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TEST REPORT

REGULATION : **FCC Part 2, 90, 24D**
RSS-119 Issue 12, RSS-134 Issue 2

Applicant	Testing Laboratory
JVC KENWOOD Corporation 1-16-2, Hakusan, Midori-ku, Yokohama-shi Kanagawa, 226-8525 Japan Tel.: +81 45 939 6254 Fax.: +81 45 939 6261	Intertek Japan K.K. Kashima Laboratory URL: http://www.japan.intertek-etlsemko.com (No.12 Test site) 298-6 Sada, Kashima, Ibaraki 314-0027 Japan Tel. +81 299 82 8464

Equipment type	900MHz DIGITAL TRANSCEIVER
Trademark	KENWOOD
FCC Model(s)	NX-3921G-K
IC Model(s)	NX-3921G-K
Serial No.	B8690004 B8960007 (for Receiver Spurious Emissions(Radiated))
FCC ID	K44502601
IC CN and UPN	282F-502601
Test Result	Complied
Report Number	18110226JKA-002
Original Issue Date	December 19, 2018

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Approved by

H. Kosemura

Hideaki Kosemura

[Technical Manager]

Tested by

K. Wagatsuma

Koichi Wagatsuma

[Engineer]

ilac-MRA VLAC Lab Accreditation
VLAC-008-1

In Accordance with FCC Rules and Regulations, Volume II, Part 2 and 90

Sub-part 2.1033

Applicant and Manufacture Information		
APPLICANT		
Company	:	JVC KENWOOD Corporation
Address	:	1-16-2, Hakusan, Midori-ku, Yokohama-shi Kanagawa, 226-8525 Japan
Contact Person	:	Tamaki Shimamura Manager, Communications Systems Devision
MANUFACTURER		
Company	:	JVC KENWOOD Corporation
Address	:	1-16-2, Hakusan, Midori-ku, Yokohama-shi Kanagawa, 226-8525 Japan
(c)(2) FCC ID		
FCC ID	:	K44502601
Model number	:	NX-3921G-K
Serial number	:	B8690004
Instruction Manual(S)		
Instruction manual(s)	:	Please refer to attached Exhibits F
Type of Emission		
Emission Designation	:	11K0F3E(Narrow) 8K30F1E(Narrow) / 8K30F1D(Narrow) / 8K30F7W(Narrow) 7K60FXD(Narrow) / 7K60FXE(Narrow) 4K00F1E(Very Narrow) / 4K00F1D(Very Narrow) / 4K00F7W(Very Narrow) 4K00F2D(Very Narrow)
Frequency range		
Frequency Range	:	TX : 896 to 901 and 935 to 940 MHz (FCC 90 / RSS-119) TX : 901 to 902 and 940 to 941 MHz (FCC 24D / RSS-134) RX : 935 to 940 and 940 to 941 MHz
Power Rating		
Output Power	:	5 to 15 W (896 to 901 and 935 to 940 MHz (FCC 90 / RSS-119))
	:	5 to 7 W (901 to 902 and 940 to 941 MHz (FCC 24D / RSS-134))
Type	:	Continuously Variable
Maximum Power Rating		
Output Power	:	15 W (896 to 901 and 935 to 940 MHz (FCC 90 / RSS-119))
	:	7 W (901 to 902 and 940 to 941 MHz (FCC 24D / RSS-134))
Voltages & currents in all elements in final RF stage, including final transistor or solid-state device		
Collector Current, A	:	13.0 A Maximum
Collector Voltage, Vdc	:	13.6 Vdc
Supply Voltage, Vdc	:	13.6 Vdc
Other Information		
Number of Channel	:	Zone 128max. Cannels 250 max.(per Zone)
Maximum Deviation	:	± 2.5 kHz (11K0F3E)
Frequency Stability	:	0.5 ppm
	:	
Antenna Impedance	:	50 Ω Norminal
Note		

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SECTION 1. GENERAL INFORMATION

TEST PERFORMED

Location	Kashima No.12 Test Site
EUT Received	November 16, 2018
Date of Test	November 16, 2018 to December 12, 2018
Standard Applied	FCC Part 2, 90, 24D RSS-119 Issue 12, RSS-134 Issue 2
Measurement Method	ANSI/TIA-603-E-2016 / FCC Part90, Part24D RSS-119 Issue 12, RSS-134 Issue 2, RSS-Gen Issue 5
Deviation from Standard(s)	Not applicable

QUALIFICATIONS OF TESTING LABORATORY (Kashima Lab.)

ACCREDITATION	SCOPE	LAB. CODE	Remarks
VLAC	EMC Testing	VLAC-008-1	JAPAN
FILING			
VCCI	EMC Testing	A-0126	JAPAN
FCC	EMC Testing	JP0008	
IC	EMC Testing	IC-2042Q-12	CANADA
CB-Scheme	EMC Testing	TL222	IECEE

ABBREVIATIONS

EUT	Equipment Under Test	DoC	Declaration of Conformity
AMN	Artificial Mains Network	ISN	Impedance Stabilization Network
LISN	Line Impedance Stabilization Network	Q-P	Quasi-peak
AMP	Amplifier	AVG	Average
ATT	Attenuator	PK	Peak
ANT	Antenna	Cal	Calibration
BBA	Broadband Antenna	N/A	Not applicable or Not available
DIP	Dipole Antenna	LCD	Liquid-Crystal Display
AE	Associated Equipment	4LEVEL FSK	4LEVEL Frequency Shift Key
GMSK	Gaussian Maximum Shift Key	CW ID	Continuously Repeating bit stream
FM	Frequency Modulation	C4FM	Constant envelope 4 Level FM
PTT	Push to Talk	AFC	Automatic frequency control

Revision Summary

Revised Date	Section	Description of Changes

SECTION 2. SUMMARY OF TEST RESULT

FCC Part2	Part24D	Part90	IC RSS-119	RSS-134	TEST ITEM	RESULTS	Comments
2.1046 (a)	24.132	-	5.4	3.1 4.3	Carrier Output Power (Conducted)	**PASS**	
2.1051	24.133	90.210	5.8	3.2	Unwanted Emissions (Transmitter Conducted)	**PASS**	
2.1053 (a)	24.133	90.210	5.8	3.2	Field Strength of Spurious Radiation	**PASS**	
2.1049 (c) (1)	24.133	90.210	5.5	4.4	Emission Masks (Occupied Bandwidth)	**PASS**	
-	-	90.214	5.9	-	Transient Frequency Behavior	**PASS**	
2.1047 (a)	-	-	-	-	Audio Low Pass Filter (Voice Input)	**PASS**	
2.1047 (a)	-	-	-	-	Audio Frequency Response	**PASS**	
2.1047 (b)	-	-	-	-	Modulation Limiting	**PASS**	
2.1055 (a) (1)	24.135(a)	90.213 (a)	5.3	4.5	Frequency Stability (Temperature Variation)	**PASS**	
2.1055 (d) (1)	24.135(a)	90.213 (a)	5.3	4.5	Frequency Stability (Voltage Variation)	**PASS**	
-	-	-	RSS-Gen 7.1	RSS-Gen 7.1	Receiver Spurious Emissions	**PASS**	
-	-	90.203 (e)	-	-	Certification required (FCC Part 90.203(e))	**Complied**	
-		-	5.5	4.4	99% Occupied Bandwidth	**PASS**	

Limitation on Results

The test result of this report is effective equipment under test itself and under the test configuration descried on the report.
This test report dose not assure that whether the test result taken in other testing laboratory is compatible or reproducible to the test result on this report or not.

Note:

As for the FCC Part 15 Subport B-Unintentional Radiators, the EUT has been measured and declared as SDoC by JVC Kenwood Corporation.

SECTION 3. TEST AND MEASUREMENT DATA

All test and measurements indicated in this document were performed in accordance with the Code of Federal Regulations Title 47 Part 2, Sub-part J and Industry Canada as the following individual parts:

FCC Rule	Test Item	Tested
Part 24	**Personal Communications Services**	**YES**
Part 90	**Private Land Mobile radio Services**	**YES**

IC Rule	Test Item	Tested
RSS-119	**Radio Ttansmitters and Receivers Operating in the Land Mobile and Fixed Services in the Frequency Range 27.4-960 MHz**	**YES**
RSS-134	**900MHz Narrowband Personal Communication Service**	**YES**
RSS-Gen	**General Requirements for Conpliance of Radio Apparatus**	**YES**

SECTION 4. INFORMATION ABOUT EUT AND SUPPORT EQUIPMENT(S)

4.1 List of System Configuration

Symbol	Item	Model No.	Serial No.	Manufacture	Remarks
A	900MHz DIGITAL TRANSCEIVER	NX-3921G-K	B8690004 B8960007 (for Receiver Spurious Emissions(Radiated))	JVC KENWOOD Corporation	EUT

Power Ratings of EUT :	DC 13.6V ± 15%	13.0 A Maximum
Power Supply :	DC 13.6 V	
Condition of Equipment	Proto type	
Type	Mobile type	
Suppression Devices	No Modifications by the laboratory were made to the device	

4.2 Port(s)/Connector(s)

Port Name	Connector Type	Connector Pin	Remarks
ACC	D-sub	15 pin	
External Speaker	3.5φ	2 pin	
RF Antenna	N	2 pin	
GPS Antenna	SMA	2 pin	
Microphone	RJ-45	8 pin	

4.3 Highest Frequency Oscillator(s)/Crystal(s)

Operating Frequency	Board Name	Remarks
1882 MHz	TXRX UNIT	
4960 MHz	Bluetooth UNIT	
3142.648 MHz	GPS UNIT	

SECTION 5. SUPPORT EQUIPMENT

The EUT was supported by the following equipment during the test.

Symbol	Item	Model No.	Serial No.	Manufacture	FCC ID
B	Panel Separate Kit	KRK-18H	02	JVC KENWOOD	DoC
C	Panel Separate Kit	KRK-19B	02	JVC KENWOOD	DoC
D	GPS Antenna	KRA-40G	No.2	JVC KENWOOD	N/A
E	External Speaker	KES-3	No.2	JVC KENWOOD	N/A
F	Dummy Load	CT-03NP	1037408	TME	N/A
G	DC Power Supply	PMC35-3A	LE000716	KIKUSUI	N/A
H	Keypad Microphone	KMC-36	No.01	JVC KENWOOD	N/A
I	Hands-free Microphone Kit	KCT-73MIC	None	JVC KENWOOD	N/A
J	Hands-free PTT Kit	KCT-74PTT	None	JVC KENWOOD	N/A

Supplied Power:

G	AC 100V,60Hz

SECTION 6. USED CABLE(S)

The following cable(s) was used for the test.

No.	Name	Length (m)	Shield	Metal Connector	Ferrite core
1	GPS Antenna cable	4.00	Yes	Yes	
2	KCT-60 (Connection cable)	0.30	No	No	
3	KCT-18 (Ignition sense cable)	3.10	No	No	
4	Speaker cable	2.90	No	No	
5	DC cable	0.25	No	No	
6	KCT-71M3 (Connection Cable)	7.60	Yes	No	
7	KCT-72 (Remote Control Cable)	0.30	Yes	No	
8	Mic. Cable	0.55	No	No	
9	DC cable	3.00	No	No	
10	Mic. Cable (KCT-73MIC)	3.00	No	No	
11	PTT. Cable (KCT-74PTT)	3.00	No	No	
12	Power cable for DC Power Supply (3 core	0.80	No	No	

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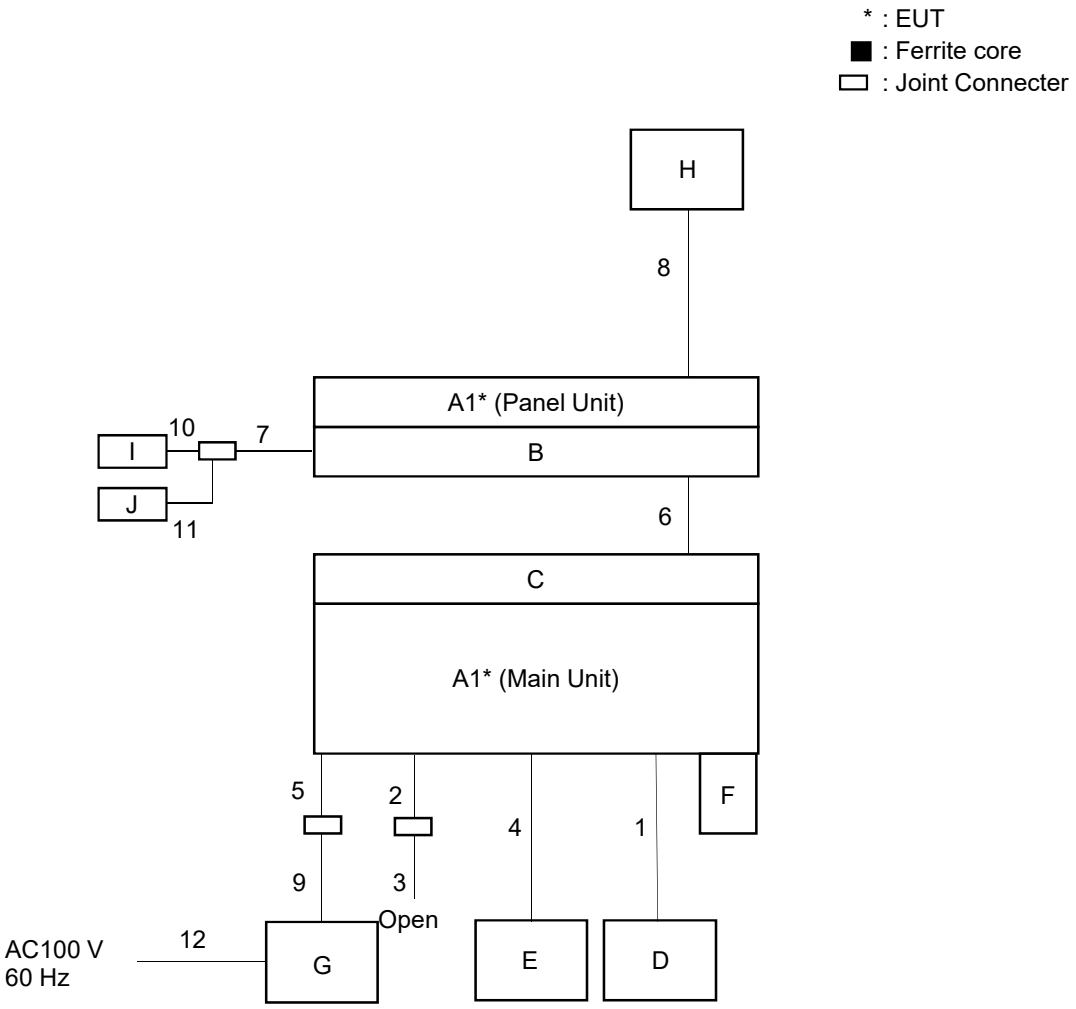
SECTION 7. TEST CONFIGURATION

Details of Configuration and Connection
Example: Case of Section 10.3Test



SECTION 8. OPERATING CONDITION

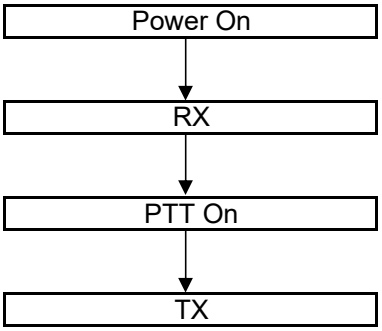
The EUT was operated under the following condition during the test.

8.1 Operating Condition

The test was carried out under Transmit mode.
FCC 90 / RSS-119
: 896.05 MHz, 900.95 MHz, 935.05 MHz, 939.95 MHz
: High Power : 15W, Low Power : 5W
FCC 24D / RSS-134
: 901.55 MHz, 940.55 MHz
: High Power : 7W, Low Power : 5W
The test was carried out under Receive mode.
: 935.05 MHz, 939.95 MHz, 940.55 MHz
EUT was examined in the operating conditions that had maximum emissions.

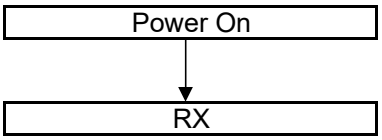
8.2 Operating Flow [Transmit mode]

Following operations were performed continuously.



8.3 Operating Flow [Receive mode]

Following operations were performed continuously.



SECTION 9. MEASUREMENT UNCERTAINTY

Carrier Output Power (Conducted)	U_{lab}	Utia-603-d	
	+/- 0.29dB (k = 2)	+/- 0.59	dB
Unwanted Emissions (Transmitter Conducted)			
	+/- 2.19 dB (k = 2)	+/- 1.1	dB
Field Strength of Spurious Radiation			
	+/- 2.78dB (k = 2)	+/- 3.3	dB
Emission Masks (Occupied Bandwidth)			
	+/- 0.5dB (k = 2)	+/- 2.1	dB
Transient Frequency Behavior			
	+/- 1.10% (k = 2)	+/- 21.6	%
Audio Low Pass Filter (Voice Input)			
	+/- 0.1dB (k = 2)	+/- 1.2	dB
Audio Frequency Response			
	+/- 0.1dB (k = 2)	+/- 1.2	dB
Modulation Limiting			
	+/- 1% (k = 2)	+/- 1.0	%
Frequency Stability (Temperature Variation)			
	+/- 10.1Hz (k=2)	+/-34.2	Hz
Frequency Stability (Voltage Variation)			
	+/- 10.1Hz (k=2)	+/-34.2	Hz
Receiver Spurious Emissions	U_{lab}	Ucispr	
30-1000MHz	+/- 4.38dB (k = 2)	+/- 6.3	dB
abobe 1GHz	+/- 4.33dB (k = 2)	+/- 5.2	dB
Bandwidth			
	+/- 1.02% (k = 2)	-	

SECTION 10. TEST DATA

10.1 Carrier Output Power (Conducted)

REGULATIONS	:	FCC Part 2 Section 1046 (a) / RSS-119 Section 5.4 FCC Part24 Section 132 / RSS-134 Section 4.3
TEST METHOD/GUIDE	:	ANSI/TIA-603-E Section 2.2.1.2 / RSS-119 Section 4.1 RSS-134 Section 3.1

Test Procedure

1 The EUT and test equipment were set up as shown on the following page.
2 The EUT was conducted to a resistive coaxial attenuator of normal load impedance.
RF Power (dBm) = Power Meter reading (dBm) + Attenuator Loss (dB) + Cable Loss (dB)
RF Power (W) = 10^(RF Power (dBm)/10)/1000
3 Modulate the transmitter with a 2.5 kHz sine wave at an input Level of 16 dB greater than that necessary to produce 50 % of rated system deviation.(Only as for the test of RSS)

Measuring Equipments

No.	Equipment	Manufacture	Model No.	Serial No.	Cal. Interval	Effective period
1	Power Meter	Hewlett Packard	E4418B	GB38410265	1Y	Sep. 30, 19
2	Power Sensor	Hewlett Packard	8482A	US37292237	1Y	Sep. 30, 19
3	Attenuator (20dB)	Aeroflex/Wenshel	66-20-34	BY4357	1Y	Jul. 31, 19
4	Attenuator (30dB)	Weinschel	WA-29-30-34	8924	1Y	Jul. 31, 19
5	Modulation Analyzer	Hewlett Packard	8901B	3403A04852	1Y	Dec. 31, 18
6	Audio Generator	Anritsu	MG443B	M70150	1Y	Sep. 30, 19
7	DC Power Supply	Daiichi denpa kogyo	GZV4000	90290931	None	None
8	Digital Multi Meter	FLUKE	8846A	9642018	1Y	Sep. 30, 19

Measuring Cables

No.	Cable	Manufacturer	Model No.	Serial No.	Cal. Interval	Effective period
W2	Balance Cable	Nicoon	3D-2V	KSR00092	1Y	Feb. 28, 19
W3	Coaxial Cable	Pacific custom	RG-58 C/U	AM90C04	1Y	Feb. 28, 19

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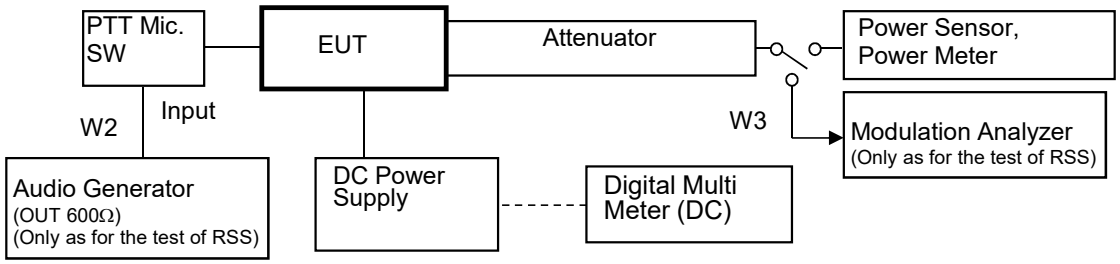
Measuring Equipment Configuration



Note: Configuration of other Modulation test is composed without the Audio Generator.

Test Results

	Test date	Nov. 16, 2018	
	Location	Kashima No.12 Test Site	
	temperature	26.4	[degree C]
	Humidity Variation	45.0	[%]
	Atmospheric Pressure	101.5	[kPa]
	Test Engineer	Koichi Wagatsuma	

Test was carried out for all the Authorized Bandwidth.
State the worst case (below).

No.	Frequency (MHz)	Band		Setting	RF Power (W)
1	896.05	Low	Band 1	High Power	15
2	900.95	High	Band 1	High Power	15
3	901.55	Middle	Band 2	High Power	7
4	935.05	Low	Band 3	High Power	15
5	939.95	High	Band 3	High Power	15
6	940.55	Middle	Band 4	High Power	7
7	896.05	Low	Band 1	Low Power	5
8	900.95	High	Band 1	Low Power	5
9	901.55	Middle	Band 2	Low Power	5
10	935.05	Low	Band 3	Low Power	5
11	939.95	High	Band 3	Low Power	5
12	940.55	Middle	Band 4	Low Power	5

RF Power: Peak reading

10.2 Unwanted Emissions (Transmitter Conducted)

REGULATIONS	:	FCC Part 2 Section 1051, Part 90 Section 210 / RSS-119 Section 5.8 FCC Part24 Section133, RSS-134 Section 4.4
TEST METHOD/GUIDE	:	ANSI/TIA-603-E Section 2.2.13.2 / RSS-119 Section 4.2 RSS-134 Section 4.4

Test Procedure

1 The EUT and test equipment were set up as shown on the following page.
2 Modulate the transmitter with a 2.5 kHz sine wave at an input Level of 16 dB greater than that than that necessary to produce 50 % of rated system deviation.
3 Adjust the spectrum analyzer for the following setting:
a) RBW : 100 kHz (< 1 GHz), 1 MHz (> 1 GHz).
b) VBW : 300 kHz (< 1 GHz), 3 MHz (> 1 GHz).
c) Detector mode : Average power (FM Modulation) , Positive peak with peak hold (Digital Modulation)
4 The emissions were measured for the worst case as follows:
a) : within a band of frequencies defined by the carrier frequency plus and minus one channel.
b) : from the lowest frequency generated in the EUT and to at least the 10th harmonic of the carrier frequency, or 40 GHz, whichever is lower.

Measuring Equipments

No.	Equipment	Manufacture	Model No.	Serial No.	Cal. Interval	Effective period
1	Attenuator (20dB)	Aeroflex/Wenshel	66-20-34	BY4357	1Y	Jul. 31, 19
2	Attenuator (30dB)	Weinschel	WA-29-30-34	8923	1Y	Jul. 31, 19
3	Highpass Filter	TME	UHP-127	1511798E	1Y	Jul. 31, 19
4	Modulation Analyzer	Hewlett Packard	8901B	3403A04852	1Y	Dec. 31, 18
5	Signal Generator	Rohde&Schwarz	SMP02	845275/007	1Y	Jul. 31, 19
6	Audio Generator	Anritsu	MG443B	M70150	1Y	Sep. 30, 19
7	Spectrum Analyzer	Agilent	N9030A	US51350220	1Y	Mar. 31, 19
8	DC Power Supply	Daiichi denpa kogyo	GZV4000	90290931	None	None
9	Digital Multi Meter	FLUKE	8846A	9642018	1Y	Sep. 30, 19

Measuring Cables

No.	Cable	Manufacture	Model No.	Serial No.	Cal. Interval	Effective period
W3	Balance Cable	Nicoon	3D-2V	KSR00092	1Y	Feb. 28, 19
W4	Coaxial Cable	Pacific custom	RG-58 C/U	AM90C04	1Y	Feb. 28, 19
W2	Coaxial Cable	Suhner	SUCOFLEX104	F0000017	1Y	Jul. 31, 19

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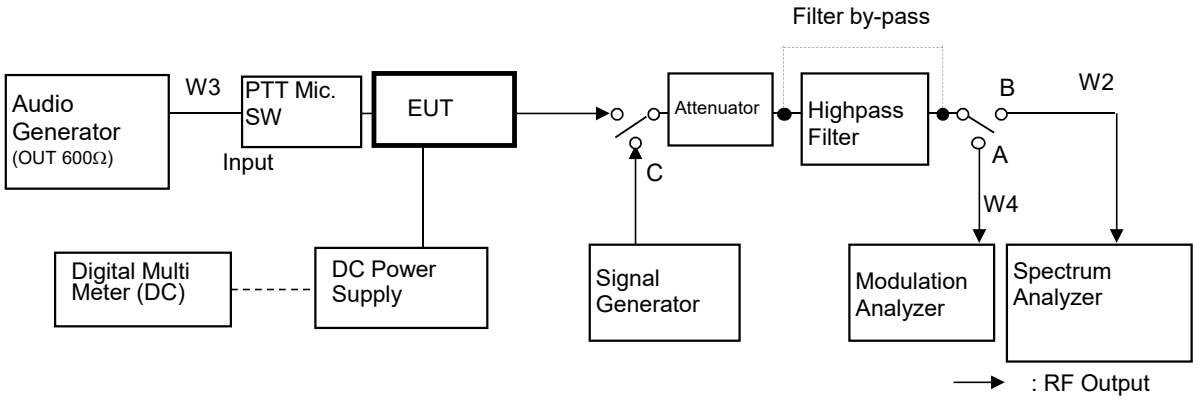
Measuring Equipment Configuration



Note: Configuration of other Modulation test is composed without the Audio Generator.

Test Results

Test date	Nov. 20, 2018		and	Nov. 21, 2018	
Location	Kashima No.12 Test Site				
temperature	20.0	to	26.0	[degree C]	
Humidity Variation	50.0	to	62.0	[%]	
Atmospheric Pressure	101.2	to	101.6	[kPa]	
Test Engineer	Koichi Wagatsuma				

Test was carried out for all the frequency band of section 10.1
State the worst case (below).

State : High Power / Authorized Bandwidth 13.6 kHz (8K30F1E/F1D/F7W) (Band 1 / Band 3)

No.	Tuned Frequency (MHz)	Band	Spurious Frequency (MHz)	Correct Level (dBm)	Emission Level (dBc)	Mask G Limit (dBc)	Mask J Limit (dBc)	Margin (Worst) (dB)
1	896.05	Low	1792.10	-32.62	**-74.38**	-54.8	-61.8	12.6
2	900.95	High	1801.90	-32.39	**-74.15**	-54.8	-61.8	12.3
3	935.05	Low	4675.25	-27.75	**-69.51**	-54.8	-61.8	7.7
4	939.95	High	4699.75	-27.77	**-69.53**	-54.8	-61.8	7.7
There is the margin of 20dB over except for the above points.								

Mask G Limit (dBc) = -(43+10Log(P))
Mask J Limit (dBc) = -(50+10Log(P))
Correct Level (dBm) = Substitute SG Level (dBm)
Emission Level (dBc) = Correct Level (dBm) - 10Log(P*1000)
P = Carrier Level (W)
" - " = Measurement Limit

State : Low Power / Authorized Bandwidth 13.6 kHz (8K30F1E/F1D/F7W) (Band 1 / Band 3)

No.	Tuned Frequency (MHz)	Band	Spurious Frequency (MHz)	Correct Level (dBm)	Emission Level (dBc)	Mask G Limit (dBc)	Mask J Limit (dBc)	Margin (Worst) (dB)
1	896.05	Low	1792.10	-32.92	**-69.91**	-50.0	-57.0	12.9
2	900.95	High	1801.90	-33.68	**-70.67**	-50.0	-57.0	13.7
3	935.05	Low	4675.25	-28.22	**-65.21**	-50.0	-57.0	8.2
4	939.95	High	4699.75	-28.61	**-65.60**	-50.0	-57.0	8.6
There is the margin of 20dB over except for the above points.								

