											L	U L 381	L	L 420	U L 383	L	L							
21											L	U L 352	L	U L 366	L 359	L 369	L	L						
22											L	L 360	L 373	L 377	L 361	U L 373	L	L						
23											L	L	L 371	L 367	L 372	L 373	L	L						
24									L	L	L	L 373	L 375	U L 362	L 358	L 383	L	L						
25									426		L	U L 376	L 377	L 367	U L 361	U L 379	L 387	L	L					
26										L	L	L	L 369	U L 370	L 378	A	A	L						
27								L	439		L	L 388	U L 366	A	A	A	L	L						
28										L	U L 368	L 361	L 393	A	U L 392	U L 387	L							
29								399		L	L	L 384	U L 382	L	L	L 367	L	L	405					
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								1	3		4	17	22	17	19	12	6		4					
MED								399	426		L 369	U L 376	U L 376	U L 376	L 372	L 373	U L 392		424					
U Q									439		L 385	L 382	L 383	U L 380	U L 383	L 381	L 405		433					
L Q									425		U L 363	U L 364	U L 368	L 367	L 361	L 368	L 387		411					

FEB.2016 M(3000)F1 (0.01)

IONOSPHERIC DATA STATION Okinawa

FEB. 2016 h'F2 (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0'N LON.128°09.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1											256	250	244	276	292	242	236							
2										230	224	252	260	244	256	240	252							
3									212	242	C	C	C	C	C	C	C	236	210					
4											C	272	246	256	248	290	250							
5										230	238	260	256	262	270	254	248							
6										224	244	268	266	268	248	272	252	226	C					
7									230	234	236	254	240	262	278	258	236							
8										242	268	268	290	270	270	262	266	250						
9										242	254	C	248	258	246	C	234							
10										242	274	260	276	280	266	244	248	228						
11										260	280	254	242	278	262	244	224	230						
12										238	274	268	248	270	258	L 284		248						
13												288	274	268	258	260	246							
14										228	238	258	274	272	284	262	242	234	218					
15										238	236	246	250	272	270	260	240							
16											240	256	242	268	246	272	254							
17											270	252	252	252	294	276	252							
18											270	274	264	246	258	286	262		210					
19											274	268	260	250	250	262	242	224						
20											254	264	256	260	254	252	258							
21											268	280	254	270	274	252	232	216						
22											282	260	250	270	274	274	258	230						
23											L 292	272	270	276	256	252	240	224						
24									216	270	258	252	262	290	266	242	242	230						
25									224		268	240	264	272	250	266	250	232	210					
26										272	260	L 276	280	270	248	248	256	238						
27								218	210		256	242	310	272	272	258	262	242						
28										218	284	264	240	250	272	266	264							
29								222		240	294	256	274	278	260	244	236	246	228					
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								2	5	16	26	27	28	28	28	27	27	16	5					
MED								220	216	239	264	260	258	270	261	260	248	231	210					
U Q									227	242	274	268	272	272	272	272	256	240	223					
L Q									211	230	244	252	248	259	252	248	240	227	210					

FEB. 2016 h'F2 (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Okinawa

FEB.2016 h'F (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0'N LON.128°09.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	258	234	226	320	E A 322	262	236	226	216	200	196	A 222	222	210	228	222	228	230	218	206	200	212	220	294
2	322	Q 294	244	258	226	196	364	254	214	210	190	190	180	188	208	H 182	196	220	210	192	274	226	202	238
3	234	218	238	270	234	212	246	226	190	194	C	C	C	C	C	C	C	202	206	192	226	222	198	258
4	262	284	266	288	236	216	270	254	214	232	C	212	200	E A 248	A 224	206	202	228	218	192	216	218	226	262
5	260	250	254	256	228	234	258	258	226	220	214	198	190	230	194	224	228	228	214	192	206	208	226	238
6	260	252	294	242	204	252	268	246	216	214	208	202	198	218	214	A 236	218	218	C	190	202	224	222	242
7	246	242	254	288	234	206	222	256	212	210	218	208	190	206	210	A	A 212	244	224	194	204	204	224	226
8	266	228	206	220	232	246	294	244	228	234	218	A 234	A	A	A	A	E A 240	A 236	220	222	236	200	228	270
9	280	300	Q 294	252	202	E B 372	E B 292	260	228	214	H 198	C	220	206	206	C	194	220	224	204	224	Q 266	250	210
10	E A 270	250	234	234	250	272	270	220	220	214	208	200	188	198	206	214	204	200	A 238	232	226	226	228	238
11	254	270	242	218	220	322	308	256	234	226	210	216	H 190	196	214	210	206	204	208	222	236	226	230	238
12	248	246	222	232	222	A 268	246	236	228	228	234	236	A	E A 258	218	216	228	228	224	216	230	A 272	284	260
13	224	248	240	210	298	316	308	220	214	220	218	216	228	A	A	A	A	228	228	228	222	232	E A 266	A 330
14	E A 284	254	A 250	264	236	240	246	228	226	218	206	A 212	210	A	A	224	210	214	176	190	208	A 220	214	242
15	228	282	268	286	284	288	292	234	228	218	210	218	E A 238	214	200	198	218	216	212	220	218	224	228	264
16	264	256	270	238	252	252	254	250	230	212	214	204	208	190	218	198	210	230	234	234	188	260	208	198
17	266	316	236	230	236	342	Q 254	208	234	224	222	228	A	220	216	210	220	232	222	220	202	208	222	268
18	288	290	266	226	188	314	310	260	238	222	214	242	A 232	222	206	202	210	214	196	206	206	224	236	226
19	318	306	260	266	224	188	366	232	216	216	218	214	216	216	206	214	226	208	208	C	202	228	216	238
20	282	262	278	260	224	220	228	226	222	208	210	194	216	196	202	216	216	222	212	192	190	220	214	250
21	282	268	272	244	208	202	352	234	228	226	216	220	E A 244	242	226	212	224	206	200	186	224	202	208	208
22	258	258	254	230	Q 196	Q 194	240	228	214	214	222	228	220	E A 248	228	206	210	222	210	188	198	202	212	250
23	256	282	268	284	234	186	250	226	210	198	202	224	216	A 236	234	200	216	220	200	188	192	208	204	232
24	266	274	322	Q 272	234	192	262	210	194	H 186	210	208	190	218	H 190	212	206	216	220	202	194	200	196	252
25	292	274	274	240	214	200	296	216	202	202	218	218	212	186	232	206	202	202	202	206	216	208	210	254
26	254	292	282	252	236	270	248	224	202	210	212	198	204	216	214	A	A	A	210	200	218	214	240	E A 284
27	236	254	260	284	250	222	212	200	180	216	212	208	196	A	A	A	A	234	208	202	204	200	218	276
28	258	224	234	234	220	184	188	220	208	188	202	204	208	A	196	186	A 242	236	218	190	208	224	224	292
29	A 300	304	296	254	208	188	210	E B 208	202	H 180	216	224	218	A	A	228	210	216	222	190	196	214	222	238
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	29	29	29	29	29	29	29	29	27	27	25	22	23	22	25	28	28	28	29	29	29	29
MED	261	262	260	252	230	228	256	228	216	214	212	214	209	212	214	211	211	220	213	201	208	220	222	246
U Q	282	287	273	271	236	271	295	252	228	221	218	224	220	A 230	224	216	225	229	222	218	224	226	228	266
L Q	254	249	239	233	217	198	243	220	209	205	208	204	193	198	206	202	206	214	208	191	201	208	211	238

FEB.2016 h'F (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Okinawa

FEB. 2016 h'E (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0'N LON.128°09.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								B	116	106	108	108	A	A	A	A	A	A	B					
2								B	108	108	108	108	108	108	110	A	110	112	A					
3								B	108	108	C	C	C	C	C	C	C	108	138					
4								B	116	106	C	106	108	108	108	106	A	A	136					
5								B	110	A	108	104	106	A	A	A	110	112	A					
6								B	112	108	108	108	108	110	106	106	108	114	C					
7								B	110	106	A	106	112	108	108	A	A	A	A					
8								B	114	110	110	110	A	110	110	110	110	A	A					
9								B	108	108	108	C	110	110	110	C	108	A	A					
10								B	112	A	108	108	A	A	A	A	106	A	A					
11								B	112	110	110	A	A	A	A	A	A	A	A					
12								A	110	106	106	106	106	106	A	A	A	106	A					
13								A	110	110	108	108	108	108	112	110	110	A	A					
14								B	114	106	106	106	106	106	106	A	110	A	B					
15								B	120	110	110	110	108	108	A	A	A	108	A					
16								B	108	108	A	A	A	A	A	108	108	108	A					
17								B	108	108	108	108	A	A	112	A	116	A	A					
18								B	112	108	108	B	116	112	112	A	110	114	A					
19								B	114	110	110	108	108	108	A	A	A	110	A					
20								B	112	112	110	110	110	A	A	B	A	A	A					
21								B	114	110	108	108	108	108	106	114	A	110	A					
22								B	110	110	110	108	108	108	108	110	110	110	A					
23								B	108	108	108	106	110	110	110	A	A	A	148					
24								B	110	110	108	106	106	108	108	108	A	110	A	B				
25								140	106	106	106	110	110	110	A	108	A	116	B	B				
26								B	106	108	108	108	118	114	112	112	112	A	A	A				
27								B	110	108	108	106	106	108	106	112	110	A	A	A				
28								160	108	108	114	118	110	A	A	110	A	A	A	B				
29								B	110	110	110	108	108	108	108	108	108	110	116	B				
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								2	29	27	25	24	22	20	17	13	15	14	4					
MED								150	110	108	108	108	108	108	108	110	110	110	137					
U Q									113	110	110	108	110	110	111	111	110	112	143					
L Q									108	108	108	106	108	108	107	108	108	108	126					

FEB. 2016 h'E (KM)

IONOSPHERIC DATA STATION Okinawa

FEB.2016 h'Es (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0'N LON.128°09.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	98	B	B	98	96	96	B	B	G	G	G	114	114	112	112	112	110	108	B	106	B	B	112	90
2	B	B	100	100	100	98	98	96	178	154	142	130	126	122	118	110	G	G	124	100	108	116	B	B
3	B	B	B	B	B	B	B	B	G	G	C	C	C	C	C	C	C	150	G	B	130	98	96	94
4	102	B	B	B	B	B	90	B	G	176	C	150	150	122	118	124	122	98	100	B	B	B	92	100
5	100	B	100	102	96	B	B	B	160	106	G	132	126	110	104	100	96	94	90	108	104	B	108	B
6	B	96	96	B	96	106	98	98	150	94	G	100	130	122	124	114	114	112	C	116	108	B	B	B
7	B	94	94	104	104	106	92	B	156	G	114	130	132	120	114	106	102	100	118	94	92	90	90	94
8	88	B	B	B	96	92	B	B	162	172	156	118	114	114	110	106	110	106	104	100	96	90	B	90
9	B	B	B	112	106	104	100	100	G	G	G	C	154	126	G	C	112	108	102	98	98	98	98	98
10	94	96	100	100	96	96	B	B	126	134	112	108	110	110	110	108	G	104	98	102	92	92	90	90
11	B	B	B	B	90	90	94	B	174	148	G	184	108	108	108	108	108	106	104	100	B	B	B	B
12	B	96	98	100	100	100	98	144	160	148	132	136	108	110	108	106	102	G	102	100	102	102	98	100
13	100	B	94	B	B	B	B	152	148	146	132	116	120	120	114	114	112	110	104	104	102	102	98	94
14	94	96	96	100	100	102	B	B	G	140	120	114	112	110	108	102	110	110	B	94	104	104	94	94
15	94	94	B	B	96	B	B	150	152	100	134	118	112	108	108	112	110	G	104	104	98	94	98	B
16	B	98	98	B	B	B	B	B	G	116	110	112	110	110	110	G	G	96	92	B	92	B	B	B
17	B	B	B	B	94	94	94	100	146	142	132	118	108	116	G	114	106	102	102	102	B	B	B	B
18	92	B	B	98	B	98	98	100	130	G	136	B	116	114	114	112	104	104	104	104	B	100	92	B
19	B	B	96	106	B	B	B	B	168	G	G	G	G	112	110	108	104	102	102	C	B	98	B	B
20	B	B	B	B	B	B	B	B	166	G	186	120	120	112	114	102	100	100	98	98	94	98	98	B
21	94	B	B	92	B	104	100	98	186	190	164	136	132	118	132	110	110	100	96	98	B	B	B	B
22	96	106	110	B	B	B	94	166	160	168	146	142	132	110	110	158	116	G	106	B	B	B	B	102
23	98	98	104	B	B	B	B	B	G	G	156	132	116	112	108	104	102	100	102	98	96	B	B	96
24	B	B	B	B	B	B	B	B	G	G	184	170	130	120	G	114	108	100	94	B	B	108	104	B
25	B	B	B	104	B	B	100	G	98	G	170	166	166	116	178	150	130	102	B	96	94	B	B	B
26	94	B	B	B	B	B	B	B	148	188	170	G	136	136	114	110	110	110	106	102	106	106	100	100
27	100	100	B	B	B	B	94	B	G	184	152	164	156	118	116	114	114	106	102	102	96	94	94	96
28	94	94	94	B	B	B	B	G	172	G	156	130	124	112	112	112	108	106	94	94	94	106	106	102
29	94	B	102	102	102	106	100	B	G	G	172	150	156	132	126	118	114	116	G	B	B	B	B	B
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	16	11	14	13	14	14	14	10	19	17	21	24	27	28	25	26	25	25	23	22	19	17	17	15
MED	94	96	98	100	96	99	98	100	160	148	146	130	124	114	112	111	110	104	102	100	98	98	98	96
U Q	99	98	100	104	100	104	100	150	168	174	167	146	132	120	117	114	113	109	104	104	104	105	102	100
L Q	94	94	96	99	96	96	94	98	148	125	132	117	112	110	109	106	104	100	98	98	94	94	93	94

IONOSPHERIC DATA STATION Okinawa

FEB. 2016 TYPES OF Es 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0'N LON.128°09.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F1			FQ21	FQ21	FQ11						C1	C1	C1	C2	C1	C2	C2		F1			F1	F1
2			FQ21	FQ21	FQ11	FQ11	F2	L1	H1	H1	H1	H1	C1	C1	C1	C1			C2	F1	F1	F1		
3																		H1			F1	F3	F2	F1
4	F2						F1			H2		H1	H1	C1	C1	CL11	CL11	L2	L1				F1	F2
5	F2		F2	FF11	FF11				H1	C2		H1	C1	CH11	LH11	L2	L1	L2	L1	F3	F2		F1	
6		F2	F1		F1	F1	F1	L1	H1	L1		L1	H1	C1	C1	C1	C1	C1		F1	F1			
7		F1	F2	F2	F1	F3	F1		H1		CQ11	H1	H1	C1	C2	C3	L3	L4	CLQ13	F5	FQ41	F1	F1	F1
8	F1				F1	F1			H1	H1	H1	C1	C2	C3	C3	C3	CL21	CL31	CL21	FF51	F5	F2		F1
9				FF22	F2	F3	F2	C1					H1	C1			C1	C1	L2	F5	F2	F3	F4	F2
10	F4	F3	F2	F1	F1	F1			C1	HL11	C1	C1	C1	C1	C1	C1		LQ11	L7	FF14	F1	F1	F1	F1
11					F1	F2	F1		H1	H1		HC11	C1	C1	C1	C1	C1	C1	L1	F1				
12		F1	F3	FQ11	FQ21	F3	F2	H2	H1	H1	H1	H1	C2	C2	C2	C2	LQ21		LQ21	F4	FQ41	F7	FQ21	FQ21
13	F2		F1					H1	H1	H1	H1	C1	C1	C2	C2	C2	C4	C3	L7	F4	F4	FQ31	FQ51	F4
14	F3	F2	F2	F1	F1	F1				H1	C1	C1	C1	C2	C3	LQ21	C1	C1		F1	F4	F4	F1	F3
15	F1	F1			F1			H1	H1	L1	HL11	C1	C1	C1	C1	C1	C1		L1	F3	F2	F1	F1	
16		F1	F3							C1	C1	C1	C1	C1	C1			L1	L2		F2			
17					F3	F2	F2	L1	H1	H1	H1	C1	C1	C1		C1	L1	L3	L3	F2				
18	F1			F3		F2	F1	L1	H1		H1		C1	C1	C1	C1	L1	L1	L1	F1		F1	F3	
19			F1	F1					H1					C1	C1	C1	L2	L2	L1			F1		
20									H1		H1	C1	C1	CQ11	C1	L1	L2	L3	L2	F3	F1	F1	F1	
21	F1			F1		FQ31	FQ21	L1	H1	H1	H1	H1	H1	C1	HC11	CH11	CL11	L1	L3	F1				
22	F1	F3	F1				F1	H1	H1	H1	H1	H1	H1	C1	CL11	HC11	C1		C1					F1
23	F2	FQ21	FQ21								H1	H1	C1	C1	C1	C1	L2	L2	L1	F1	F1			F1
24											H1	H1	H1	C1		CL11	CL11	L1	L1			F1	F1	
25				F1			F2		L1		H1	H1	H1	C1	HC11	HC11	HL11	L1		L1	F1			
26	F1								H1	H1	H1		HL11	HL11	C1	C1	C2	C2	C1	L2	F4	F1	F5	F9
27	F3	F3					F1			H1	H1	H1	H1	C2	C1	C1	C2	C3	C2	L5	F3	FQ31	FQ21	F2
28	F1	F1	F1						H1		HCL11	HL11	CL11	CL31	CL11	CL11	CL11	CL31	L2	L1	F1	F5	F1	F2
29	F2		F2	FQ31	FQ21	F1	F2				H1	H1	H1	H1	C1	CL11	C1	C1						
30																								
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
U Q																								
L Q																								

FEB. 2016 TYPES OF Es

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

f-PLOTS OF IONOSPHERIC DATA

KEY OF f-PLOT	
	SPREAD
	foF2,foF1,foE
	fxF2
	DOUBTFUL foF2,foF1,foE
	fbEs
	ESTIMATED foF1
	fmin
	GREATER THAN
	LESS THAN

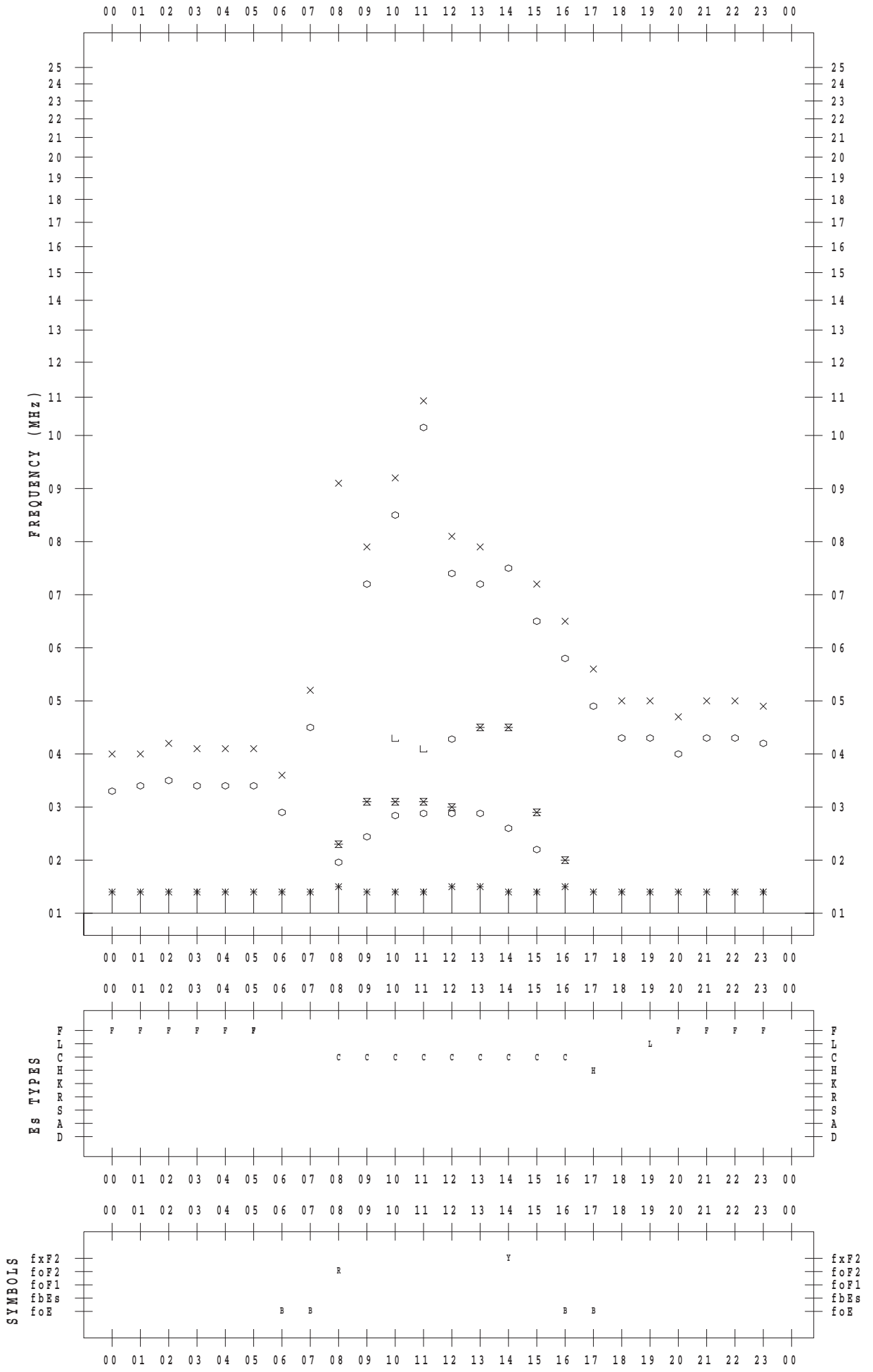
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/ 1

135 °E MEAN TIME



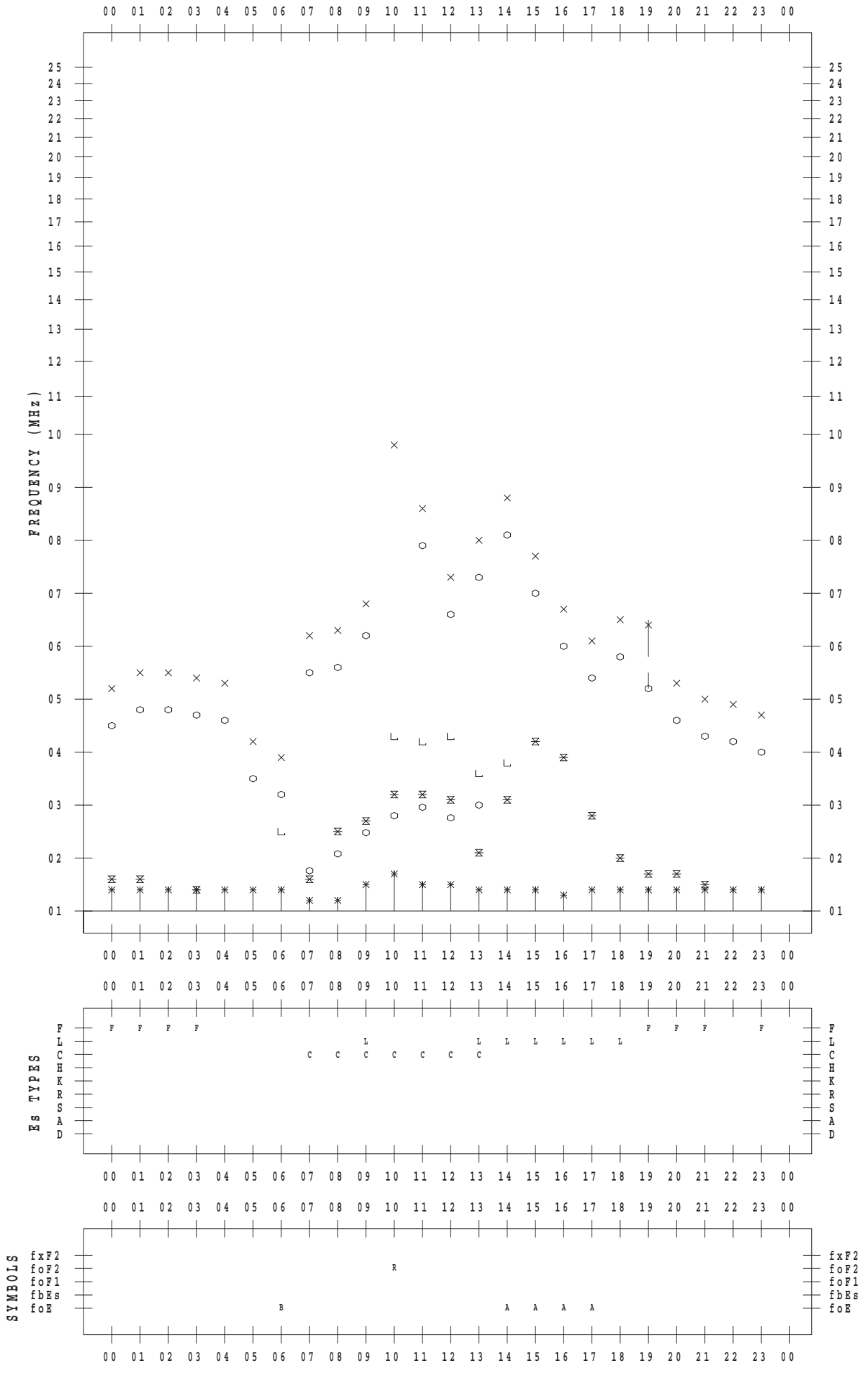
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/ 2

135 °E MEAN TIME



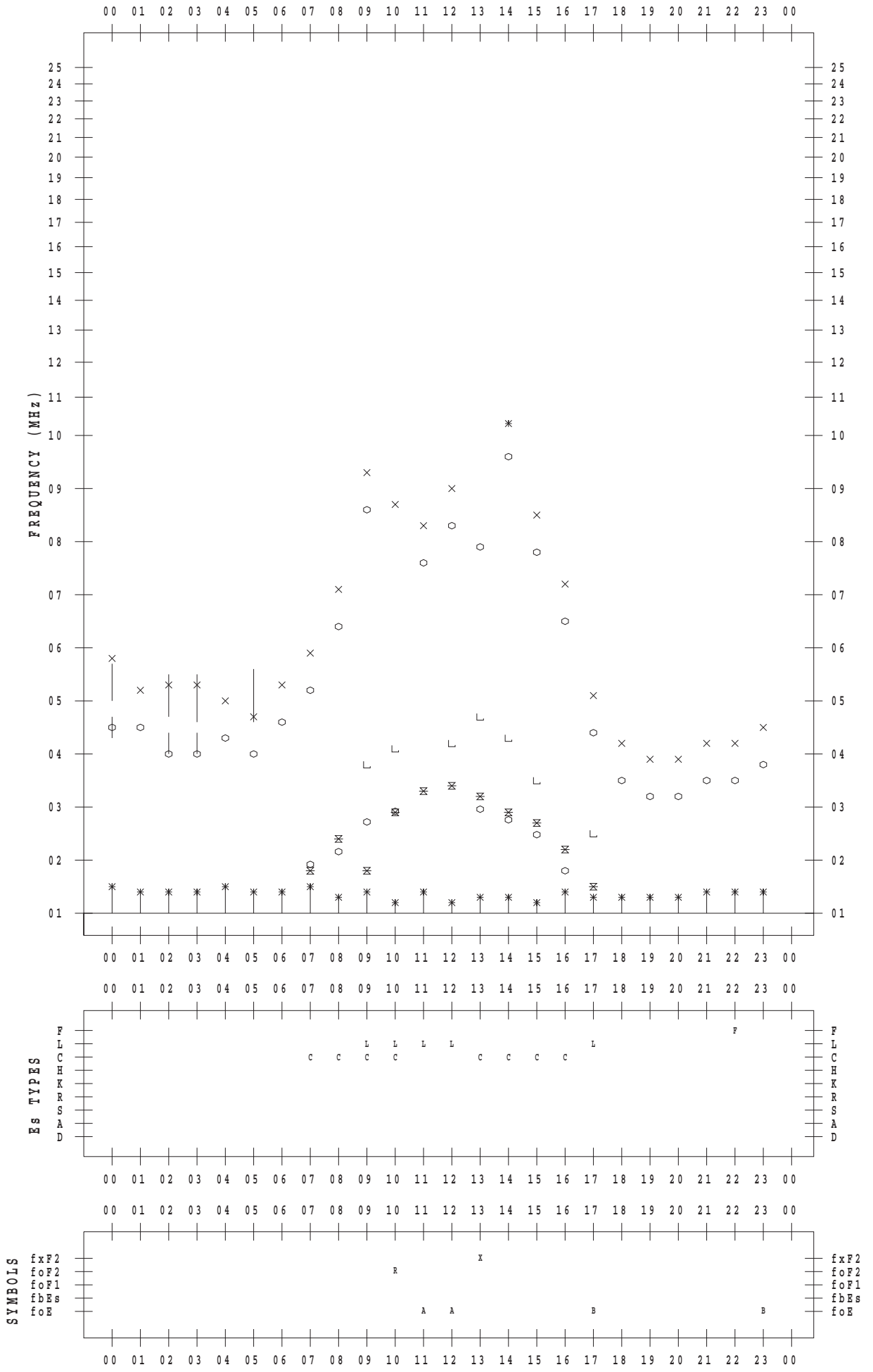
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/ 3

135 °E MEAN TIME



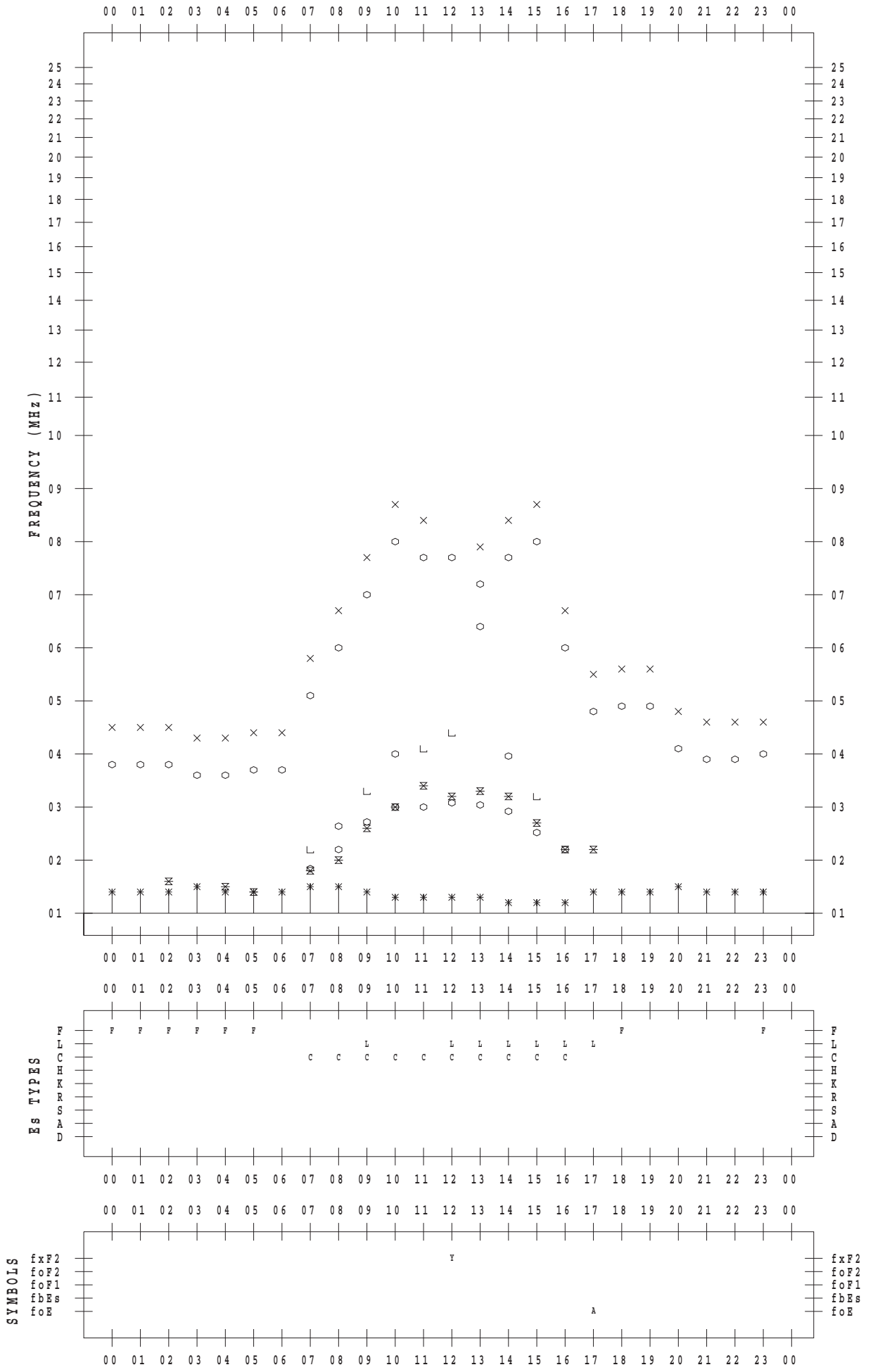
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/ 4

135 °E MEAN TIME



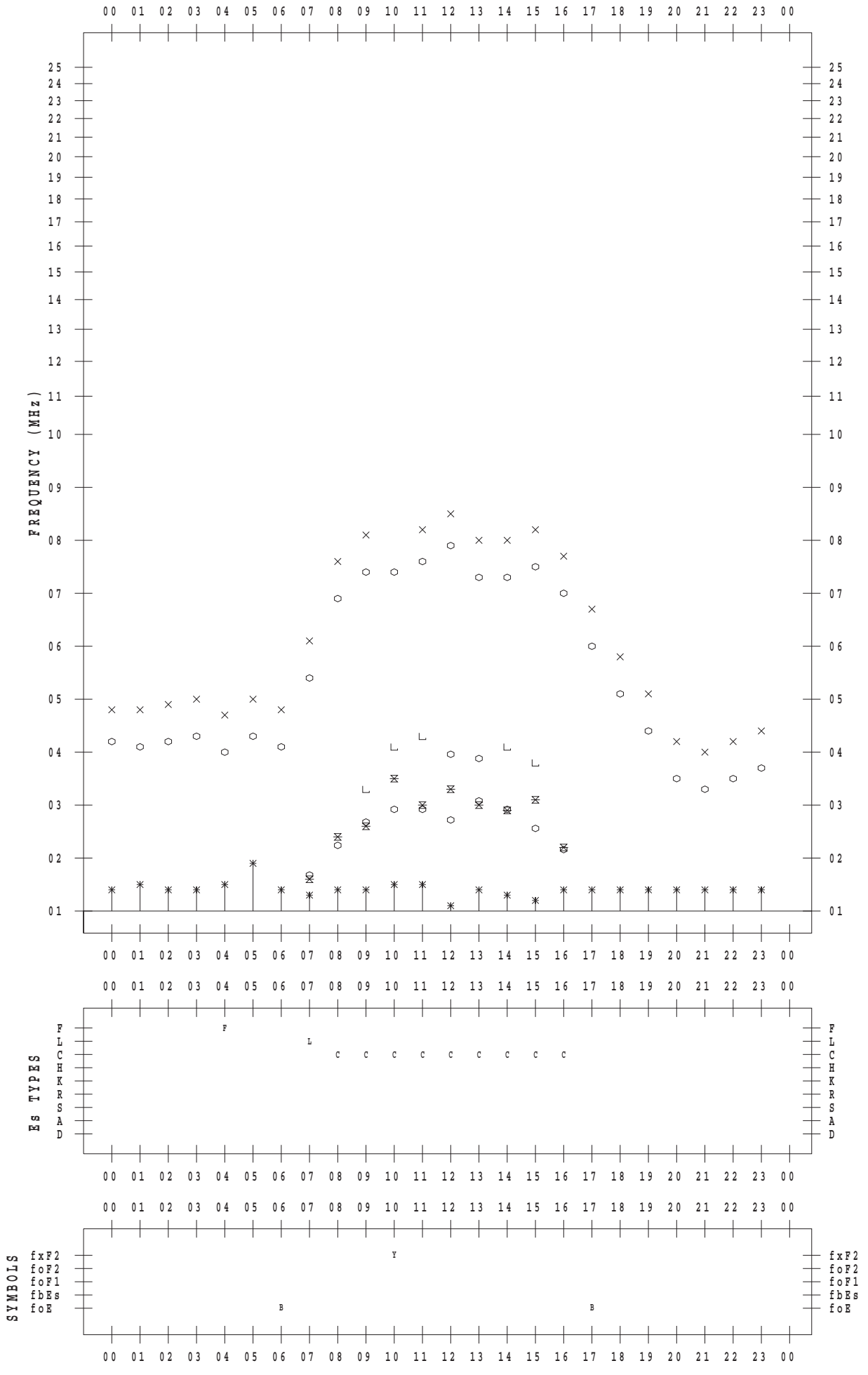
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/ 5

135 °E MEAN TIME



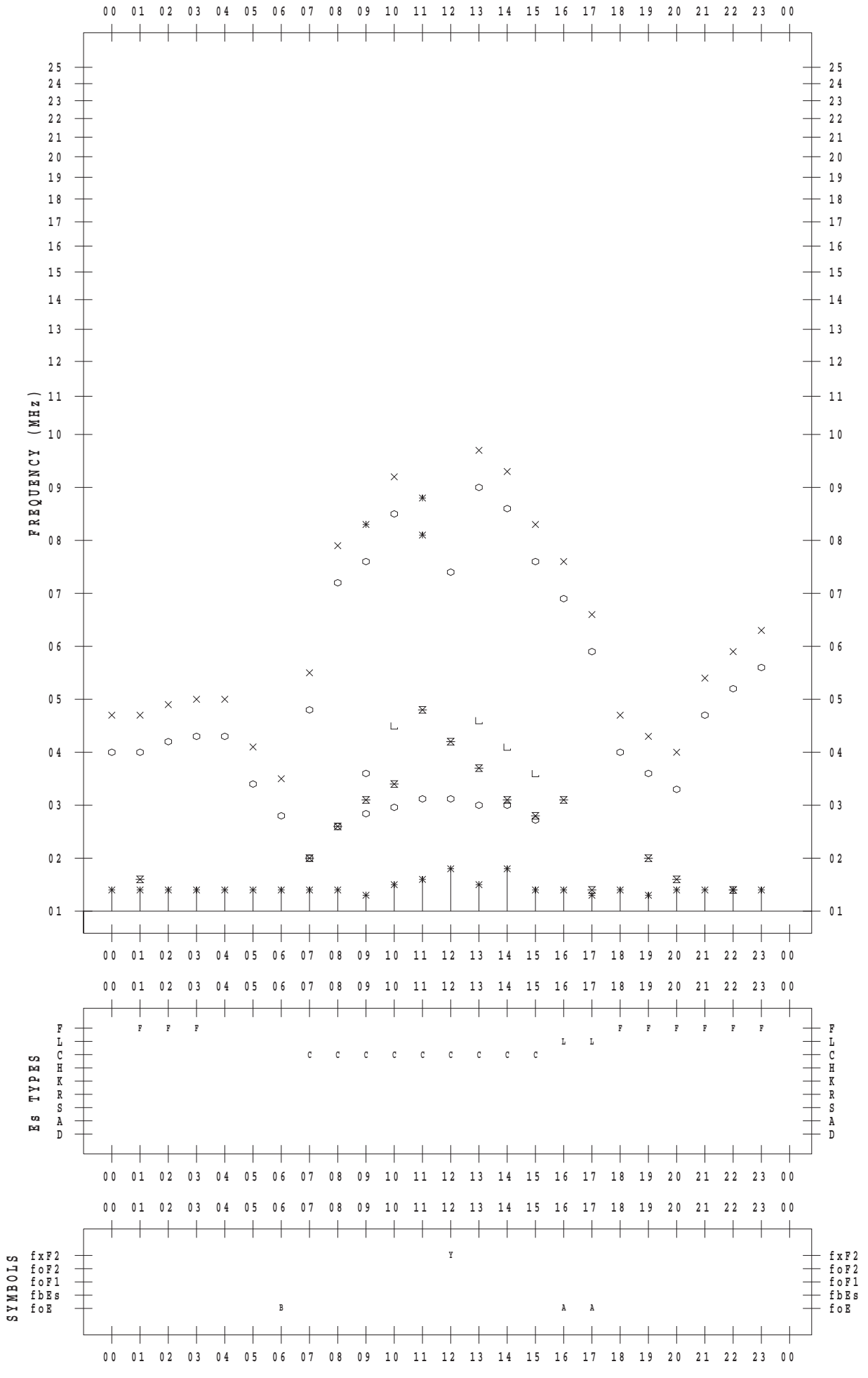
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/ 6

135 °E MEAN TIME



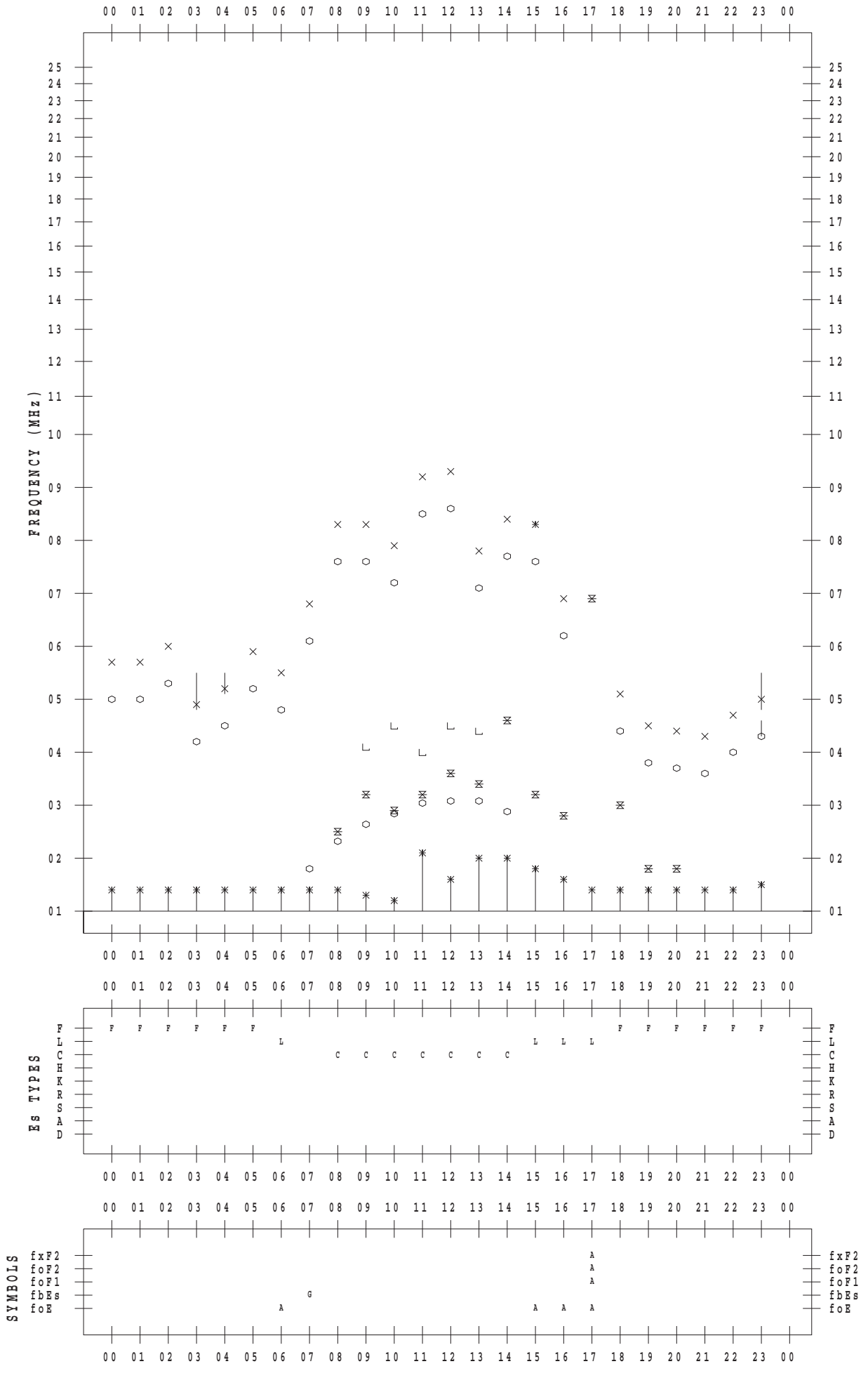
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/ 7

135 °E MEAN TIME



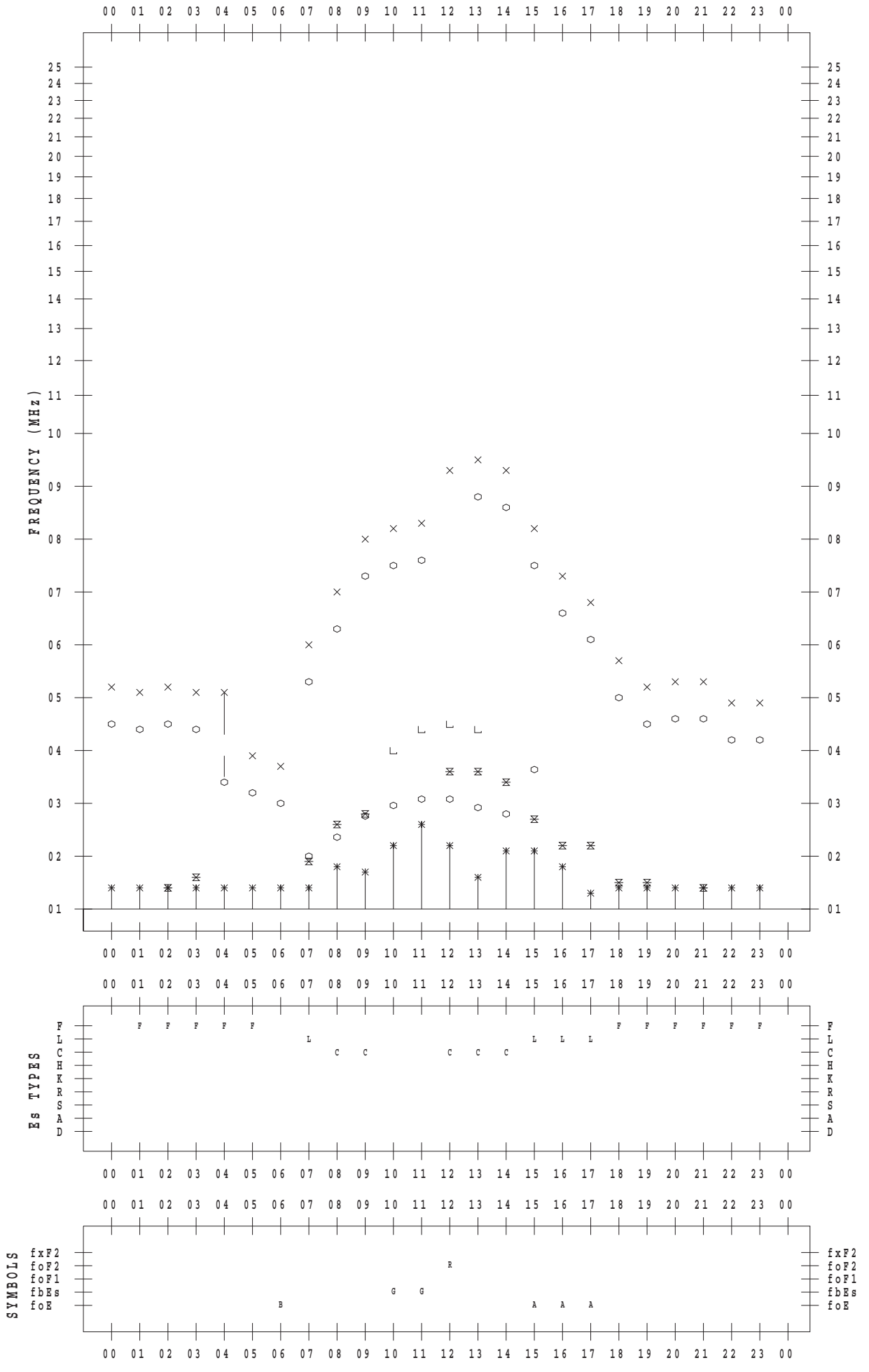
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/ 8

135 °E MEAN TIME



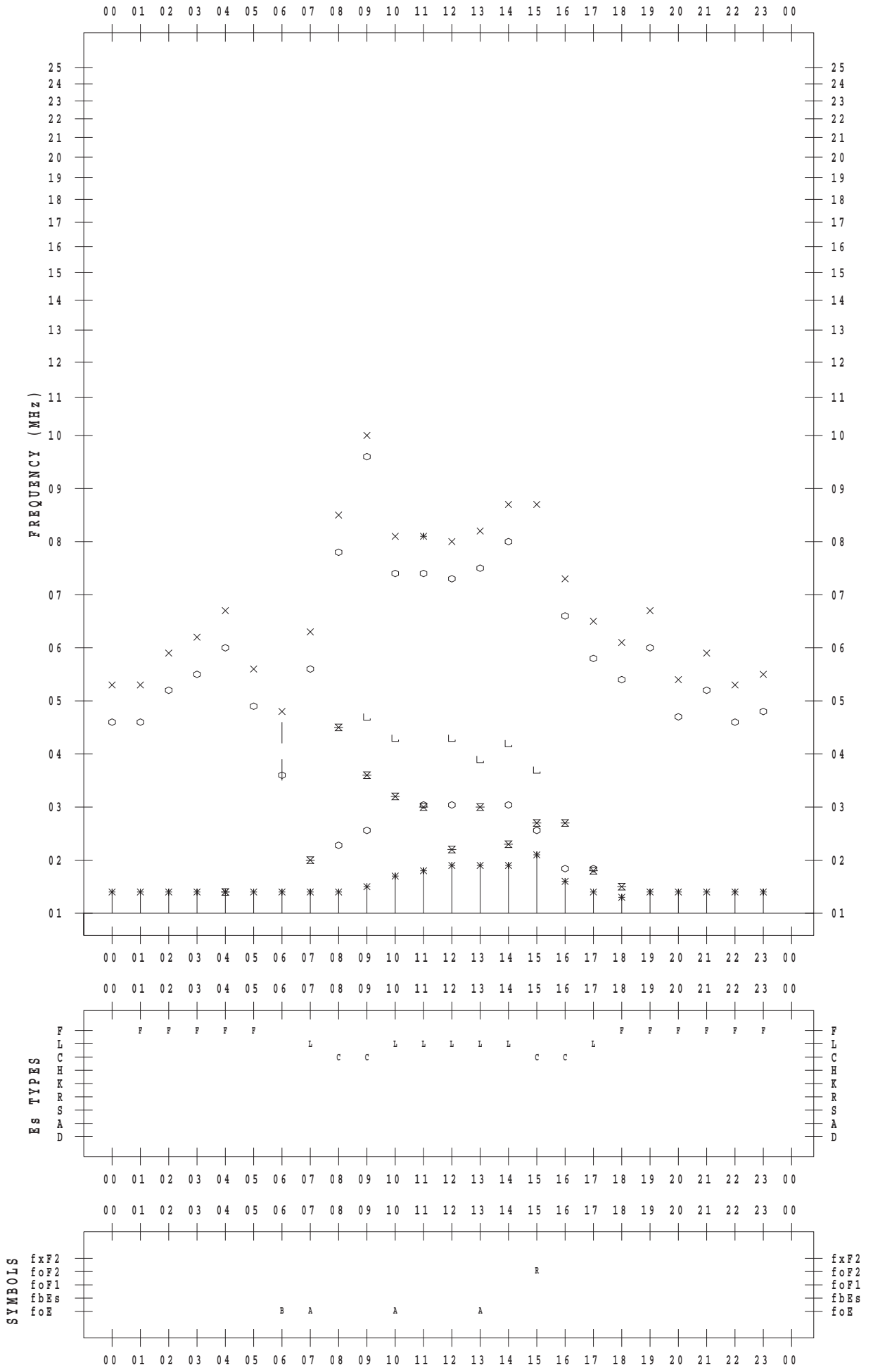
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/ 9

135 °E MEAN TIME



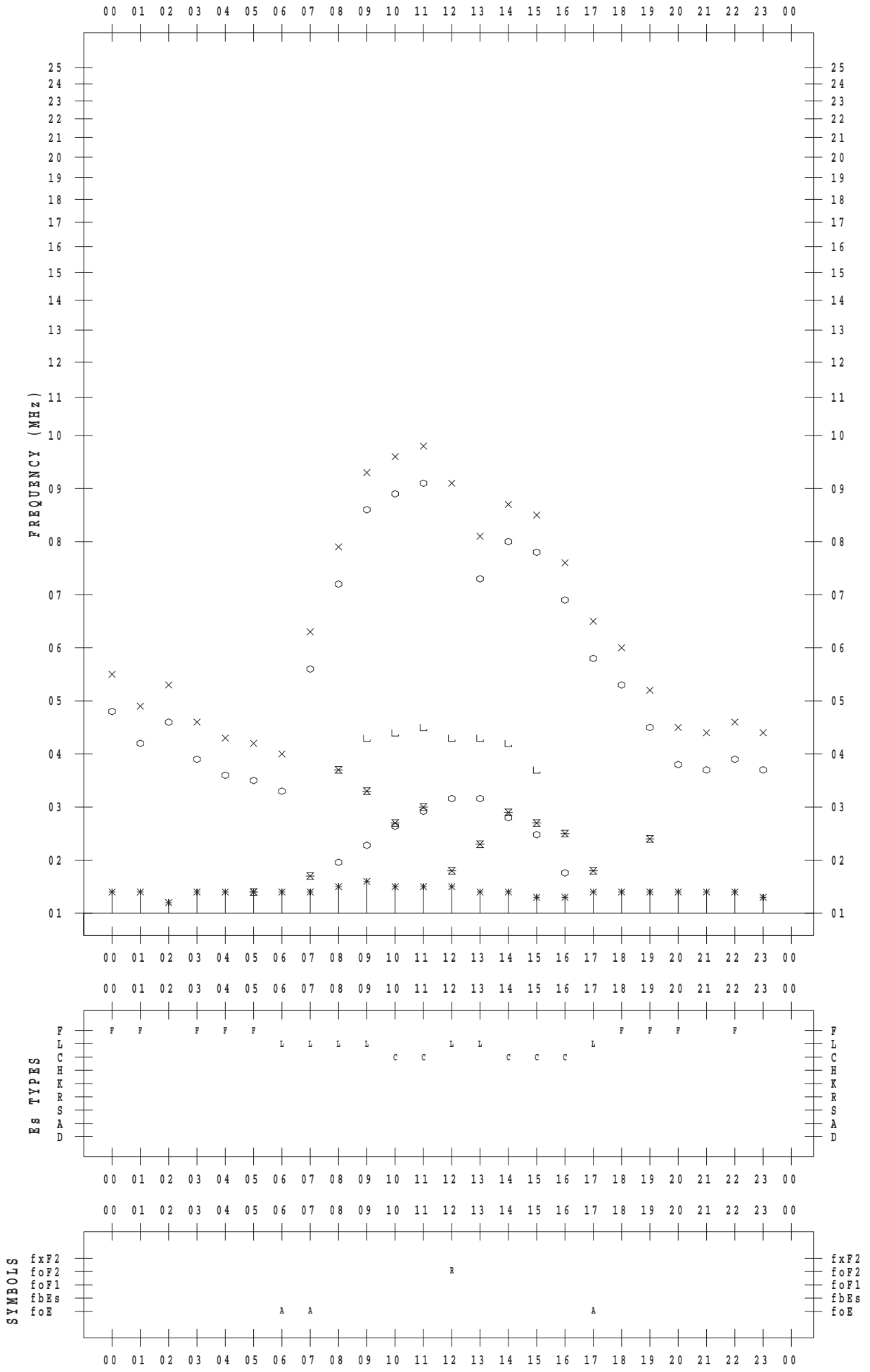
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/10

