Report on the RF Testing of:

KYOCERA Corporation
Mobile Phone, Model: EB1073
FCC ID: JOYEB1073

Japan

Add value.
Inspire trust.

In accordance with FCC Part 27 Subpart C, FCC Part 27 Subpart L, and FCC Part 27 Subpart H

Prepared for: KYOCERA Corporation
Yokohama Office 2-1-1 Kagahara, Tsuzuki-ku
Yokohama-shi, Kanagawa, Japan
Phone: +81-45-943-6253 Fax: +81-45-943-6314

COMMERCIAL-IN-CONFIDENCE

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SIGNATURE			
Hiroaki Suzuki			
NAME	**JOB TITLE**	**RESPONSIBLE FOR**	**ISSUE DATE**
Hiroaki Suzuki	Deputy Manager of RF Group	Approved Signatory	2021.10.21

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

EXECUTIVE SUMMARY
A sample(s) of this product was tested and found to be compliant with FCC Part 27 Subpart C, FCC Part 27 Subpart L, and FCC Part 27 Subpart H.

Certificate #3686.03

TÜV SÜD Japan Ltd.
Yonezawa Testing Center
5-4149-7 Hachimanpara,
Yonezawa-shi, Yamagata,
992-1128 Japan

Phone: +81 (0) 238 28 2881
www.tuvsud.com/ja-jp

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1 Summary of Test

1.1 Modification history of the test report

Document Number	Modification History	Issue Date
JPD-TR-21192-0	First Issue	Refer to the cover page

1.2 Standards

CFR47 FCC Part 27 Subpart C
CFR47 FCC Part 27 Subpart L
CFR47 FCC Part 27 Subpart H

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 or 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

9-September-2021 - 19-October-2021

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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	EB1073
Serial number	352886910002902, 352886910002738
Trade name	Kyocera
Number of sample(s)	2
EUT condition	Pre-Production
Power rating	Battery: DC 3.87 V
Size	(W) 69 × (D) 13.7 × (H) 123 mm
Environment	Indoor and Outdoor use
Terminal limitation	-20˚C to 60˚C
Hardware version	DMT
Software version	V0.101PO
Firmware version	Not applicable
RF Specification	
Frequency of Operation	Up Link WCDMA Band IV: 1712.4-1752.6 MHz LTE Band IV: 1710-1755 MHz LTE Band XII: 699-716 MHz LTE Band X VII: 704-716 MHz LTE Band XL I: 2496-2690 MHz Down Link WCDMA Band IV: 2112.4-2152.6 MHz LTE Band IV: 2110-2155 MHz LTE Band XII: 729-746.0 MHz LTE Band X VII: 734-746 MHz LTE Band XL I: 2496-2690 MHz
Modulation type	WCDMA Band IV: QPSK, 16QAM LTE Band IV: QPSK, 16QAM, 64QAM LTE Band XII: QPSK, 16QAM, 64QAM LTE Band X VII: QPSK, 16QAM, 64QAM LTE Band XL I: QPSK, 16QAM, 64QAM

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Emission designator	WCDMA Band IV: 4M15F9W LTE Band IV: BW 1.4M QPSK: 1M09G7D, 16QAM: 1M10W7D, 64QAM: 1M09W7D BW 3M QPSK: 2M70G7D, 16QAM: 2M71W7D, 64QAM: 2M71W7D BW 5M QPSK: 4M54G7D, 16QAM: 4M52W7D, 64QAM: 4M53W7D BW 10M QPSK: 8M97G7D, 16QAM: 8M99W7D, 64QAM: 8M96W7D BW 15M QPSK: 13M4G7D, 16QAM: 13M4W7D, 64QAM: 13M5W7D BW 20M QPSK: 17M9G7D, 16QAM: 17M9W7D, 64QAM: 17M9W7D LTE Band XII: BW 1.4M QPSK: 1M09G7D, 16QAM: 1M10W7D, 64QAM: 1M09W7D BW 3M QPSK: 2M71G7D, 16QAM: 2M71W7D, 64QAM: 2M71W7D BW 5M QPSK: 4M54G7D, 16QAM: 4M51W7D, 64QAM: 4M53W7D BW 10M QPSK: 8M97G7D, 16QAM: 8M99W7D, 64QAM: 8M98W7D LTE Band X VII: BW 5M QPSK: 4M52G7D, 16QAM: 4M50W7D, 64QAM: 4M51W7D BW 10M QPSK: 8M98G7D, 16QAM: 8M97W7D, 64QAM: 8M96W7D LTE Band XL I: BW 5M QPSK: 4M50G7D, 16QAM: 4M51W7D, 64QAM: 4M52W7D BW 10M QPSK: 8M99G7D, 16QAM: 8M96W7D, 64QAM: 8M97W7D BW 15M QPSK: 13M4G7D, 16QAM: 13M5W7D, 64QAM: 13M5W7D BW 20M QPSK: 18M0G7D, 16QAM: 17M9W7D, 64QAM: 17M9W7D
Effective Radiated Power (E.R.P.)	LTE Band XII: 0.052 W (17.2 dBm) LTE Band X VII: 0.050 W (17.0 dBm)
Effective Radiated Power (E.I.R.P.)	WCDMA Band IV: 0.030 W (14.8 dBm) LTE Band IV: 0.032 W (15.0 dBm) LTE Band XL I: 0.066 W (18.2 dBm)
Antenna type	Internal antenna
Antenna gain	WCDMA Band IV: -8.6 dBi LTE Band IV: -8.6 dBi LTE Band XII: -7.3 dBi LTE Band X VII: -7.3 dBi LTE Band XL I: -4.7 dBi

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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: EB1083, Serial Number: 352886910002902, 352886910002738			
0	As supplied by the applicant	Not Applicable	Not Applicable

2.3 Variation of family model(s)

2.3.1 List of family model(s)

Not applicable

2.3.2 Reason for selection of EUT

Not applicable

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	-	1312, 1413, 1513	1712.4, 1732.6, 1752.6
	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 X VII	QPSK, 16QAM, 64QAM	5	23755, 23790, 23825	701.5, 707.5, 713.5
		10	23780, 23790, 23800	709.0, 710.0, 711.0
LTE Band XL I	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 X VII, LTE Band XL I) and Z-axis (Other Bands) 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.

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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	EB1073	352886910002902, 352886910002738	JOYEB1073	EUT

3.2 System configuration

1. Mobile Phone (EUT)

4 Test Result

4.1 Effective Radiated Power or Equivalent Isotropically Radiated Power

4.1.1 Measurement procedure

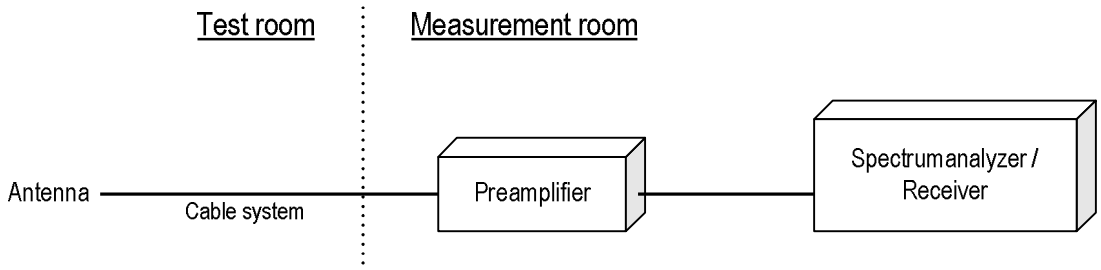
[FCC 27.50]

<Step 1>
The EUT and support equipment are placed on a 1 meter x 1 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 (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 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.

<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



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4.1.2 Calculation method

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

Example:
Limit @ 1732.6MHz : 30.0 dBm
Ant. Input = 25.5 dBm Cable loss = 0.7 dB Ant. Gain = -10.1 dBi
Result = 25.5 - 0.7 + (-10.1) = 14.7 dBm
Margin = 30.0 – 14.7 = 15.3 dB

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

Example:
Limit @ 707.5 MHz : 34.7 dBm
Ant. Input = 15.0 dBm Cable loss = 1.1 dB Ant. Gain = 8.0 dBd
Result = 15.0 – 1.1 + 8.0 = 21.9 dBm
Margin = 34.7 – 21.9 = 8.1 dB

4.1.3 Limit

ERP: 3W (34.7 dBm)
WCDMA Band IV, LTE Band IV: 1W (30 dBm)
LTE Band XL I: 2W (33 dBm)

4.1.4 Test data

Date	:	25-September-2021			
Temperature	:	21.4 [˚C]			
Humidity	:	58.1 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Taiki Watanabe

Date	:	1-October-2021			
Temperature	:	22.3 [˚C]			
Humidity	:	67.4 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Tadahiro Seino

Date	:	5-October-2021			
Temperature	:	21.0 [˚C]			
Humidity	:	62.1 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Chiaki Kanno

[WCDMA Band IV]

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1712.4	-38.2	7.3	1.1	5.5	11.7	30.0	18.3
H	1732.6	-38.3	7.9	1.1	5.1	11.9	30.0	18.1
H	1752.6	-36.5	11.1	1.1	4.8	14.8	30.0	15.2

[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]	Limit [dBm]	Margin [dB]
H	1710.7	-42.1	3.4	1.1	5.5	7.8	30.0	22.2
H	1732.5	-38.0	8.0	1.1	5.1	12.0	30.0	18.0
H	1754.3	-37.7	9.6	1.1	4.8	13.3	30.0	16.7

16QAM, BW 1.4MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1710.7	-43.3	2.2	1.1	5.5	6.6	30.0	23.4
H	1732.5	-39.2	6.8	1.1	5.1	10.8	30.0	19.2
H	1754.3	-38.7	8.6	1.1	4.8	12.3	30.0	17.7

64QAM, BW 1.4MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1710.7	-44.3	1.2	1.1	5.5	5.6	30.0	24.4
H	1732.5	-39.7	6.3	1.1	5.1	10.3	30.0	19.7
H	1754.3	-39.7	7.6	1.1	4.8	11.3	30.0	18.7

QPSK, BW 3MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
V	1711.5	-37.1	8.8	1.1	5.5	13.2	30.0	16.8
V	1732.5	-38.4	8.2	1.1	5.1	12.2	30.0	17.8
V	1753.5	-37.1	11.0	1.1	4.8	14.7	30.0	15.3

16QAM, BW 3MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
V	1711.5	-38.4	7.5	1.1	5.5	11.9	30.0	18.1
V	1732.5	-39.1	7.5	1.1	5.1	11.5	30.0	18.5
V	1753.5	-38.8	9.3	1.1	4.8	13.0	30.0	17.0

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64QAM, BW 3MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
V	1711.5	-39.4	6.5	1.1	5.5	10.9	30.0	19.1
V	1732.5	-39.9	6.7	1.1	5.1	10.7	30.0	19.3
V	1753.5	-39.9	8.2	1.1	4.8	11.9	30.0	18.1

QPSK, BW 5MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1712.5	-40.7	5.0	1.1	5.5	9.4	30.0	20.6
H	1732.5	-37.1	8.9	1.1	5.1	12.9	30.0	17.1
H	1752.5	-37.0	10.3	1.1	4.8	14.0	30.0	16.0

16QAM, BW 5MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1712.5	-41.6	4.1	1.1	5.5	8.5	30.0	21.5
H	1732.5	-37.9	8.1	1.1	5.1	12.1	30.0	17.9
H	1752.5	-37.7	9.6	1.1	4.8	13.3	30.0	16.7

64QAM, BW 5MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1712.5	-42.6	3.1	1.1	5.5	7.5	30.0	22.5
H	1732.5	-38.8	7.2	1.1	5.1	11.2	30.0	18.8
H	1752.5	-38.6	8.7	1.1	4.8	12.4	30.0	17.6

QPSK, BW 10MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1715.0	-39.7	6.2	1.1	5.4	10.5	30.0	19.5
H	1732.5	-37.0	9.0	1.1	5.1	13.0	30.0	17.0
H	1750.0	-37.2	10.1	1.1	4.8	13.8	30.0	16.2

16QAM, BW 10MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1715.0	-40.5	5.4	1.1	5.4	9.7	30.0	20.3
H	1732.5	-37.4	8.6	1.1	5.1	12.6	30.0	17.4
H	1750.0	-37.7	9.6	1.1	4.8	13.3	30.0	16.7

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64QAM, BW 10MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1715.0	-41.2	4.7	1.1	5.4	9.0	30.0	21.0
H	1732.5	-38.4	7.6	1.1	5.1	11.6	30.0	18.4
H	1750.0	-38.7	8.6	1.1	4.8	12.3	30.0	17.7

QPSK, BW 15MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1717.5	-38.7	6.9	1.1	5.4	11.2	30.0	18.8
H	1732.5	-36.0	10.0	1.1	5.1	14.0	30.0	16.0
H	1747.5	-36.1	11.2	1.1	4.9	15.0	30.0	15.0

16QAM, BW 15MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1717.5	-40.5	5.1	1.1	5.4	9.4	30.0	20.6
H	1732.5	-37.2	8.8	1.1	5.1	12.8	30.0	17.2
H	1747.5	-37.3	10.0	1.1	4.9	13.8	30.0	16.2

64QAM, BW 15MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1717.5	-41.6	4.0	1.1	5.4	8.3	30.0	21.7
H	1732.5	-38.3	7.7	1.1	5.1	11.7	30.0	18.3
H	1747.5	-38.2	9.1	1.1	4.9	12.9	30.0	17.1

QPSK, BW 20MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1720.0	-37.1	8.3	1.1	5.4	12.5	30.0	17.5
H	1732.5	-36.6	9.4	1.1	5.1	13.4	30.0	16.6
H	1745.0	-36.4	10.9	1.1	4.9	14.7	30.0	15.3

16QAM, BW 20MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1720.0	-38.2	7.2	1.1	5.4	11.4	30.0	18.6
H	1732.5	-37.4	8.6	1.1	5.1	12.6	30.0	17.4
H	1745.0	-37.2	10.1	1.1	4.9	13.9	30.0	16.1

64QAM, BW 20MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1720.0	-39.1	6.3	1.1	5.4	10.5	30.0	19.5
H	1732.5	-38.4	7.6	1.1	5.1	11.6	30.0	18.4
H	1745.0	-38.2	9.1	1.1	4.9	12.9	30.0	17.1

[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]	Limit [dBm]	Margin [dB]
H	699.7	-19.9	22.2	0.7	-5.7	15.9	34.70	18.8
H	707.5	-20.2	22.9	0.7	-5.8	16.5	34.70	18.2
H	715.3	-20.8	23.4	0.7	-5.8	16.9	34.70	17.8

16QAM, BW 1.4MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	699.7	-21.0	21.1	0.7	-5.7	14.8	34.70	19.9
H	707.5	-20.6	22.5	0.7	-5.8	16.1	34.70	18.6
H	715.3	-21.3	22.9	0.7	-5.8	16.4	34.70	18.3

64QAM, BW 1.4MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	699.7	-21.3	20.8	0.7	-5.7	14.5	34.70	20.2
H	707.5	-21.3	21.8	0.7	-5.8	15.4	34.70	19.3
H	715.3	-21.9	22.3	0.7	-5.8	15.8	34.70	18.9

QPSK, BW 3MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	700.5	-19.6	22.6	0.7	-5.7	16.2	34.70	18.5
H	707.5	-19.8	23.3	0.7	-5.8	16.9	34.70	17.8
H	714.5	-20.4	23.7	0.7	-5.8	17.2	34.70	17.5

16QAM, BW 3MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	700.5	-20.5	21.7	0.7	-5.7	15.3	34.70	19.4
H	707.5	-20.2	22.9	0.7	-5.8	16.5	34.70	18.2
H	714.5	-21.1	23.0	0.7	-5.8	16.5	34.70	18.2

Japan

64QAM, BW 3MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	700.5	-22.0	20.2	0.7	-5.7	13.8	34.70	20.9
H	707.5	-21.5	21.6	0.7	-5.8	15.2	34.70	19.5
H	714.5	-22.3	21.8	0.7	-5.8	15.3	34.70	19.4

QPSK, BW 5MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	701.5	-19.9	22.4	0.7	-5.7	16.0	34.70	18.7
H	707.5	-20.1	23.0	0.7	-5.8	16.6	34.70	18.1
H	713.5	-20.5	23.5	0.7	-5.8	17.0	34.70	17.7

16QAM, BW 5MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	701.5	-20.1	22.2	0.7	-5.7	15.8	34.70	18.9
H	707.5	-20.2	22.9	0.7	-5.8	16.5	34.70	18.2
H	713.5	-21.0	23.0	0.7	-5.8	16.5	34.70	18.2

64QAM, BW 5MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	701.5	-21.2	21.5	0.7	-5.7	15.1	34.70	19.6
H	707.5	-21.3	21.8	0.7	-5.8	15.4	34.70	19.3
H	713.5	-21.7	22.3	0.7	-5.8	15.8	34.70	18.9

QPSK, BW 10MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	704.0	-19.6	23.0	0.7	-5.7	16.6	34.70	18.1
H	707.5	-19.5	23.6	0.7	-5.8	17.2	34.70	17.5
H	711.0	-20.2	23.4	0.7	-5.8	16.9	34.70	17.8

16QAM, BW 10MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	704.0	-20.5	22.1	0.7	-5.7	15.7	34.70	19.0
H	707.5	-20.6	22.5	0.7	-5.8	16.1	34.70	18.6
H	711.0	-21.2	22.4	0.7	-5.8	15.9	34.70	18.8

64QAM, BW 10MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	704.0	-21.6	21.0	0.7	-5.7	14.6	34.70	20.1
H	707.5	-21.7	21.4	0.7	-5.8	15.0	34.70	19.7
H	711.0	-21.9	21.7	0.7	-5.8	15.2	34.70	19.5

[LTE Band X VII]
QPSK, BW 5MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	706.5	-20.2	21.8	0.7	-5.6	15.5	34.70	19.2
H	710.0	-20.2	23.2	0.7	-5.6	16.9	34.70	17.8
H	713.5	-20.7	23.2	0.7	-5.7	16.8	34.70	17.9

16QAM, BW 5MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	706.5	-20.9	21.1	0.7	-5.6	14.8	34.70	19.9
H	710.0	-21.0	22.4	0.7	-5.6	16.1	34.70	18.6
H	713.5	-21.4	22.5	0.7	-5.7	16.1	34.70	18.6

64QAM, BW 5MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	706.5	-21.9	20.1	0.7	-5.6	13.8	34.70	20.9
H	710.0	-22.1	21.3	0.7	-5.6	15.0	34.70	19.7
H	713.5	-22.4	21.5	0.7	-5.7	15.1	34.70	19.6

QPSK, BW 10MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	709.0	-20.2	23.1	0.7	-5.6	16.8	34.70	17.9
H	710.0	-20.1	23.3	0.7	-5.6	17.0	34.70	17.7
H	711.0	-20.5	23.1	0.7	-5.6	16.8	34.70	17.9

16QAM, BW 10MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	709.0	-20.8	22.5	0.7	-5.6	16.2	34.70	18.5
H	710.0	-21.0	22.4	0.7	-5.6	16.1	34.70	18.6
H	711.0	-20.9	22.7	0.7	-5.6	16.4	34.70	18.3

64QAM, BW 10MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	709.0	-21.6	21.7	0.7	-5.6	15.4	34.70	19.3
H	710.0	-21.5	21.9	0.7	-5.6	15.6	34.70	19.1
H	711.0	-21.8	22.3	0.7	-5.6	16.0	34.70	18.7

[LTE Band XL I]
QPSK, BW 5MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2498.5	-43.3	11.1	1.3	5.7	15.4	33.0	17.6
H	2593.0	-41.2	13.4	1.4	6.0	18.0	33.0	15.0
H	2687.5	-43.8	10.3	1.4	6.6	15.5	33.0	17.5

16QAM, BW 5MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2498.5	-44.0	10.4	1.3	5.7	14.7	33.0	18.3
H	2593.0	-42.3	12.3	1.4	6.0	16.9	33.0	16.1
H	2687.5	-44.5	9.6	1.4	6.6	14.8	33.0	18.2

64QAM, BW 5MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2498.5	-45.1	9.3	1.3	5.7	13.6	33.0	19.4
H	2593.0	-43.3	11.3	1.4	6.0	15.9	33.0	17.1
H	2687.5	-45.5	8.6	1.4	6.6	13.8	33.0	19.2

QPSK, BW 10MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2501.0	-43.5	10.7	1.3	5.7	15.0	33.0	18.0
H	2593.0	-41.5	13.1	1.4	6.0	17.7	33.0	15.3
H	2685.0	-43.7	10.5	1.4	6.6	15.7	33.0	17.3

16QAM, BW 10MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2501.0	-44.5	9.7	1.3	5.7	14.0	33.0	19.0
H	2593.0	-42.3	12.3	1.4	6.0	16.9	33.0	16.1
H	2685.0	-44.6	9.6	1.4	6.6	14.8	33.0	18.2

Japan

64QAM, BW 10MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2501.0	-45.7	8.5	1.3	5.7	12.8	33.0	20.2
H	2593.0	-43.2	11.4	1.4	6.0	16.0	33.0	17.0
H	2685.0	-45.3	9.9	1.4	6.6	15.1	33.0	17.9

QPSK, BW 15MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2503.5	-43.2	10.9	1.3	5.7	15.2	33.0	17.8
H	2593.0	-41.0	13.6	1.4	6.0	18.2	33.0	14.8
H	2682.5	-43.6	10.6	1.4	6.6	15.8	33.0	17.2

16QAM, BW 15MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2503.5	-44.2	9.9	1.3	5.7	14.2	33.0	18.8
H	2593.0	-41.9	12.7	1.4	6.0	17.3	33.0	15.7
H	2682.5	-44.3	9.9	1.4	6.6	15.1	33.0	17.9

64QAM, BW 15MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2503.5	-45.0	9.1	1.3	5.7	13.4	33.0	19.6
H	2593.0	-43.0	11.6	1.4	6.0	16.2	33.0	16.8
H	2682.5	-45.2	9.0	1.4	6.6	14.2	33.0	18.8

QPSK, BW 20MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2506.0	-42.8	11.4	1.3	5.7	15.8	33.0	17.2
H	2593.0	-41.5	13.1	1.4	6.0	17.7	33.0	15.3
H	2680.0	-43.6	10.3	1.4	6.6	15.5	33.0	17.5

16QAM, BW 20MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2506.0	-43.8	10.4	1.3	5.7	14.8	33.0	18.2
H	2593.0	-41.8	12.8	1.4	6.0	17.4	33.0	15.6
H	2680.0	-44.5	9.4	1.4	6.6	14.6	33.0	18.4

64QAM, BW 20MHz

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2506.0	-44.8	9.4	1.3	5.7	13.8	33.0	19.2
H	2593.0	-43.0	11.6	1.4	6.0	16.2	33.0	16.8
H	2680.0	-45.5	8.4	1.4	6.6	13.6	33.0	19.4

4.2 Peak to Average Ratio

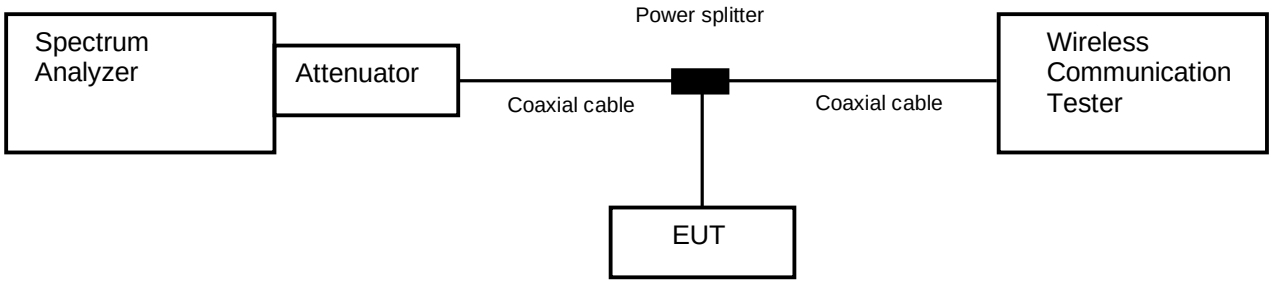
4.2.1 Measurement procedure

[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



4.2.2 Limit

13 dB or less

Japan

4.2.3 Measurement result

Date	:	10-September-2021			
Temperature	:	24.5 [˚C]			
Humidity	:	43.8 [%]	Test engineer	:	
Test place	:	Shielded room No.3			Tadahiro Seino
Date	:	14-September-2021			
Temperature	:	24.2 [˚C]			
Humidity	:	49.6 [%]	Test engineer	:	
Test place	:	Shielded room No.3			Tadahiro Seino
Date	:	21-September-2021			
Temperature	:	24.9 [˚C]			
Humidity	:	42.8 [%]	Test engineer	:	
Test place	:	Shielded room No.3			Taiki Watanabe
Date	:	22-September-2021			
Temperature	:	26.3 [˚C]			
Humidity	:	50.4 [%]	Test engineer	:	
Test place	:	Shielded room No.3			Taiki Watanabe

Band	Channel	Frequency [MHz]	Peak to Average Power Ratio [dB]	Limit [dB]
WCDMA Band IV	1312	1712.4	3.29	13.0
	1413	1732.6	3.35	
	1513	1752.6	3.39	

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	4.58	13.0
				3	15-0	4.70	
				5	25-0	4.72	
				10	50-0	4.58	
				15	75-0	5.78	
				20	100-0	6.39	
			16QAM	1.4	6-0	5.55	
				3	15-0	5.60	
				5	25-0	5.65	
				10	50-0	6.03	
				15	75-0	6.75	
				20	100-0	7.14	
			64QAM	1.4	6-0	6.64	
				3	15-0	6.75	
				5	25-0	6.53	
				10	50-0	6.45	
				15	75-0	7.05	
				20	100-0	7.17	

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	4.59	13.0
				3	15-0	5.18	
				5	25-0	4.84	
				10	50-0	4.50	
			16QAM	1.4	6-0	5.64	
				3	15-0	5.66	
				5	25-0	5.72	
				10	50-0	6.01	
			64QAM	1.4	6-0	6.78	
				3	15-0	6.69	
				5	25-0	6.55	
				10	50-0	6.39	

Band	Channel	Frequency [MHz]	Modulation	Bandwidth [MHz]	RB	Peak to Average Power Ratio [dB]	Limit [dB]
LTE Band X VII	23790	710	QPSK	5	25-0	5.26	13.0
				10	50-0	4.58	
			16QAM	5	25-0	6.00	
				10	50-0	6.12	
			64QAM	5	25-0	6.51	
				10	50-0	6.42	

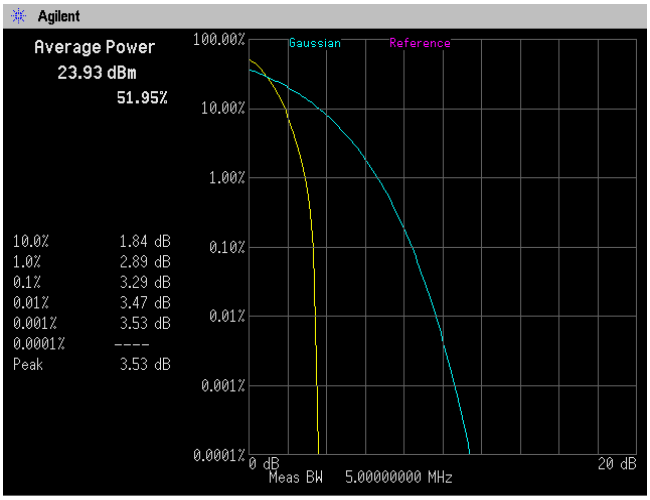
Band	Channel	Frequency [MHz]	Modulation	Bandwidth [MHz]	RB	Peak to Average Power Ratio [dB]	Limit [dB]
LTE Band XL I	40620	2593	QPSK	5	25-0	8.06	13.0
				10	50-0	8.67	
				15	75-0	8.79	
				20	100-0	9.71	
			16QAM	5	25-0	8.57	
				10	50-0	8.70	
				15	75-0	9.21	
				20	100-0	10.73	
			64QAM	5	25-0	8.73	
				10	50-0	8.78	
				15	75-0	9.37	
				20	100-0	10.77	

Japan

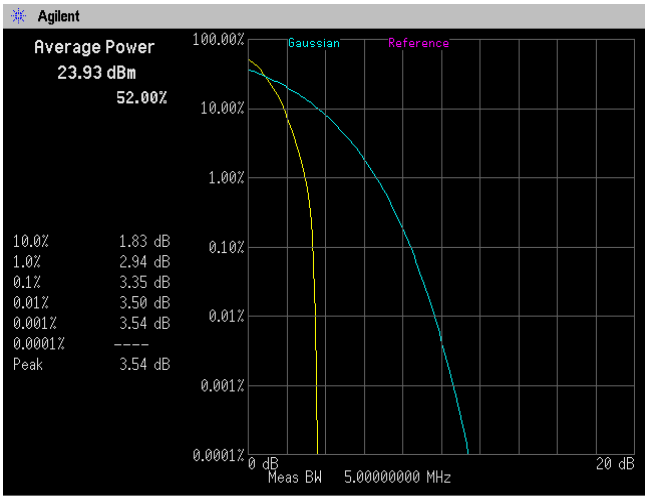
4.2.4 Trace data

[WCDMA Band IV]

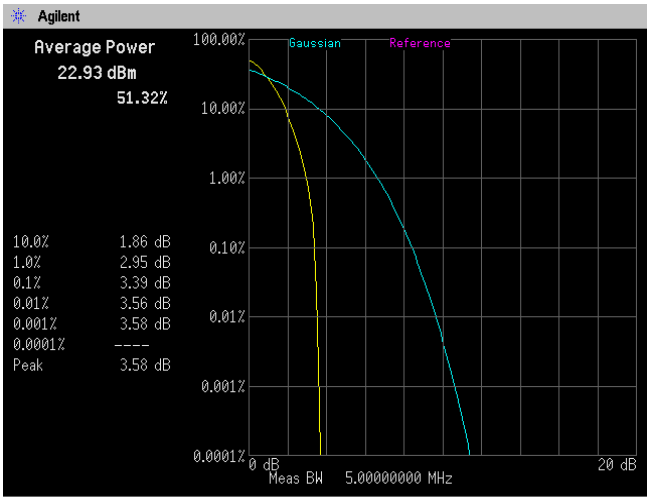
Channel: 1312



Channel: 1413



Channel: 1513

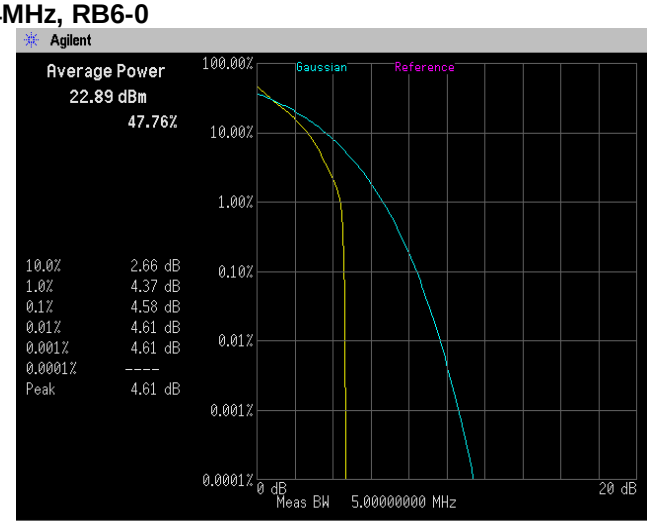


Japan

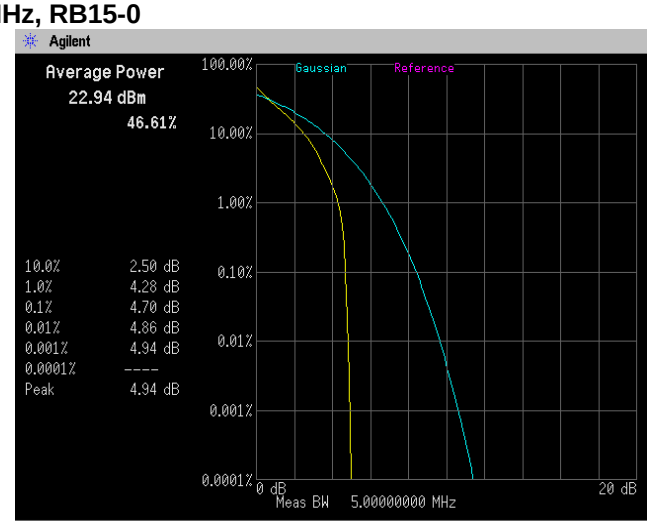
[LTE Band IV]

Channel: 20175

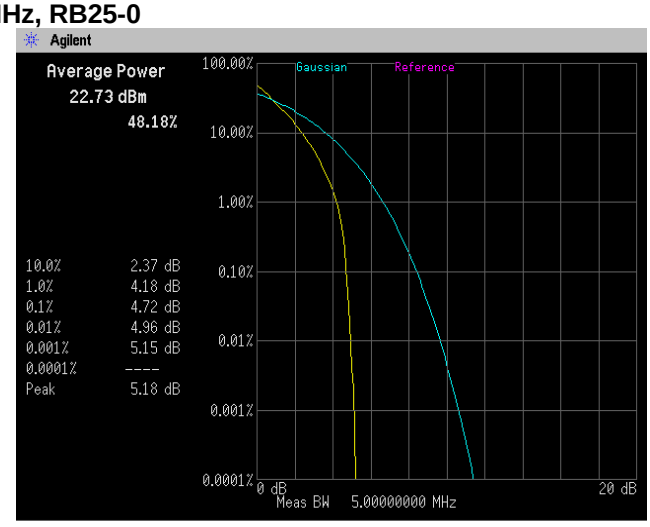
QPSK, BW 1.4MHz, RB6-0



QPSK, BW 3MHz, RB15-0

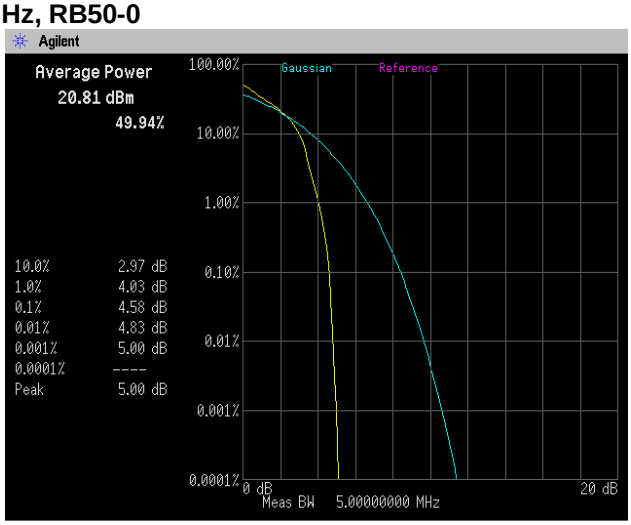


QPSK, BW 5MHz, RB25-0

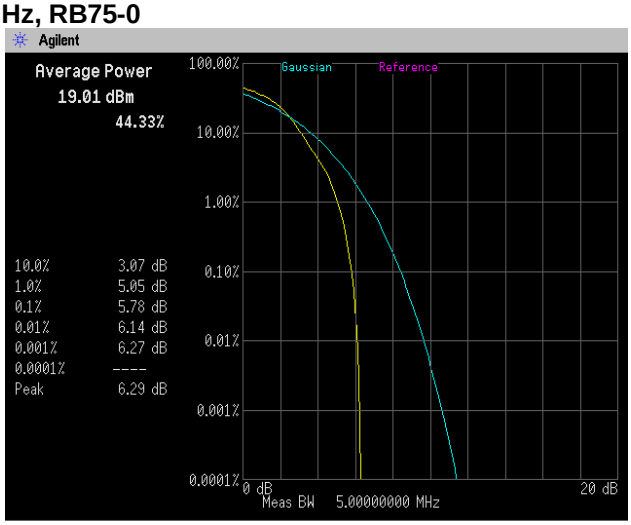


Japan

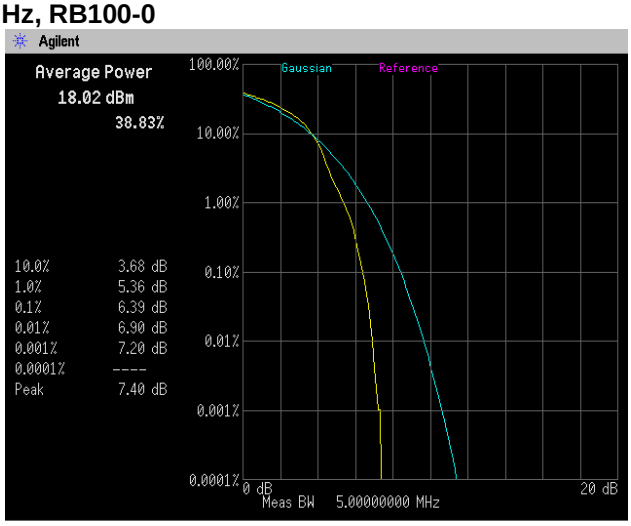
Channel: 20175
QPSK, BW 10MHz, RB50-0



QPSK, BW 15MHz, RB75-0

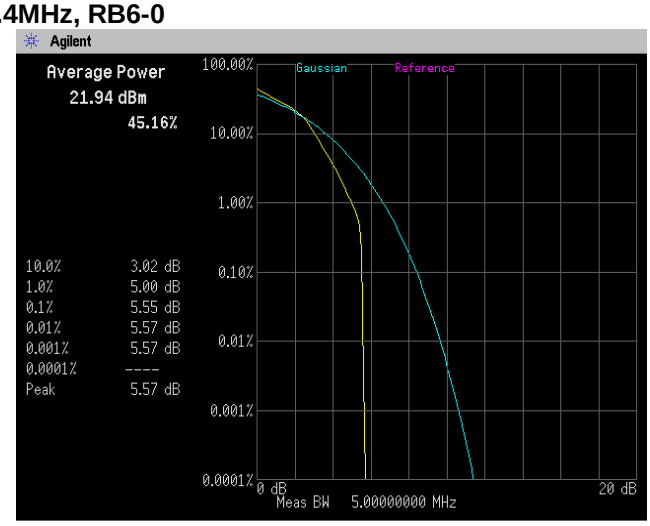


QPSK, BW 20MHz, RB100-0

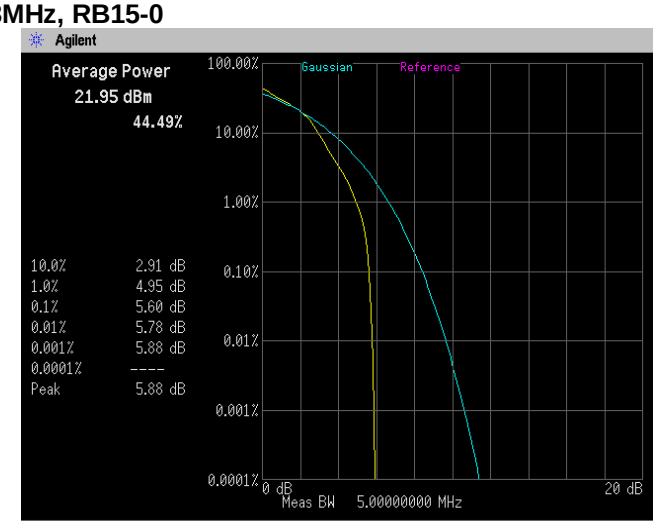


Japan

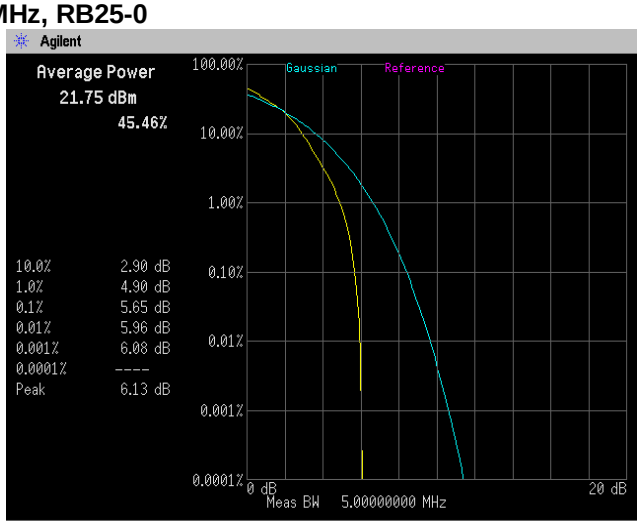
Channel: 20175
16QAM, BW 1.4MHz, RB6-0



16QAM, BW 3MHz, RB15-0

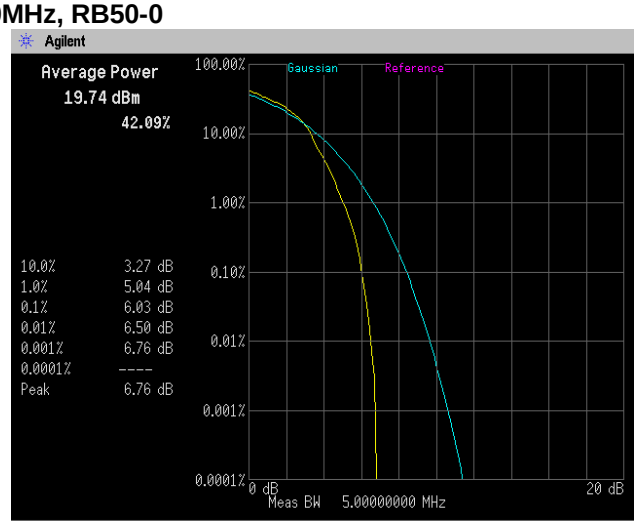


16QAM, BW 5MHz, RB25-0

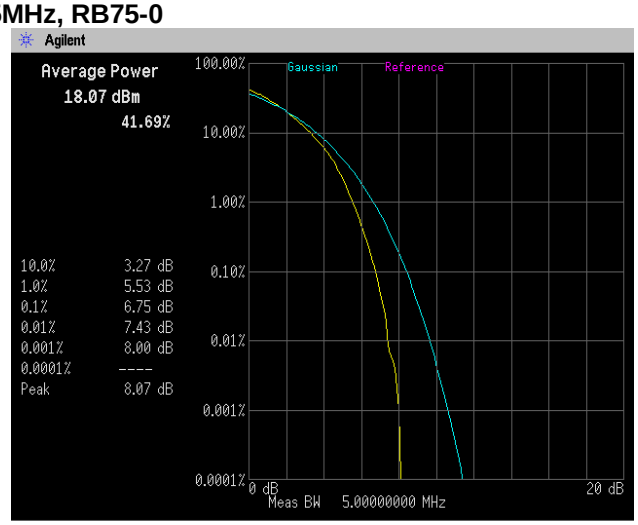


Japan

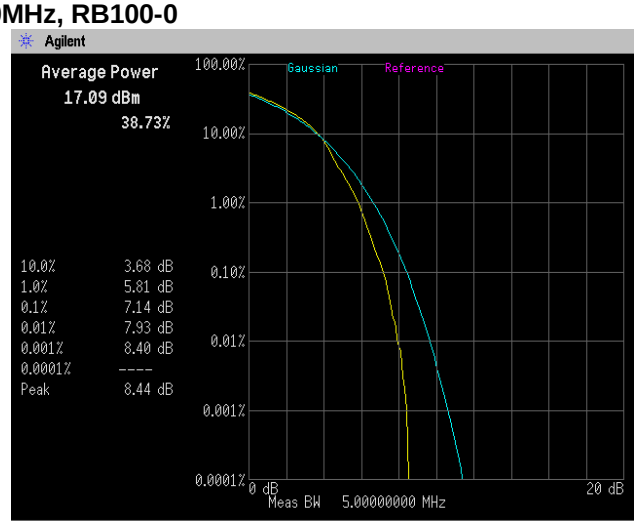
Channel: 20175
16QAM, BW 10MHz, RB50-0



16QAM, BW 15MHz, RB75-0

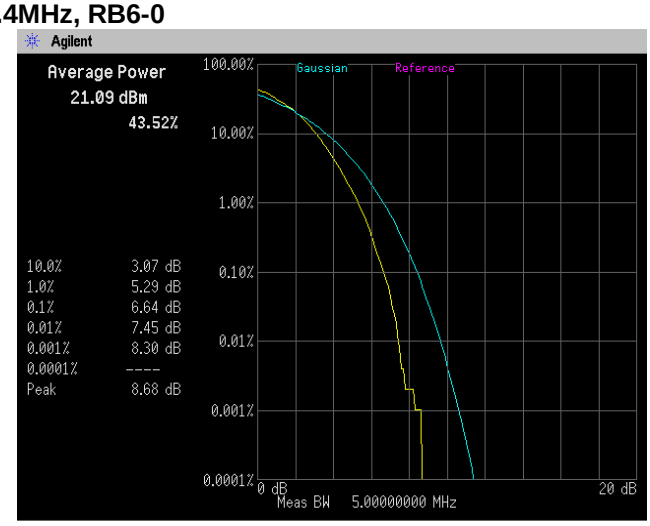


16QAM, BW 20MHz, RB100-0

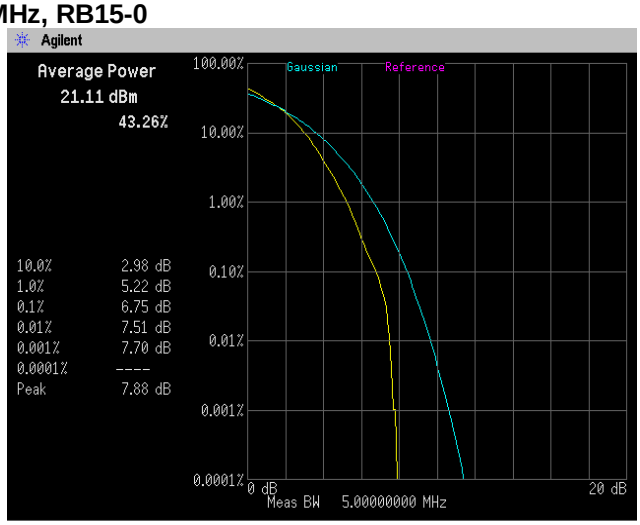


Japan

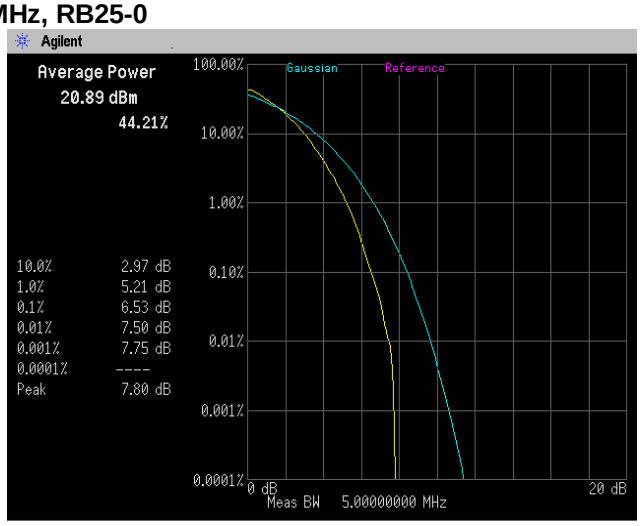
Channel: 20175
64QAM, BW 1.4MHz, RB6-0



64QAM, BW 3MHz, RB15-0

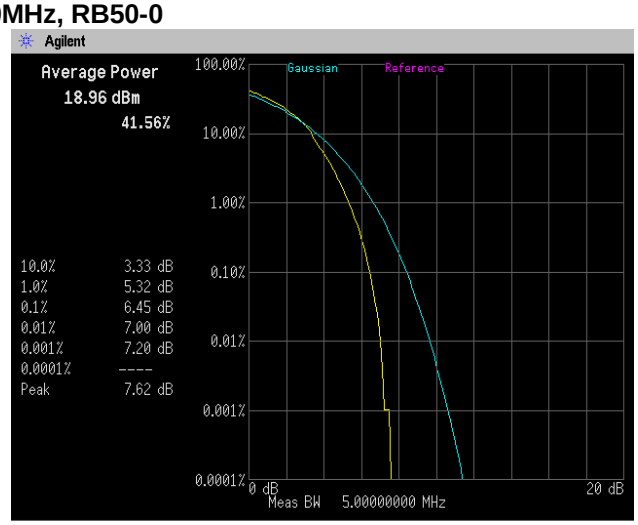


64QAM, BW 5MHz, RB25-0

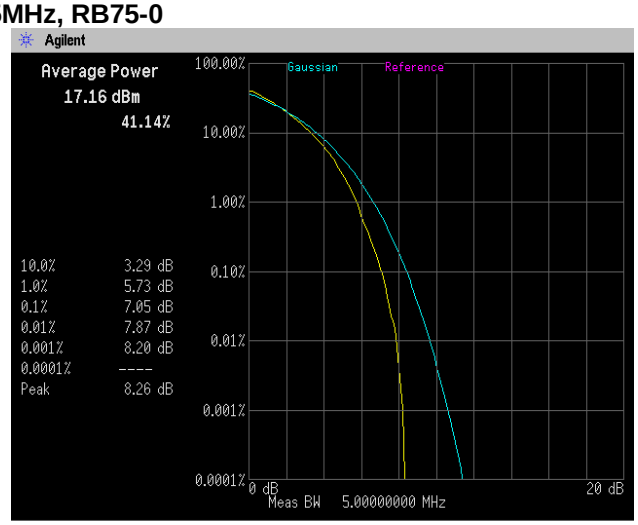


Japan

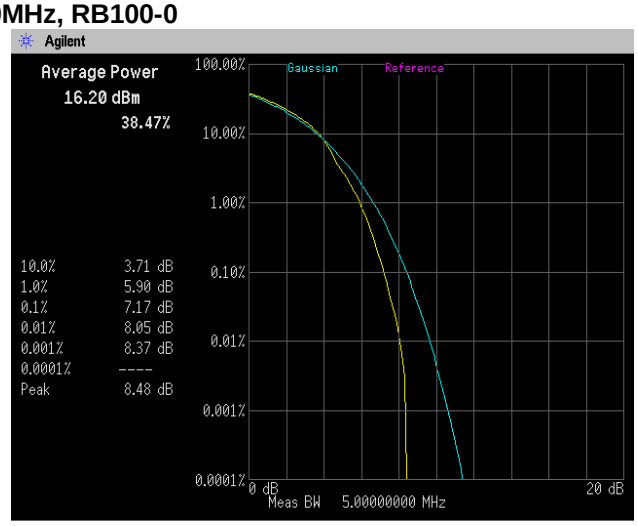
Channel: 20175
64QAM, BW 10MHz, RB50-0



64QAM, BW 15MHz, RB75-0



64QAM, BW 20MHz, RB100-0

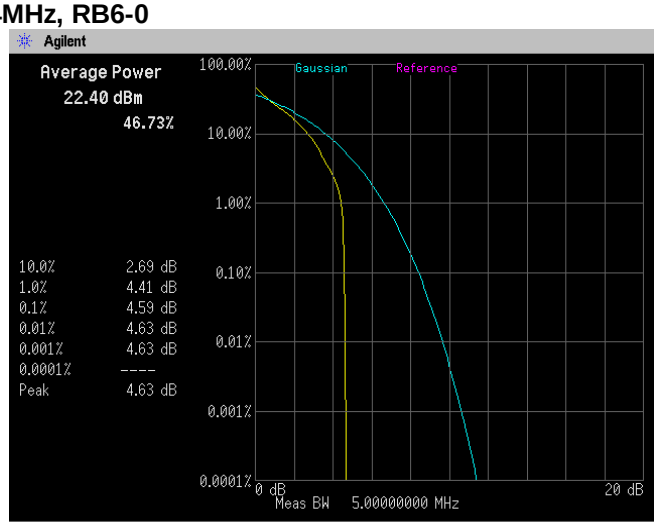


Japan

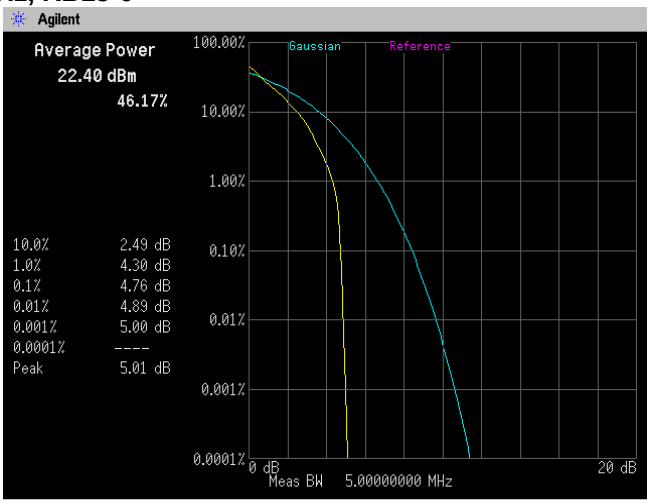
[LTE Band XII]

Channel: 23095

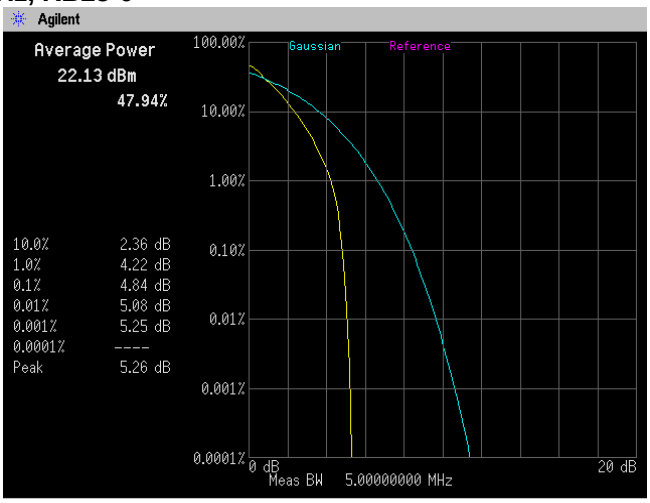
QPSK, BW 1.4MHz, RB6-0



QPSK, BW 3MHz, RB15-0

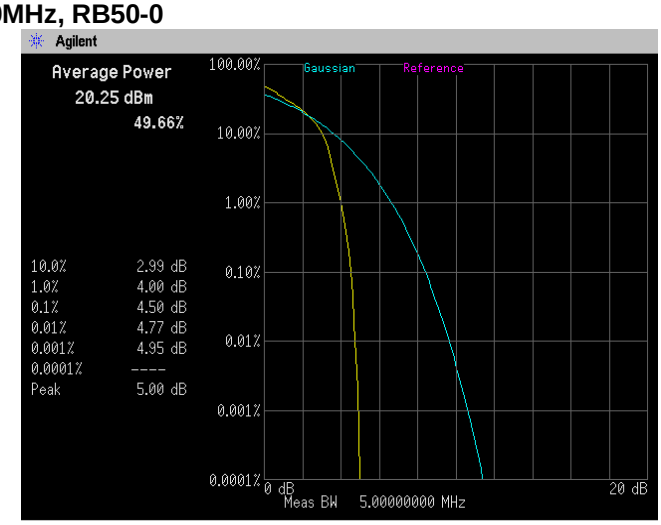


QPSK, BW 5MHz, RB25-0

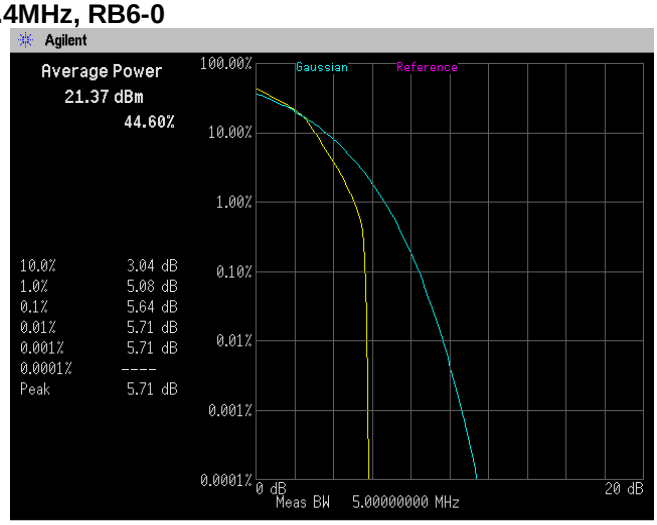


Japan

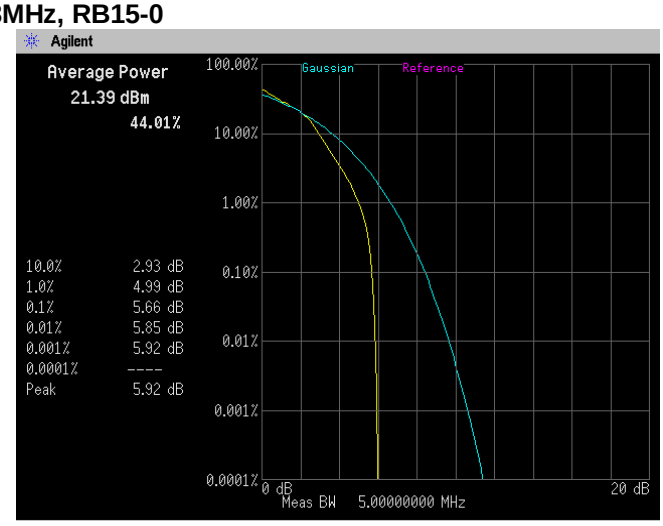
Channel: 23095
QPSK, BW 10MHz, RB50-0



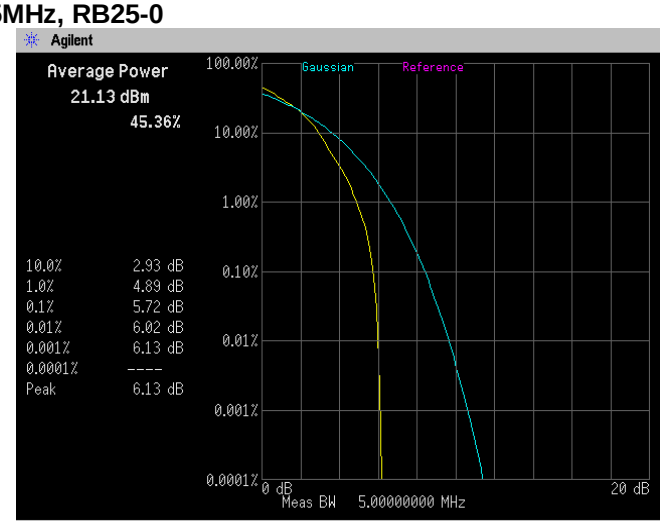
16QAM, BW 1.4MHz, RB6-0



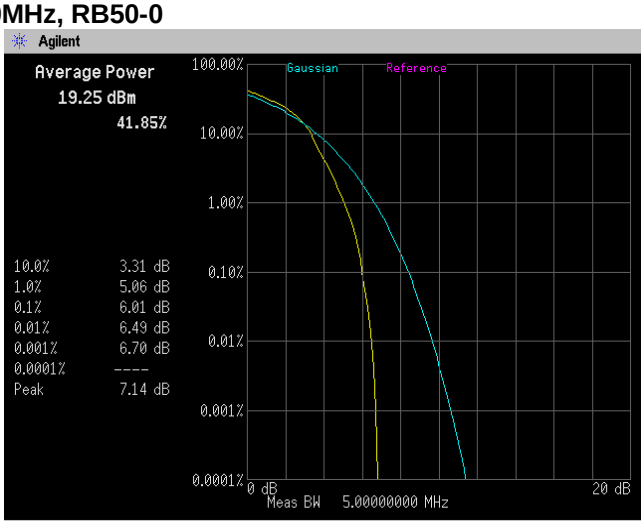
16QAM, BW 3MHz, RB15-0



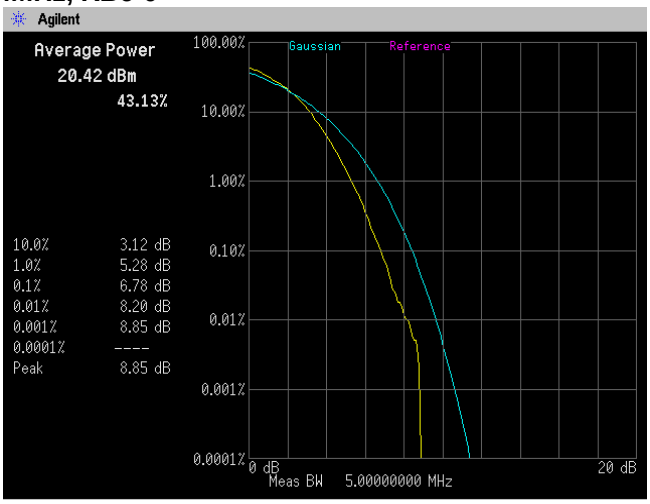
Channel: 23095
16QAM, BW 5MHz, RB25-0



16QAM, BW 10MHz, RB50-0

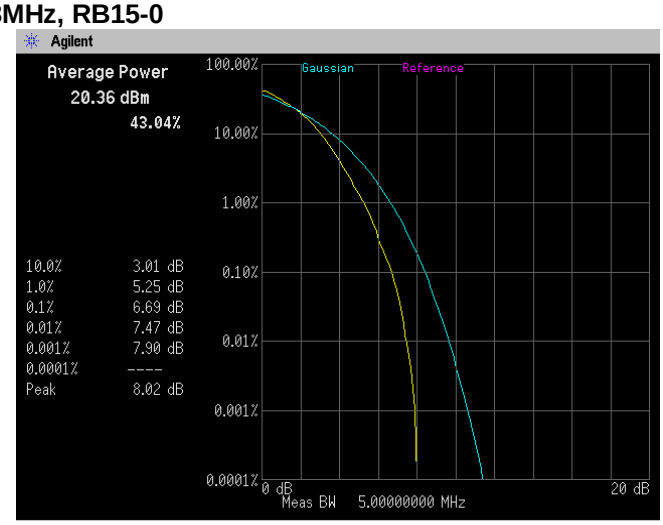


64QAM, BW 1.4MHz, RB6-0

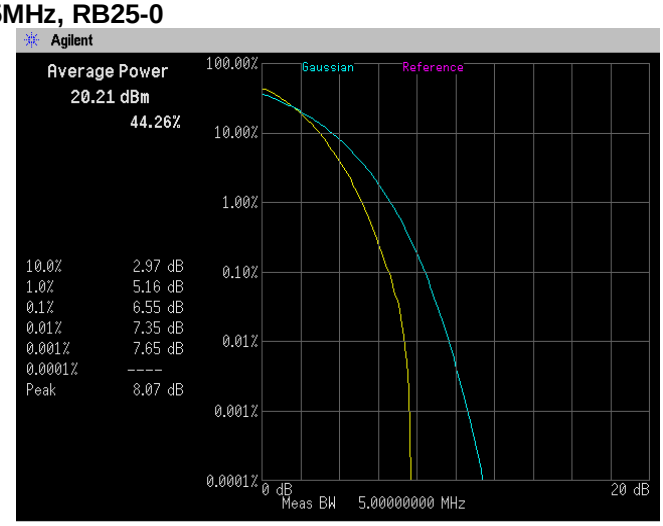


Japan

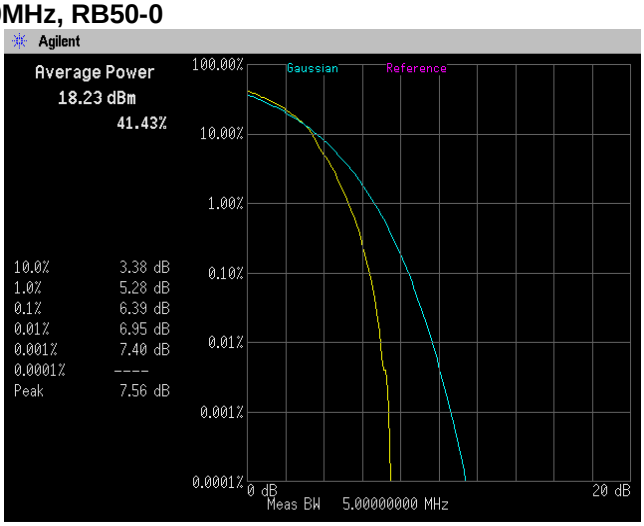
Channel: 23095
64QAM, BW 3MHz, RB15-0



64QAM, BW 5MHz, RB25-0



64QAM, BW 10MHz, RB50-0

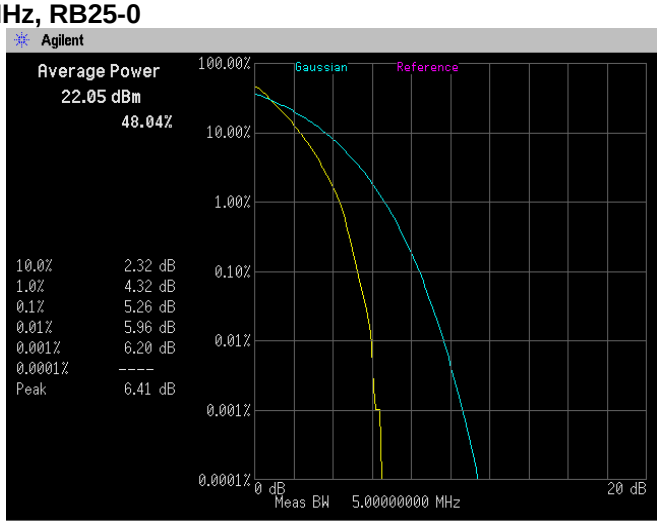


Japan

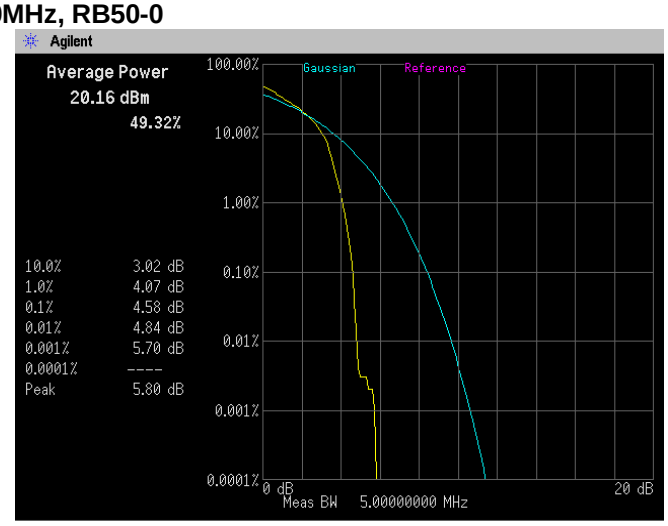
[LTE Band X VII]

Channel: 23790

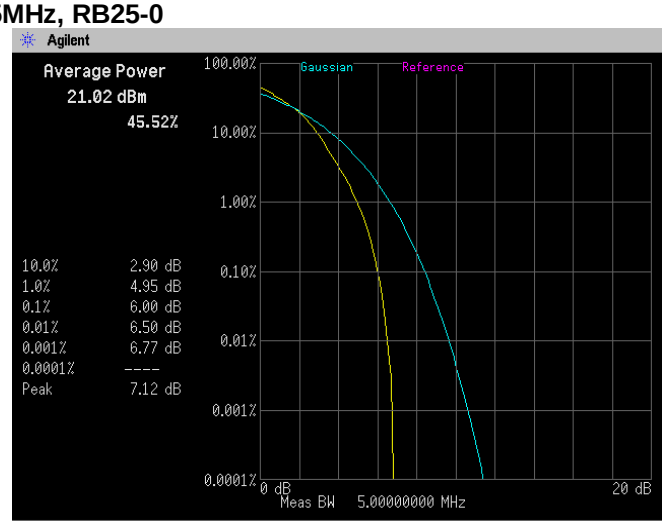
QPSK, BW 5MHz, RB25-0



QPSK, BW 10MHz, RB50-0

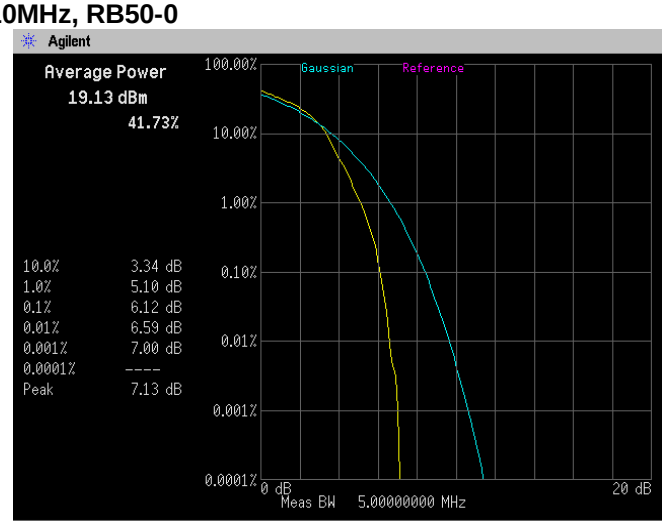


16QAM, BW 5MHz, RB25-0

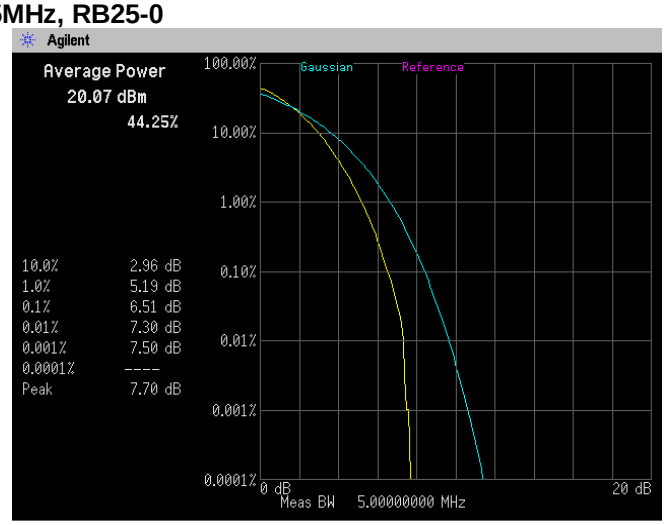


Japan

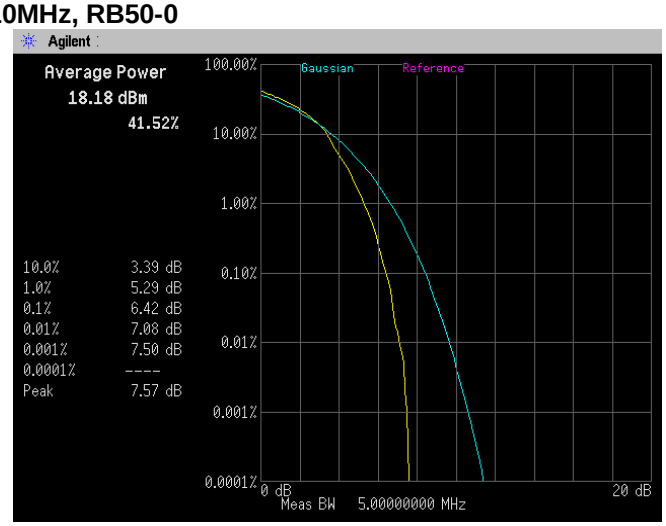
Channel: 23790
16QAM, BW 10MHz, RB50-0



64QAM, BW 5MHz, RB25-0



64QAM, BW 10MHz, RB50-0



Japan

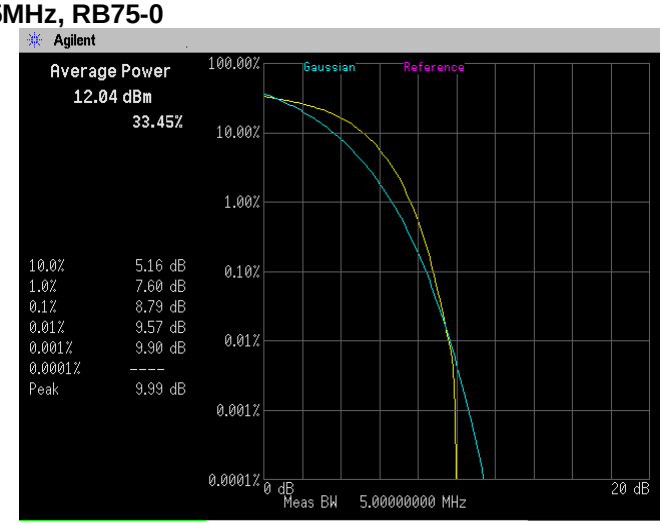
[LTE Band XL I]

