Report on the RF Testing of:

KYOCERA Corporation
Mobile Phone, Model: EB1173
FCC ID: JOYEB1173

In accordance with FCC Part 27 Subpart C

Japan

Add value.
Inspire trust.

Prepared for: KYOCERA Corporation
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COMMERCIAL-IN-CONFIDENCE

Document Number: JPD-TR-23102-0

SIGNATURE			
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NAME	**JOB TITLE**	**RESPONSIBLE FOR**	**ISSUE DATE**
Hiroaki Suzuki	Deputy Manager of RF Group	Approved Signatory	2023.09.27

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD Japan Ltd. document control rules.

EXECUTIVE SUMMARY - Result: Complied
A sample(s) of this product was tested and the result above was confirmed in accordance with FCC Part 27 Subpart C.

ACCREDITED
Certificate #3686.03

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1 Summary of Test

1.1 Modification history of the test report

Document Number	Modification History	Issue Date
JPD-TR-23102-0	First Issue	Refer to the cover page

1.2 Standards

CFR47 FCC Part 27 Subpart C

1.3 Test methods

KDB 971168 D01 Power Meas License Digital Systems v03r01
ANSI/TIA/EIA 603-E-2016
ANSI C63.26-2015

1.4 Deviation from standards

None

1.5 List of applied test(s) of the EUT

Test item section	Test item	Condition	Result	Remark
2.1046	Conducted Output Power	Conducted	PASS	*1
27.50	Effective Radiated Power, Equivalent Isotropically Radiated Power	Radiated	PASS	-
27.50	Peak to Average Ratio	Conducted	PASS	-
2.1049	Occupied Bandwidth	Conducted	PASS	-
27.53 2.1051	Band Edge Spurious and Harmonic at Antenna Terminal	Conducted	PASS	-
27.53 2.1053	Radiated emissions and Harmonic Emissions	Radiated	PASS	-
27.54 2.1055	Frequency Stability	Conducted	PASS	-

*1: Refer to RF Exposure Report (Test Report_SAR)

1.6 Test information

None

1.7 Test set up

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1.8 Test period

31-July-2023 - 20-August-2023

Japan

2 Equipment Under Test

All information in this chapter was provided by the applicant.

2.1 EUT information

Applicant	KYOCERA Corporation Yokohama Office 2-1-1 Kagahara, Tsuzuki-ku Yokohama-shi, Kanagawa, Japan Phone: +81-45-943-6253 Fax: +81-45-943-6314
Equipment Under Test (EUT)	Mobile Phone
Model number	EB1173
Serial number	350614610004032, 350614610006516, 350614610006607
Trade name	Kyocera
Number of sample(s)	3
EUT condition	Pre-Production
Power rating	Battery: DC 3.87 V
Size	(W) 81.2 mm × (D) 17.5 mm × (H) 164.9 mm
Environment	Indoor and Outdoor use
Terminal limitation	-20 ˚C to 60 ˚C
Hardware version	DMT1
Software version	EB1173_nightly_20230713
Firmware version	Not applicable
RF Specification	
Frequency of Operation	Up Link WCDMA Band IV: 1712.4-1752.6 MHz LTE Band IV: 1710.7-1754.3 MHz LTE Band XII: 699.7-715.3 MHz LTE Band XLI: 2498.5-2687.5 MHz Down Link WCDMA Band IV: 2112.4-2152.6 MHz LTE Band IV: 2110.7-2154.3 MHz LTE Band XII: 729.7-745.3 MHz LTE Band XLI: 2498.5-2687.5 MHz
Modulation type	WCDMA Band IV: QPSK, 16QAM LTE Band IV: QPSK, 16QAM, 64QAM LTE Band XII: QPSK, 16QAM, 64QAM LTE Band XLI: QPSK, 16QAM, 64QAM

Emission designator	WCDMA Band IV: 4M14F9W LTE Band IV: BW 1.4M QPSK: 1M10G7D, 16QAM: 1M10W7D, 64QAM: 1M09W7D BW 3M QPSK: 2M70G7D, 16QAM: 2M69W7D, 64QAM: 2M70W7D BW 5M QPSK: 4M49G7D, 16QAM: 4M50W7D, 64QAM: 4M50W7D BW 10M QPSK: 8M97G7D, 16QAM: 8M98W7D, 64QAM: 8M99W7D BW 15M QPSK: 13M5G7D, 16QAM: 13M5W7D, 64QAM: 13M4W7D BW 20M QPSK: 17M9G7D, 16QAM: 17M9W7D, 16QAM: 17M9W7D LTE Band XII: BW 1.4M QPSK: 1M09G7D, 16QAM: 1M09W7D, 64QAM: 1M09W7D BW 3M QPSK: 2M70G7D, 16QAM: 2M70W7D, 64QAM: 2M71W7D BW 5M QPSK: 4M51G7D, 16QAM: 4M52W7D, 64QAM: 4M50W7D BW 10M QPSK: 8M97G7D, 16QAM: 8M97W7D, 64QAM: 8M98W7D LTE Band XLI: BW 5M QPSK: 4M51G7D, 16QAM: 4M50W7D, 64QAM: 4M50W7D BW 10M QPSK: 9M01G7D, 16QAM: 8M96W7D, 64QAM: 8M97W7D BW 15M QPSK: 13M5G7D, 16QAM: 13M5W7D, 64QAM: 13M5W7D BW 20M QPSK: 17M9G7D, 16QAM: 17M9W7D, 16QAM: 17M9W7D
Effective Radiated Power (E.R.P.)	LTE Band XII: 0.174 W (22.4 dBm)
Equivalent Isotropic Radiated Power (E.I.R.P)	WCDMA Band IV: 0.083 W (19.2 dBm) LTE Band IV: 0.132 W (21.2 dBm) LTE Band XLI: 0.209 W (23.2 dBm)
Antenna type	Internal antenna
Antenna gain	WCDMA Band IV: -1.2 dBi LTE Band IV: -1.2 dBi LTE Band XII: -2.4 dBi LTE Band XLI: 0.6 dBi

2.2 Modification to the EUT

The table below details modifications made to the EUT during the test project.

Modification State	Description of Modification	Modification fitted by	Date of Modification
Model: EB1173, Serial Number: 350614610004032, 350614610006516, 350614610006607			
0	As supplied by the applicant	Not Applicable	Not Applicable

Japan

2.3 Variation of family model(s)

2.3.1 List of family model(s)

	EB1173		EB1169		EB1185		EB1205	
	Pattern1 *	Pattern2	Pattern1	Pattern2	Pattern1	Pattern2	Pattern1	Pattern2
hybrid shield	without	with	with	without	with	without	without	with
Radio Function (Cellular)	4G:B2/B4/B5/B12/B41 3G:B2/B4/B5 2G:850/1900						no ※Components are mounted	
Radio Function (etc)	WiFi:2.4G/5G BT/NFC+FeliCa/GPS							
Size	164.9x81.2x17.5[mm]							

*: Tested
The hybrid shield is a resin, so there is no EMC impact.
The hybrid shield is mounted on top of the screen (tempered glass), but the enclosure size remains unchanged.
EB1205 does not use WWAN (2G/3G/4G) functionality. However, WWAN (2G/3G/4G) components are installed.

2.3.2 Reason for selection of EUT

The applicant decided that the differences between the hybrid shield and the design had no EMC impact and selected EB1173 Pattarn1 with full function.

2.4 Description of test mode

The EUT had been tested under operating condition.
There are three channels have been tested as following:

Band	Modulation	Bandwidth [MHz]	Channel	Frequency [MHz]
WCDMA Band IV	QPSK 16QAM	-	1312, 1413, 1513	1712.4, 1732.6, 1752.6
LTE Band IV	QPSK, 16QAM, 64QAM	1.4	19957, 20175, 20393	1710.7, 1732.5, 1754.3
		3	19965, 20175, 20385	1711.5, 1732.5, 1753.5
		5	19975, 20175, 20375	1712.5, 1732.5, 1752.5
		10	20000, 20175, 20350	1715.0, 1732.5, 1750.0
		15	20025, 20175, 20325	1717.5, 1732.5, 1747.5
		20	20050, 20175, 20300	1720.0, 1732.5, 1745.0
LTE Band XII	QPSK, 16QAM, 64QAM	1.4	23017, 23095, 23173	699.7, 707.5, 715.3
		3	23025, 23095, 23165	700.5, 707.5, 714.5
		5	23035, 23095, 23155	701.5, 707.5, 713.5
		10	23060, 23095, 23130	704.0, 707.5, 711.0
LTE Band XLI	QPSK, 16QAM, 64QAM	5	39675, 40620, 41565	2498.5, 2593.0, 2687.5
		10	39700, 40620, 41540	2501.0, 2593.0, 2685.0
		15	39725, 40620, 41515	2503.5, 2593.0, 2682.5
		20	39750, 40620, 41490	2506.0, 2593.0, 2680.0

The field strength of spurious emissions was measured at each position of all three axis X, Y and Z to compare the level, and the maximum noise.
The worst emission was found in X-axis (WCDMA Band IV, LTE Band IV, LTE Band XLI) and Z-axis (LTE Band XII) the worst case recorded.
Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports.

Japan

3 Configuration of Equipment

Numbers assigned to equipment on the diagram in “3.2 System configuration” correspond to the list in “3.1 Equipment used”.
This test configuration is based on the manufacture’s instruction.
Cabling and setup(s) were taken into consideration and test data was taken under worse case condition.

3.1 Equipment used

No.	Equipment	Company	Model No.	Serial No.	FCC ID/DoC	Comment
1	Mobile Phone	KYOCERA	EB1173	350614610004032, 350614610006516, 350614610006607	JOYEB1173	EUT

3.2 System configuration

1. Mobile Phone (EUT)

Japan

4 Test Result

4.1 Effective Radiated Power

4.1.1 Measurement procedure

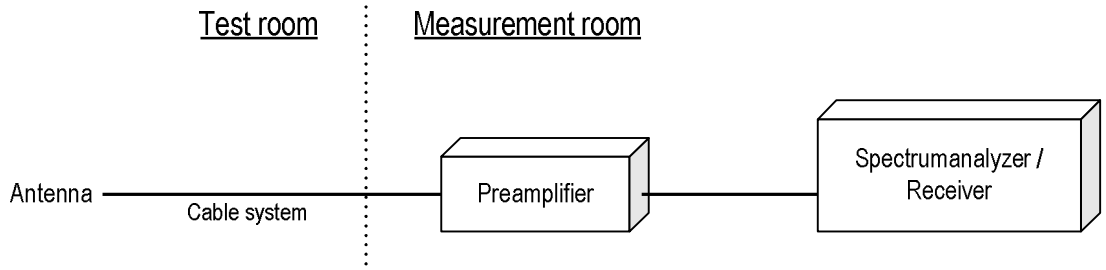
[FCC 27.50]

<Step 1>
The EUT and support equipment are placed on a 1 meter x 0.8 meter surface, 0.8 meter height styrene foam table. Radiated emission measurements are performed at 3 meter distance with the broadband antenna (Log periodic antenna). The antenna is positioned both the horizontal and vertical planes of polarization and height is varied 1 to 4 meters and stopped at height producing the maximum emission. The turntable is rotated by 360 degrees and stopped at azimuth of producing the maximum emission.

<Step 2>
The substitution antenna is replaced by the transmitter antenna (EUT).
The frequency of the signal generator is adjusted to the measurement frequency.
Level of the signal generator is adjusted to the level that is obtained from step 1, and record the emission level of signal generator.

The spectrum analyzer is set to;
a) Span = 1.5 times the OBW
b) RBW = 1-5% of the expected OBW, not to exceed 1 MHz
c) VBW ≥ 3 x RBW
d) Number of sweep points ≥ 2 x span / RBW
e) Sweep time = auto-couple
f) Detector = RMS (power averaging)
g) If the EUT can be configured to transmit continuously (i.e., burst duty cycle ≥ 98%), then set the trigger to free run.
h) If the EUT cannot be configured to transmit continuously (i.e., burst duty cycle < 98 %), then use a sweep trigger with the level set to enable triggering only on full power bursts and configure the EUT to transmit at full power for the entire duration of each sweep. Ensure that the sweep time is less than or equal to the transmission burst duration.
i) Trace average at least 100 traces in power averaging (i.e., RMS) mode.
j) Compute the power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function, with the band limits set equal to the OBW band edges.
If the instrument does not have a band power function, then sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

- Test configuration



Japan

4.1.2 Calculation method

Result (ERP) = S.G Reading - Cable loss + Antenna Gain
Margin = Limit – Result (ERP)

Example:
Limit @ 707.5 MHz : 34.77 dBm
Ant. Input = 29.9 dBm Cable loss = 1.0 dB Ant. Gain = -6.5 dBd
Result = 29.9 – 1.0 + (-6.5) = 22.4 dBm
Margin = 34.77 – 22.4 = 12.37 dB

4.1.3 Limit

3 W (34.77 dBm)

4.1.4 Test data

Date : 31-July-2023
Temperature : 23.7 [˚C]
Humidity : 76.4 [%] Test engineer : Tadahiro Seino
Test place : 3m Semi-anechoic chamber

Date : 9~10-August-2023
Temperature : 22.9 [˚C]
Humidity : 71.7 [%] Test engineer : Chiaki Kanno
Test place : 3m Semi-anechoic chamber

[LTE Band XII]
QPSK, BW 1.4MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	699.7	-33.3	29.1	1.0	-6.5	21.6	0.145	34.77	13.2
H	707.5	-32.9	29.9	1.0	-6.5	22.4	0.174	34.77	12.4
H	715.3	-33.3	29.4	1.0	-6.5	21.9	0.155	34.77	12.9

16QAM, BW 1.4MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	699.7	-34.3	28.1	1.0	-6.5	20.6	0.115	34.77	14.2
H	707.5	-33.9	28.9	1.0	-6.5	21.4	0.138	34.77	13.4
H	715.3	-34.3	28.4	1.0	-6.5	20.9	0.123	34.77	13.9

64QAM, BW 1.4MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	699.7	-35.2	27.2	1.0	-6.5	19.7	0.093	34.77	15.1
H	707.5	-36.0	26.8	1.0	-6.5	19.3	0.085	34.77	15.5
H	715.3	-35.4	27.3	1.0	-6.5	19.8	0.095	34.77	15.0

[LTE Band XII]
QPSK, BW 3MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	700.5	-33.9	28.5	1.0	-6.5	21.0	0.126	34.77	13.8
H	707.5	-34.1	28.6	1.0	-6.5	21.1	0.129	34.77	13.7
H	714.5	-34.5	28.2	1.0	-6.5	20.7	0.117	34.77	14.1

16QAM, BW 3MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	700.5	-35.0	27.4	1.0	-6.5	19.9	0.098	34.77	14.9
H	707.5	-34.9	27.8	1.0	-6.5	20.3	0.107	34.77	14.5
H	714.5	-35.5	27.2	1.0	-6.5	19.7	0.093	34.77	15.1

64QAM, BW 3MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	700.5	-35.8	26.6	1.0	-6.5	19.1	0.081	34.77	15.7
H	707.5	-36.1	26.6	1.0	-6.5	19.1	0.081	34.77	15.7
H	714.5	-36.7	26.0	1.0	-6.5	18.5	0.071	34.77	16.3

QPSK, BW 5MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	701.5	-34.1	28.3	1.0	-6.5	20.8	0.120	34.77	14.0
H	707.5	-34.2	28.5	1.0	-6.5	21.0	0.126	34.77	13.8
H	713.5	-34.8	27.9	1.0	-6.5	20.4	0.110	34.77	14.4

16QAM, BW 5MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	701.5	-34.9	27.5	1.0	-6.5	20.0	0.100	34.77	14.8
H	707.5	-35.2	27.5	1.0	-6.5	20.0	0.100	34.77	14.8
H	713.5	-35.7	27.0	1.0	-6.5	19.5	0.089	34.77	15.3

64QAM, BW 5MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	701.5	-36.0	26.4	1.0	-6.5	18.9	0.078	34.77	15.9
H	707.5	-36.2	26.5	1.0	-6.5	19.0	0.079	34.77	15.8
H	713.5	-36.8	25.9	1.0	-6.5	18.4	0.069	34.77	16.4

[LTE Band XII]
QPSK, BW 10MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	704.0	-34.5	27.9	1.0	-6.5	20.4	0.110	34.77	14.4
H	707.5	-34.7	28.0	1.0	-6.5	20.5	0.112	34.77	14.3
H	711.0	-35.2	27.5	1.0	-6.5	20.0	0.100	34.77	14.8

16QAM, BW 10MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	704.0	-35.6	26.8	1.0	-6.5	19.3	0.085	34.77	15.5
H	707.5	-35.6	27.1	1.0	-6.5	19.6	0.091	34.77	15.2
H	711.0	-36.2	26.5	1.0	-6.5	19.0	0.079	34.77	15.8

64QAM, BW 10MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	704.0	-36.4	26.0	1.0	-6.5	18.5	0.071	34.77	16.3
H	707.5	-36.8	25.9	1.0	-6.5	18.4	0.069	34.77	16.4
H	711.0	-37.3	25.4	1.0	-6.5	17.9	0.062	34.77	16.9

4.2 Equivalent Isotropically Radiated Power

4.2.1 Measurement procedure

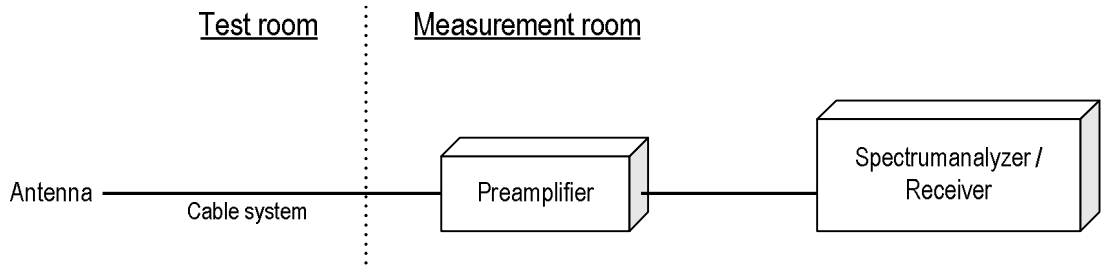
[FCC 27.50]

<Step 1>
The EUT and support equipment are placed on a 0.6 meter x 0.6 meter surface, 1.5 meter height styrene foam table. Radiated emission measurements are performed at 3 meter distance with the broadband antenna (double ridged guide antenna). The antenna is positioned both the horizontal and vertical planes of polarization and height is varied 1 to 4 meters and stopped at height producing the maximum emission.
The turntable is rotated by 360 degrees and stopped at azimuth of producing the maximum emission.

<Step 2>
The substitution antenna is replaced by the transmitter antenna (EUT).
The frequency of the signal generator is adjusted to the measurement frequency.
Level of the signal generator is adjusted to the level that is obtained from step 1, and record the emission level of signal generator.

The spectrum analyzer is set to;
a) Span = 1.5 times the OBW
b) RBW = 1-5% of the expected OBW, not to exceed 1 MHz
c) VBW ≥ 3 x RBW
d) Number of sweep points ≥ 2 x span / RBW
e) Sweep time = auto-couple
f) Detector = RMS (power averaging)
g) If the EUT can be configured to transmit continuously (i.e., burst duty cycle ≥ 98%), then set the trigger to free run.
h) If the EUT cannot be configured to transmit continuously (i.e., burst duty cycle < 98 %), then use a sweep trigger with the level set to enable triggering only on full power bursts and configure the EUT to transmit at full power for the entire duration of each sweep. Ensure that the sweep time is less than or equal to the transmission burst duration.
i) Trace average at least 100 traces in power averaging (i.e., RMS) mode.
j) Compute the power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function, with the band limits set equal to the OBW band edges.
If the instrument does not have a band power function, then sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

- Test configuration



Japan

4.2.2 Calculation method

Result (EIRP) = Ant. Input - Cable loss + Antenna Gain
Margin = Limit – Result (EIRP)

Example:
Limit @ 1732.6MHz : 30.0 dBm
Ant. Input = 16.2 dBm Cable loss = 1.6 dB Ant. Gain = 5.0 dBi
Result = 16.2 – 1.6 + 5.0 = 19.6 dBm
Margin = 30.0 – 19.6 = 10.4 dB

4.2.3 Limit

WCDMA Band IV, LTE Band IV: 1W (30 dBm)
LTE Band XLI: 2W (33 dBm)

4.2.4 Test data

Date	:	31-July~1-August-2023			
Temperature	:	24.1 [˚C]			
Humidity	:	68.3 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Chiaki Kanno

Date	:	5-August-2023			
Temperature	:	24.2 [˚C]			
Humidity	:	73.3 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Tadahiro Seino

Date	:	7-August-2023			
Temperature	:	24.1 [˚C]			
Humidity	:	74.8 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Tadahiro Seino

Date	:	9-August-2023			
Temperature	:	21.4 [˚C]			
Humidity	:	65.9 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Tadahiro Seino

[WCDMA Band IV]

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	1712.4	-32.0	15.3	1.6	5.2	18.9	0.078	30.0	11.1
H	1732.6	-34.0	14.2	1.6	5.0	17.6	0.058	30.0	12.4
H	1752.6	-33.2	16.0	1.6	4.8	19.2	0.083	30.0	10.8

Japan

[LTE Band IV]
QPSK, BW 1.4MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	1710.7	-31.5	16.4	1.6	5.2	20.0	0.100	30.0	10.0
H	1732.5	-31.6	16.2	1.6	5.0	19.6	0.091	30.0	10.4
H	1754.3	-31.7	17.2	1.6	4.8	20.4	0.110	30.0	9.6

16QAM, BW 1.4MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	1710.7	-32.3	15.6	1.6	5.2	19.2	0.083	30.0	10.8
H	1732.5	-32.4	15.3	1.6	5.0	18.7	0.074	30.0	11.3
H	1754.3	-32.6	16.2	1.6	4.8	19.4	0.087	30.0	10.6

64QAM, BW 1.4MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	1710.7	-33.1	14.7	1.6	5.2	18.3	0.068	30.0	11.7
H	1732.5	-33.5	14.2	1.6	5.0	17.6	0.058	30.0	12.4
H	1754.3	-33.4	15.4	1.6	4.8	18.6	0.072	30.0	11.4

QPSK, BW 3MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	1711.5	-31.4	15.9	1.6	5.2	19.5	0.089	30.0	10.5
H	1732.5	-31.5	16.1	1.6	5.0	19.5	0.089	30.0	10.5
H	1753.5	-31.0	17.6	1.6	4.8	20.8	0.120	30.0	9.2

16QAM, BW 3MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	1711.5	-32.3	15.0	1.6	5.2	18.6	0.072	30.0	11.4
H	1732.5	-32.2	15.4	1.6	5.0	18.8	0.076	30.0	11.2
H	1753.5	-31.8	16.9	1.6	4.8	20.1	0.102	30.0	9.9

64QAM, BW 3MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	1711.5	-33.1	14.1	1.6	5.2	17.7	0.059	30.0	12.3
H	1732.5	-33.4	14.3	1.6	5.0	17.7	0.059	30.0	12.3
H	1753.5	-32.9	16.0	1.6	4.8	19.2	0.083	30.0	10.8

[LTE Band IV]
QPSK, BW 5MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	1712.5	-31.3	16.0	1.6	5.2	19.6	0.091	30.0	10.4
H	1732.5	-31.5	17.0	1.6	5.0	20.4	0.110	30.0	9.6
H	1752.5	-31.5	17.2	1.6	4.8	20.4	0.110	30.0	9.6

16QAM, BW 5MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	1712.5	-32.1	15.5	1.6	5.2	19.1	0.081	30.0	10.9
H	1732.5	-32.4	16.0	1.6	5.0	19.4	0.087	30.0	10.6
H	1752.5	-32.2	16.5	1.6	4.8	19.7	0.093	30.0	10.3

64QAM, BW 5MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	1712.5	-33.1	14.6	1.6	5.2	18.2	0.066	30.0	11.8
H	1732.5	-33.3	15.0	1.6	5.0	18.4	0.069	30.0	11.6
H	1752.5	-33.2	15.4	1.6	4.8	18.6	0.072	30.0	11.4

QPSK, BW 10MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	1715.0	-31.0	16.3	1.6	5.1	19.9	0.098	30.0	10.1
H	1732.5	-32.1	16.0	1.6	5.0	19.4	0.087	30.0	10.6
H	1750.0	-31.2	17.9	1.6	4.8	21.1	0.129	30.0	8.9

16QAM, BW 10MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	1715.0	-31.8	15.5	1.6	5.1	19.1	0.081	30.0	10.9
H	1732.5	-33.0	15.1	1.6	5.0	18.5	0.071	30.0	11.5
H	1750.0	-31.9	17.1	1.6	4.8	20.3	0.107	30.0	9.7

64QAM, BW 10MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	1715.0	-32.9	14.2	1.6	5.1	17.8	0.060	30.0	12.2
H	1732.5	-33.8	14.4	1.6	5.0	17.8	0.060	30.0	12.2
H	1750.0	-33.0	16.0	1.6	4.8	19.2	0.083	30.0	10.8

[LTE Band IV]
QPSK, BW 15MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	1717.5	-31.6	16.2	1.6	5.1	19.8	0.095	30.0	10.2
H	1732.5	-32.0	16.1	1.6	5.0	19.5	0.089	30.0	10.5
H	1747.5	-31.7	18.0	1.6	4.8	21.2	0.132	30.0	8.8

16QAM, BW 15MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	1717.5	-32.4	15.4	1.6	5.1	19.0	0.079	30.0	11.0
H	1732.5	-32.6	15.5	1.6	5.0	18.9	0.078	30.0	11.1
H	1747.5	-32.0	17.3	1.6	4.8	20.5	0.112	30.0	9.5

64QAM, BW 15MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	1717.5	-33.2	14.5	1.6	5.1	18.1	0.065	30.0	11.9
H	1732.5	-33.8	14.3	1.6	5.0	17.7	0.059	30.0	12.3
H	1747.5	-33.0	16.8	1.6	4.8	20.0	0.100	30.0	10.0

QPSK, BW 20MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	1720.0	-32.1	15.7	1.6	5.1	19.2	0.083	30.0	10.8
H	1732.5	-32.3	15.8	1.6	5.0	19.2	0.083	30.0	10.8
H	1745.0	-31.3	17.4	1.6	4.8	20.7	0.117	30.0	9.3

16QAM, BW 20MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	1720.0	-32.9	14.9	1.6	5.1	18.4	0.069	30.0	11.6
H	1732.5	-33.0	15.1	1.6	5.0	18.5	0.071	30.0	11.5
H	1745.0	-32.2	16.5	1.6	4.8	19.8	0.095	30.0	10.2

64QAM, BW 20MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	1720.0	-33.9	13.9	1.6	5.1	17.4	0.055	30.0	12.6
H	1732.5	-34.0	14.1	1.6	5.0	17.5	0.056	30.0	12.5
H	1745.0	-33.2	15.5	1.6	4.8	18.8	0.076	30.0	11.2

Japan

[LTE Band XLI]
QPSK, BW 5MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	2498.5	-39.7	15.8	1.8	5.9	19.9	0.098	33.0	13.1
H	2593.0	-37.7	17.8	1.9	6.3	22.2	0.166	33.0	10.8
H	2687.5	-38.2	18.0	1.9	6.5	22.6	0.182	33.0	10.4

16QAM, BW 5MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	2498.5	-40.8	14.7	1.8	5.9	18.8	0.076	33.0	14.2
H	2593.0	-38.3	17.2	1.9	6.3	21.6	0.145	33.0	11.4
H	2687.5	-39.2	17.0	1.9	6.5	21.6	0.145	33.0	11.4

64QAM, BW 5MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	2498.5	-41.3	14.2	1.8	5.9	18.3	0.068	33.0	14.7
H	2593.0	-39.4	16.1	1.9	6.3	20.5	0.112	33.0	12.5
H	2687.5	-40.4	15.8	1.9	6.5	20.4	0.110	33.0	12.6

QPSK, BW 10MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	2501.0	-38.8	16.7	1.8	5.9	20.8	0.120	33.0	12.2
H	2593.0	-37.3	18.2	1.9	6.3	22.6	0.182	33.0	10.4
H	2685.0	-38.2	18.0	1.9	6.4	22.5	0.178	33.0	10.5

16QAM, BW 10MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	2501.0	-39.7	15.8	1.8	5.9	19.9	0.098	33.0	13.1
H	2593.0	-38.1	17.4	1.9	6.3	21.8	0.151	33.0	11.2
H	2685.0	-39.1	17.1	1.9	6.4	21.6	0.145	33.0	11.4

64QAM, BW 10MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	2498.5	-40.4	15.1	1.8	5.9	19.2	0.083	33.0	13.8
H	2593.0	-39.1	16.4	1.9	6.3	20.8	0.120	33.0	12.2
H	2687.5	-40.3	16.0	1.9	6.5	20.6	0.115	33.0	12.4

[LTE Band XLI]
QPSK, BW 15MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	2503.5	-37.7	17.8	1.8	5.9	21.9	0.155	33.0	11.1
H	2593.0	-36.7	18.8	1.9	6.3	23.2	0.209	33.0	9.8
H	2682.5	-37.8	18.4	1.9	6.4	22.9	0.195	33.0	10.1

16QAM, BW 15MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	2503.5	-38.5	17.0	1.8	5.9	21.1	0.129	33.0	11.9
H	2593.0	-37.6	17.9	1.9	6.3	22.3	0.170	33.0	10.7
H	2682.5	-38.6	17.6	1.9	6.4	22.1	0.162	33.0	10.9

64QAM, BW 15MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	2503.5	-39.5	16.0	1.8	5.9	20.1	0.102	33.0	12.9
H	2593.0	-38.8	16.7	1.9	6.3	21.1	0.129	33.0	11.9
H	2682.5	-39.6	16.6	1.9	6.4	21.1	0.129	33.0	11.9

QPSK, BW 20MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	2506.0	-38.6	16.9	1.8	5.9	21.0	0.126	33.0	12.0
H	2593.0	-37.9	17.6	1.9	6.3	22.0	0.158	33.0	11.0
H	2680.0	-38.3	17.9	1.9	6.4	22.4	0.174	33.0	10.6

16QAM, BW 20MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	2503.5	-39.5	16.0	1.8	5.9	20.1	0.102	33.0	12.9
H	2593.0	-38.8	16.7	1.9	6.3	21.1	0.129	33.0	11.9
H	2682.5	-39.2	17.0	1.9	6.4	21.5	0.141	33.0	11.5

64QAM, BW 20MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Result [W]	Limit [dBm]	Margin [dB]
H	2503.5	-40.4	15.1	1.8	5.9	19.2	0.083	33.0	13.8
H	2593.0	-39.8	15.7	1.9	6.3	20.1	0.102	33.0	12.9
H	2682.5	-40.1	16.1	1.9	6.4	20.6	0.115	33.0	12.4

Japan

4.3 Peak to Average Ratio

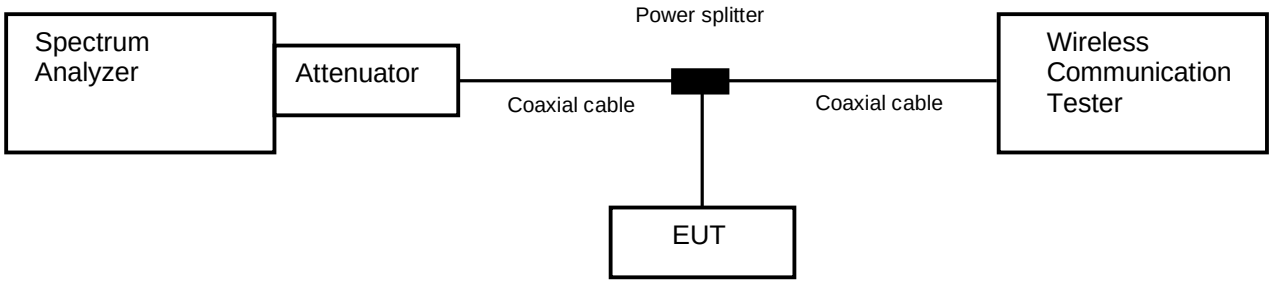
4.3.1 Measurement procedure

[FCC 27.50]

The peak to average ratio was measured with a spectrum analyzer connected to the antenna terminal.

The spectrum analyzer is set to;
a) Power Stat CCDF mode
b) Set resolution / measurement bandwidth ≥ signal's occupied bandwidth.
c) Set the number of counts to a value that stabilizes the measured CCDF curve.
d) Set the measurement interval as follows:
   1) For continuous transmissions, set to 1ms.
   2) For burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst duration.
e) Record the maximum PAPR level associated with a probability of 0.1%.

- Test configuration



4.3.2 Limit

13 dB or less

Japan

4.3.3 Measurement result

Date : 5-August-2023
Temperature : 23.9 [˚C]
Humidity : 51.8 [%] Test engineer :
Test place : Shielded room No.4 Kazunori Saito

Date : 6-August-2023
Temperature : 23.6 [˚C]
Humidity : 54.9 [%] Test engineer :
Test place : Shielded room No.4 Kazunori Saito

Band	Channel	Frequency [MHz]	Peak to Average Power Ratio [dB]	Limit [dB]
WCDMA Band IV	1312	1712.4	3.25	13.0
	1413	1732.6	3.24	
	1513	1752.6	3.21	

Band	Channel	Frequency [MHz]	Modulation	Bandwidth [MHz]	RB	Peak to Average Power Ratio [dB]	Limit [dB]
LTE Band IV	20175	1732.5	QPSK	1.4	6-0	5.98	13.0
				3	15-0	5.39	
				5	25-0	5.68	
				10	50-0	4.59	
				15	75-0	5.81	
				20	100-0	6.57	
			16QAM	1.4	6-0	6.56	
				3	15-0	6.10	
				5	25-0	6.46	
				10	50-0	6.10	
				15	75-0	6.77	
				20	100-0	7.28	
			64QAM	1.4	6-0	6.66	
				3	15-0	6.66	
				5	25-0	6.63	
				10	50-0	6.45	
				15	75-0	6.96	
				20	100-0	7.22	

Band	Channel	Frequency [MHz]	Modulation	Bandwidth [MHz]	RB	Peak to Average Power Ratio [dB]	Limit [dB]
LTE Band XII	23095	707.5	QPSK	1.4	6-0	5.69	13.0
				3	15-0	5.92	
				5	25-0	5.67	
				10	50-0	4.56	
			16QAM	1.4	6-0	6.33	
				3	15-0	6.46	
				5	25-0	6.38	
				10	50-0	6.13	
			64QAM	1.4	6-0	6.25	
				3	15-0	6.58	
				5	25-0	6.46	
				10	50-0	6.49	

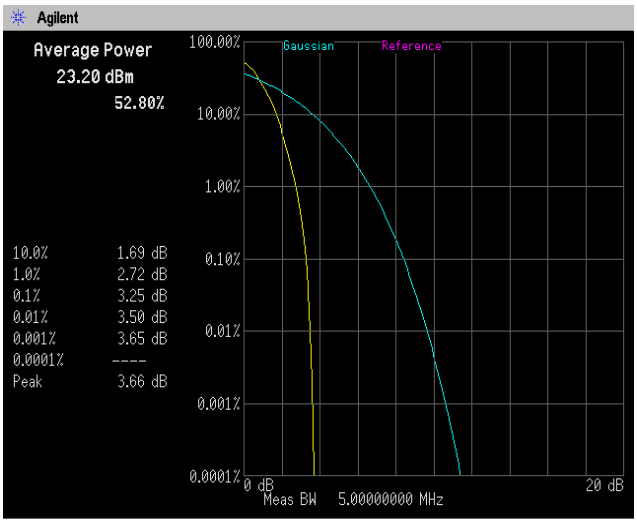
Band	Channel	Frequency [MHz]	Modulation	Bandwidth [MHz]	RB	Peak to Average Power Ratio [dB]	Limit [dB]
LTE Band XLI	40620	2593	QPSK	5	25-0	8.21	13.0
				10	50-0	8.24	
				15	75-0	9.20	
				20	100-0	9.58	
			16QAM	5	25-0	6.61	
				10	50-0	8.98	
				15	75-0	9.67	
				20	100-0	9.87	
			64QAM	5	25-0	9.51	
				10	50-0	9.06	
				15	75-0	9.26	
				20	100-0	9.44	

Japan

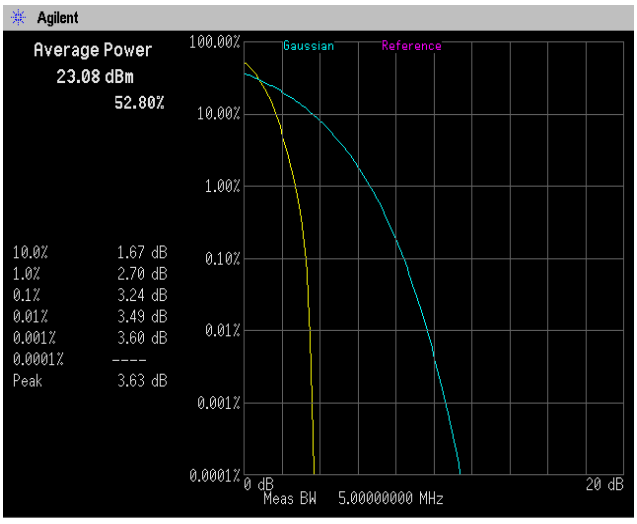
4.3.4 Trace data

[WCDMA Band IV]

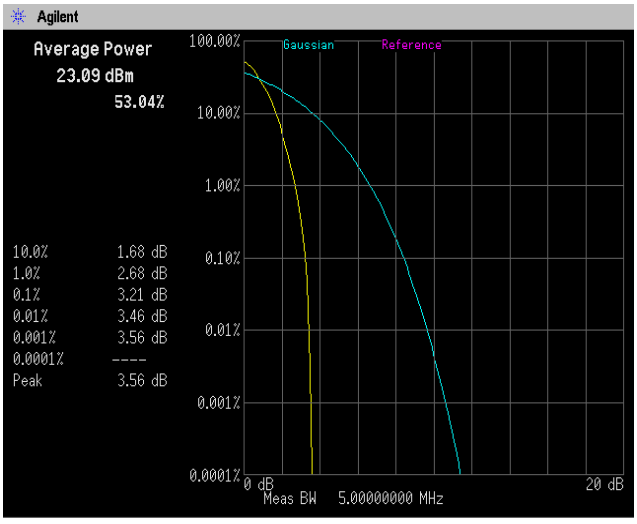
Channel: 1312



Channel: 1413



Channel: 1513

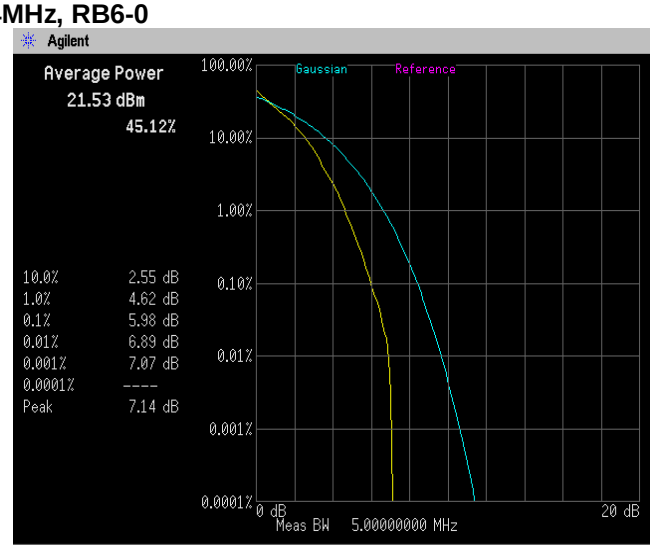


Japan

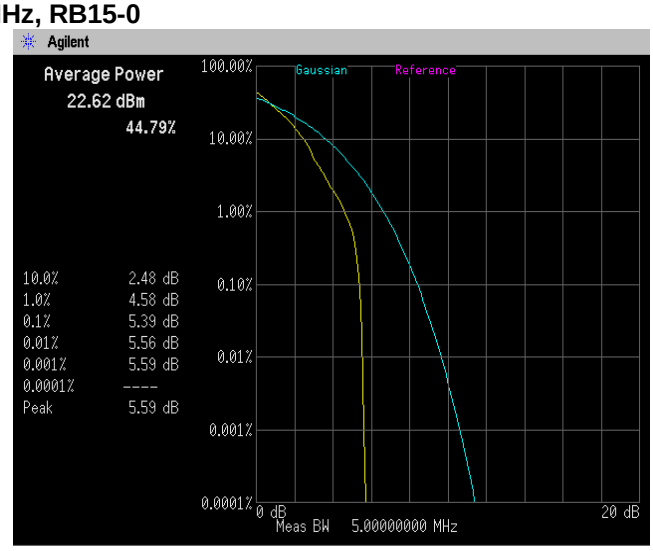
[LTE Band IV]

Channel: 20175

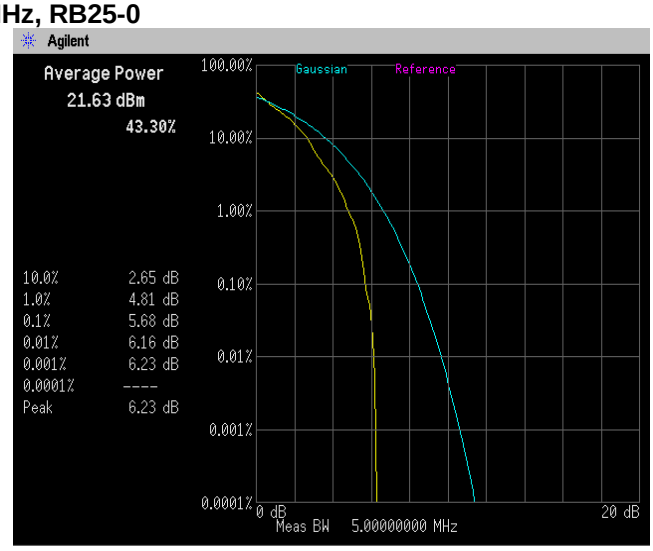
QPSK, BW 1.4MHz, RB6-0



QPSK, BW 3MHz, RB15-0



QPSK, BW 5MHz, RB25-0

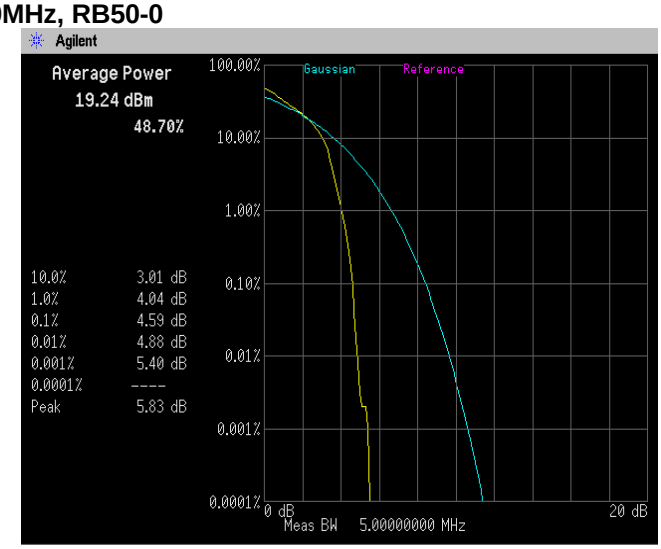


Japan

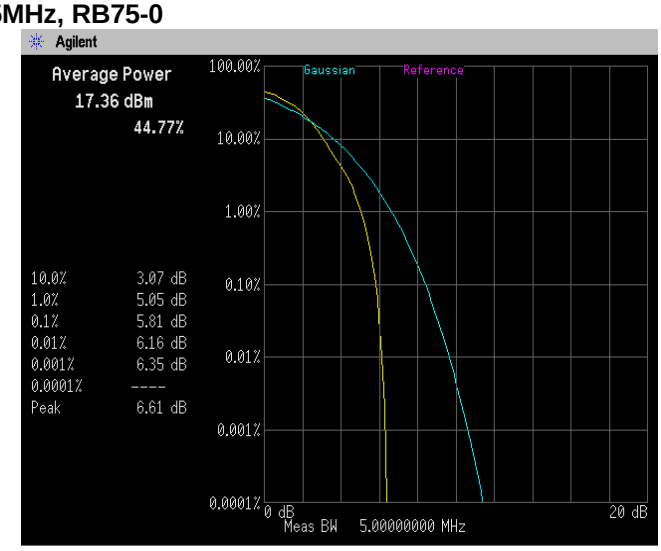
[LTE Band IV]

Channel: 20175

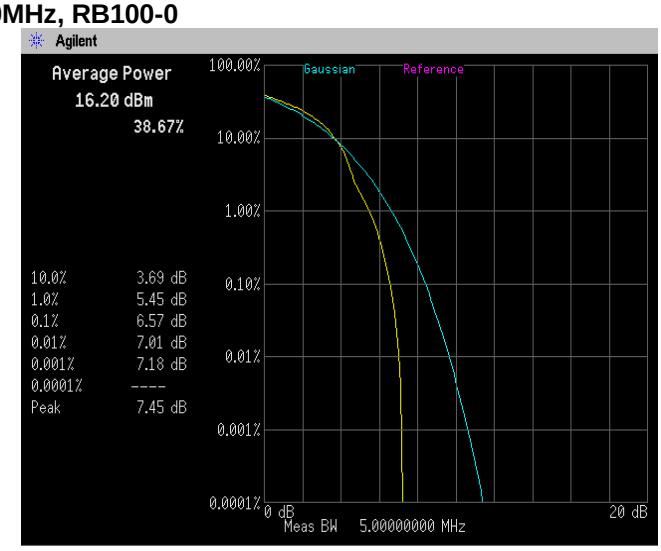
QPSK, BW 10MHz, RB50-0



QPSK, BW 15MHz, RB75-0



QPSK, BW 20MHz, RB100-0

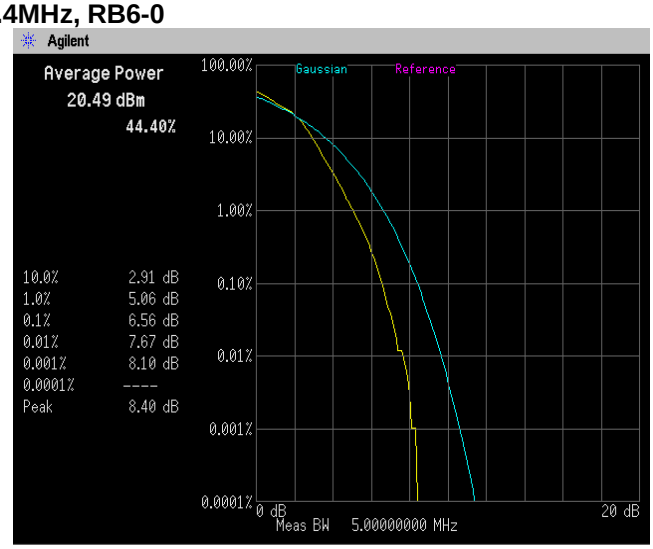


Japan

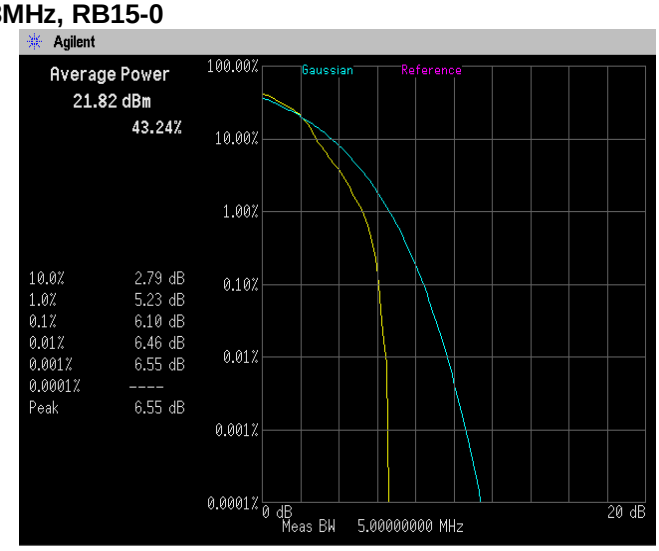
[LTE Band IV]

Channel: 20175

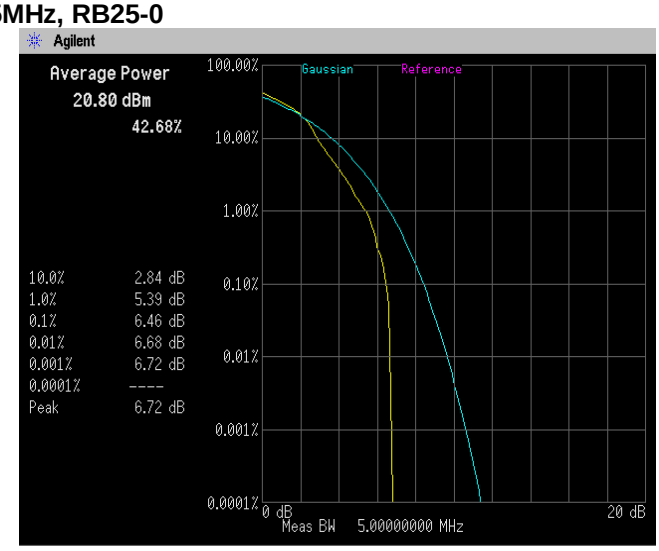
16QAM, BW 1.4MHz, RB6-0



16QAM, BW 3MHz, RB15-0



16QAM, BW 5MHz, RB25-0

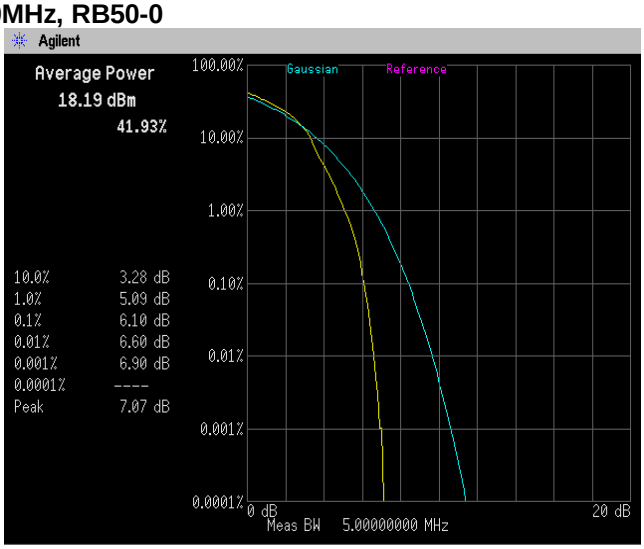


Japan

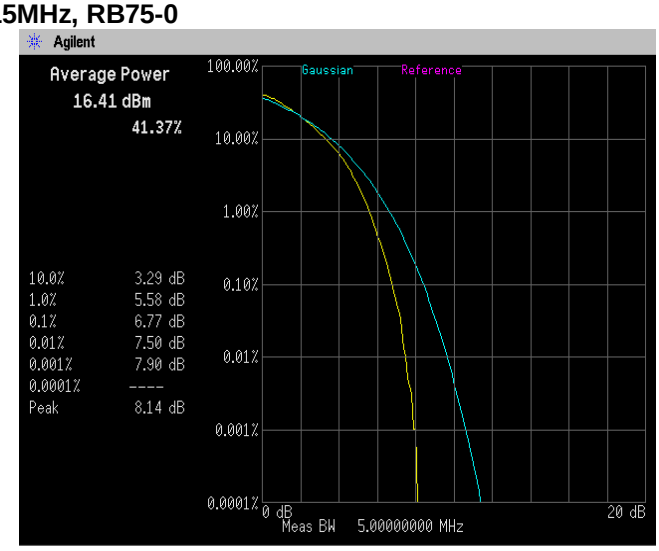
[LTE Band IV]

Channel: 20175

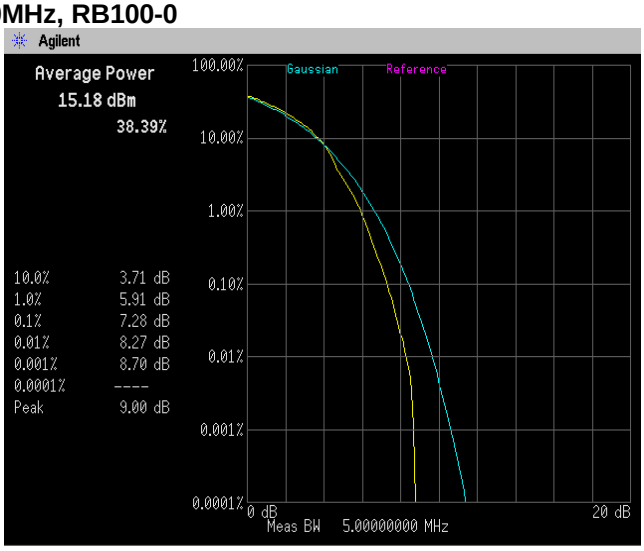
16QAM, BW 10MHz, RB50-0



16QAM, BW 15MHz, RB75-0



16QAM, BW 20MHz, RB100-0

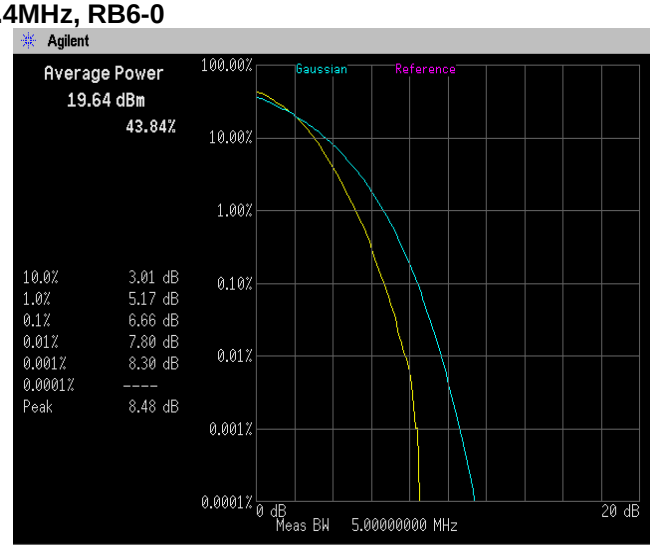


Japan

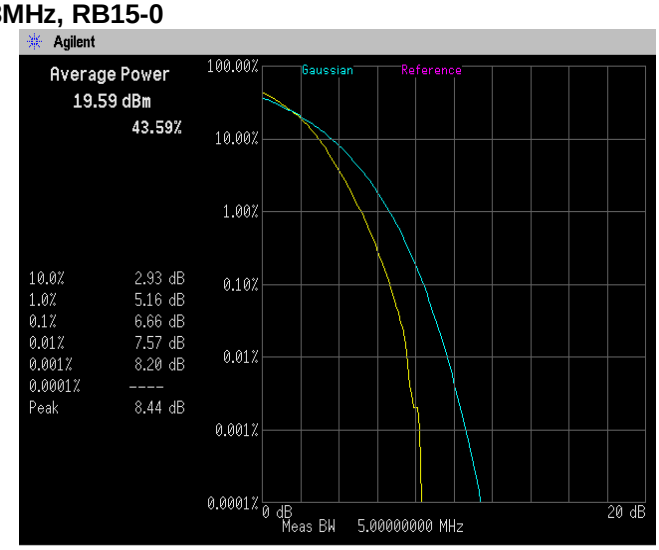
[LTE Band IV]

Channel: 20175

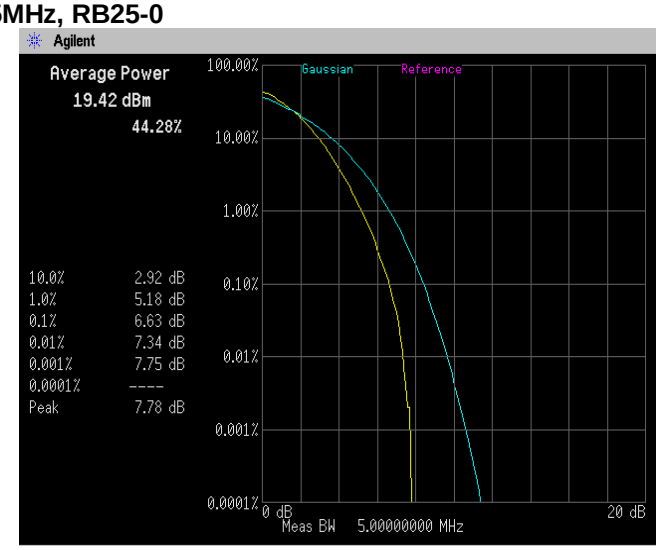
64QAM, BW 1.4MHz, RB6-0



64QAM, BW 3MHz, RB15-0



64QAM, BW 5MHz, RB25-0

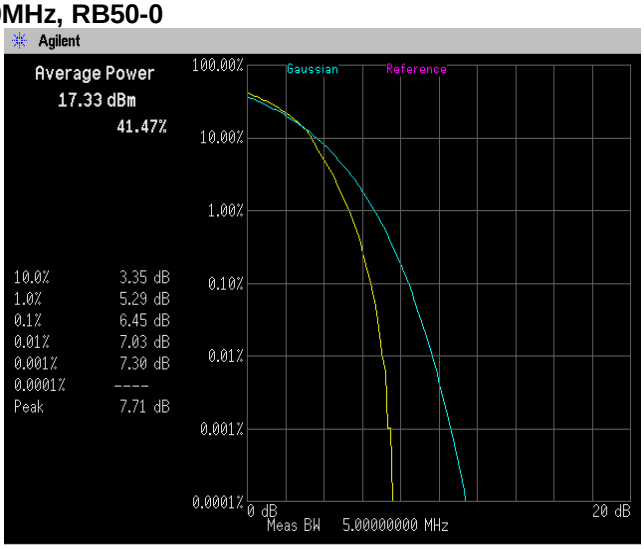


Japan

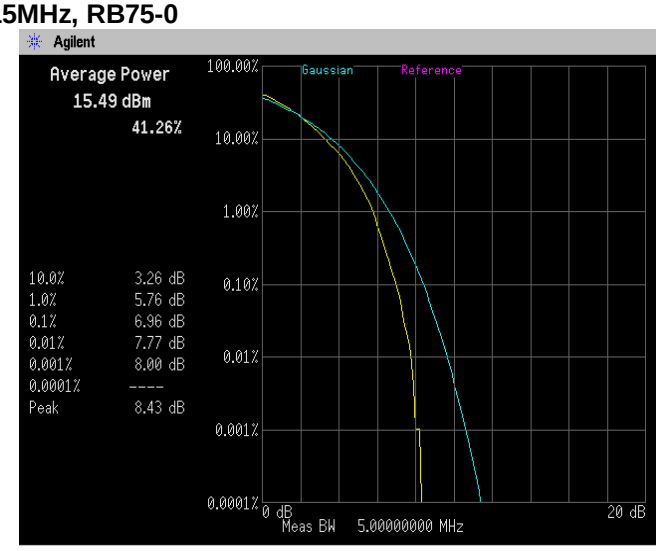
[LTE Band IV]

Channel: 20175

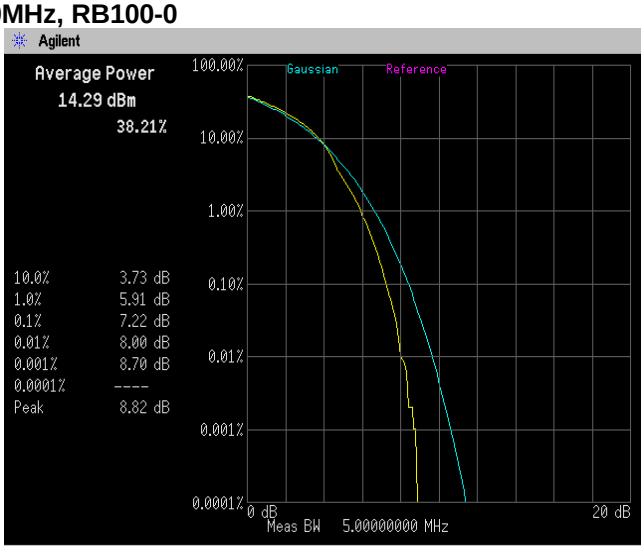
64QAM, BW 10MHz, RB50-0



64QAM, BW 15MHz, RB75-0



64QAM, BW 20MHz, RB100-0

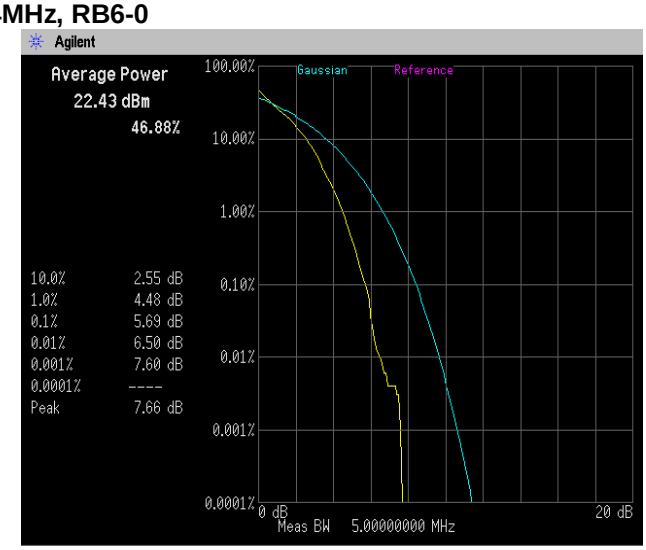


Japan

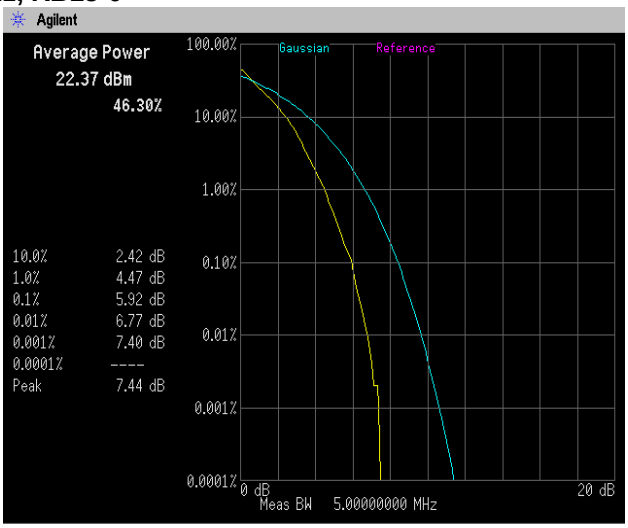
[LTE Band XII]