135 °E MEAN TIME



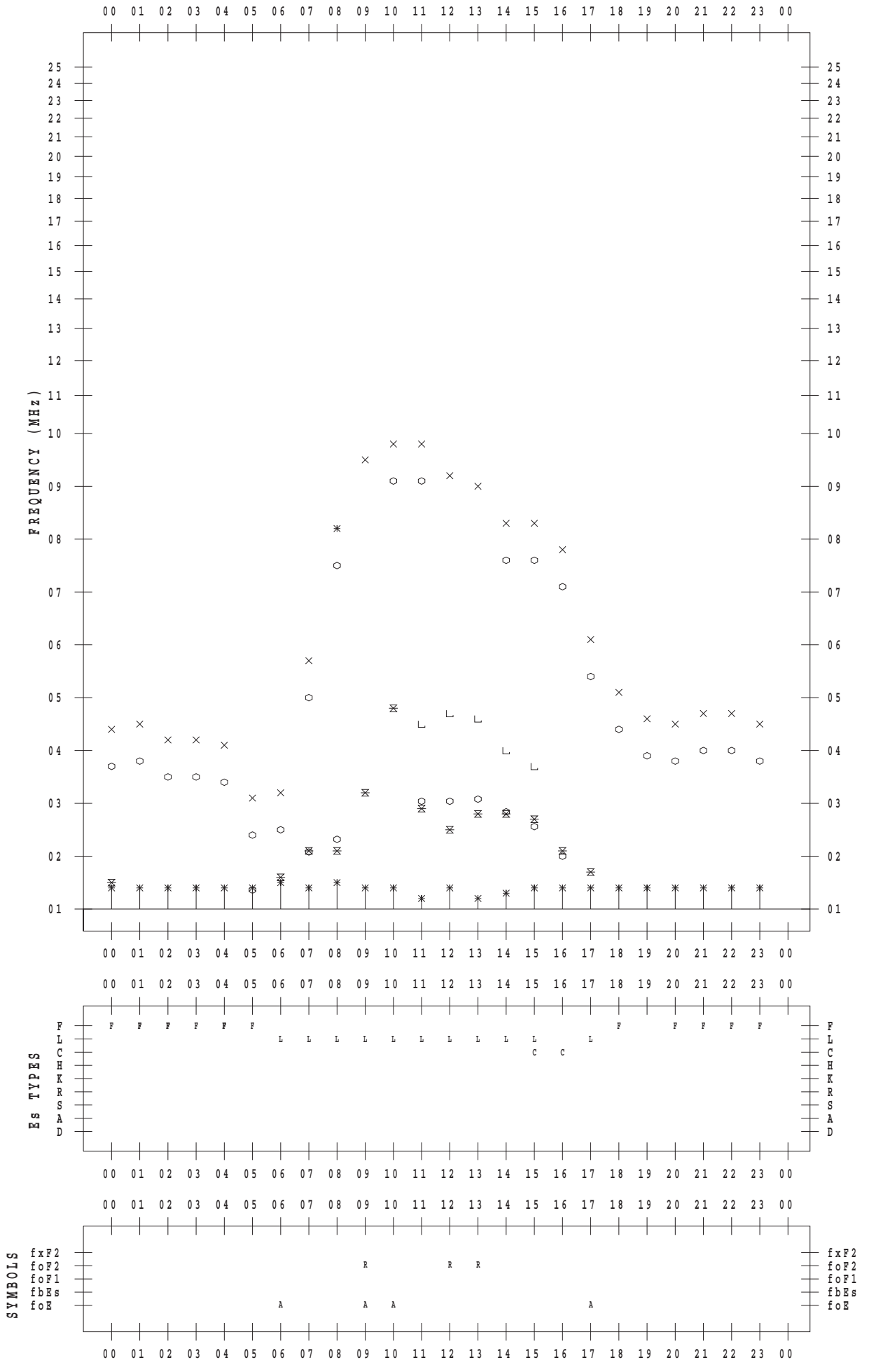
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/11

135 °E MEAN TIME



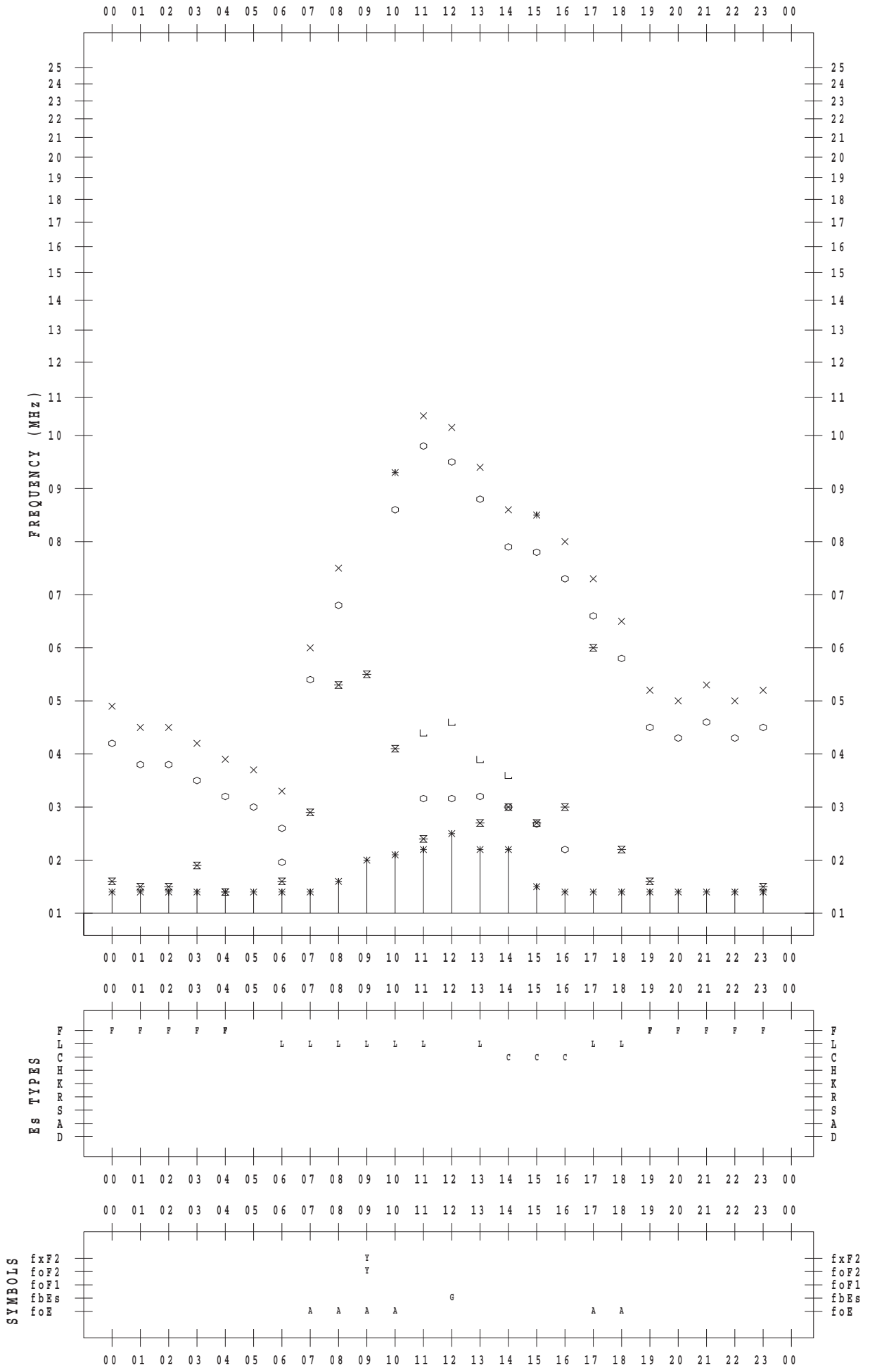
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/12

135 °E MEAN TIME



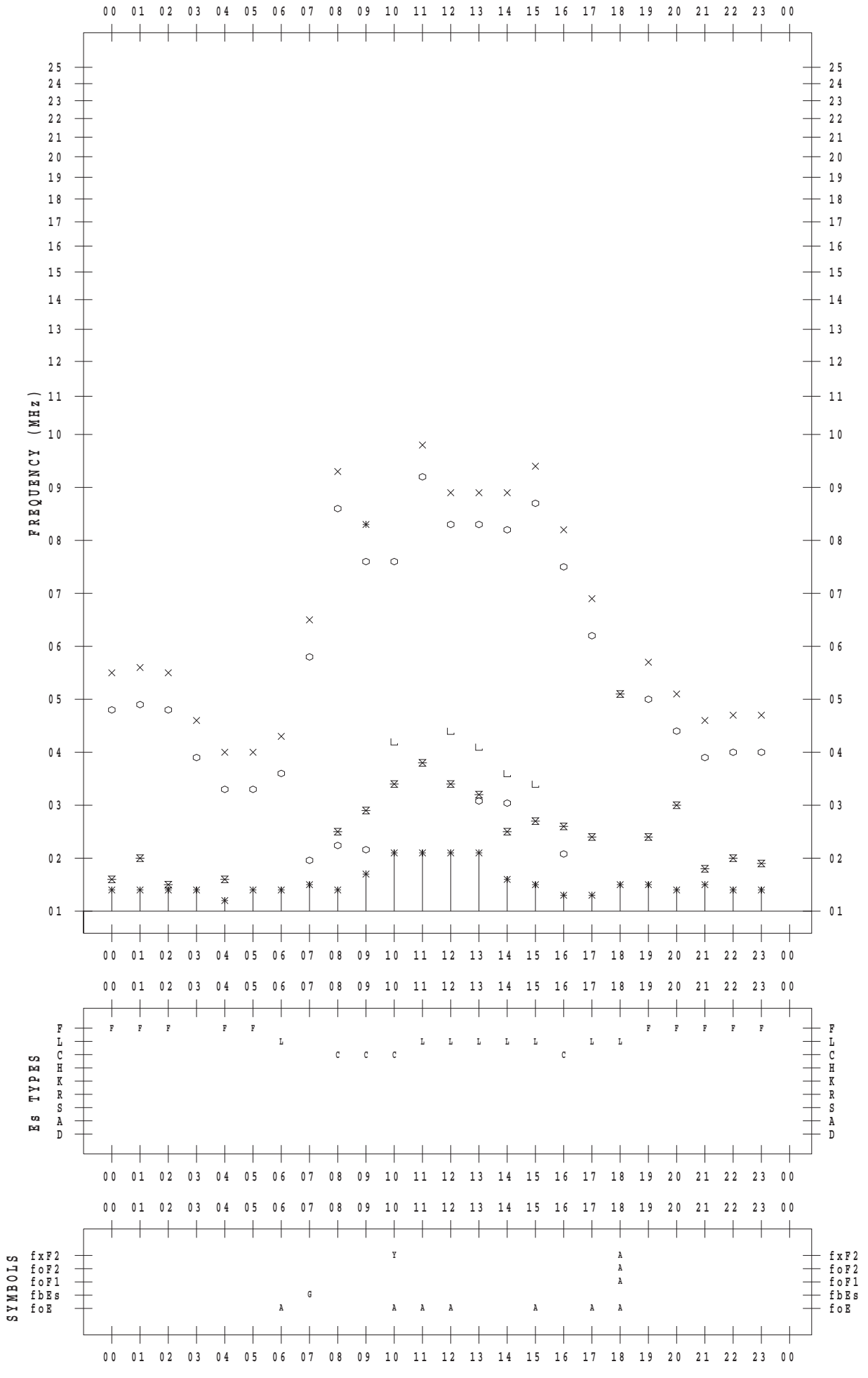
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/13

135 °E MEAN TIME



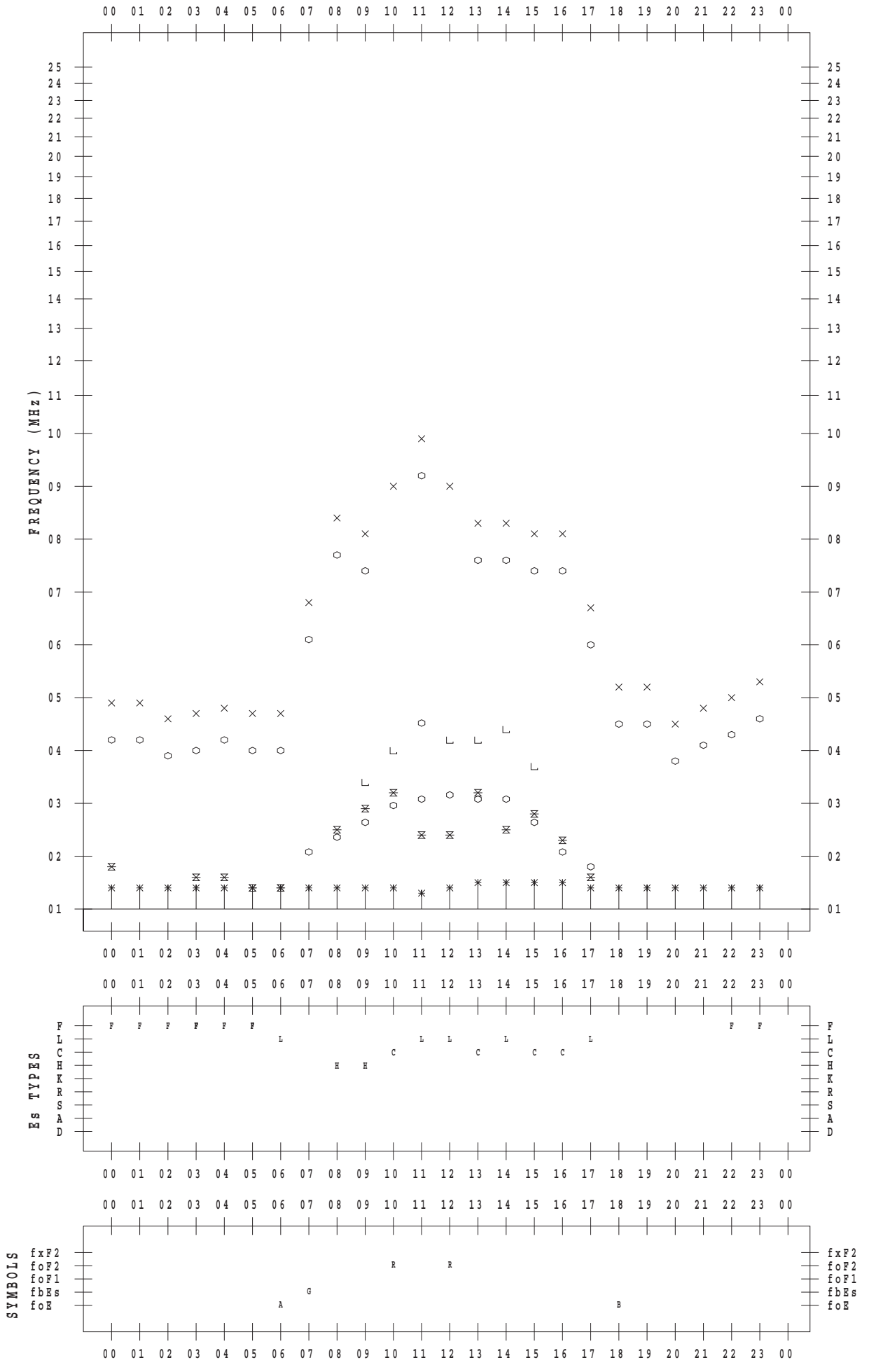
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/14

135 °E MEAN TIME



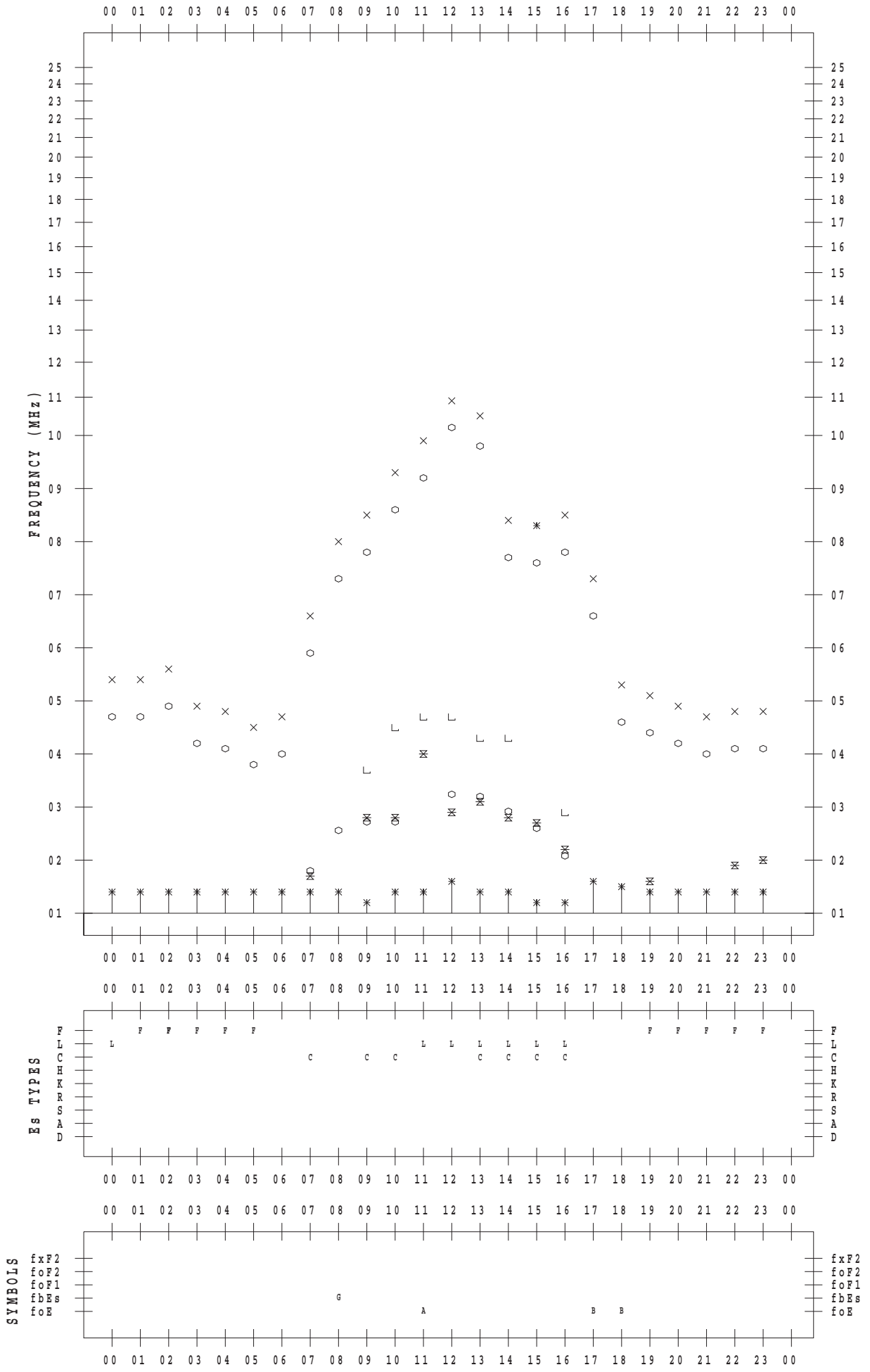
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/15

135 °E MEAN TIME



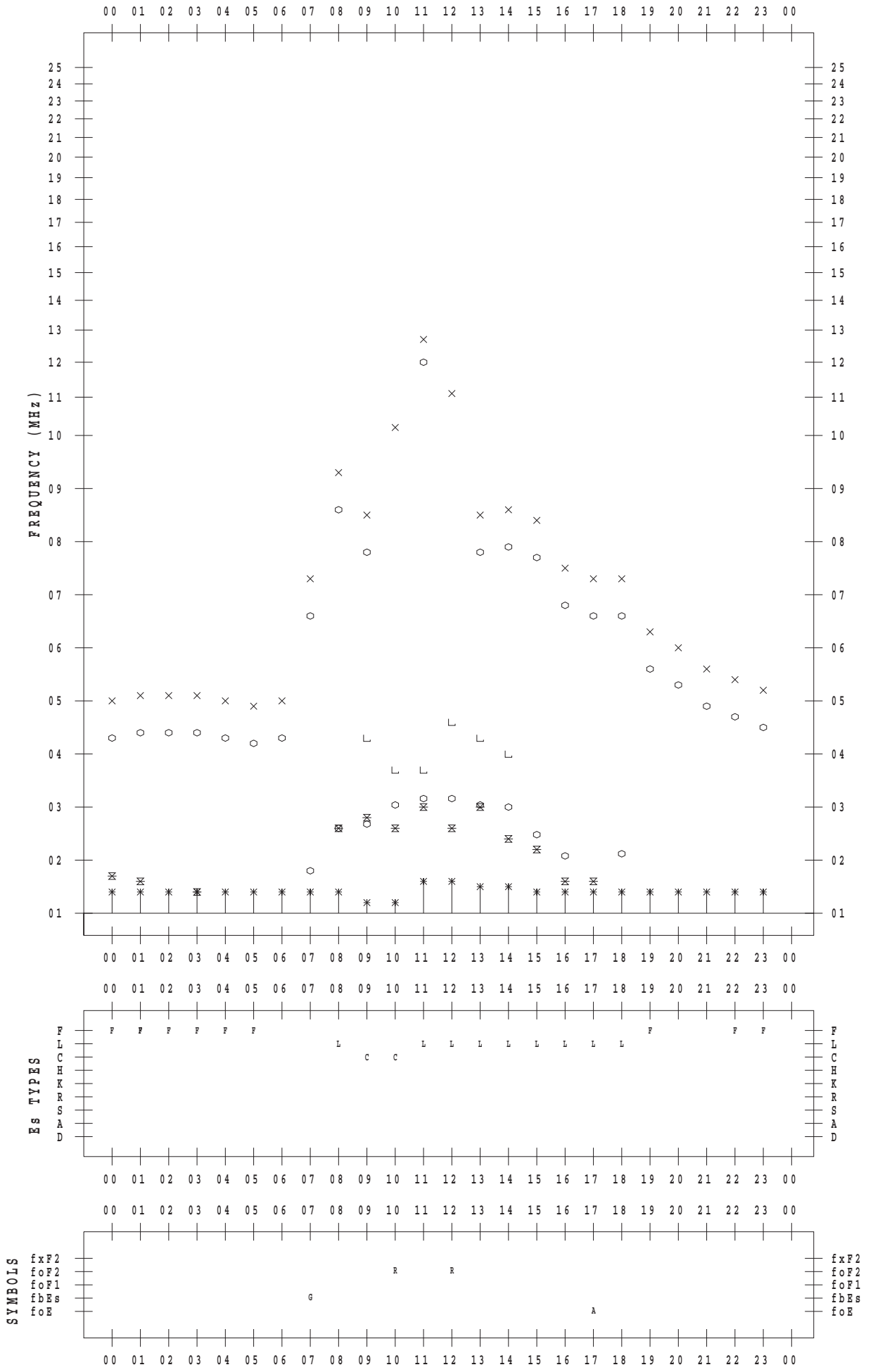
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/16

135 °E MEAN TIME



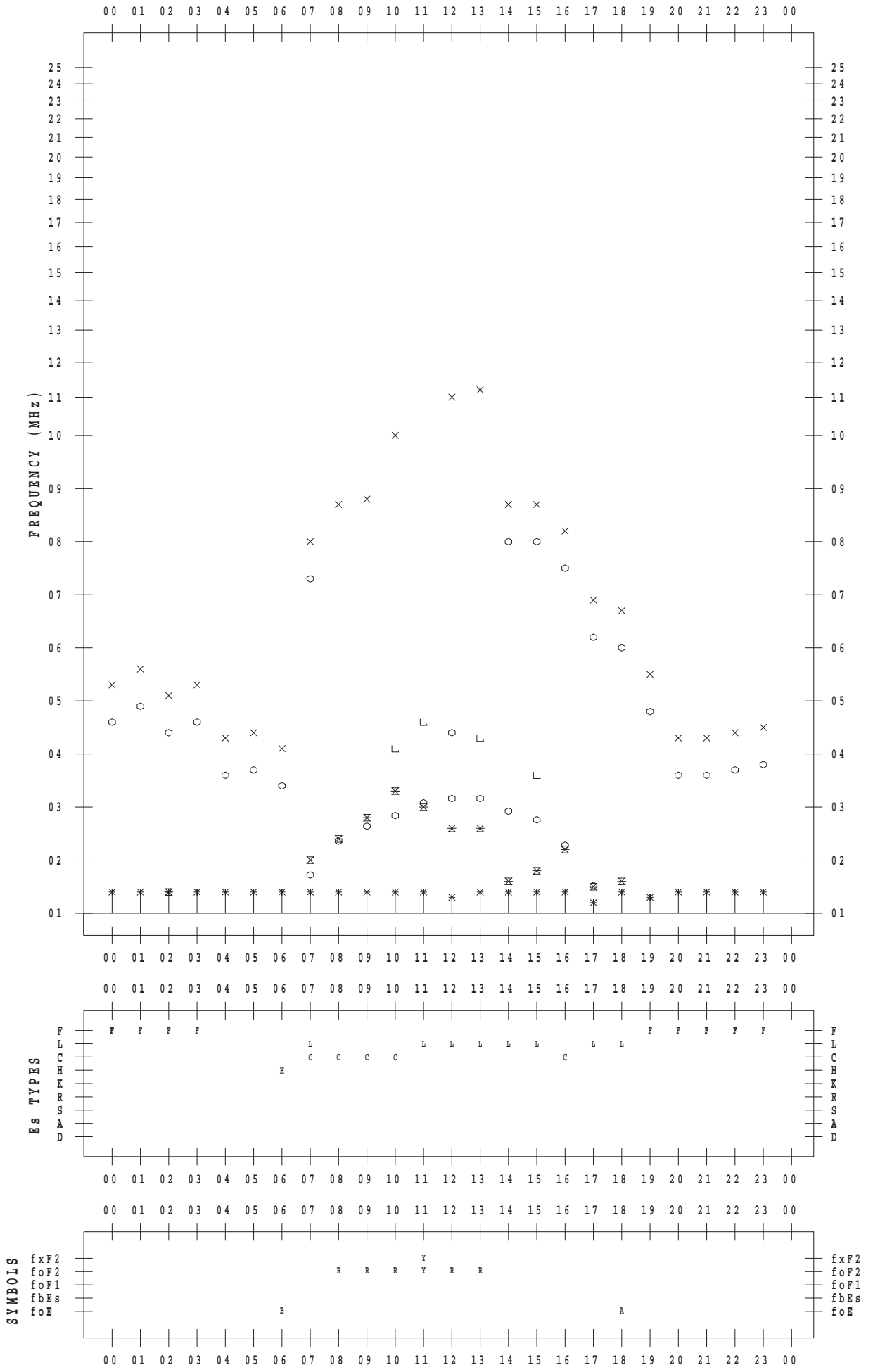
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/17

135 °E MEAN TIME



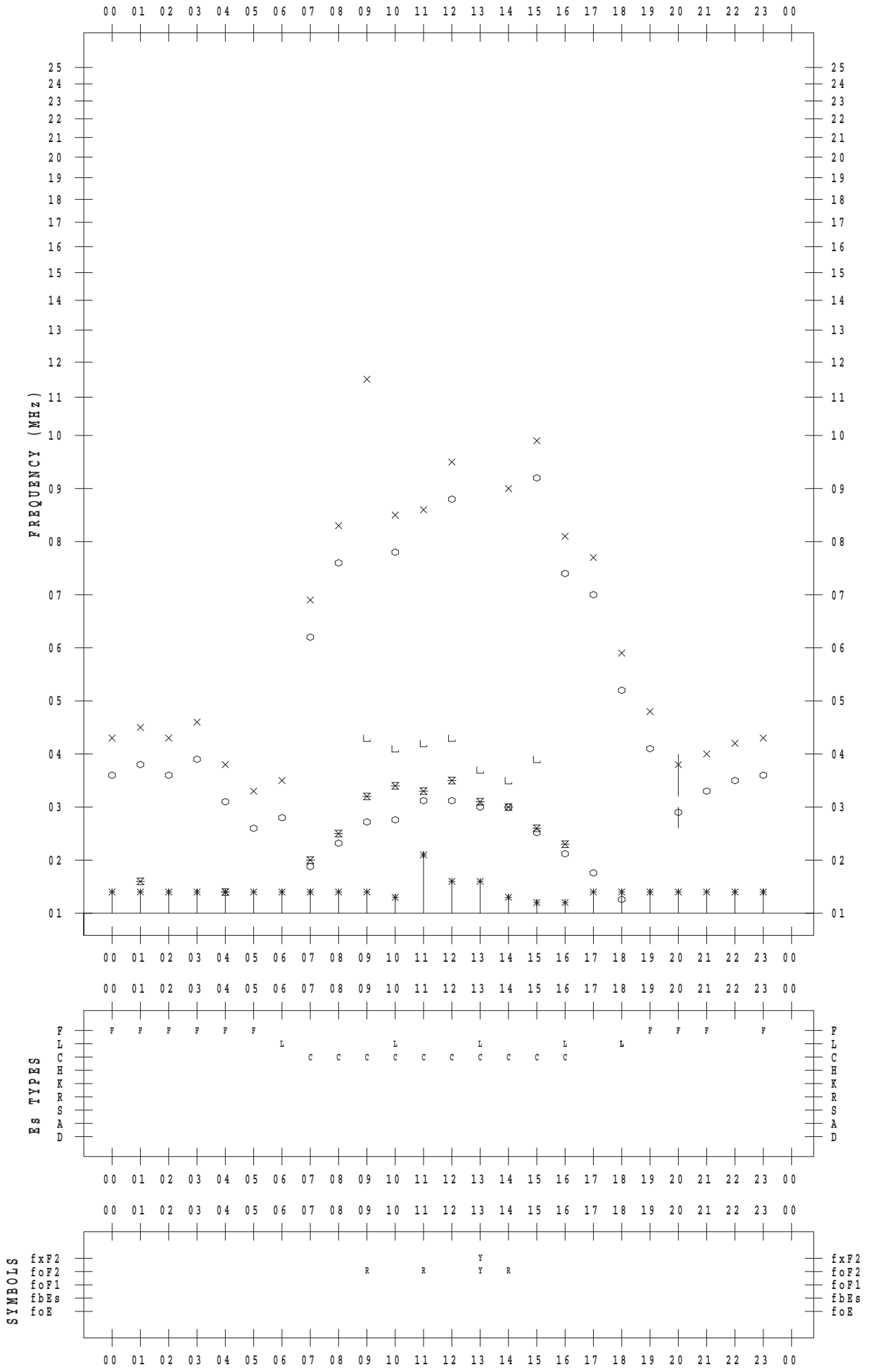
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/18

135 °E MEAN TIME



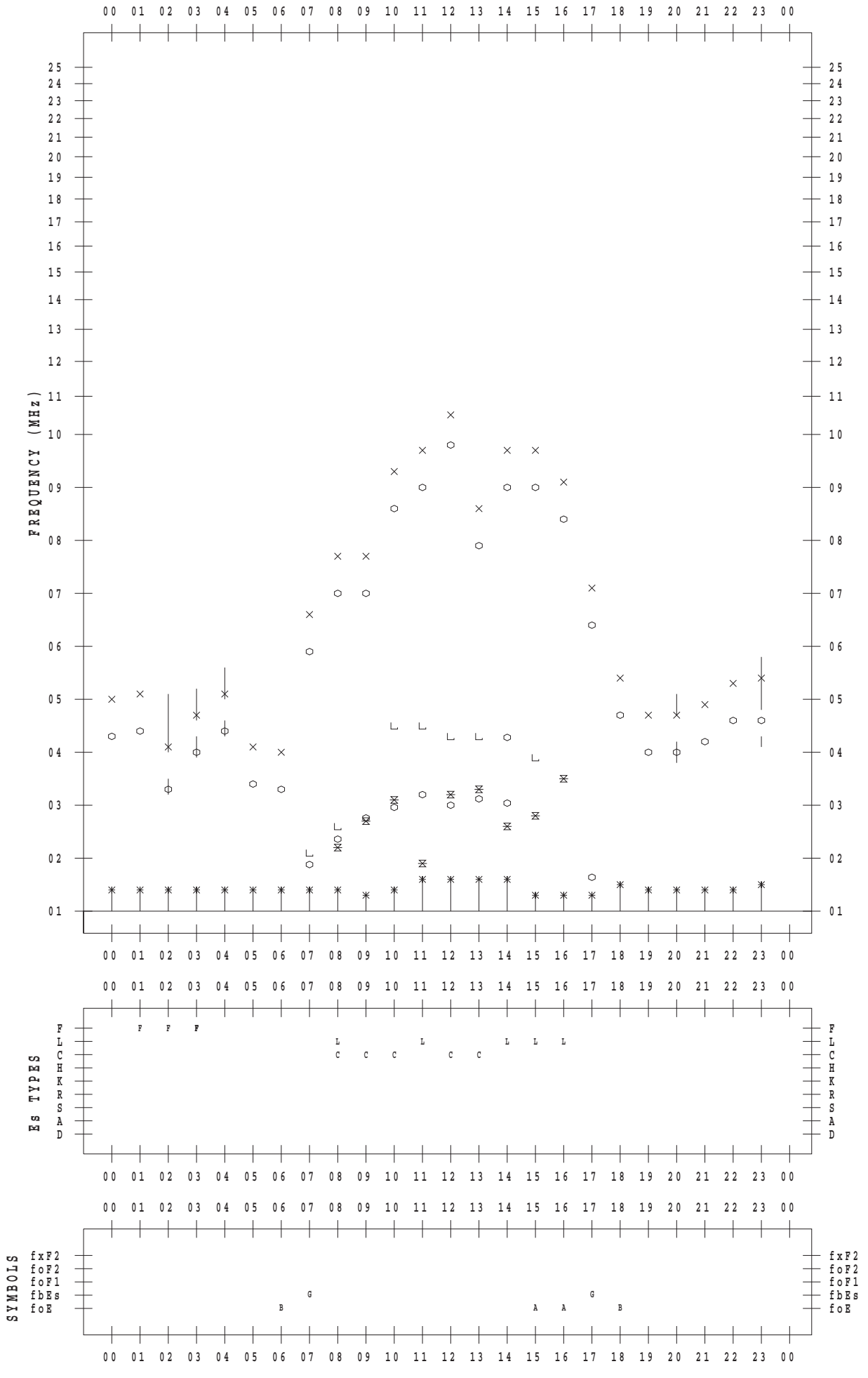
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/19

135 °E MEAN TIME



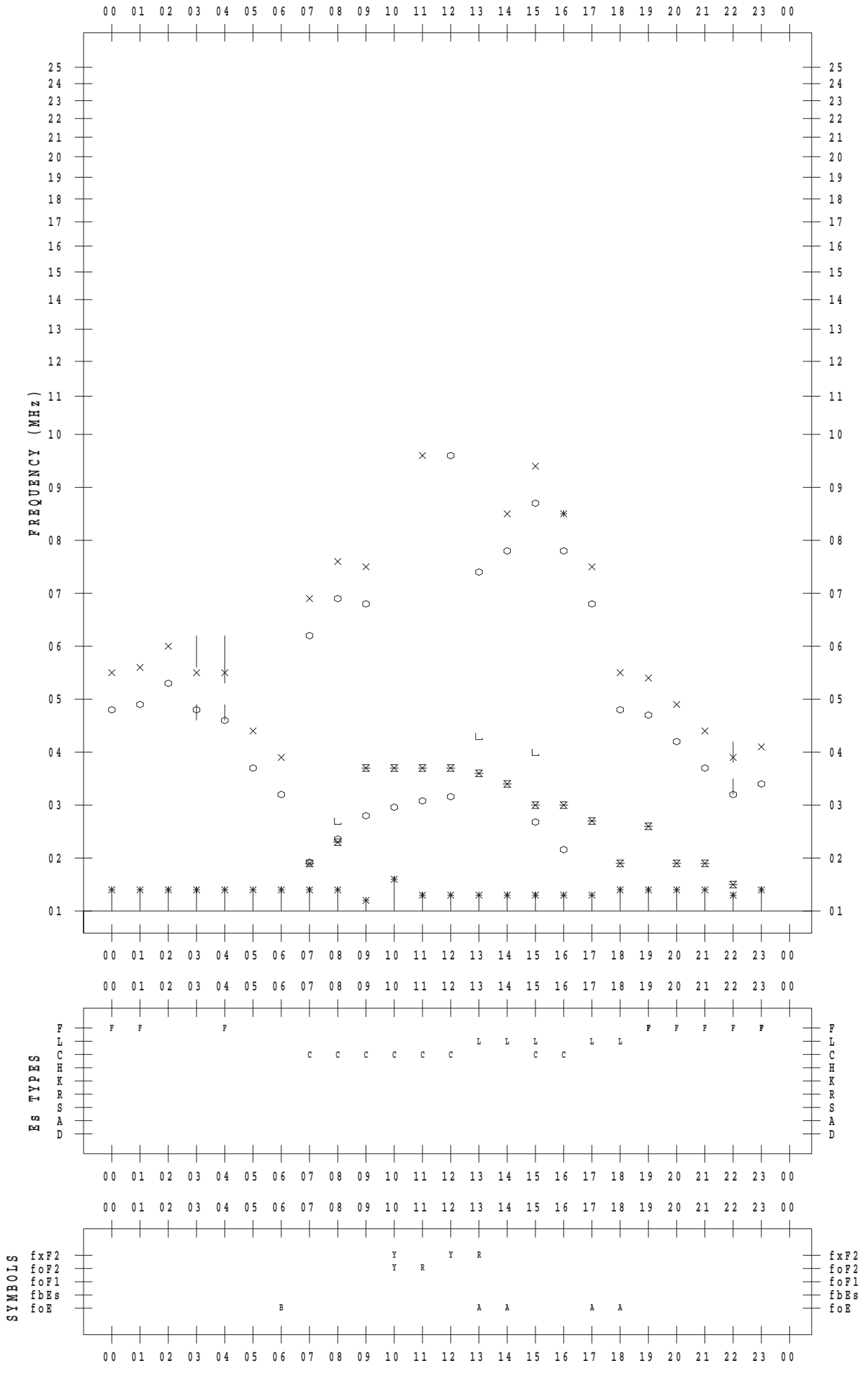
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/20

135 °E MEAN TIME



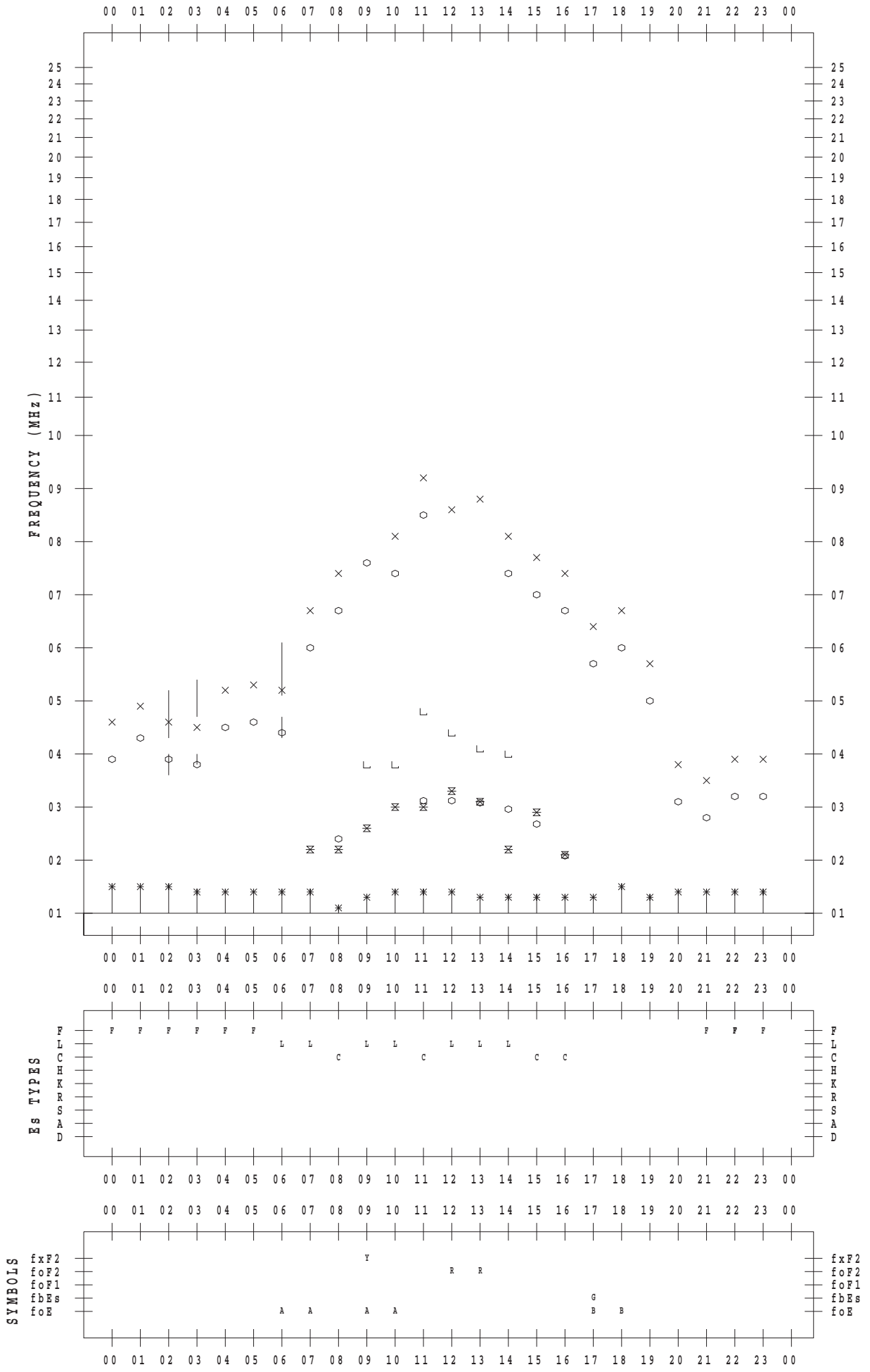
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/21

135 °E MEAN TIME



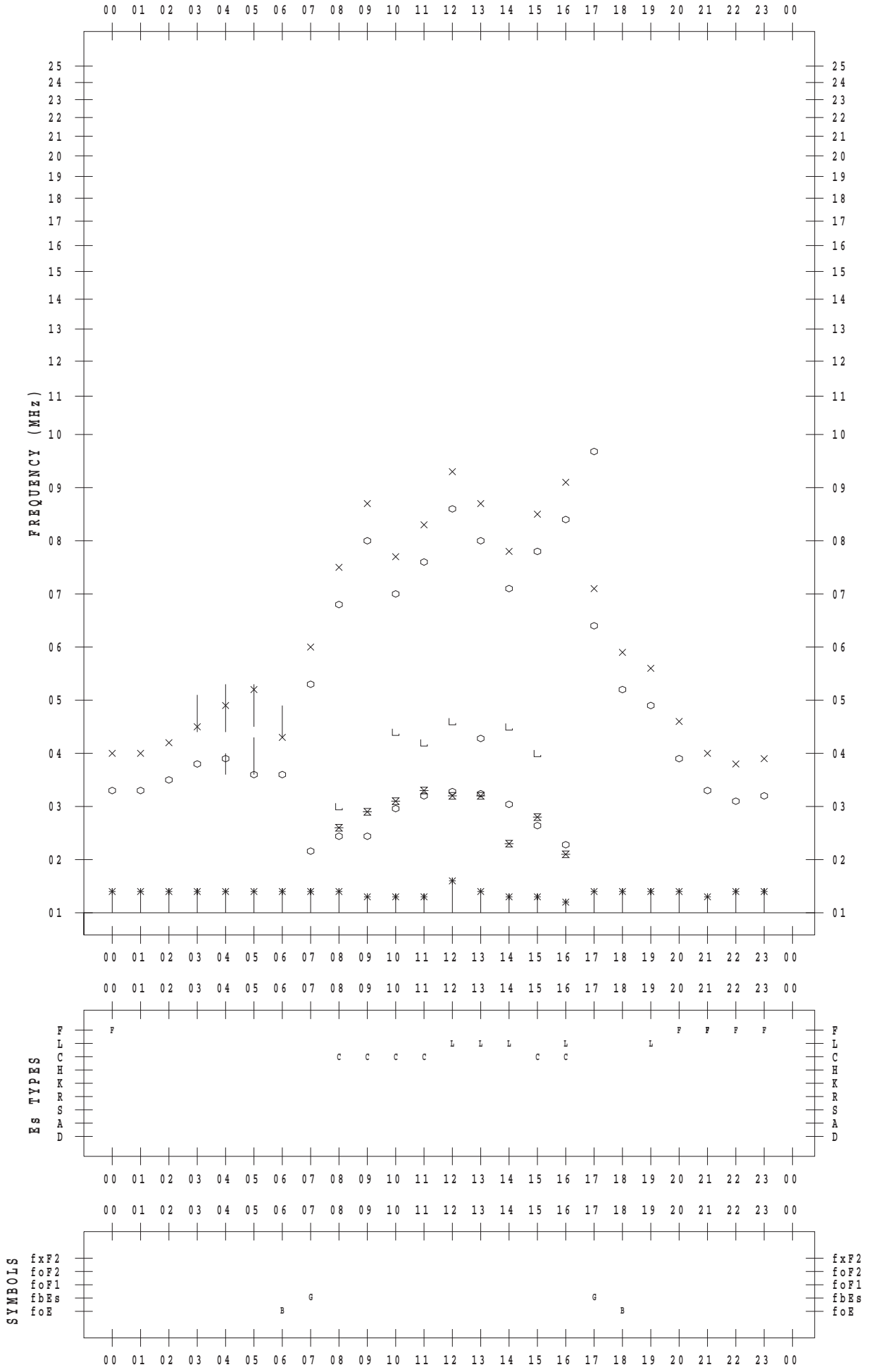
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/22

135 °E MEAN TIME



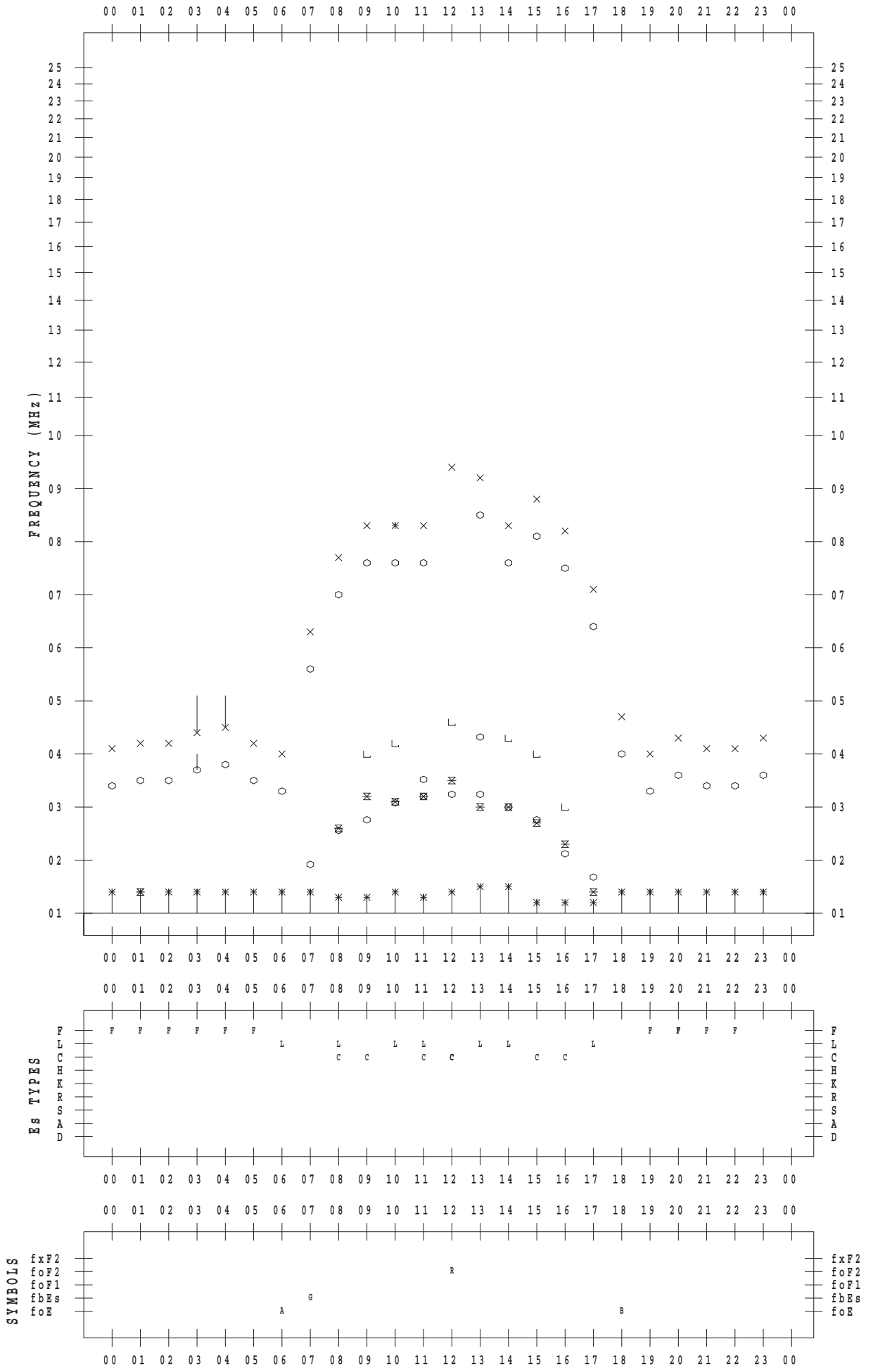
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/23

135 °E MEAN TIME



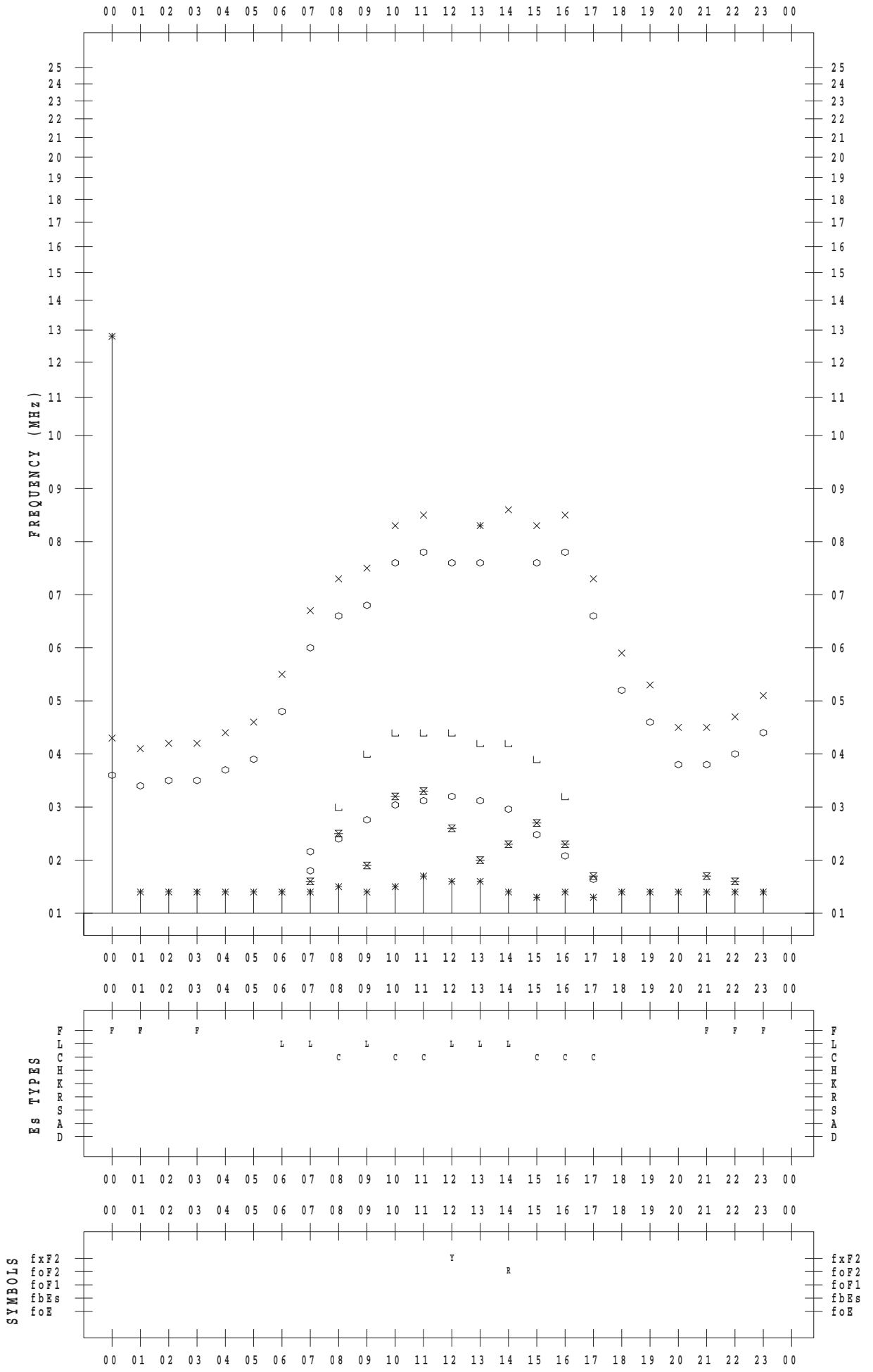
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/24

135 °E MEAN TIME



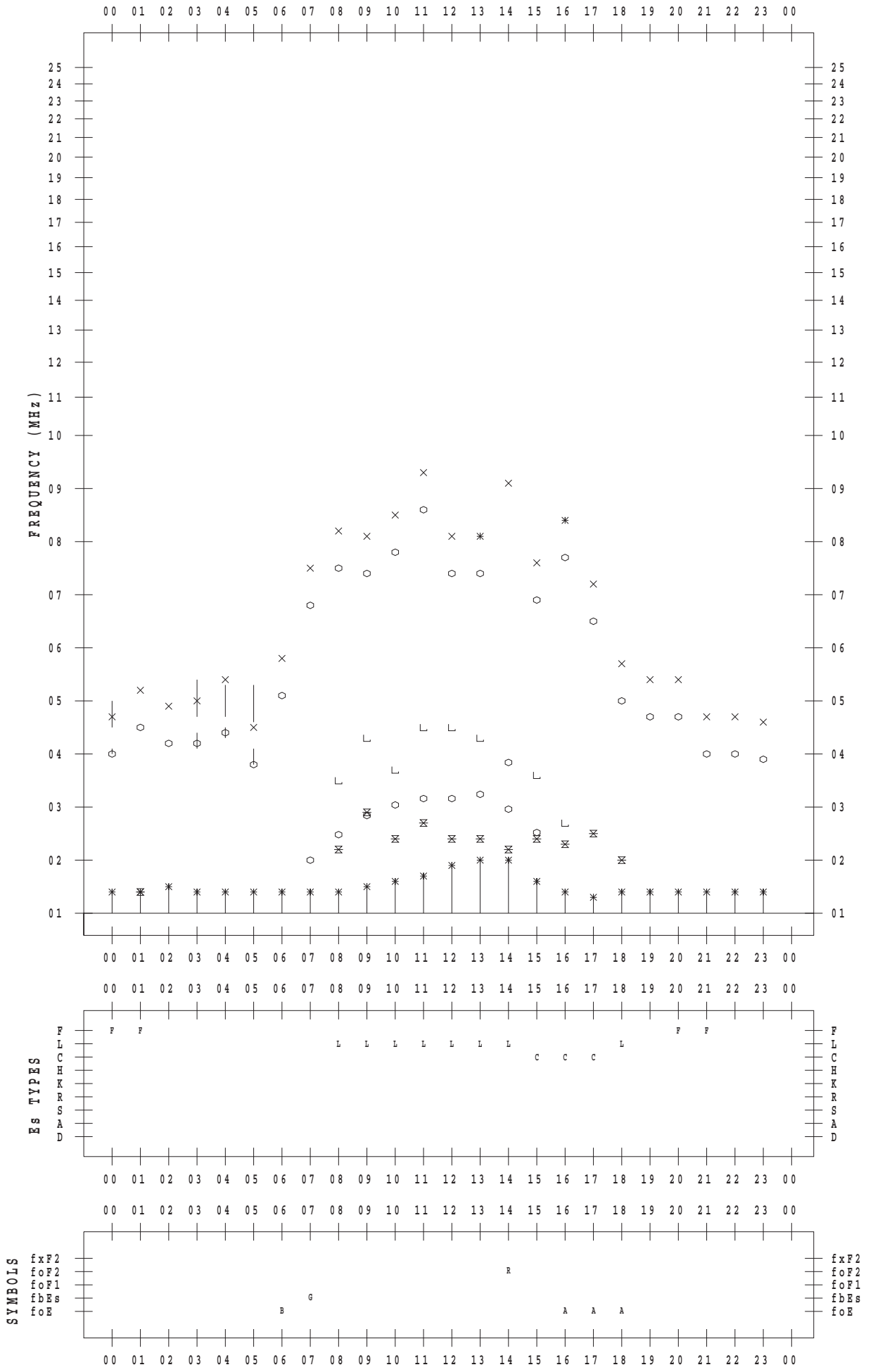
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/25