Channel: 40620

QPSK, BW 5MHz, RB25-0

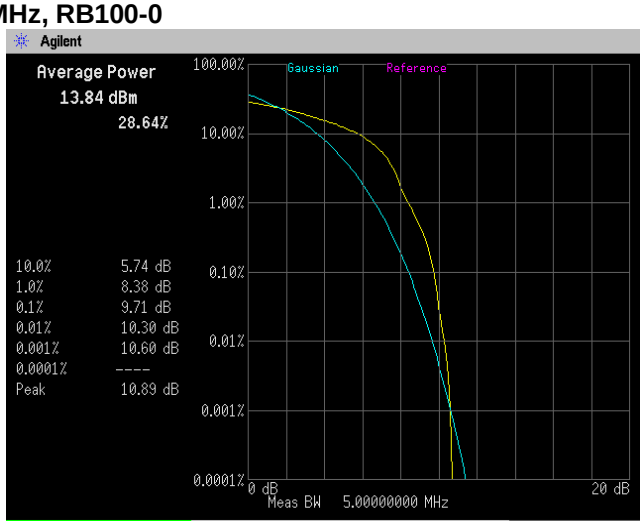
QPSK, BW 10MHz, RB50-0

QPSK, BW 15MHz, RB75-0

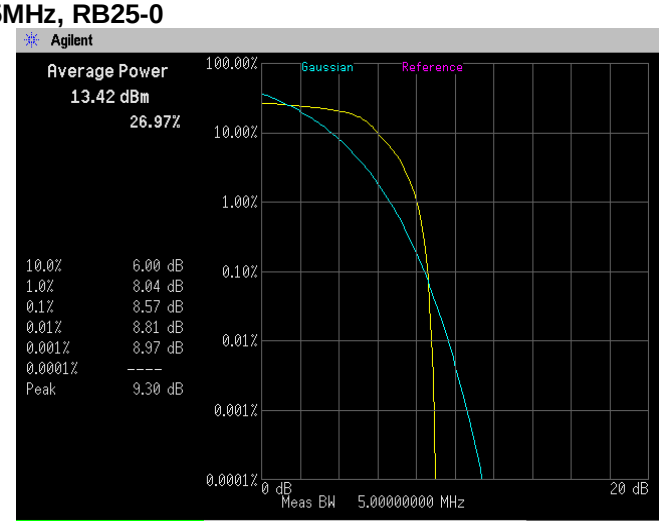


Japan

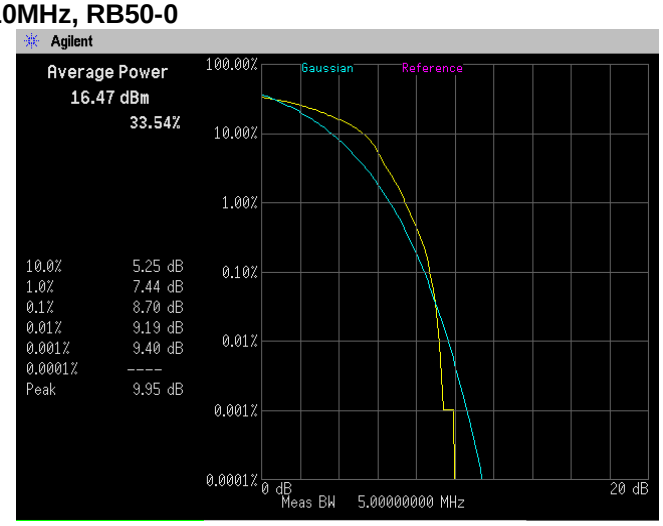
Channel: 40620
QPSK, BW 20MHz, RB100-0



16QAM, BW 5MHz, RB25-0

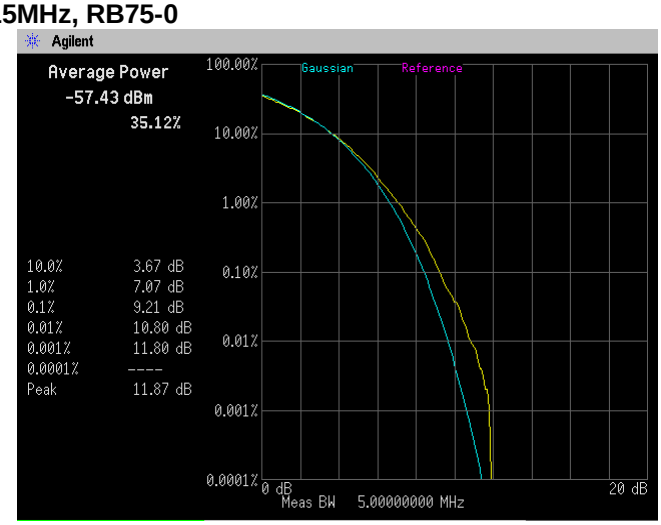


16QAM, BW 10MHz, RB50-0

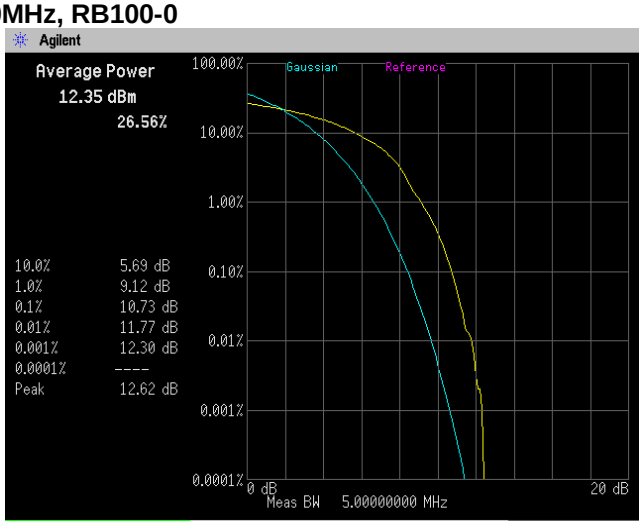


Japan

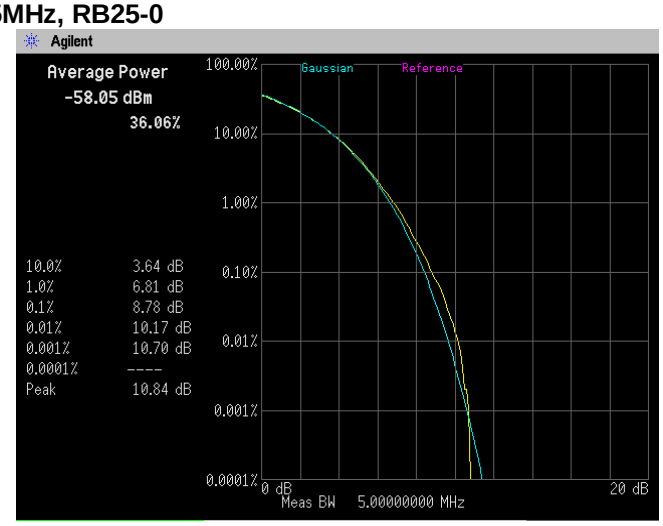
Channel: 40620
16QAM, BW 15MHz, RB75-0



16QAM, BW 20MHz, RB100-0

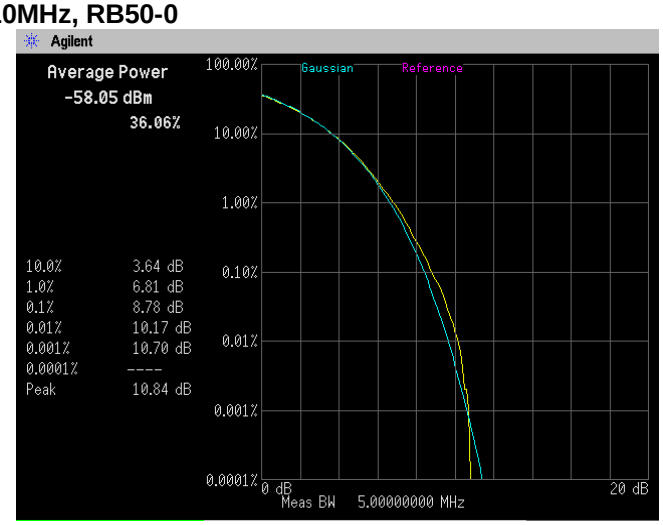


64QAM, BW 5MHz, RB25-0

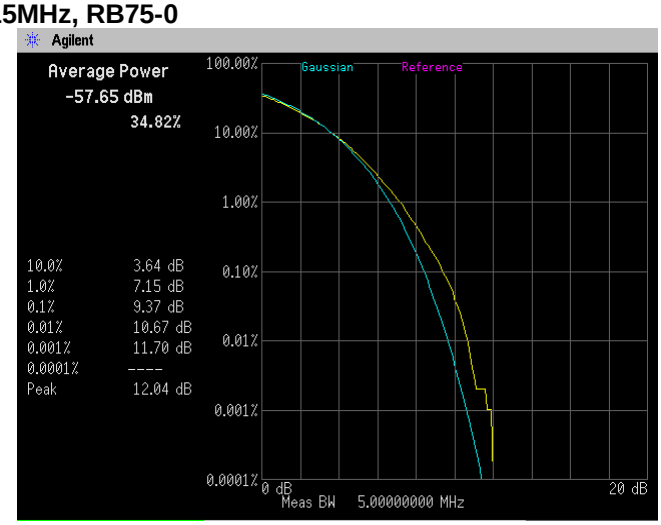


Japan

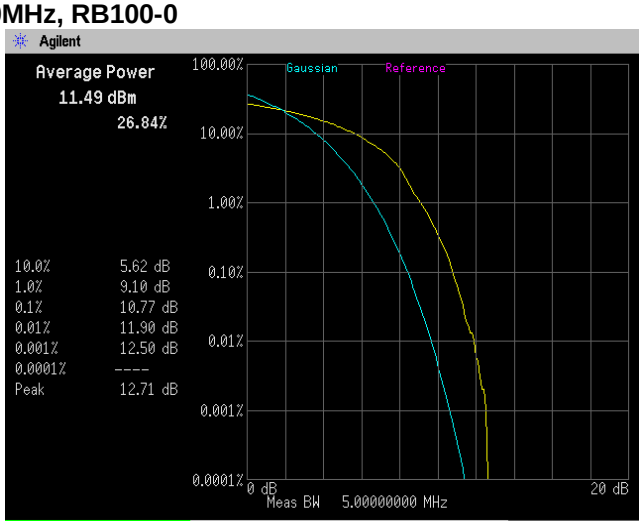
Channel: 40620
64QAM, BW 10MHz, RB50-0



64QAM, BW 15MHz, RB75-0



64QAM, BW 20MHz, RB100-0



Japan

4.3 Occupied Bandwidth

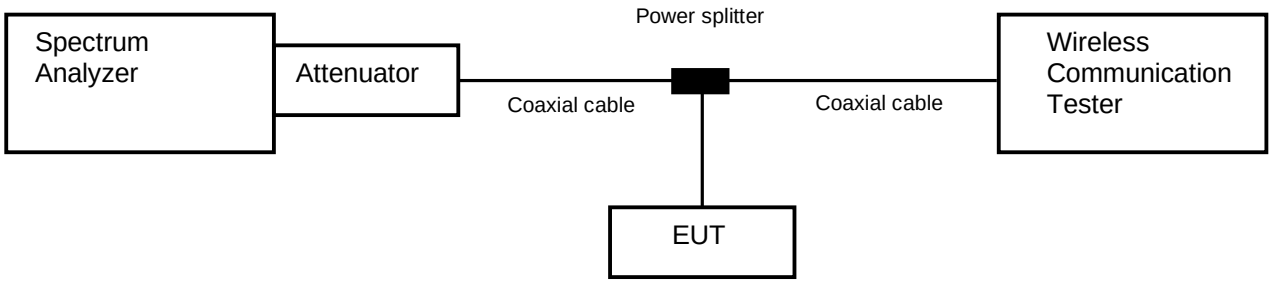
4.3.1 Measurement procedure

[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



4.3.2 Limit

None

4.3.3 Measurement result

Date	:	10-September-2021			
Temperature	:	24.5 [˚C]			
Humidity	:	43.8 [%]	Test engineer	:	
Test place	:	Shielded room No.3			Tadahiro Seino

Date	:	14-September-2021			
Temperature	:	24.2 [˚C]			
Humidity	:	49.6 [%]	Test engineer	:	
Test place	:	Shielded room No.3			Tadahiro Seino

Date	:	21-September-2021			
Temperature	:	24.9 [˚C]			
Humidity	:	42.8 [%]	Test engineer	:	
Test place	:	Shielded room No.3			Taiki Watanabe

Date	:	22-September-2021			
Temperature	:	26.3 [˚C]			
Humidity	:	50.4 [%]	Test engineer	:	
Test place	:	Shielded room No.3			Taiki Watanabe

Band	Channel	Frequency [MHz]	Test Result [MHz]
WCDMA Band IV	1312	1712.4	4.1438
	1413	1732.6	4.1468
	1513	1752.6	4.1389

Band	Channel	Frequency [MHz]	Bandwidth [MHz]	Modulation	RB	Test Result [MHz]
LTE Band IV	20175	1732.5	1.4	QPSK	3-1	0.6070
					6-0	1.0944
				16QAM	3-1	0.6180
					6-0	1.0983
				64QAM	3-1	0.6031
					6-0	1.0904
			3	QPSK	8-4	1.5612
					15-0	2.7043
				16QAM	8-4	1.5551
					15-0	2.7102
				64QAM	8-4	1.5312
					15-0	2.7134
			5	QPSK	12-7	2.3685
					25-0	4.5446
				16QAM	12-7	2.2955
					25-0	4.5168
				64QAM	12-7	2.2851
					25-0	4.5308
			10	QPSK	25-12	4.6523
					50-0	8.9748
				16QAM	25-12	4.6746
					50-0	8.9940
				64QAM	25-12	4.6639
					50-0	8.9601
			15	QPSK	36-20	6.8294
					75-0	13.4361
				16QAM	36-20	6.7969
					75-0	13.4440
				64QAM	36-20	6.7947
					75-0	13.4625
			20	QPSK	50-24	9.2084
					100-0	17.9124
				16QAM	50-24	9.2520
					100-0	17.8827
				64QAM	50-24	9.2306
					100-0	17.8690

Band	Channel	Frequency [MHz]	Bandwidth [MHz]	Modulation	RB	Test Result [MHz]
LTE Band XII	23095	707.5	1.4	QPSK	3-1	0.6108
					6-0	1.0941
				16QAM	3-1	0.6173
					6-0	1.1012
				64QAM	3-1	0.6033
					6-0	1.0907
			3	QPSK	8-4	1.5579
					15-0	2.7076
				16QAM	8-4	1.5431
					15-0	2.7138
				64QAM	8-4	1.5572
					15-0	2.7109
			5	QPSK	12-7	2.3681
					25-0	4.5409
				16QAM	12-7	2.3096
					25-0	4.5093
				64QAM	12-7	2.2958
					25-0	4.5303
			10	QPSK	25-12	4.6771
					50-0	8.9667
				16QAM	25-12	4.6707
					50-0	8.9872
				64QAM	25-12	4.6628
					50-0	8.9815

Band	Channel	Frequency [MHz]	Bandwidth [MHz]	Modulation	RB	Test Result [MHz]
LTE Band X VII	23790	710	5	QPSK	12-7	2.3697
					25-0	4.5187
				16QAM	12-7	2.3270
					25-0	4.4981
				64QAM	12-7	2.3068
					25-0	4.5066
			10	QPSK	25-12	4.6523
					50-0	8.9751
				16QAM	25-12	4.6745
					50-0	8.9723
				64QAM	25-12	4.6688
					50-0	8.9570

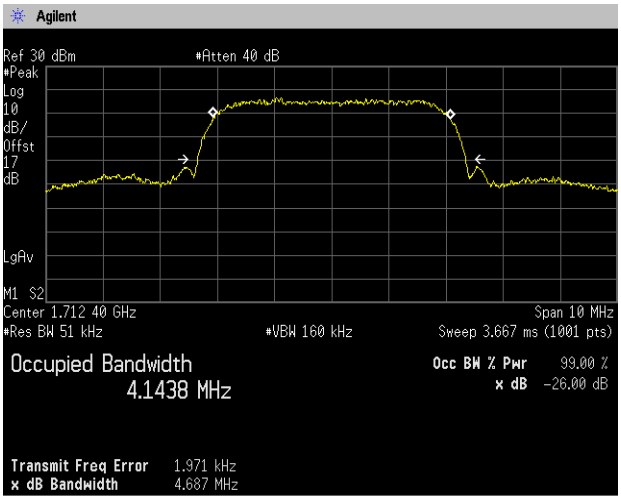
Band	Channel	Frequency [MHz]	Bandwidth [MHz]	Modulation	RB	Test Result [MHz]
LTE Band XLI	40620	2593	5	QPSK	12-7	2.3462
					25-0	4.5029
				16QAM	12-7	2.3193
					25-0	4.5111
				64QAM	12-7	2.2730
					25-0	4.5150
			10	QPSK	25-12	4.6782
					50-0	8.9875
				16QAM	25-12	4.7986
					50-0	8.9643
				64QAM	25-12	4.6885
					50-0	8.9685
			15	QPSK	36-20	6.8522
					75-0	13.4419
				16QAM	36-20	6.7996
					75-0	13.5137
				64QAM	36-20	6.7801
					75-0	13.4944
			20	QPSK	50-24	9.2963
					100-0	17.9523
				16QAM	50-24	9.2485
					100-0	17.9196
				64QAM	50-24	9.2131
					100-0	17.8760

Japan

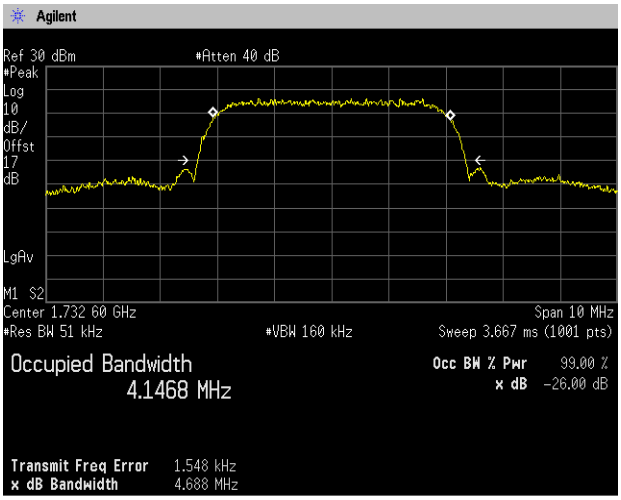
4.3.4 Trace data

[WCDMA Band IV]