Channel: 23095

QPSK, BW 1.4MHz, RB6-0



QPSK, BW 3MHz, RB15-0

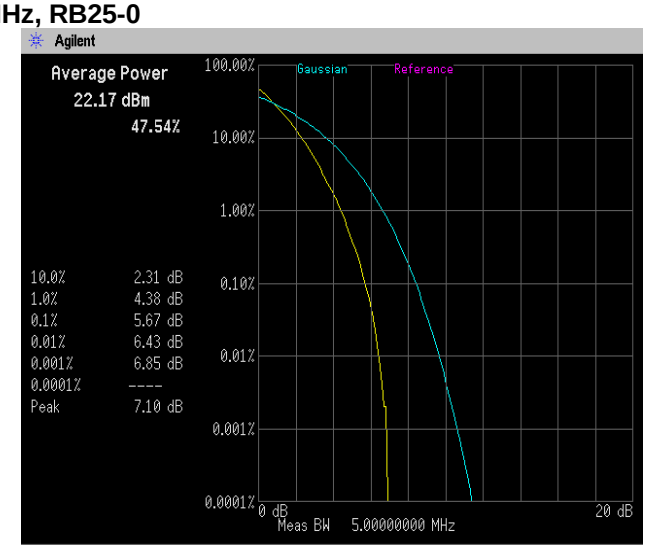


Japan

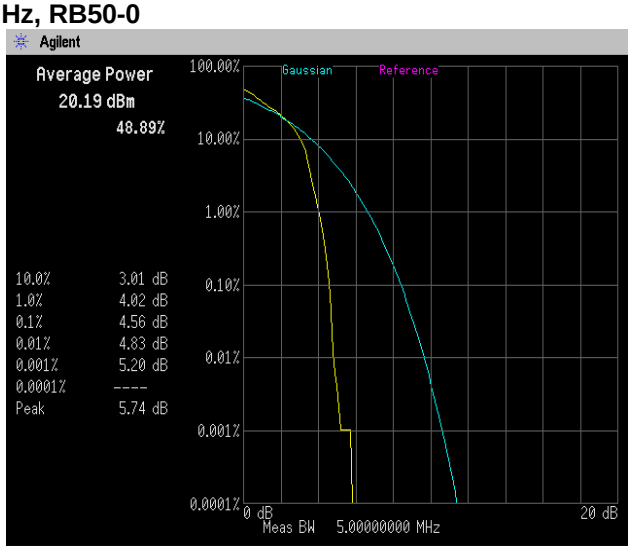
[LTE Band XII]

Channel: 23095

QPSK, BW 5MHz, RB25-0



QPSK, BW 10MHz, RB50-0

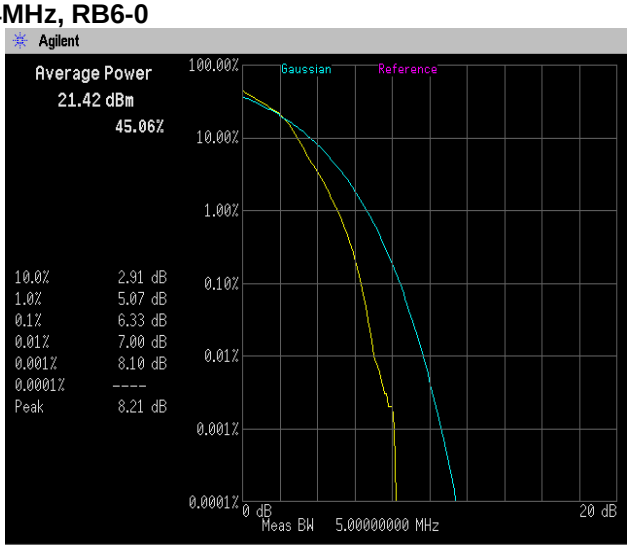


Japan

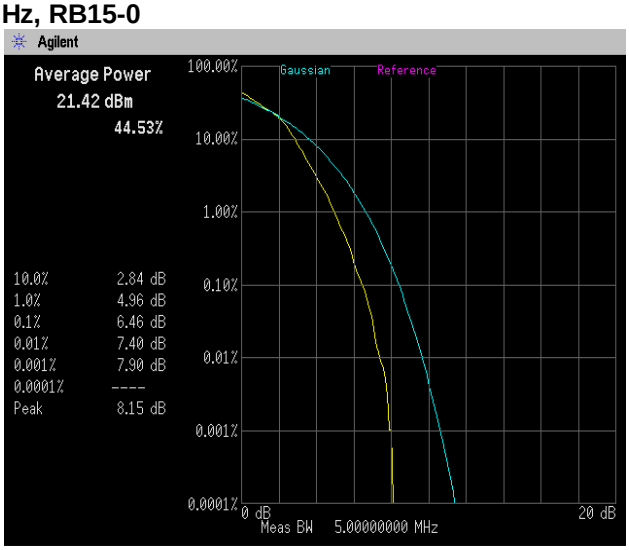
[LTE Band XII]

Channel: 23095

16QAM, BW 1.4MHz, RB6-0



16QAM, BW 3MHz, RB15-0

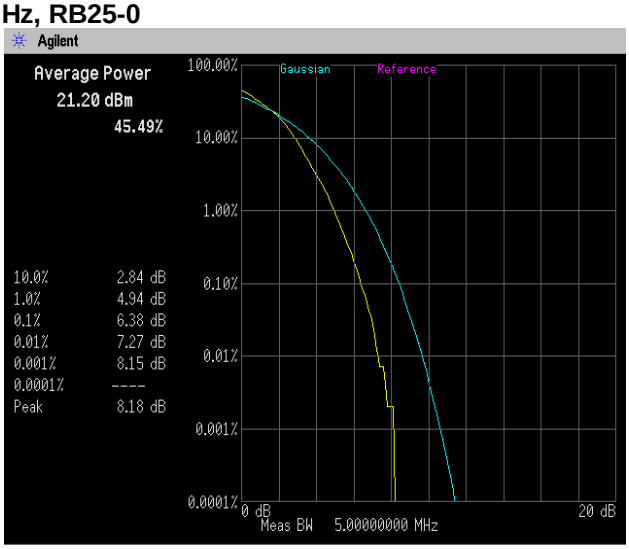


Japan

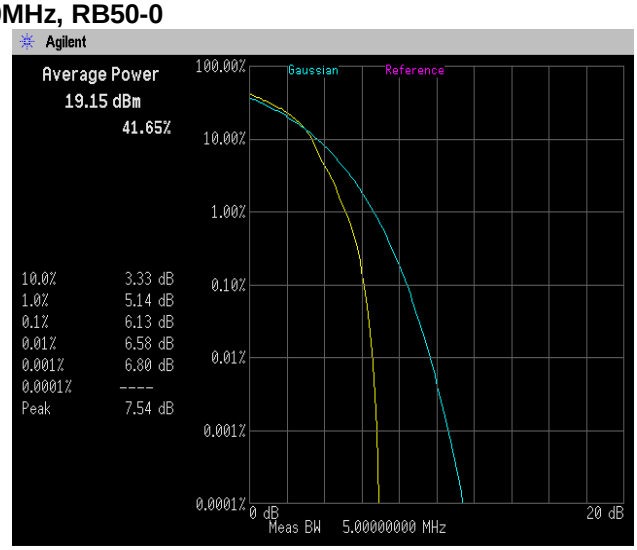
[LTE Band XII]

Channel: 23095

16QAM, BW 5MHz, RB25-0



16QAM, BW 10MHz, RB50-0

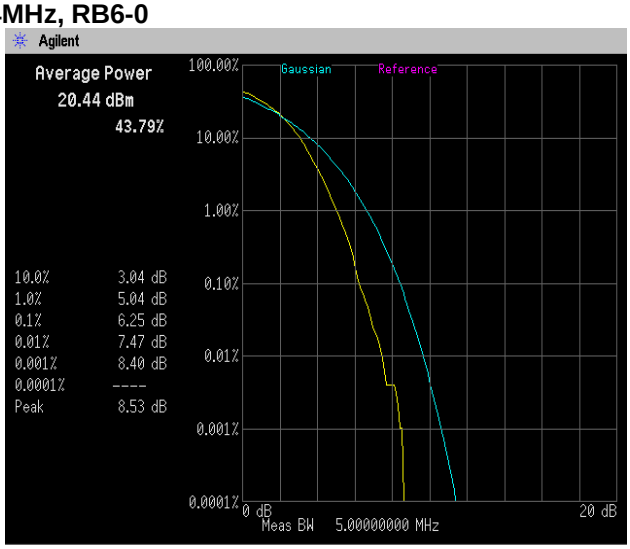


Japan

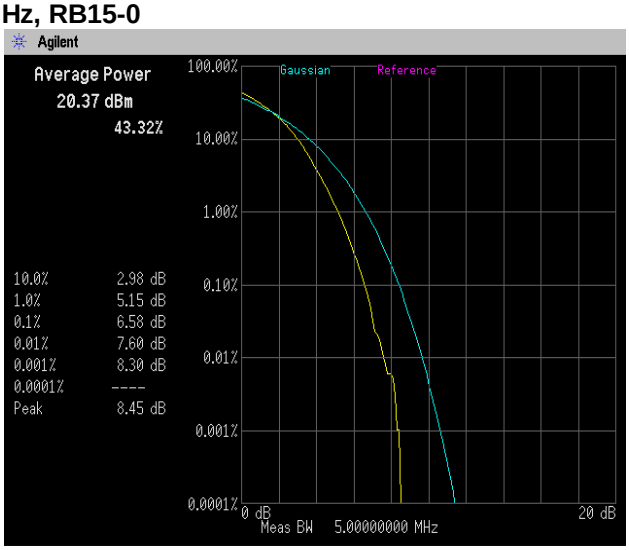
[LTE Band XII]

Channel: 23095

64QAM, BW 1.4MHz, RB6-0



64QAM, BW 3MHz, RB15-0

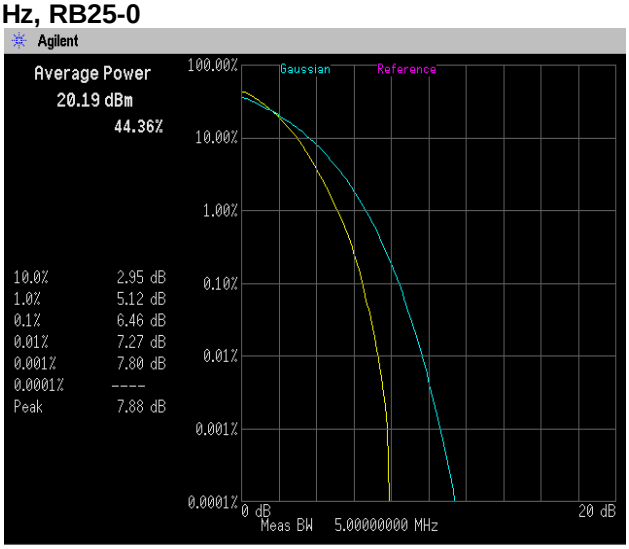


Japan

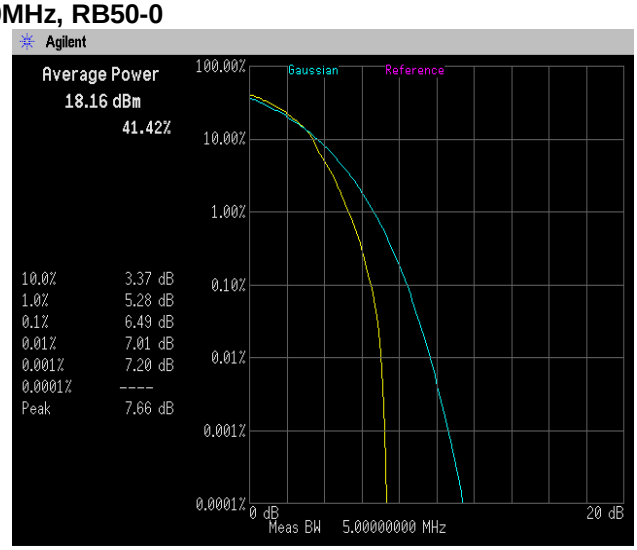
[LTE Band XII]

Channel: 23095

64QAM, BW 5MHz, RB25-0



64QAM, BW 10MHz, RB50-0

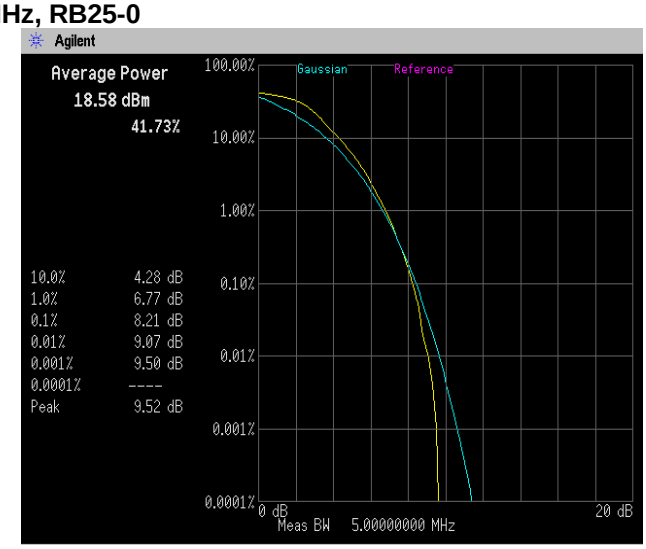


Japan

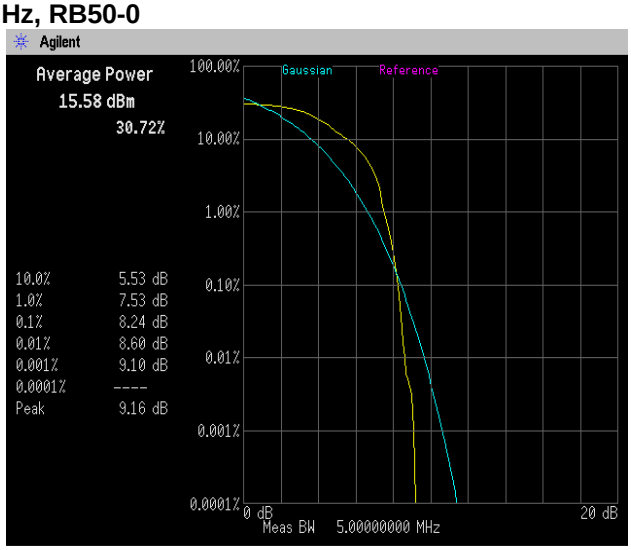
[LTE Band XLI]

Channel: 40620

QPSK, BW 5MHz, RB25-0



QPSK, BW 10MHz, RB50-0

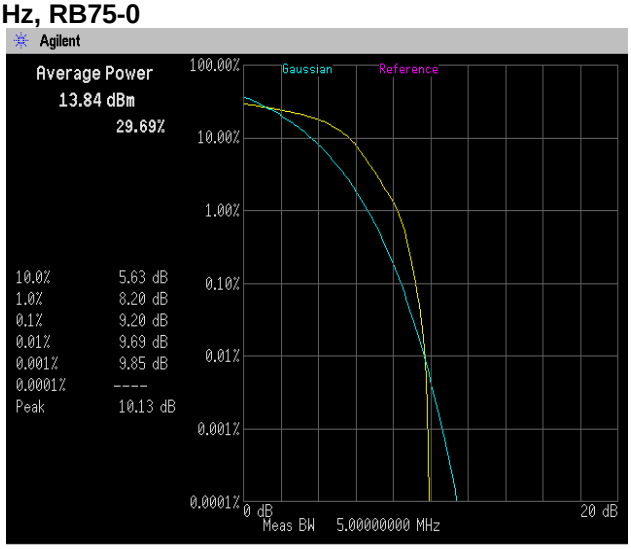


Japan

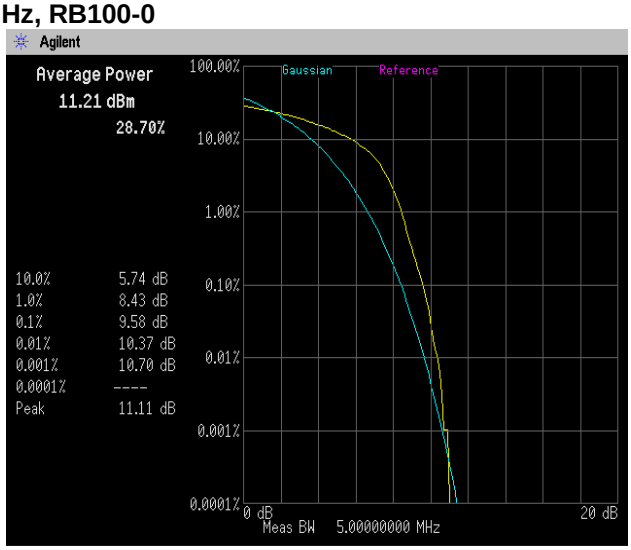
[LTE Band XLI]

Channel: 40620

QPSK, BW 15MHz, RB75-0



QPSK, BW 20MHz, RB100-0

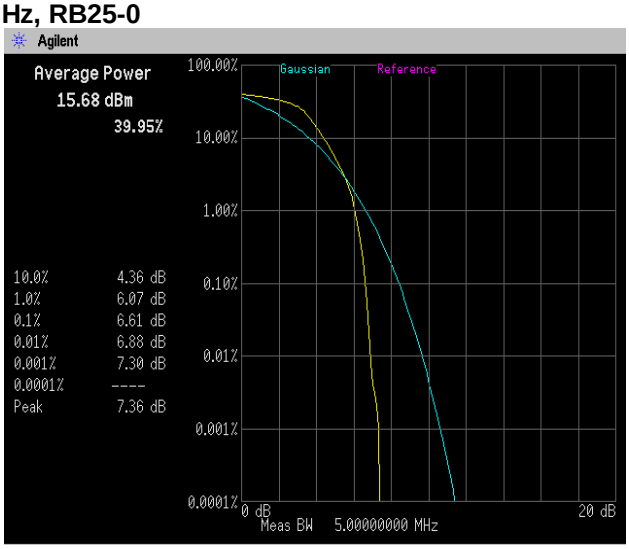


Japan

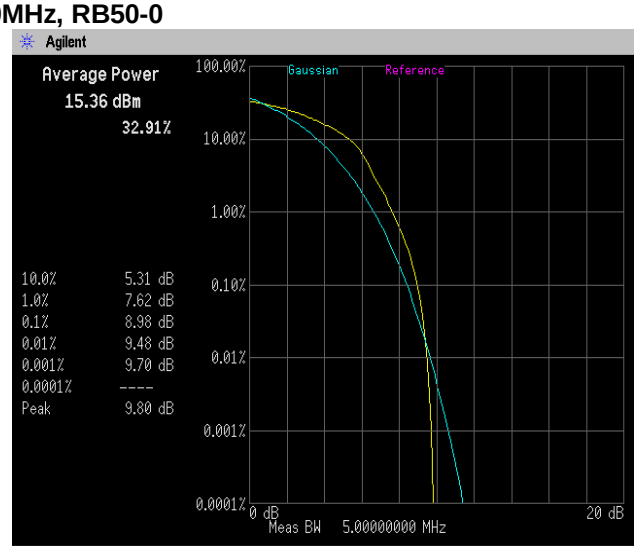
[LTE Band XLI]

Channel: 40620

16QAM, BW 5MHz, RB25-0



16QAM, BW 10MHz, RB50-0

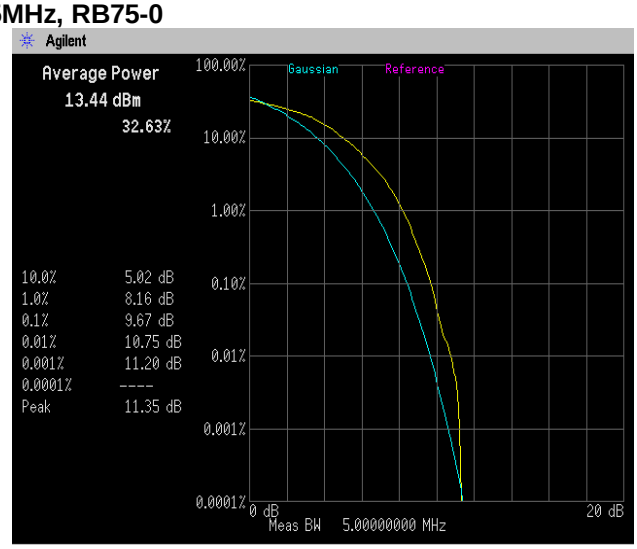


Japan

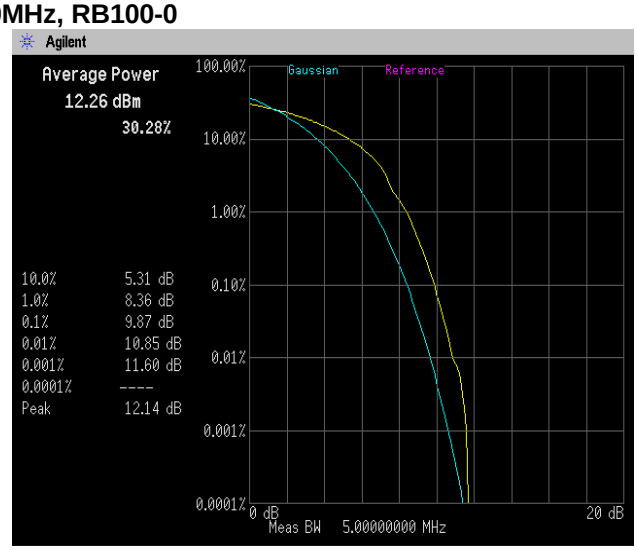
[LTE Band XLI]

Channel: 40620

16QAM, BW 15MHz, RB75-0



16QAM, BW 20MHz, RB100-0

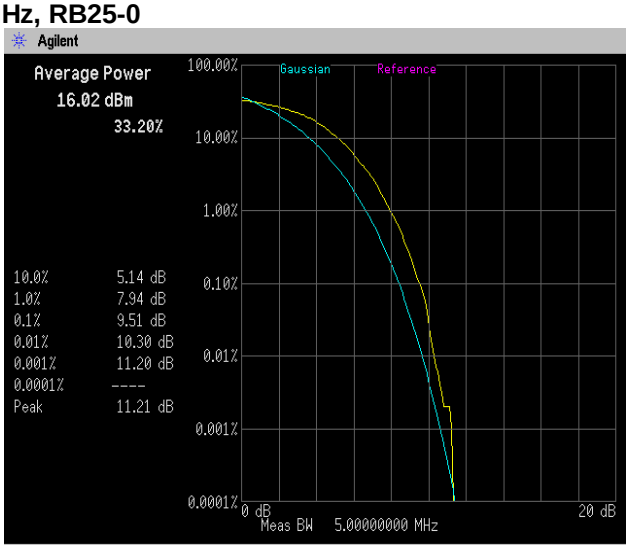


Japan

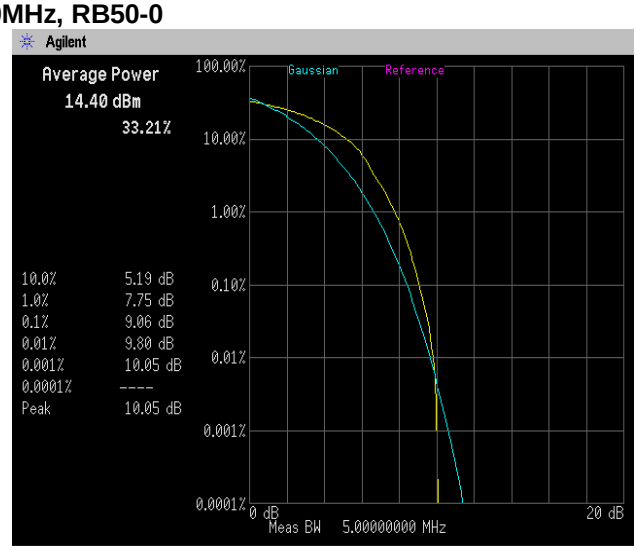
[LTE Band XLI]

Channel: 40620

64QAM, BW 5MHz, RB25-0



64QAM, BW 10MHz, RB50-0

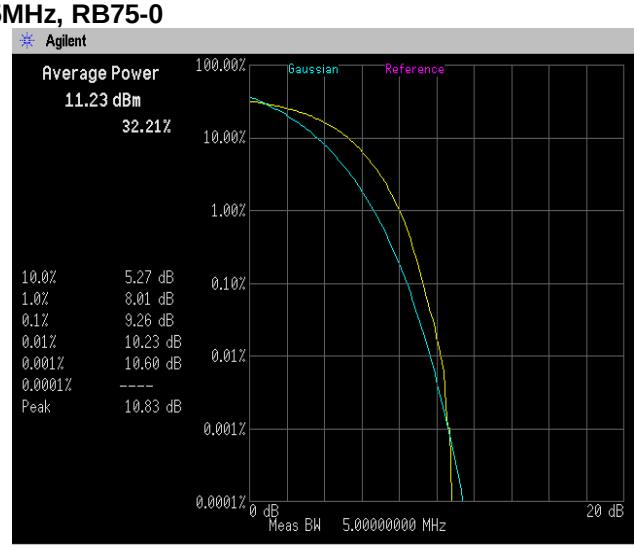


Japan

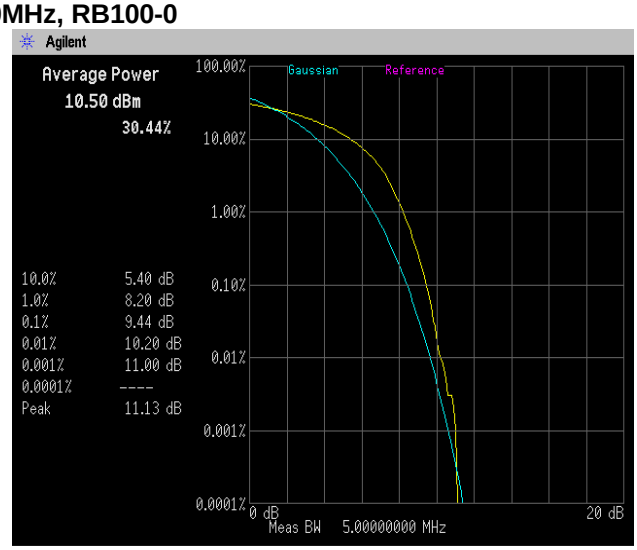
[LTE Band XLI]

Channel: 40620

64QAM, BW 15MHz, RB75-0



64QAM, BW 20MHz, RB100-0



Japan

4.4 Occupied Bandwidth

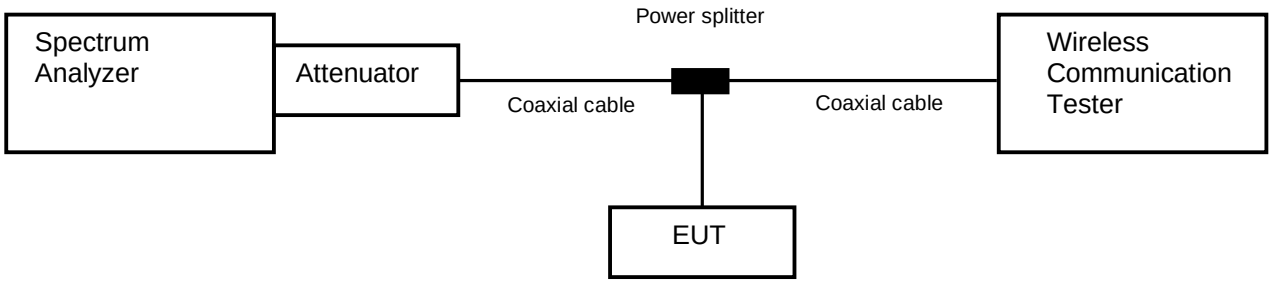
4.4.1 Measurement procedure

[FCC 2.1049]

The Occupied bandwidth was measured with a spectrum analyzer connected to the antenna terminal.

The spectrum analyzer is set to;
a) RBW = 1-5% of the expected OBW & VBW ≥ 3 x RBW
b) Detector = Peak
c) Trace mode = Max hold
d) Sweep time = auto-couple

- Test configuration



4.4.2 Limit

None

4.4.3 Measurement result

Date	:	5-August-2023			
Temperature	:	23.9 [˚C]			
Humidity	:	51.8 [%]	Test engineer	:	
Test place	:	Shielded room No.4			Kazunori Saito

Date	:	6-August-2023			
Temperature	:	23.6 [˚C]			
Humidity	:	54.9 [%]	Test engineer	:	
Test place	:	Shielded room No.4			Kazunori Saito

Date	:	7-August-2023			
Temperature	:	23.9 [˚C]			
Humidity	:	56.1 [%]	Test engineer	:	
Test place	:	Shielded room No.4			Kazunori Saito

Band	Channel	Frequency [MHz]	Test Result [MHz]
WCDMA Band IV	1312	1712.4	4.1396
	1413	1732.6	4.1390
	1513	1752.6	4.1391

Band	Channel	Frequency [MHz]	Bandwidth [MHz]	Modulation	RB	Test Result [MHz]
LTE Band IV	20175	1732.5	1.4	QPSK	3-1	0.6016
					6-0	1.0952
				16QAM	3-1	0.6150
					6-0	1.1006
				64QAM	3-1	0.5962
					6-0	1.0915
			3	QPSK	8-4	1.5084
					15-0	2.6997
				16QAM	8-4	1.5321
					15-0	2.6928
				64QAM	8-4	1.5134
					15-0	2.7031
			5	QPSK	12-7	2.2833
					25-0	4.4912
				16QAM	12-7	2.3050
					25-0	4.5007
				64QAM	12-7	2.3139
					25-0	4.5026
			10	QPSK	25-12	4.6234
					50-0	8.9722
				16QAM	25-12	4.7239
					50-0	8.9815
				64QAM	25-12	4.6705
					50-0	8.9895
			15	QPSK	36-20	6.6948
					75-0	13.4771
				16QAM	36-20	6.6869
					75-0	13.4644
				64QAM	36-20	6.7315
					75-0	13.4310
			20	QPSK	50-24	9.2296
					100-0	17.9495
				16QAM	50-24	9.2129
					100-0	17.9337
				64QAM	50-24	9.1922
					100-0	17.8968

Band	Channel	Frequency [MHz]	Bandwidth [MHz]	Modulation	RB	Test Result [MHz]
LTE Band XII	23095	707.5	1.4	QPSK	3-1	0.6123
					6-0	1.0937
				16QAM	3-1	0.5943
					6-0	1.0884
				64QAM	3-1	0.5955
					6-0	1.0926
			3	QPSK	8-4	1.5289
					15-0	2.7040
				16QAM	8-4	1.5284
					15-0	2.6997
				64QAM	8-4	1.5086
					15-0	2.7149
			5	QPSK	12-7	2.2844
					25-0	4.5148
				16QAM	12-7	2.2929
					25-0	4.5177
				64QAM	12-7	2.2724
					25-0	4.4991
			10	QPSK	25-12	4.6517
					50-0	8.9699
				16QAM	25-12	4.7187
					50-0	8.9729
				64QAM	25-12	4.6663
					50-0	8.9785

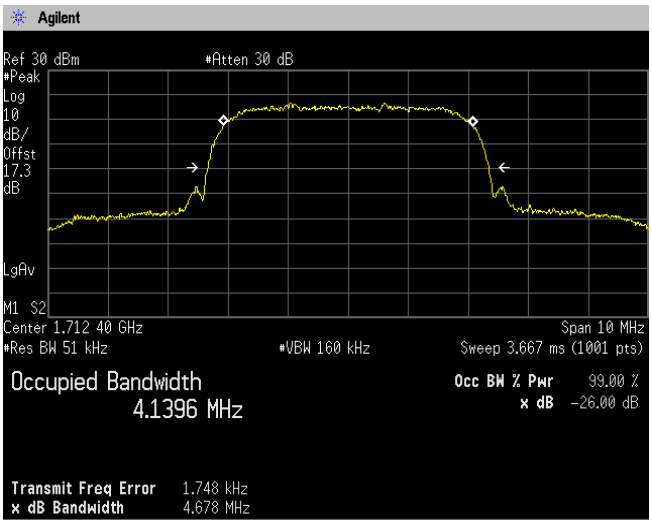
Band	Channel	Frequency [MHz]	Bandwidth [MHz]	Modulation	RB	Test Result [MHz]
LTE Band XLI	40620	2593	5	QPSK	12-7	2.2651
					25-0	4.5103
				16QAM	12-7	2.3110
					25-0	4.4954
				64QAM	12-7	2.2604
					25-0	4.4963
			10	QPSK	25-12	4.6722
					50-0	9.0086
				16QAM	25-12	4.7055
					50-0	8.9619
				64QAM	25-12	4.6317
					50-0	8.9700
			15	QPSK	36-20	6.7750
					75-0	13.4613
				16QAM	36-20	6.7553
					75-0	13.4963
				64QAM	36-20	6.6841
					75-0	13.4897
			20	QPSK	50-24	9.2203
					100-0	17.9390
				16QAM	50-24	9.2385
					100-0	17.9269
				64QAM	50-24	9.1528
					100-0	17.9392

Japan

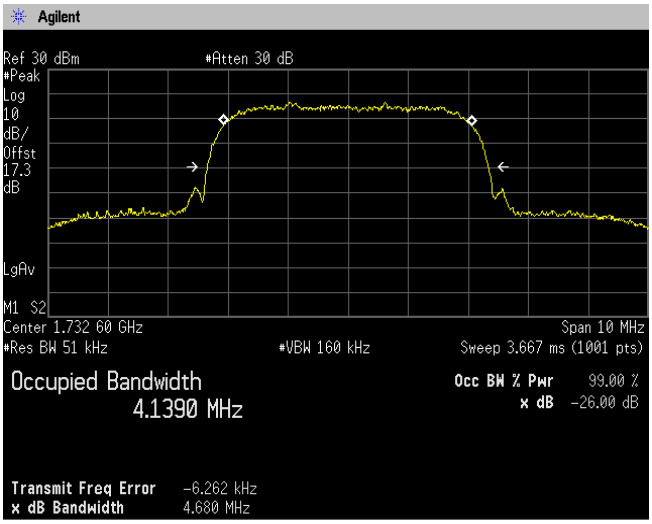
4.4.4 Trace data

[WCDMA Band IV]