135 °E MEAN TIME



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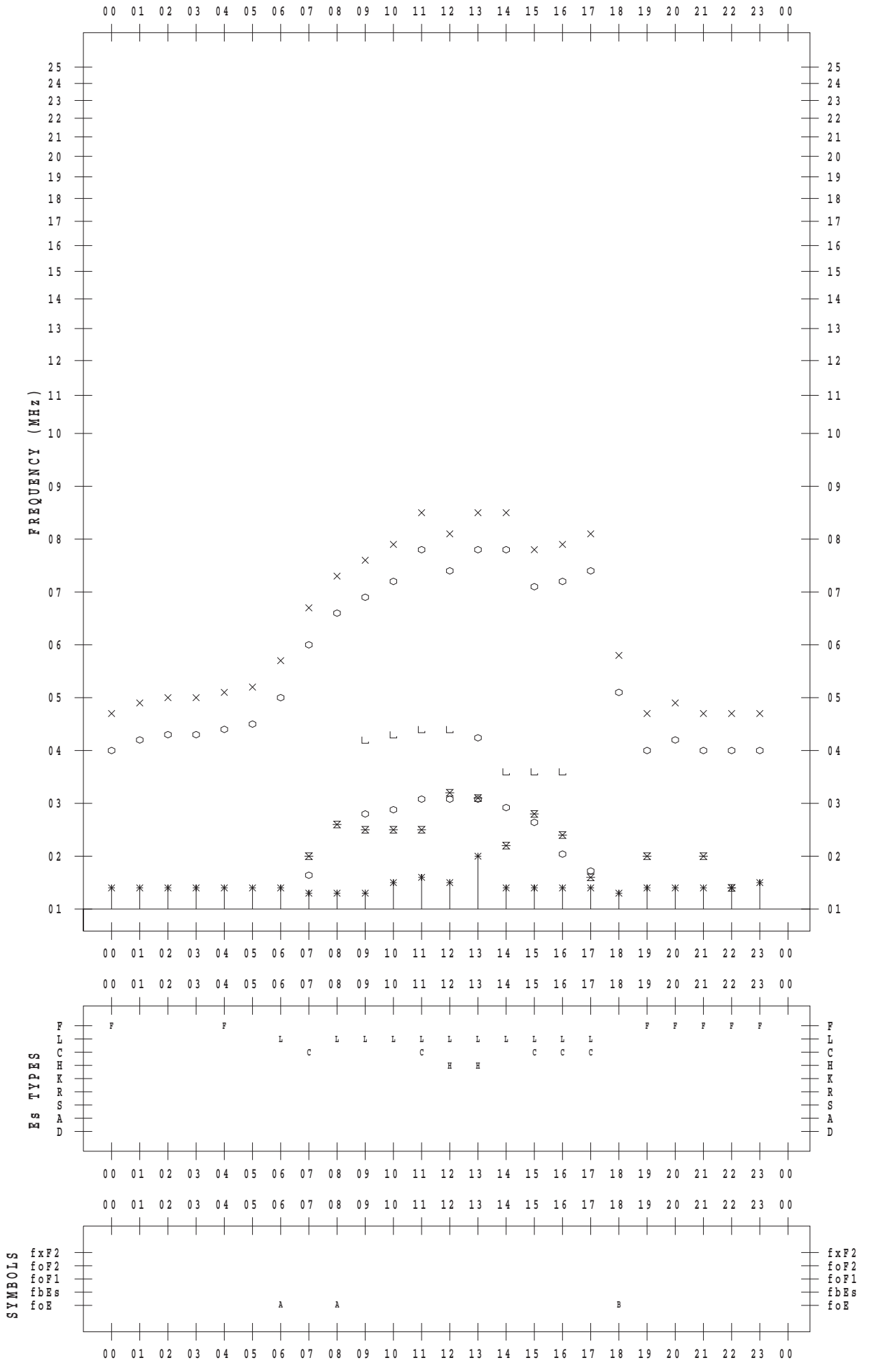
SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/26

135 °E MEAN TIME



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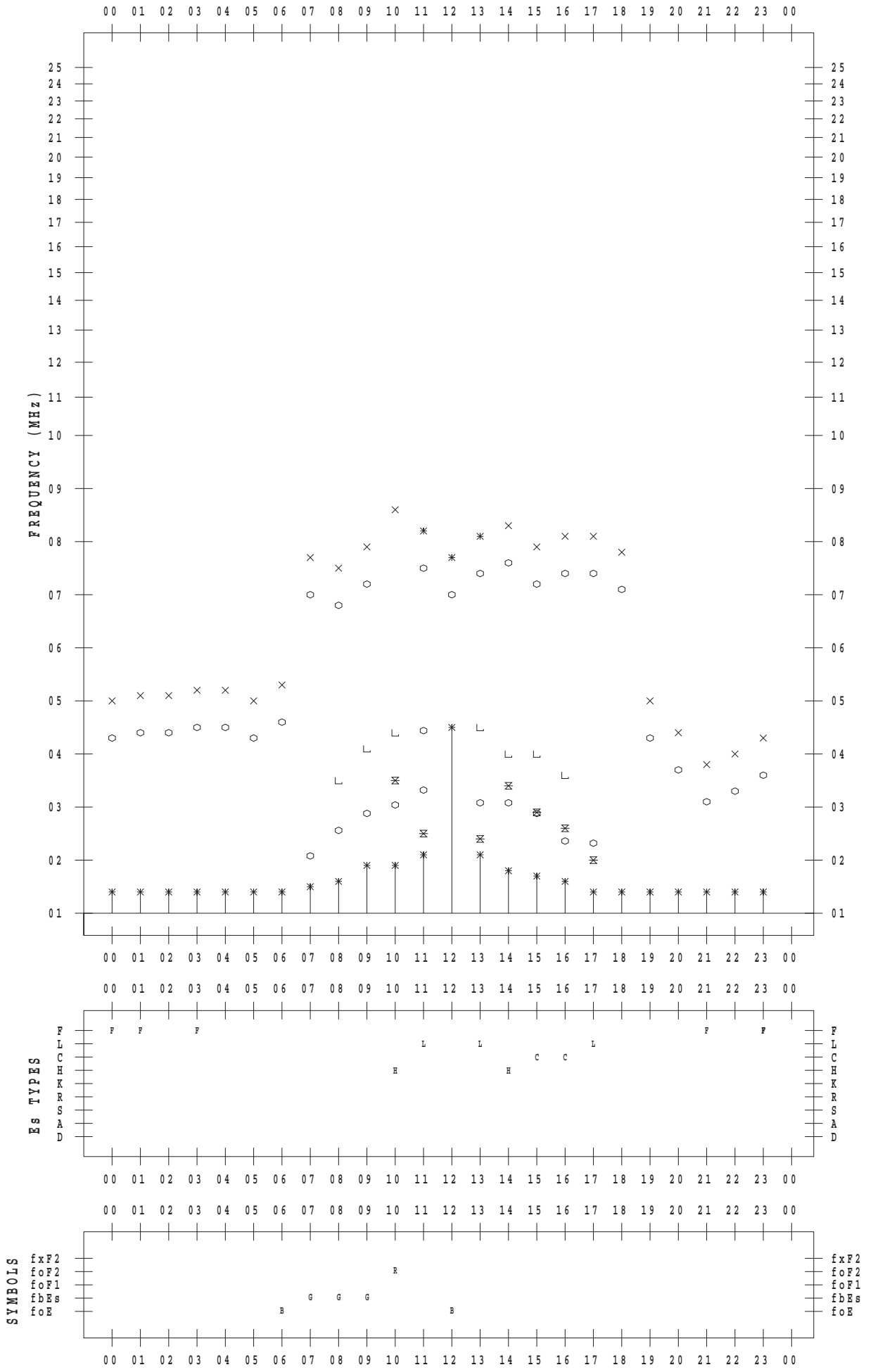
SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/27

135 °E MEAN TIME



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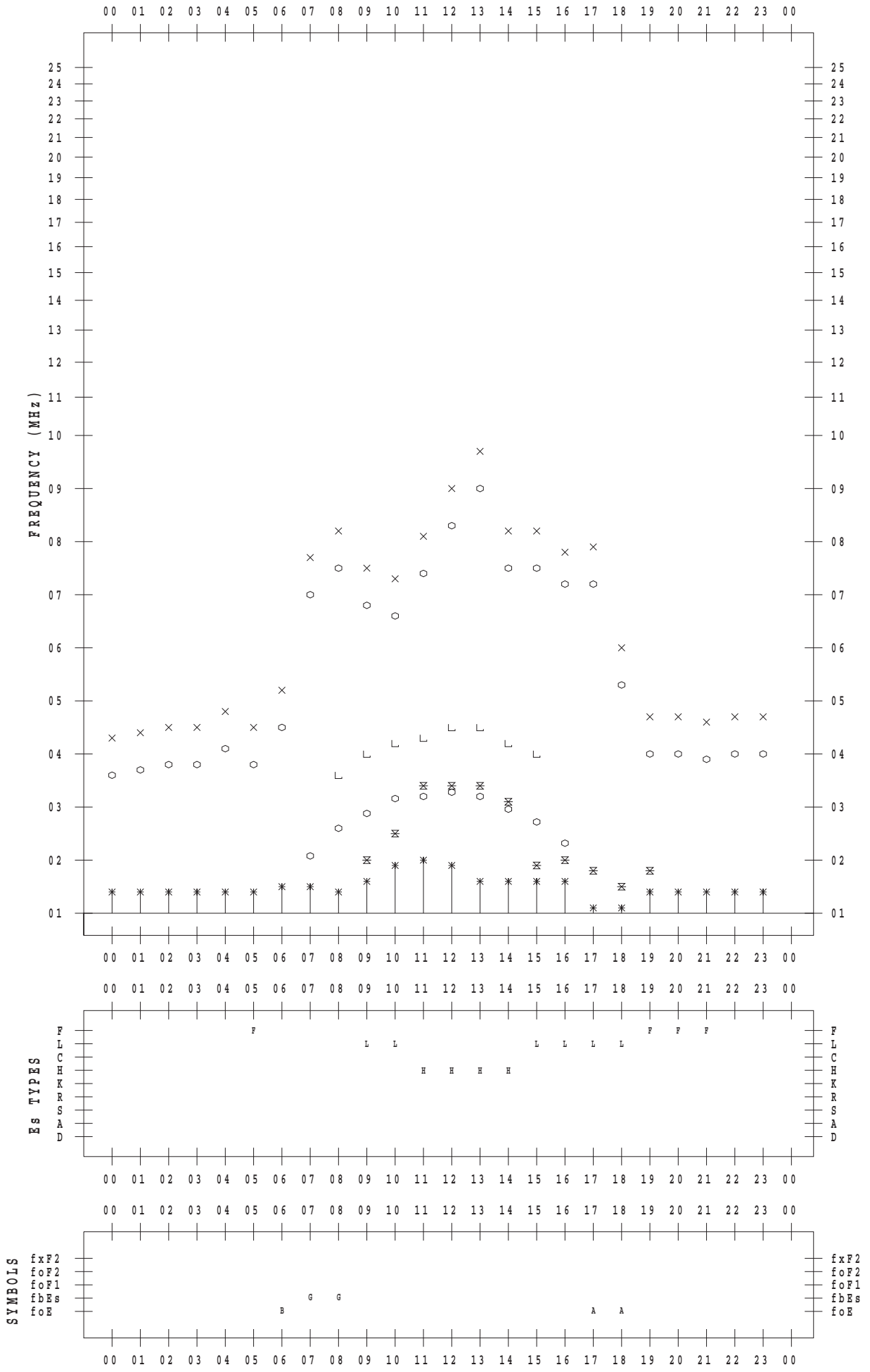
SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/28

135 °E MEAN TIME



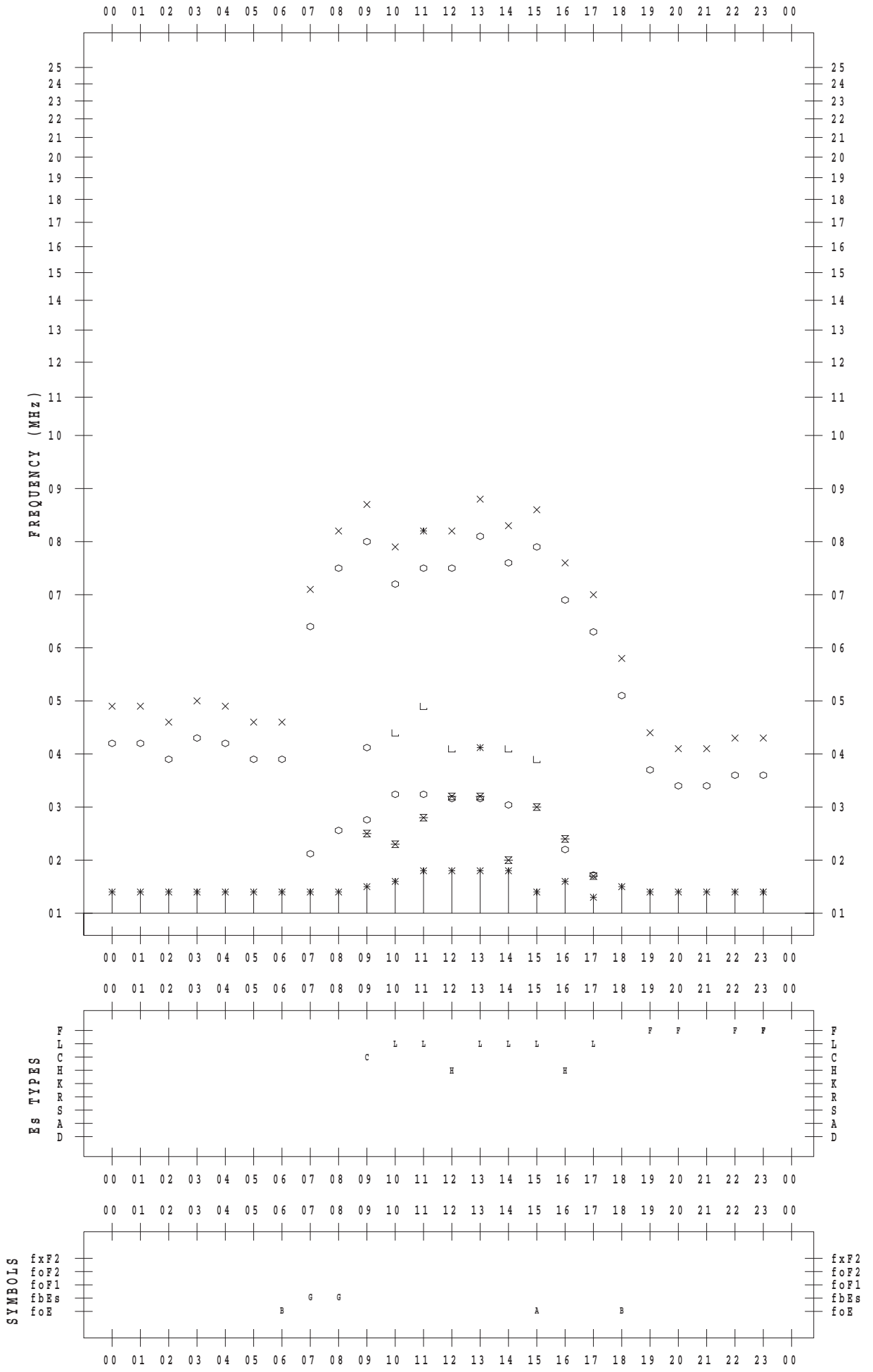
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2016/ 2/29

135 °E MEAN TIME



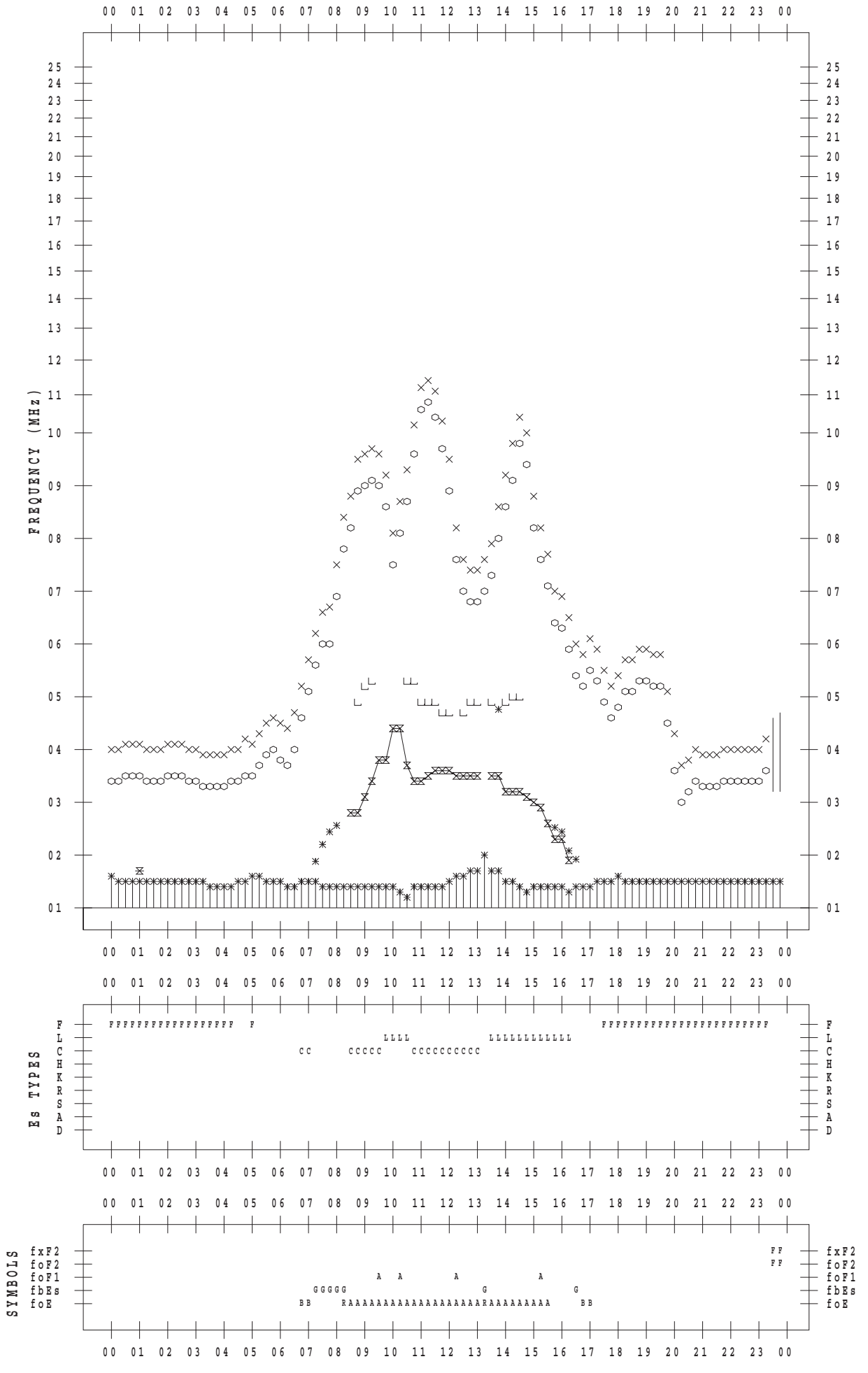
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/ 1

135 °E MEAN TIME



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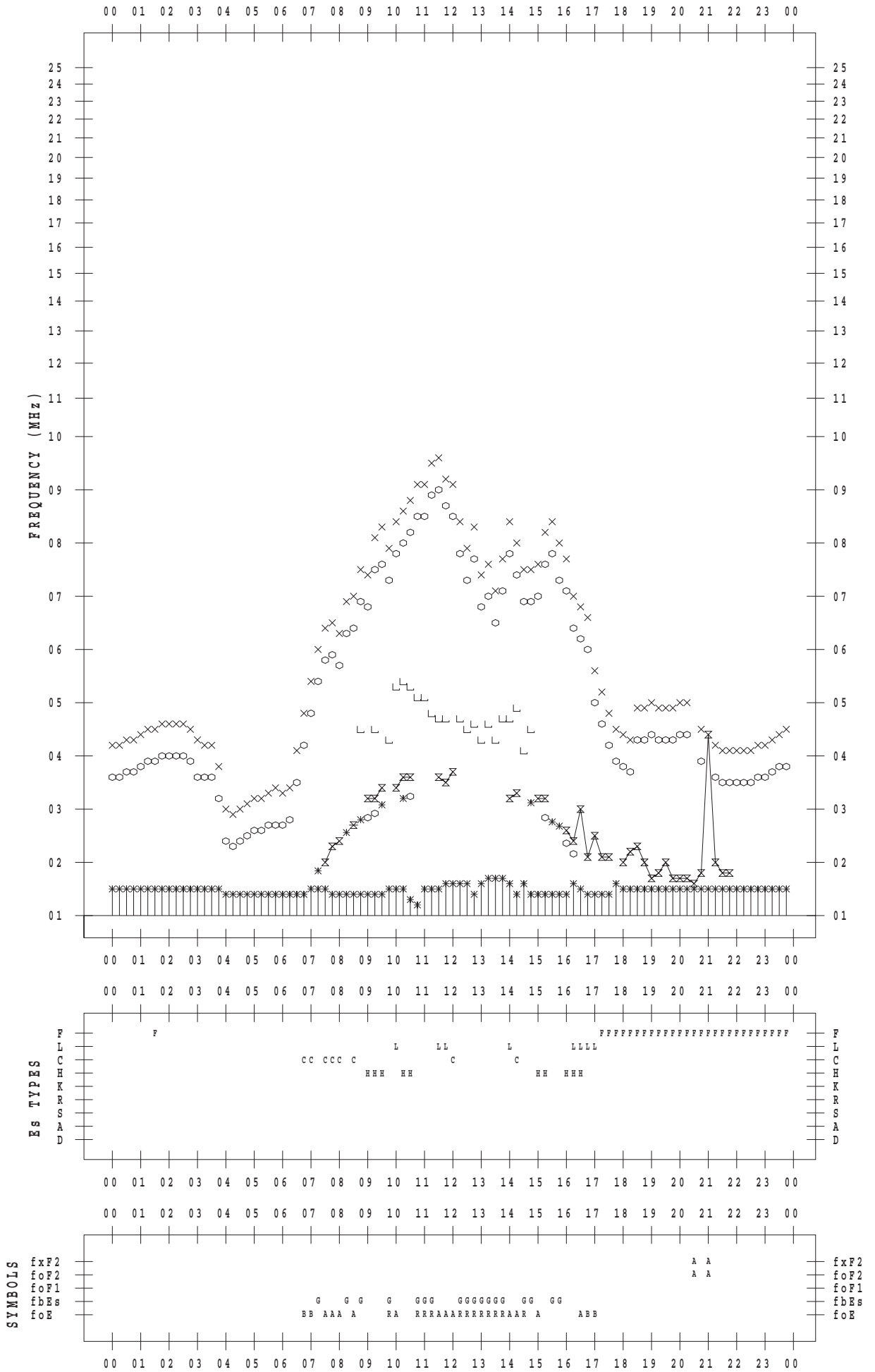
SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/ 2

135 °E MEAN TIME



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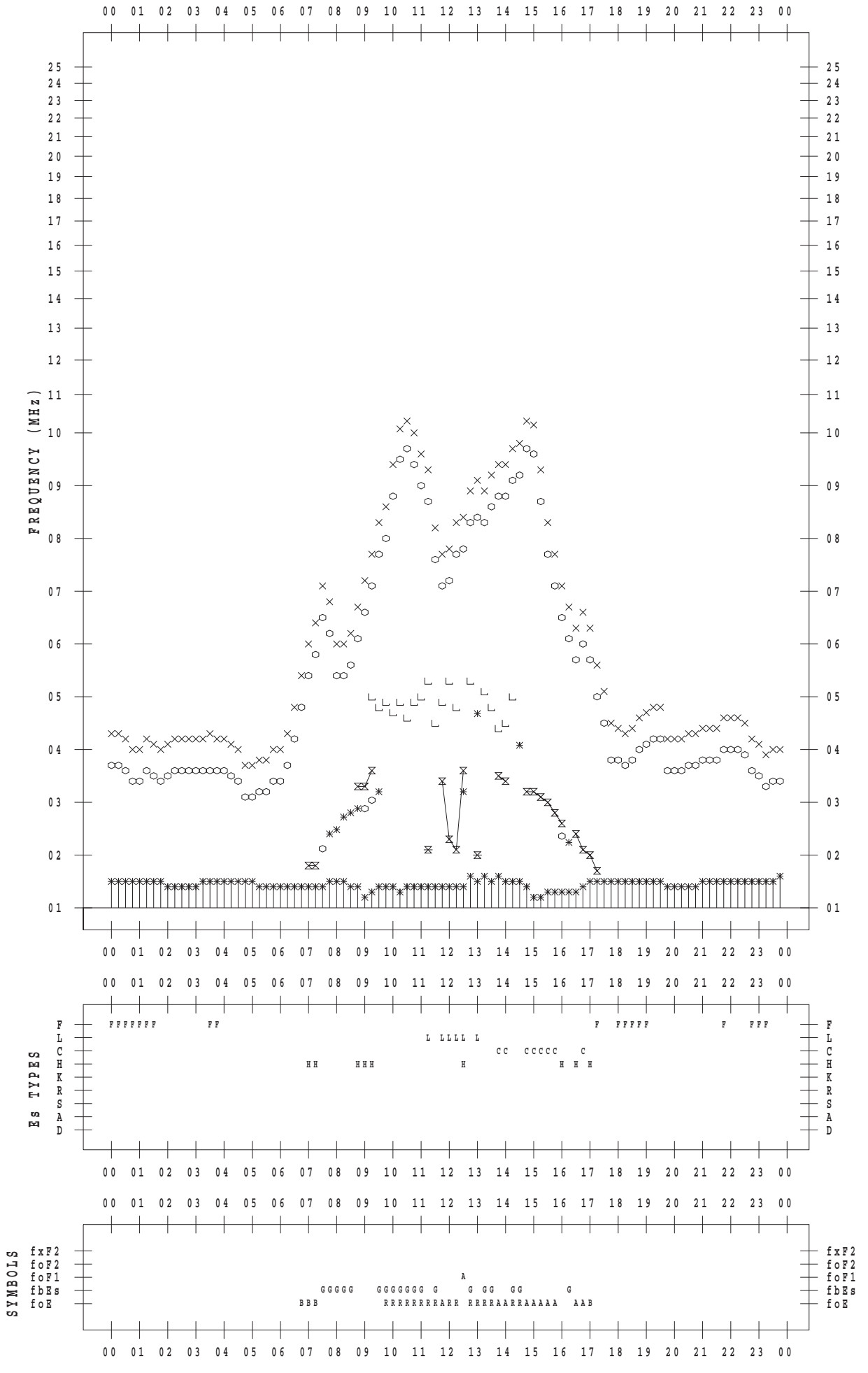
SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/ 3

135 °E MEAN TIME



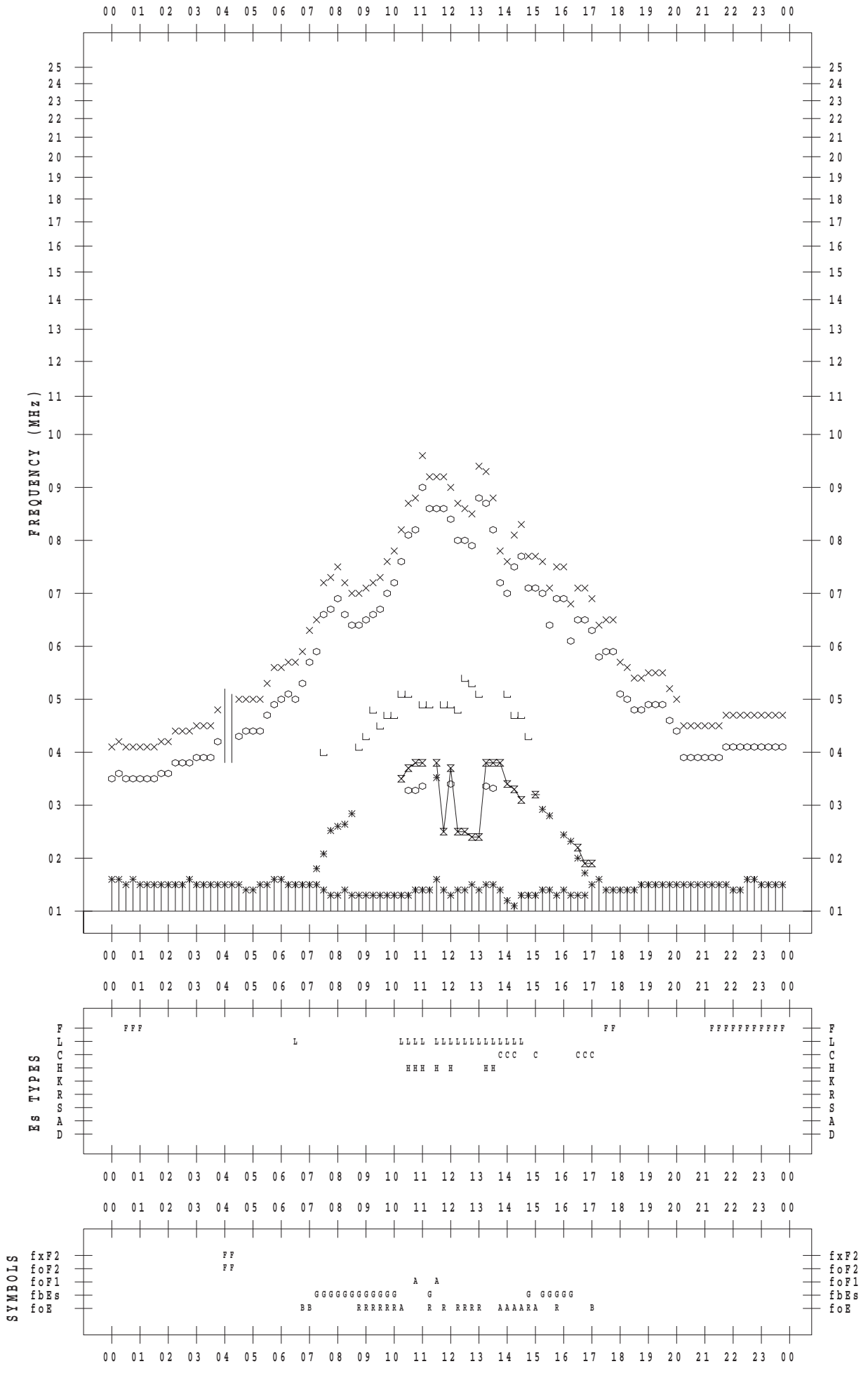
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/ 4

135 °E MEAN TIME



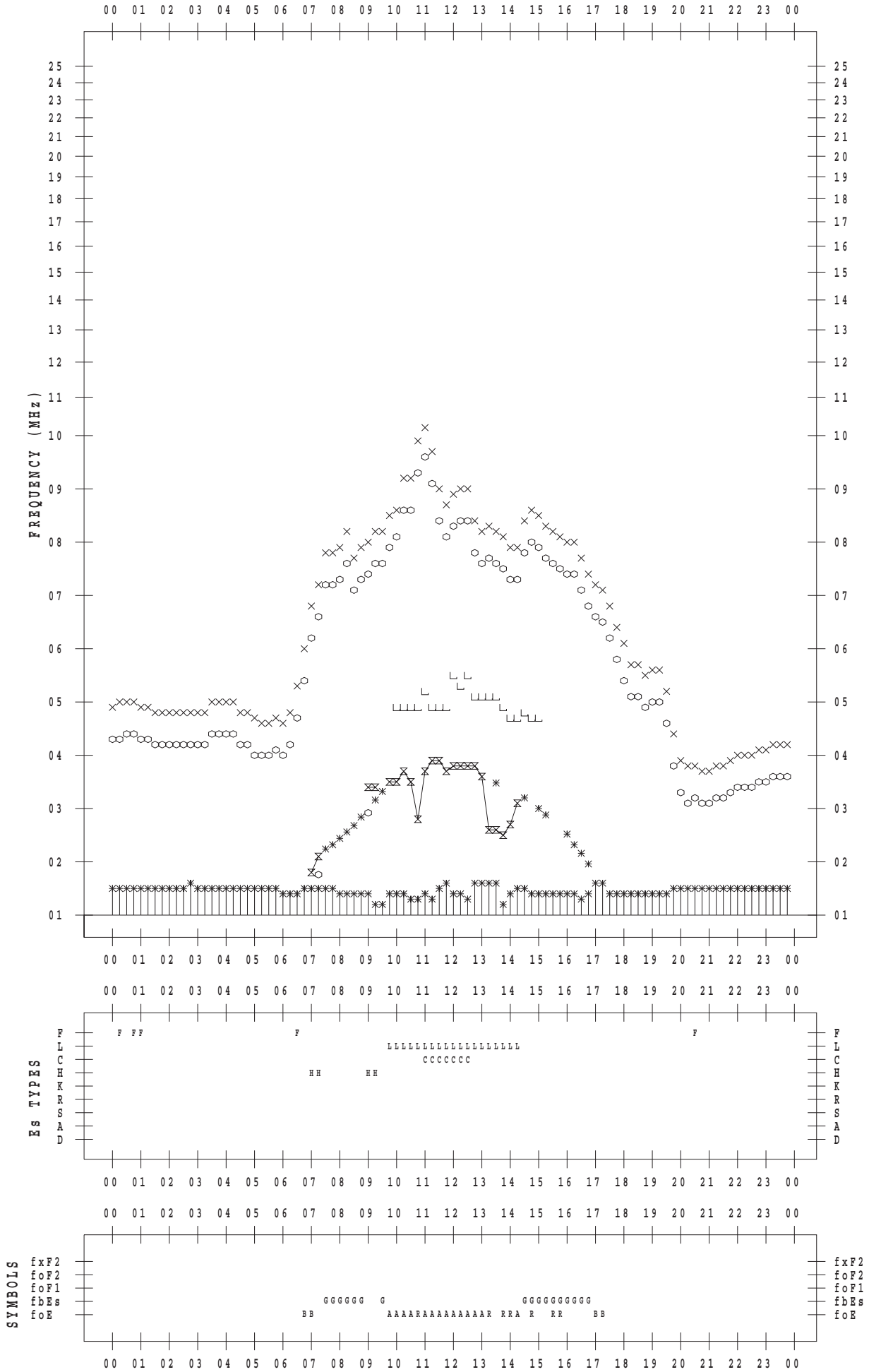
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/ 5

135 °E MEAN TIME



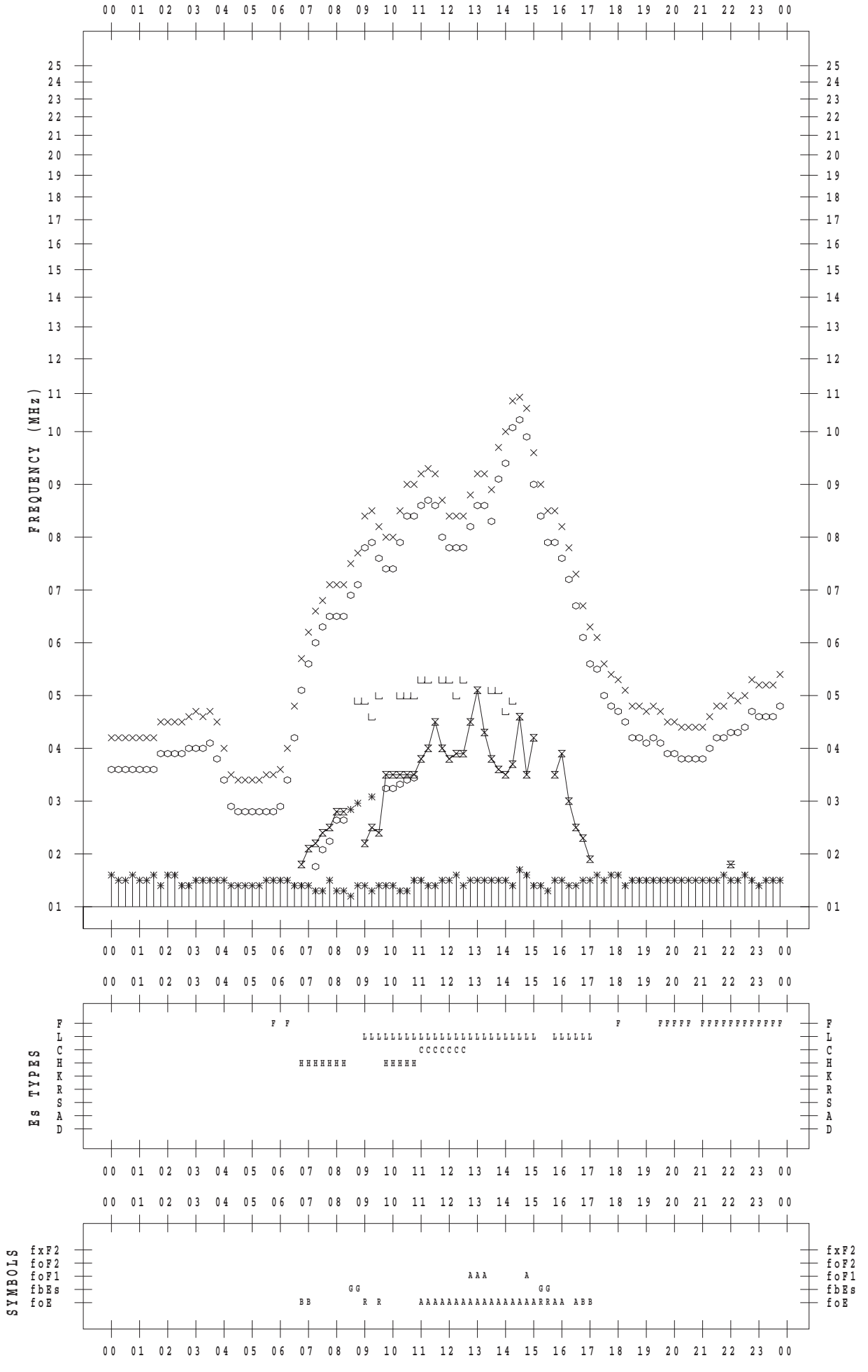
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/ 6

135 °E MEAN TIME



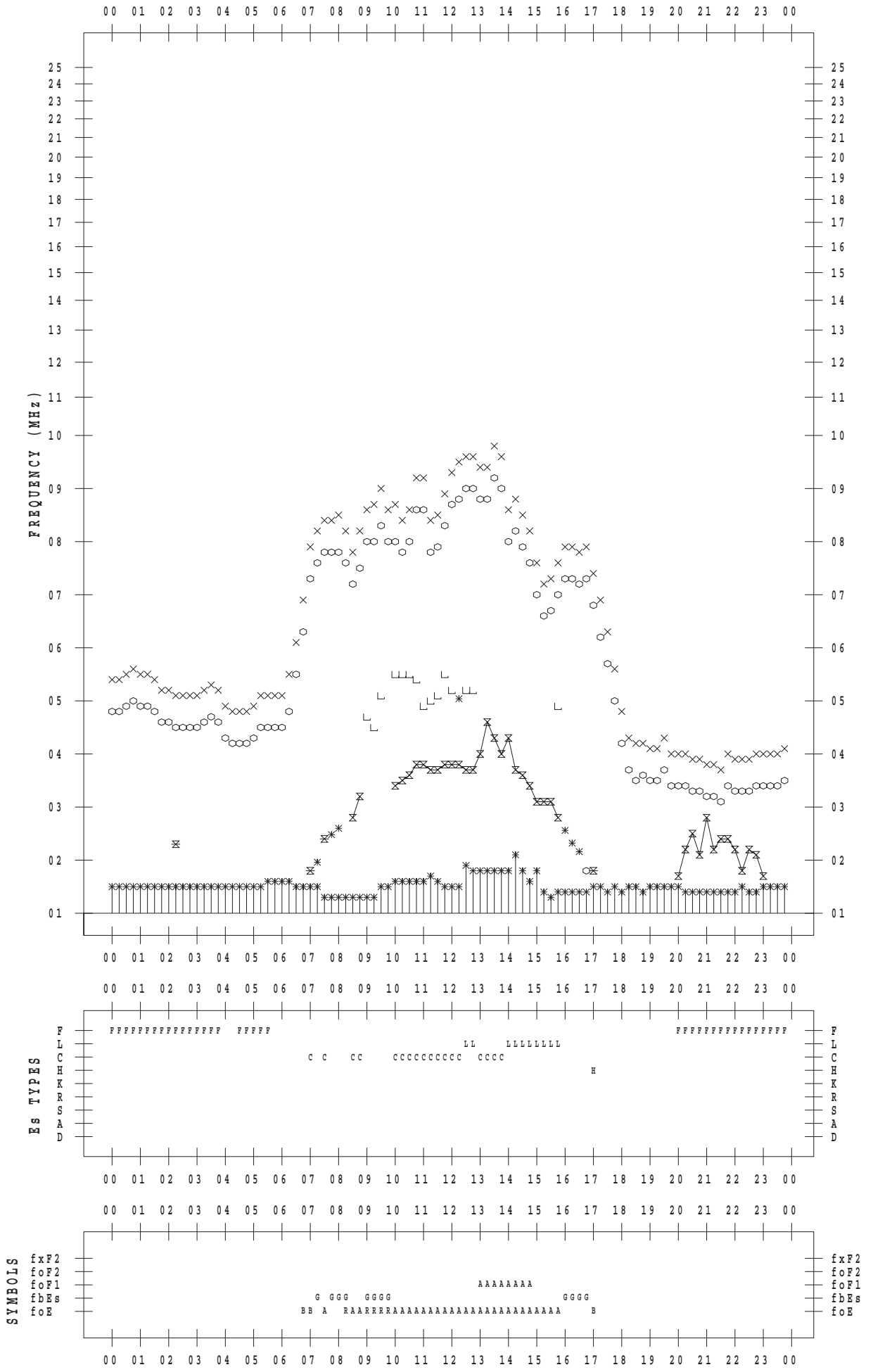
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/ 7

135 °E MEAN TIME



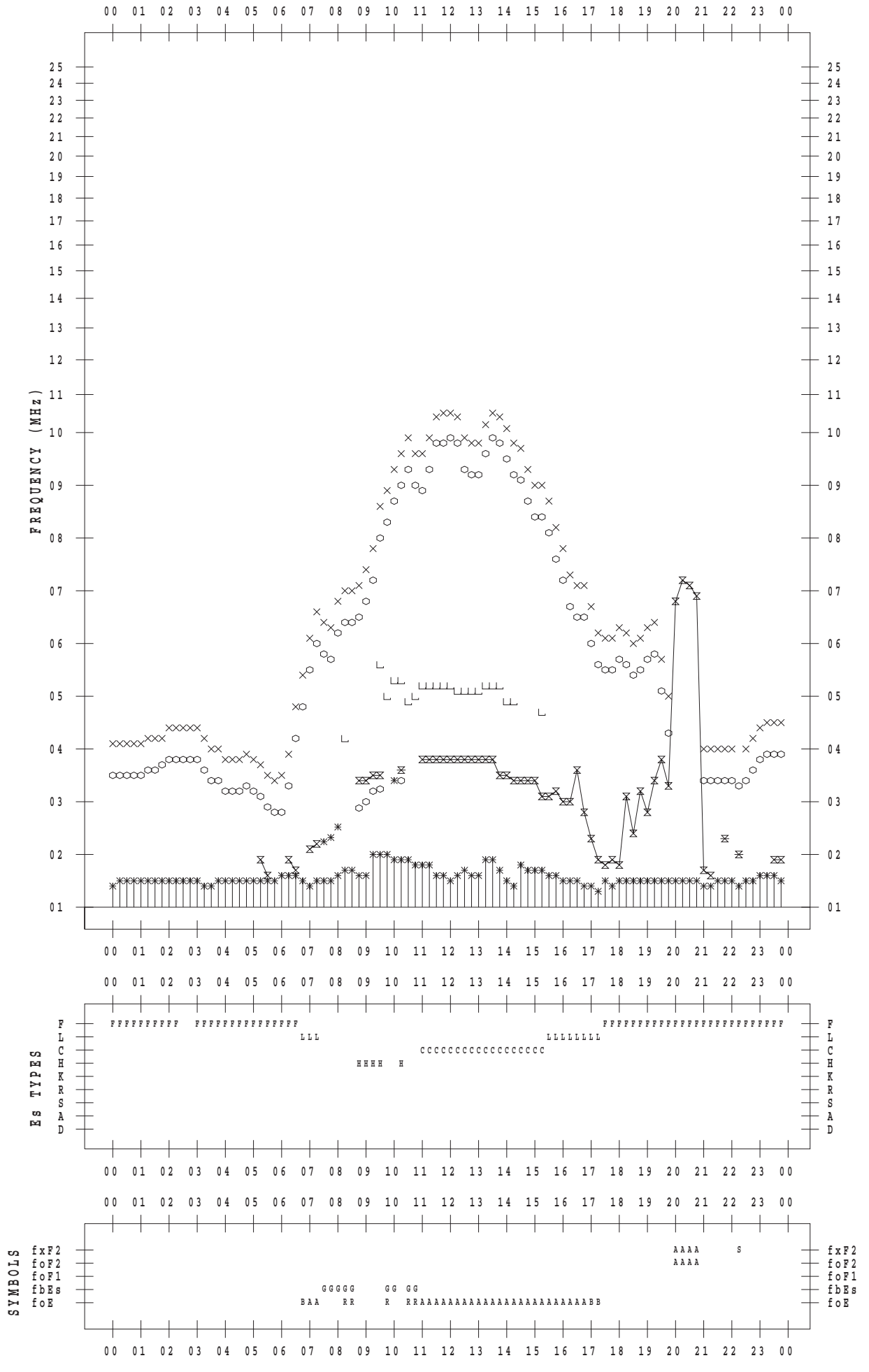
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/ 8

135 °E MEAN TIME



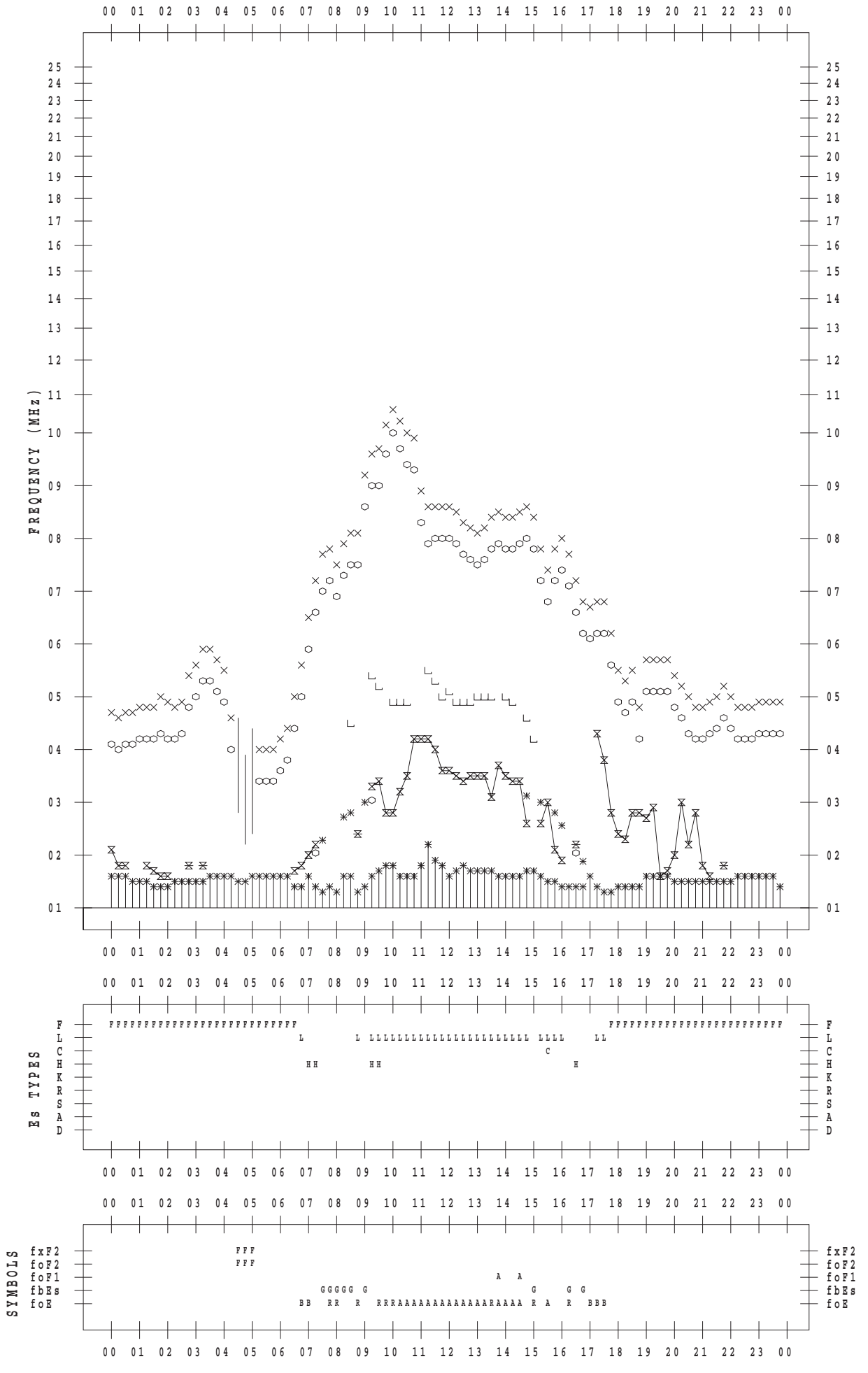
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/ 9

135 °E MEAN TIME



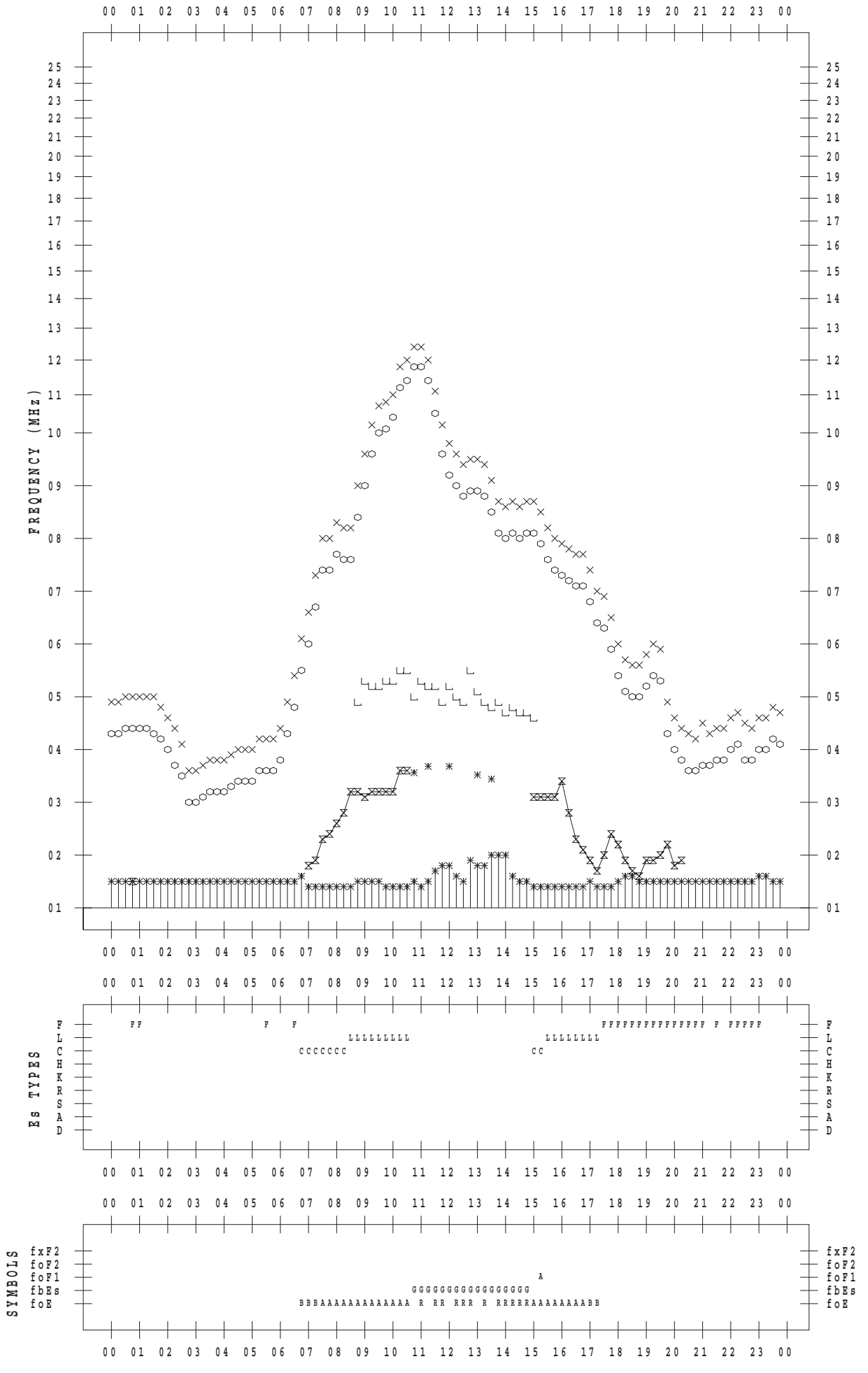
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/10

135 °E MEAN TIME



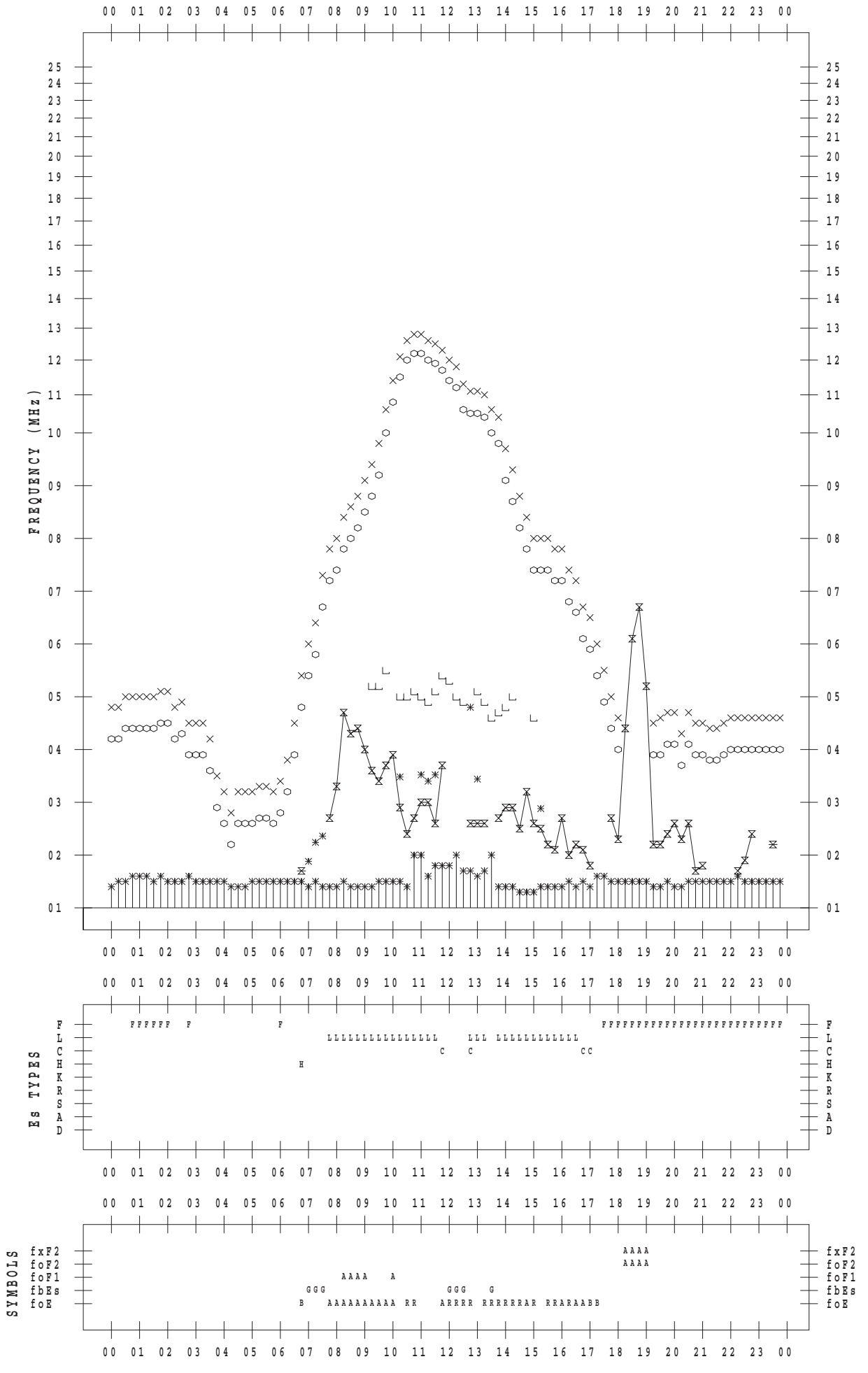
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/11