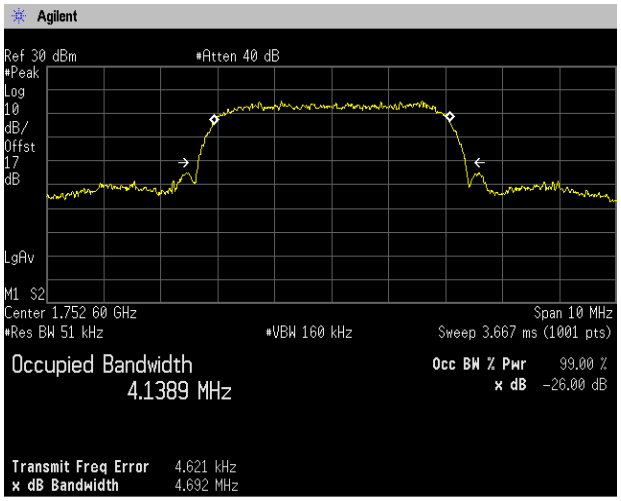
Channel: 1312



Channel: 1413



Channel: 1513

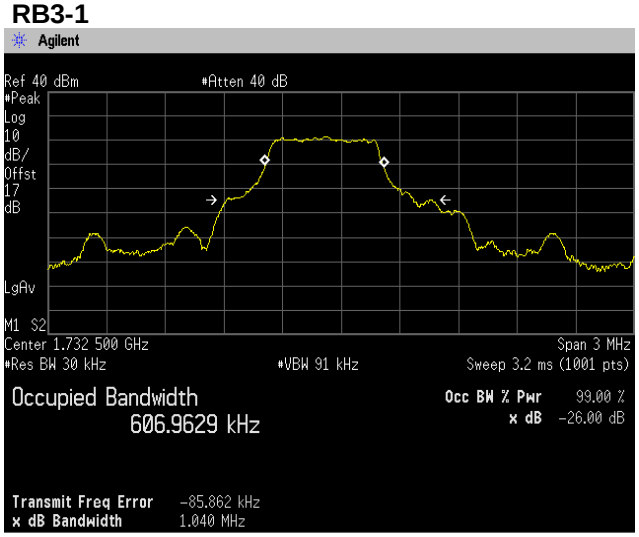


Japan

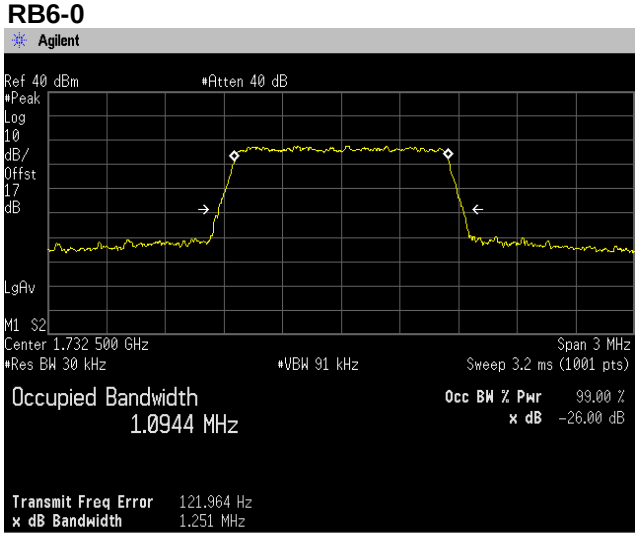
[LTE Band IV]
Channel: 20175

QPSK, BW 1.4MHz

RB3-1

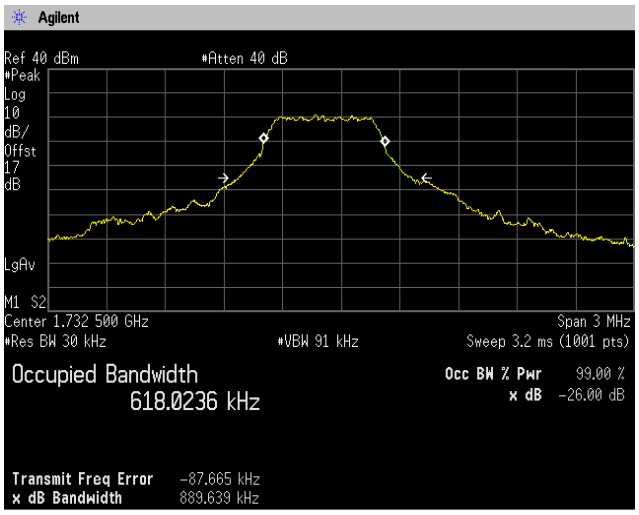


RB6-0

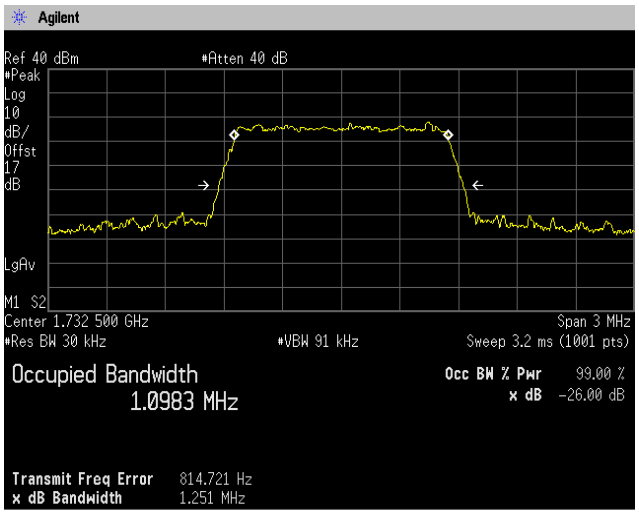


16QAM, BW 1.4MHz

RB3-1

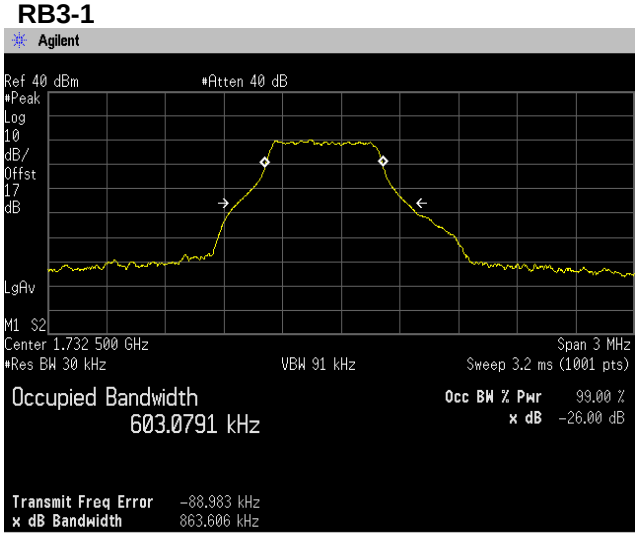


RB6-0

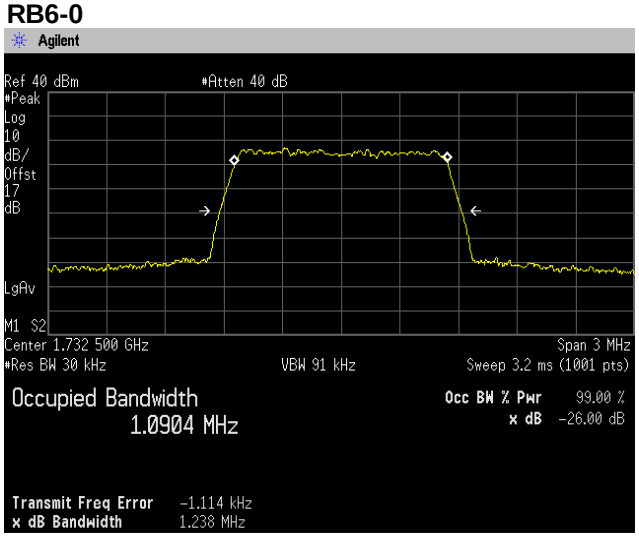


64QAM, BW 1.4MHz

RB3-1

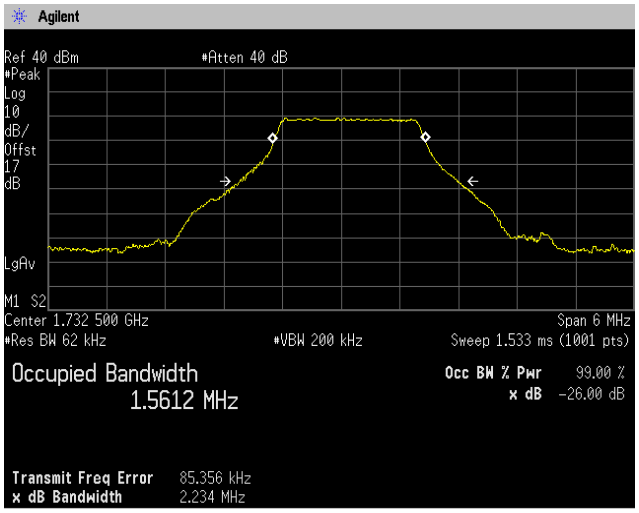


RB6-0

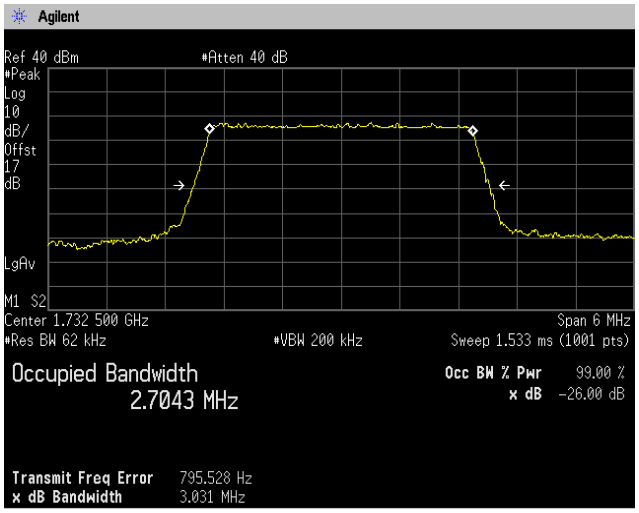


QPSK, BW 3MHz

RB8-4

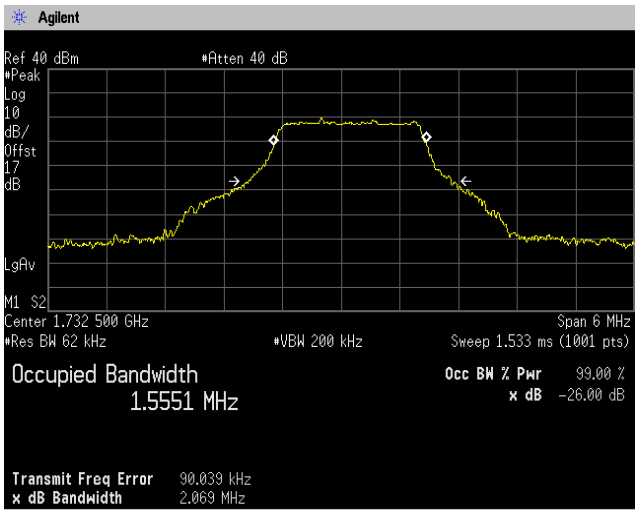


RB15-0

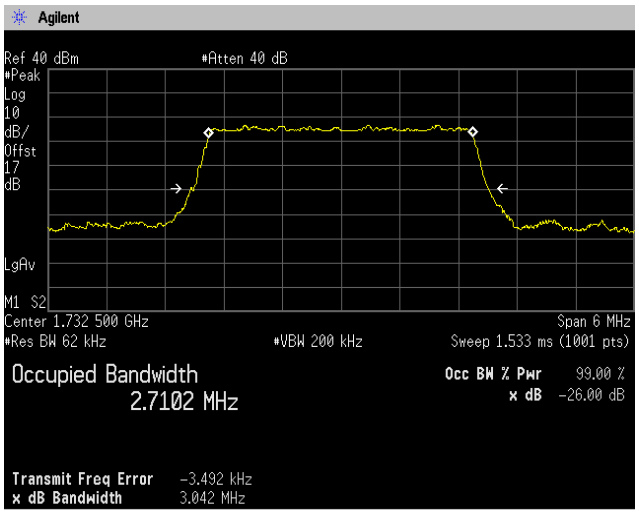


16QAM, BW 3MHz

RB8-4

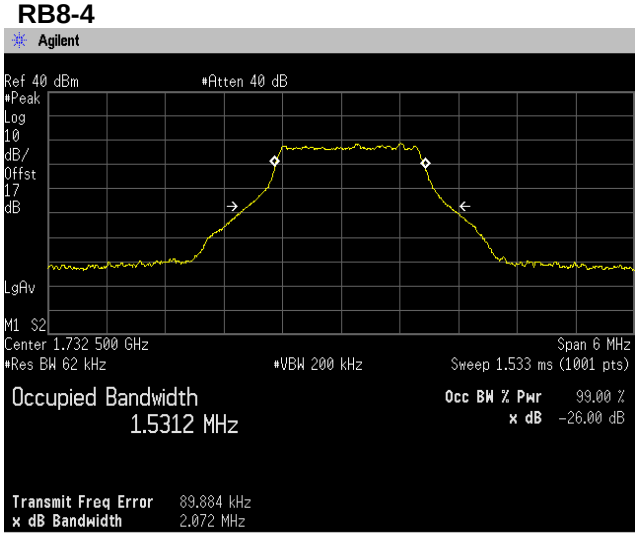


RB15-0

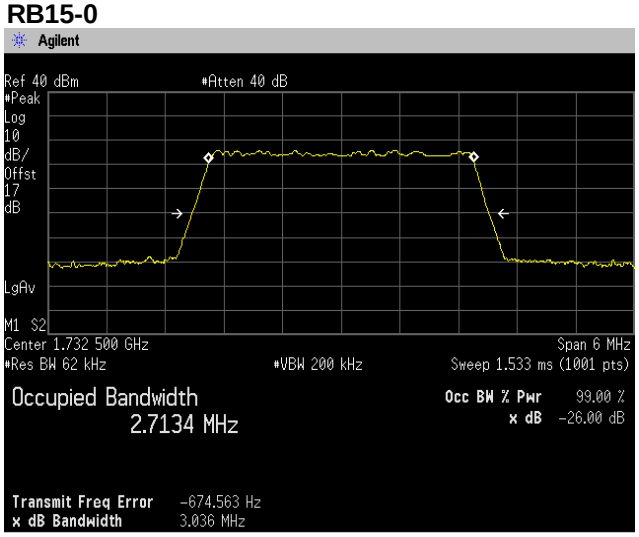


64QAM, BW 3MHz

RB8-4

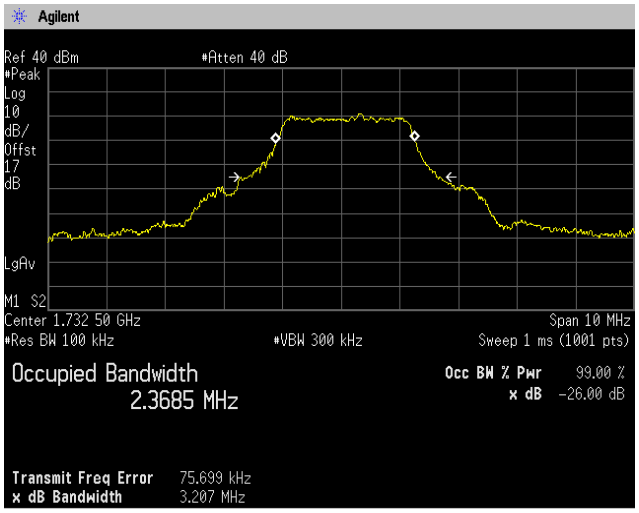


RB15-0

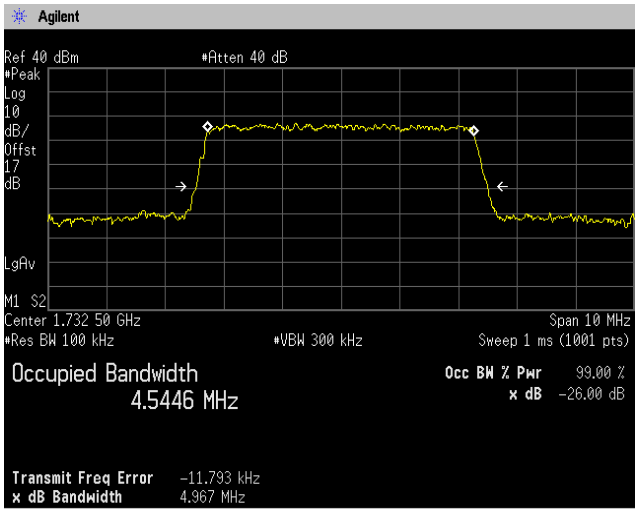


QPSK, BW 5MHz

RB12-7

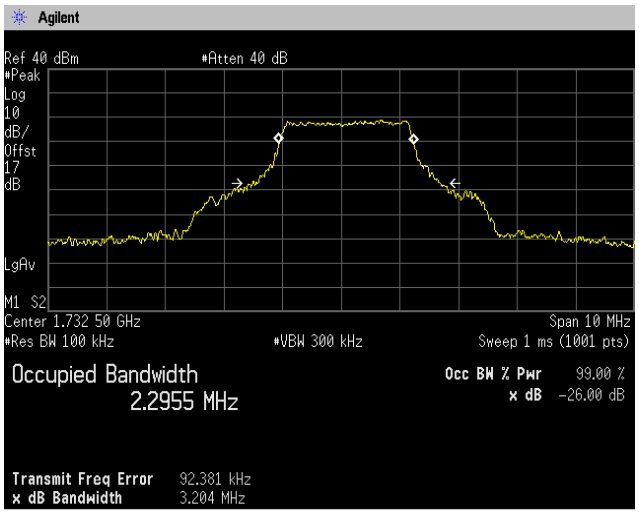


RB25-0

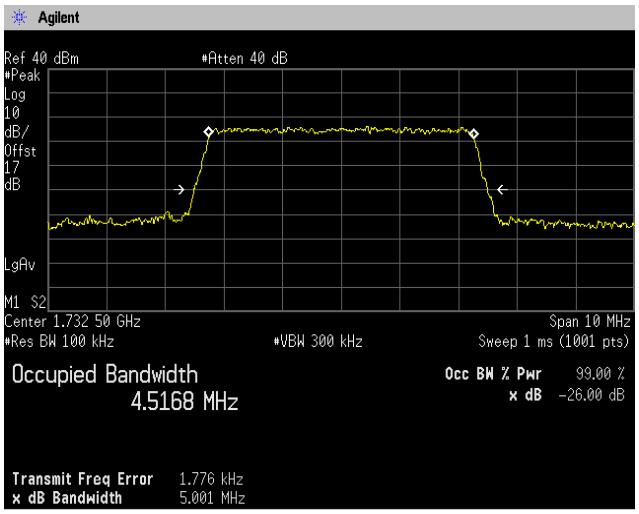


16QAM, BW 5MHz

RB12-7

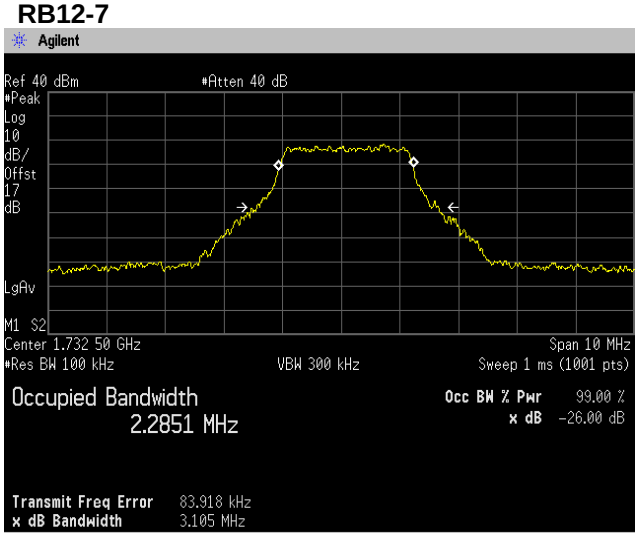


RB25-0

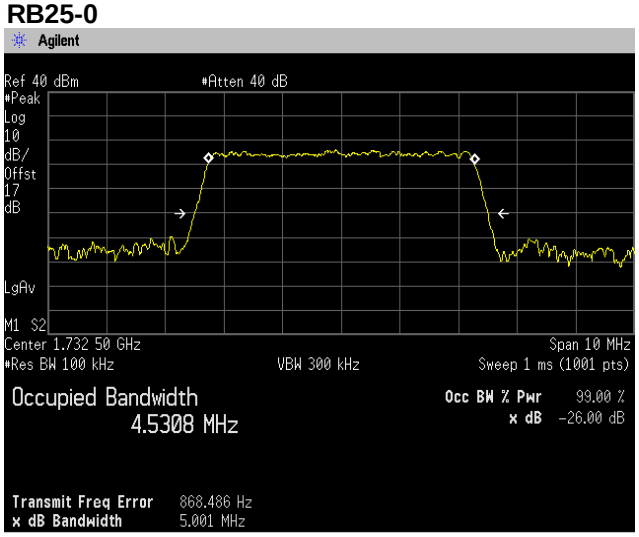


64QAM, BW 5MHz

RB12-7

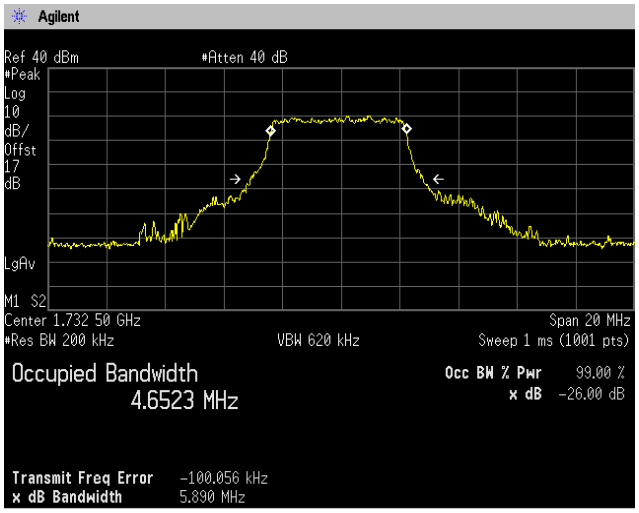


RB25-0

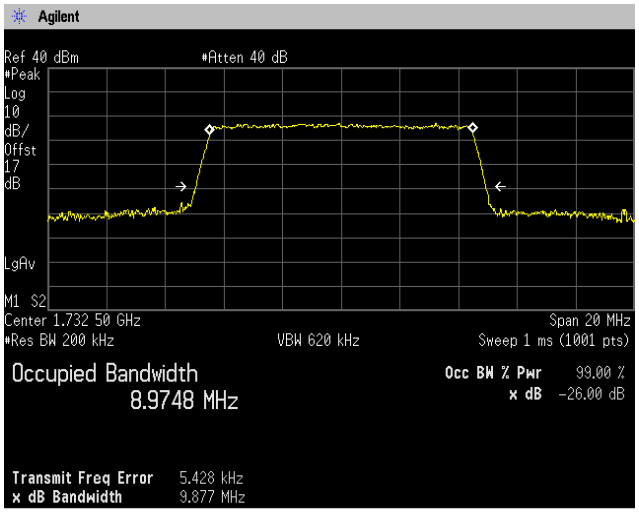


QPSK, BW 10MHz

RB25-12

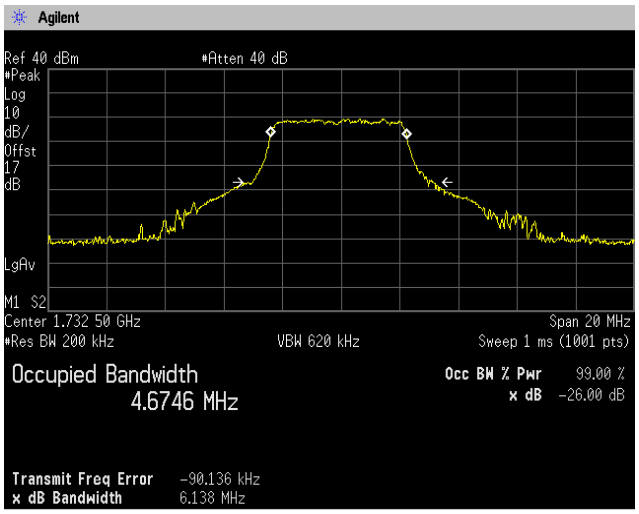


RB50-0

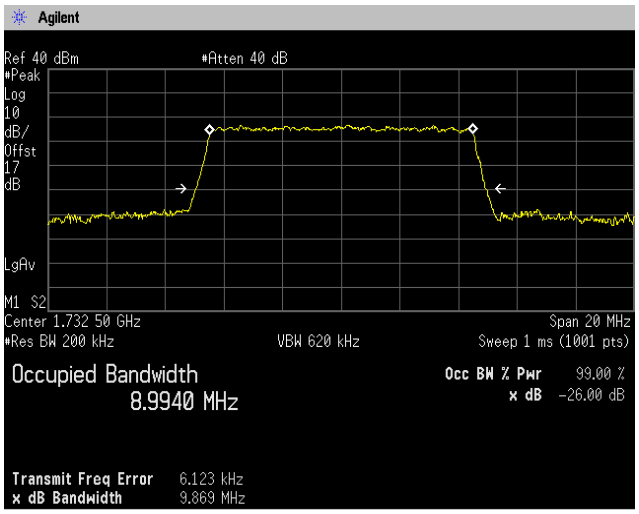


16QAM, BW 10MHz

RB25-12

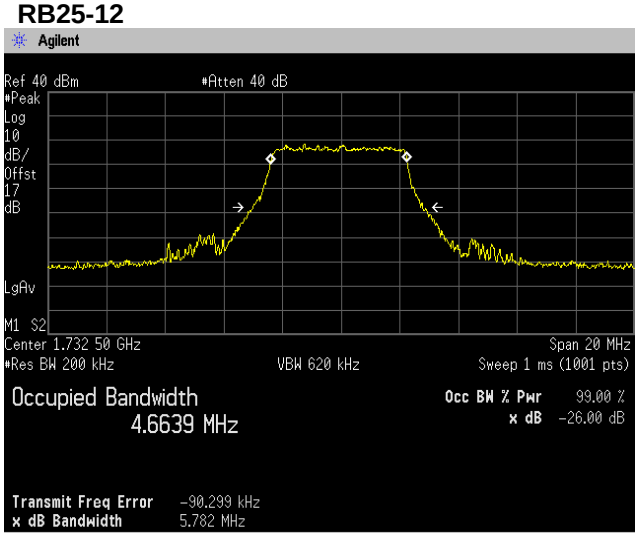


RB50-0

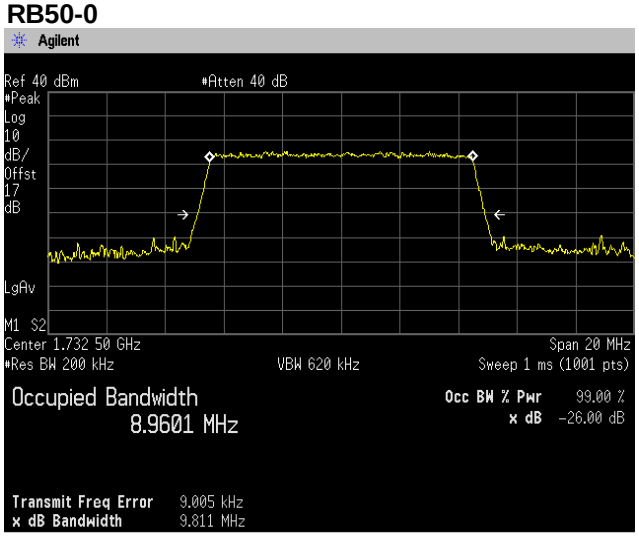


64QAM, BW 10MHz

RB25-12

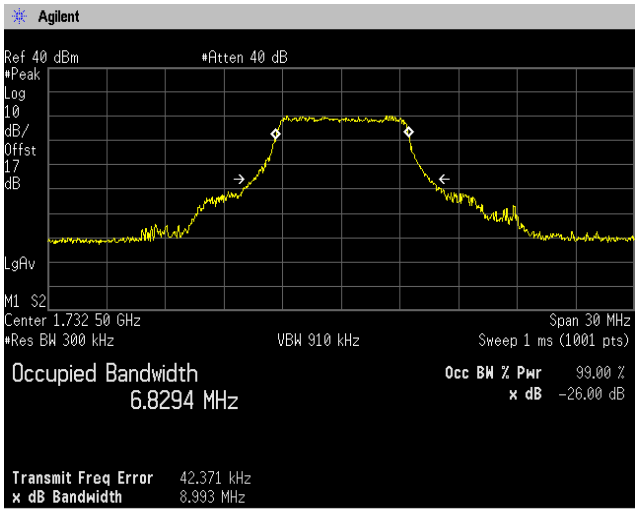


RB50-0

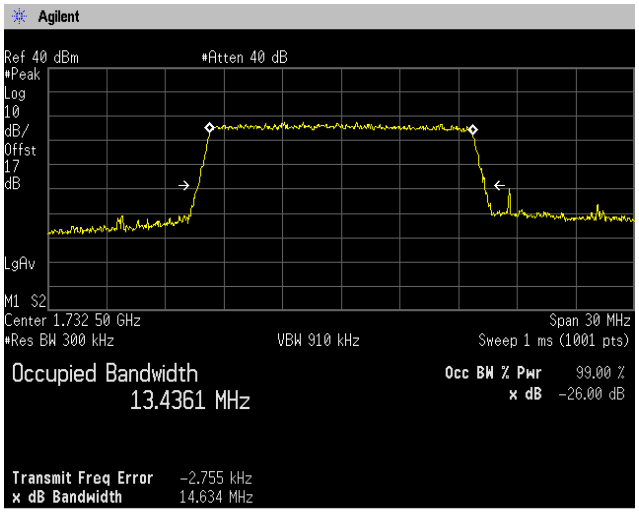


QPSK, BW 15MHz

RB36-20

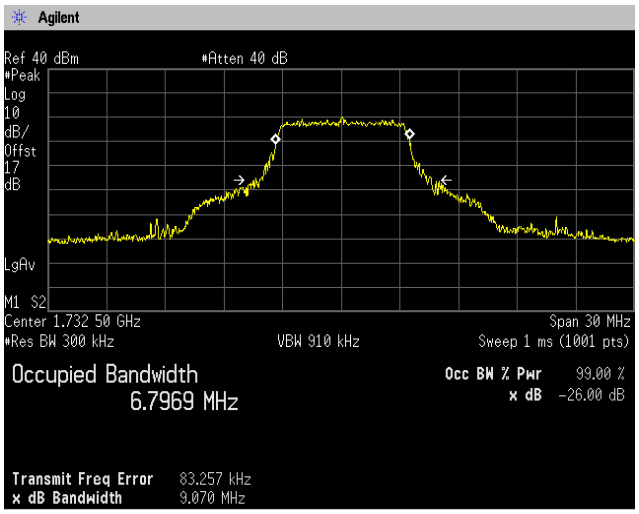


RB75-0

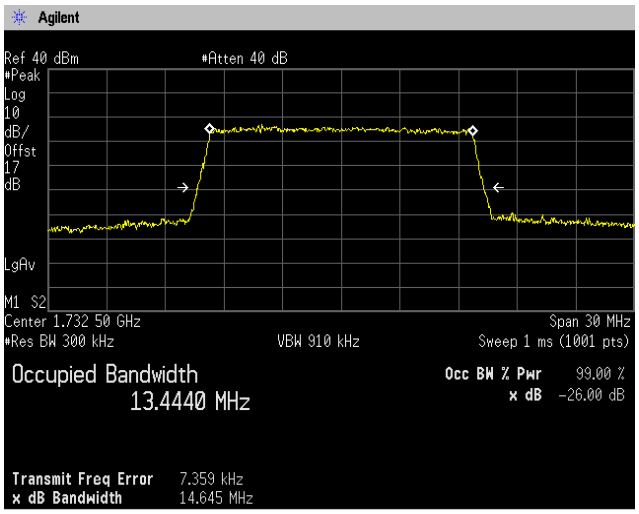


16QAM, BW 15MHz

RB36-20

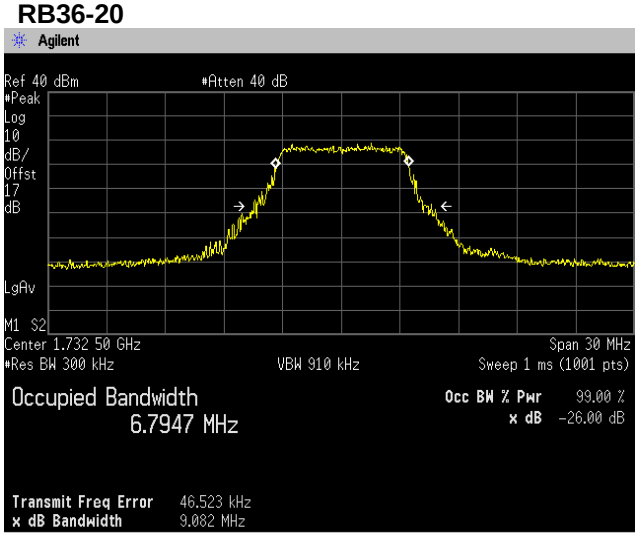


RB75-0

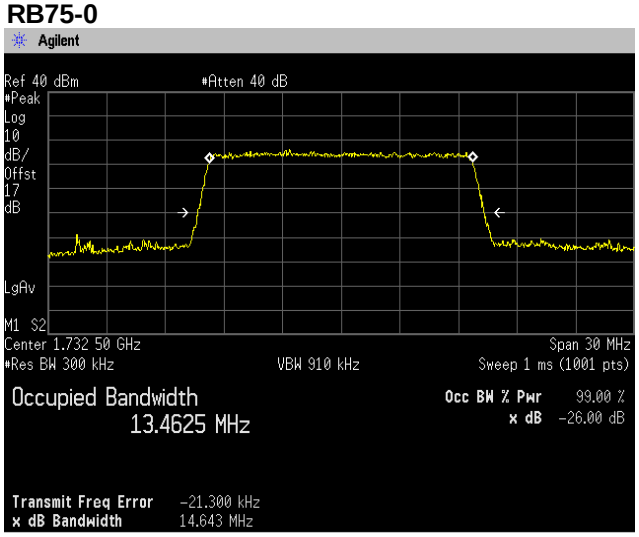


64QAM, BW 15MHz

RB36-20

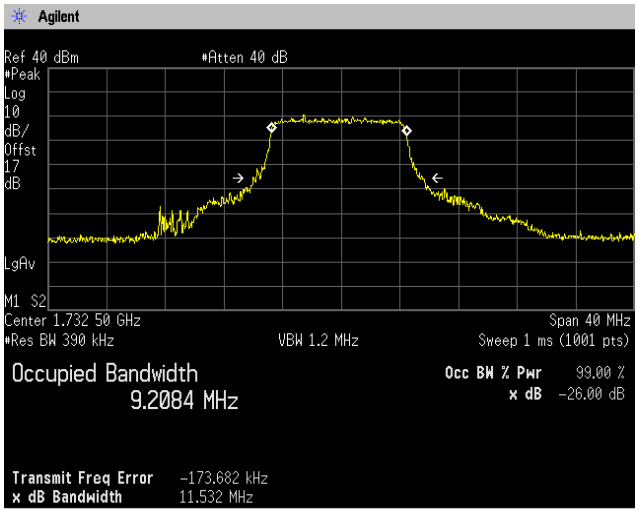


RB75-0

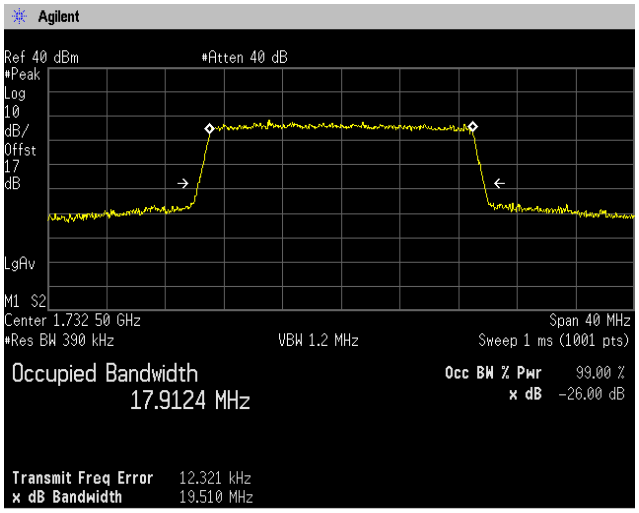


QPSK, BW 20MHz

RB50-24

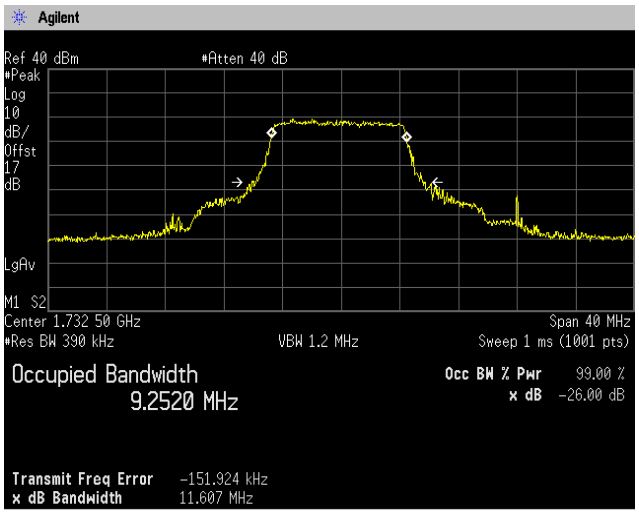


RB100-0

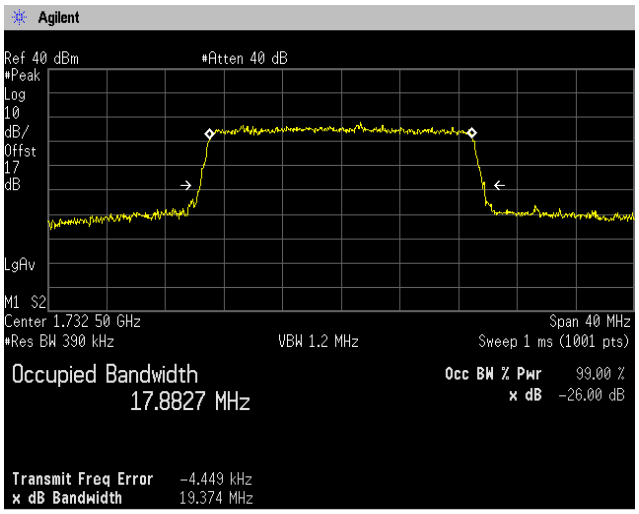


16QAM, BW 20MHz

RB50-24

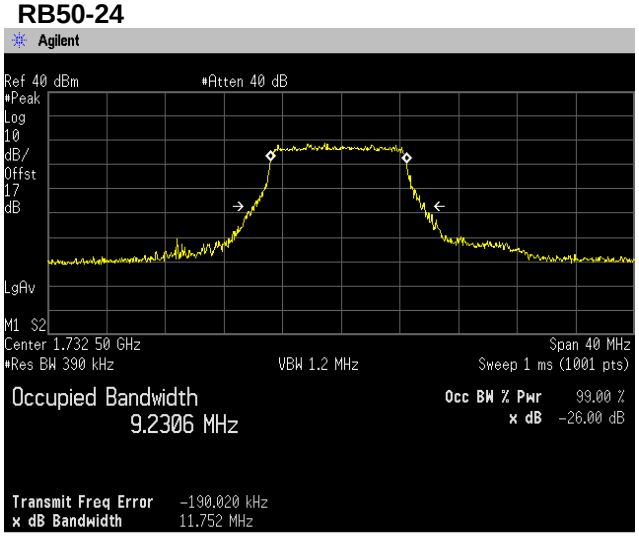


RB100-0

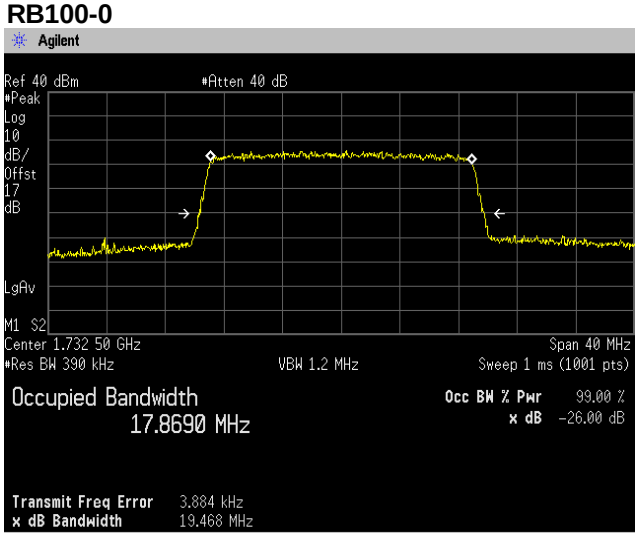


64QAM, BW 20MHz

RB50-24



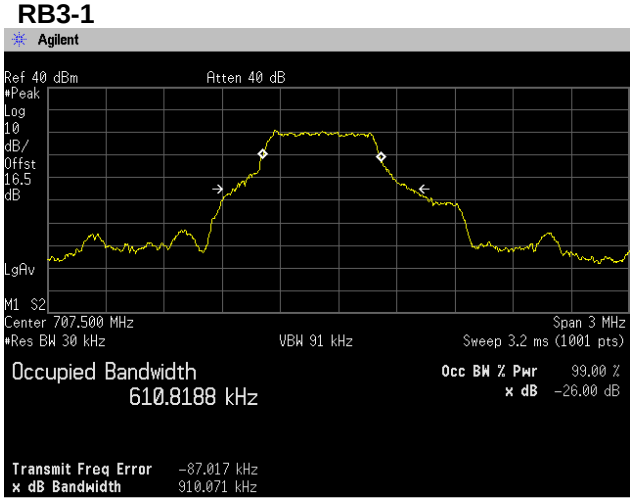
RB100-0



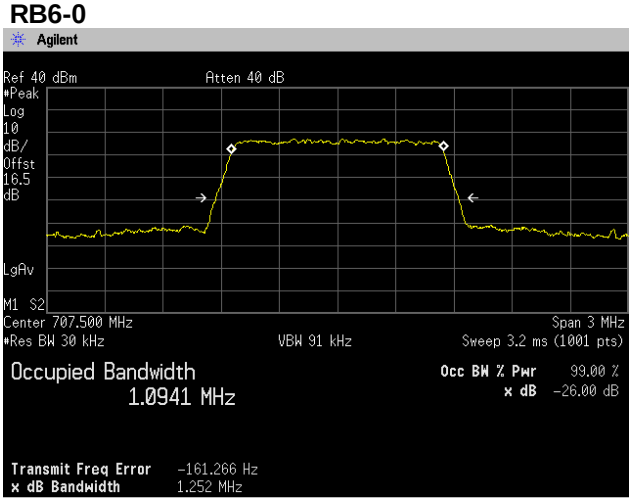
[LTE Band XII]
Channel: 23095

QPSK, BW 1.4MHz

RB3-1

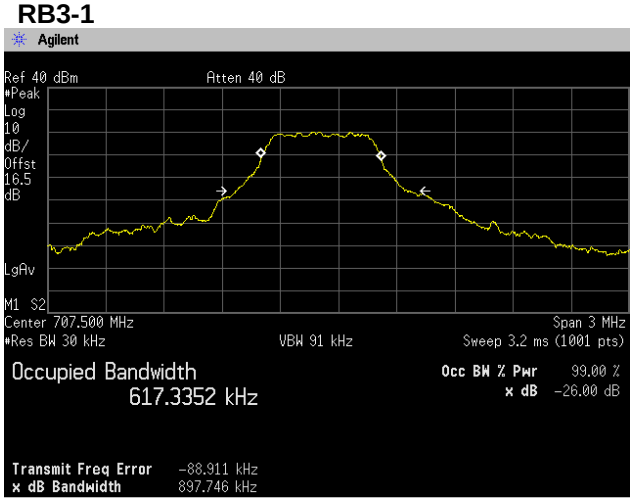


RB6-0

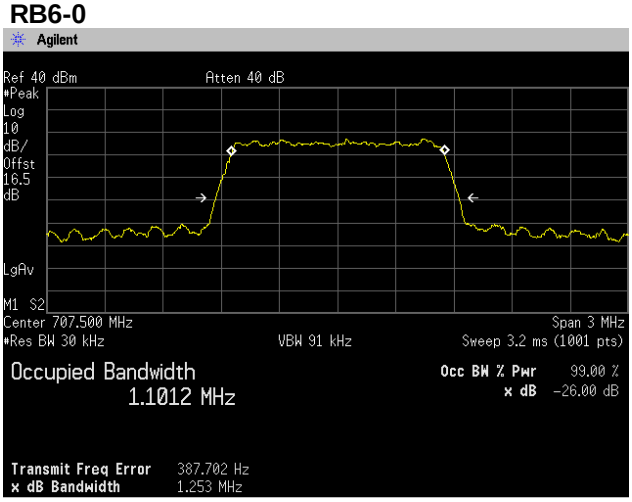


16QAM, BW 1.4MHz

RB3-1

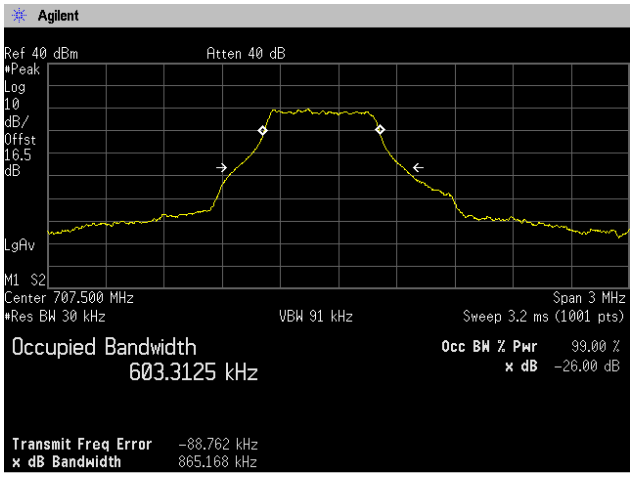


RB6-0

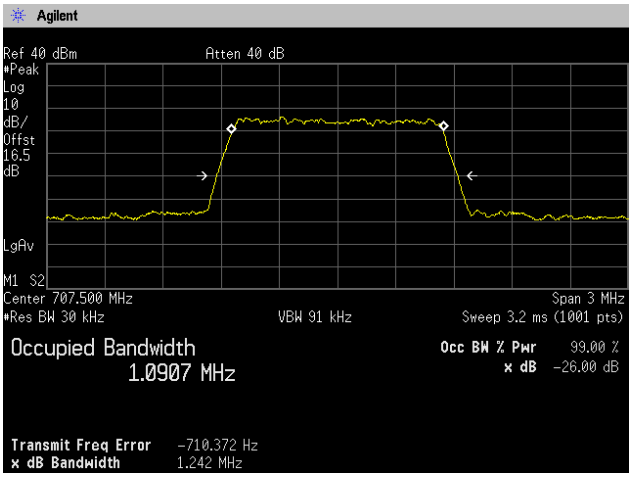


64QAM, BW 1.4MHz

RB3-1



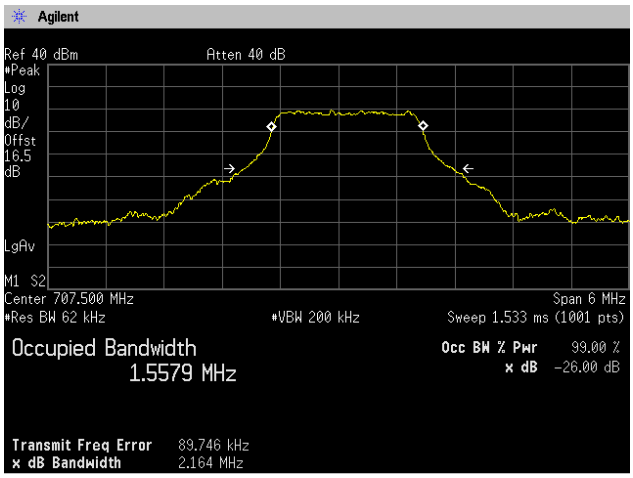
RB6-0



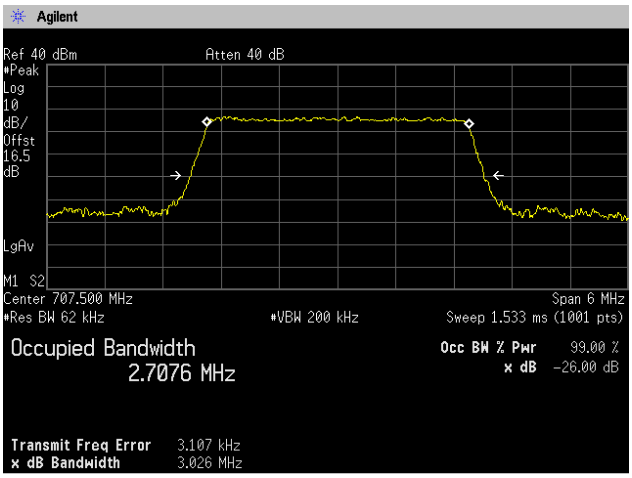
Channel: 23095

QPSK, BW 3MHz

RB8-4

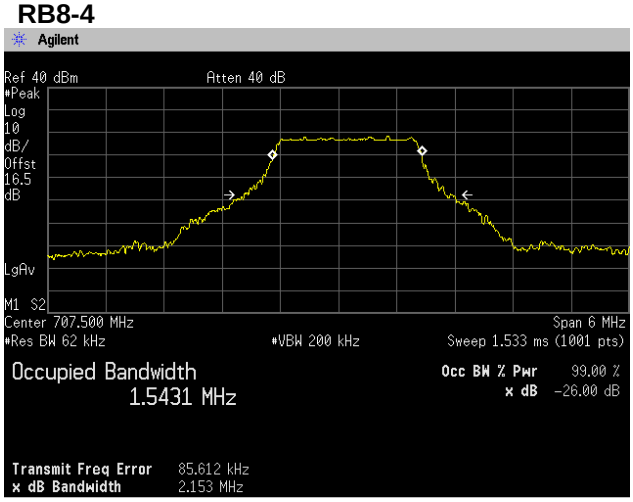


RB15-0

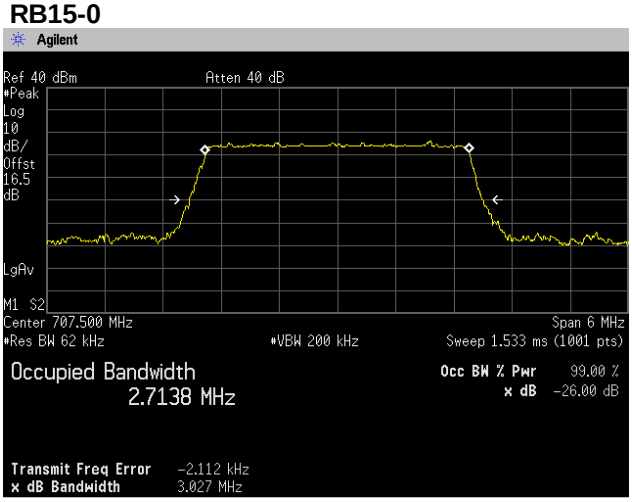


16QAM, BW 3MHz

RB8-4

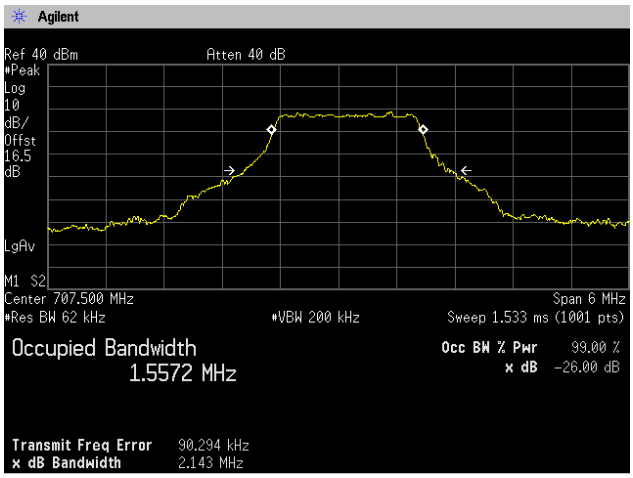


RB15-0

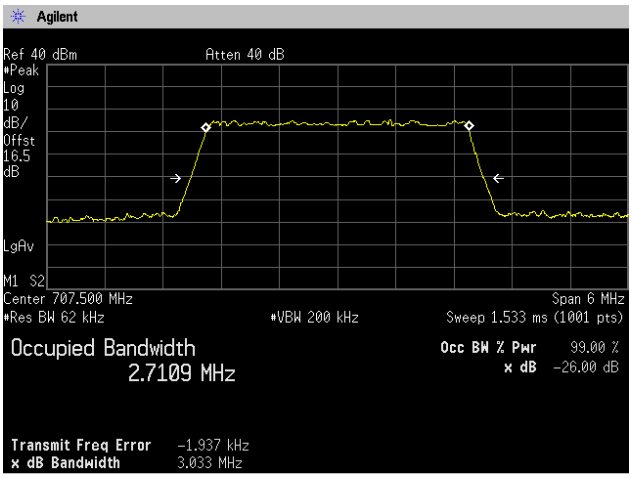


64QAM, BW 3MHz

RB8-4



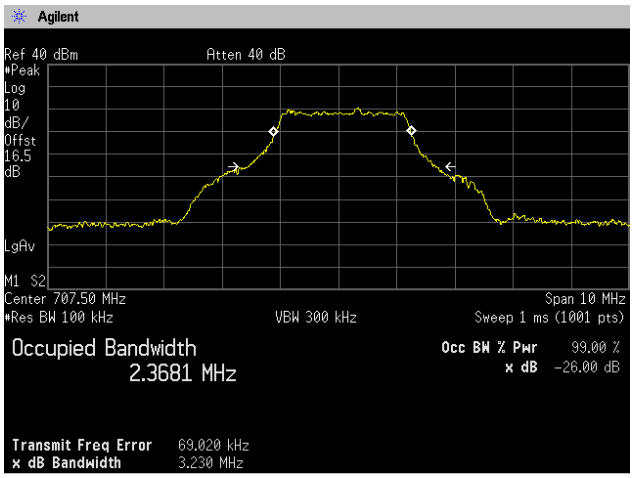
RB15-0



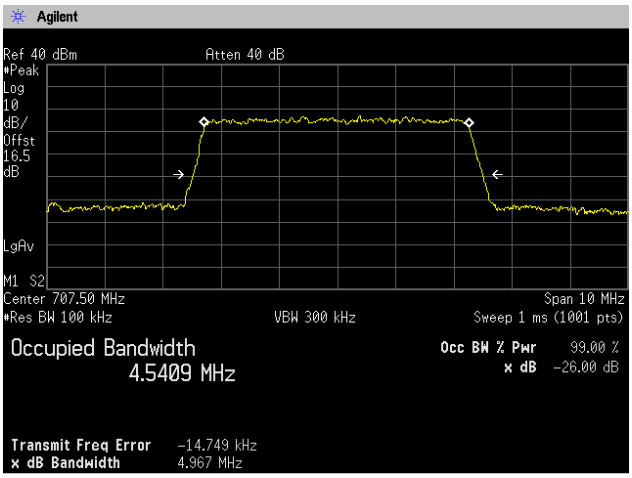
Channel: 23095

QPSK, BW 5MHz

RB12-7

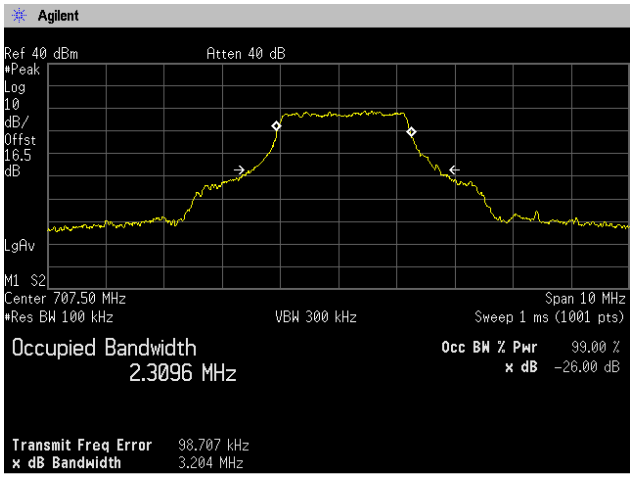


RB25-0

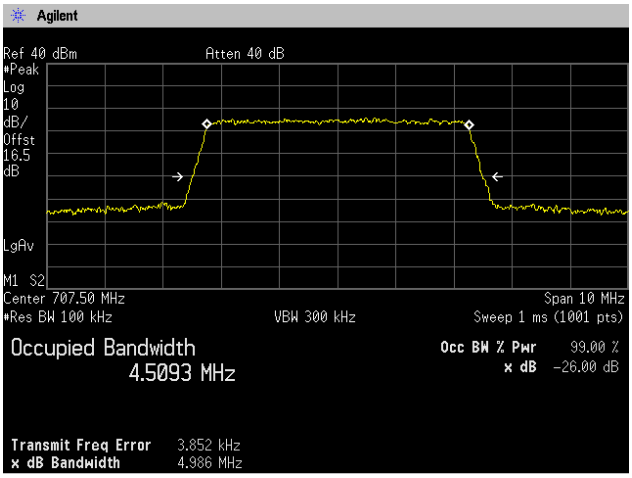


16QAM, BW 5MHz

RB12-7

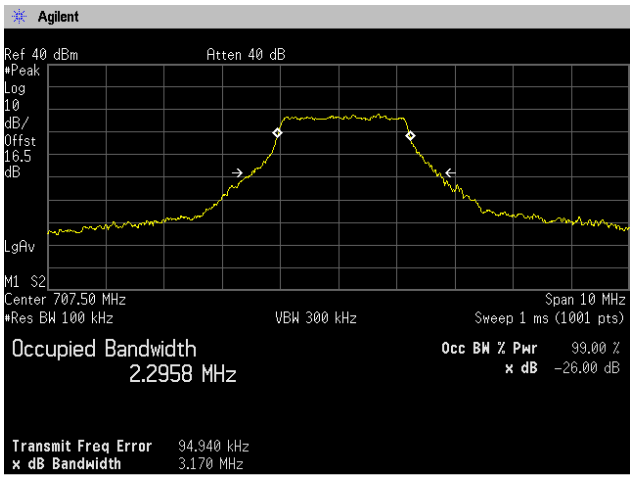


RB25-0

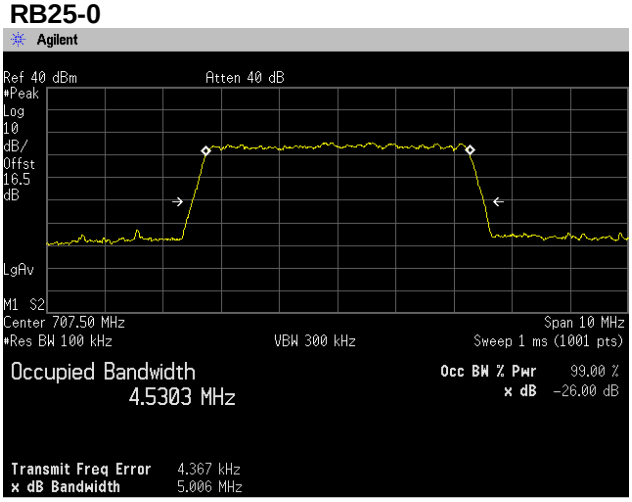


64QAM, BW 5MHz

RB12-7



RB25-0

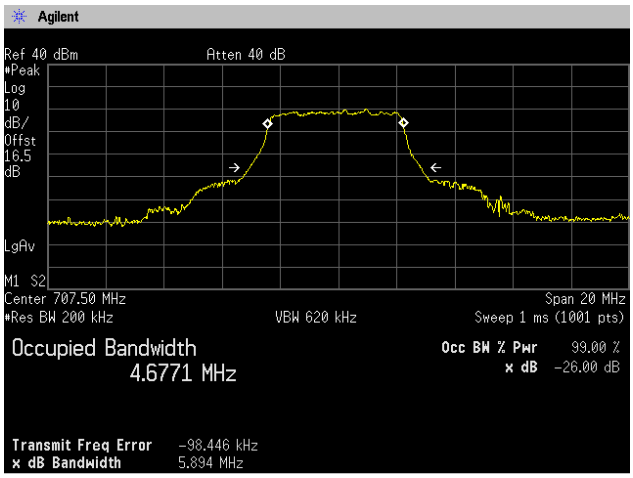


Japan

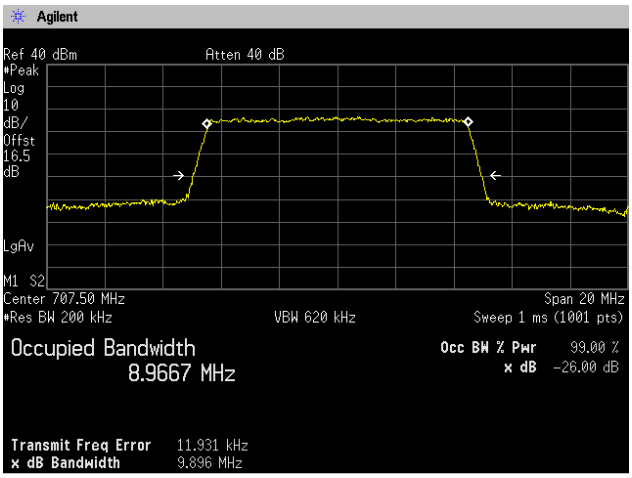
Channel: 23095

QPSK, BW 10MHz

RB25-12

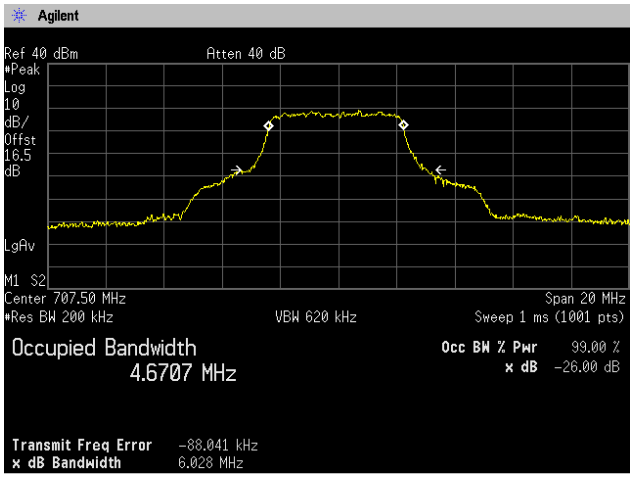


RB50-0

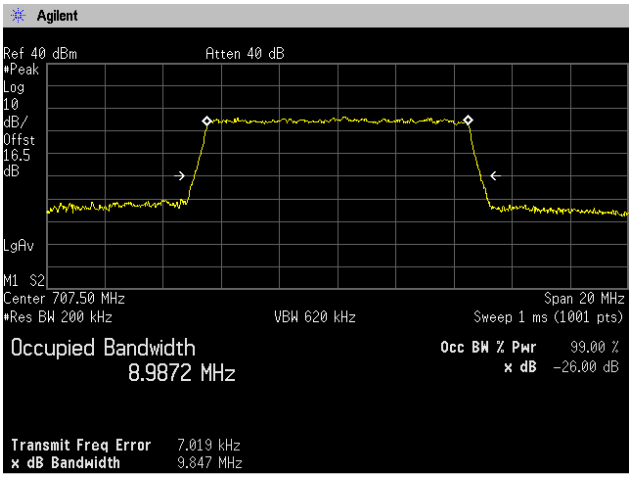


16QAM, BW 10MHz

RB25-12

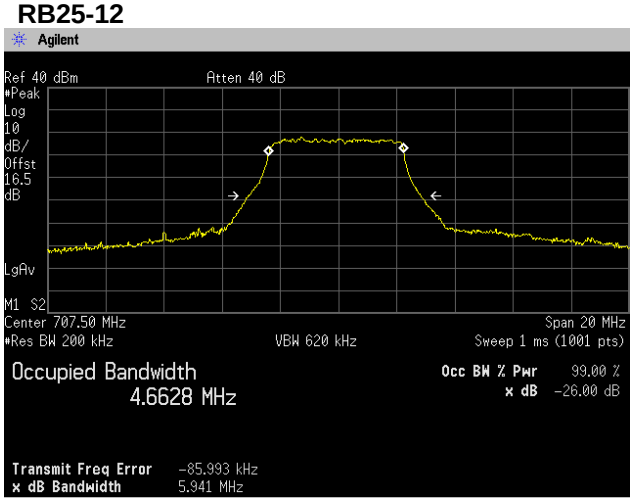


RB50-0

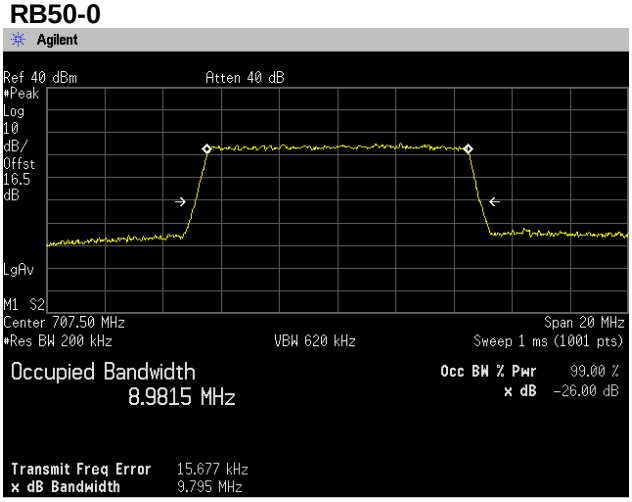


64QAM, BW 10MHz

RB25-12



RB50-0

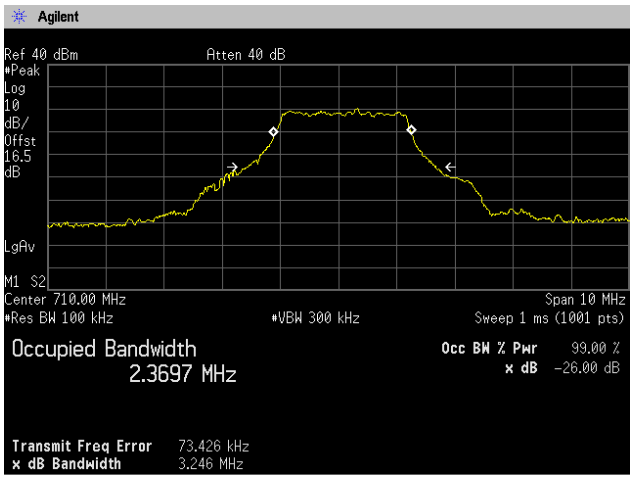


Japan

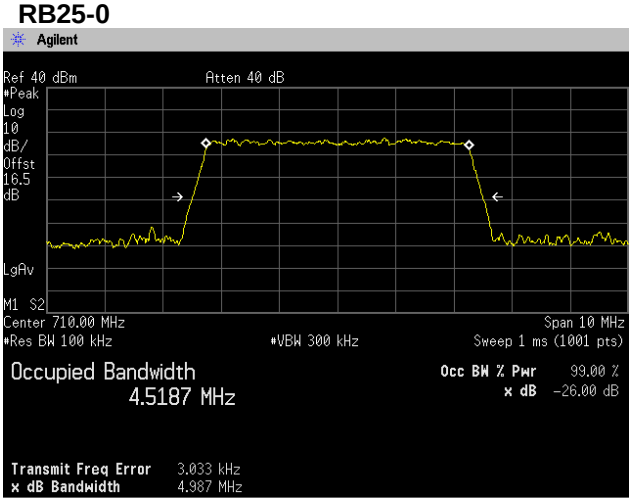
[LTE Band X VII]
Channel: 23790

QPSK, BW 5MHz

RB12-7

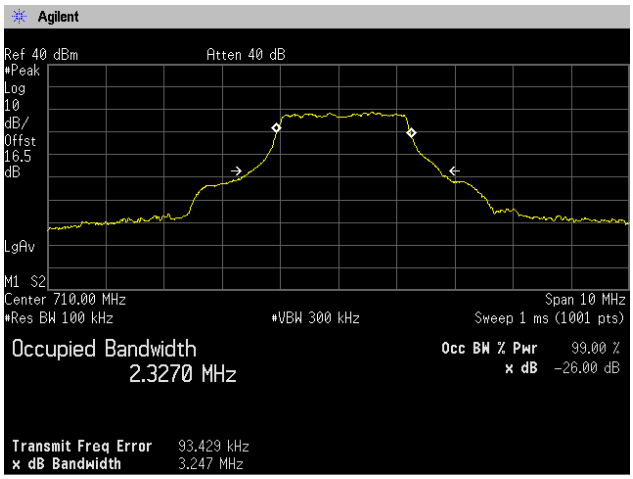


RB25-0

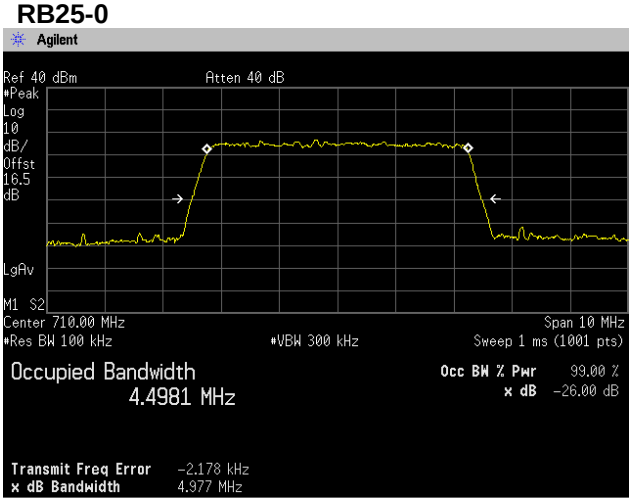


16QAM, BW 5MHz

RB12-7

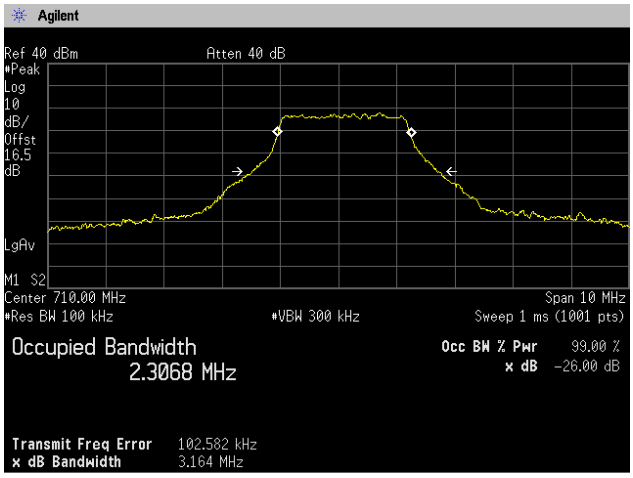


RB25-0

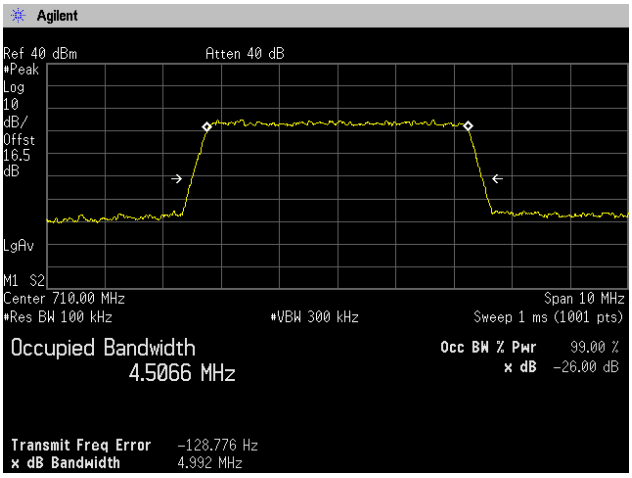


64QAM, BW 5MHz

RB12-7

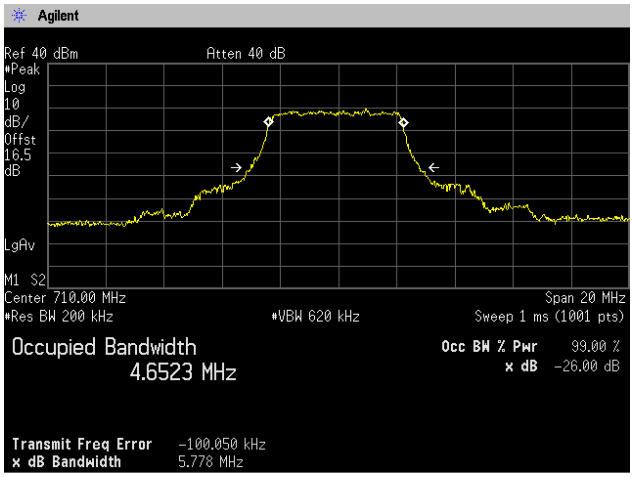


RB25-0

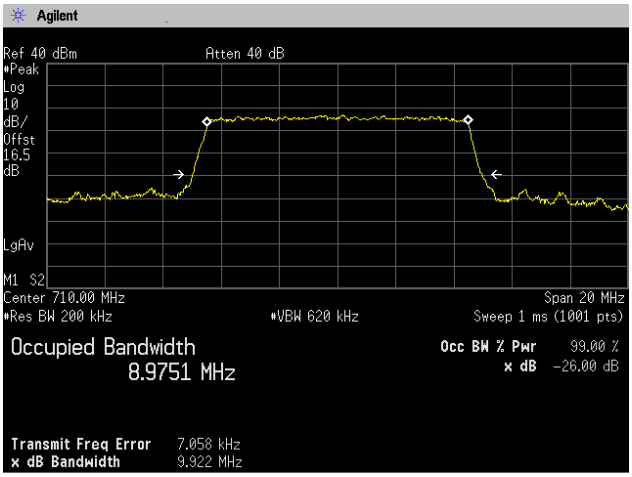


QPSK, BW 10MHz

RB25-12

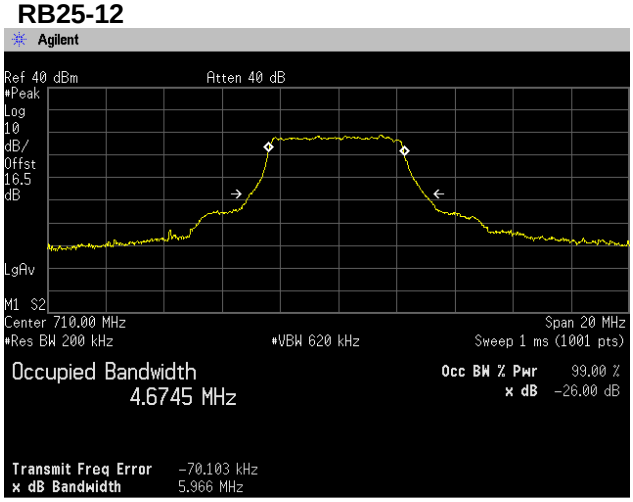


RB50-0

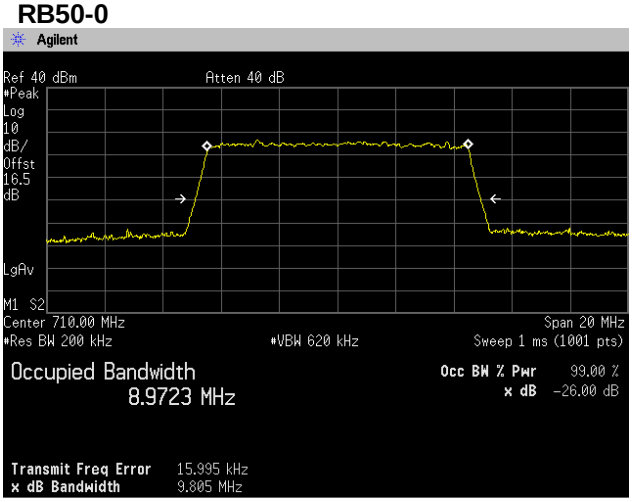


16QAM, BW 10MHz

RB25-12

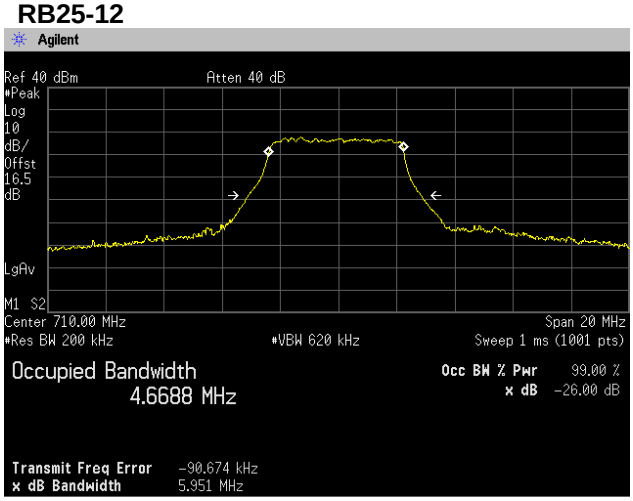


RB50-0

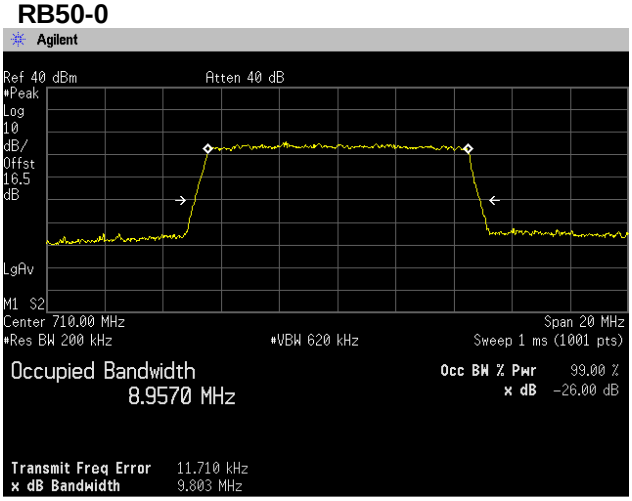


64QAM, BW 10MHz

RB25-12



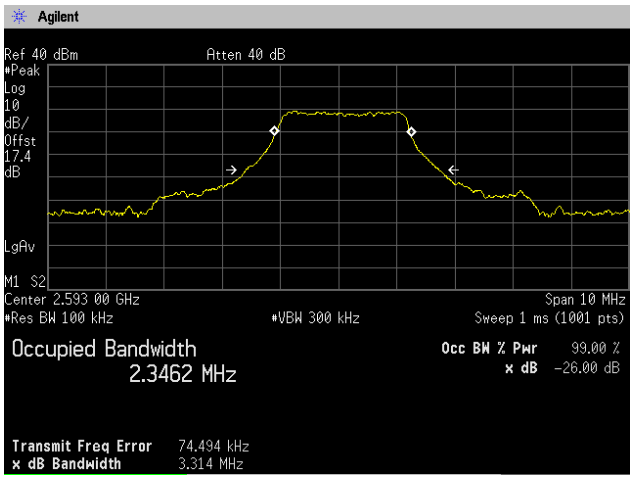
RB50-0



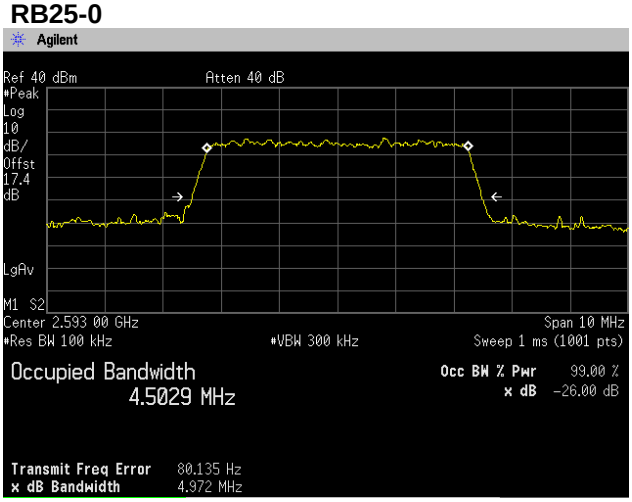
[LTE Band XL I]
Channel: 40620

QPSK, BW 5MHz

RB12-7

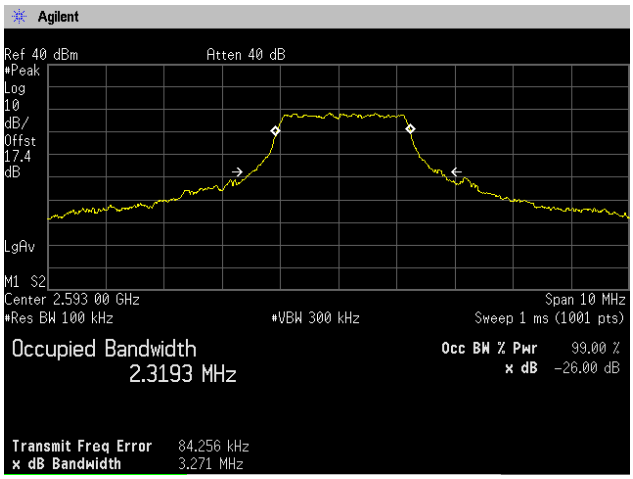


RB25-0

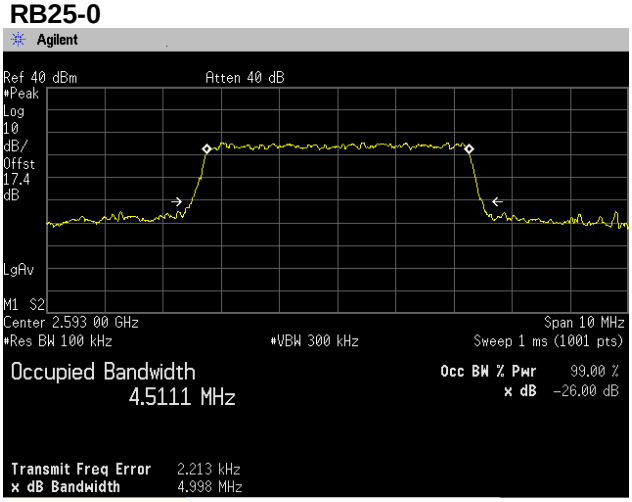


16QAM, BW 5MHz

RB12-7

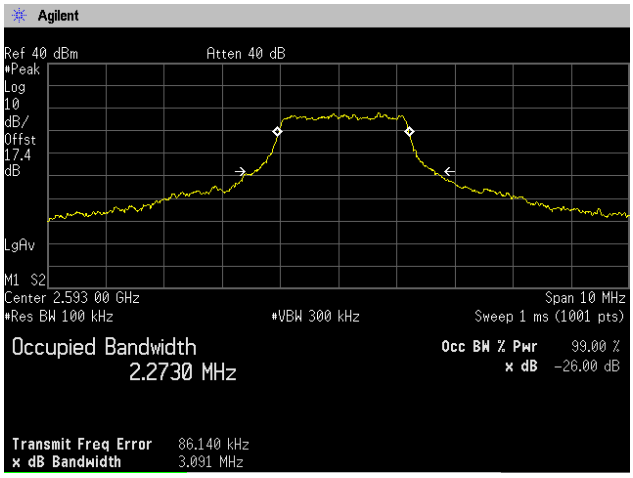


RB25-0

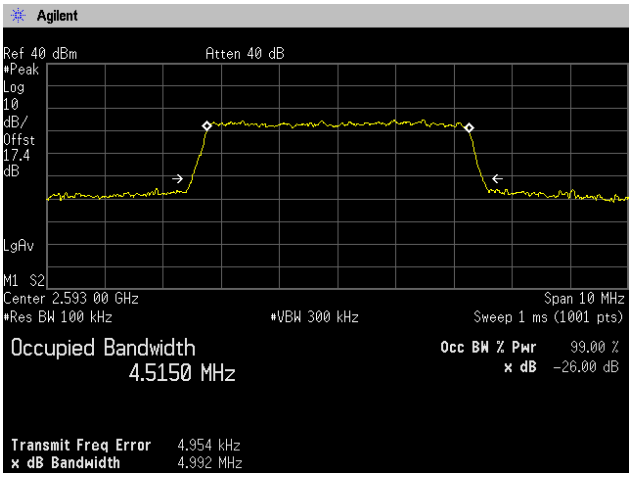


64QAM, BW 5MHz

RB12-7

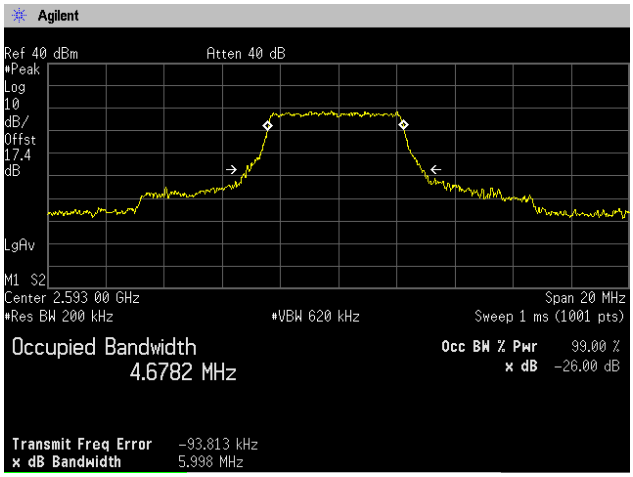


RB25-0

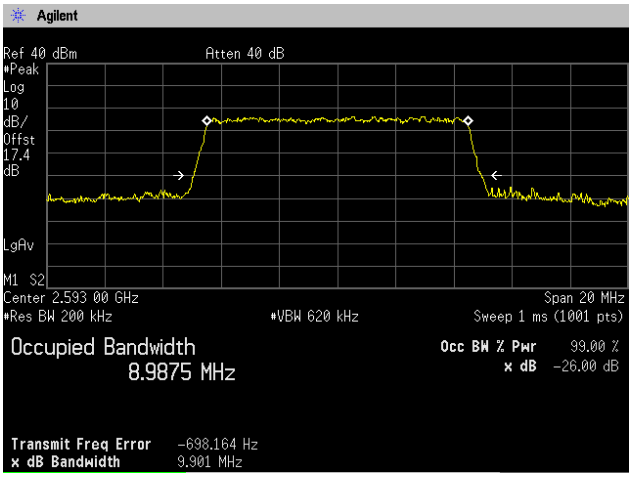


QPSK, BW 10MHz

RB25-12

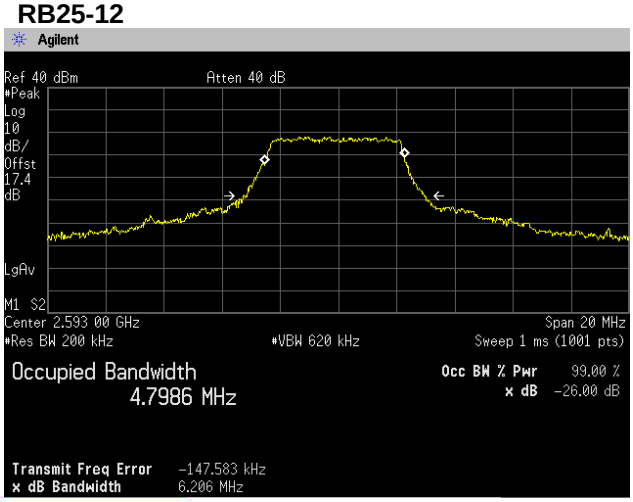


RB50-0

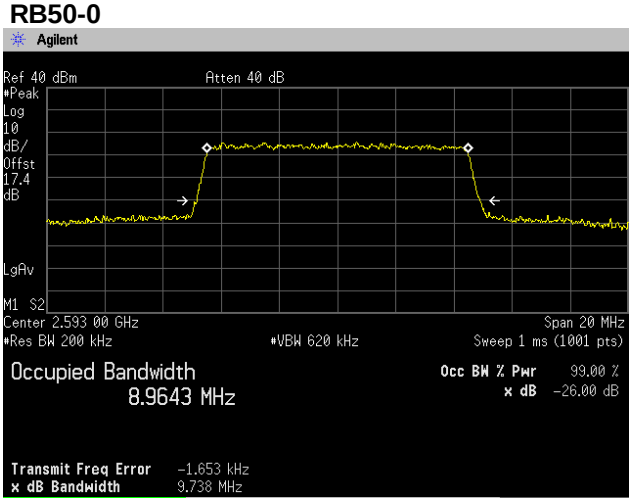


16QAM, BW 10MHz

RB25-12

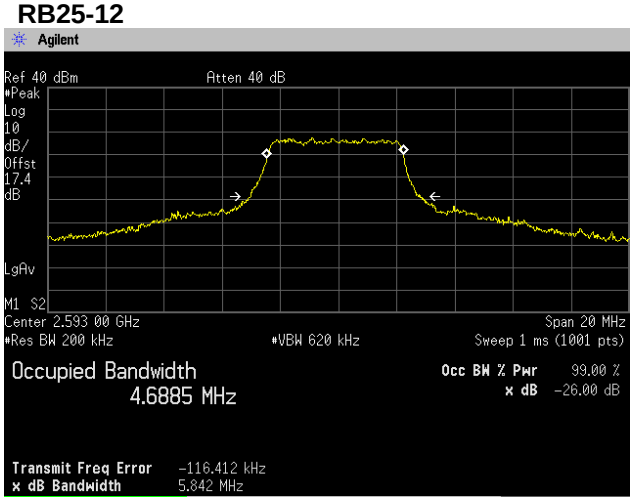


RB50-0

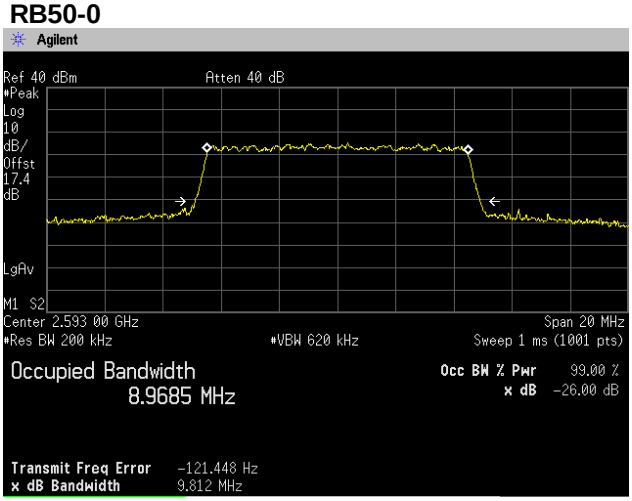


64QAM, BW 10MHz

RB25-12

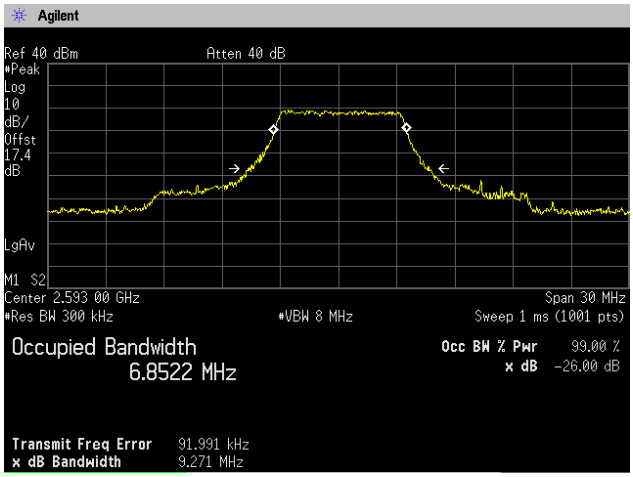


RB50-0

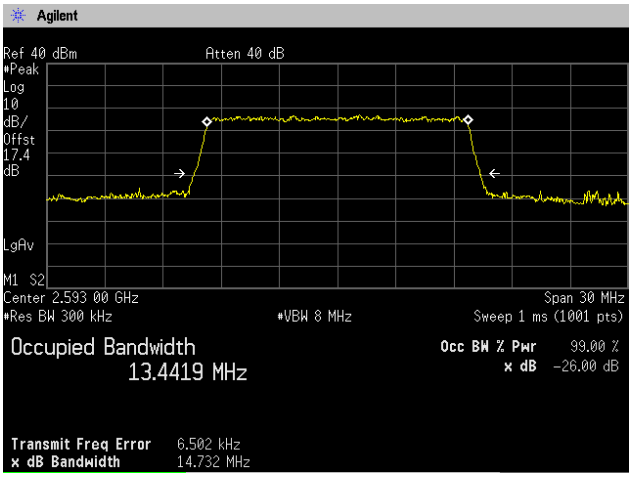


QPSK, BW 15MHz

RB36-20

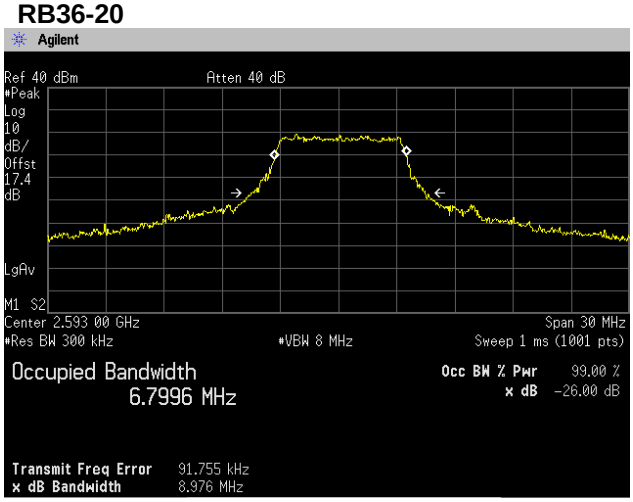


RB75-0

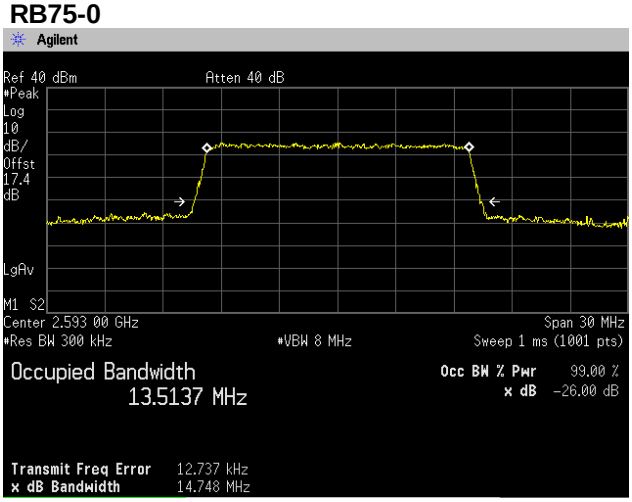


16QAM, BW 15MHz

RB36-20

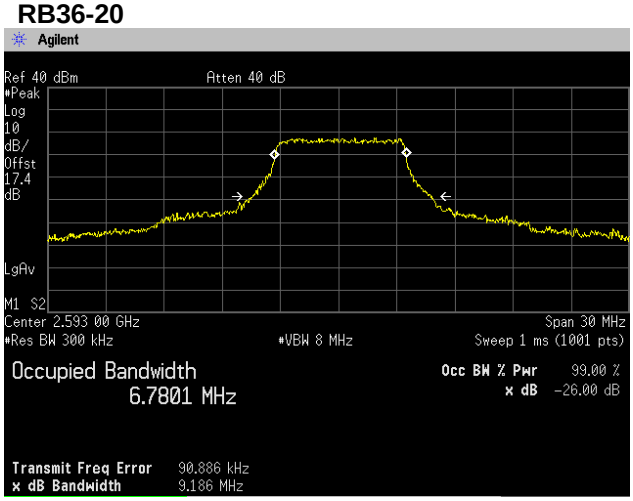


RB75-0

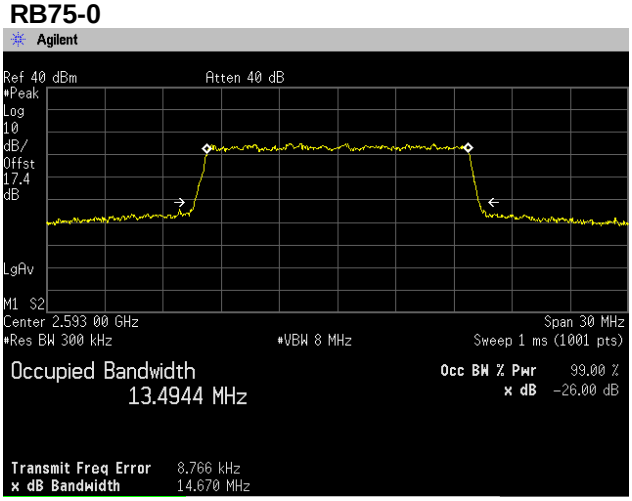


64QAM, BW 15MHz

RB36-20



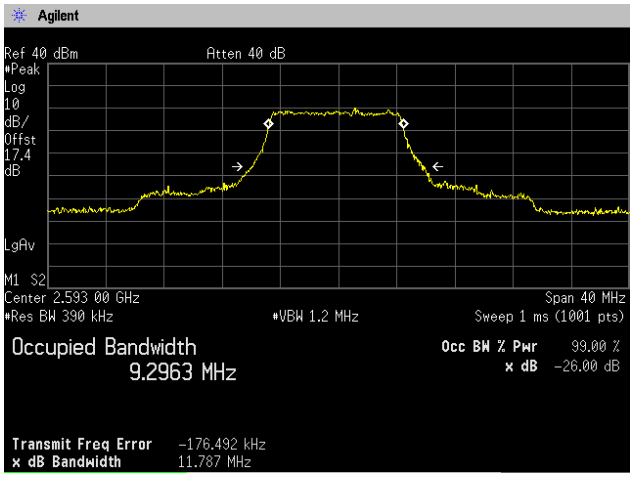
RB75-0



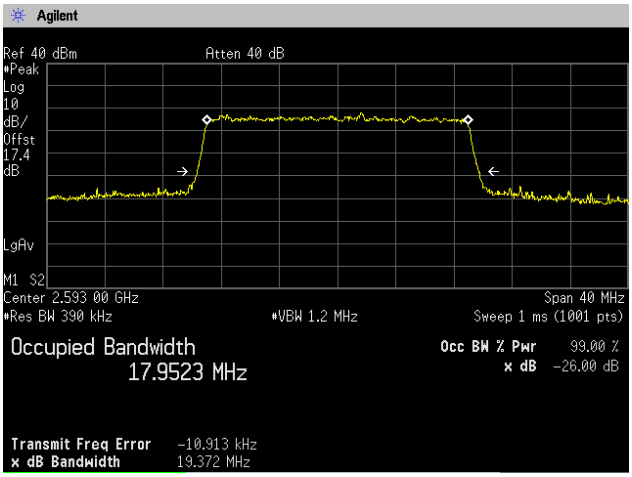
Japan

QPSK, BW 20MHz

RB50-24

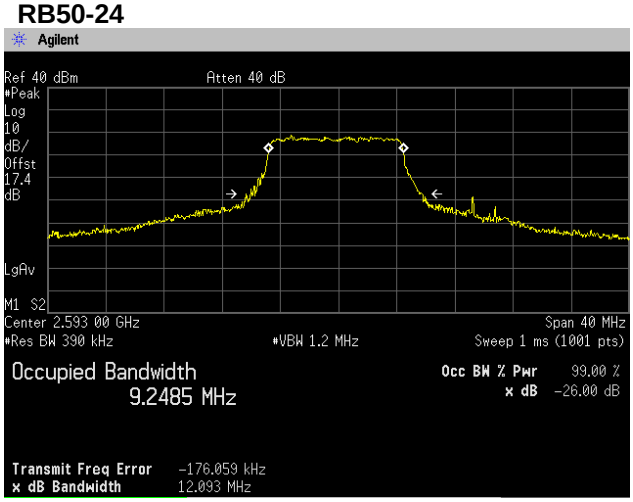


RB100-0

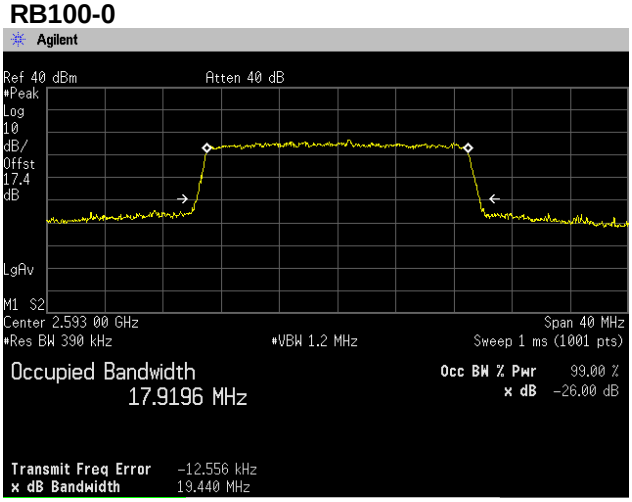


16QAM, BW 20MHz

RB50-24

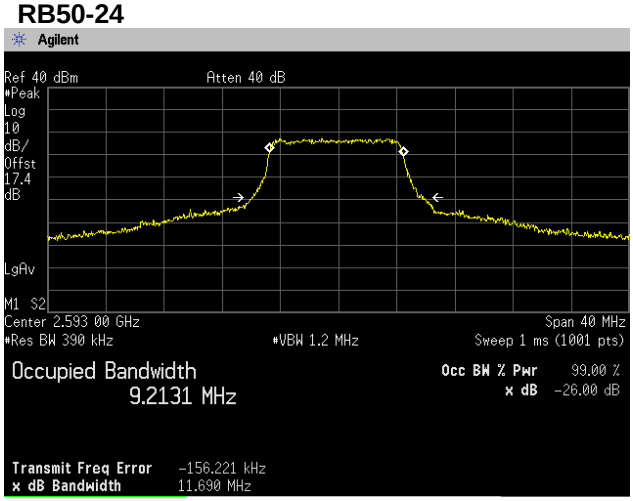


RB100-0

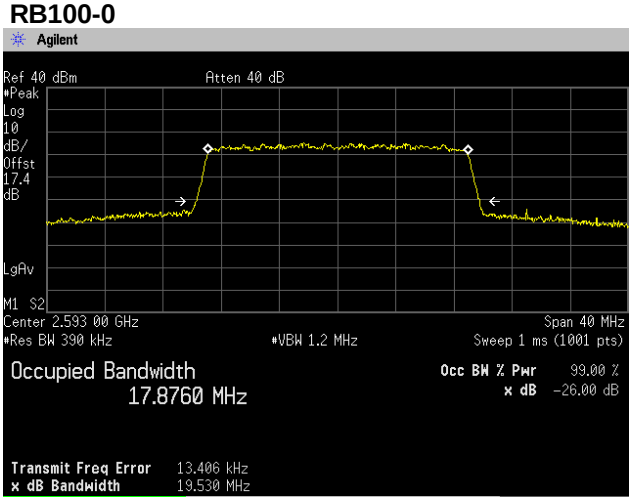


64QAM, BW 20MHz

RB50-24



RB100-0



Japan

4.4 Band Edge Spurious and Harmonic at Antenna Terminals

4.4.1 Measurement procedure

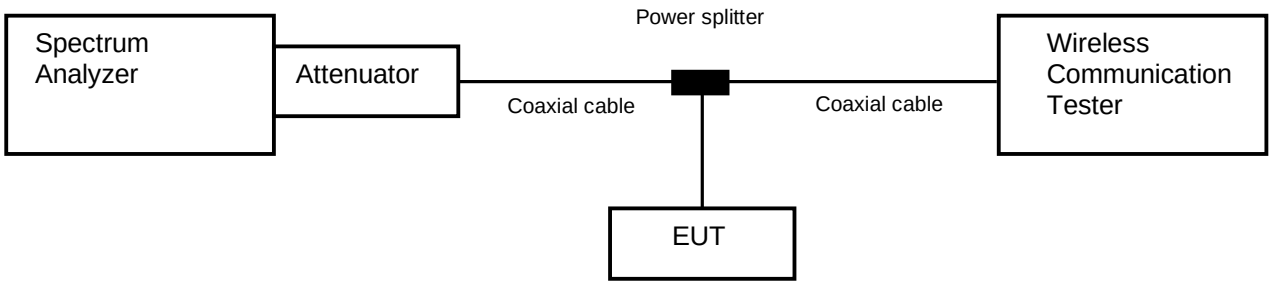
[FCC 27.53, 2.1051]

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



4.4.2 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

4.4.3 Measurement result

Date : 9-September-2021
Temperature : 24.1 [˚C]
Humidity : 63.8 [%] Test engineer : Tadahiro Seino
Test place : Shielded room No.3

Date : 10-September-2021
Temperature : 24.5 [˚C]
Humidity : 43.8 [%] Test engineer : Tadahiro Seino
Test place : Shielded room No.3

Date : 21-September-2021
Temperature : 24.9 [˚C]
Humidity : 42.8 [%] Test engineer : Tadahiro Seino
Test place : Shielded room No.3

Date : 22-September-2021
Temperature : 26.3 [˚C]
Humidity : 50.4 [%] Test engineer : Taiki Watanabe
Test place : Shielded room No.3

Date : 13-October-2021
Temperature : 25.6 [˚C]
Humidity : 49.8 [%] Test engineer : Tadahiro Seino
Test place : Shielded room No.3

Date : 19-October-2021
Temperature : 24.4 [˚C]
Humidity : 49.4 [%] Test engineer : Taiki Watanabe
Test place : Shielded room No.3

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 X VII	QPSK, 16QAM, 64QAM	5	23755	706.5	See the trace data	PASS
			23825	713.5	See the trace data	PASS
		10	23780	709.0	See the trace data	PASS
			23800	711.0	See the trace data	PASS

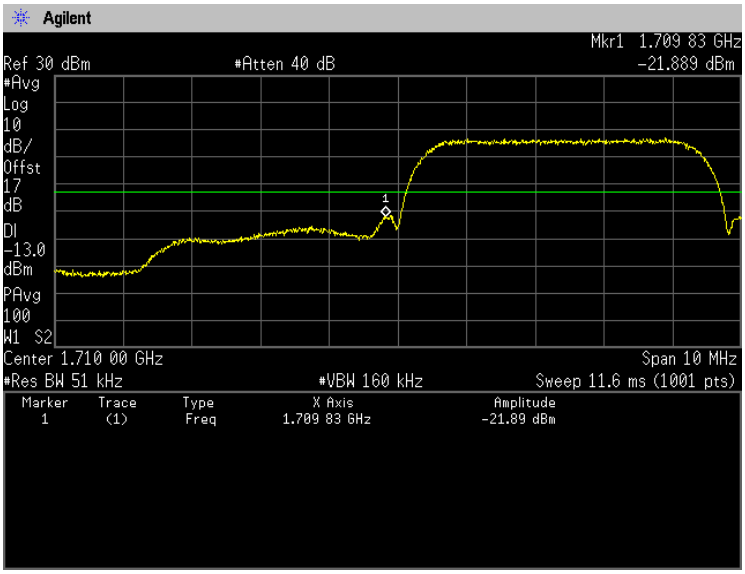
Band	Modulation	Bandwidth [MHz]	Channel	Frequency [MHz]	Results	
LTE Band XL I	QPSK, 16QAM, 64QAM	5	39675	2498.5	See the trace data	PASS
			41565	2687.5	See the trace data	PASS
		10	39700	2501.0	See the trace data	PASS
			41540	2685.0	See the trace data	PASS
		15	39725	2503.5	See the trace data	PASS
			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

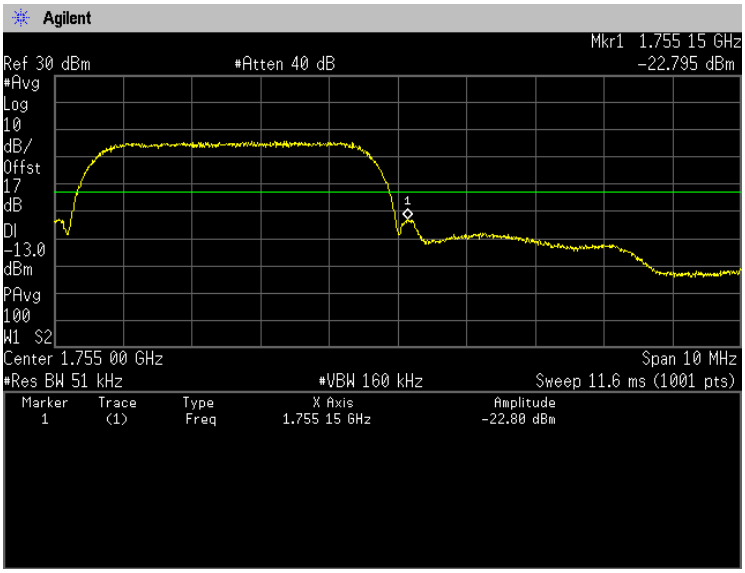
4.4.4 Trace data

[WCDMA Band IV]
(Band Edge)

Channel: 1312



Channel: 1513

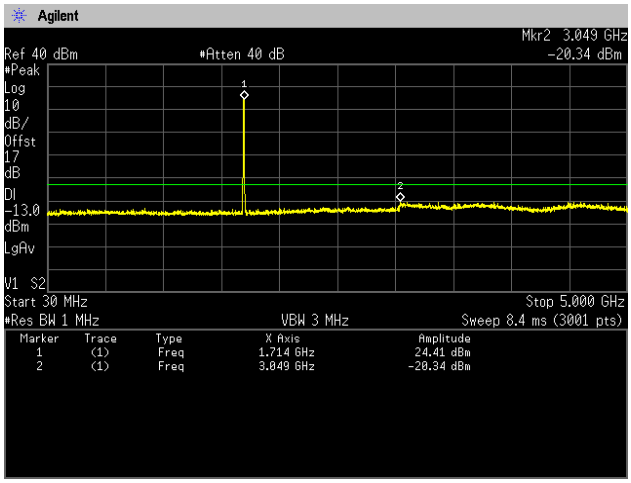


Japan

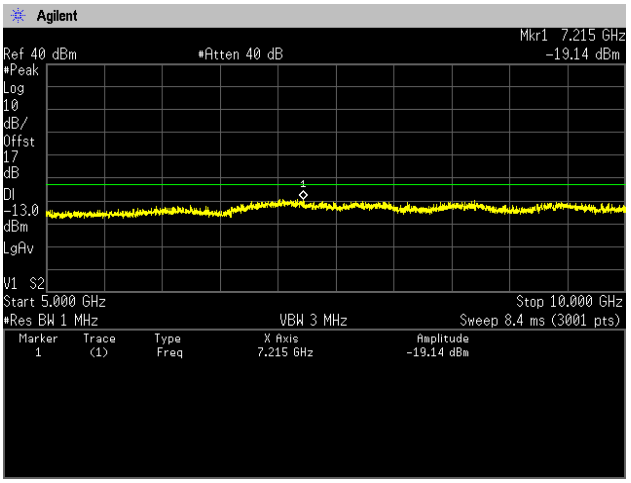
(Spurious Emissions)
Note: Conducted spurious test was measured in the worst case of conducted output power.