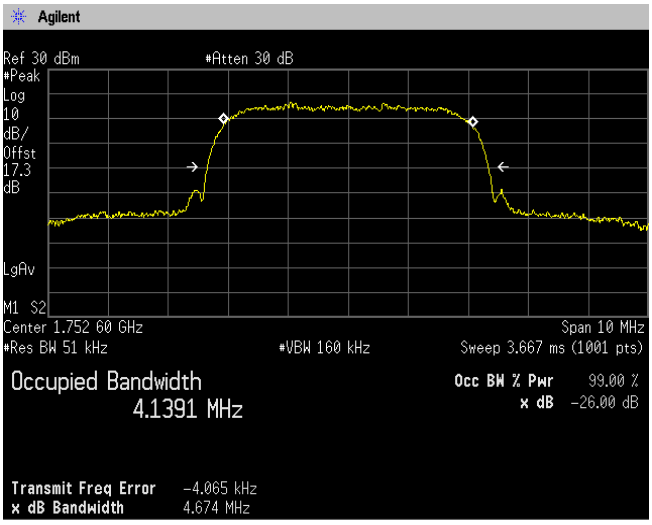
Channel: 1312



Channel: 1413



Channel: 1513

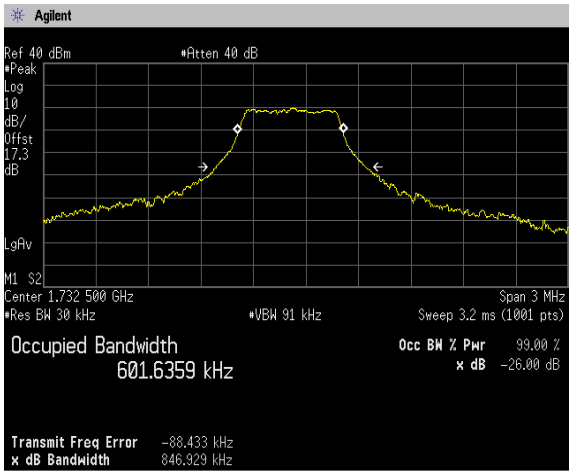


Japan

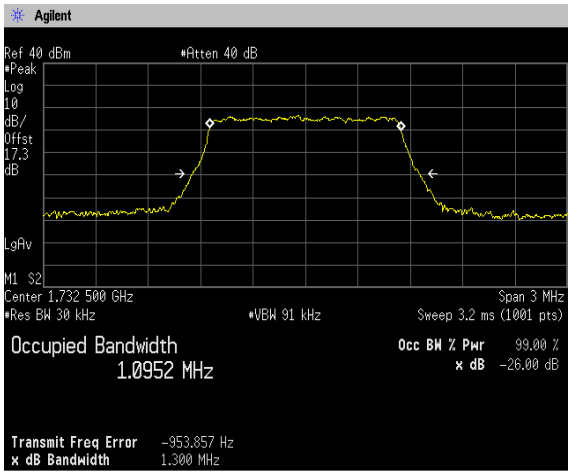
[LTE Band IV]
Channel: 20175

QPSK, BW 1.4MHz

RB3-1

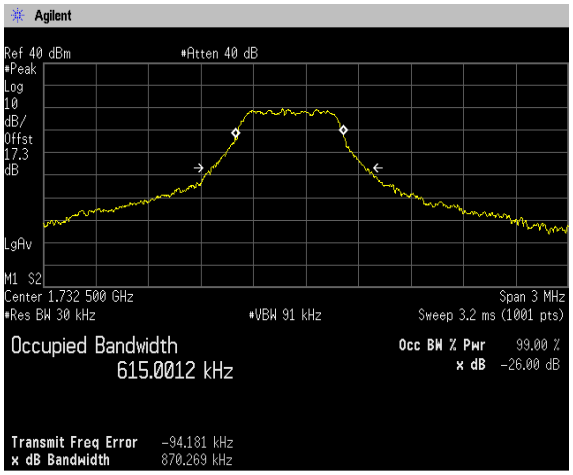


RB6-0

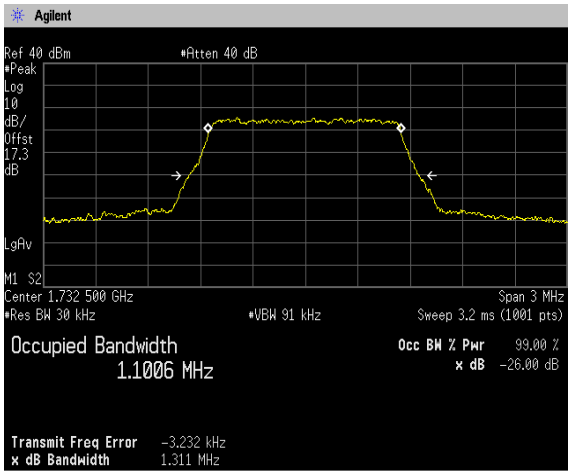


16QAM, BW 1.4MHz

RB3-1

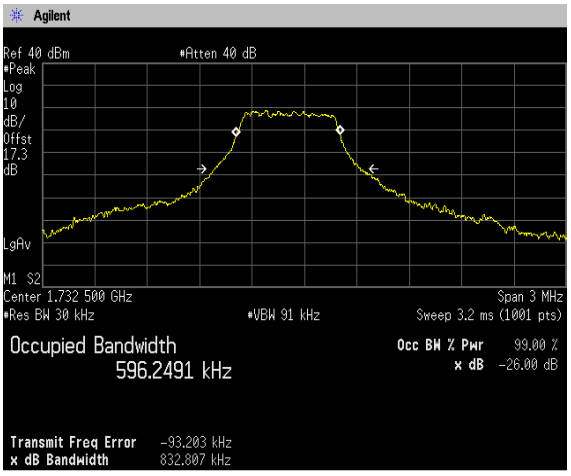


RB6-0

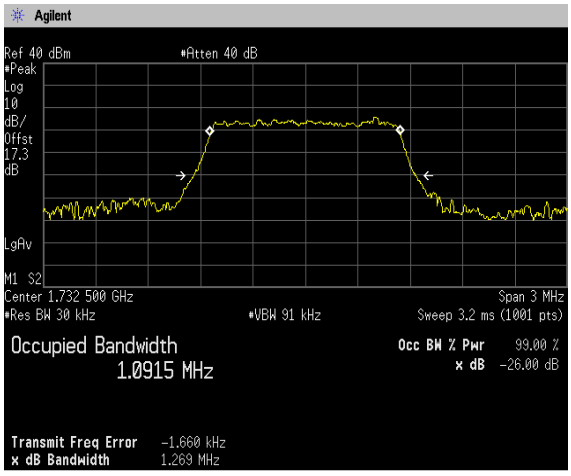


64QAM, BW 1.4MHz

RB3-1



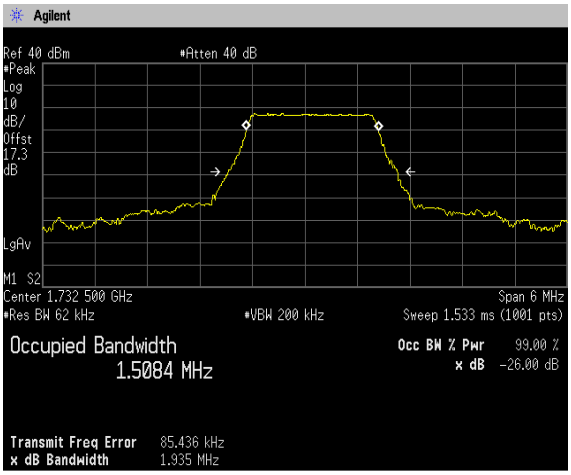
RB6-0



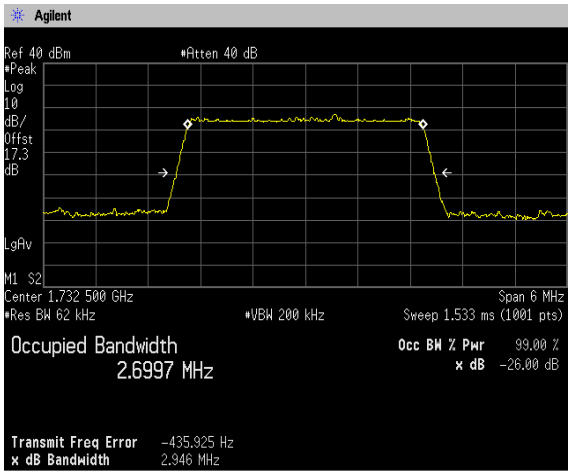
[LTE Band IV]
Channel: 20175

QPSK, BW 3MHz

RB8-4

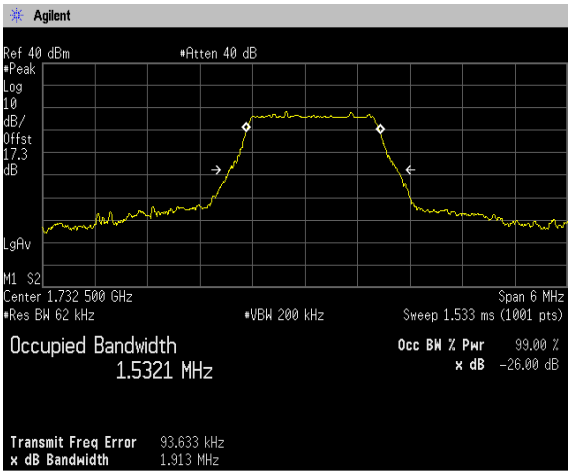


RB15-0

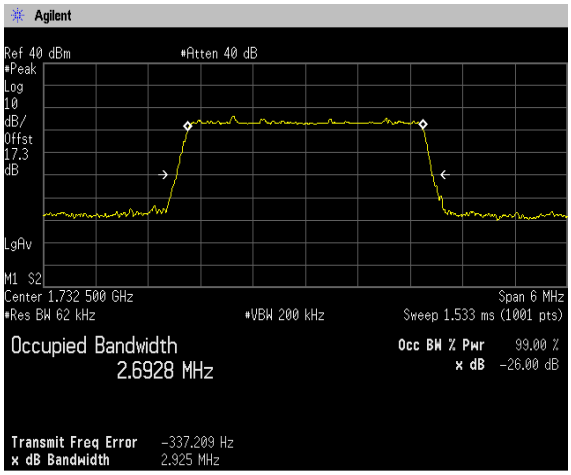


16QAM, BW 3MHz

RB8-4

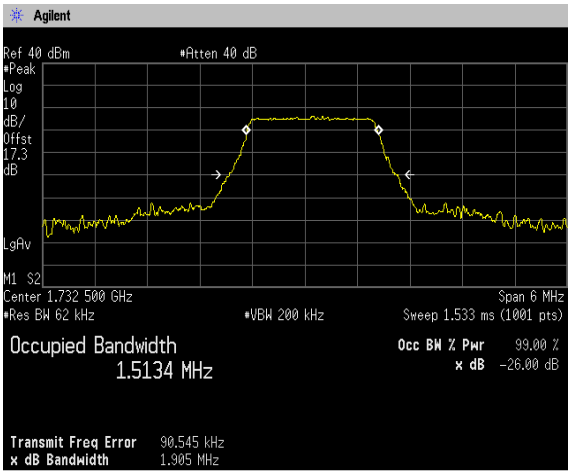


RB15-0

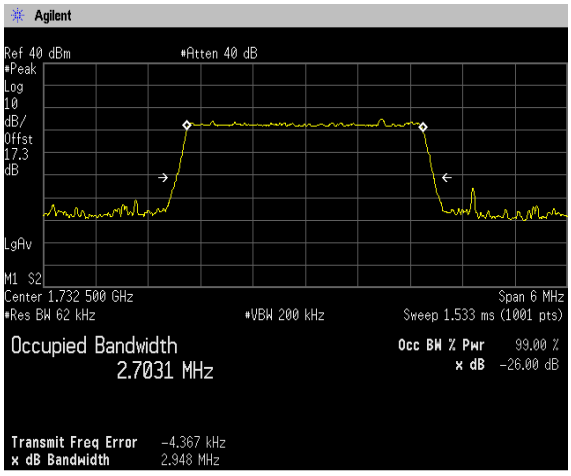


64QAM, BW 3MHz

RB8-4



RB15-0

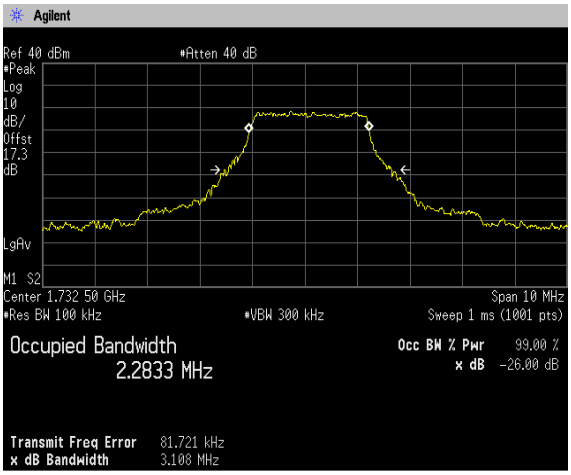


Japan

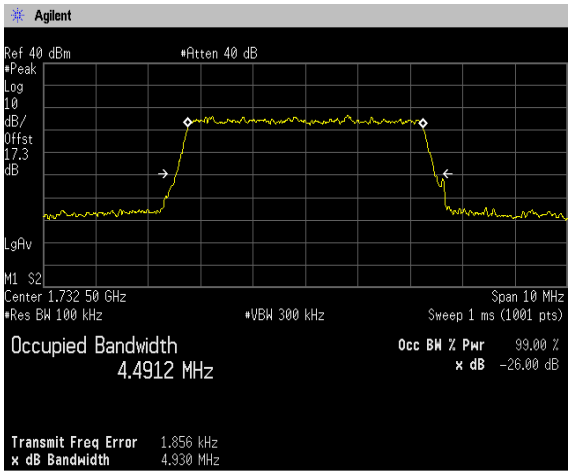
[LTE Band IV]
Channel: 20175

QPSK, BW 5MHz

RB12-7

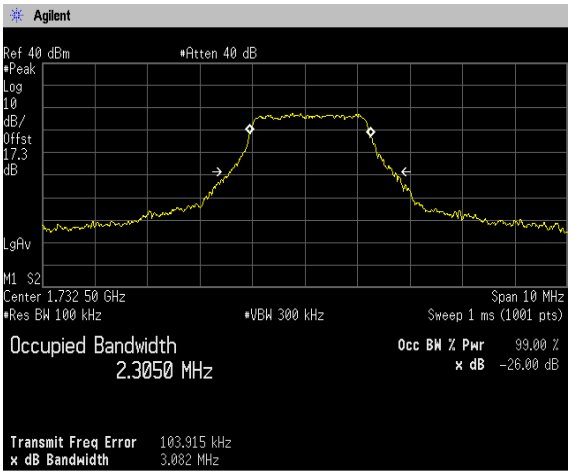


RB25-0

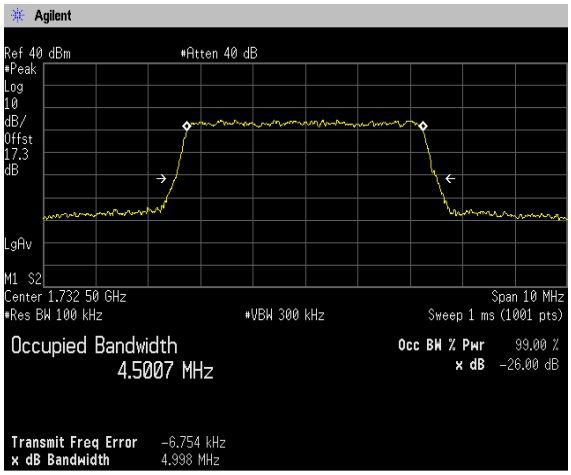


16QAM, BW 5MHz

RB12-7

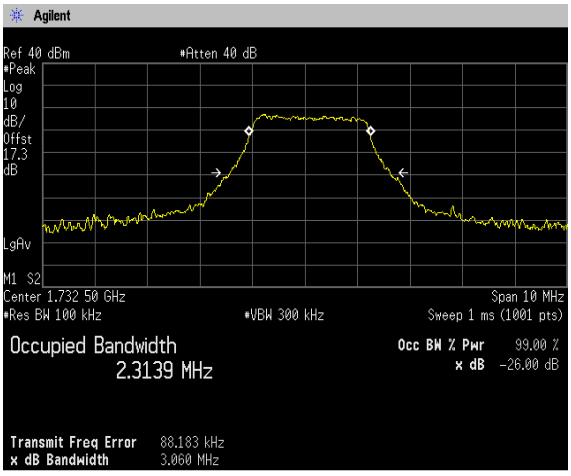


RB25-0

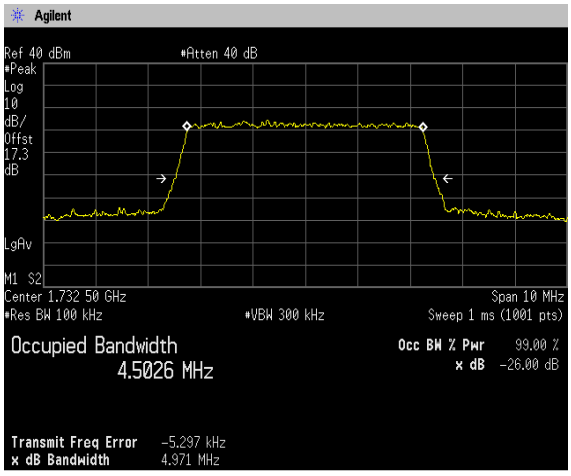


64QAM, BW 5MHz

RB12-7



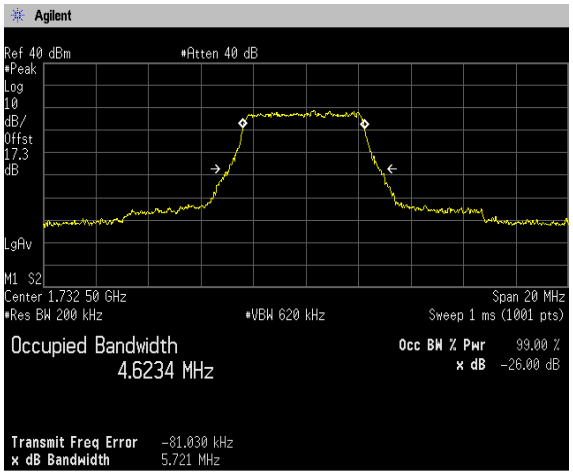
RB25-0



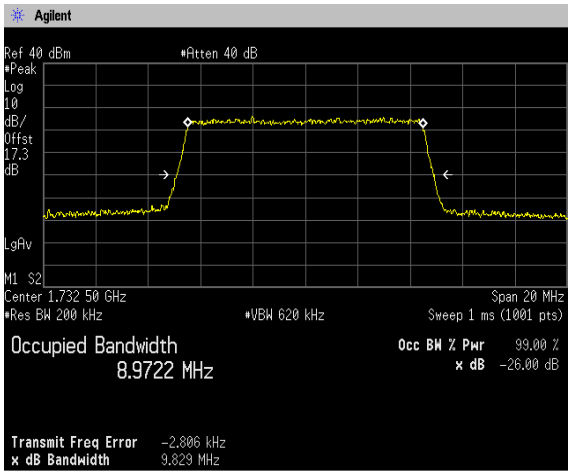
[LTE Band IV]
Channel: 20175

QPSK, BW 10MHz

RB25-12

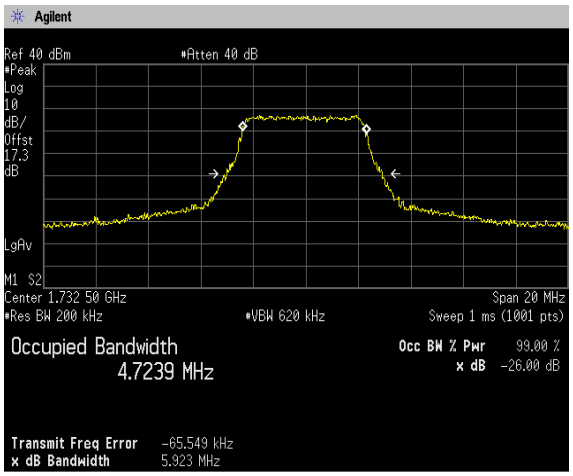


RB50-0

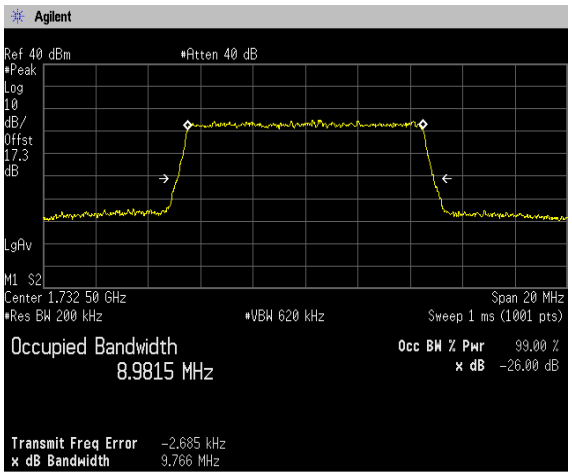


16QAM, BW 10MHz

RB25-12

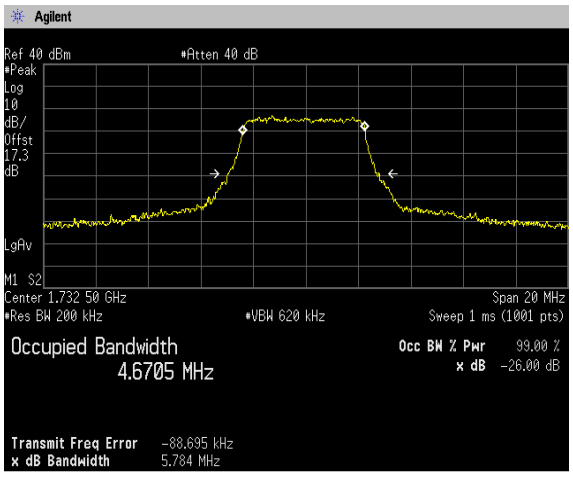


RB50-0

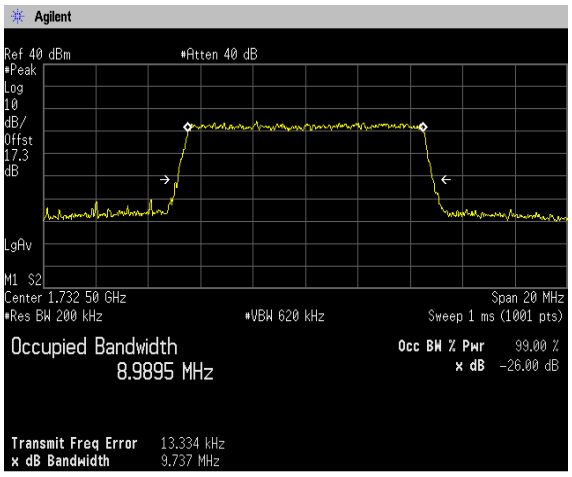


64QAM, BW 10MHz

RB25-12



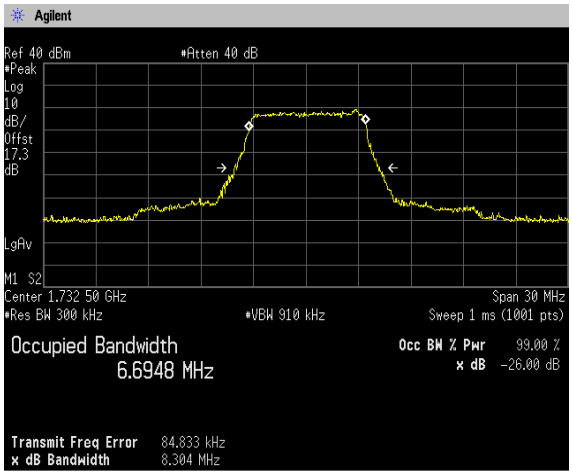
RB50-0



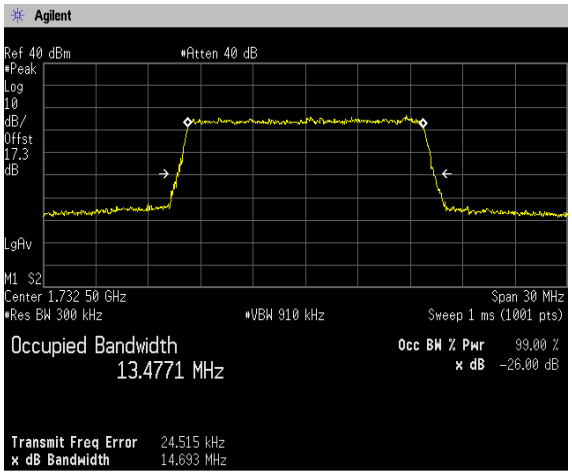
[LTE Band IV]
Channel: 20175

QPSK, BW 15MHz

RB36-20

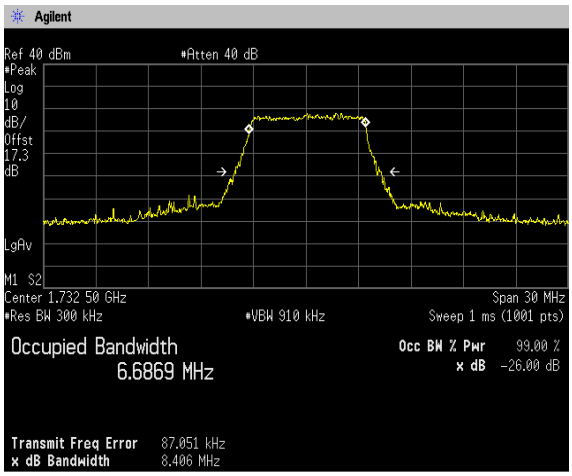


RB75-0

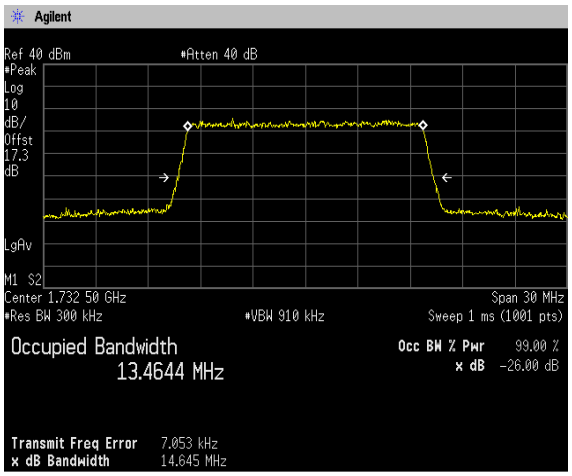


16QAM, BW 15MHz

RB36-20

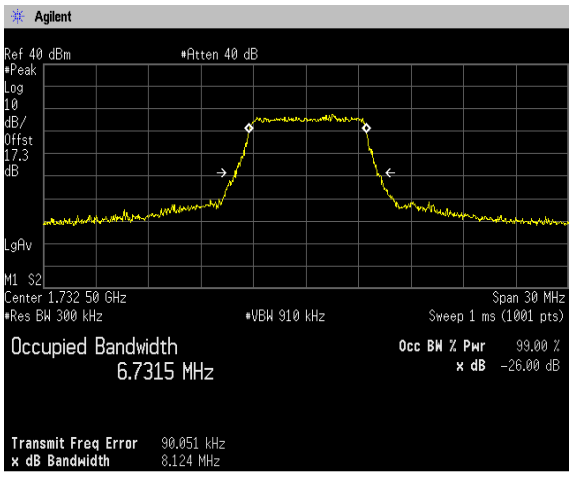


RB75-0

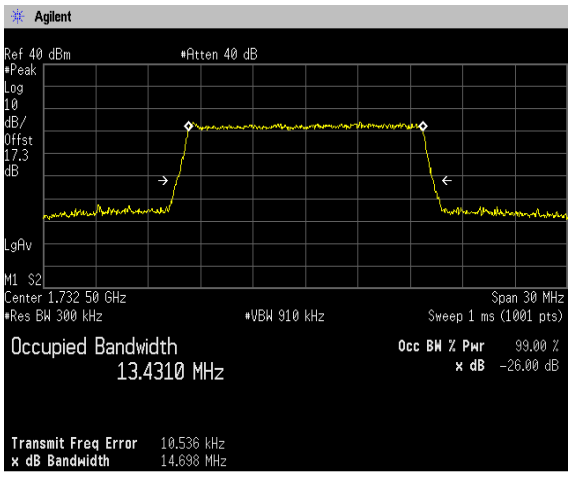


64QAM, BW 15MHz

RB36-20



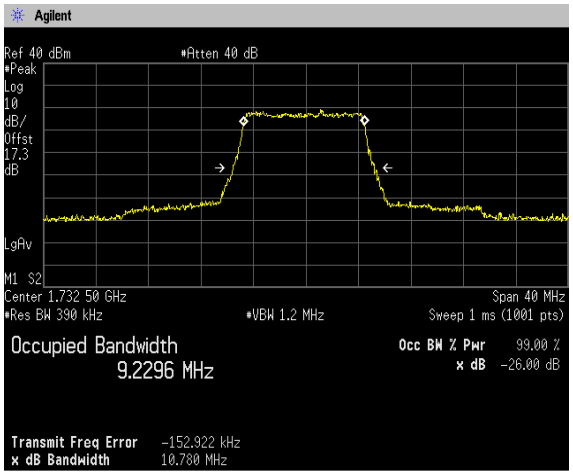
RB75-0



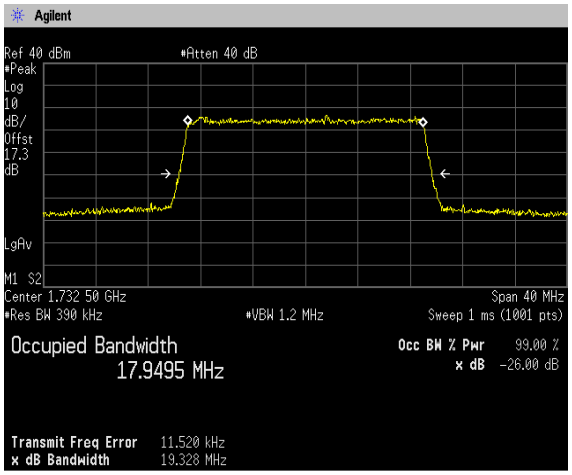
[LTE Band IV]
Channel: 20175

QPSK, BW 20MHz

RB50-24

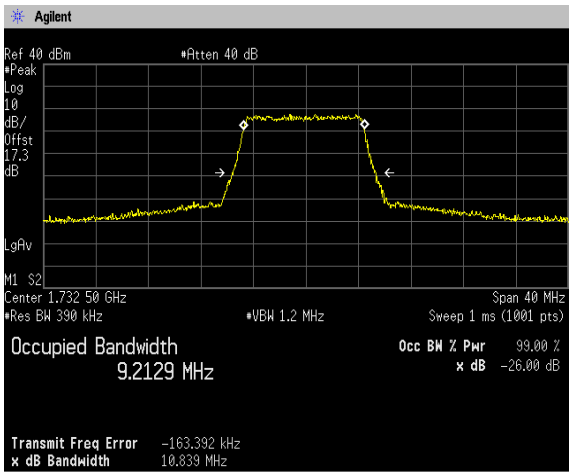


RB100-0

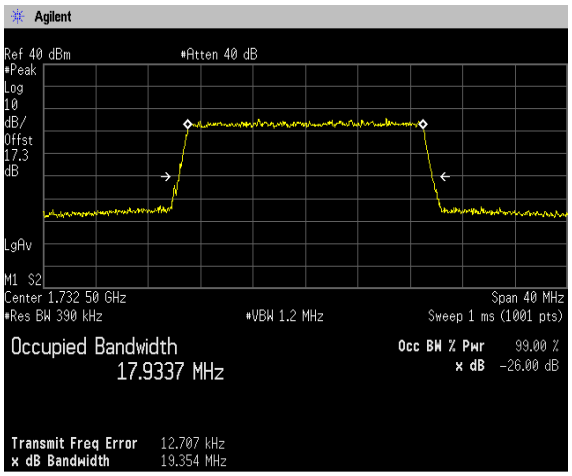


16QAM, BW 20MHz

RB50-24

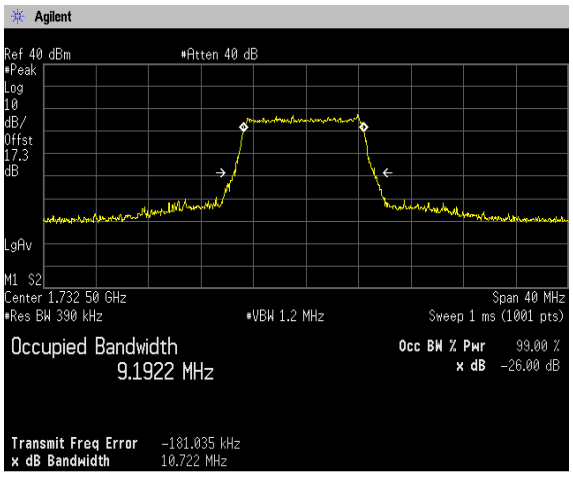


RB100-0

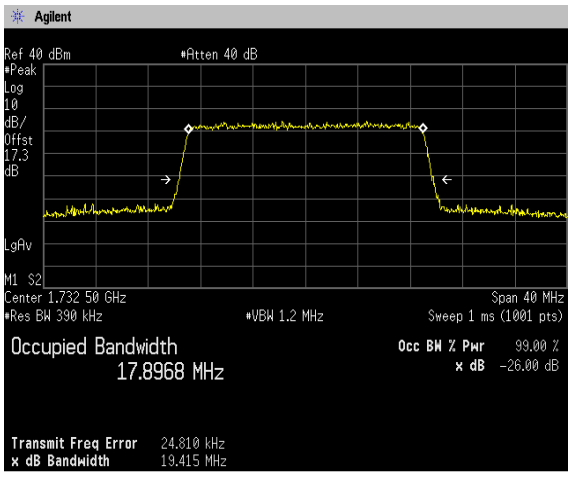


64QAM, BW 20MHz

RB50-24



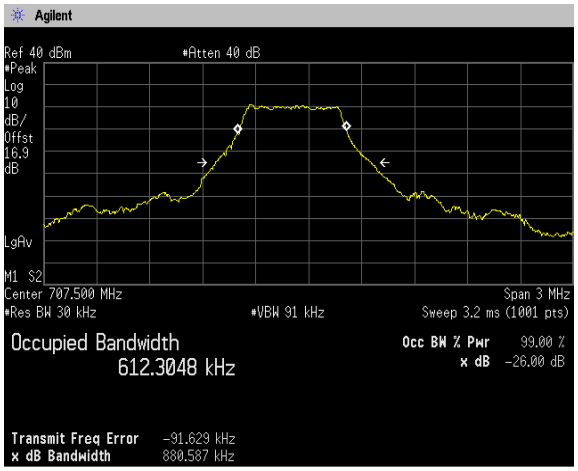
RB100-0



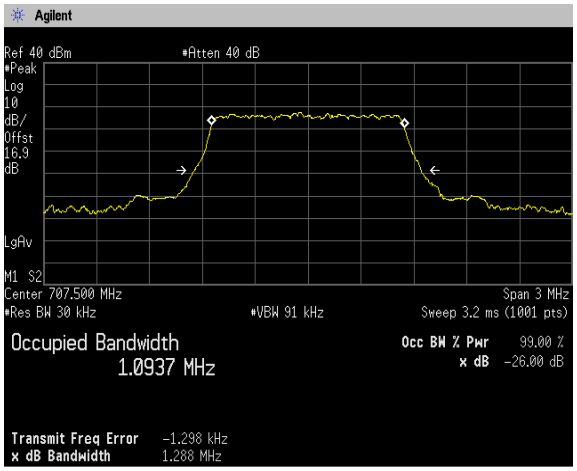
[LTE Band XII]
Channel: 23095

QPSK, BW 1.4MHz

RB3-1

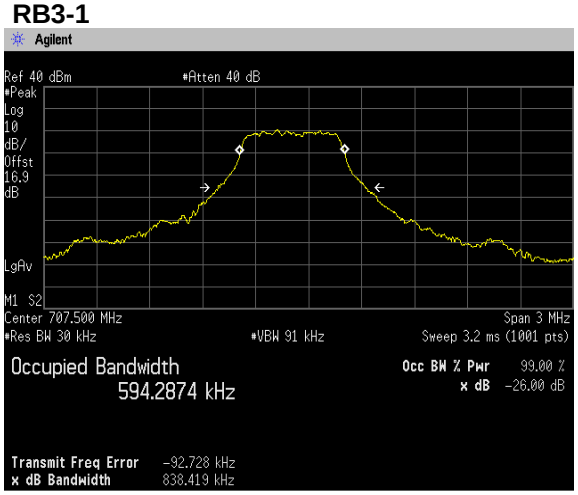


RB6-0

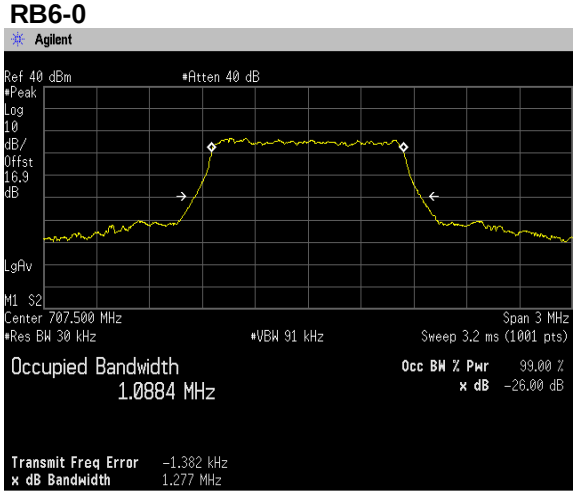


16QAM, BW 1.4MHz

RB3-1

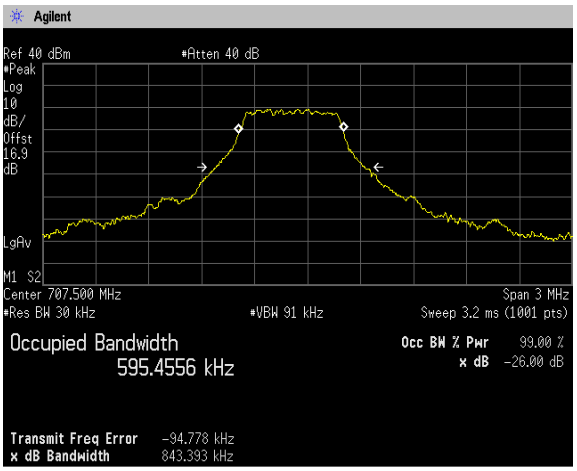


RB6-0

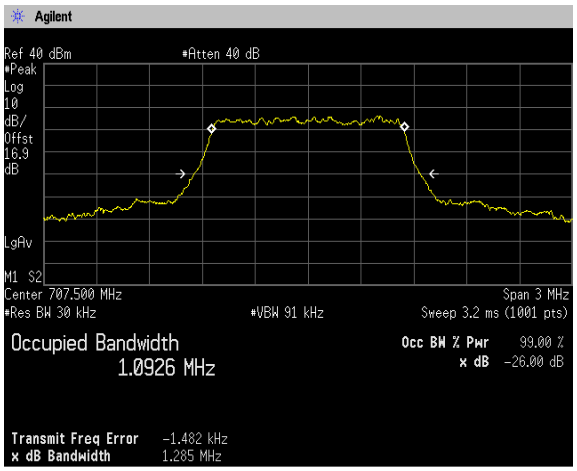


64QAM, BW 1.4MHz

RB3-1



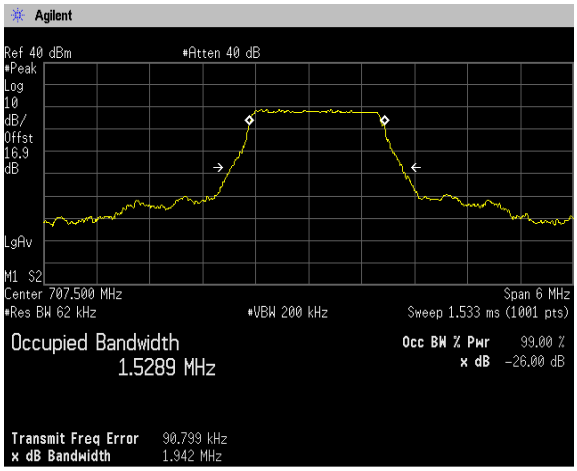
RB6-0



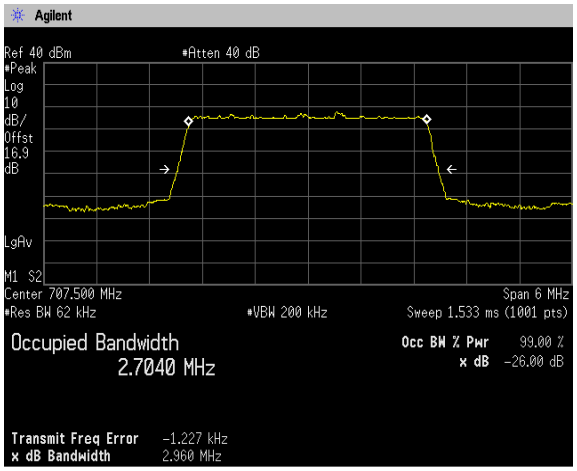
[LTE Band XII]
Channel: 23095

QPSK, BW 3MHz

RB8-4

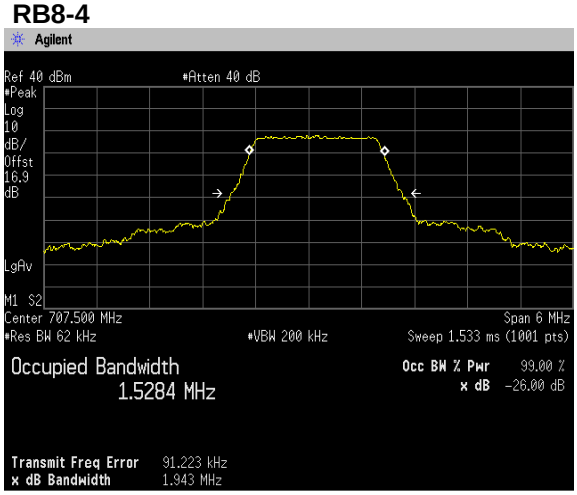


RB15-0

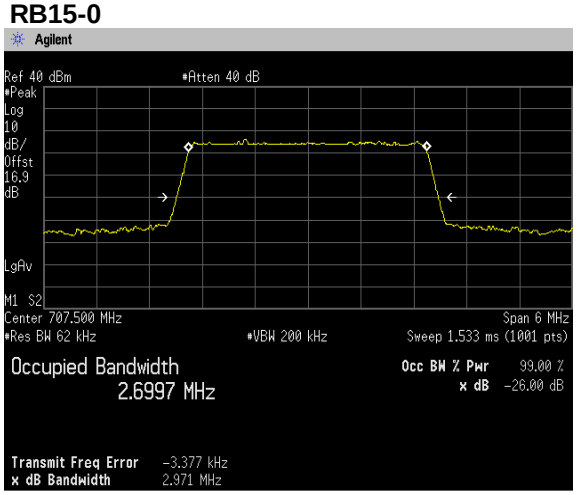


16QAM, BW 3MHz

RB8-4

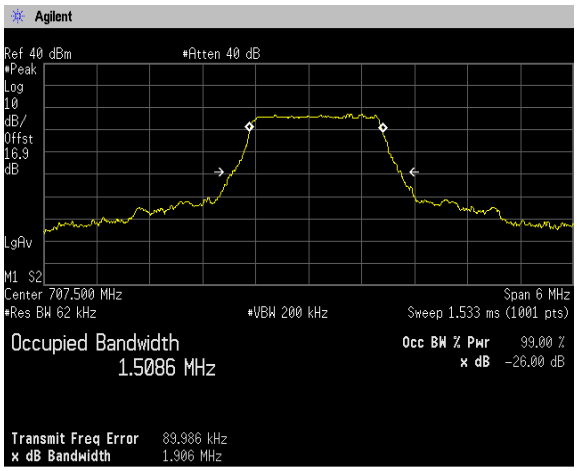


RB15-0

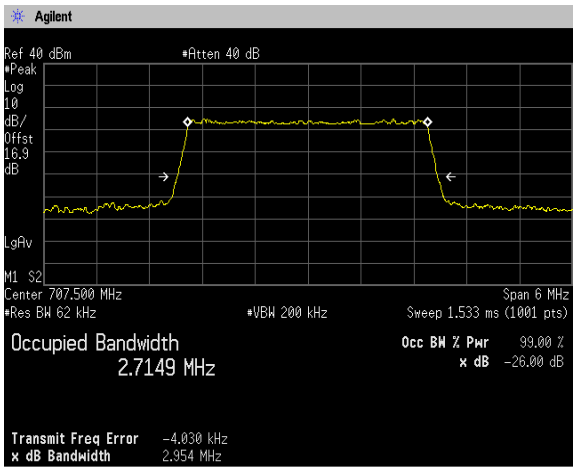


64QAM, BW 3MHz

RB8-4



RB15-0

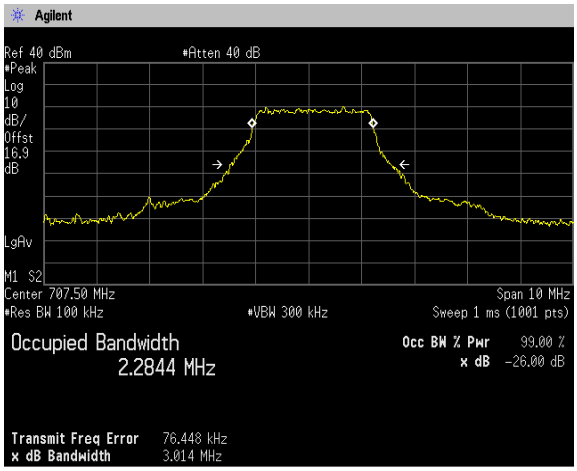


Japan

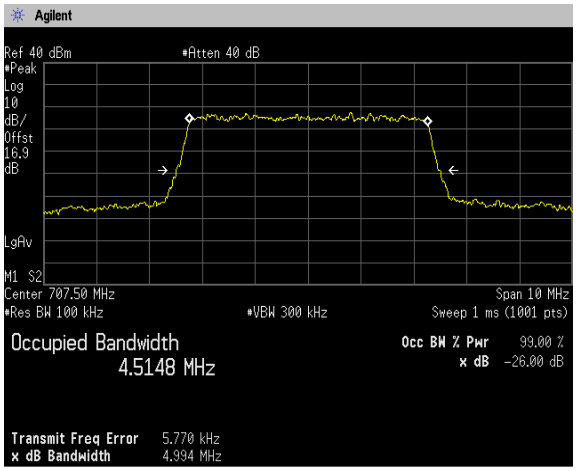
[LTE Band XII]
Channel: 23095

QPSK, BW 5MHz

RB12-7

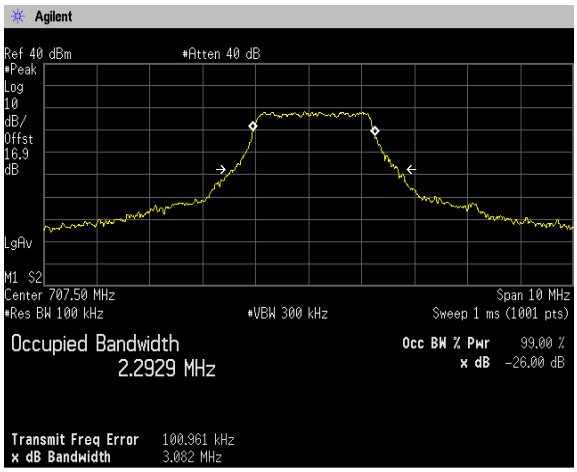


RB25-0

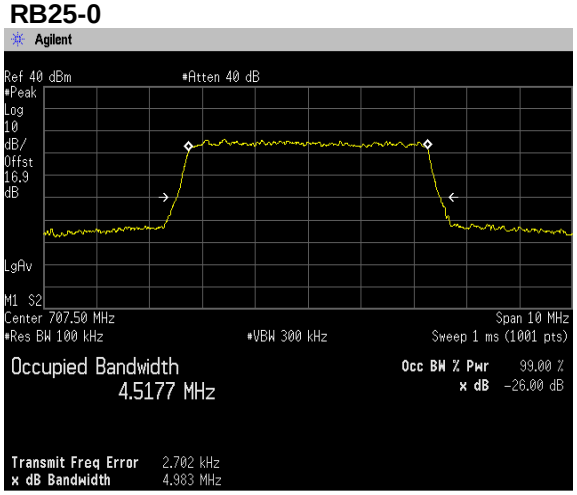


16QAM, BW 5MHz

RB12-7

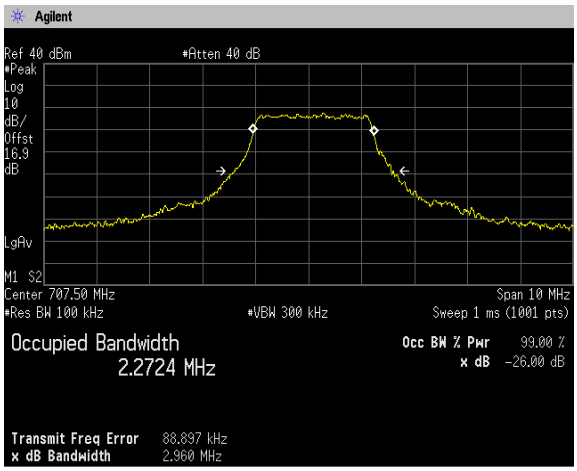


RB25-0

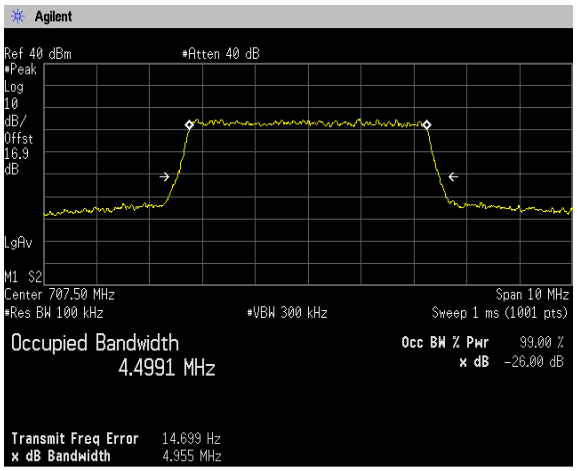


64QAM, BW 5MHz

RB12-7



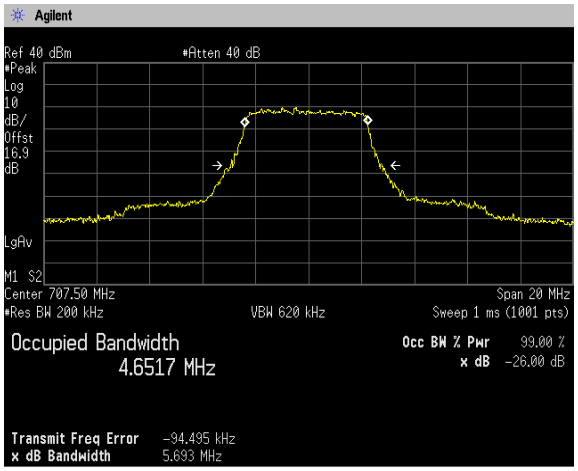
RB25-0



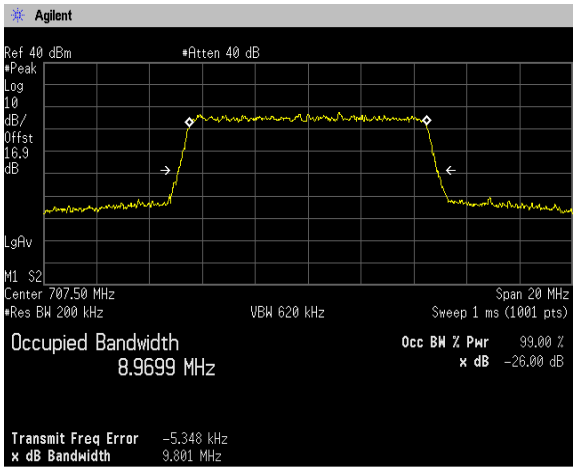
[LTE Band XII]
Channel: 23095

QPSK, BW 10MHz

RB25-12

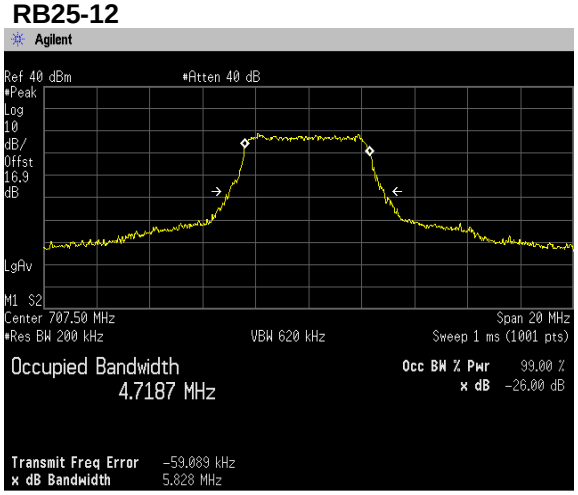


RB50-0

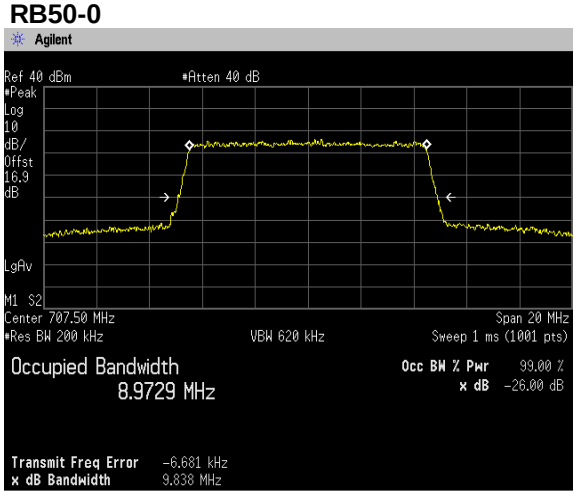


16QAM, BW 10MHz

RB25-12

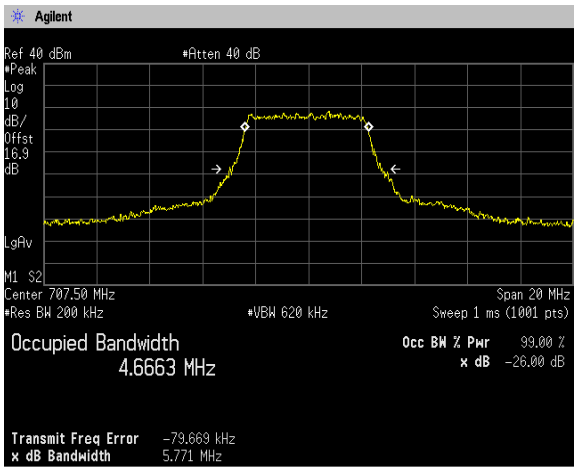


RB50-0

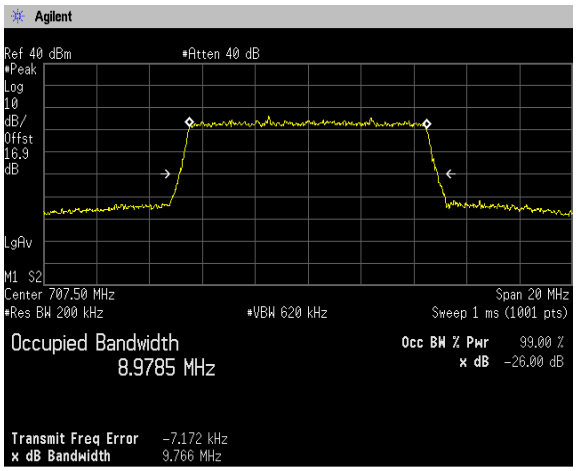


64QAM, BW 10MHz

RB25-12



RB50-0

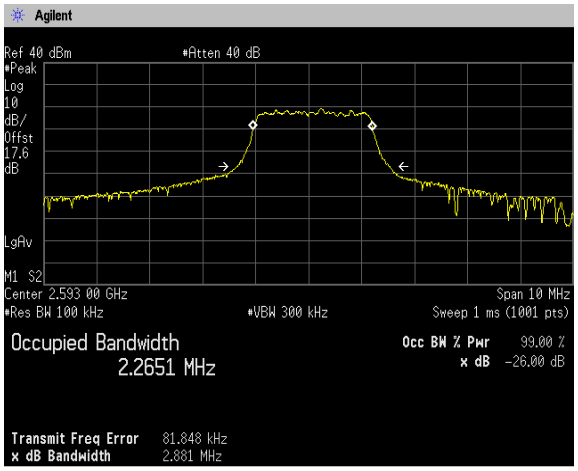


Japan

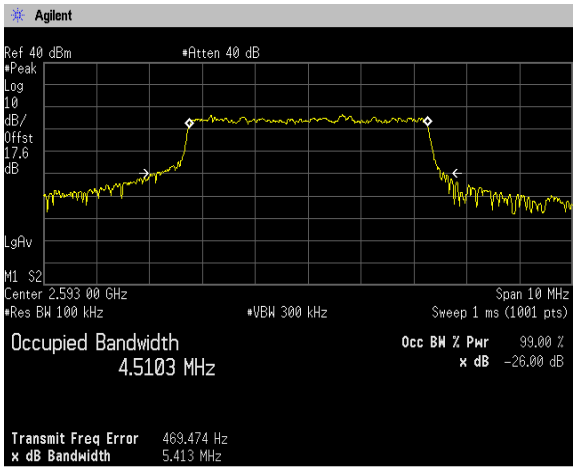
[LTE Band XLI]
Channel: 40620

QPSK, BW 5MHz

RB12-7

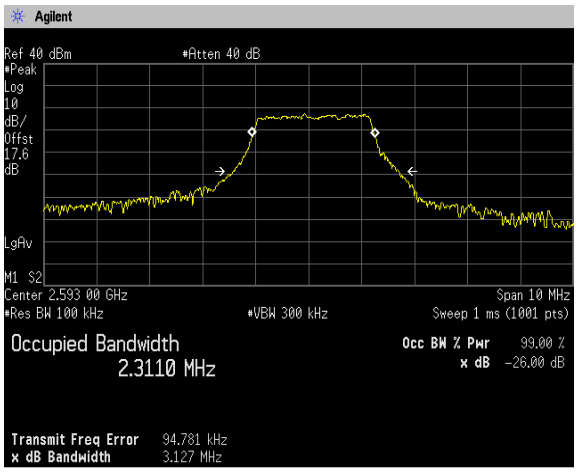


RB25-0

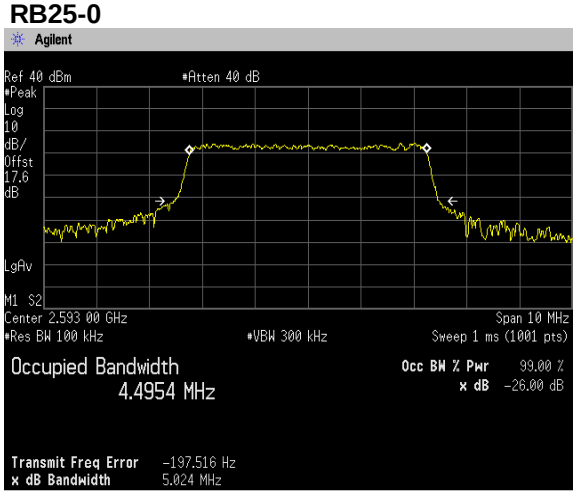


16QAM, BW 5MHz

RB12-7

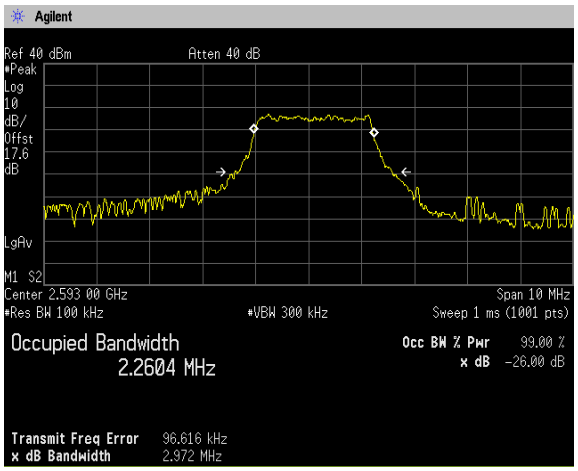


RB25-0

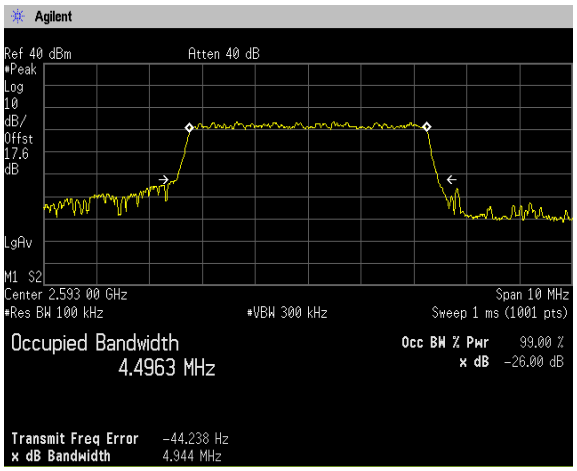


64QAM, BW 5MHz

RB12-7



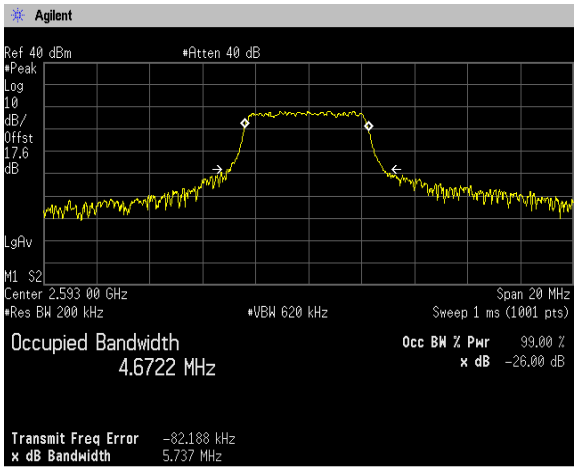
RB25-0



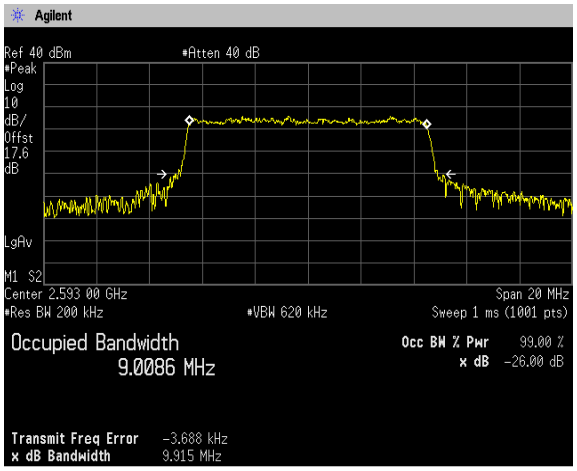
[LTE Band XLI]
Channel: 40620

QPSK, BW 10MHz

RB25-12

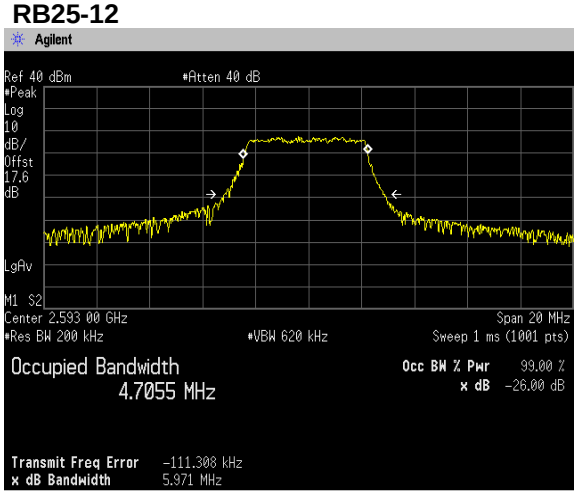


RB50-0

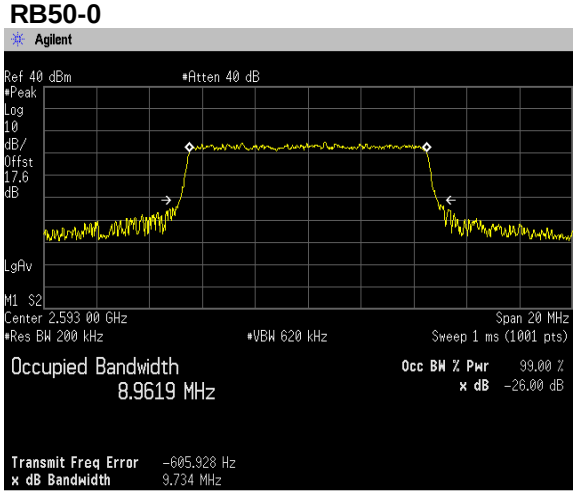


16QAM, BW 10MHz

RB25-12

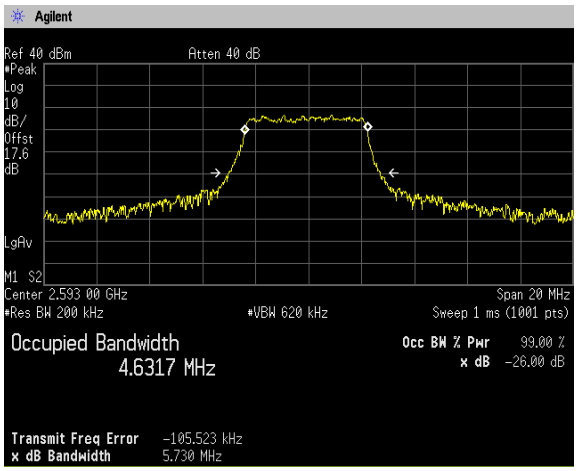


RB50-0

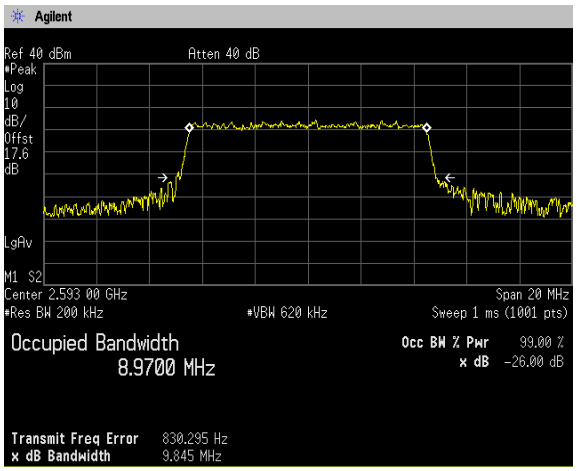


64QAM, BW 10MHz

RB25-12



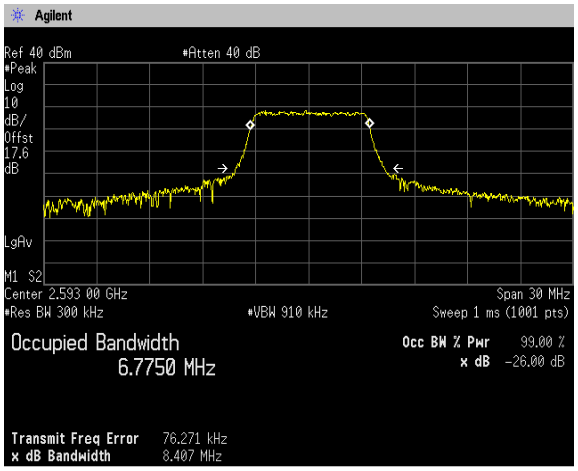
RB50-0



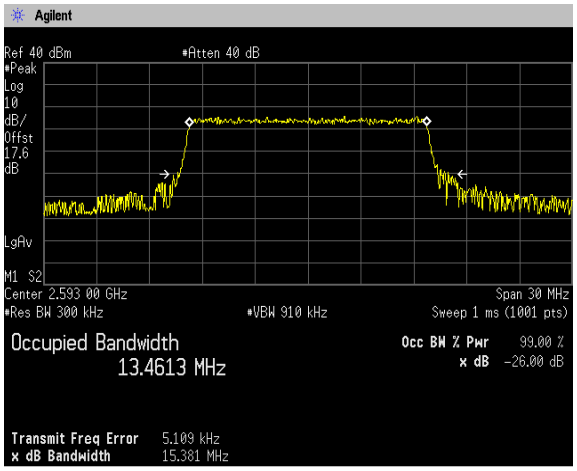
[LTE Band XLI]
Channel: 40620

QPSK, BW 15MHz

RB36-20

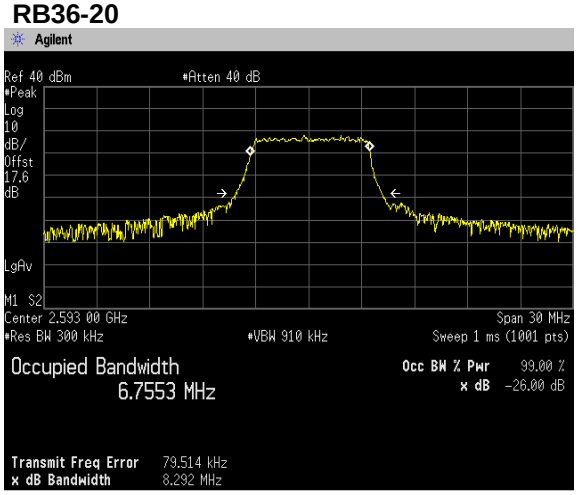


RB75-0

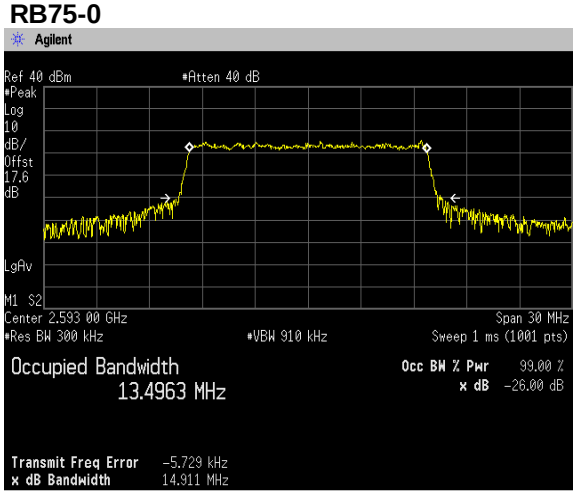


16QAM, BW 15MHz

RB36-20

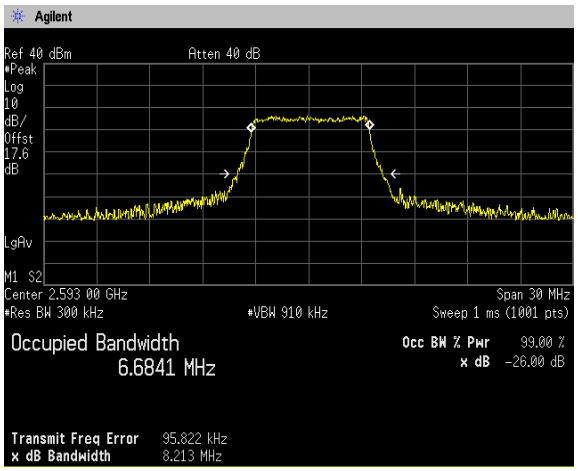


RB75-0

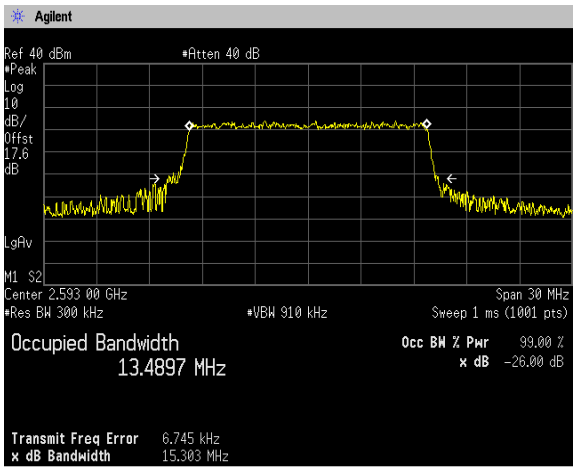


64QAM, BW 15MHz

RB36-20



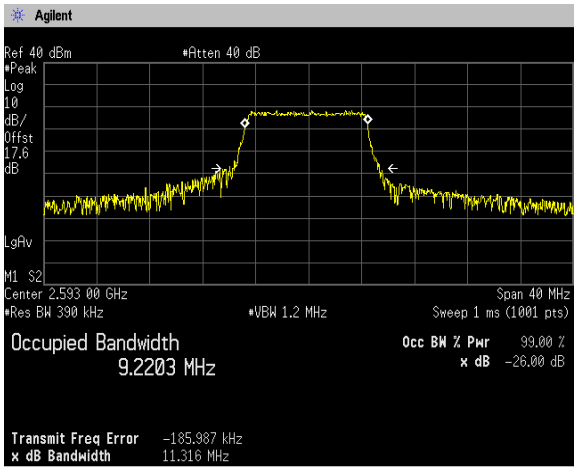
RB75-0



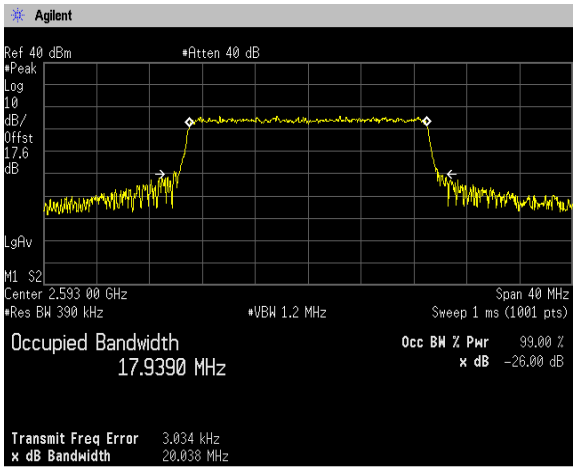
[LTE Band XLI]
Channel: 40620

QPSK, BW 20MHz

RB50-24

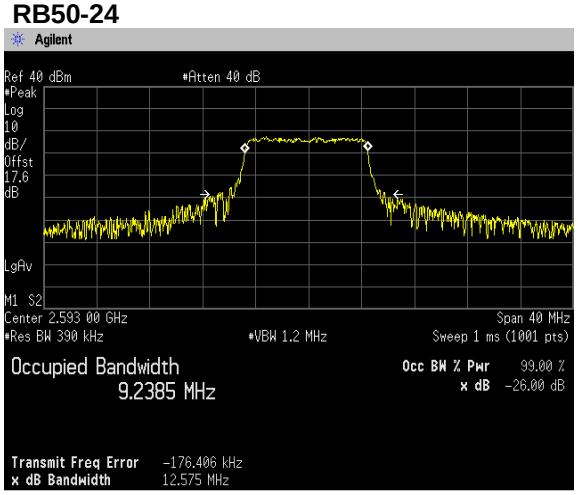


RB100-0

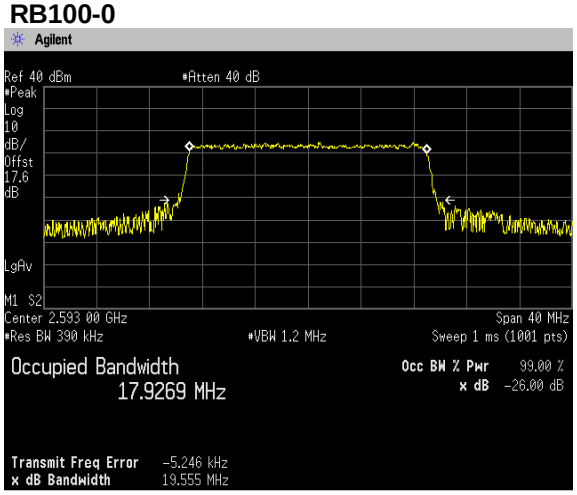


16QAM, BW 20MHz

RB50-24

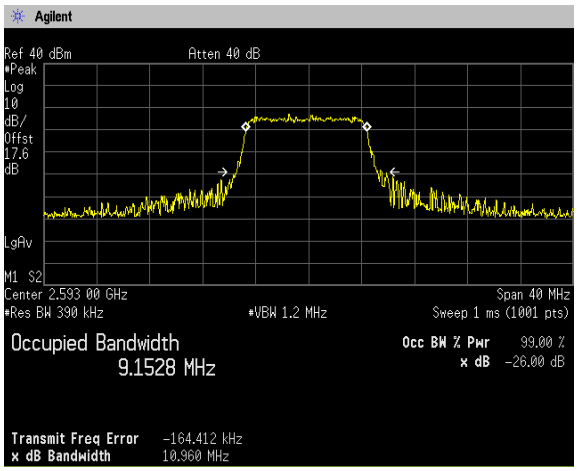


RB100-0

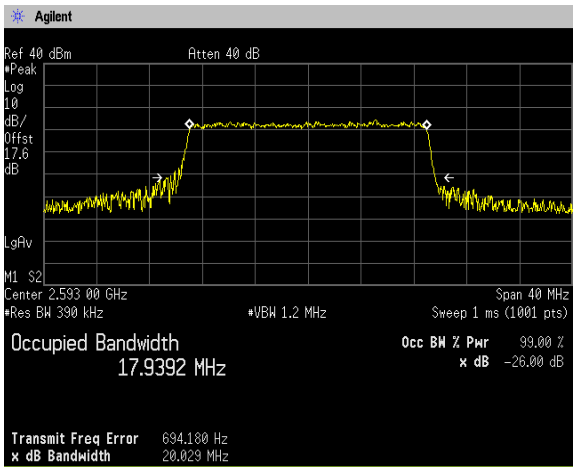


64QAM, BW 20MHz

RB50-24



RB100-0



Japan

4.5 Band Edge Spurious and Harmonic at Antenna Terminals

4.5.1 Measurement procedure

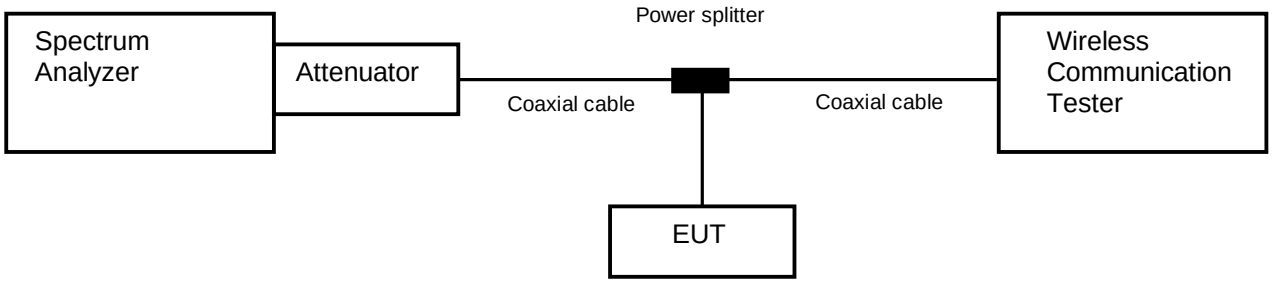
[FCC 27.53, 2.1051]

The band edge spurious and harmonic was measured with a spectrum analyzer connected to the antenna terminal.

The spectrum analyzer is set to;
<Band Edge>
a) Span was set large enough so as to capture all out of band emissions near the band edge
b) RBW ≥ 1% of the emission bandwidth or 2% of the emission bandwidth
c) VBW ≥ 3 x RBW
d) Detector = RMS
e) Trace mode = Max hold
f) Sweep time = auto-couple
g) Number of sweep point ≥ 2 x span / RBW

<Spurious Emissions>
a) RBW = 1MHz & VBW ≥ 3 x RBW
b) Detector = Peak
c) Trace mode = Max hold
d) Sweep time = auto-couple
e) Number of sweep point ≥ 2 x span / RBW

- Test configuration



4.5.2 Limit

(1) [27.53(c)]
For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

(1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;

(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;

(3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations;

(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

(2) [27.53(g)]
For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

(3) [27.53(h) (1)]
General protection levels. Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB.

(4) [27.53(m)(4)]
For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

Japan

4.5.3 Measurement result

Date : 5-August-2023
Temperature : 23.9 [˚C]
Humidity : 51.8 [%] Test engineer :
Test place : Shielded room No.4 Kazunori Saito

Date : 6-August-2023
Temperature : 23.6 [˚C]
Humidity : 54.9 [%] Test engineer :
Test place : Shielded room No.4 Kazunori Saito

Date : 7-August-2023
Temperature : 23.9 [˚C]
Humidity : 56.1 [%] Test engineer :
Test place : Shielded room No.4 Kazunori Saito

Date : 8-August-2023
Temperature : 23.1 [˚C]
Humidity : 55.7 [%] Test engineer :
Test place : Shielded room No.4 Kazunori Saito

Date : 9-August-2023
Temperature : 23.4 [˚C]
Humidity : 53.9 [%] Test engineer :
Test place : Shielded room No.4 Kazunori Saito

Date : 10-August-2023
Temperature : 24.1 [˚C]
Humidity : 51.1 [%] Test engineer :
Test place : Shielded room No.4 Kazunori Saito

Band	Channel	Frequency [MHz]	Results	
WCDMA Band IV	1312	1712.4	See the trace data	PASS
	1513	1752.6	See the trace data	PASS

Band	Modulation	Bandwidth [MHz]	Channel	Frequency [MHz]	Results	
LTE Band IV	QPSK, 16QAM, 64QAM	1.4	19957	1710.7	See the trace data	PASS
			20393	1754.3	See the trace data	PASS
		3	19965	1711.5	See the trace data	PASS
			20385	1753.5	See the trace data	PASS
		5	19975	1712.5	See the trace data	PASS
			20375	1752.5	See the trace data	PASS
		10	20000	1715.0	See the trace data	PASS
			20350	1750.0	See the trace data	PASS
		15	20025	1717.5	See the trace data	PASS
			20325	1747.5	See the trace data	PASS
		20	20050	1720.0	See the trace data	PASS
			20300	1745.0	See the trace data	PASS

Band	Modulation	Bandwidth [MHz]	Channel	Frequency [MHz]	Results	
LTE Band XII	QPSK, 16QAM, 64QAM	1.4	23017	699.7	See the trace data	PASS
			23173	715.3	See the trace data	PASS
		3	23025	700.5	See the trace data	PASS
			23165	714.5	See the trace data	PASS
		5	23035	701.5	See the trace data	PASS
			23155	713.5	See the trace data	PASS
		10	23060	704.0	See the trace data	PASS
			23130	711.0	See the trace data	PASS

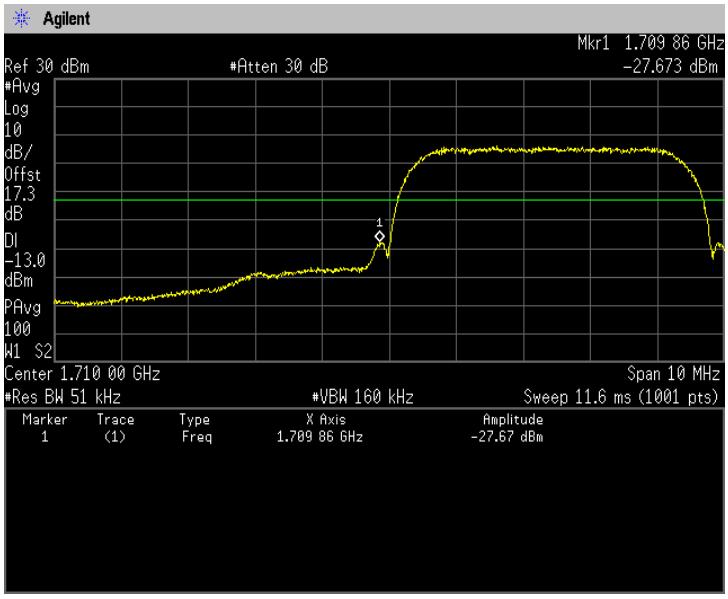
Band	Modulation	Bandwidth [MHz]	Channel	Frequency [MHz]	Results	
LTE Band XLI	QPSK, 16QAM, 64QAM	5	39675	2498.5	See the trace data	PASS
			41565	2687.5	See the trace data	PASS
		10	39700	2501.0	See the trace data	PASS
			41540	2685.0	See the trace data	PASS
		15	39725	2503.5	See the trace data	PASS
			41515	2682.5	See the trace data	PASS
		20	39750	2506.0	See the trace data	PASS
			41490	2680.0	See the trace data	PASS

Japan

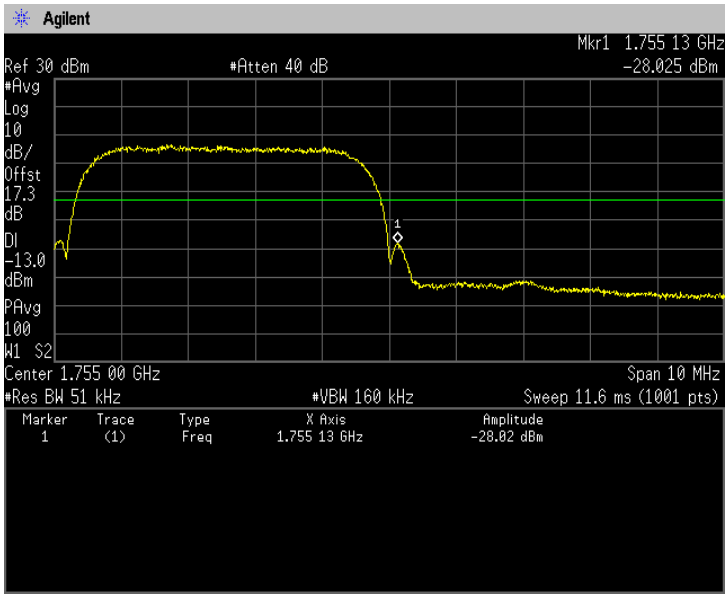
4.5.4 Trace data

[WCDMA Band IV]
(Band Edge)

Channel: 1312



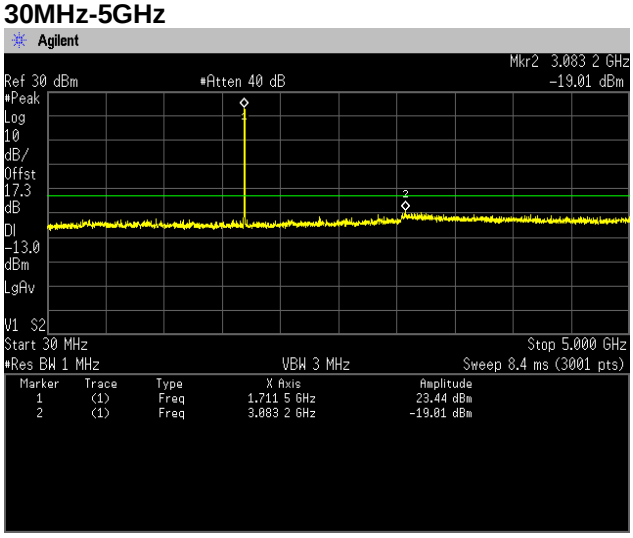
Channel: 1513



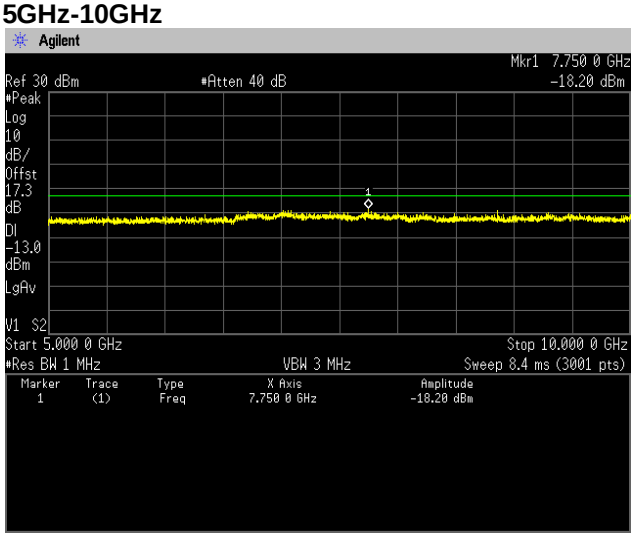
[WCDMA Band IV]
(Spurious Emissions)
Note: Conducted spurious test was measured in the worst case of conducted output power.