135 °E MEAN TIME



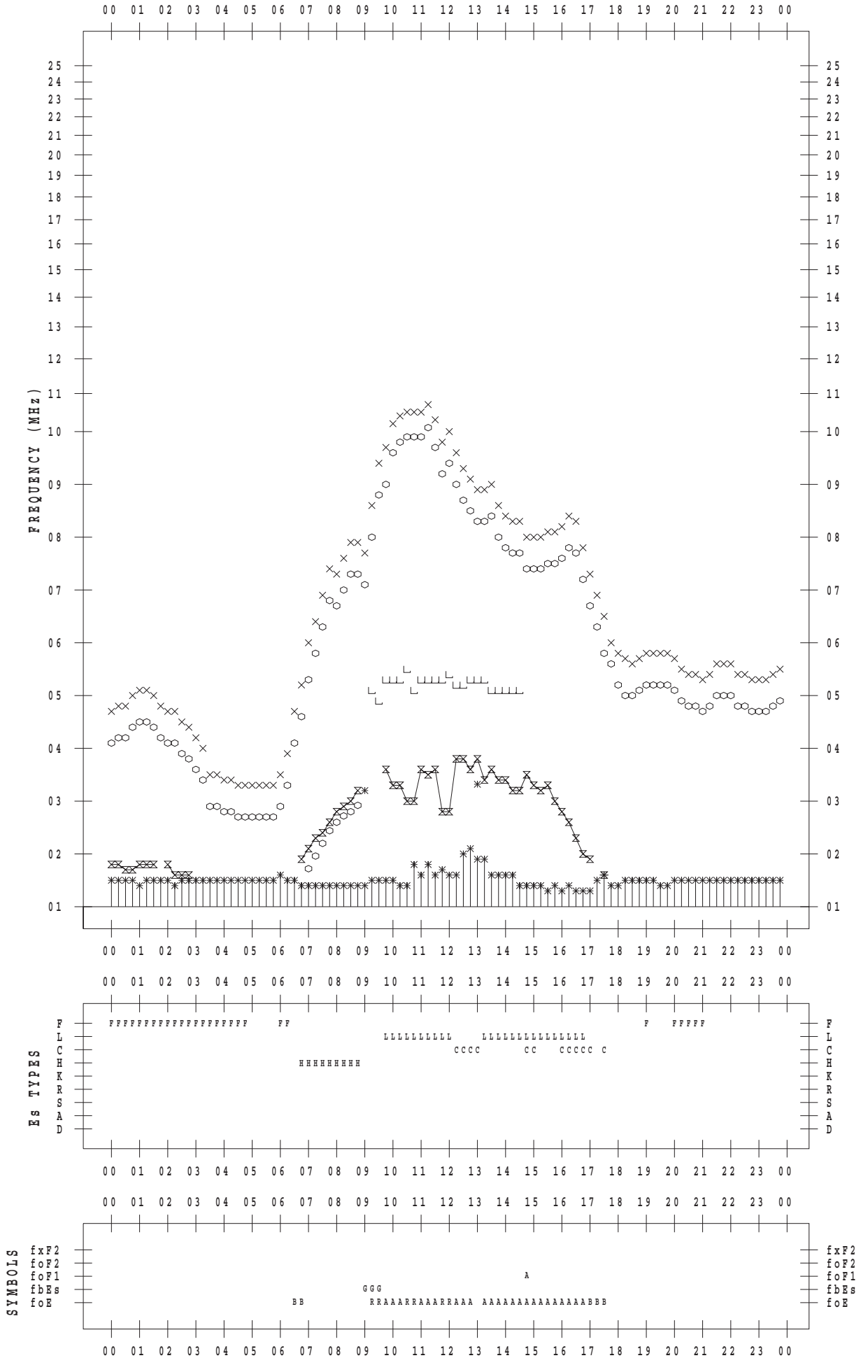
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/12

135 °E MEAN TIME



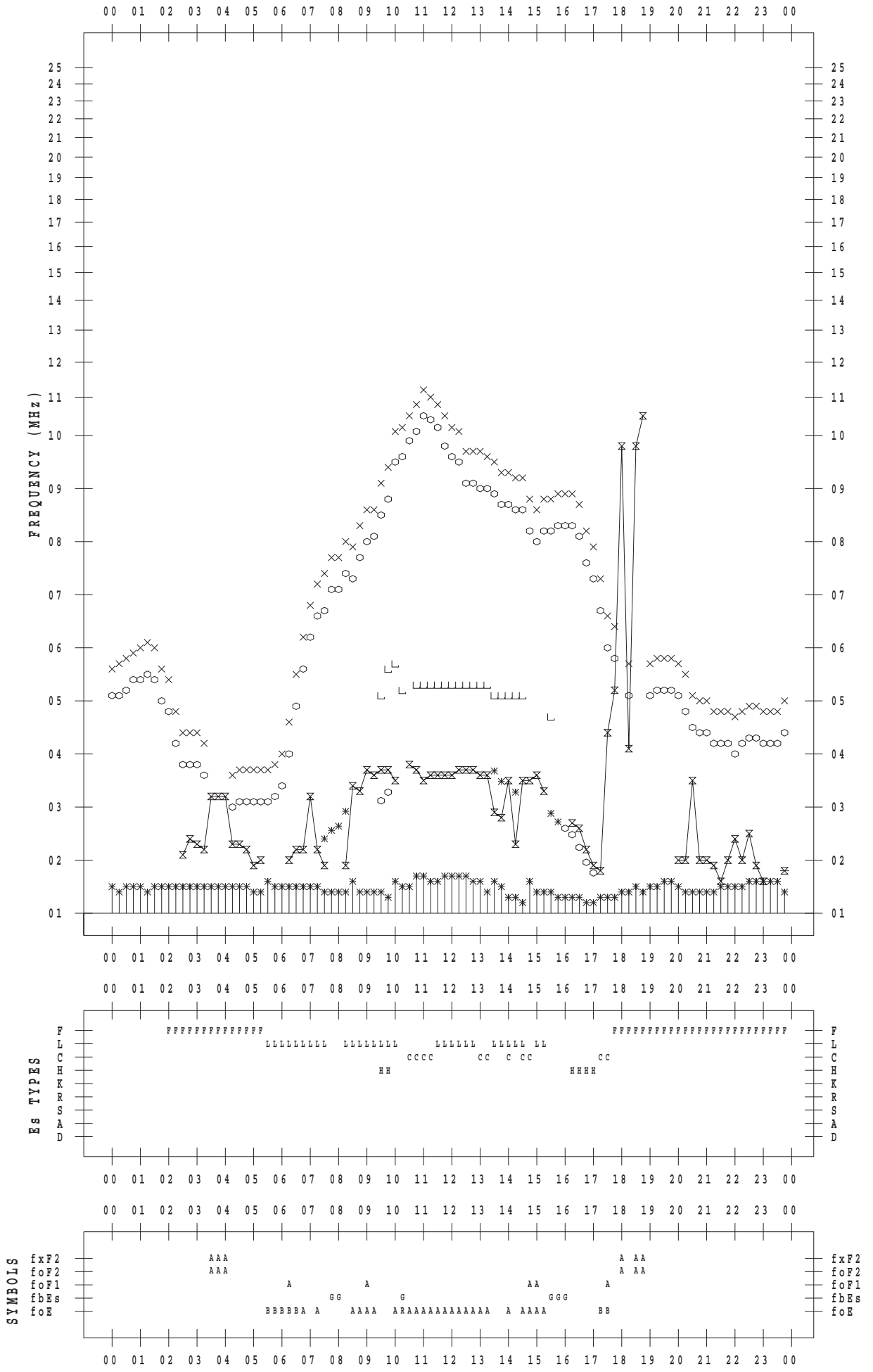
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/13

135 °E MEAN TIME



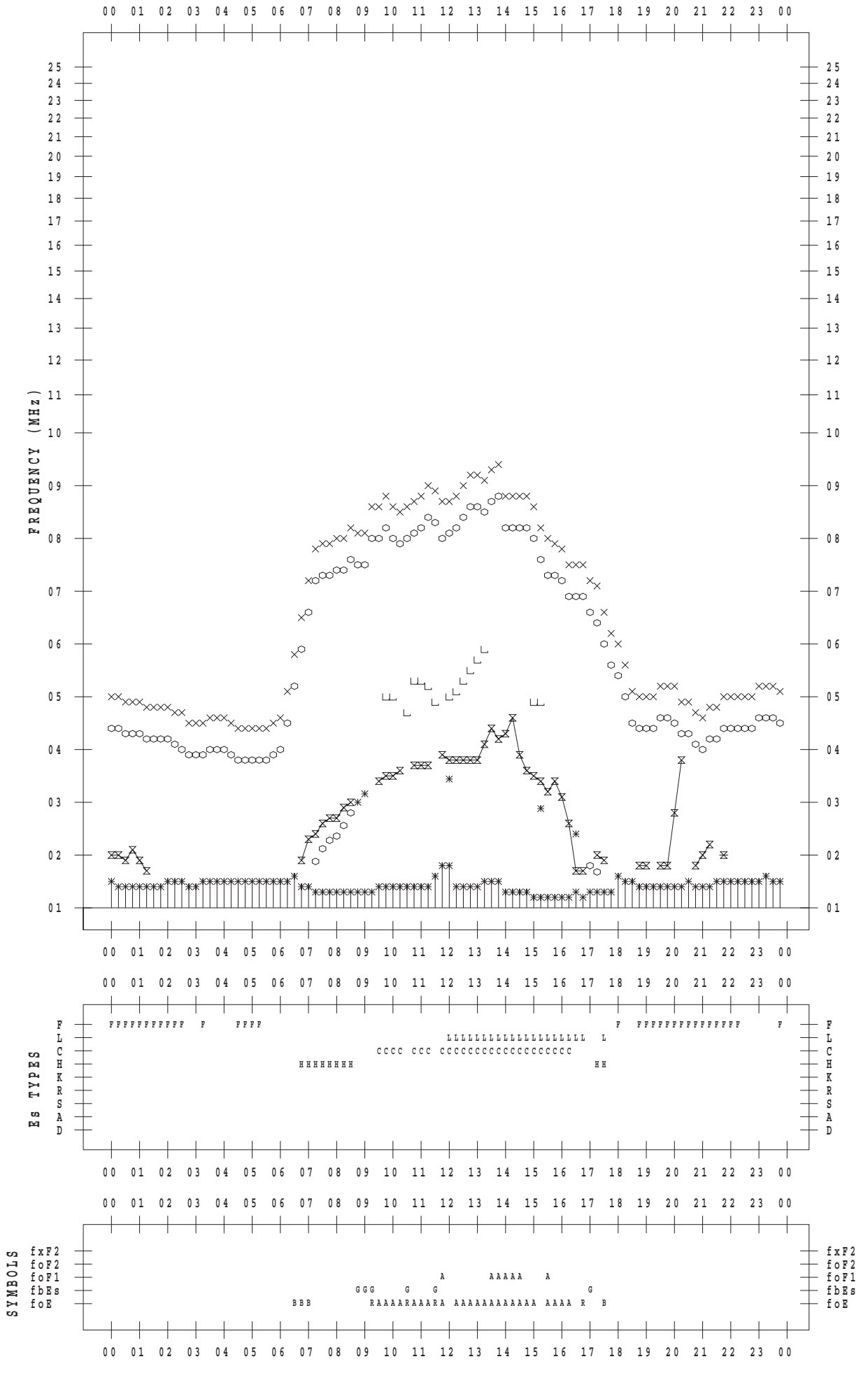
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/14

135 °E MEAN TIME



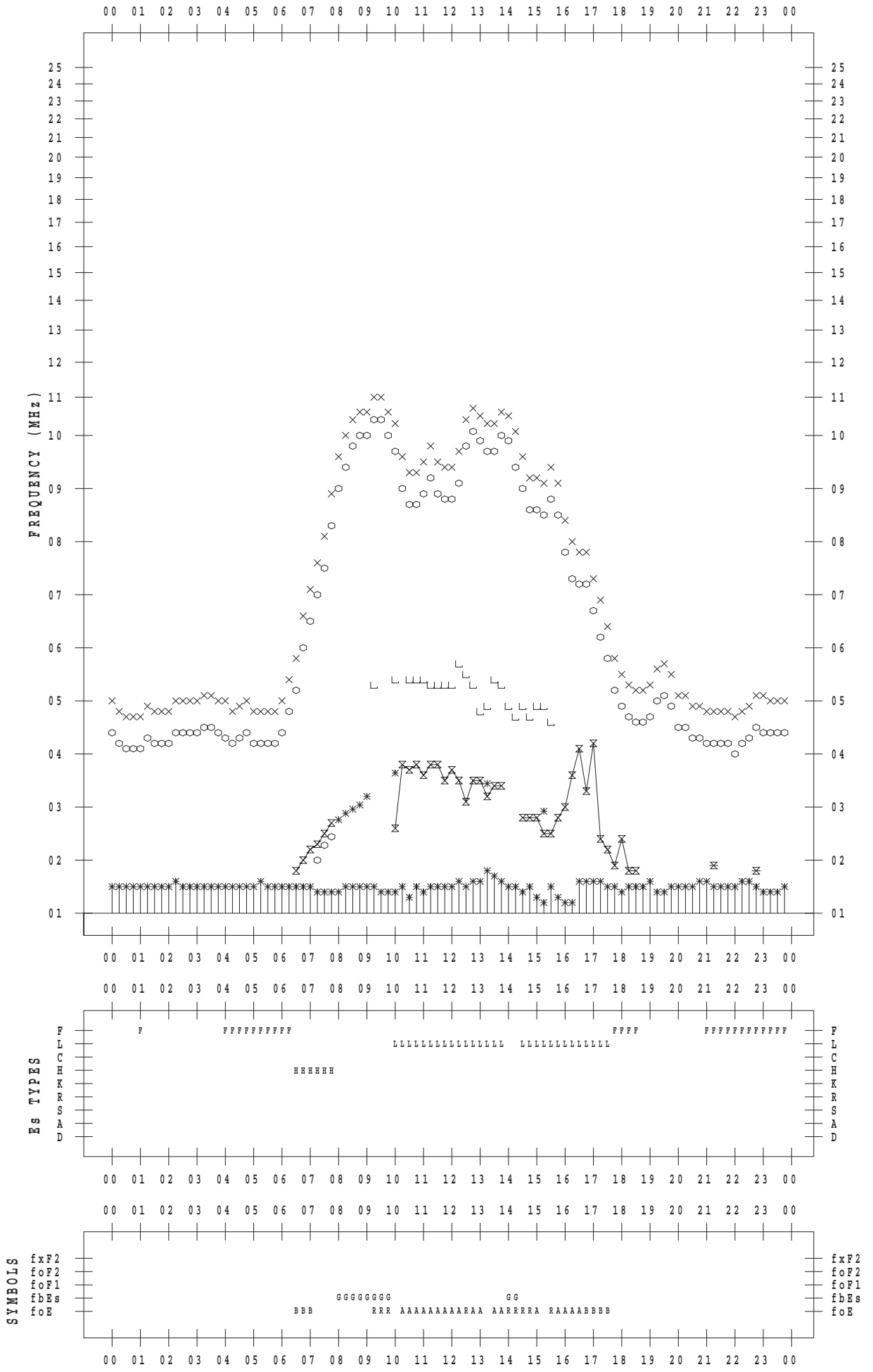
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/15

135 °E MEAN TIME



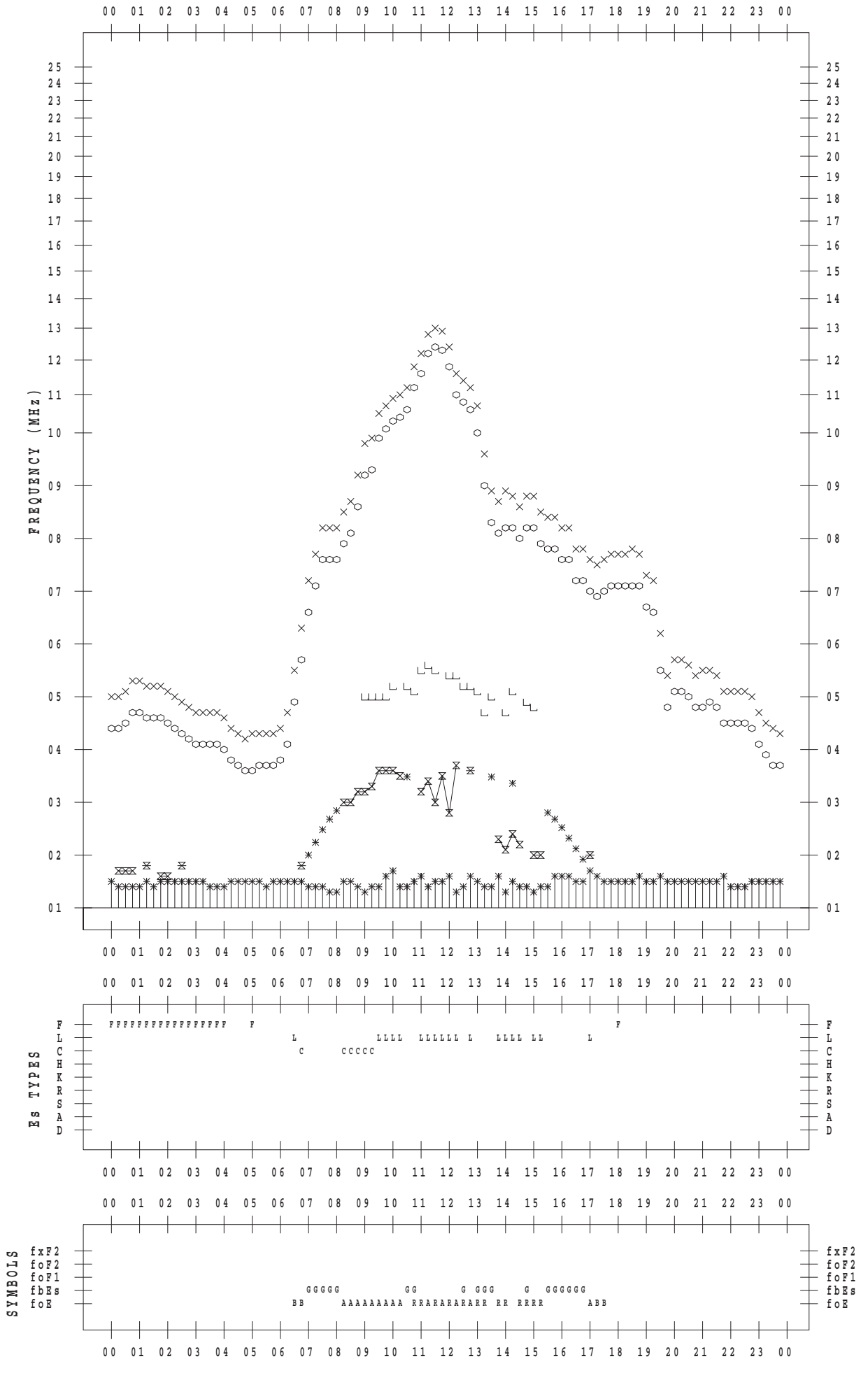
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/16

135 °E MEAN TIME



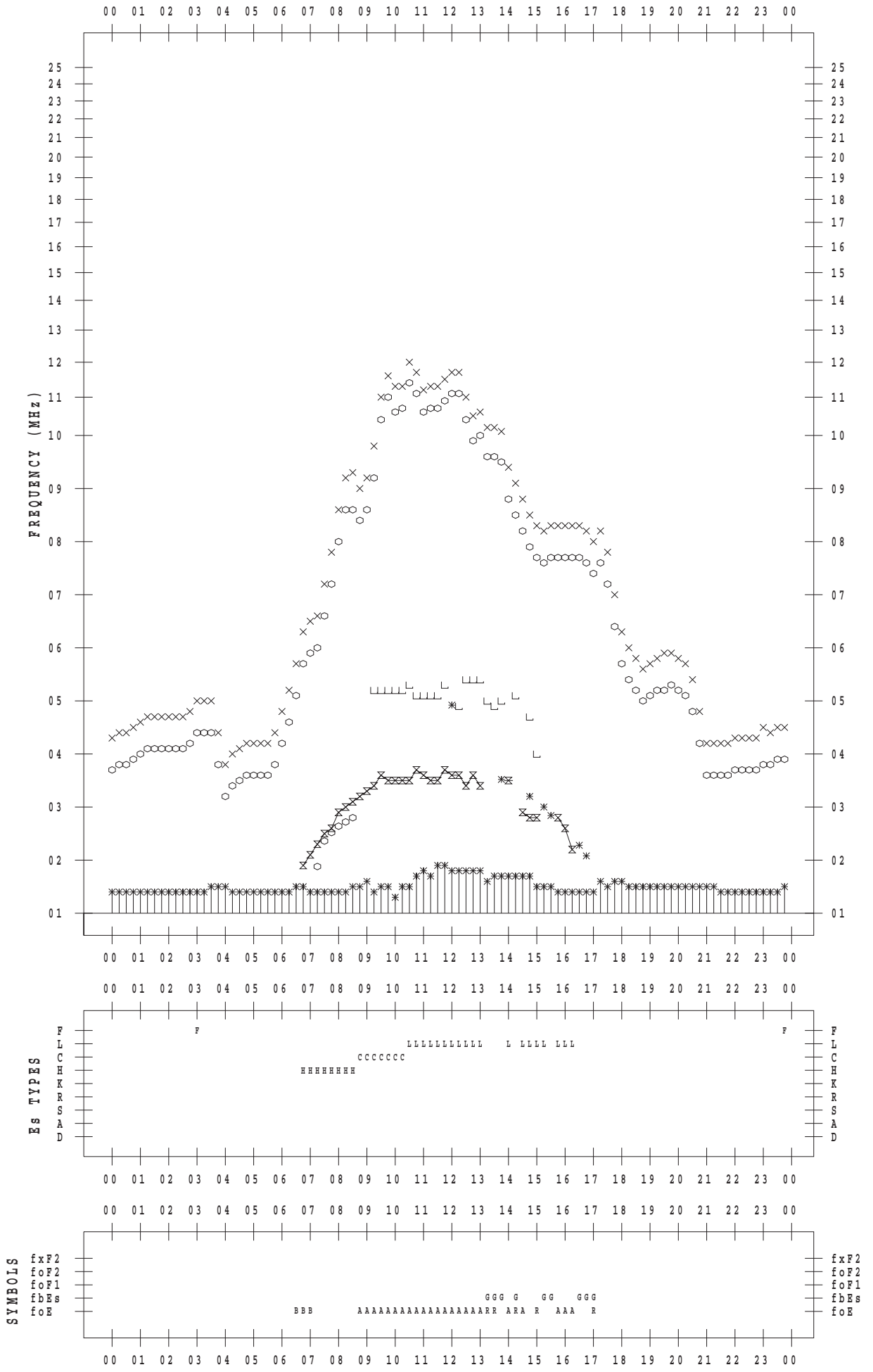
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/17

135 °E MEAN TIME



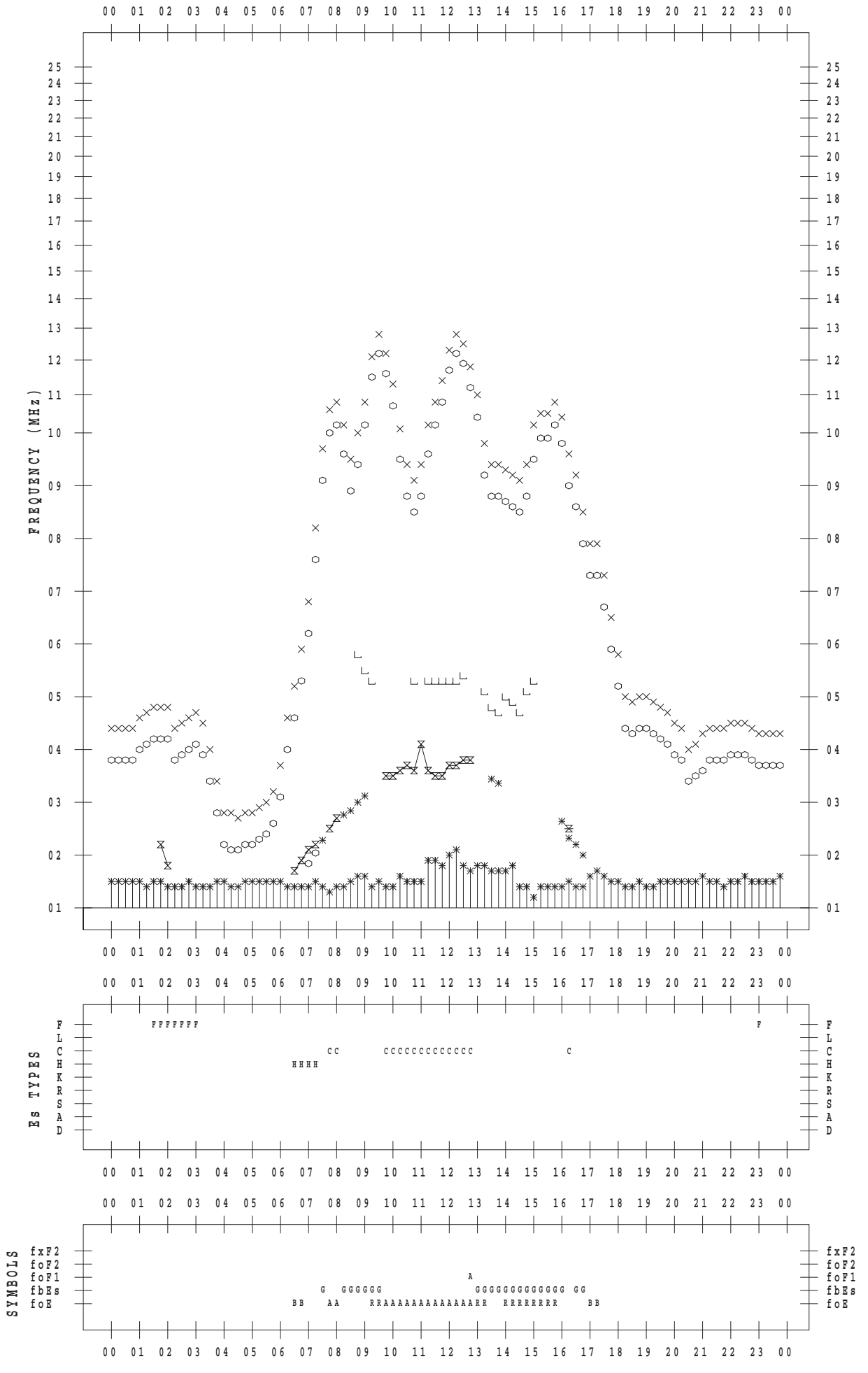
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/18

135 °E MEAN TIME



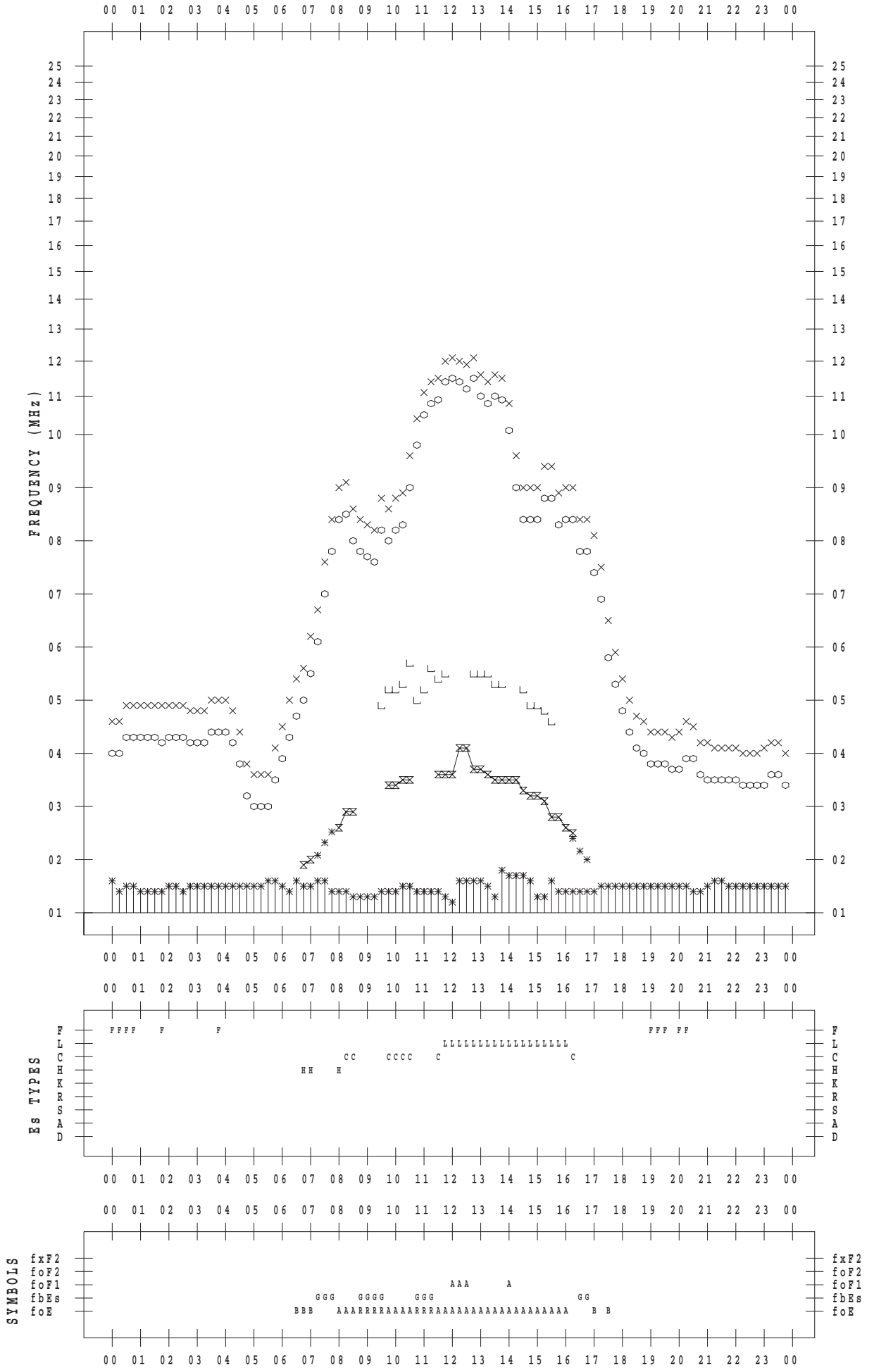
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/19

135 °E MEAN TIME



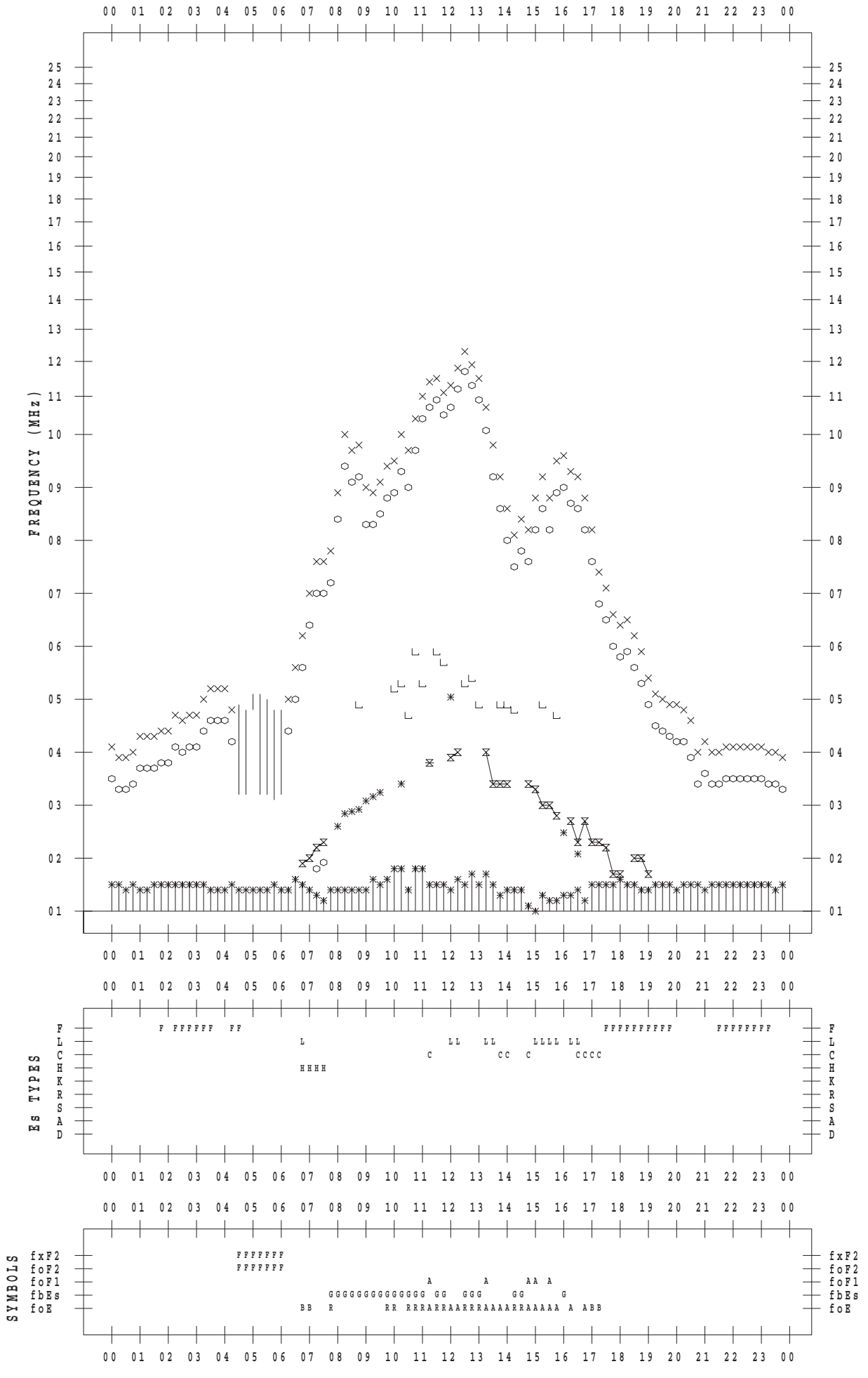
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/20

135 °E MEAN TIME



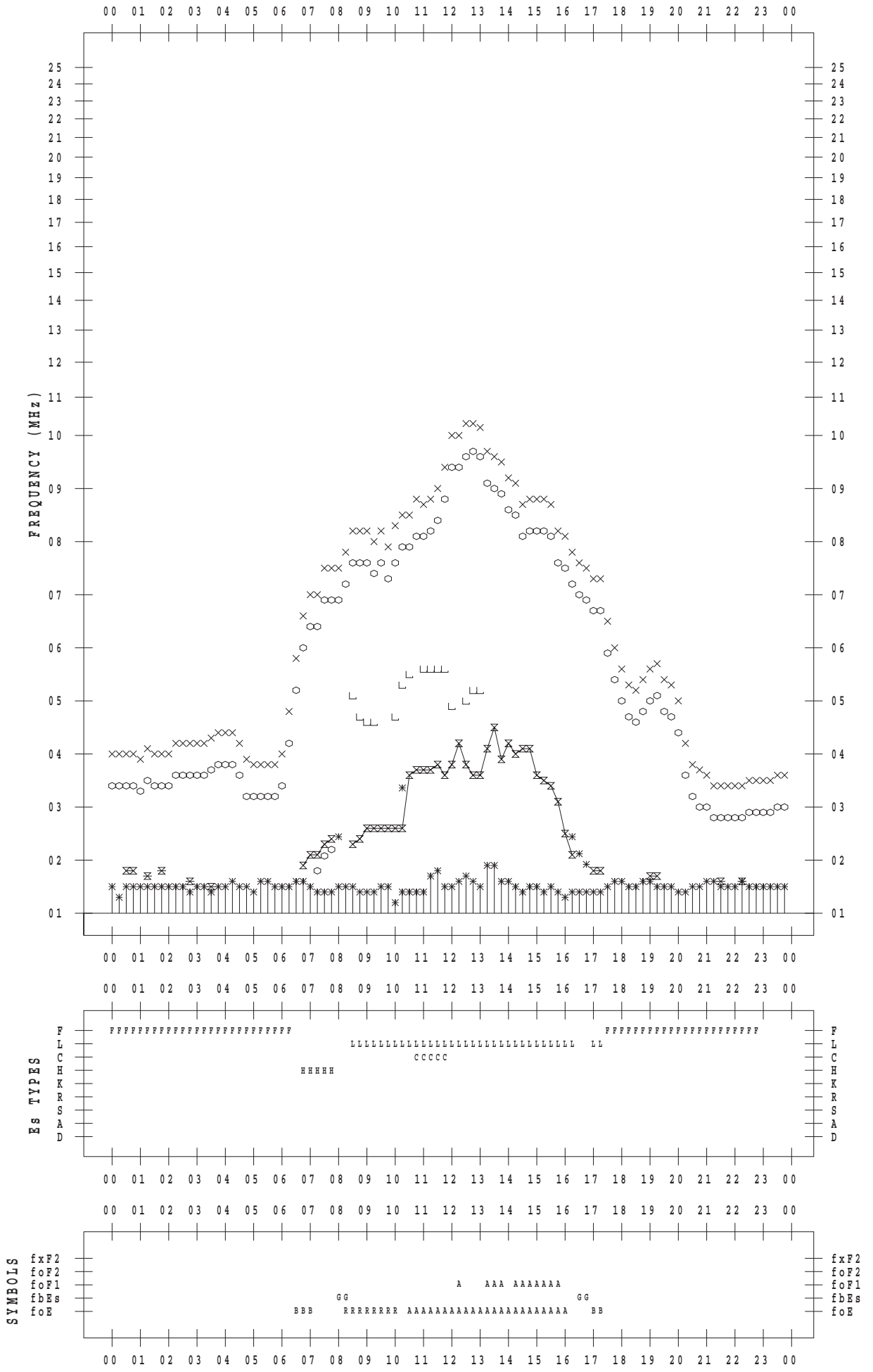
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/21

135 °E MEAN TIME



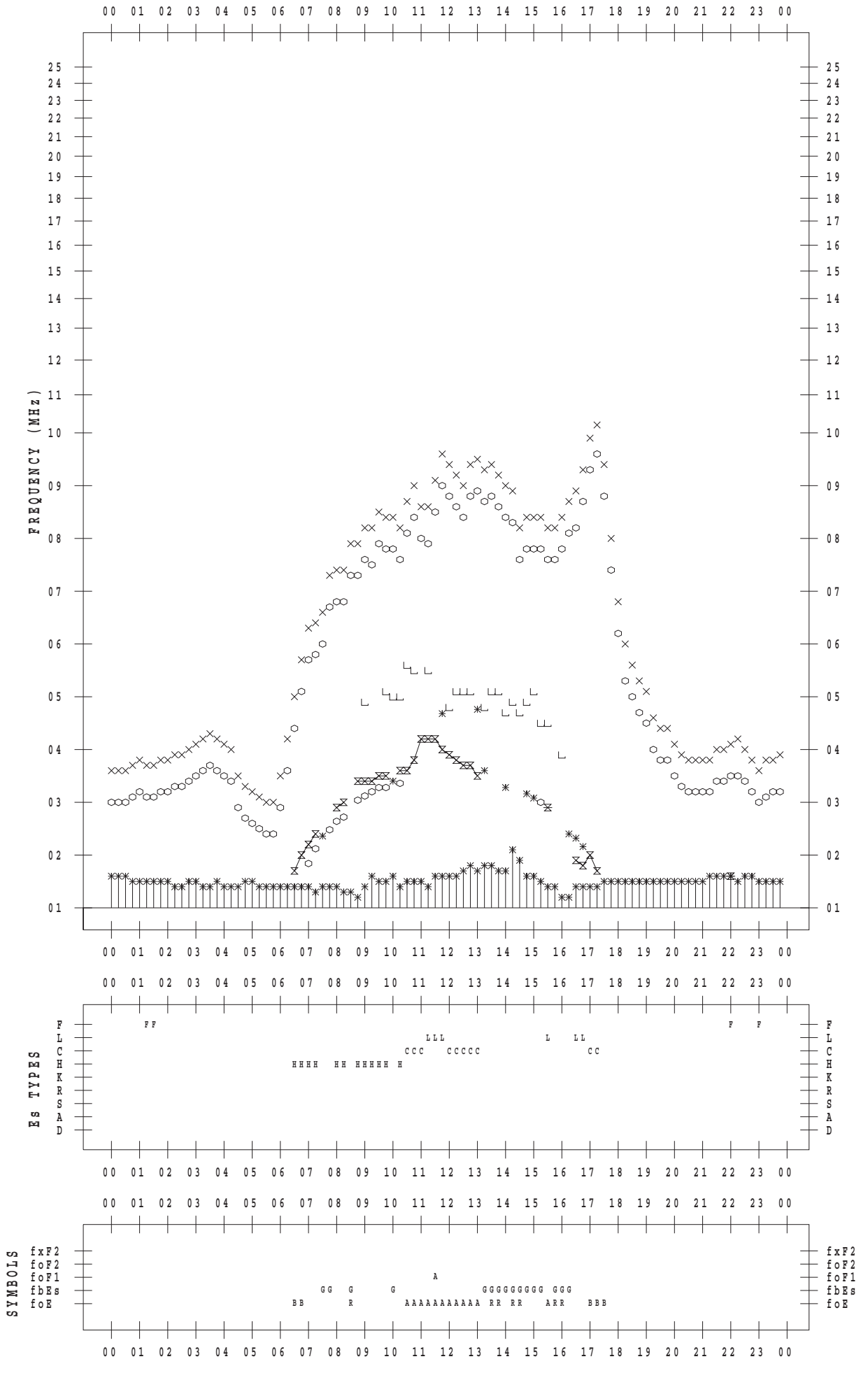
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/22

135 °E MEAN TIME



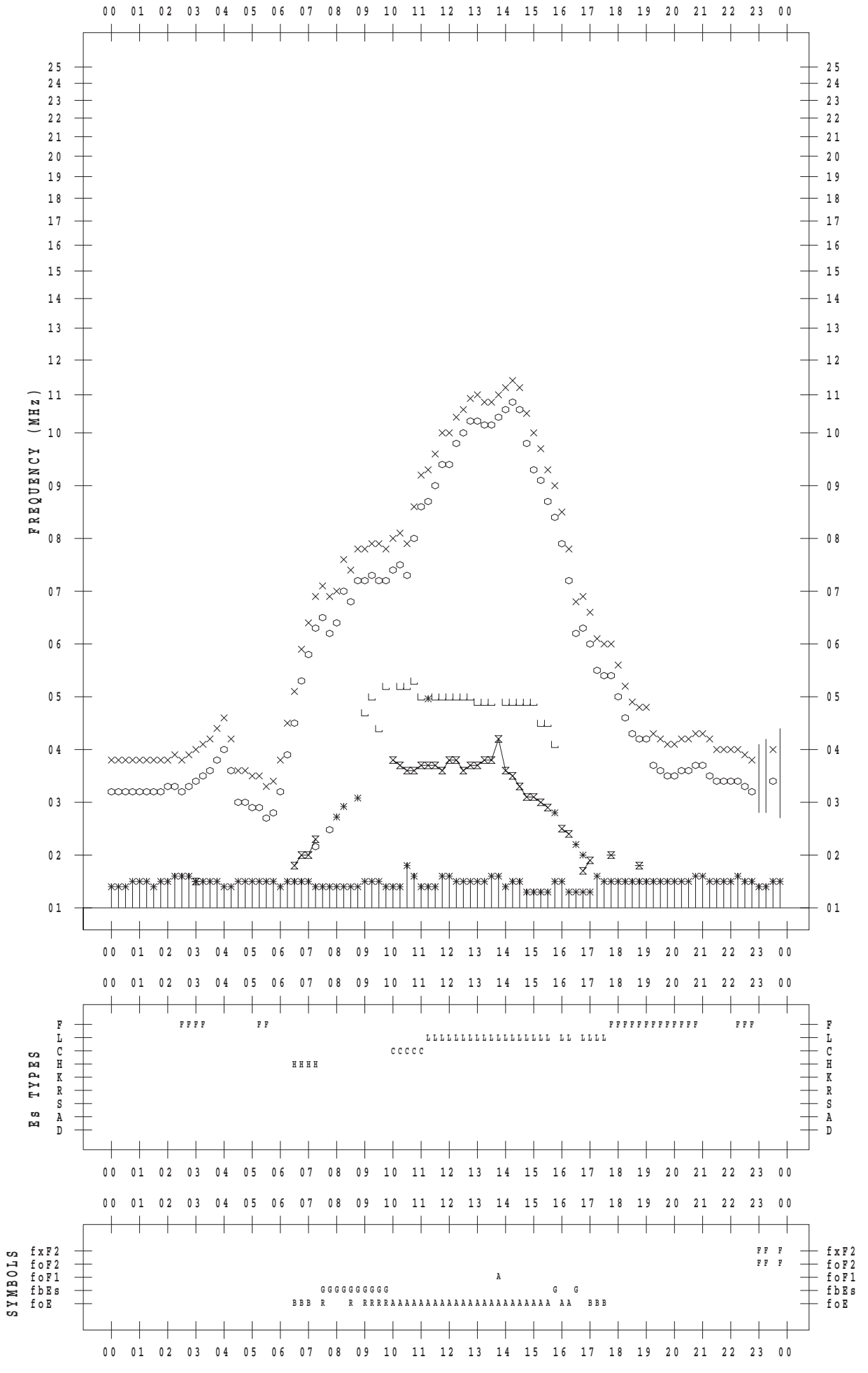
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/23

135 °E MEAN TIME



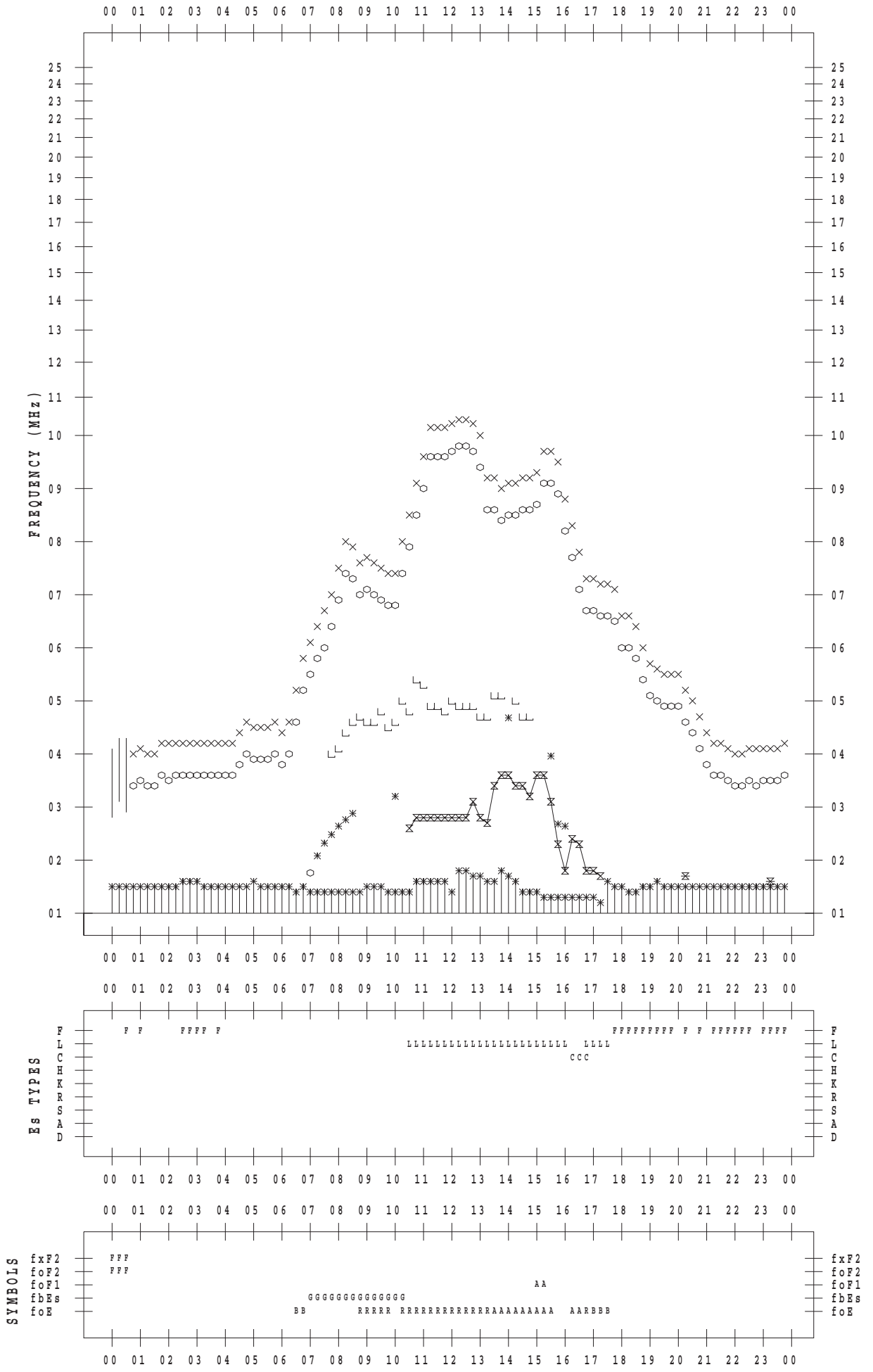
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/24

135 °E MEAN TIME



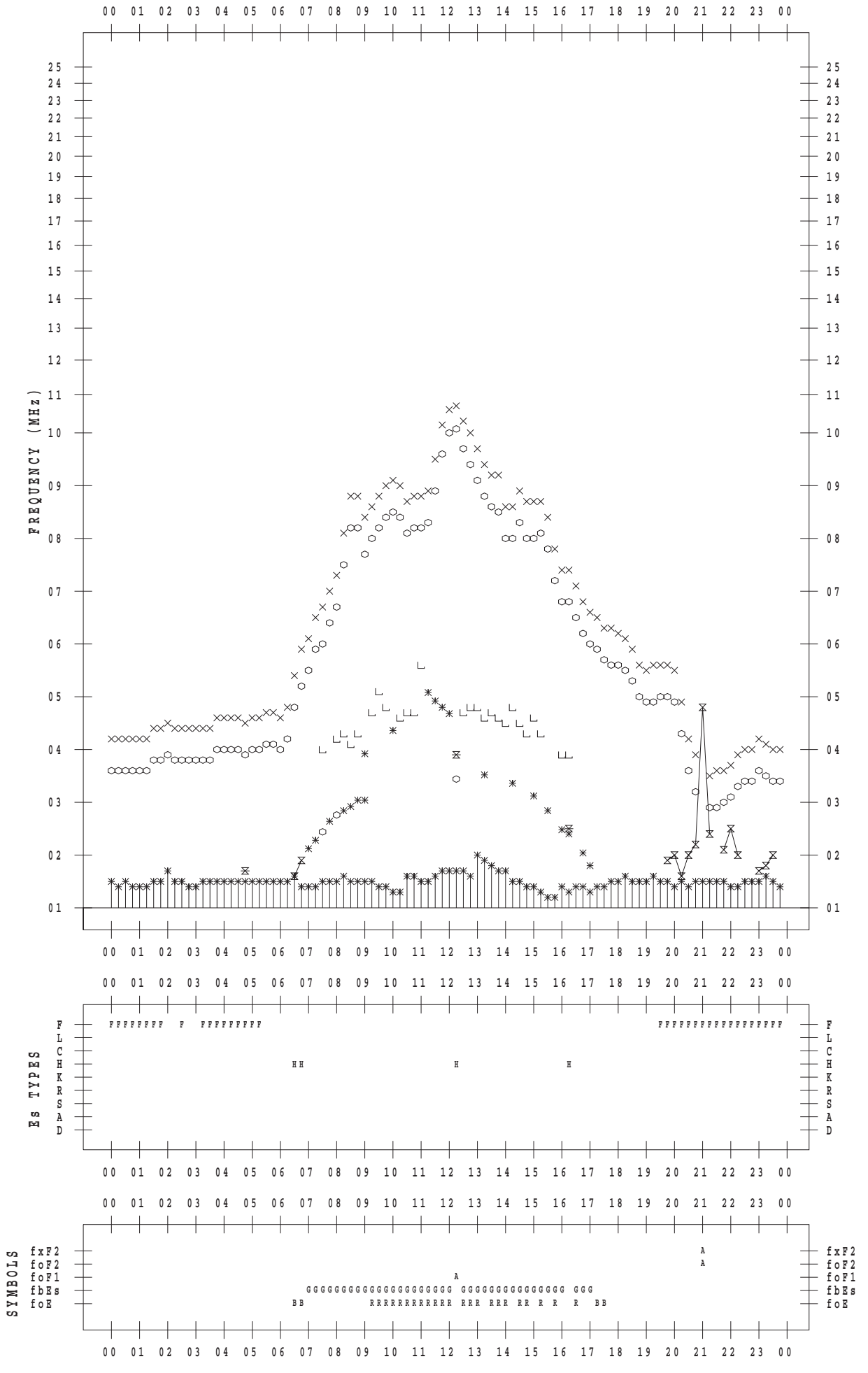
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/25

135 °E MEAN TIME



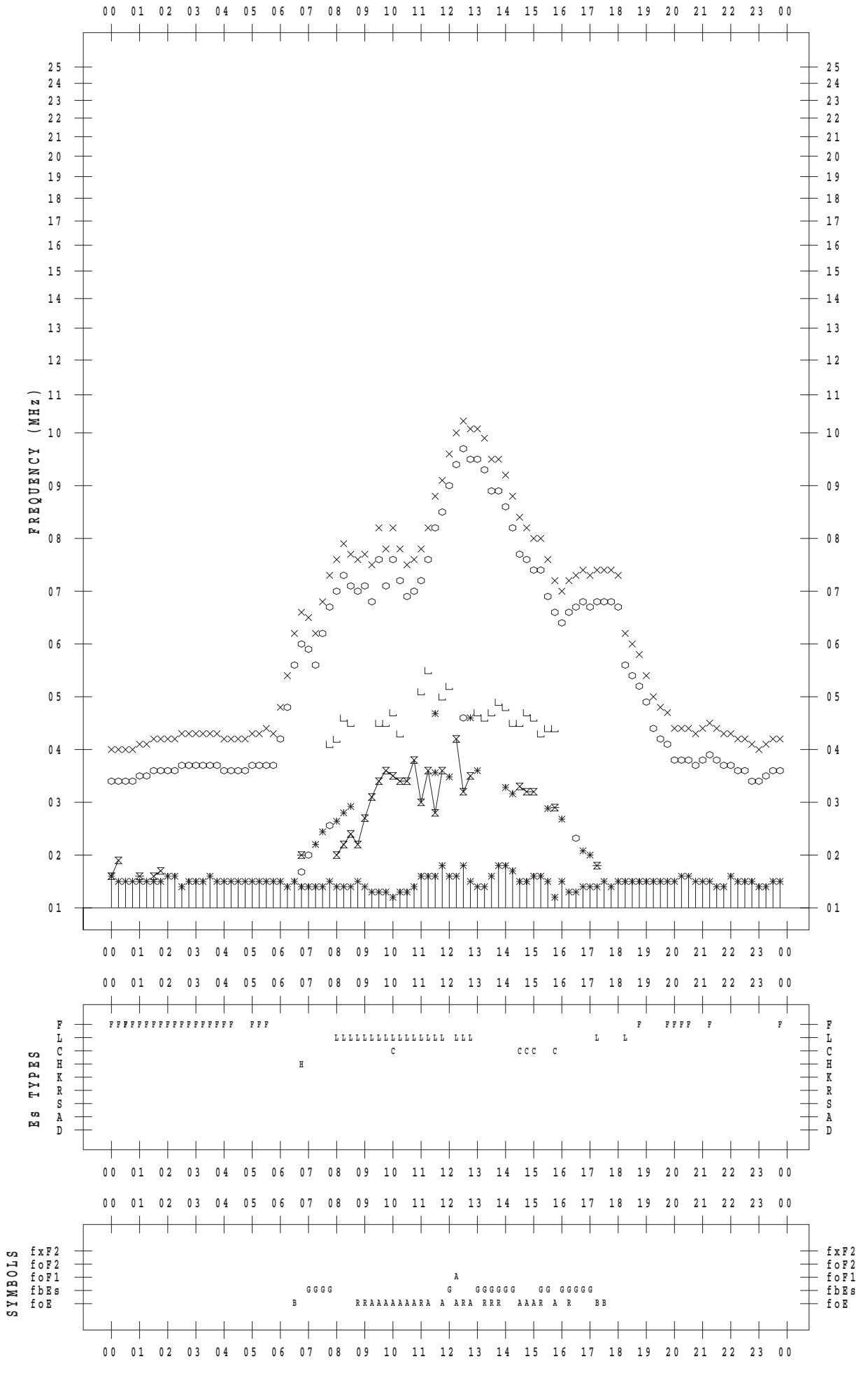
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/26