Channel: 1312

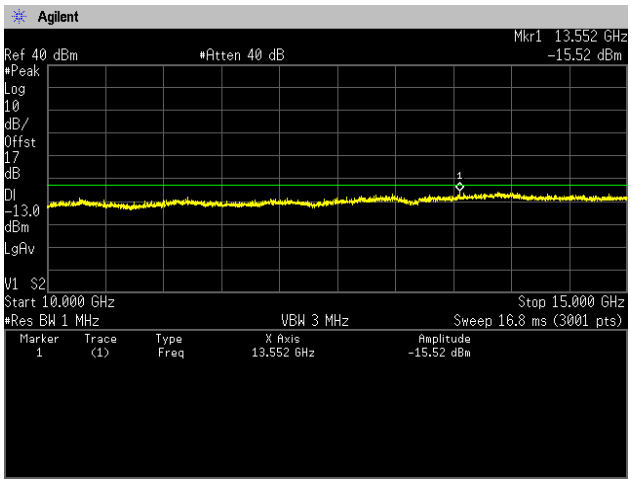
30MHz-5GHz



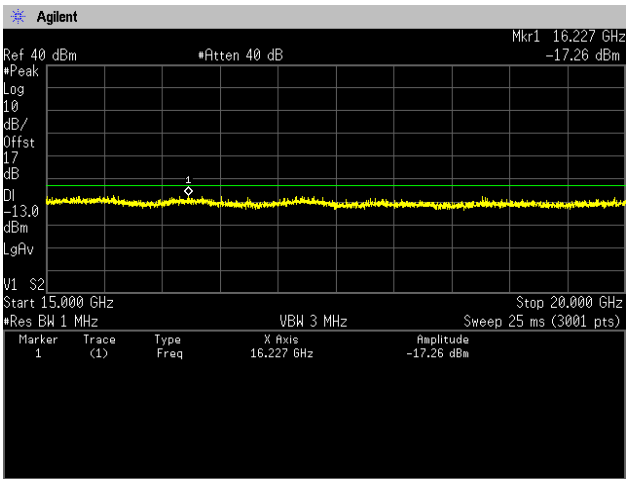
5GHz-10GHz



10GHz-15GHz

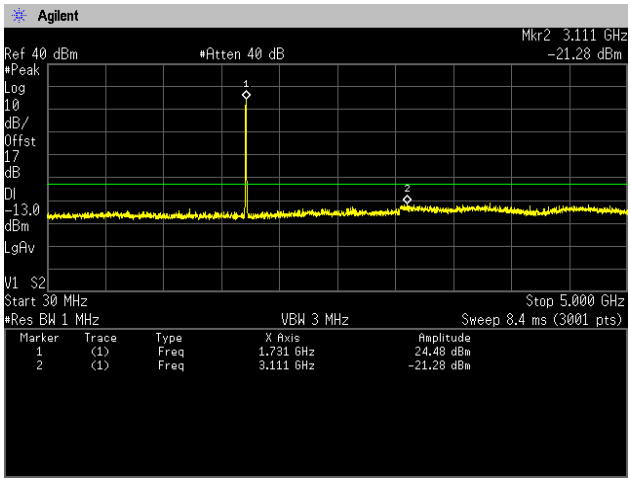


15GHz-20GHz

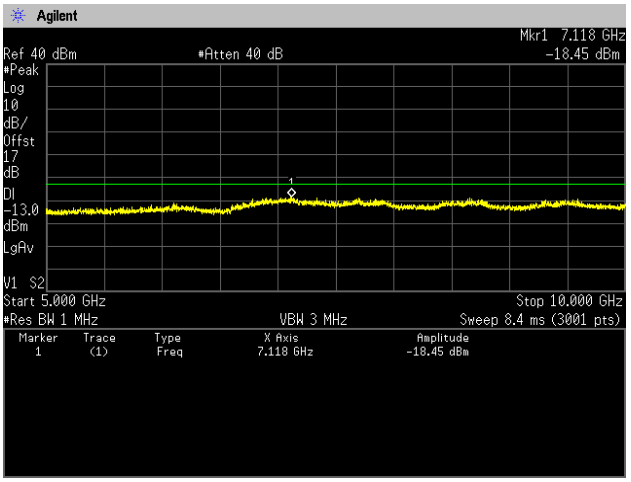


Channel: 1413

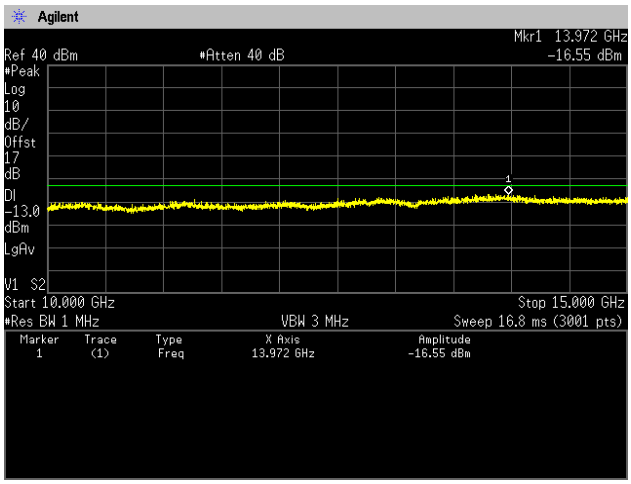
30MHz-5GHz



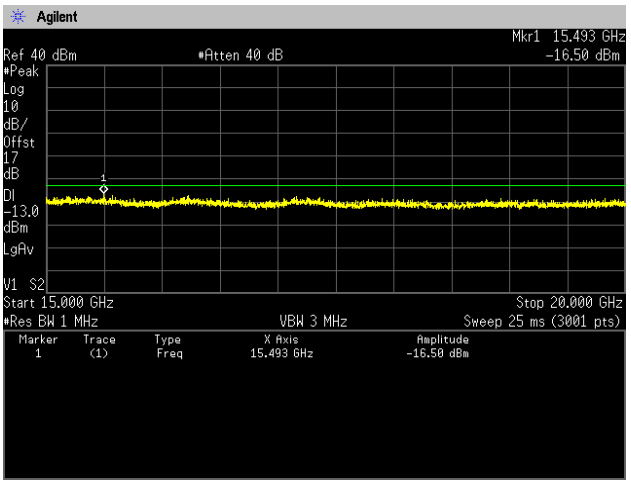
5GHz-10GHz



10GHz-15GHz

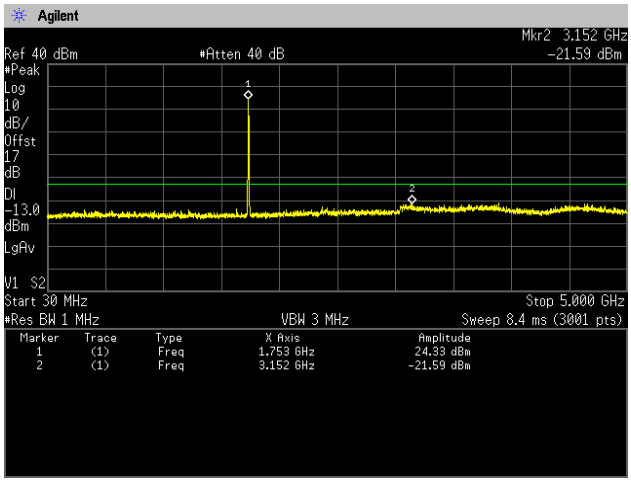


15GHz-20GHz

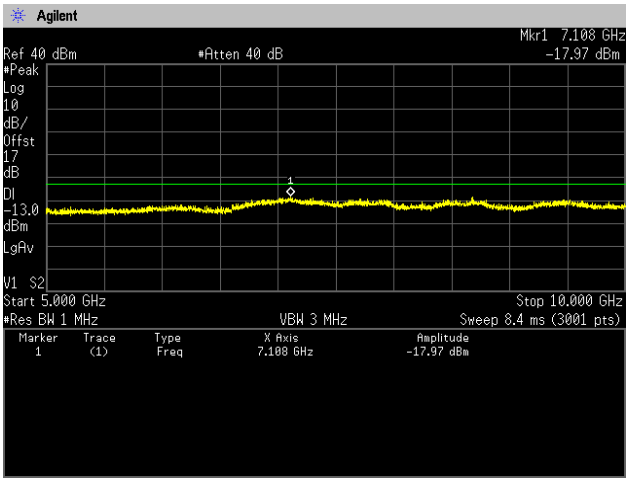


Channel: 1513

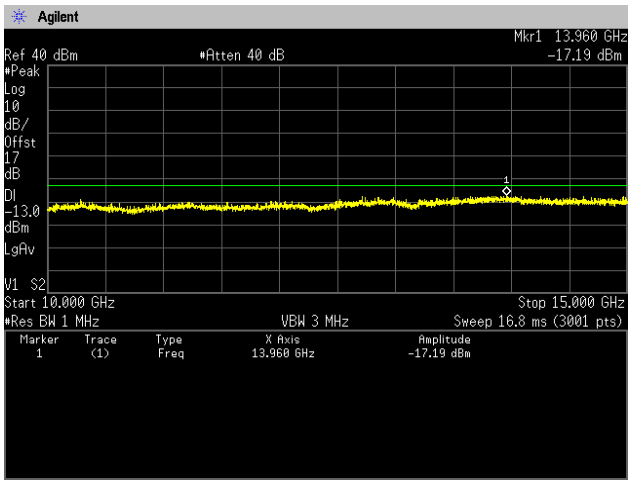
30MHz-5GHz



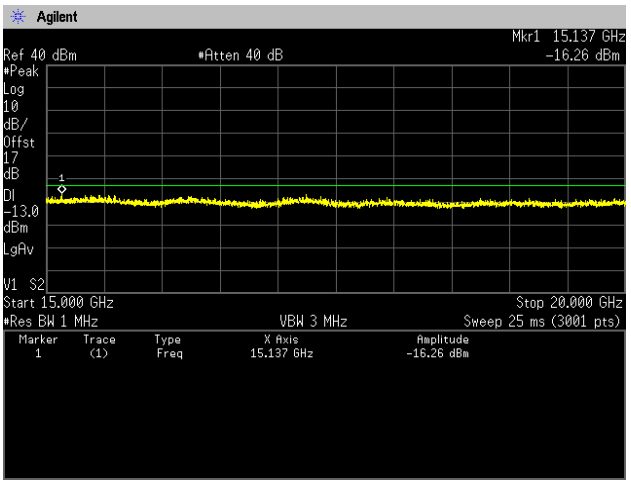
5GHz-10GHz



10GHz-15GHz

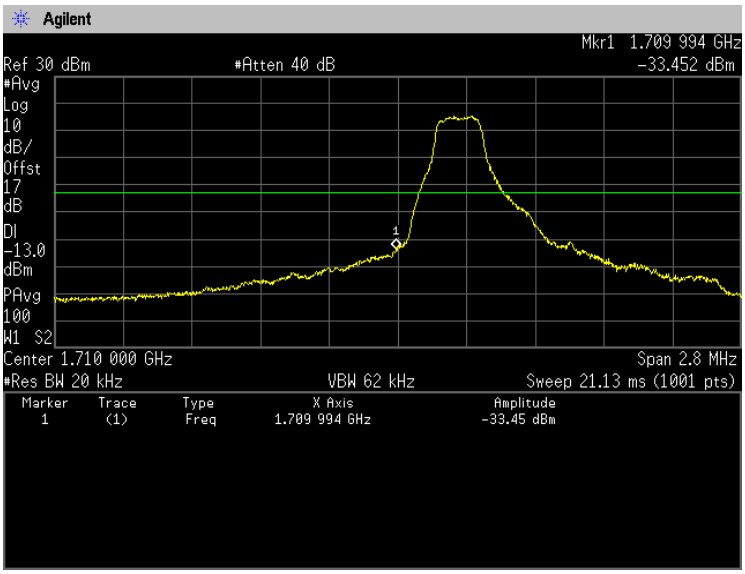


15GHz-20GHz

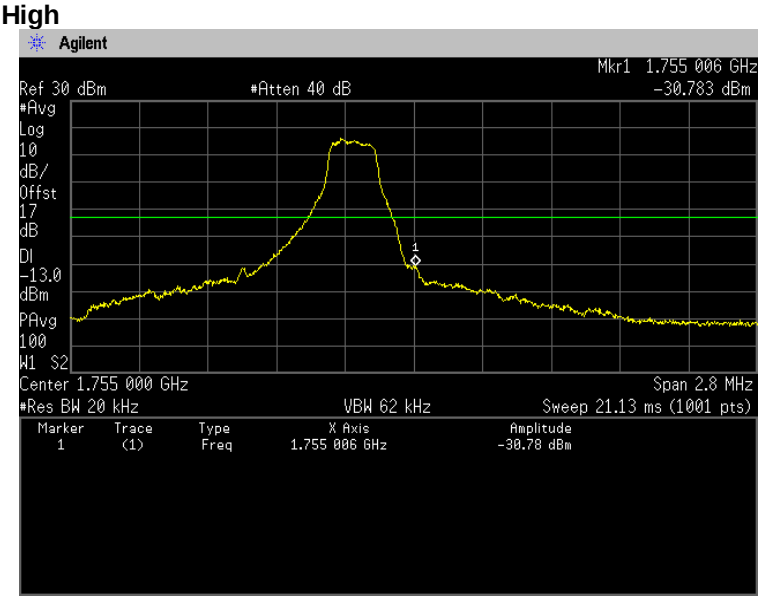


Japan

[LTE Band IV]
(Band Edge)
QPSK, BW 1.4MHz, RB1-0
Channel: Low

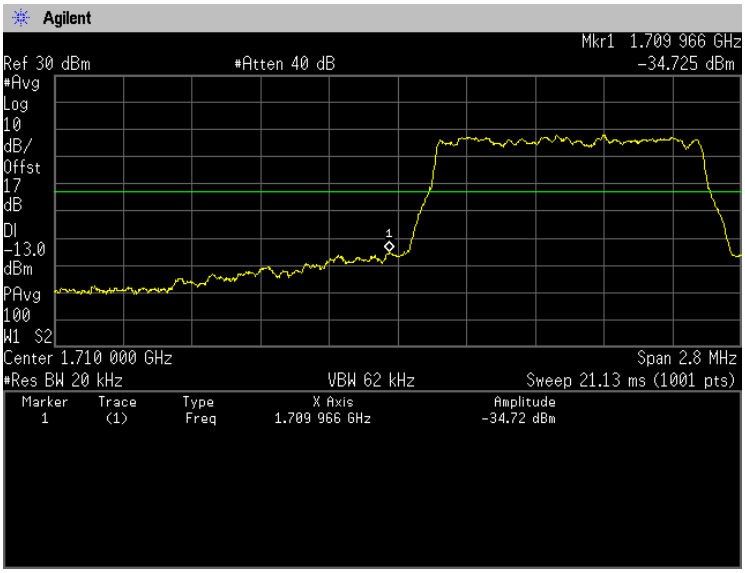


QPSK, BW 1.4MHz, RB1-5
Channel: High

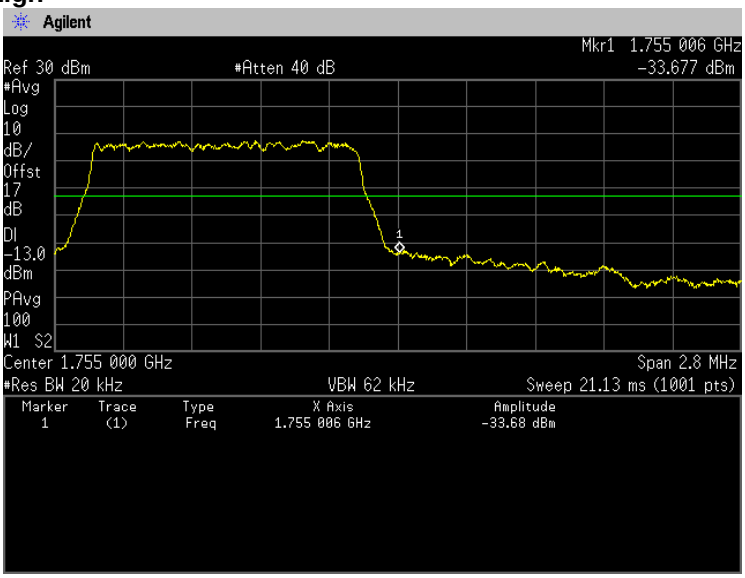


Japan

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

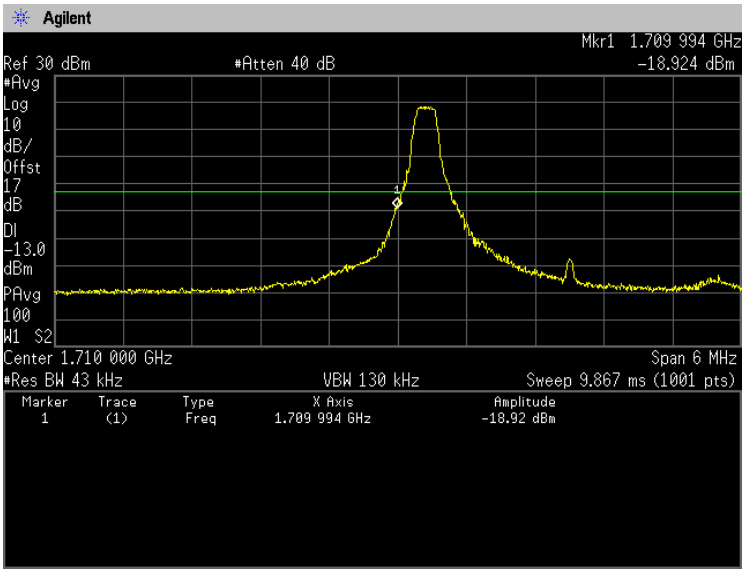


QPSK, BW 1.4MHz, RB6-0
Channel: High

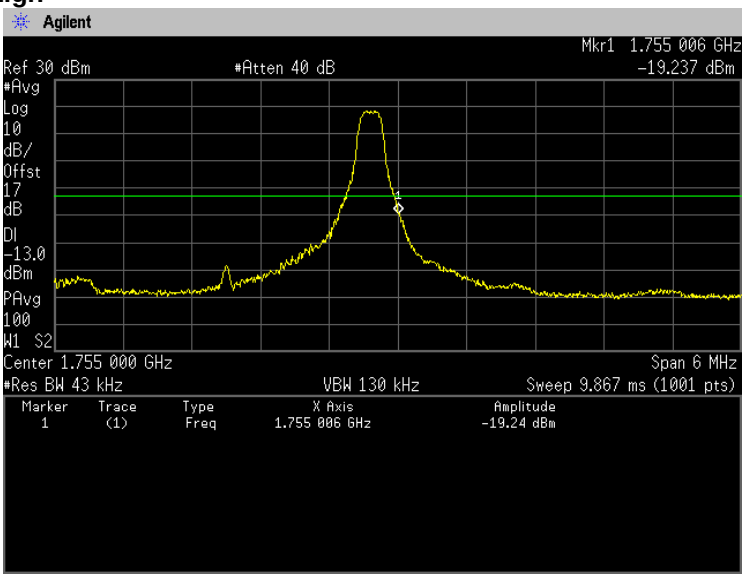


Japan

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

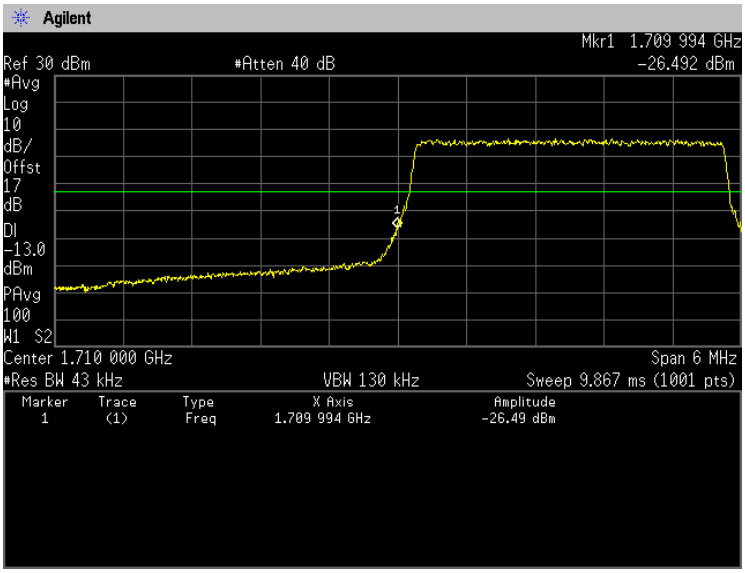


QPSK, BW 3MHz, RB1-14
Channel: High

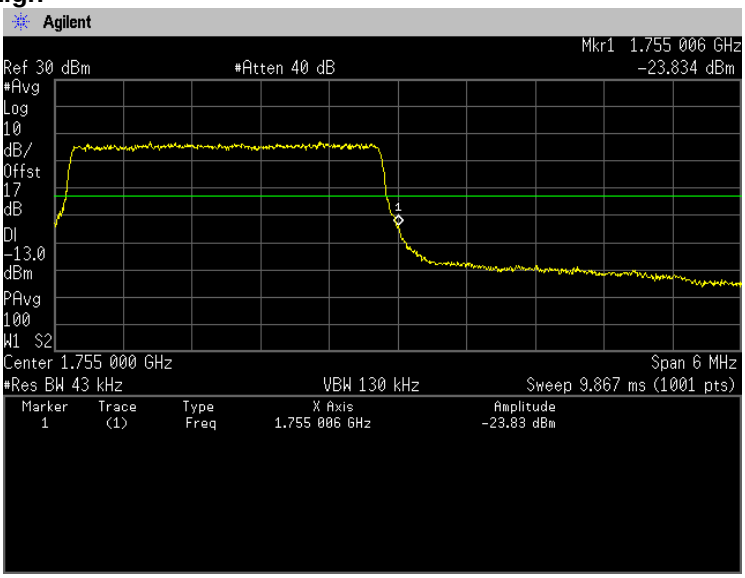


Japan

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

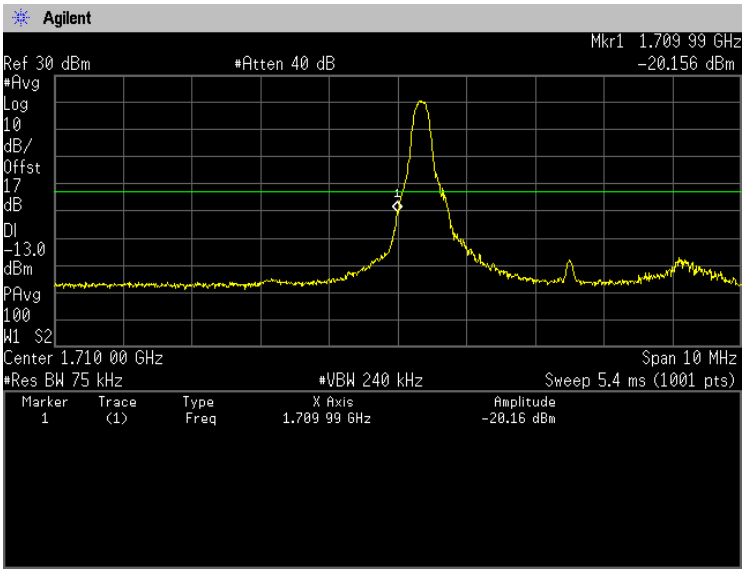


QPSK, BW 3MHz, RB15-0
Channel: High

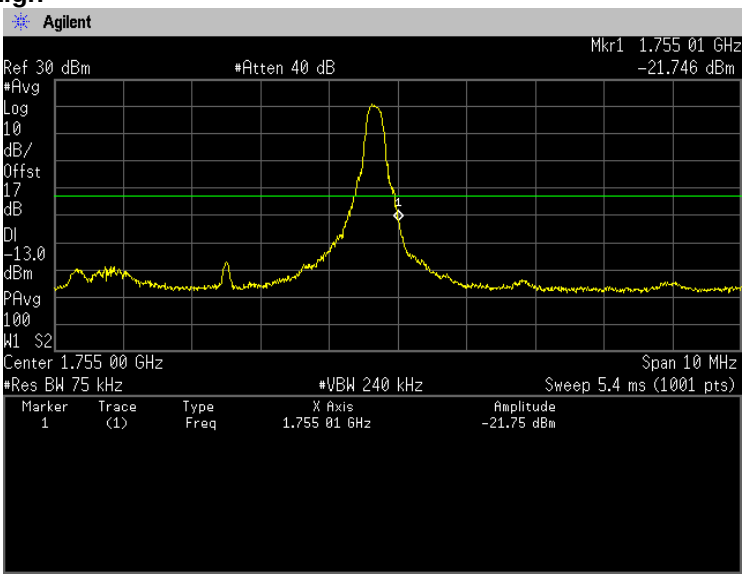


Japan

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

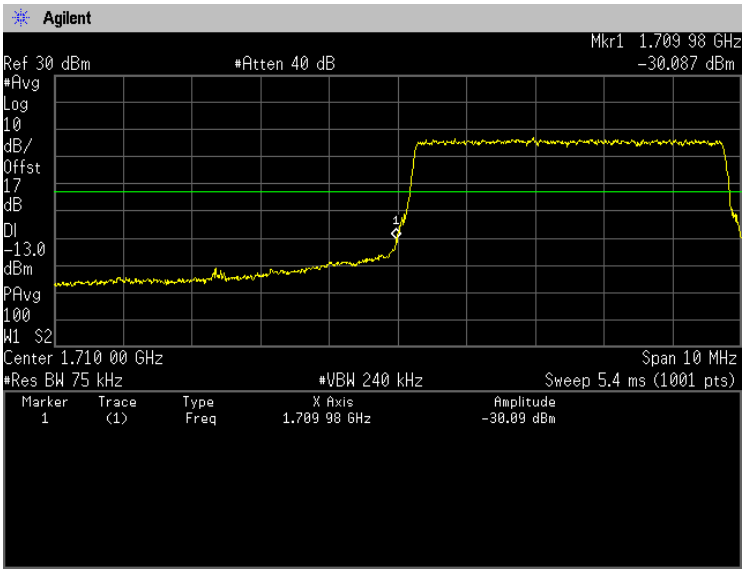


QPSK, BW 5MHz, RB1-24
Channel: High

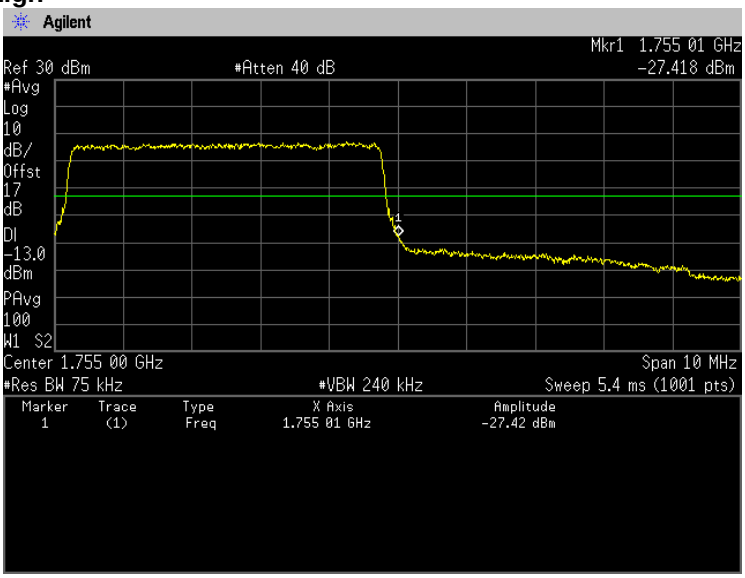


Japan

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

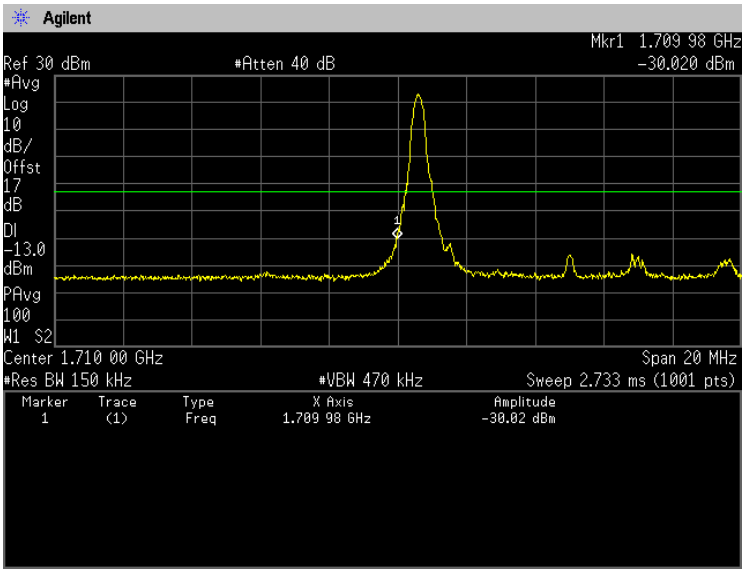


QPSK, BW 5MHz, RB25-0
Channel: High

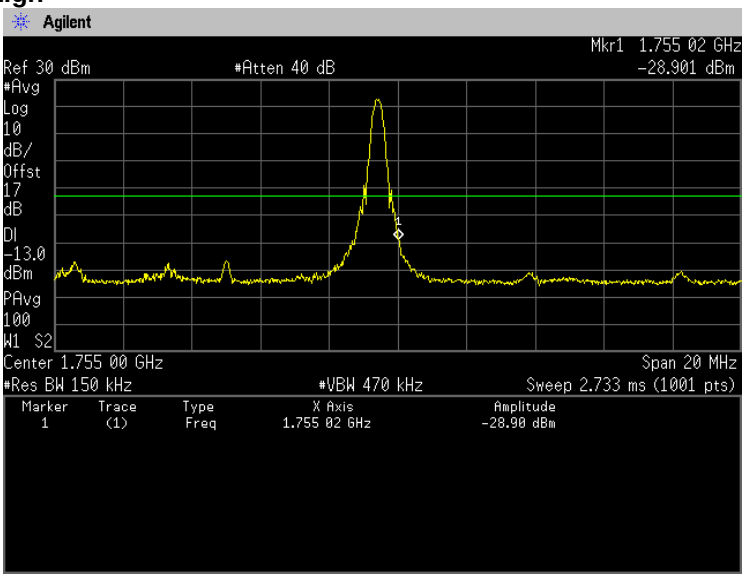


Japan

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

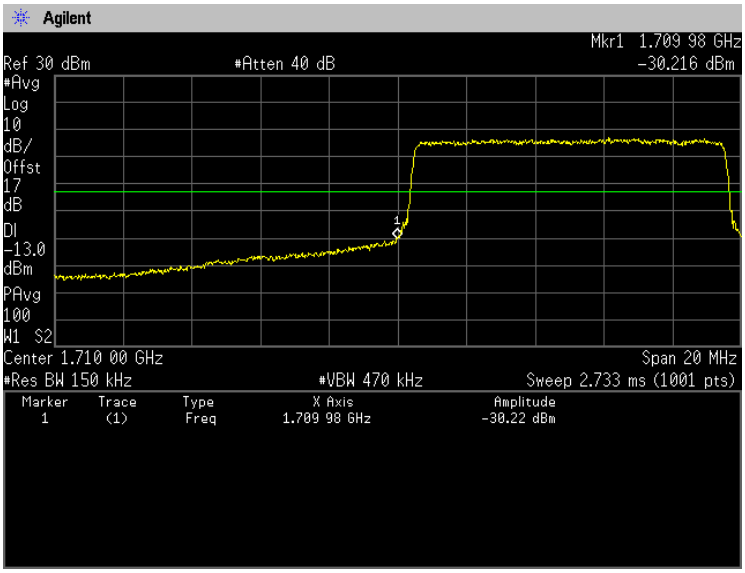


QPSK, BW 10MHz, RB1-49
Channel: High

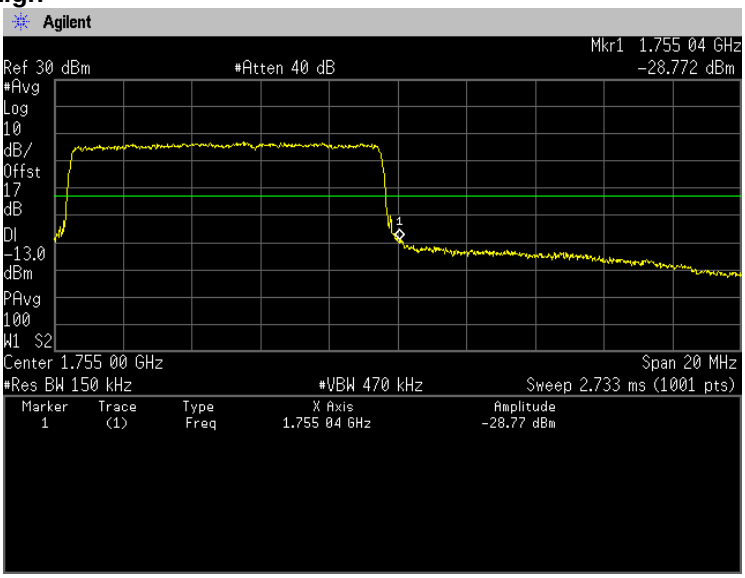


Japan

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

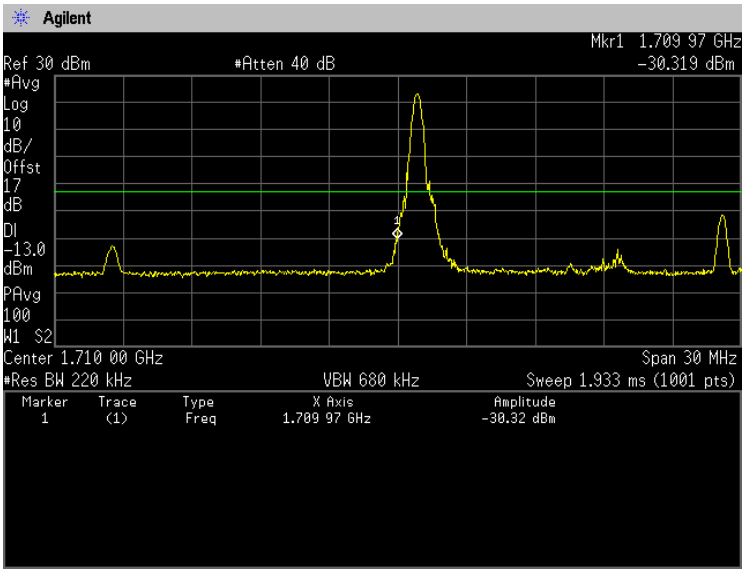


QPSK, BW 10MHz, RB50-0
Channel: High

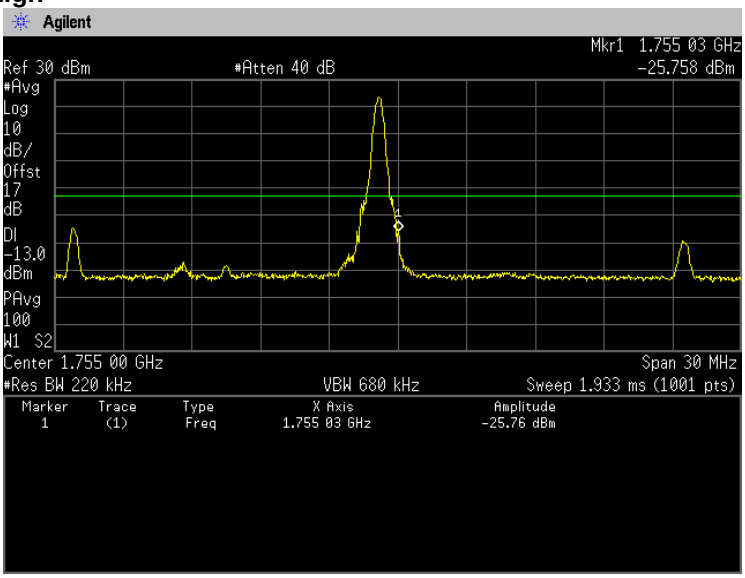


Japan

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

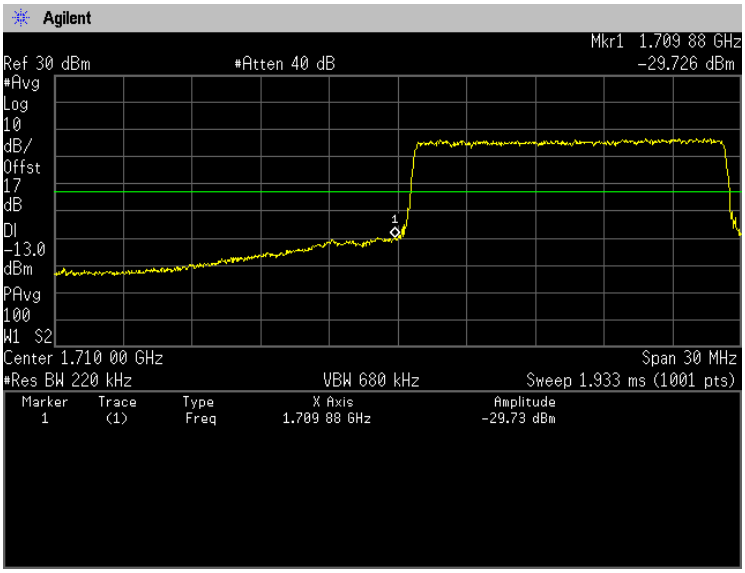


QPSK, BW 15MHz, RB1-74
Channel: High

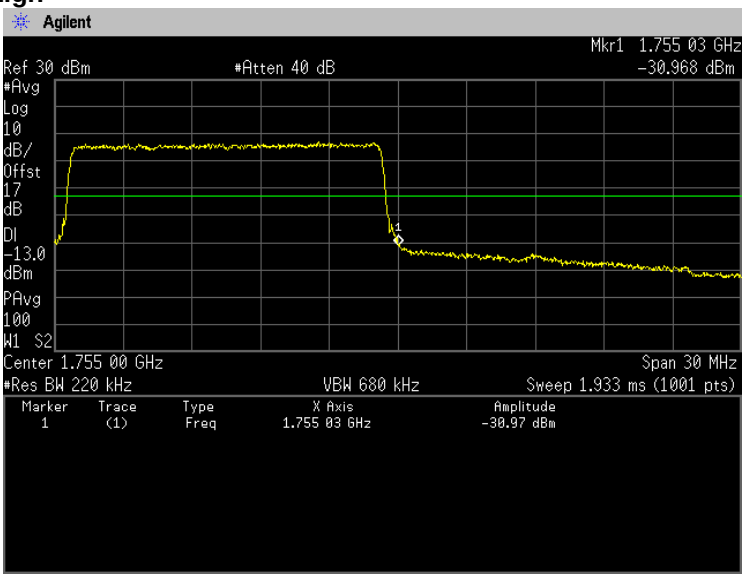


Japan

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

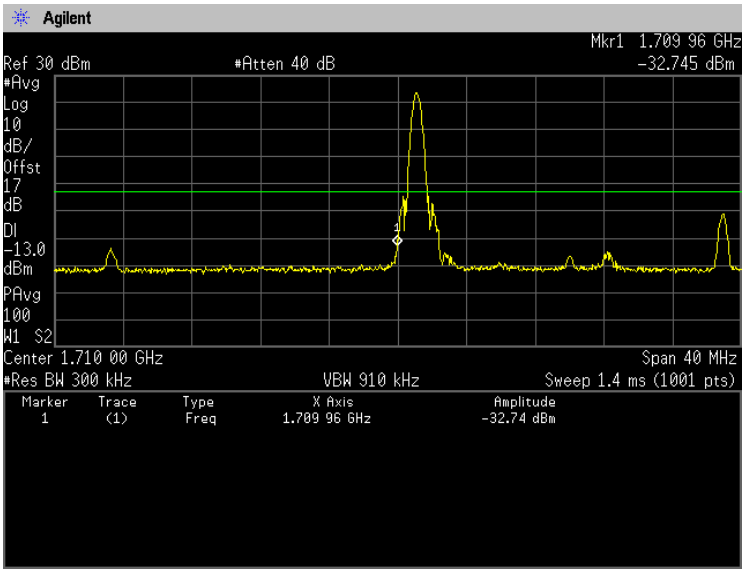


QPSK, BW 15MHz, RB75-0
Channel: High

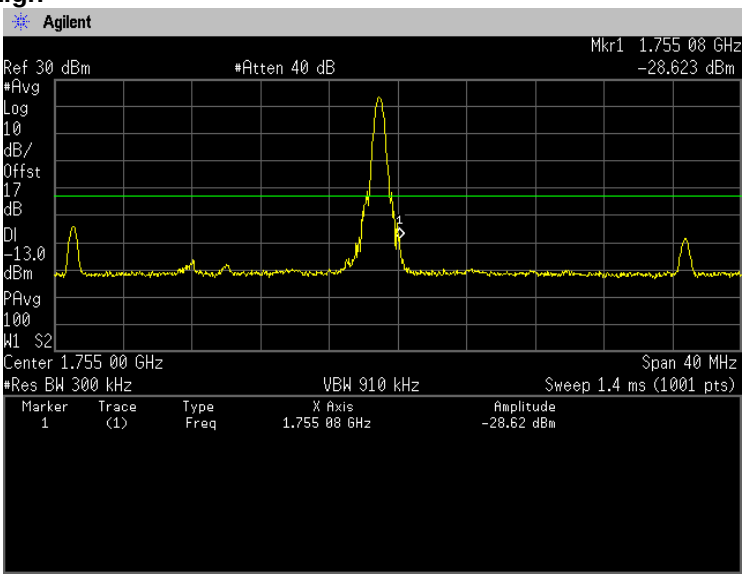


Japan

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

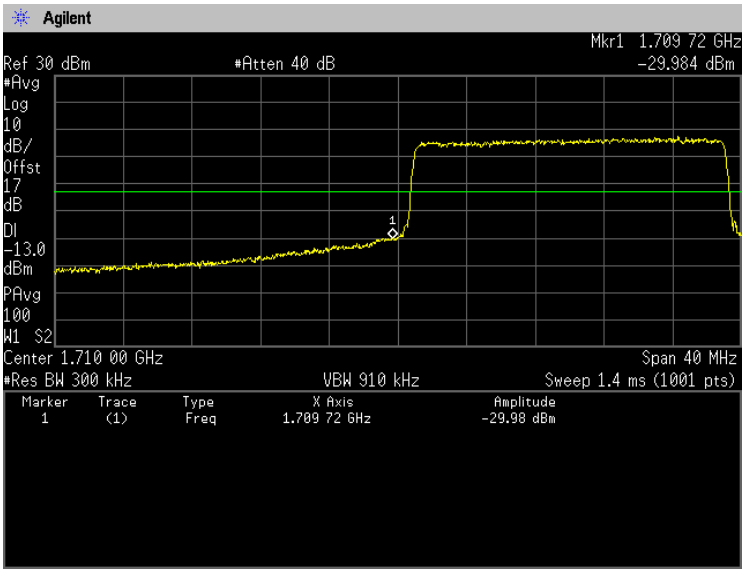


QPSK, BW 20MHz, RB1-99
Channel: High

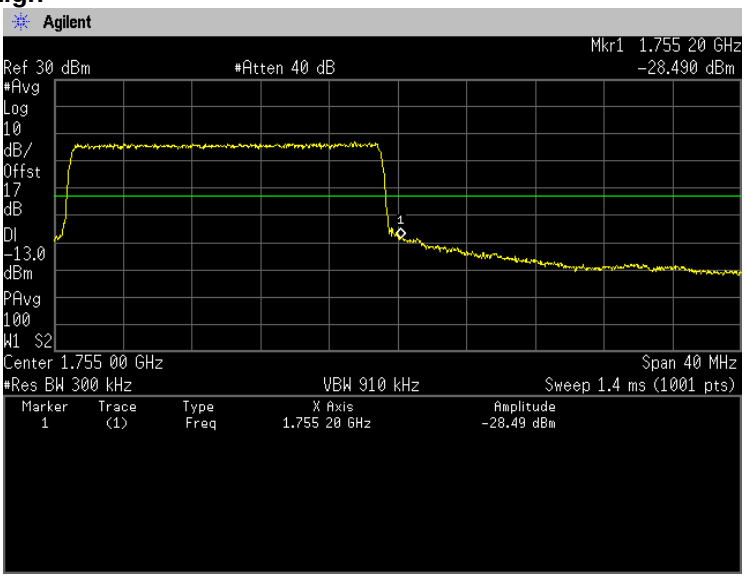


Japan

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

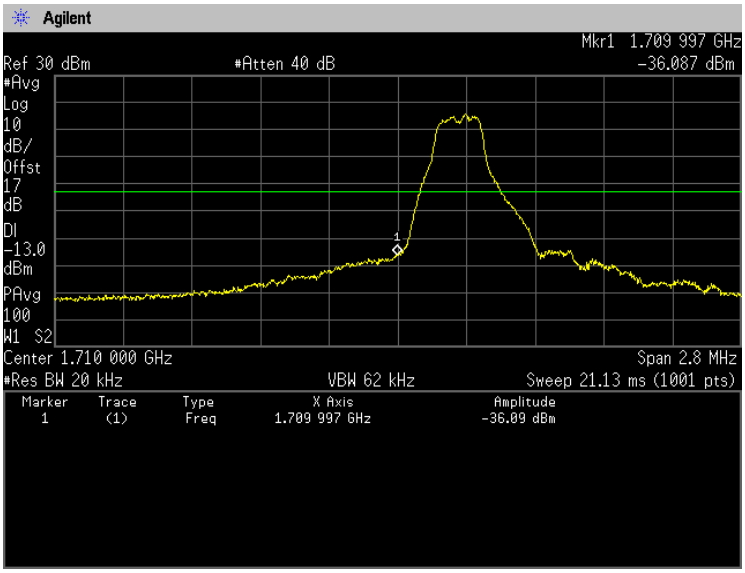


QPSK, BW 20MHz, RB100-0
Channel: High

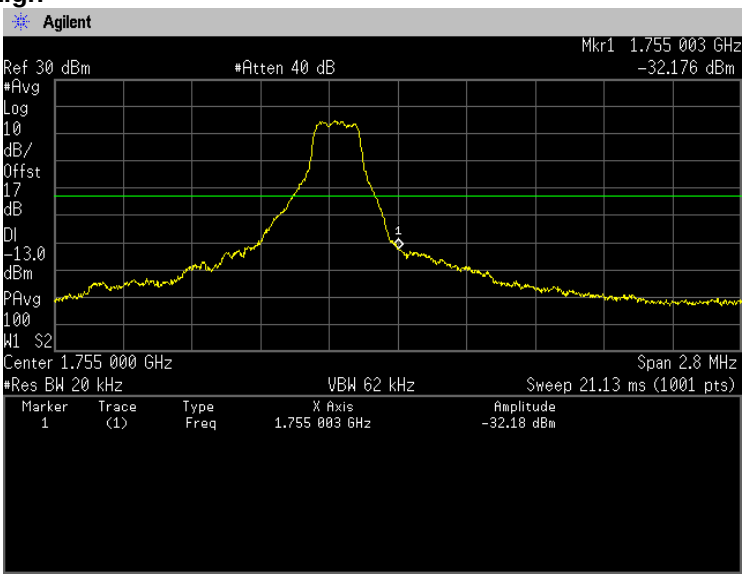


Japan

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

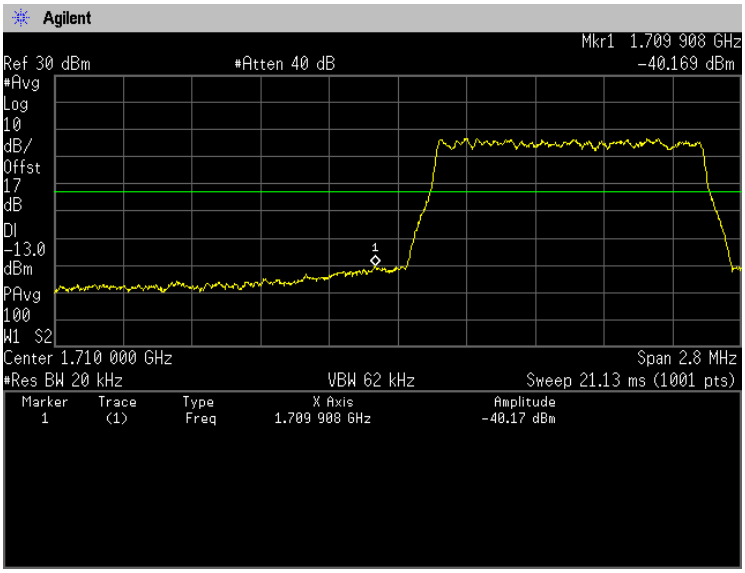


16QAM, BW 1.4MHz, RB1-5
Channel: High

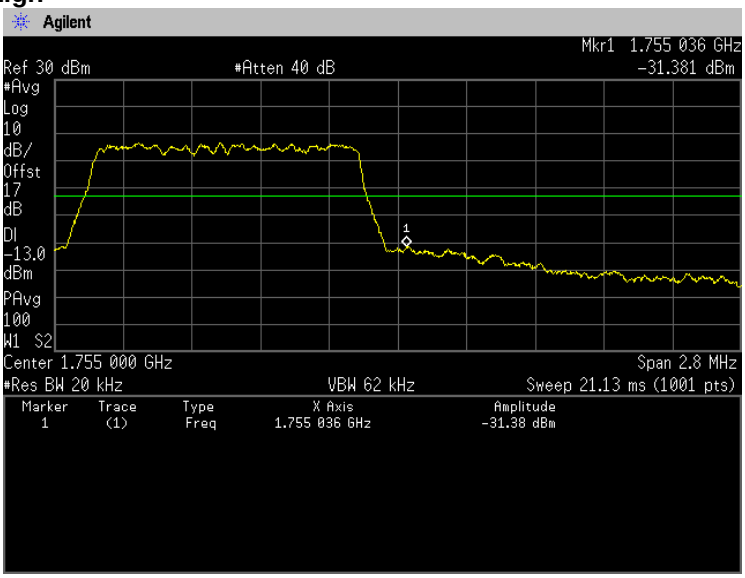


Japan

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

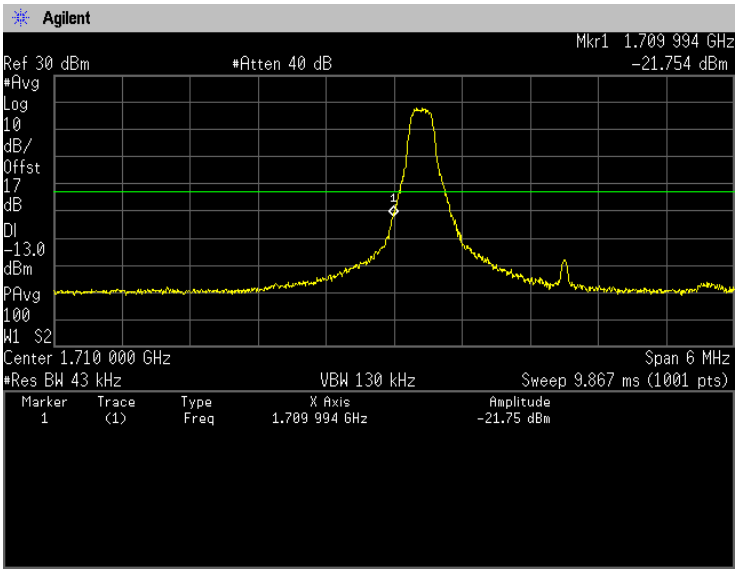


16QAM, BW 1.4MHz, RB6-0
Channel: High

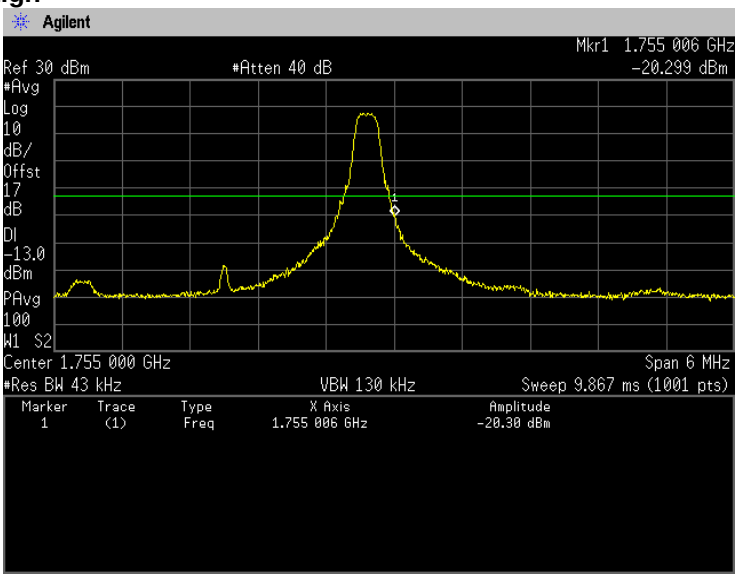


Japan

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

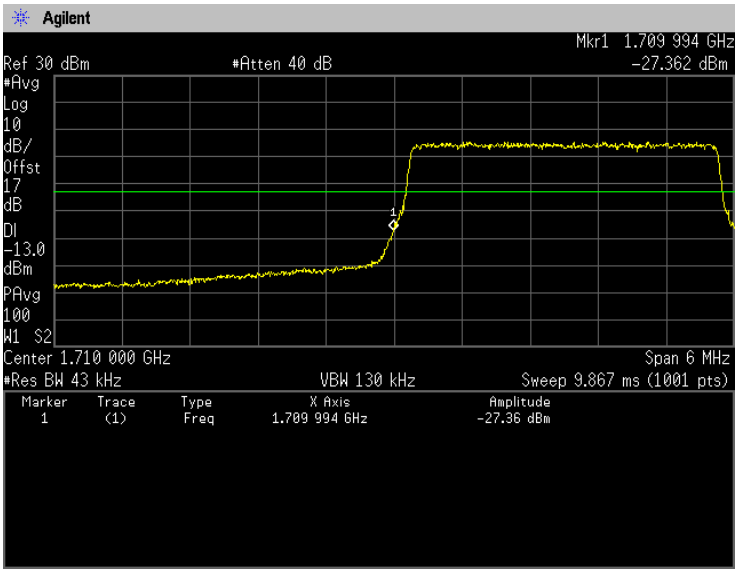


16QAM, BW 3MHz, RB1-14
Channel: High

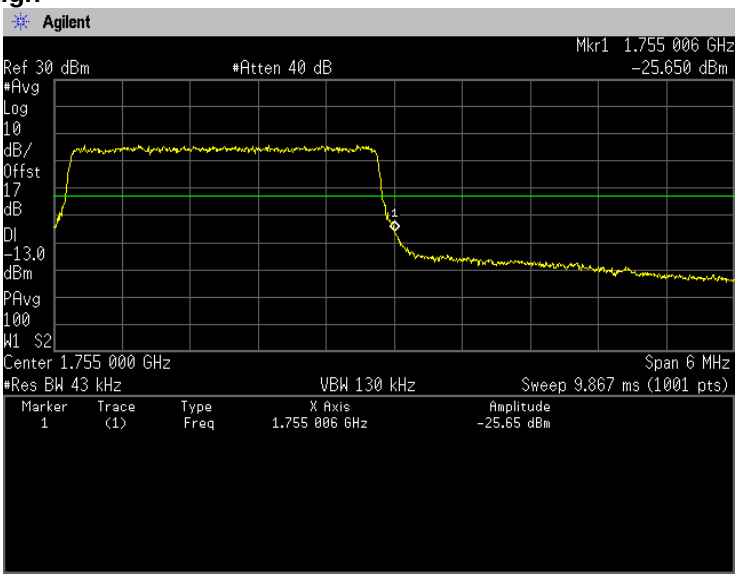


Japan

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

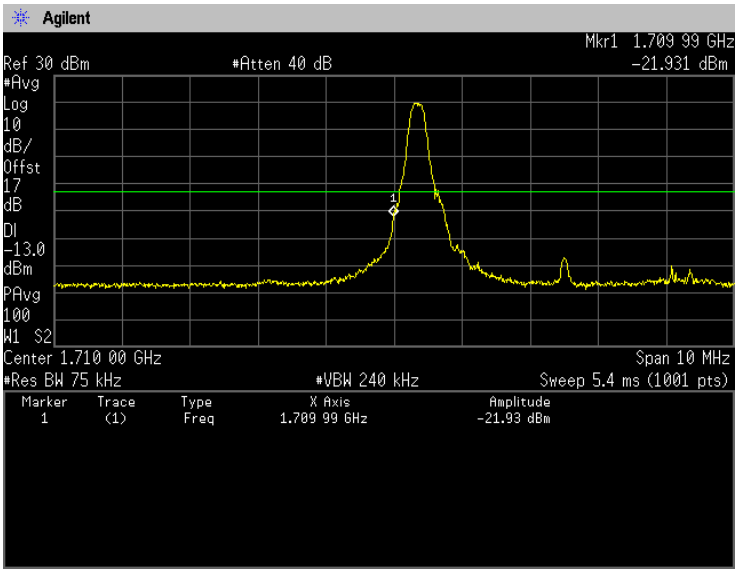


16QAM, BW 3MHz, RB15-0
Channel: High

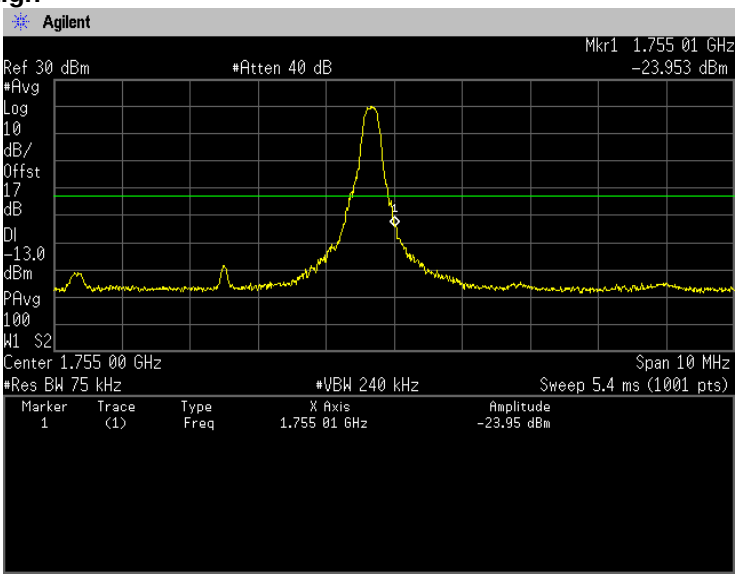


Japan

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

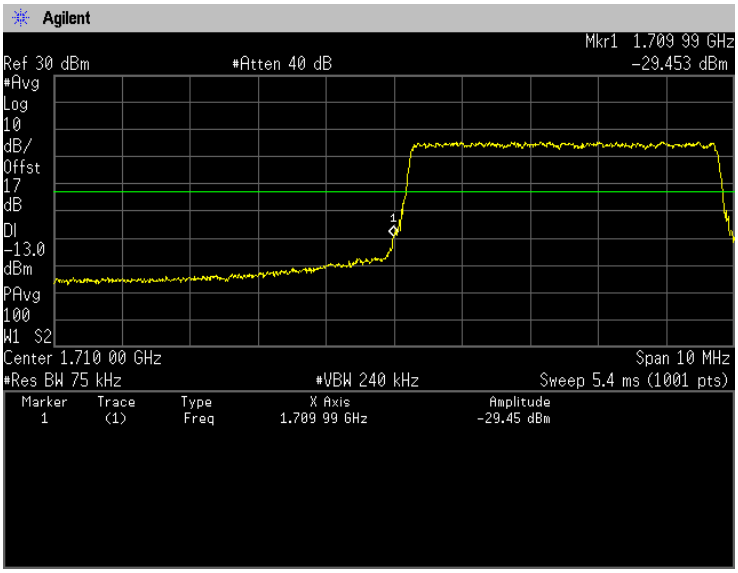


16QAM, BW 5MHz, RB1-24
Channel: High

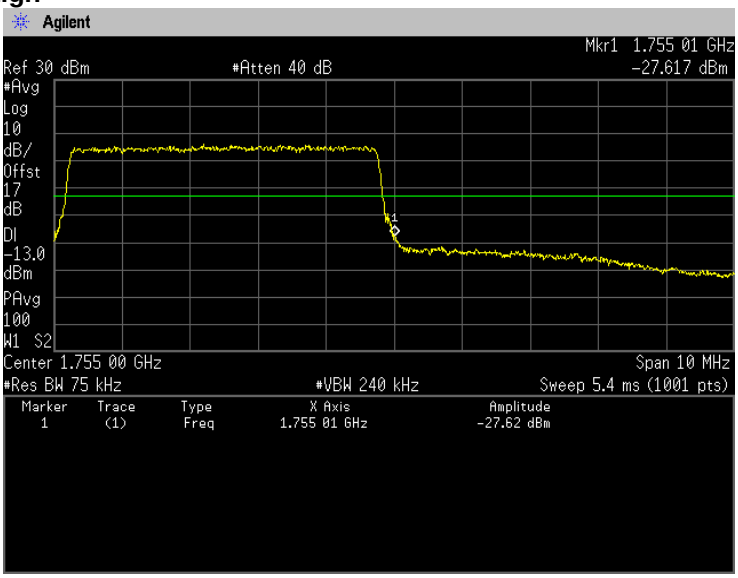


Japan

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

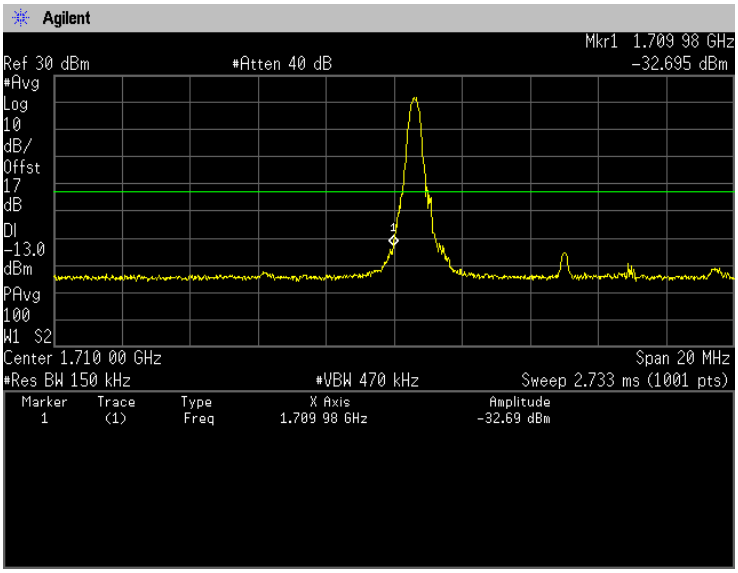


16QAM, BW 5MHz, RB25-0
Channel: High

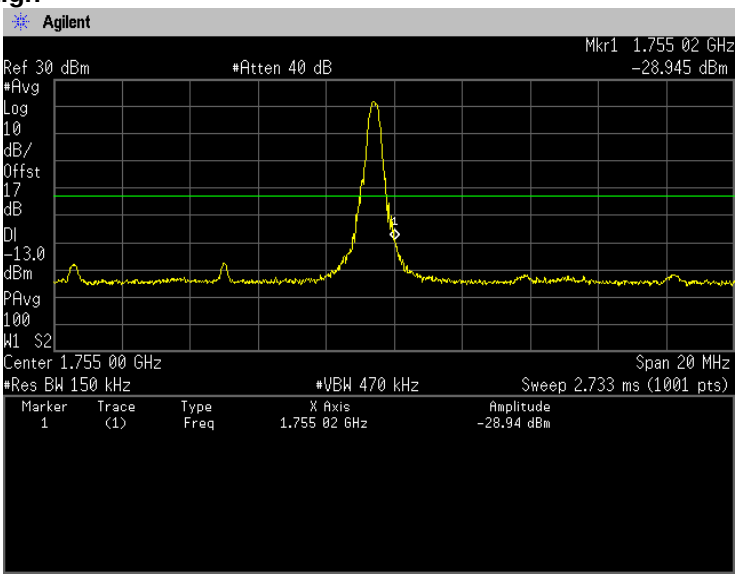


Japan

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

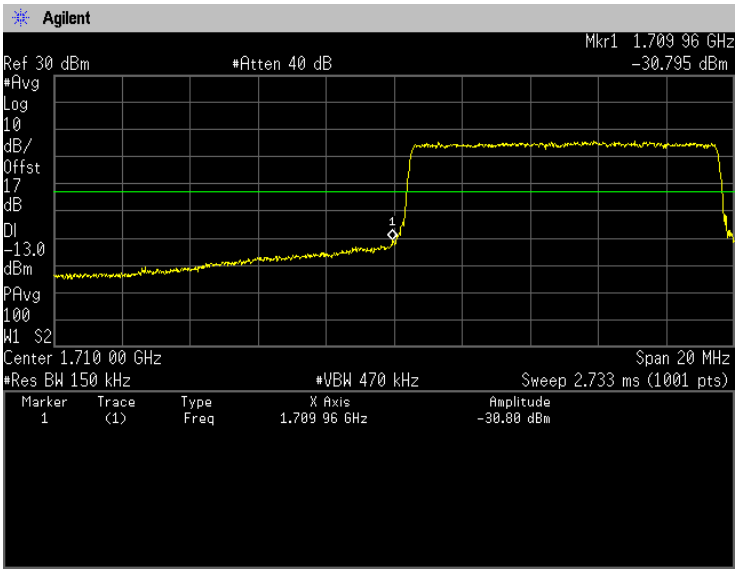


16QAM, BW 10MHz, RB1-49
Channel: High

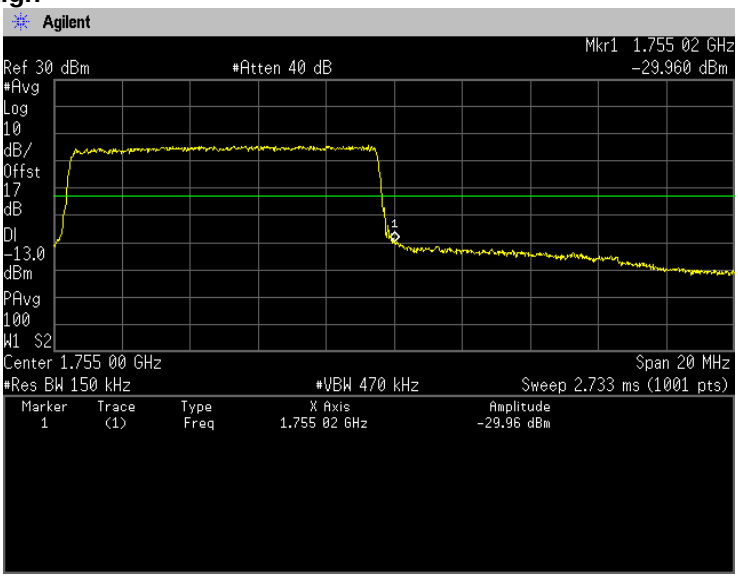


Japan

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

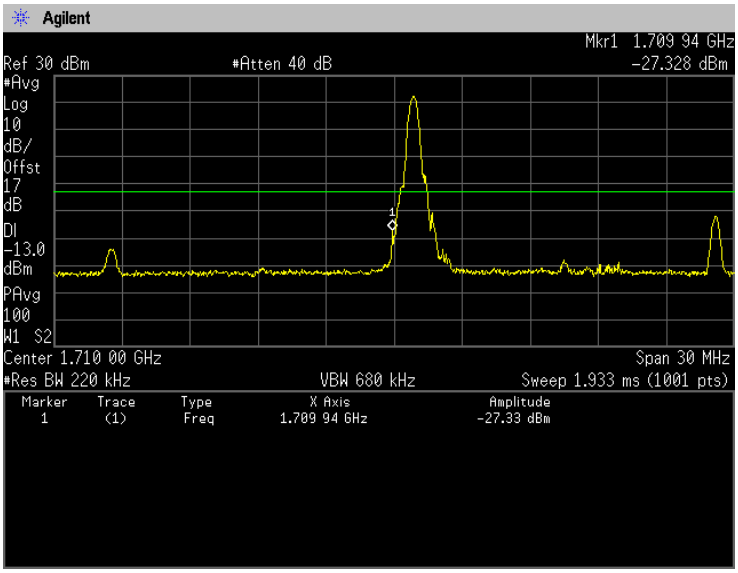


16QAM, BW 10MHz, RB50-0
Channel: High

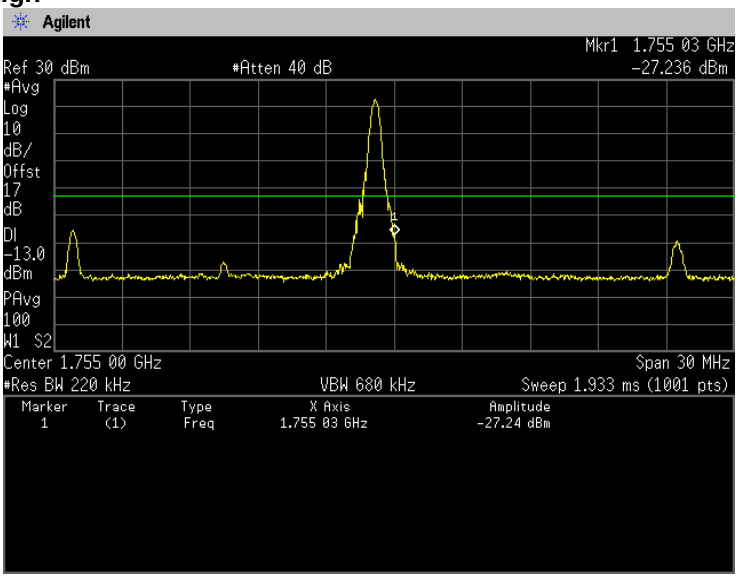


Japan

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

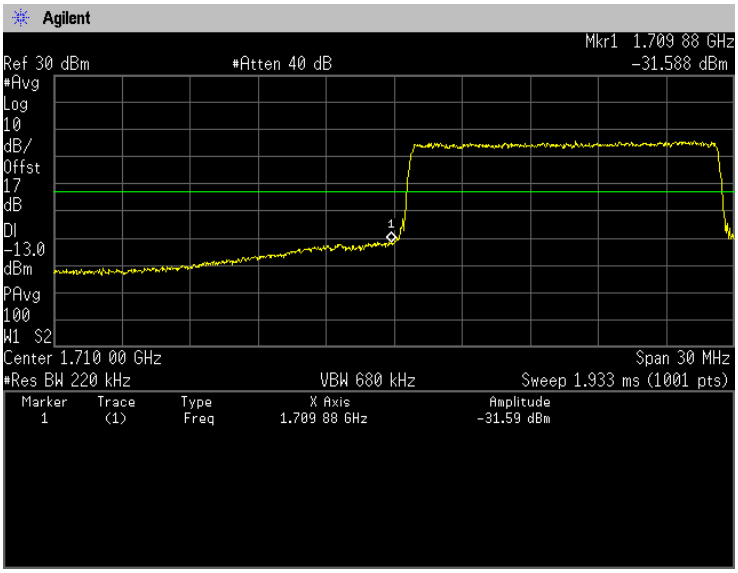


16QAM, BW 15MHz, RB1-74
Channel: High

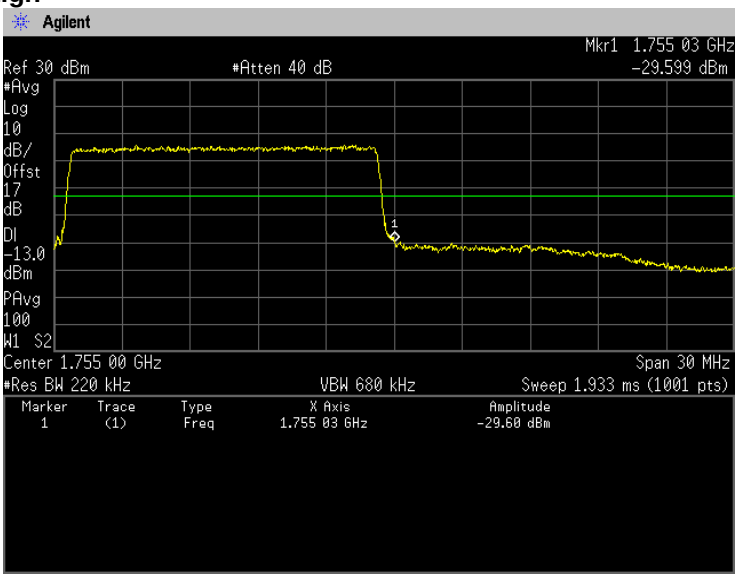


Japan

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

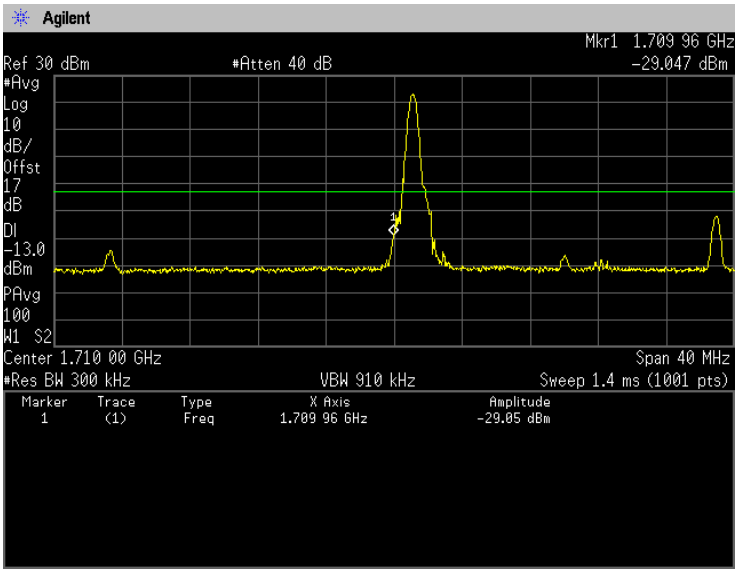


16QAM, BW 15MHz, RB75-0
Channel: High

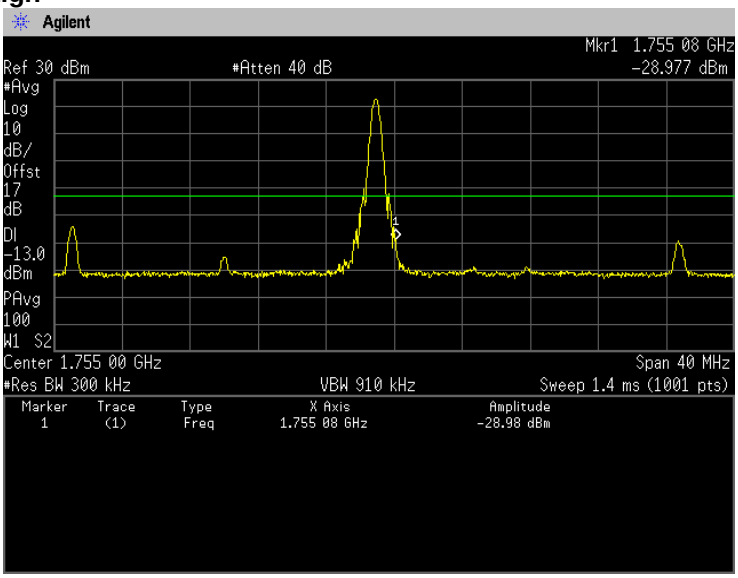


Japan

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

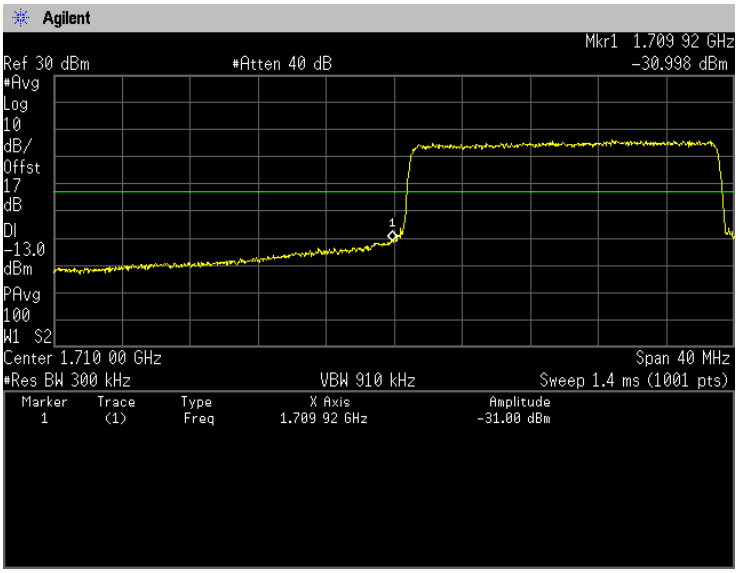


16QAM, BW 20MHz, RB1-99
Channel: High

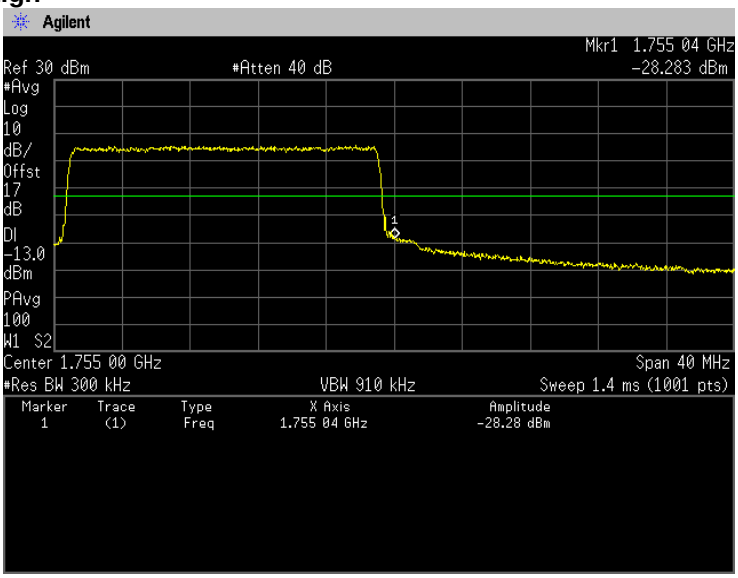


Japan

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

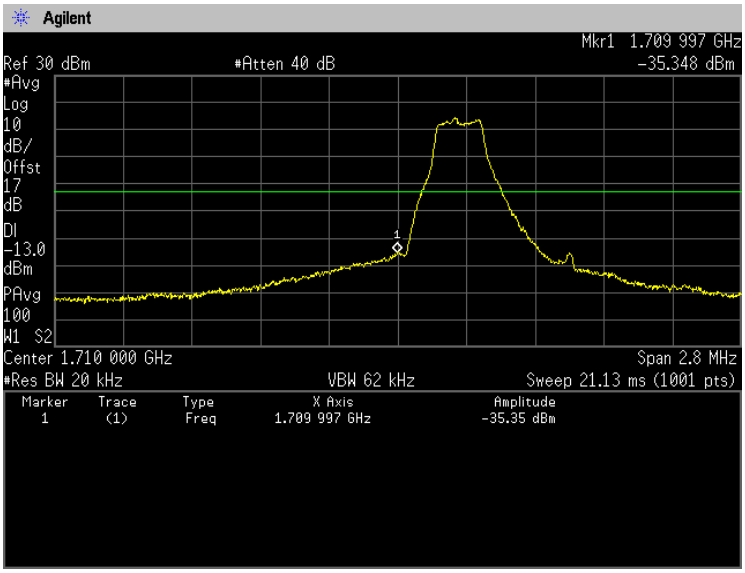


16QAM, BW 20MHz, RB100-0
Channel: High

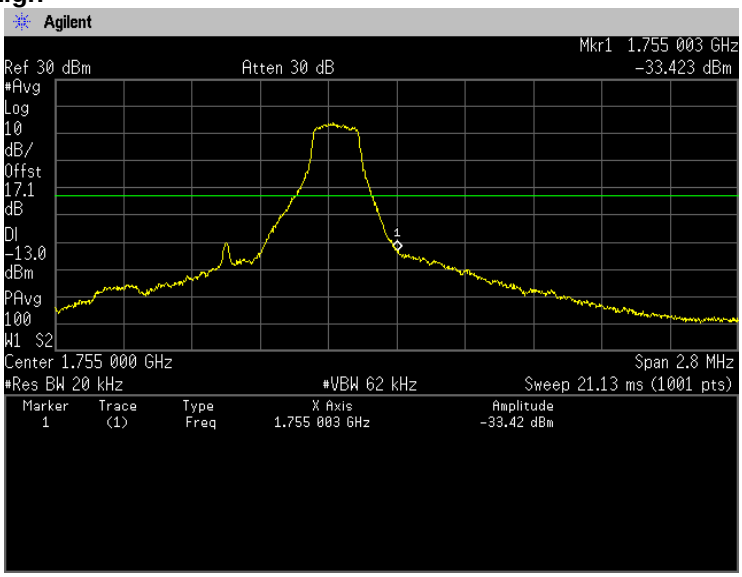


Japan

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

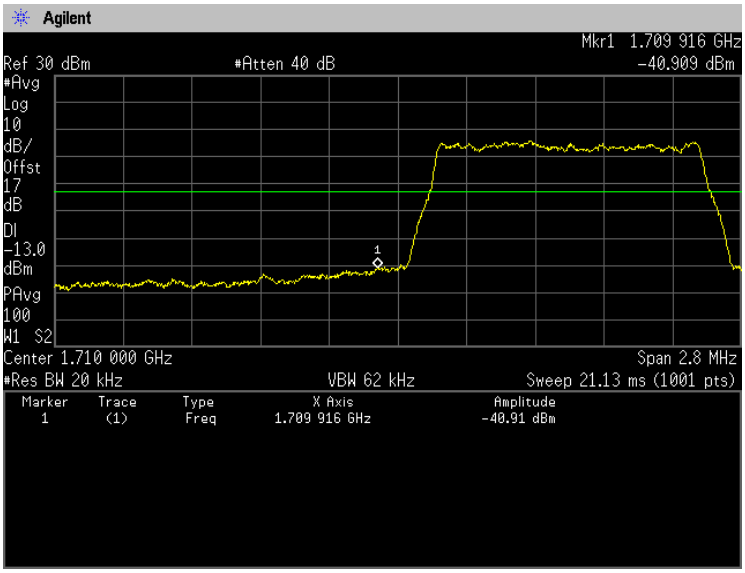


64QAM, BW 1.4MHz, RB1-5
Channel: High

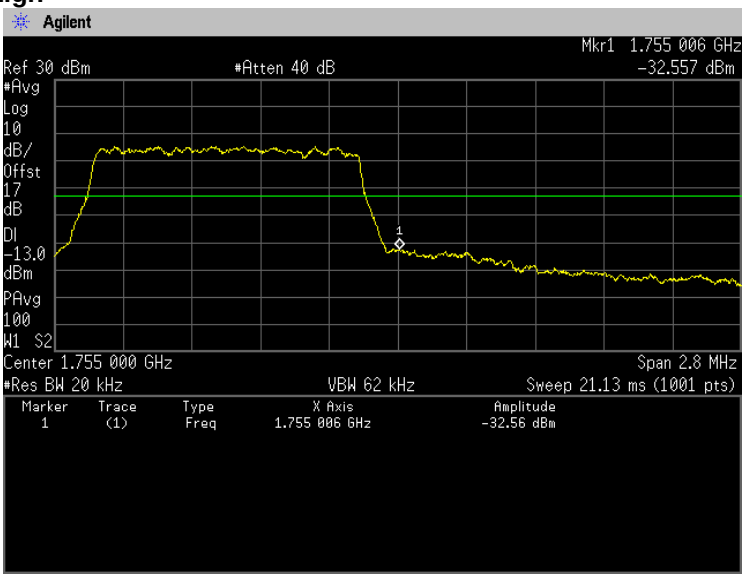


Japan

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

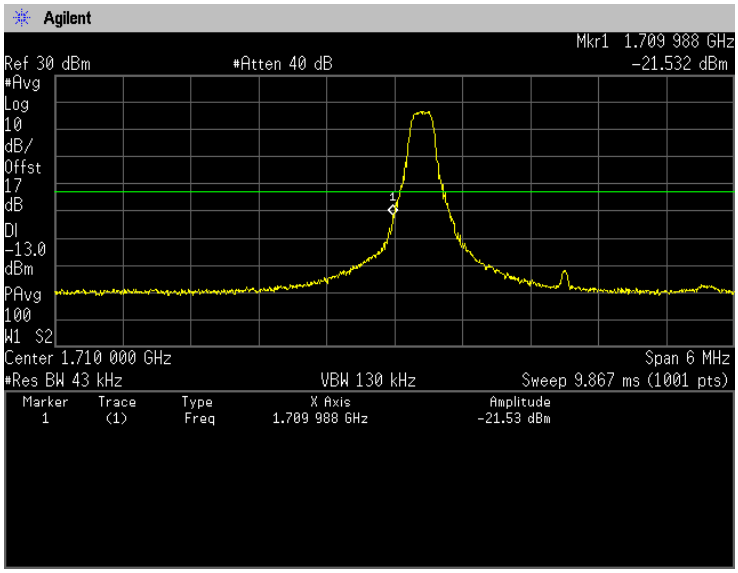


64QAM, BW 1.4MHz, RB6-0
Channel: High

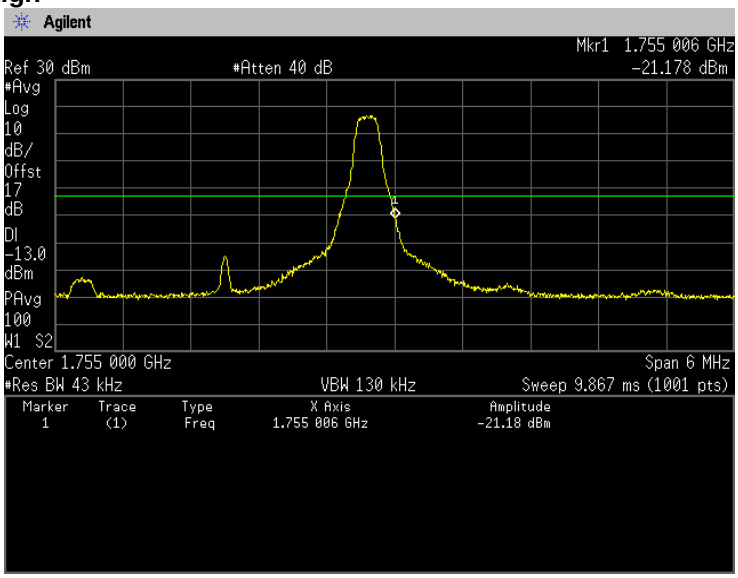


Japan

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

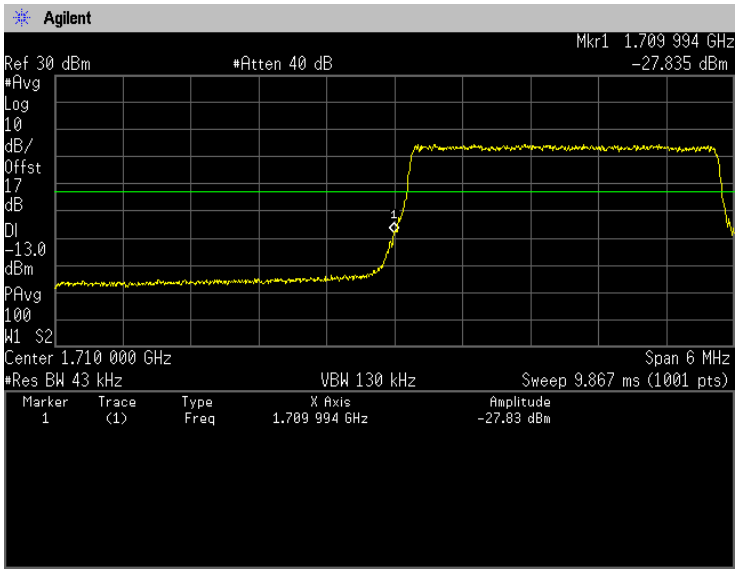


64QAM, BW 3MHz, RB1-14
Channel: High

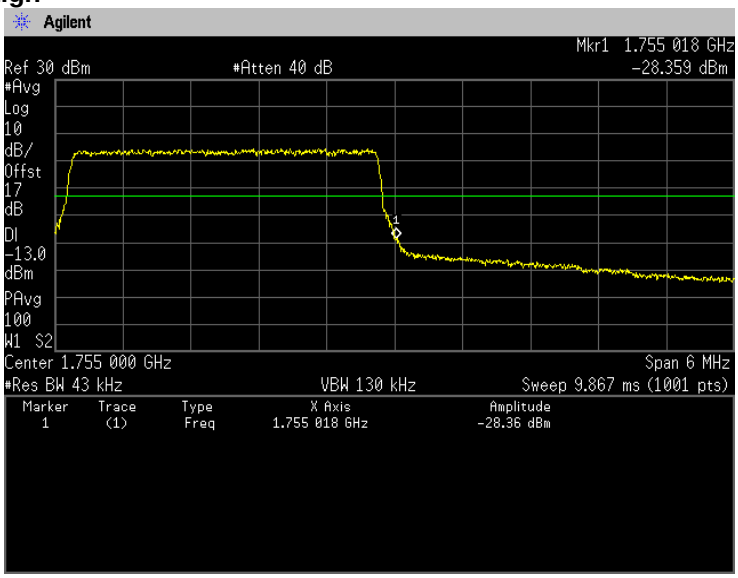


Japan

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

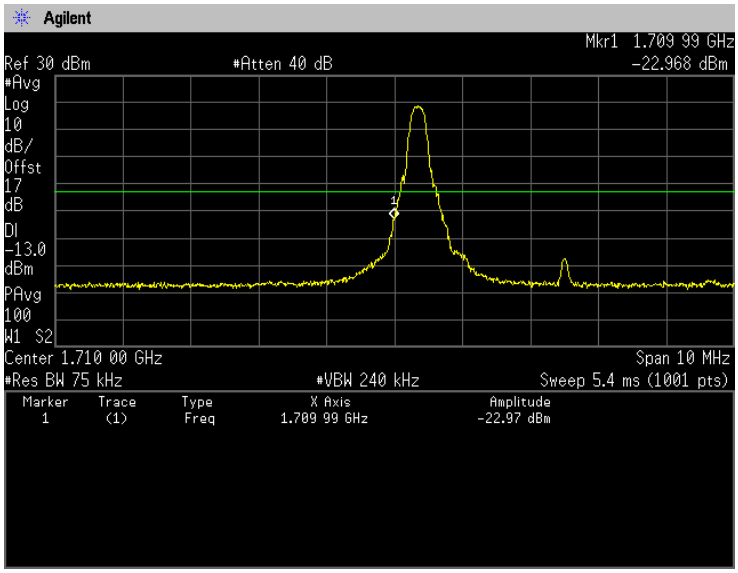


64QAM, BW 3MHz, RB15-0
Channel: High

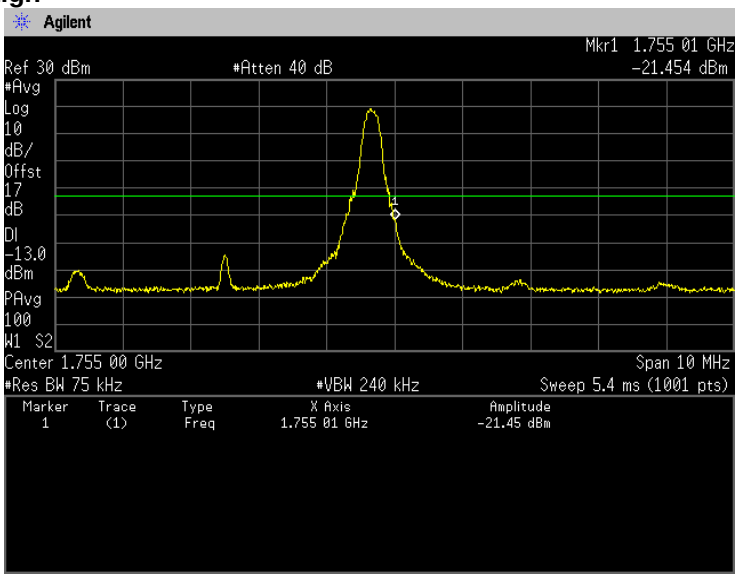


Japan

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

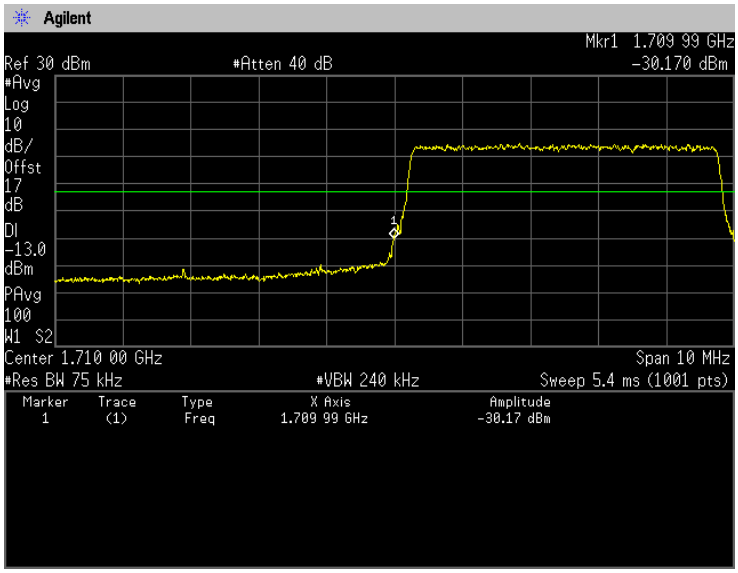


64QAM, BW 5MHz, RB1-24
Channel: High

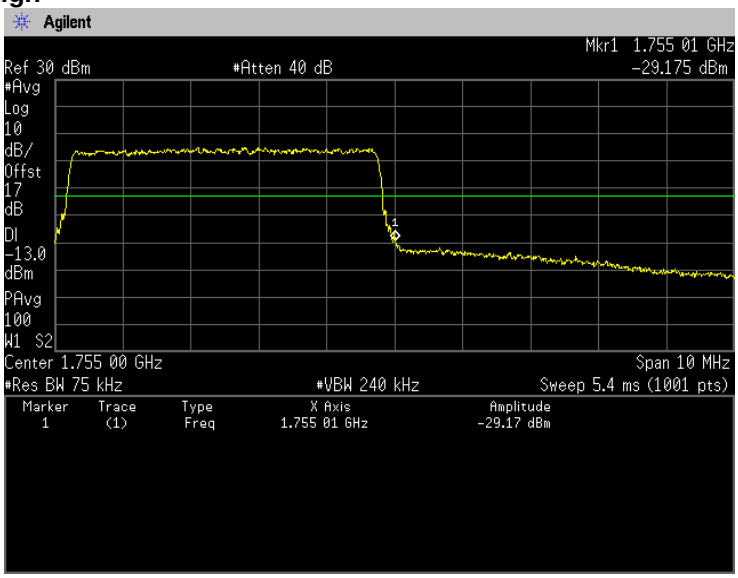


Japan

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

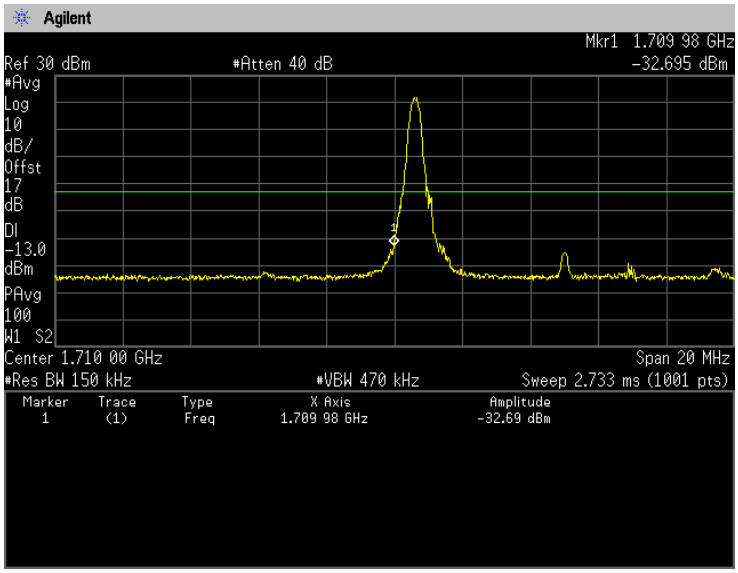


64QAM, BW 5MHz, RB25-0
Channel: High

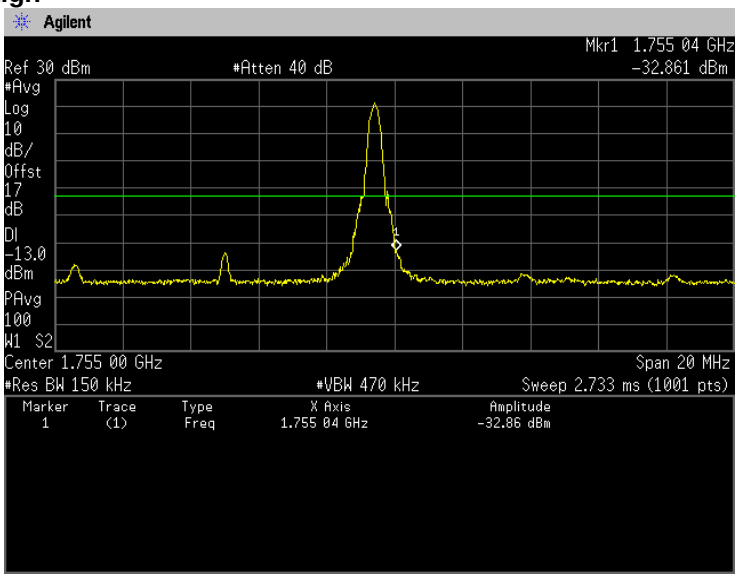


Japan

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

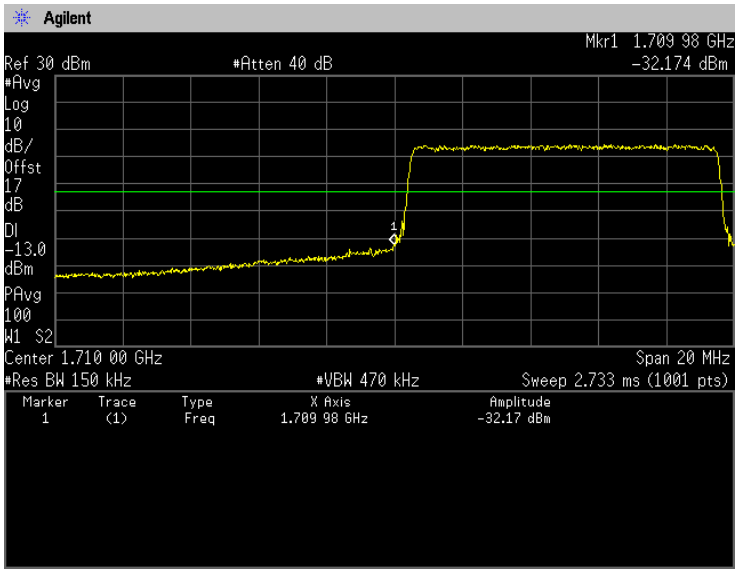


64QAM, BW 10MHz, RB1-49
Channel: High

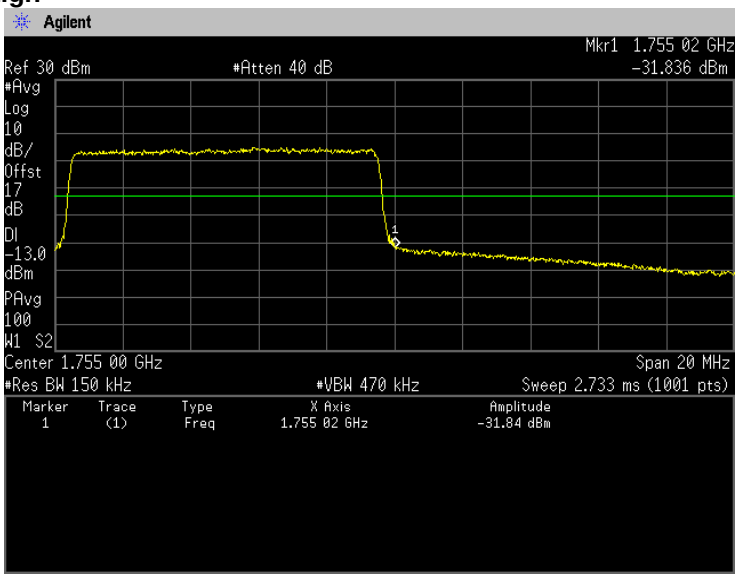


Japan

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

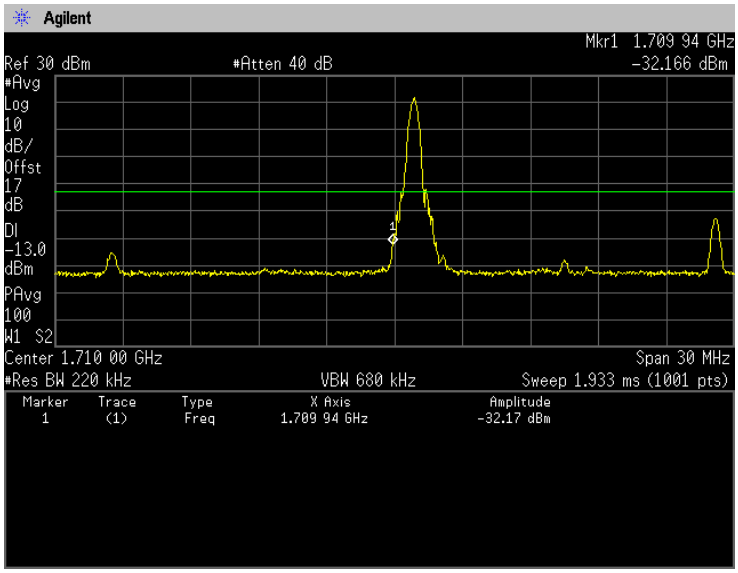


64QAM, BW 10MHz, RB50-0
Channel: High

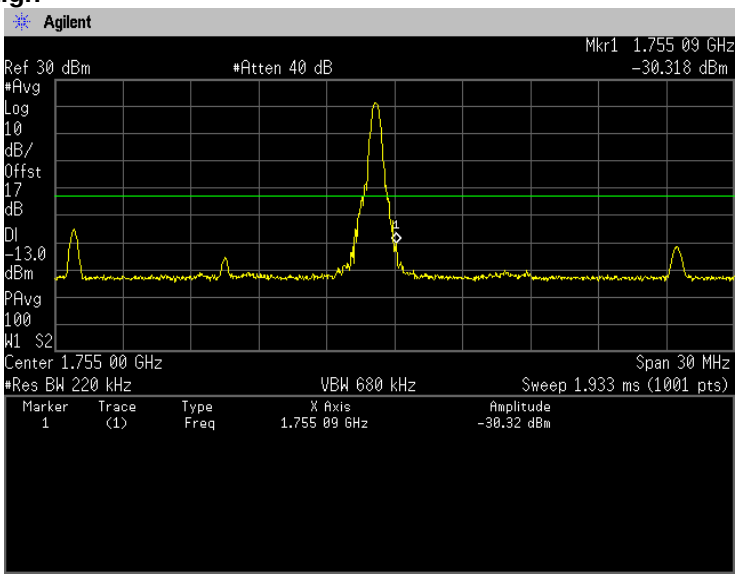


Japan

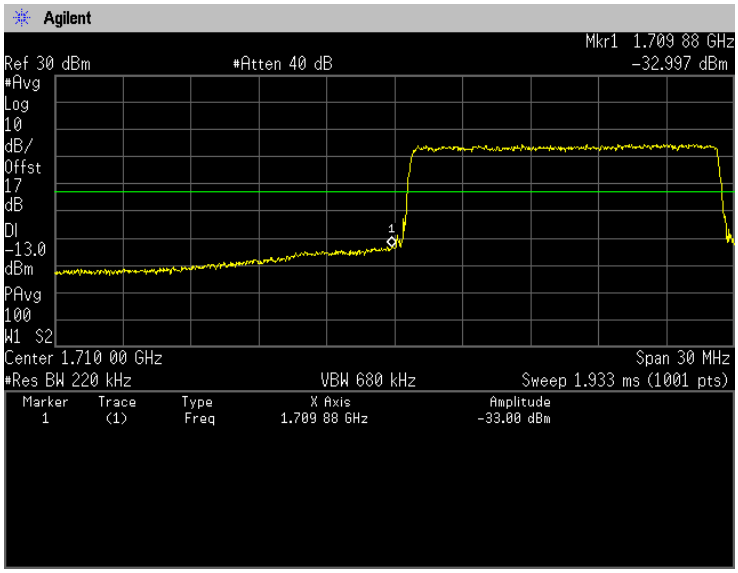
64QAM, BW 15MHz, RB1-0
Channel: Low



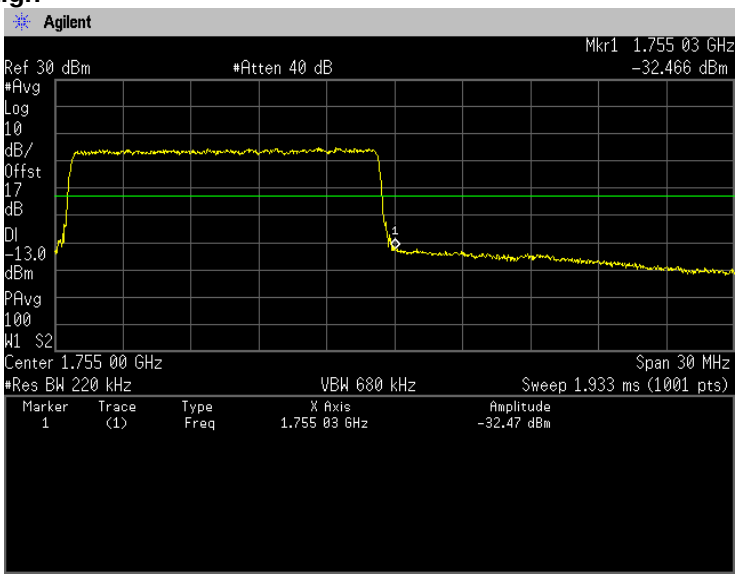
64QAM, BW 15MHz, RB1-74
Channel: High



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

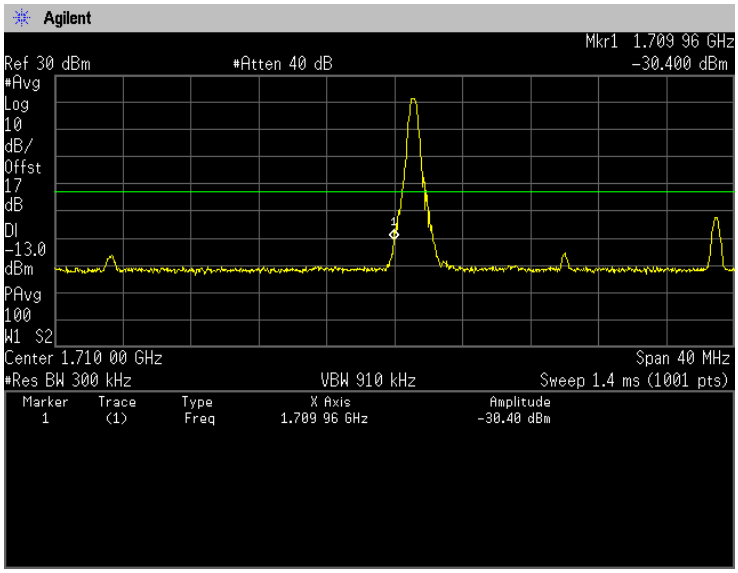


64QAM, BW 15MHz, RB75-0
Channel: High

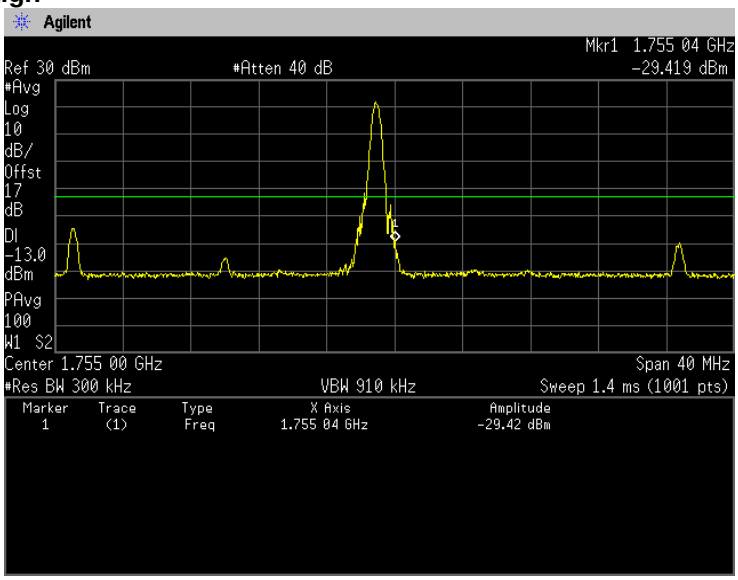


Japan

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

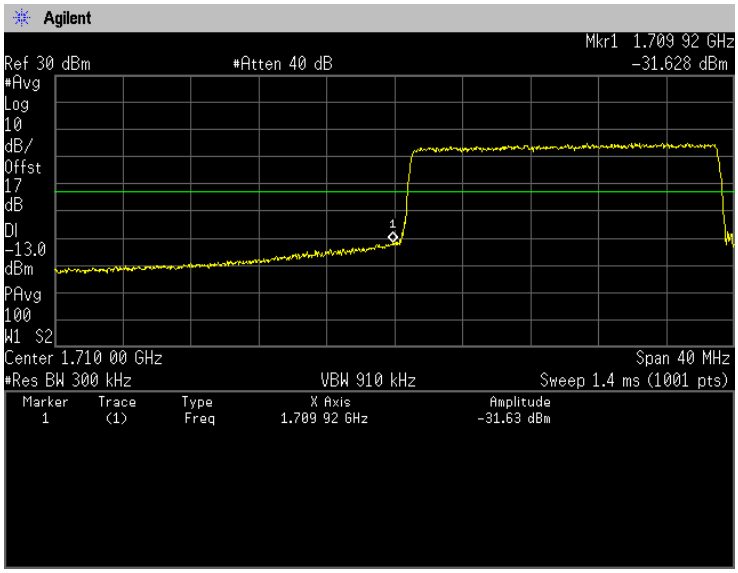


64QAM, BW 20MHz, RB1-99
Channel: High

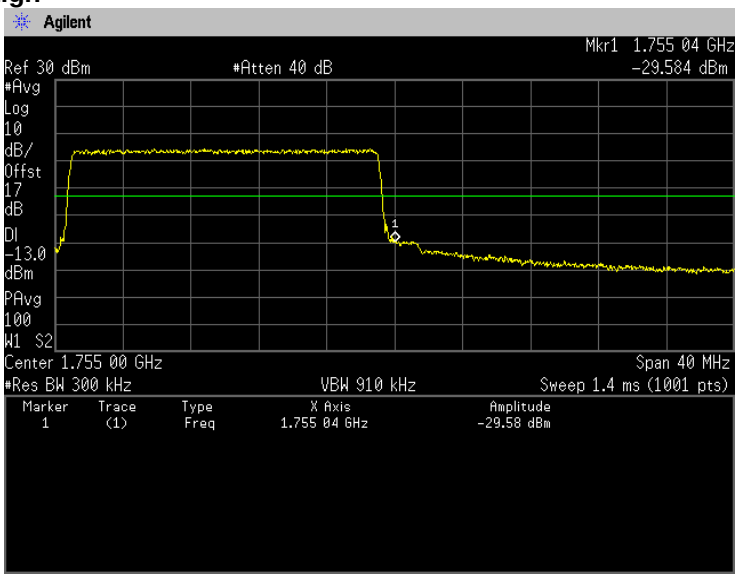


Japan

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



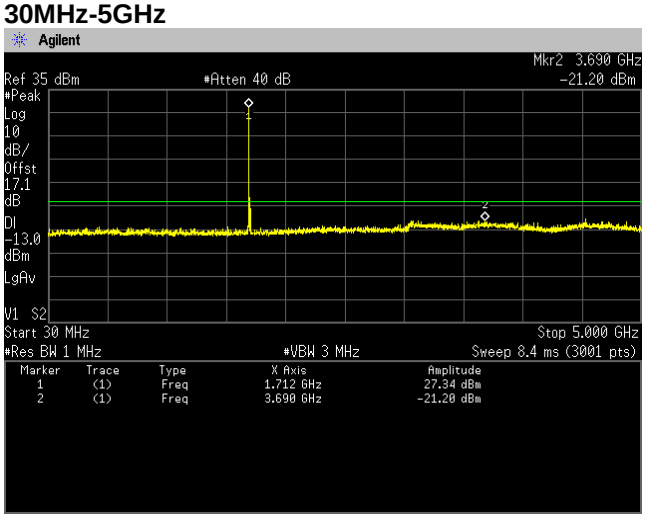
64QAM, BW 20MHz, RB100-0
Channel: High



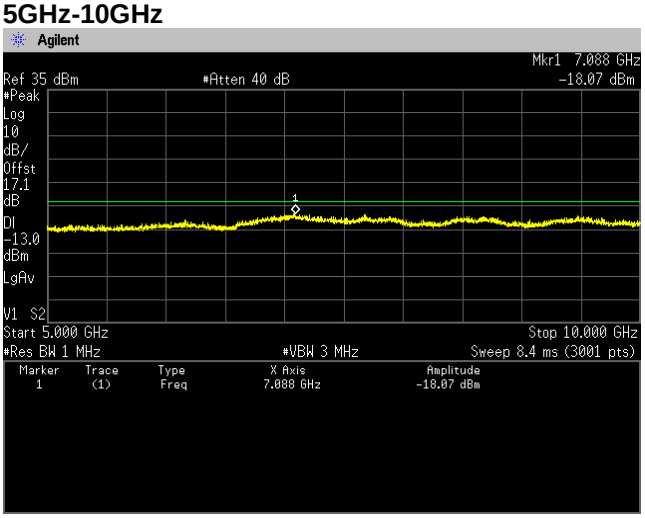
(Spurious Emissions)
Note: Conducted spurious test was measured in the worst case of Effective Radiated power.