Mask G Limit (dBc) = -(43+10Log(P))
Mask J Limit (dBc) = -(50+10Log(P))
Correct Level (dBm) = Substitute SG Level (dBm)
Emission Level (dBc) = Correct Level (dBm) - 10Log(P*1000)
P = Carrier Level (W)
" - " = Measurement Limit

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State : High Power / Authorized Bandwidth 45 kHz (8K30F1E/F1D/F7W) (Band 2 / Band 4)

No.	Tuned Frequency (MHz)	Band	Spurious Frequency (MHz)	Correct Level (dBm)	Emission Level (dBc)	Mask133.(a)(1) Limit (dBc)	Margin (dB)
1	901.55	Middle	1803.10	-32.71	**-71.16**	-51.5	19.7
2	940.55	Middle	4702.75	-27.94	**-66.39**	-51.5	14.9
There is the margin of 20dB over except for the above points.							

Mask133.(a)(1) Limit (dBc) = -(43+10Log(P))
Correct Level (dBm) = Substitute SG Level (dBm)
Emission Level (dBc) = Correct Level (dBm) - 10Log(P*1000)
P = Carrier Level (W)
" - " = Measurement Limit

State : Low Power / Authorized Bandwidth 45 kHz (8K30F1E/F1D/F7W) (Band 2 / Band 4)

No.	Tuned Frequency (MHz)	Band	Spurious Frequency (MHz)	Correct Level (dBm)	Emission Level (dBc)	Mask133.(a)(1) Limit (dBc)	Margin (dB)
1	901.55	Middle	1803.10	-33.02	**-70.01**	-50.0	20.0
2	940.55	Middle	4702.75	-28.42	**-65.41**	-50.0	15.4
There is the margin of 20dB over except for the above points.							

Mask133.(a)(1) Limit (dBc) = -(43+10Log(P))
Correct Level (dBm) = Substitute SG Level (dBm)
Emission Level (dBc) = Correct Level (dBm) - 10Log(P*1000)
P = Carrier Level (W)
" - " = Measurement Limit

10.3 Field Strength of Spurious Radiation

REGULATIONS	:	FCC Part 2 Section 1053 (a), Part 90 Section 210 / RSS-119 Section 5.8 FCC Part 24 Section 133, RSS-134 Section 4.4
TEST METHOD/GUIDE	:	ANSI/TIA-603-E Section 2.2.12.2 / RSS-119 Section 4.2 RSS-134 Section 4.4

Test Procedure

1 The EUT and test equipment were set up as shown on the following page.
2 Adjust the spectrum analyzer for the following setting:
a) RBW : 100 kHz (< 1 GHz), 1 MHz (> 1 GHz).
b) VBW : 300 kHz (< 1 GHz), 3 MHz (> 1 GHz).
c) Detector mode : Positive Peak
3 The transmitter was placed on a wooden turntable, and it was transmitting into non-radiating load which was also placed on the turntable.
4 During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT.
5 The frequency range up to tenth harmonic of the fundamental frequency was investigated.
6 Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable.
The absolute levels of the spurious emissions were measured by the substitution.
7 Spurious emissions in dB = 10 Log (TX power in Watts/0.001) – the absolute level

Measuring Equipments

No.	Equipment	Manufacture	Model No.	Serial No.	Cal. Interval	Effective period
1	Attenuator(10dB)	HUBER+SUHNER	6810.17B	5061	1Y	Jan. 31, 19
2	Dummy Load	TME	CT-150NP	1138693	1Y	Feb. 28, 19
3	Signal Generator	Rohde&Schwarz	SMP02	845275/007	1Y	Jul. 31, 19
4	Spectrum Analyzer	Agilent	N9030A	US51350220	1Y	Mar. 31, 19
5	D.R.G Antenna(TX)	Schwarzbeck	3115	5044	1Y	Apr. 30, 19
6	D.R.G Antenna(RX)	Schwarzbeck	3115	5045	1Y	Apr. 30, 19
7	Dipole Antenna(TX)	Schwarzbeck	UHA9105	AM0082002	1Y	May. 31, 19
8	Dipole Antenna(TX)	Schwarzbeck	VHA9103	C01082007	1Y	May. 31, 19
9	Tri-log Antenna(RX)	Schwarzbeck	VULB9168WP	288	1Y	Jul. 31, 19
10	DC Power Supply	Daiichi denpa kogyo	GZV4000	90290931	None	None
11	Digital Multi Meter	FLUKE	8846A	9642018	1Y	Sep. 30, 19
12	Amplifier	TOYO	TPA0118-30	0402	1Y	May. 31, 19
13	Attenuator	HUBER + SUHNER	6803.17.B	5111	1Y	May. 31, 19
14	Amplifier	Intertek Japan	ZX60-3018G	002	1Y	Aug. 31, 19
15	Attenuator	TAMAGAWA	CFA-01	A00040805	1Y	Aug. 31, 19
16	RF Switch	Intertek Japan	ACX-150-1	A12301501	1Y	Aug. 31, 19

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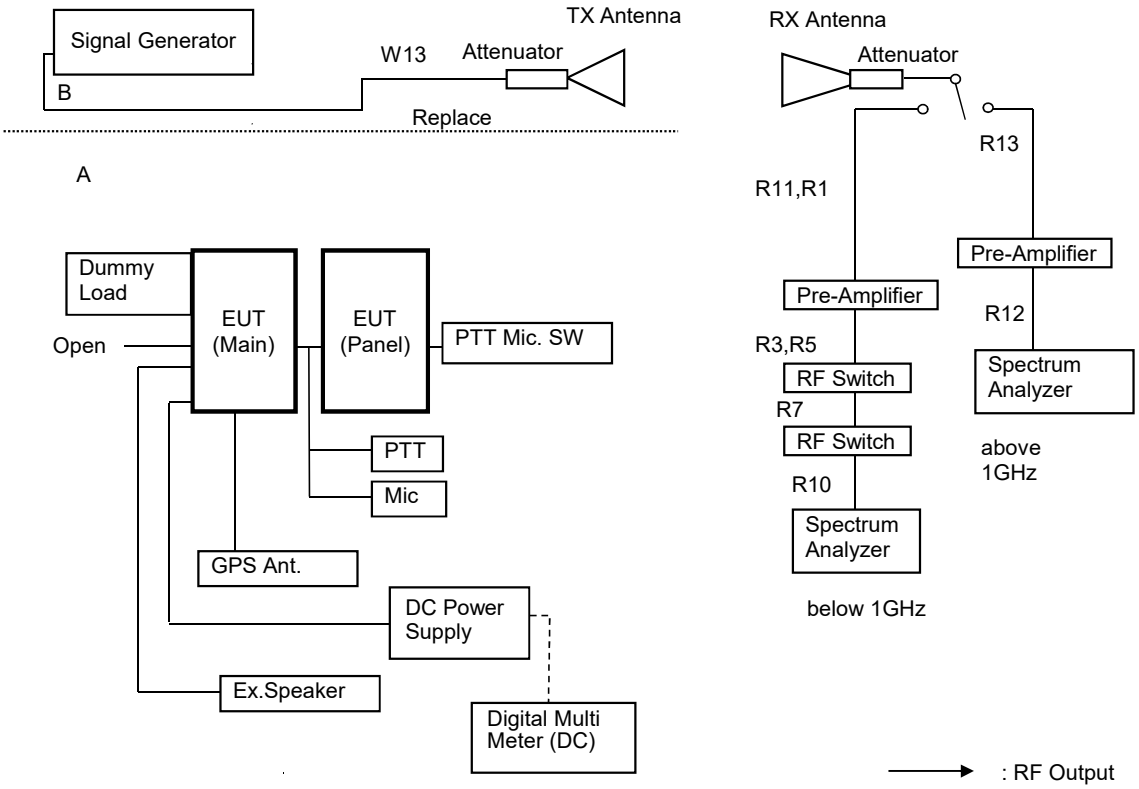
Measuring Cables

No.	Cable	Manufacturer	Model No.	Serial No.	Cal. Interval	Effective period
R11	Coaxial Cable	FUJIKURA	5D-2W	R11	1Y	Aug. 31, 19
R1	Coaxial Cable	FUJIKURA	5D-2W	R1	1Y	Aug. 31, 19
R3	Coaxial Cable	FUJIKURA	10D-2W	R3	1Y	Aug. 31, 19
R5	Coaxial Cable	FUJIKURA	RG-5A/U	R5	1Y	Aug. 31, 19
R7	Coaxial Cable	MIYAZAKI	5D-2W	R7	1Y	Aug. 31, 19
R10	Coaxial Cable	FUJIKURA	5D-2W	R10	1Y	Aug. 31, 19
R13	Coaxial Cable	SUHNER	SUCOFLEX 104	229603	1Y	May. 31, 19
R12	Coaxial Cable	Candox	5B-048-98-98-5000	111130	1Y	May. 31, 19
W13	Coaxial Cable	Suhner	SUCOFLEX106	KSR00207	1Y	Jan. 31, 19

Measuring Equipment Configuration



Test Results

	Test date	Nov 26, 2018 to Nov 29, 2018	
	Location	Kashima No.12 Test Site	
	temperature	19.0 to 22.0	[degree C]
	Humidity Variation	45 to 60	[%]
	Atmospheric Pressure	101 to 108.7	[kPa]
	Test Engineer	Koichi Wagatsuma	

Test was carried out for all the frequency band of section 10.1
State the worst case (below).

State : High Power / Authorized Bandwidth 13.6 kHz / 900.95MHz (Band 1)

No	Frequency (MHz)	Pol	Reading Level (dBm)	SG Out Level (dBm)	Antenna Gain (dBd)	Loss (dB)	Correct Level (dBm)	Emission Level (dBc)	MASK G Limit Level (dBc)	MASK J Limit Level (dBc)	Margin (Worst) (dB)
1	1801.90	Hor.	-55.85	-39.38	6.42	13.63	-46.6	**-88.4**	-54.8	-61.8	26.6
		Ver.	-52.07	-34.89	6.42	13.63	-42.1	**-83.9**	-54.8	-61.8	22.1
2	2702.85	Hor.	-60.96	-41.24	7.61	14.46	-48.1	**-89.9**	-54.8	-61.8	28.1
		Ver.	-60.38	-40.36	7.61	14.46	-47.2	**-89.0**	-54.8	-61.8	27.2
3	3603.80	Hor.	-50.76	-28.40	7.83	15.14	-35.7	**-77.5**	-54.8	-61.8	15.7
		Ver.	-48.32	-25.91	7.83	15.14	-33.2	**-75.0**	-54.8	-61.8	13.2
4	4504.75	Hor.	-55.79	-32.04	8.96	15.73	-38.8	**-80.6**	-54.8	-61.8	18.8
		Ver.	-54.09	-30.00	8.96	15.73	-36.8	**-78.5**	-54.8	-61.8	16.7
5	5405.70	Hor.	-53.17	-25.37	8.65	16.29	-33.0	**-74.8**	-54.8	-61.8	13.0
		Ver.	-47.45	-19.82	8.65	16.29	-27.5	**-69.2**	-54.8	-61.8	7.4
6	6306.65	Hor.	-65.01	-36.69	9.67	16.83	-43.9	**-85.6**	-54.8	-61.8	23.8
		Ver.	-64.10	-35.92	9.67	16.83	-43.1	**-84.8**	-54.8	-61.8	23.0
7	7207.60	Hor.	-	-	9.46	17.30	-	**-**	-54.8	-61.8	-
		Ver.	-	-	9.46	17.30	-	**-**	-54.8	-61.8	-
8	8108.55	Hor.	-	-	9.38	17.71	-	**-**	-54.8	-61.8	-
		Ver.	-	-	9.38	17.71	-	**-**	-54.8	-61.8	-
9	9009.50	Hor.	-67.98	-34.27	9.40	18.12	-43.0	**-84.7**	-54.8	-61.8	22.9
		Ver.	-66.86	-34.10	9.40	18.12	-42.8	**-84.6**	-54.8	-61.8	22.8

There is the margin of 20dB over except for the above points.

Mask J Limit (dBc) = -(50+10Log(P))
Mask J Limit (dBc) = -(50+10Log(P))
Correct Level (dBm) = Substitute SG Level (dBm) + ANT Gain (dBd) - Loss (Cable, Attenuator) (dB)
Emission Level (dBc) = Correct Level (dBm) - 10Log(P*1000)
P = Carrier Level (W)
" - " = Measurement Limit

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State : Low Power / Authorized Bandwidth 13.6 kHz / 896.05MHz (Band 1)

No	Frequency (MHz)	Pol	Reading Level (dBm)	SG Out Level (dBm)	Antenna Gain (dBd)	Loss (dB)	Correct Level (dBm)	Emission Level (dBc)	MASK G Limit Level (dBc)	MASK J Limit Level (dBc)	Margin (Worst) (dB)
1	1792.10	Hor.	-56.64	-40.44	6.41	13.62	-47.6	**-84.6**	-50.0	-57.0	27.6
		Ver.	-55.30	-38.57	6.41	13.62	-45.8	**-82.8**	-50.0	-57.0	25.8
2	2688.15	Hor.	-61.07	-40.93	7.62	14.45	-47.8	**-84.7**	-50.0	-57.0	27.7
		Ver.	-63.08	-42.86	7.62	14.45	-49.7	**-86.7**	-50.0	-57.0	29.7
3	3584.20	Hor.	-55.43	-32.69	7.84	15.12	-40.0	**-77.0**	-50.0	-57.0	20.0
		Ver.	-54.29	-31.46	7.84	15.12	-38.7	**-75.7**	-50.0	-57.0	18.7
4	4480.25	Hor.	-58.72	-35.18	8.91	15.71	-42.0	**-79.0**	-50.0	-57.0	22.0
		Ver.	-58.16	-34.26	8.91	15.71	-41.1	**-78.1**	-50.0	-57.0	21.1
5	5376.30	Hor.	-58.03	-30.91	8.66	16.27	-38.5	**-75.5**	-50.0	-57.0	18.5
		Ver.	-51.05	-23.85	8.66	16.27	-31.5	**-68.4**	-50.0	-57.0	11.4
6	6272.35	Hor.	-65.55	-36.87	9.61	16.81	-44.1	**-81.1**	-50.0	-57.0	24.1
		Ver.	-65.40	-36.79	9.61	16.81	-44.0	**-81.0**	-50.0	-57.0	24.0
7	7168.40	Hor.	-	-	9.50	17.28	-	**-**	-50.0	-57.0	-
		Ver.	-	-	9.50	17.28	-	**-**	-50.0	-57.0	-
8	8064.45	Hor.	-	-	9.39	17.69	-	**-**	-50.0	-57.0	-
		Ver.	-	-	9.39	17.69	-	**-**	-50.0	-57.0	-
9	8960.50	Hor.	-68.31	-34.18	9.39	18.10	-42.9	**-79.9**	-50.0	-57.0	22.9
		Ver.	-66.91	-34.09	9.39	18.10	-42.8	**-79.8**	-50.0	-57.0	22.8

There is the margin of 20dB over except for the above points.

Mask G Limit (dBc) = -(43+10Log(P))
Mask J Limit (dBc) = -(50+10Log(P))
Correct Level (dBm) = Substitute SG Level (dBm) + ANT Gain (dBd) - Loss (Cable, Attenuator) (dB)
Emission Level (dBc) = Correct Level (dBm) - 10Log(P*1000)
P = Carrier Level (W)
" - " = Measurement Limit

State : High Power / Authorized Bandwidth 13.6 kHz / 939.95MHz (Band 3)

No	Frequency (MHz)	Pol	Reading Level (dBm)	SG Out Level (dBm)	Antenna Gain (dBd)	Loss (dB)	Correct Level (dBm)	Emission Level (dBc)	MASK G Limit Level (dBc)	MASK J Limit Level (dBc)	Margin (Worst) (dB)
1	1879.90	Hor.	-53.47	-35.36	6.47	13.72	-42.6	**-84.4**	-54.8	-61.8	22.6
		Ver.	-55.99	-37.68	6.47	13.72	-44.9	**-86.7**	-54.8	-61.8	24.9
2	2819.85	Hor.	-57.51	-37.71	7.55	14.56	-44.7	**-86.5**	-54.8	-61.8	24.7
		Ver.	-54.90	-35.04	7.55	14.56	-42.0	**-83.8**	-54.8	-61.8	22.0
3	3759.80	Hor.	-51.28	-27.48	7.76	15.25	-35.0	**-76.7**	-54.8	-61.8	14.9
		Ver.	-49.89	-25.88	7.76	15.25	-33.4	**-75.1**	-54.8	-61.8	13.3
4	4699.75	Hor.	-40.97	-17.06	8.90	15.85	-24.0	**-65.8**	-54.8	-61.8	4.0
		Ver.	-41.37	-17.73	8.90	15.85	-24.7	**-66.4**	-54.8	-61.8	4.6
5	5639.70	Hor.	-51.23	-24.17	8.77	16.44	-31.8	**-73.6**	-54.8	-61.8	11.8
		Ver.	-50.47	-23.40	8.77	16.44	-31.1	**-72.8**	-54.8	-61.8	11.0
6	6579.65	Hor.	-63.00	-34.47	9.93	16.98	-41.5	**-83.3**	-54.8	-61.8	21.5
		Ver.	-59.40	-31.14	9.93	16.98	-38.2	**-80.0**	-54.8	-61.8	18.2
7	7519.60	Hor.	-58.96	-27.69	9.18	17.44	-36.0	**-77.7**	-54.8	-61.8	15.9
		Ver.	-55.69	-25.01	9.18	17.44	-33.3	**-75.0**	-54.8	-61.8	13.2
8	8459.55	Hor.	-65.51	-33.39	9.30	17.87	-42.0	**-83.7**	-54.8	-61.8	21.9
		Ver.	-60.03	-27.91	9.30	17.87	-36.5	**-78.2**	-54.8	-61.8	16.4
9	9399.50	Hor.	-	-	9.72	18.27	-	**-**	-54.8	-61.8	-
		Ver.	-	-	9.72	18.27	-	**-**	-54.8	-61.8	-

There is the margin of 20dB over except for the above points.

Mask G Limit (dBc) = -(43+10Log(P))
Mask J Limit (dBc) = -(50+10Log(P))
Correct Level (dBm) = Substitute SG Level (dBm) + ANT Gain (dB) - Loss (Cable, Attenuator) (dB)
Emission Level (dBc) = Correct Level (dBm) - 10Log(P*1000)
P = Carrier Level (W)
" - " = Measurement Limit

State : Low Power / Authorized Bandwidth 13.6 kHz / 939.95MHz (Band 3)

No	Frequency (MHz)	Pol	Reading Level (dBm)	SG Out Level (dBm)	Antenna Gain (dBd)	Loss (dB)	Correct Level (dBm)	Emission Level (dBc)	MASK G Limit Level (dBc)	MASK J Limit Level (dBc)	Margin (Worst) (dB)
1	1879.90	Hor.	-54.78	-36.67	6.47	13.72	-43.9	**-80.9**	-50.0	-57.0	23.9
		Ver.	-57.98	-39.66	6.47	13.72	-46.9	**-83.9**	-50.0	-57.0	26.9
2	2819.85	Hor.	-56.12	-36.32	7.55	14.56	-43.3	**-80.3**	-50.0	-57.0	23.3
		Ver.	-56.28	-36.43	7.55	14.56	-43.4	**-80.4**	-50.0	-57.0	23.4
3	3759.80	Hor.	-59.58	-35.78	7.76	15.25	-43.3	**-80.3**	-50.0	-57.0	23.3
		Ver.	-57.87	-33.86	7.76	15.25	-41.3	**-78.3**	-50.0	-57.0	21.3
4	4699.75	Hor.	-45.35	-21.44	8.90	15.85	-28.4	**-65.4**	-50.0	-57.0	8.4
		Ver.	-45.50	-21.87	8.90	15.85	-28.8	**-65.8**	-50.0	-57.0	8.8
5	5639.70	Hor.	-54.65	-27.59	8.77	16.44	-35.2	**-72.2**	-50.0	-57.0	15.2
		Ver.	-50.94	-23.87	8.77	16.44	-31.5	**-68.5**	-50.0	-57.0	11.5
6	6579.65	Hor.	-66.11	-37.58	9.93	16.98	-44.6	**-81.6**	-50.0	-57.0	24.6
		Ver.	-64.03	-35.76	9.93	16.98	-42.8	**-79.8**	-50.0	-57.0	22.8
7	7519.60	Hor.	-60.50	-29.23	9.18	17.44	-37.5	**-74.5**	-50.0	-57.0	17.5
		Ver.	-58.60	-27.92	9.18	17.44	-36.2	**-73.2**	-50.0	-57.0	16.2
8	8459.55	Hor.	-	-	9.30	17.87	-	**-**	-50.0	-57.0	-
		Ver.	-64.10	-31.99	9.30	17.87	-40.6	**-77.5**	-50.0	-57.0	20.5
9	9399.50	Hor.	-	-	9.72	18.27	-	**-**	-50.0	-57.0	-
		Ver.	-	-	9.72	18.27	-	**-**	-50.0	-57.0	-

There is the margin of 20dB over except for the above points.

Mask G Limit (dBc) = -(43+10Log(P))
Mask J Limit (dBc) = -(50+10Log(P))
Correct Level (dBm) = Substitute SG Level (dBm) + ANT Gain (dB) - Loss (Cable, Attenuator) (dB)
Emission Level (dBc) = Correct Level (dBm) - 10Log(P*1000)
P = Carrier Level (W)
" - " = Measurement Limit

State : High Power / Authorized Bandwidth 45 kHz / 901.55MHz (Band 2)

No	Frequency (MHz)	Pol	Reading Level (dBm)	SG Out Level (dBm)	Antenna Gain (dBd)	Loss (dB)	Correct Level (dBm)	Emission Level (dBc)	MASK 133.(a)(1) Limit Level (dBc)	Margin (dB)
1	1803.10	Hor.	-57.38	-40.87	6.42	13.63	-48.1	**-86.5**	-51.5	35.0
		Ver.	-53.99	-37.00	6.42	13.63	-44.2	**-82.7**	-51.5	31.2
2	2704.65	Hor.	-59.69	-39.83	7.61	14.46	-46.7	**-85.1**	-51.5	33.6
		Ver.	-60.91	-40.82	7.61	14.46	-47.7	**-86.1**	-51.5	34.6
3	3606.20	Hor.	-55.34	-32.82	7.83	15.14	-40.1	**-78.6**	-51.5	27.1
		Ver.	-53.03	-30.59	7.83	15.14	-37.9	**-76.4**	-51.5	24.9
4	4507.75	Hor.	-56.18	-32.47	8.96	15.73	-39.2	**-77.7**	-51.5	26.2
		Ver.	-55.07	-31.18	8.96	15.73	-38.0	**-76.4**	-51.5	24.9
5	5409.30	Hor.	-56.14	-28.27	8.65	16.29	-35.9	**-74.4**	-51.5	22.9
		Ver.	-50.91	-23.37	8.65	16.29	-31.0	**-69.5**	-51.5	18.0
6	6310.85	Hor.	-65.08	-36.60	9.68	16.83	-43.8	**-82.2**	-51.5	30.7
		Ver.	-65.33	-37.07	9.68	16.83	-44.2	**-82.7**	-51.5	31.2
7	7212.40	Hor.	-	-	9.46	17.30	-	**-**	-51.5	-
		Ver.	-	-	9.46	17.30	-	**-**	-51.5	-
8	8113.95	Hor.	-	-	9.38	17.71	-	**-**	-51.5	-
		Ver.	-	-	9.38	17.71	-	**-**	-51.5	-
9	9015.50	Hor.	-68.75	-34.88	9.41	18.12	-43.6	**-82.0**	-51.5	30.5
		Ver.	-67.60	-34.80	9.41	18.12	-43.5	**-82.0**	-51.5	30.5

There is the margin of 20dB over except for the above points.

Mask133.(a)(1) Limit (dBc) = -(43+10Log(P))
Correct Level (dBm) = Substitute SG Level (dBm) + ANT Gain (dBd) - Loss (Cable, Attenuator) (dB)
Emission Level (dBc) = Correct Level (dBm) - 10Log(P*1000)
P = Carrier Level (W)
" - " = Measurement Limit

State : Low Power / Authorized Bandwidth 45 kHz / 901.55MHz (Band 2)

No	Frequency (MHz)	Pol	Reading Level (dBm)	SG Out Level (dBm)	Antenna Gain (dBd)	Loss (dB)	Correct Level (dBm)	Emission Level (dBc)	MASK 133.(a)(1) Limit Level (dBc)	Margin (Worst) (dB)
1	1803.10	Hor.	-58.34	-41.82	6.42	13.63	-49.0	**-86.0**	-50.0	36.0
		Ver.	-54.85	-37.86	6.42	13.63	-45.1	**-82.1**	-50.0	32.1
2	2704.65	Hor.	-59.63	-39.78	7.61	14.46	-46.6	**-83.6**	-50.0	33.6
		Ver.	-61.95	-41.86	7.61	14.46	-48.7	**-85.7**	-50.0	35.7
3	3606.20	Hor.	-57.89	-35.37	7.83	15.14	-42.7	**-79.7**	-50.0	29.7
		Ver.	-54.84	-32.40	7.83	15.14	-39.7	**-76.7**	-50.0	26.7
4	4507.75	Hor.	-57.60	-33.89	8.96	15.73	-40.7	**-77.7**	-50.0	27.7
		Ver.	-56.20	-32.31	8.96	15.73	-39.1	**-76.1**	-50.0	26.1
5	5409.30	Hor.	-56.59	-28.72	8.65	16.29	-36.4	**-73.3**	-50.0	23.3
		Ver.	-52.25	-24.70	8.65	16.29	-32.3	**-69.3**	-50.0	19.3
6	6310.85	Hor.	-65.87	-37.40	9.68	16.83	-44.6	**-81.5**	-50.0	31.5
		Ver.	-66.38	-38.12	9.68	16.83	-45.3	**-82.3**	-50.0	32.3
7	7212.40	Hor.	-	-	9.46	17.30	-	**-**	-50.0	-
		Ver.	-	-	9.46	17.30	-	**-**	-50.0	-
8	8113.95	Hor.	-	-	9.38	17.71	-	**-**	-50.0	-
		Ver.	-	-	9.38	17.71	-	**-**	-50.0	-
9	9015.50	Hor.	-68.86	-34.99	9.41	18.12	-43.7	**-80.7**	-50.0	30.7
		Ver.	-67.10	-34.31	9.41	18.12	-43.0	**-80.0**	-50.0	30.0

There is the margin of 20dB over except for the above points.

Mask133.(a)(1) Limit (dBc) = -(43+10Log(P))
Correct Level (dBm) = Substitute SG Level (dBm) + ANT Gain (dBd) - Loss (Cable, Attenuator) (dB)
Emission Level (dBc) = Correct Level (dBm) - 10Log(P*1000)
P = Carrier Level (W)
" - " = Measurement Limit

State : High Power / Authorized Bandwidth 45 kHz / 940.55MHz (Band 4)

No	Frequency (MHz)	Pol	Reading Level (dBm)	SG Out Level (dBm)	Antenna Gain (dBd)	Loss (dB)	Correct Level (dBm)	Emission Level (dBc)	MASK 133.(a)(1) Limit Level (dBc)	Margin (Worst) (dB)
1	1881.10	Hor.	-54.26	-36.09	6.48	13.72	-43.3	**-81.8**	-51.5	30.3
		Ver.	-56.80	-37.95	6.48	13.72	-45.2	**-83.7**	-51.5	32.2
2	2821.65	Hor.	-57.92	-38.15	7.55	14.56	-45.2	**-83.6**	-51.5	32.1
		Ver.	-55.20	-35.37	7.55	14.56	-42.4	**-80.8**	-51.5	29.3
3	3762.20	Hor.	-57.17	-33.37	7.76	15.25	-40.9	**-79.3**	-51.5	27.8
		Ver.	-56.14	-31.84	7.76	15.25	-39.3	**-77.8**	-51.5	26.3
4	4702.75	Hor.	-43.44	-19.14	8.90	15.85	-26.1	**-64.5**	-51.5	13.0
		Ver.	-43.72	-19.56	8.90	15.85	-26.5	**-65.0**	-51.5	13.5
5	5643.30	Hor.	-54.77	-27.54	8.78	16.44	-35.2	**-73.6**	-51.5	22.1
		Ver.	-50.51	-23.47	8.78	16.44	-31.1	**-69.6**	-51.5	18.1
6	6583.85	Hor.	-66.21	-37.80	9.92	16.98	-44.9	**-83.3**	-51.5	31.8
		Ver.	-62.74	-34.27	9.92	16.98	-41.3	**-79.8**	-51.5	28.3
7	7524.40	Hor.	-62.47	-31.11	9.18	17.44	-39.4	**-77.8**	-51.5	26.3
		Ver.	-57.47	-26.81	9.18	17.44	-35.1	**-73.5**	-51.5	22.0
8	8464.95	Hor.	-67.12	-34.98	9.29	17.87	-43.6	**-82.0**	-51.5	30.5
		Ver.	-62.10	-30.01	9.29	17.87	-38.6	**-77.0**	-51.5	25.5
9	9405.50	Hor.	-	-	9.72	18.28	-	**-**	-51.5	-
		Ver.	-	-	9.72	18.28	-	**-**	-51.5	-

There is the margin of 20dB over except for the above points.