Channel: 1312

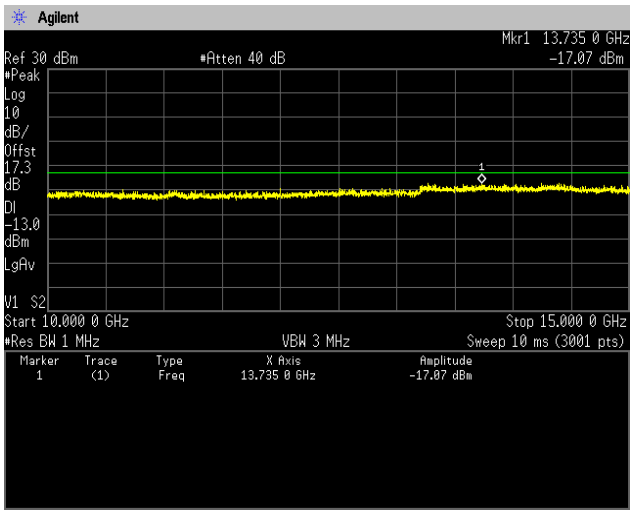
30MHz-5GHz



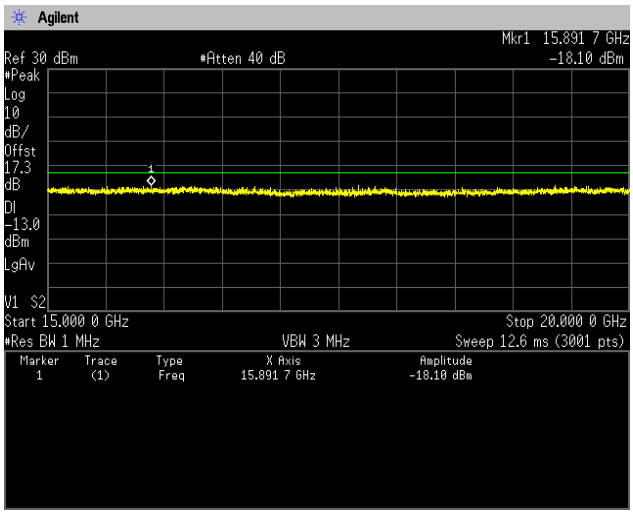
5GHz-10GHz



10GHz-15GHz



15GHz-20GHz

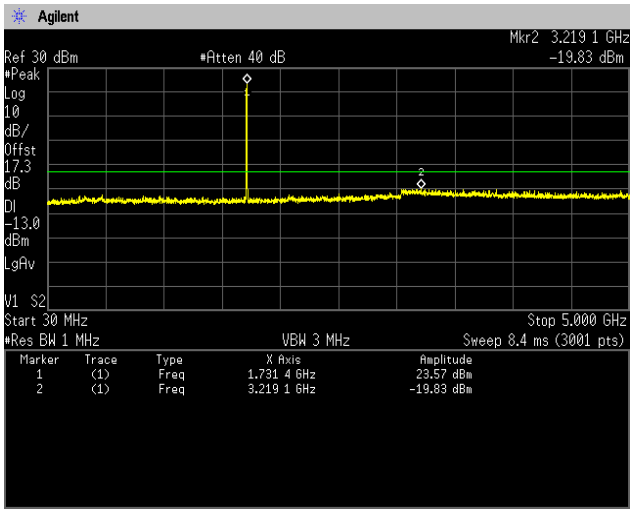


Japan

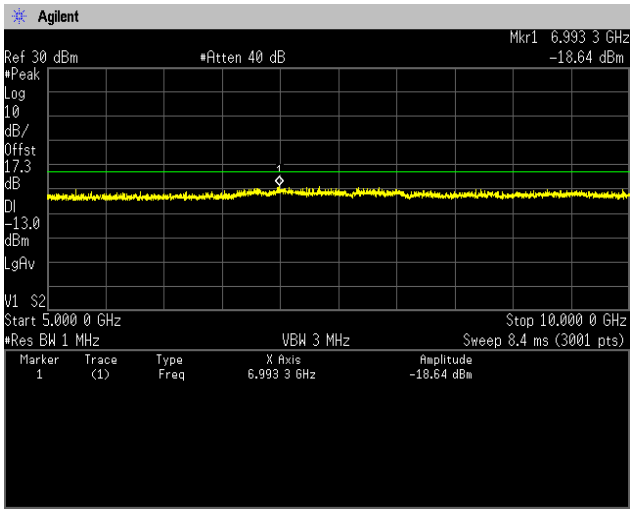
[WCDMA Band IV]
(Spurious Emissions)

Channel: 1413

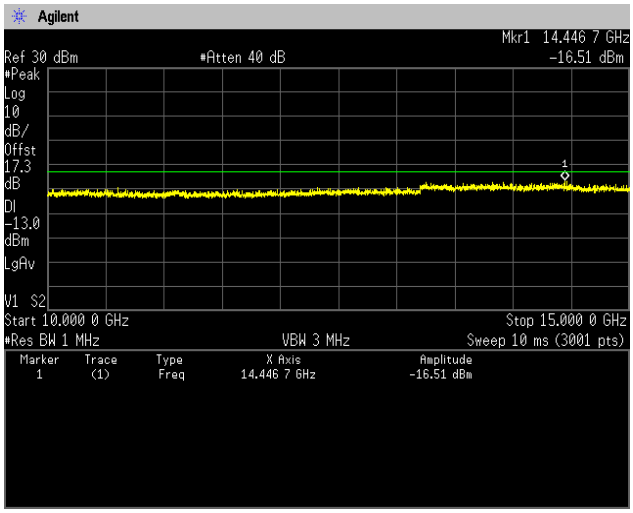
30MHz-5GHz



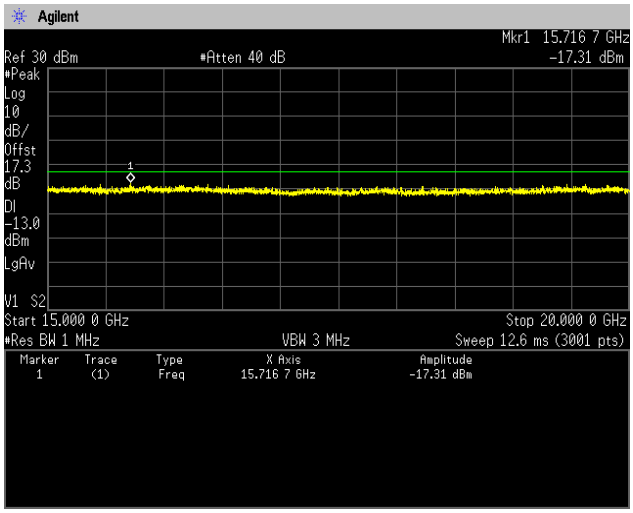
5GHz-10GHz



10GHz-15GHz



15GHz-20GHz

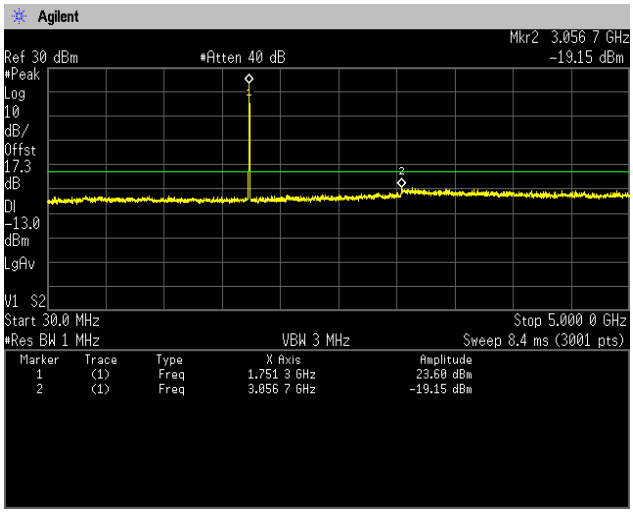


Japan

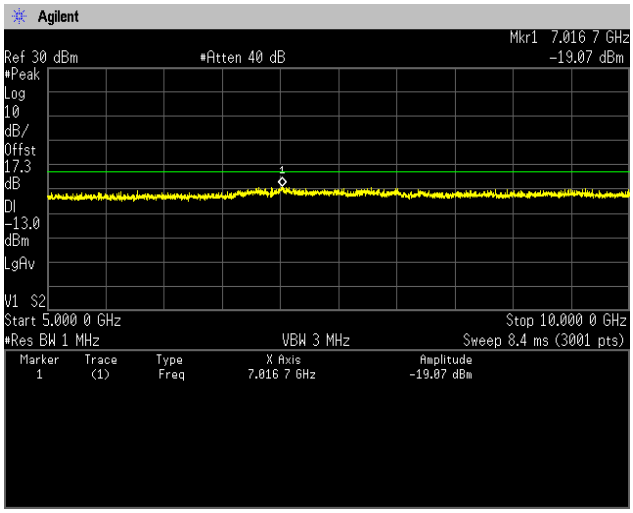
[WCDMA Band IV]
(Spurious Emissions)

Channel: 1513

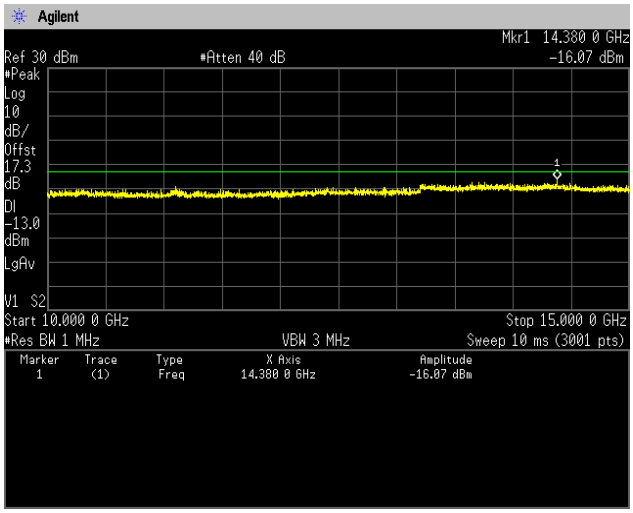
30MHz-5GHz



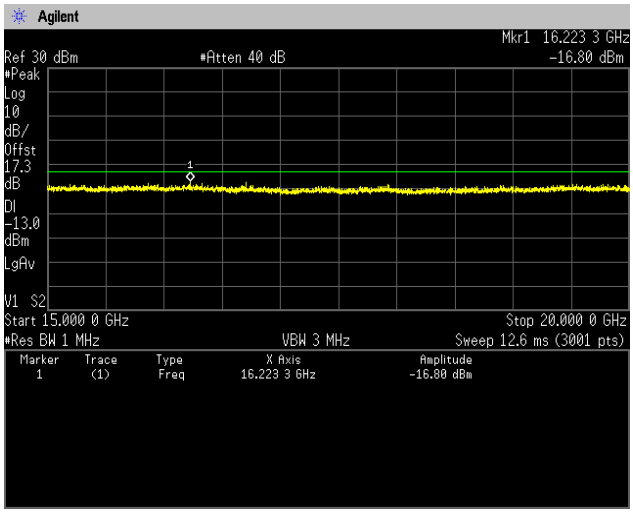
5GHz-10GHz



10GHz-15GHz



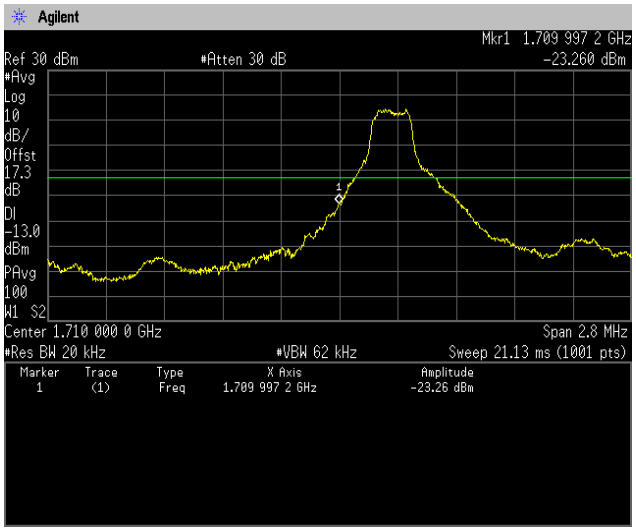
15GHz-20GHz



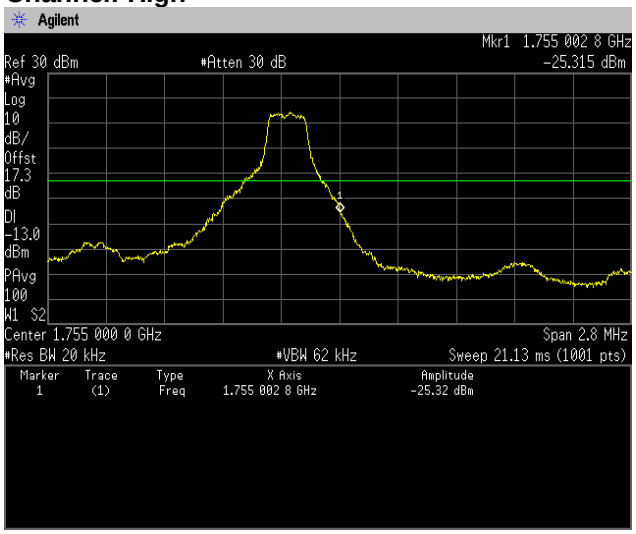
Japan

[LTE Band IV]
(Band Edge)

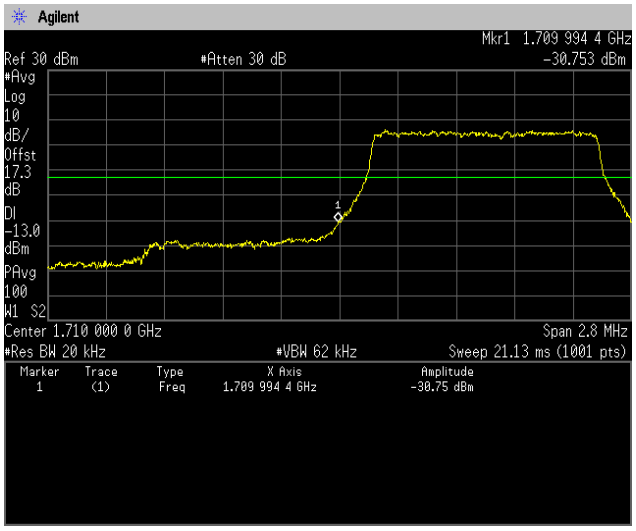
QPSK, BW 1.4MHz, RB1-0
Channel: Low



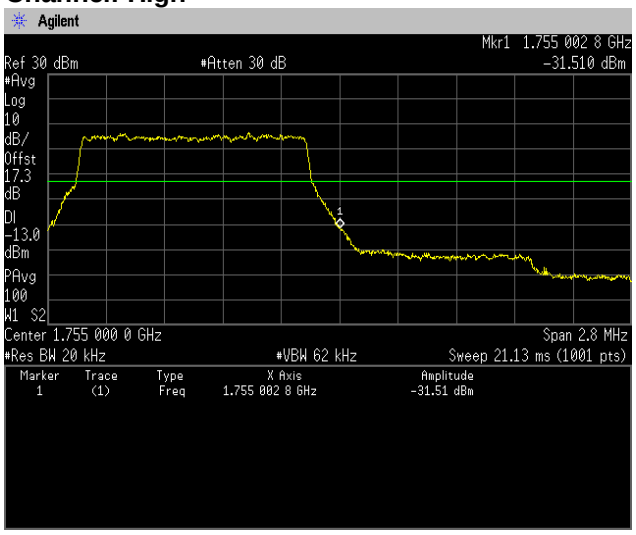
RB1-5
Channel: High



QPSK, BW 1.4MHz, RB6-0
Channel: Low



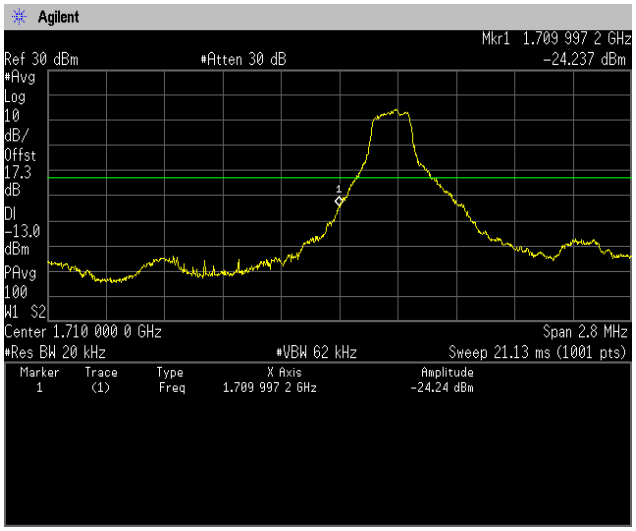
Channel: High



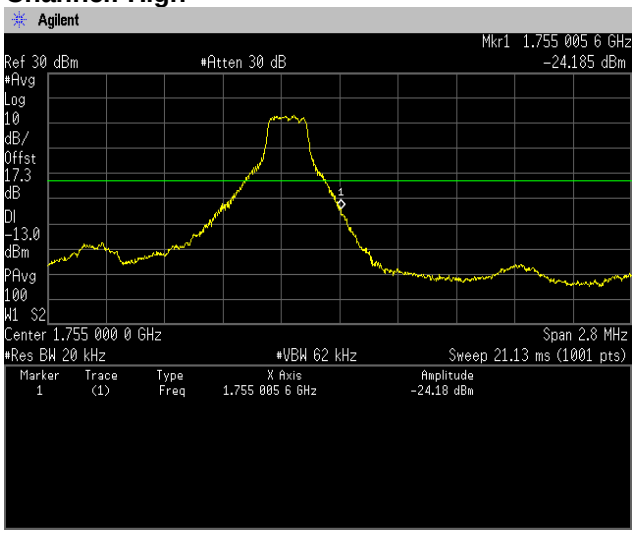
Japan

[LTE Band IV]
(Band Edge)

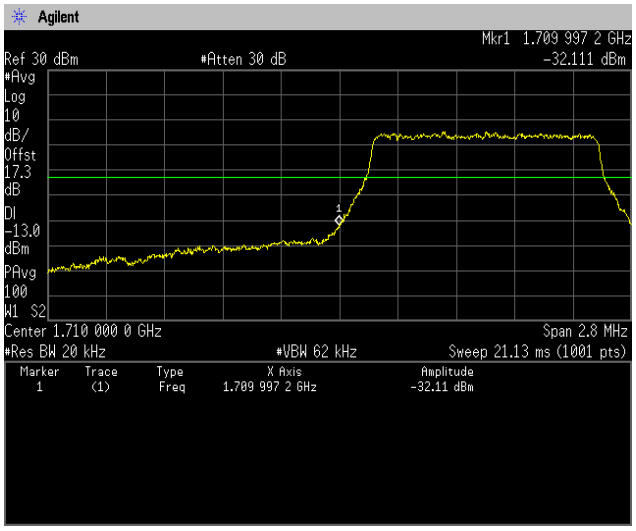
16QAM, BW 1.4MHz, RB1-0
Channel: Low



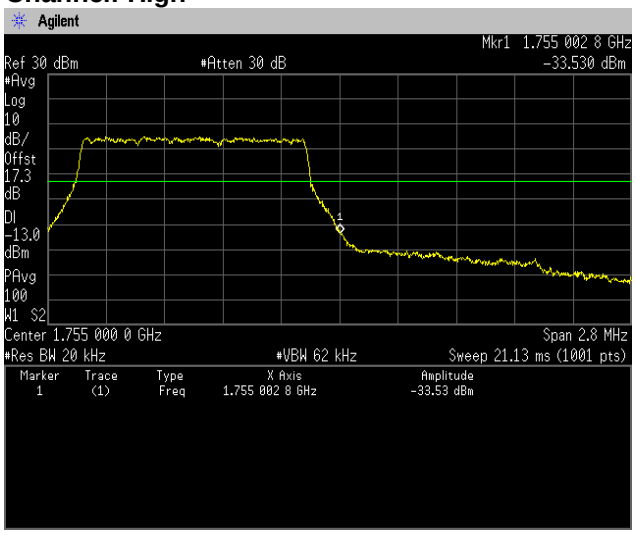
RB1-5
Channel: High



16QAM, BW 1.4MHz, RB6-0
Channel: Low



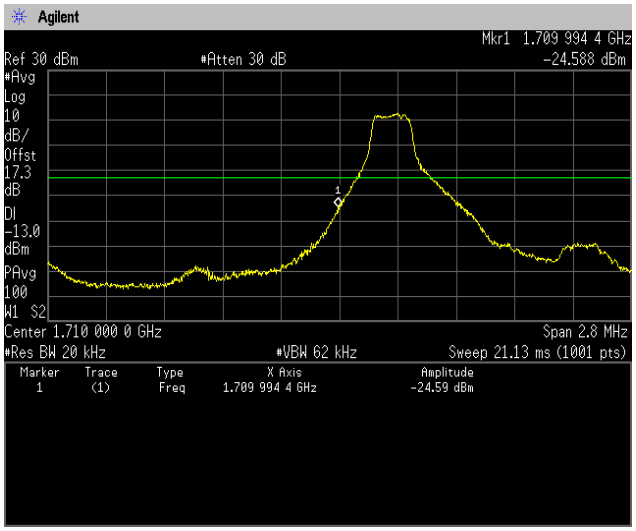
Channel: High



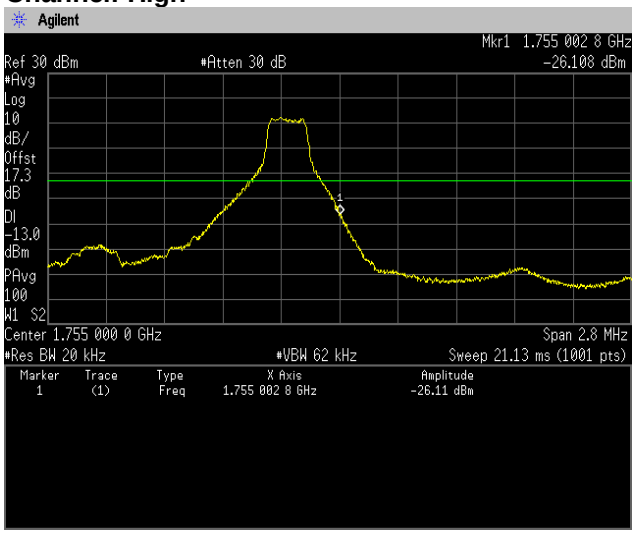
Japan

[LTE Band IV]
(Band Edge)

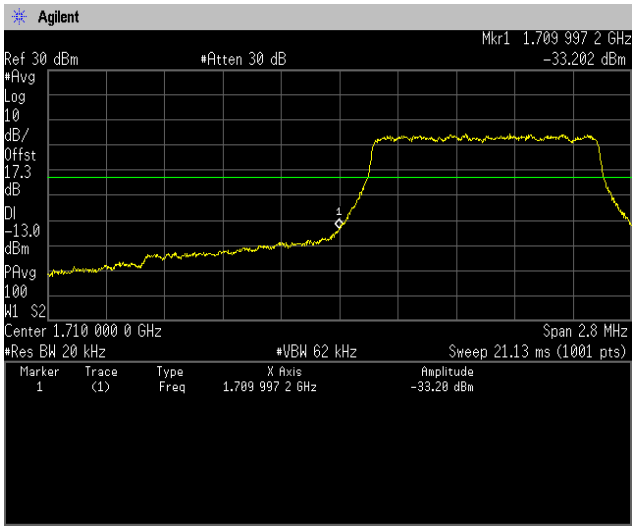
64QAM, BW 1.4MHz, RB1-0
Channel: Low



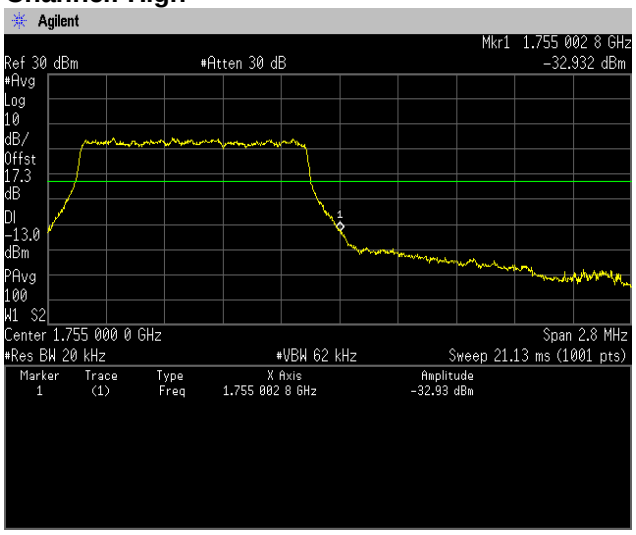
RB1-5
Channel: High



64QAM, BW 1.4MHz, RB6-0
Channel: Low



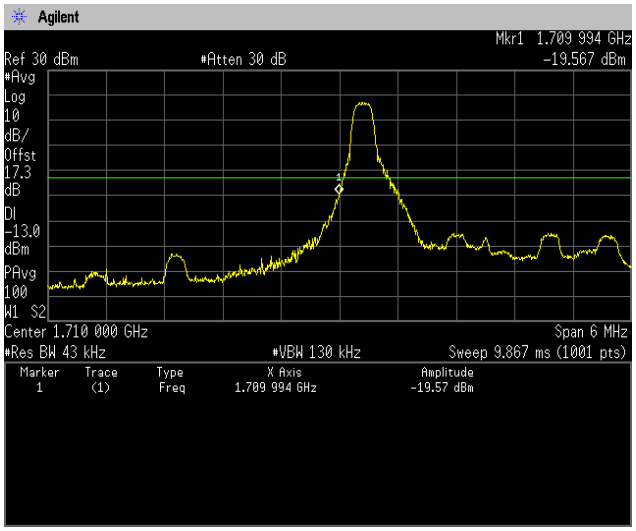
Channel: High



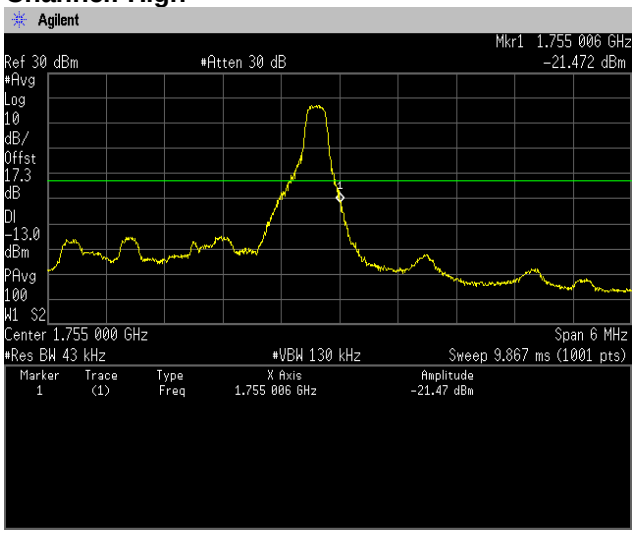
Japan

[LTE Band IV]
(Band Edge)

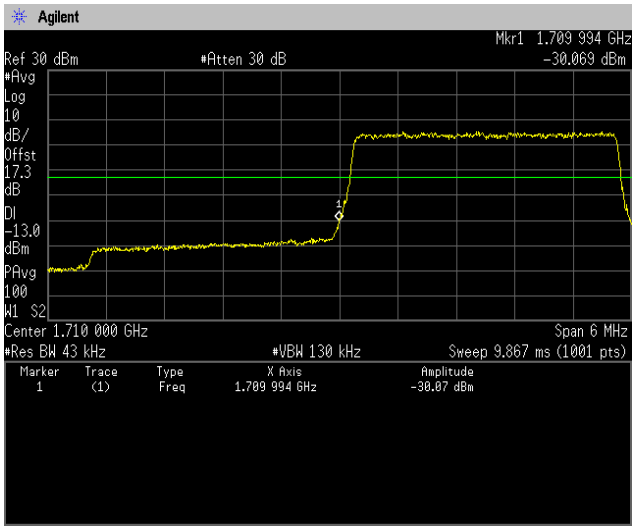
QPSK, BW 3MHz, RB1-0
Channel: Low



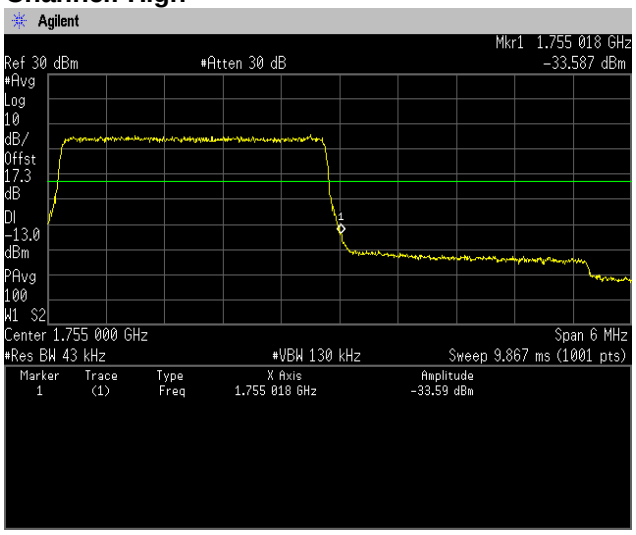
RB1-14
Channel: High



QPSK, BW 3MHz, RB15-0
Channel: Low



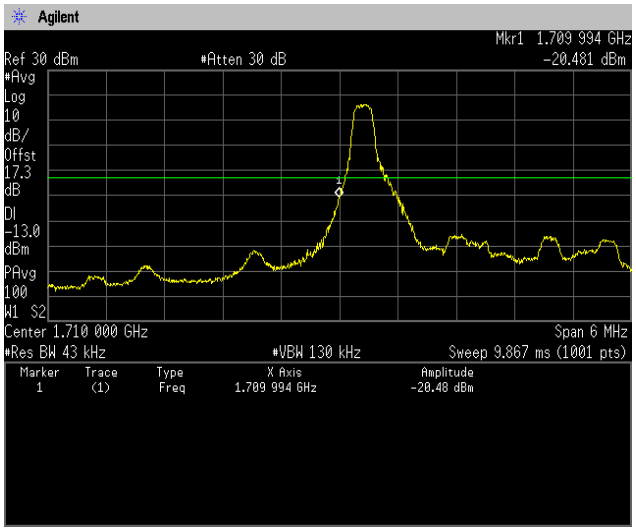
Channel: High



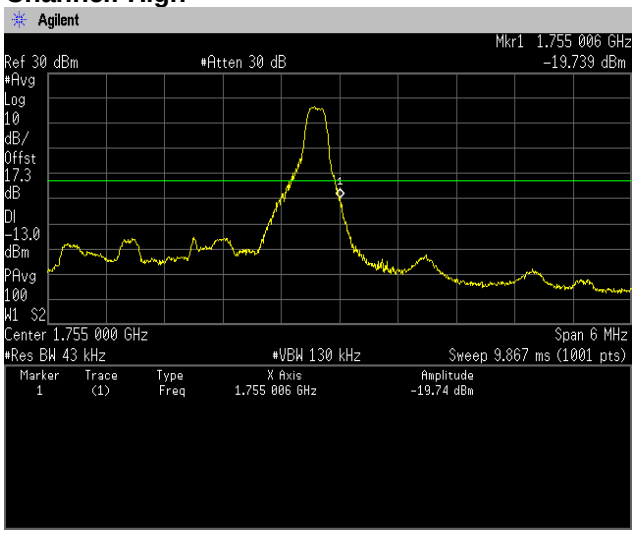
Japan

[LTE Band IV]
(Band Edge)

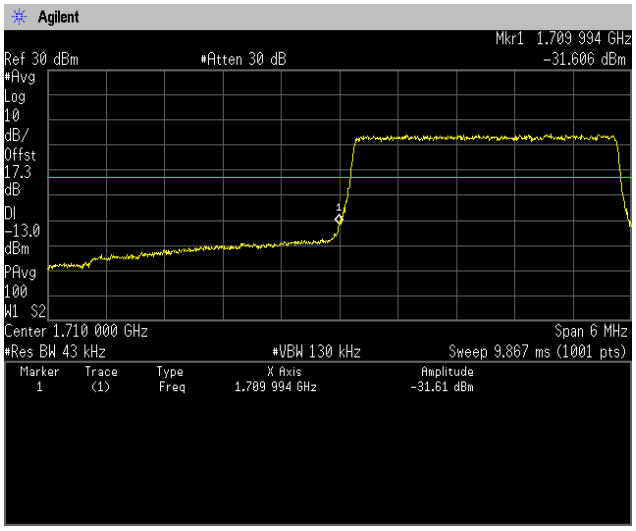
16QAM, BW 3MHz, RB1-0
Channel: Low



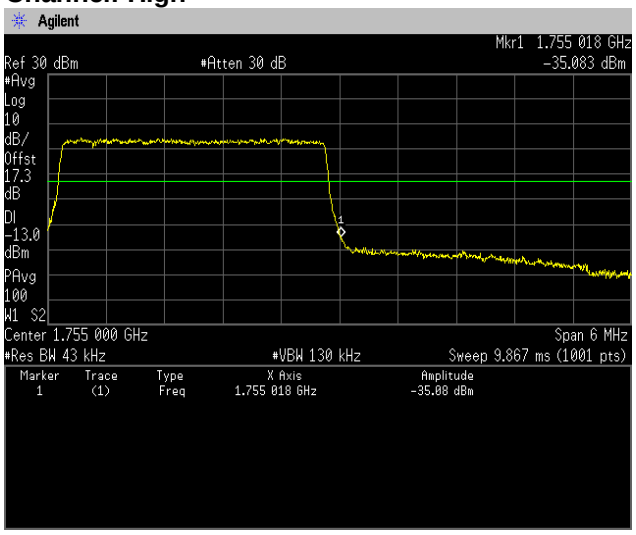
RB1-14
Channel: High



16QAM, BW 3MHz, RB15-0
Channel: Low



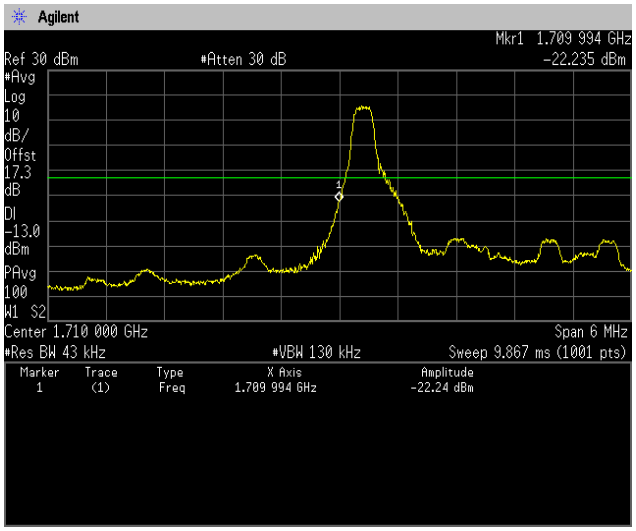
Channel: High



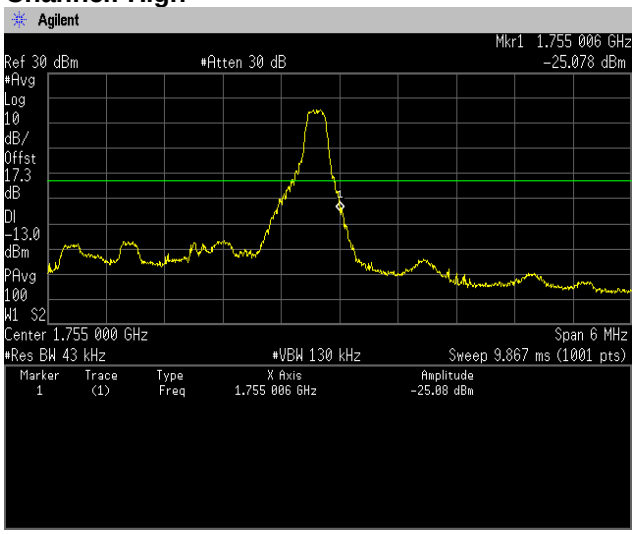
Japan

[LTE Band IV]
(Band Edge)

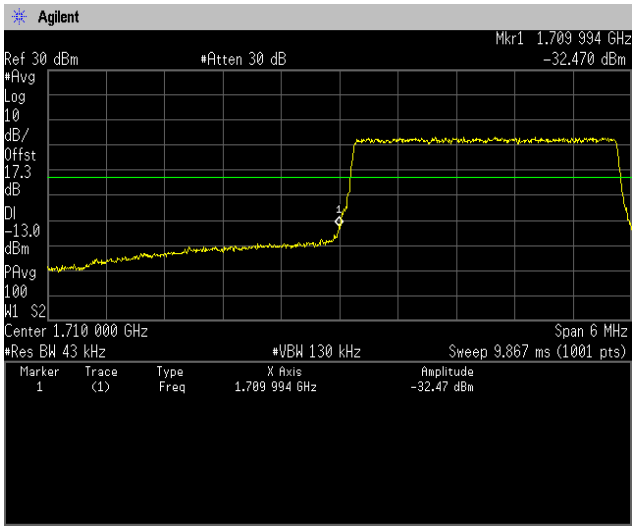
64QAM, BW 3MHz, RB1-0
Channel: Low



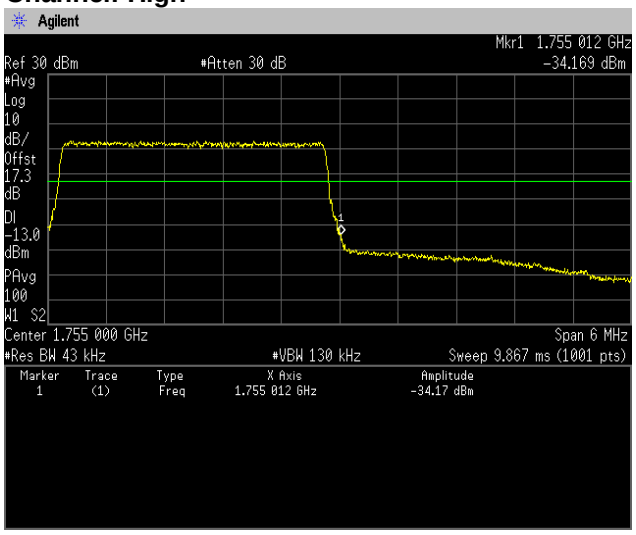
RB1-14
Channel: High



64QAM, BW 3MHz, RB15-0
Channel: Low



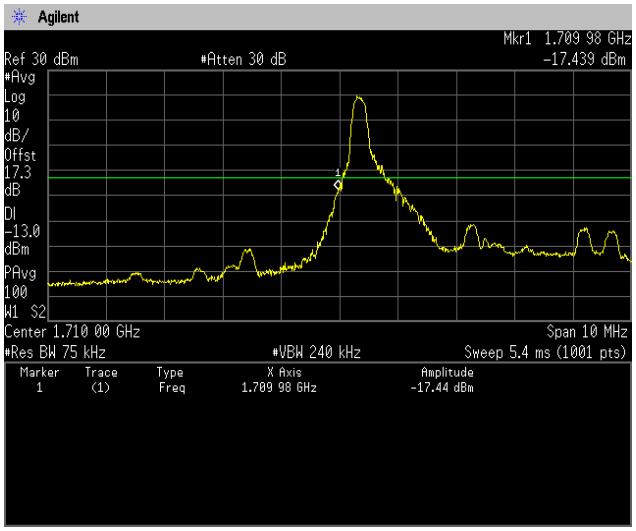
Channel: High



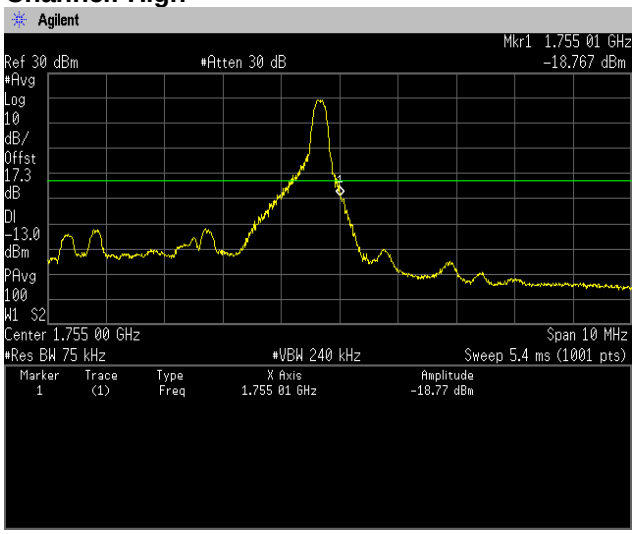
Japan

[LTE Band IV]
(Band Edge)

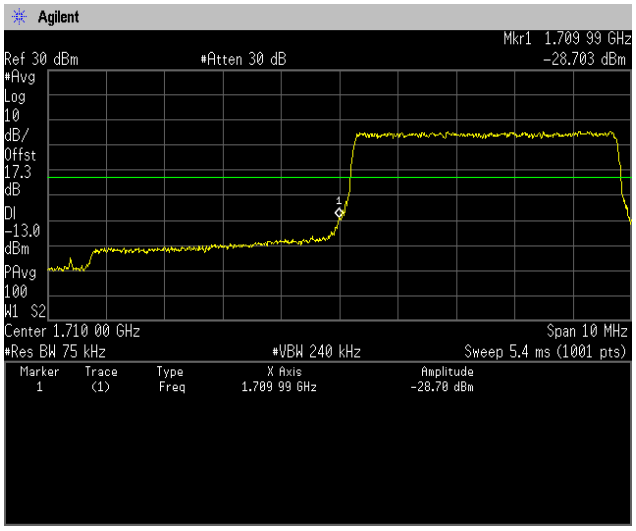
QPSK, BW 5MHz, RB1-0
Channel: Low



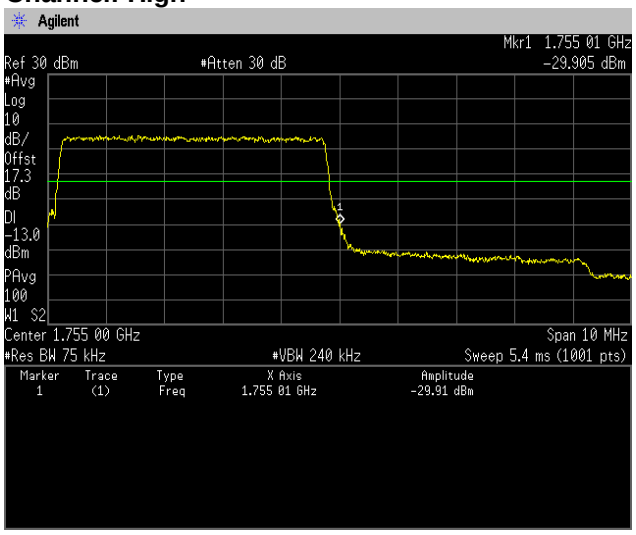
RB1-24
Channel: High



QPSK, BW 5MHz, RB25-0
Channel: Low



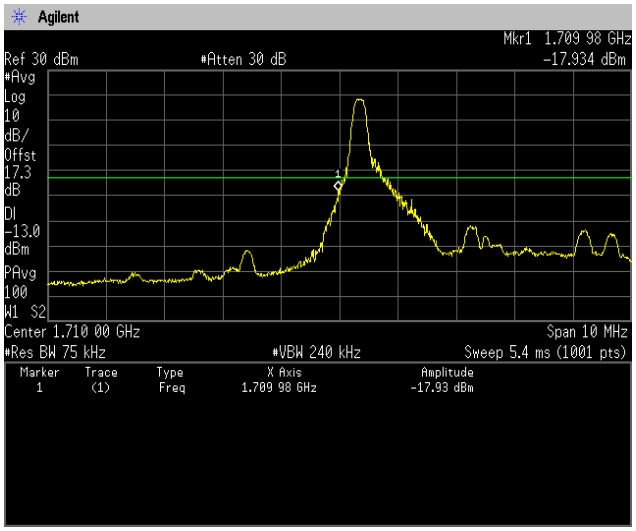
Channel: High



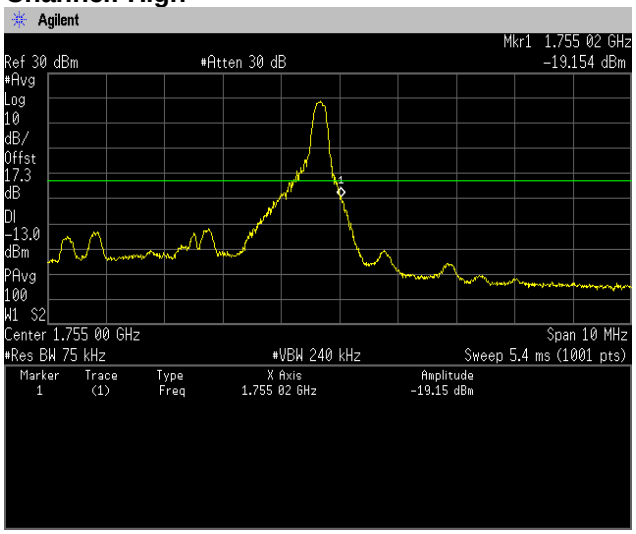
Japan

[LTE Band IV]
(Band Edge)

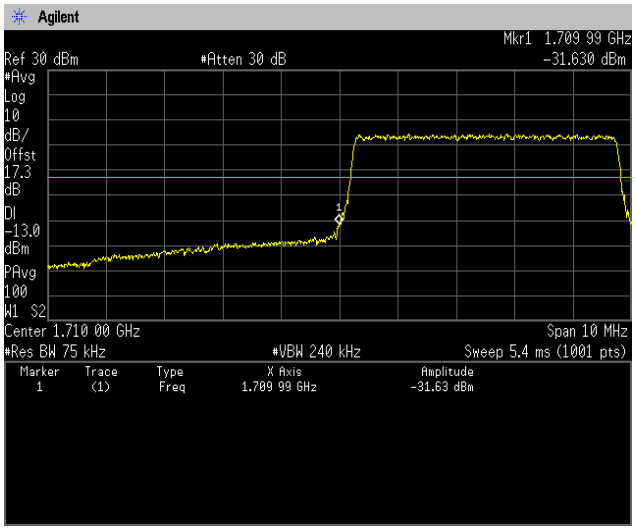
16QAM, BW 5MHz, RB1-0
Channel: Low



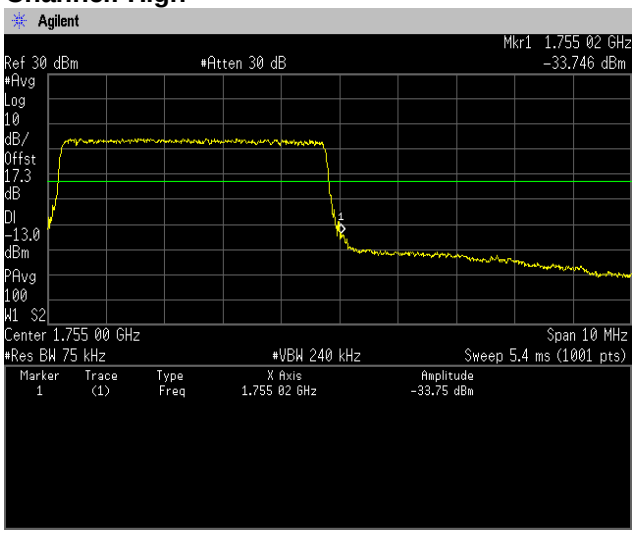
RB1-24
Channel: High



16QAM, BW 5MHz, RB25-0
Channel: Low



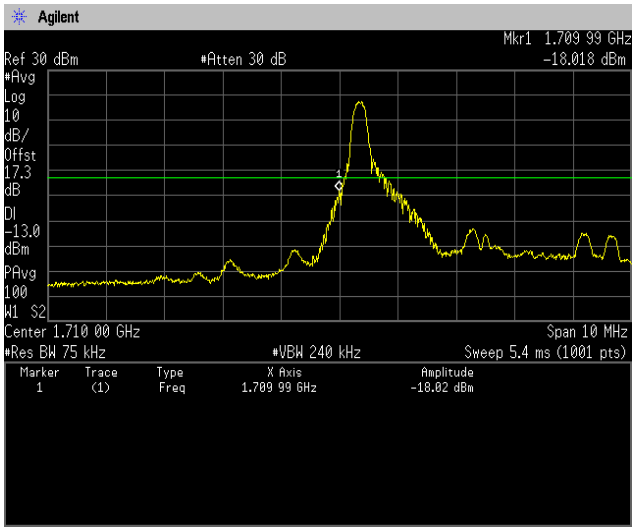
Channel: High



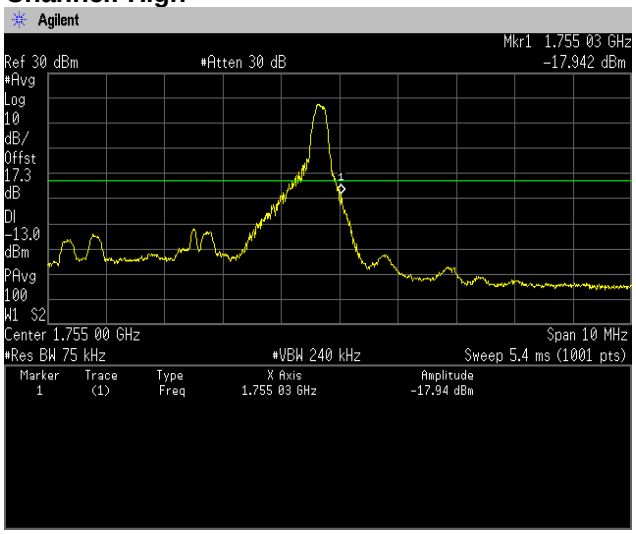
Japan

[LTE Band IV]
(Band Edge)

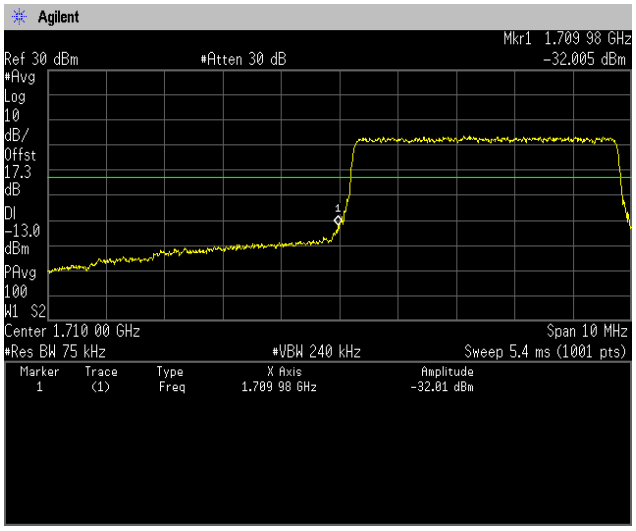
64QAM, BW 5MHz, RB1-0
Channel: Low



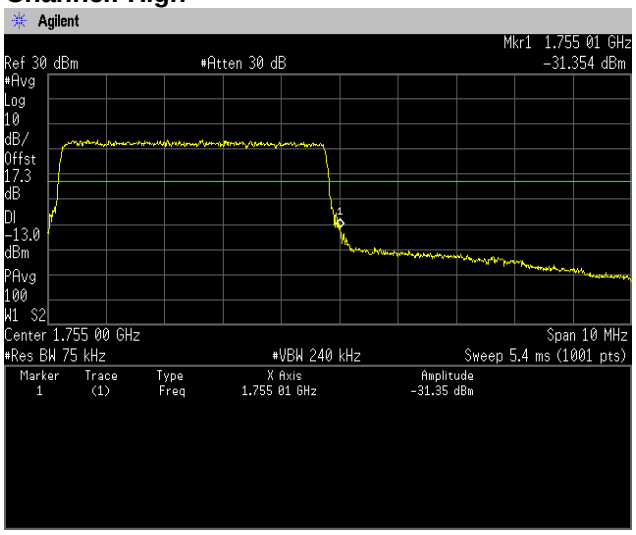
RB1-24
Channel: High



64QAM, BW 5MHz, RB25-0
Channel: Low



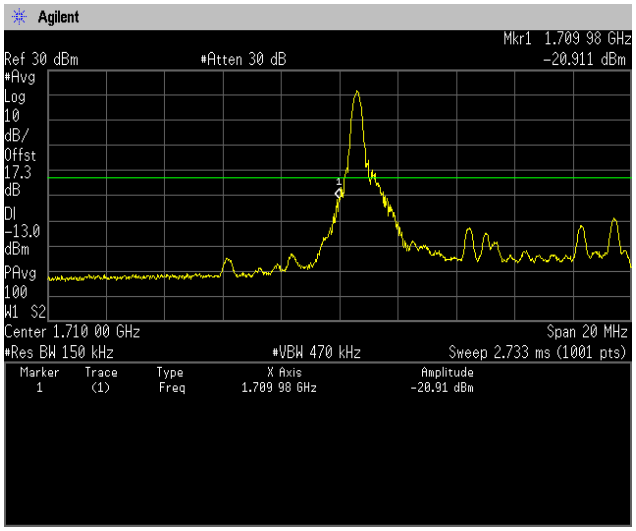
Channel: High



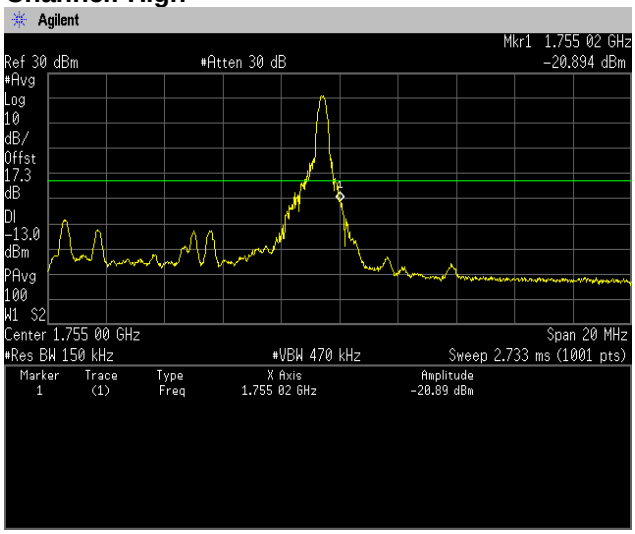
Japan

[LTE Band IV]
(Band Edge)

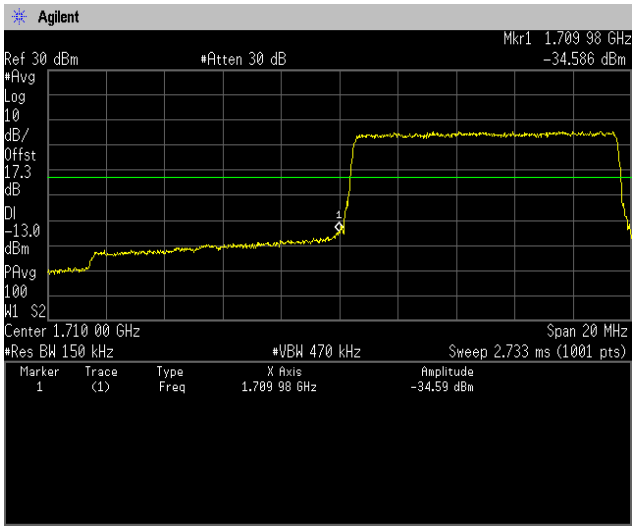
QPSK, BW 10MHz, RB1-0
Channel: Low



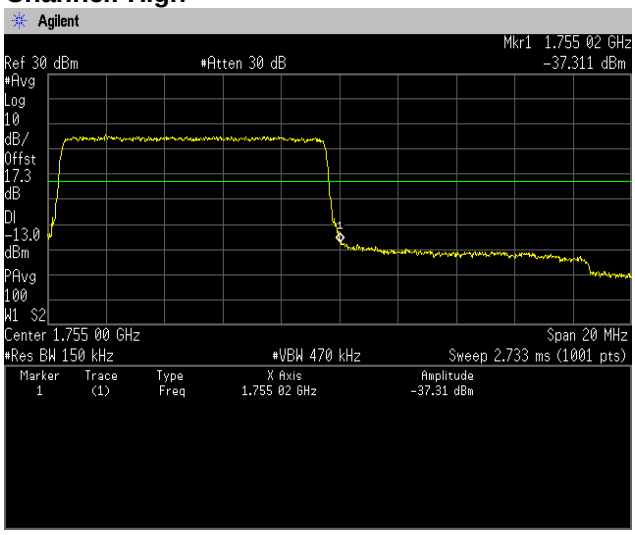
RB1-49
Channel: High



QPSK, BW 10MHz, RB50-0
Channel: Low



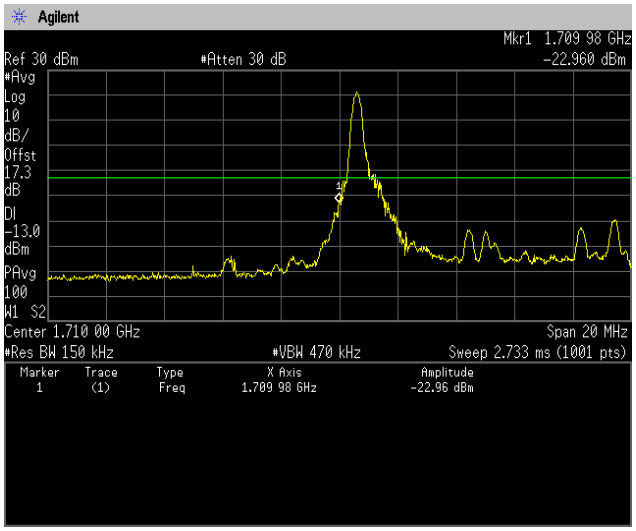
Channel: High



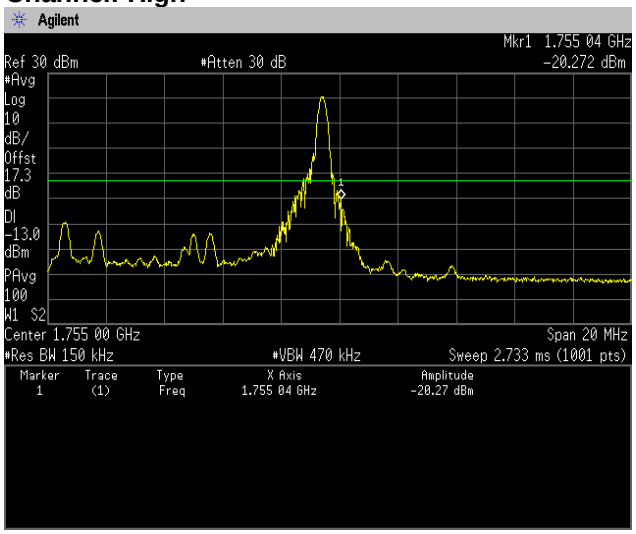
Japan

[LTE Band IV]
(Band Edge)

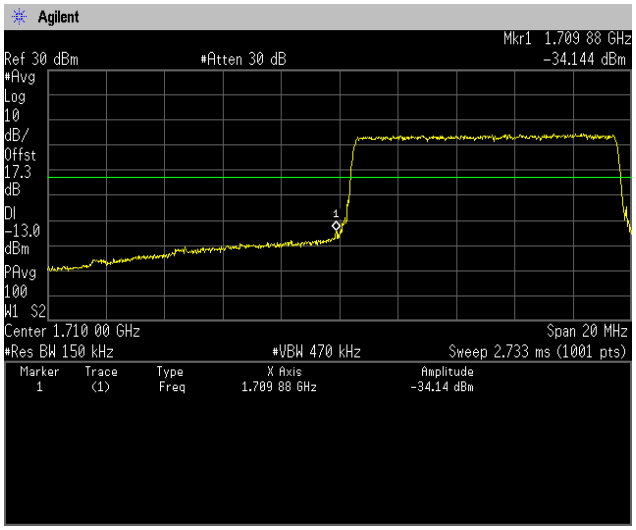
16QAM, BW 10MHz, RB1-0
Channel: Low



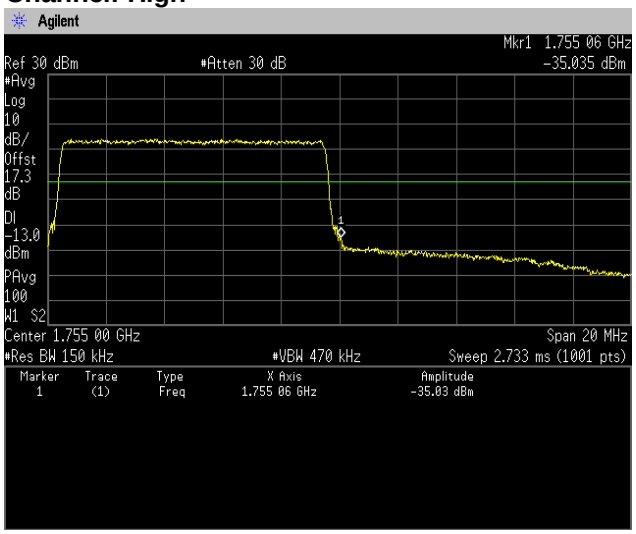
RB1-49
Channel: High



16QAM, BW 10MHz, RB50-0
Channel: Low



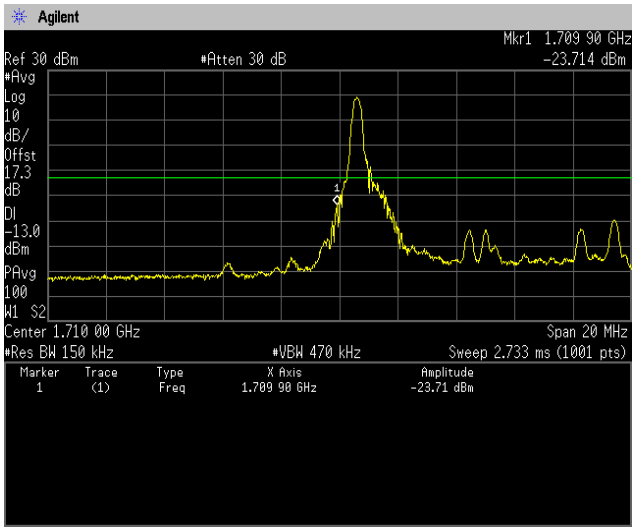
Channel: High



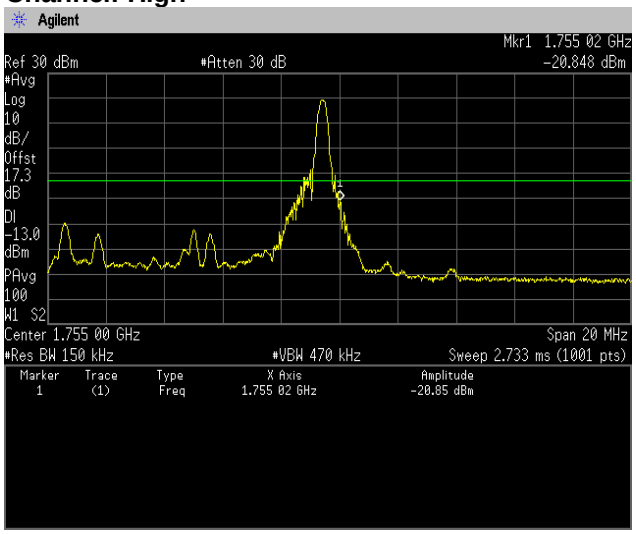
Japan

[LTE Band IV]
(Band Edge)

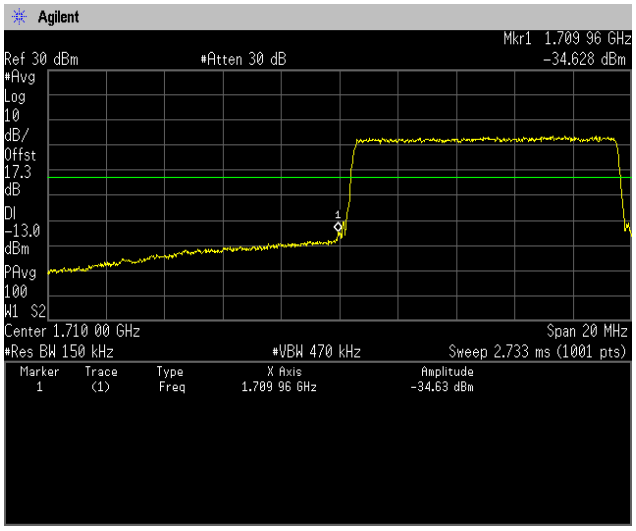
64QAM, BW 10MHz, RB1-0
Channel: Low



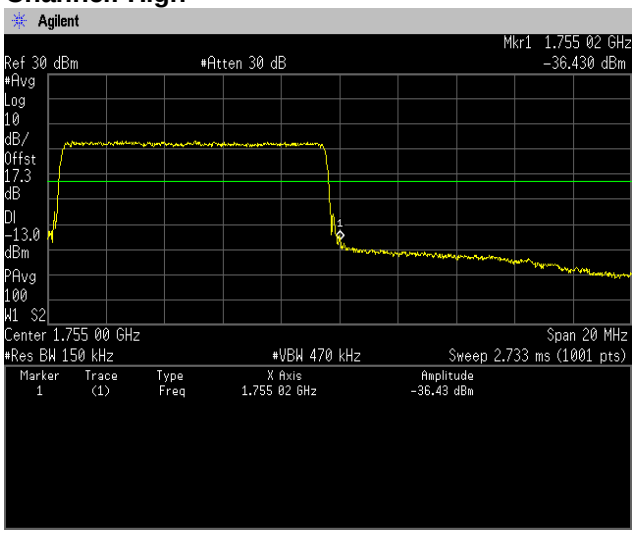
RB1-49
Channel: High



64QAM, BW 10MHz, RB50-0
Channel: Low



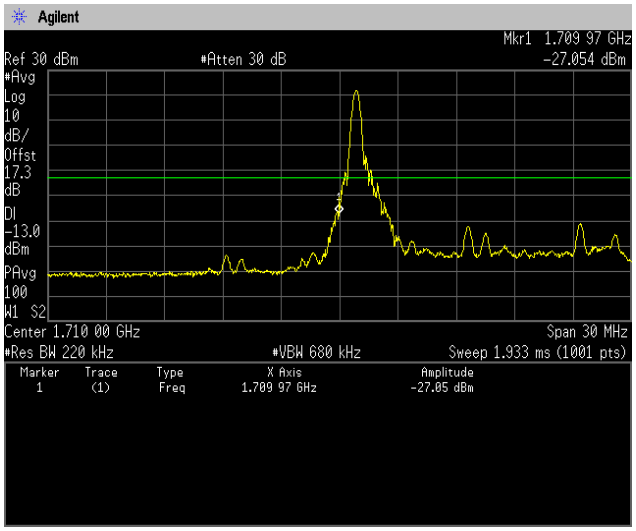
Channel: High



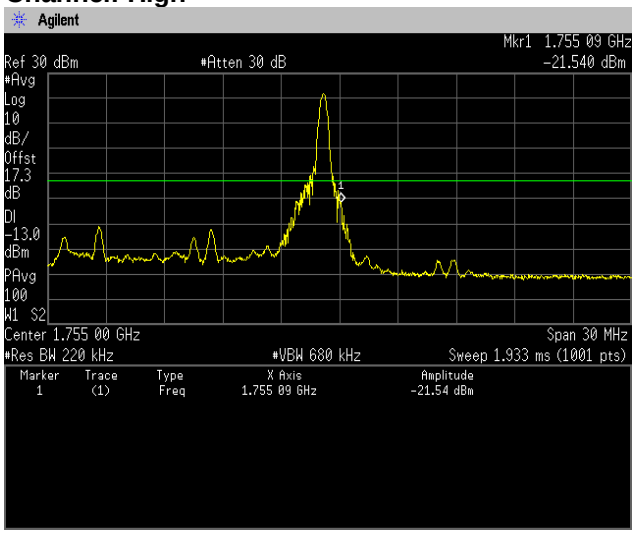
Japan

[LTE Band IV]
(Band Edge)