QPSK, BW 15MHz
Channel: 20025

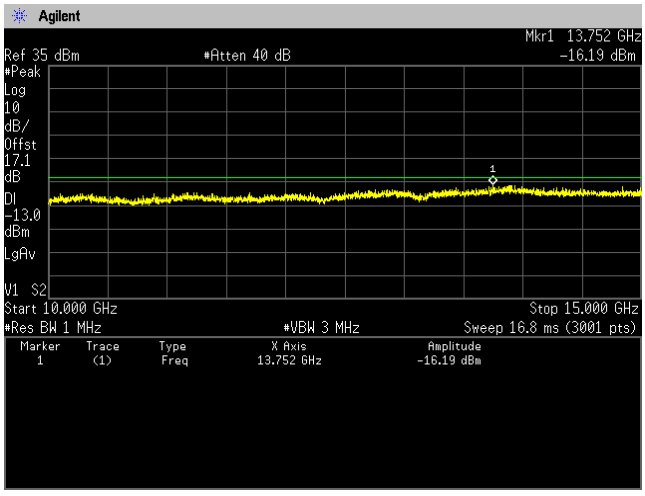
30MHz-5GHz



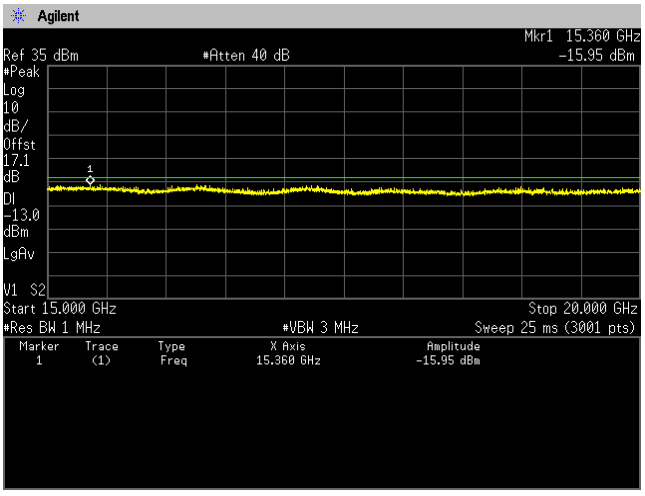
5GHz-10GHz



10GHz-15GHz

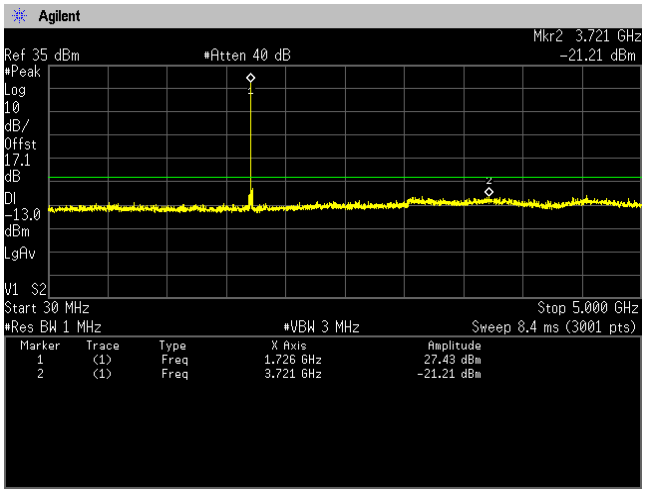


15GHz-20GHz

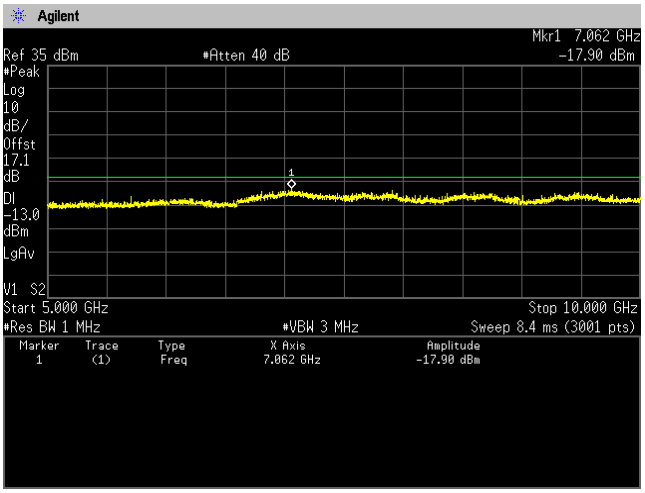


Channel: 20175

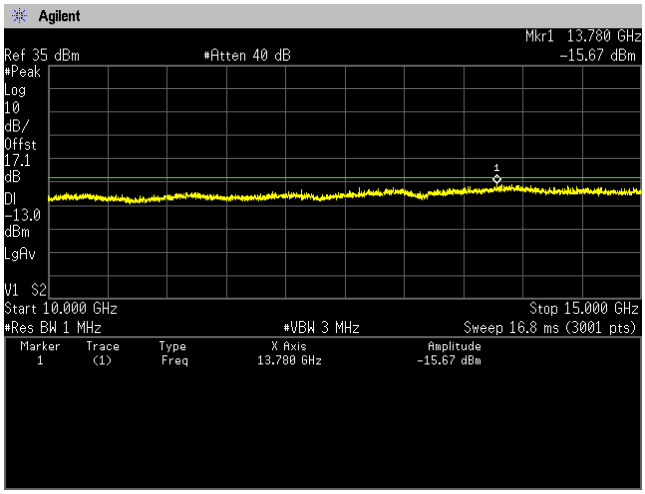
30MHz-5GHz



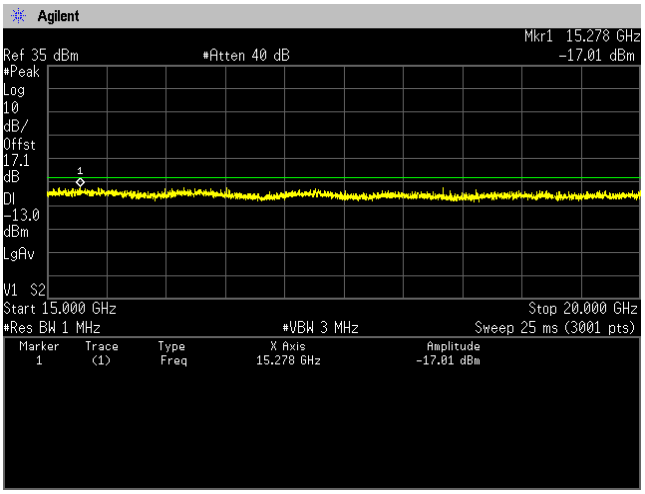
5GHz-10GHz



10GHz-15GHz



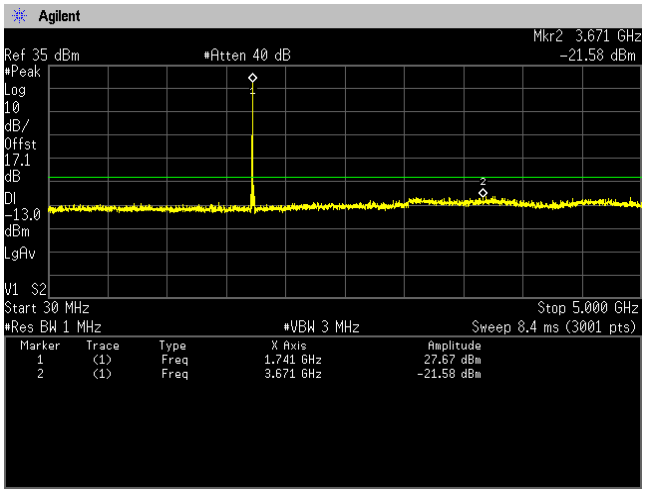
15GHz-20GHz



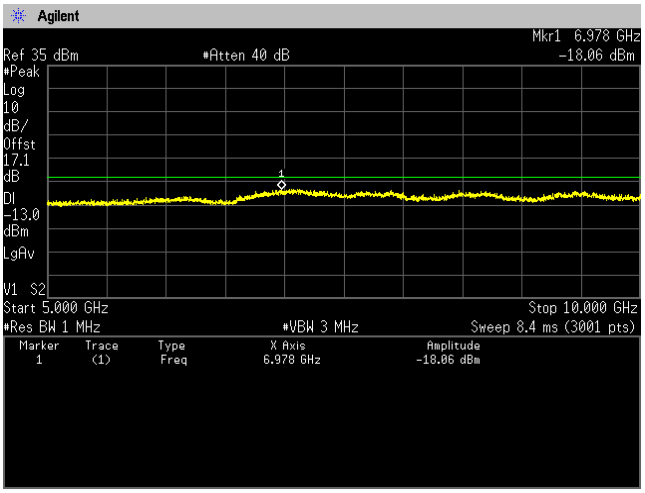
Japan

Channel: 20325

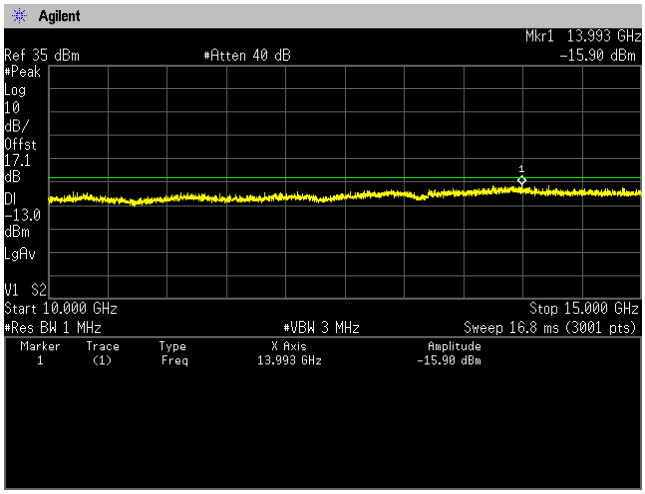
30MHz-5GHz



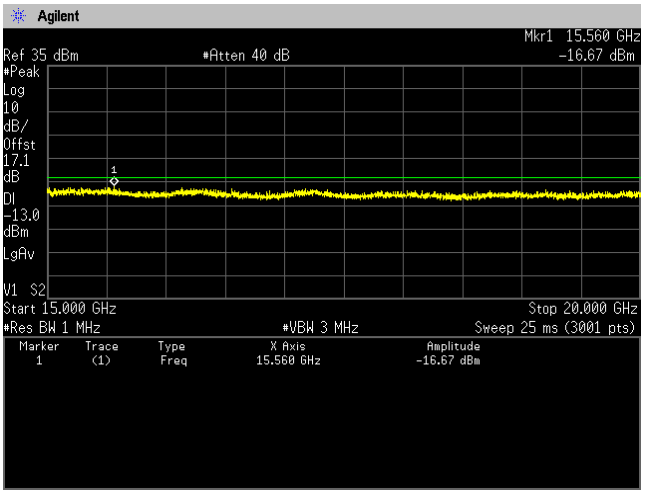
5GHz-10GHz



10GHz-15GHz



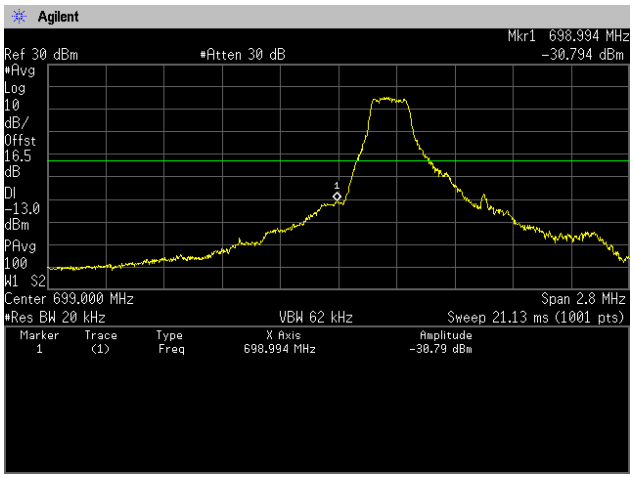
15GHz-20GHz

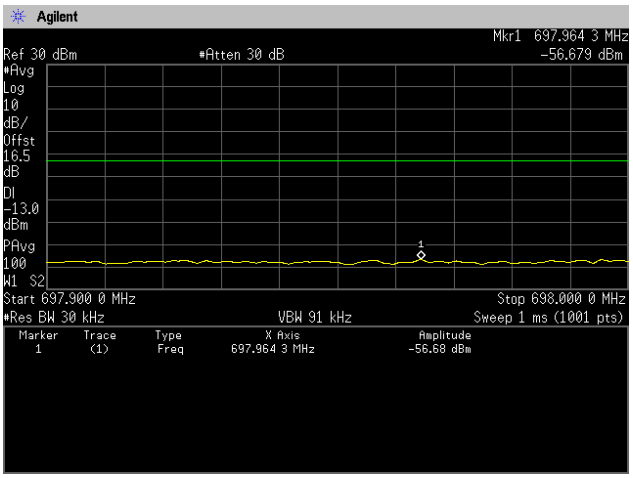


Japan

[LTE Band XII]
(Band Edge)
QPSK, BW 1.4MHz, RB1-0

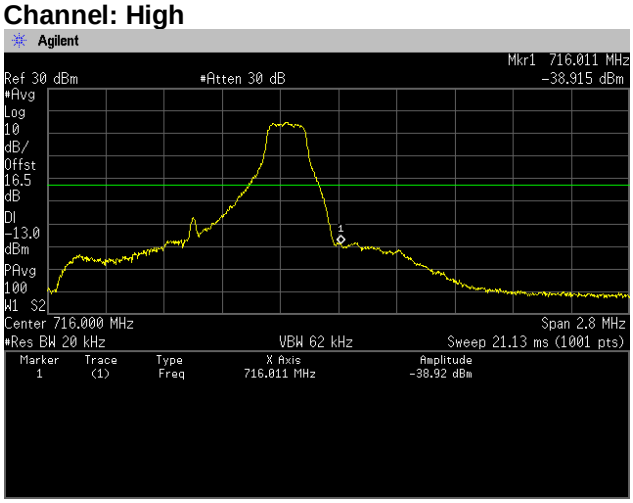
Channel: Low **697.9-698.0 MHz**

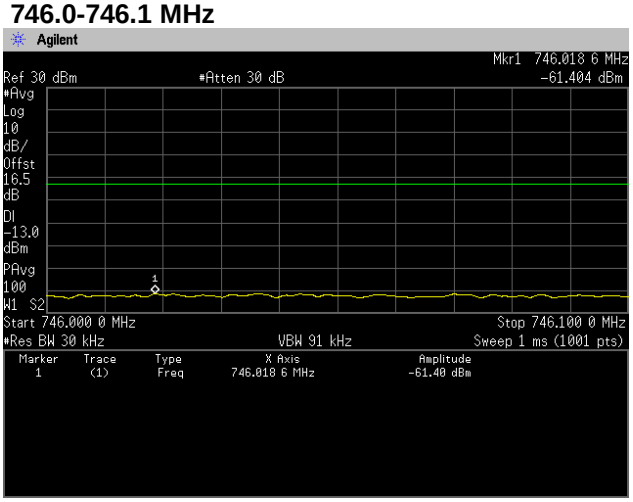




QPSK, BW 1.4MHz, RB1-5

Channel: High **746.0-746.1 MHz**

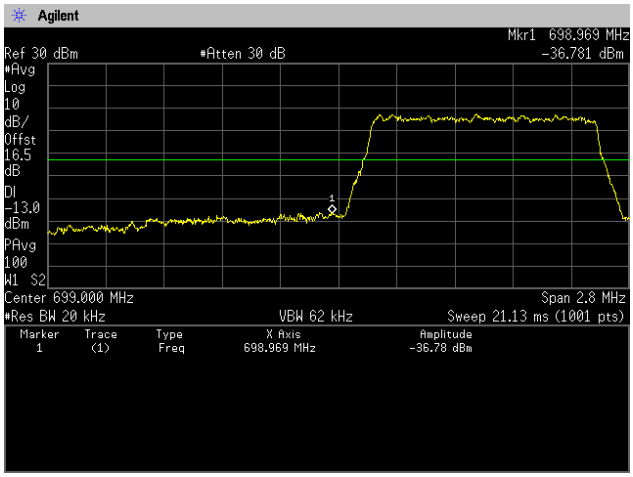


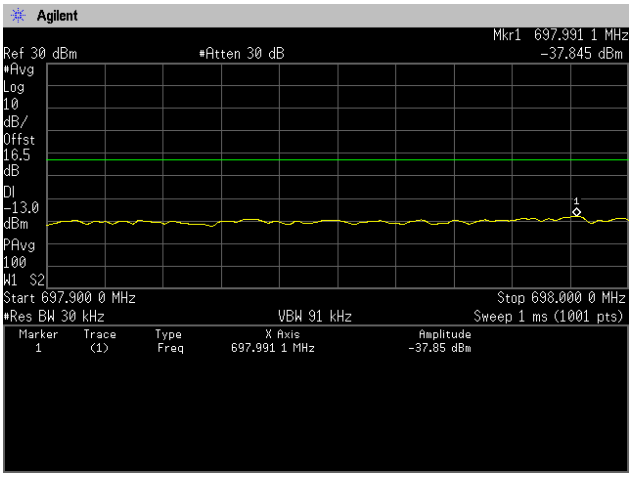


Japan

QPSK, BW 1.4MHz, RB6-0

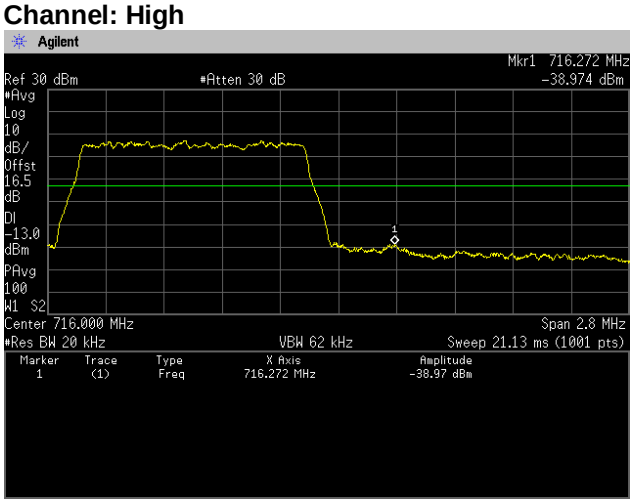
Channel: Low **697.9-698.0 MHz**

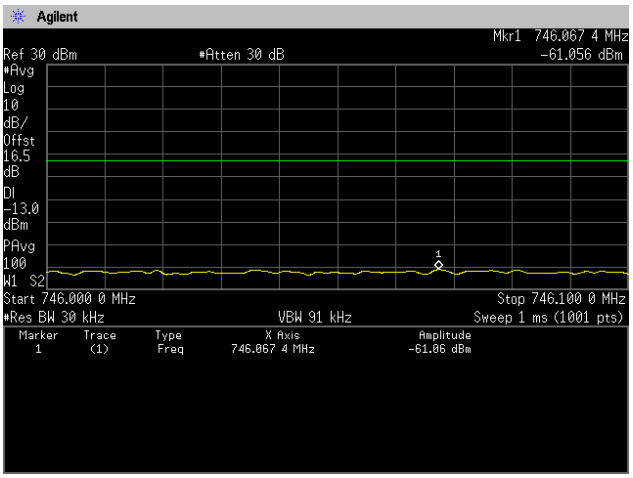




QPSK, BW 1.4MHz, RB6-0

Channel: High **746.0-746.1 MHz**

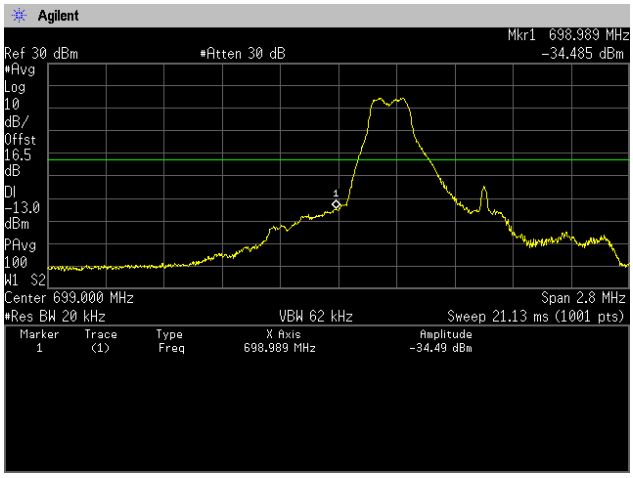


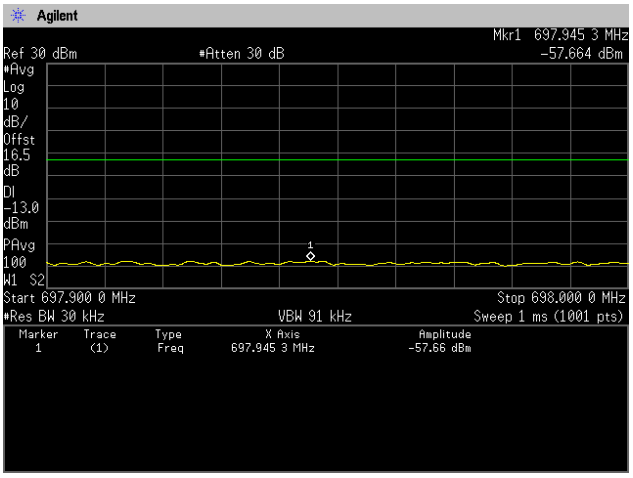


16QAM, BW 1.4MHz, RB1-0

Channel: Low

697.9-698.0 MHz

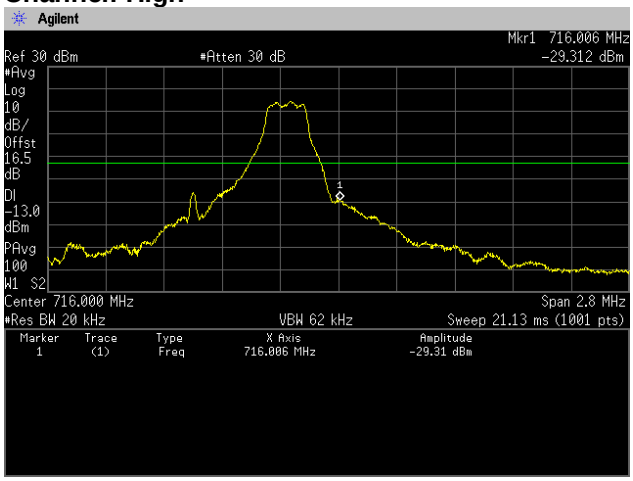


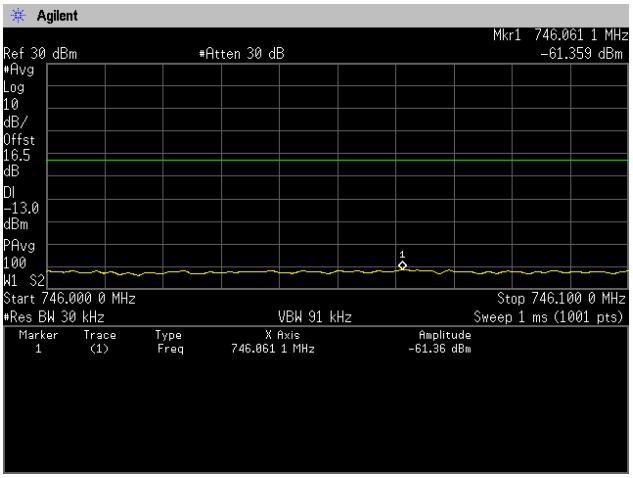


16QAM, BW 1.4MHz, RB1-5

Channel: High

746.0-746.1 MHz

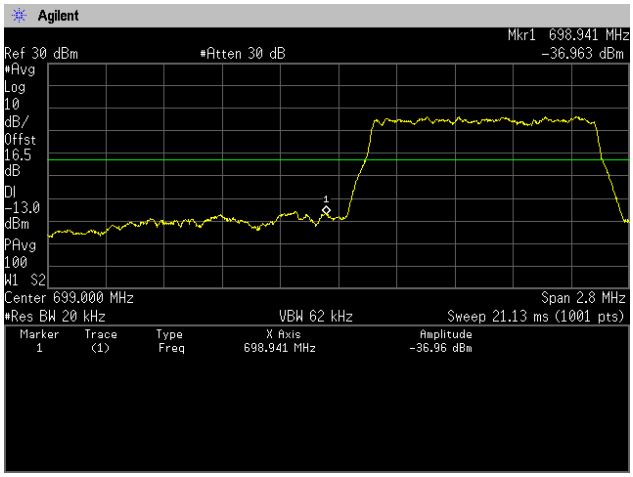


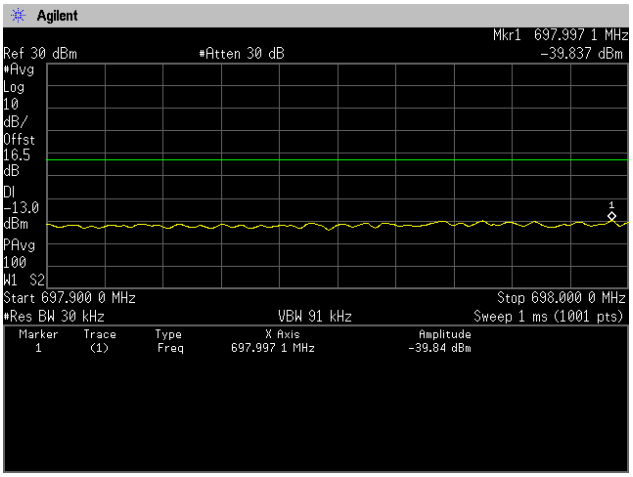


16QAM, BW 1.4MHz, RB6-0

Channel: Low

697.9-698.0 MHz

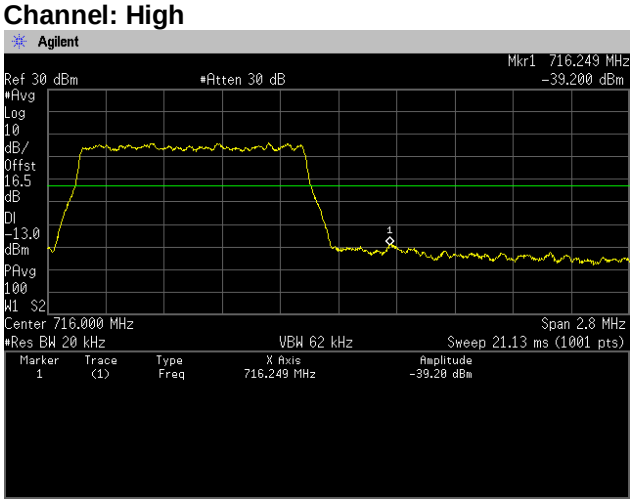


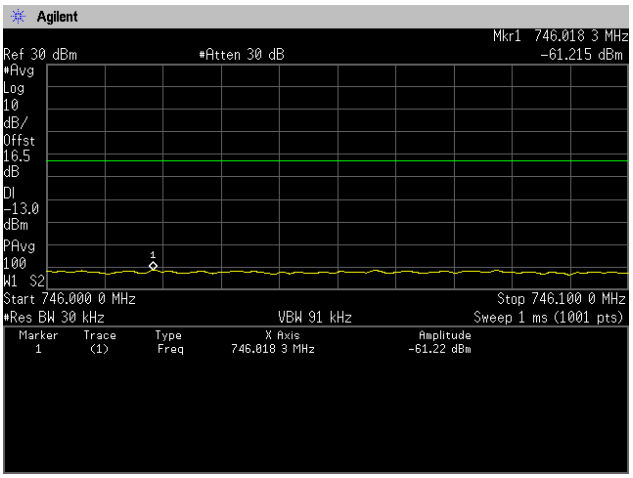


16QAM, BW 1.4MHz, RB6-0

Channel: High

746.0-746.1 MHz

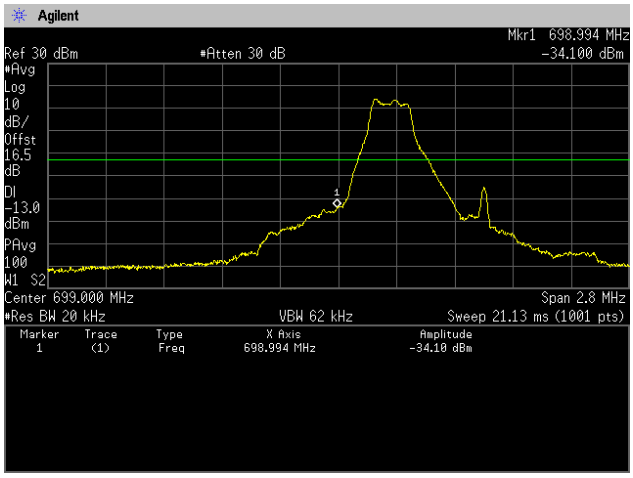


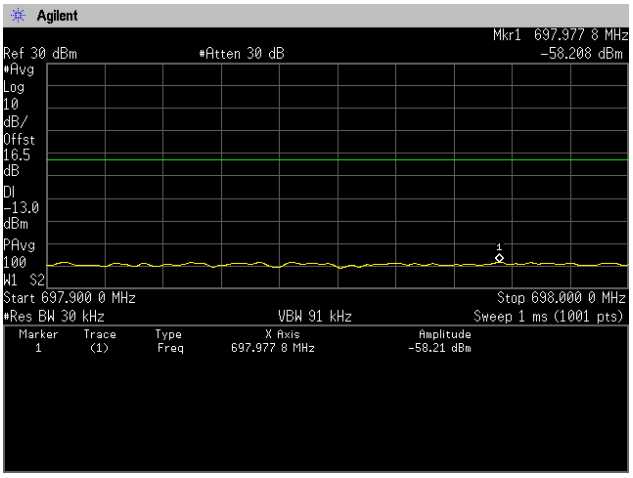


64QAM, BW 1.4MHz, RB1-0

Channel: Low

697.9-698.0 MHz

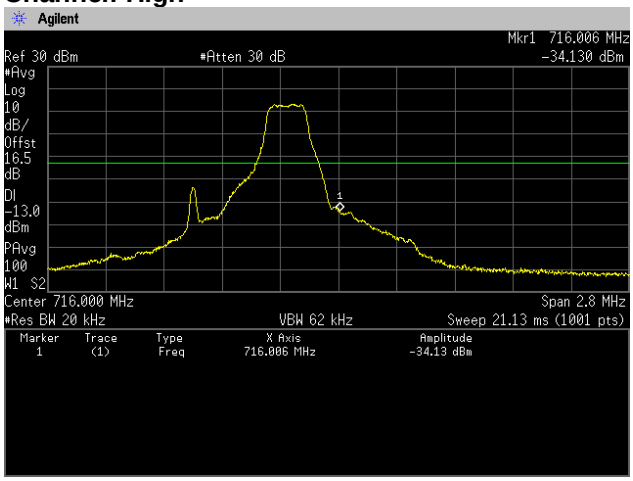


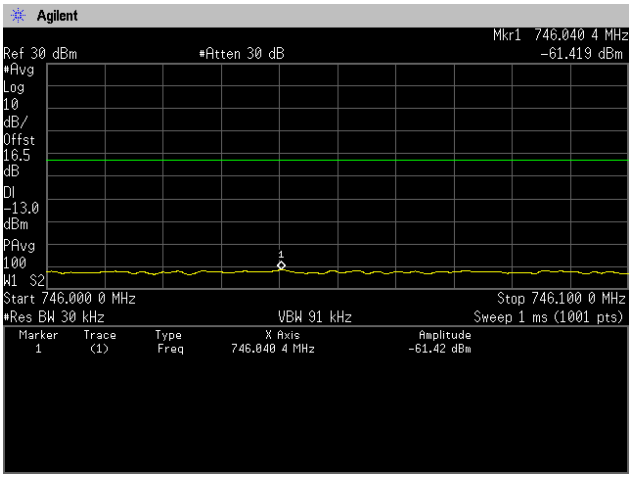


64QAM, BW 1.4MHz, RB1-5

Channel: High

746.0-746.1 MHz



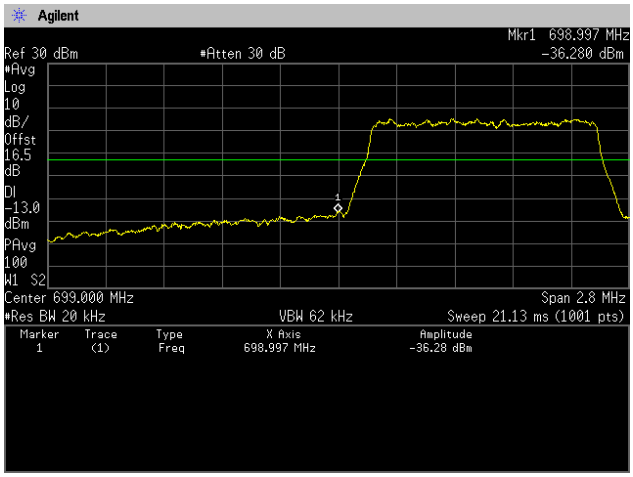


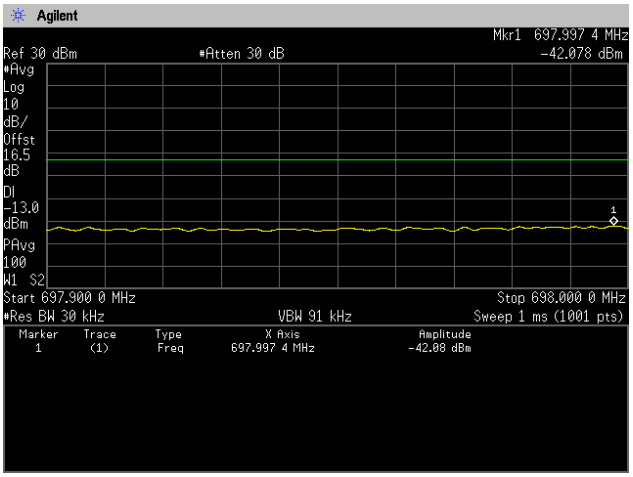
Japan

64QAM, BW 1.4MHz, RB6-0

Channel: Low

697.9-698.0 MHz

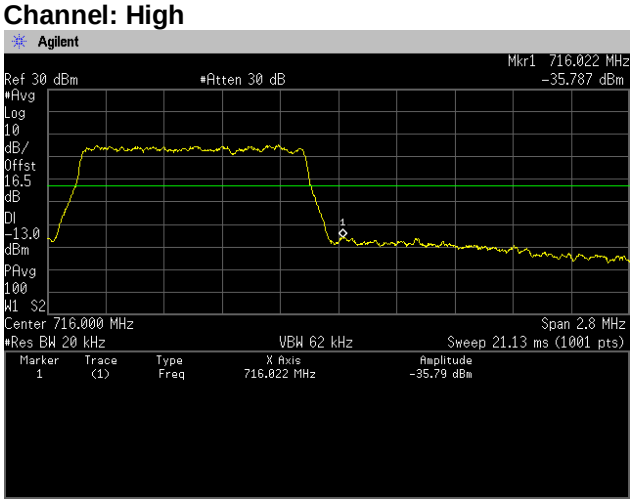


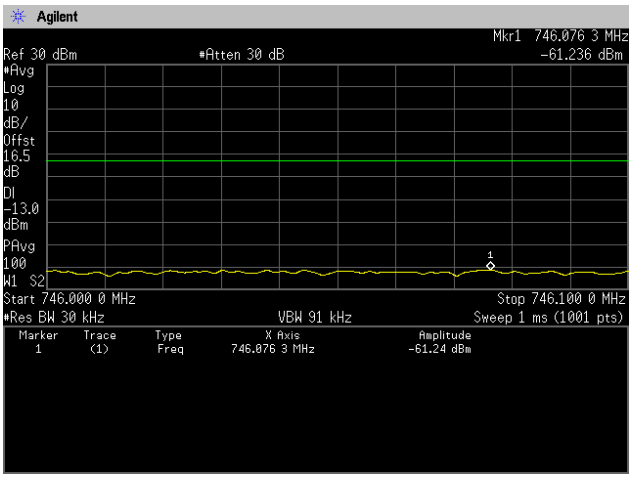


64QAM, BW 1.4MHz, RB6-0

Channel: High

746.0-746.1 MHz

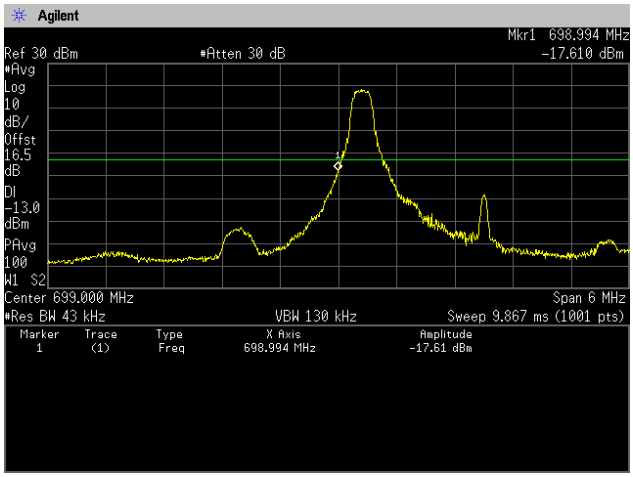


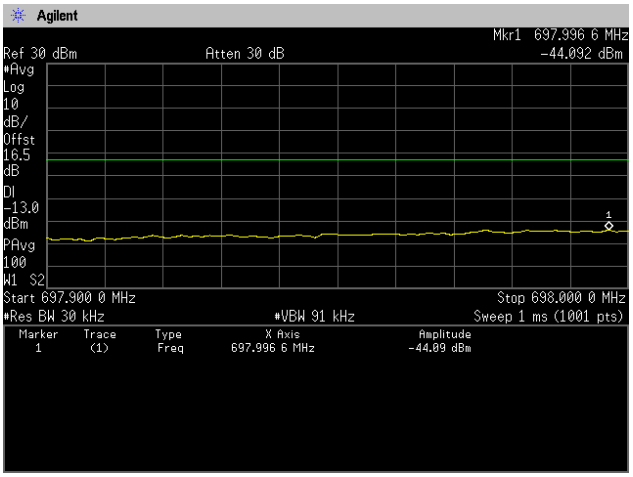


Japan

QPSK, BW 3MHz, RB1-0

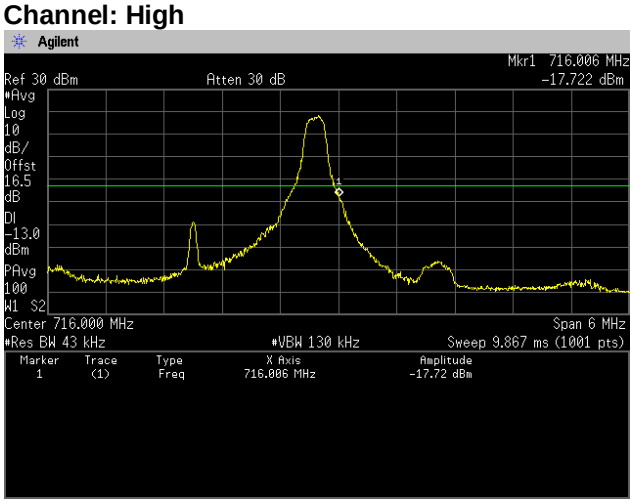
Channel: Low **697.9-698.0 MHz**

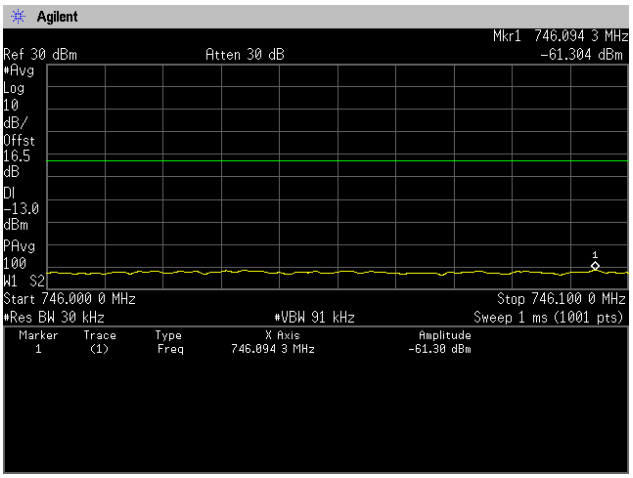




QPSK, BW 3MHz, RB1-14

Channel: High **746.0-746.1 MHz**

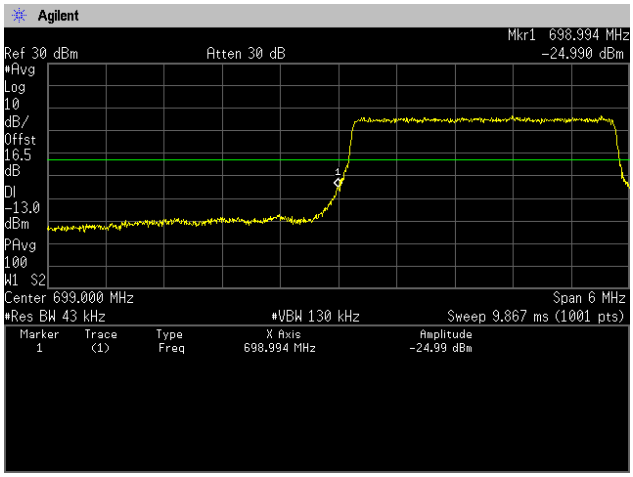


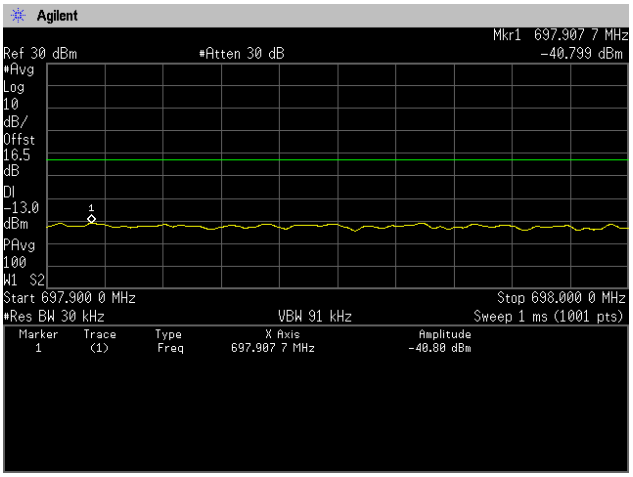


QPSK, BW 3MHz, RB15-0

Channel: Low

697.9-698.0 MHz

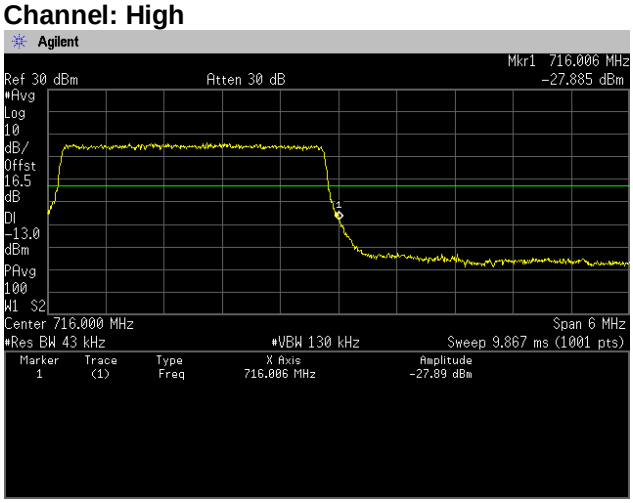


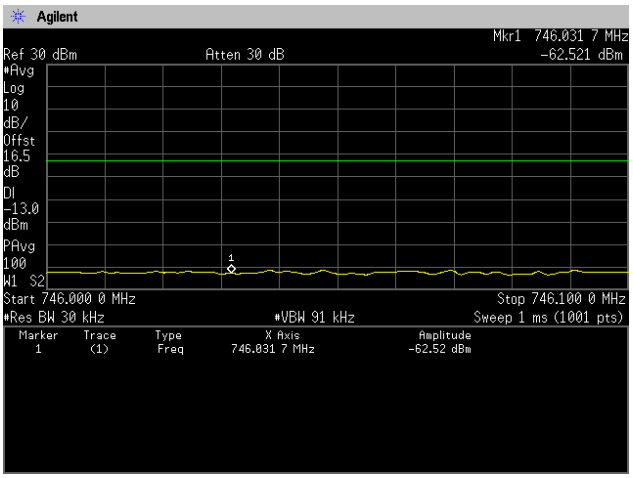


QPSK, BW 3MHz, RB15-0

Channel: High

746.0-746.1 MHz



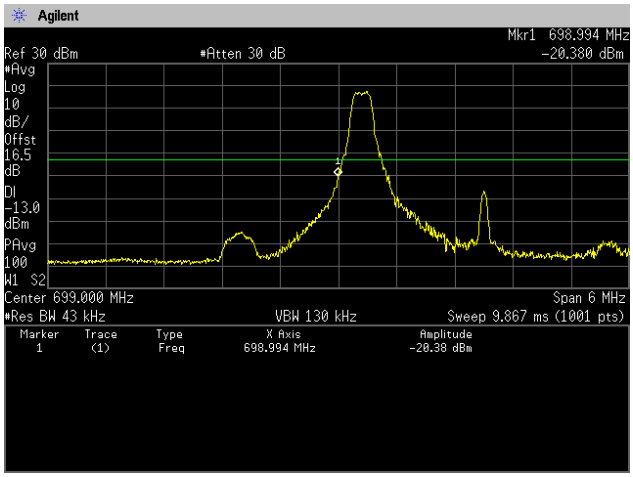


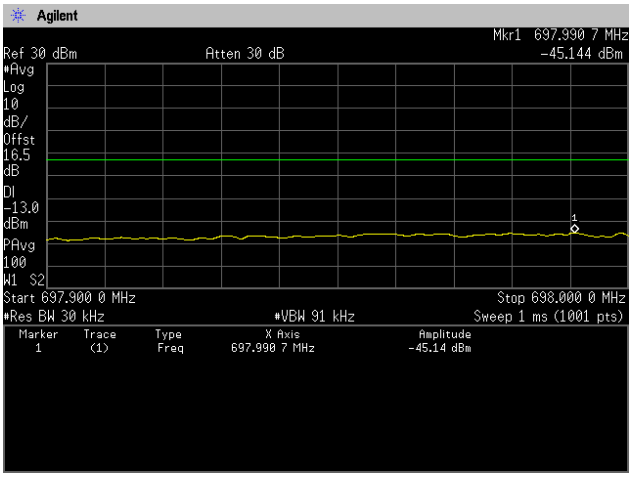
Japan

16QAM, BW 3MHz, RB1-0

Channel: Low

697.9-698.0 MHz

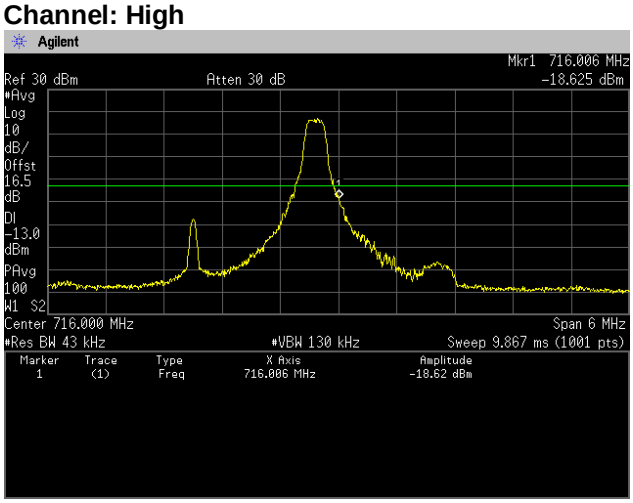


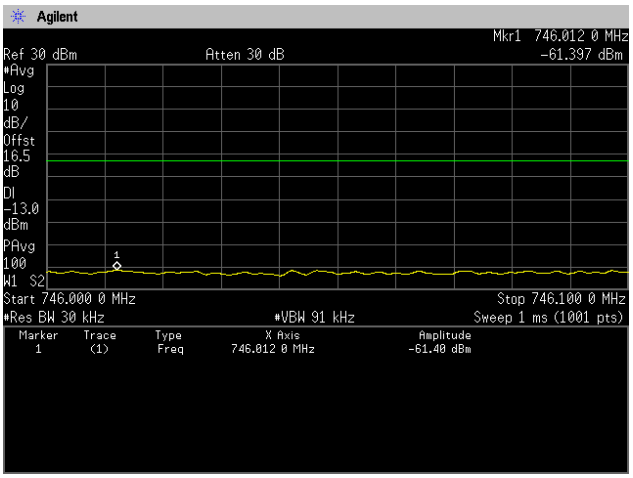


16QAM, BW 3MHz, RB1-14

Channel: High

746.0-746.1 MHz

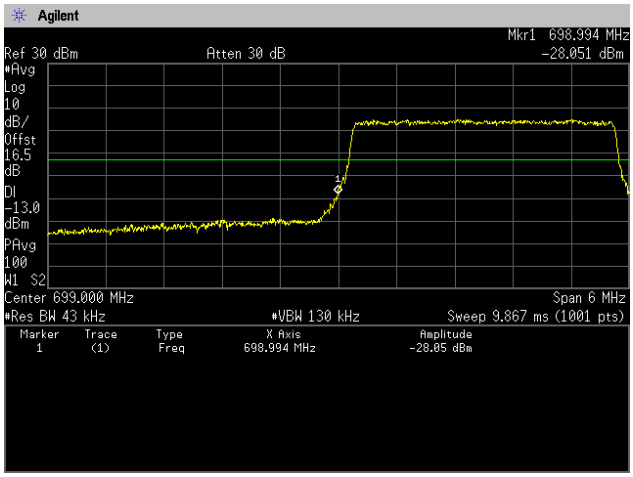


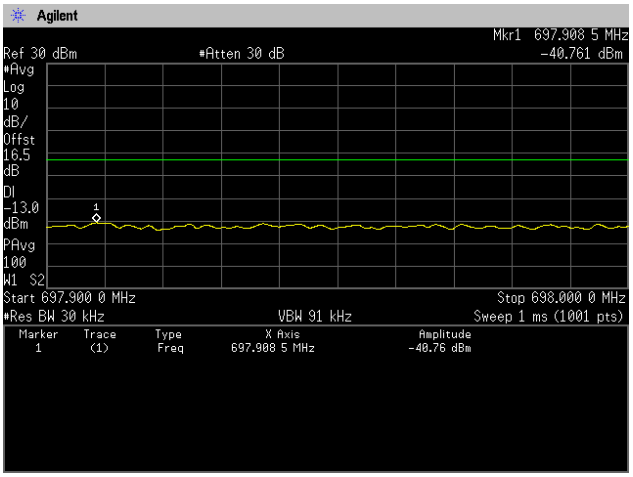


16QAM, BW 3MHz, RB15-0

Channel: Low

697.9-698.0 MHz

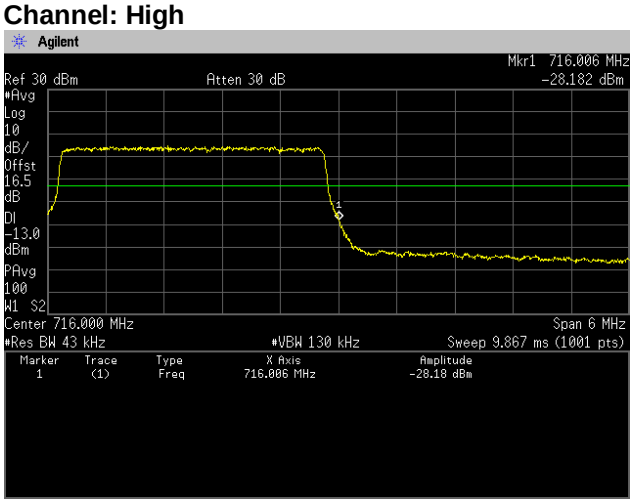


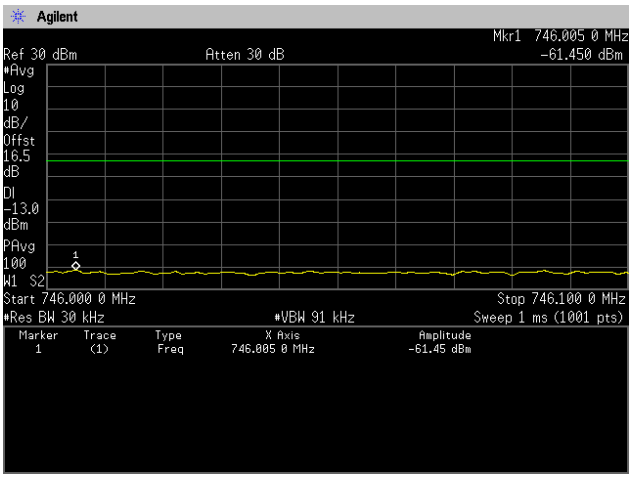


16QAM, BW 3MHz, RB15-0

Channel: High

746.0-746.1 MHz

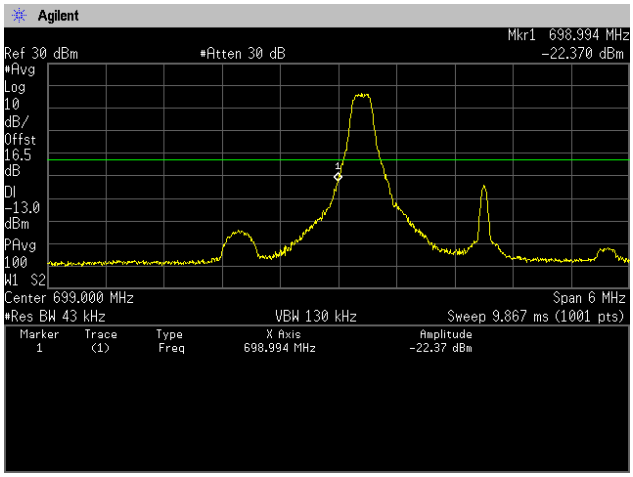


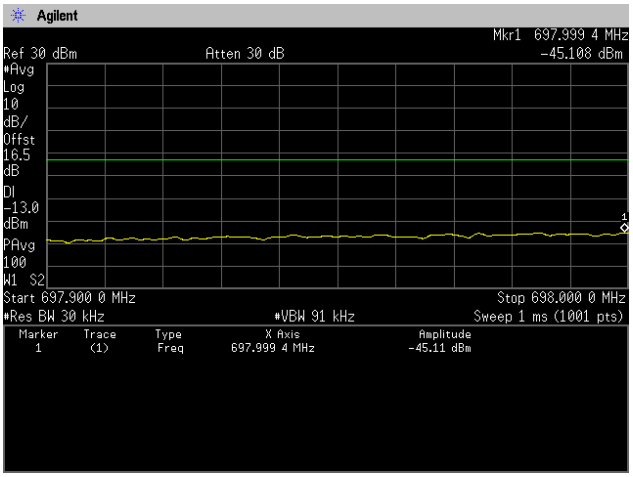


Japan

64QAM, BW 3MHz, RB1-0

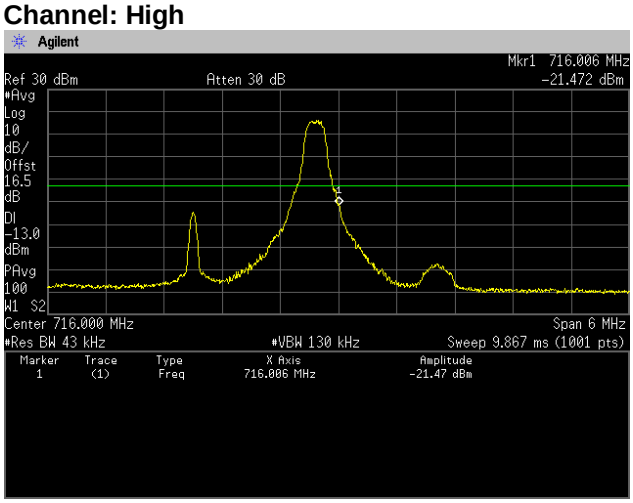
Channel: Low **697.9-698.0 MHz**

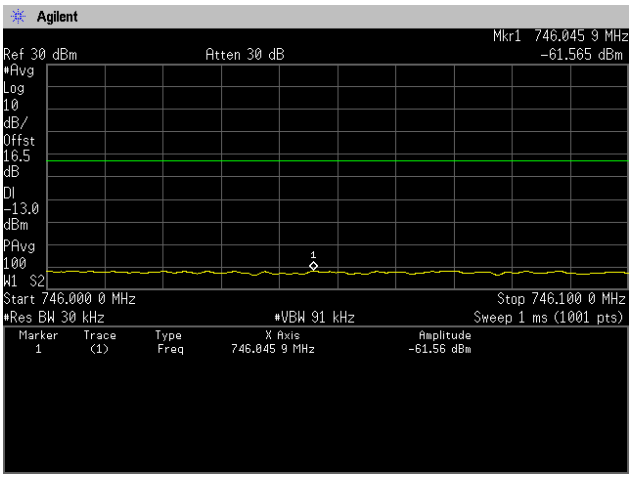




64QAM, BW 3MHz, RB1-14

Channel: High **746.0-746.1 MHz**



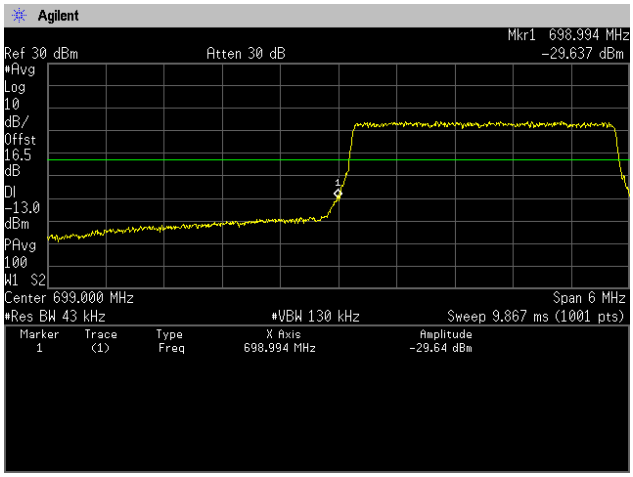


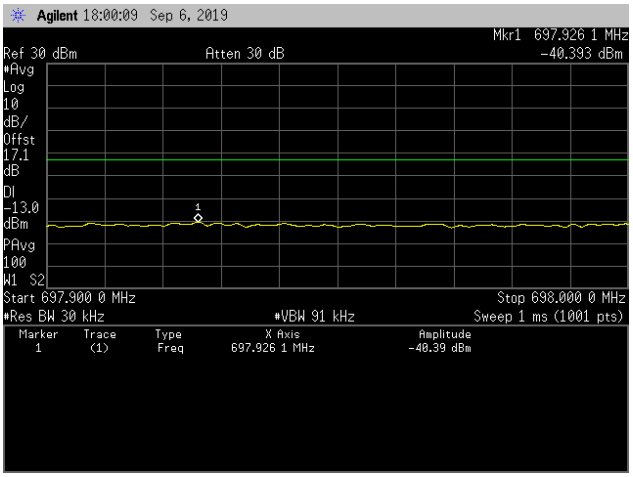
Japan

64QAM, BW 3MHz, RB15-0

Channel: Low

697.9-698.0 MHz

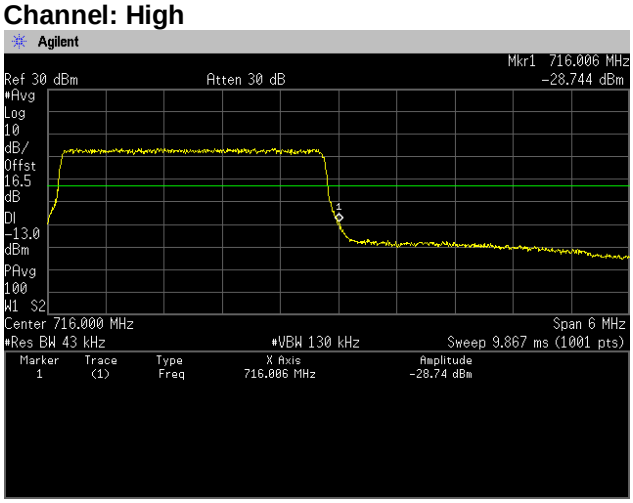


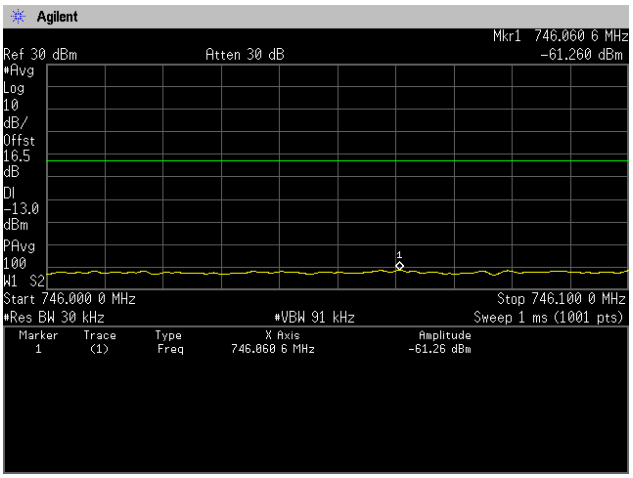


64QAM, BW 3MHz, RB15-0

Channel: High

746.0-746.1 MHz

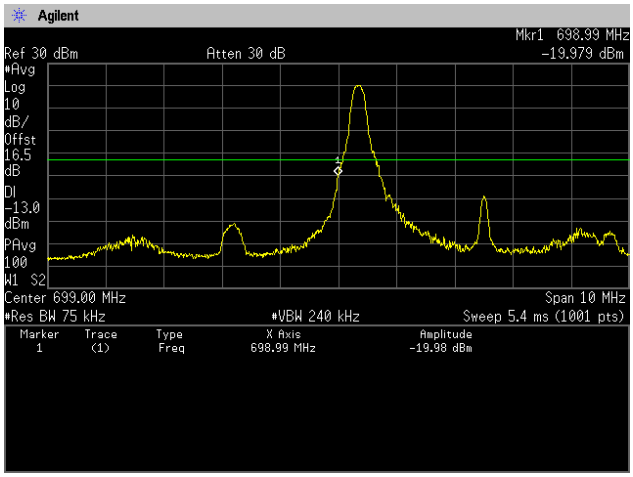


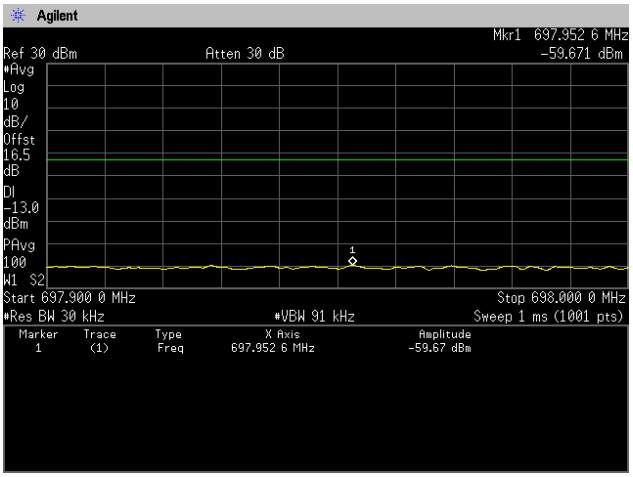


Japan

QPSK, BW 5MHz, RB1-0

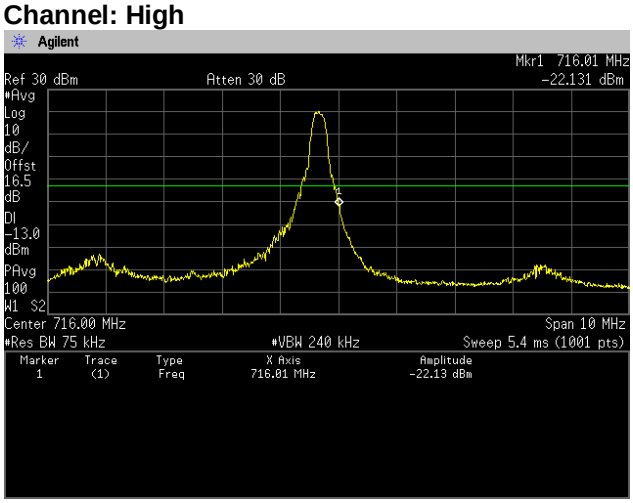
Channel: Low **697.9-698.0 MHz**

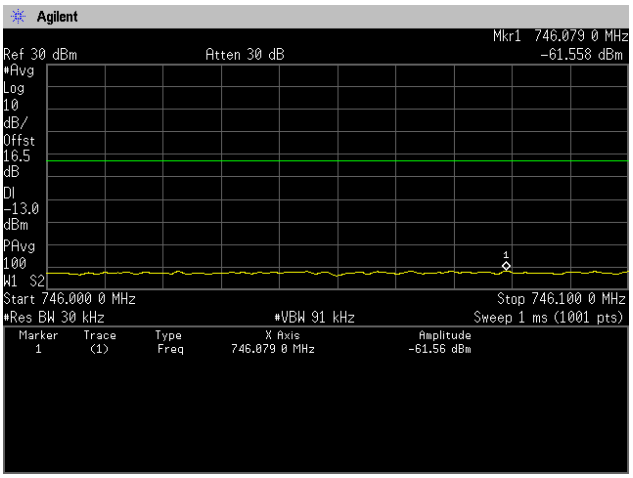




QPSK, BW 5MHz, RB1-24

Channel: High **746.0-746.1 MHz**



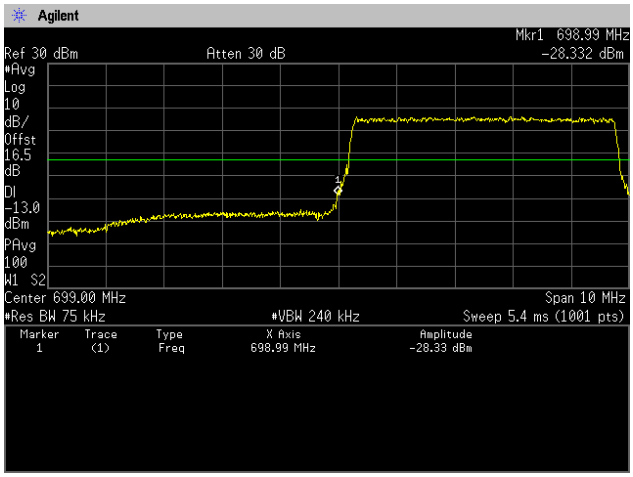


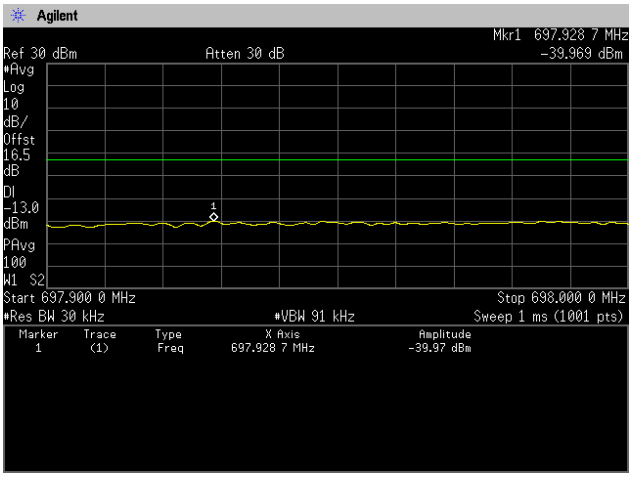
Japan

QPSK, BW 5MHz, RB25-0

Channel: Low

697.9-698.0 MHz

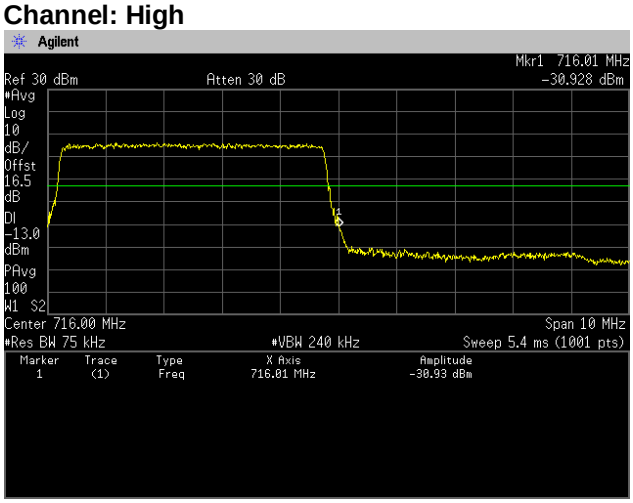


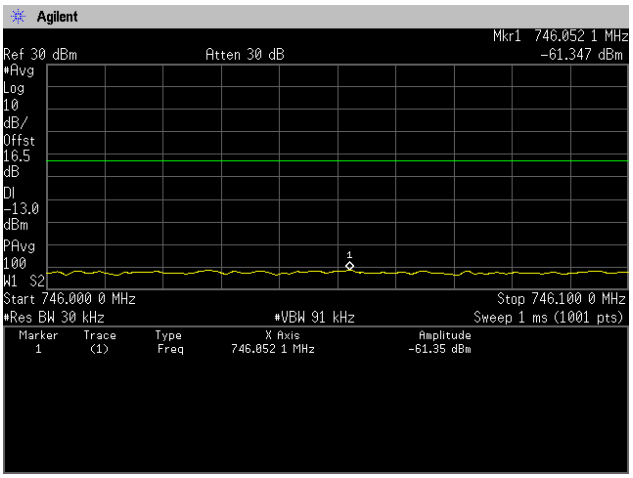


QPSK, BW 5MHz, RB25-0

Channel: High

746.0-746.1 MHz



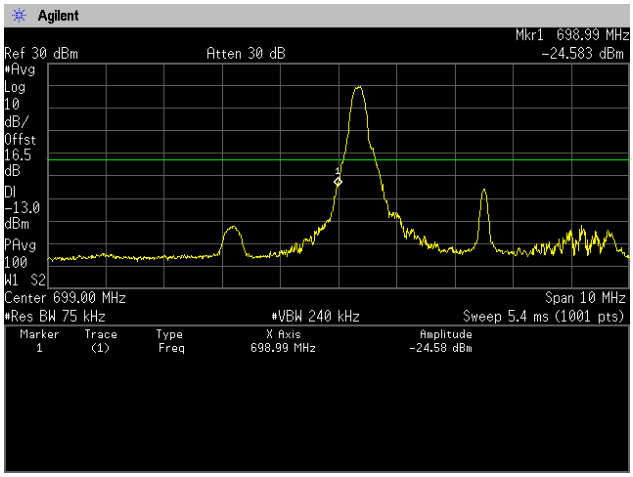


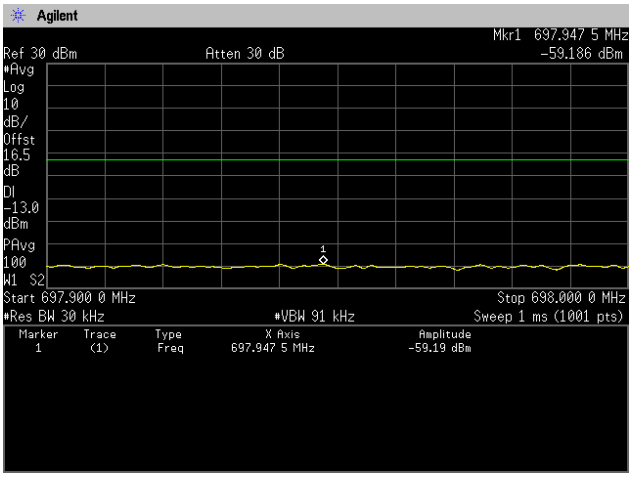
Japan

16QAM, BW 5MHz, RB1-0

Channel: Low

697.9-698.0 MHz

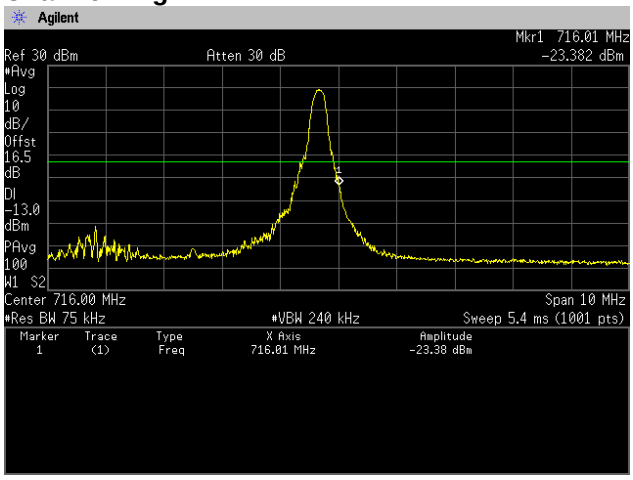


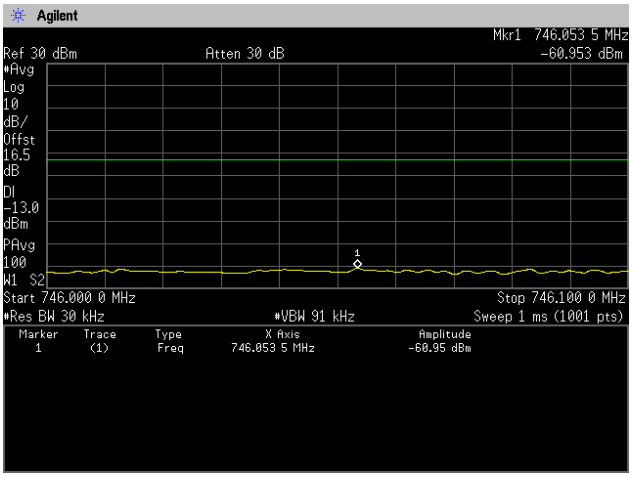


16QAM, BW 5MHz, RB1-24

Channel: High

746.0-746.1 MHz



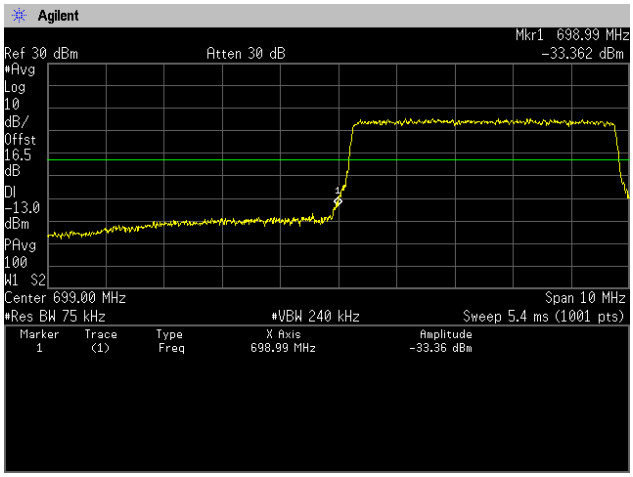


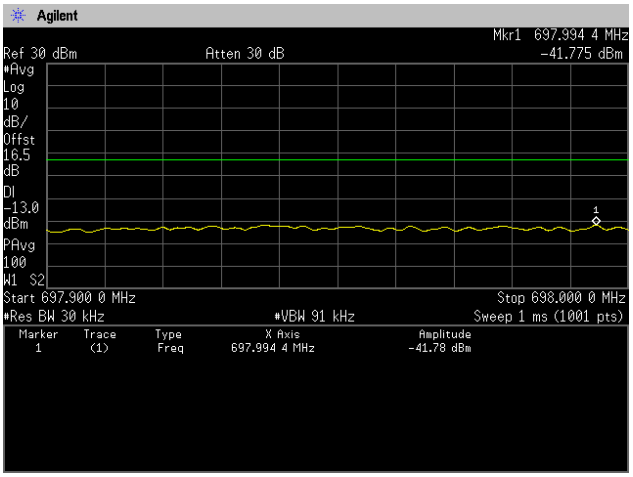
Japan

16QAM, BW 5MHz, RB25-0

Channel: Low

697.9-698.0 MHz

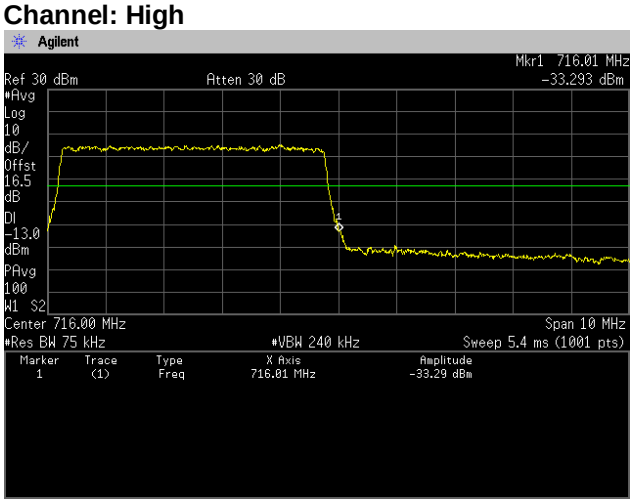


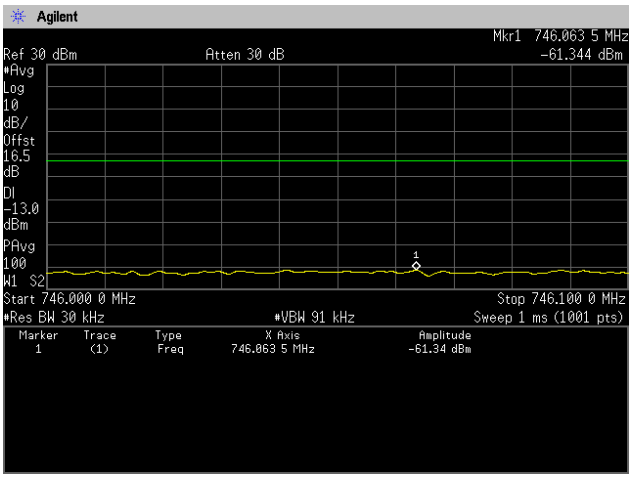


16QAM, BW 5MHz, RB25-0

Channel: High

746.0-746.1 MHz



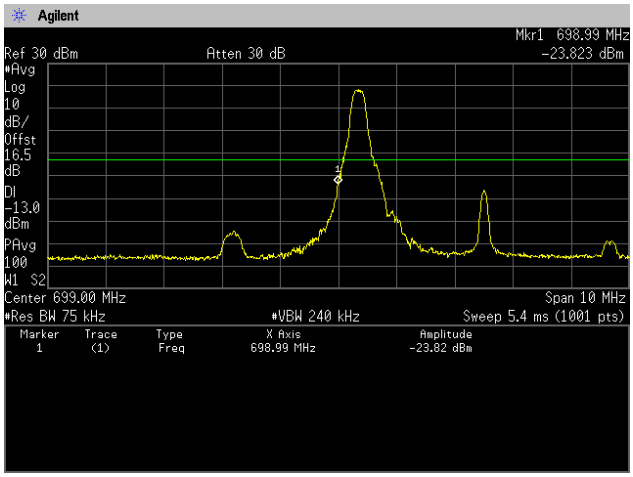


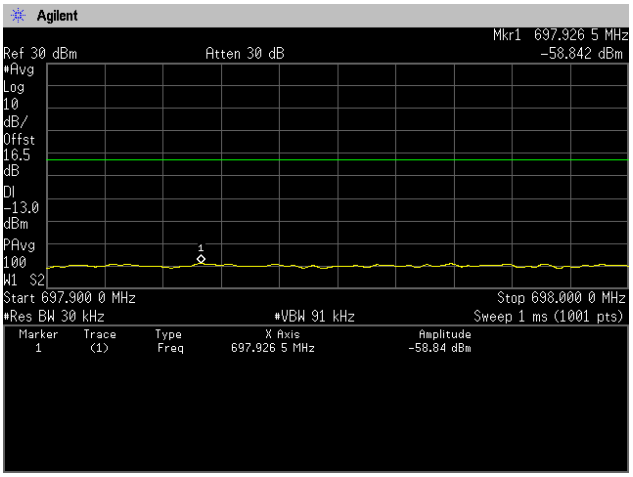
Japan

64QAM, BW 5MHz, RB1-0

Channel: Low

697.9-698.0 MHz

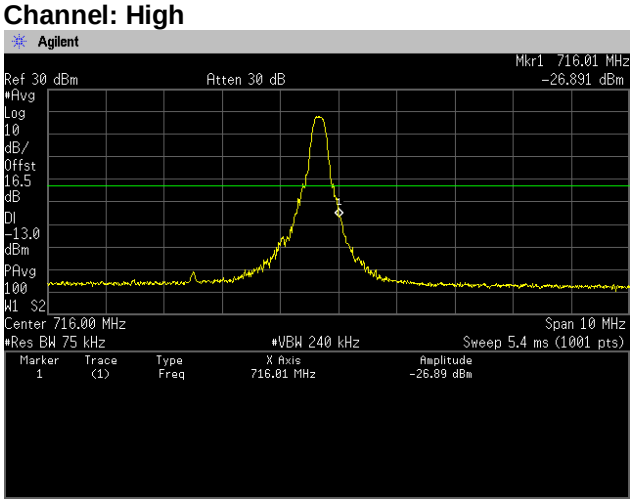


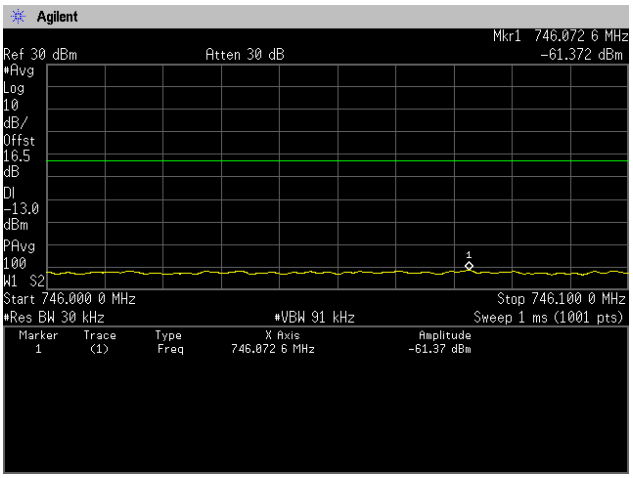


64QAM, BW 5MHz, RB1-24

Channel: High

746.0-746.1 MHz



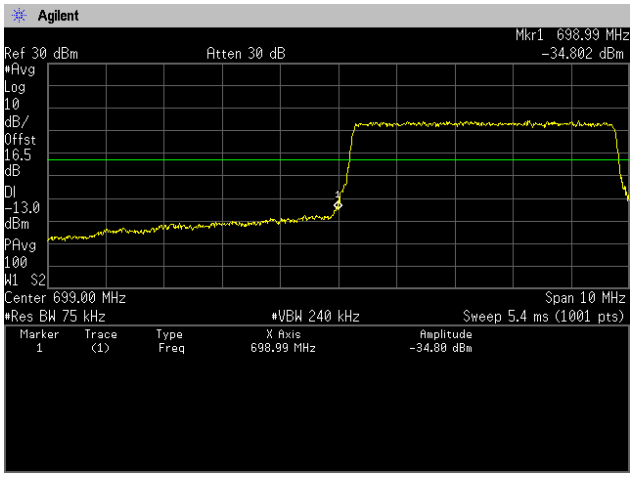


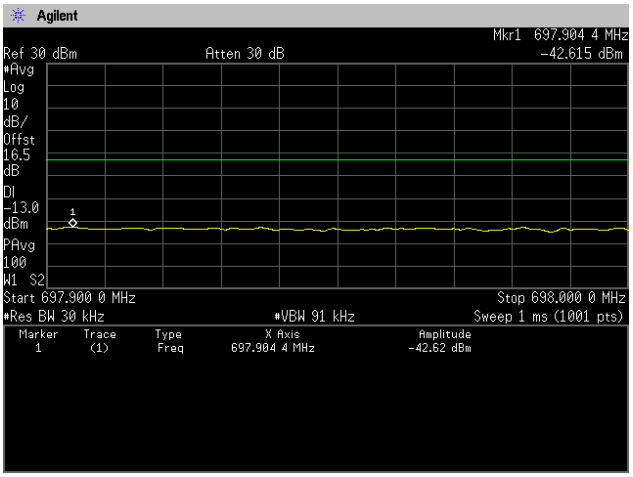
Japan

64QAM, BW 5MHz, RB25-0

Channel: Low

697.9-698.0 MHz

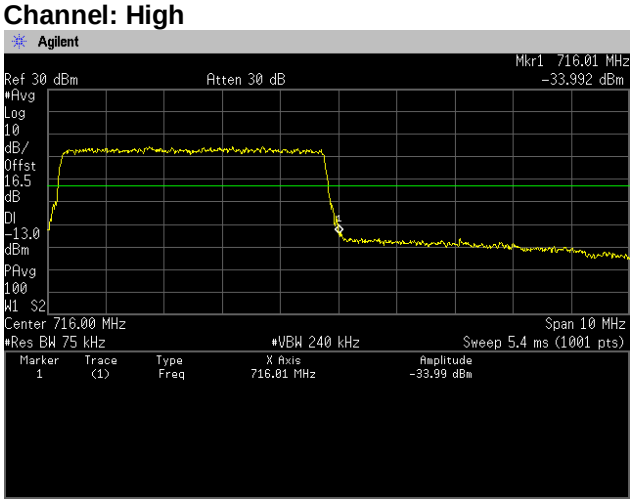


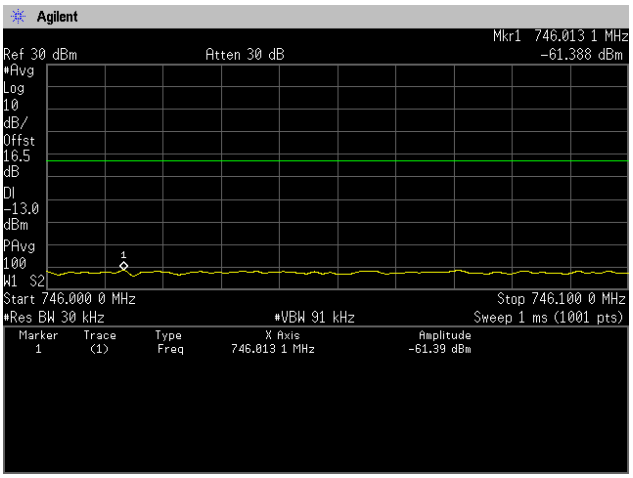


64QAM, BW 5MHz, RB25-0

Channel: High

746.0-746.1 MHz

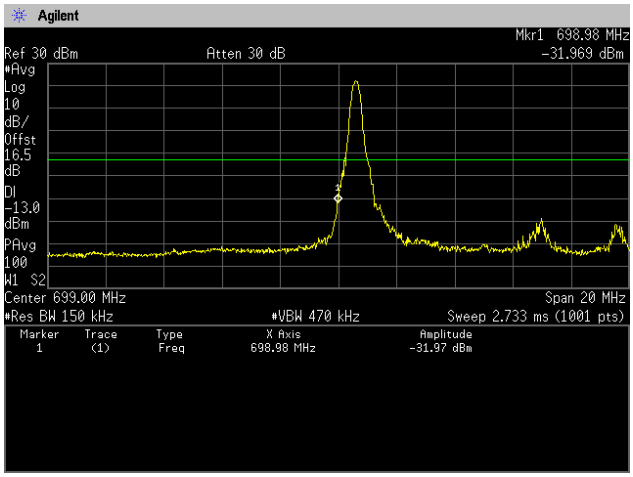


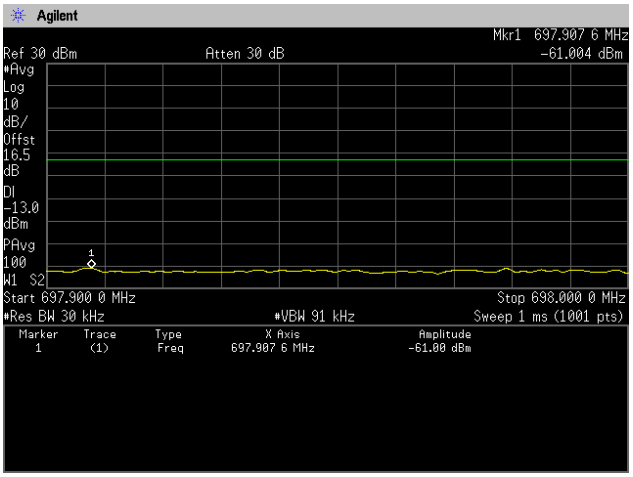


QPSK, BW 10MHz, RB1-0

Channel: Low

697.9-698.0 MHz

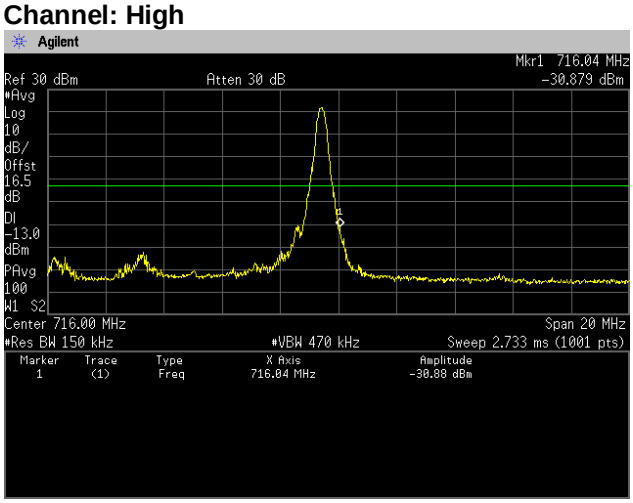


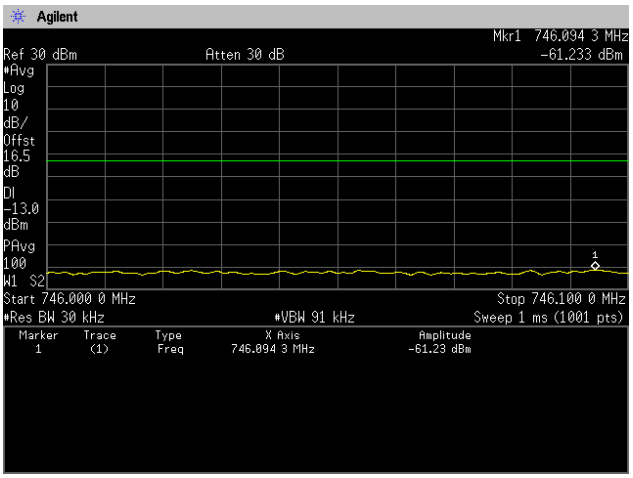


QPSK, BW 10MHz, RB1-49

Channel: High

746.0-746.1 MHz

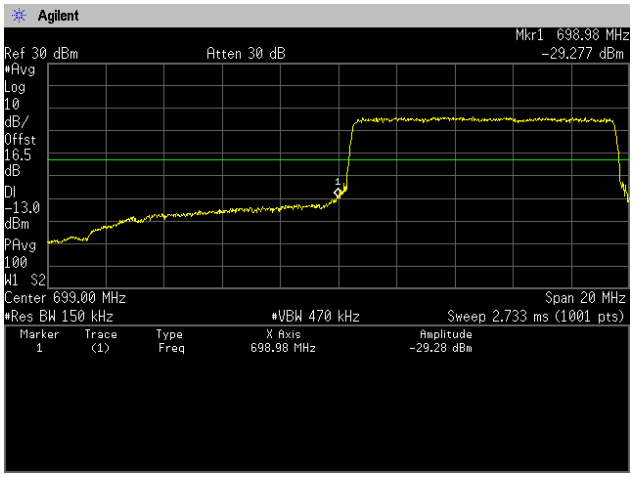


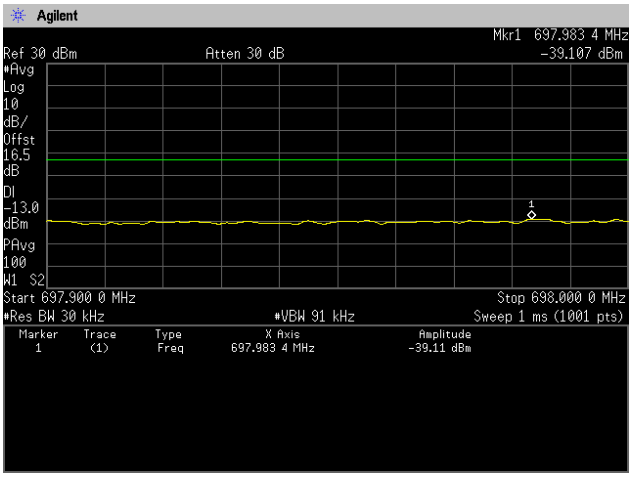


Japan

QPSK, BW 10MHz, RB50-0

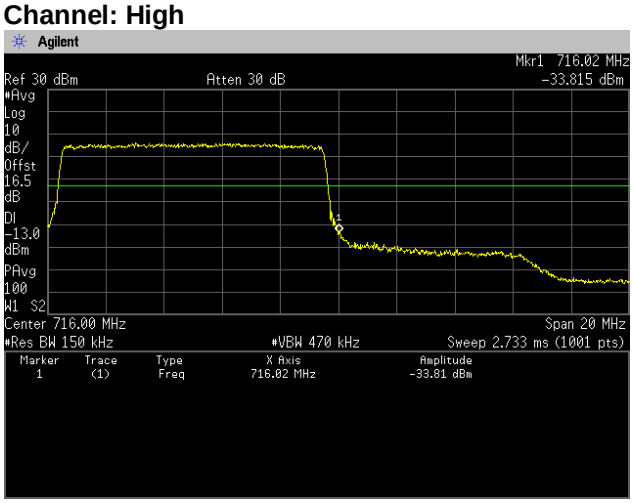
Channel: Low **697.9-698.0 MHz**

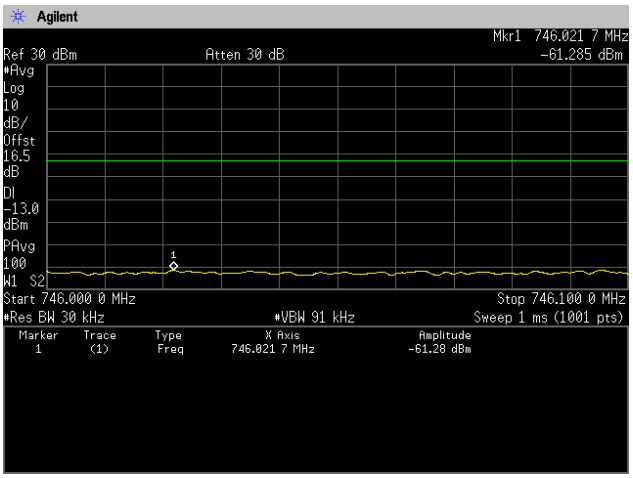




QPSK, BW 10MHz, RB50-0

Channel: High **746.0-746.1 MHz**

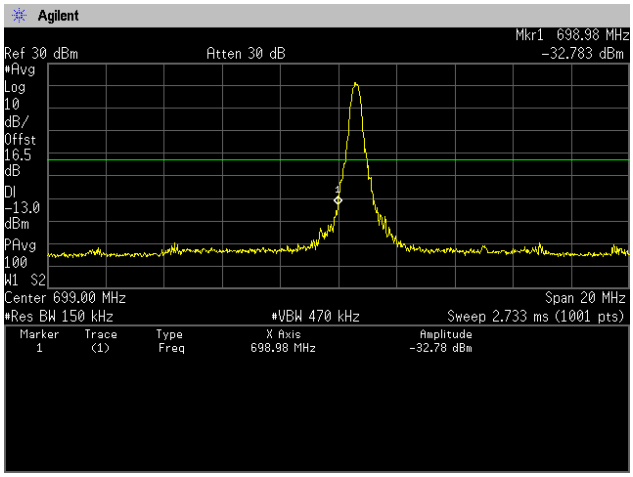


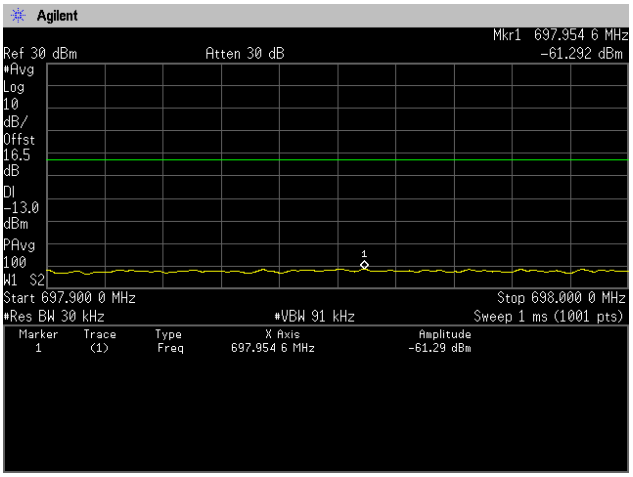


16QAM, BW 10MHz, RB1-0

Channel: Low

697.9-698.0 MHz

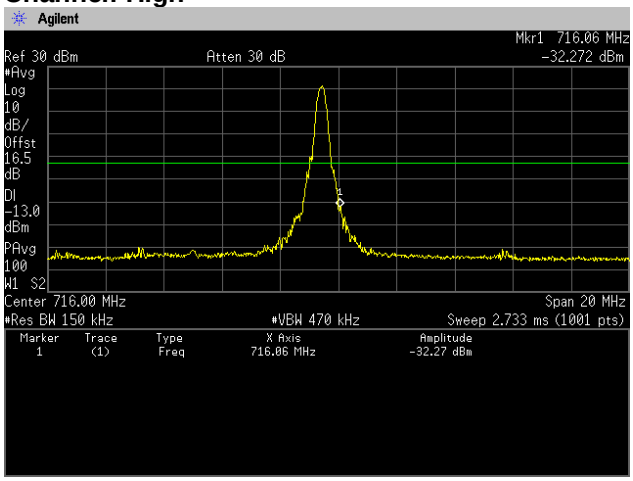


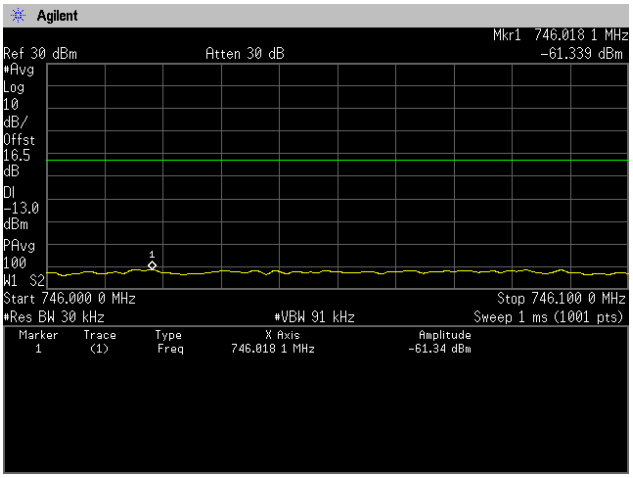


16QAM, BW 10MHz, RB1-49

Channel: High

746.0-746.1 MHz



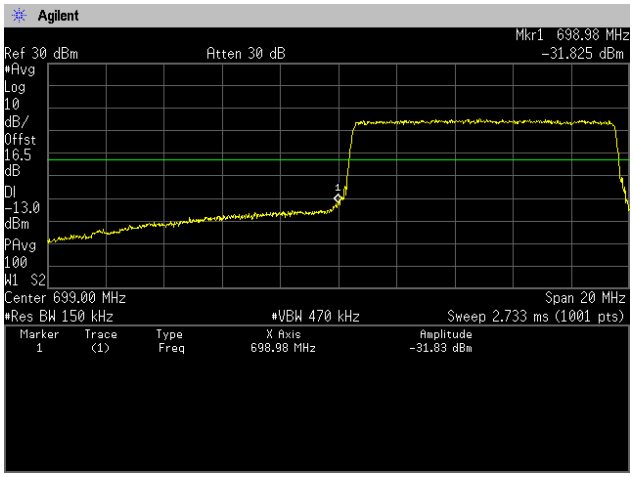


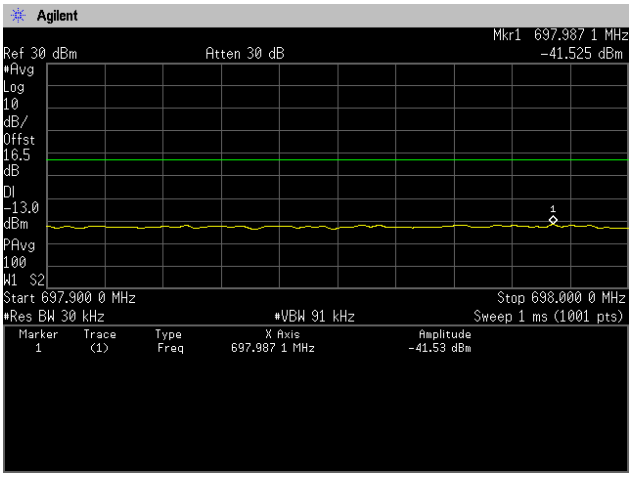
Japan

16QAM, BW 10MHz, RB50-0

Channel: Low

697.9-698.0 MHz

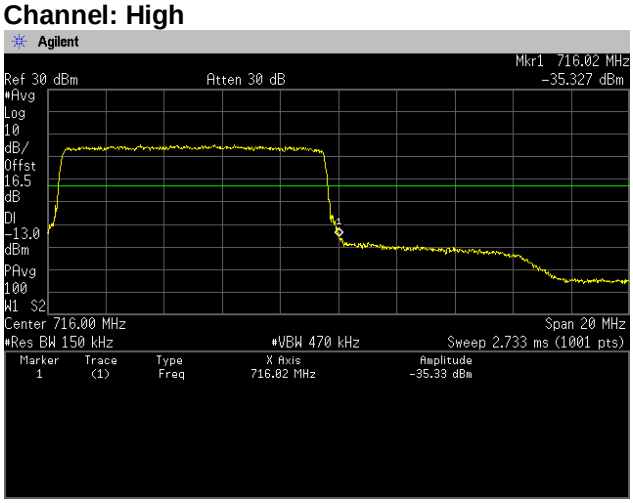


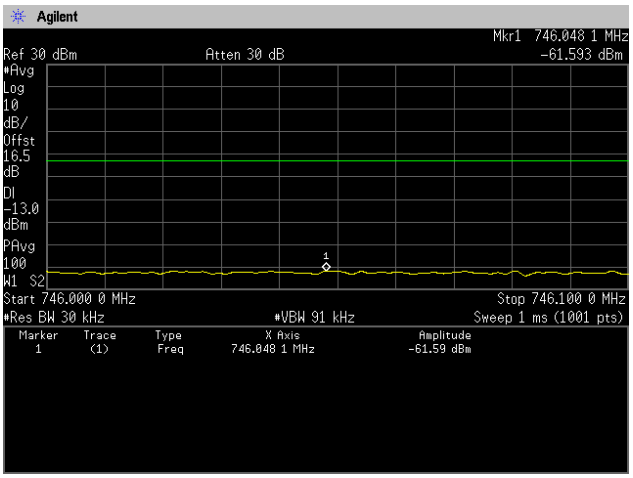


16QAM, BW 10MHz, RB50-0

Channel: High

746.0-746.1 MHz



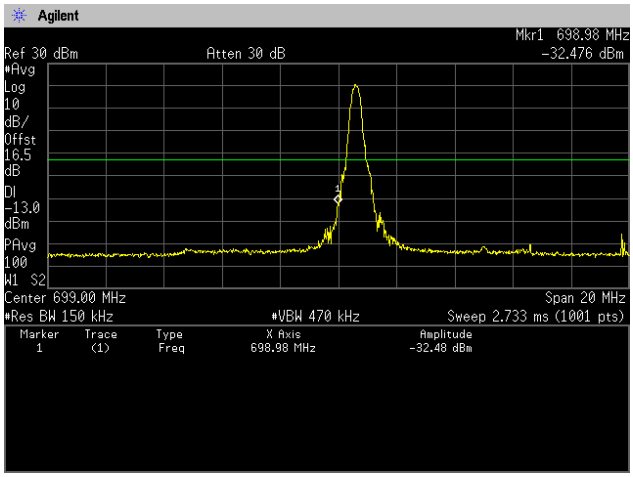


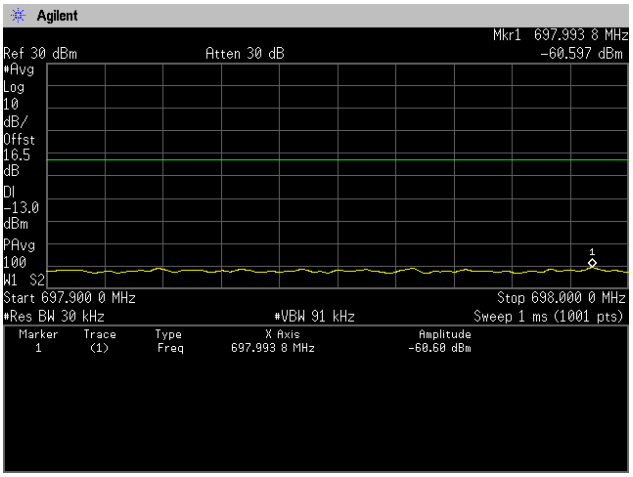
Japan

64QAM, BW 10MHz, RB1-0

Channel: Low

697.9-698.0 MHz

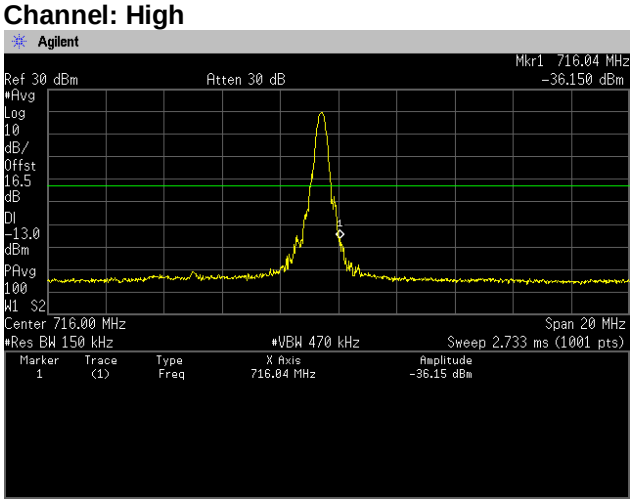


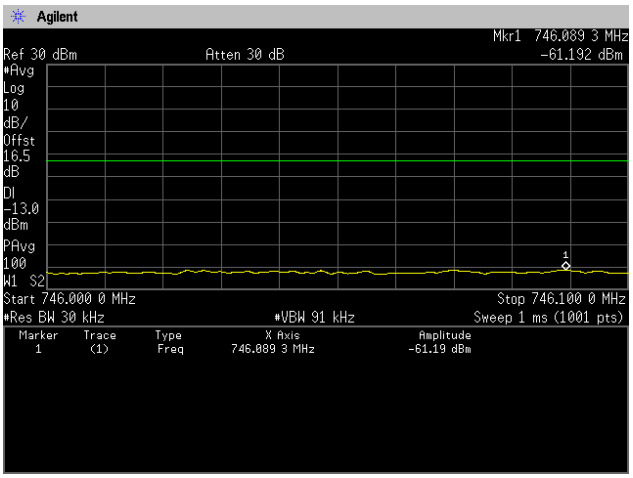


64QAM, BW 10MHz, RB1-49

Channel: High

746.0-746.1 MHz

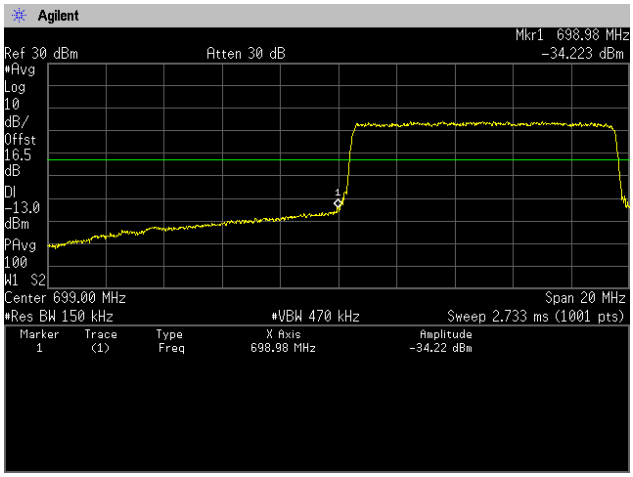


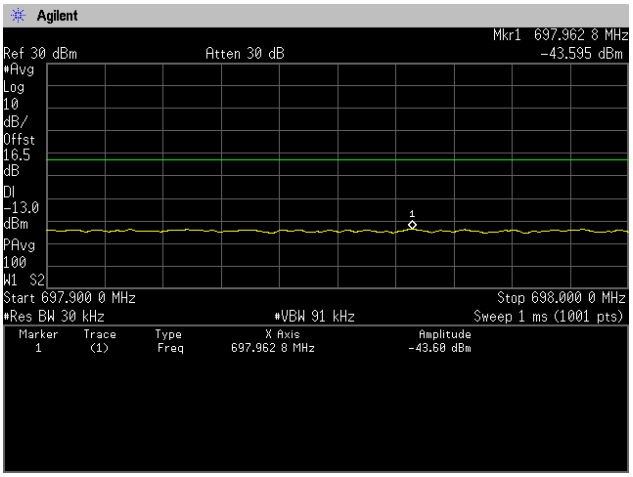


Japan

64QAM, BW 10MHz, RB50-0

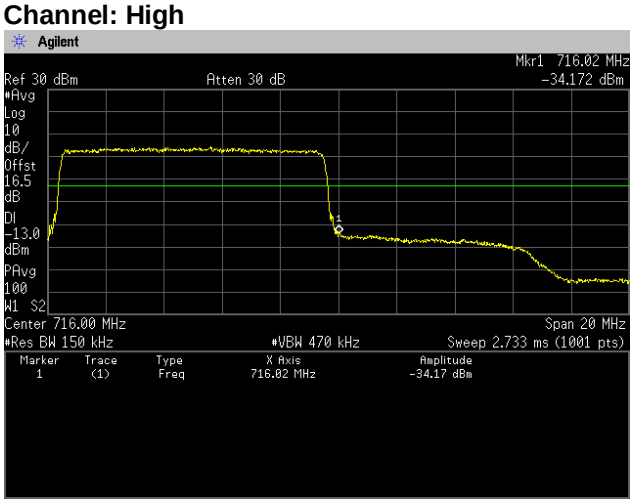
Channel: Low **697.9-698.0 MHz**

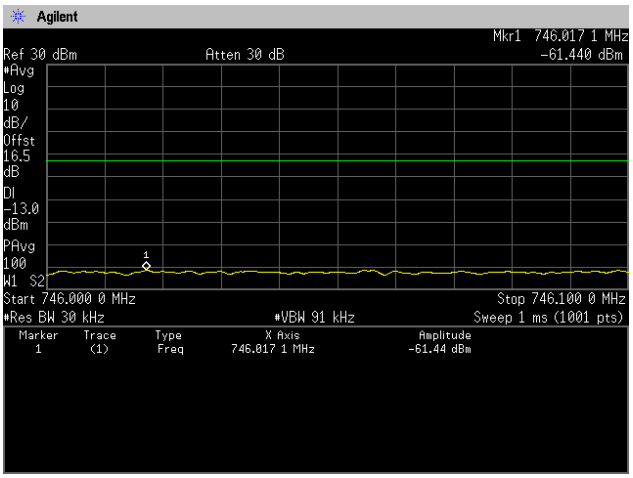




64QAM, BW 10MHz, RB50-0

Channel: High **746.0-746.1 MHz**

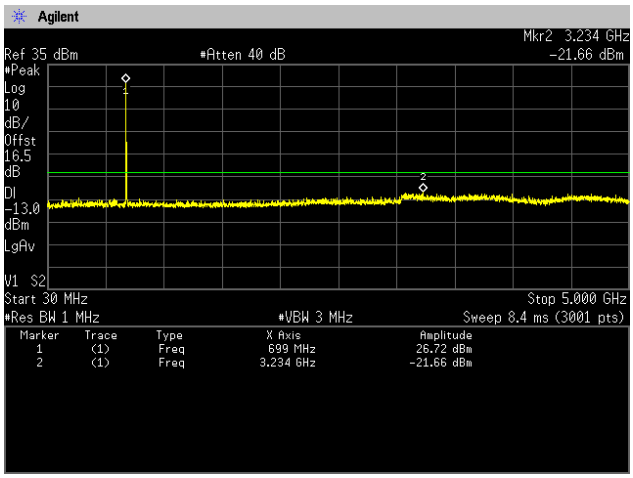




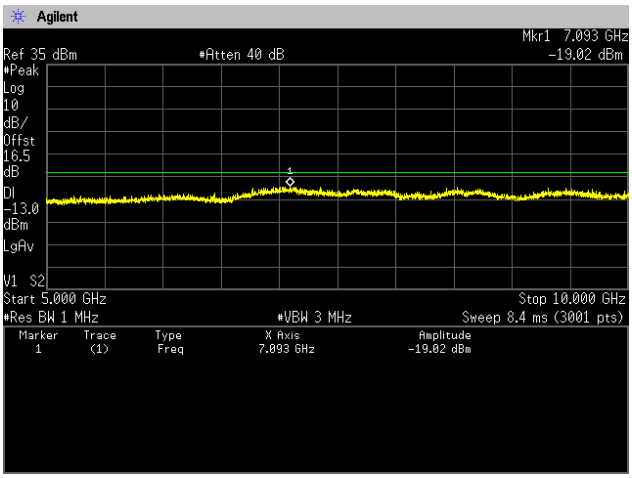
(Spurious Emissions)
Note: Conducted spurious test was measured in the worst case of conducted output power.