Mask133.(a)(1) Limit (dBc) = -(43+10Log(P))
Correct Level (dBm) = Substitute SG Level (dBm) + ANT Gain (dB) - Loss (Cable, Attenuator) (dB)
Emission Level (dBc) = Correct Level (dBm) - 10Log(P*1000)
P = Carrier Level (W)
" - " = Measurement Limit

State : Low Power / Authorized Bandwidth 45 kHz / 940.55MHz (Band 4)

No	Frequency (MHz)	Pol	Reading Level (dBm)	SG Out Level (dBm)	Antenna Gain (dBd)	Loss (dB)	Correct Level (dBm)	Emission Level (dBc)	MASK 133.(a)(1) Limit Level (dBc)	Margin (Worst) (dB)
1	1881.10	Hor.	-56.16	-37.99	6.48	13.72	-45.2	**-82.2**	-50.0	32.2
		Ver.	-58.46	-39.61	6.48	13.72	-46.9	**-83.8**	-50.0	33.8
2	2821.65	Hor.	-59.41	-39.64	7.55	14.56	-46.6	**-83.6**	-50.0	33.6
		Ver.	-59.24	-39.41	7.55	14.56	-46.4	**-83.4**	-50.0	33.4
3	3762.20	Hor.	-59.62	-35.83	7.76	15.25	-43.3	**-80.3**	-50.0	30.3
		Ver.	-58.03	-33.73	7.76	15.25	-41.2	**-78.2**	-50.0	28.2
4	4702.75	Hor.	-45.09	-20.80	8.90	15.85	-27.7	**-64.7**	-50.0	14.7
		Ver.	-46.95	-22.79	8.90	15.85	-29.7	**-66.7**	-50.0	16.7
5	5643.30	Hor.	-55.52	-28.28	8.78	16.44	-35.9	**-72.9**	-50.0	22.9
		Ver.	-53.52	-26.48	8.78	16.44	-34.1	**-71.1**	-50.0	21.1
6	6583.85	Hor.	-66.40	-37.98	9.92	16.98	-45.0	**-82.0**	-50.0	32.0
		Ver.	-65.01	-36.53	9.92	16.98	-43.6	**-80.6**	-50.0	30.6
7	7524.40	Hor.	-61.26	-29.90	9.18	17.44	-38.2	**-75.2**	-50.0	25.2
		Ver.	-58.60	-27.94	9.18	17.44	-36.2	**-73.2**	-50.0	23.2
8	8464.95	Hor.	-67.83	-35.69	9.29	17.87	-44.3	**-81.3**	-50.0	31.3
		Ver.	-64.08	-32.00	9.29	17.87	-40.6	**-77.6**	-50.0	27.6
9	9405.50	Hor.	-	-	9.72	18.28	-	**-**	-50.0	-
		Ver.	-	-	9.72	18.28	-	**-**	-50.0	-

There is the margin of 20dB over except for the above points.

Mask133.(a)(1) Limit (dBc) = -(43+10Log(P))
Correct Level (dBm) = Substitute SG Level (dBm) + ANT Gain (dB) - Loss (Cable, Attenuator) (dB)
Emission Level (dBc) = Correct Level (dBm) - 10Log(P*1000)
P = Carrier Level (W)
" - " = Measurement Limit

10.4 Emission Masks (Occupied Bandwidth)

REGULATIONS	:	FCC Part 2 Section 1049 (c) (1), Part 90 Section 210 / RSS-119 Section 5.5 FCC Part 24 Section 133, RSS-134 Section 4.4
TEST METHOD/GUIDE	:	ANSI/TIA-603-E Section 2.2.11.2 / RSS-119 Section 5.8

Test Procedure

1 The EUT and test equipment were set up as shown on the following page.
2 For EUT supporting audio modulation, the audio signal generator was adjusted to the frequency of maximum response and with output level set for +/- 2.5 kHz deviation (or 50 % modulation). (FM modulation).
3 With level constant, the signal level was increased 16 dB.
4 For EUT supporting digital modulation, the digital modulation mode was operated to its maximum extent.
5 Adjust the spectrum analyzer for the following setting:
a) RBW : 300 kHz (Non modulation, Modulation)
b) VBW : 10times the RBW (Non modulation, Modulation).
c) RBW and VBW : 30 kHz (Non modulation(Digital Modulation)).
6 The occupied Bandwidth was measured with the Spectrum Analyzer controls set as shown on the test results.

The selection of Emission Mask

No.	Frequency (MHz)	Audio Filter	Authorized Bandwidth (kHz) FCC	Authorized Bandwidth (kHz) IC	Selection of Emission Mask FCC	Selection of Emission Mask IC
Emission Designation :		11K0F3E				
1	896.05	With	13.6	13.6	I	I
2	900.95	With	13.6	13.6	I	I
3	901.55	With	45	45	24.133(a)(1)	134 4.4.1
4	935.05	With	13.6	13.6	I	I
5	939.95	With	13.6	13.6	I	I
6	940.55	With	45	45	24.133(a)(1)	134 4.4.1
Emission Designation :		8K30F1E / F1D / F7W				
1	896.05	Without	13.6	13.6	J	J / G
2	900.95	Without	13.6	13.6	J	J / G
3	901.55	Without	45	45	24.133(a)(1)	134 4.4.1
4	935.05	Without	13.6	13.6	J	J / G
5	939.95	Without	13.6	13.6	J	J / G
6	940.55	Without	45	45	24.133(a)(1)	134 4.4.1
Emission Designation :		7K60FXD/FXE				
1	896.05	Without	13.6	13.6	J	J / G
2	900.95	Without	13.6	13.6	J	J / G
3	901.55	Without	45	45	24.133(a)(1)	134 4.4.1
4	935.05	Without	13.6	13.6	J	J / G
5	939.95	Without	13.6	13.6	J	J / G
6	940.55	Without	45	45	24.133(a)(1)	134 4.4.1
Emission Designation :		4K00F1E / F1D / F7W				
1	896.05	Without	13.6	13.6	J	J / G
2	900.95	Without	13.6	13.6	J	J / G
3	901.55	Without	10	10	24.133(a)(2)	134 4.4.2
4	935.05	Without	13.6	13.6	J	J / G
5	939.95	Without	13.6	13.6	J	J / G
6	940.55	Without	10	10	24.133(a)(2)	134 4.4.2
Emission Designation :		4K00F2D				
1	896.05	Without	13.6	13.6	J	J / G
2	900.95	Without	13.6	13.6	J	J / G
3	901.55	Without	10	10	24.133(a)(2)	134 4.4.2
4	935.05	Without	13.6	13.6	J	J / G
5	939.95	Without	13.6	13.6	J	J / G
6	940.55	Without	10	10	24.133(a)(2)	134 4.4.2

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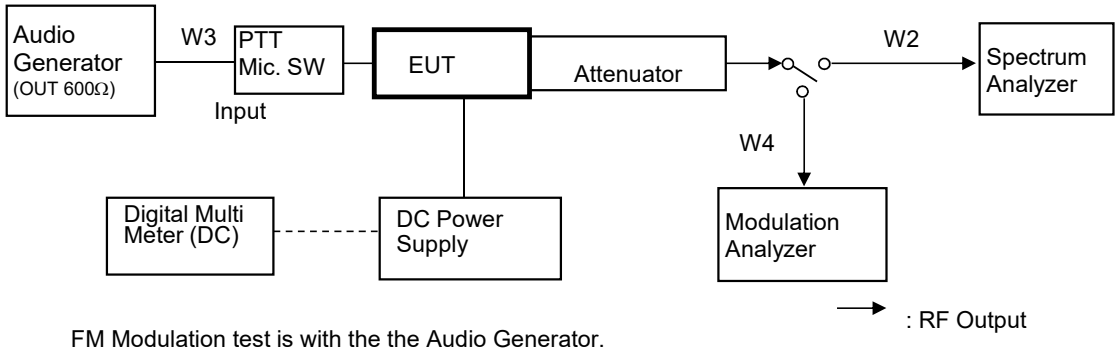
Measuring Equipments

No.	Equipment	Manufacture	Model No.	Serial No.	Cal. Interval	Effective period
1	Attenuator (20dB)	Aeroflex/Wenshel	66-20-34	BY4357	1Y	Jul. 31, 19
2	Attenuator (30dB)	Weinschel	WA-29-30-34	8923	1Y	Jul. 31, 19
3	Modulation Analyzer	Hewlett Packard	8901B	3403A04852	1Y	Dec. 31, 18
4	Audio Generator	Anritsu	MG443B	M70150	1Y	Sep. 30, 19
5	Spectrum Analyzer	Agilent	N9030A	US51350220	1Y	Mar. 31, 19
6	DC Power Supply	Daiichi denpa kogyo	GZV4000	90290931	None	None
7	Digital Multi Meter	FLUKE	8846A	9642018	1Y	Sep. 30, 19

Measuring Cables

No.	Cable	Manufacture	Model No.	Serial No.	Cal. Interval	Effective period
W3	Balance Cable	Nicoon	3D-2V	KSR00092	1Y	Feb. 28, 19
W4	Coaxial Cable	Pacific custom	RG-58 C/U	AM90C04	1Y	Feb. 28, 19
W2	Coaxial Cable	Suhner	SUCOFLEX104	F0000017	1Y	Jul. 31, 19

Measuring Equipment Configuration



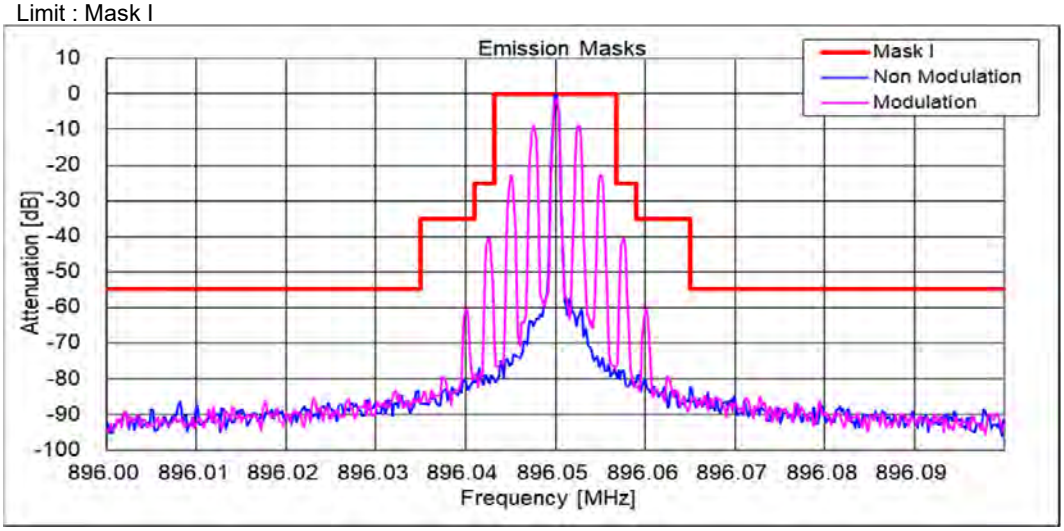
FM Modulation test is with the the Audio Generator.
Configuration of other Modulation test is composed without the Audio Generator.

Test Results

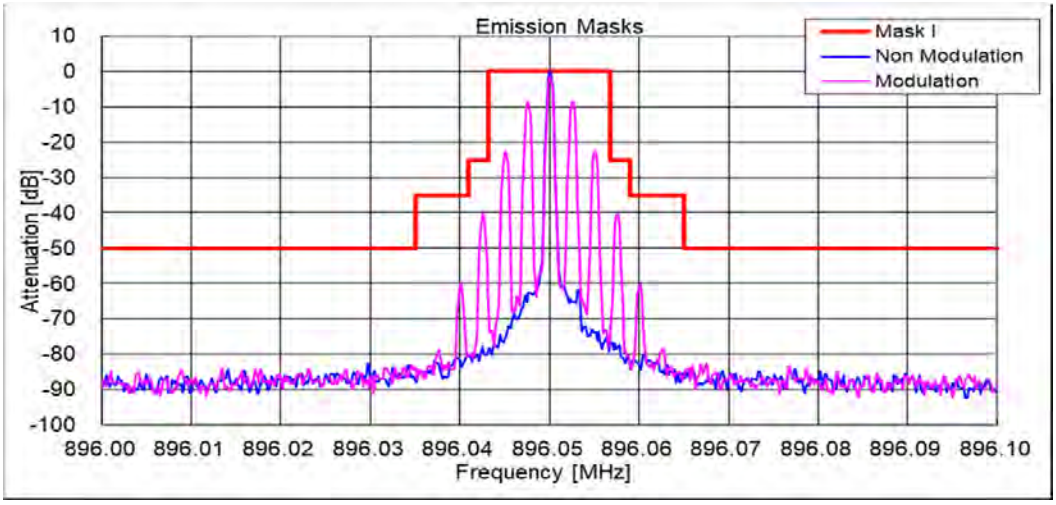
Test date	Nov. 20, 2018			
Location	Kashima No.12 Test Site			
temperature	25.7	to	26	[degree C]
Humidity Variation	50	to	54	[%]
Atmospheric Pressure	99.2	to	101.6	[kPa]
Test Engineer	Koichi Wagatsuma			

Test was carried out for all the frequency band of section 10.1
State the worst case (below).

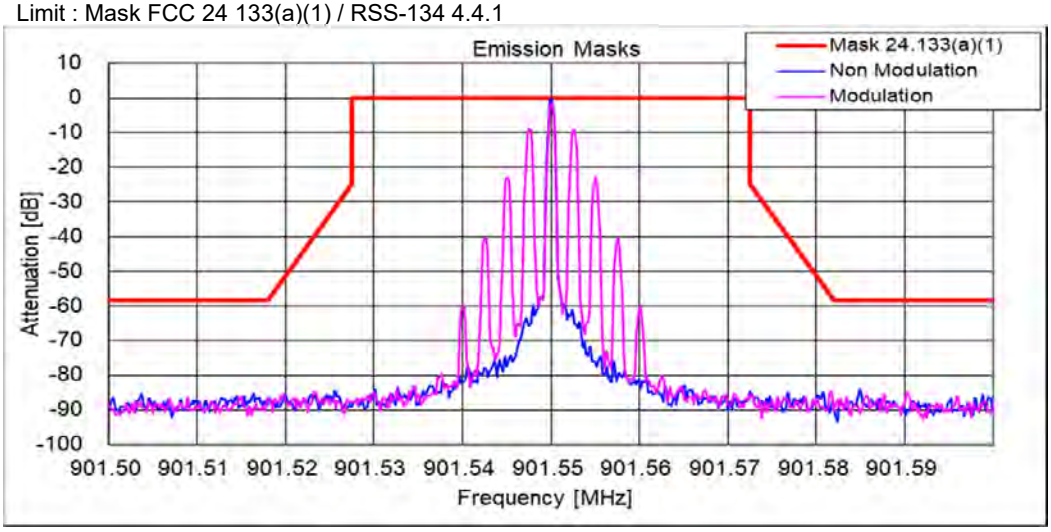
State : High Power / Authorized Bandwidth 13.6 kHz/ 11K0F3E / 896.05 MHz(Band 1)
Limit : Mask I



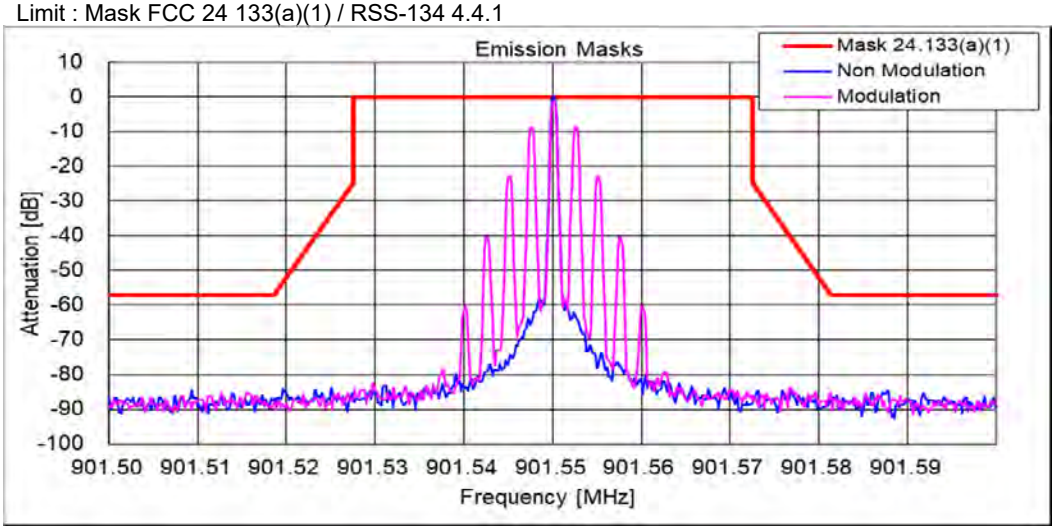
State : Low Power / Authorized Bandwidth 13.6 kHz/ 11K0F3E / 896.05 MHz(Band 1)
Limit : Mask I



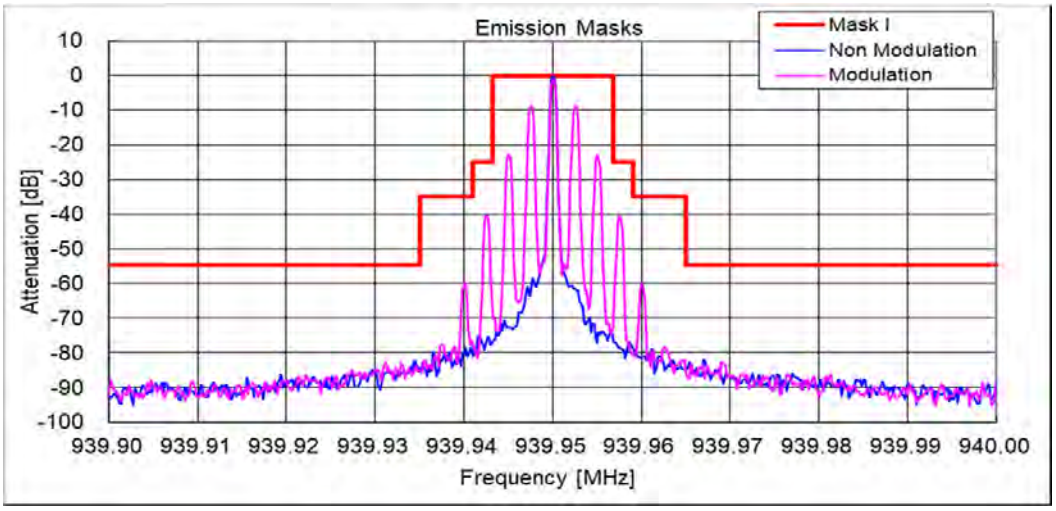
State : High Power / Authorized Bandwidth 45 kHz/ 11K0F3E / 901.55 MHz(Band 2)
Limit : Mask FCC 24 133(a)(1) / RSS-134 4.4.1



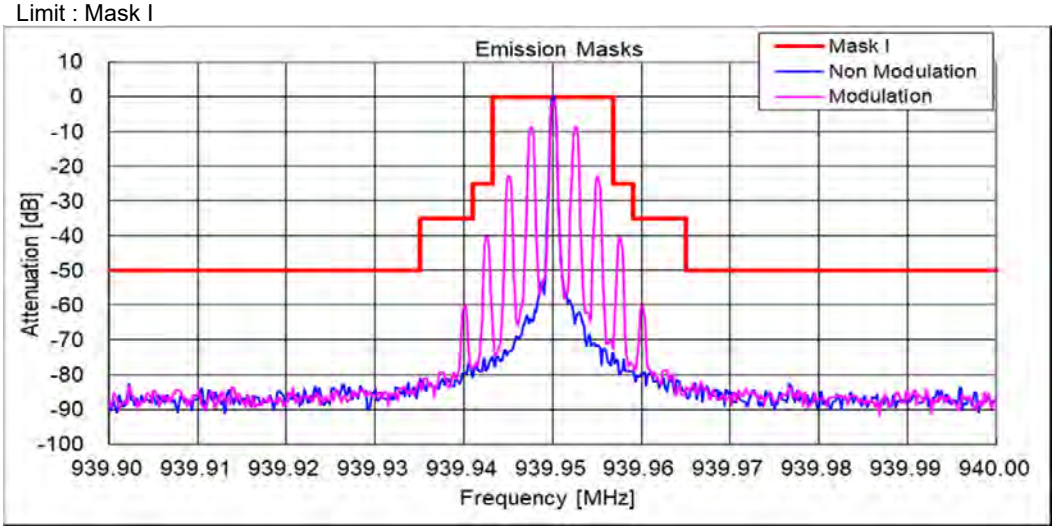
State : Low Power / Authorized Bandwidth 45 kHz/ 11K0F3E / 901.55 MHz(Band 2)
Limit : Mask FCC 24 133(a)(1) / RSS-134 4.4.1



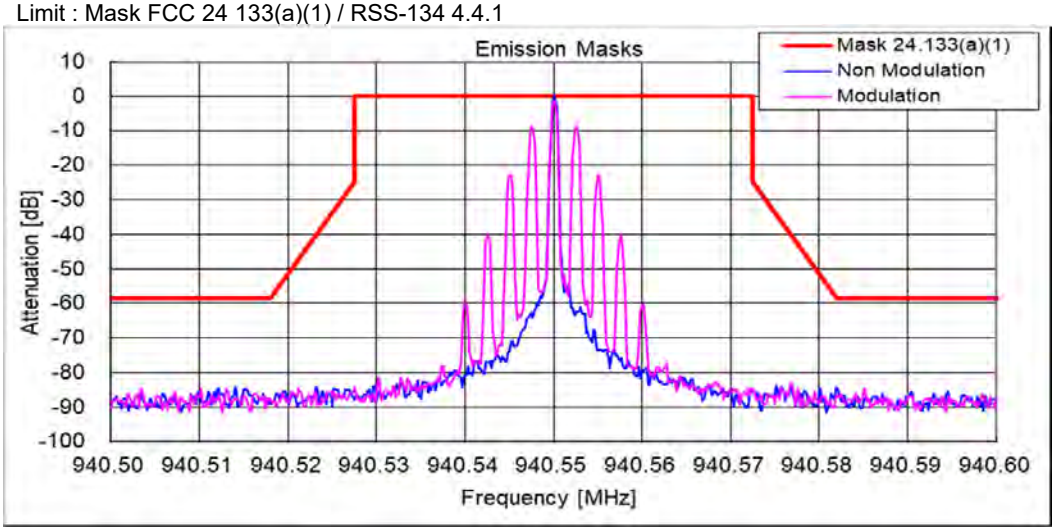
State : High Power / Authorized Bandwidth 13.6 kHz/ 11K0F3E / 939.95 MHz(Band 3)
Limit : Mask I



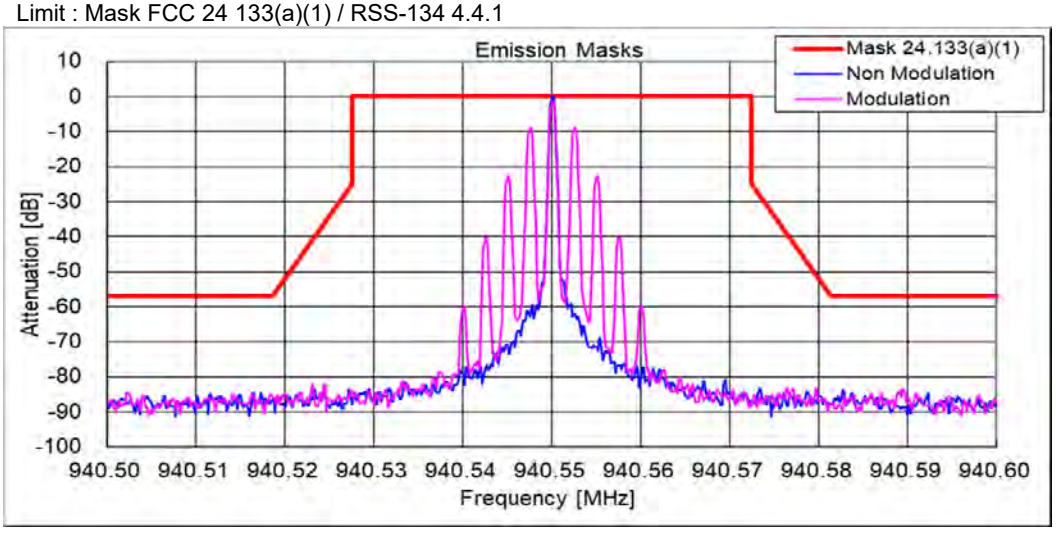
State : Low Power / Authorized Bandwidth 13.6 kHz/ 11K0F3E / 939.95 MHz(Band 3)
Limit : Mask I



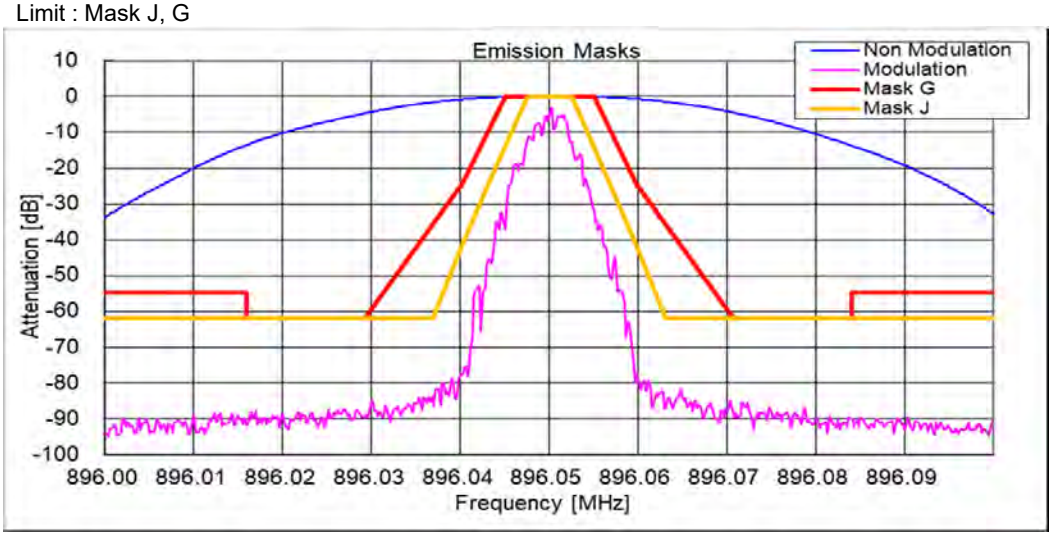
State : High Power / Authorized Bandwidth 45 kHz/ 11K0F3E / 940.55 MHz(Band 4)
Limit : Mask FCC 24 133(a)(1) / RSS-134 4.4.1



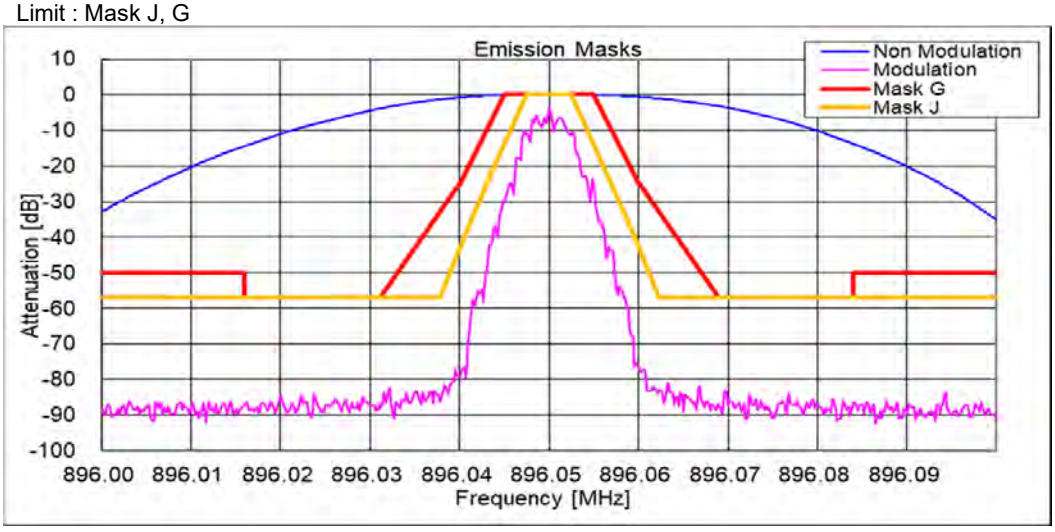
State : Low Power / Authorized Bandwidth 45 kHz/ 11K0F3E / 940.55 MHz(Band 4)
Limit : Mask FCC 24 133(a)(1) / RSS-134 4.4.1