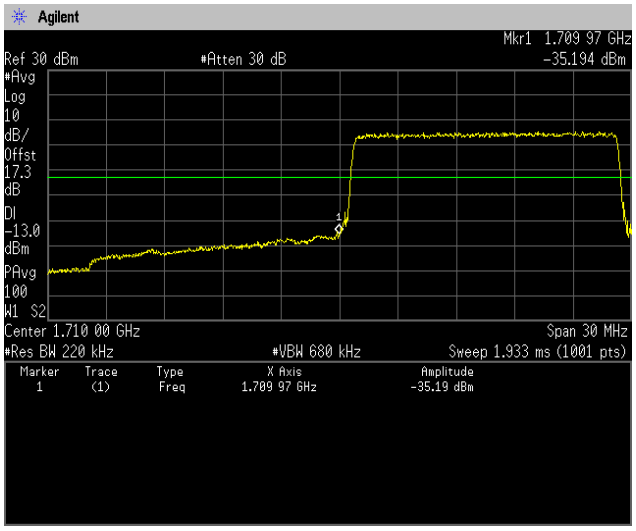
QPSK, BW 15MHz, RB1-0
Channel: Low



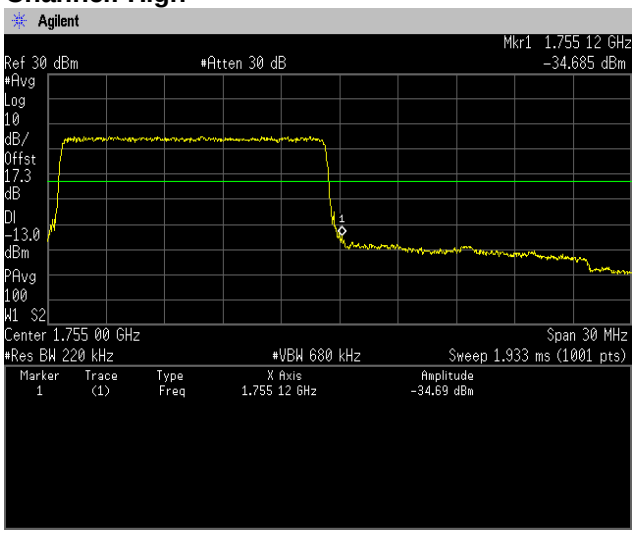
RB1-74
Channel: High



QPSK, BW 15MHz, RB75-0
Channel: Low



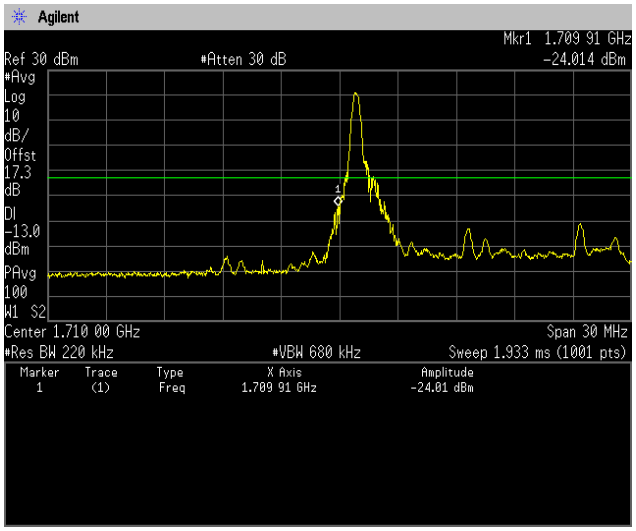
Channel: High



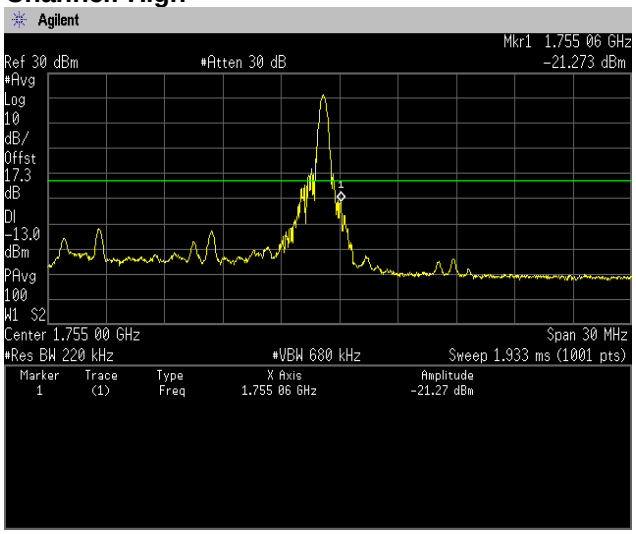
Japan

[LTE Band IV]
(Band Edge)

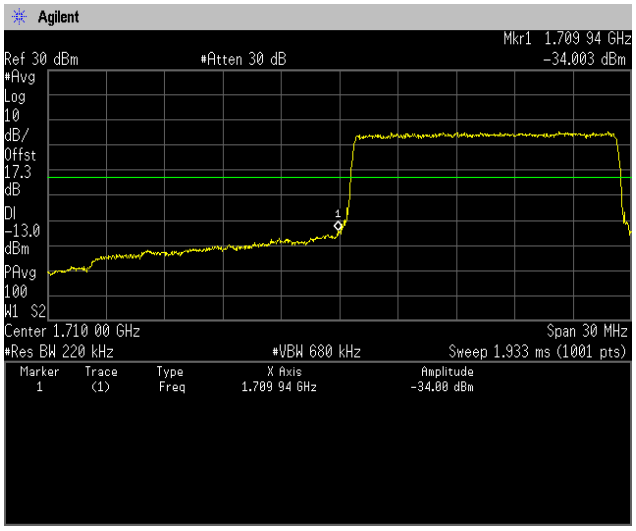
16QAM, BW 15MHz, RB1-0
Channel: Low



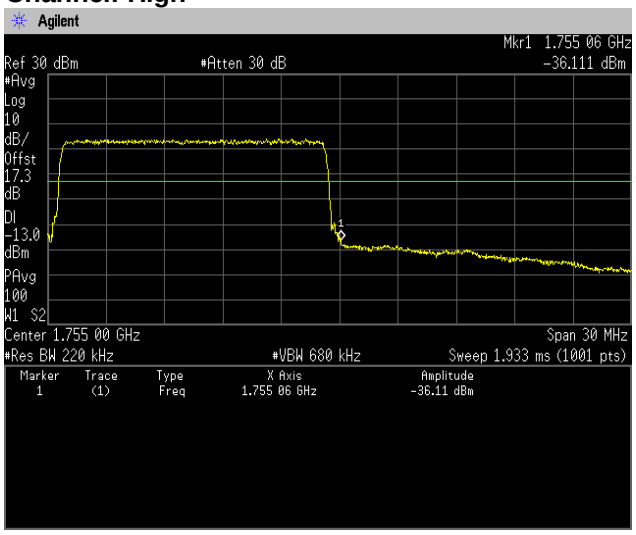
RB1-74
Channel: High



16QAM, BW 15MHz, RB75-0
Channel: Low



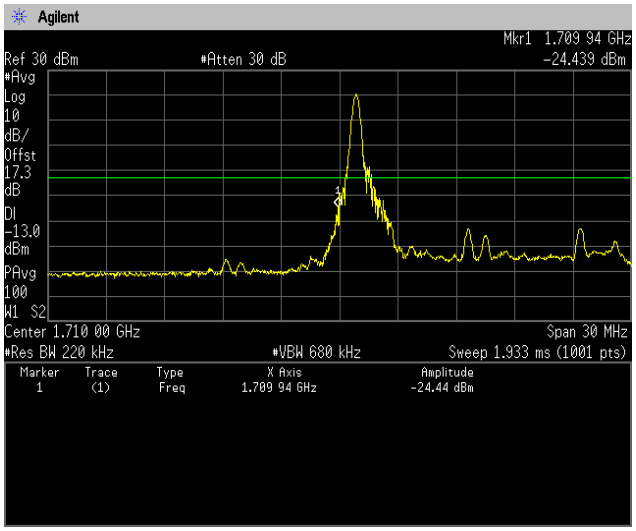
Channel: High



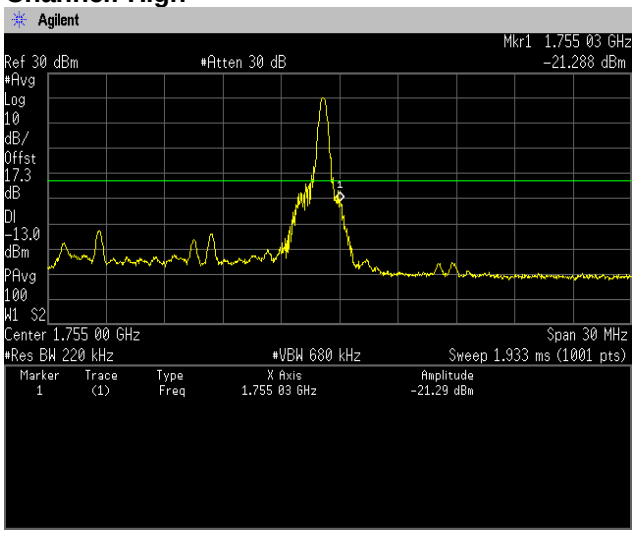
Japan

[LTE Band IV]
(Band Edge)

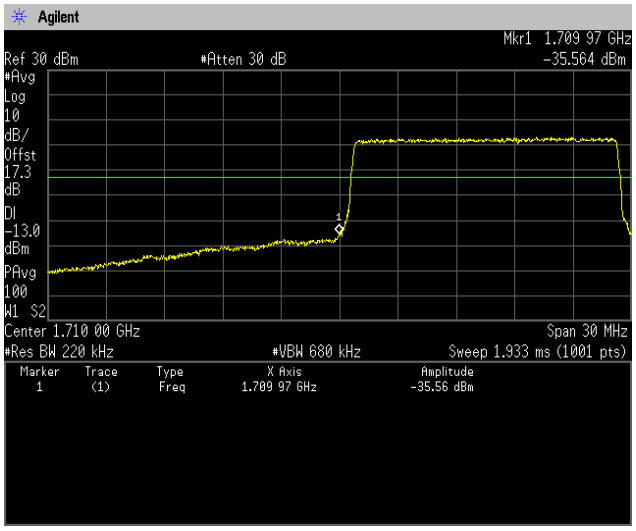
64QAM, BW 15MHz, RB1-0
Channel: Low



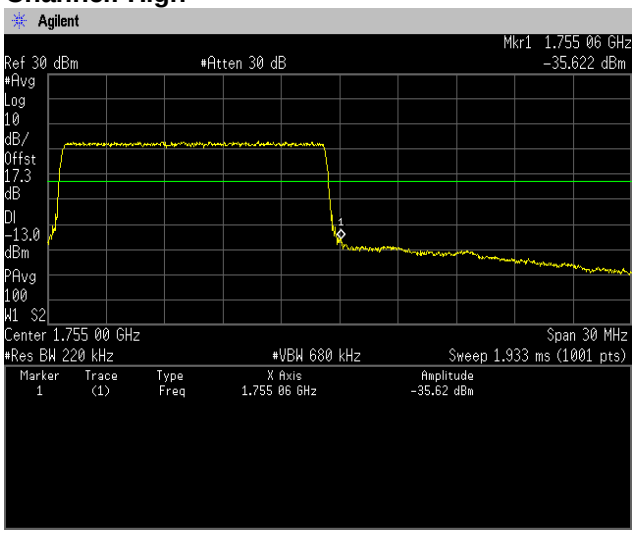
RB1-74
Channel: High



64QAM, BW 15MHz, RB75-0
Channel: Low



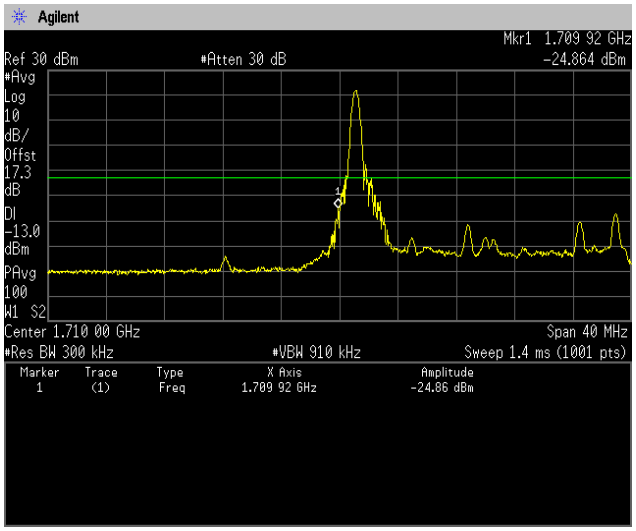
Channel: High



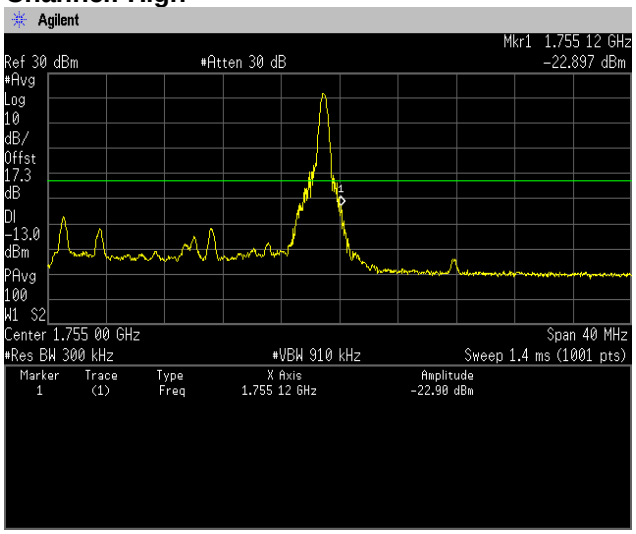
Japan

[LTE Band IV]
(Band Edge)

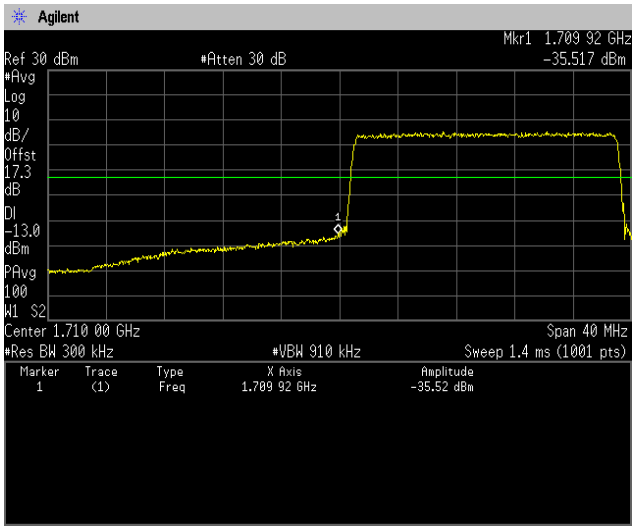
QPSK, BW 20MHz, RB1-0
Channel: Low



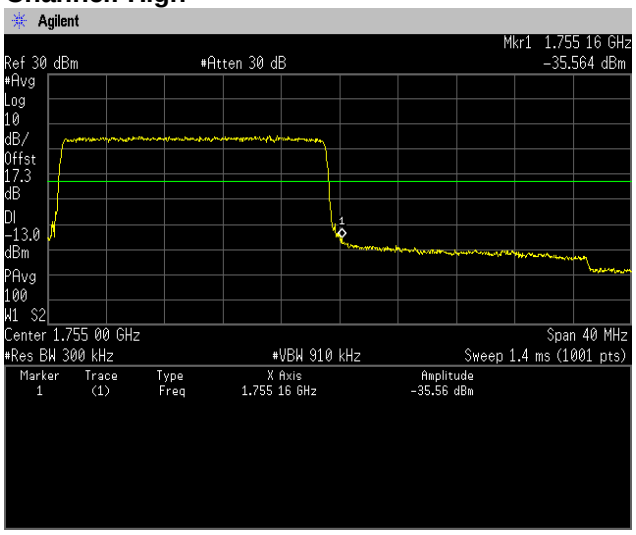
RB1-99
Channel: High



QPSK, BW 20MHz, RB100-0
Channel: Low



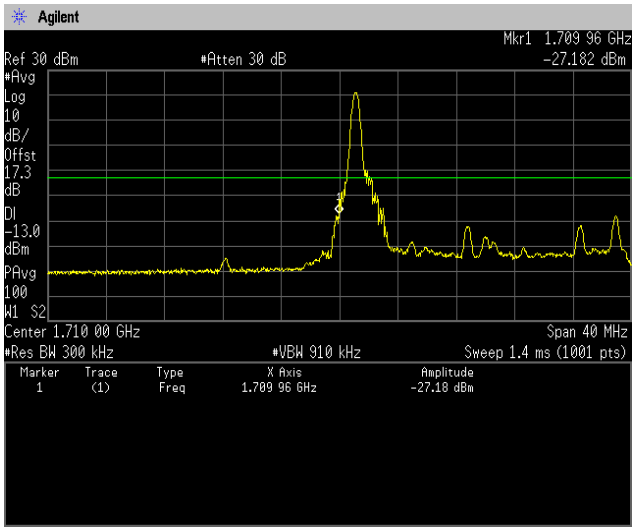
Channel: High



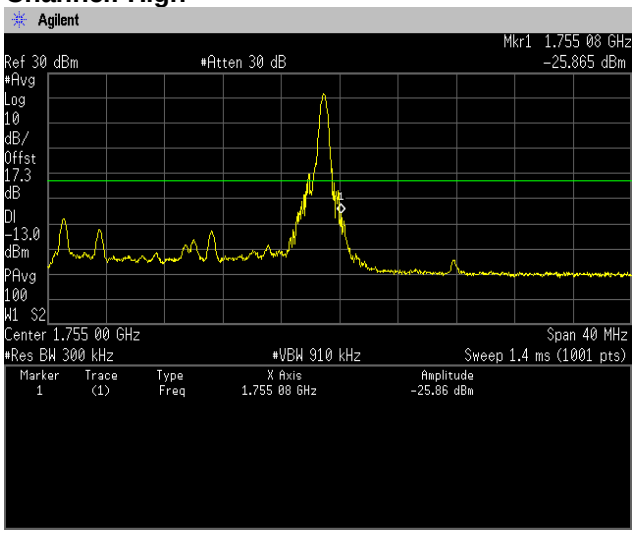
Japan

[LTE Band IV]
(Band Edge)

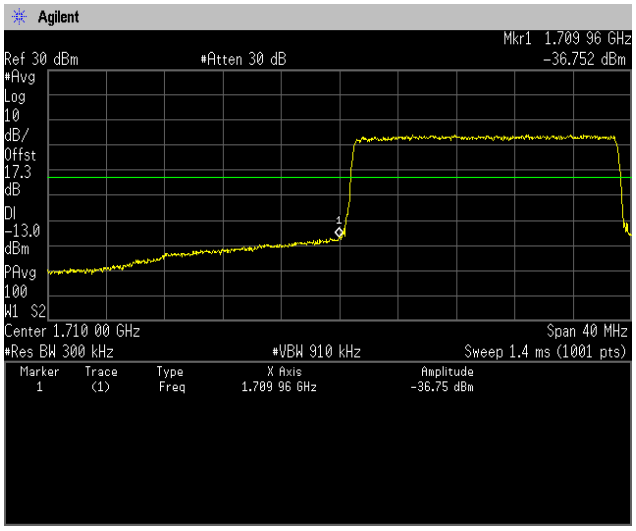
16QAM, BW 20MHz, RB1-0
Channel: Low



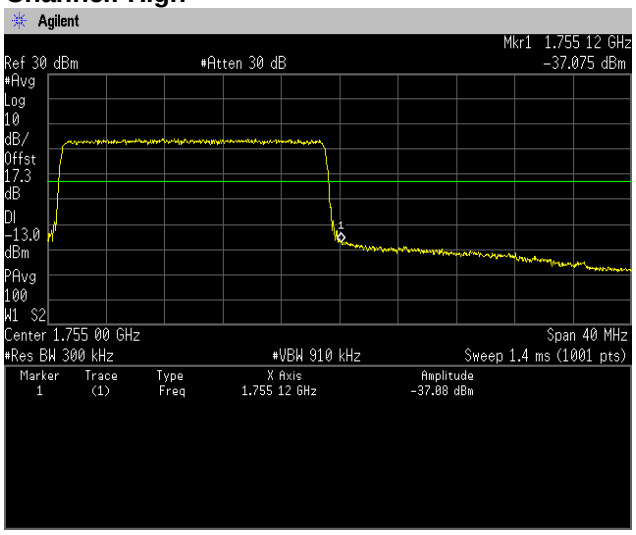
RB1-99
Channel: High



16QAM, BW 20MHz, RB75-0
Channel: Low



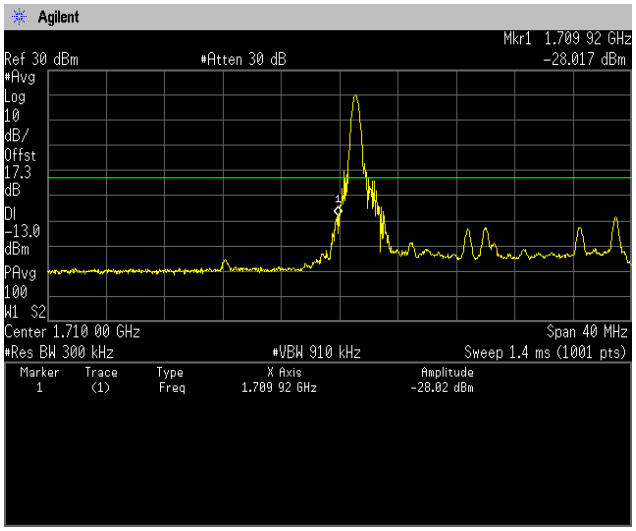
Channel: High



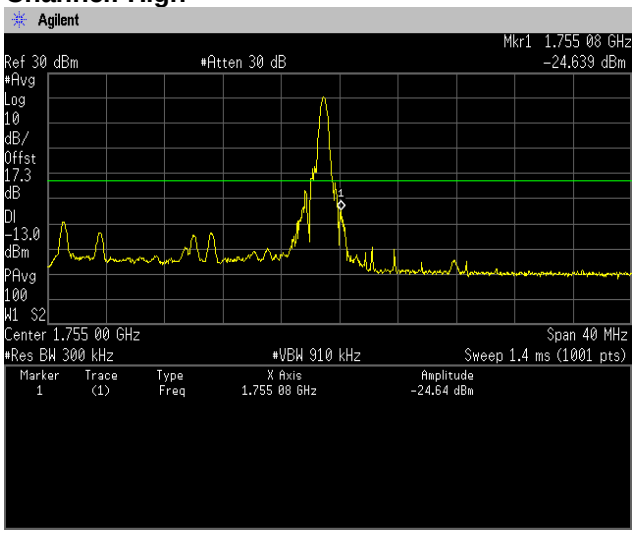
Japan

[LTE Band IV]
(Band Edge)

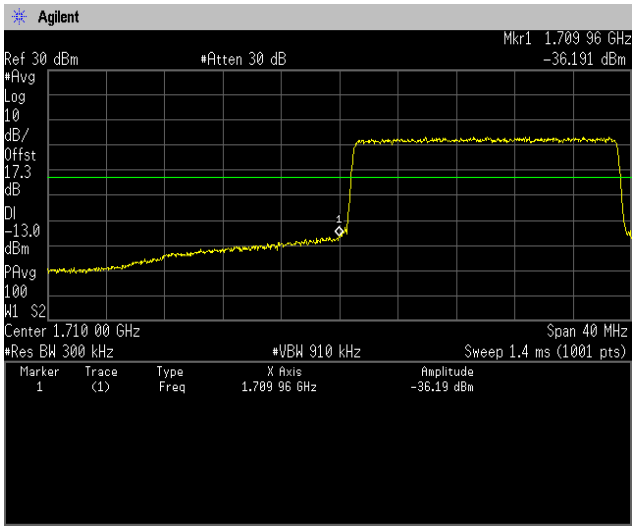
64QAM, BW 20MHz, RB1-0
Channel: Low



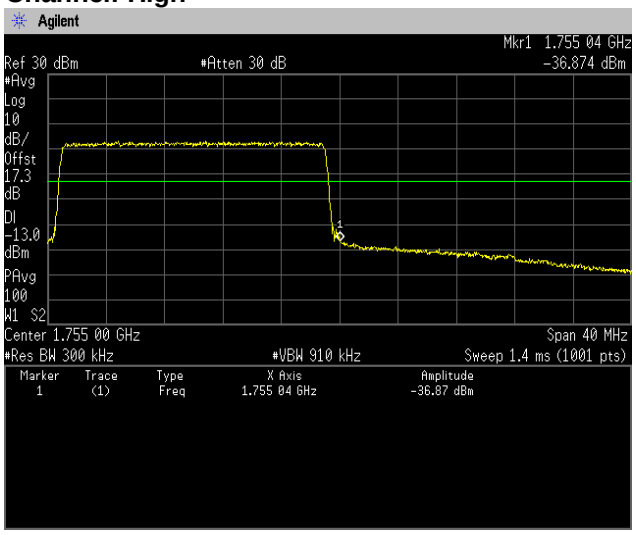
RB1-99
Channel: High



64QAM, BW 20MHz, RB100-0
Channel: Low



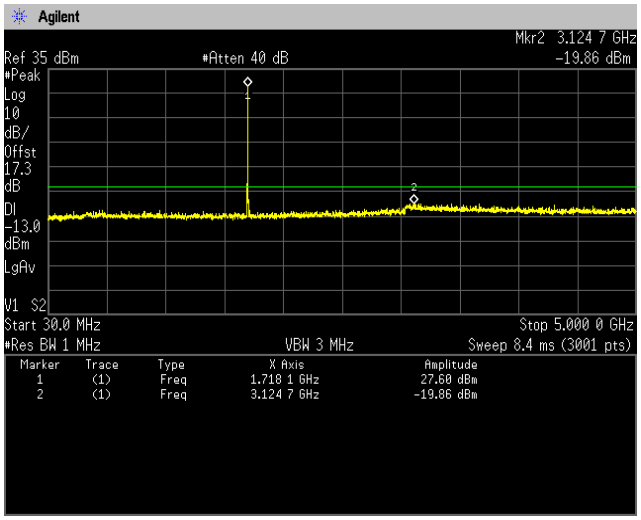
Channel: High



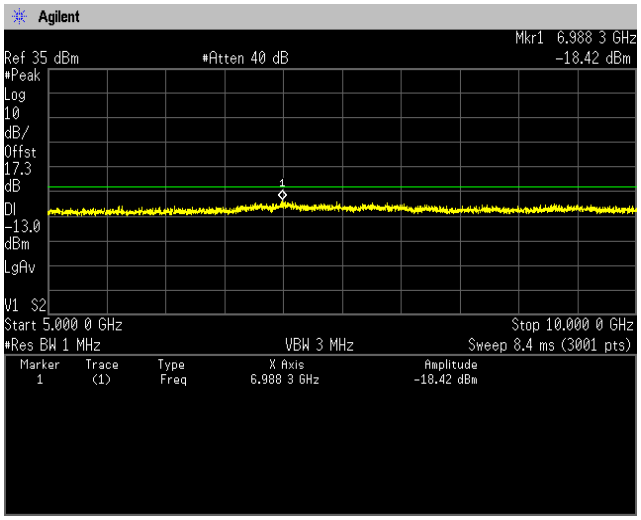
[LTE Band IV]
(Spurious Emissions)
Note: Conducted spurious test was measured in the worst case of Equivalent Isotropic Radiated Power.

QPSK, BW 15MHz, RB 1-38
Channel: Low

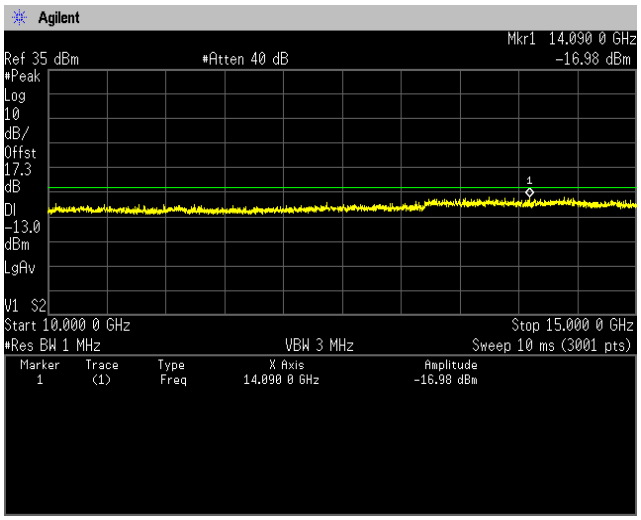
30MHz-5GHz



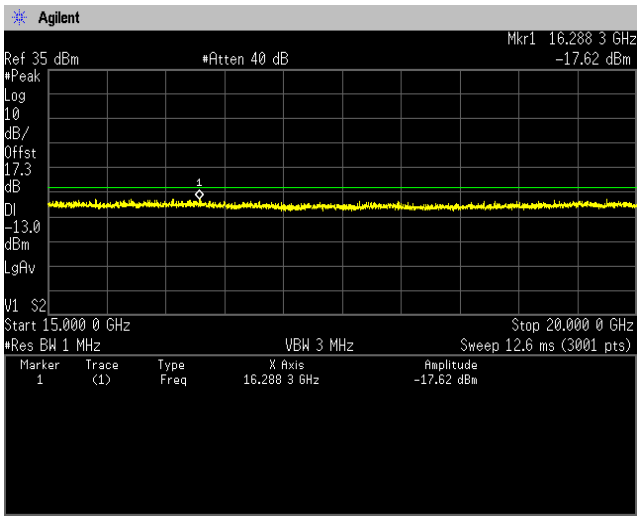
5GHz-10GHz



10GHz-15GHz



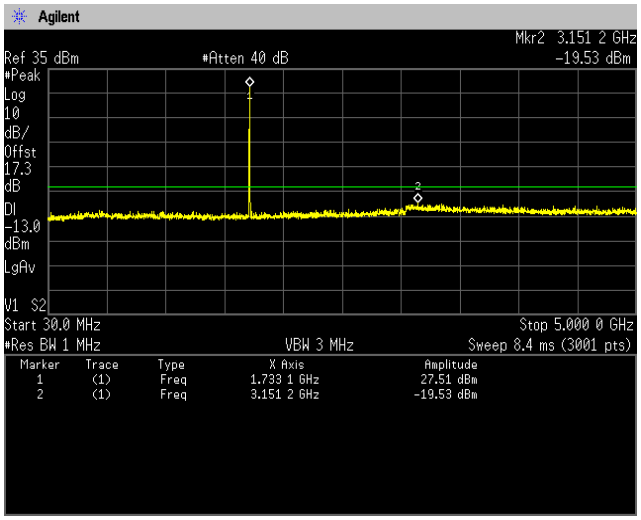
15GHz-20GHz



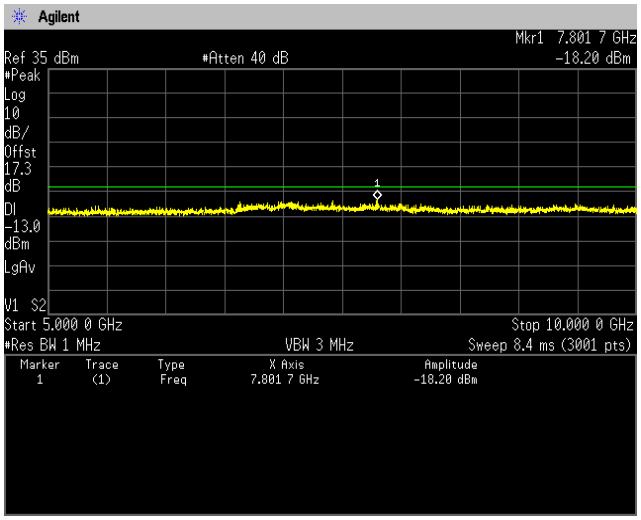
[LTE Band IV]
(Spurious Emissions)

Channel: Middle

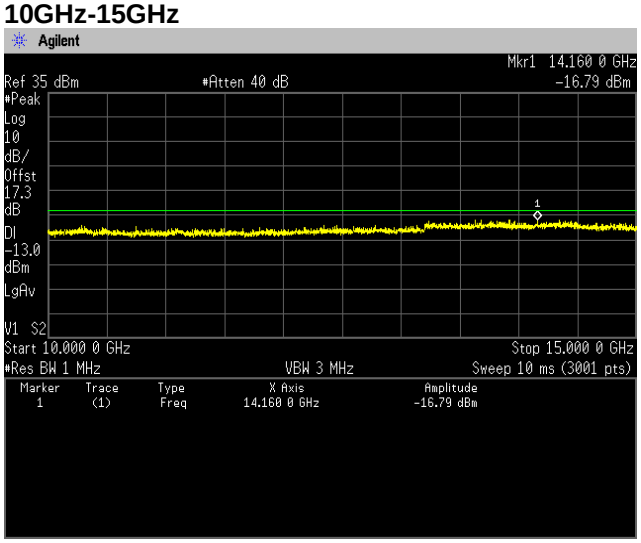
30MHz-5GHz



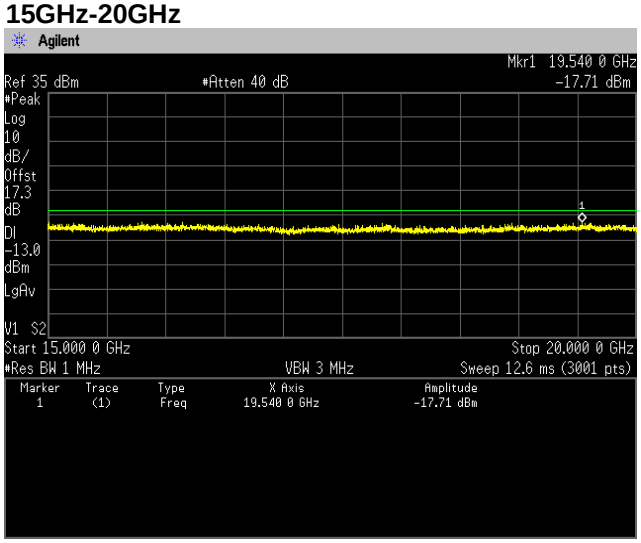
5GHz-10GHz



10GHz-15GHz



15GHz-20GHz

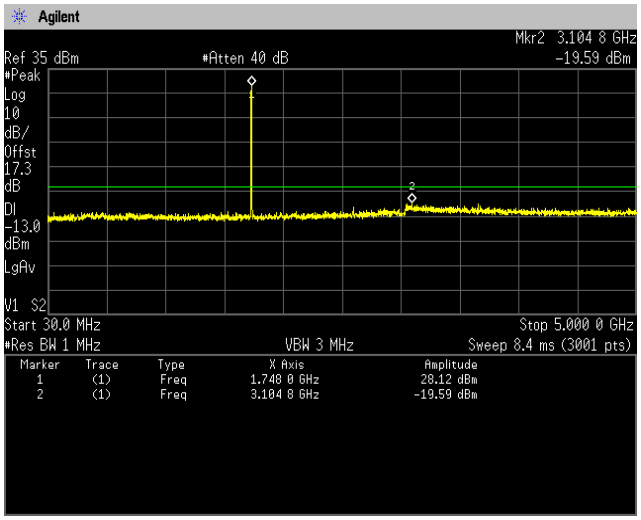


Japan

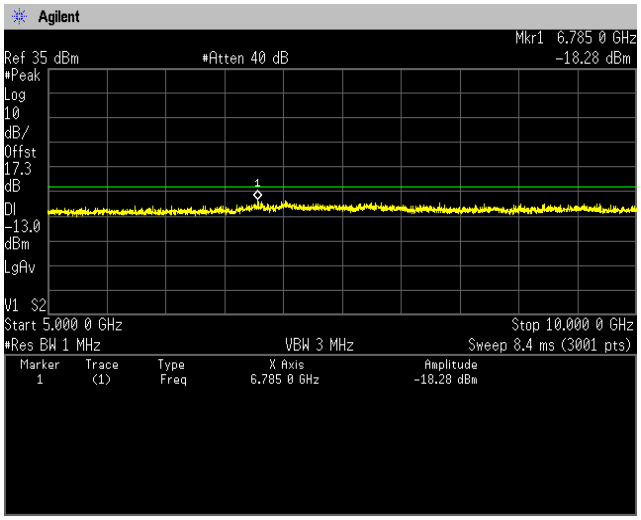
[LTE Band IV]
(Spurious Emissions)

Channel: High

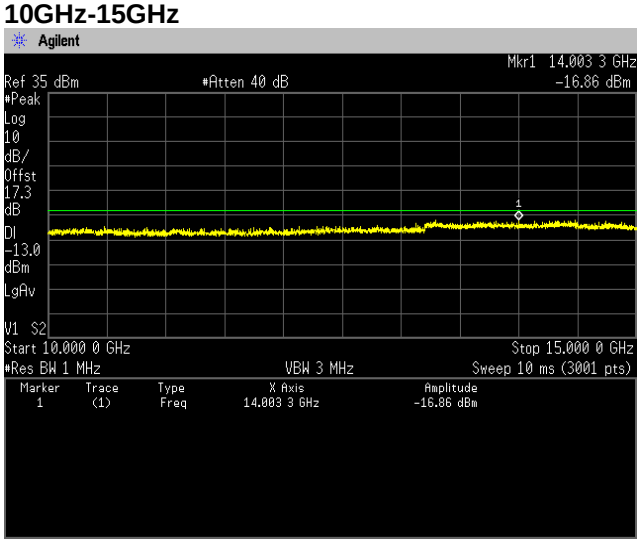
30MHz-5GHz



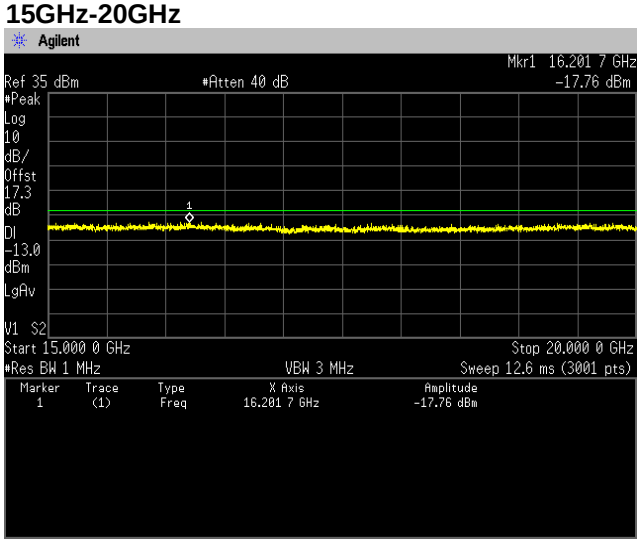
5GHz-10GHz



10GHz-15GHz



15GHz-20GHz

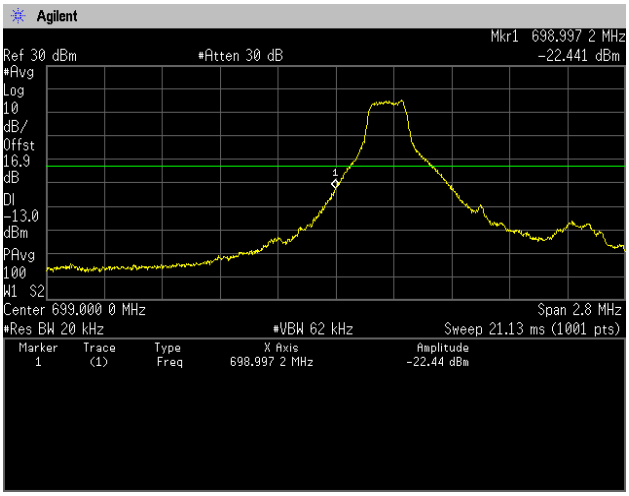


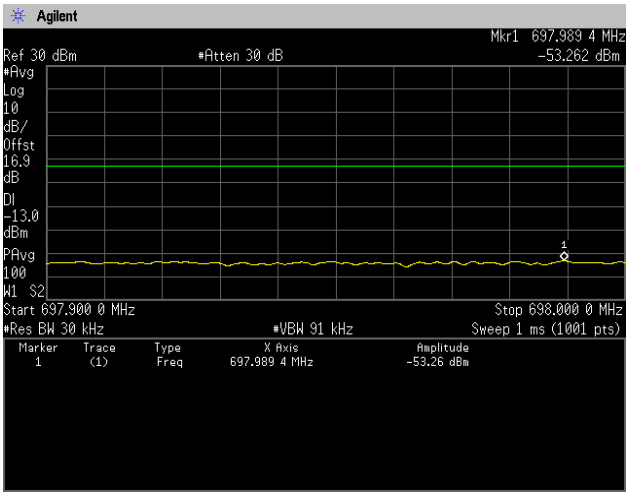
Japan

[LTE Band XII]
(Band Edge)

QPSK, BW 1.4MHz, RB1-0
Channel: Low

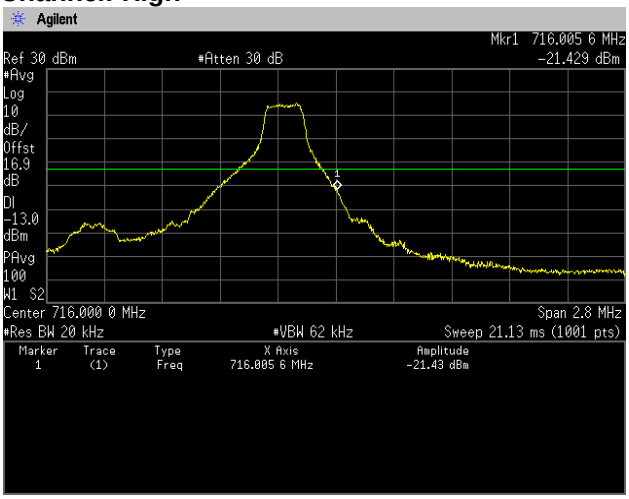
697.9-698.0 MHz

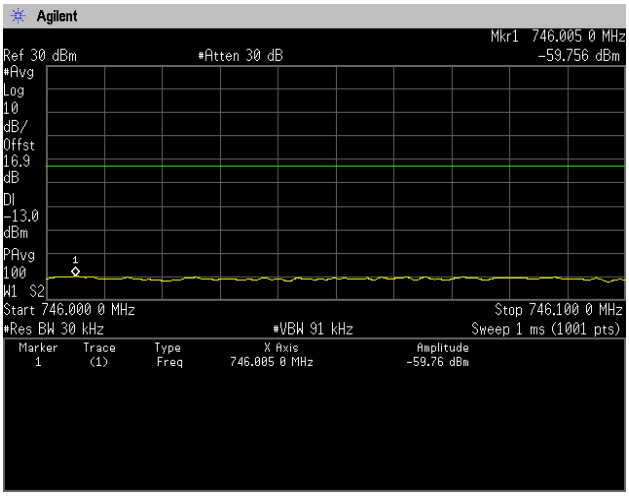




QPSK, BW 1.4MHz, RB1-5
Channel: High

746.0-746.1 MHz



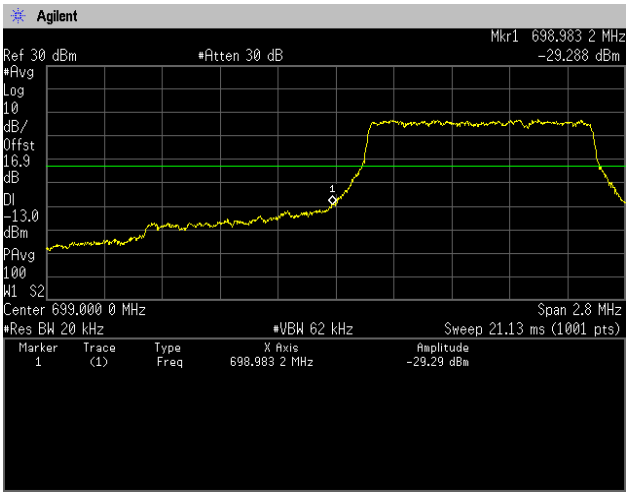


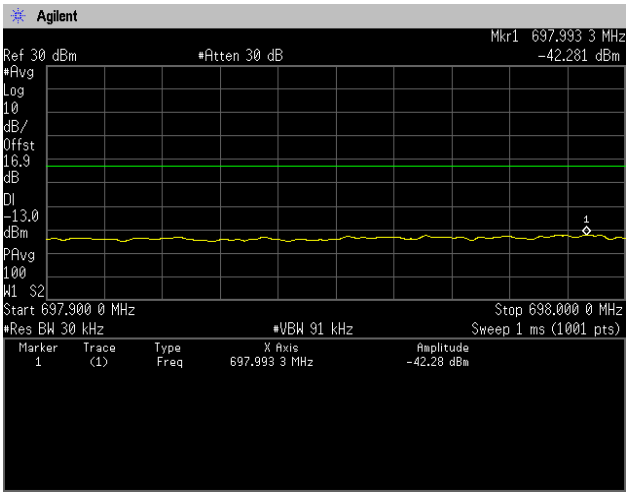
Japan

[LTE Band XII]
(Band Edge)

QPSK, BW 1.4MHz, RB6-0
Channel: Low

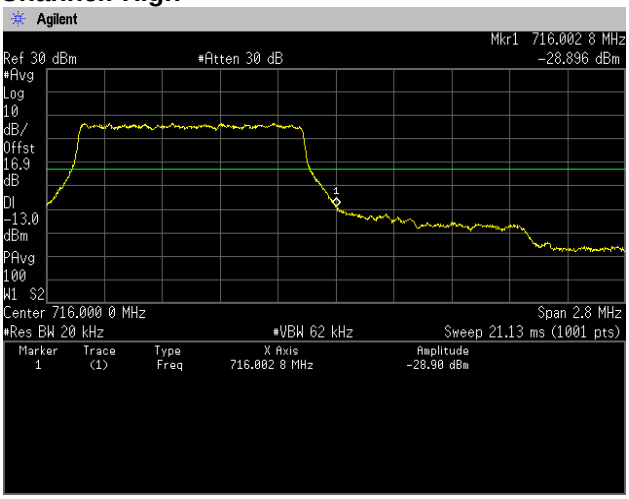
697.9-698.0 MHz

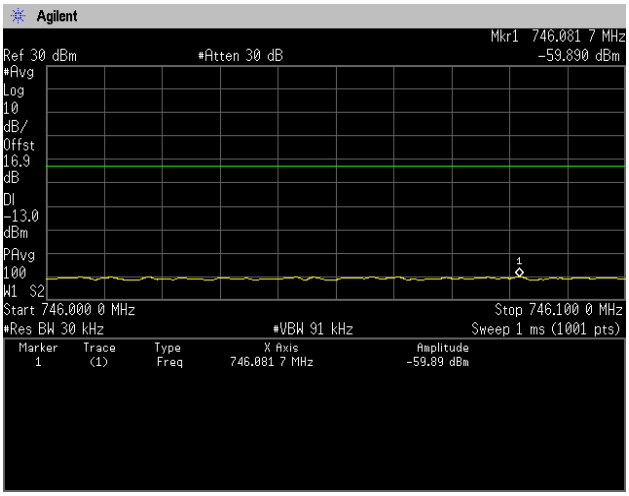




QPSK, BW 1.4MHz, RB6-0
Channel: High

746.0-746.1 MHz



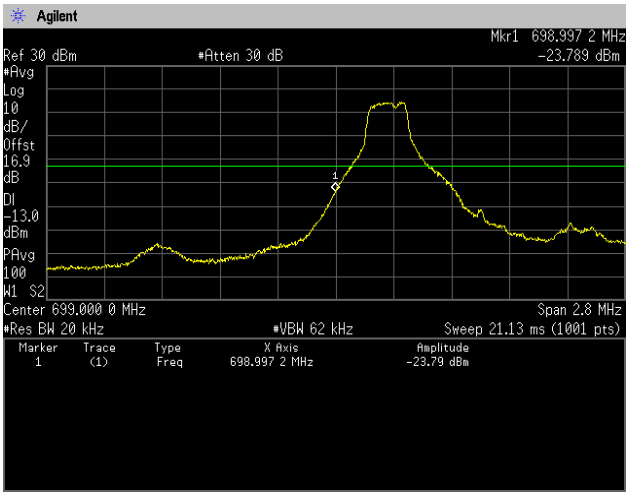


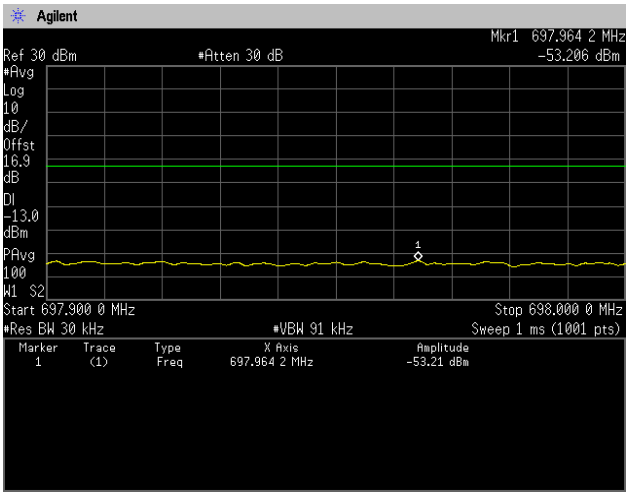
Japan

[LTE Band XII]
(Band Edge)

16QAM, BW 1.4MHz, RB1-0
Channel: Low

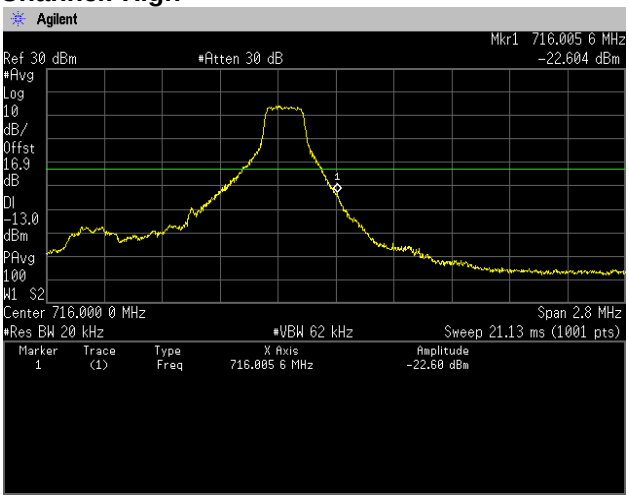
697.9-698.0 MHz

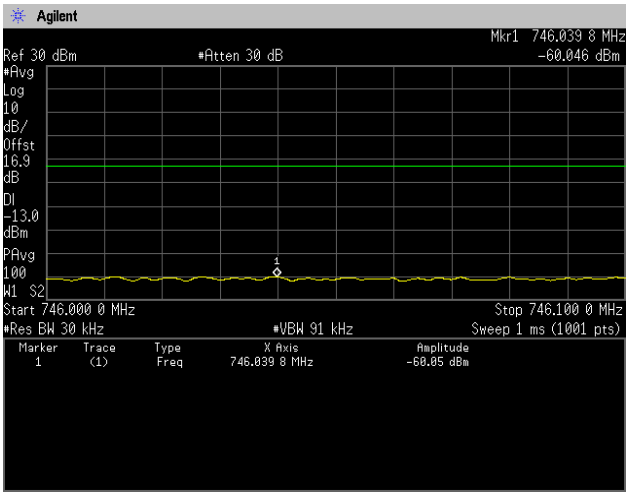




16QAM, BW 1.4MHz, RB1-5
Channel: High

746.0-746.1 MHz



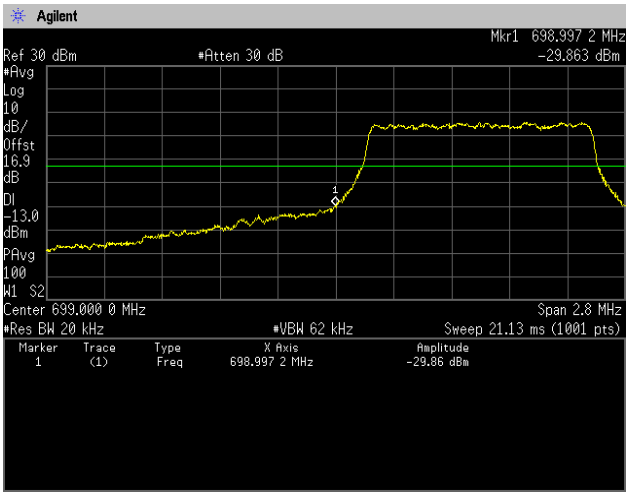


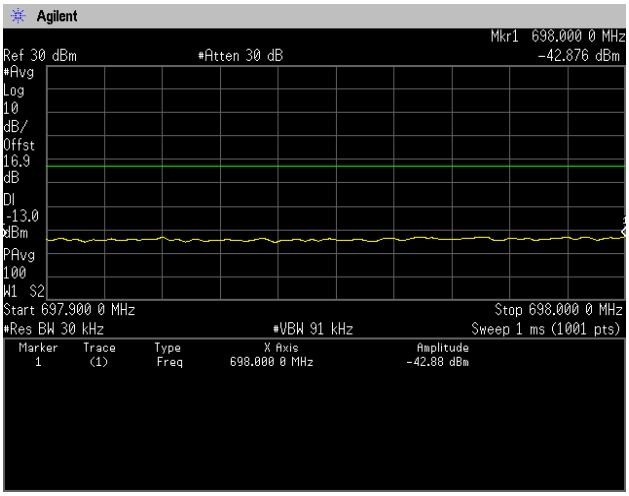
Japan

[LTE Band XII]
(Band Edge)

16QAM, BW 1.4MHz, RB6-0
Channel: Low

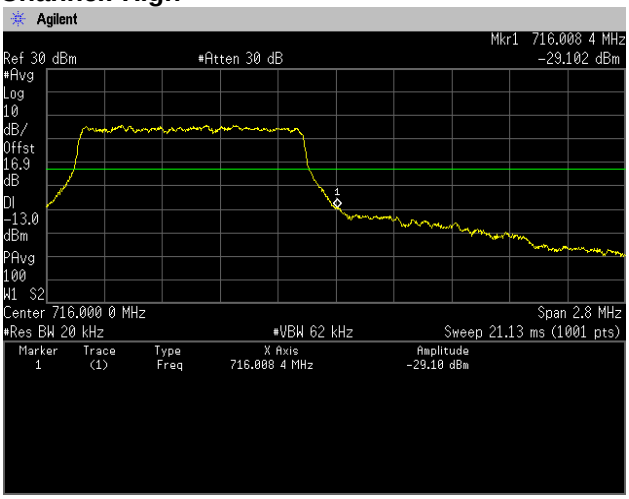
697.9-698.0 MHz

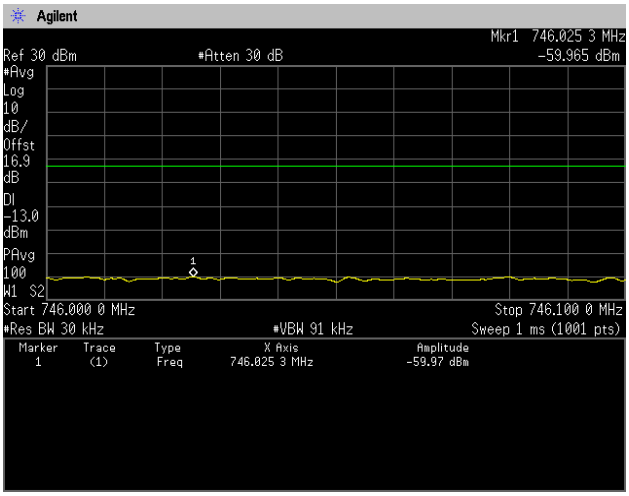




16QAM, BW 1.4MHz, RB6-0
Channel: High

746.0-746.1 MHz



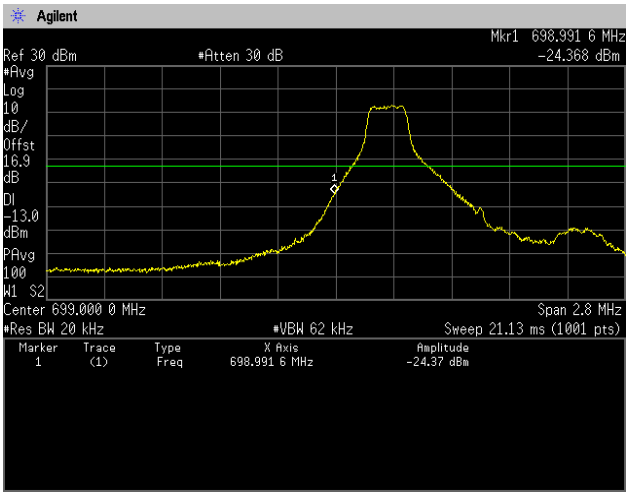


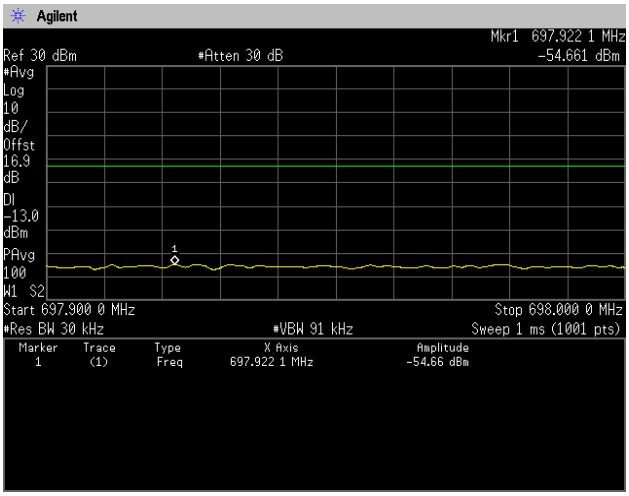
Japan

[LTE Band XII]
(Band Edge)

64QAM, BW 1.4MHz, RB1-0
Channel: Low

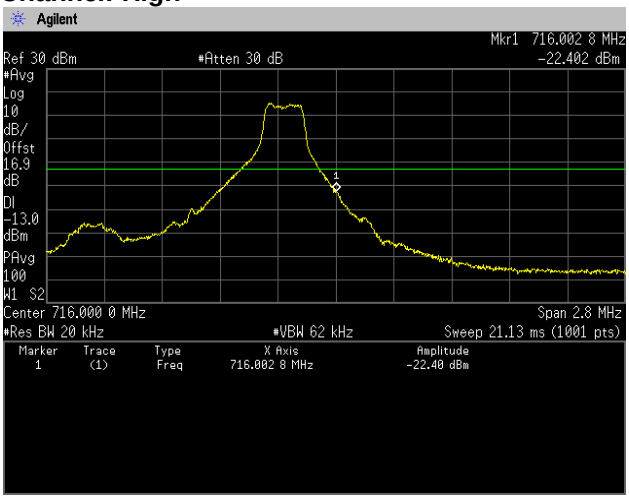
697.9-698.0 MHz

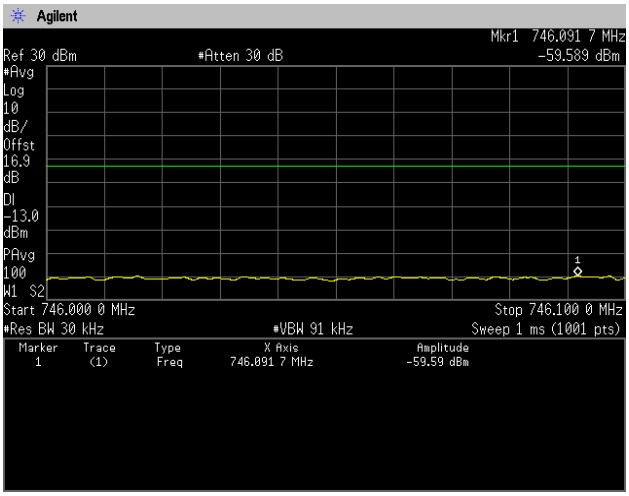




64QAM, BW 1.4MHz, RB1-5
Channel: High

746.0-746.1 MHz



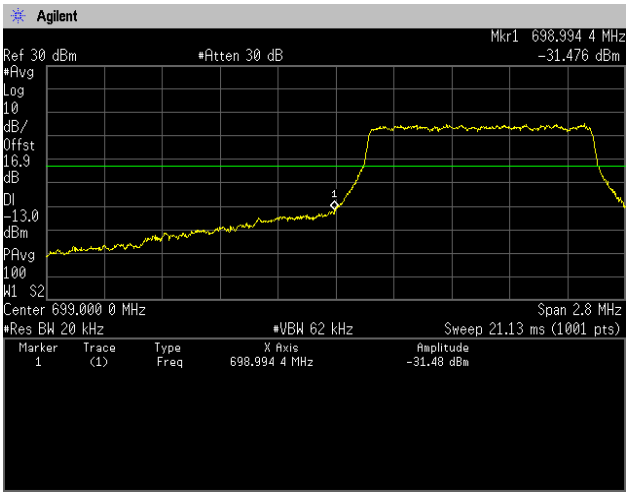


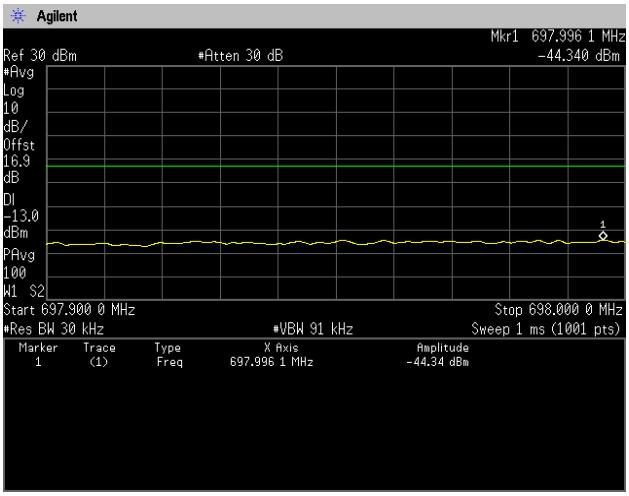
Japan

[LTE Band XII]
(Band Edge)