135 °E MEAN TIME



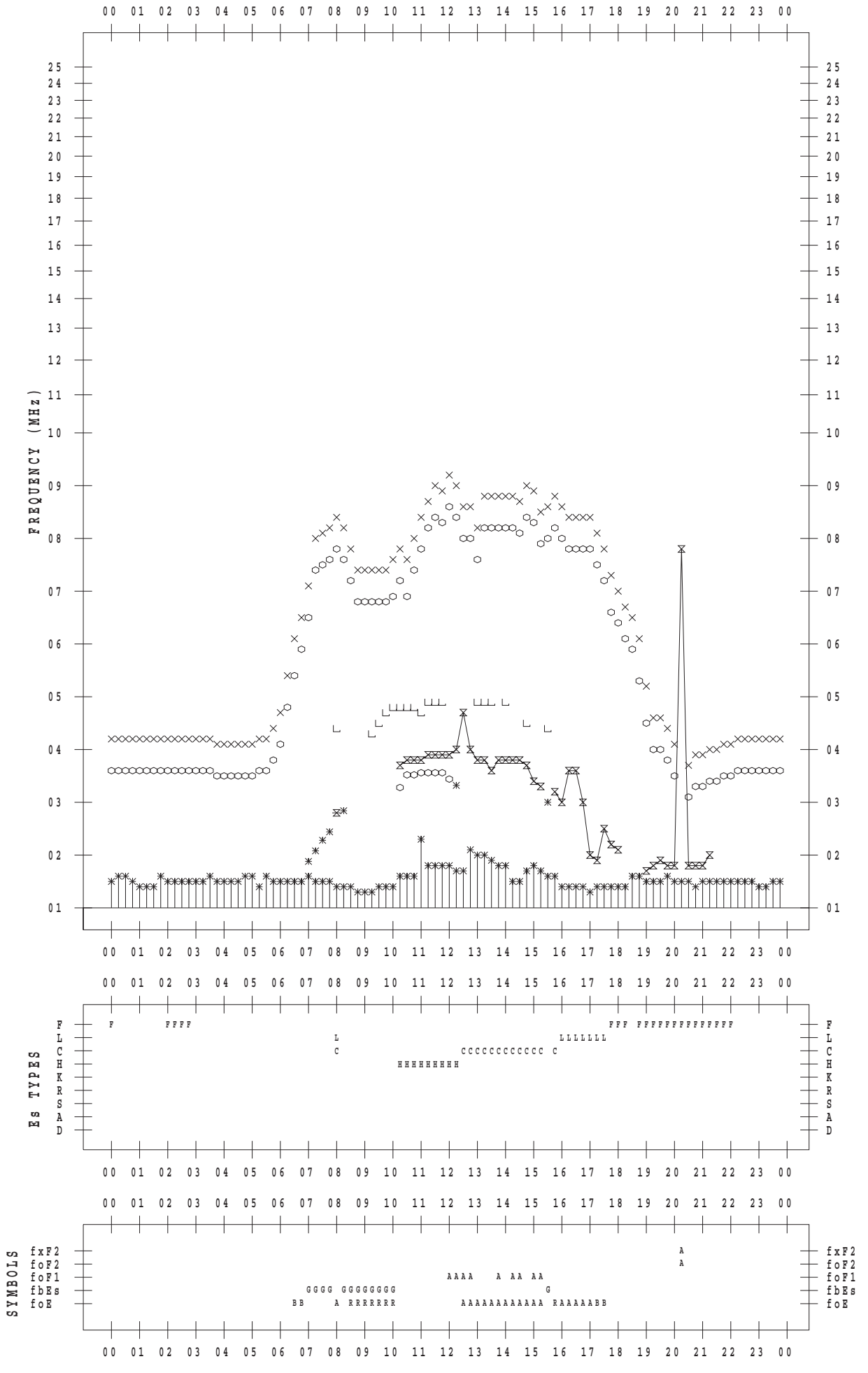
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/27

135 °E MEAN TIME



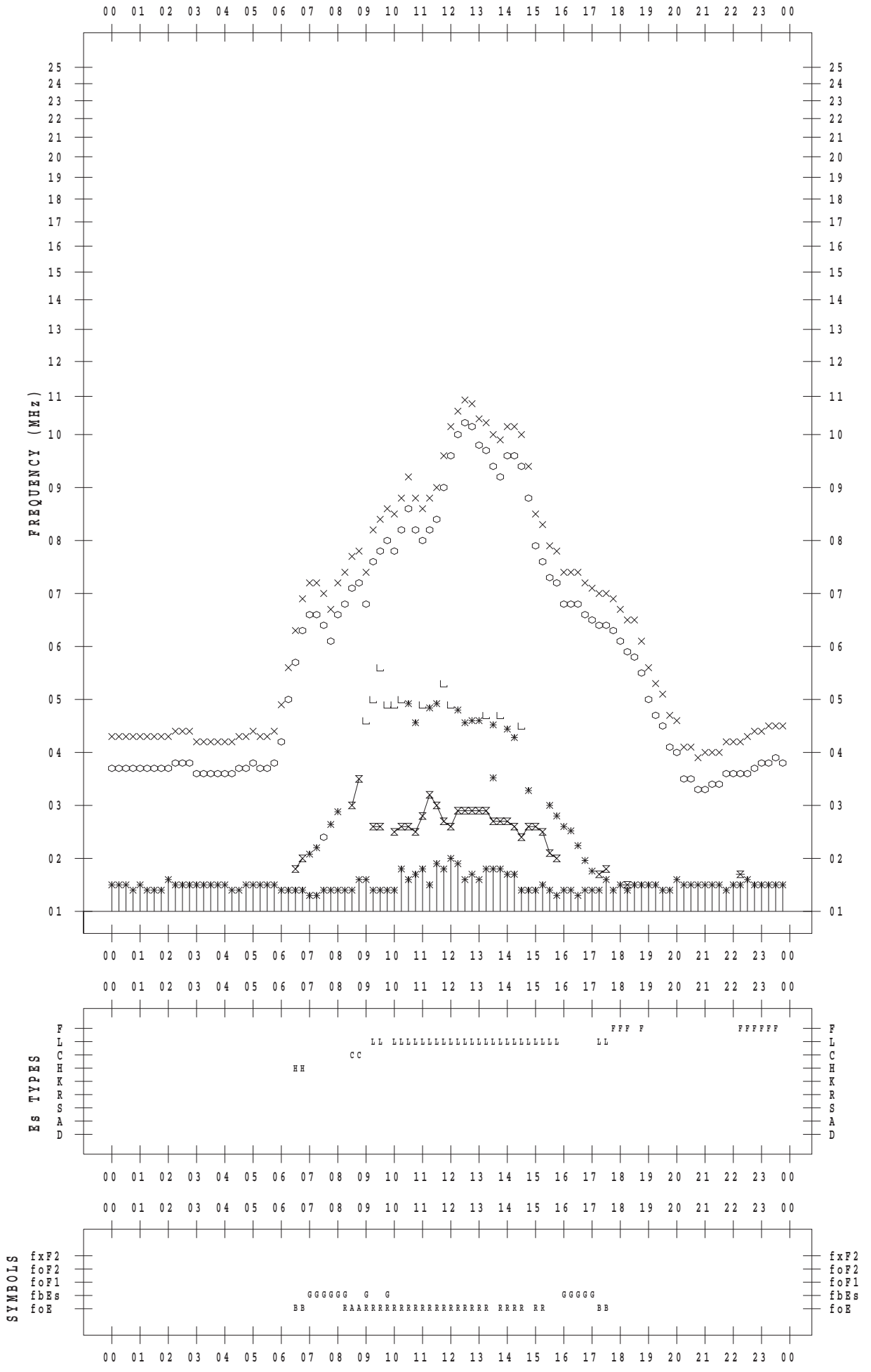
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/28

135 °E MEAN TIME



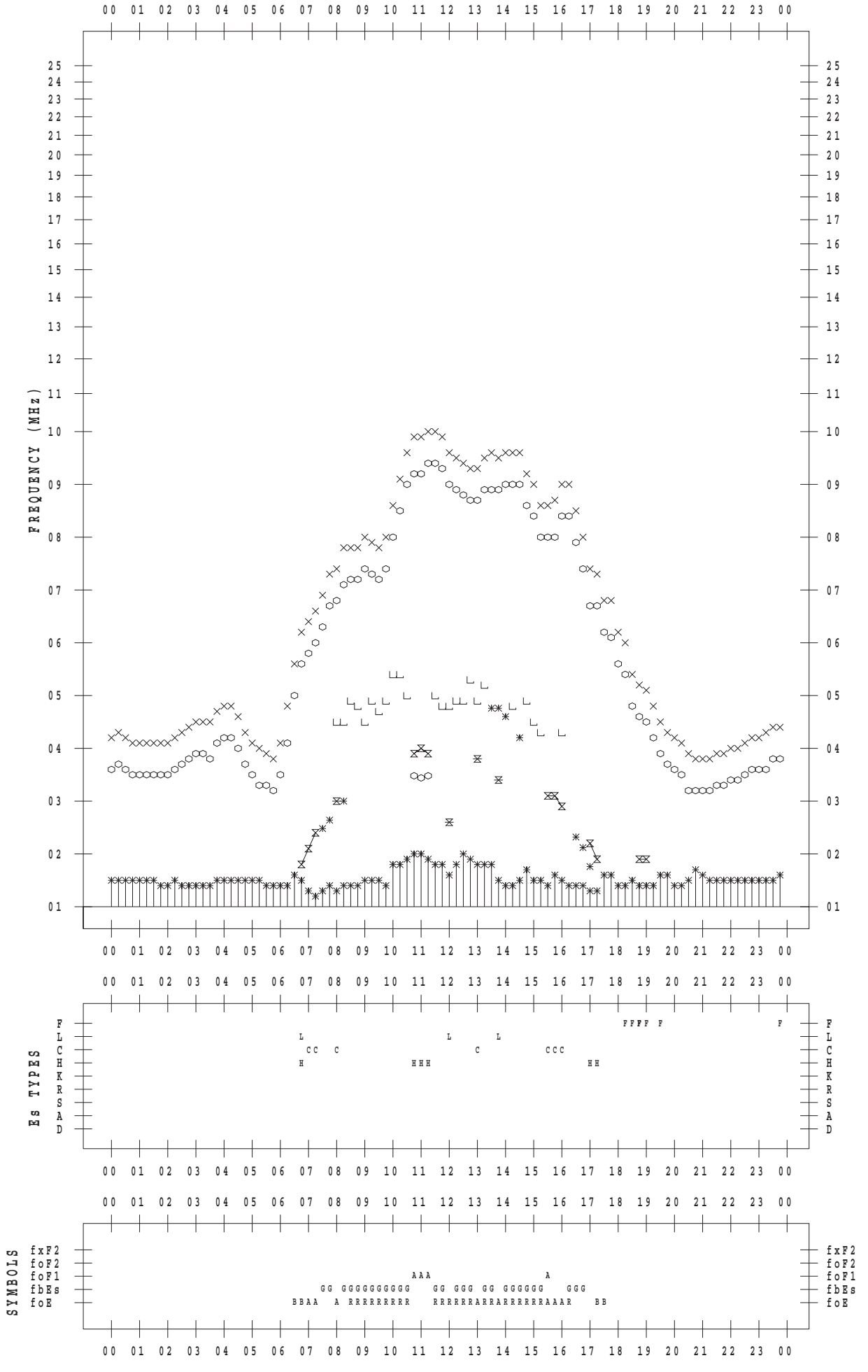
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2016/ 2/29

135 °E MEAN TIME



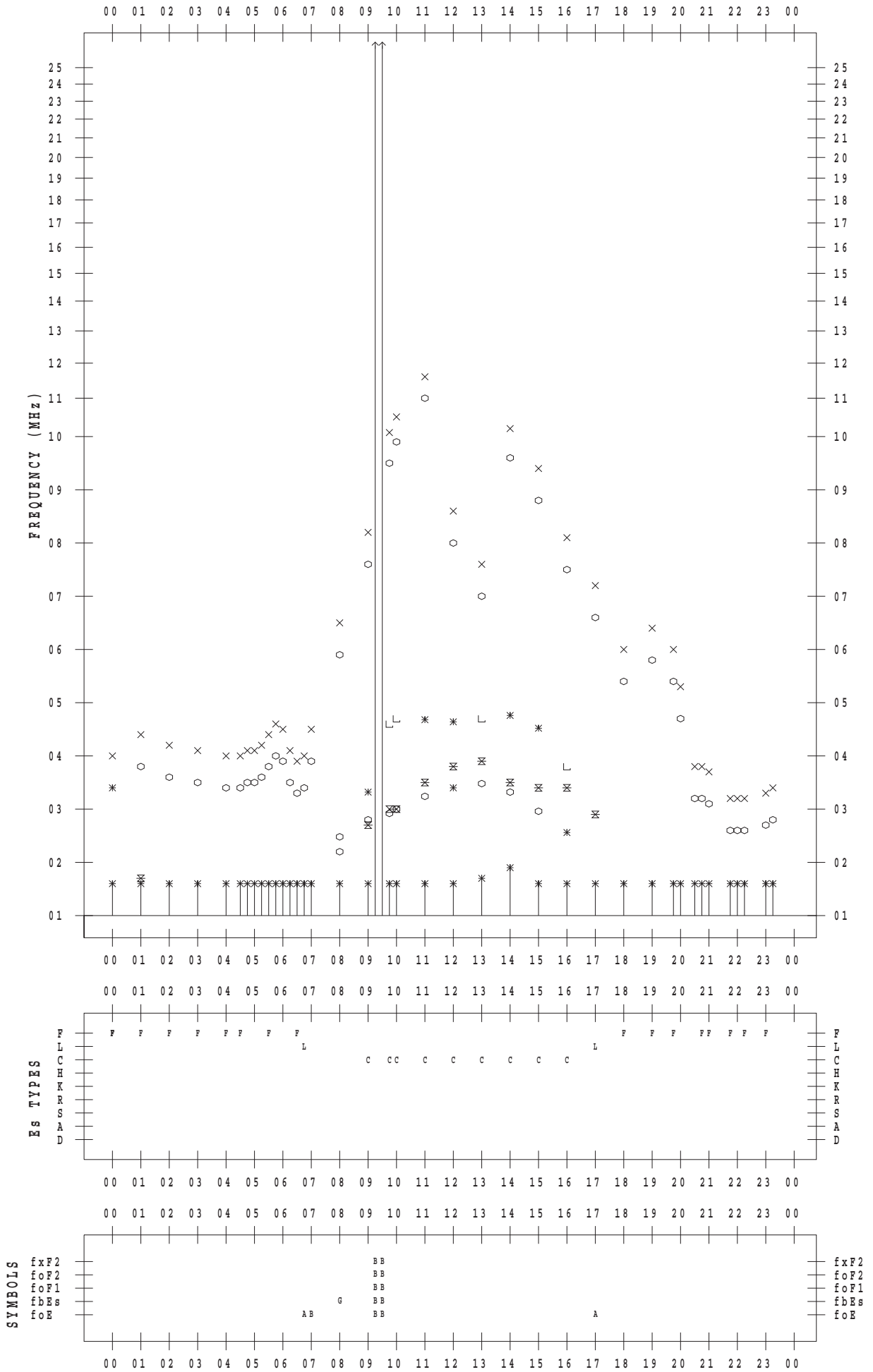
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/ 1

135 °E MEAN TIME



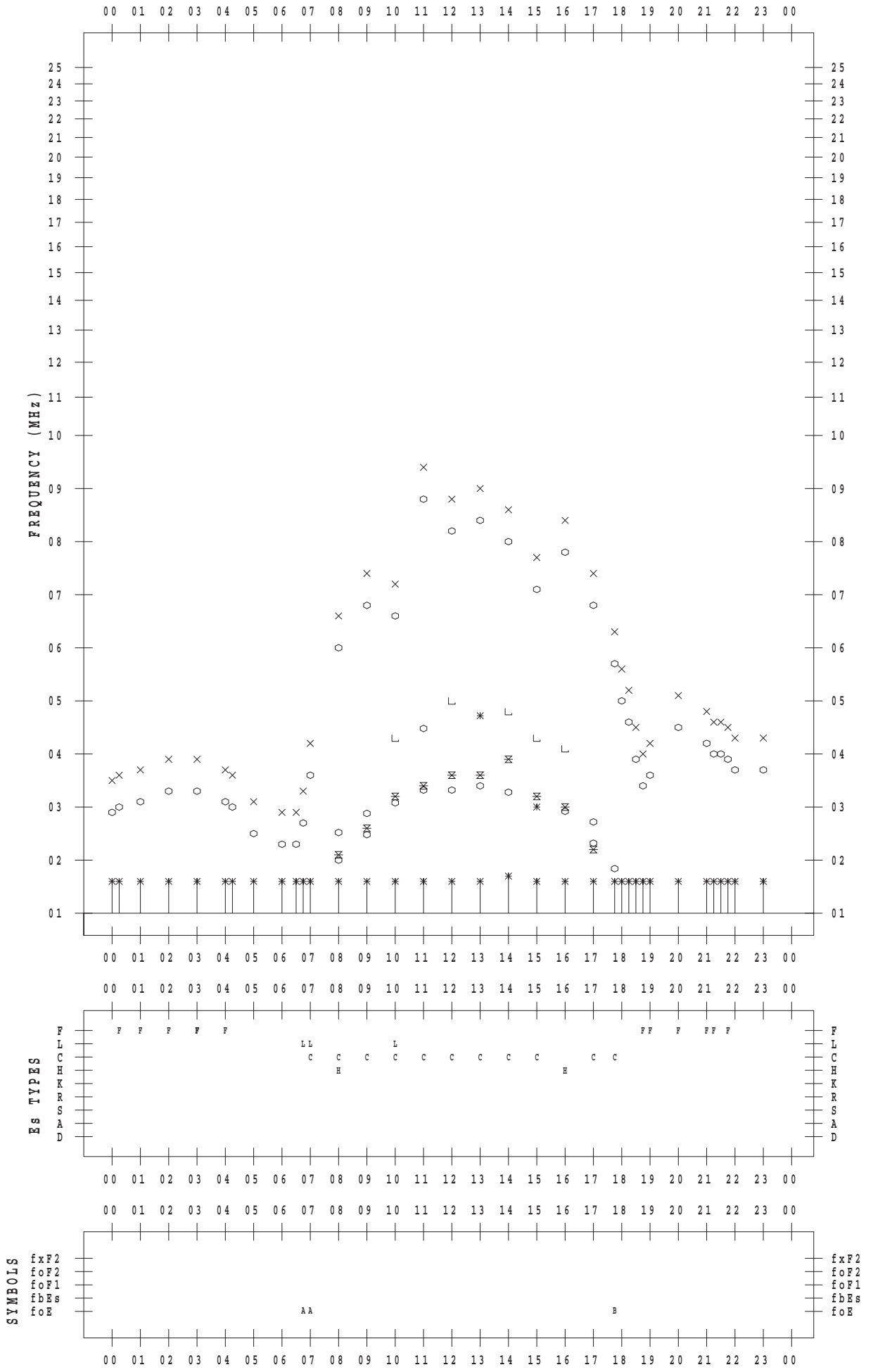
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/ 2

135 °E MEAN TIME



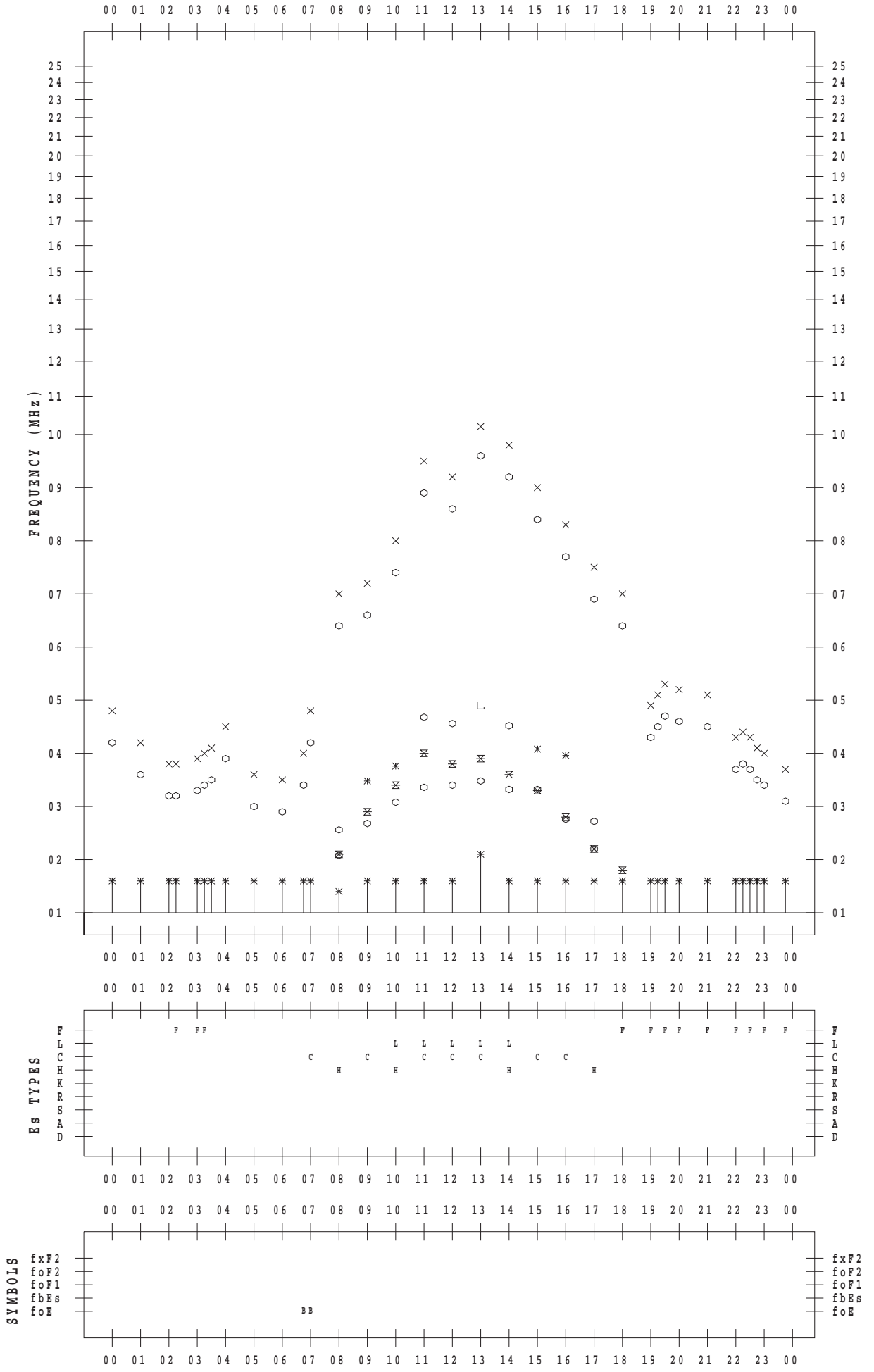
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/ 3

135 °E MEAN TIME



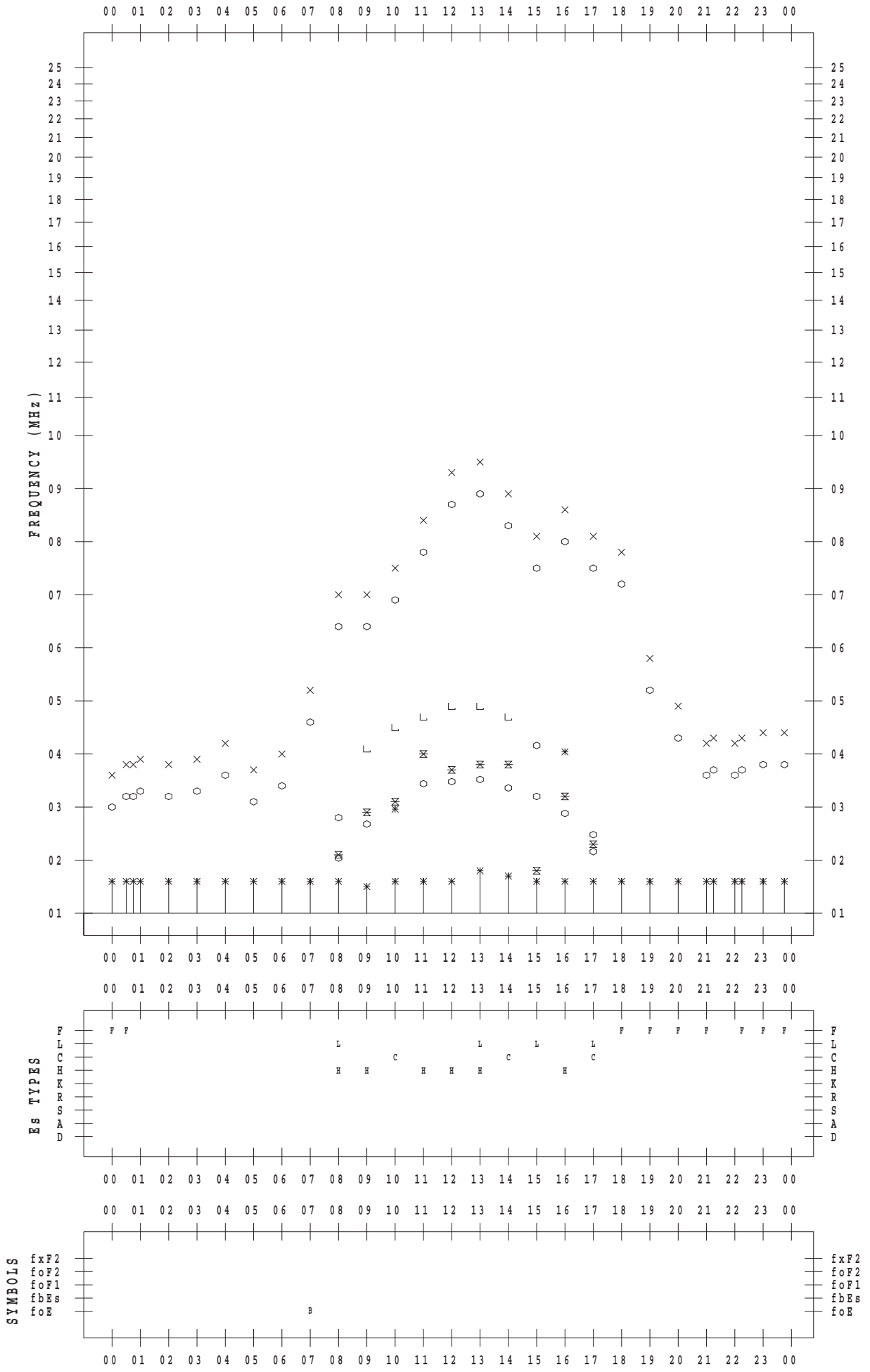
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/ 4

135 °E MEAN TIME



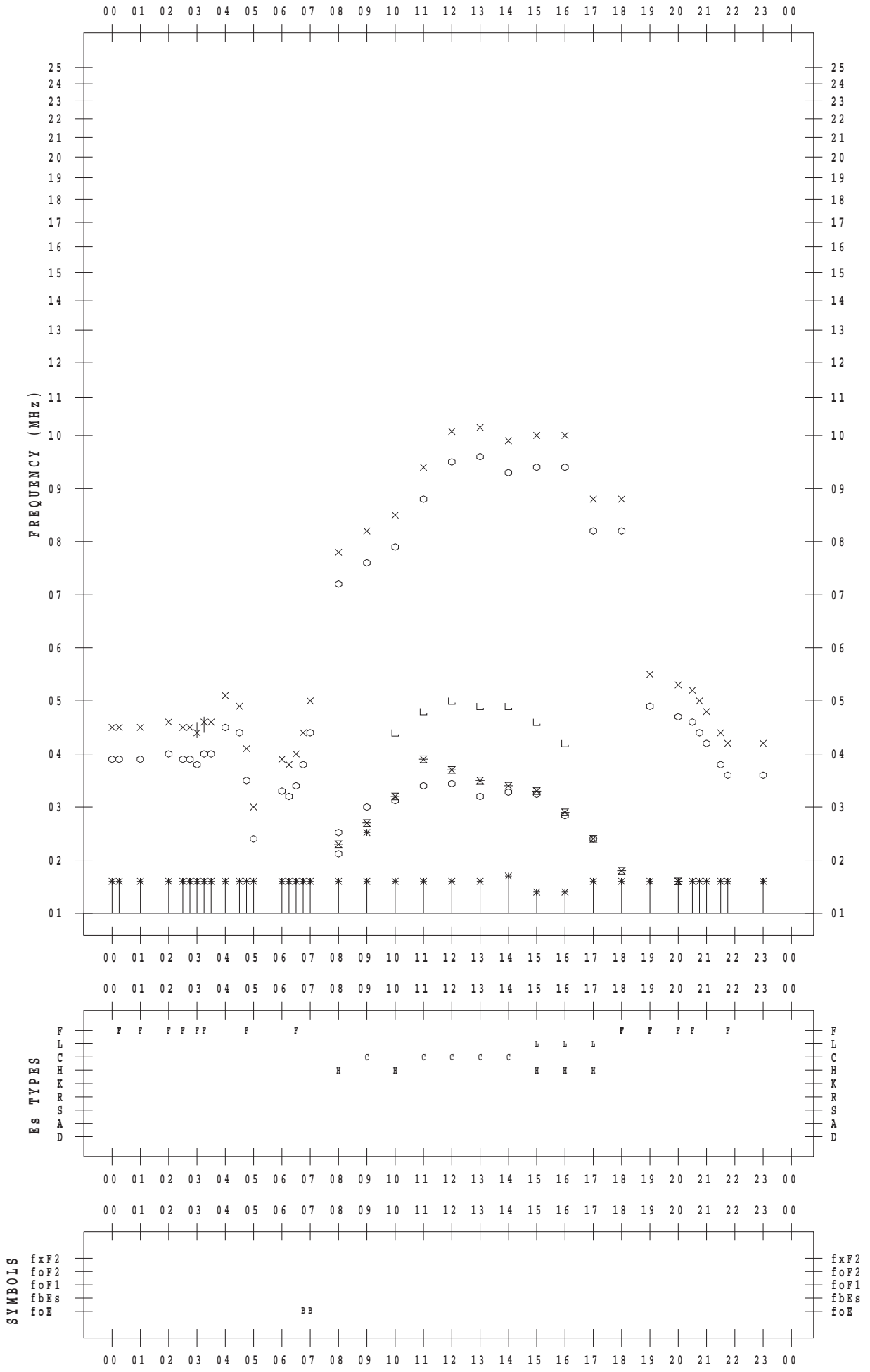
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/ 5

135 °E MEAN TIME



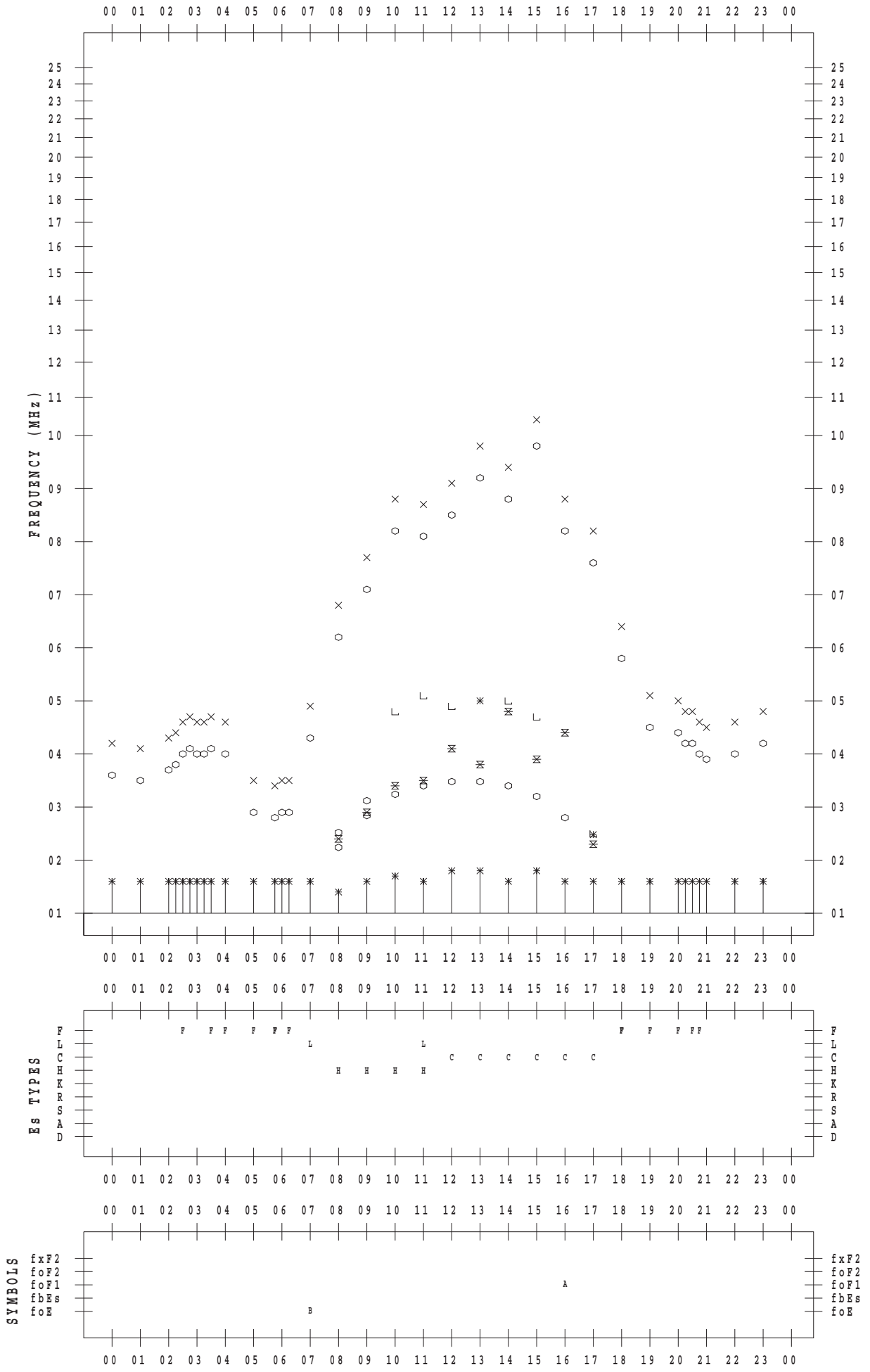
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/ 6

135 °E MEAN TIME



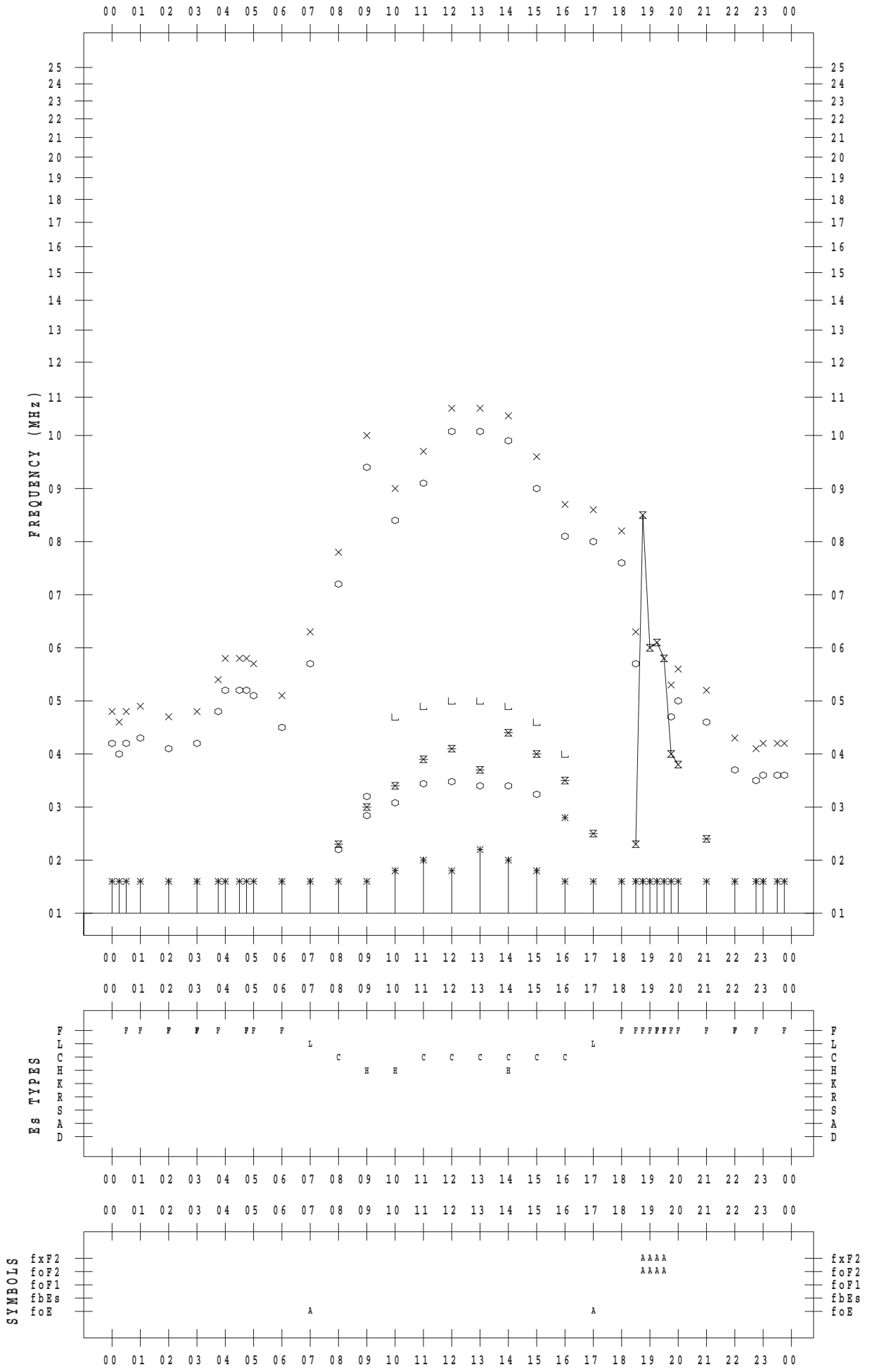
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/ 7

135 °E MEAN TIME



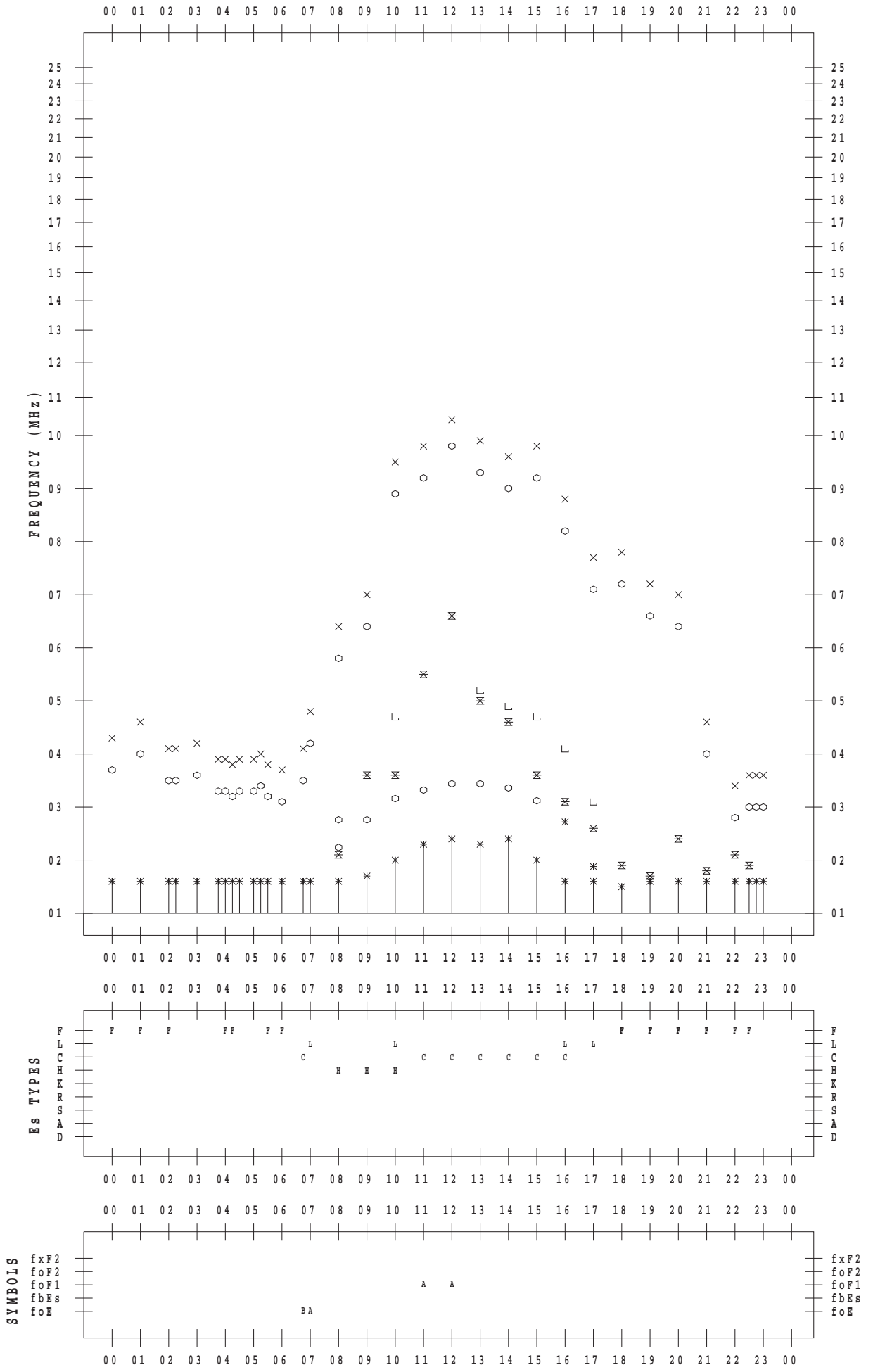
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/ 8

135 °E MEAN TIME



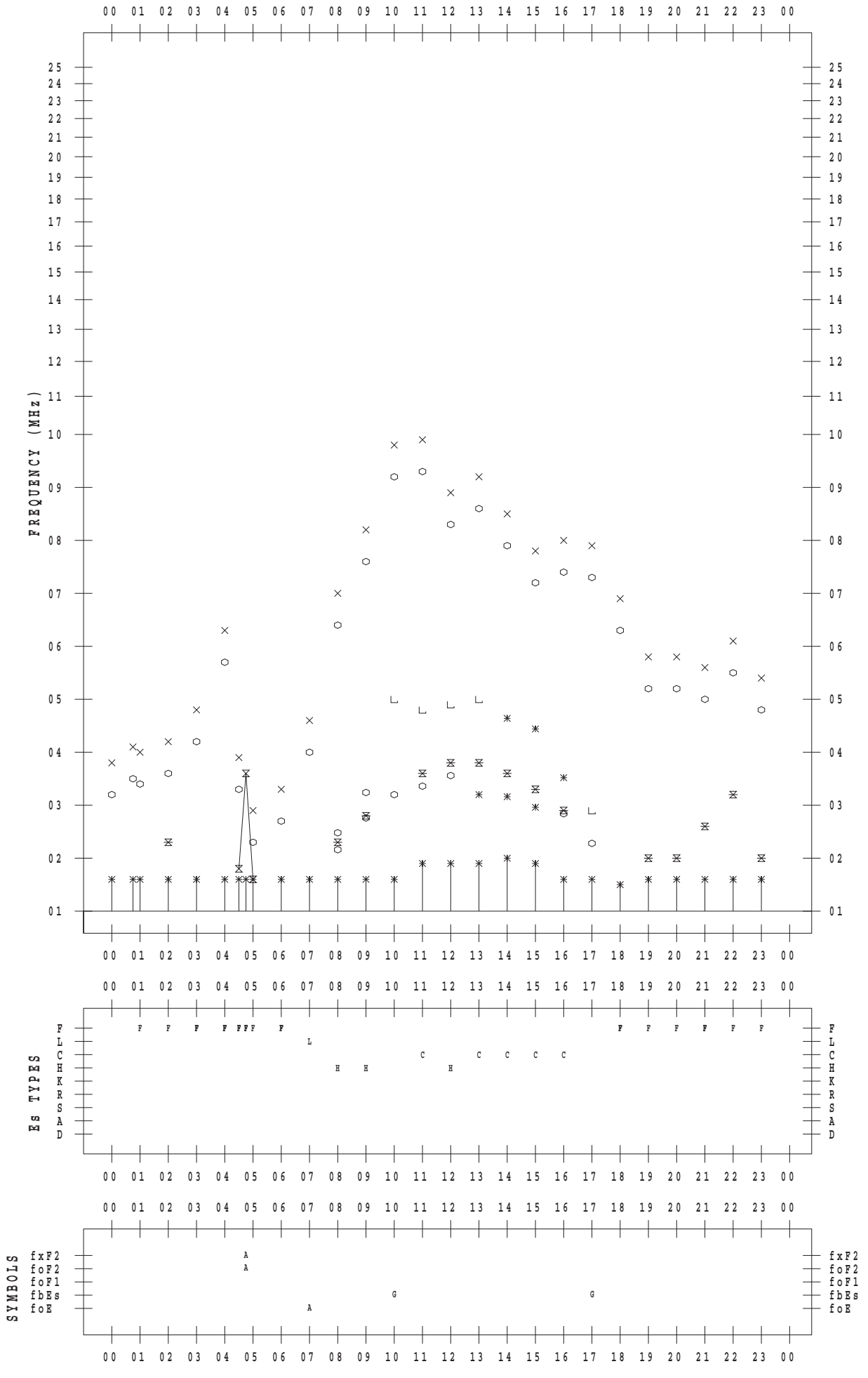
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/ 9

135 °E MEAN TIME



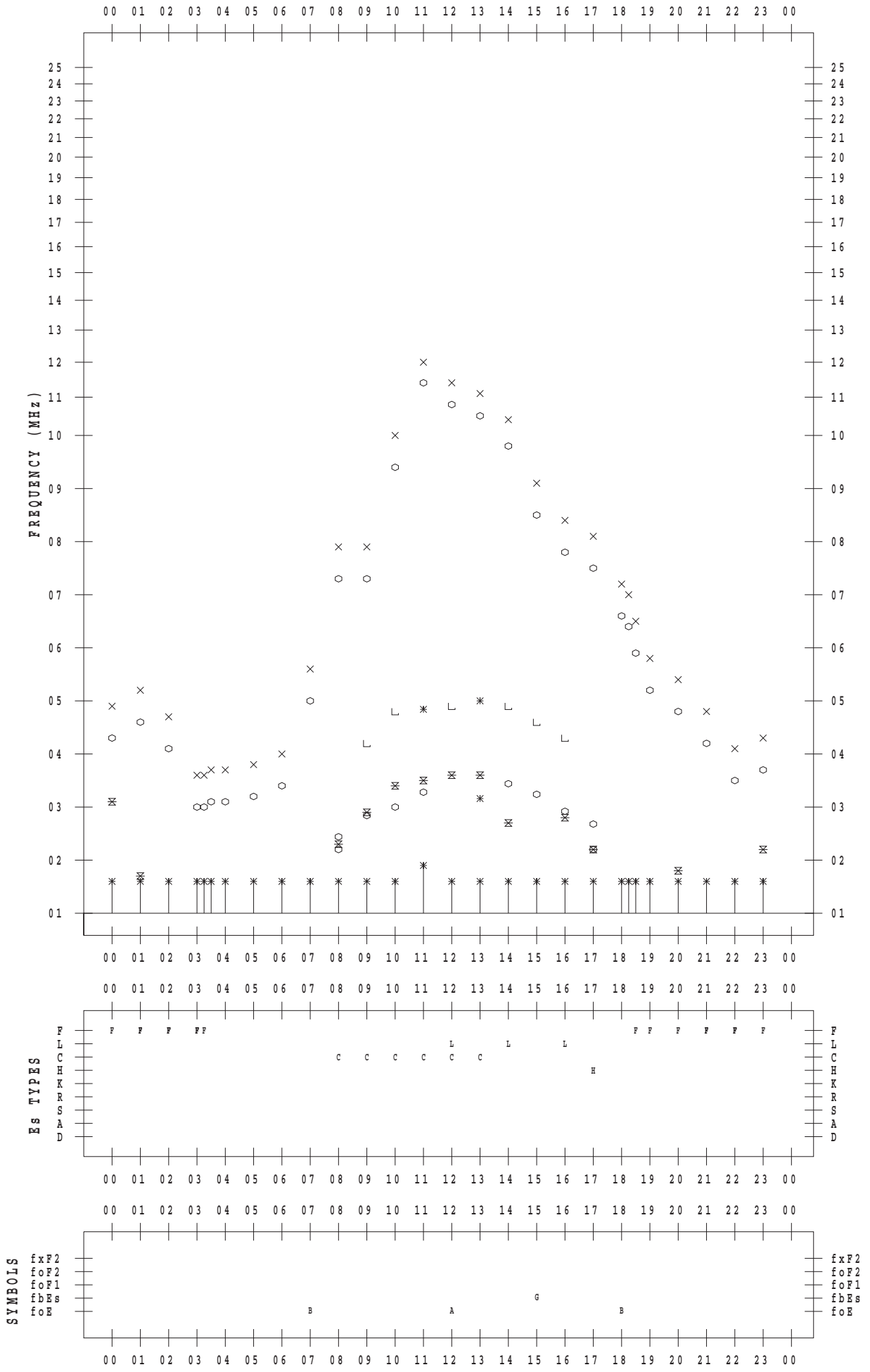
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/10

135 °E MEAN TIME



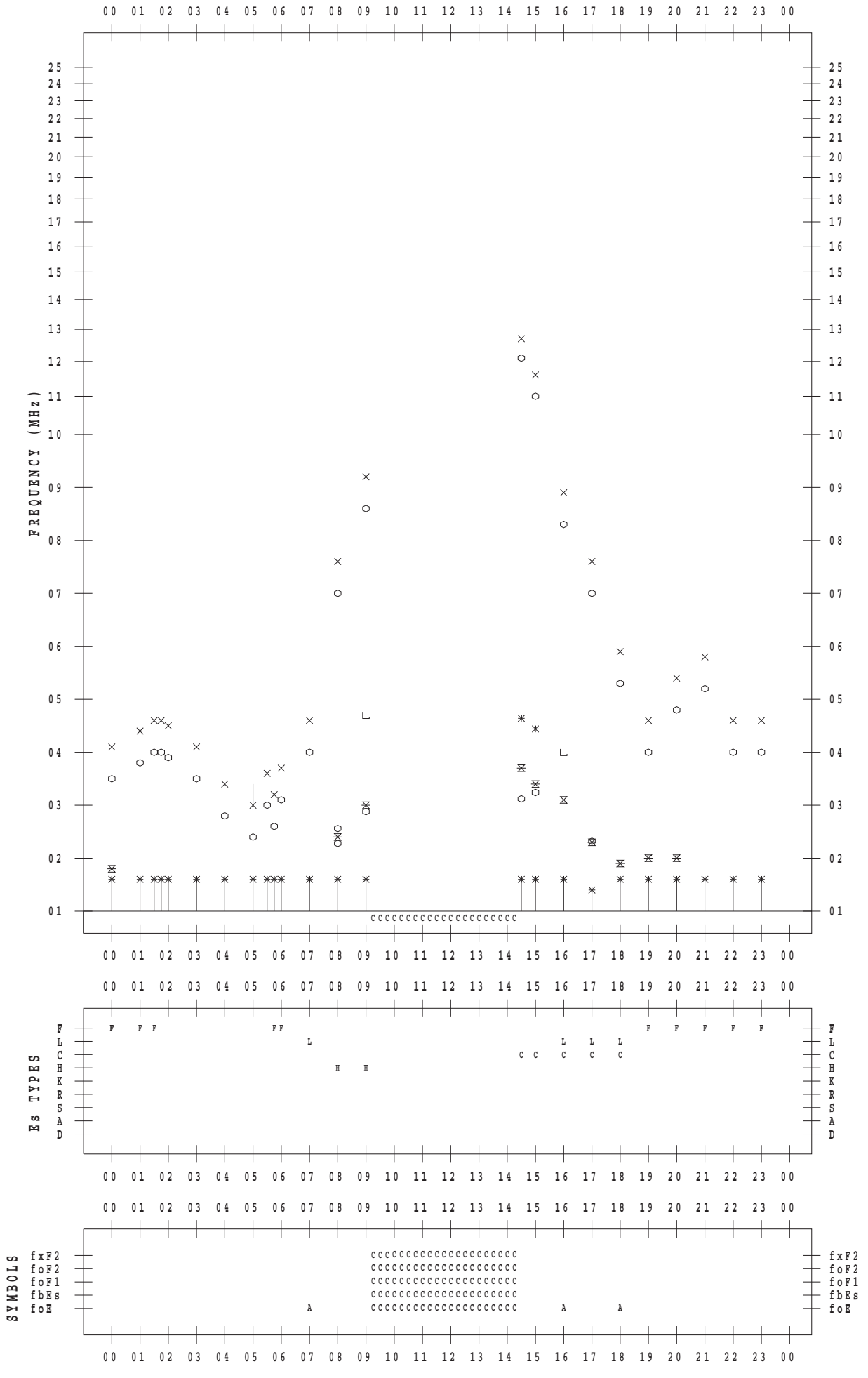
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/11

135 °E MEAN TIME



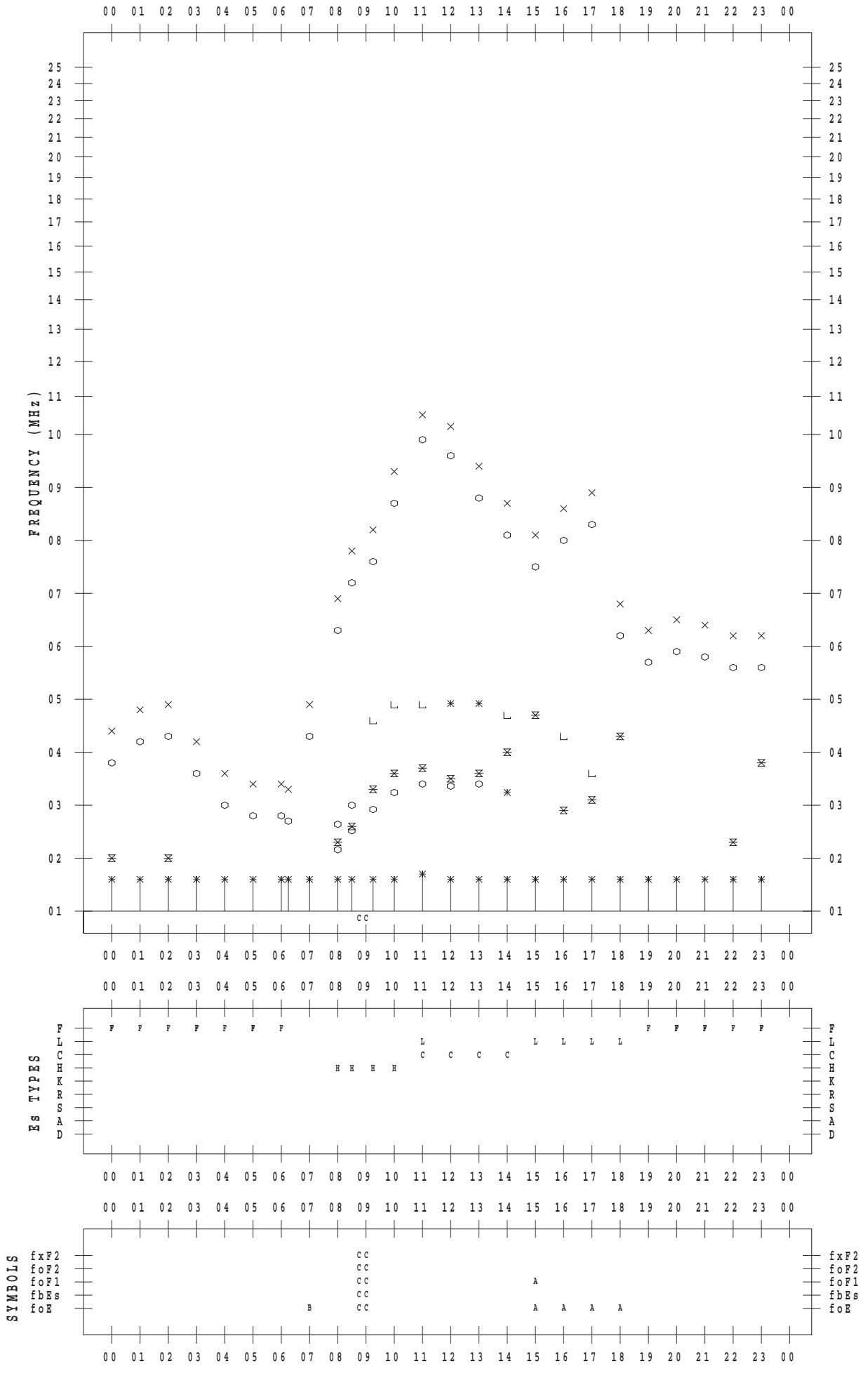
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/12