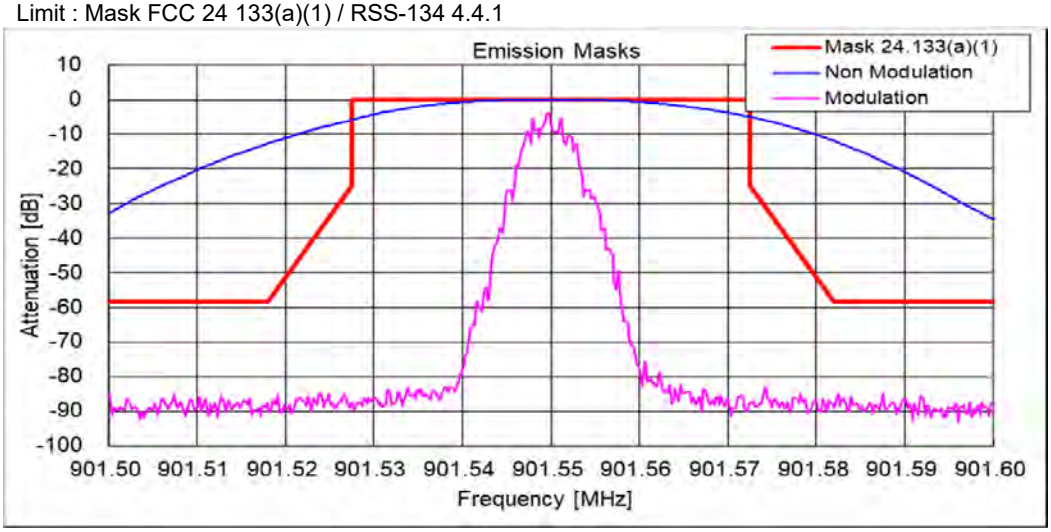
State : High Power / Authorized Bandwidth 13.6 kHz/ 8K30F1E/F1D/F7W / 896.05 MHz(Band 1)
Limit : Mask J, G



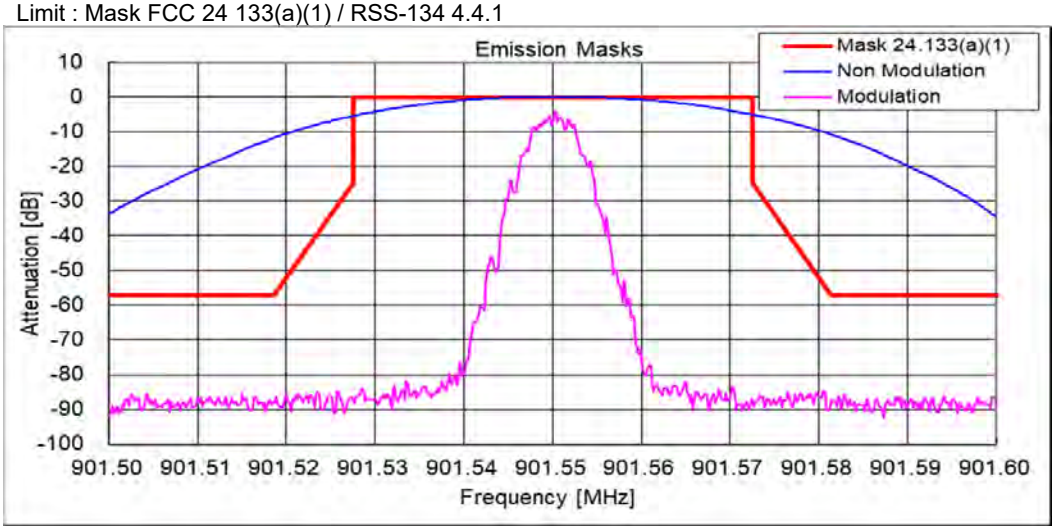
State : Low Power / Authorized Bandwidth 13.6 kHz/ 8K30F1E/F1D/F7W / 896.05 MHz(Band 1)
Limit : Mask J, G



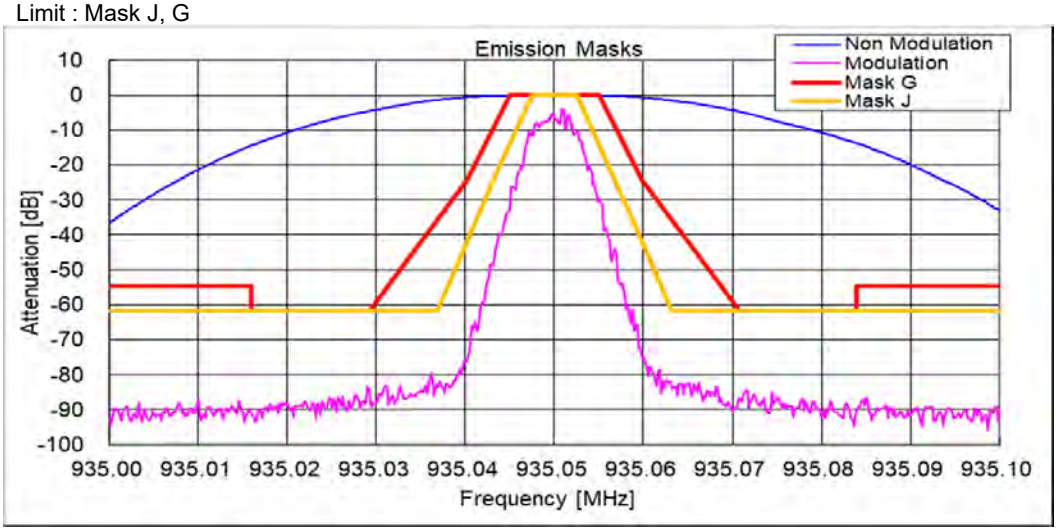
State : High Power / Authorized Bandwidth 45 kHz/ 8K30F1E/F1D/F7W / 901.55 MHz(Band 2)
Limit : Mask FCC 24 133(a)(1) / RSS-134 4.4.1



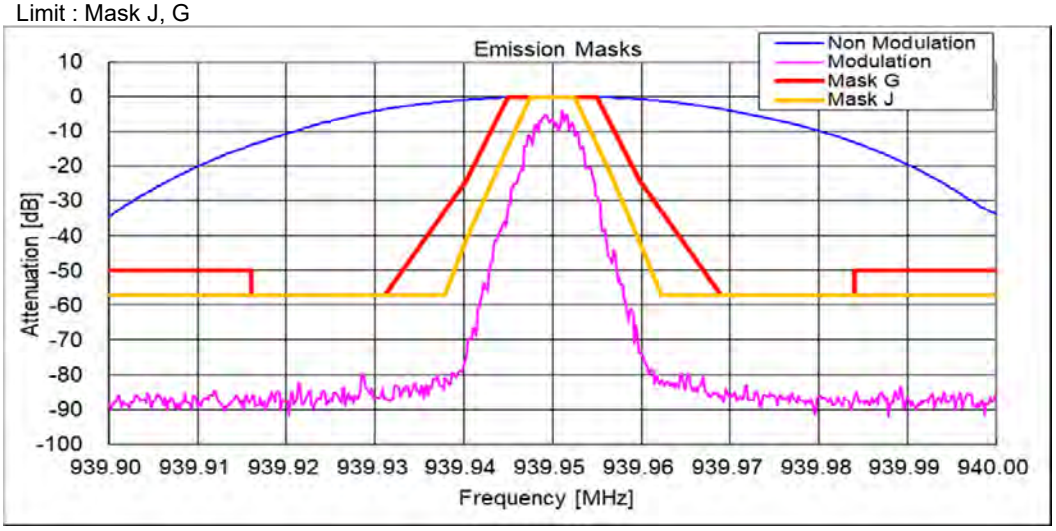
State : Low Power / Authorized Bandwidth 45 kHz/ 8K30F1E/F1D/F7W / 901.55 MHz(Band 2)
Limit : Mask FCC 24 133(a)(1) / RSS-134 4.4.1



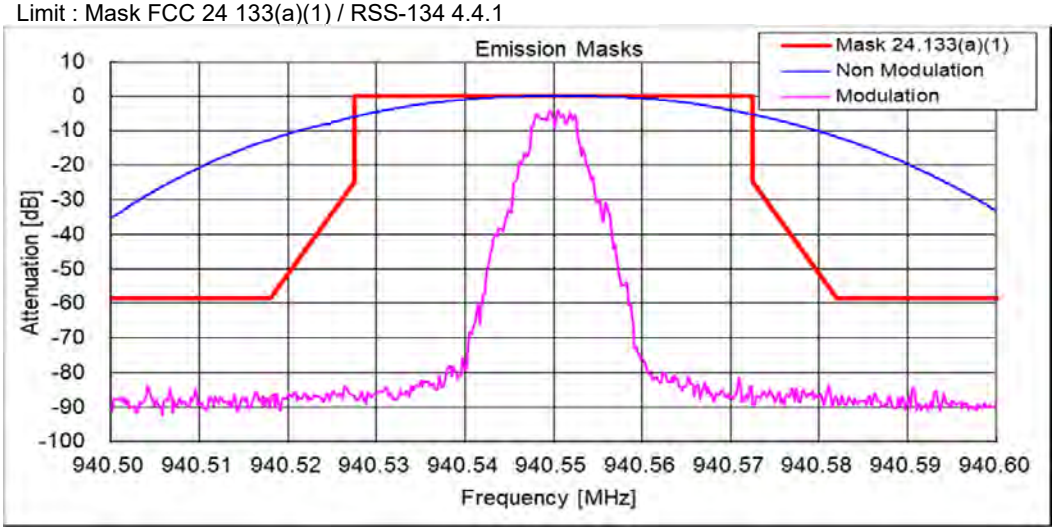
State : High Power/ Authorized Bandwidth 13.6 kHz/ 8K30F1E/F1D/F7W / 935.05 MHz(Band 3)
Limit : Mask J, G



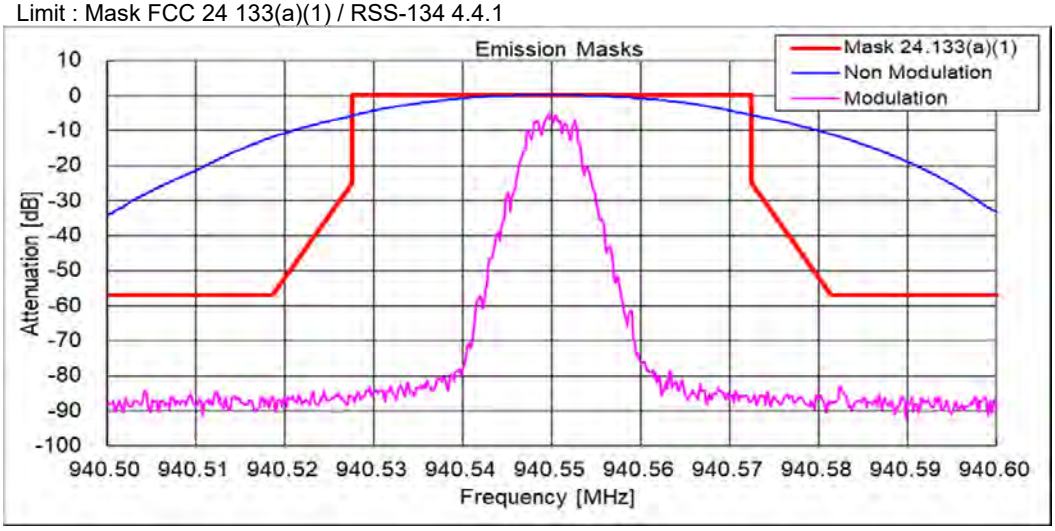
State : Low Power/ Authorized Bandwidth 13.6 kHz/ 8K30F1E/F1D/F7W / 939.95 MHz(Band 3)
Limit : Mask J, G



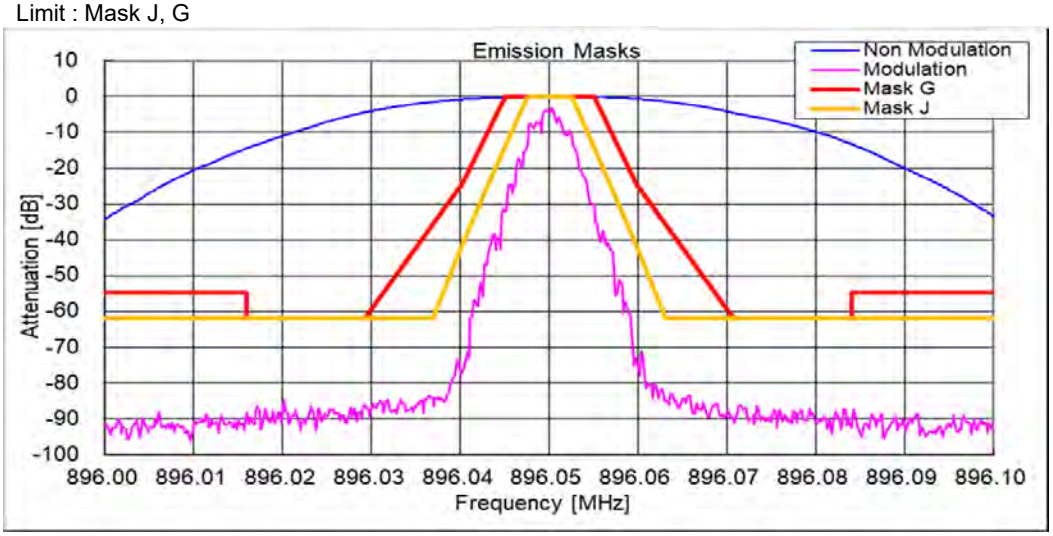
State : High Power / Authorized Bandwidth 45 kHz/ 8K30F1E/F1D/F7W / 940.55 MHz(Band 4)
Limit : Mask FCC 24 133(a)(1) / RSS-134 4.4.1



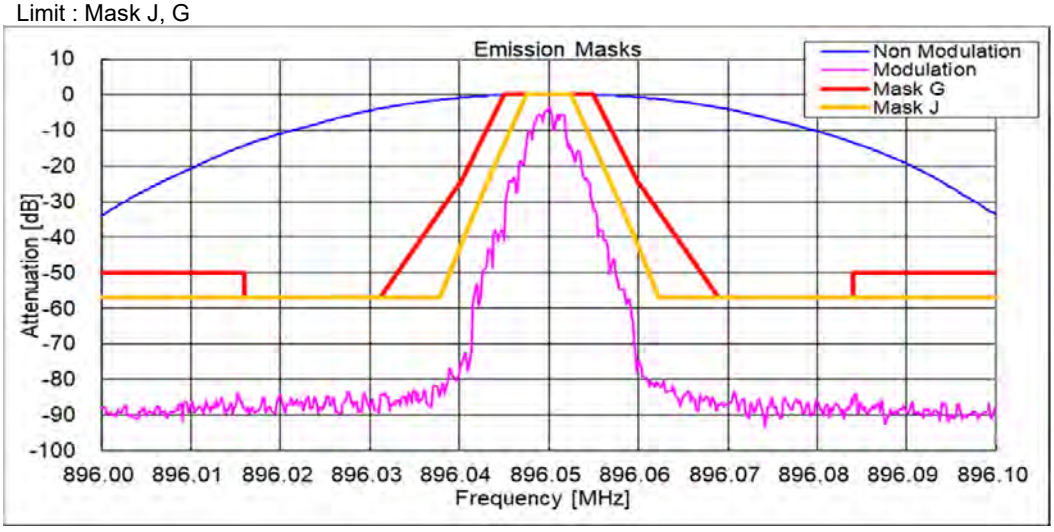
State : Low Power / Authorized Bandwidth 45 kHz/ 8K30F1E/F1D/F7W / 940.55 MHz(Band 4)
Limit : Mask FCC 24 133(a)(1) / RSS-134 4.4.1



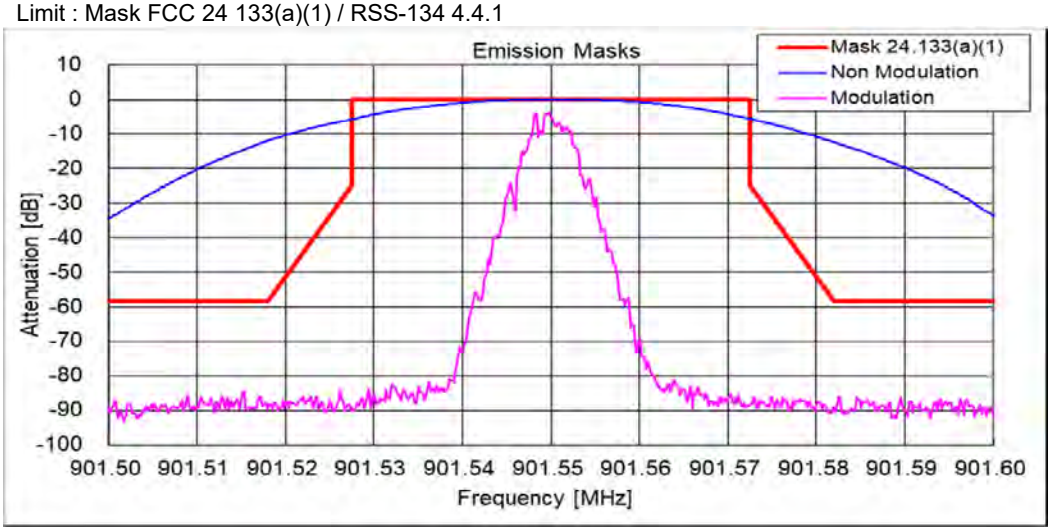
State : High Power / Authorized Bandwidth 13.6 kHz/ 7K60FXD/FXE / 896.05 MHz(Band 1)
Limit : Mask J, G



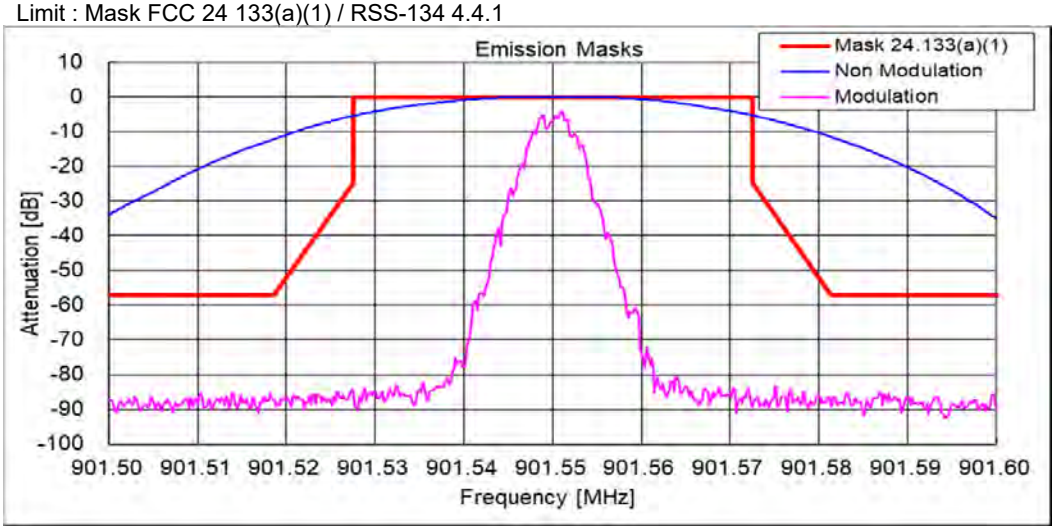
State : Low Power / Authorized Bandwidth 13.6 kHz/ 7K60FXD/FXE / 896.05 MHz(Band 1)
Limit : Mask J, G



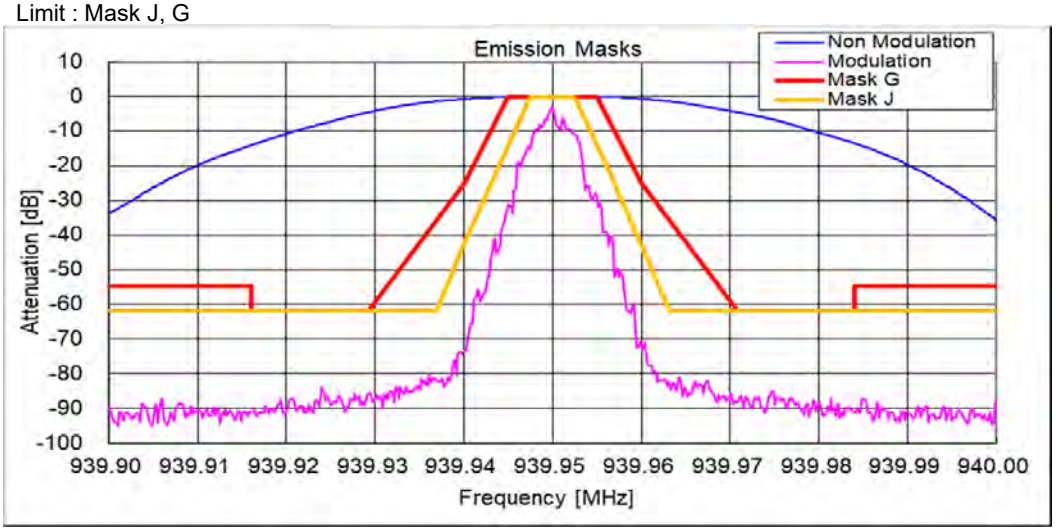
State : High Power / Authorized Bandwidth 45 kHz/ 7K60FXD/FXE / 901.55 MHz(Band 2)
Limit : Mask FCC 24 133(a)(1) / RSS-134 4.4.1



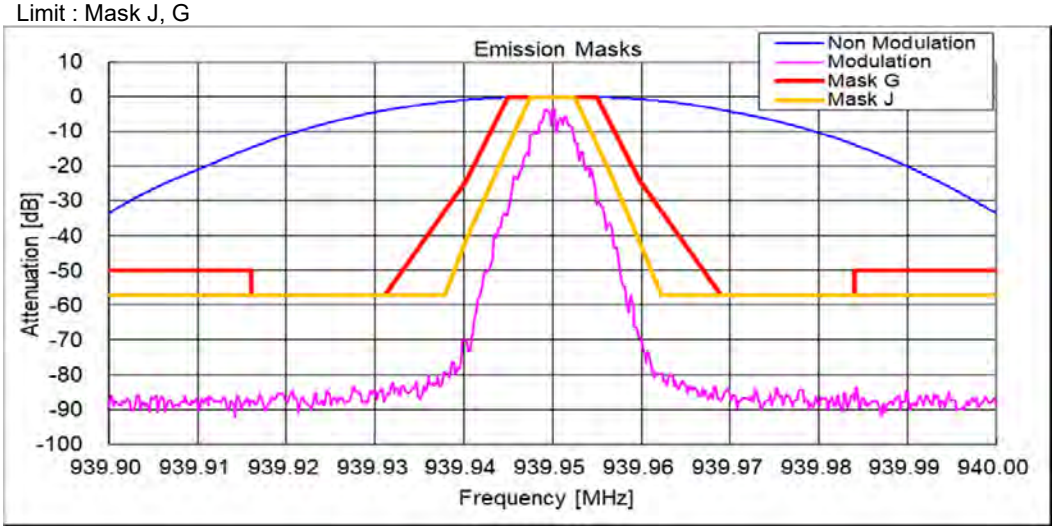
State : Low Power / Authorized Bandwidth 45 kHz/ 7K60FXD/FXE / 901.55 MHz(Band 2)
Limit : Mask FCC 24 133(a)(1) / RSS-134 4.4.1



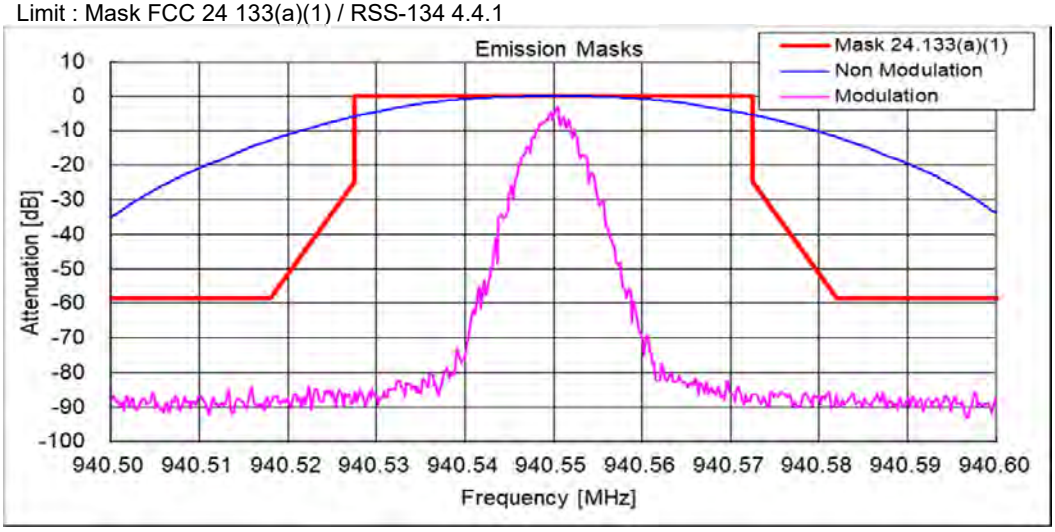
State : High Power / Authorized Bandwidth 13.6 kHz/ 7K60FXD/FXE / 939.95 MHz(Band 3)
Limit : Mask J, G



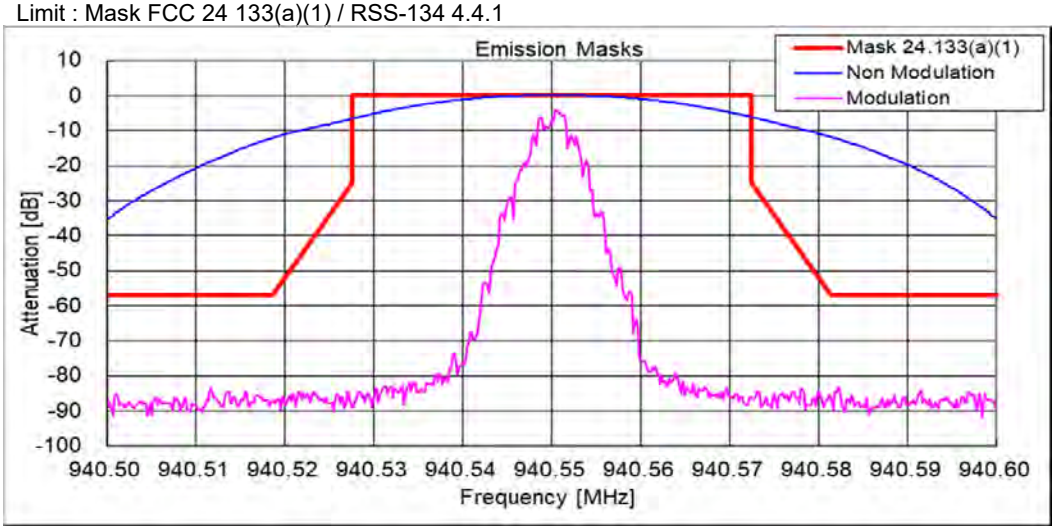
State : Low Power / Authorized Bandwidth 13.6 kHz/ 7K60FXD/FXE / 939.95 MHz(Band 3)
Limit : Mask J, G