64QAM, BW 1.4MHz, RB6-0
Channel: Low

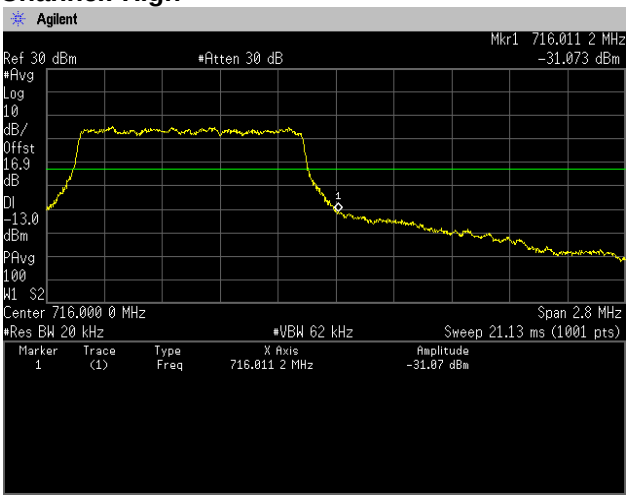
697.9-698.0 MHz

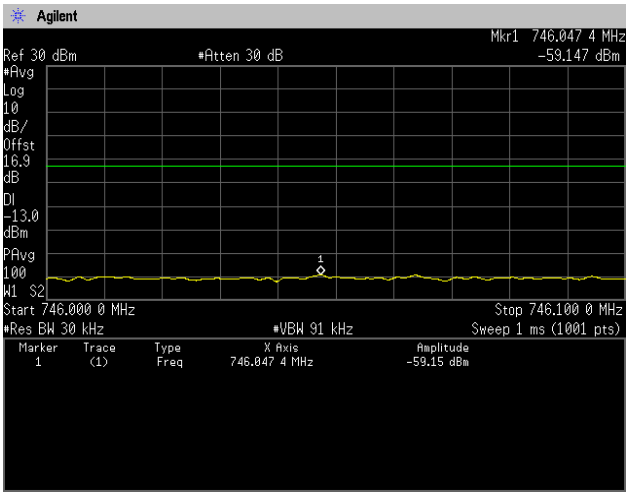




64QAM, BW 1.4MHz, RB6-0
Channel: High

746.0-746.1 MHz



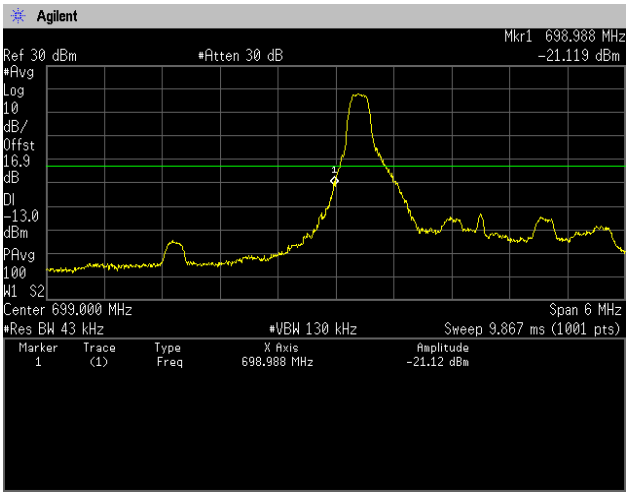


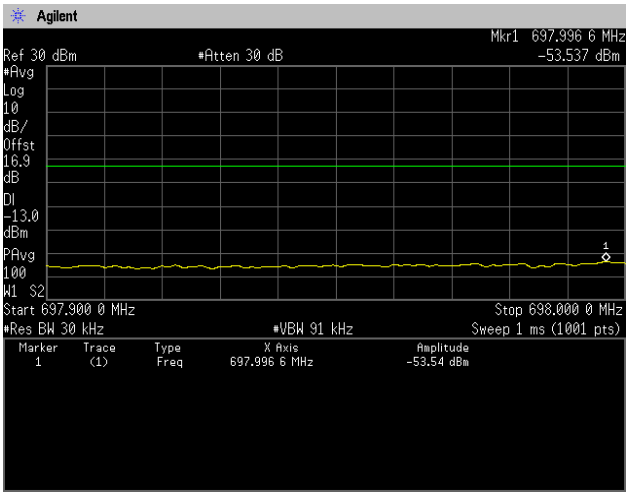
Japan

[LTE Band XII]
(Band Edge)

QPSK, BW 3MHz, RB1-0
Channel: Low

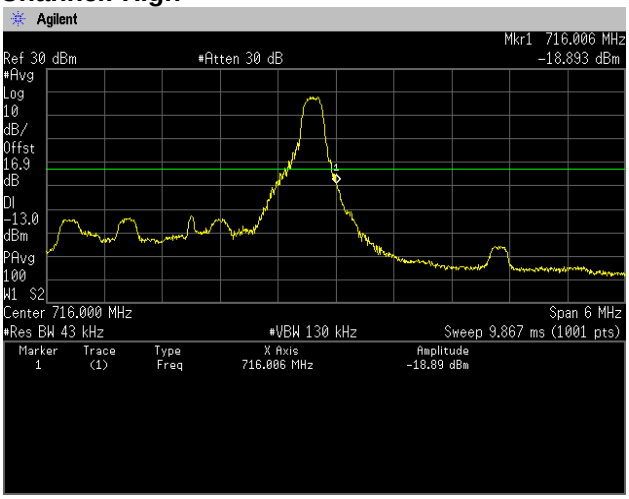
697.9-698.0 MHz

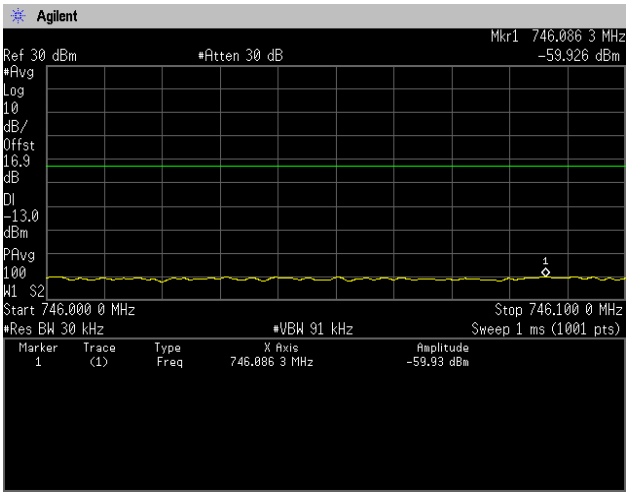




QPSK, BW 3MHz, RB1-14
Channel: High

746.0-746.1 MHz



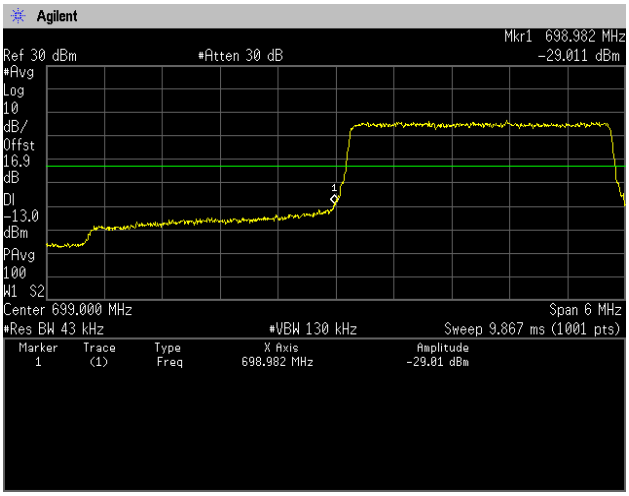


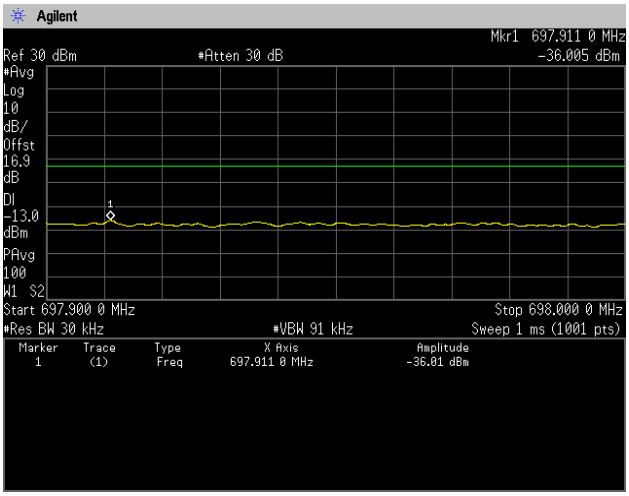
Japan

[LTE Band XII]
(Band Edge)

QPSK, BW 3MHz, RB15-0
Channel: Low

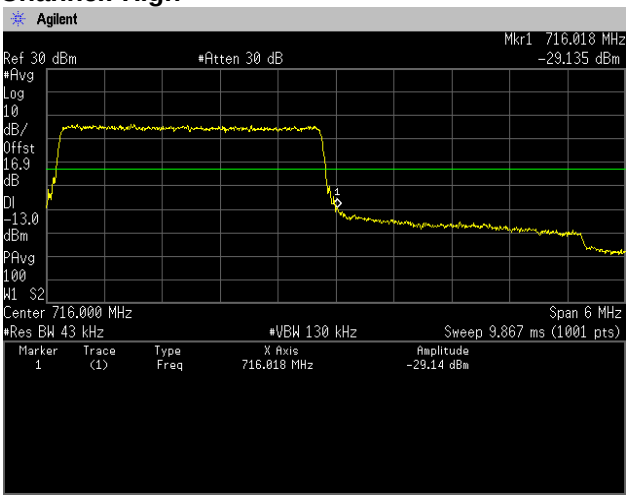
697.9-698.0 MHz

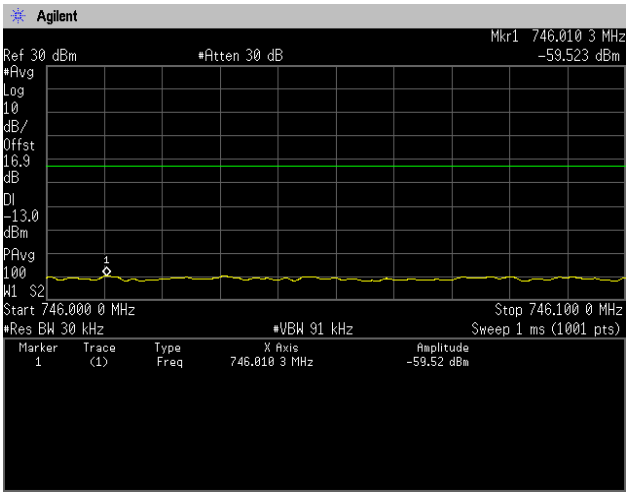




QPSK, BW 3MHz, RB15-0
Channel: High

746.0-746.1 MHz



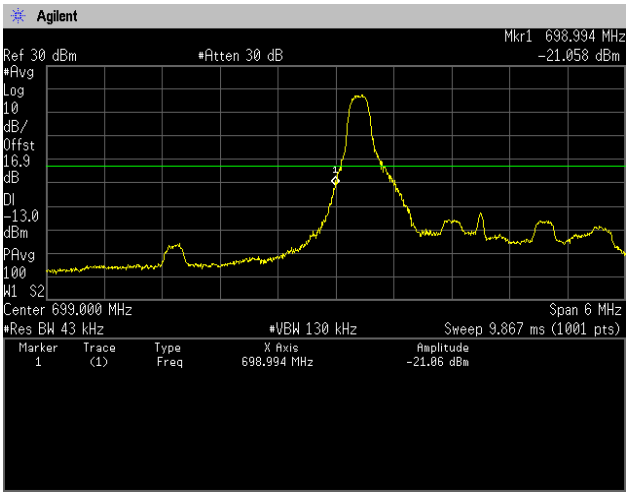


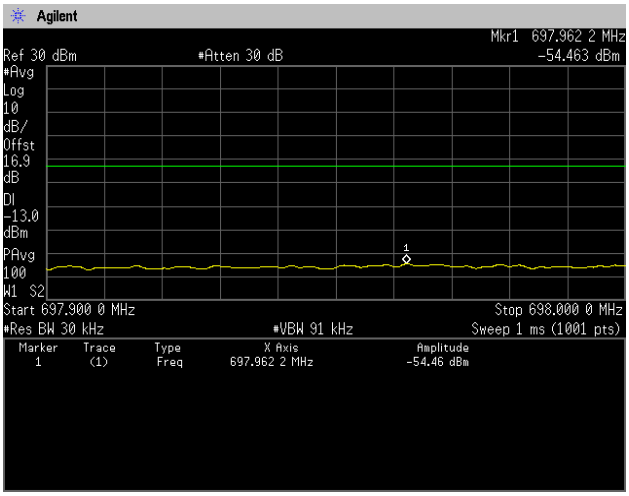
Japan

[LTE Band XII]
(Band Edge)

16QAM, BW 3MHz, RB1-0
Channel: Low

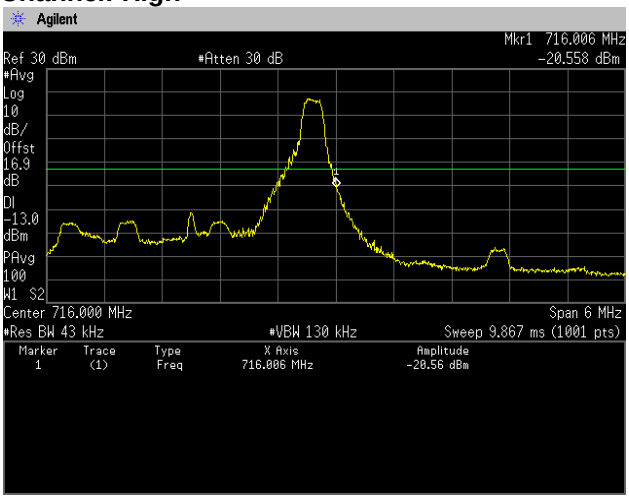
697.9-698.0 MHz

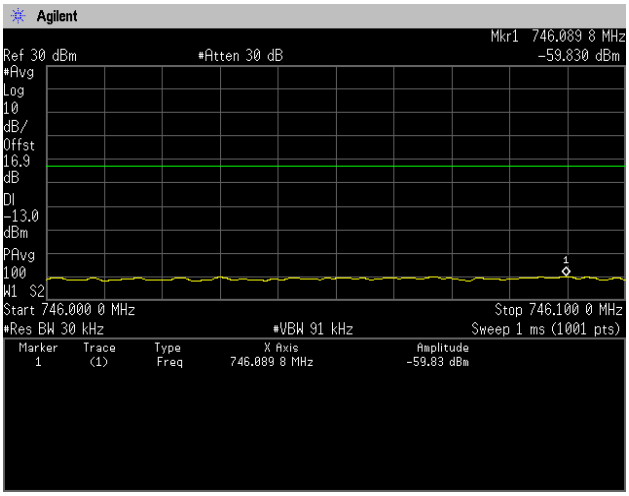




16QAM, BW 3MHz, RB1-14
Channel: High

746.0-746.1 MHz



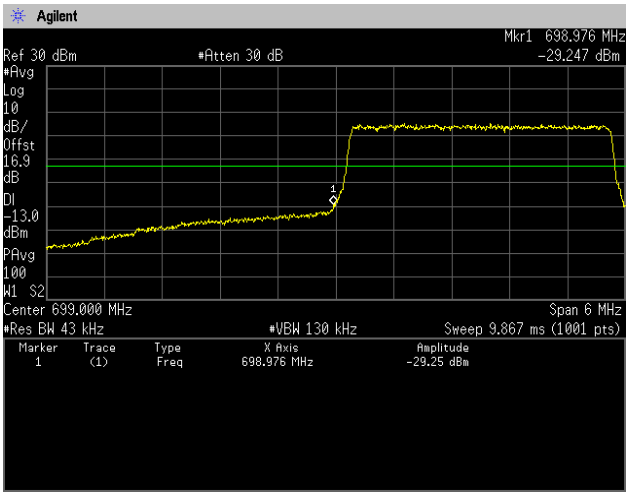


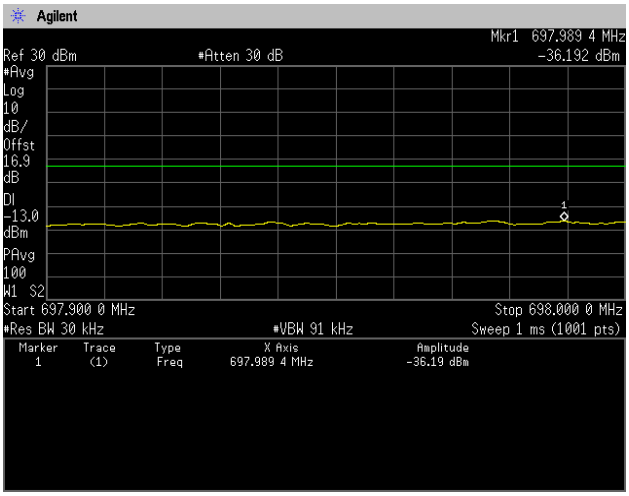
Japan

[LTE Band XII]
(Band Edge)

16QAM, BW 3MHz, RB15-0
Channel: Low

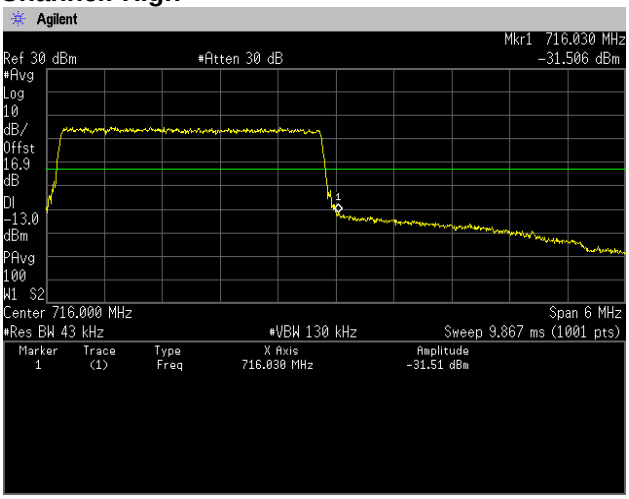
697.9-698.0 MHz

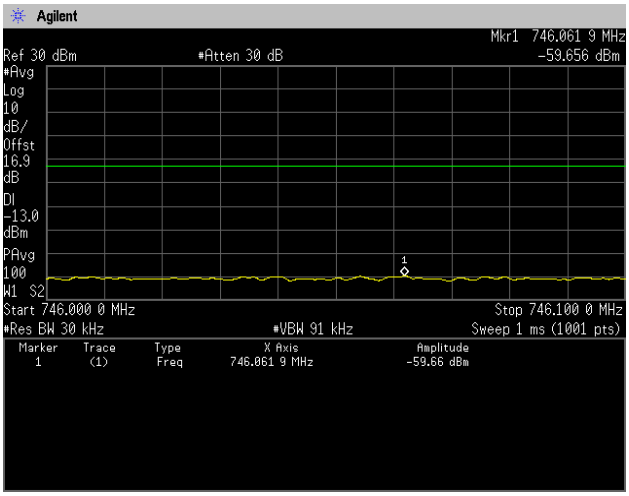




16QAM, BW 3MHz, RB15-0
Channel: High

746.0-746.1 MHz



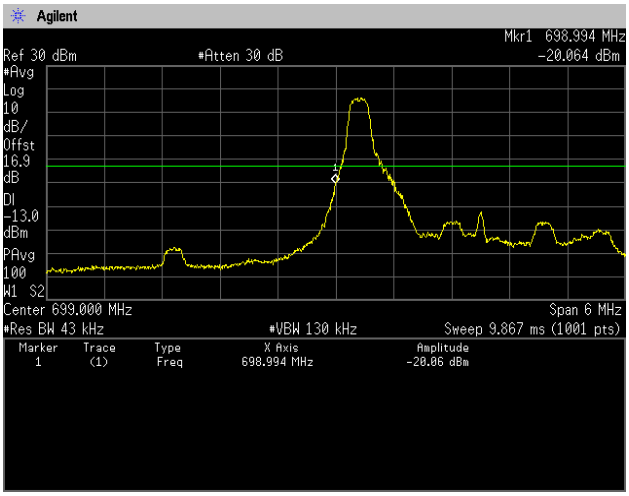


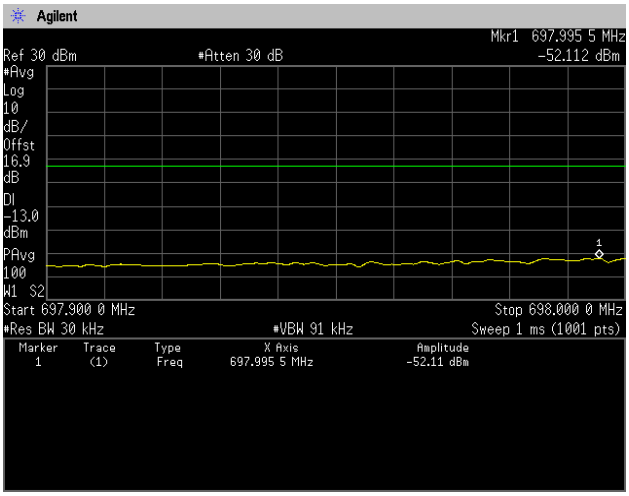
Japan

[LTE Band XII]
(Band Edge)

64QAM, BW 3MHz, RB1-0
Channel: Low

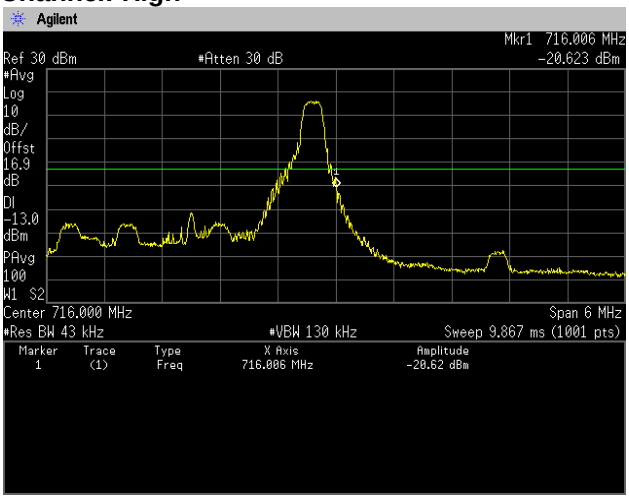
697.9-698.0 MHz

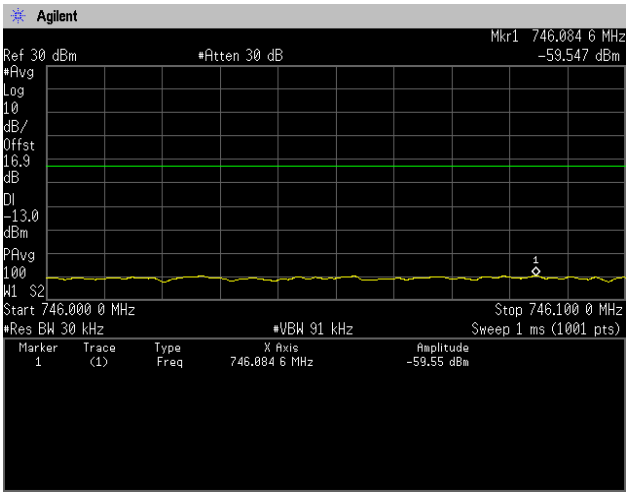




64QAM, BW 3MHz, RB1-14
Channel: High

746.0-746.1 MHz

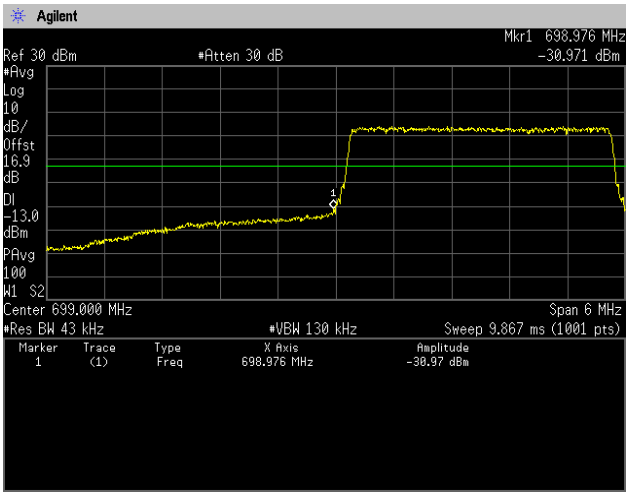


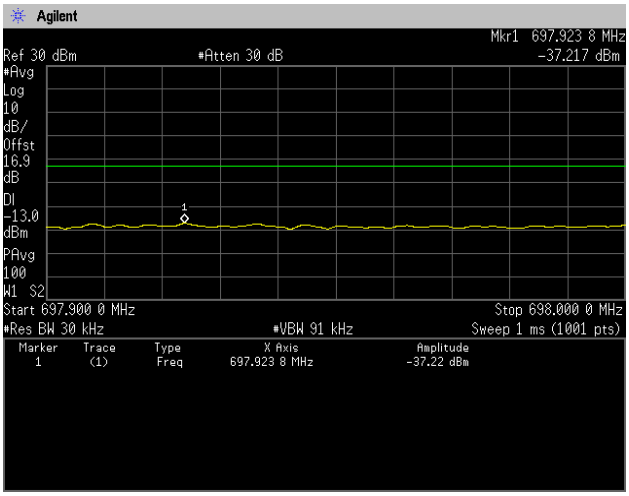


[LTE Band XII]
(Band Edge)

64QAM, BW 3MHz, RB15-0
Channel: Low

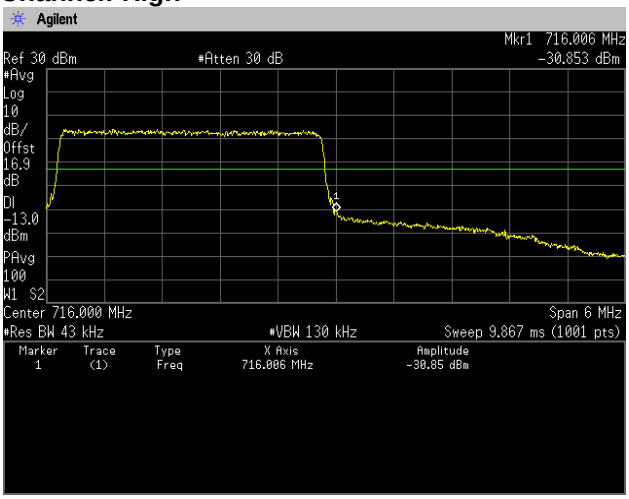
697.9-698.0 MHz

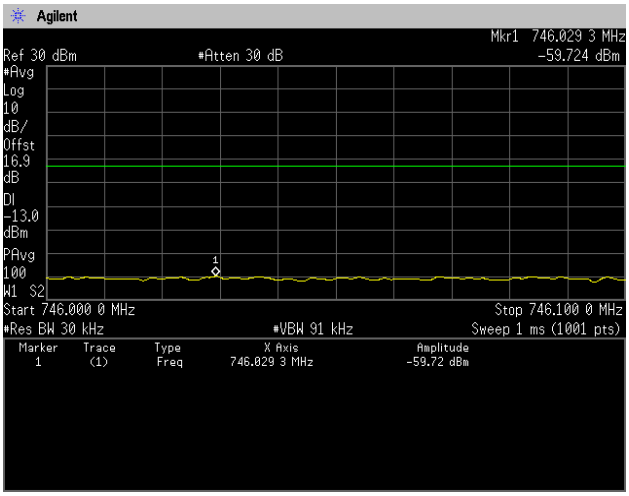




64QAM, BW 3MHz, RB15-0
Channel: High

746.0-746.1 MHz



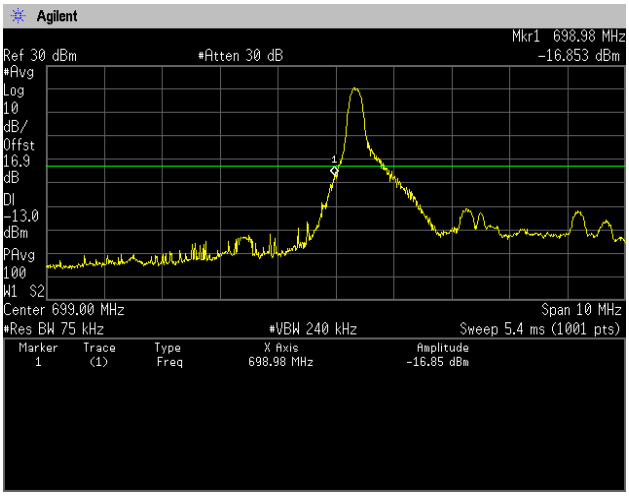


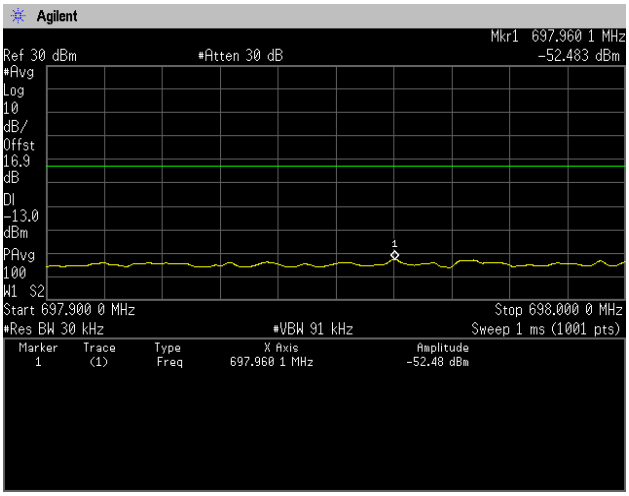
Japan

[LTE Band XII]
(Band Edge)

QPSK, BW 5MHz, RB1-0
Channel: Low

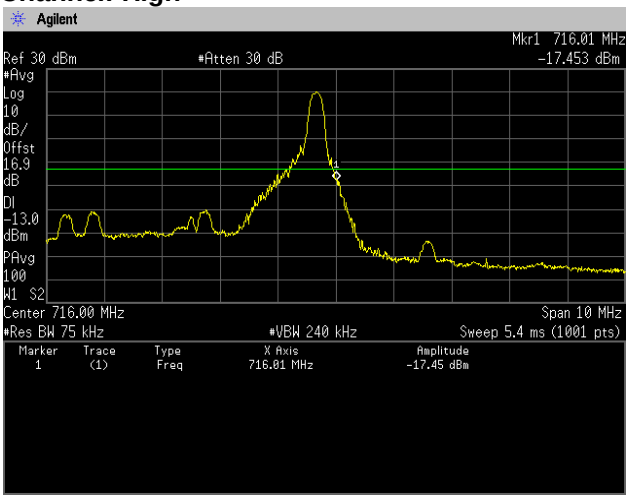
697.9-698.0 MHz

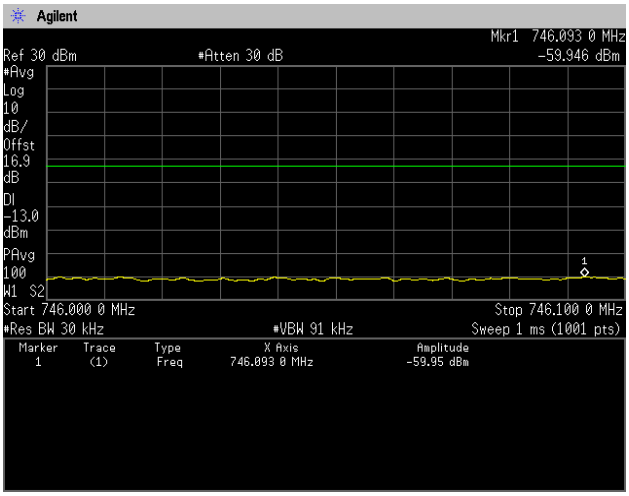




QPSK, BW 5MHz, RB1-24
Channel: High

746.0-746.1 MHz



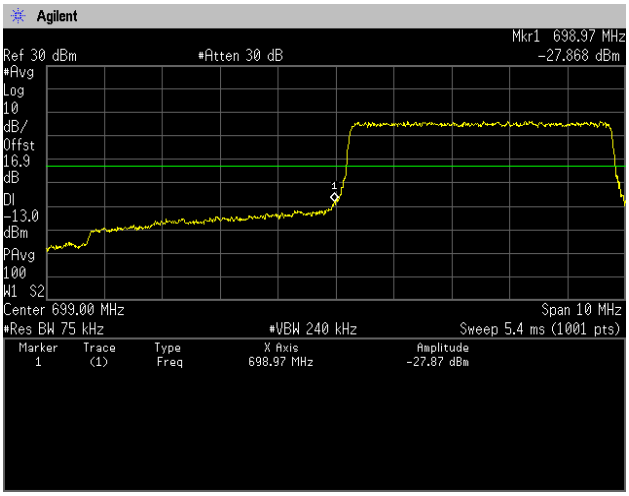


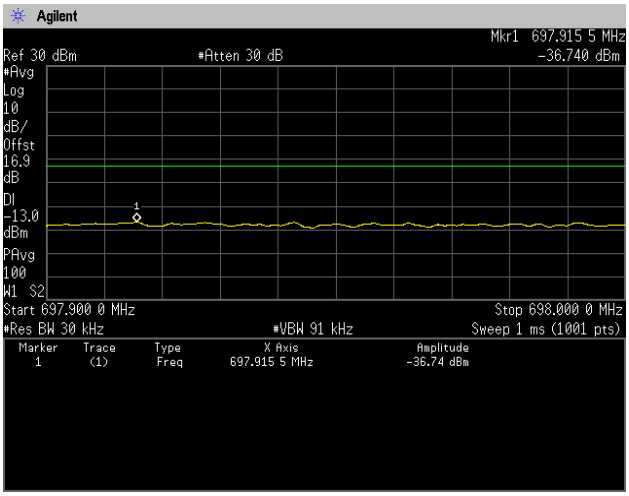
Japan

[LTE Band XII]
(Band Edge)

QPSK, BW 5MHz, RB25-0
Channel: Low

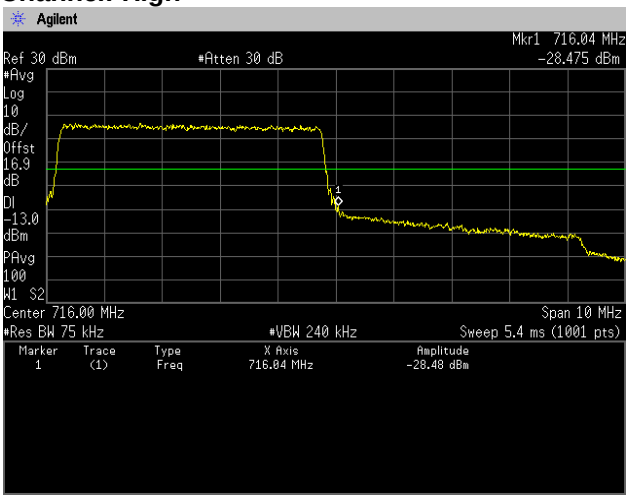
697.9-698.0 MHz

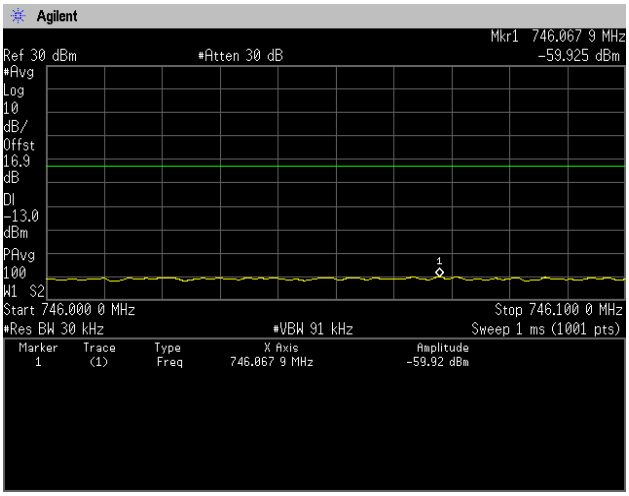




QPSK, BW 5MHz, RB25-0
Channel: High

746.0-746.1 MHz



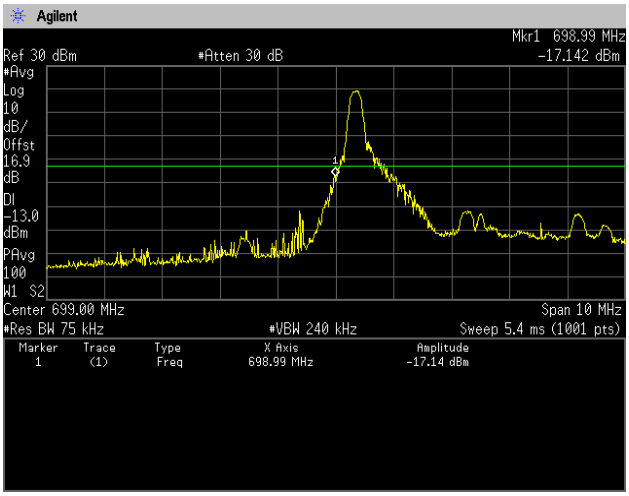


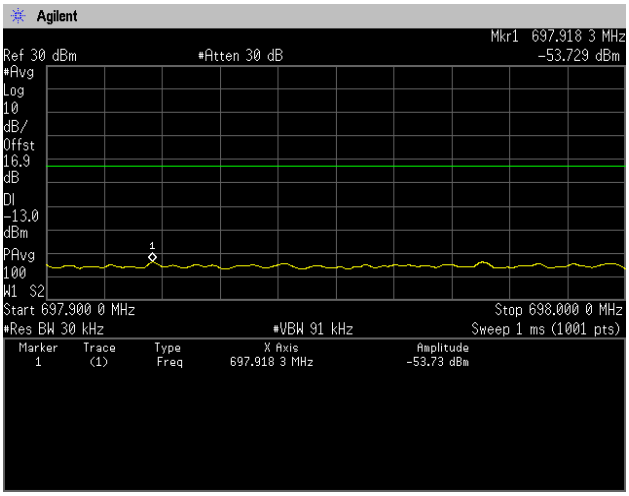
Japan

[LTE Band XII]
(Band Edge)

16QAM, BW 5MHz, RB1-0
Channel: Low

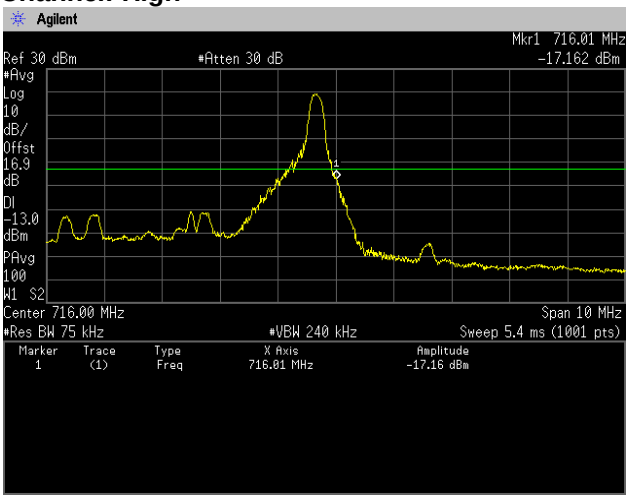
697.9-698.0 MHz

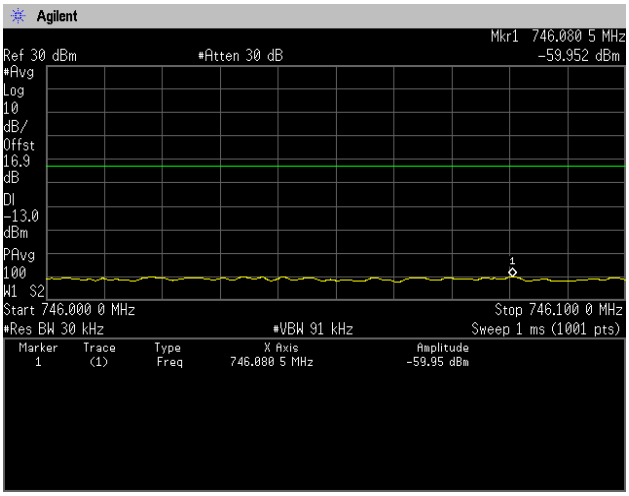




16QAM, BW 5MHz, RB1-24
Channel: High

746.0-746.1 MHz



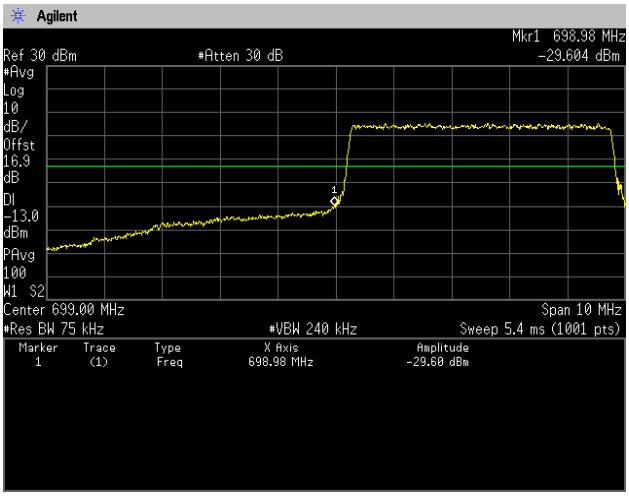


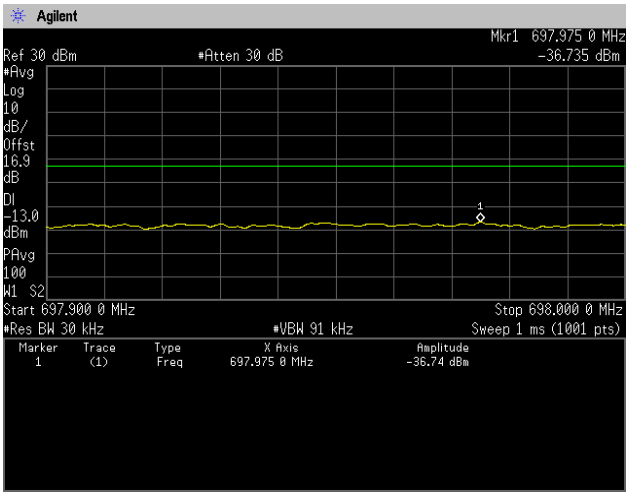
Japan

[LTE Band XII]
(Band Edge)

16QAM, BW 5MHz, RB25-0
Channel: Low

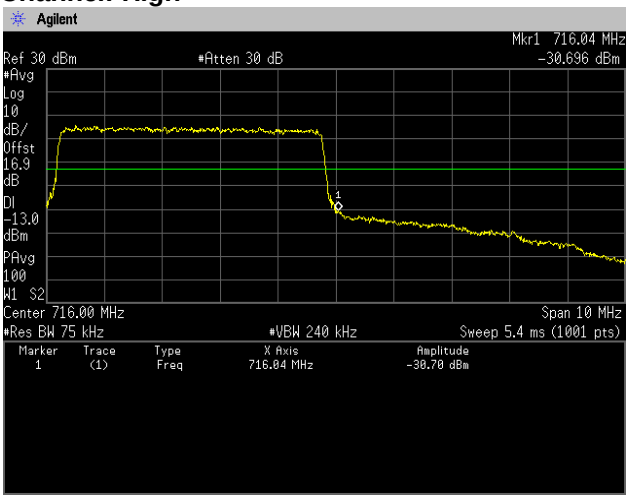
697.9-698.0 MHz

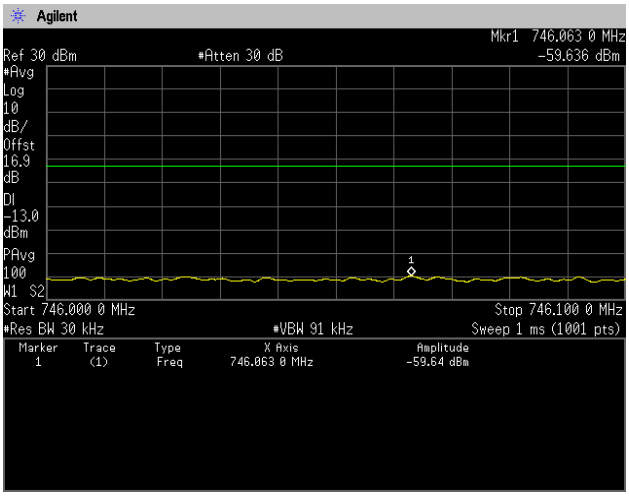




16QAM, BW 5MHz, RB25-0
Channel: High

746.0-746.1 MHz



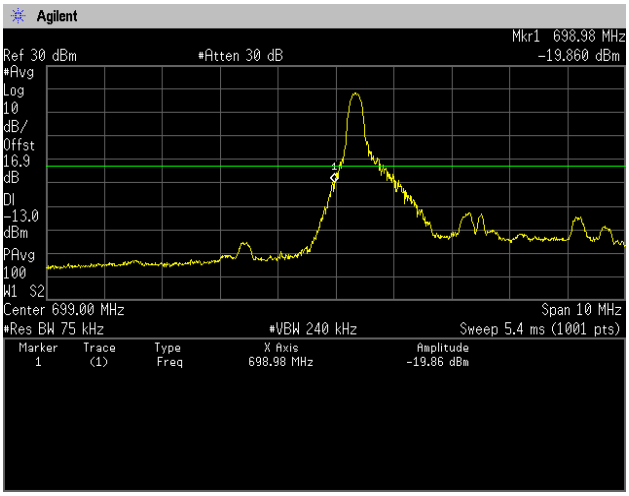


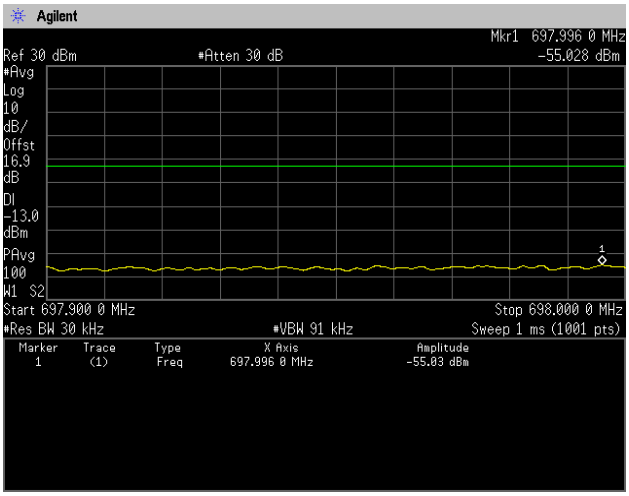
Japan

[LTE Band XII]
(Band Edge)

64QAM, BW 5MHz, RB1-0
Channel: Low

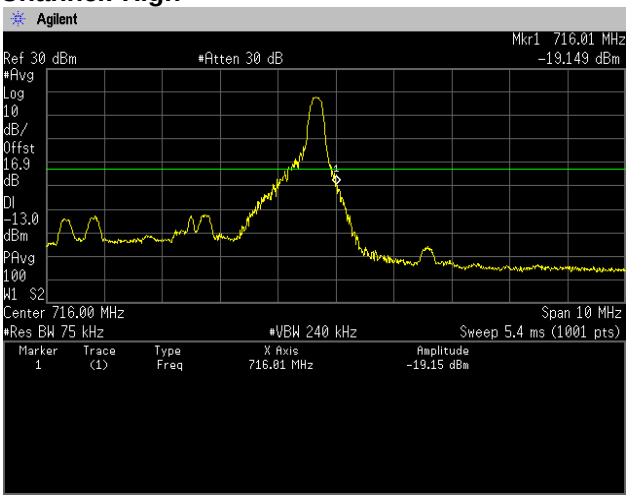
697.9-698.0 MHz

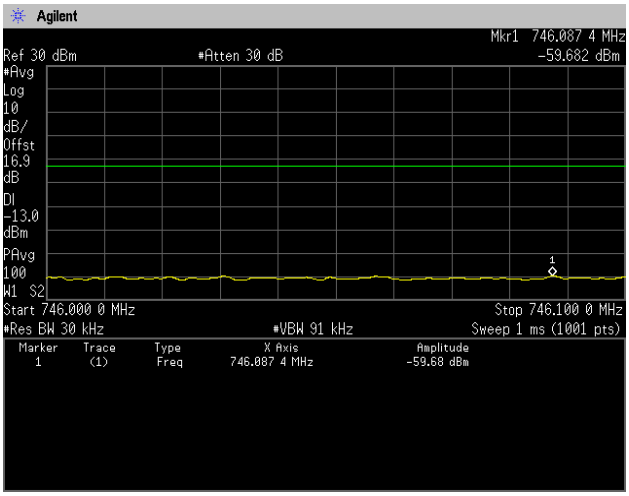




64QAM, BW 5MHz, RB1-24
Channel: High

746.0-746.1 MHz



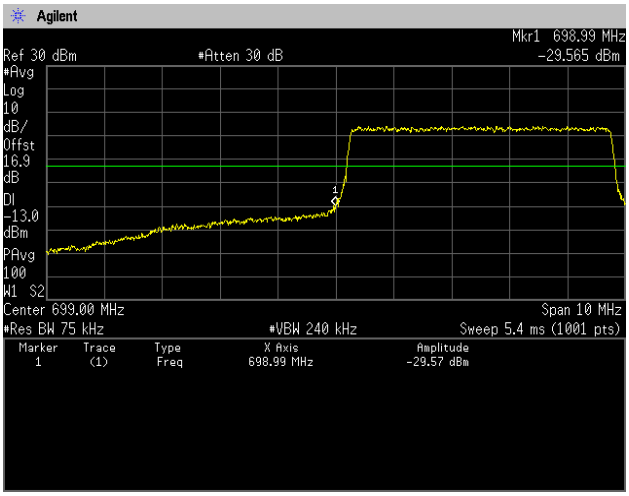


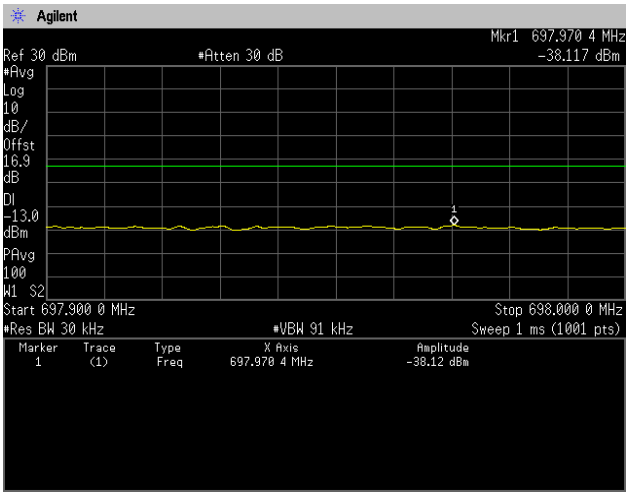
Japan

[LTE Band XII]
(Band Edge)

64QAM, BW 5MHz, RB25-0
Channel: Low

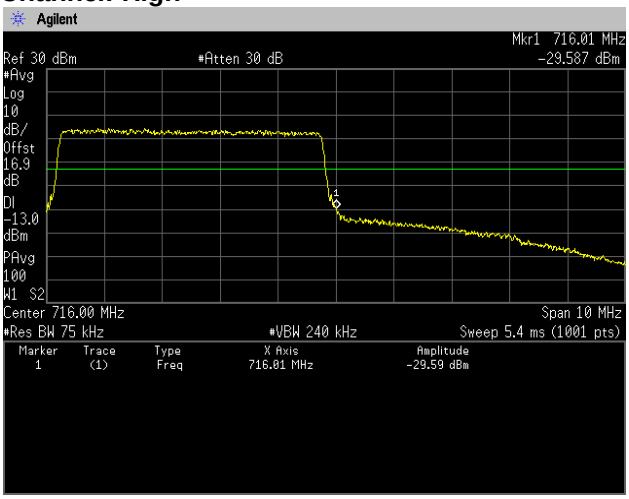
697.9-698.0 MHz

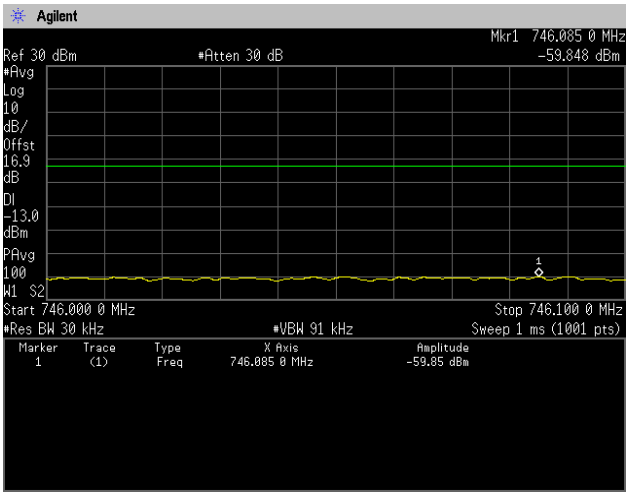




64QAM, BW 5MHz, RB25-0
Channel: High

746.0-746.1 MHz



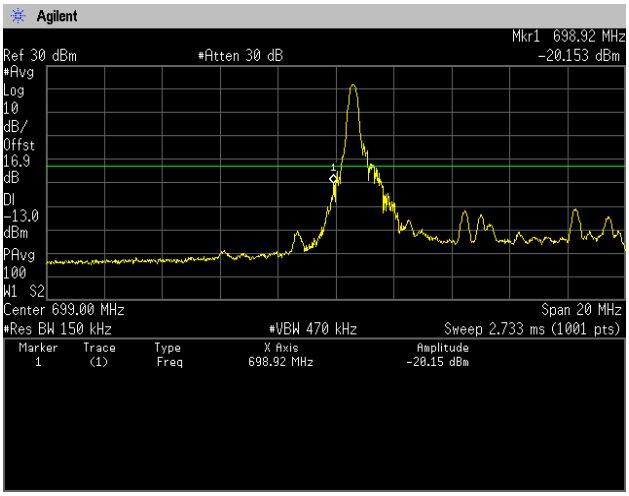


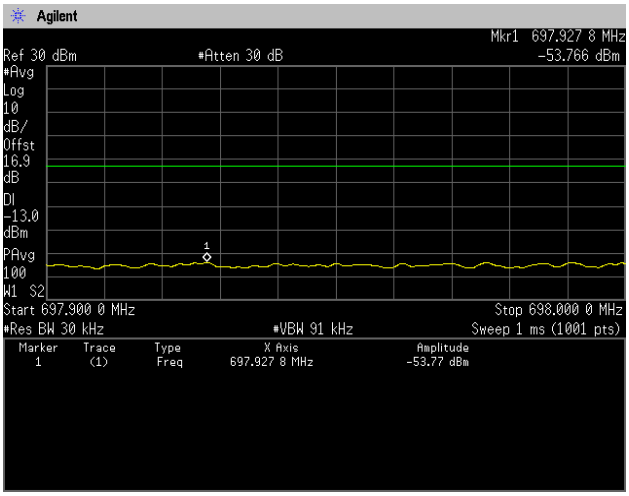
Japan

[LTE Band XII]
(Band Edge)

QPSK, BW 10MHz, RB1-0
Channel: Low

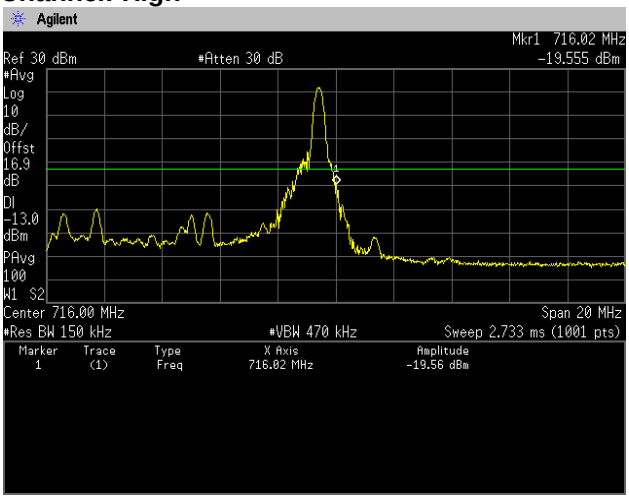
697.9-698.0 MHz

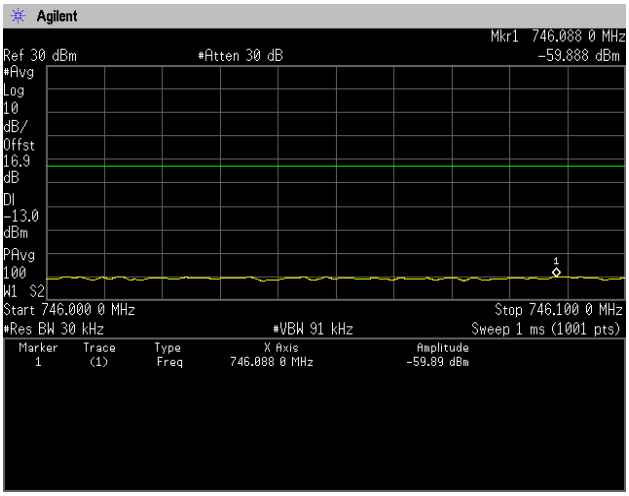




QPSK, BW 10MHz, RB1-49
Channel: High

746.0-746.1 MHz



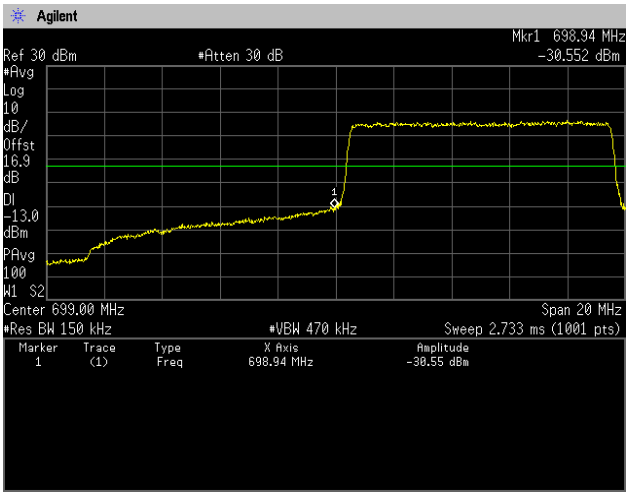


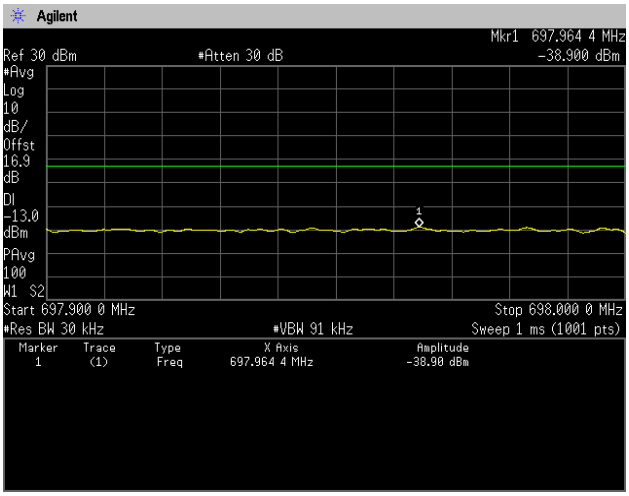
Japan

[LTE Band XII]
(Band Edge)

QPSK, BW 10MHz, RB50-0
Channel: Low

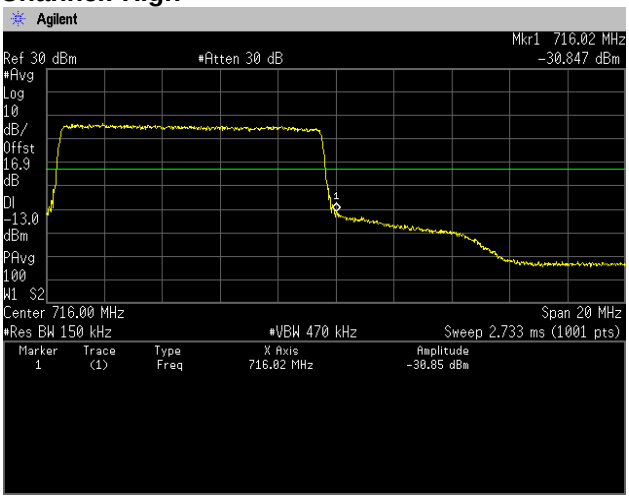
697.9-698.0 MHz

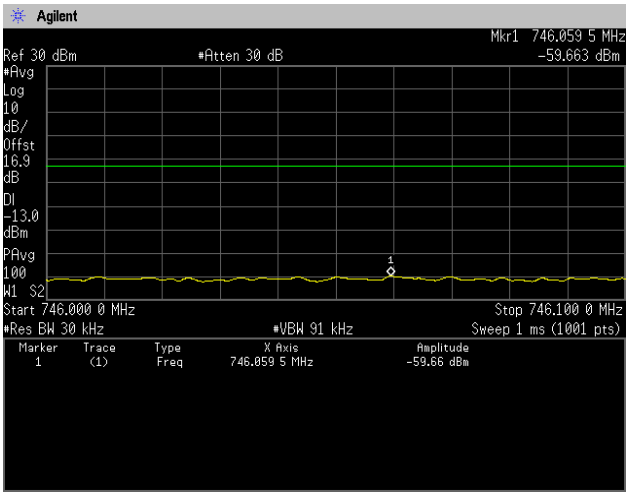




QPSK, BW 10MHz, RB50-0
Channel: High

746.0-746.1 MHz



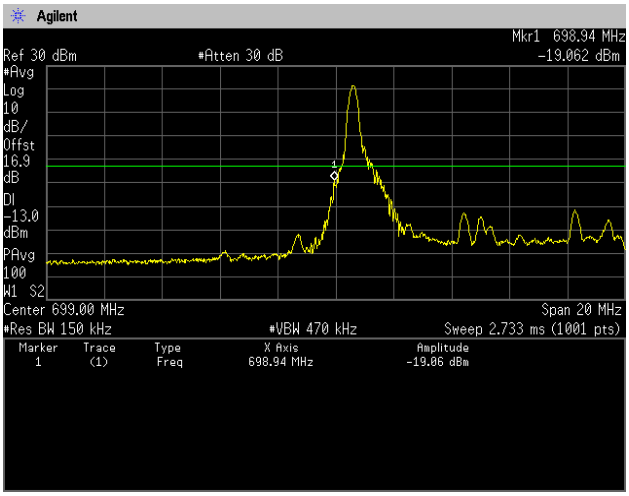


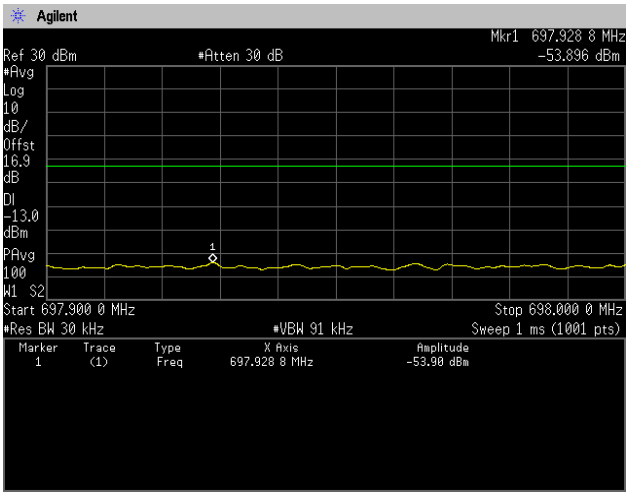
Japan

[LTE Band XII]
(Band Edge)