135 °E MEAN TIME



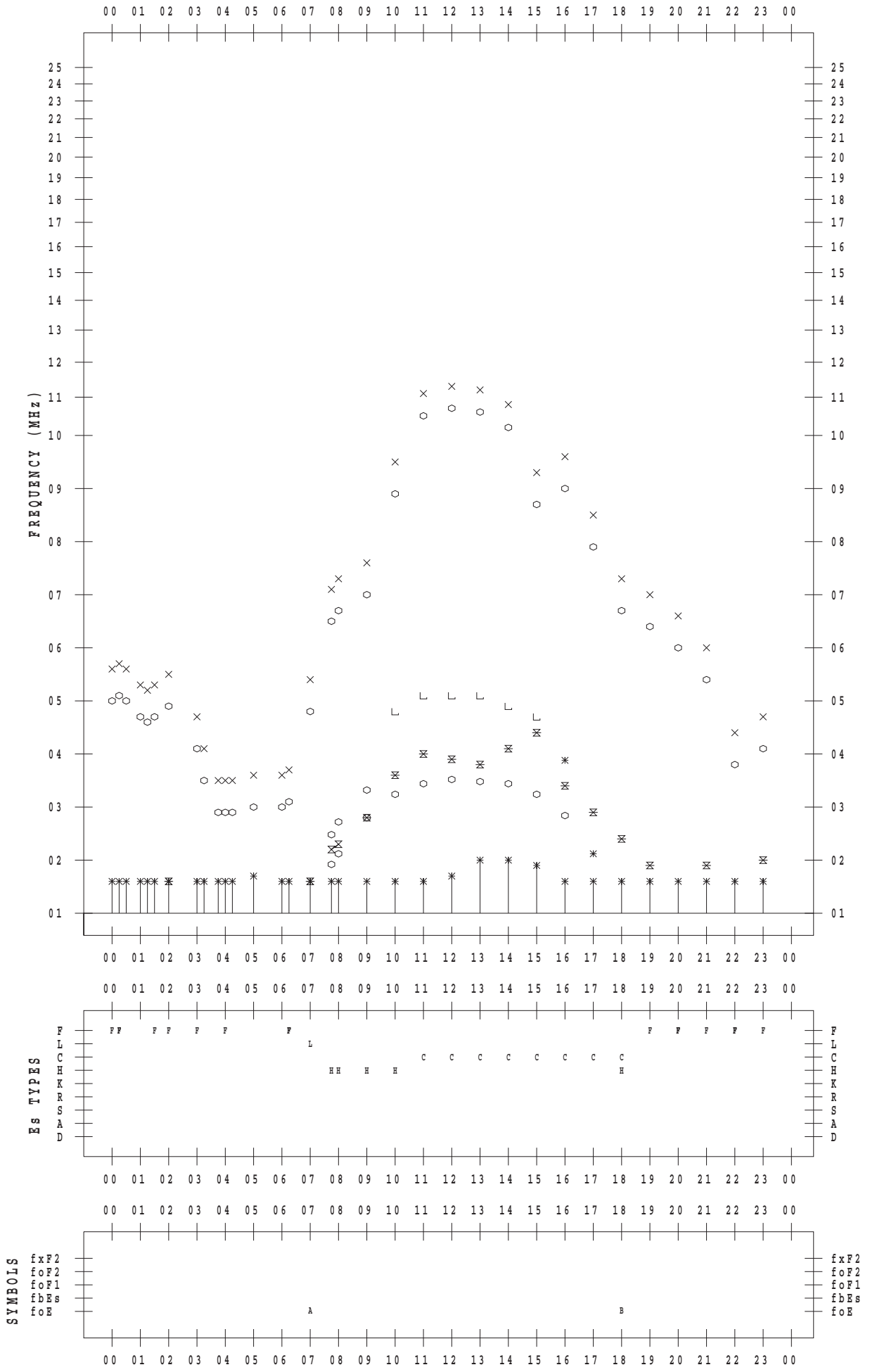
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/13

135 °E MEAN TIME



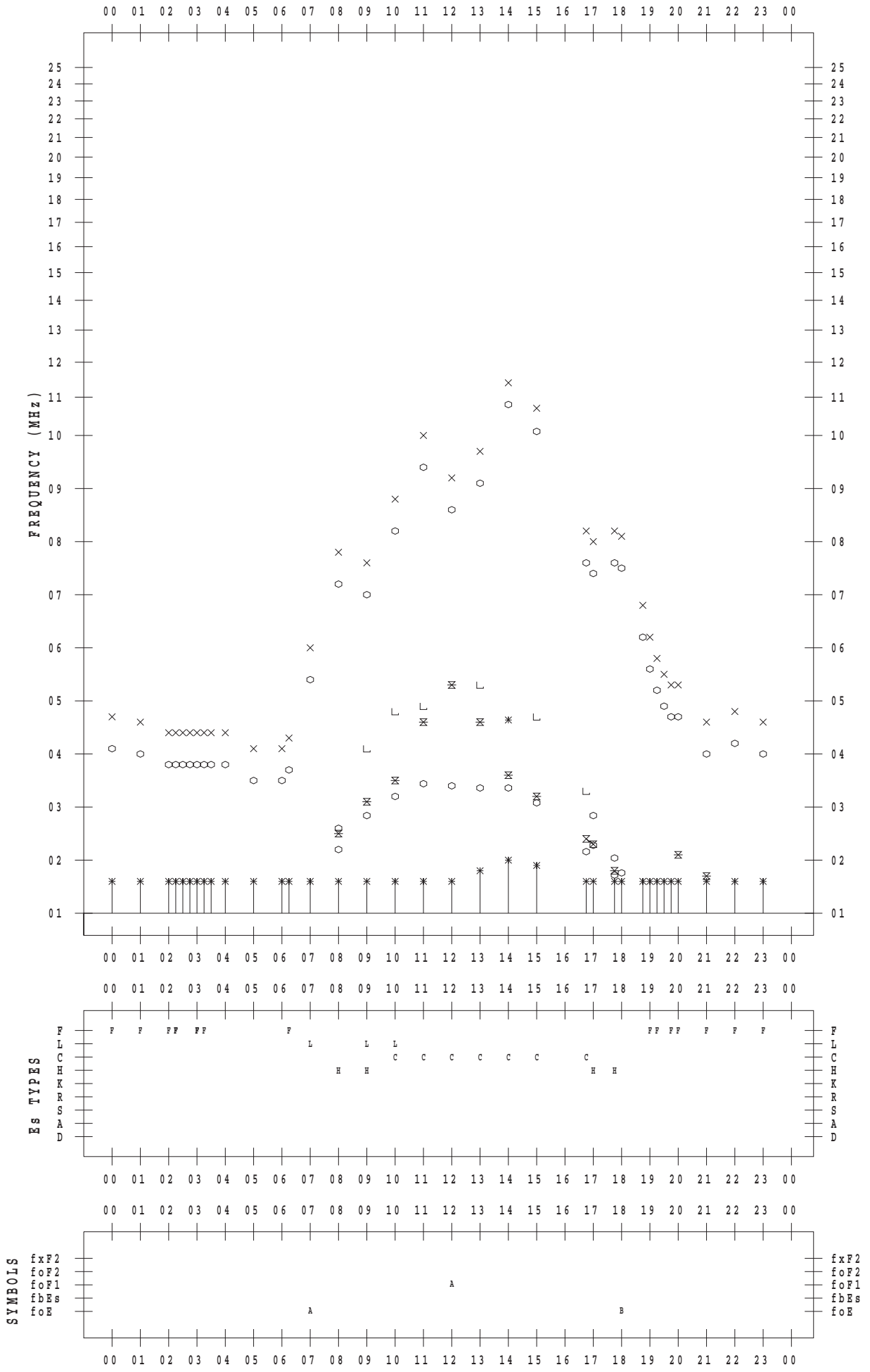
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/14

135 °E MEAN TIME



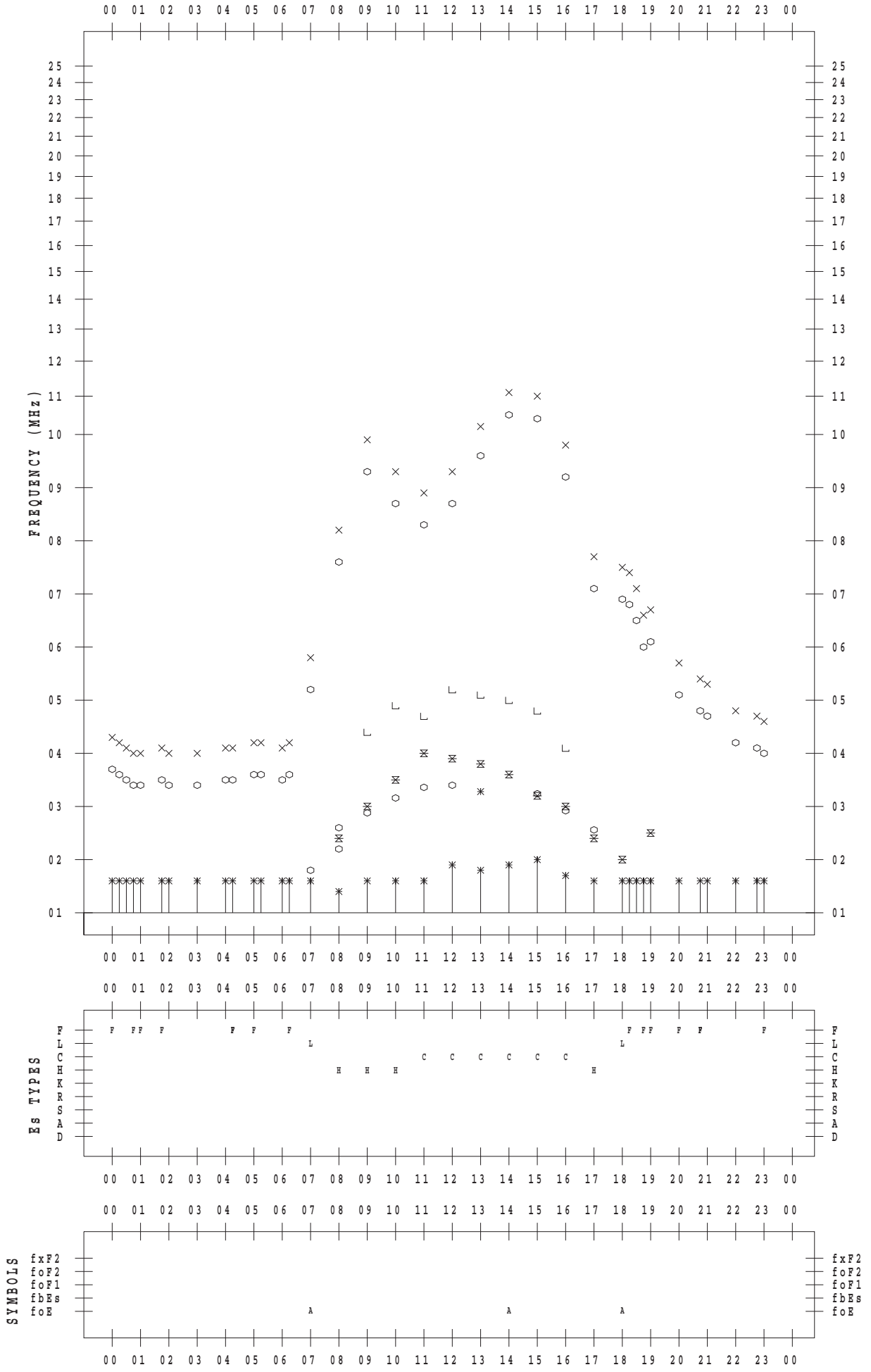
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/15

135 °E MEAN TIME



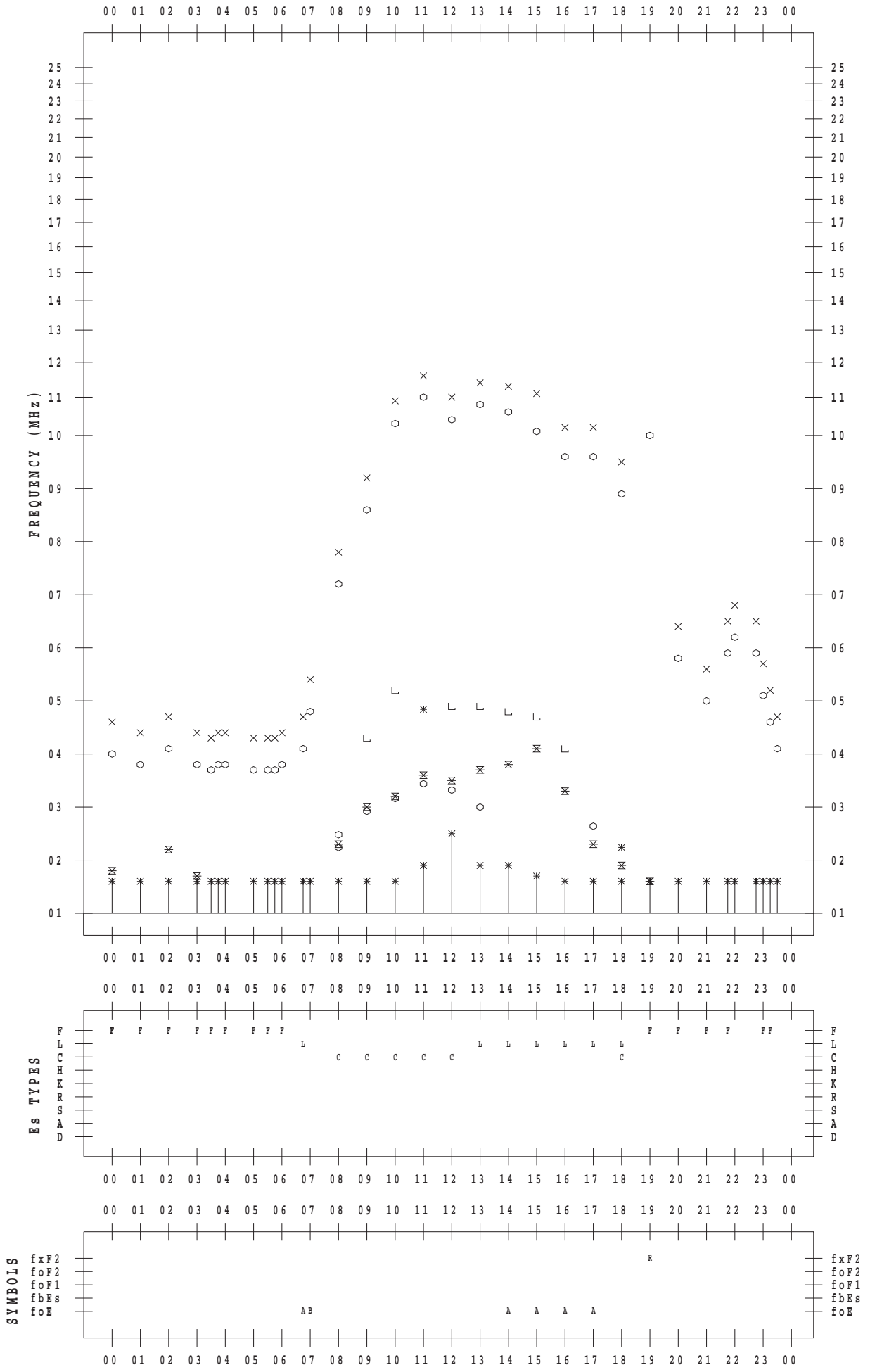
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/16

135 °E MEAN TIME



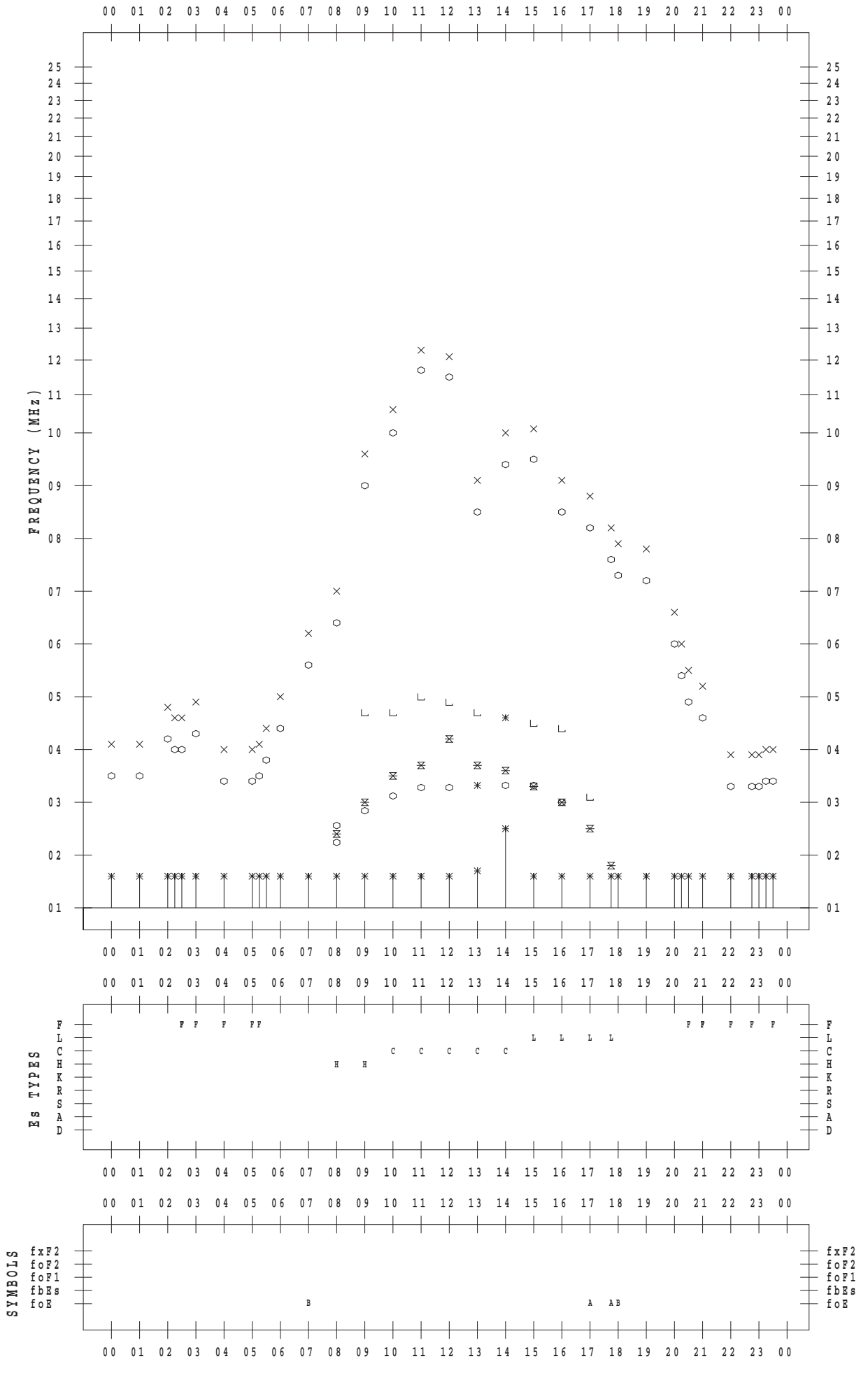
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/17

135 °E MEAN TIME



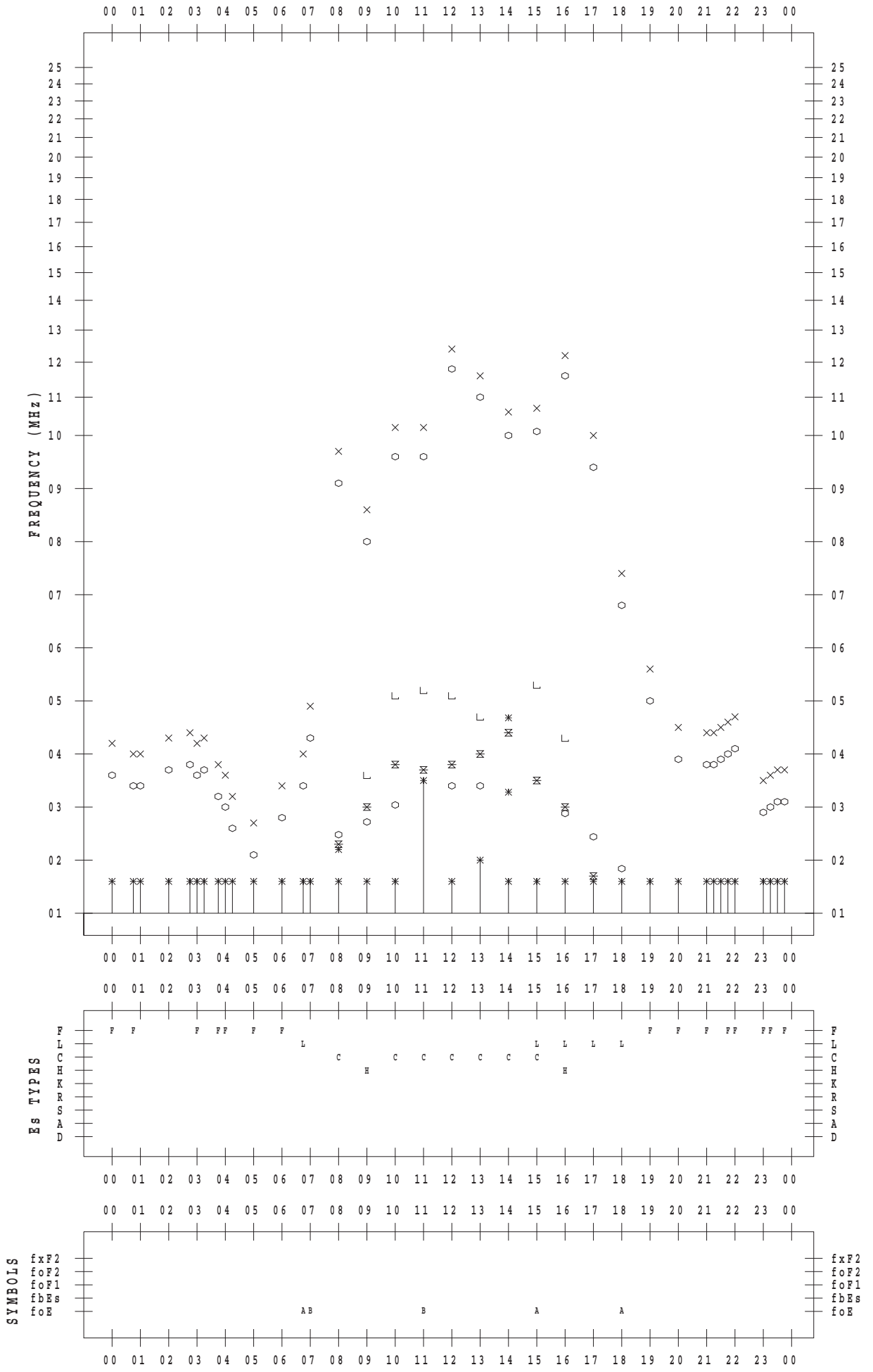
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/18

135 °E MEAN TIME



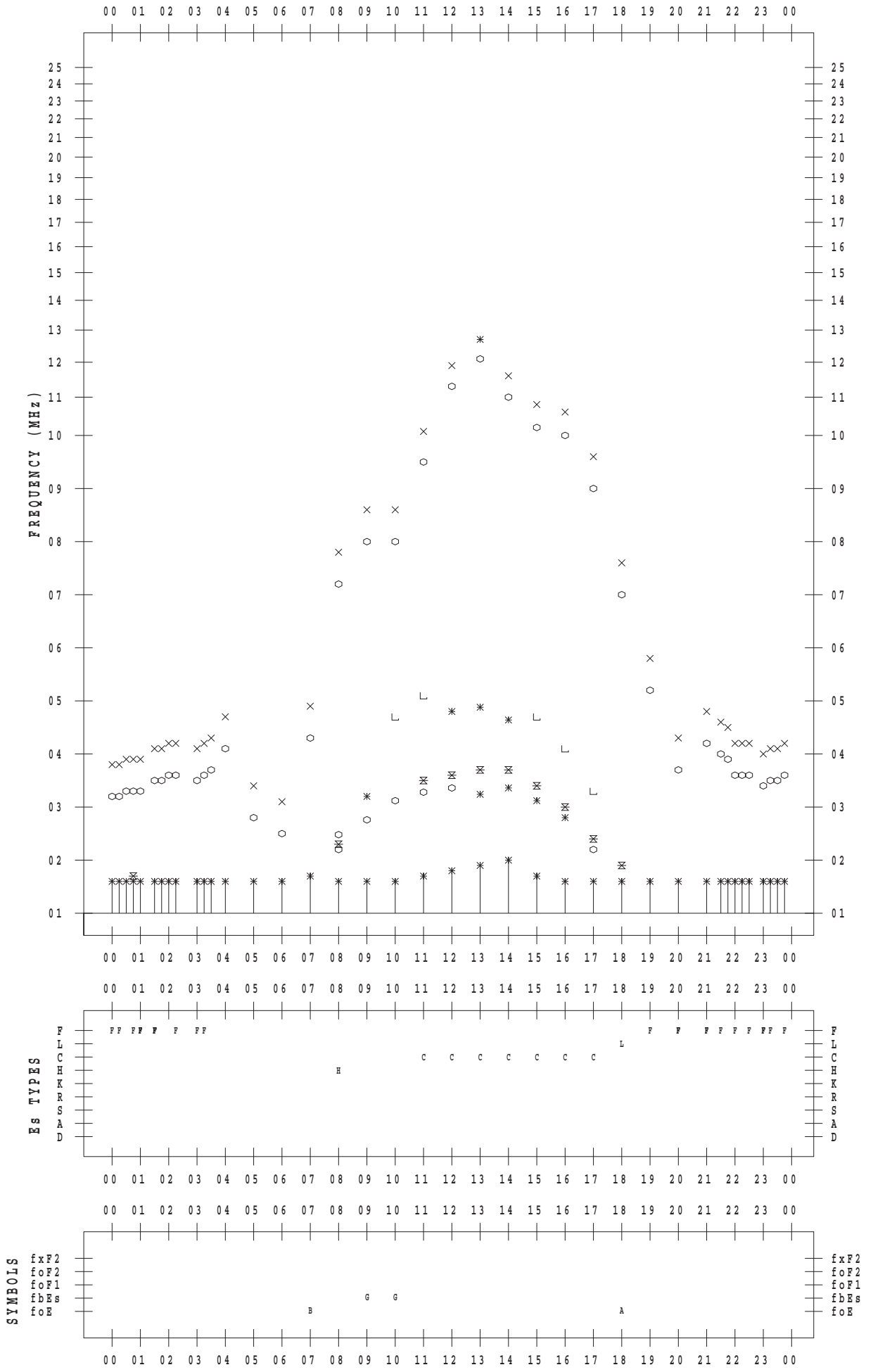
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/19

135 °E MEAN TIME



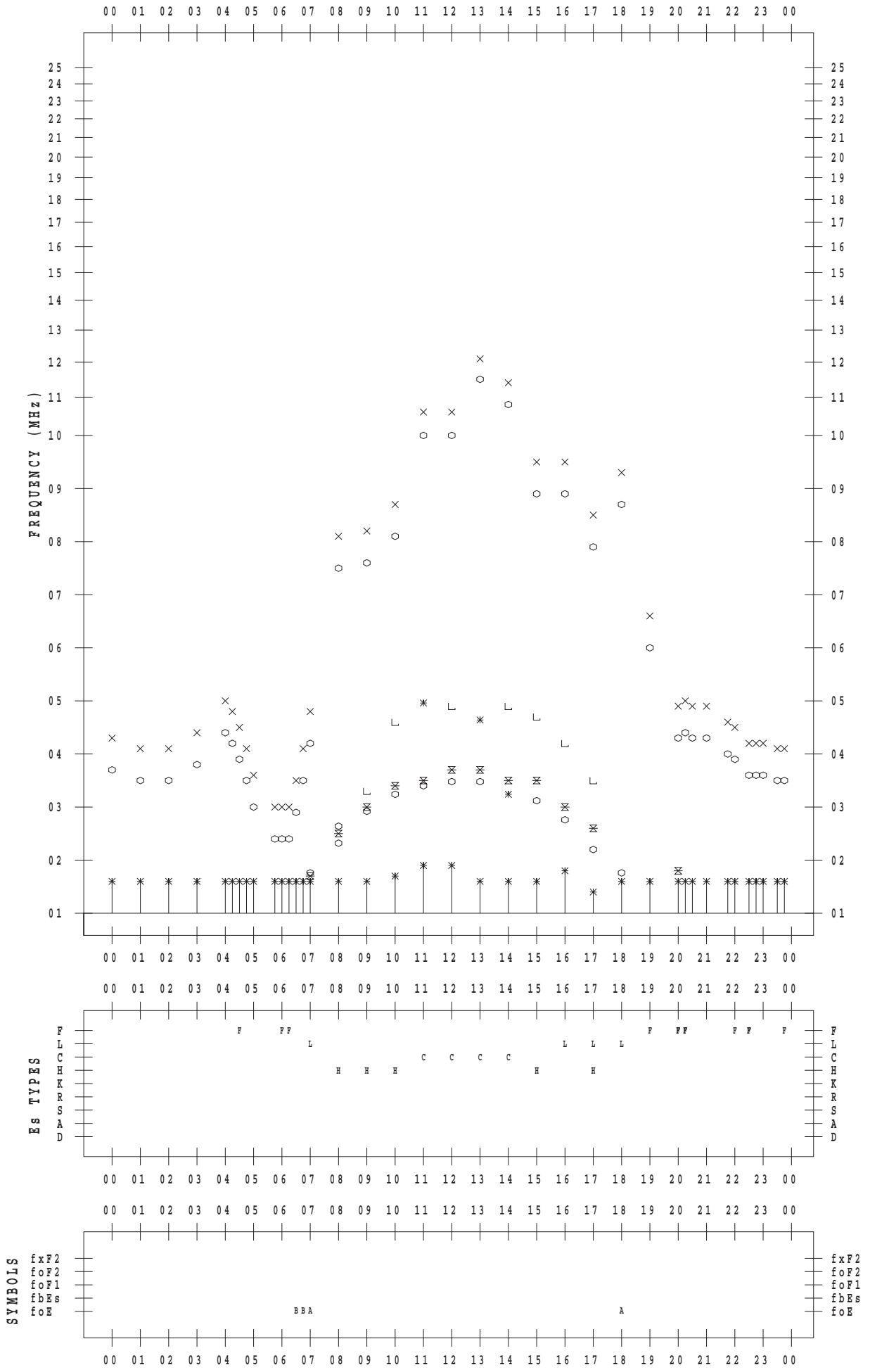
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/20

135 °E MEAN TIME



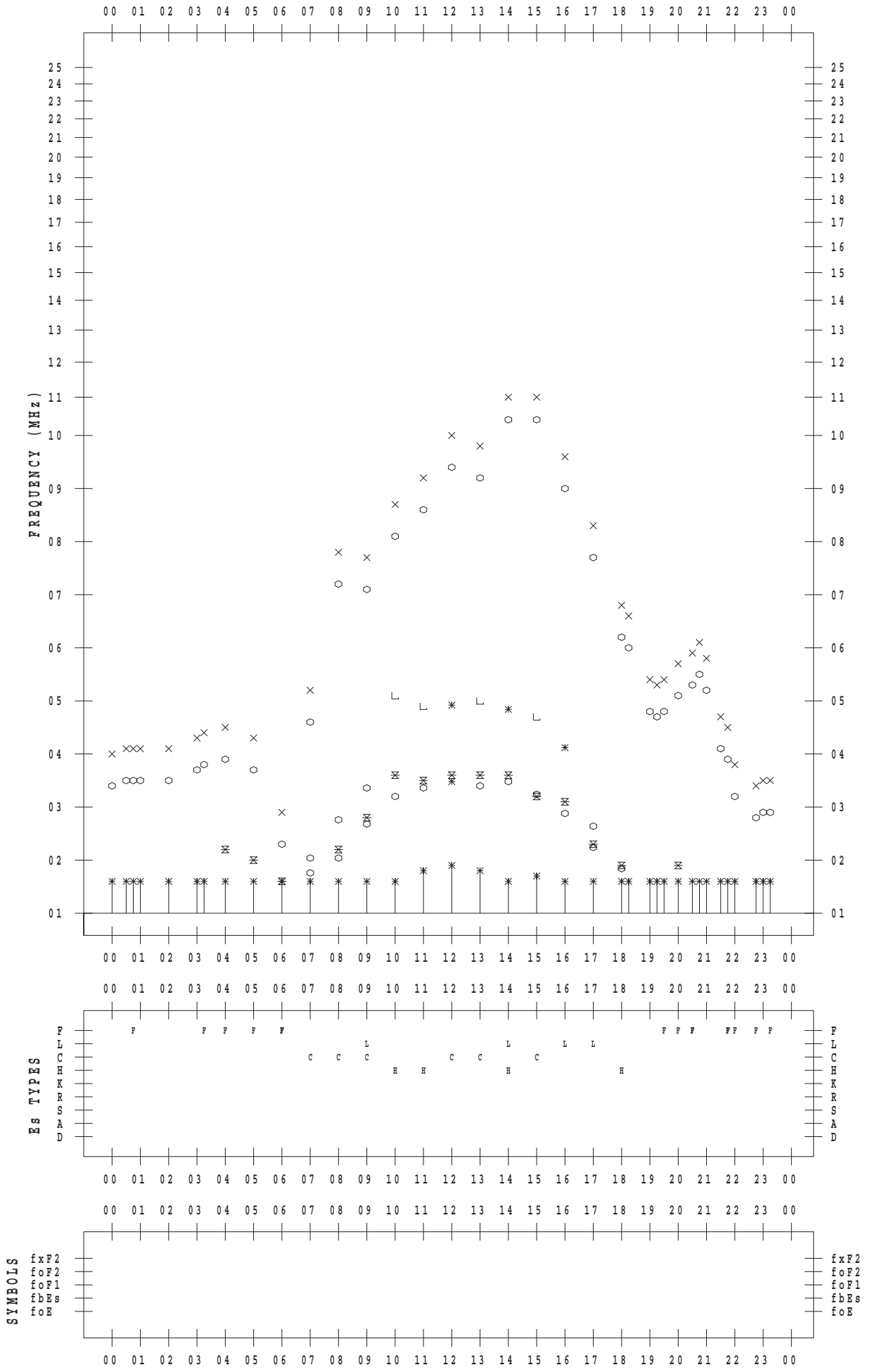
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/21

135 °E MEAN TIME



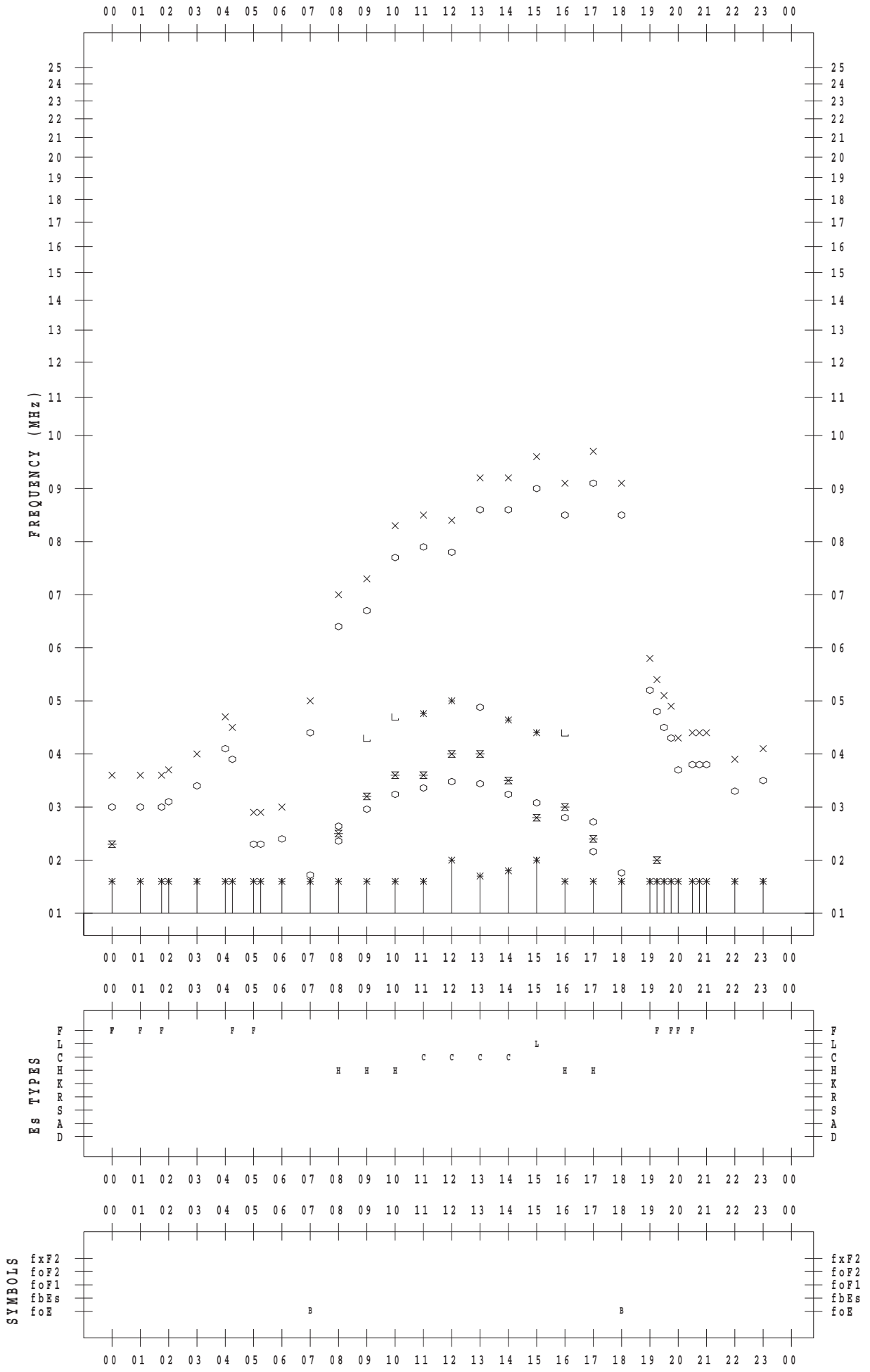
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/22

135 °E MEAN TIME



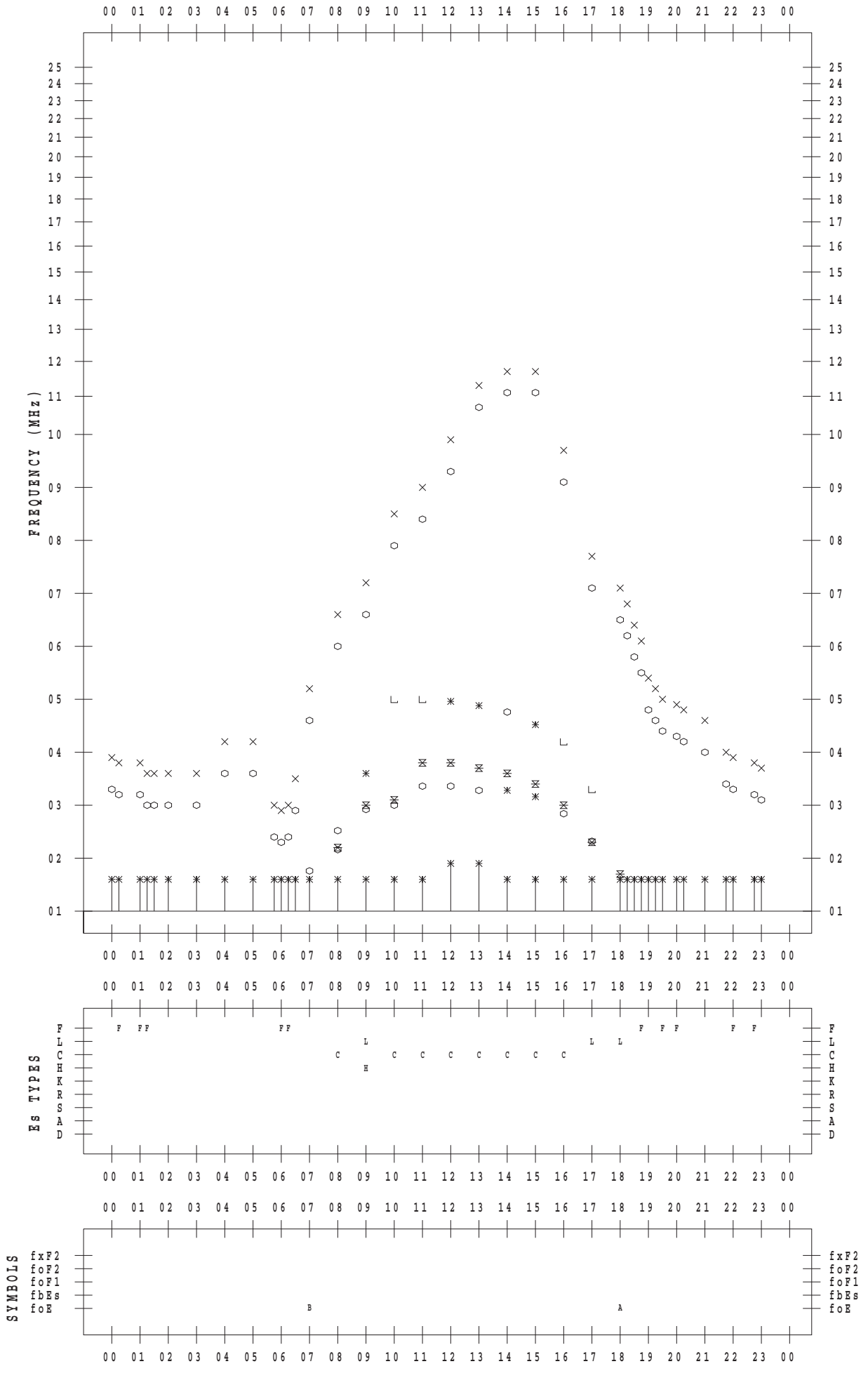
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/23

135 °E MEAN TIME



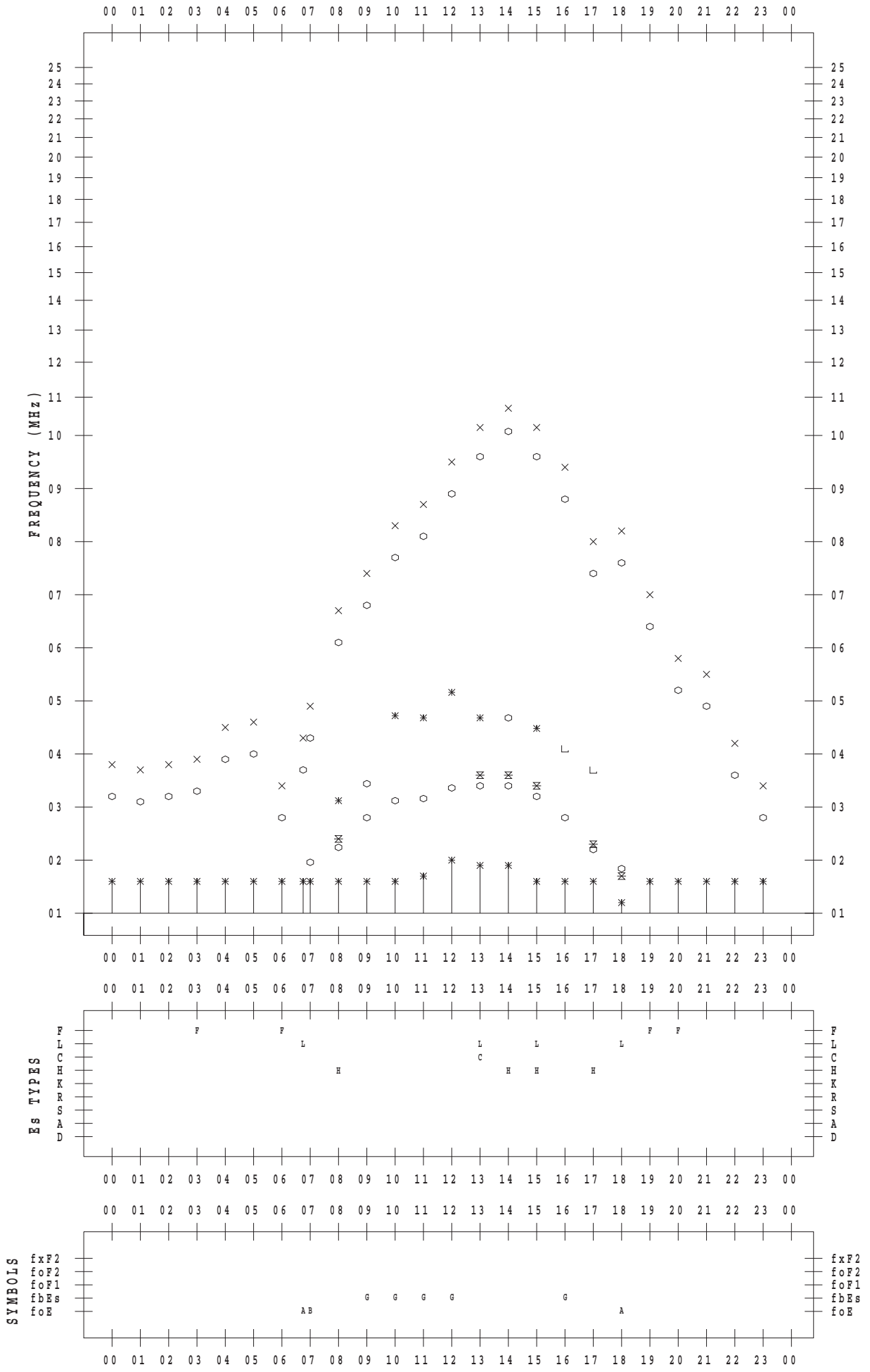
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/24

135 °E MEAN TIME



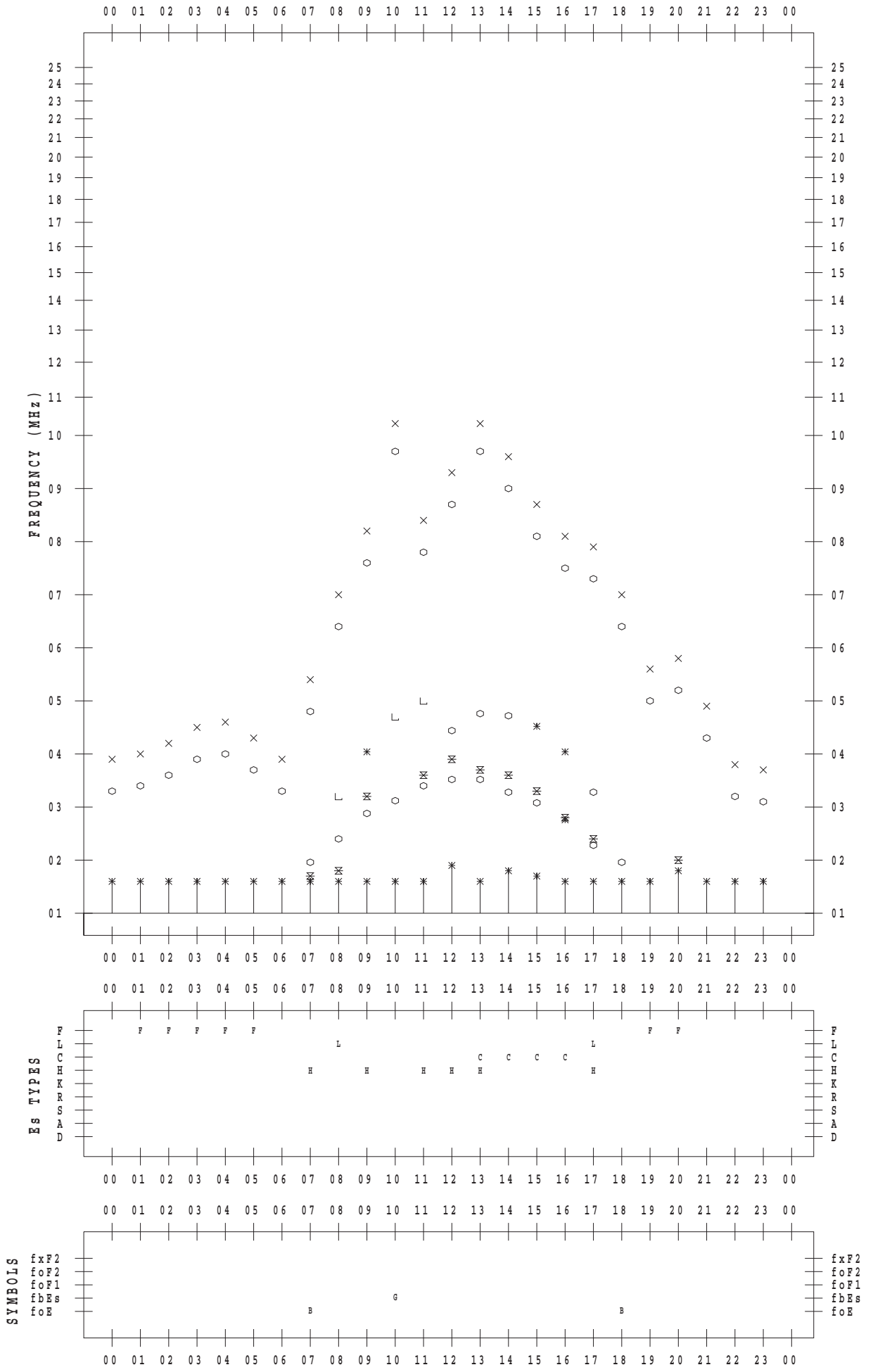
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/25

135 °E MEAN TIME



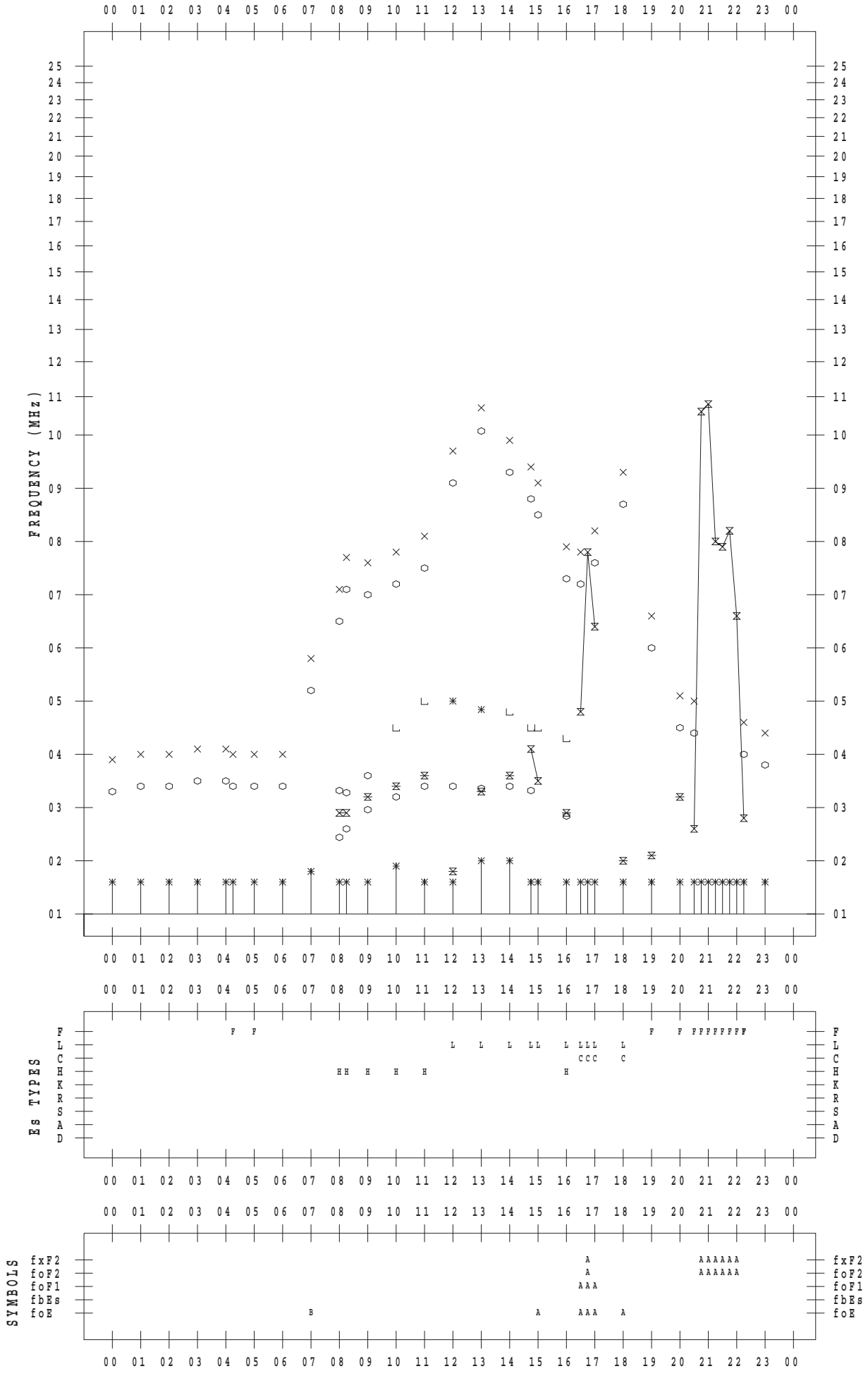
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/26

135 °E MEAN TIME



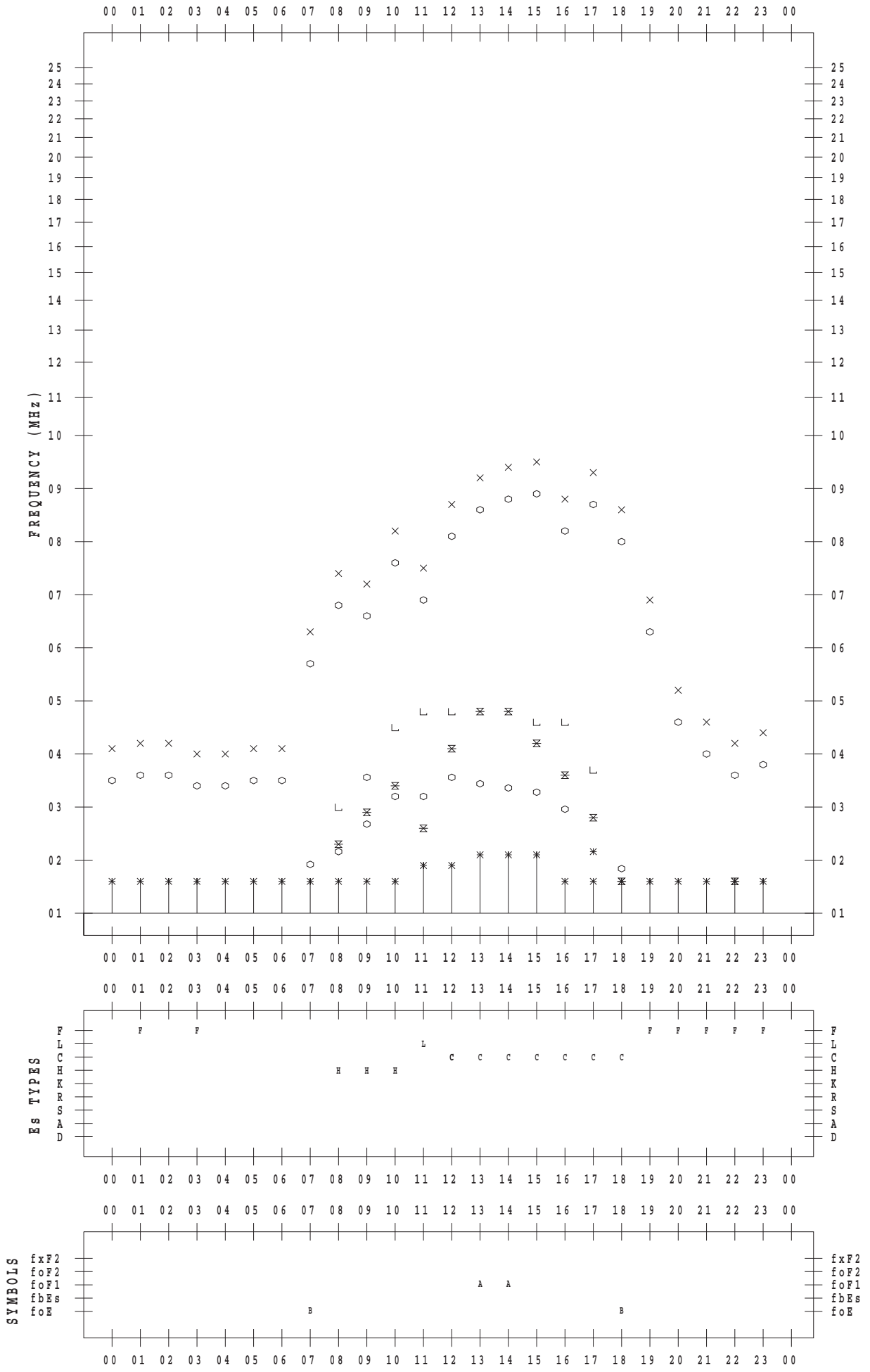
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/27