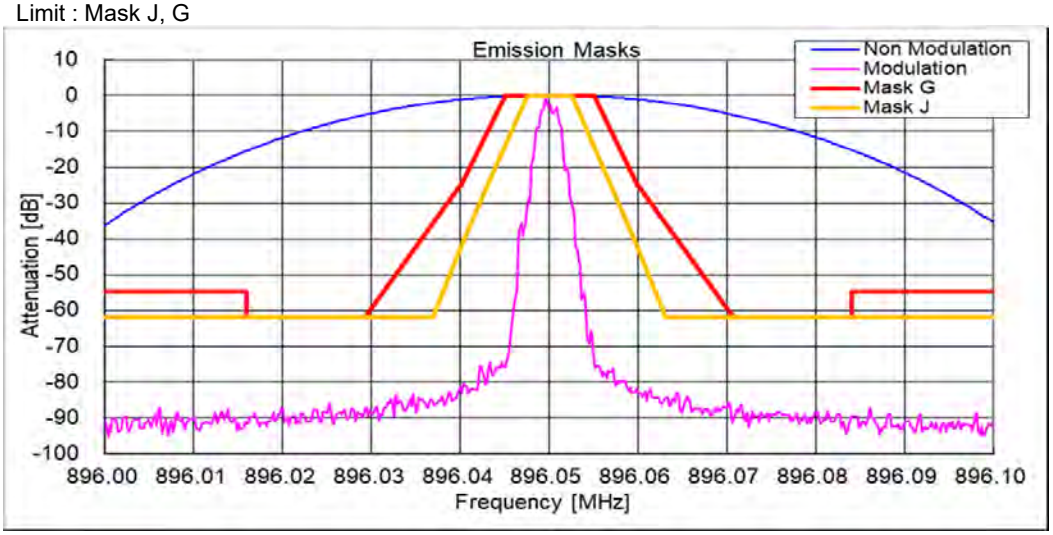
State : High Power / Authorized Bandwidth 45 kHz/ 7K60FXD/FXE / 940.55 MHz(Band 4)
Limit : Mask FCC 24 133(a)(1) / RSS-134 4.4.1



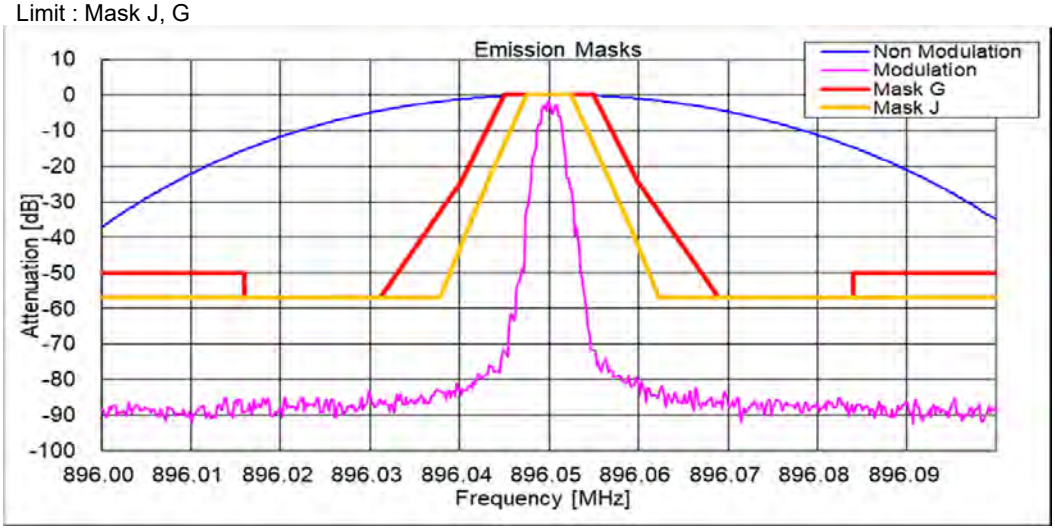
State : Low Power / Authorized Bandwidth 45 kHz/ 7K60FXD/FXE / 940.55 MHz(Band 4)
Limit : Mask FCC 24 133(a)(1) / RSS-134 4.4.1



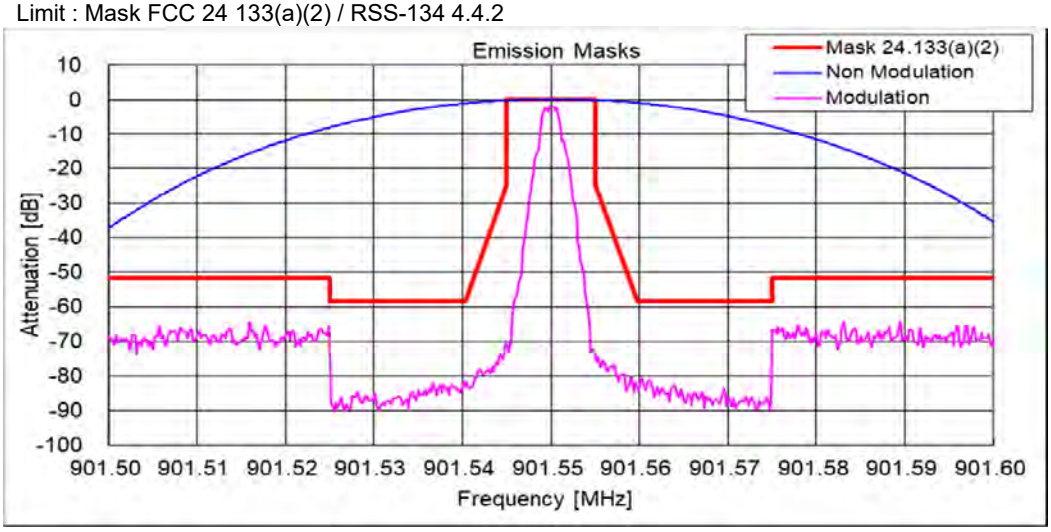
State : High Power / Authorized Bandwidth 13.6 kHz/ 4K00F1E / F1D / F7W / 896.05 MHz(Band 1)
Limit : Mask J, G



State : Low Power / Authorized Bandwidth 13.6 kHz/ 4K00F1E / F1D / F7W / 896.05 MHz(Band 1)
Limit : Mask J, G

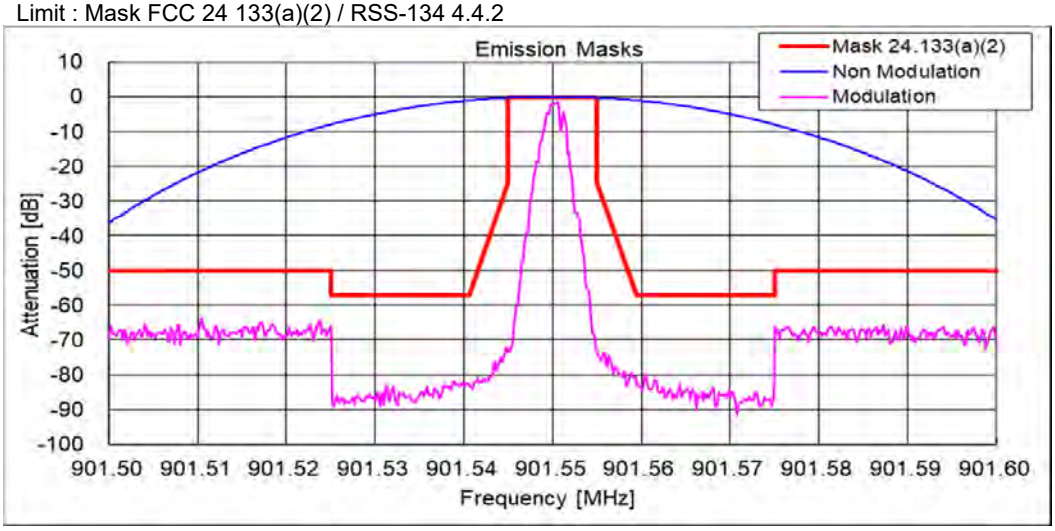


State : High Power / Authorized Bandwidth 10 kHz/ 4K00F1E / F1D / F7W / 901.55 MHz(Band 2)
Limit : Mask FCC 24 133(a)(2) / RSS-134 4.4.2



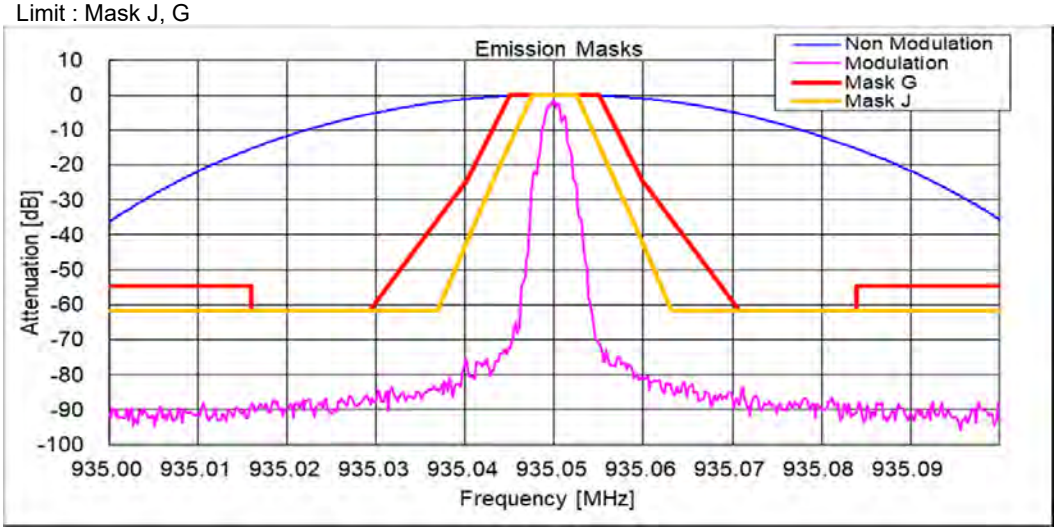
Regarding the frequency range of the 20kHz or more outside of the edge of authorized bandwidth, the trace is adjusted according to the following formula. 10*log(30kHz/300Hz) : 20 dB

State : Low Power / Authorized Bandwidth 10 kHz/ 4K00F1E / F1D / F7W / 901.55 MHz(Band 2)
Limit : Mask FCC 24 133(a)(2) / RSS-134 4.4.2

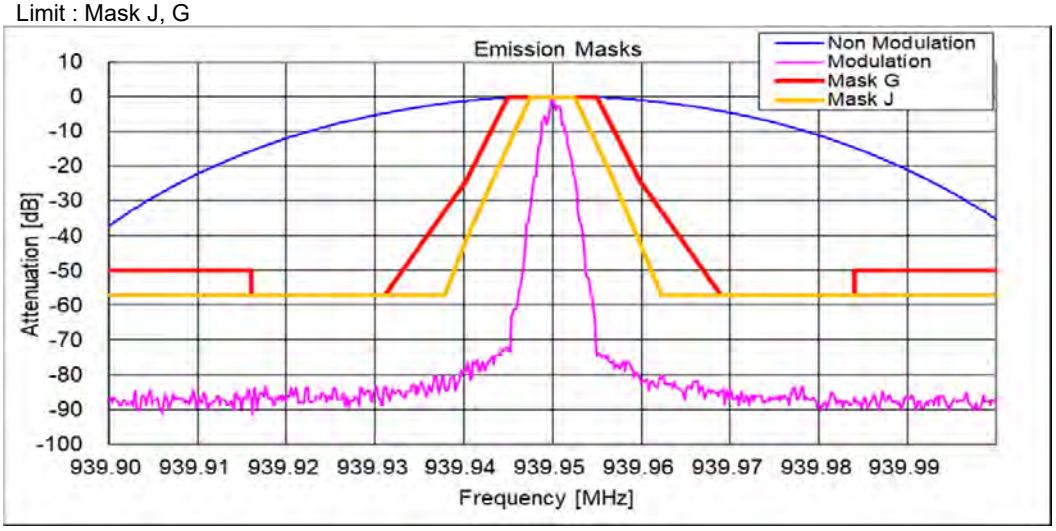


Regarding the frequency range of the 20kHz or more outside of the edge of authorized bandwidth, the trace is adjusted according to the following formula. 10*log(30kHz/300Hz) : 20 dB

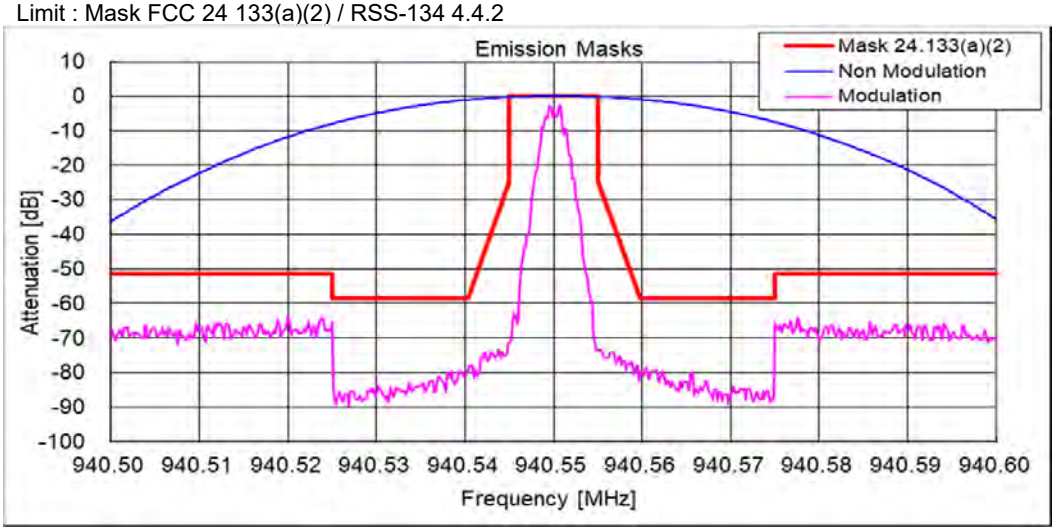
State : High Power / Authorized Bandwidth 13.6 kHz/ 4K00F1E / F1D / F7W / 935.05 MHz(Band 3)
Limit : Mask J, G



State : Low Power / Authorized Bandwidth 13.6 kHz/ 4K00F1E / F1D / F7W / 939.95 MHz(Band 3)
Limit : Mask J, G

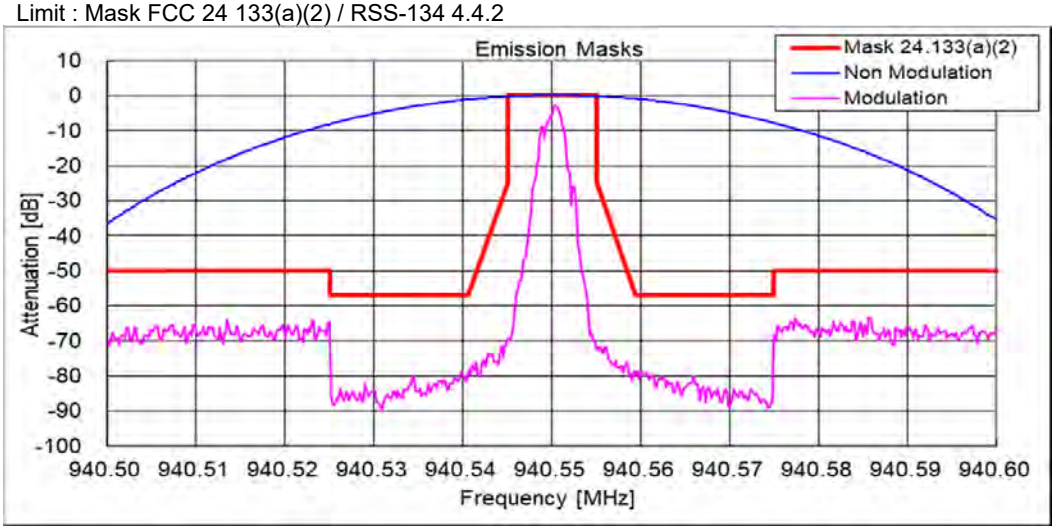


State : High Power / Authorized Bandwidth 10 kHz/ 4K00F1E / F1D / F7W / 940.55 MHz(Band 4)
Limit : Mask FCC 24 133(a)(2) / RSS-134 4.4.2



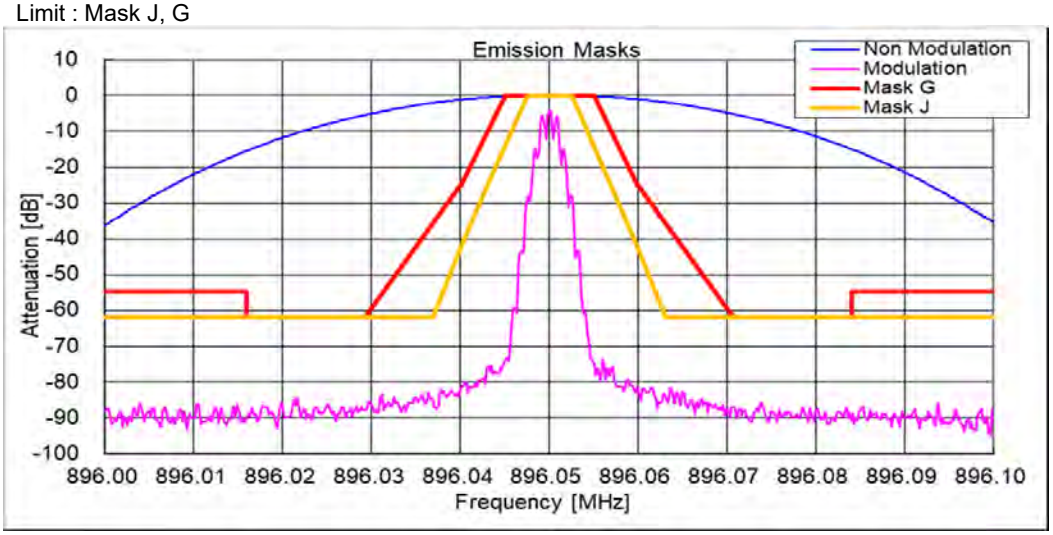
Regarding the frequency range of the 20kHz or more outside of the edge of authorized bandwidth, the trace is adjusted according to the following formula. 10*log(30kHz/300Hz) : 20 dB

State : Low Power / Authorized Bandwidth 10 kHz/ 4K00F1E / F1D / F7W / 940.55 MHz(Band 4)
Limit : Mask FCC 24 133(a)(2) / RSS-134 4.4.2

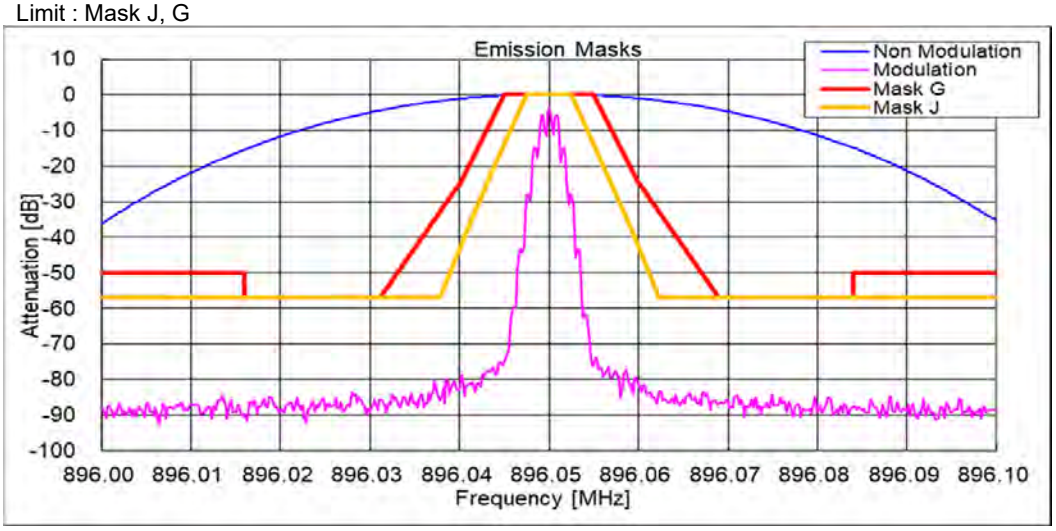


Regarding the frequency range of the 20kHz or more outside of the edge of authorized bandwidth, the trace is adjusted according to the following formula. 10*log(30kHz/300Hz) : 20 dB

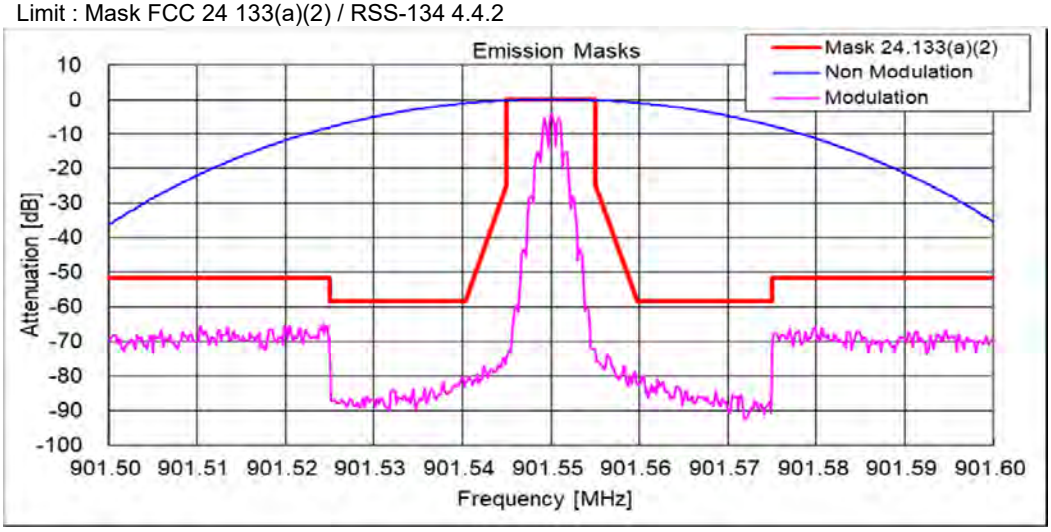
State : High Power / Authorized Bandwidth 13.6 kHz/ 4K00F2D / 896.05 MHz(Band 1)
Limit : Mask J, G



State : Low Power / Authorized Bandwidth 13.6 kHz/ 4K00F2D / 896.05 MHz(Band 1)
Limit : Mask J, G

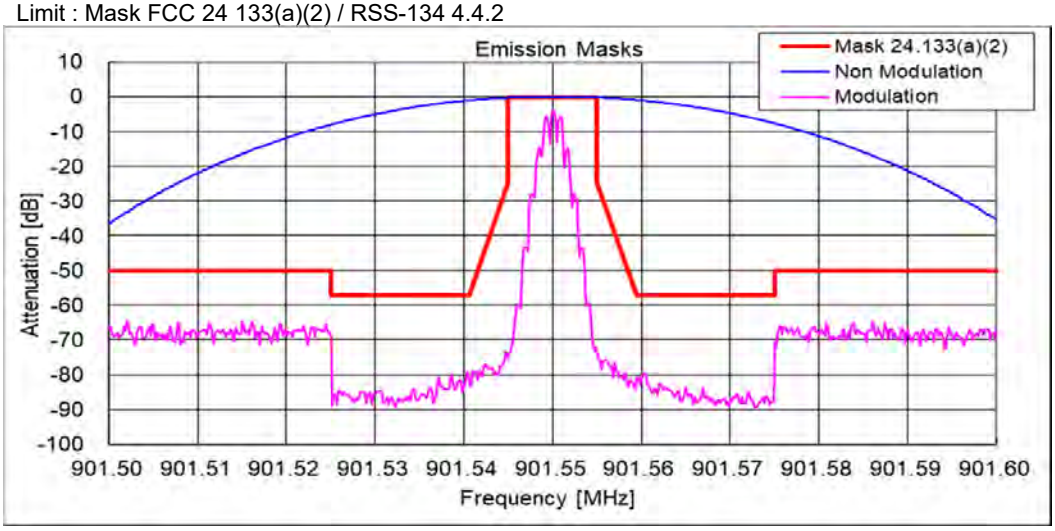


State : High Power / Authorized Bandwidth 10 kHz/ 4K00F2D / 901.55 MHz(Band 2)
Limit : Mask FCC 24 133(a)(2) / RSS-134 4.4.2



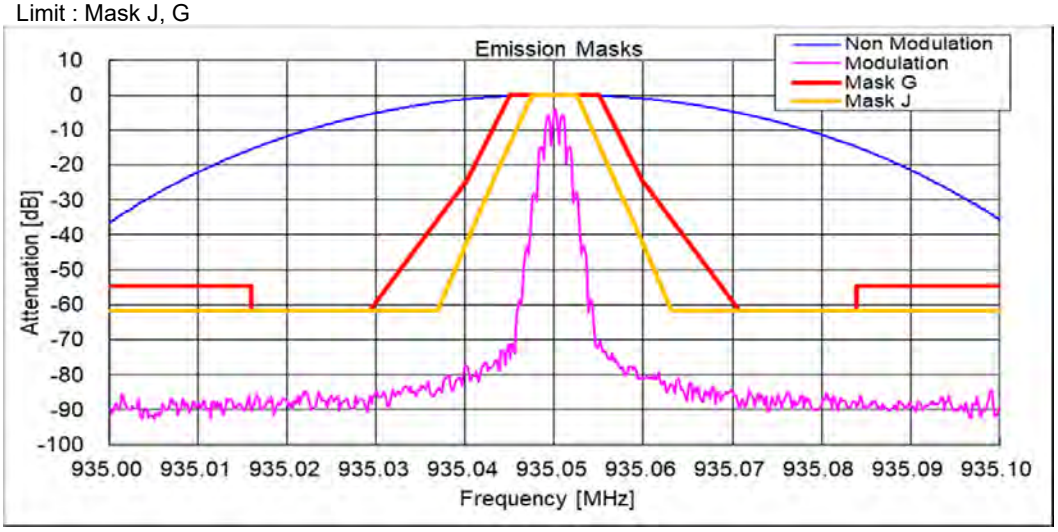
Regarding the frequency range of the 20kHz or more outside of the edge of authorized bandwidth, the trace is adjusted according to the following formula. 10*log(30kHz/300Hz) : 20 dB

State : Low Power / Authorized Bandwidth 10 kHz/ 4K00F2D / 901.55 MHz(Band 2)
Limit : Mask FCC 24 133(a)(2) / RSS-134 4.4.2

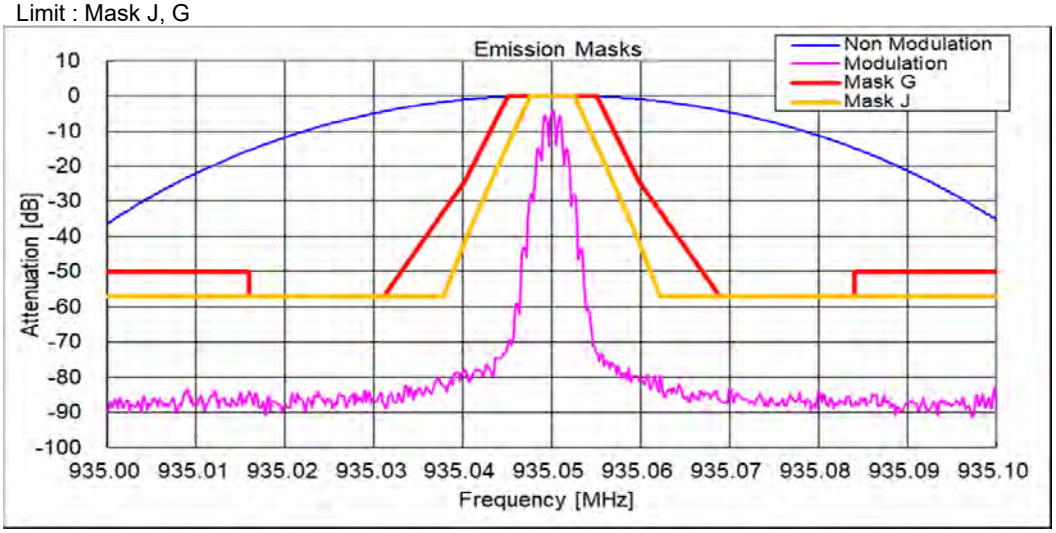


Regarding the frequency range of the 20kHz or more outside of the edge of authorized bandwidth, the trace is adjusted according to the following formula. 10*log(30kHz/300Hz) : 20 dB

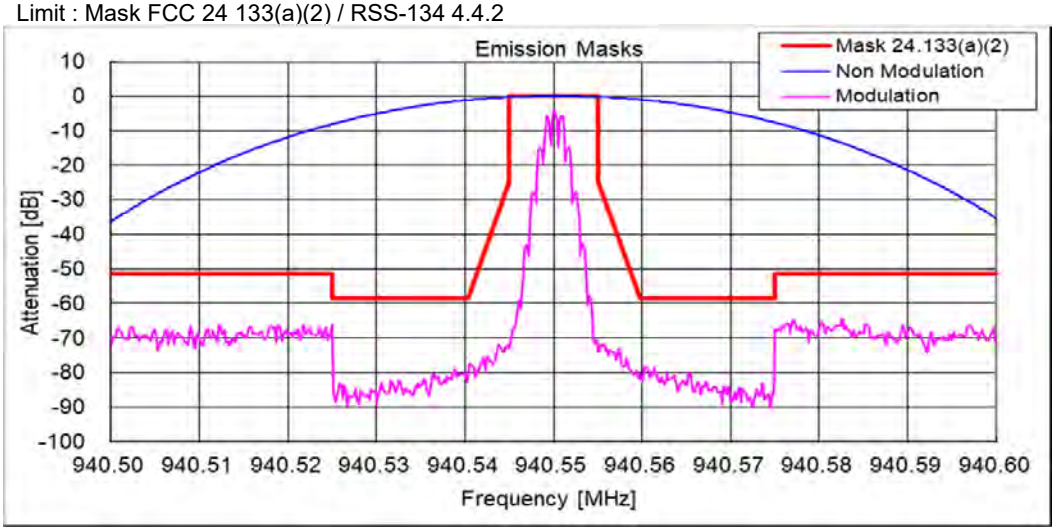
State : High Power / Authorized Bandwidth 13.6 kHz/ 4K00F2D / 935.05 MHz(Band 3)
Limit : Mask J, G



State : Low Power / Authorized Bandwidth 13.6 kHz/ 4K00F2D / 935.05 MHz(Band 3)
Limit : Mask J, G

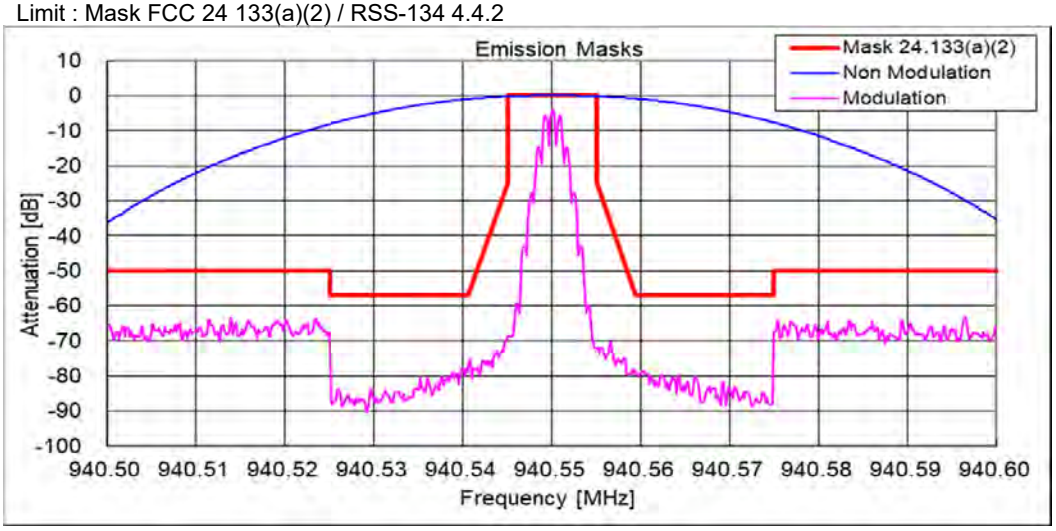


State : High Power / Authorized Bandwidth 10 kHz/ 4K00F2D / 940.55 MHz(Band 4)
Limit : Mask FCC 24 133(a)(2) / RSS-134 4.4.2



Regarding the frequency range of the 20kHz or more outside of the edge of authorized bandwidth, the trace is adjusted according to the following formula. 10*log(30kHz/300Hz) : 20 dB

State : Low Power / Authorized Bandwidth 10 kHz/ 4K00F2D / 940.55 MHz(Band 4)
Limit : Mask FCC 24 133(a)(2) / RSS-134 4.4.2



Regarding the frequency range of the 20kHz or more outside of the edge of authorized bandwidth, the trace is adjusted according to the following formula. 10*log(30kHz/300Hz) : 20 dB

10.5 Audio Frequency Response / Audio Low Pass Filter (Voice Input)

REGULATIONS	: FCC Part 2 Section 1047 (a)
TEST METHOD/GUIDE	: ANSI/TIA-603-E Section 2.2.6.2.2, 3.2.6.2

Test Procedure

1 The EUT and test equipment were set up as shown on the following page.
2 Adjust the Modulation Analyzer for the following setting:
a) High-pass filter : 50 Hz
b) Low-pass filter : 15 kHz
c) Detector : positive peak
d) Function : FM
3 The audio signal input was adjusted to obtain 20 % modulation at 1 kHz, and this point was taken as the 0 dB reference level.
4 With input levels held constant and below limiting at all frequencies, the audio signal generator was varied from 100 Hz to 5 kHz.
5 The response in dB relative to 1 kHz was then measured, using the Modulation Analyzer.