16QAM, BW 10MHz, RB1-0
Channel: Low

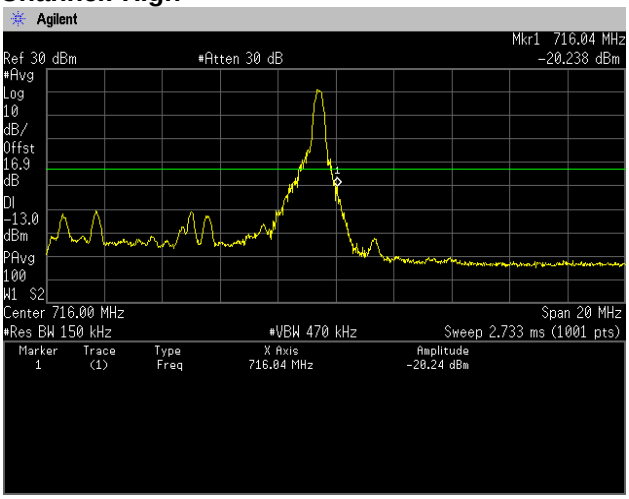
697.9-698.0 MHz

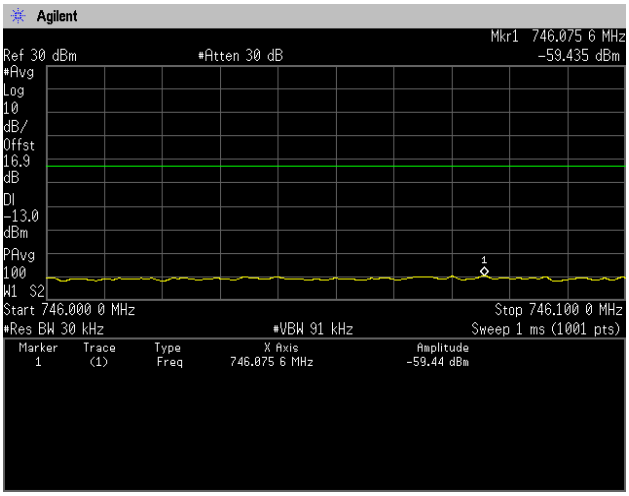




16QAM, BW 10MHz, RB1-49
Channel: High

746.0-746.1 MHz



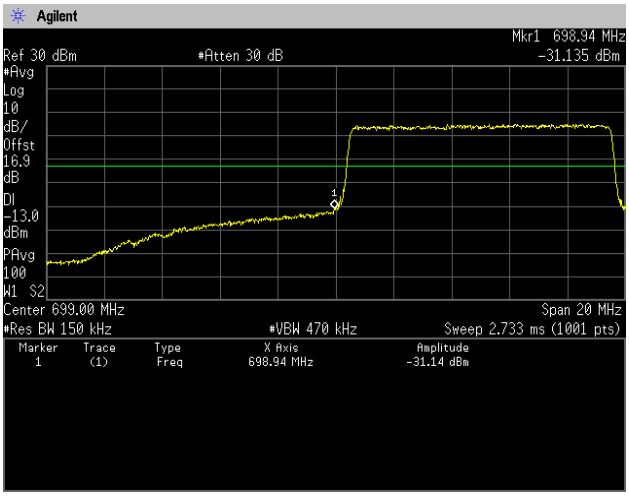


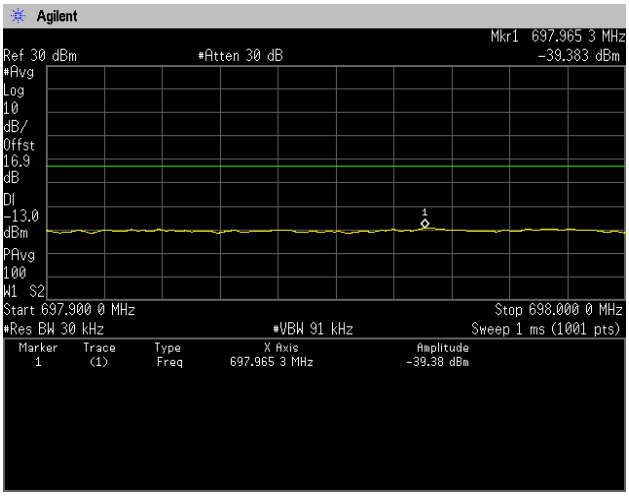
Japan

[LTE Band XII]
(Band Edge)

16QAM, BW 10MHz, RB50-0
Channel: Low

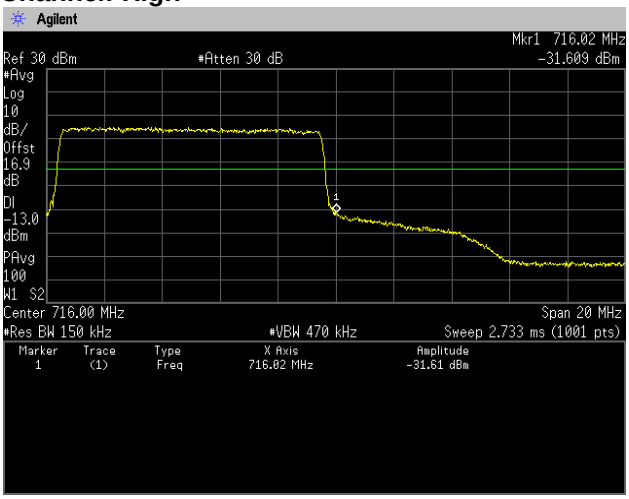
697.9-698.0 MHz

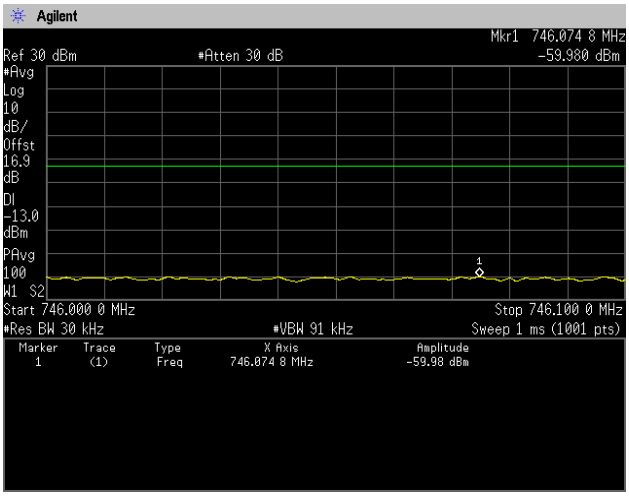




16QAM, BW 10MHz, RB50-0
Channel: High

746.0-746.1 MHz



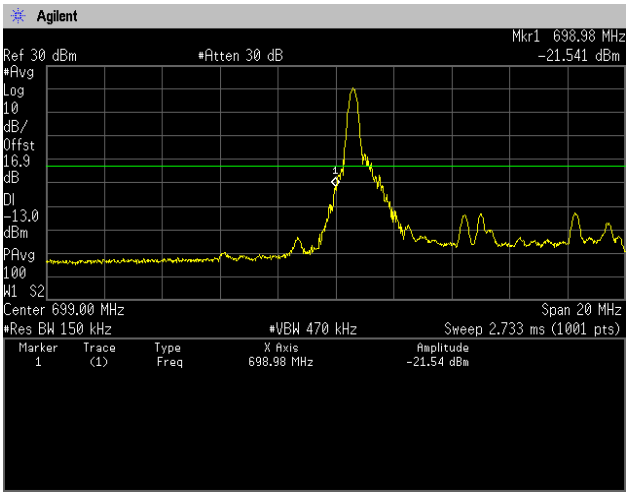


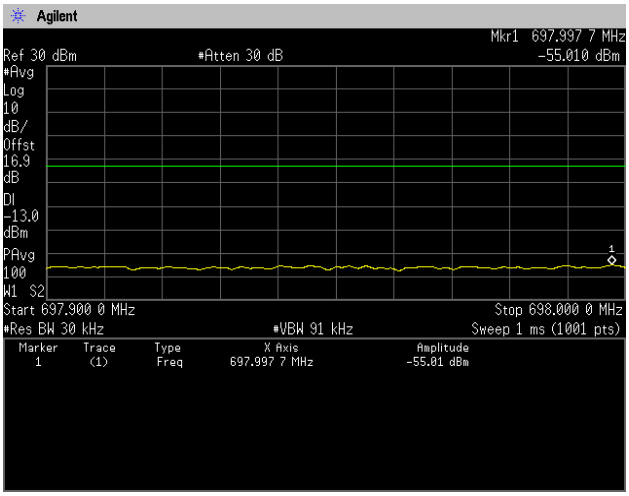
Japan

[LTE Band XII]
(Band Edge)

64QAM, BW 10MHz, RB1-0
Channel: Low

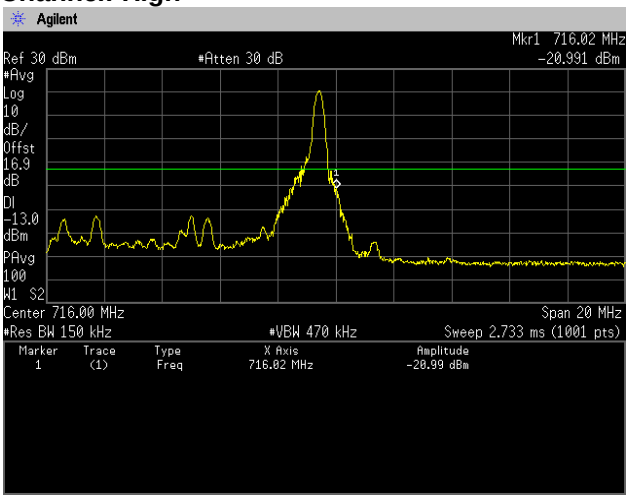
697.9-698.0 MHz

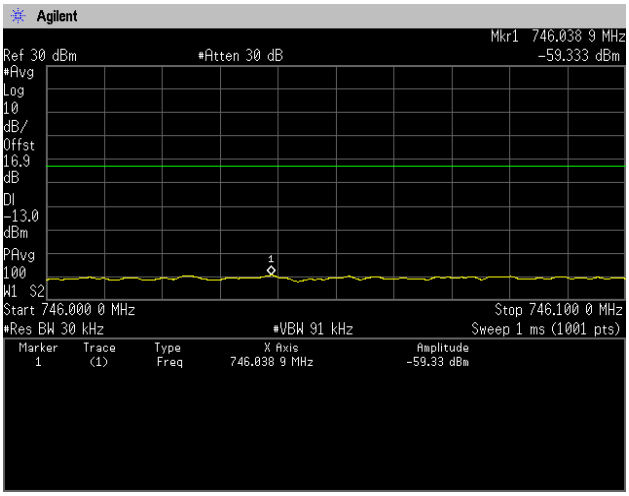




64QAM, BW 10MHz, RB1-49
Channel: High

746.0-746.1 MHz



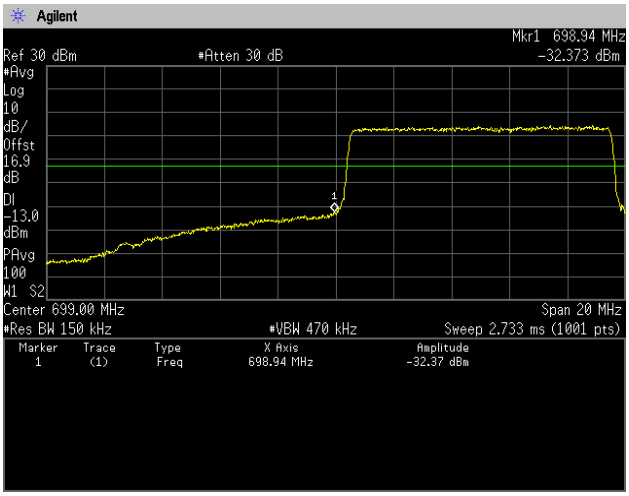


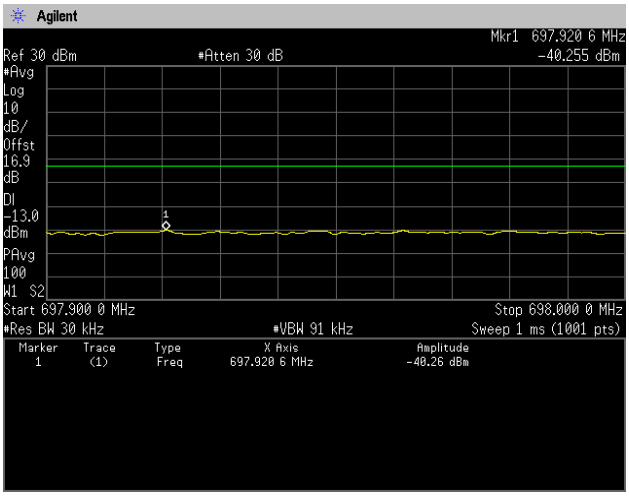
Japan

[LTE Band XII]
(Band Edge)

64QAM, BW 10MHz, RB50-0
Channel: Low

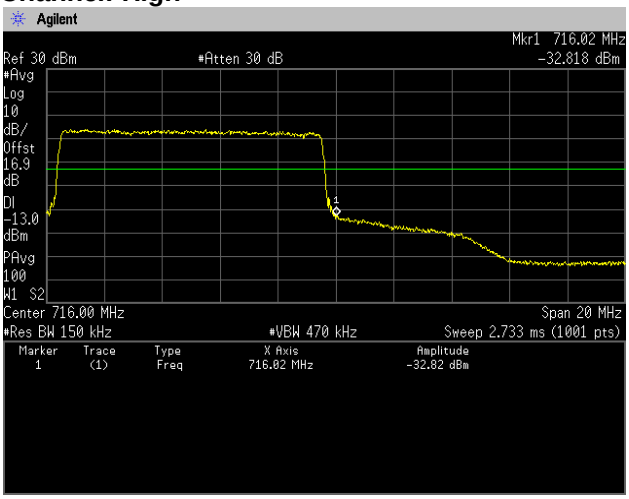
697.9-698.0 MHz

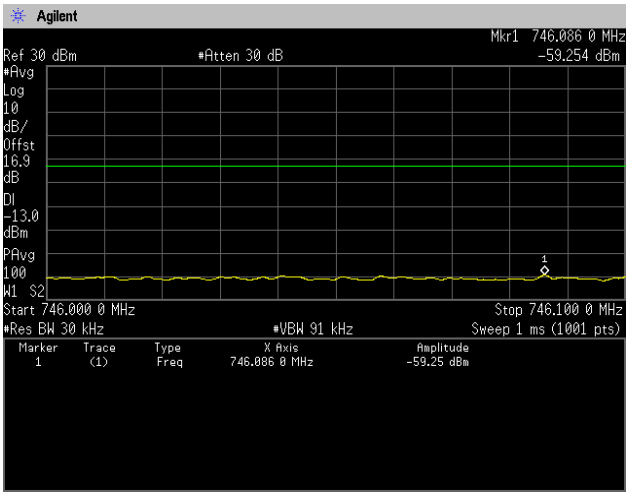




64QAM, BW 10MHz, RB50-0
Channel: High

746.0-746.1 MHz



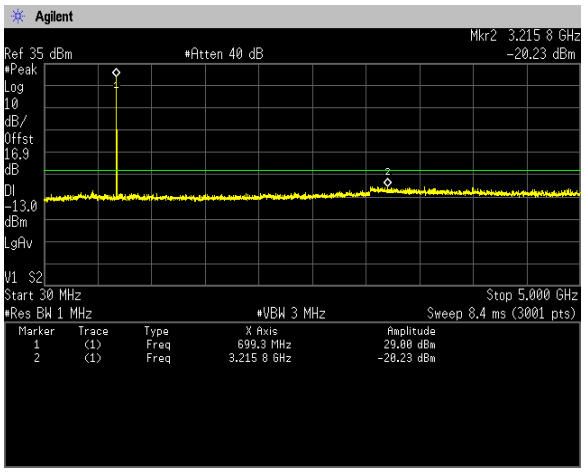


Japan

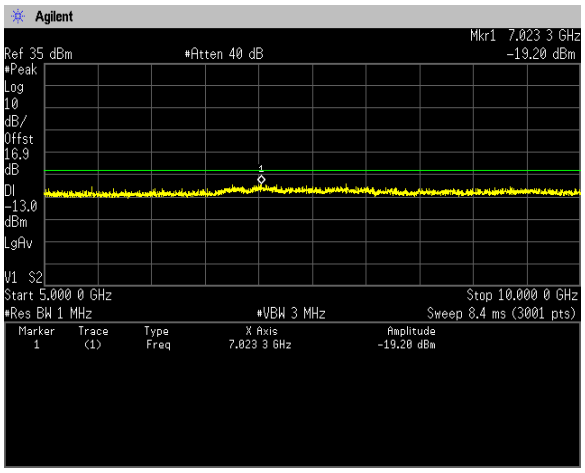
[LTE Band XII]
(Spurious Emissions)
Note: Conducted spurious test was measured in the worst case of Effective Radiated Power.

QPSK, BW 1.4MHz, RB 1-3
Channel: Low

30MHz-5GHz

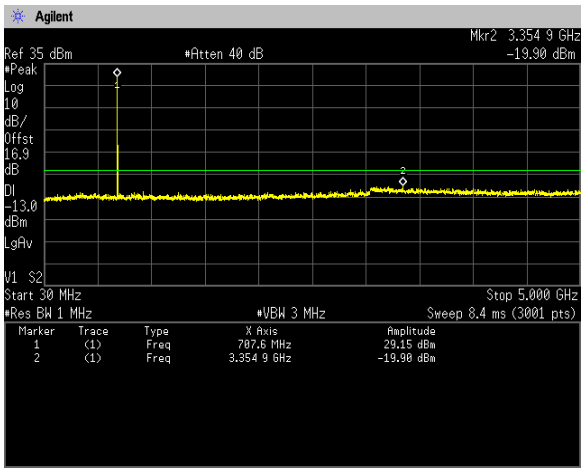


5GHz-10GHz

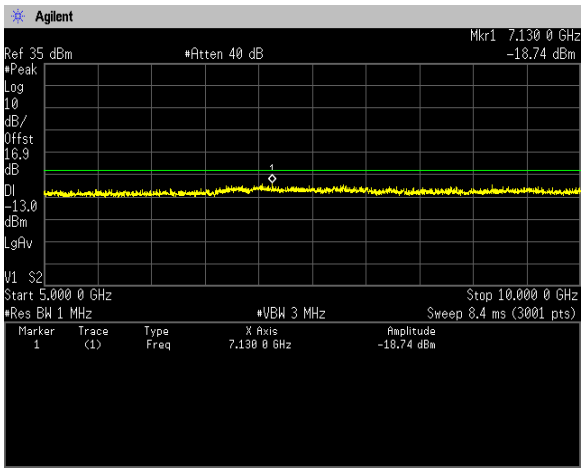


Channel: Middle

30MHz-5GHz

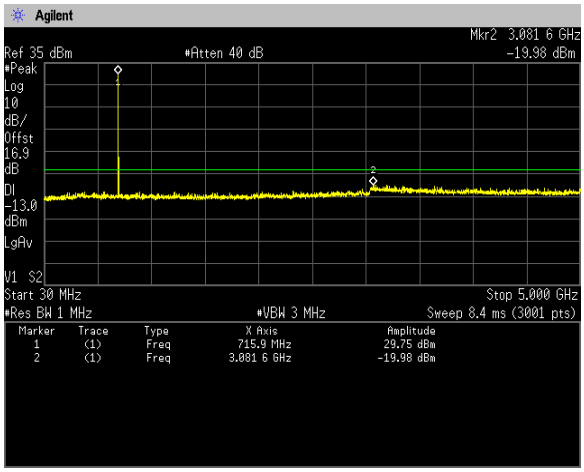


5GHz-10GHz

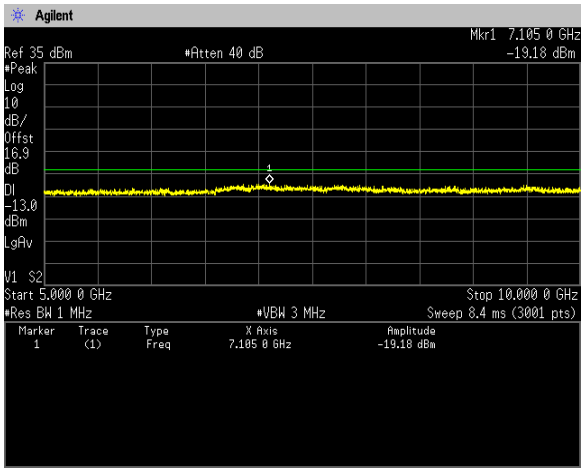


Channel: High

30MHz-5GHz



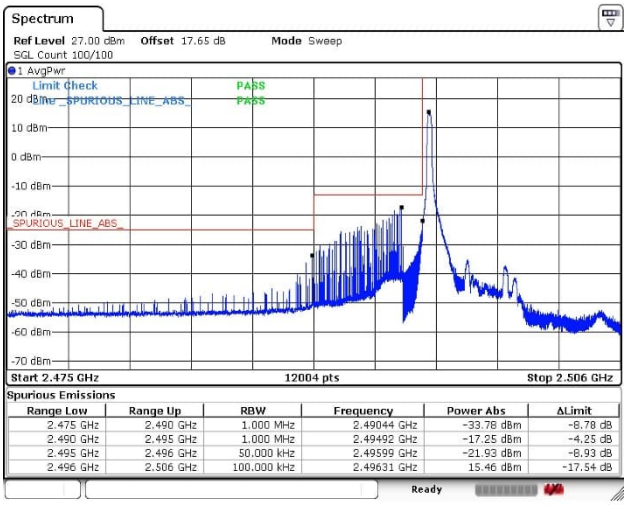
5GHz-10GHz



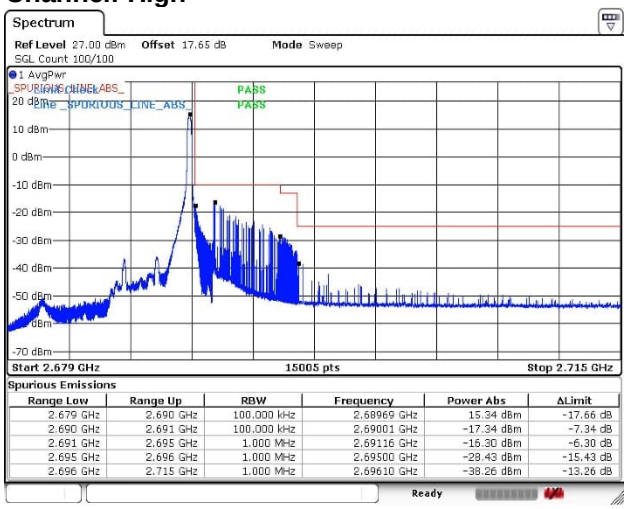
Japan

[LTE Band XLI]
(Band Edge)

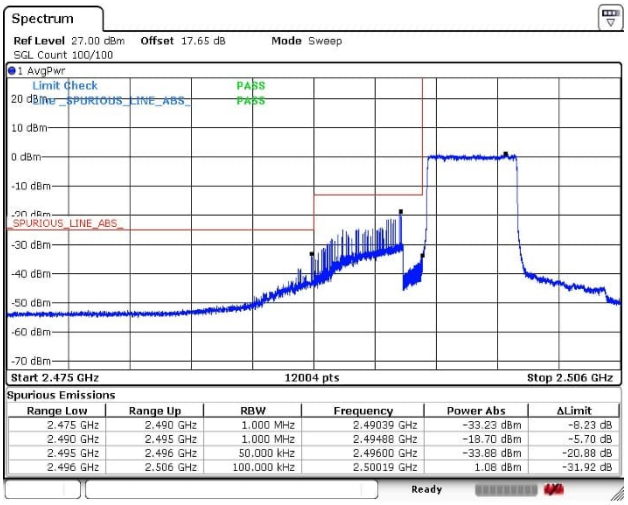
QPSK, BW 5MHz, RB1-0
Channel: Low



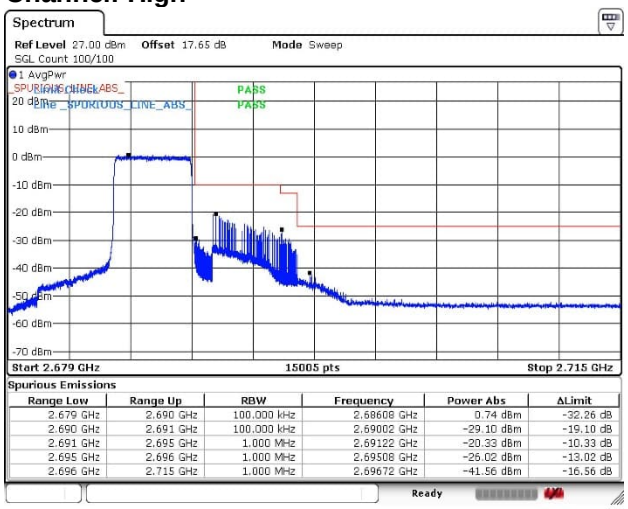
RB1-24
Channel: High



QPSK, BW 5MHz, RB25-0
Channel: Low



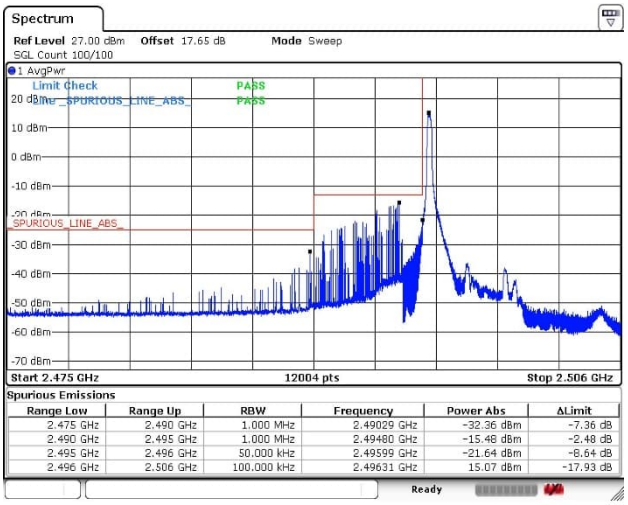
Channel: High



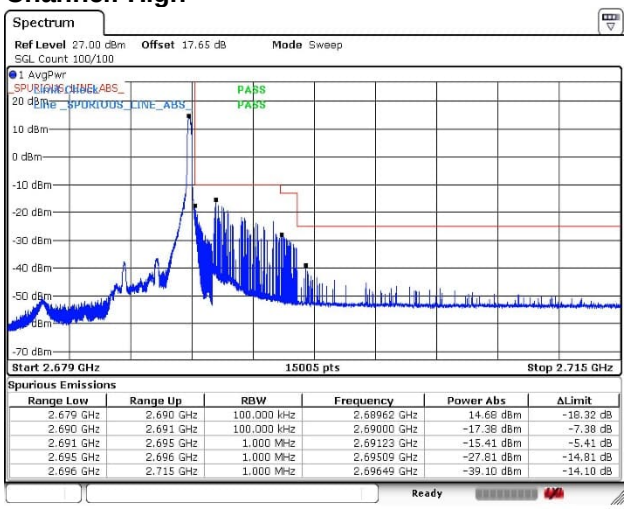
Japan

[LTE Band XLI]
(Band Edge)

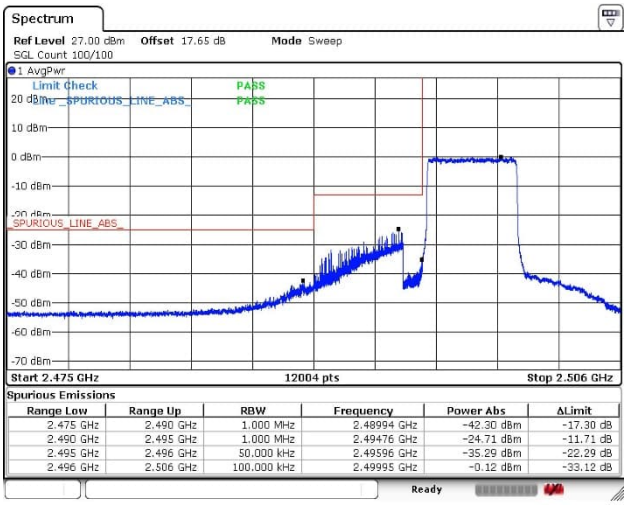
16QAM, BW 5MHz, RB1-0
Channel: Low



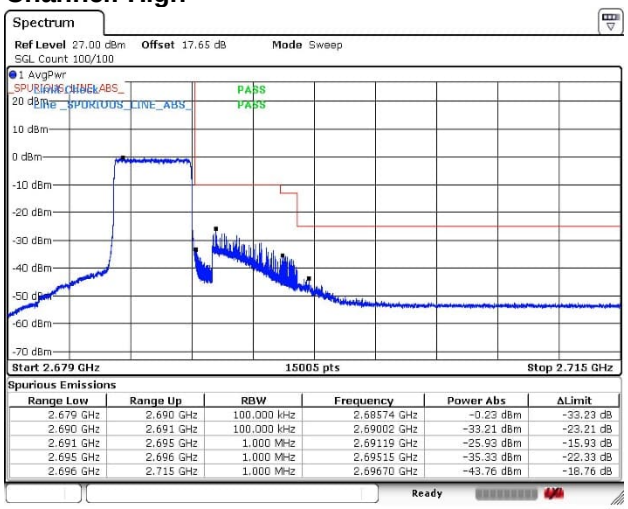
RB1-24
Channel: High



16QAM, BW 5MHz, RB25-0
Channel: Low



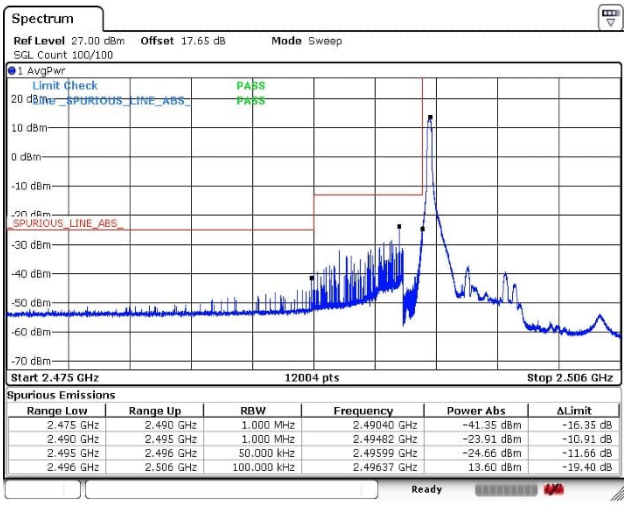
Channel: High



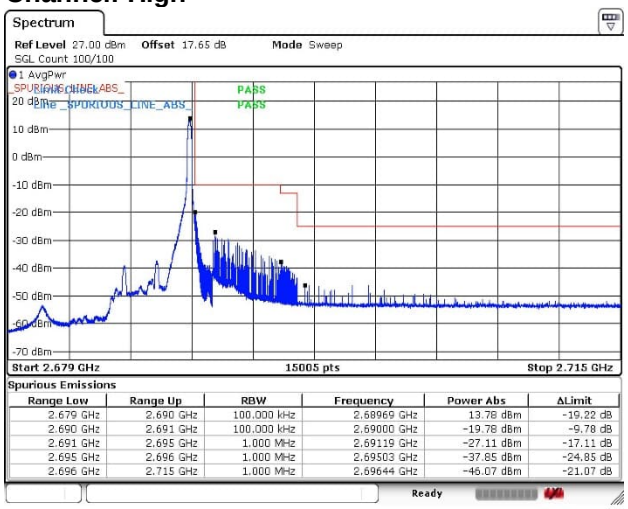
Japan

[LTE Band XLI]
(Band Edge)

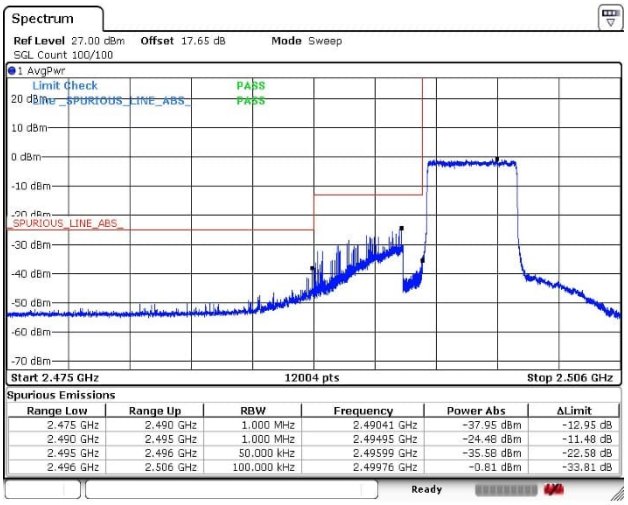
64QAM, BW 5MHz, RB1-0
Channel: Low



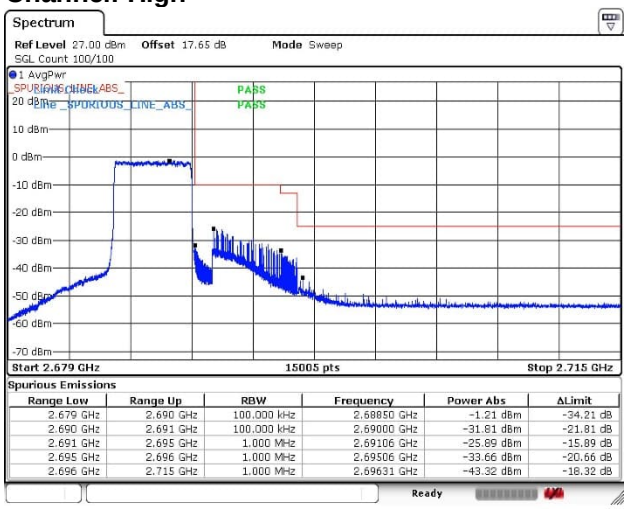
RB1-24
Channel: High



64QAM, BW 5MHz, RB25-0
Channel: Low



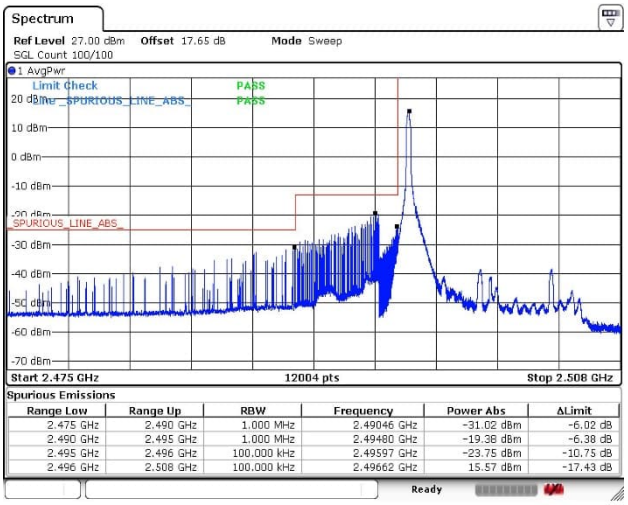
Channel: High



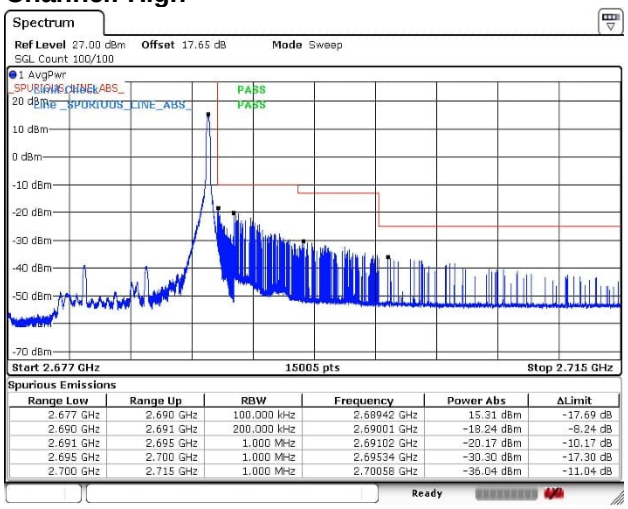
Japan

[LTE Band XLI]
(Band Edge)

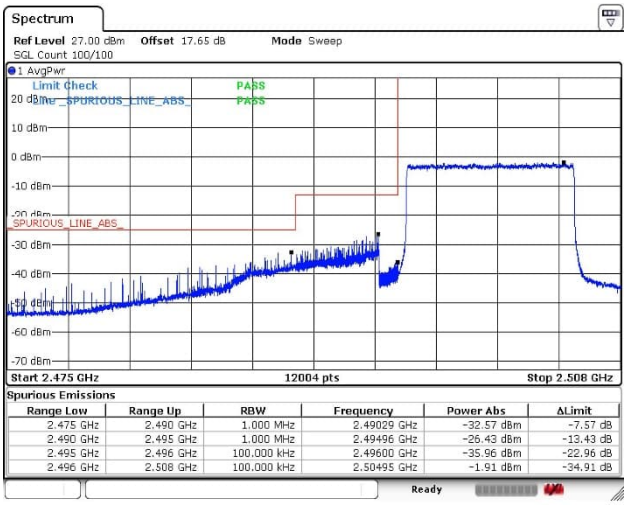
QPSK, BW 10MHz, RB1-0
Channel: Low



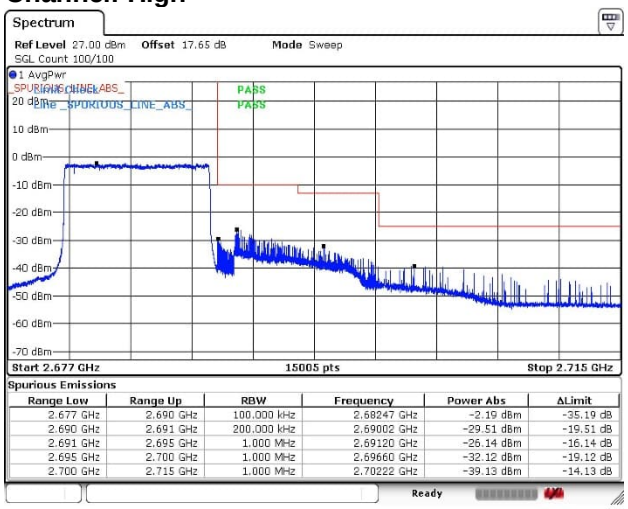
RB1-49
Channel: High



QPSK, BW 10MHz, RB50-0
Channel: Low



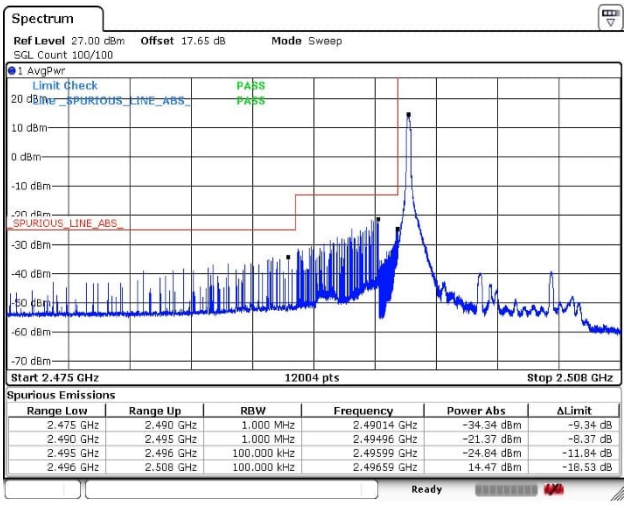
Channel: High



Japan

[LTE Band XLI]
(Band Edge)

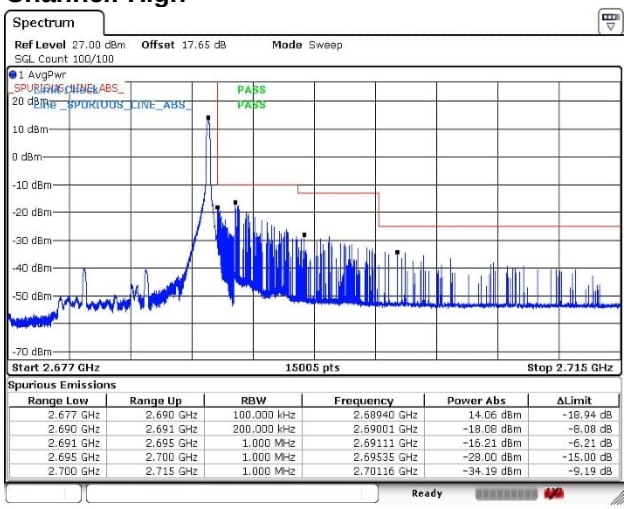
16QAM, BW 10MHz, RB1-0
Channel: Low



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.490 GHz	1.000 MHz	2.49014 GHz	-34.34 dBm	-9.34 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49496 GHz	-21.37 dBm	-8.37 dB
2.495 GHz	2.496 GHz	100.000 kHz	2.49599 GHz	-24.84 dBm	-11.84 dB
2.496 GHz	2.508 GHz	100.000 kHz	2.49659 GHz	14.47 dBm	-18.53 dB

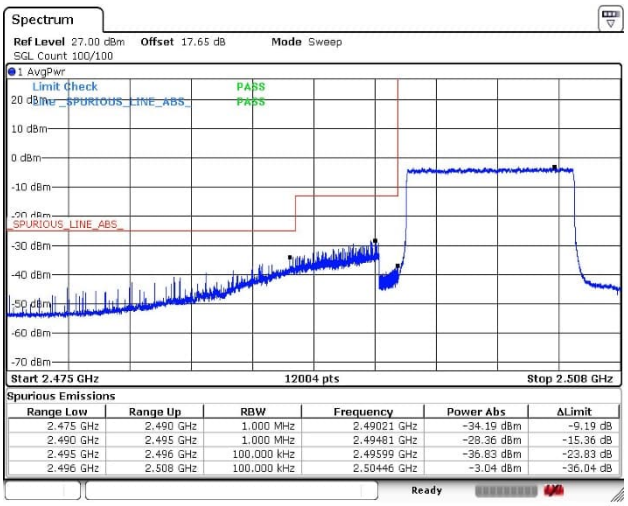
RB1-49
Channel: High



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.677 GHz	2.690 GHz	100.000 kHz	2.68940 GHz	14.06 dBm	-18.94 dB
2.690 GHz	2.691 GHz	200.000 kHz	2.69001 GHz	-18.08 dBm	-8.08 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69111 GHz	-16.21 dBm	-6.21 dB
2.695 GHz	2.700 GHz	1.000 MHz	2.69535 GHz	-28.00 dBm	-15.00 dB
2.700 GHz	2.715 GHz	1.000 MHz	2.70116 GHz	-34.19 dBm	-9.19 dB

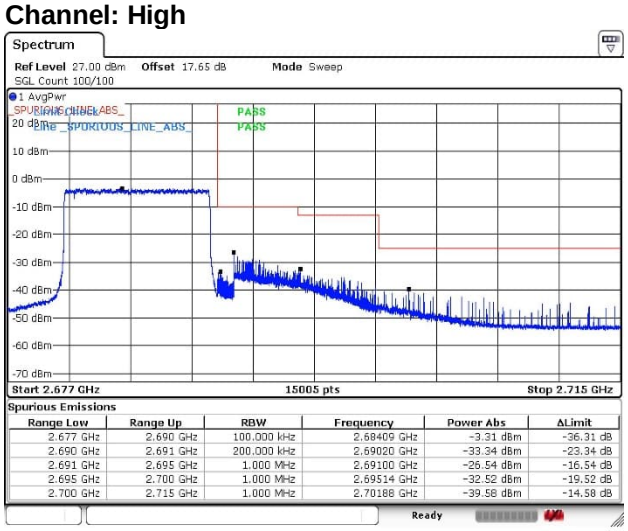
16QAM, BW 10MHz, RB50-0
Channel: Low



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.475 GHz	2.490 GHz	1.000 MHz	2.49021 GHz	-34.19 dBm	-9.19 dB
2.490 GHz	2.495 GHz	1.000 MHz	2.49481 GHz	-28.36 dBm	-15.36 dB
2.495 GHz	2.496 GHz	100.000 kHz	2.49599 GHz	-36.83 dBm	-23.83 dB
2.496 GHz	2.508 GHz	100.000 kHz	2.50446 GHz	-3.04 dBm	-36.04 dB

Channel: High



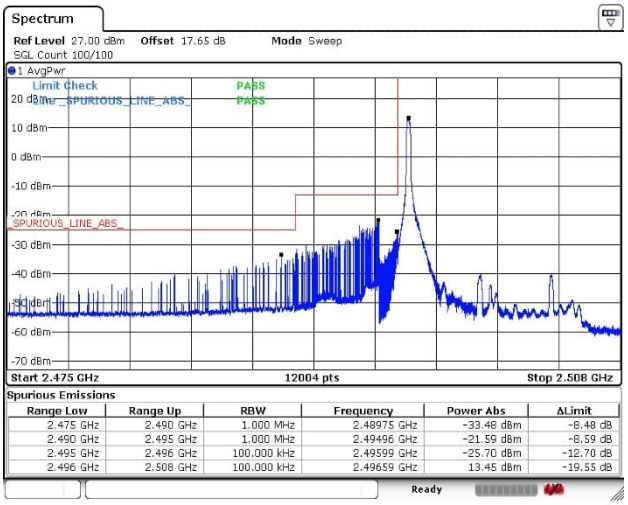
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.677 GHz	2.690 GHz	100.000 kHz	2.68409 GHz	-3.31 dBm	-36.31 dB
2.690 GHz	2.691 GHz	200.000 kHz	2.69020 GHz	-33.34 dBm	-23.34 dB
2.691 GHz	2.695 GHz	1.000 MHz	2.69100 GHz	-26.54 dBm	-16.54 dB
2.695 GHz	2.700 GHz	1.000 MHz	2.69514 GHz	-32.52 dBm	-19.52 dB
2.700 GHz	2.715 GHz	1.000 MHz	2.70188 GHz	-39.58 dBm	-14.58 dB

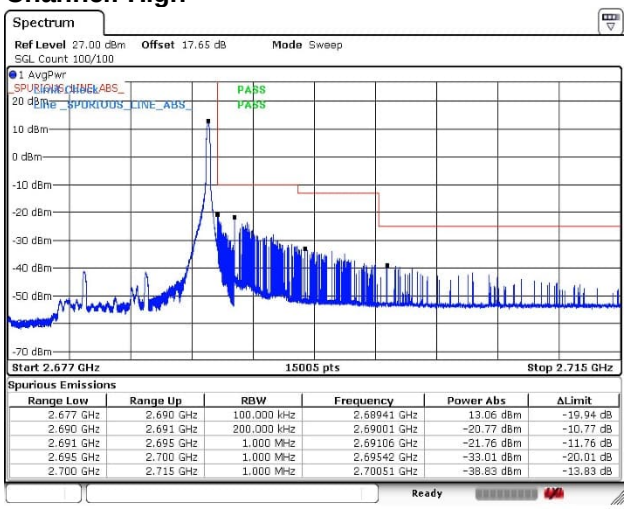
Japan

[LTE Band XLI]
(Band Edge)

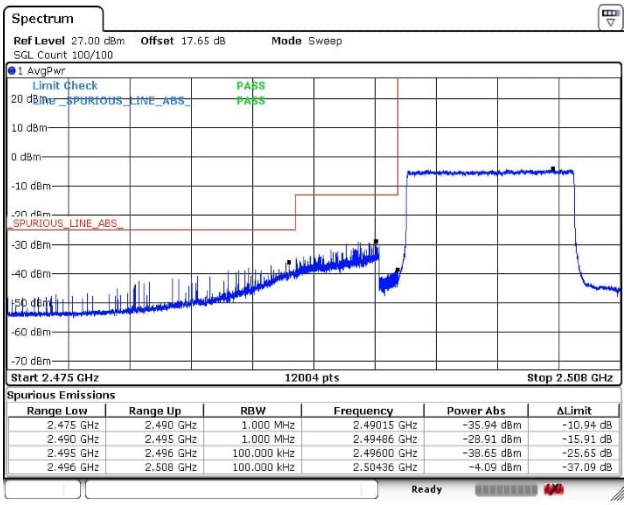
64QAM, BW 10MHz, RB1-0
Channel: Low



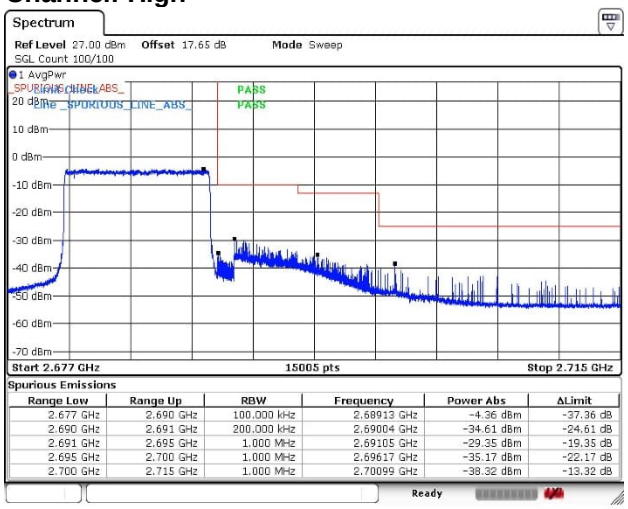
RB1-49
Channel: High



64QAM, BW 10MHz, RB50-0
Channel: Low



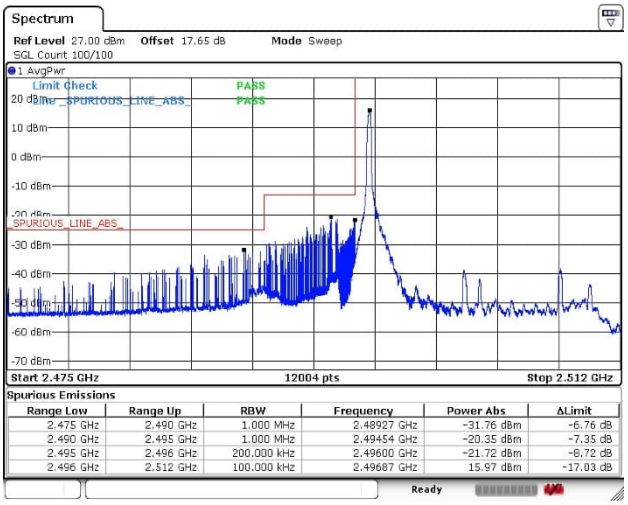
Channel: High



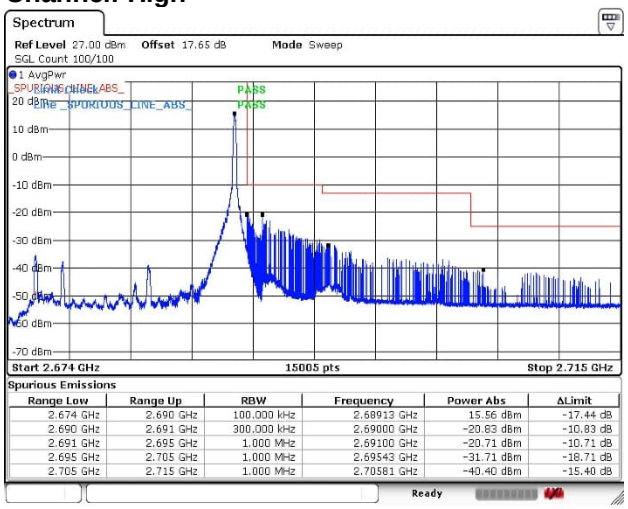
Japan

[LTE Band XLI]
(Band Edge)

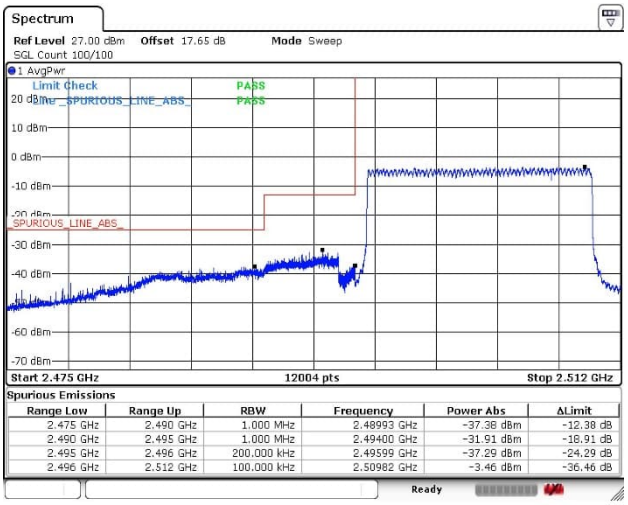
QPSK, BW 15MHz, RB1-0
Channel: Low



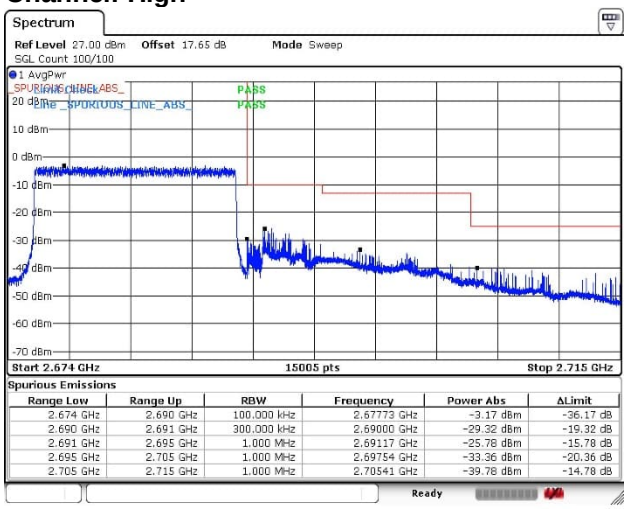
RB1-74
Channel: High



QPSK, BW 15MHz, RB75-0
Channel: Low



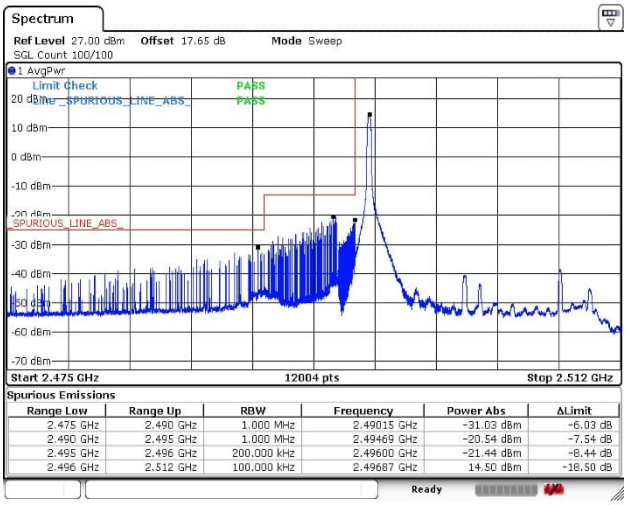
Channel: High



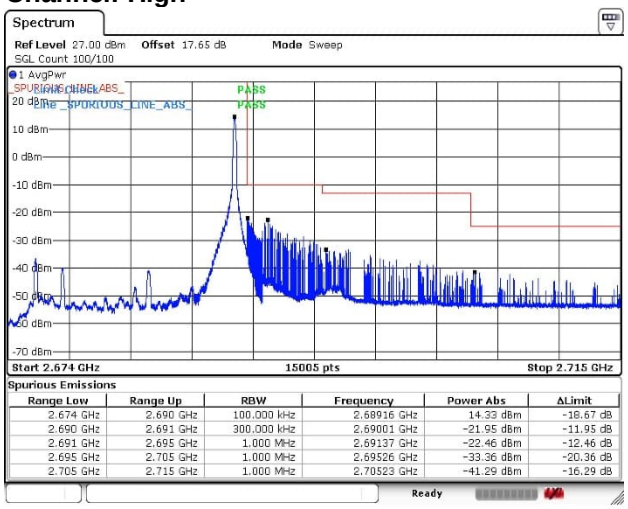
Japan

[LTE Band XLI]
(Band Edge)

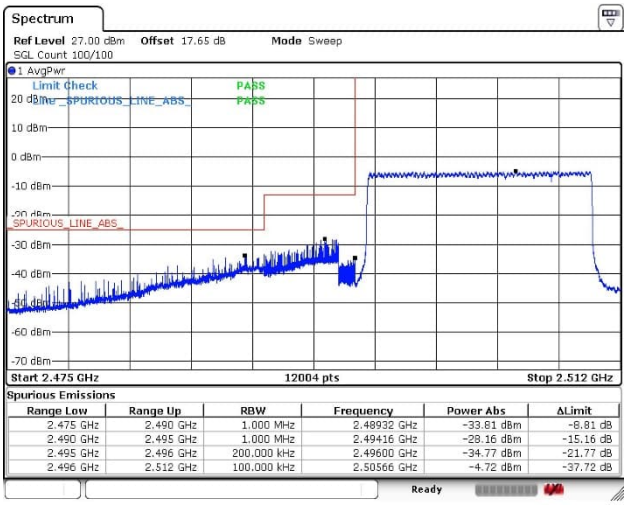
16QAM, BW 15MHz, RB1-0
Channel: Low



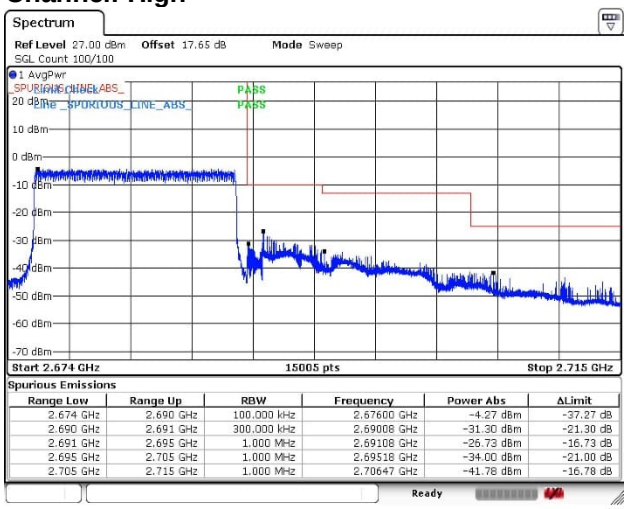
RB1-74
Channel: High



16QAM, BW 15MHz, RB75-0
Channel: Low



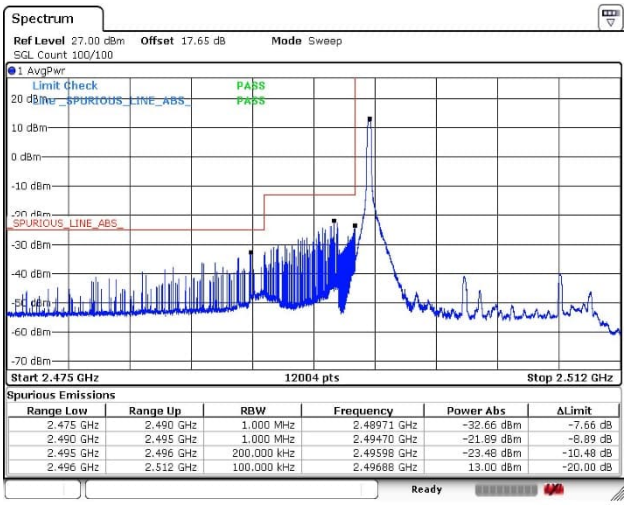
Channel: High



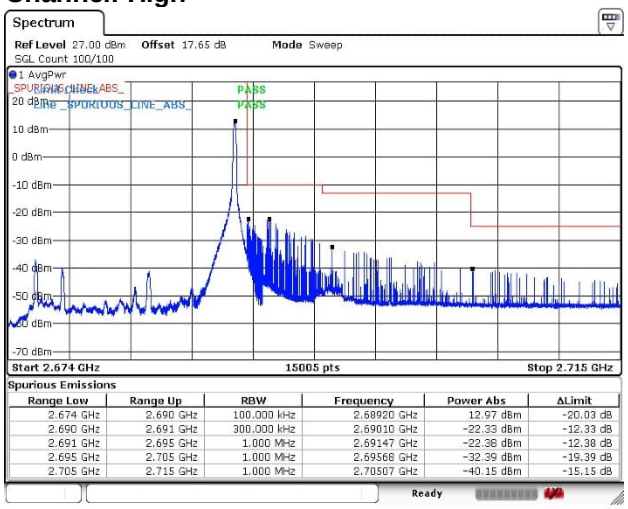
Japan

[LTE Band XLI]
(Band Edge)