QPSK, BW 10MHz
Channel: 23060

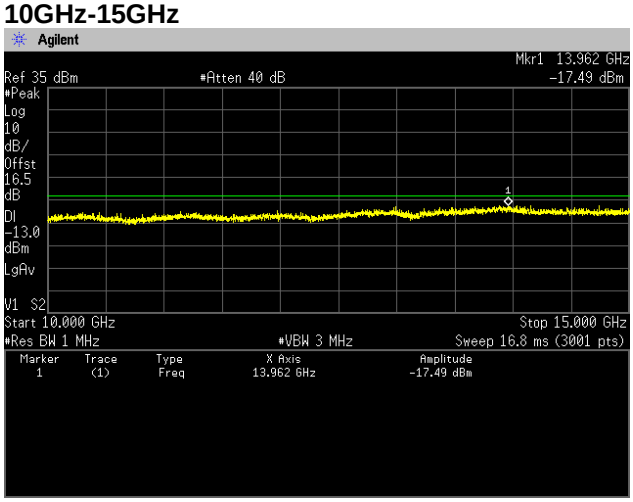
30MHz-5GHz



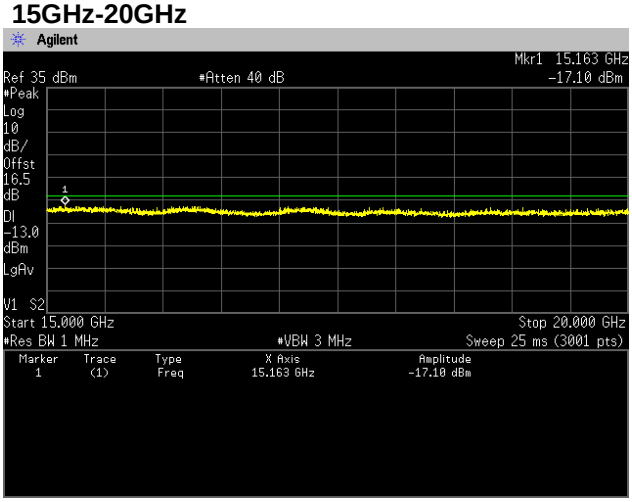
5GHz-10GHz



10GHz-15GHz



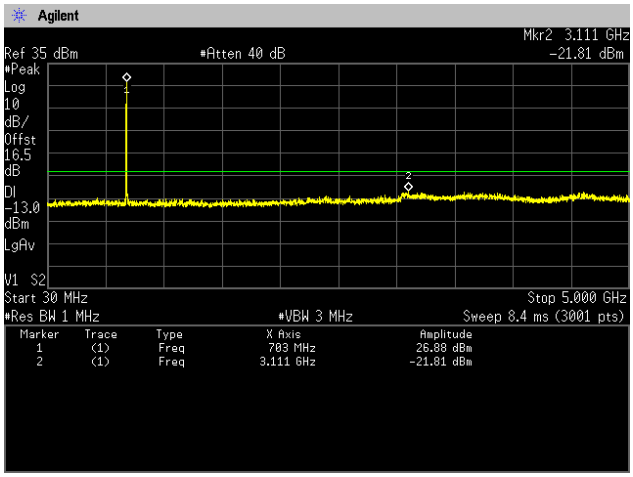
15GHz-20GHz



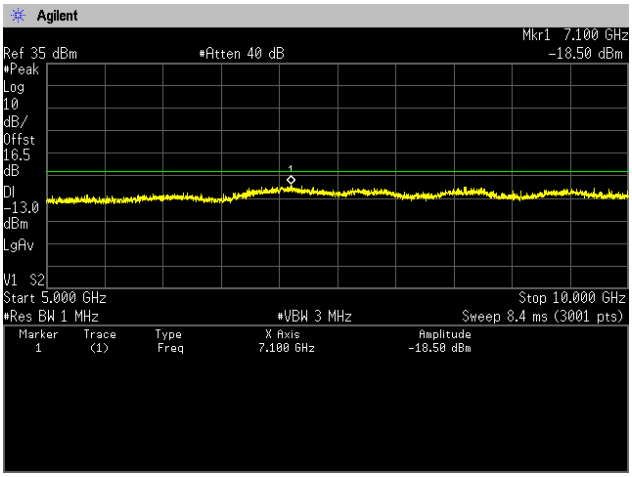
Japan

Channel: 23095

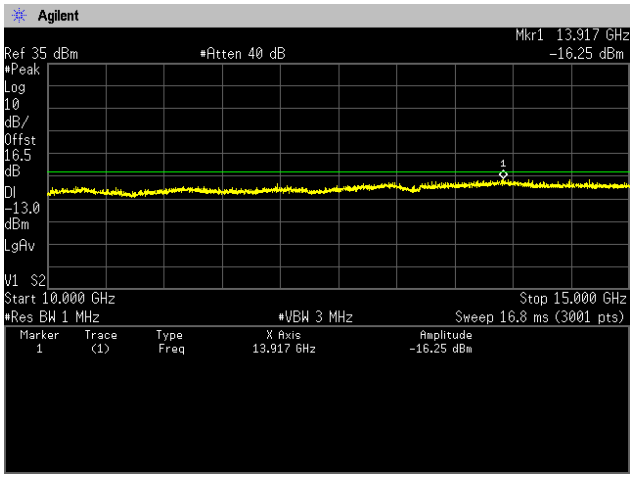
30MHz-5GHz



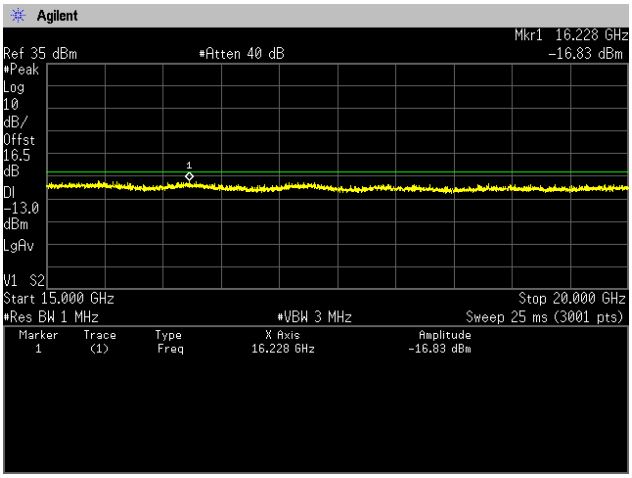
5GHz-10GHz



10GHz-15GHz

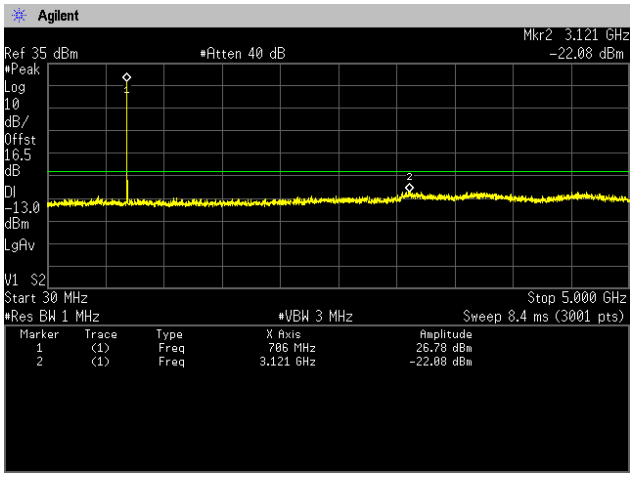


15GHz-20GHz

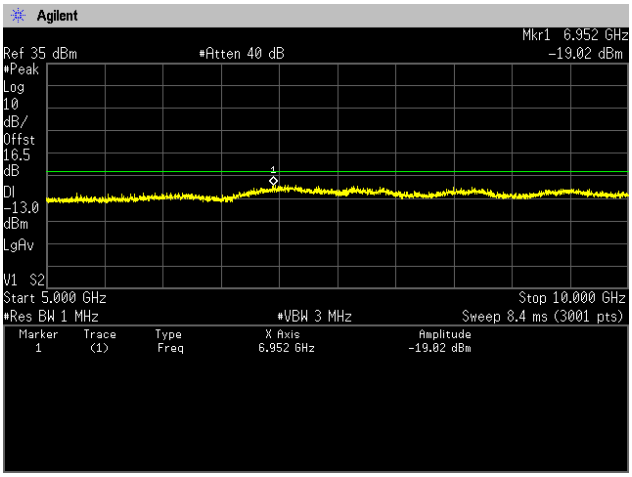


Channel: 23130

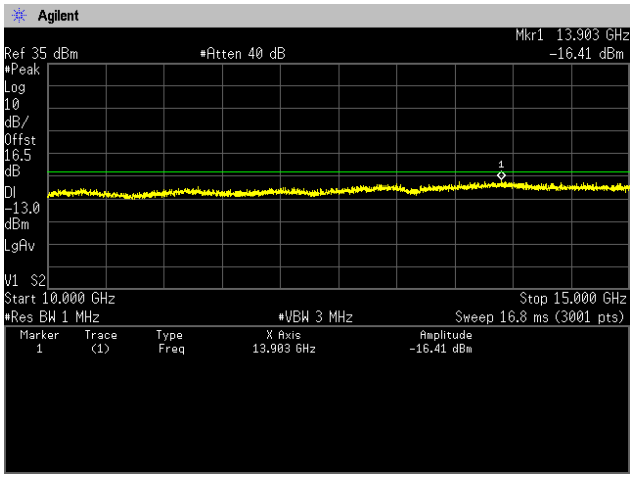
30MHz-5GHz



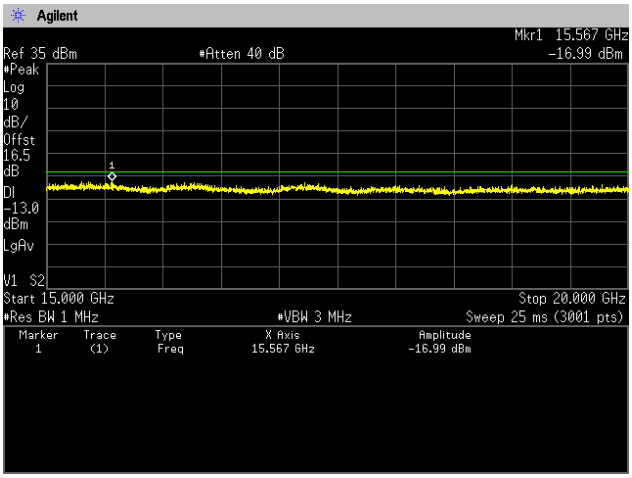
5GHz-10GHz



10GHz-15GHz

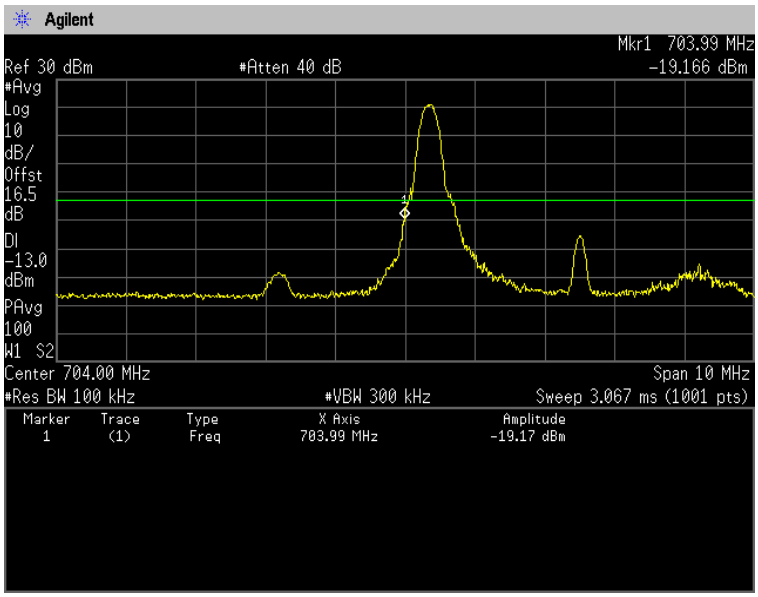


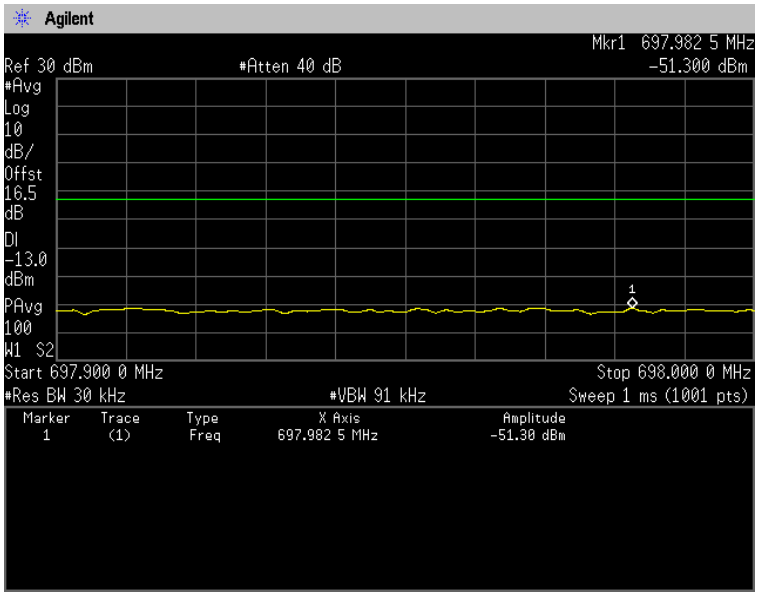
15GHz-20GHz



Japan

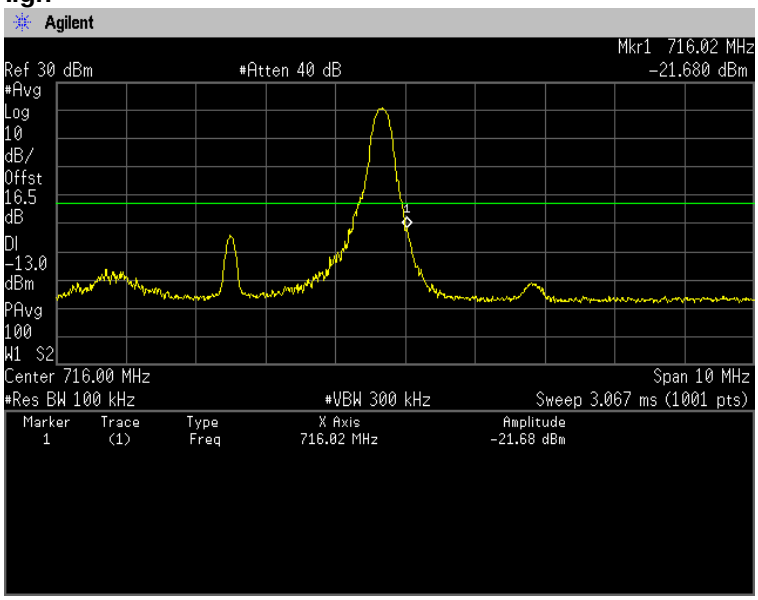
[LTE Band X VII]
(Band Edge)
QPSK, BW 5MHz, RB1-0
Channel: Low