Measuring Equipments

No.	Equipment	Manufacture	Model No.	Serial No.	Cal. Interval	Effective period
1	Attenuator (20dB)	Aeroflex/Wenshel	66-20-34	BY4357	1Y	Jul. 31, 19
2	Attenuator (30dB)	Weinschel	WA-29-30-34	8923	1Y	Jul. 31, 19
3	Modulation Analyzer	Hewlett Packard	8901B	3403A04852	1Y	Dec. 31, 18
4	Audio Generator	Anritsu	MG443B	M70150	1Y	Sep. 30, 19
5	Audio Analyzer	Hewlett Packard	8903B	2948A07326	1Y	Mar. 31, 19
6	DC Power Supply	Daiichi denpa kogyo	GZV4000	90290931	None	None
7	Digital Multi Meter	FLUKE	8846A	9642018	1Y	Sep. 30, 19

Measuring Cables

No.	Cable	Manufacture	Model No.	Serial No.	Cal. Interval	Effective period
W2	Balance Cable	Nicoon	3D-2V	KSR00092	1Y	Feb. 28, 19
W4	Coaxial Cable	Pacific custom	RG-58 C/U	KSR00096	1Y	Feb. 28, 19
W3	Coaxial Cable	Pacific custom	RG-58 C/U	AM90C04	1Y	Feb. 28, 19

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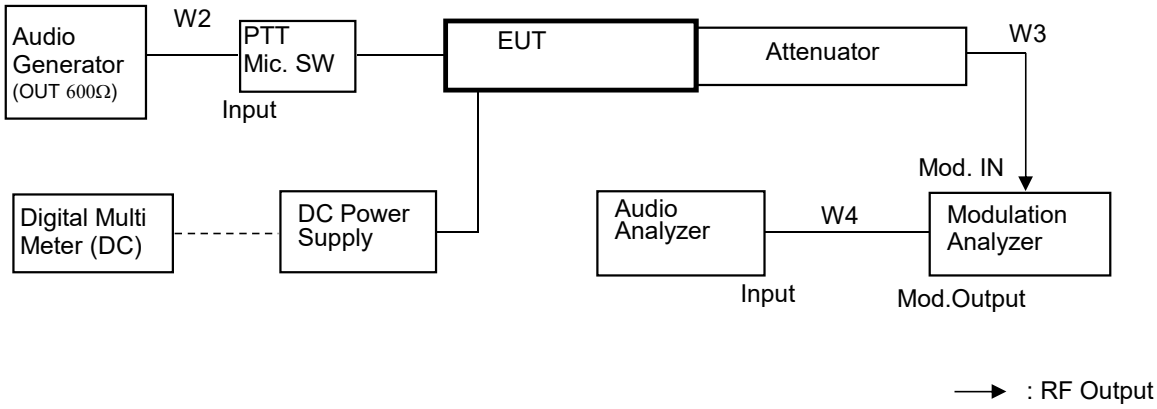
Measuring Equipment Configuration

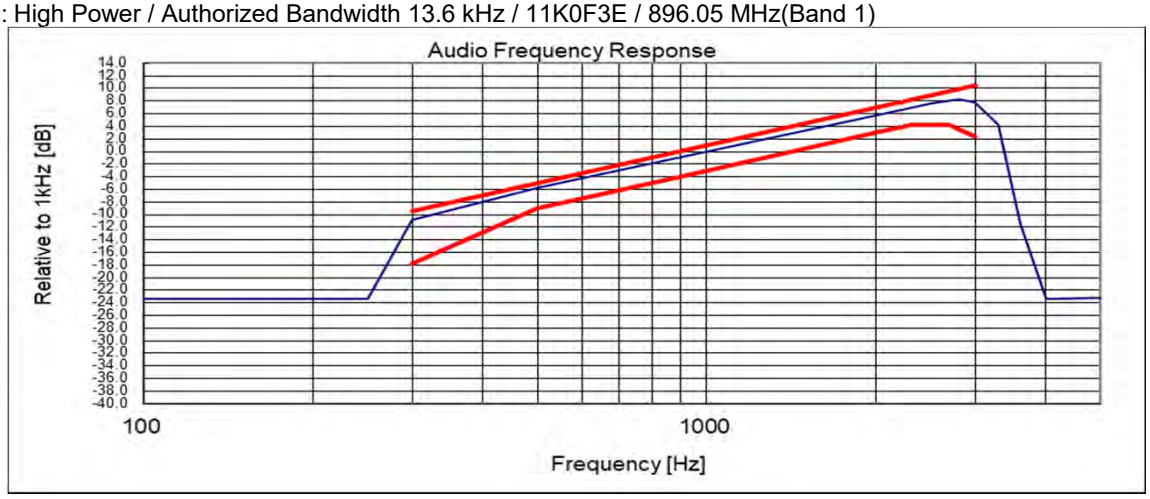


Test Results

Test date	Nov 19, 2018	
Location	Kashima No.12 Test Site	
temperature	25.7	[degree C]
Humidity Variation	47	[%]
Atmospheric Pressure	100.9	[kPa]
Test Engineer	Koichi Wagatsuma	

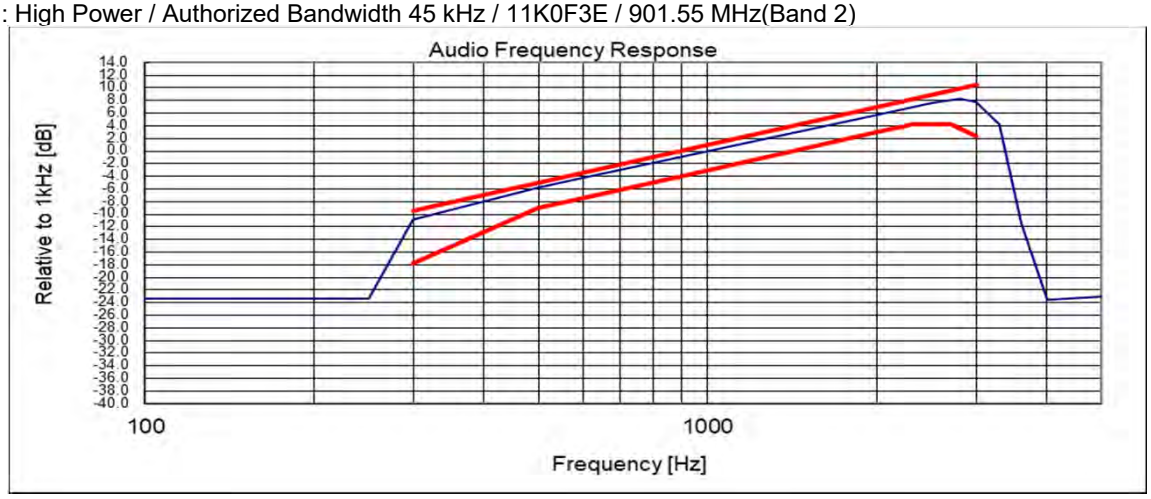
Test was carried out for all the frequency band of section 10.1
State the worst case (below).

State : High Power / Authorized Bandwidth 13.6 kHz / 11K0F3E / 896.05 MHz(Band 1)



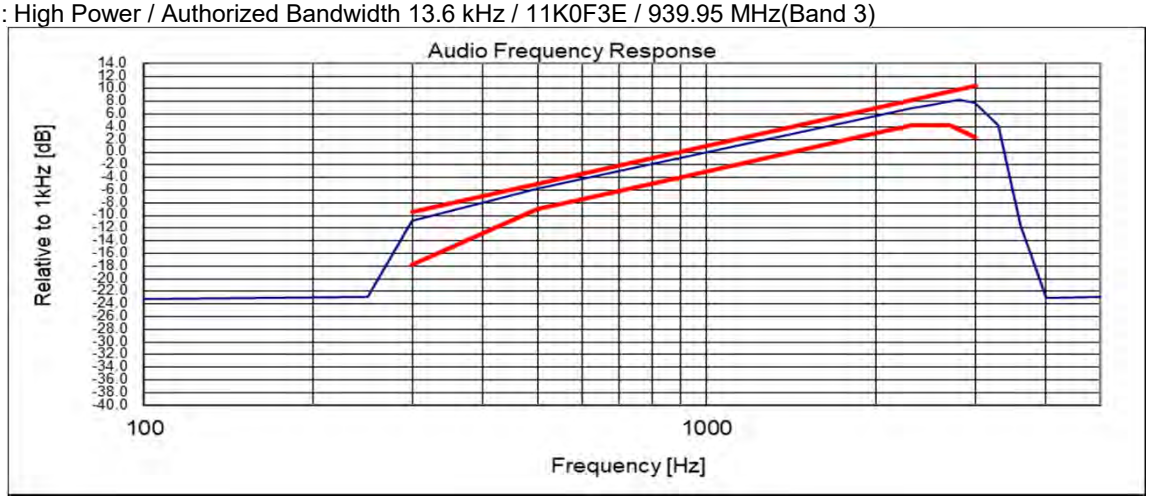
Note:
Audio Filter of the above result is substituted with the same structure as Audio Frequency Response.
On the transmission condition below 3kHz,
Transceiver shows pre-emphasis condition of transmission function.
On the transmission condition above 3kHz, Transceiver shows Audio Low Pass Filter.

State : High Power / Authorized Bandwidth 45 kHz / 11K0F3E / 901.55 MHz(Band 2)



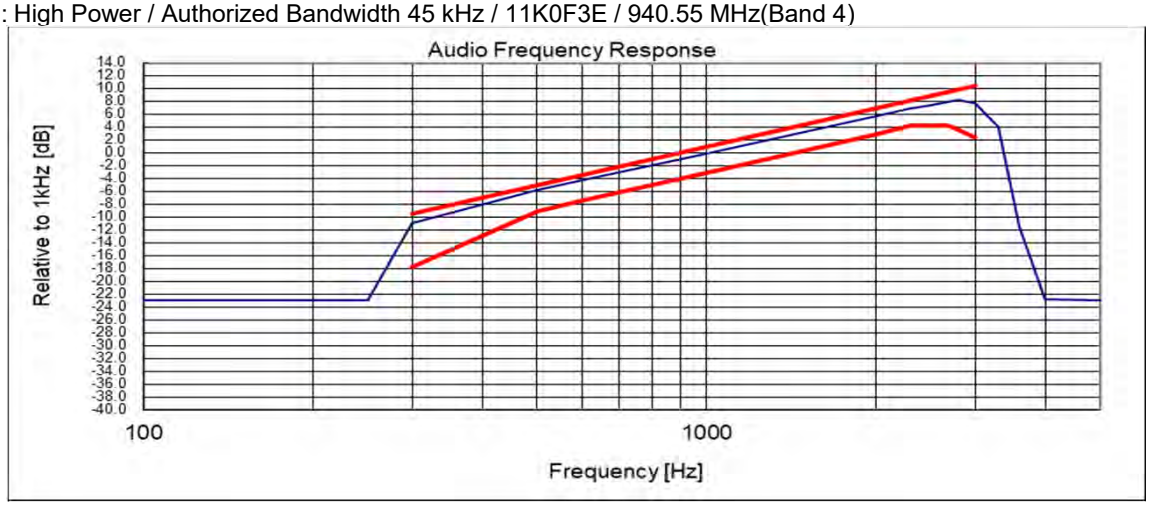
Note:
Audio Filter of the above result is substituted with the same structure as Audio Frequency Response.
On the transmission condition below 3kHz,
Transceiver shows pre-emphasis condition of transmission function.
On the transmission condition above 3kHz, Transceiver shows Audio Low Pass Filter.

State : High Power / Authorized Bandwidth 13.6 kHz / 11K0F3E / 939.95 MHz(Band 3)



Note:
Audio Filter of the above result is substituted with the same structure as Audio Frequency Response.
On the transmission condition below 3kHz,
Transceiver shows pre-emphasis condition of transmission function.
On the transmission condition above 3kHz, Transceiver shows Audio Low Pass Filter.

State : High Power / Authorized Bandwidth 45 kHz / 11K0F3E / 940.55 MHz(Band 4)



Note:
Audio Filter of the above result is substituted with the same structure as Audio Frequency Response.
On the transmission condition below 3kHz,
Transceiver shows pre-emphasis condition of transmission function.
On the transmission condition above 3kHz, Transceiver shows Audio Low Pass Filter.

10.6 Modulation Limiting

REGULATIONS	: FCC Part 2 Section 1047 (b)
TEST METHOD/GUIDE	: ANSI/TIA-603-E Section 2.2.3.2, 1.3.4.4

Test Procedure

1 The EUT and test equipment were set up as shown on the following page.
2 Adjust the Modulation Analyzer for the following setting:
a) High-pass filter : off
b) Low-pass filter : 15 kHz
c) Detector : positive peak
d) Function : FM
3 Apply a 1kHz modulation signal to the transmitter from the audio generator, and adjust the level to obtain 60% of full rated system deviation.
4 Measure the modulation frequency that was showed on the Modulation Analyzer when the output levels of the Audio Generator were changed from -20 dB to +50 dB by 10 dB.
5 Set the output frequencies of the Audio Generator 300 Hz and 3 kHz, and repeat test procedure 4.
6 Set the Detector of the Modulation Analyzer Negative Peak.
7 Repeat test procedure 4 and 5.

Measuring Equipments

No.	Equipment	Manufacture	Model No.	Serial No.	Cal. Interval	Effective period
1	Attenuator (20dB)	Aeroflex/Wenshel	66-20-34	BY4357	1Y	Jul. 31, 19
2	Attenuator (30dB)	Weinschel	WA-29-30-34	8923	1Y	Jul. 31, 19
3	Modulation Analyzer	Hewlett Packard	8901B	3403A04852	1Y	Dec. 31, 18
4	Audio Generator	Anritsu	MG443B	M70150	1Y	Sep. 30, 19
5	DC Power Supply	Daiichi denpa kogyo	GZV4000	90290931	None	None
4	Digital Multi Meter	FLUKE	8846A	9642018	1Y	Sep. 30, 19

Measuring Cables

No.	Cable	Manufacture	Model No.	Serial No.	Cal. Interval	Effective period
W2	Balance Cable	Nicoon	3D-2V	KSR00092	1Y	Feb. 28, 19
W3	Coaxial Cable	Pacific custom	RG-58 C/U	AM90C04	1Y	Feb. 28, 19

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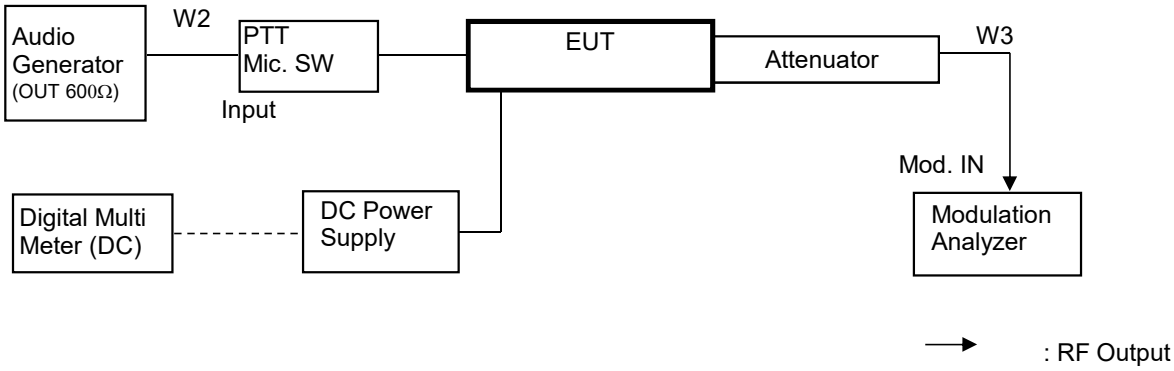
Measuring Equipment Configuration

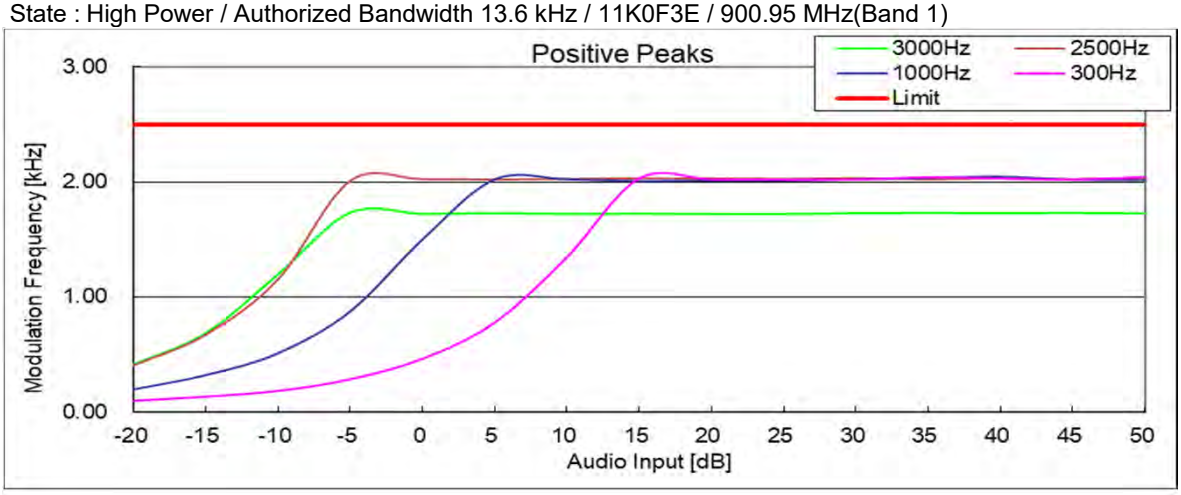


Test Results

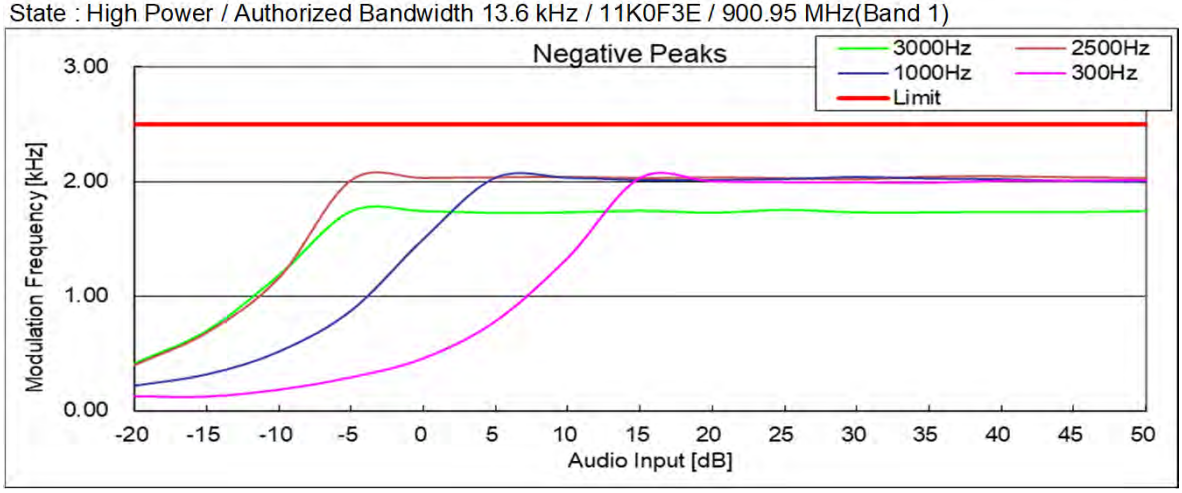
Test date	Nov. 19, 2018	
Location	Kashima No.12 Test Site	
temperature	24.7	[degree C]
Humidity Variation	45	[%]
Atmospheric Pressure	100.9	[kPa]
Test Engineer	Koichi Wagatsuma	

Test was carried out for all the frequency band of section 10.1
State the worst case (below).

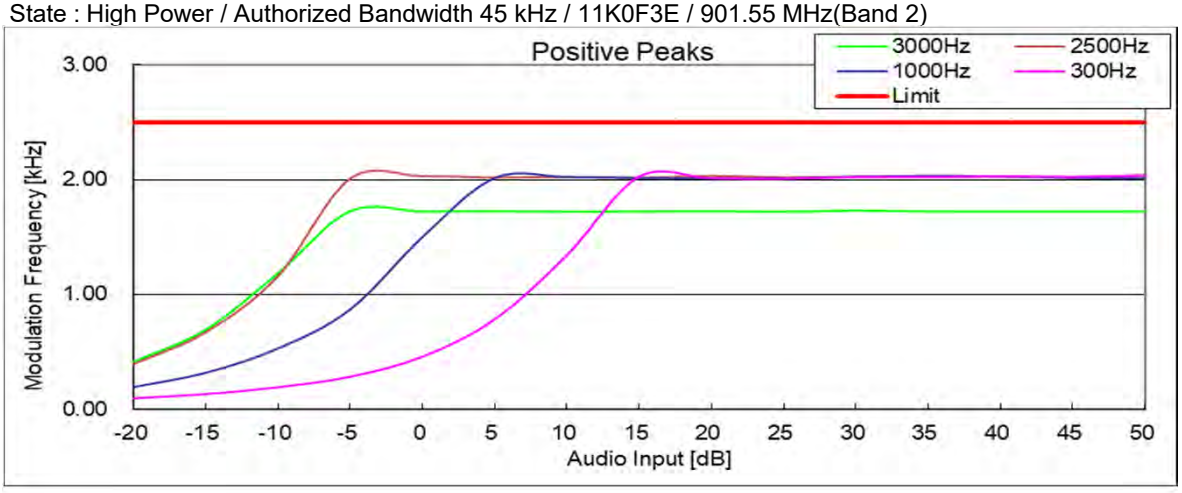
State : High Power / Authorized Bandwidth 13.6 kHz / 11K0F3E / 900.95 MHz(Band 1)



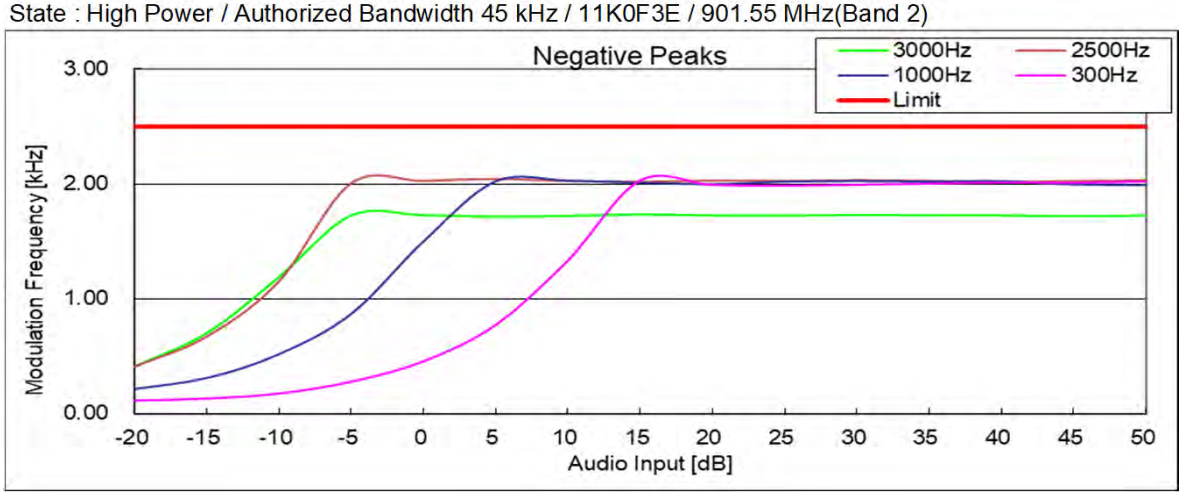
State : High Power / Authorized Bandwidth 13.6 kHz / 11K0F3E / 900.95 MHz(Band 1)