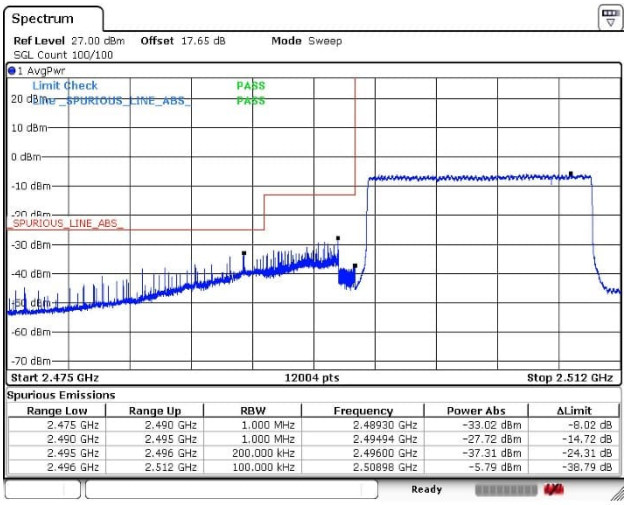
64QAM, BW 15MHz, RB1-0
Channel: Low



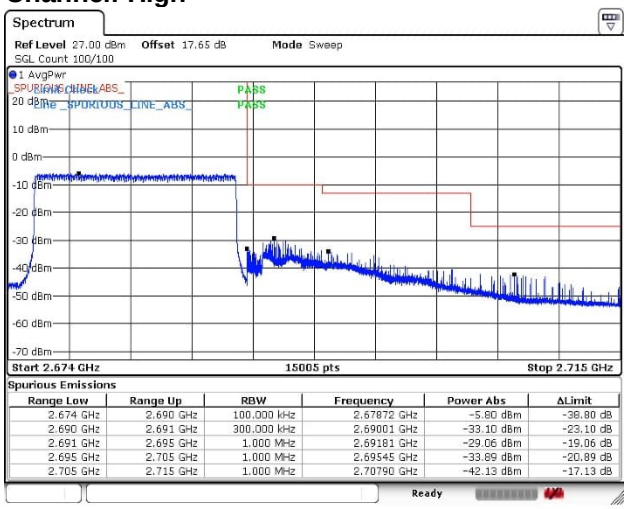
RB1-74
Channel: High



64QAM, BW 15MHz, RB75-0
Channel: Low



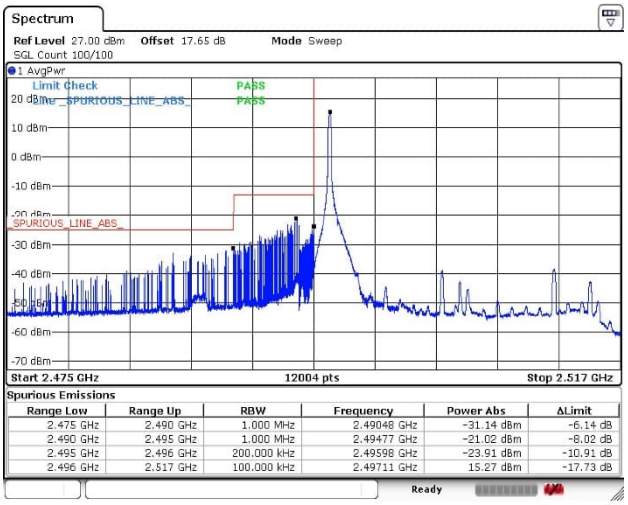
Channel: High



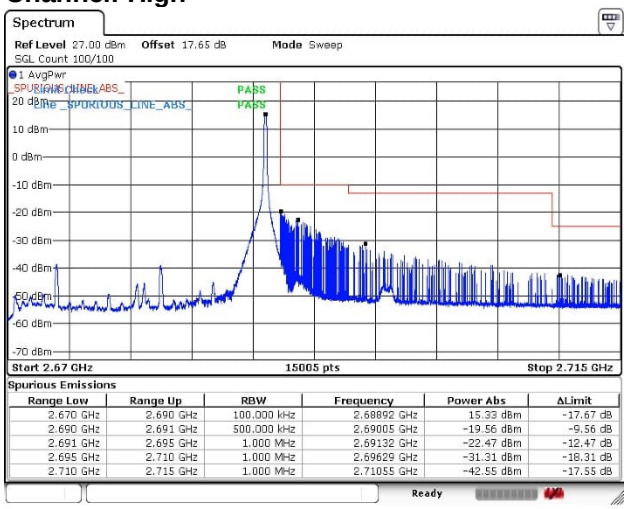
Japan

[LTE Band XLI]
(Band Edge)

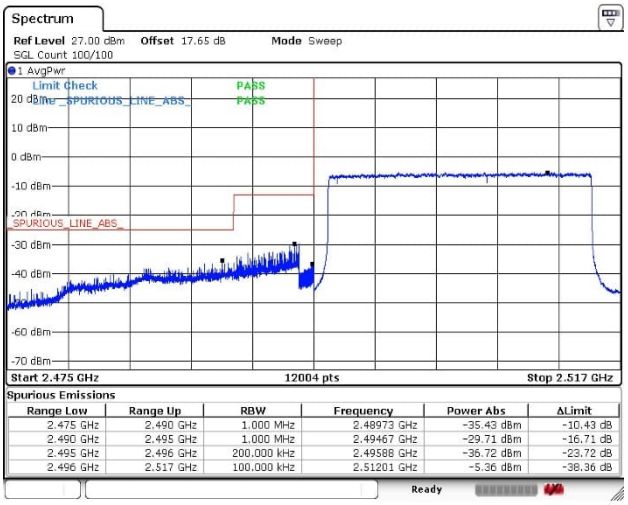
QPSK, BW 20MHz, RB1-0
Channel: Low



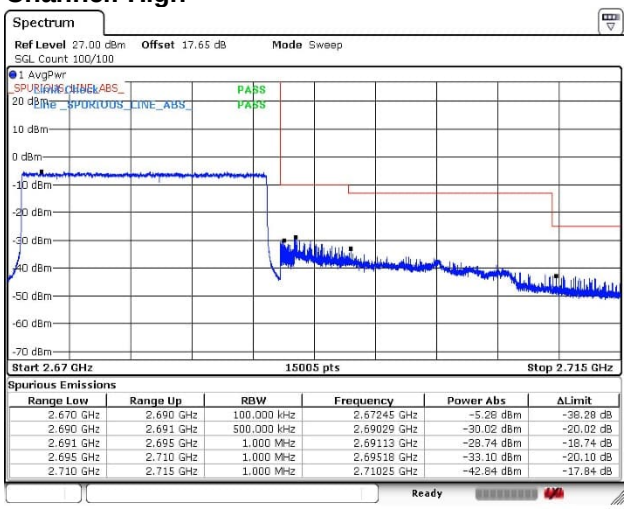
RB1-99
Channel: High



QPSK, BW 20MHz, RB100-0
Channel: Low

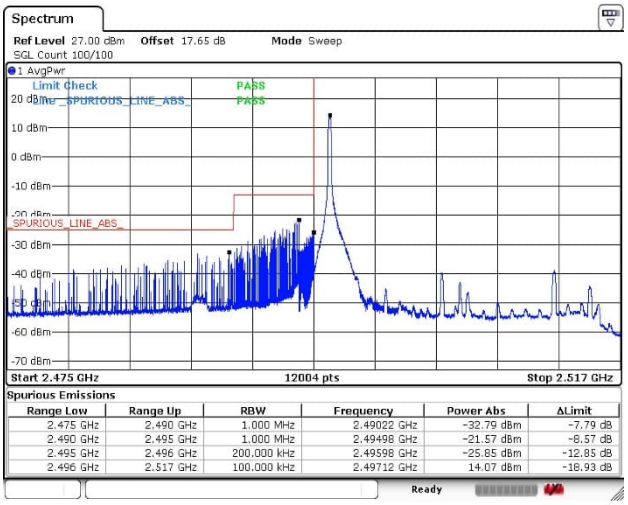


Channel: High

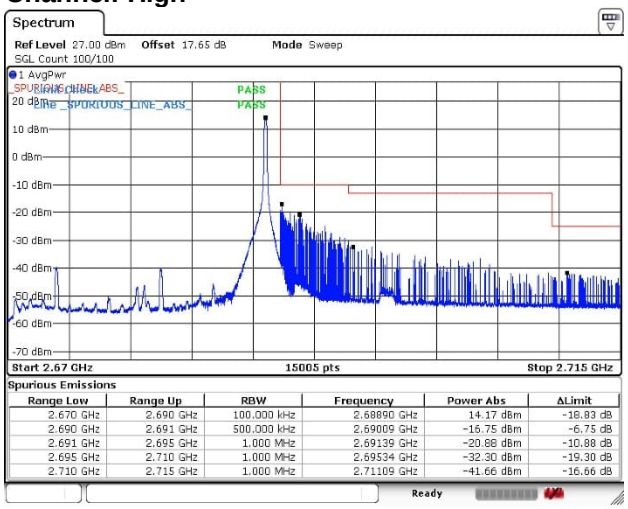


[LTE Band XLI]
(Band Edge)

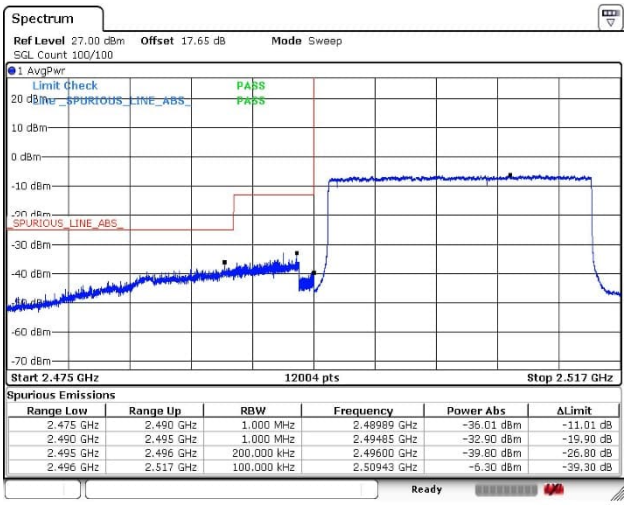
16QAM, BW 20MHz, RB1-0
Channel: Low



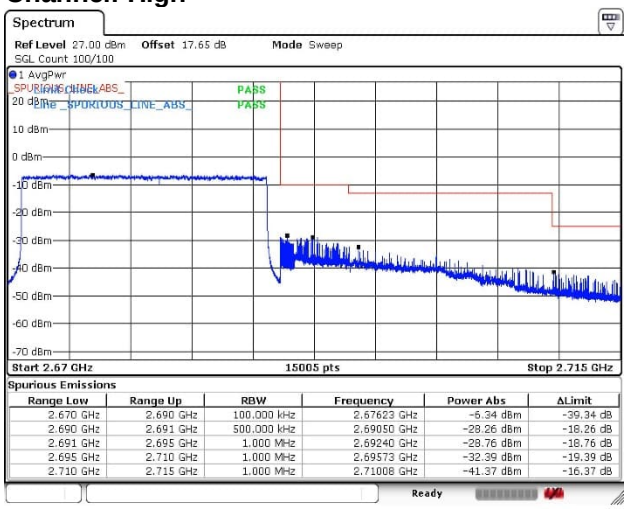
RB1-99
Channel: High



16QAM, BW 20MHz, RB100-0
Channel: Low



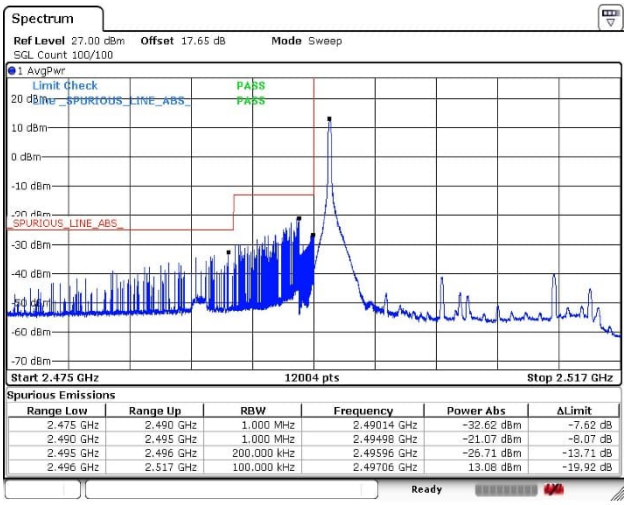
Channel: High



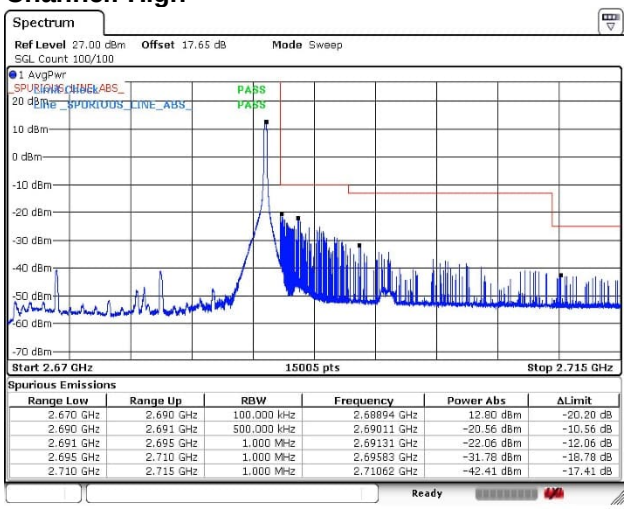
Japan

[LTE Band XLI]
(Band Edge)

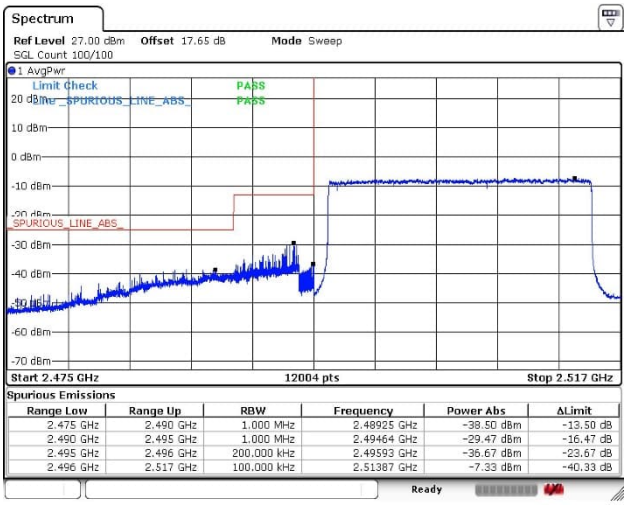
64QAM, BW 20MHz, RB1-0
Channel: Low



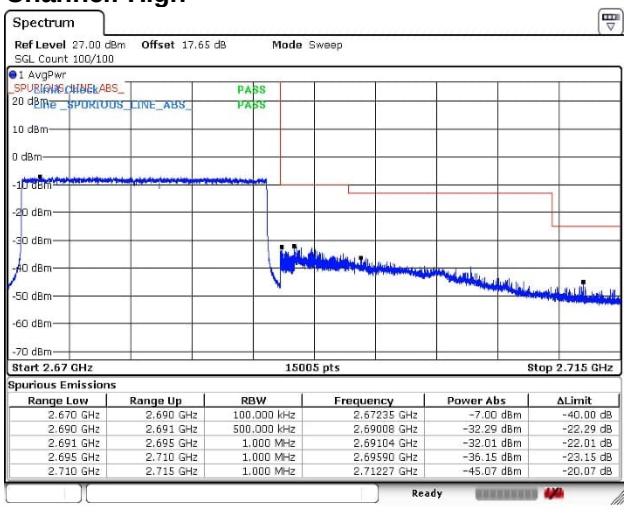
RB1-99
Channel: High



64QAM, BW 20MHz, RB100-0
Channel: Low



Channel: High

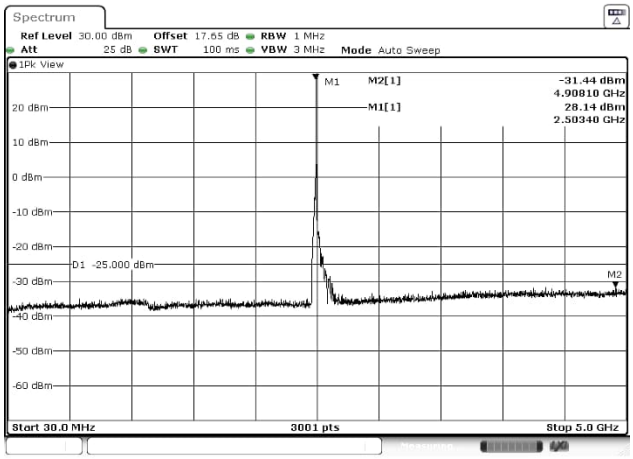


Japan

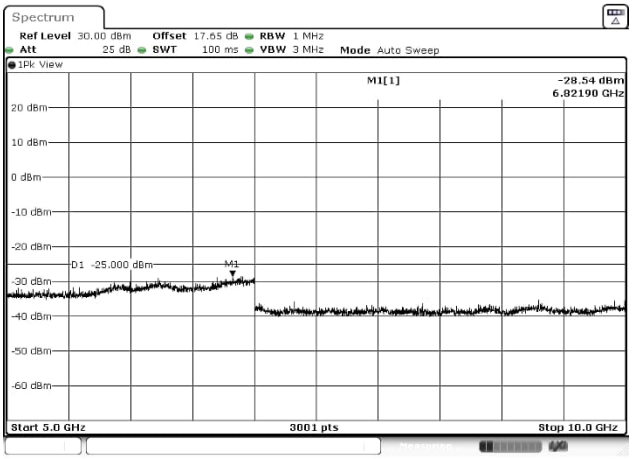
[LTE Band XLI]
(Spurious Emissions)
Note: Conducted spurious test was measured in the worst case of Equivalent Isotropic Radiated Power.

QPSK, BW 15MHz, RB 1-38
Channel: Low

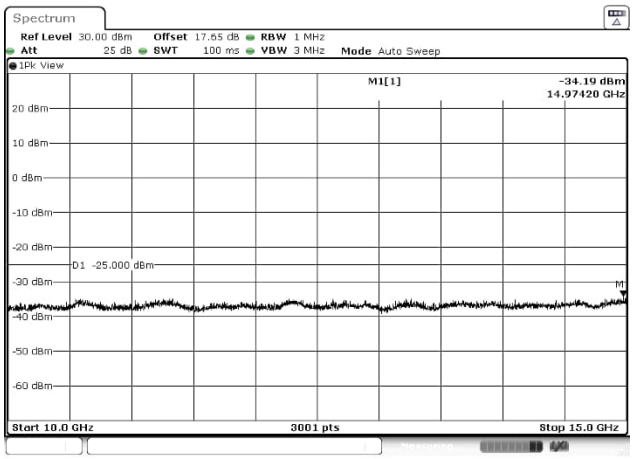
30MHz-5GHz



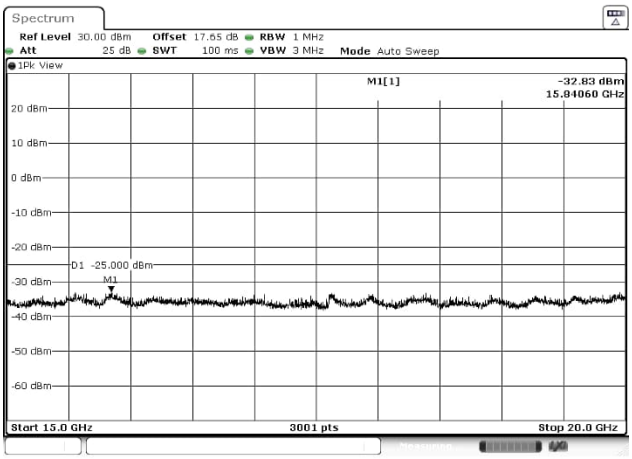
5GHz-10GHz



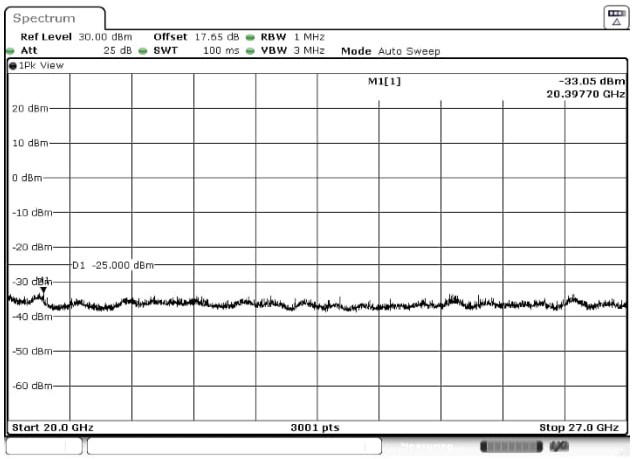
10GHz-15GHz



15GHz-20GHz



20GHz-27GHz

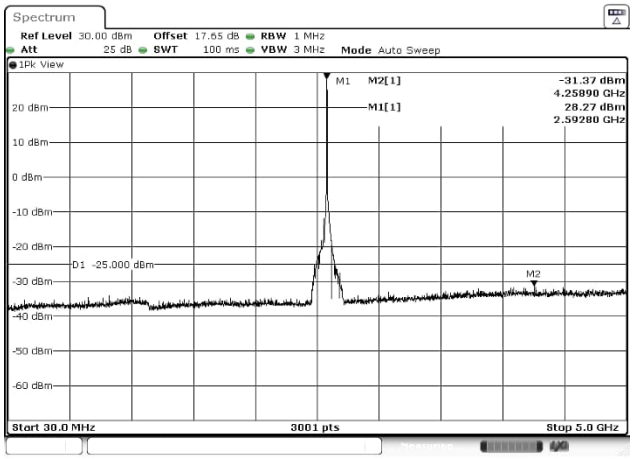


Japan

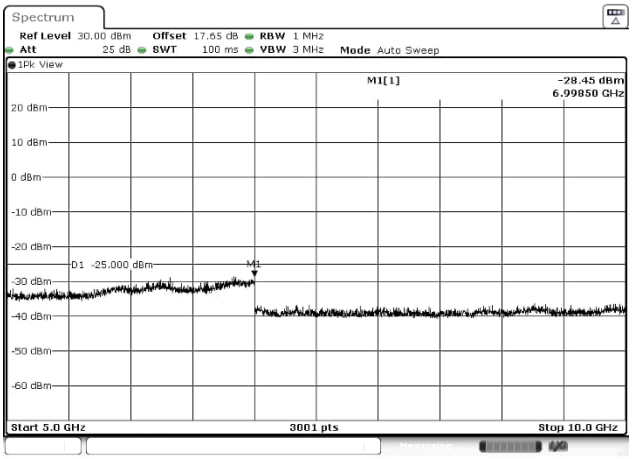
[LTE Band XLI]
(Spurious Emissions)

Channel: Middle

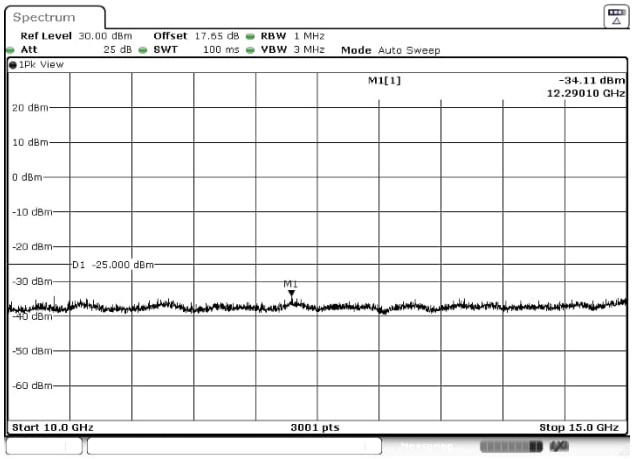
30MHz-5GHz



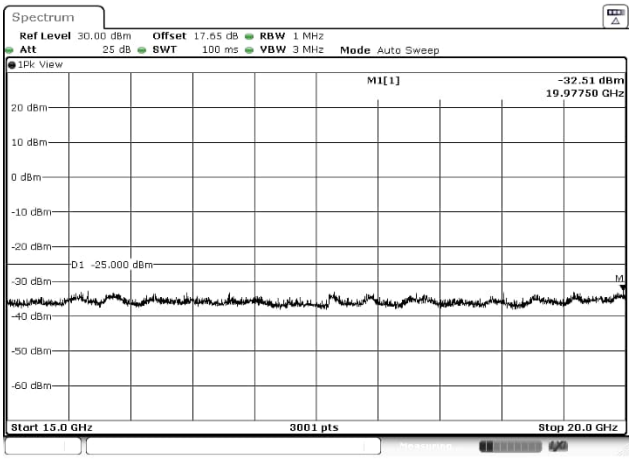
5GHz-10GHz



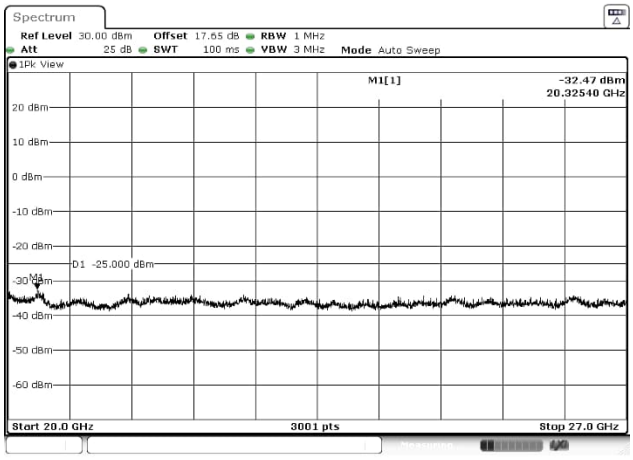
10GHz-15GHz



15GHz-20GHz



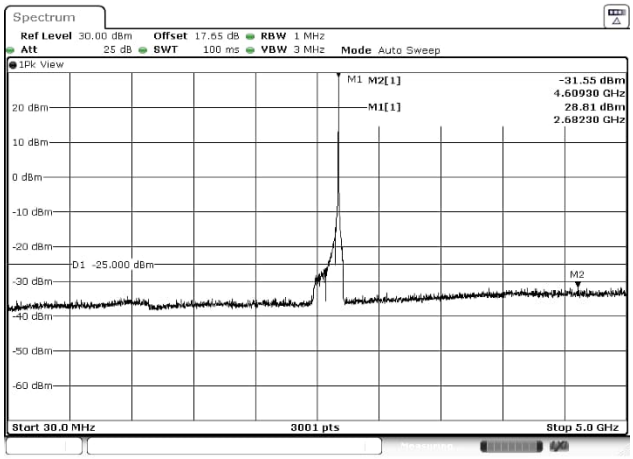
20GHz-27GHz



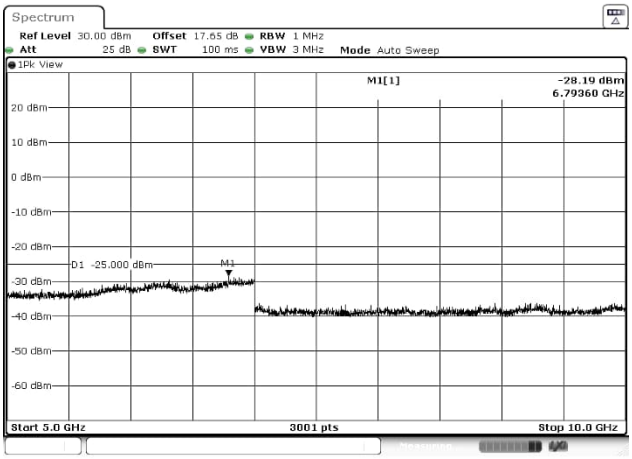
Japan

[LTE Band XLI]
(Spurious Emissions)

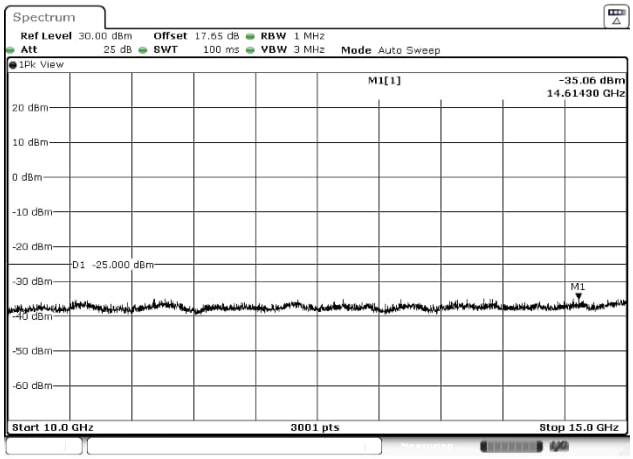
Channel: High
30MHz-5GHz



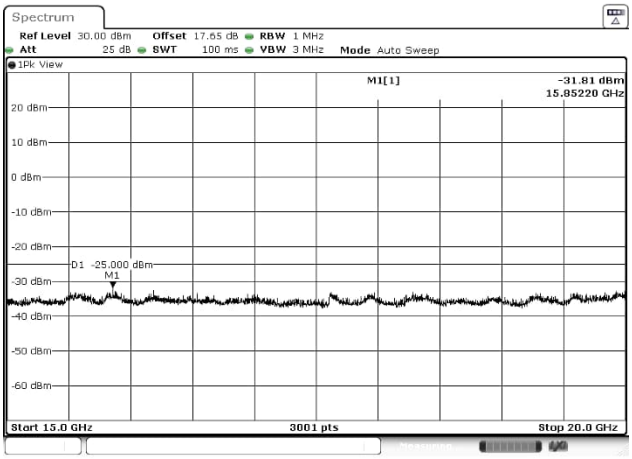
5GHz-10GHz



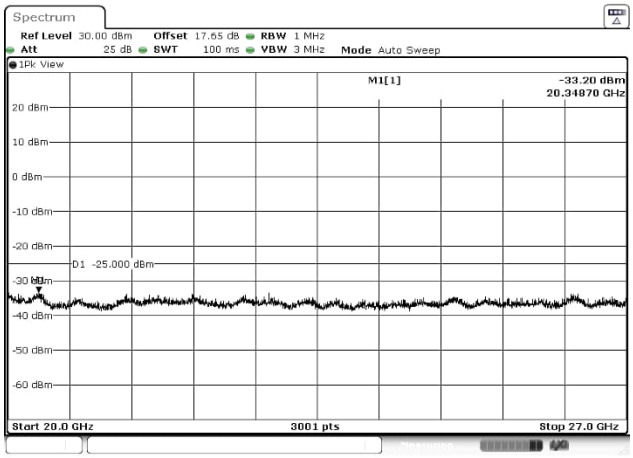
10GHz-15GHz



15GHz-20GHz



20GHz-27GHz



Japan

4.6 Radiated Emissions and Harmonic Emissions

4.6.1 Measurement procedure

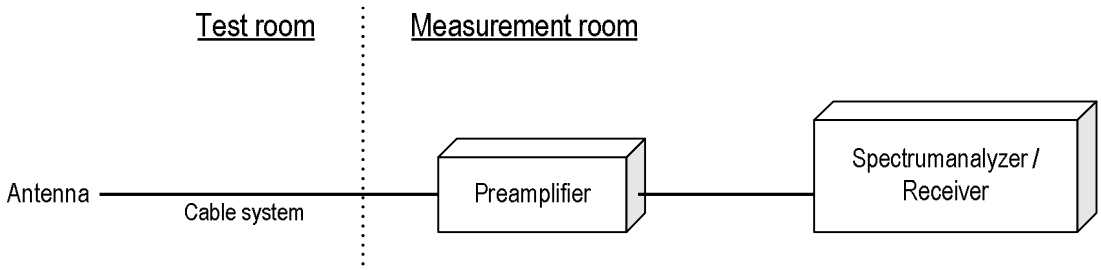
[FCC 27.53, 2.1053]

<Step 1>
The EUT and support equipment are placed on a 1 meter x 0.8 meter surface, 0.8 meter height (Below 1GHz) or 0.6 meter x 0.6 meter surface, 1.5 meter height (Above 1GHz) styrene foam table. Radiated emission measurements are performed at 3 meter distance with the broadband antenna (Biconical antenna, Log periodic antenna and double ridged guide antenna). The antenna is positioned both the horizontal and vertical planes of polarization and height is varied 1 to 4 meters and stopped at height producing the maximum emission.
The bandwidth of the spectrum analyzer is set to 1 MHz. The turntable is rotated by 360 degrees and stopped at azimuth of producing the maximum emission. The frequency is investigated up to 10 times the carrier wave.

<Step 2>
The substitution antenna is replaced by the transmitter antenna (EUT).
The frequency of the signal generator is adjusted to the measurement frequency.
Level of the signal generator is adjusted to the level that is obtained from step 1, and record the emission level of signal generator.

The spectrum analyzer is set to;
a) RBW = 100 kHz for below 1GHz and 1MHz for above 1GHz / VBW ≥ 3 x RBW
b) Detector = Peak
c) Trace mode = Max hold
d) Sweep time = auto-couple

- Test configuration



Japan

4.6.2 Calculation method

Result (EIRP) = Ant. Input - Cable loss + Antenna Gain
Margin = Limit – Result (EIRP)

Example:
Limit @ 1420 MHz : -13.0 dBm
Ant. Input = -55.6 dBm Cable loss = 1.0dB Ant. Gain = 5.9 dBi
Result = -55.6 - 1.0 + 5.9 = -50.7 dBm
Margin = -13.0 - (-50.7) = 37.7 dB

4.6.3 Limit

WCDMA Band IV, LTE Band IV, LTE Band XLI
-13 dBm or less

LTE Band XLI
-25 dBm or less

4.6.4 Test data

Date	:	1-August-2023			
Temperature	:	24.8 [˚C]			
Humidity	:	61.1 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Taiki Watanabe

Date	:	1~2-August-2023			
Temperature	:	24.2 [˚C]			
Humidity	:	60.9 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Chiaki Kanno

Date	:	3~4-August-2023			
Temperature	:	23.3 [˚C]			
Humidity	:	72.8 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Chiaki Kanno

Date	:	9-August-2023			
Temperature	:	21.4 [˚C]			
Humidity	:	65.9 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Tadahiro Seino

Date	:	10-August-2023			
Temperature	:	23.3 [˚C]			
Humidity	:	75.6 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Tadahiro Seino

[WCDMA Band IV]
Channel: 1312

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3424.8	-56.5	-59.9	1.6	7.9	-53.6	-13.0	40.6

Channel: 1413

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3465.2	-56.6	-60.0	1.6	8.1	-53.5	-13.0	40.5

Channel: 1513

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3505.2	-56.4	-59.8	1.6	8.1	-53.3	-13.0	40.3

[LTE Band IV]
QPSK, BW 1.4MHz
Channel: 19957

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3421.4	-56.8	-59.8	1.6	7.9	-53.5	-13.0	40.5

Channel: 20175

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3465.0	-57.0	-61.0	1.6	8.1	-54.5	-13.0	41.5

Channel: 20393

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3508.6	-56.8	-59.7	1.6	8.1	-53.2	-13.0	40.2

16QAM, BW 1.4MHz
Channel: 19957

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3421.4	-56.8	-59.8	1.6	7.9	-53.5	-13.0	40.5

Channel: 20175

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3465.0	-56.7	-59.7	1.6	8.1	-53.2	-13.0	40.2

Channel: 20393

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3508.6	-56.8	-59.7	1.6	8.1	-53.2	-13.0	40.2

64QAM, BW 1.4MHz
Channel: 19957

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3421.4	-56.8	-59.8	1.6	7.9	-53.5	-13.0	40.5

Channel: 20175

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3465.0	-56.9	-59.9	1.6	8.1	-53.4	-13.0	40.4

Channel: 20393

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3508.6	-56.9	-59.8	1.6	8.1	-53.3	-13.0	40.3

[LTE Band IV]
QPSK, BW 3MHz
Channel: 19965

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3423.0	-56.6	-59.6	1.6	7.9	-53.3	-13.0	40.3

Channel: 20175

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3465.0	-56.8	-59.8	1.6	8.1	-53.3	-13.0	40.3

Channel: 20385

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3507.0	-56.9	-59.8	1.6	8.1	-53.3	-13.0	40.3

16QAM, BW 3MHz
Channel: 19965

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3423.0	-56.7	-59.7	1.6	7.9	-53.4	-13.0	40.4

Channel: 20175

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3465.0	-56.8	-59.8	1.6	8.1	-53.3	-13.0	40.3

Channel: 20385

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3507.0	-57.0	-59.9	1.6	8.1	-53.4	-13.0	40.4

64QAM, BW 3MHz
Channel: 19965

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3423.0	-56.7	-59.7	1.6	7.9	-53.4	-13.0	40.4

Channel: 20175

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3465.0	-56.9	-59.9	1.6	8.1	-53.4	-13.0	40.4

Channel: 20385

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3507.0	-57.0	-59.9	1.6	8.1	-53.4	-13.0	40.4

[LTE Band IV]
QPSK, BW 5MHz
Channel: 19975

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3425.0	-56.7	-59.7	1.6	7.9	-53.4	-13.0	40.4

Channel: 20175

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3465.0	-56.8	-59.8	1.6	8.1	-53.3	-13.0	40.3

Channel: 20375

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3505.0	-56.9	-59.8	1.6	8.1	-53.3	-13.0	40.3

16QAM, BW 5MHz
Channel: 19975

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3425.0	-56.7	-59.7	1.6	7.9	-53.4	-13.0	40.4

Channel: 20175

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3465.0	-56.7	-59.7	1.6	8.1	-53.2	-13.0	40.2

Channel: 20375

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3505.0	-56.8	-59.7	1.6	8.1	-53.2	-13.0	40.2

64QAM, BW 5MHz
Channel: 19975

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3425.0	-56.9	-59.9	1.6	7.9	-53.6	-13.0	40.6

Channel: 20175

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3465.0	-57.0	-60.0	1.6	8.1	-53.5	-13.0	40.5

Channel: 20375

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3505.0	-56.8	-59.7	1.6	8.1	-53.2	-13.0	40.2

[LTE Band IV]
QPSK, BW 10MHz
Channel: 20000

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3430.0	-56.9	-59.9	1.6	7.9	-53.5	-13.0	40.5

Channel: 20175

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3465.0	-57.0	-60.0	1.6	8.1	-53.5	-13.0	40.5

Channel: 20350

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3500.0	-57.0	-59.9	1.6	8.1	-53.4	-13.0	40.4

16QAM, BW 10MHz
Channel: 20000

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3430.0	-56.9	-59.9	1.6	7.9	-53.5	-13.0	40.5

Channel: 20175

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3465.0	-56.7	-59.7	1.6	8.1	-53.2	-13.0	40.2

Channel: 20350

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3500.0	-57.0	-59.9	1.6	8.1	-53.4	-13.0	40.4

64QAM, BW 10MHz
Channel: 20000

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3430.0	-57.0	-60.0	1.6	7.9	-53.6	-13.0	40.6

Channel: 20175

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3465.0	-56.8	-59.8	1.6	8.1	-53.3	-13.0	40.3

Channel: 20350

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3500.0	-57.0	-59.9	1.6	8.1	-53.4	-13.0	40.4

[LTE Band IV]
QPSK, BW 15MHz
Channel: 20025

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3500.0	-57.0	-59.9	1.6	8.1	-53.4	-13.0	40.4

Channel: 20175

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3465.0	-57.0	-60.0	1.6	8.1	-53.5	-13.0	40.5

Channel: 20325

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3495.0	-56.9	-59.8	1.6	8.1	-53.3	-13.0	40.3

16QAM, BW 15MHz
Channel: 20025

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3435.0	-57.0	-60.0	1.6	8.0	-53.6	-13.0	40.6

Channel: 20175

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3465.0	-56.8	-59.8	1.6	8.1	-53.3	-13.0	40.3

Channel: 20325

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3495.0	-56.8	-59.7	1.6	8.1	-53.2	-13.0	40.2

64QAM, BW 15MHz
Channel: 20025

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3435.0	-56.8	-59.8	1.6	8.0	-53.4	-13.0	40.4

Channel: 20175

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3465.0	-57.0	-60.0	1.6	8.1	-53.5	-13.0	40.5

Channel: 20325

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3500.0	-56.8	-59.7	1.6	8.1	-53.2	-13.0	40.2

[LTE Band IV]
QPSK, BW 20MHz
Channel: 20050

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3440.0	-56.6	-59.6	1.6	8.0	-53.2	-13.0	40.2

Channel: 20175

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3465.0	-56.7	-59.7	1.6	8.1	-53.2	-13.0	40.2

Channel: 20300

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3490.0	-56.8	-59.7	1.6	8.1	-53.2	-13.0	40.2

16QAM, BW 20MHz
Channel: 20050

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3440.0	-56.7	-59.7	1.6	8.0	-53.3	-13.0	40.3

Channel: 20175

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3465.0	-57.0	-60.0	1.6	8.1	-53.5	-13.0	40.5

Channel: 20300

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3490.0	-56.8	-59.7	1.6	8.1	-53.2	-13.0	40.2

64QAM, BW 20MHz
Channel: 20050

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3440.0	-56.8	-59.8	1.6	8.0	-53.4	-13.0	40.4

Channel: 20175

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3465.0	-56.8	-59.8	1.6	8.1	-53.3	-13.0	40.3

Channel: 20300

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	3490.0	-57.0	-59.9	1.6	8.1	-53.4	-13.0	40.4

[LTE Band XII]
QPSK, BW 1.4MHz
Channel: 23017

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1399.4	-56.7	-60.4	1.0	4.4	-57.0	-13.0	44.0

Channel: 23095

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1415.0	-55.8	-59.5	1.0	4.7	-55.8	-13.0	42.8

Channel: 23173

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1430.6	-55.9	-59.6	1.0	5.0	-55.7	-13.0	42.7

16QAM, BW 1.4MHz
Channel: 23017

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1399.4	-56.6	-60.3	1.0	4.4	-56.9	-13.0	43.9

Channel: 23095

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1415.0	-56.6	-60.3	1.0	4.7	-56.6	-13.0	43.6

Channel: 23173

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1430.6	-56.4	-60.0	1.0	5.0	-56.1	-13.0	43.1

64QAM, BW 1.4MHz
Channel: 23017

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1399.4	-56.1	-59.8	1.0	4.4	-56.4	-13.0	43.4

Channel: 23095

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1415.0	-55.8	-59.5	1.0	4.7	-55.8	-13.0	42.8

Channel: 23173

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1430.6	-56.6	-60.3	1.0	5.0	-56.4	-13.0	43.4

[LTE Band XII]
QPSK, BW 3MHz
Channel: 23025

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1401.0	-56.0	-59.7	1.0	4.5	-56.3	-13.0	43.3

Channel: 23095

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1415.0	-56.8	-60.5	1.0	4.7	-56.8	-13.0	43.8

Channel: 23165

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1429.0	-56.5	-60.2	1.0	4.9	-56.3	-13.0	43.3

16QAM, BW 3MHz
Channel: 23025

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1401.0	-56.2	-59.9	1.0	4.5	-56.5	-13.0	43.5

Channel: 23095

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1415.0	-56.5	-60.2	1.0	4.7	-56.5	-13.0	43.5

Channel: 23165

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1429.0	-56.4	-60.1	1.0	4.9	-56.2	-13.0	43.2

64QAM, BW 3MHz
Channel: 23025

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1401.0	-56.4	-60.1	1.0	4.5	-56.7	-13.0	43.7

Channel: 23095

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1415.0	-56.8	-60.5	1.0	4.7	-56.8	-13.0	43.8

Channel: 23165

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1429.0	-56.4	-60.1	1.0	4.9	-56.2	-13.0	43.2

[LTE Band XII]
QPSK, BW 5MHz
Channel: 23035

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1403.0	-56.5	-60.2	1.0	4.5	-56.7	-13.0	43.7

Channel: 23095

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1415.0	-55.8	-59.5	1.0	4.7	-55.8	-13.0	42.8

Channel: 23155

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1427.0	-56.4	-60.1	1.0	4.9	-56.2	-13.0	43.2

16QAM, BW 5MHz
Channel: 23035

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1403.0	-56.1	-59.8	1.0	4.5	-56.3	-13.0	43.3

Channel: 23095

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1415.0	-55.8	-59.5	1.0	4.7	-55.8	-13.0	42.8

Channel: 23155

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1427.0	-55.8	-59.5	1.0	4.9	-55.6	-13.0	42.6

64QAM, BW 5MHz
Channel: 23035

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1403.0	-56.1	-59.8	1.0	4.5	-56.3	-13.0	43.3

Channel: 23095

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1415.0	-56.2	-59.9	1.0	4.7	-56.2	-13.0	43.2

Channel: 23155

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1427.0	-56.5	-60.2	1.0	4.9	-56.3	-13.0	43.3

[LTE Band XII]
QPSK, BW 10MHz
Channel: 23060

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1408.0	-56.2	-59.9	1.0	4.6	-56.4	-13.0	43.4

Channel: 23095

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1415.0	-56.4	-60.1	1.0	4.7	-56.4	-13.0	43.4

Channel: 23130

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1422.0	-55.3	-59.0	1.0	4.8	-55.2	-13.0	42.2

16QAM, BW 10MHz
Channel: 23060

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1408.0	-56.1	-59.8	1.0	4.6	-56.3	-13.0	43.3

Channel: 23095

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1415.0	-56.3	-60.0	1.0	4.7	-56.3	-13.0	43.3

Channel: 23130

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1422.0	-56.3	-60.0	1.0	4.8	-56.2	-13.0	43.2

64QAM, BW 10MHz
Channel: 23060

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1408.0	-56.7	-60.4	1.0	4.6	-56.9	-13.0	43.9

Channel: 23095

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1415.0	-55.7	-59.4	1.0	4.7	-55.7	-13.0	42.7

Channel: 23130

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1422.0	-55.8	-59.5	1.0	4.8	-55.7	-13.0	42.7

[LTE Band XLI]
QPSK, BW 5MHz
Channel: 39675

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	4997.0	-57.6	-60.6	1.9	10.3	-52.2	-25.0	27.2

Channel: 40620

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5186.0	-57.0	-60.4	1.9	10.3	-52.0	-25.0	27.0

Channel: 41565

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5375.0	-57.0	-60.6	2.0	10.3	-52.2	-25.0	27.2

16QAM, BW 5MHz
Channel: 39675

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	4997.0	-57.8	-60.8	1.9	10.3	-52.4	-25.0	27.4

Channel: 40620

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5186.0	-57.5	-60.1	1.9	10.3	-51.7	-25.0	26.7

Channel: 41565

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5375.0	-57.6	-60.0	2.0	10.3	-51.6	-25.0	26.6

64QAM, BW 5MHz
Channel: 39675

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	4997.0	-57.9	-60.9	1.9	10.3	-52.5	-25.0	27.5

Channel: 40620

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5186.0	-57.6	-60.2	1.9	10.3	-51.8	-25.0	26.8

Channel: 41565

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5375.0	-57.6	-60.0	2.0	10.3	-51.6	-25.0	26.6

[LTE Band XLI]
QPSK, BW 10MHz
Channel: 39700

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5002.0	-57.0	-60.0	1.9	10.3	-51.6	-25.0	26.6

Channel: 40620

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5186.0	-57.0	-59.6	1.9	10.3	-51.2	-25.0	26.2

Channel: 41540

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5370.0	-57.3	-59.7	2.0	10.3	-51.4	-25.0	26.4

16QAM, BW 10MHz
Channel: 39700

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5002.0	-57.2	-60.2	1.9	10.3	-51.8	-25.0	26.8

Channel: 40620

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5186.0	-57.4	-60.0	1.9	10.3	-51.6	-25.0	26.6

Channel: 41540

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5370.0	-57.6	-60.0	2.0	10.3	-51.7	-25.0	26.7

64QAM, BW 10MHz
Channel: 39700

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5002.0	-57.5	-60.5	1.9	10.3	-52.1	-25.0	27.1

Channel: 40620

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5186.0	-57.5	-60.1	1.9	10.3	-51.7	-25.0	26.7

Channel: 41540

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5370.0	-57.8	-60.2	2.0	10.3	-51.9	-25.0	26.9

[LTE Band XLI]
QPSK, BW 15MHz
Channel: 39725

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5007.0	-57.8	-60.8	1.9	10.3	-52.4	-25.0	27.4

Channel: 40620

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5186.0	-57.5	-60.1	1.9	10.3	-51.7	-25.0	26.7

Channel: 41515

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5365.0	-57.7	-60.1	2.0	10.3	-51.8	-25.0	26.8

16QAM, BW 15MHz
Channel: 39725

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5007.0	-57.9	-60.9	1.9	10.3	-52.5	-25.0	27.5

Channel: 40620

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5186.0	-57.6	-60.2	1.9	10.3	-51.8	-25.0	26.8

Channel: 41515

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5365.0	-57.9	-60.3	2.0	10.3	-52.0	-25.0	27.0

64QAM, BW 15MHz
Channel: 39725

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5007.0	-57.9	-60.9	1.9	10.3	-52.5	-25.0	27.5

Channel: 40620

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5186.0	-58.0	-60.6	1.9	10.3	-52.2	-25.0	27.2

Channel: 41515

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5365.0	-58.0	-60.4	2.0	10.3	-52.1	-25.0	27.1

[LTE Band XLI]
QPSK, BW 20MHz
Channel: 39750

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5012.0	-57.7	-60.7	1.9	10.3	-52.3	-25.0	27.3

Channel: 40620

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5186.0	-57.7	-60.3	1.9	10.3	-51.9	-25.0	26.9

Channel: 41490

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5360.0	-57.6	-60.0	2.0	10.3	-51.7	-25.0	26.7

16QAM, BW 20MHz
Channel: 39750

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5012.0	-57.8	-60.8	1.9	10.3	-52.4	-25.0	27.4

Channel: 40620

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5186.0	-57.8	-60.4	1.9	10.3	-52.0	-25.0	27.0

Channel: 41490

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5360.0	-57.7	-60.1	2.0	10.3	-51.8	-25.0	26.8

64QAM, BW 20MHz
Channel: 39750

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5012.0	-57.8	-60.8	1.9	10.3	-52.4	-25.0	27.4

Channel: 40620

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5186.0	-57.8	-60.4	1.9	10.3	-52.0	-25.0	27.0

Channel: 41490

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	5360.0	-57.8	-60.2	2.0	10.3	-51.9	-25.0	26.9

All other emissions measured were greater than 20dB below the specification limit.

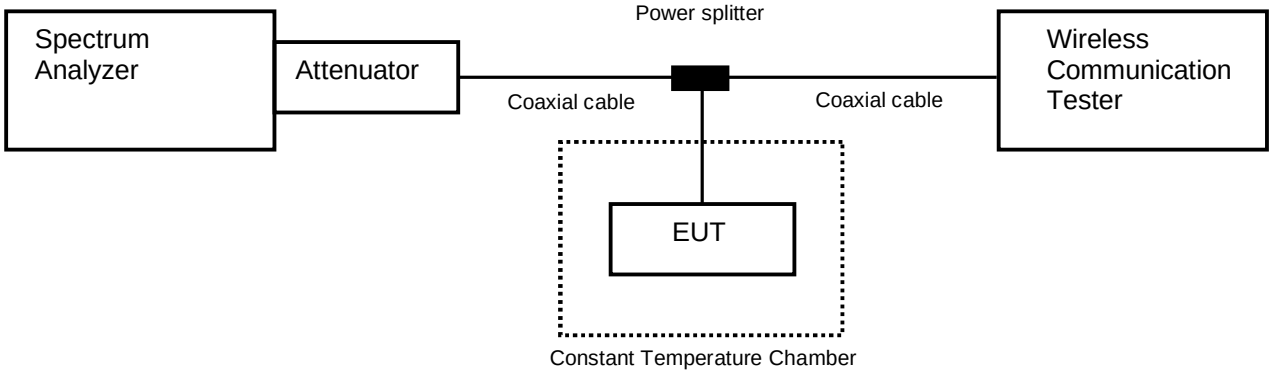
4.7 Frequency Stability

4.7.1 Measurement procedure

[FCC 27.54, 2.1055]

The EUT was placed of an inside of an constant temperature chamber as the temperature in the chamber was varied between -30˚C and +50˚C. The temperature was incremented by 10˚C intervals and the unit was allowed to stabilize at each measurement. The frequency drift was measured with the normal Temperature and voltage tolerance and it is presented as the ppm unit.

- Test configuration



4.7.2 Limit

The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

4.7.3 Measurement result

Date	:	19-August-2023		
Temperature	:	23.5 [˚C]		
Humidity	:	52.9 [%]	Test engineer	:
Test place	:	Shielded room No.4		Kazunori Saito

Date	:	20-August-2023		
Temperature	:	23.6 [˚C]		
Humidity	:	56.8 [%]	Test engineer	:
Test place	:	Shielded room No.4		Kazunori Saito

[WCDMA Band IV]
Channel: 1413

Power Supply [V]	Temperature [°C]	Measurements Frequency [Hz]	Frequency Tolerance [ppm]	Result
3.87	25(Ref.)	1,732,599,995	0.00000	Pass
	50	1,732,599,995	-0.00010	Pass
	40	1,732,600,005	0.00573	Pass
	30	1,732,600,004	0.00530	Pass
	20	1,732,599,996	0.00062	Pass
	10	1,732,599,995	0.00033	Pass
	0	1,732,600,005	0.00607	Pass
	-10	1,732,600,007	0.00681	Pass
	-20	1,732,600,006	0.00637	Pass
	-30	1,732,600,006	0.00637	Pass
3.48	25	1,732,599,993	-0.00125	Pass
4.26	25	1,732,599,995	0.00014	Pass

[LTE Band IV]
QPSK, BW 10MHz, RB 50-0
Channel: 20175

Power Supply [V]	Temperature [°C]	Measurements Frequency [Hz]	Frequency Tolerance [ppm]	Result
3.87	25(Ref.)	1,732,500,008	0.00000	Pass
	50	1,732,500,008	0.00004	Pass
	40	1,732,499,990	-0.01016	Pass
	30	1,732,500,006	-0.00065	Pass
	20	1,732,499,992	-0.00878	Pass
	10	1,732,500,017	0.00552	Pass
	0	1,732,500,018	0.00588	Pass
	-10	1,732,500,019	0.00668	Pass
	-20	1,732,500,015	0.00402	Pass
	-30	1,732,500,014	0.00382	Pass
3.48	25	1,732,500,006	-0.00085	Pass
4.26	25	1,732,500,006	-0.00088	Pass

Calculation;
Frequency Tolerance (ppm) = Measurements Frequency (Hz) – Reference Frequency (Hz) / Reference Frequency (Hz) x 1000000

[LTE Band XII]
QPSK, BW 10MHz, RB 50-0
Channel: 23095

Power Supply [V]	Temperature [°C]	Measurements Frequency [Hz]	Frequency Tolerance [ppm]	Result
3.87	25(Ref.)	707,500,006	0.00000	Pass
	50	707,499,993	-0.01741	Pass
	40	707,500,006	0.00119	Pass
	30	707,499,996	-0.01394	Pass
	20	707,499,995	-0.01456	Pass
	10	707,499,993	-0.01761	Pass
	0	707,500,009	0.00485	Pass
	-10	707,500,011	0.00719	Pass
	-20	707,500,008	0.00334	Pass
	-30	707,500,006	-0.00004	Pass
3.48	25	707,499,993	-0.01847	Pass
4.26	25	707,500,003	-0.00389	Pass

Calculation;
Frequency Tolerance (ppm) = Measurements Frequency (Hz) – Reference Frequency (Hz) / Reference Frequency (Hz) x 1000000

[LTE Band XLI]
QPSK, BW 10MHz, RB 50-0
Channel: 40620

Power Supply [V]	Temperature [°C]	Measurements Frequency [Hz]	Frequency Tolerance [ppm]	Result
3.87	25(Ref.)	g	0.00000	Pass
	50	2,593,000,015	0.00187	Pass
	40	2,592,999,984	-0.00994	Pass
	30	2,593,000,014	0.00159	Pass
	20	2,592,999,989	-0.00808	Pass
	10	2,592,999,978	-0.01220	Pass
	0	2,593,000,026	0.00633	Pass
	-10	2,593,000,023	0.00504	Pass
	-20	2,592,999,980	-0.01165	Pass
	-30	2,593,000,018	0.00328	Pass
3.48	25	2,592,999,989	-0.00820	Pass
4.26	25	2,592,999,989	-0.00804	Pass

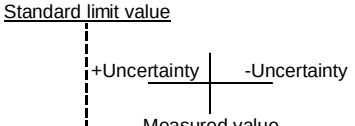
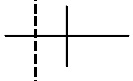
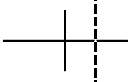
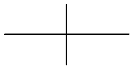
Calculation;
Frequency Tolerance (ppm) = Measurements Frequency (Hz) – Reference Frequency (Hz) / Reference Frequency (Hz) x 1000000

Japan

5 Measurement Uncertainty

Expanded uncertainties stated are calculated with a coverage Factor k=2.
Please note that these results are not taken into account when measurement uncertainty considerations contained in ETSI TR 100 028 Parts 1 and 2 determining compliance or non-compliance with test result.

Test item	Measurement uncertainty
Conducted emission, AMN (9 kHz – 150 kHz)	±3.7 dB
Conducted emission, AMN (150 kHz – 30 MHz)	±3.3 dB
Radiated emission (9kHz – 30 MHz)	±3.8 dB
Radiated emission (30 MHz – 1000 MHz)	±5.4 dB
Radiated emission (1 GHz – 6 GHz)	±4.6 dB
Radiated emission (6 GHz – 18 GHz)	±4.7 dB
Radiated emission (18 GHz – 40 GHz)	±6.4 dB
Radio Frequency	$\pm 1.3 * 10^{-8}$
RF power, conducted	±0.7 dB
Adjacent channel power	±1.5 dB
Temperature	±0.6 °C
Humidity	±1.2 %
Voltage (DC)	±0.4 %
Voltage (AC, <10kHz)	±0.2 %

Judge	Measured value and standard limit value
PASS	**Case1**  Even if it takes uncertainty into consideration, a standard limit value is fulfilled.
	Case2  Although measured value is in a standard limit value, a limit value won't be fulfilled if uncertainty is taken into consideration.
FAIL	**Case3**  Although measured value exceeds a standard limit value, a limit value will be fulfilled if uncertainty is taken into consideration.
	Case4  Even if it takes uncertainty into consideration, a standard limit value isn't fulfilled.

Japan

6 Laboratory Information

Testing was performed and the report was issued at:

TÜV SÜD Japan Ltd. Yonezawa Testing Center

Address: 5-4149-7 Hachimanpara, Yonezawa-shi, Yamagata, 992-1128 Japan
Phone: +81-238-28-2881

Accreditation and Registration
A2LA
Certificate #3686.03

VLAC
Accreditation No.: VLAC-013

BSMI
Laboratory Code: SL2-IN-E-6018, SL2-A1-E-6018

Innovation, Science and Economic Development Canada
ISED#: 4224A

VCCI Council
Registration number: A-0166

Japan

Appendix A. Test Equipment

Antenna port conducted test

Equipment	Company	Model No.	Serial No.	Cal. Due	Cal. Date
Spectrum analyzer	Agilent Technologies	E4440A	US44302655	30-Sep-2023	05-Sep-2022
Spectrum analyzer	ROHDE&SCHWARZ	FSV40	101732	30-Apr-2024	07-Apr-2023
Attenuator	HUBER+SUHNER	6810.19.A	N/A(S450)	31-Dec-2023	19-Dec-2022
Microwave cable	Junkosha Inc.	MWX221/1m	N/A(S400)	31-Mar-2024	16-Mar-2023
Power divider	Keysight	11636B	MY51359874	30-Sep-2023	28-Sep-2022
Wideband Radio Frequency Tester	ROHDE&SCHWARZ	CMW500	126079	31-Aug-2023	15-Aug-2022
Wideband Radio Frequency Tester	ROHDE&SCHWARZ	CMW500	116338	31-Aug-2023	04-Aug-2022
Temperature and humidity chamber	ESPEC	PL1KP	14007261	30-Jun-2024	30-Jun-2023

Radiated emission

Equipment	Company	Model No.	Serial No.	Cal. Due	Cal. Date
EMI Receiver	ROHDE&SCHWARZ	ESW44	103171	30-Sep-2023	20-Sep-2022
Preamplifier	SONOMA	310	372170	30-Sep-2023	15-Sep-2022
Biconical antenna	Schwarzbeck	VHBB9124/BBA9106	1145	31-Jul-2024	14-Jul-2023
Log periodic antenna	Schwarzbeck	VUSLP9111B	346	30-Nov-2023	16-Nov-2022
Attenuator	TOYO Connector	NA-PJ-6/6dB	N/A(S541)	30-Sep-2023	28-Sep-2022
Attenuator	TAMAGAWA.ELEC	CFA-10/3dB	N/A(S503)	31-Jul-2024	20-Jul-2023
Preamplifier	TSJ	MLA-100M18-B02-40	1929118	31-Dec-2023	22-Dec-2022
Attenuator	AEROFLEX	26A-10	081217-08	31-Dec-2023	19-Dec-2022
Double ridged guide antenna	ETS LINDGREN	3117	00052315	30-Jun-2024	22-Jun-2023
Attenuator	HUBER+SUHNER	6803.17.B	N/A(2340)	31-Dec-2023	22-Dec-2022
Double ridged guide antenna	A.H.Systems Inc.	SAS-574	469	31-Aug-2023	19-Aug-2022
Preamplifier	TSJ	MLA-1840-B03-35	1240332	31-Aug-2023	19-Aug-2022
Notch Filter	Micro-Tronics	BRM50706	003	31-Jul-2024	19-Jul-2023
Band rejection filter	Micro-Tronics	BRC50719	014	31-Dec-2023	20-Dec-2022
Notch Filter	Micro-Tronics	BRM50709	G024	29-Feb-2024	21-Feb-2023
Signal generator	ROHDE&SCHWARZ	SMB100A	177525	31-Dec-2023	16-Dec-2022
RF power amplifier	R&K	CGA020M602-2633R	B40240	30-Jun-2024	21-Jun-2023
Attenuator	Qualwave Inc.	QFA2620-26.5-20-S	22295089	30-Sep-2023	05-Sep-2022
Microwave cable	HUBER+SUHNER	SUCOFELX102/2m	31648	31-Mar-2024	16-Mar-2023
Dipole antenna	Schwarzbeck	VHAP	1021	31-Jul-2024	06-Jul-2023
Dipole antenna	Schwarzbeck	UHAP	993	31-Jul-2024	06-Jul-2023
Double ridged guide antenna	ETS LINDGREN	3117	00218815	31-Dec-2023	19-Dec-2022
Wideband Radio Frequency Tester	ROHDE&SCHWARZ	CMW500	126079	31-Aug-2023	15-Aug-2022
Wideband Radio Frequency Tester	ROHDE&SCHWARZ	CMW500	116338	31-Aug-2023	04-Aug-2022
Microwave cable	HUBER+SUHNER	SUCOFLEX104/9m	800690/4	31-Oct-2023	26-Oct-2022
		SUCOFLEX104/1m	my24610/4	31-Dec-2023	19-Dec-2022
		SUCOFLEX104/9m	2001099/4	31-Dec-2023	22-Dec-2022
		SUCOFLEX104/1m	MY32976/4	31-Dec-2023	22-Dec-2022
		SUCOFLEX104/2m	SN MY28404/4	31-Dec-2023	19-Dec-2022
		SUCOFLEX104/7m	41625/6	31-Dec-2023	22-Dec-2022
Software	TOYO Technica	ES10/RE-AJ	Ver.2023.01.001	N/A	N/A
Absorber	RIKEN	PFP30	N/A	N/A	N/A
3m Semi an-echoic Chamber	TOKIN	N/A	N/A(9002-NSA)	31-May-2024	28-May-2023
3m Semi an-echoic Chamber	TOKIN	N/A	N/A(9002-SVSWR)	31-May-2024	29-May-2023

*: The calibrations of the above equipment are traceable to NIST or equivalent standards of the reference organizations.