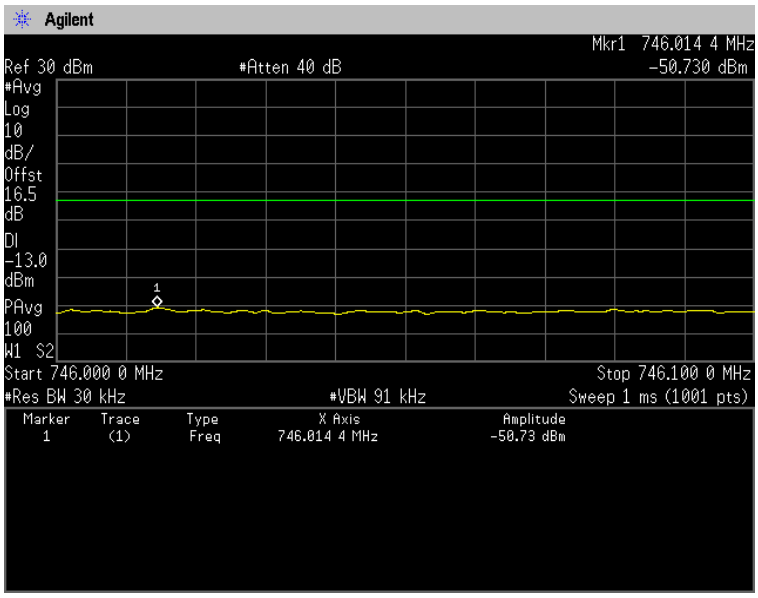




Japan

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

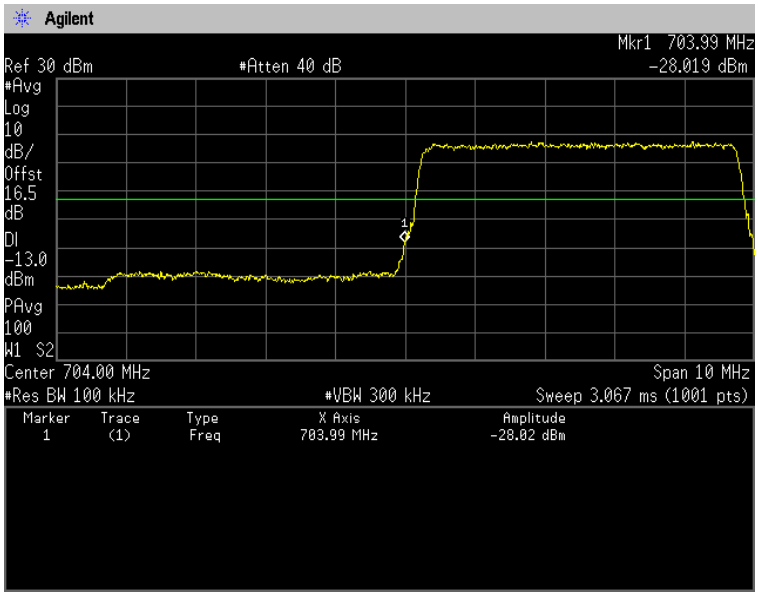


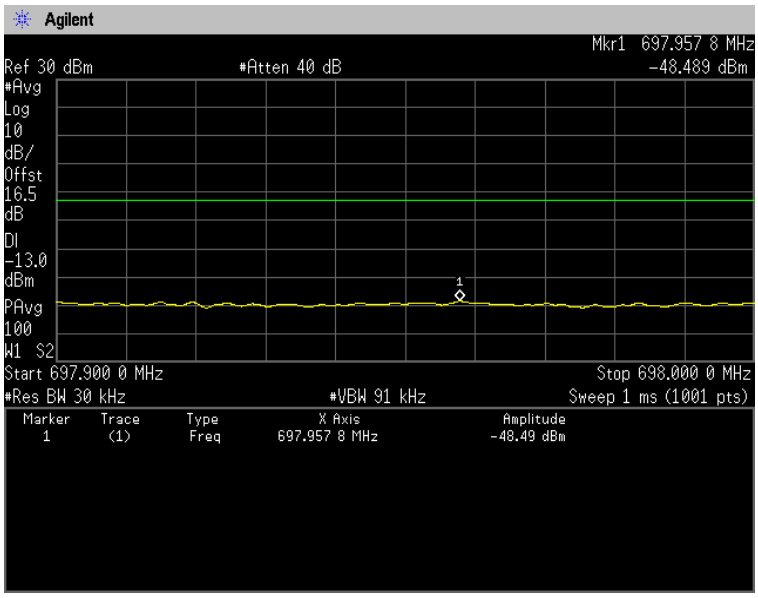


Japan

QPSK, BW 5MHz, RB25-0

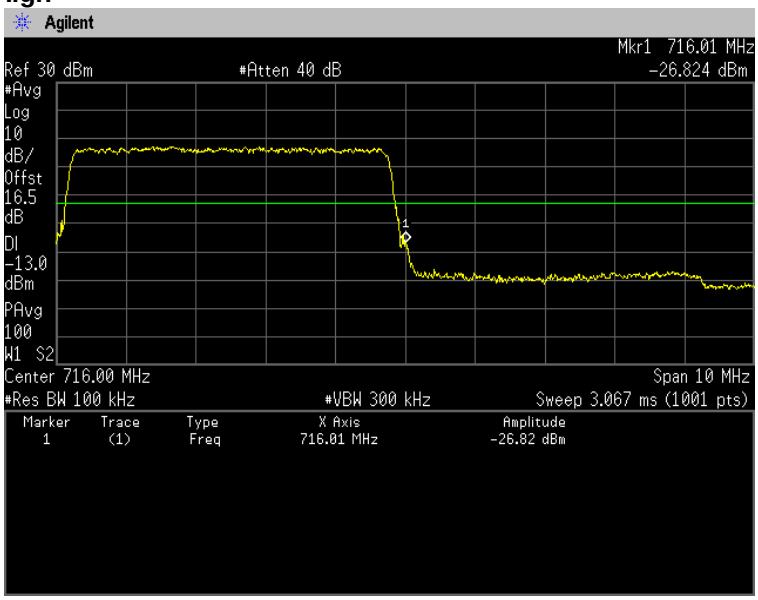
Channel: Low

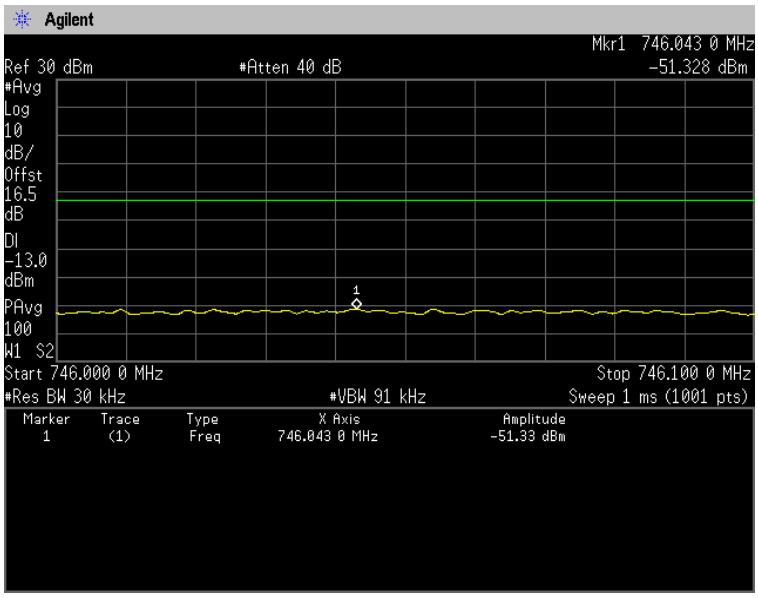




Japan

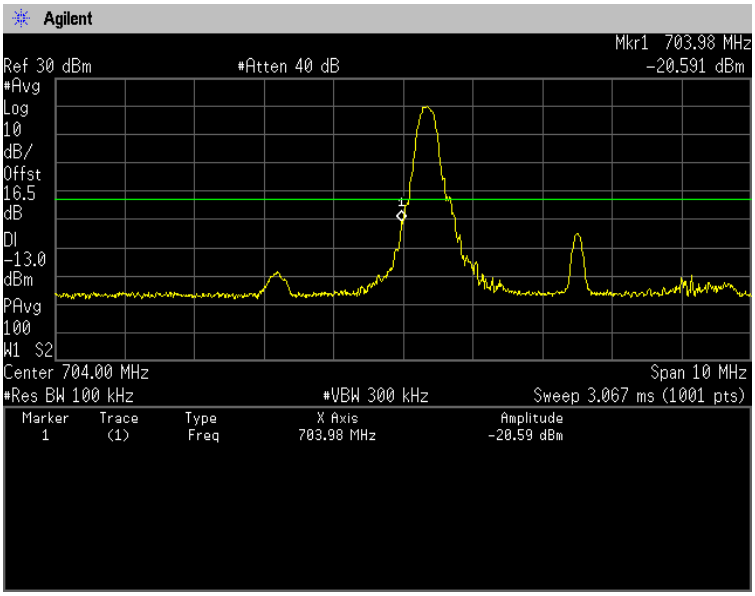
QPSK, BW 5MHz, RB25-0
Channel: High

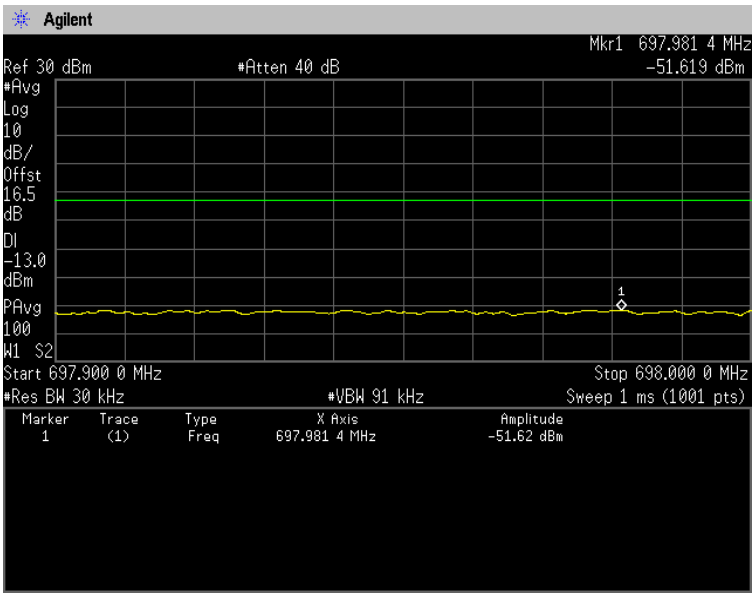




Japan

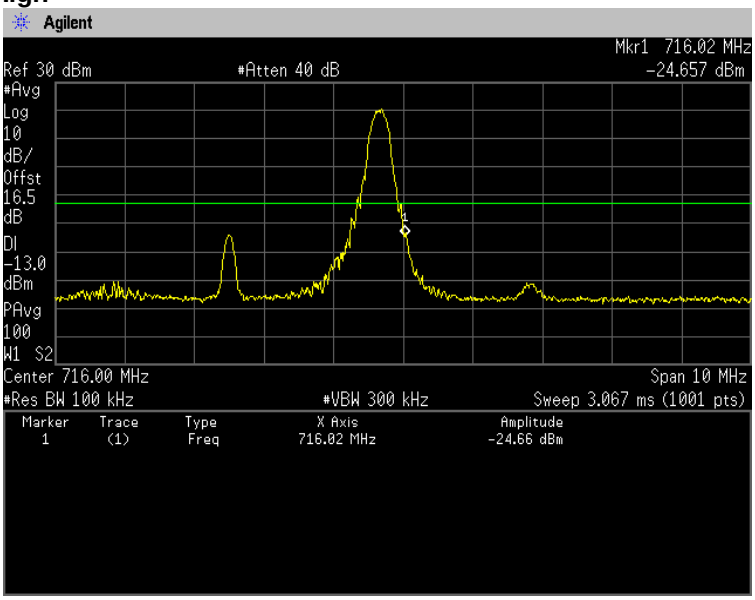
16QAM, BW 5MHz, RB1-0
Channel: Low

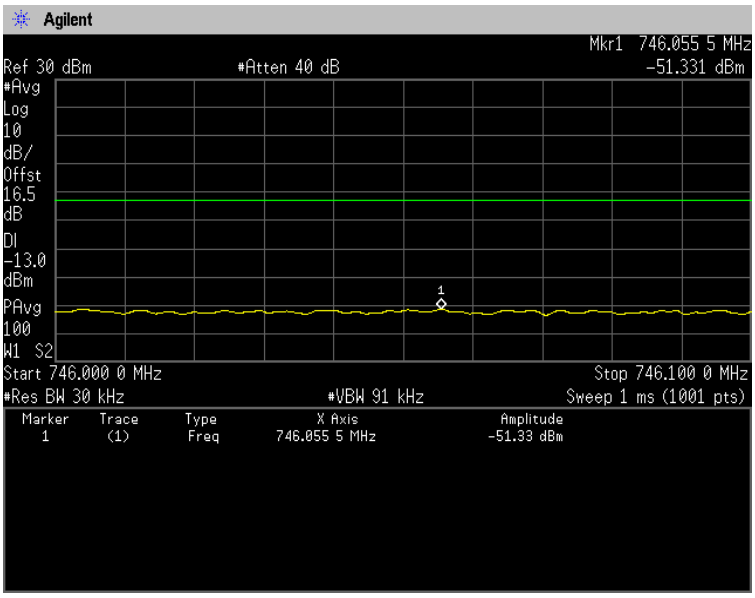




Japan

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

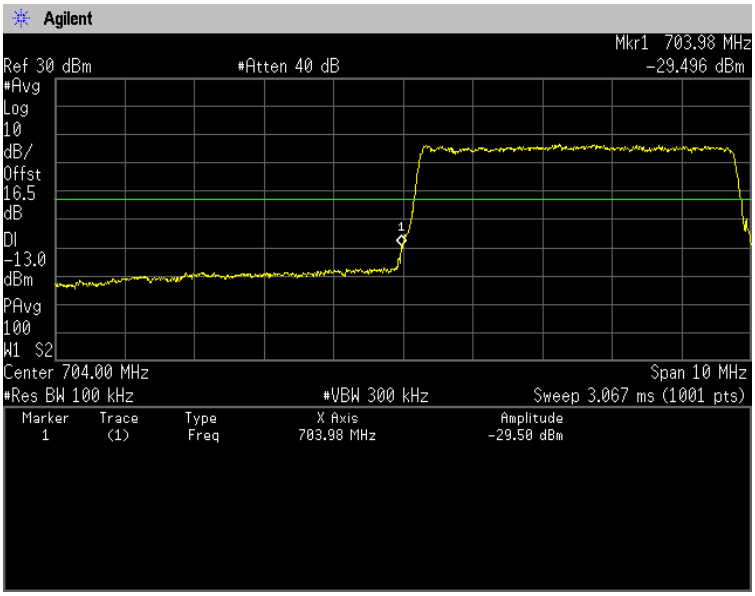


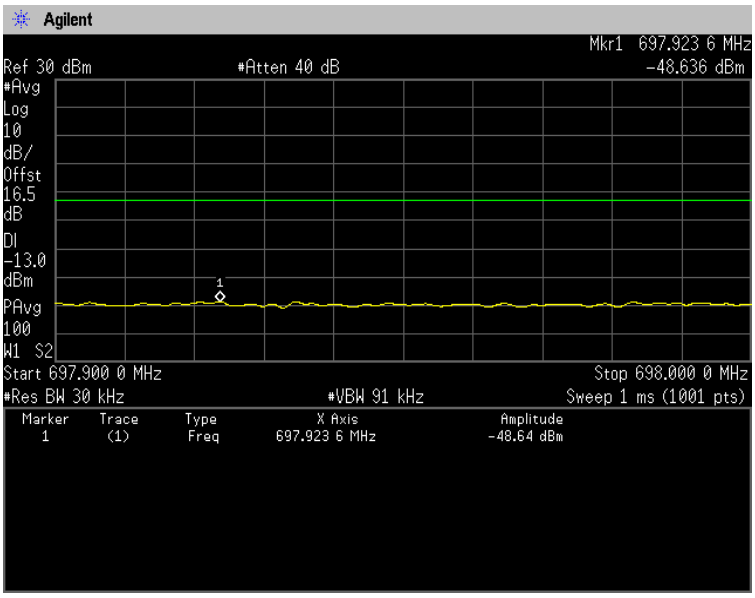


Japan

16QAM, BW 5MHz, RB25-0

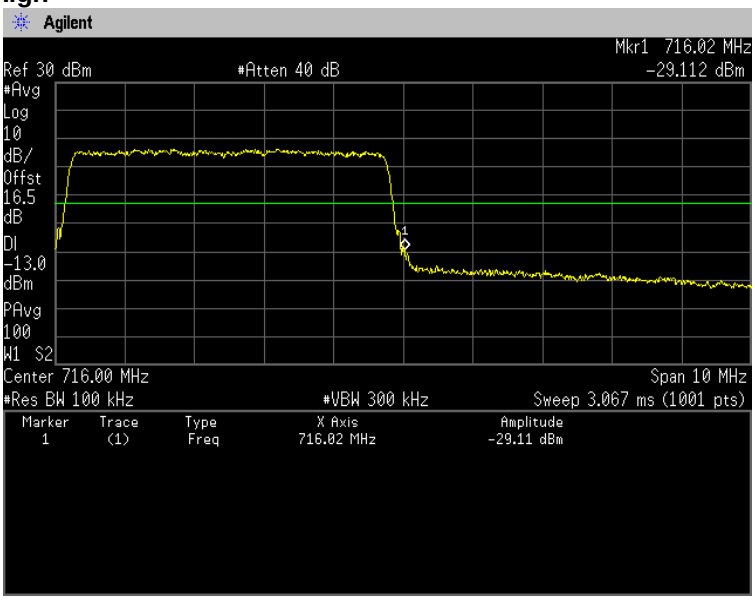
Channel: Low

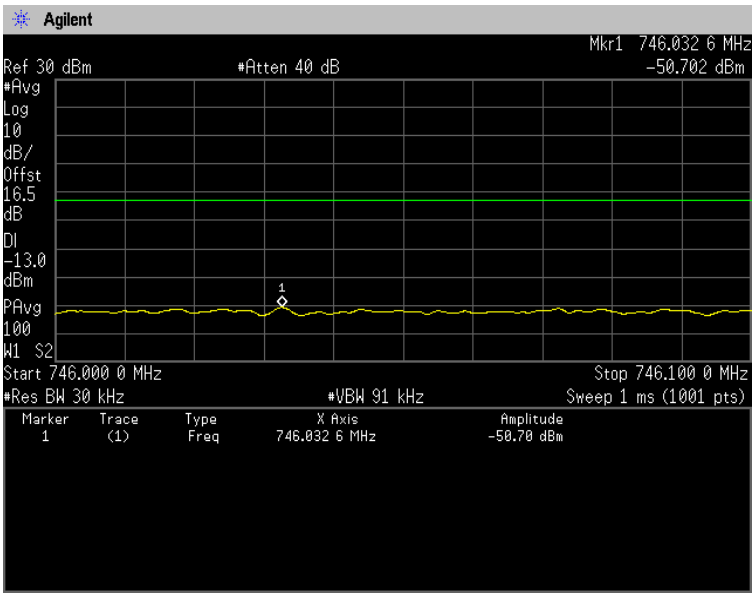




Japan

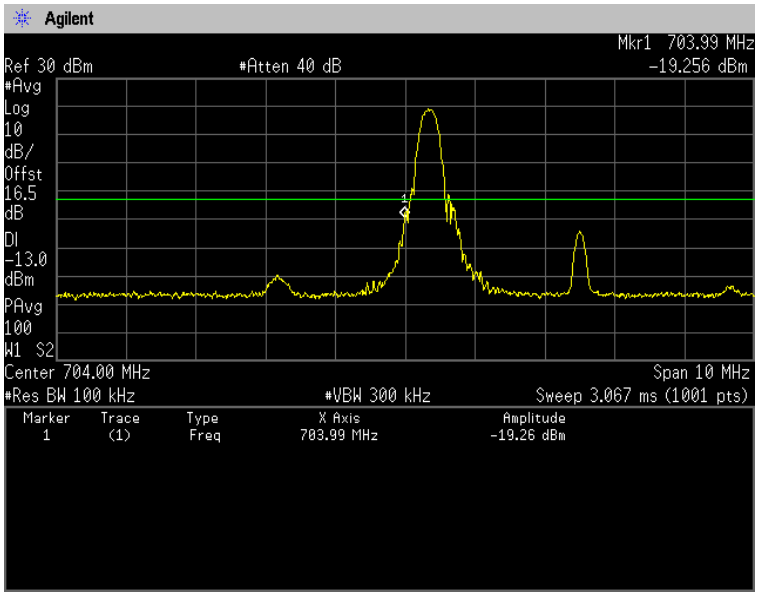
16QAM, BW 5MHz, RB25-0
Channel: High

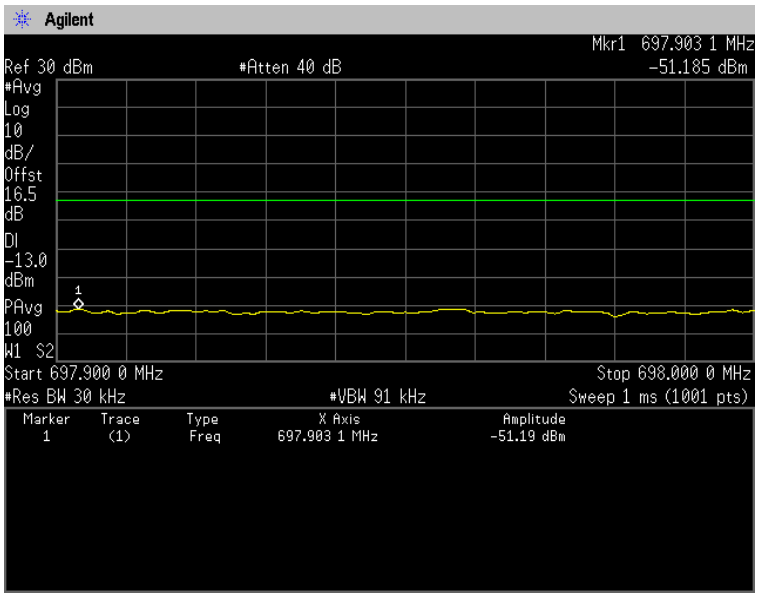




Japan

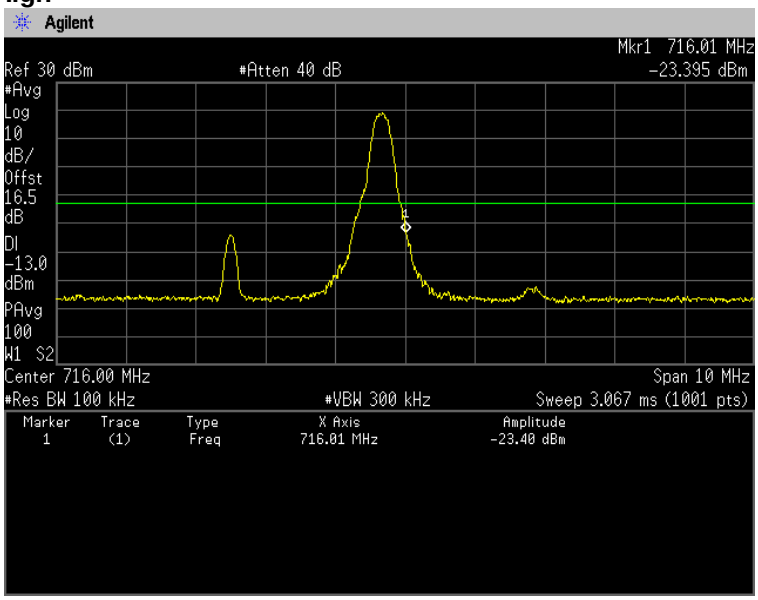
64QAM, BW 5MHz, RB1-0
Channel: Low

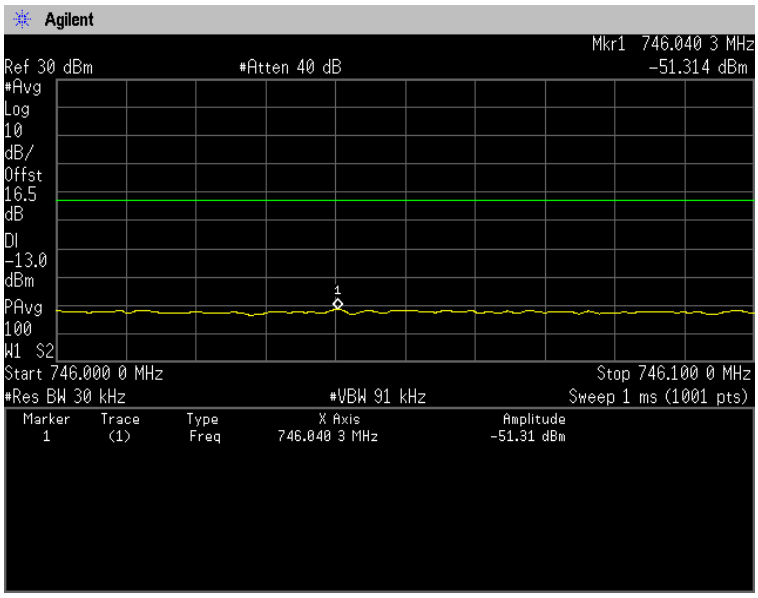




Japan

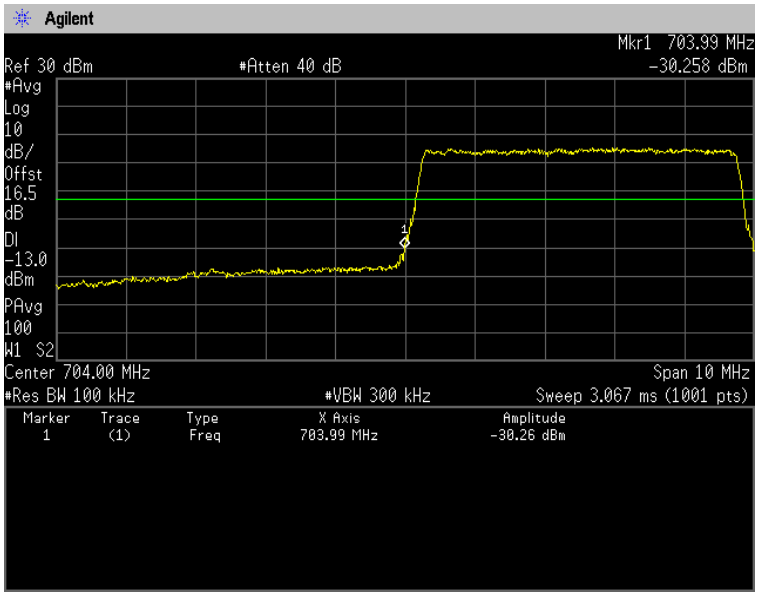
64QAM, BW 5MHz, RB1-24
Channel: High

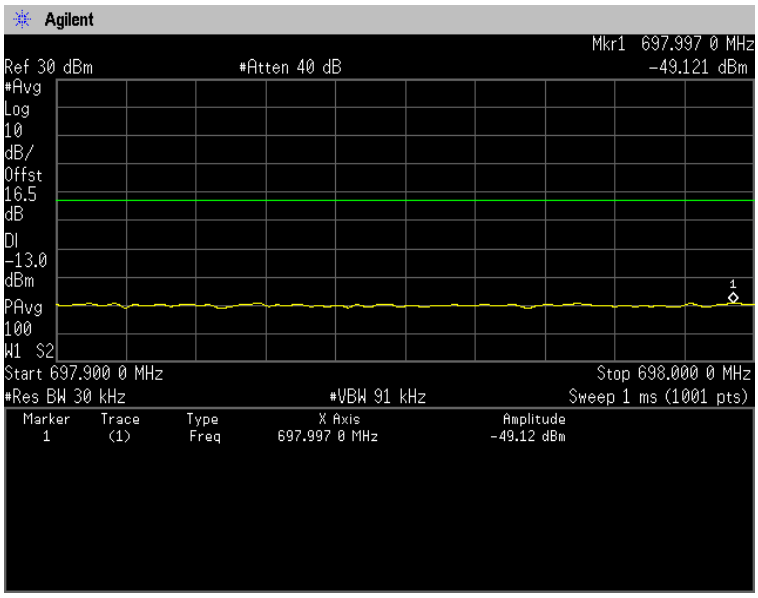




Japan

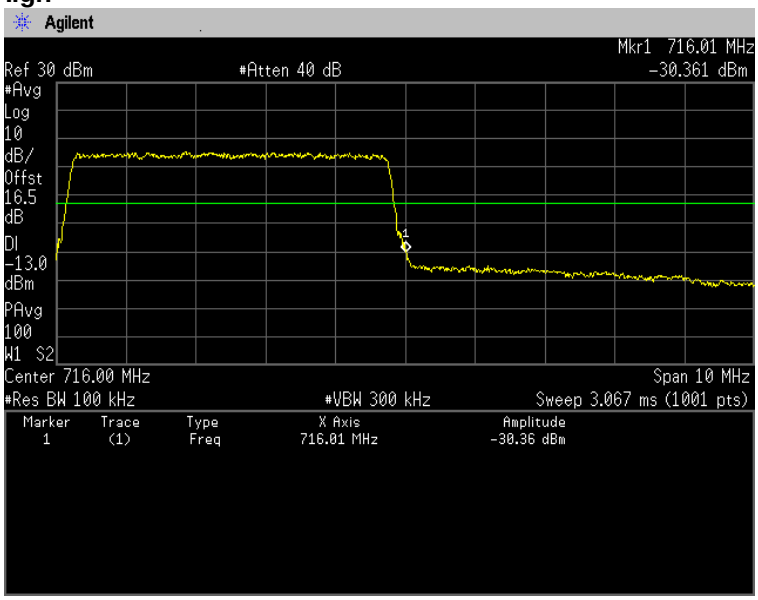
64QAM, BW 5MHz, RB25-0
Channel: Low

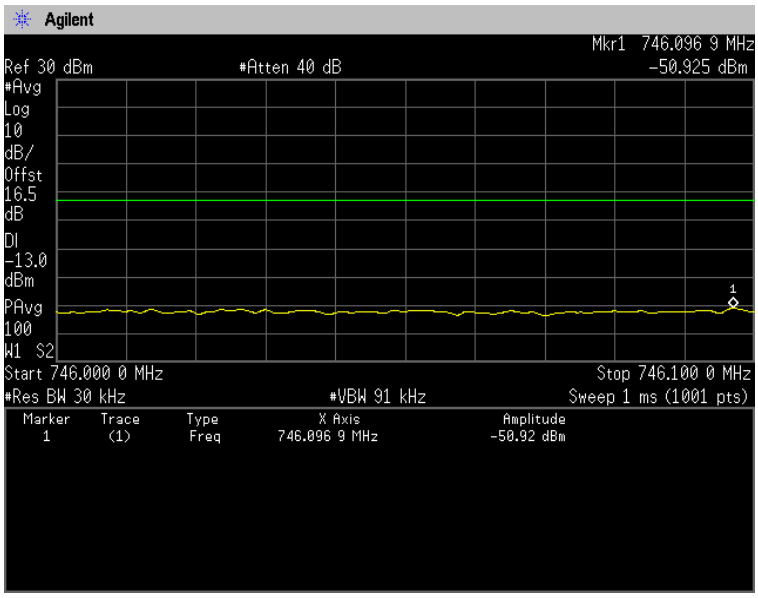




Japan

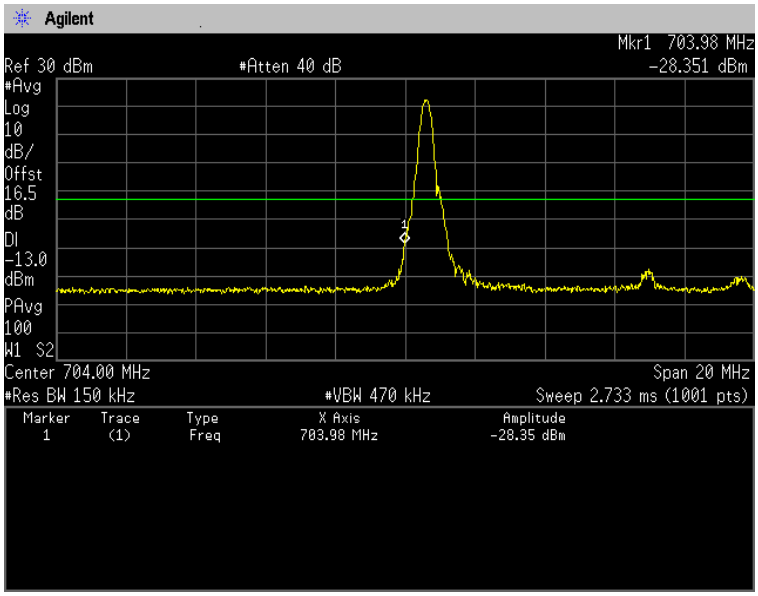
64QAM, BW 5MHz, RB25-0
Channel: High

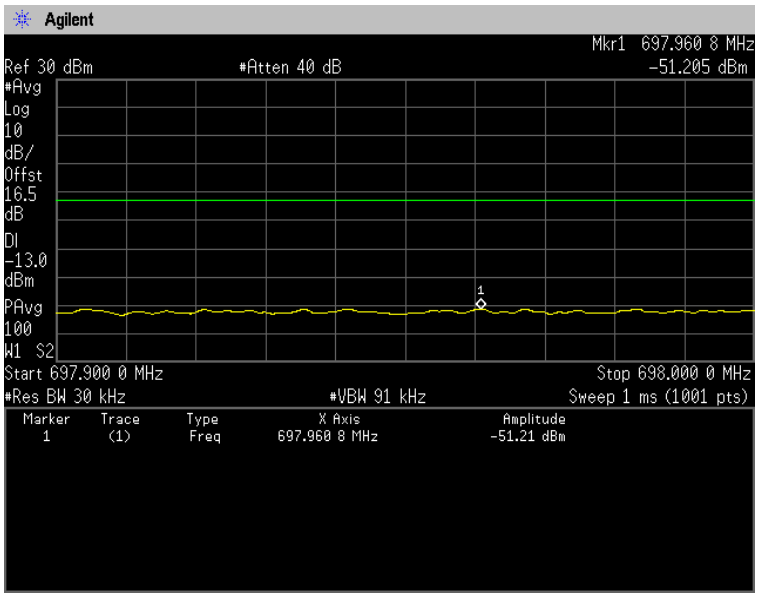




Japan

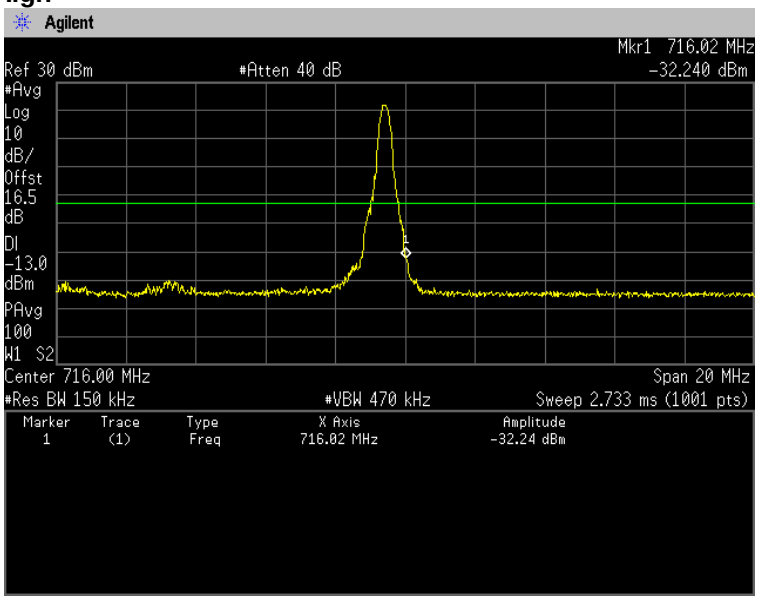
QPSK, BW 10MHz, RB1-0
Channel: Low

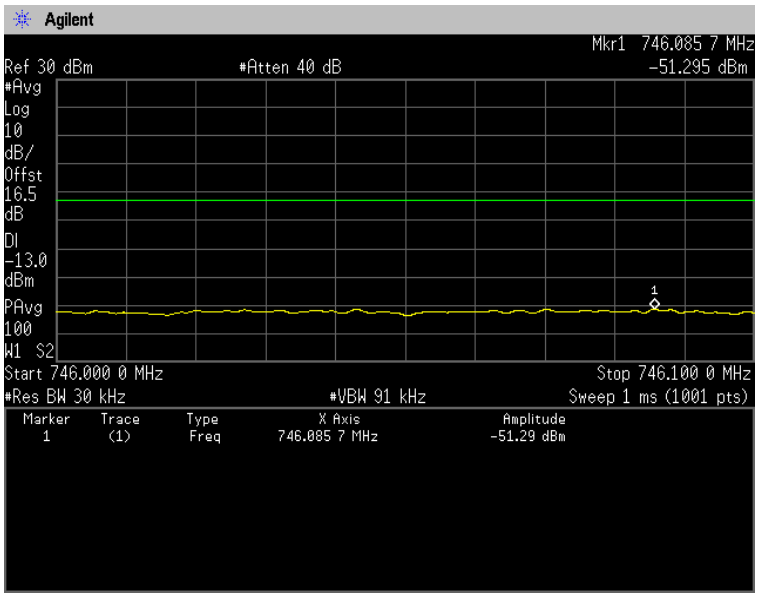




Japan

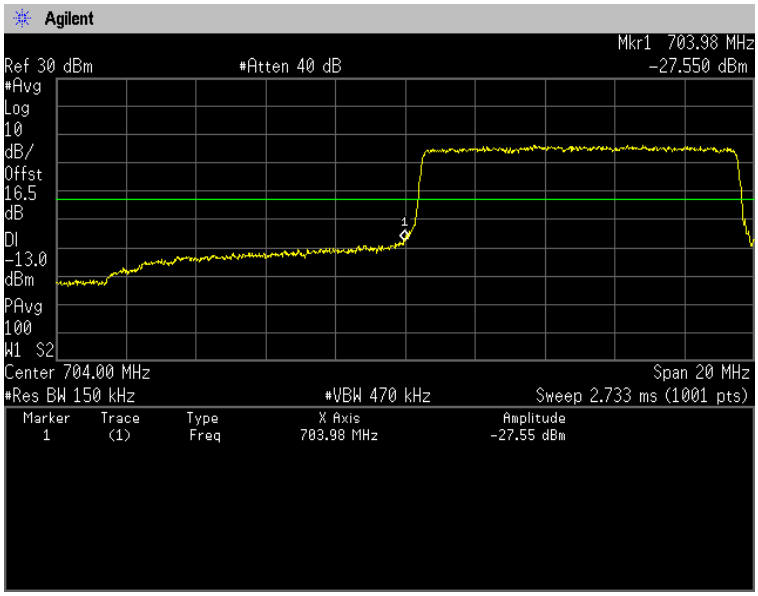
QPSK, BW 10MHz, RB1-49
Channel: High

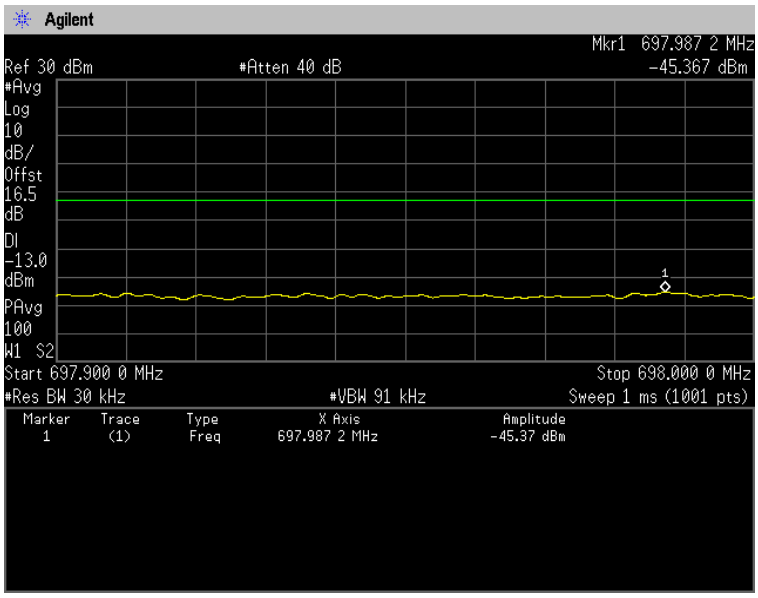




Japan

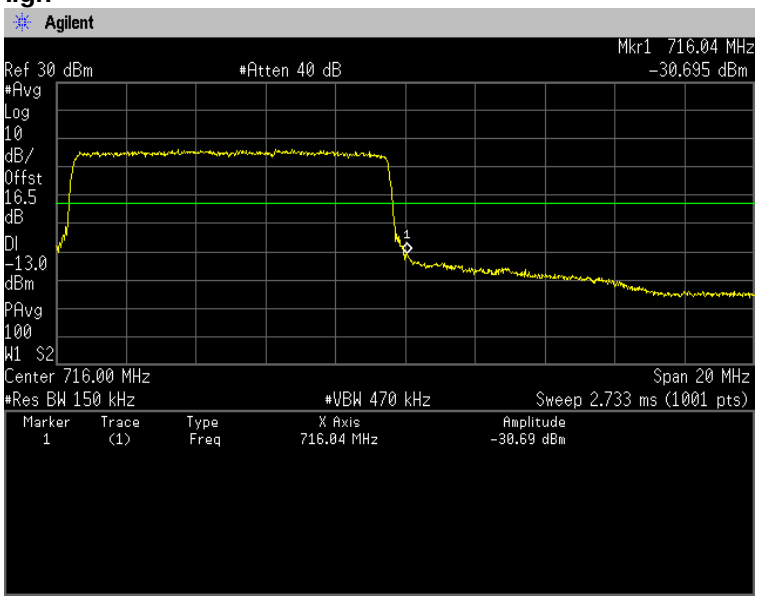
QPSK, BW 10MHz, RB50-0
Channel: Low

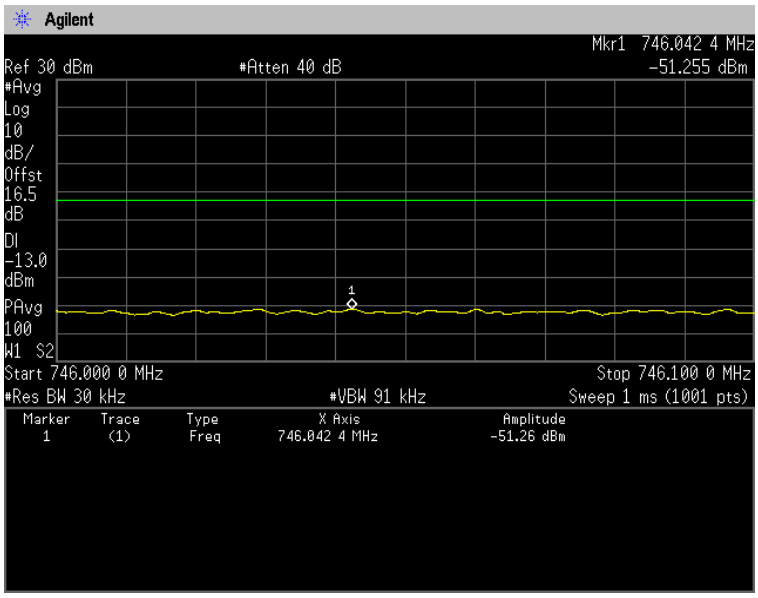




Japan

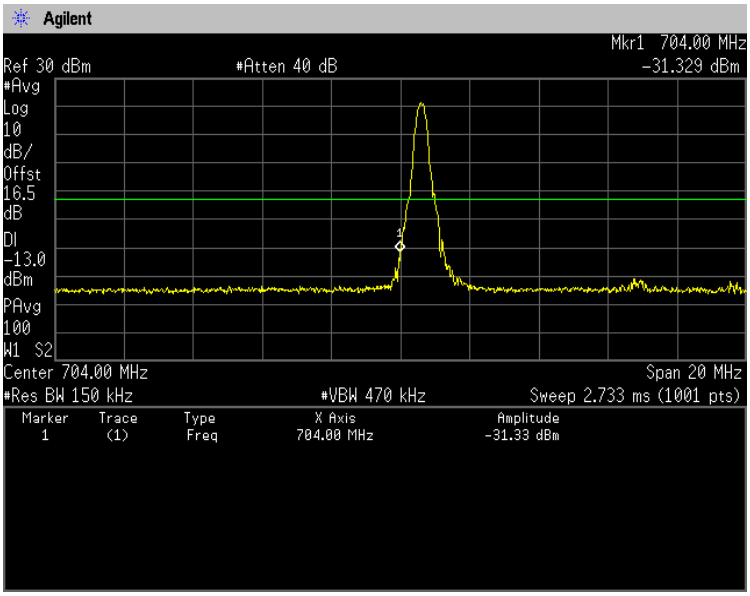
QPSK, BW 10MHz, RB50-0
Channel: High

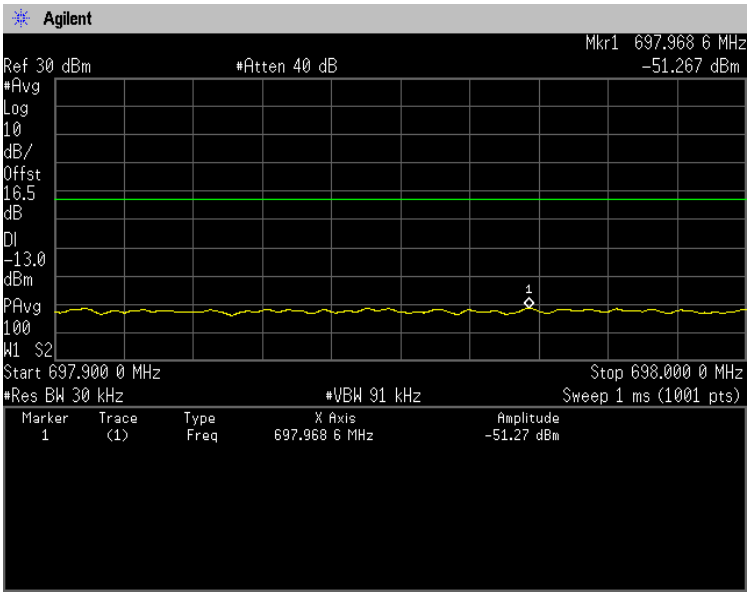




Japan

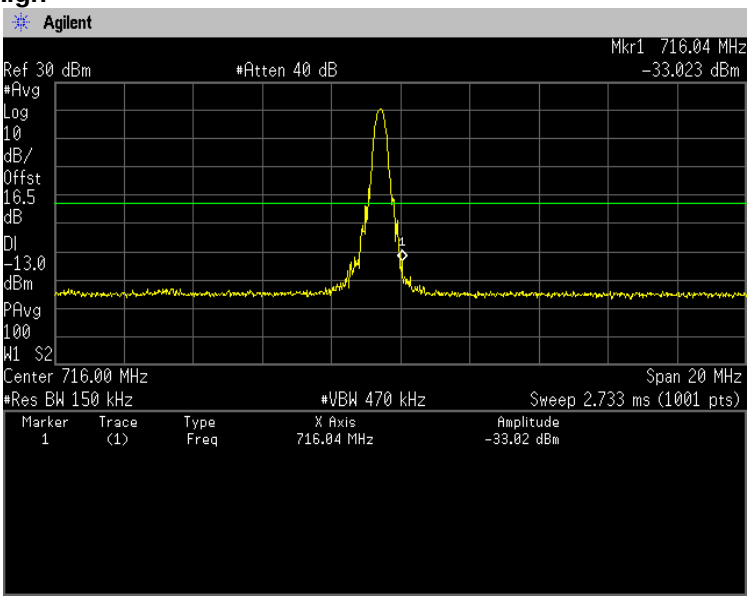
16QAM, BW 10MHz, RB1-0
Channel: Low

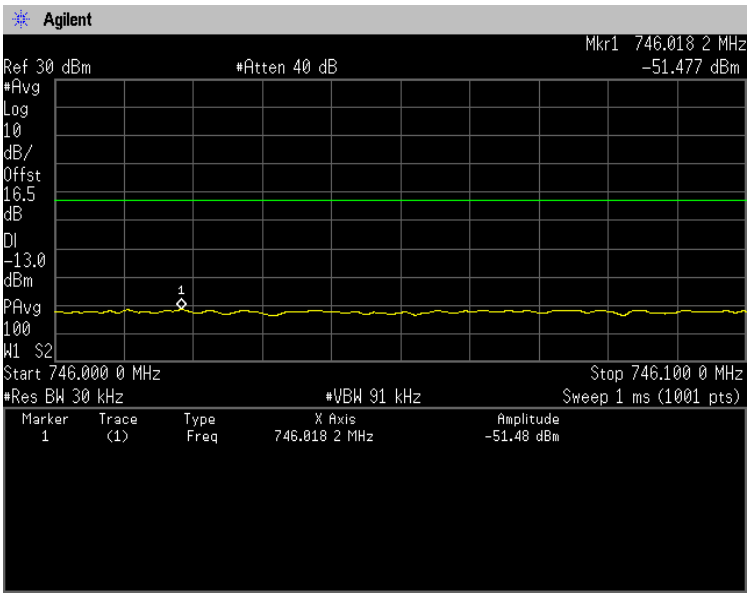




Japan

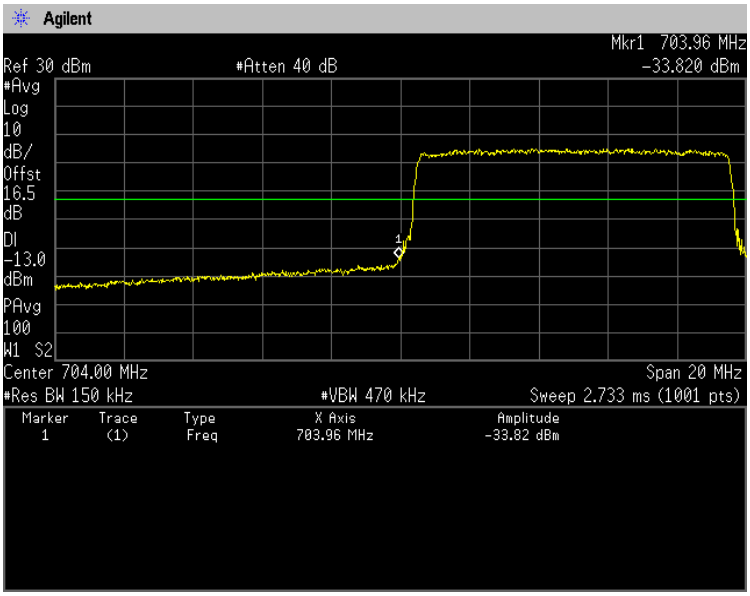
16QAM, BW 10MHz, RB1-49
Channel: High

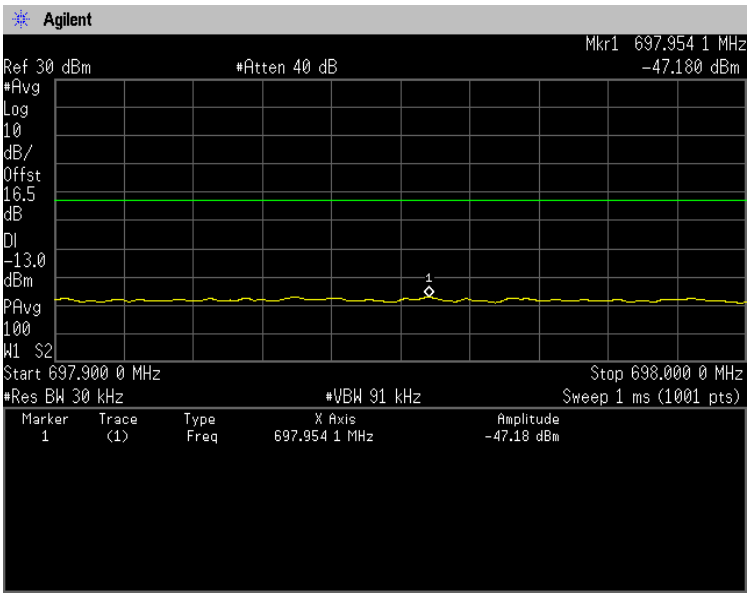




Japan

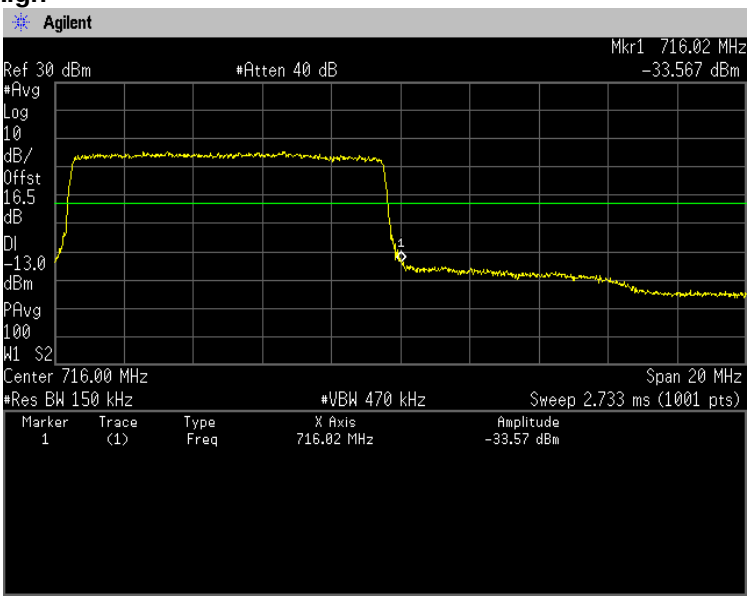
16QAM, BW 10MHz, RB50-0
Channel: Low

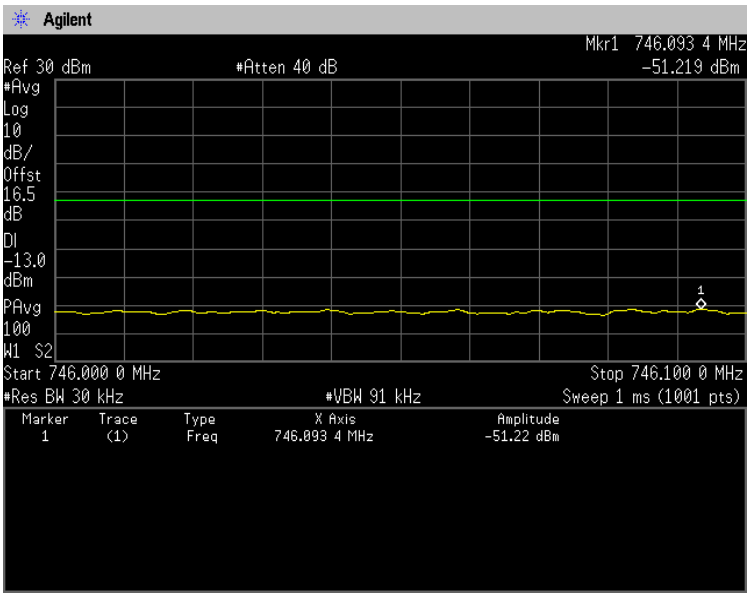




Japan

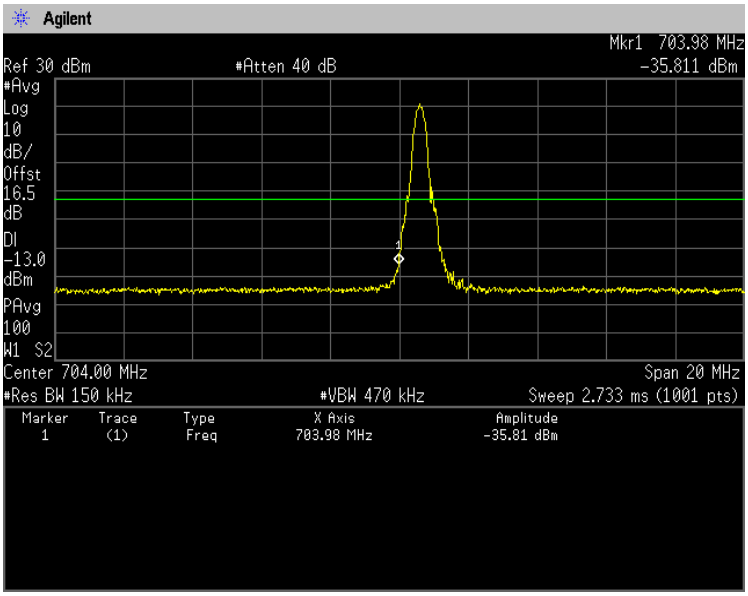
16QAM, BW 10MHz, RB50-0
Channel: High

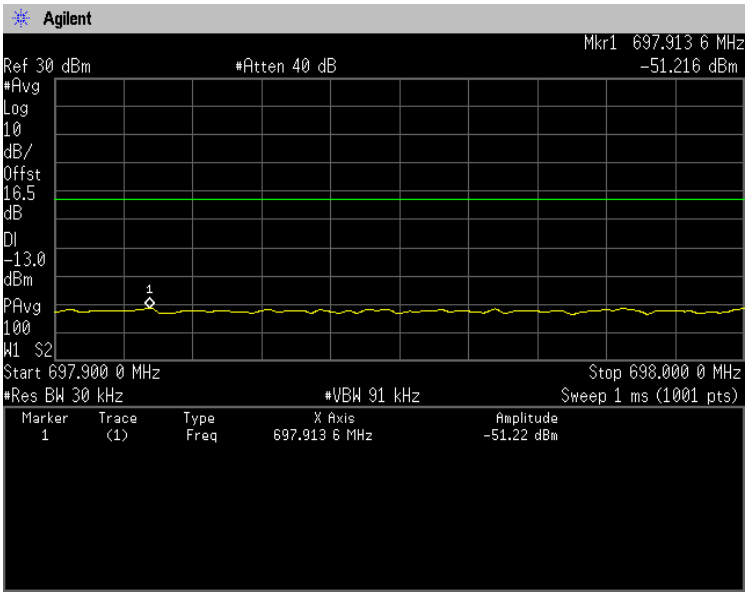




Japan

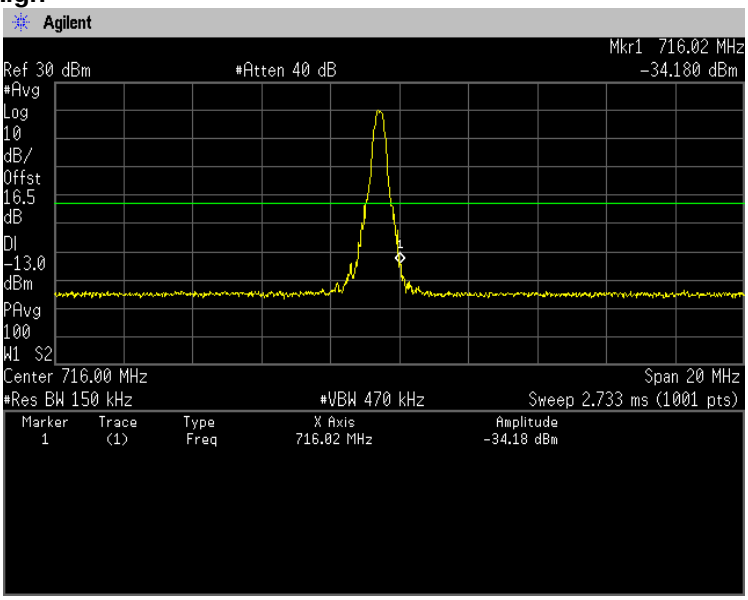
64QAM, BW 10MHz, RB1-0
Channel: Low

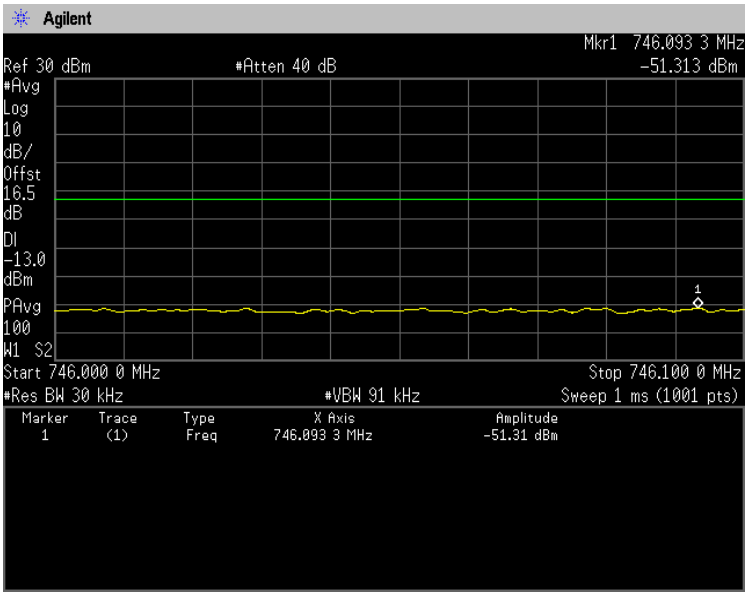




Japan

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

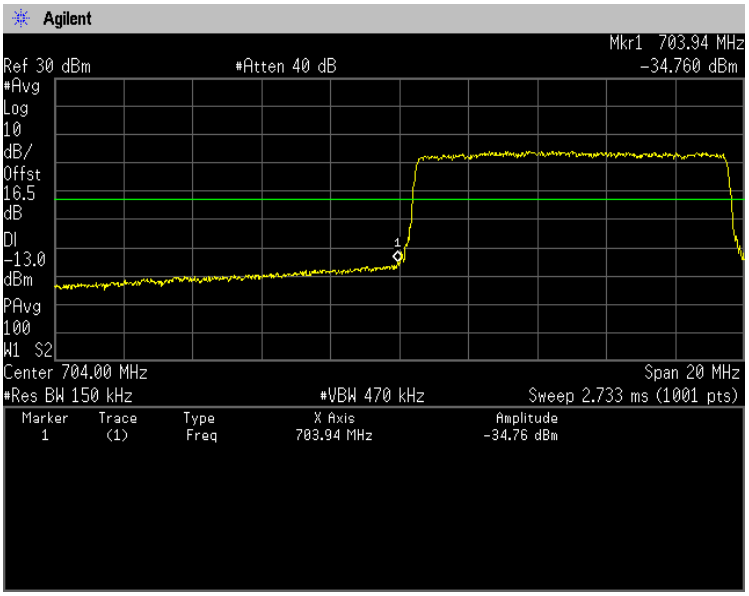


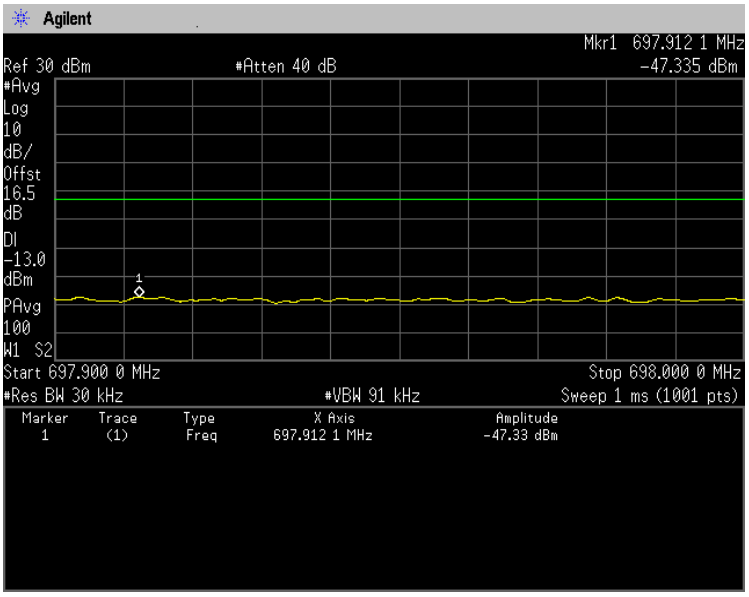


Japan

64QAM, BW 10MHz, RB50-0

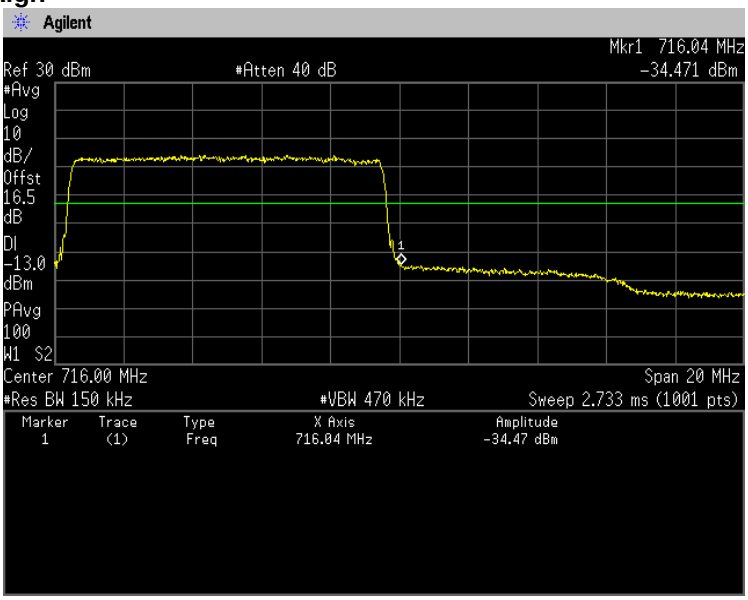
Channel: Low

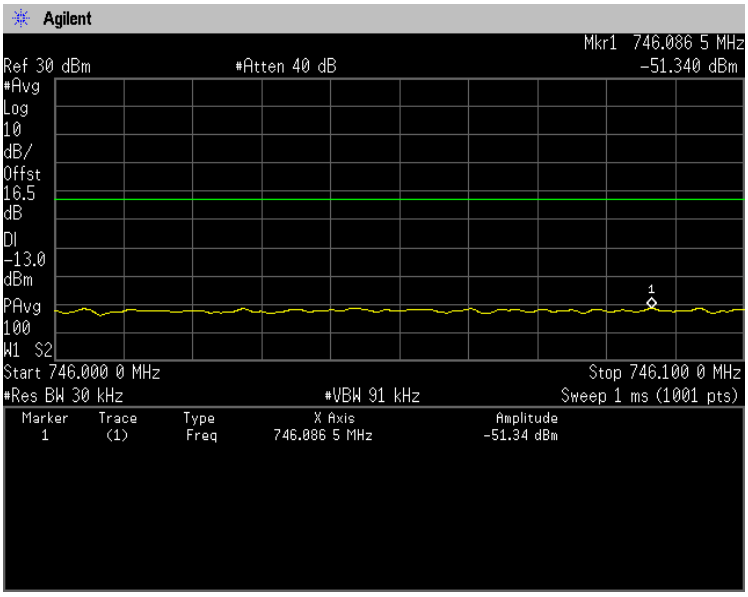




Japan

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

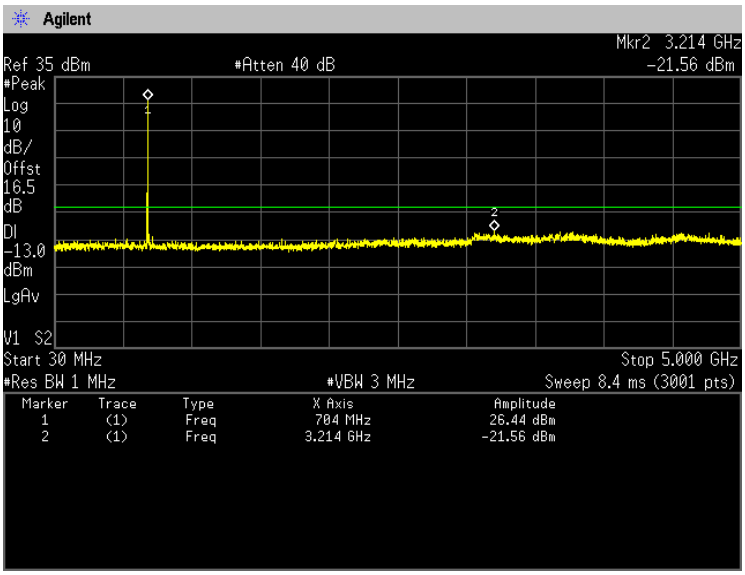




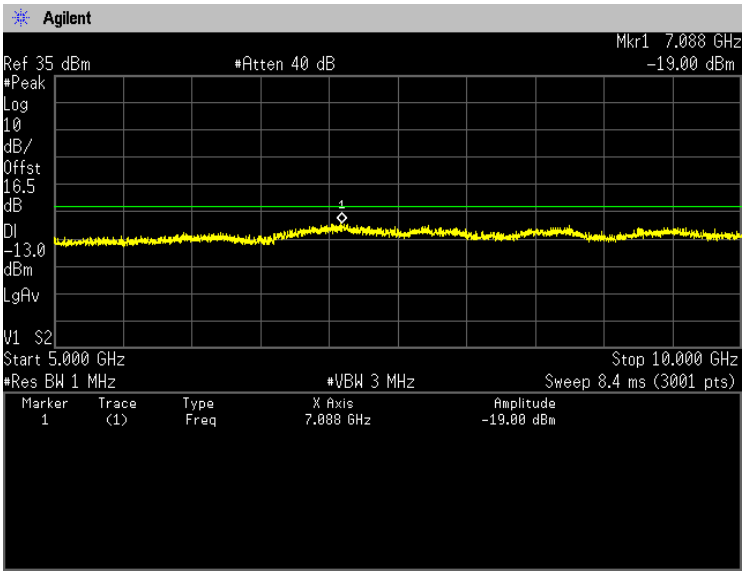
Japan

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

QPSK, BW 10MHz, RB1-0
Channel: 23780
30MHz-5GHz

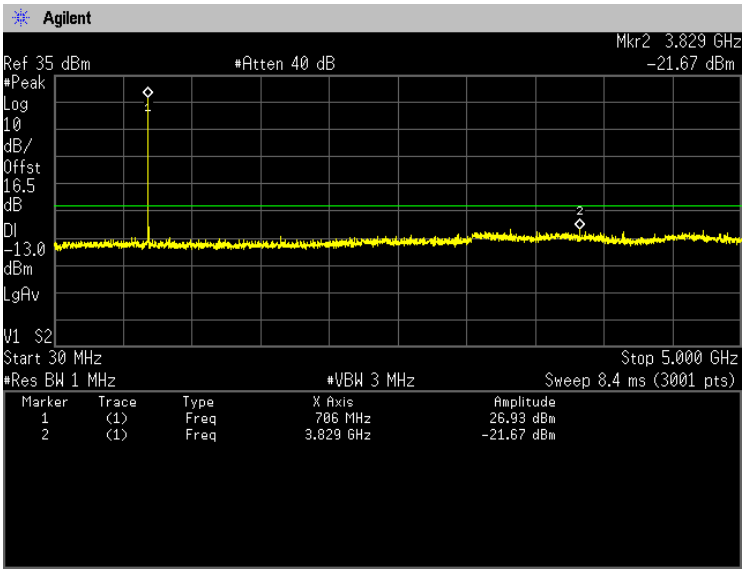


5GHz-10GHz

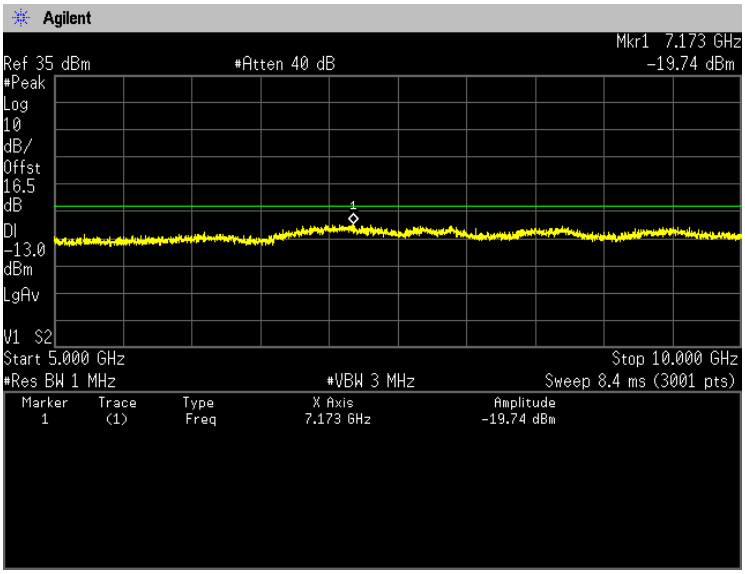