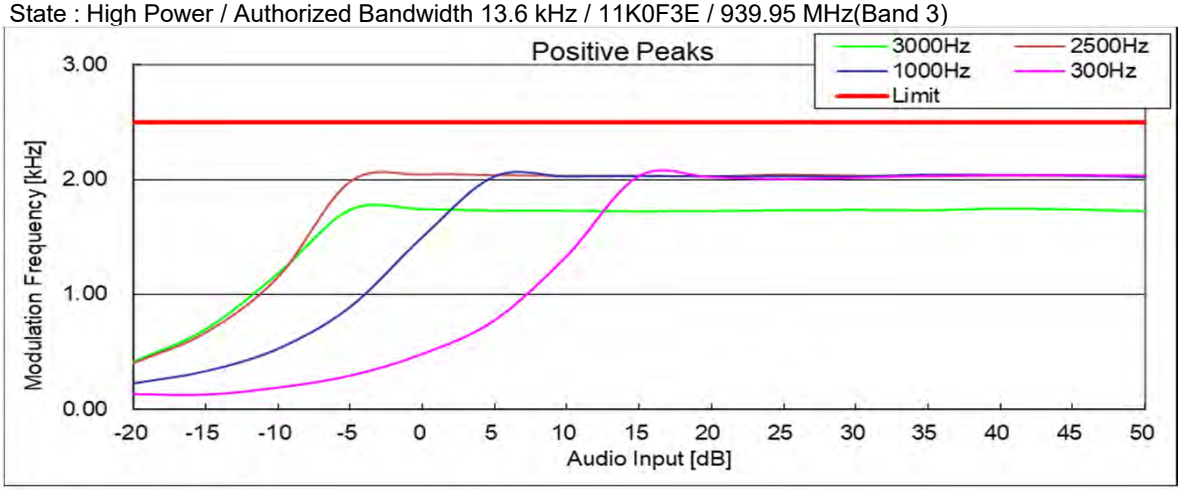
State : High Power / Authorized Bandwidth 45 kHz / 11K0F3E / 901.55 MHz(Band 2)



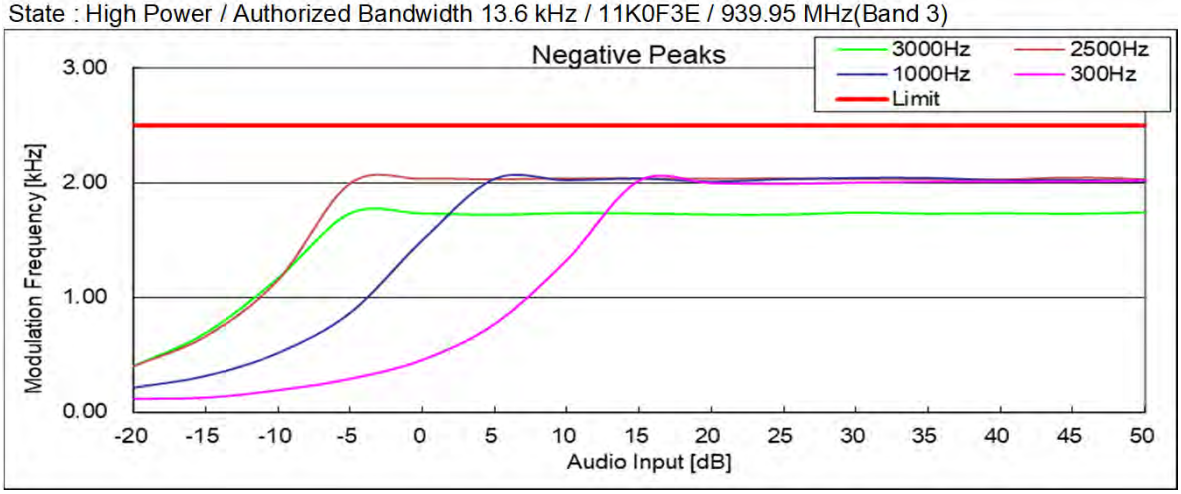
State : High Power / Authorized Bandwidth 45 kHz / 11K0F3E / 901.55 MHz(Band 2)



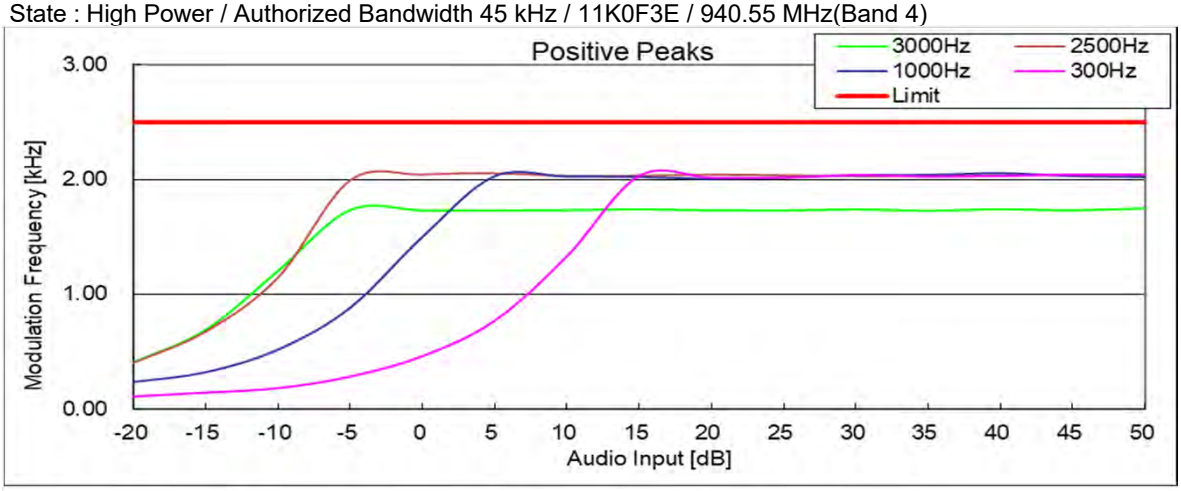
State : High Power / Authorized Bandwidth 13.6 kHz / 11K0F3E / 939.95 MHz(Band 3)



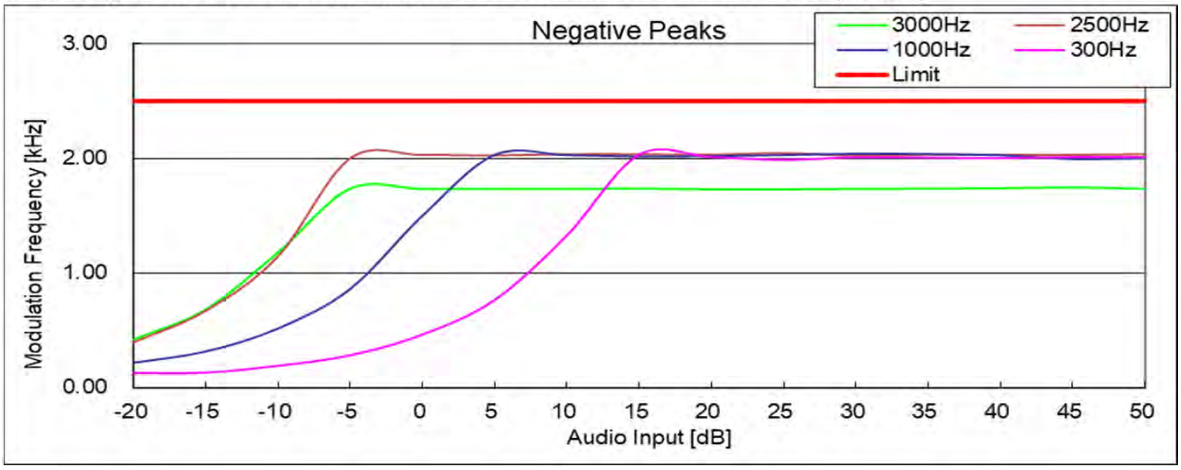
State : High Power / Authorized Bandwidth 13.6 kHz / 11K0F3E / 939.95 MHz(Band 3)



State : High Power / Authorized Bandwidth 45 kHz / 11K0F3E / 940.55 MHz(Band 4)



State : High Power / Authorized Bandwidth 45 kHz / 11K0F3E / 940.55 MHz(Band 4)



10.7 Frequency Stability (Temperature Variation)

REGULATIONS	:	FCC Part 2 Section 1055 (a) (1), Part 90 Section 213(a) / RSS-119 Section 5.3 FCC Part24 Section 135(a) / RSS-134 Section 4.5
TEST METHOD/GUIDE	:	ANSI/TIA-603-E Section 2.2.2.2 / RSS-Gen Section 6.11

Test Procedure

1 The EUT and test equipment were set up as shown on the following page.
2 Set the temperature -30 degrees C.
3 Leave the EUT for 1 hour after it became the temperature that was set up.
4 Make the EUT the transmitting state.
measure the output frequency.
5 Make the EUT the receiving state.
6 Set the temperature 50 degrees C by 10 degrees C.
And repeat test procedure 4 to 6.

Measuring Equipments

No.	Equipment	Manufacture	Model No.	Serial No.	Cal. Interval	Effective period
1	Attenuator (20dB)	Aeroflex/Wenshel	66-20-34	BY4357	1Y	Jul. 31, 19
2	Attenuator (30dB)	Weinschel	WA-29-30-34	8923	1Y	Jul. 31, 19
3	Modulation Analyzer	Hewlett Packard	8901B	3403A04852	1Y	Dec. 31, 18
4	DC Power Supply	Takasago	GP035-20R	1014199060	None	None
5	Digital Multi Meter	FLUKE	8846A	9642018	1Y	Sep. 30, 19
6	Temperature Chamber	Tabai	PL-3F	5103661	None	None
7	Temperature Meter	T&D	TR-71nw	52160B67	1Y	Dec. 31, 18
8	GPS Receiver	Hewlett Packard	HP Z3801A	3542A02414	None	None

Measuring Cables

No.	Cable	Manufacture	Model No.	Serial No.	Cal. Interval	Effective period
W2	Coaxial Cable	Pacific custom	RG-58 C/U	KSR00041	1Y	Feb. 28, 19
W1	Coaxial Cable	Suhner	SUCOFLEX104	KSR00042	1Y	Jul. 31, 19

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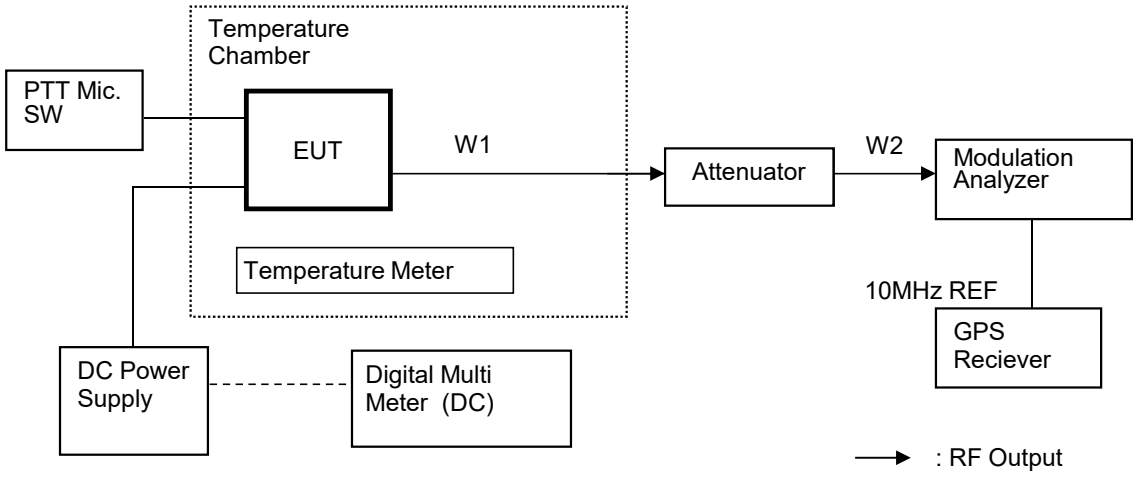
Measuring Equipment Configuration



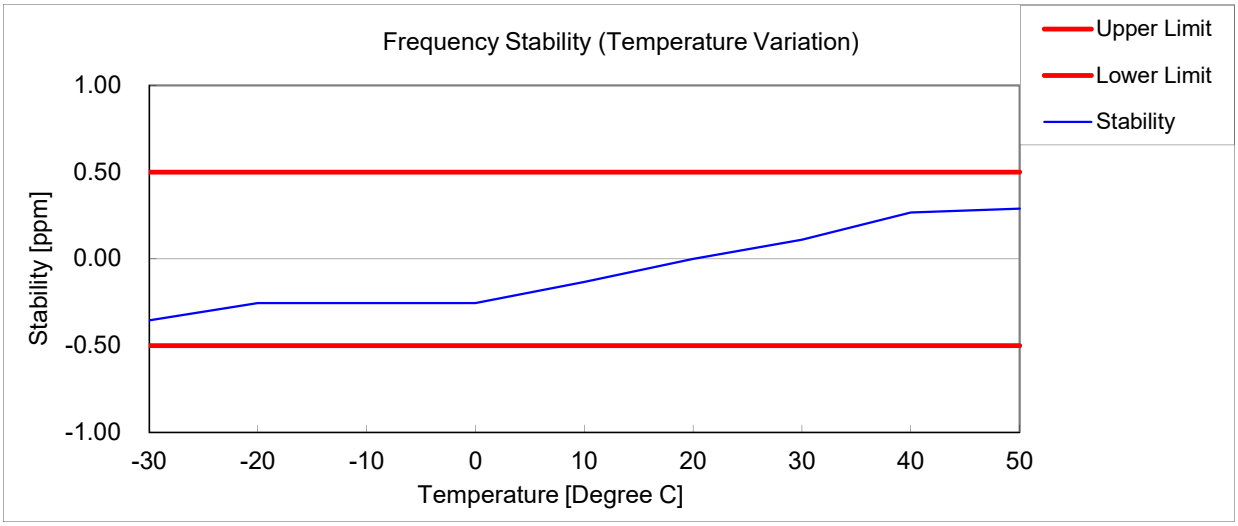
Test Results

Test date	Dec. 03, 2018
Location	Kashima No.12 Test Site
Test Engineer	Koichi Wagatsuma

Test was carried out for all the frequency band of section 10.1
State the worst case (below).

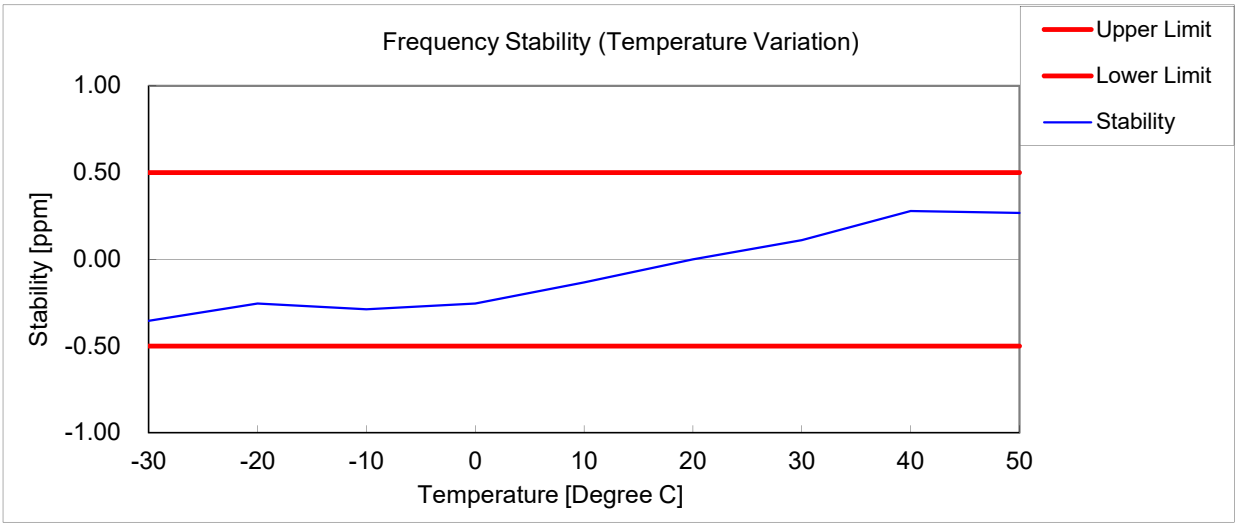
State : High Power / Authorized Bandwidth 13.6 kHz / 900.95 MHz (Band 1)
Reference Frequency: 900.950000 MHz

No.	Temperature (Degree C)	Frequency (MHz)	Stability (ppm)	Limit (+/- ppm)	Min. Margin (ppm)
1	-30	900.949680	-0.36	0.5	0.14
2	-20	900.949770	-0.26	0.5	0.24
3	-10	900.949770	-0.26	0.5	0.24
4	0	900.949770	-0.26	0.5	0.24
5	10	900.949880	-0.13	0.5	0.37
6	20	900.950000	0.00	0.5	0.50
7	30	900.950100	0.11	0.5	0.39
8	40	900.950240	0.27	0.5	0.23
9	50	900.950260	0.29	0.5	0.21



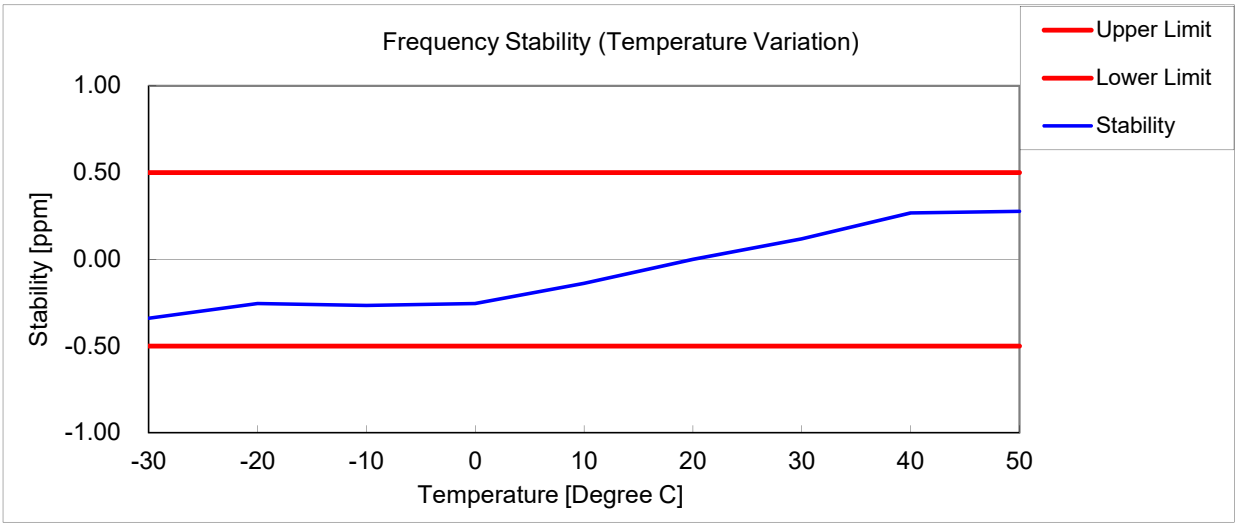
State : High Power / Authorized Bandwidth 45 kHz / 901.55 MHz (Band 2)
Reference Frequency: 901.550000 MHz

No.	Temperature (Degree C)	Frequency (MHz)	Stability (ppm)	Limit (+/- ppm)	Min. Margin (ppm)
1	-30	901.549680	-0.35	0.5	0.15
2	-20	901.549770	-0.26	0.5	0.24
3	-10	901.549740	-0.29	0.5	0.21
4	0	901.549770	-0.26	0.5	0.24
5	10	901.549880	-0.13	0.5	0.37
6	20	901.550000	0.00	0.5	0.50
7	30	901.550100	0.11	0.5	0.39
8	40	901.550250	0.28	0.5	0.22
9	50	901.550240	0.27	0.5	0.23



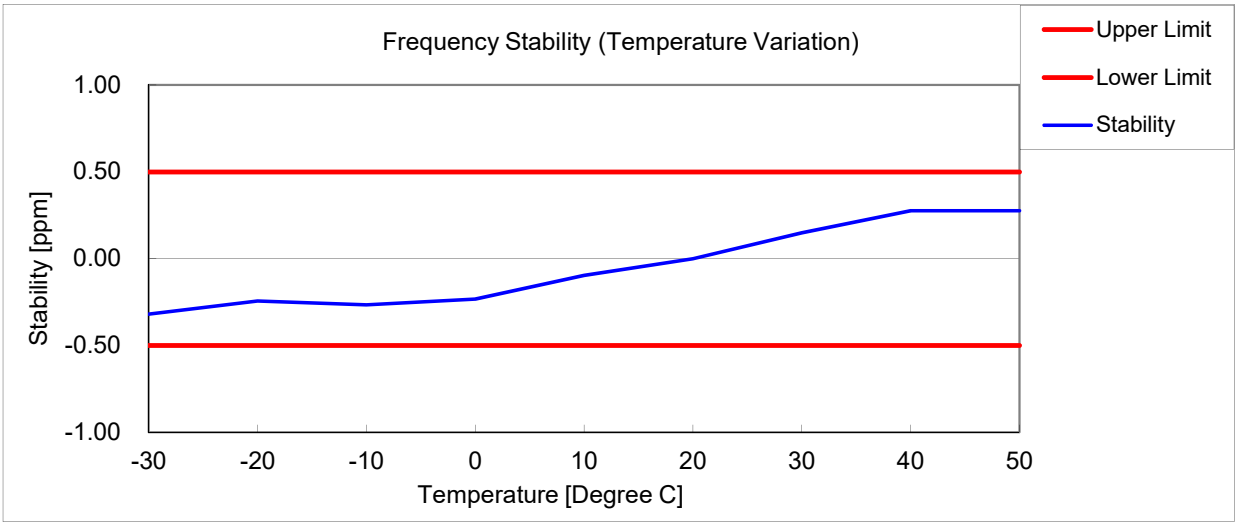
State : High Power / Authorized Bandwidth 13.6 kHz / 939.95 MHz (Band 3)
Reference Frequency: 939.950000 MHz

No.	Temperature (Degree C)	Frequency (MHz)	Stability (ppm)	Limit (+/- ppm)	Min. Margin (ppm)
1	-30	939.949680	-0.34	0.5	0.16
2	-20	939.949760	-0.26	0.5	0.24
3	-10	939.949750	-0.27	0.5	0.23
4	0	939.949760	-0.26	0.5	0.24
5	10	939.949870	-0.14	0.5	0.36
6	20	939.950000	0.00	0.5	0.50
7	30	939.950110	0.12	0.5	0.38
8	40	939.950250	0.27	0.5	0.23
9	50	939.950260	0.28	0.5	0.22



State : High Power / Authorized Bandwidth 45 kHz / 940.55 MHz (Band 4)
Reference Frequency: 940.549980 MHz

No.	Temperature (Degree C)	Frequency (MHz)	Stability (ppm)	Limit (+/- ppm)	Min. Margin (ppm)
1	-30	940.549680	-0.32	0.5	0.18
2	-20	940.549750	-0.24	0.5	0.26
3	-10	940.549730	-0.27	0.5	0.23
4	0	940.549760	-0.23	0.5	0.27
5	10	940.549890	-0.10	0.5	0.40
6	20	940.549980	0.00	0.5	0.50
7	30	940.550120	0.15	0.5	0.35
8	40	940.550240	0.28	0.5	0.22
9	50	940.550240	0.28	0.5	0.22



10.8 Frequency Stability (Voltage Variation)

REGULATIONS	: FCC Part 2 Section 1055 (a) (1), Part 90 Section 213(a) / RSS-119 Section 5.3 FCC Part24 Section 135(a) / RSS-134 Section 4.5
TEST METHOD/GUIDE	: ANSI/TIA-603-E Section 2.2.2.2 / RSS-Gen Section 6.11

Test Procedure

1 The EUT and test equipment were set up as shown on the following page.
2 The power supply voltage to the EUT was varied from 85 % to 115 % of the nominal value measured at the input to the EUT.

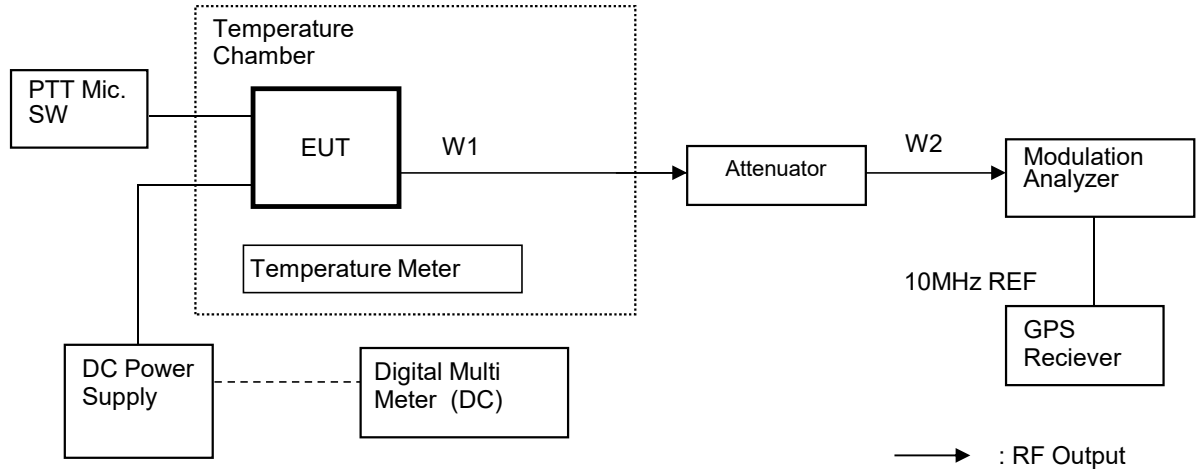
Measuring Equipments

No.	Equipment	Manufacture	Model No.	Serial No.	Cal. Interval	Effective period
1	Attenuator (20dB)	Aeroflex/Wenshel	66-20-34	BY4357	1Y	Jul. 31, 19
2	Attenuator (30dB)	Weinschel	WA-29-30-34	8923	1Y	Jul. 31, 19
3	Modulation Analyzer	Hewlett Packard	8901B	3403A04852	1Y	Dec. 31, 18
4	DC Power Supply	Takasago	GP035-20R	1014199060	None	None
5	Digital Multi Meter	FLUKE	8846A	9642018	1Y	Sep. 30, 19
6	Temperature Chamber	Tabai	PL-3F	5103661	None	None
7	Temperature Meter	T&D	TR-71nw	52160B67	1Y	Dec. 31, 18
8	GPS Receiver	Hewlett Packard	HP Z3801A	3542A02414	None	None

Measuring Cables

No.	Cable	Manufacture	Model No.	Serial No.	Cal. Interval	Effective period
W2	Coaxial Cable	Pacific custom	RG-58 C/U	KSR00041	1Y	Feb. 28, 19
W1	Coaxial Cable	Suhner	SUCOFLEX104	KSR00042	1Y	Jul. 31, 19

Measuring Equipment Configuration



Test Results

Test date	Dec 03, 2018
Location	Kashima No.12 Test Site
Test Engineer	Koichi Wagatsuma

Test was carried out for all the frequency band of section 10.1
State the worst case (below).

State : High Power / Authorized Bandwidth 13.6 kHz / 896.05 MHz (Band 1)
Reference Frequency: 896.049990 MHz

No.	Temperature (Degree C)	Diviation (%)	Voltage (V)	Frequency (MHz)	Stability (ppm)	Limit +/- (ppm)	Margin (ppm)
1	20+/-5	85	11.56	896.050000	0.01	0.5	0.49
2	20+/-5	100	13.60	896.049990	0.00	0.5	0.50
3	20+/-5	115	15.64	896.050000	0.01	0.5	0.49

State : High Power / Authorized Bandwidth 45 kHz / 150.05 MHz (Band 2)
Reference Frequency: 901.550000 MHz

No.	Temperature (Degree C)	Diviation (%)	Voltage (V)	Frequency (MHz)	Stability (ppm)	Limit +/- (ppm)	Margin (ppm)
1	20+/-5	85	11.56	901.549990	-0.01	0.5	0.49
2	20+/-5	100	13.60	901.550000	0.00	0.5	0.50
3	20+/-5	115	15.64	901.550000	0.00	0.5	0.50

State : High Power / Authorized Bandwidth 13.6 kHz / 935.05 MHz (Band 3)
Reference Frequency: 935.049990 MHz

No.	Temperature (Degree C)	Diviation (%)	Voltage (V)	Frequency (MHz)	Stability (ppm)	Limit +/- (ppm)	Margin (ppm)
1	20+/-5	85	11.56	935.050000	0.01	0.5	0.49
2	20+/-5	100	13.60	935.049990	0.00	0.5	0.50
3	20+/-5	115	15.64	935.049980	-0.01	0.5	0.49

State : High Power / Authorized Bandwidth 45 kHz / 940.55 MHz (Band 4)
Reference Frequency: 940.549980 MHz

No.	Temperature (Degree C)	Diviation (%)	Voltage (V)	Frequency (MHz)	Stability (ppm)	Limit +/- (ppm)	Margin (ppm)
1	20+/-5	85	11.56	940.549990	0.01	0.5	0.49
2	20+/-5	100	13.60	940.549980	0.00	0.5	0.50
3	20+/-5	115	15.64	940.549990	0.01	0.5	0.49

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10.9 Receiver Spurious Emissions(Radiated)

REGULATIONS	:	RSS-Gen Section 7
TEST METHOD/GUIDE	:	RSS-Gen Section 7

TEST PROCEDURE

1 The EUT and test equipment were set up as shown on the following page.
2 Tabletop Equipment
EUT is placed on the wooden table, the top of which is 0.8meter above the metal ground plane(turntable).
3 Interconnecting Cables
Excess part of the interconnecting cables longer than 1 meter are bundled in the center.
Cables that hang closer than 40 cm to the ground plane is folded back and forth forming bundle to 40 cm long, hanging approx, in the middle between ground plane and table.
4 Measuring Instruments
Measuring instruments list and their calibration schedule are shown on Measurement Equipment Configuration.
The brief description are as follows;
5 Antennas
The broadband Bi-cog antenna or Biconical and Log periodic antenna is used for measurement on the frequency range 30 – 1000 MHz.
The Double ridged guide antenna is used for frequency higher than 1000 MHz.
6 Pre-amplifier
The broadband pre-amplifier is used for radiated emission measurement.
The signal to noise ratio is improved by using pre-amplifier.
7 Spectrum Analyzer
The spectrum analyzer is used for preliminary measurement of frequency range 30 – 1000 MHz, and also used for final measurement of higher than 1000 MHz (RBW : 1 MHz).
8 EMI Test Receiver
The Quasi-peak detector (IF bandwidth : 120 kHz) built in test receiver is used for final measurement of the frequency 30 – 1000 MHz.
The test receiver is complied with the specification of the CISPR publication 16.
9 Turntable
The turntable is capable for EUT weight and rotatable 0 to 360 degree horizontally by remote control in the test room.
10 Antenna Mast
The antenna mast is attachable to all antennas described on antenna height is adjustable 1 to 4 meters continuously by remote control at the test room, and antenna polarization is also changed by the remote control.
11 Preliminary Measurement
EUT is tested on all operating conditions.
The spectrum analyzer is set max-hold mode and swept during turntable was rotated 0 to 360 degree. Then spectrum chart are plotted out to find the worst emission conditions in configuration, operating mode, or ambient noise notation.