135 °E MEAN TIME



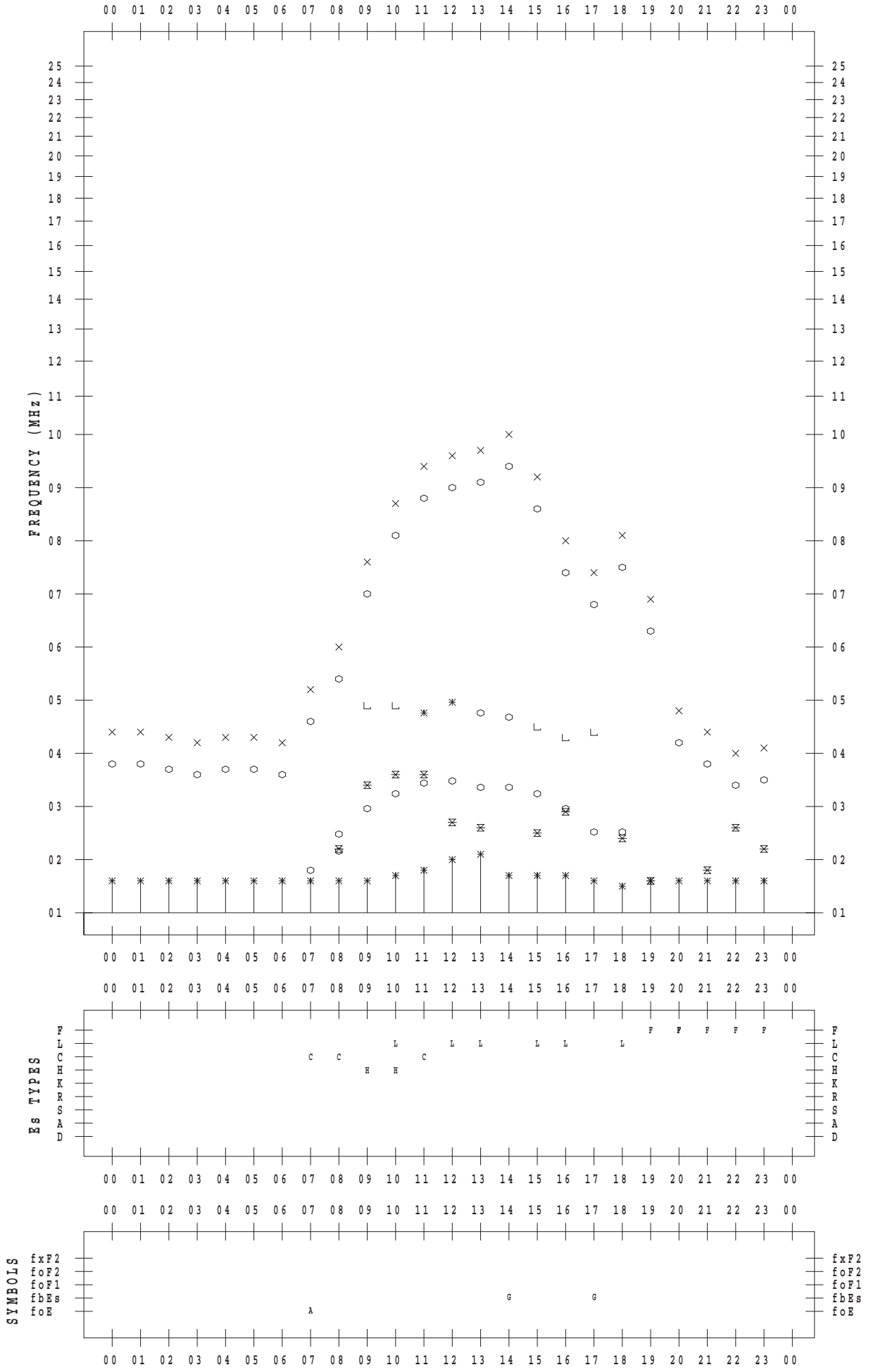
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/28

135 °E MEAN TIME



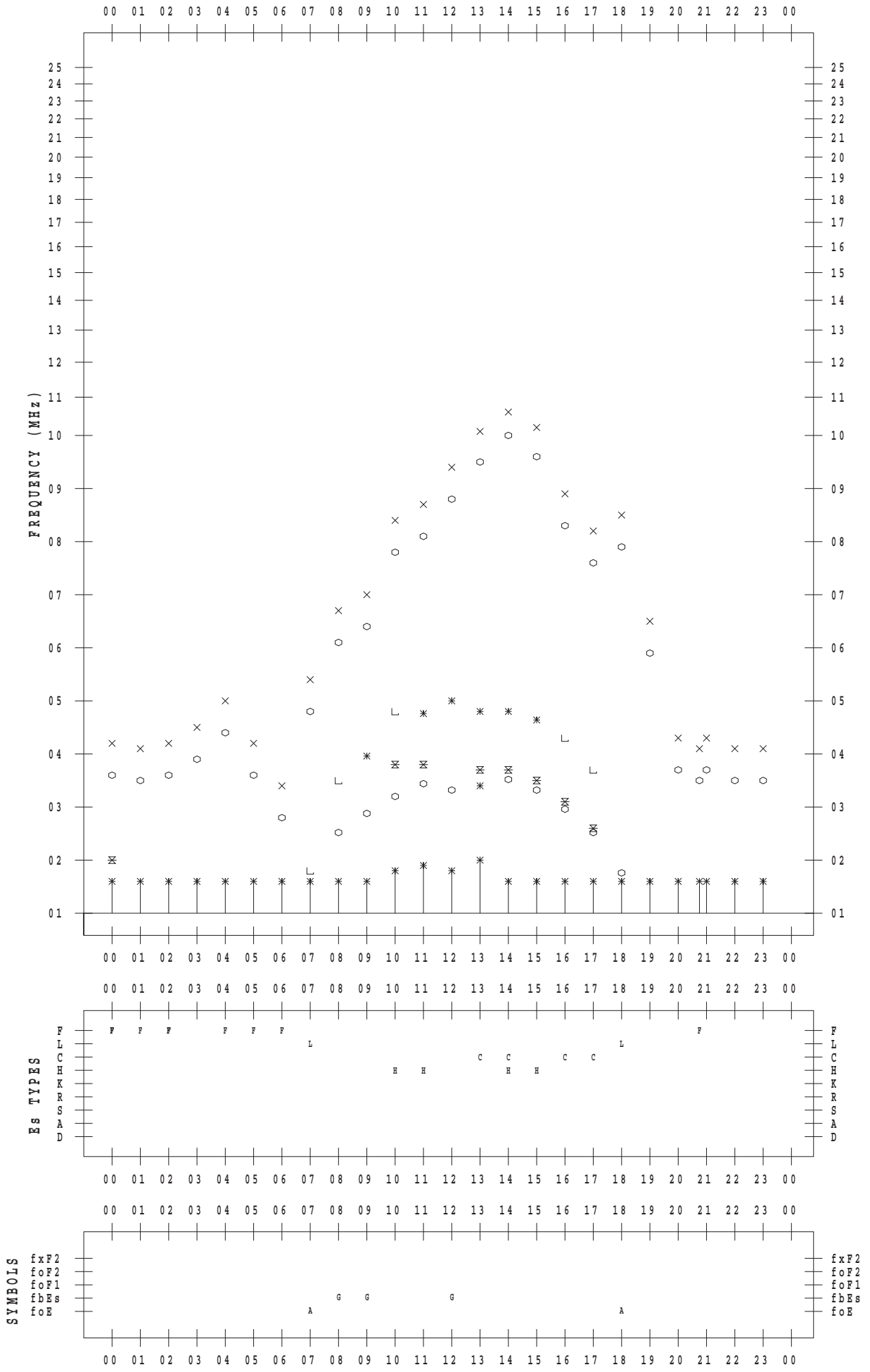
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2016/ 2/29

135 °E MEAN TIME



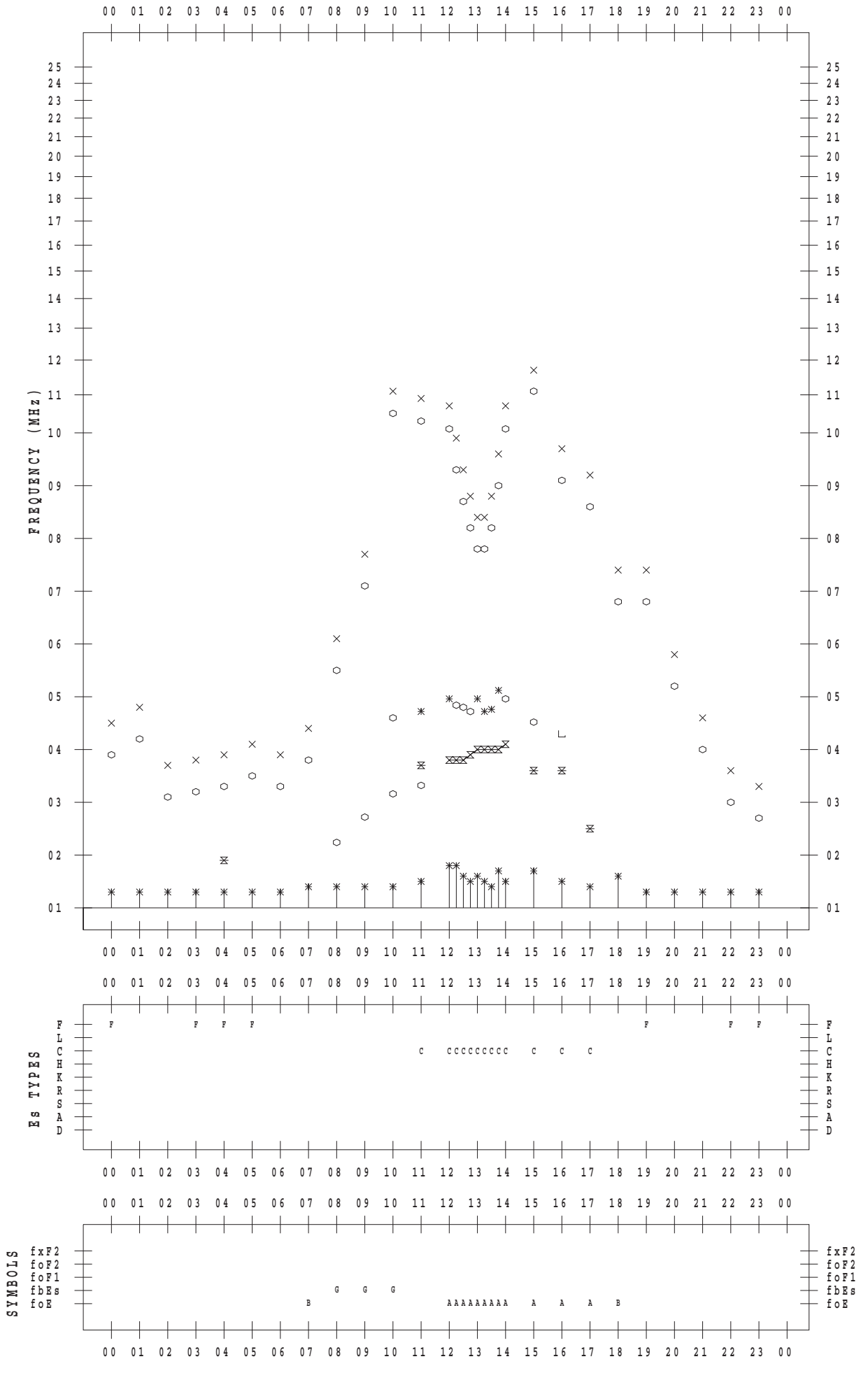
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/ 1

135 °E MEAN TIME



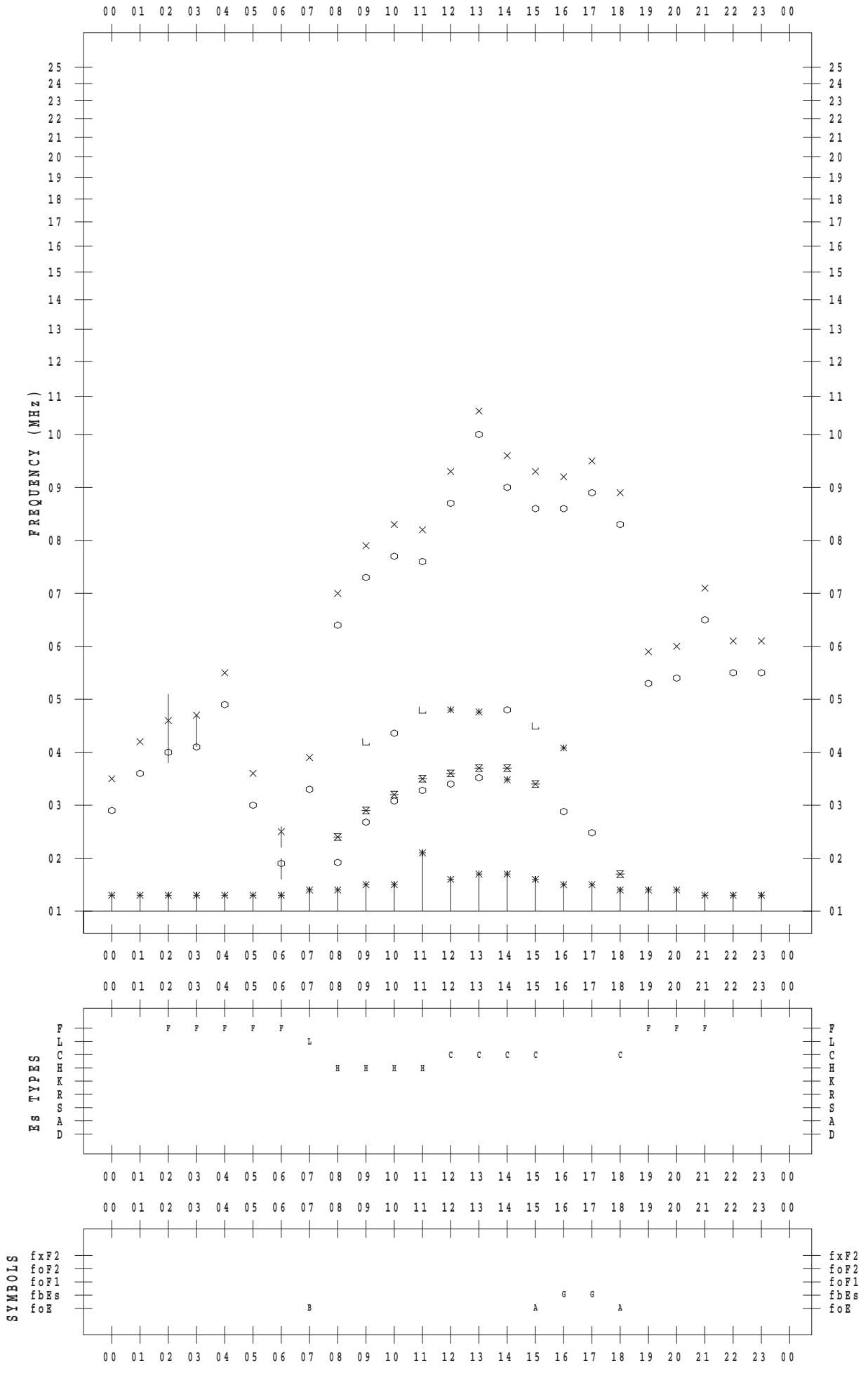
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/ 2

135 °E MEAN TIME



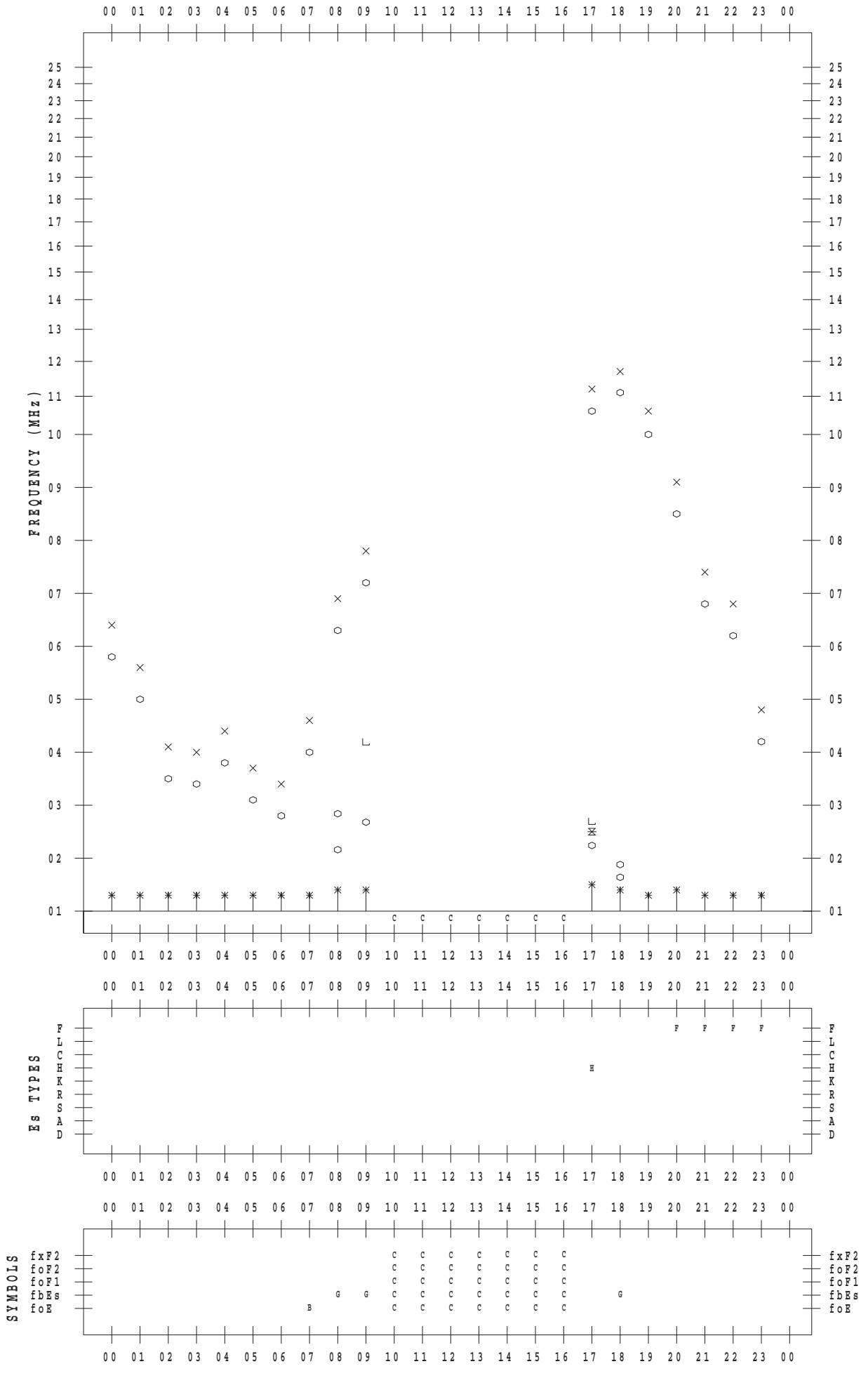
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/ 3

135 °E MEAN TIME



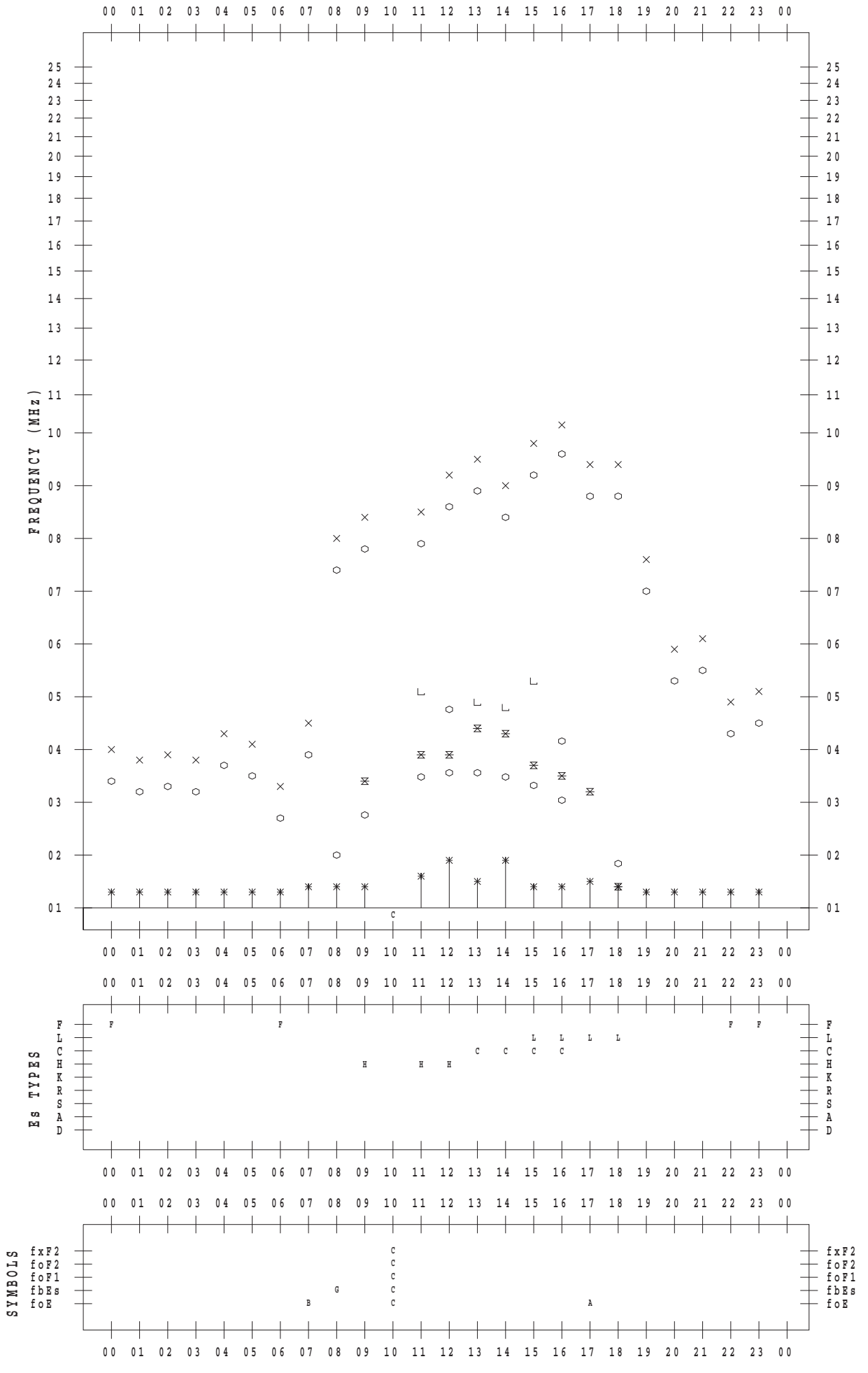
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/ 4

135 °E MEAN TIME



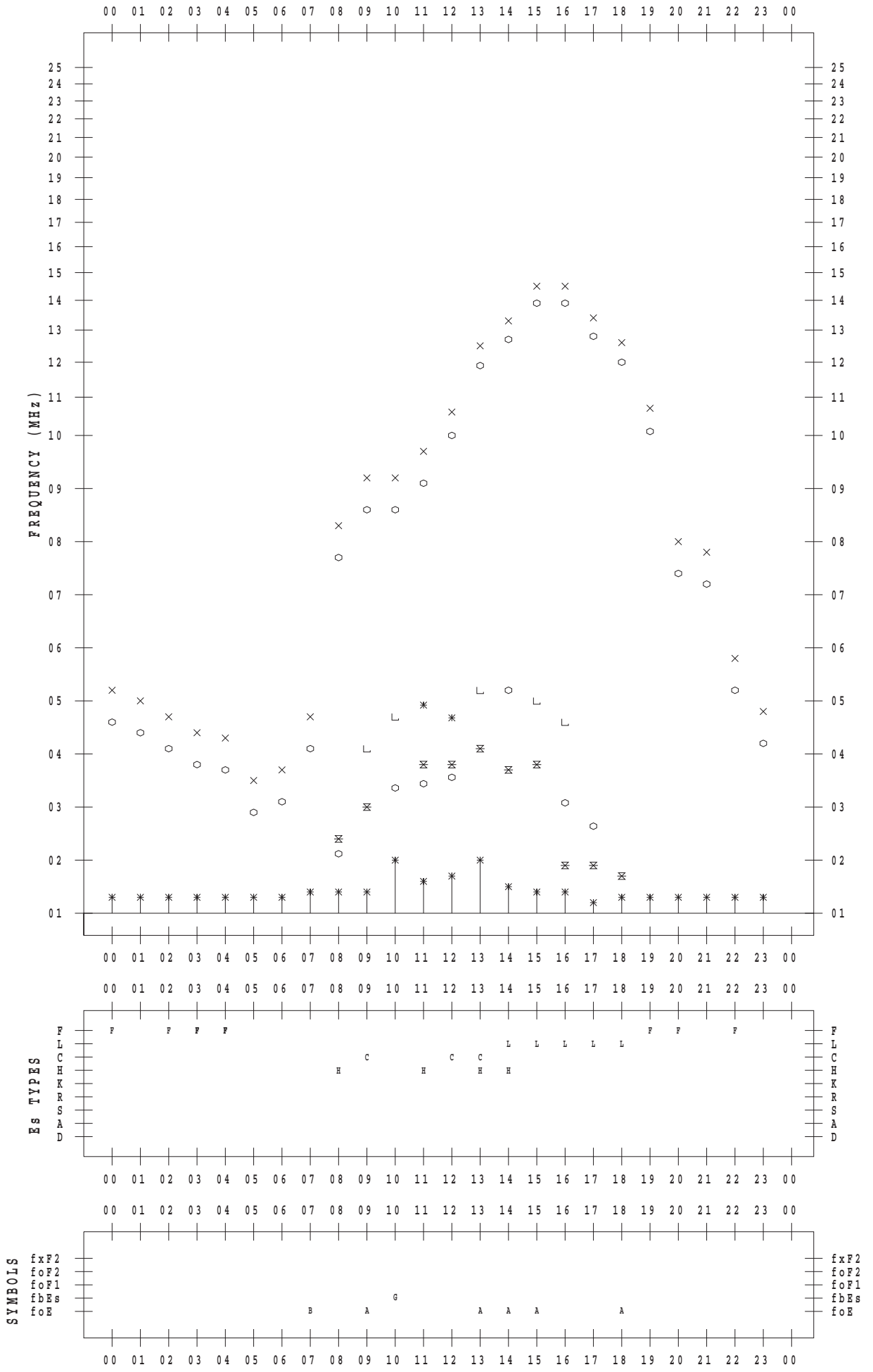
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/ 5

135 °E MEAN TIME



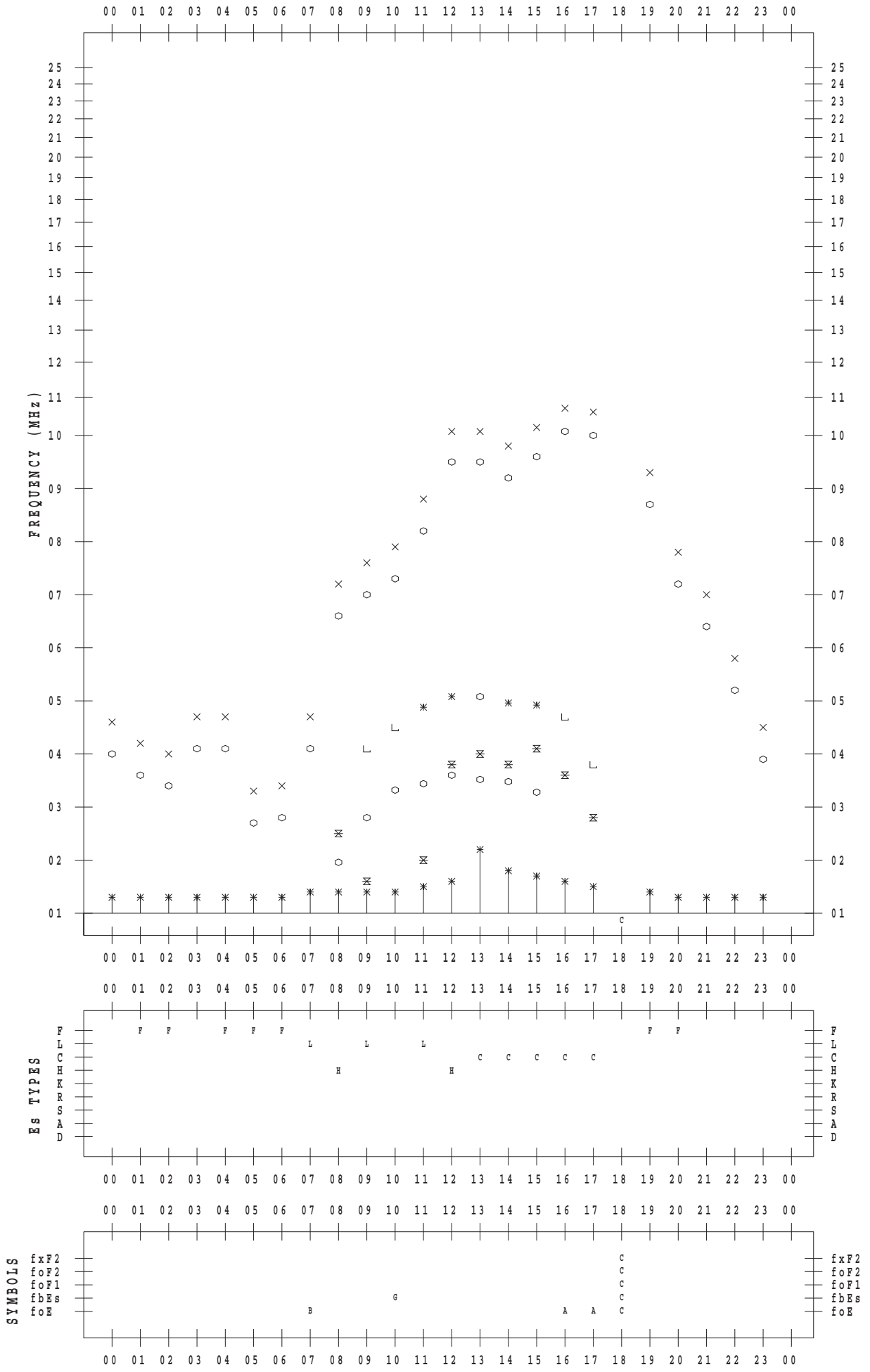
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/ 6

135 °E MEAN TIME



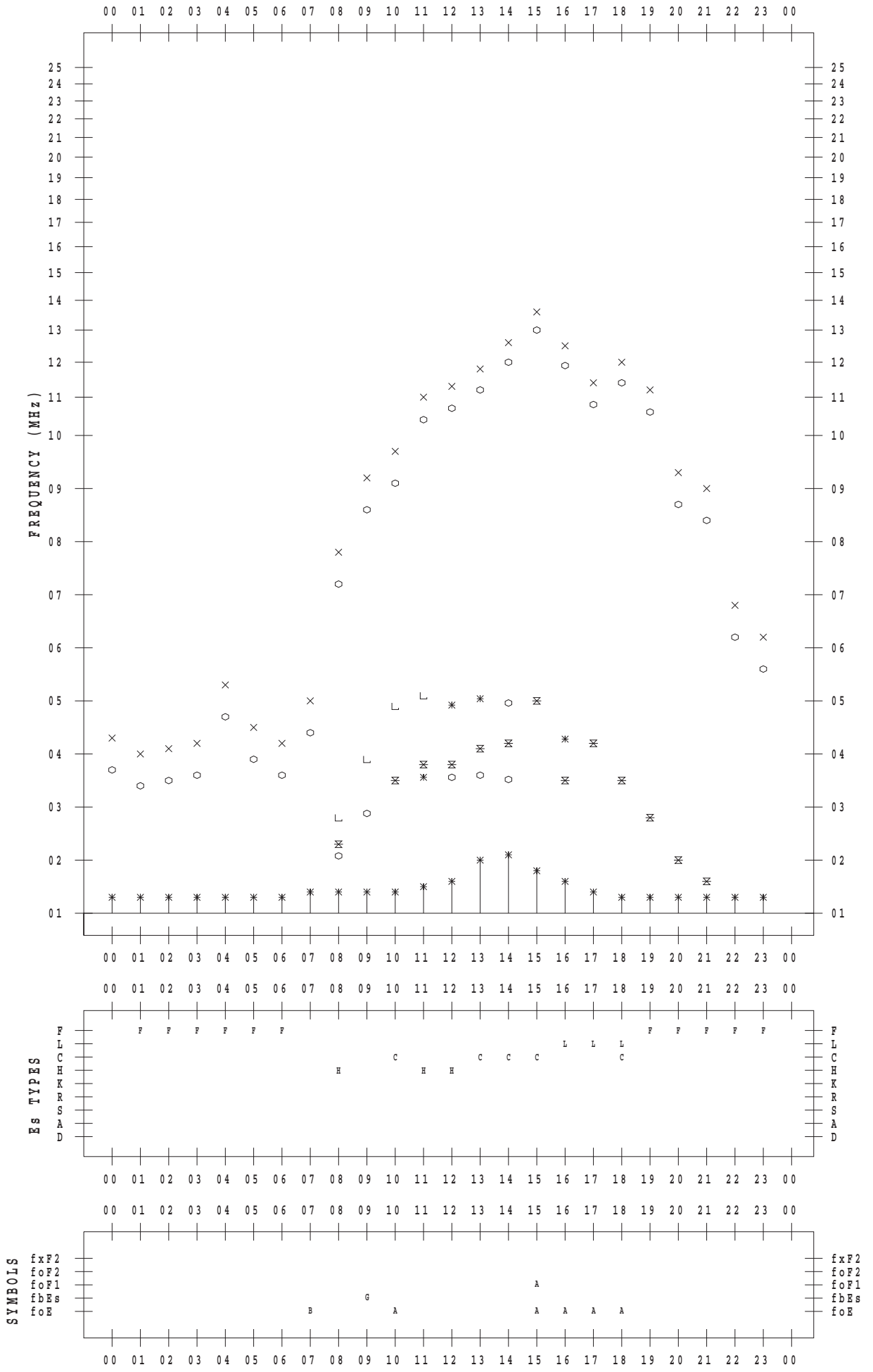
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/ 7

135 °E MEAN TIME



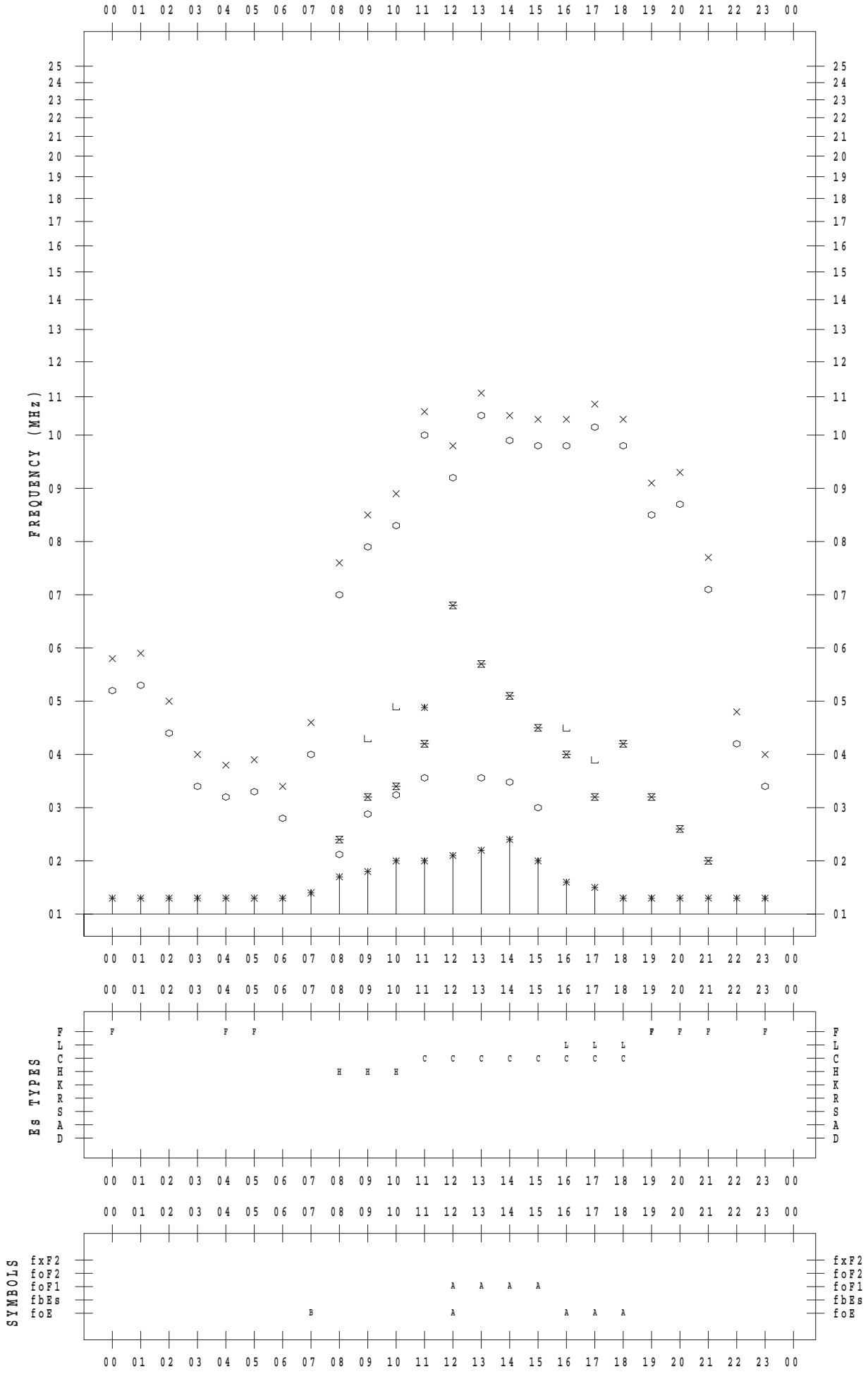
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/ 8

135 °E MEAN TIME



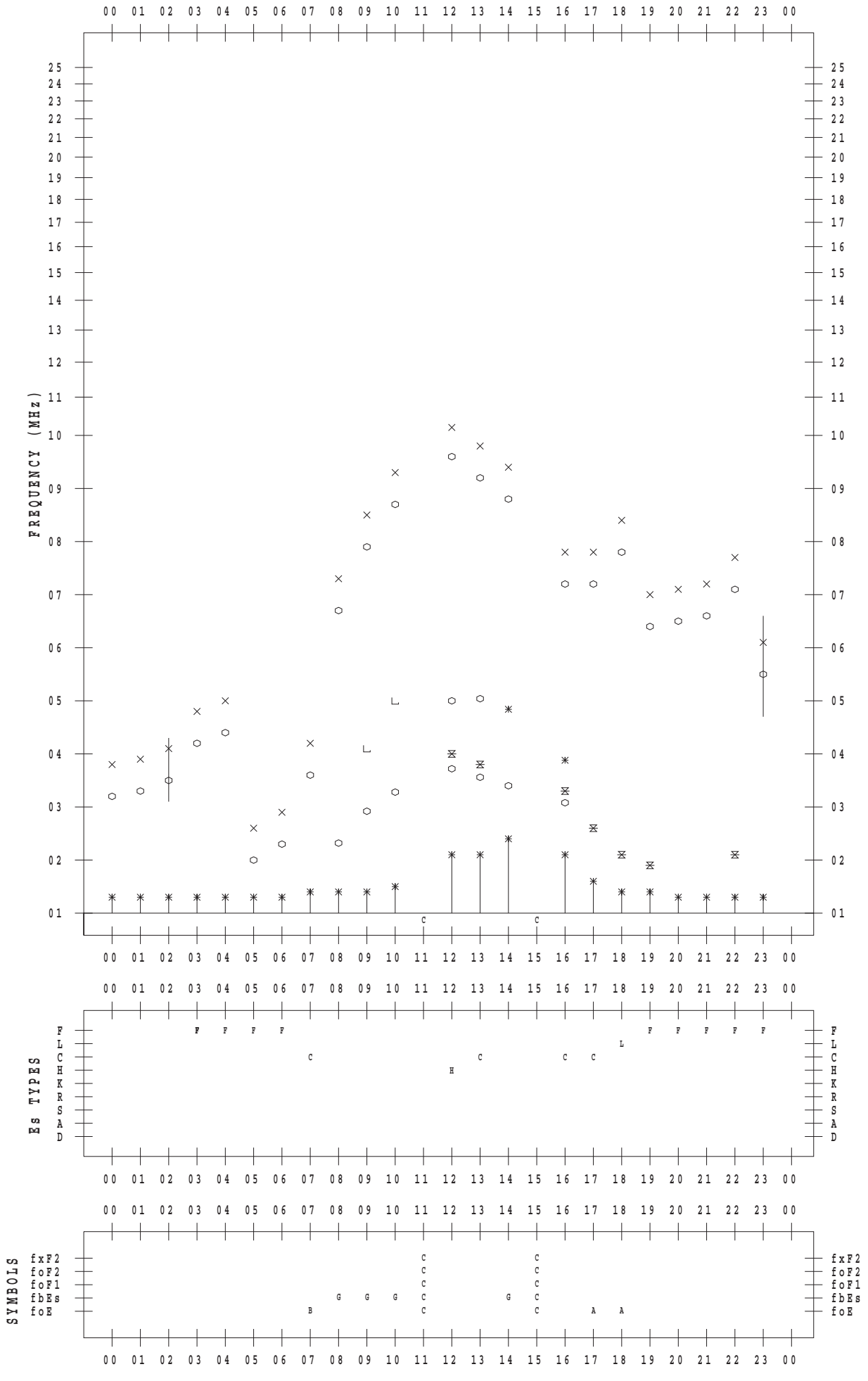
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/ 9

135 °E MEAN TIME



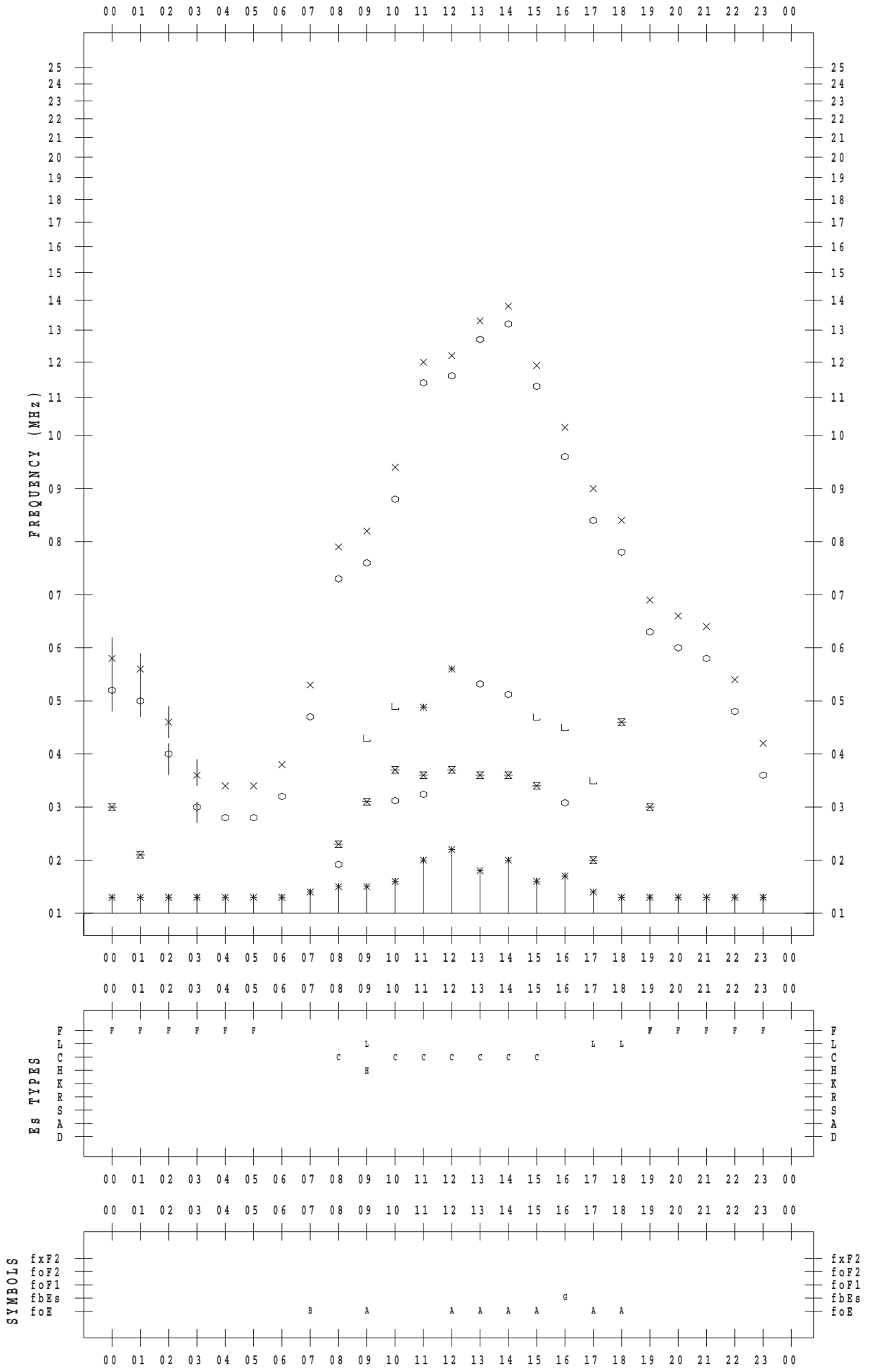
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/10

135 °E MEAN TIME



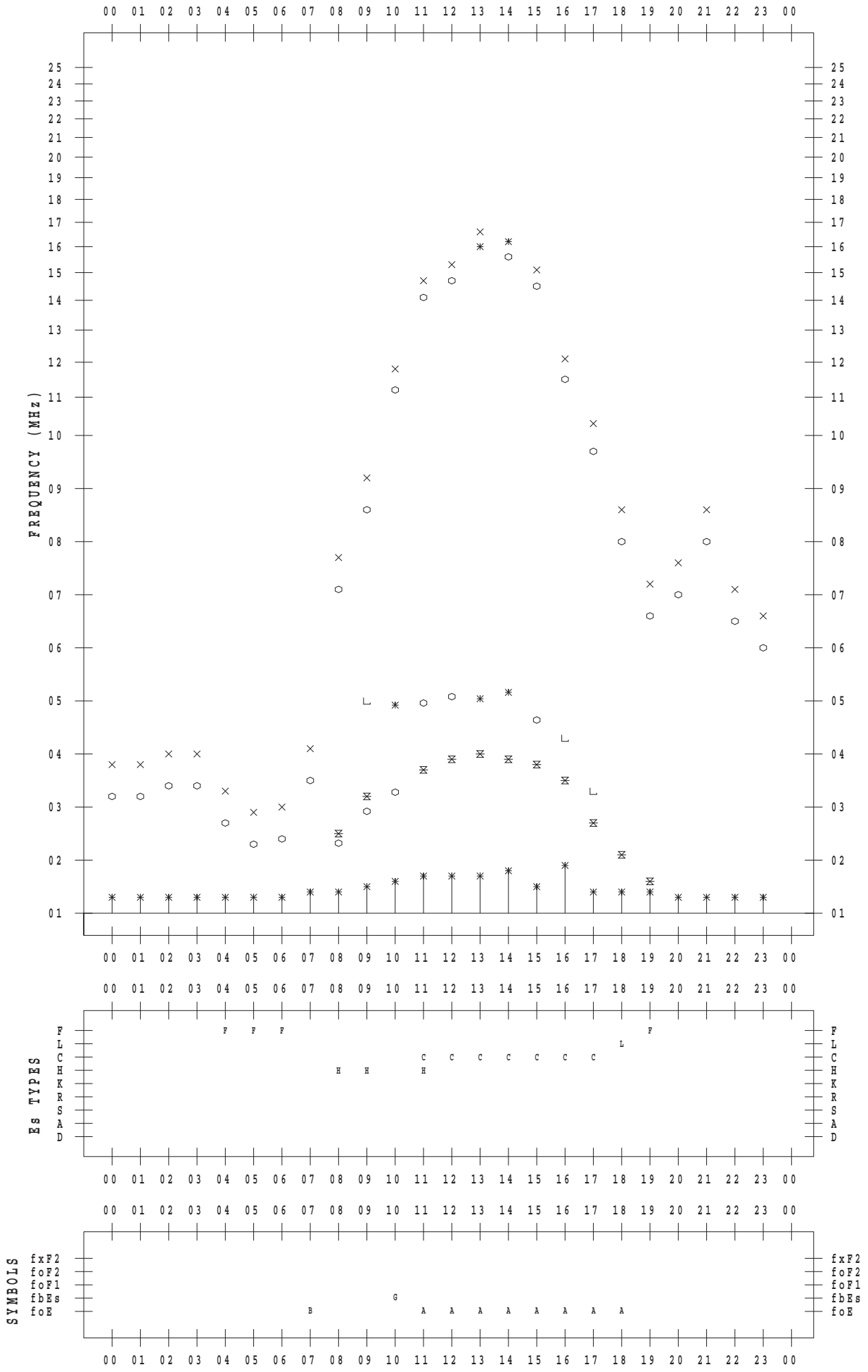
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/11

135 °E MEAN TIME



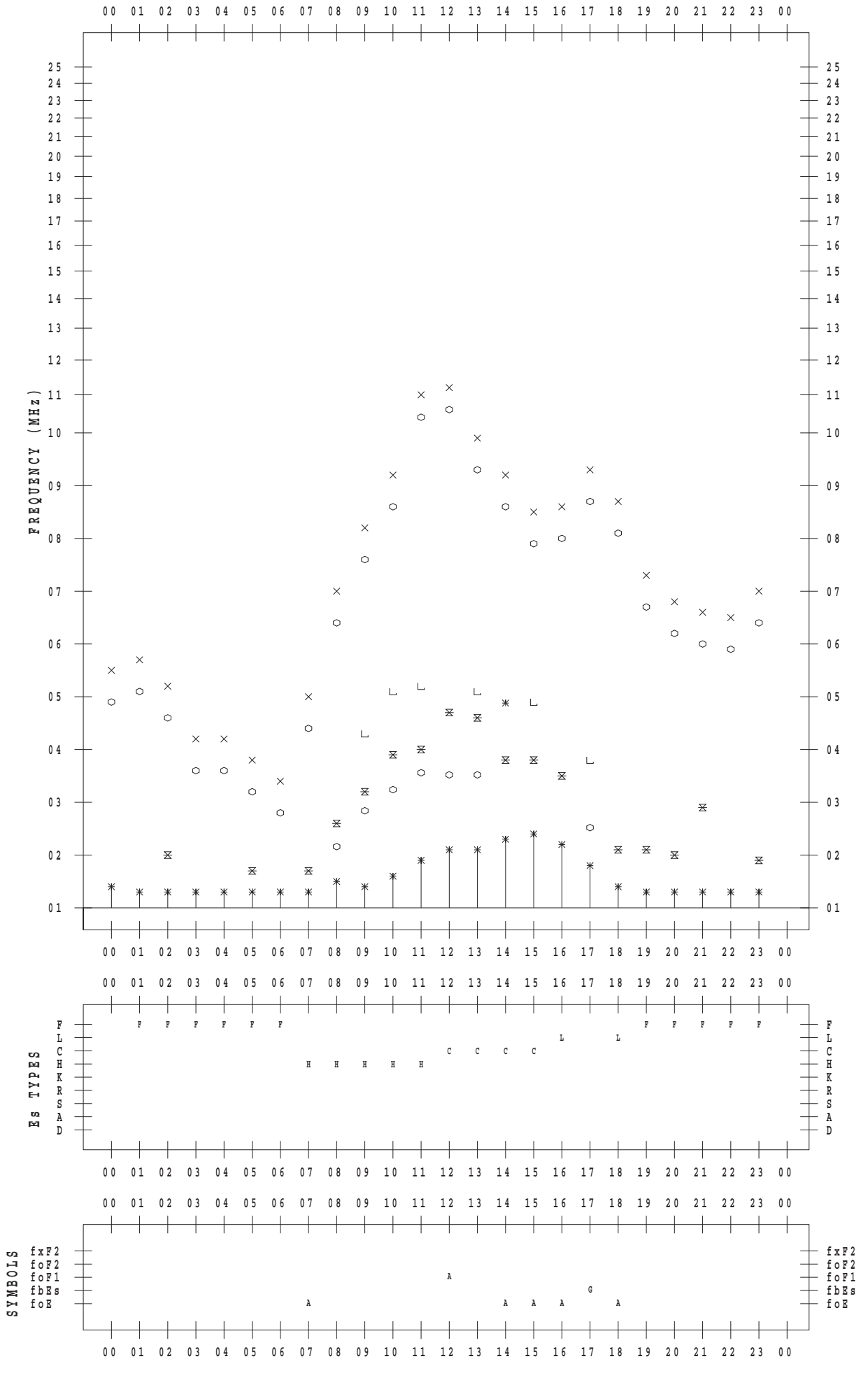
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/12

135 °E MEAN TIME



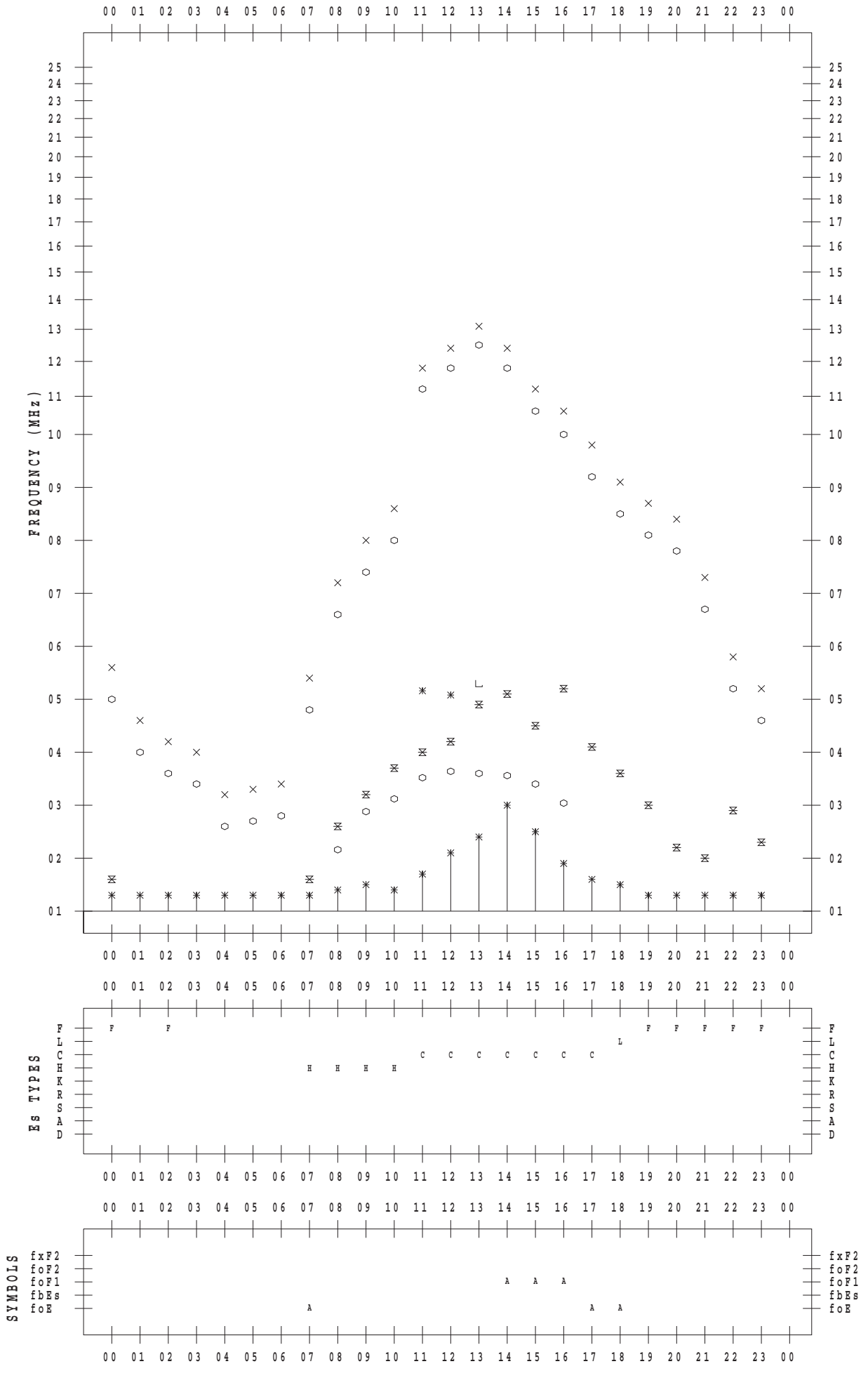
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/13