12 Final Measurement

The EUT operated in the condition where maximum emission is found in the preliminary test.
The turntable azimuth(EUT direction) and antenna height are adjusted the position
so that maximum field strength is obtained for each frequency spectrum to be measured.
The equipment and cables are arranged or manipulated within the range
of the test standard in the above condition.
When the uncertain result was obtained, the measurement is retried by using the
half wave dipole antenna instead of the broadband antenna.

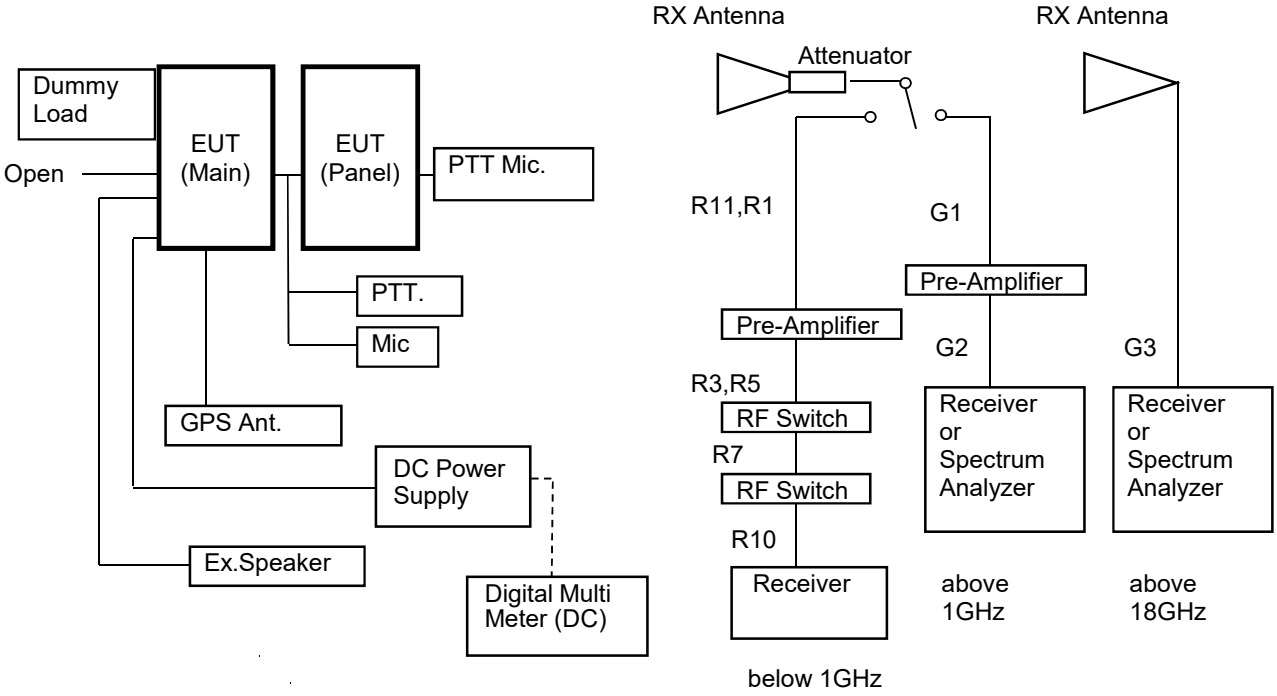
TEST EQUIPMENTS

No.	Equipment	Manufacture	Model No.	Serial No.	Cal. Interval	Effective period
1	Spectrum Analyzer	Agilent	N9030A	US51350220	1Y	Mar. 31, 19
2	Receiver	Agilent	N9038A	MY51210201	1Y	Nov. 30, 19
3	D.R.G Antenna(TX)	Schwarzbeck	3115	5044	1Y	Apr. 30, 19
4	Tri-log Antenna(RX)	Schwarzbeck	VULB9168WP	288	1Y	Jul. 31, 19
5	Horn Antenna with Prean	TSJ	MLA-18265-B03-	1694440	1Y	Mar. 31, 19
6	Amplifier	TOYO	TPA0118-30	0402	1Y	May. 31, 19
7	Attenuator	HUBER + SUHNER	6803.17.B	5111	1Y	May. 31, 19
8	Amplifier	Intertek Japan	ZX60-3018G	002	1Y	Aug. 31, 19
9	Attenuator	TAMAGAWA	CFA-01	A00040805	1Y	Aug. 31, 19
10	RF Switch	Intertek Japan	ACX-150-1	A12301501	1Y	Aug. 31, 19
11	Site Attenuation	-	-	-	1Y	Mar. 31, 19
12	SVSWR	-	-	-	1Y	Feb. 28, 19

USED CABLES

No.	Cable	Manufacture	Model No.	Serial No.	Cal. Interval	Effective period
R11	Coaxial Cable	FUJIKURA	5D-2W	R11	1Y	Aug. 31, 19
R1	Coaxial Cable	FUJIKURA	5D-2W	R1	1Y	Aug. 31, 19
R3	Coaxial Cable	FUJIKURA	10D-2W	R3	1Y	Aug. 31, 19
R5	Coaxial Cable	FUJIKURA	RG-5A/U	R5	1Y	Aug. 31, 19
R7	Coaxial Cable	MIYAZAKI	5D-2W	R7	1Y	Aug. 31, 19
R10	Coaxial Cable	FUJIKURA	5D-2W	R10	1Y	Aug. 31, 19
G1	Coaxial Cable	SUHNER	SUCOFLEX 104	229603	1Y	May. 31, 19
G2	Coaxial Cable	Candox	5B-048-98-98-5000	111130	1Y	May. 31, 19
G3	Coaxial Cable	Candox	5B-048-98-98-6000	120315	1Y	May. 31, 19

MEASUREMENT EQUIPMENT CONFIGURATION



TEST RESULTS

Test date	Dec. 10, 2018	to	Dec. 11, 2018		
Location	Kashima No.12 Test Site				
temperature	18.6	to	20.0	[degree C]	
Humidity Variation	40	to	45	[%]	
Atmospheric Pressure	99.4	to	100.1	[kPa]	
Test Engineer	Koichi Wagatsuma				

Test was carried out for the frequency band of section 10.1
State the worst case (below).

State : 939.95 MHz Receiver Condition

No.	Frequency (MHz)	Pol	Mode	Reading Level (dBuv)	Factor* (dB)	Emission Level (dBuV/m)	Limit Level (dBuV/m)	Margin (dB)
1	38.65	Hor.		-	-2.5	-	40.0	-
		Ver.		19.8	-2.5	17.3	40.0	22.7
2	151.46	Hor.		-	-1.0	-	43.5	-
		Ver.		20.8	-1.0	19.8	43.5	23.7
3	340.11	Hor.		-	3.0	-	46.0	-
		Ver.		18.7	3.0	21.7	46.0	24.3
4	556.80	Hor.		17.5	9.2	26.7	46.0	19.3
		Ver.		-	9.2	-	46.0	-
5	806.41	Hor.		-	14.5	-	46.0	-
		Ver.		16.0	14.5	30.5	46.0	15.5
6	864.00	Hor.		-	15.4	-	46.0	-
		Ver.		16.8	15.4	32.2	46.0	13.8
7	960.00	Hor.		14.3	17.2	31.5	46.0	14.5
		Ver.		14.7	17.2	31.9	46.0	14.1
8	3759.80	Hor.	AVG	25.2	4.3	29.5	54.0	24.5
		Ver.	AVG	29.9	4.3	34.2	54.0	19.8
9	5639.70	Hor.	AVG	24.5	7.9	32.4	54.0	21.6
		Ver.	AVG	28.4	7.9	36.3	54.0	17.7
10	9399.53	Hor.	AVG	31.6	13.9	45.5	54.0	8.5
		Ver.	AVG	29.9	13.9	43.8	54.0	10.2
11	20378.90	Hor.	AVG	16.3	13.1	29.4	54.0	24.6
		Ver.	AVG	25.1	13.1	38.2	54.0	15.8

There is the margin of 20dB over except for the above points.
* Factor = Antenna,Antenna Pad,Cable,Preamp,(Dist. Conversion)
Emission Level = Reading Level + Factor

Note:
1 Measurement distance is 3 metres. (Above 1GHz is 4.1 meteres)
2 Scanned frequency are 30 to 25000 MHz.
3 Highest oscillator frequency is 4960 MHz.
(TXRX UNIT : 1882MHz.)

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State : 940.55 MHz Receiver Condition

No.	Frequency (MHz)	Pol	Mode	Reading Level (dBuv)	Factor* (dB)	Emission Level (dBuV/m)	Limit Level (dBuV/m)	Margin (dB)
1	38.65	Hor.		-	-2.5	-	40.0	-
		Ver.		19.8	-2.5	17.3	40.0	22.7
2	151.53	Hor.		-	-1.0	-	43.5	-
		Ver.		20.5	-1.0	19.5	43.5	24.0
3	340.16	Hor.		-	3.0	-	46.0	-
		Ver.		18.5	3.0	21.5	46.0	24.5
4	556.80	Hor.		-	9.2	-	46.0	-
		Ver.		17.5	9.2	26.7	46.0	19.3
5	806.41	Hor.		-	14.5	-	46.0	-
		Ver.		16.0	14.5	30.5	46.0	15.5
6	864.00	Hor.		-	15.4	-	46.0	-
		Ver.		16.8	15.4	32.2	46.0	13.8
7	883.18	Hor.		16.3	15.7	32.0	46.0	14.0
		Ver.		17.4	15.7	33.1	46.0	12.9
8	960.00	Hor.		14.3	17.2	31.5	46.0	14.5
		Ver.		14.7	17.2	31.9	46.0	14.1
9	3762.20	Hor.	AVG	23.5	4.3	27.8	54.0	26.2
		Ver.	AVG	30.8	4.3	35.1	54.0	18.9
10	5643.14	Hor.	AVG	23.7	7.9	31.6	54.0	22.4
		Ver.	AVG	30.5	7.9	38.4	54.0	15.6
11	9405.62	Hor.	AVG	30.9	13.9	44.8	54.0	9.2
		Ver.	AVG	31.0	13.9	44.9	54.0	9.1
12	18811.00	Hor.	AVG	18.6	11.2	29.8	54.0	24.2
		Ver.	AVG	23.9	11.2	35.1	54.0	18.9
13	20692.10	Hor.	AVG	15.8	13.1	28.9	54.0	25.1
		Ver.	AVG	24.8	13.1	37.9	54.0	16.1

There is the margin of 20dB over except for the above points.
* Factor = Antenna,Antenna Pad,Cable,Preamp
Emission Level = Reading Level + Factor

Note:
1 Measurement distance is 3 metres. (Above 1GHz is 4.1 meteres)
2 Scanned frequency are 30 to 25000 MHz.
3 Highest oscillator frequency is 4960 MHz.
(TXRX UNIT : 1882MHz.)

10.10 Necessary Bandwidth and Emission Bandwidth

REGULATIONS	: FCC Part 2 Section 202 (g) & Federal Register/ Vol.68, No236 TRC 43

Calculation Results

State : 11K0F3E (Authorized Bandwidth 13.6 kHz: Part90, 45kHz: Part24D)

Item	Mark		
Maximum Modulation	(M)	3	kHz
Maximum Deviation	(D)	2.5	kHz
Constant Factor	(K)	1	
Necessary Bandwidth	(Bn)	11	kHz

Bn = (2xM)+(2xDxK)

1.types of modulation of the main carrier : F= Frequency modulation
2.nature of signal(s) modulating the main carrier: 3= A single channel containing analog information
3.type of information to be transmitted: E= Telephony (including sound broadcasting)

State : 8K30F1E / 8K30F1D / 8K30F7W (4Level FSK / 9600bps, Authorized Bandwidth 13.6 kHz: Part90, 45kHz: Part24D)

Item	Mark		
Digital information rate	(R)	9600	bps
Peak frequency deviation	(D)	3.391	kHz
Signaling states	(S)	4	
Numerical factor	(K)	0.516	
Necessary Bandwidth	(Bn)	8.3	kHz

$Bn = (R/\log_2 S)+2xDxK$

1.types of modulation of the main carrier : F= Frequency modulation
2.nature of signal(s) modulating the main carrier: 1= A single channel containing quantized or digital information without the use of a modulating sub-carrier
7= Two or more channels containing quantized or digital information
3.type of information to be transmitted: E= Telephony (including sound broadcasting)
D= Data transmission, telemetry, telecommand
W= Combination of the above

State : 7K60FXE / 7K60FXD (9600bps, Authorized Bandwidth 13.6 kHz: Part90, 10kHz: Part24D)

Item	Mark		
Digital information rate	(R)	9600	bps
Peak frequency deviation	(D)	3.024	kHz
Signaling states	(S)	4	
Numerical factor	(K)	0.463	
Necessary Bandwidth	(Bn)	7.6	kHz

$Bn = (R/\log_2 S)+2xDxK$

1.types of modulation of the main carrier : F= Frequency modulation
2.nature of signal(s) modulating the main carrier: X= Cases not otherwise covered
3.type of information to be transmitted: E= Telephony (including sound broadcasting)
D= Data transmission, telemetry, telecommand

State : 4K00F1E / 4K00F1D / 4K00F7W (4Level FSK / 4800bps, Authorized Bandwidth 13.6 kHz: Part90, 10kHz: Part24D)

Item	Mark		
Digital information rate	(R)	4800	bps
Peak frequency deviation	(D)	1.55	kHz
Signaling states	(S)	4	
Numerical factor	(K)	0.516	
Necessary Bandwidth	(Bn)	4	kHz

$Bn = (R/\log_2 S)+2xDxK$

1.types of modulation of the main carrier : F= Frequency modulation
2.nature of signal(s) modulating the main carrier: 1= A single channel containing quantized or digital information without the use of a modulating sub-carrier
7= Two or more channels containing quantized or digital information
3.type of information to be transmitted: E= Telephony (including sound broadcasting)
D= Data transmission, telemetry, telecommand
W= Combination of the above

State : 4K00F2D (CWID, Authorized Bandwidth 13.6 kHz: Part90, 10kHz: Part24D)

Item	Mark		
Maximum Modulation	(M)	0.8	kHz
Maximum Deviation	(D)	1.2	kHz
Numerical factor	(K)	1	
Necessary Bandwidth	(Bn)	4	kHz

$Bn = (2xM)+(2xDxK)$

1.types of modulation of the main carrier : F= Frequency modulation
2.nature of signal(s) modulating the main carrier: 2= A single channel containing quantized or digital information with the
3.type of information to be transmitted: D= Data transmission, telemetry, telecommand

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10.11 99% Occupied Bandwidth

REGULATIONS	:	RSS-119 Section 5.5 RSS-134 Section 4.4
TEST METHOD/GUIDE	:	RSS-Gen Section 6.6

Test Procedure

1 The EUT and test equipment were set up as shown on the following page.
2 Adjust the test instrument for the following setting:
RBW : 1 % to 5 % of the Necessary bandwidth
VBW : at least 3 times the RBW
Detector : Peak
Sweep Time : Auto
Trace mode : Max Hold
3 Allow trace to fully stabilize.
4 Use “Occupied Bandwidth Measurement” function to measure the 99% Occupied Bandwidth.
5 Modulate the transmitter with a 2.5 kHz sine wave at an input Level of 16 dB greater than that necessary to produce 50 % of rated system deviation.(Only 16K0F3E, 11K0F3E)

Measuring Equipments

No.	Equipment	Manufacture	Model No.	Serial No.	Cal. Interval	Effective period
1	Attenuator (20dB)	Aeroflex/Wenshel	66-20-34	BY4357	1Y	Jul. 31, 19
2	Attenuator (30dB)	Weinschel	WA-29-30-34	8923	1Y	Jul. 31, 19
3	Modulation Analyzer	Hewlett Packard	8901B	3403A04852	1Y	Dec. 31, 18
4	Audio Generator	Anritsu	MG443B	M70150	1Y	Sep. 30, 19
5	Spectrum Analyzer	Agilent	N9030A	US51350220	1Y	Mar. 31, 19
6	DC Power Supply	Daiichi denpa kogyo	GZV4000	90290931	None	None
7	Digital Multi Meter	FLUKE	8846A	9642018	1Y	Sep. 30, 19
8	Balance Cable	Nicoon	3D-2V	KSR00092	1Y	Feb. 28, 19
9	Coaxial Cable	Pacific custom	RG-58 C/U	AM90C04	1Y	Feb. 28, 19
10	Coaxial Cable	Suhner	SUCOFLEX104	F0000017	1Y	Jul. 31, 19

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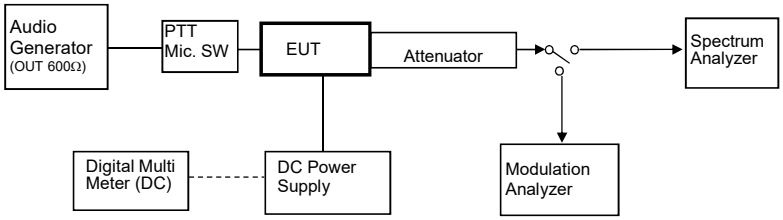
Measuring Equipment Configuration



Test Results

Test date	Nov 20, 2018			
Location	Kashima No.12 Test Site			
temperature	25.7	to	26.0	[degree C]
Humidity Variation	60.0	to	54.0	[%]
Atmospheric Pressure	101.0	to	101.6	[kPa]
Test Engineer	Koichi Wagatsuma			

Emission Designation	Frequency (MHz)	99% Occupied Bandwidth (kHz)	Authorized bandwidth (kHz)
11K0F3E	896.05	9.837	13.6
	900.95	9.875	
	901.55	9.867	45
	935.05	9.874	13.6
	939.95	9.838	
	940.55	9.855	45
8K30F1E/F1D/F7W	896.05	7.569	13.6
	900.95	7.595	
	901.55	7.599	45
	935.05	7.590	13.6
	939.95	7.610	
	940.55	7.621	45
7K60FXE/FXD	896.05	7.389	13.6
	900.95	7.441	
	901.55	7.458	45
	935.05	7.440	13.6
	939.95	7.458	
	940.55	7.467	45
4K00F1E / F1D / F7W	896.05	3.455	13.6
	900.95	3.511	
	901.55	3.511	10
	935.05	3.506	13.6
	939.95	3.509	
	940.55	3.508	10
4K00F2D	896.05	3.319	13.6
	900.95	3.315	
	901.55	3.321	10
	935.05	3.306	13.6
	939.95	3.317	
	940.55	3.323	10

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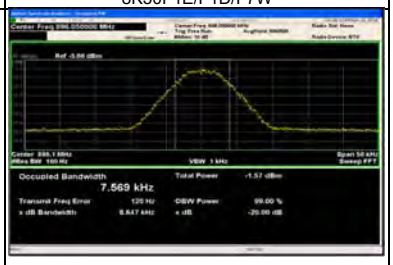
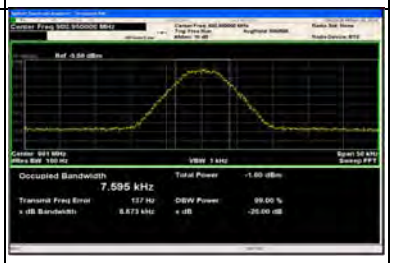
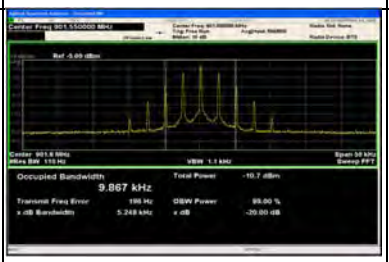
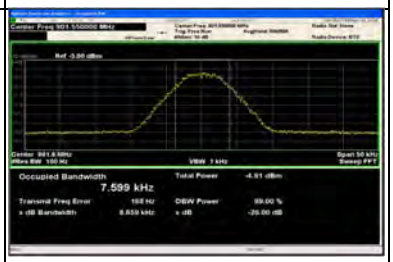
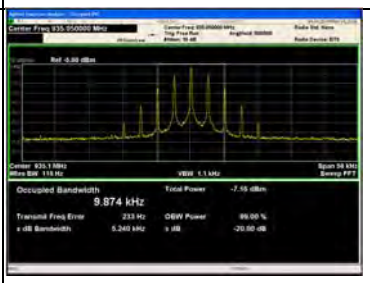
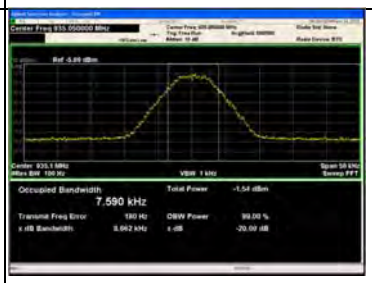
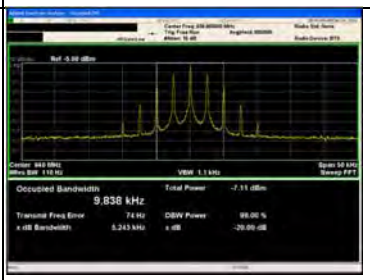
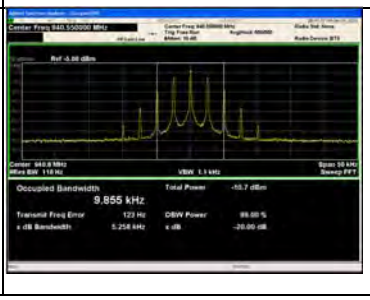
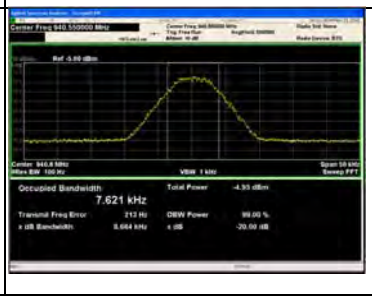
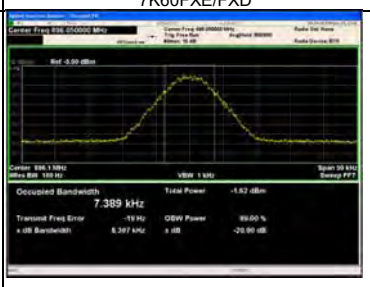
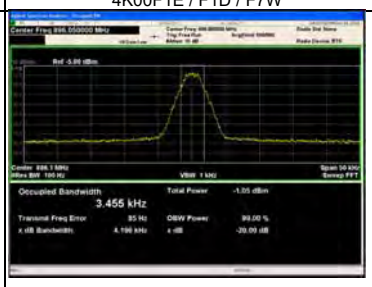
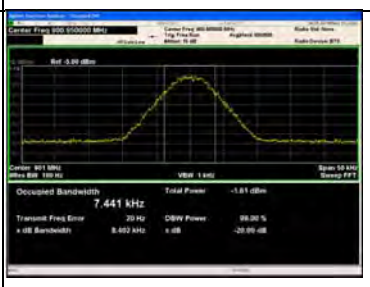
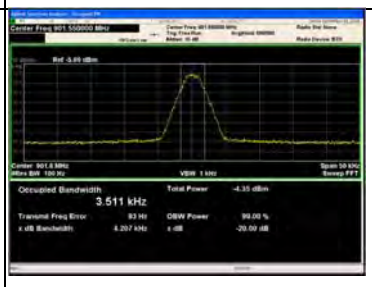
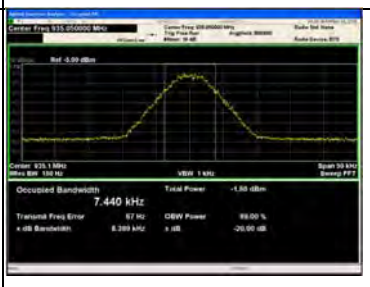
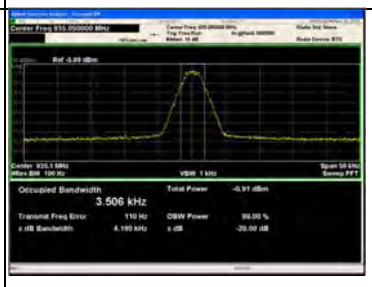
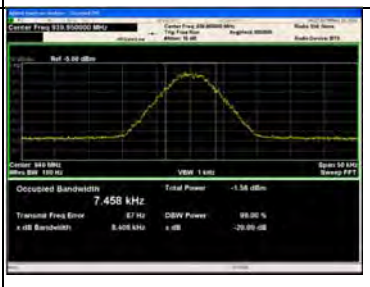
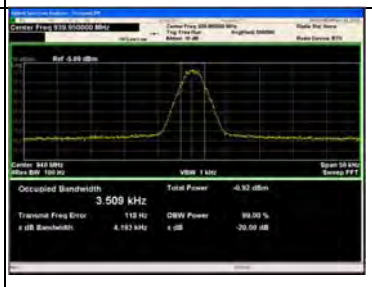
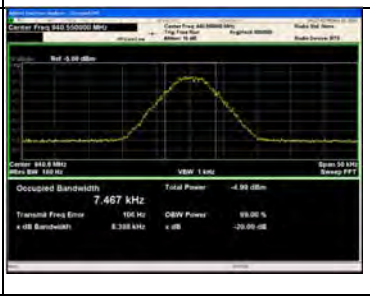
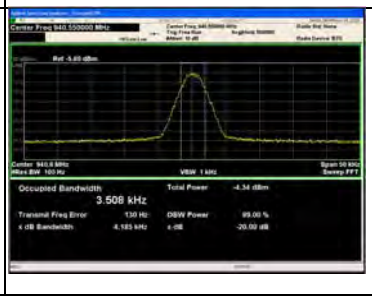
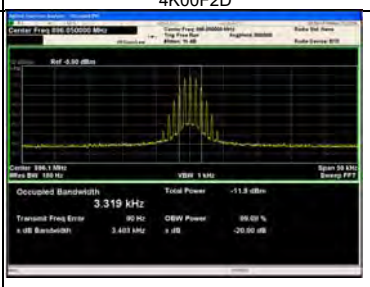
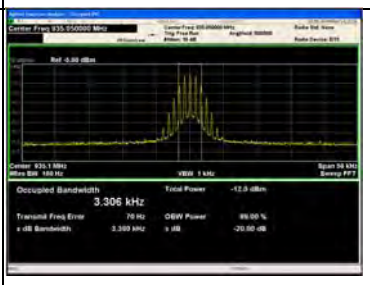
Ferquency (MHz)	Emission Designation	
	11K0F3E	8K30F1E/F1D/F7W
896.05		
900.95		
901.55		
935.05		
939.95		
940.55		

Ferquency (MHz)	Emission Designation	
	7K60FXE/FXD	4K00F1E / F1D / F7W
896.05		
900.95		
901.55		
935.05		
939.95		
940.55		

Ferquency (MHz)	Emission Designation	
	4K00F2D	
896.05		
900.95		
901.55		
935.05		
939.95		
940.55