135 °E MEAN TIME



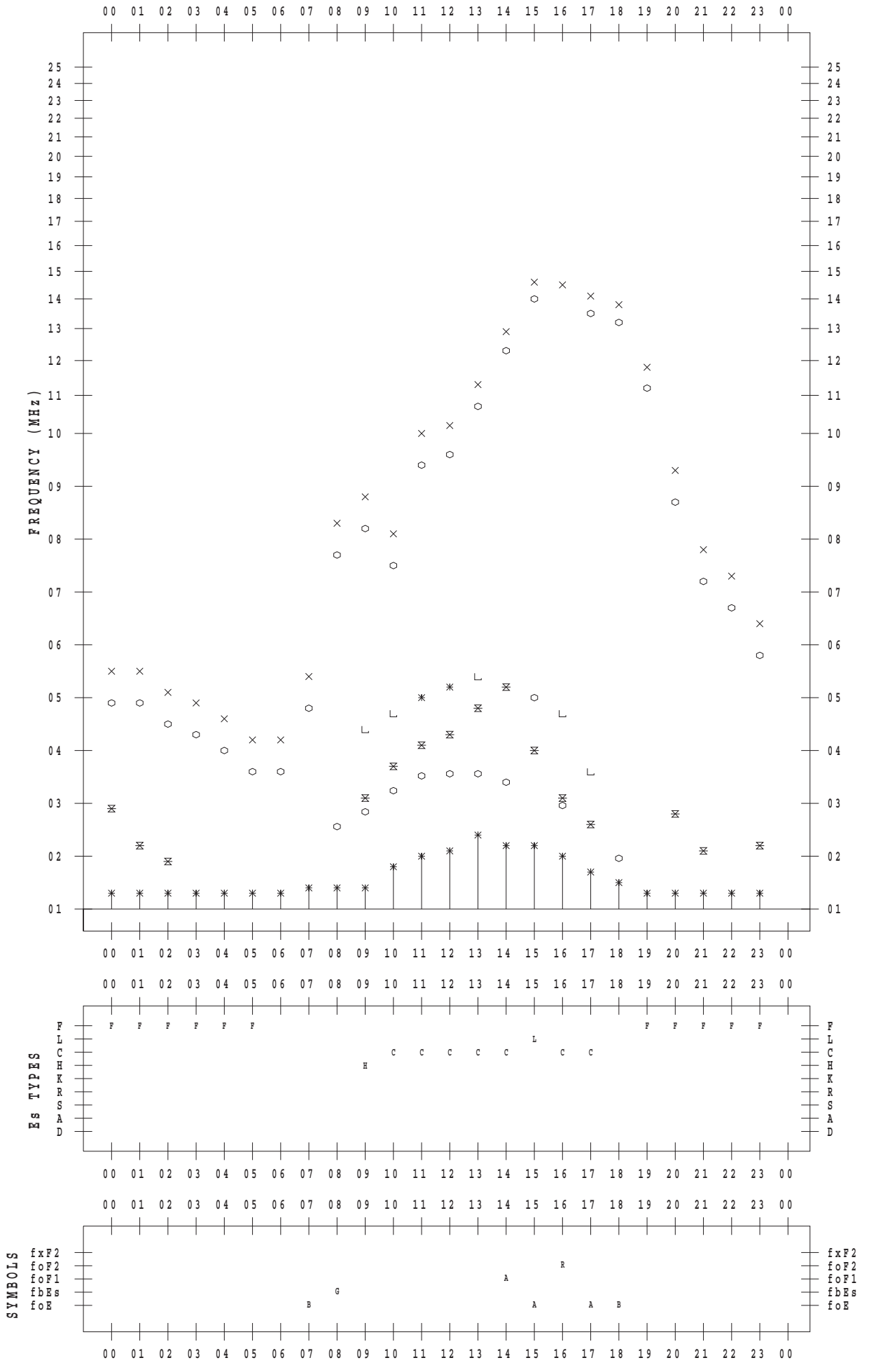
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/14

135 °E MEAN TIME



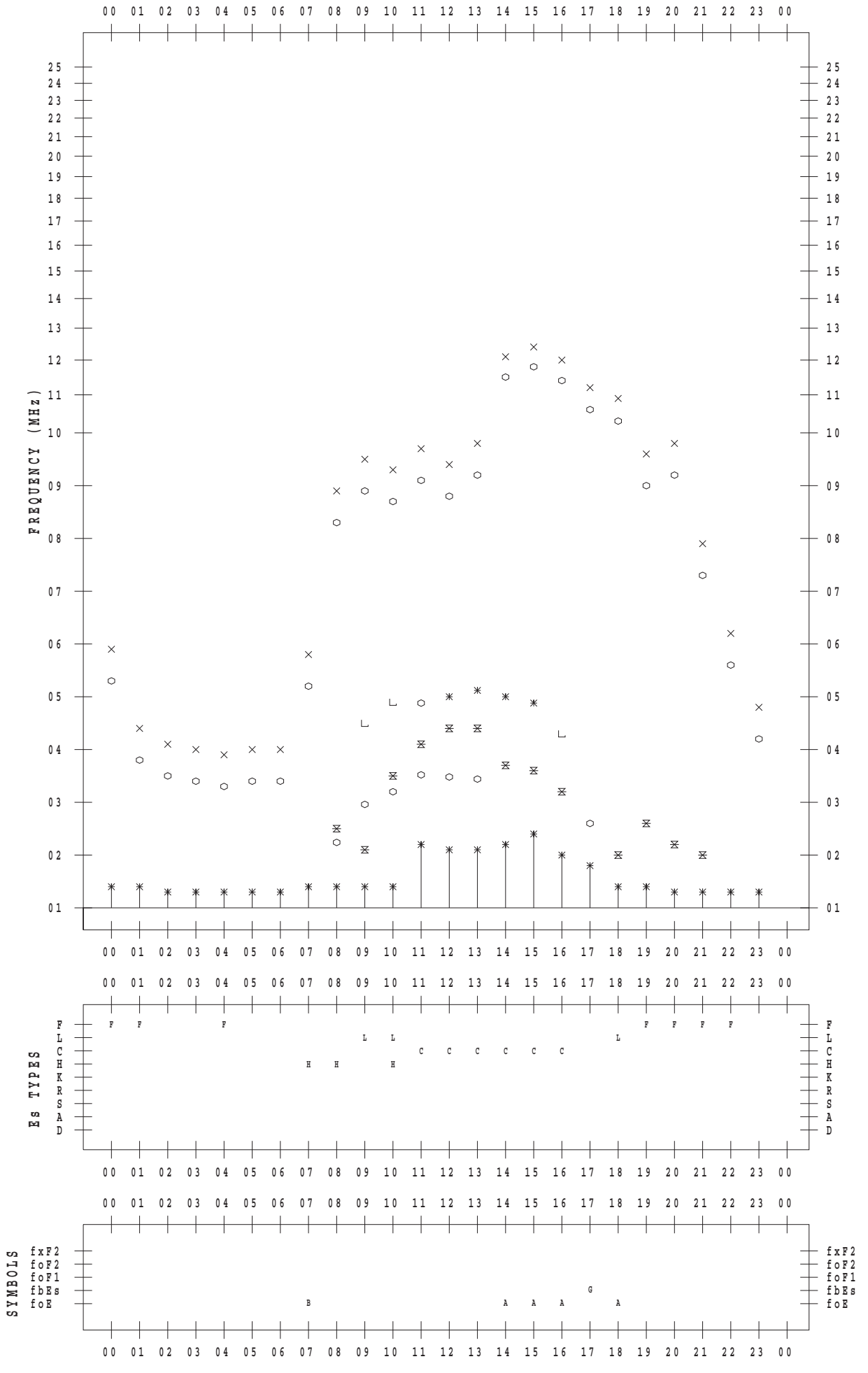
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/15

135 °E MEAN TIME



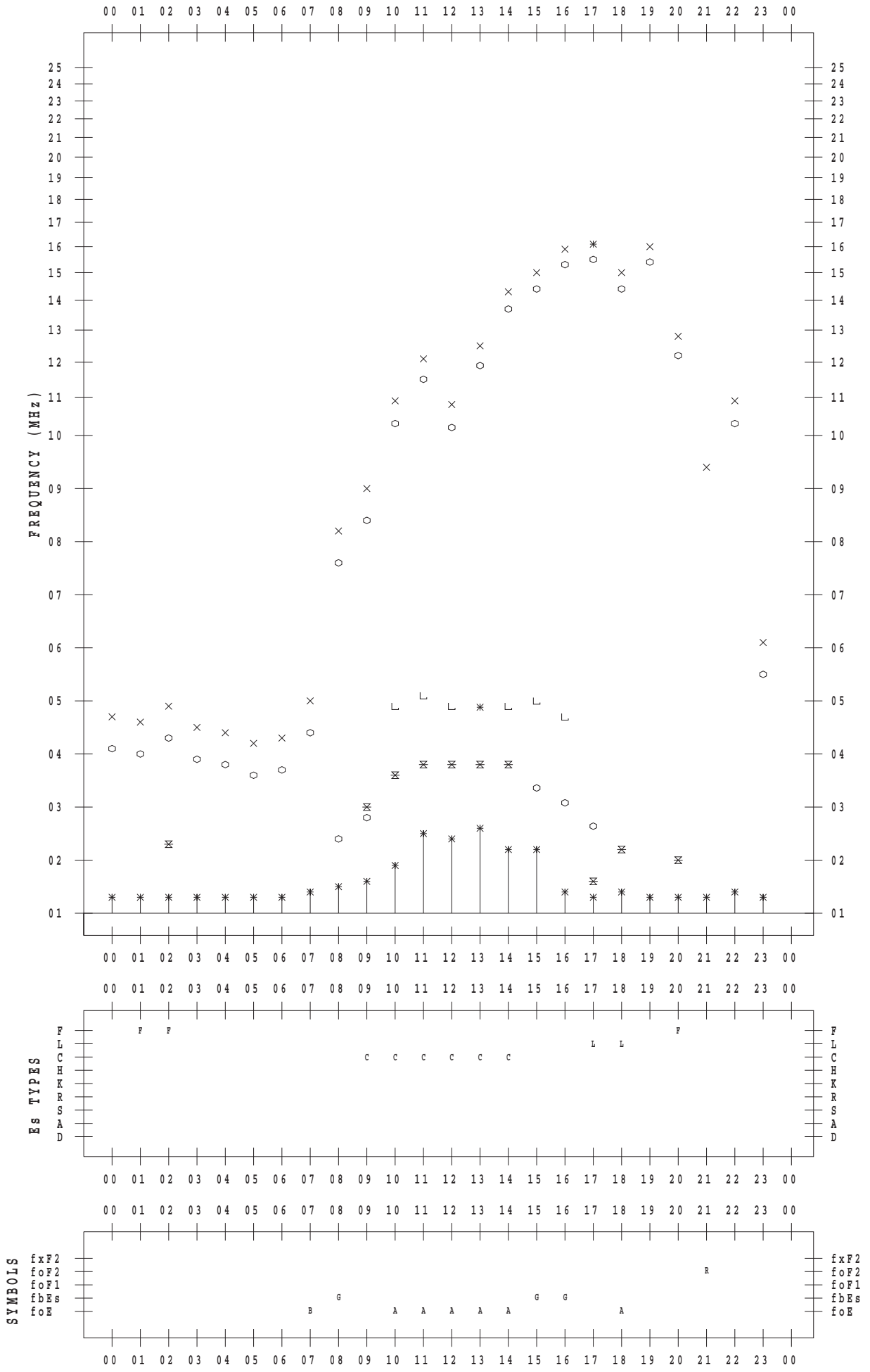
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/16

135 °E MEAN TIME



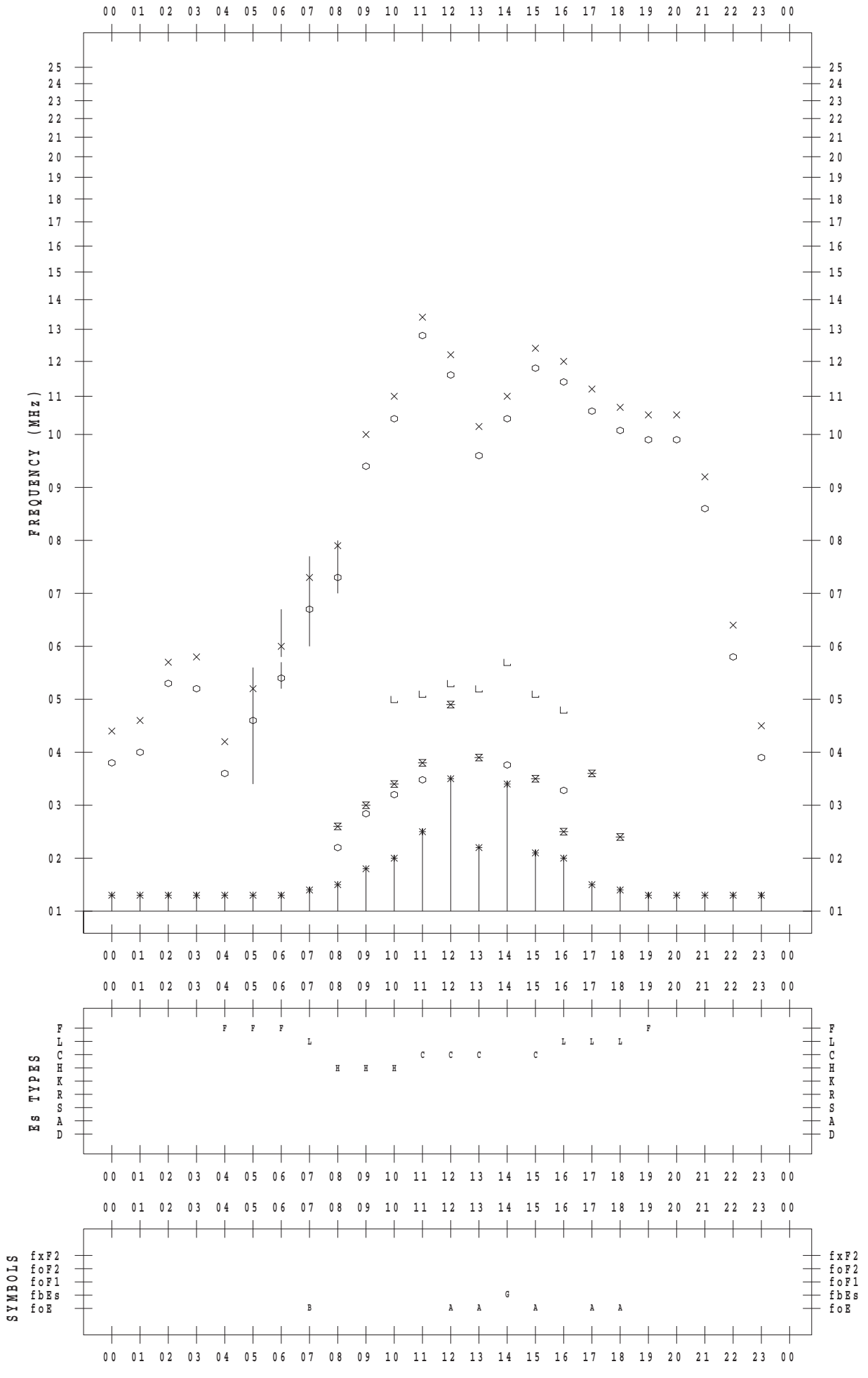
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/17

135 °E MEAN TIME



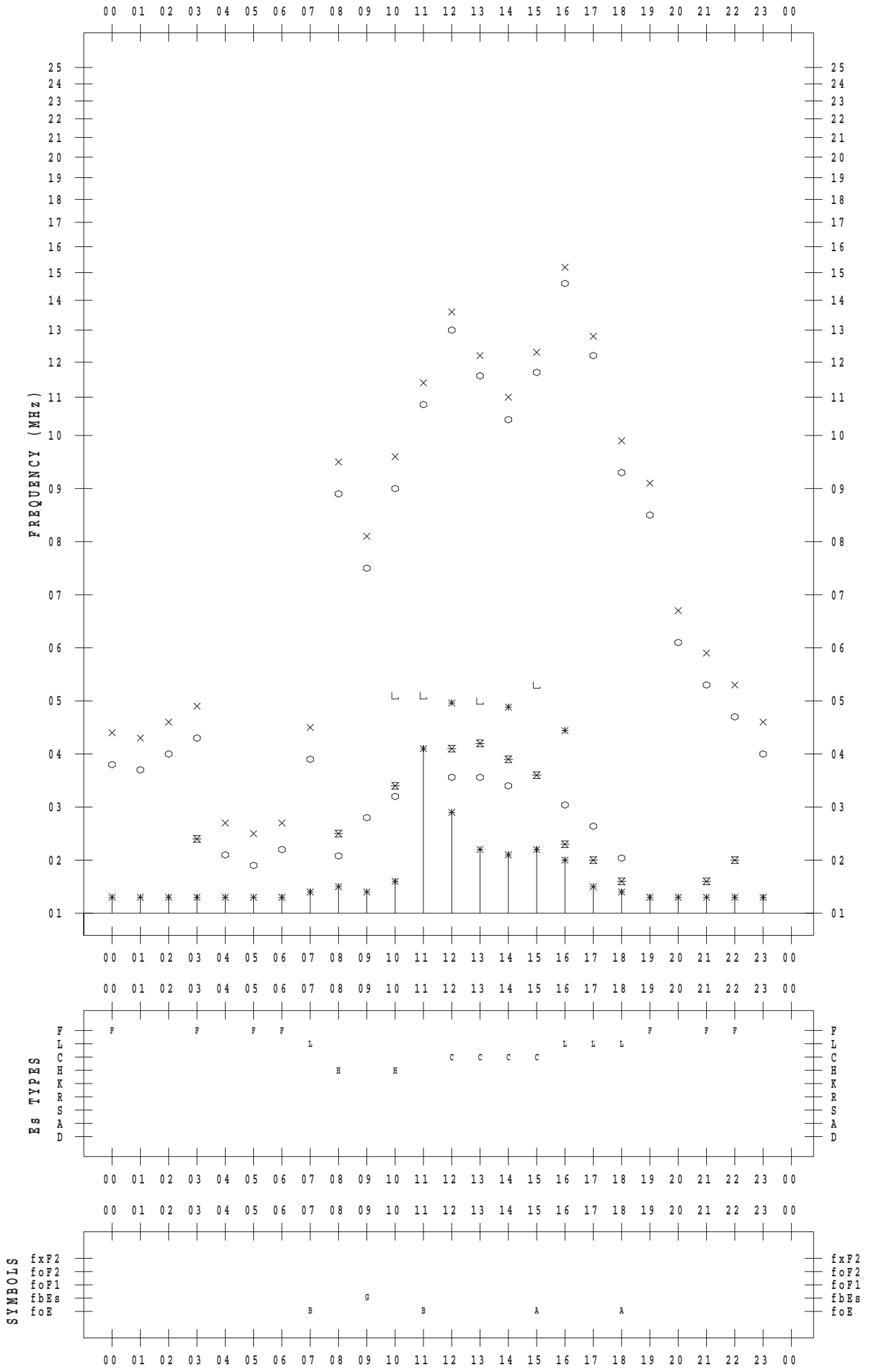
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/18

135 °E MEAN TIME



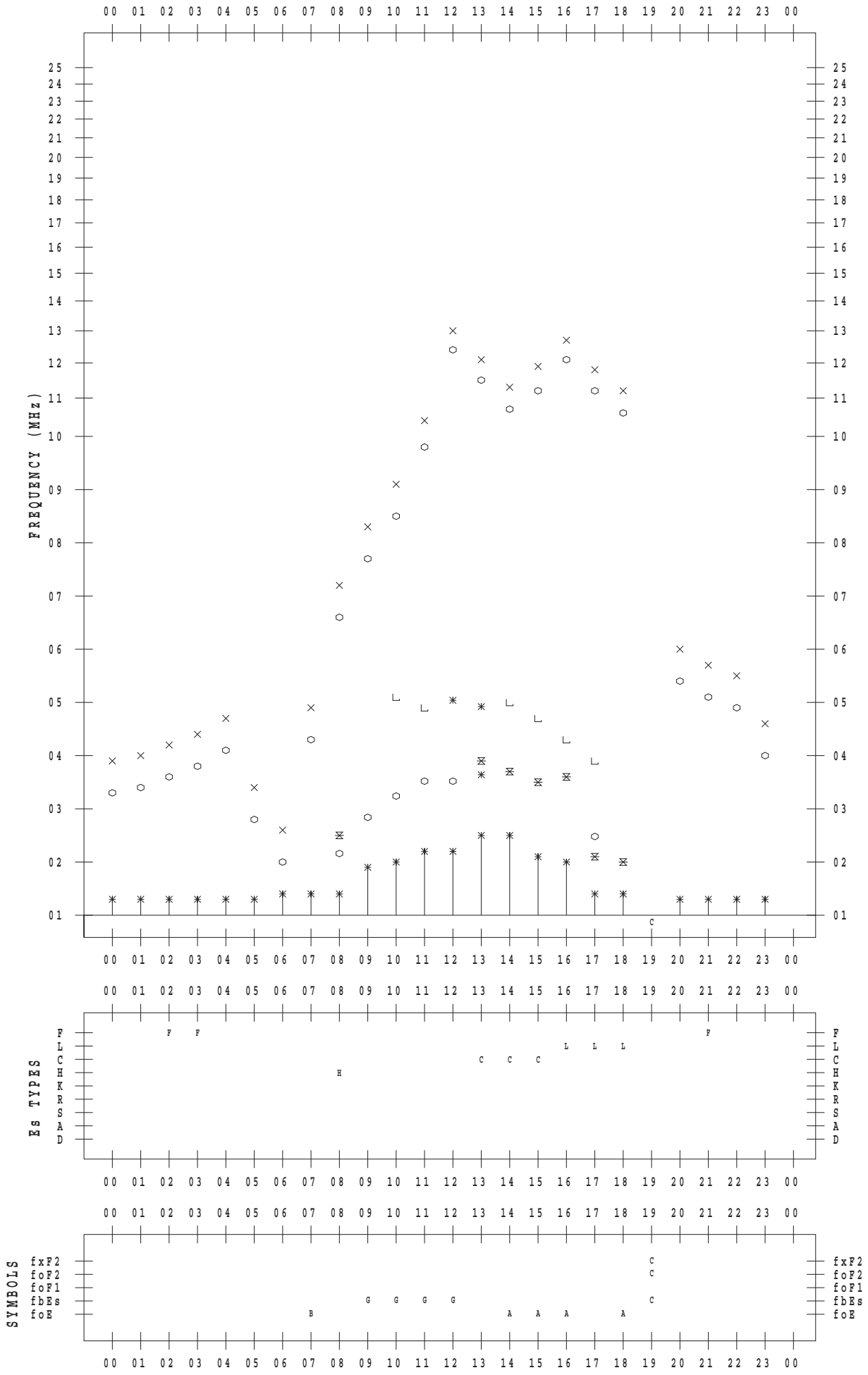
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/19

135 °E MEAN TIME



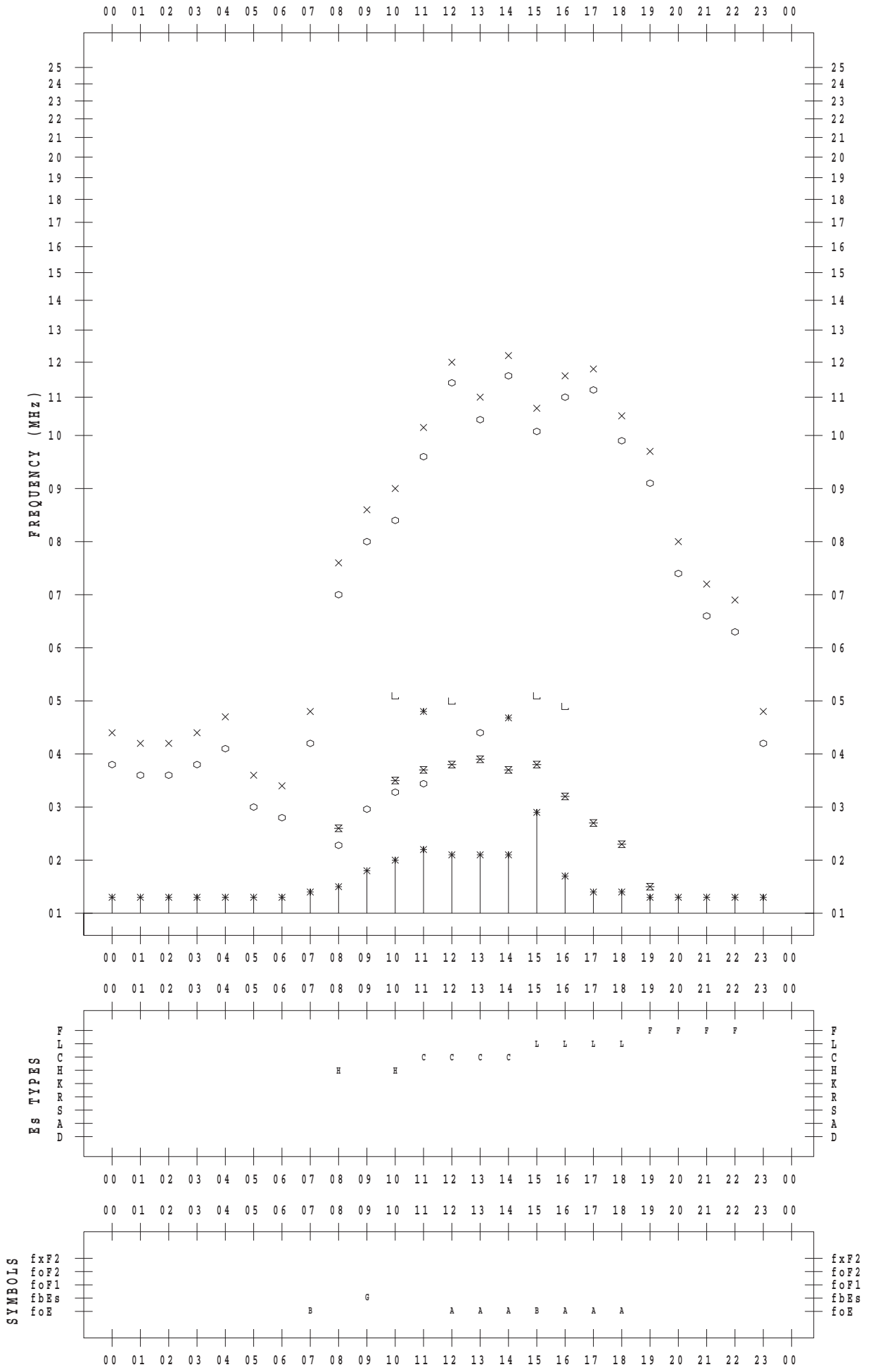
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/20

135 °E MEAN TIME



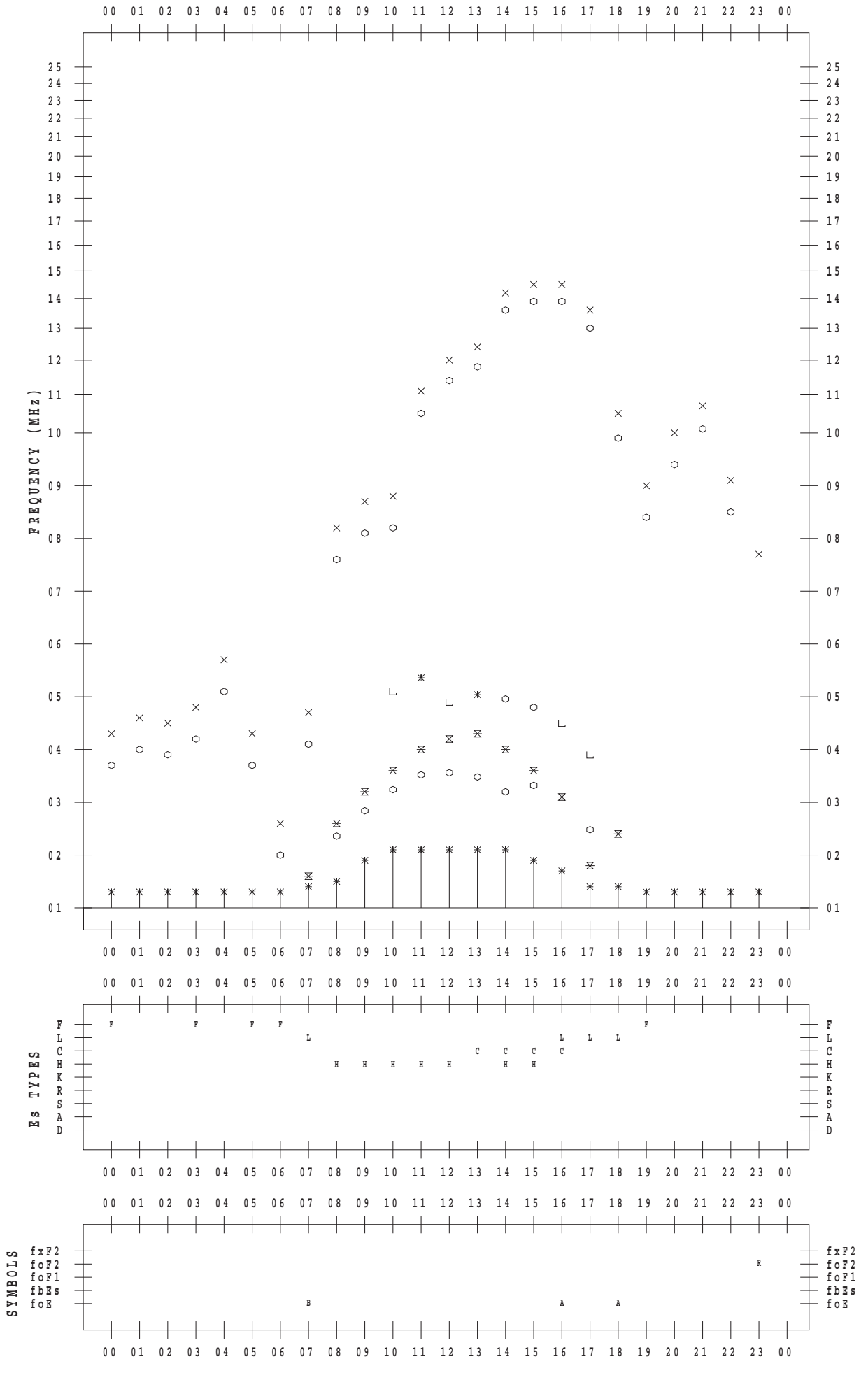
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/21

135 °E MEAN TIME



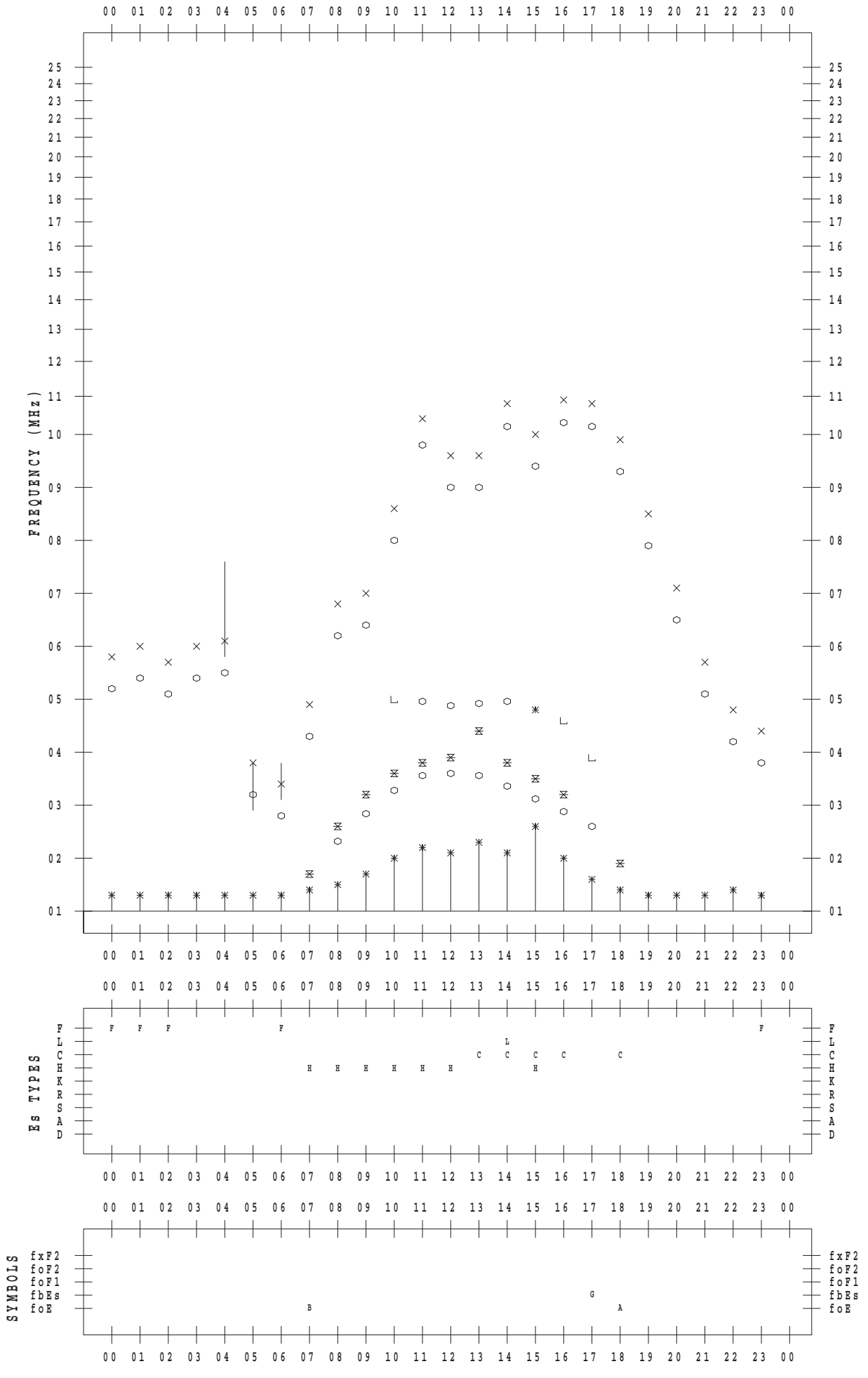
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/22

135 °E MEAN TIME



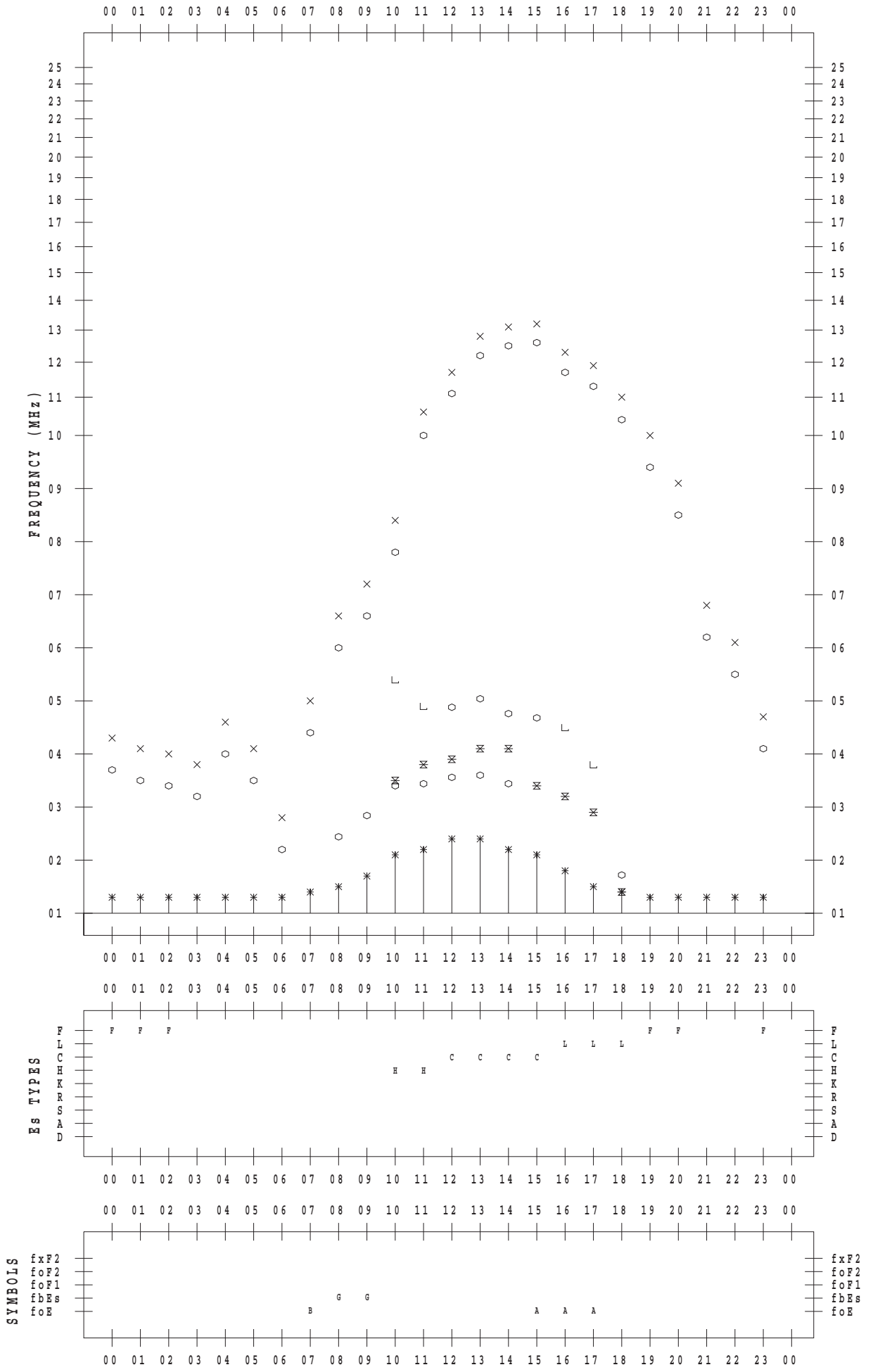
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/23

135 °E MEAN TIME



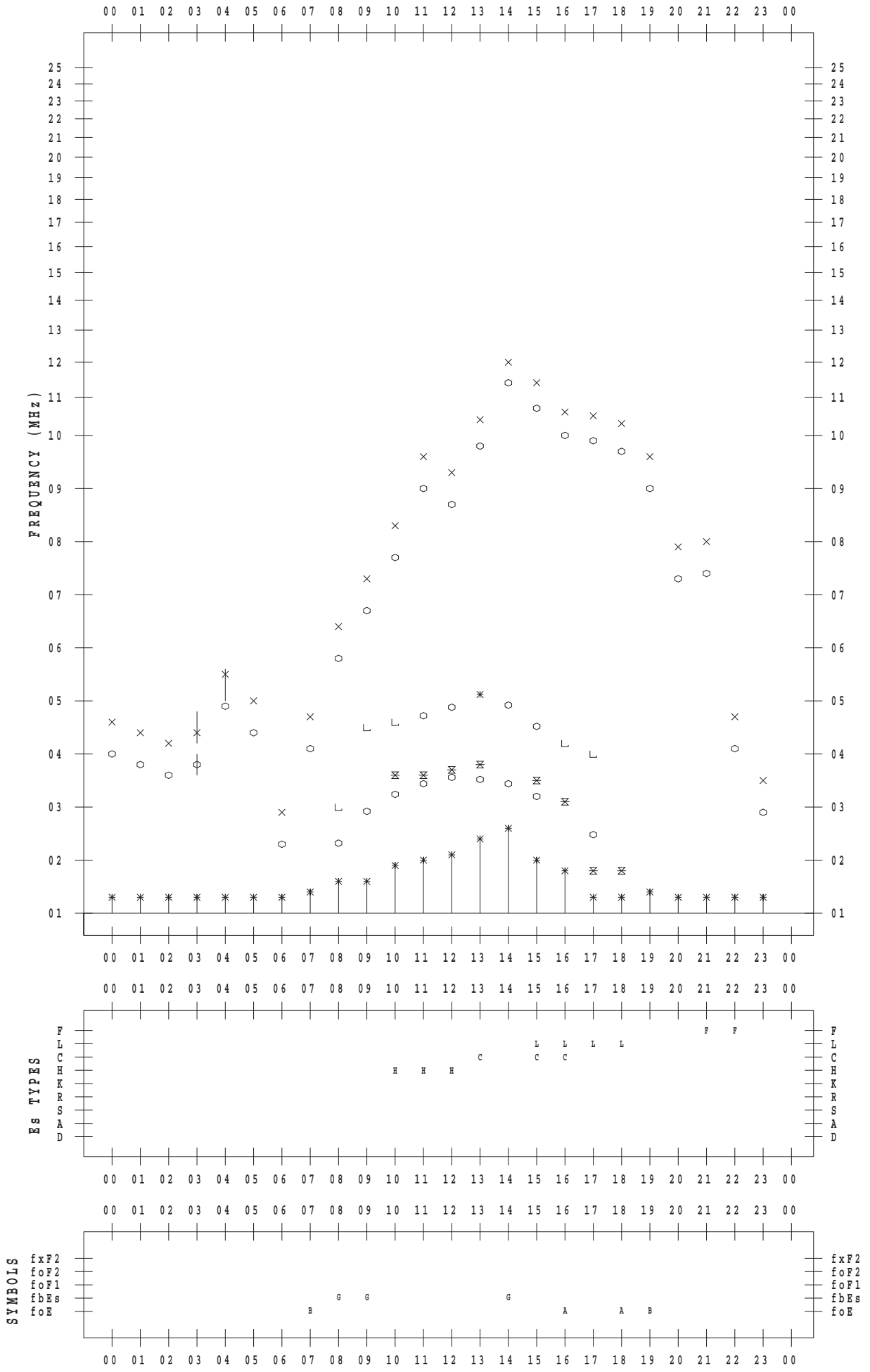
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/24

135 °E MEAN TIME



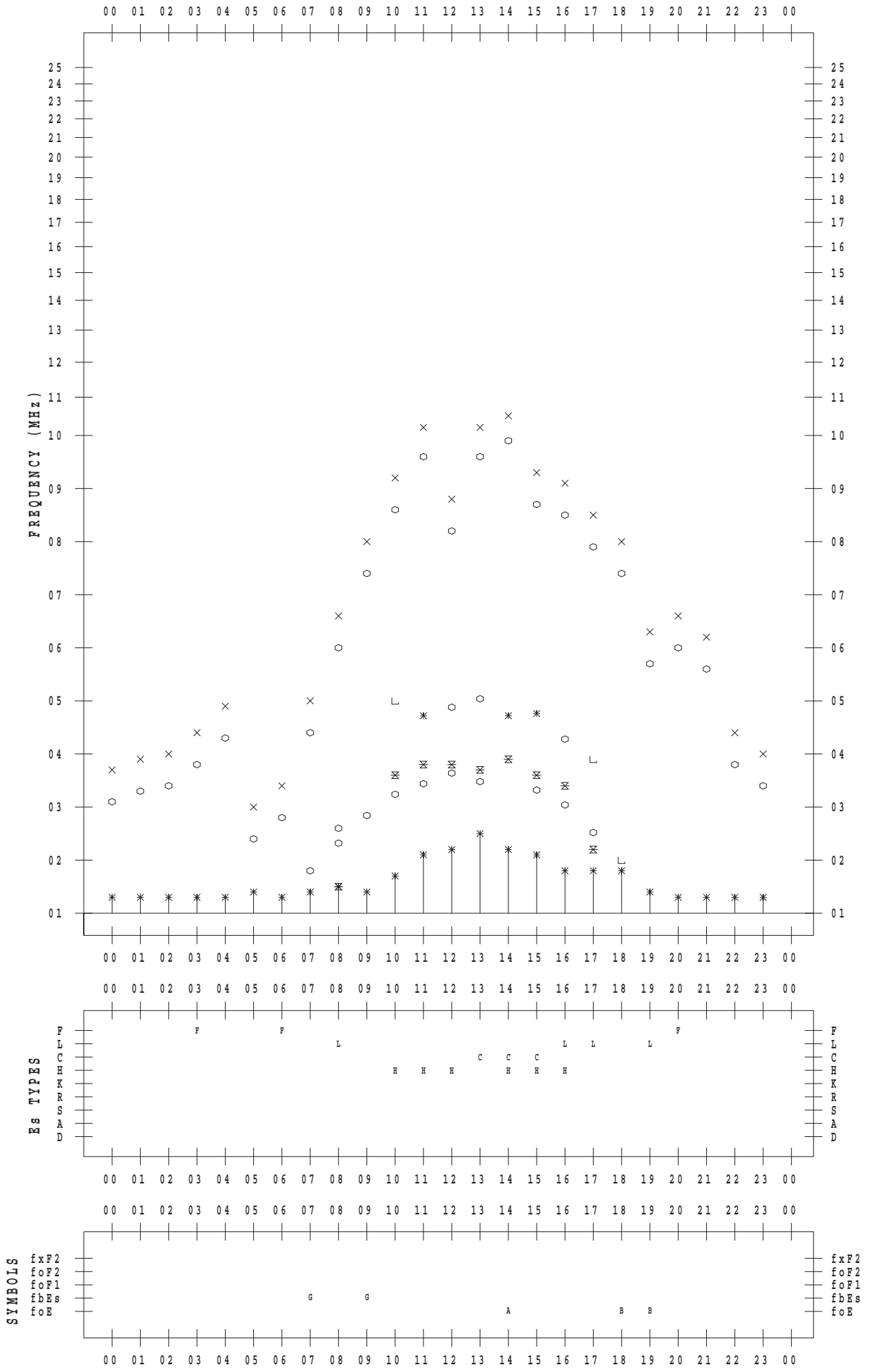
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/25

135 °E MEAN TIME



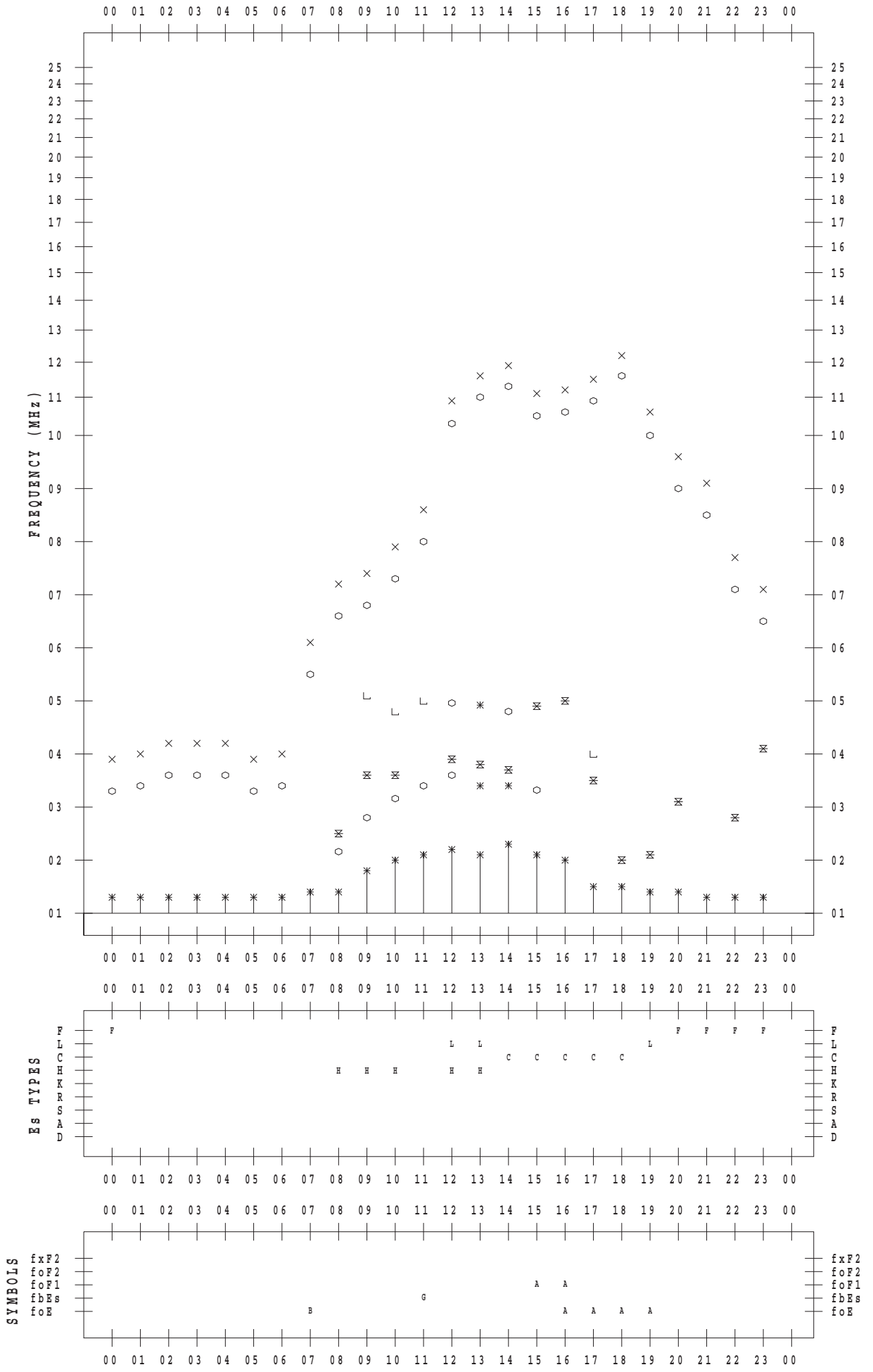
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/26

135 °E MEAN TIME



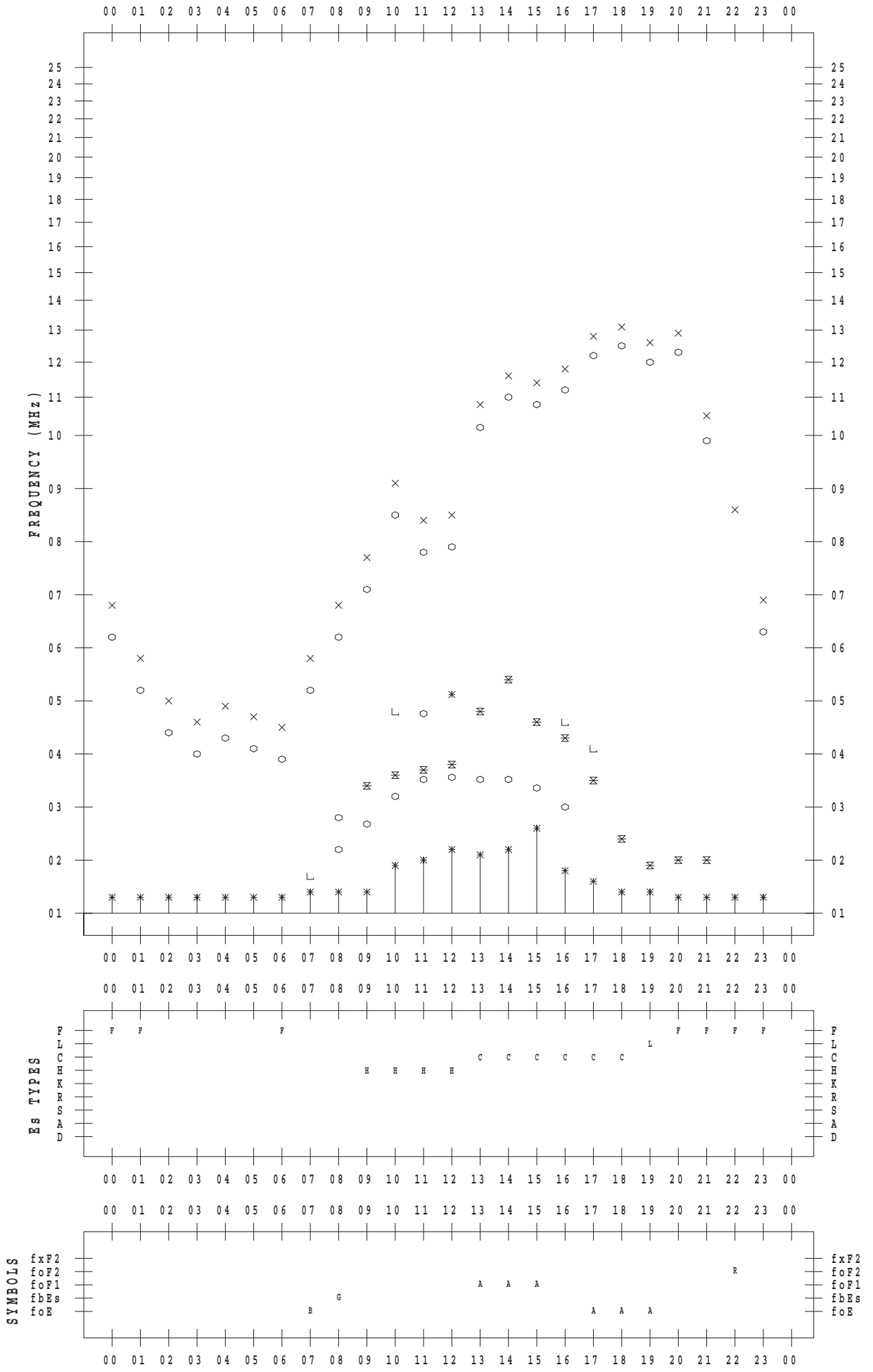
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/27

135 °E MEAN TIME



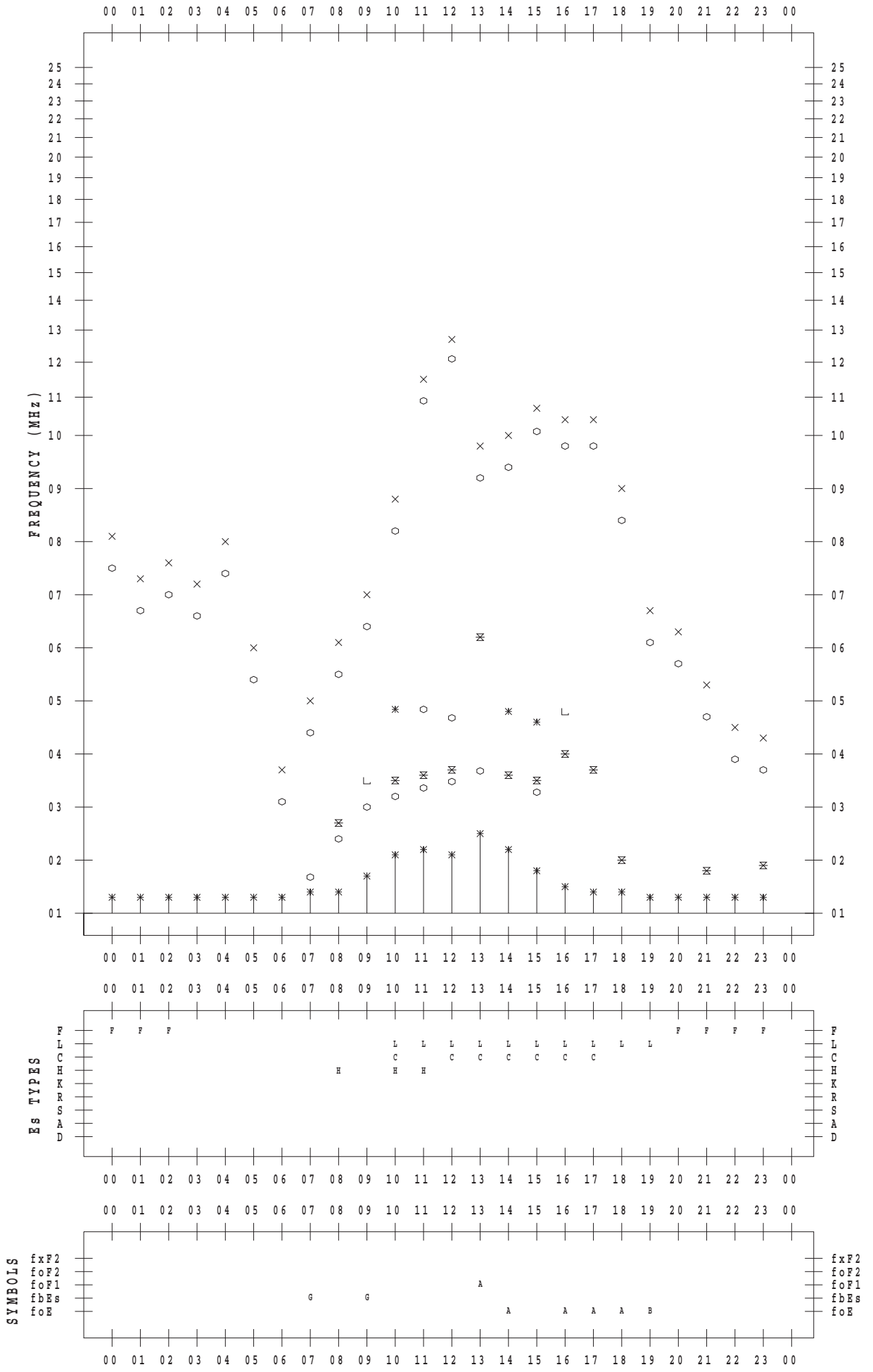
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/28

135 °E MEAN TIME



f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2016/ 2/29

135 °E MEAN TIME