Japan

Channel: 23790
30MHz-5GHz

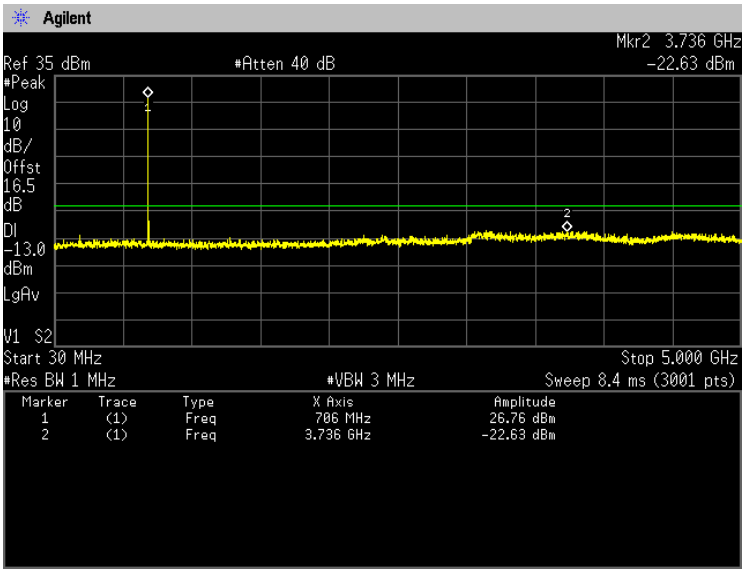


5GHz-10GHz

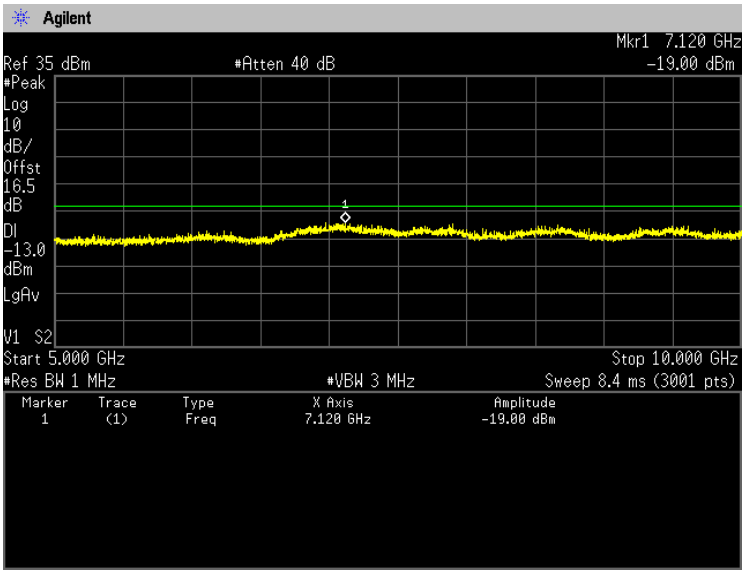


Japan

Channel: 23800
30MHz-5GHz

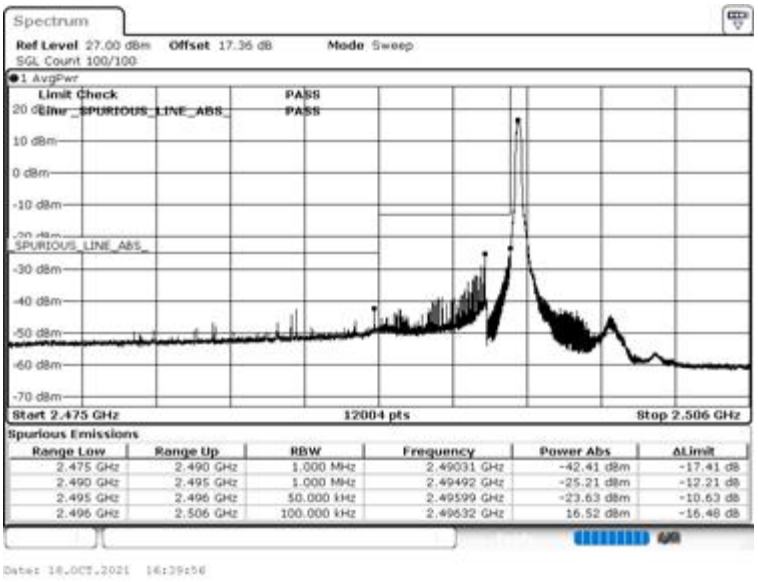


5GHz-10GHz

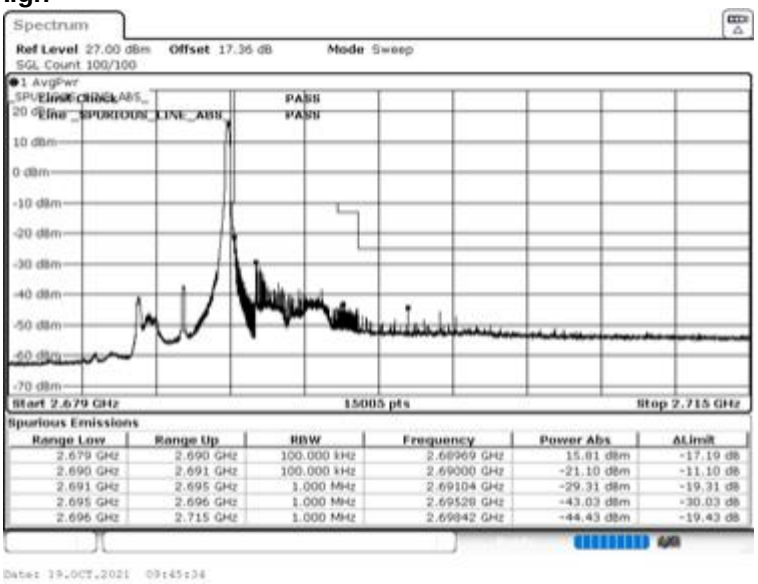


Japan

[LTE Band XL I]
(Band Edge)
QPSK, BW 5MHz, RB1-0
Channel: Low

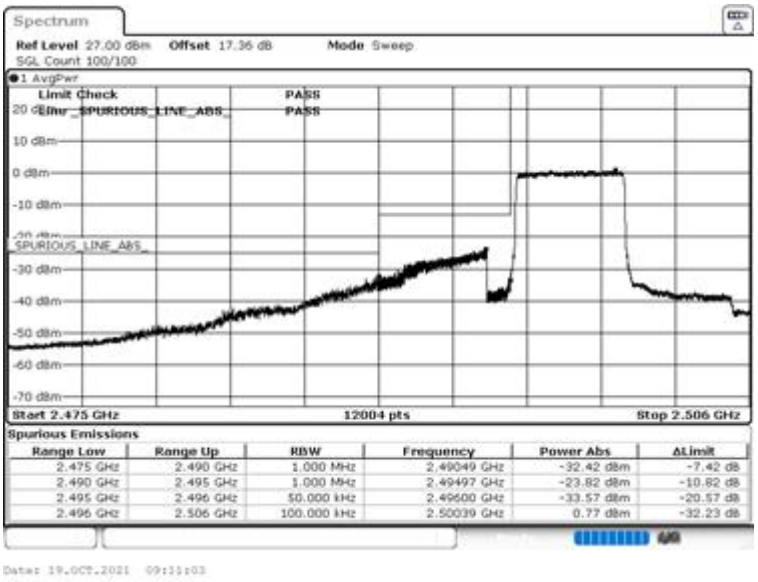


QPSK, BW 5MHz, RB1-24
Channel: High

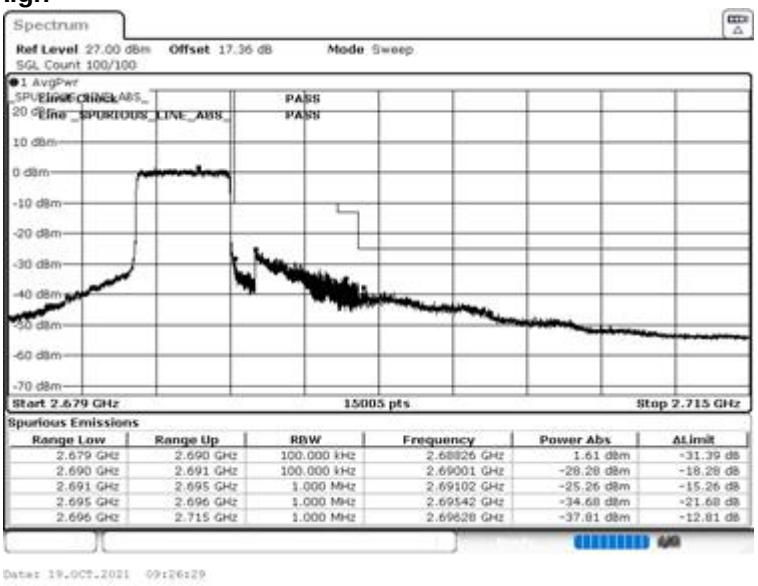


Japan

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

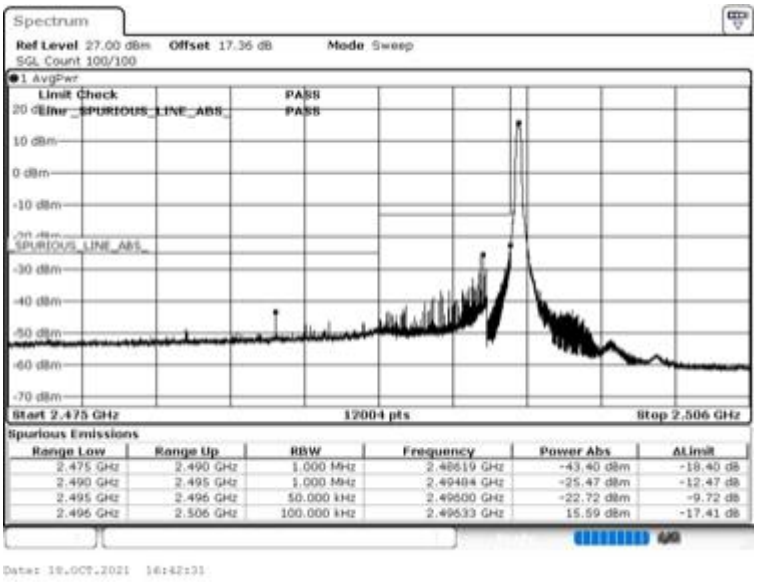


QPSK, BW 5MHz, RB25-0
Channel: High

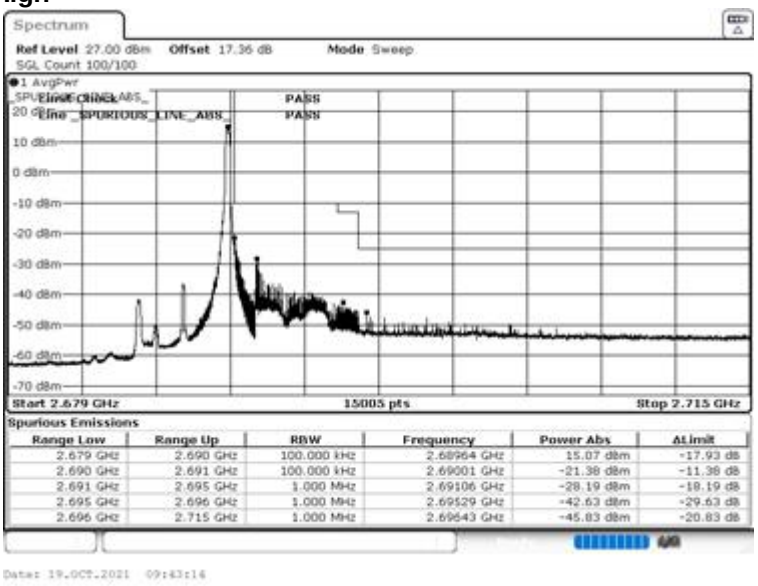


Japan

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

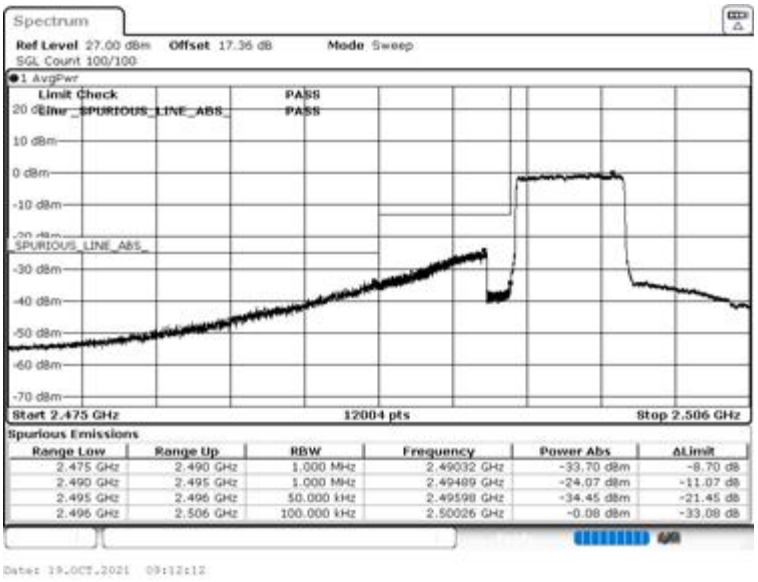


16QAM, BW 5MHz, RB1-24
Channel: High

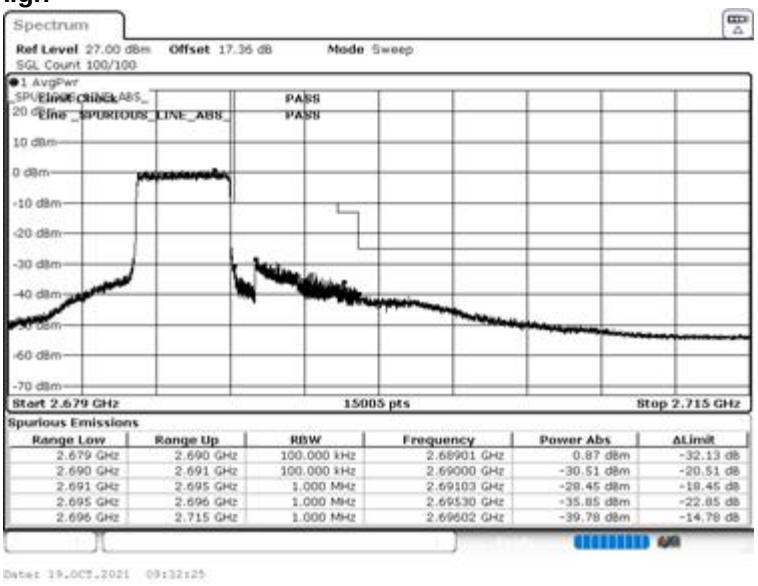


Japan

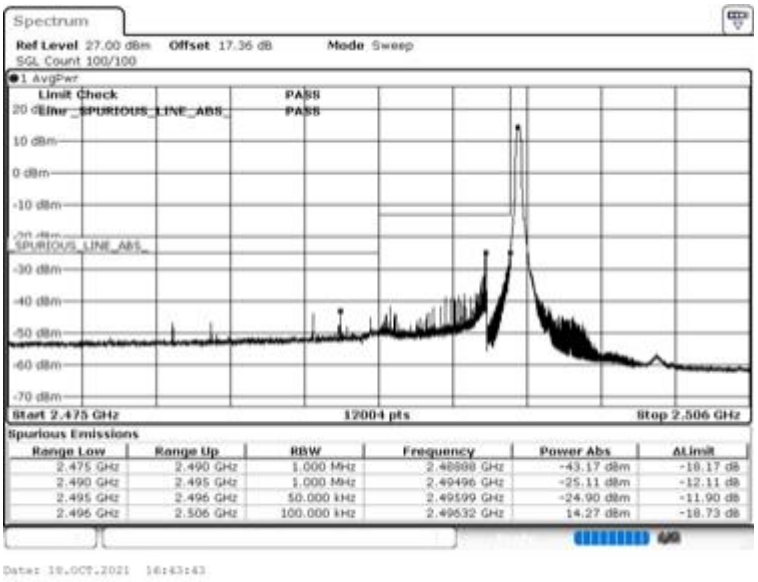
16QAM, BW 5MHz, RB25-0
Channel: Low



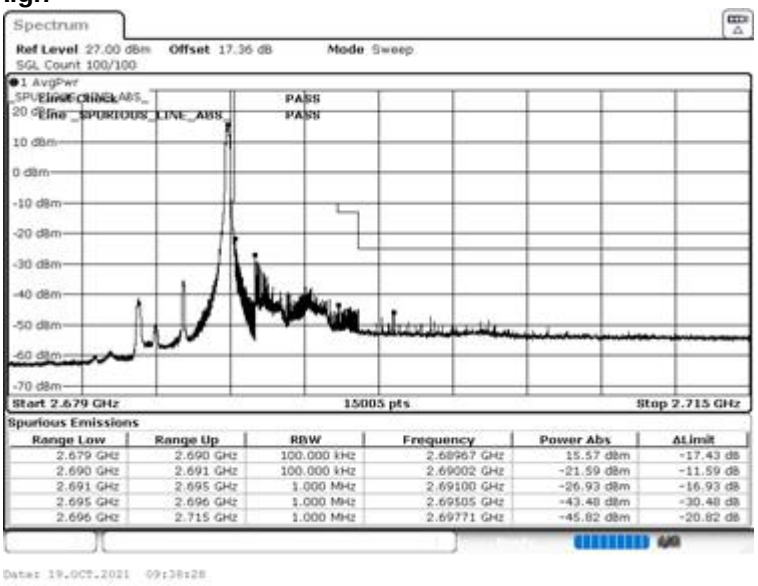
16QAM, BW 5MHz, RB25-0
Channel: High



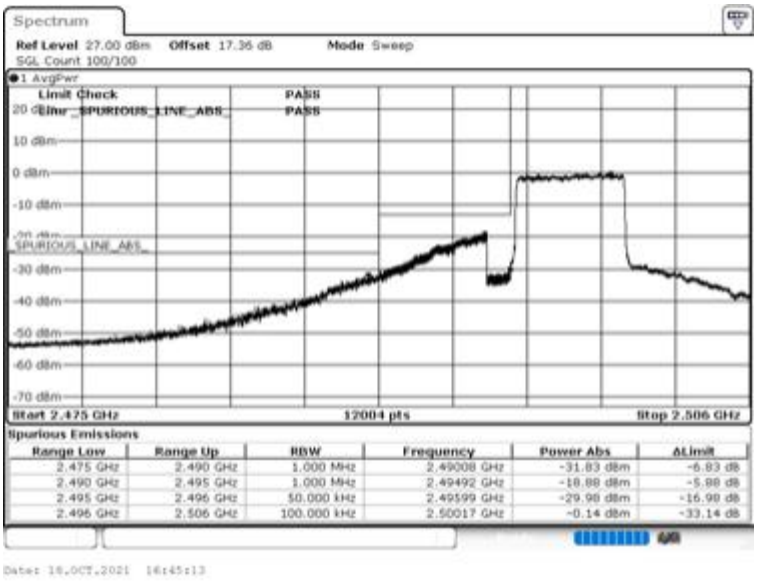
64QAM, BW 5MHz, RB1-0
Channel: Low



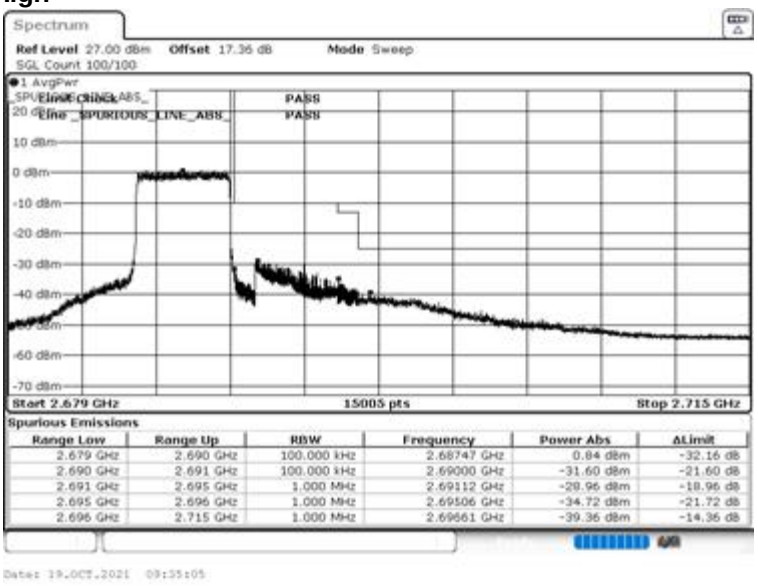
64QAM, BW 5MHz, RB1-24
Channel: High



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

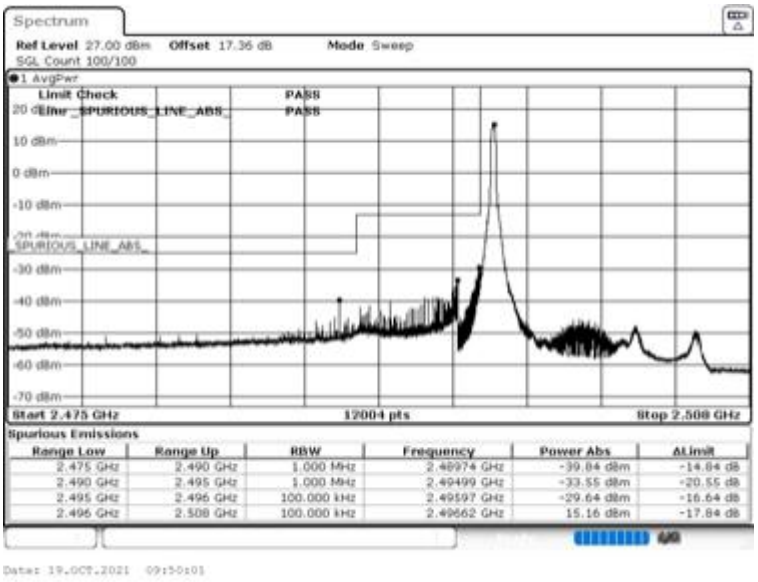


64QAM, BW 5MHz, RB25-0
Channel: High

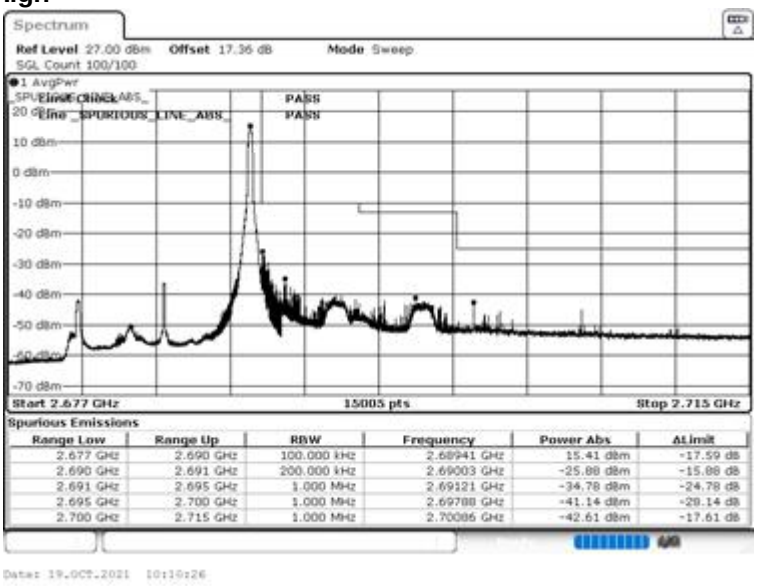


Japan

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

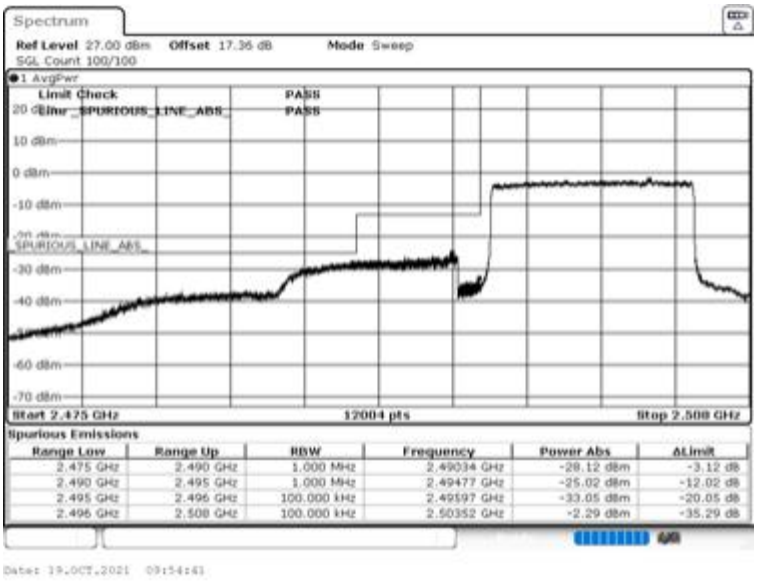


QPSK, BW 10MHz, RB1-49
Channel: High

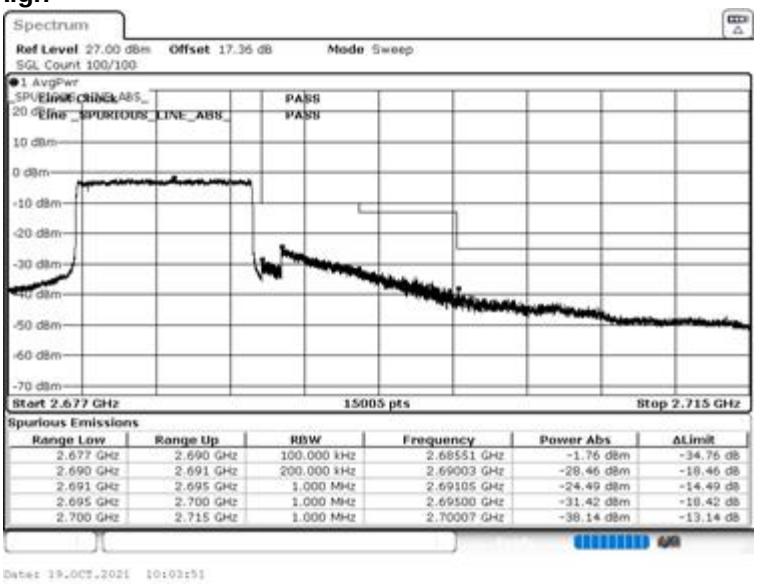


Japan

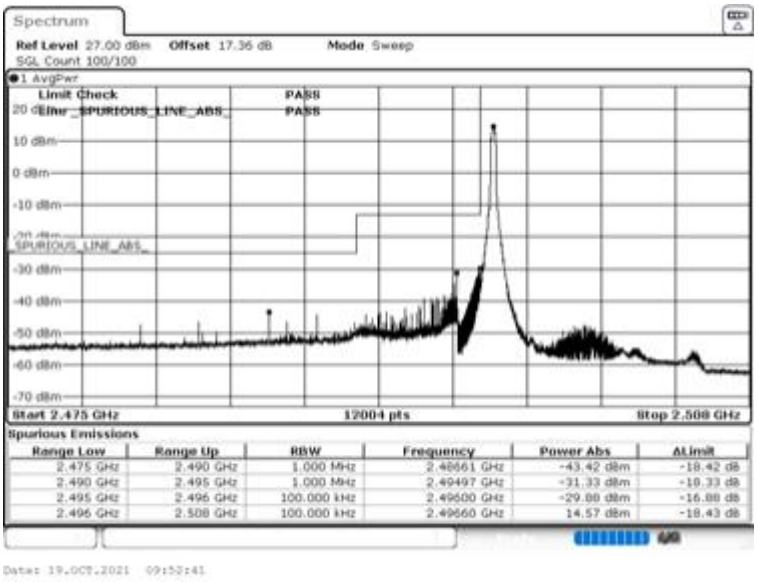
QPSK, BW 10MHz, RB50-0
Channel: Low



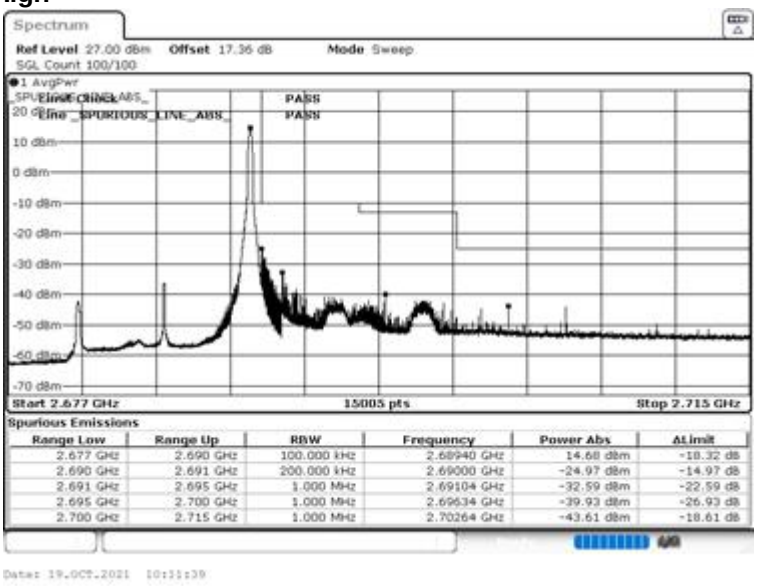
QPSK, BW 10MHz, RB50-0
Channel: High



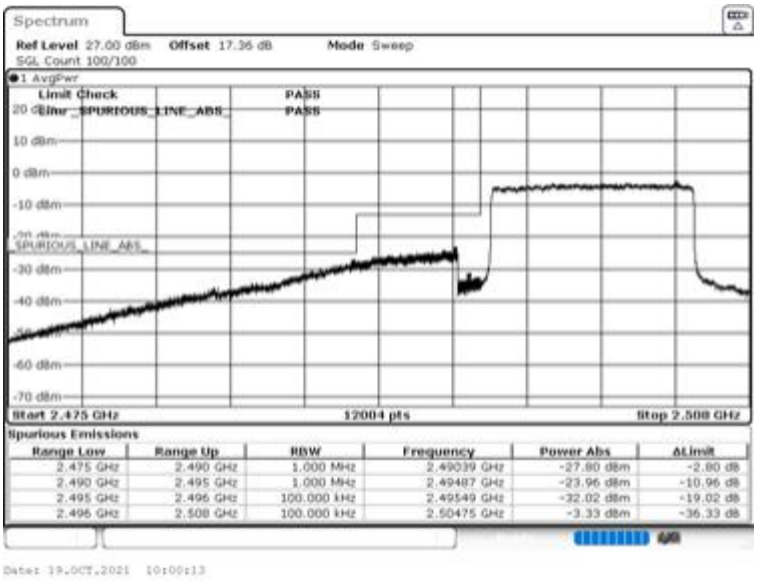
16QAM, BW 10MHz, RB1-0
Channel: Low



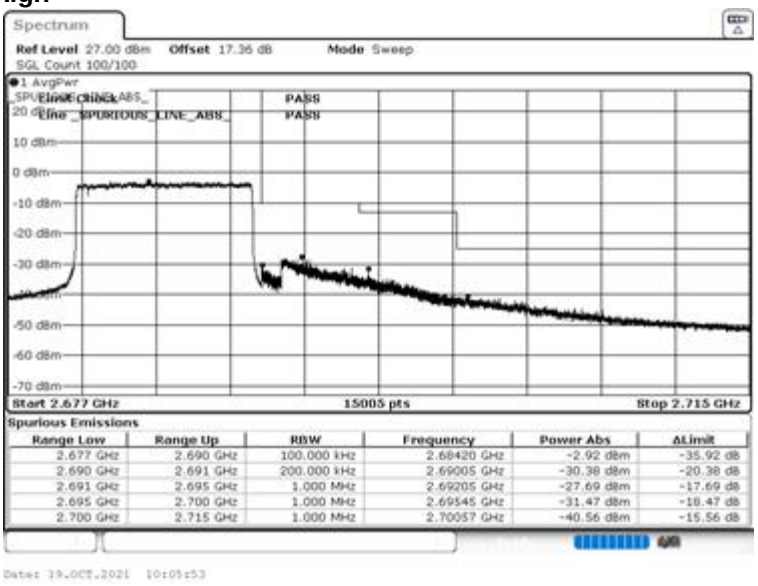
16QAM, BW 10MHz, RB1-49
Channel: High



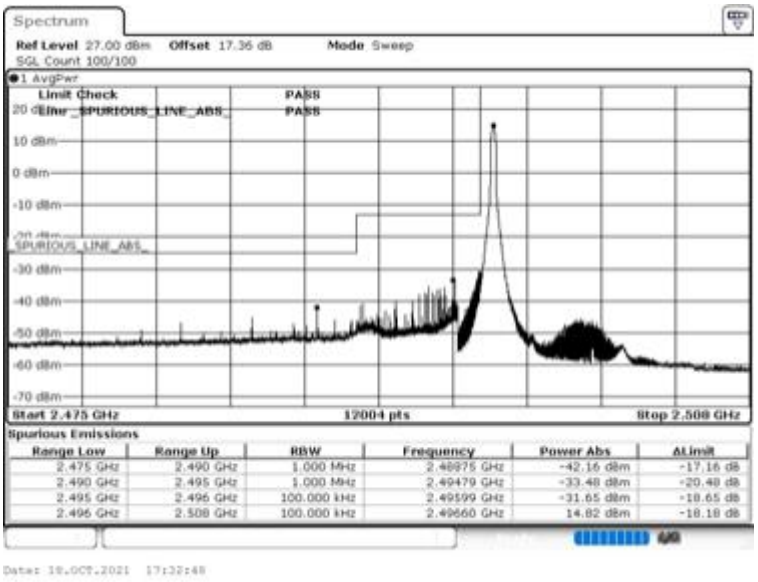
16QAM, BW 10MHz, RB50-0
Channel: Low



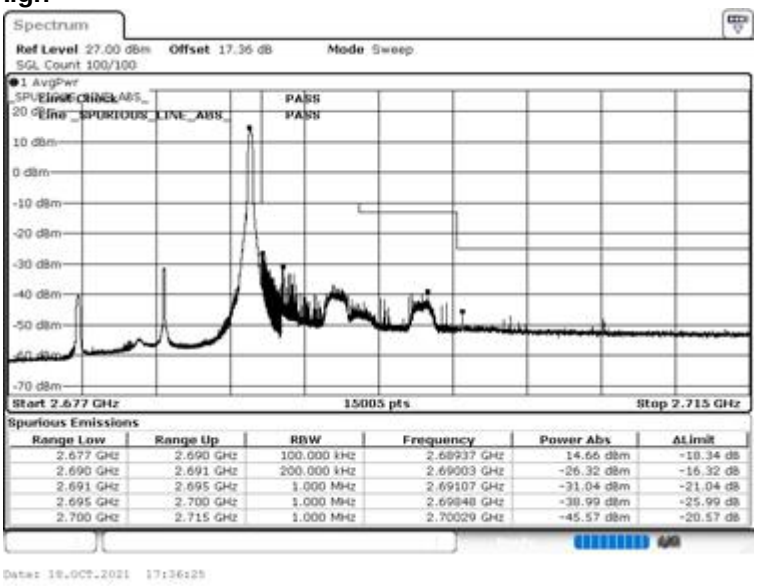
16QAM, BW 10MHz, RB50-0
Channel: High



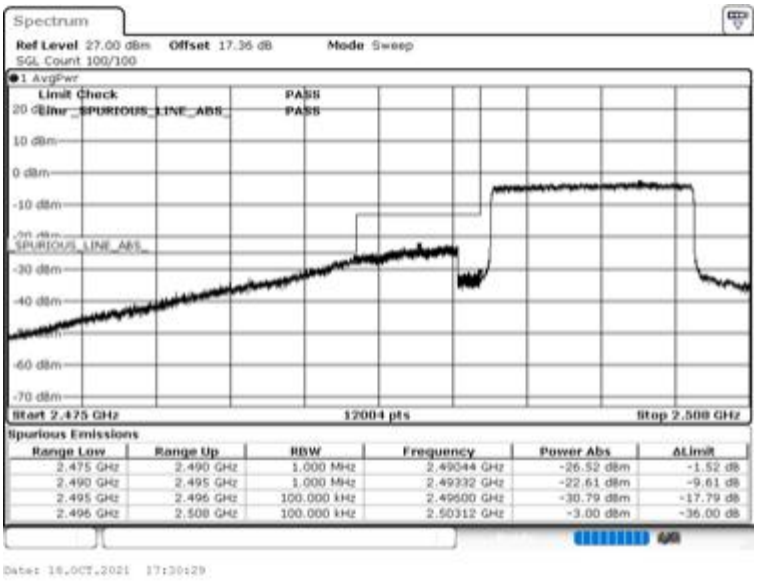
64QAM, BW 10MHz, RB1-0
Channel: Low



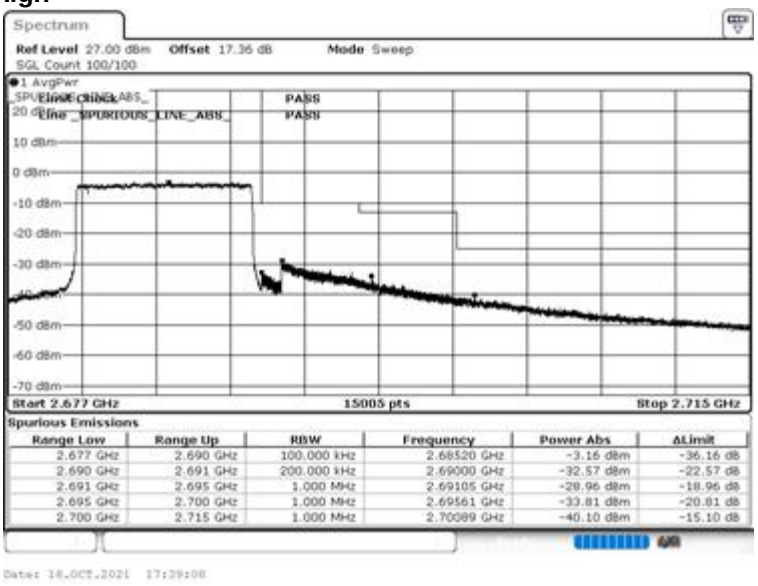
64QAM, BW 10MHz, RB1-49
Channel: High



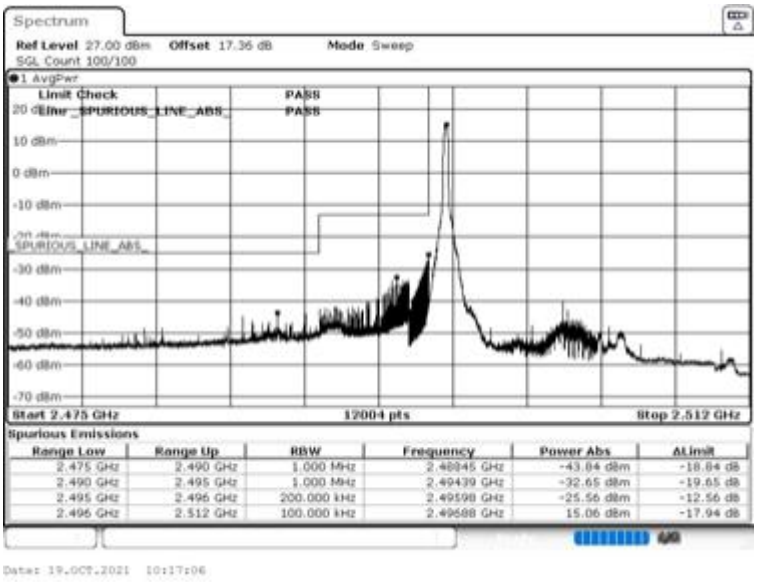
64QAM, BW 10MHz, RB50-0
Channel: Low



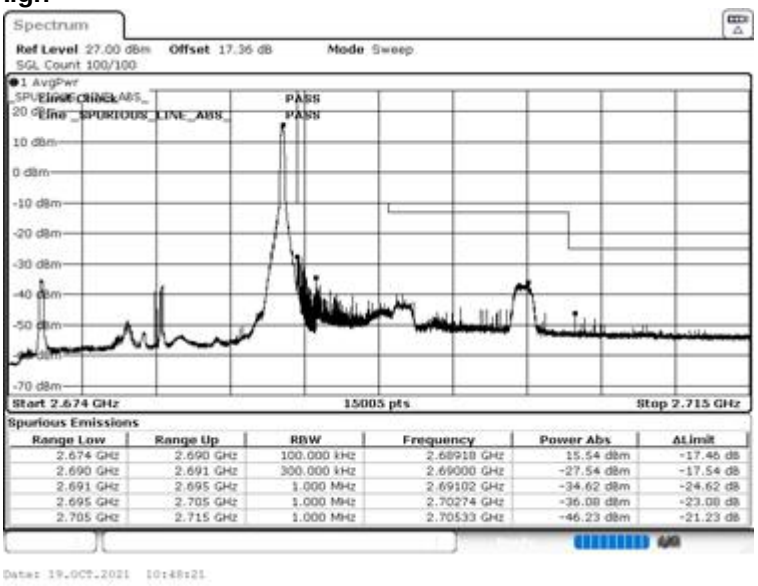
64QAM, BW 10MHz, RB50-0
Channel: High



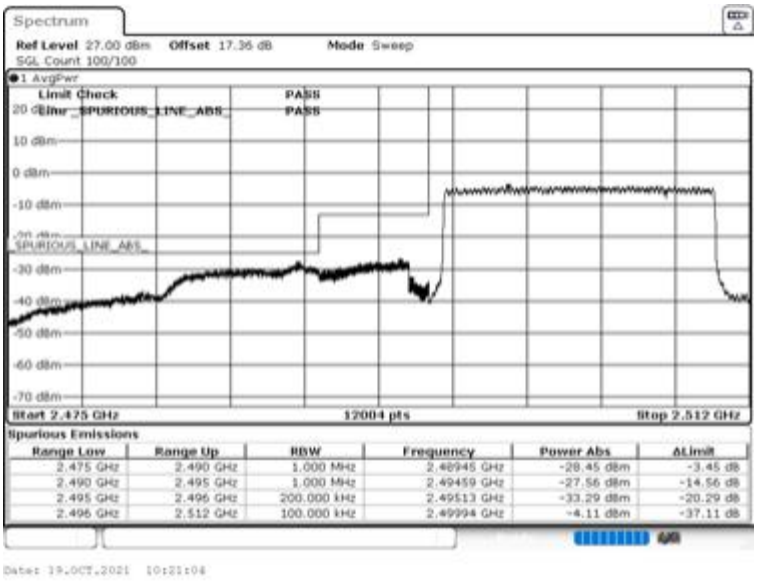
QPSK, BW 15MHz, RB1-0
Channel: Low



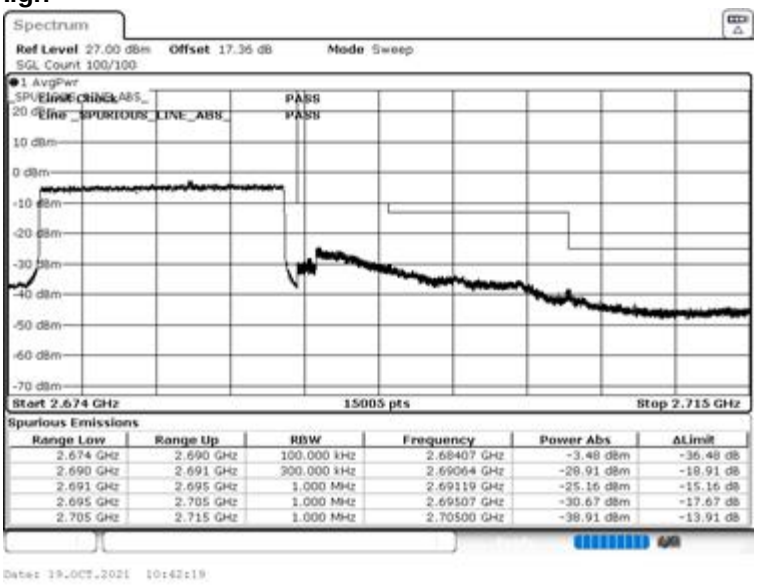
QPSK, BW 15MHz, RB1-74
Channel: High



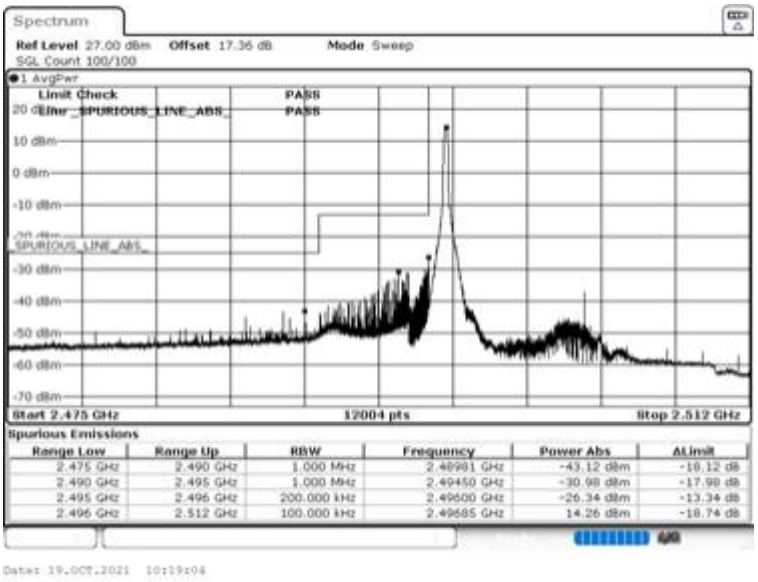
QPSK, BW 15MHz, RB75-0
Channel: Low



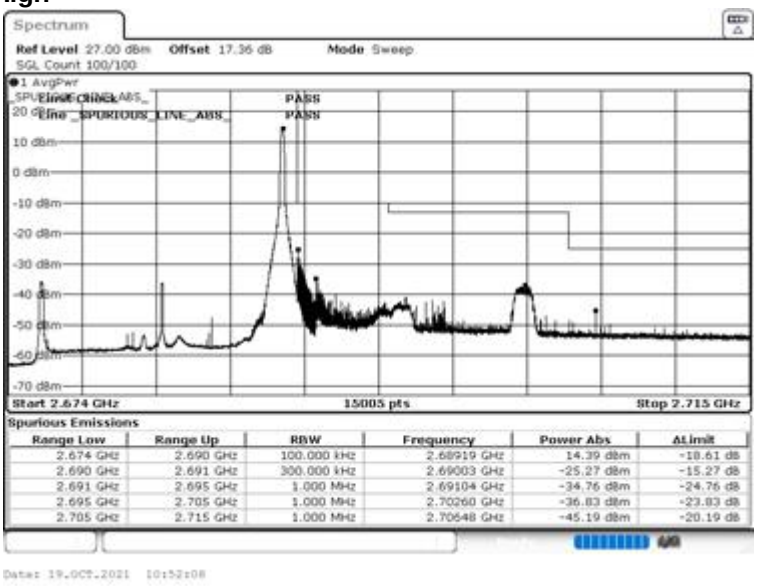
QPSK, BW 15MHz, RB75-0
Channel: High



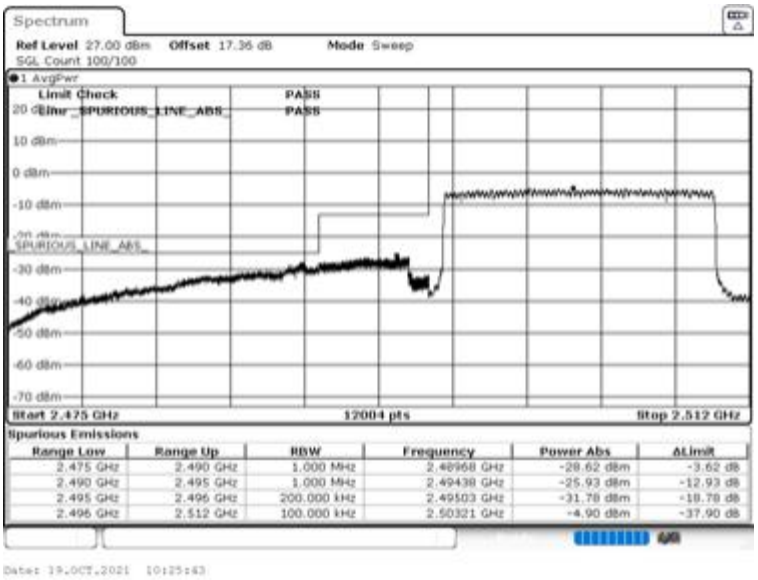
16QAM, BW 15MHz, RB1-0
Channel: Low



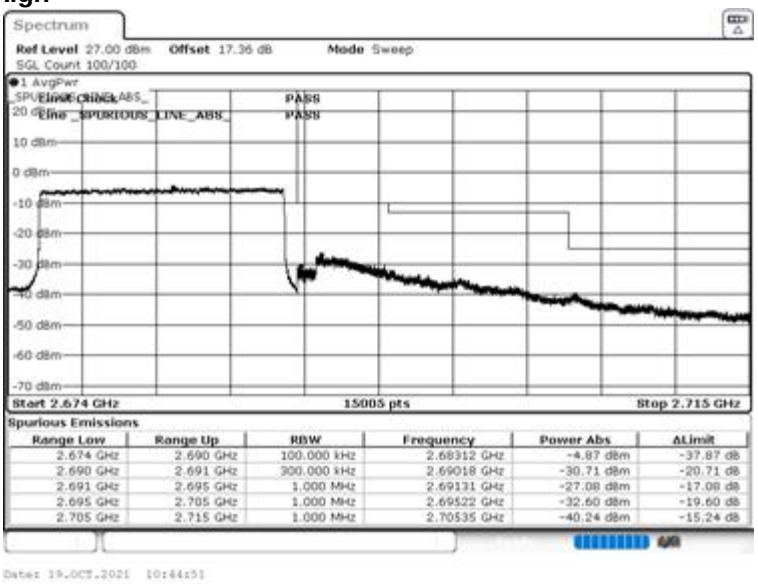
16QAM, BW 15MHz, RB1-74
Channel: High



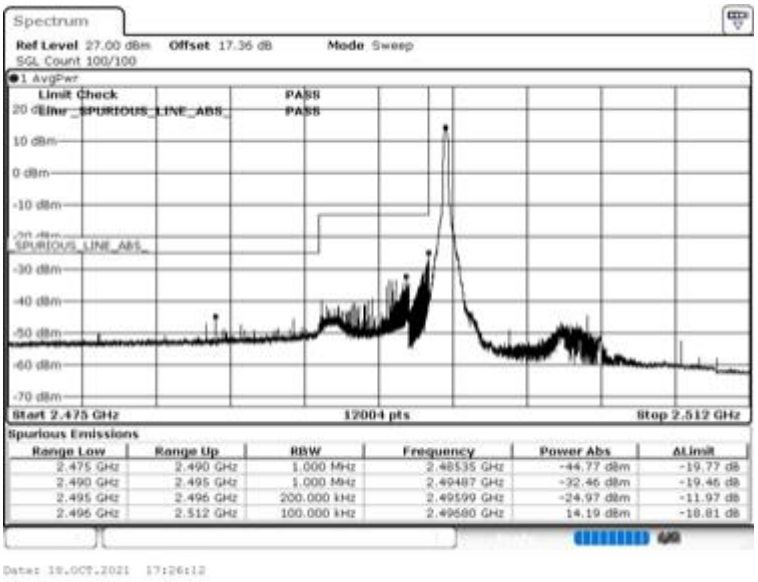
16QAM, BW 15MHz, RB75-0
Channel: Low



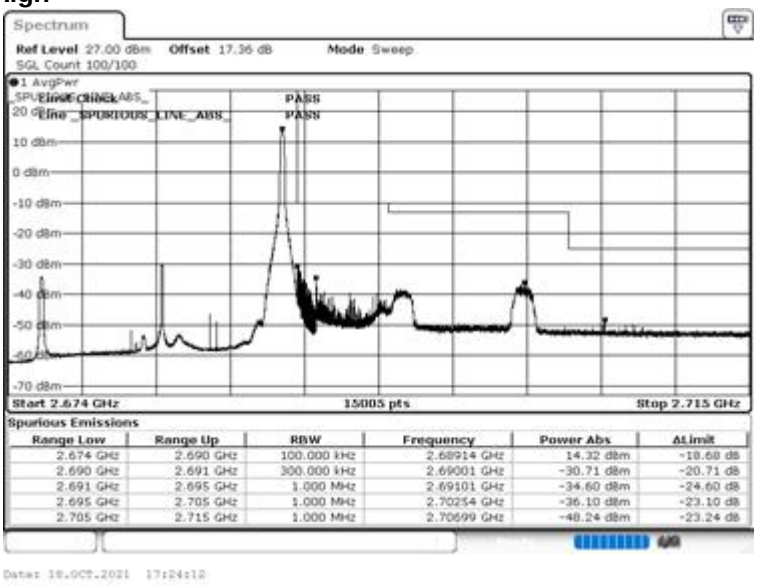
16QAM, BW 15MHz, RB75-0
Channel: High



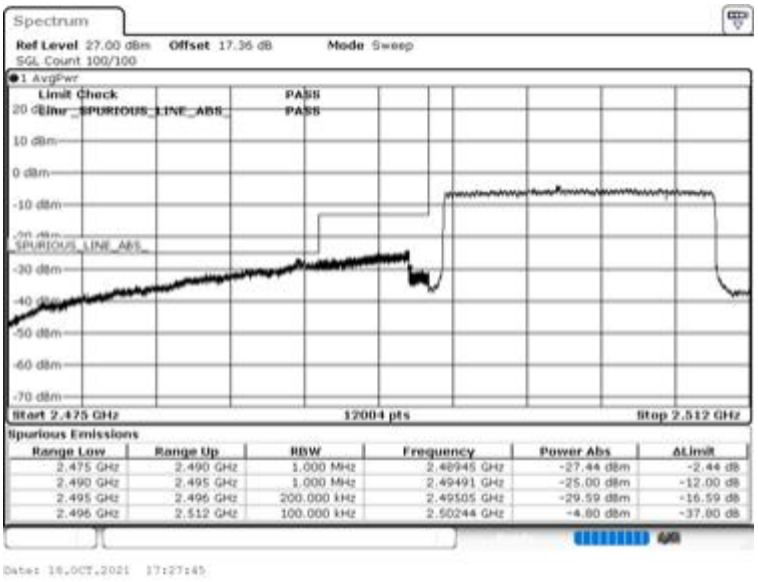
64QAM, BW 15MHz, RB1-0
Channel: Low



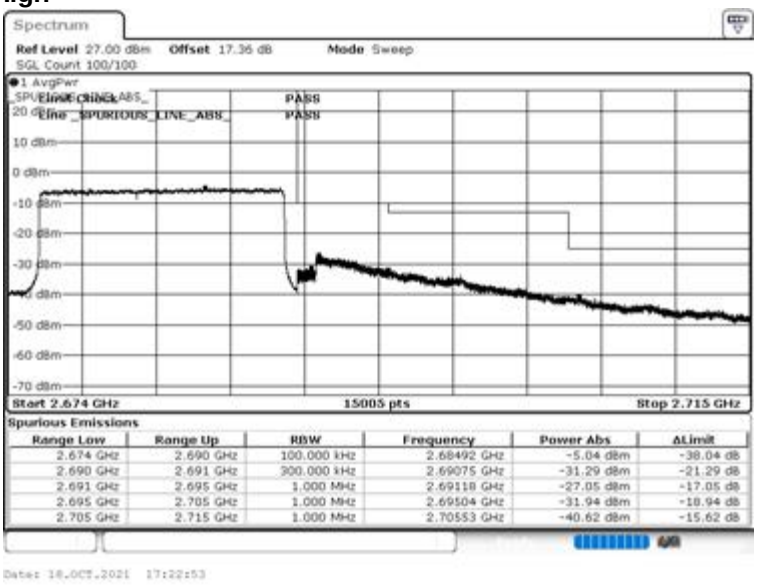
64QAM, BW 15MHz, RB1-74
Channel: High



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

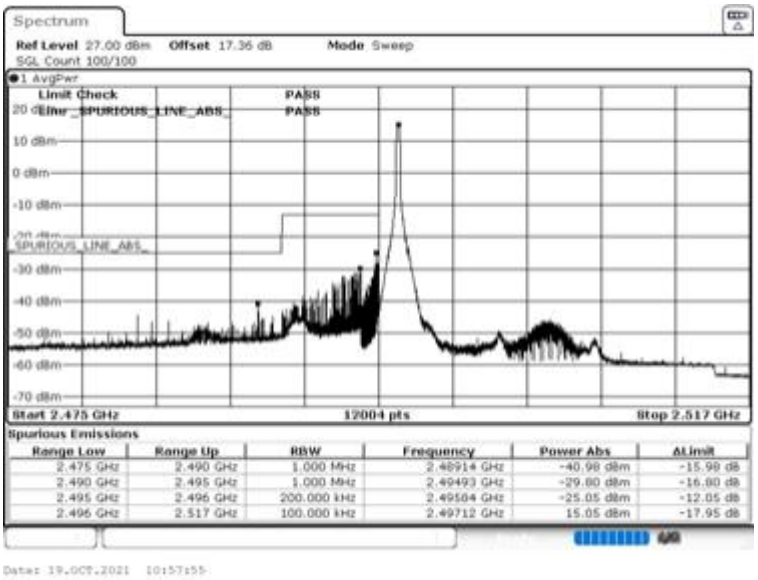


64QAM, BW 15MHz, RB75-0
Channel: High

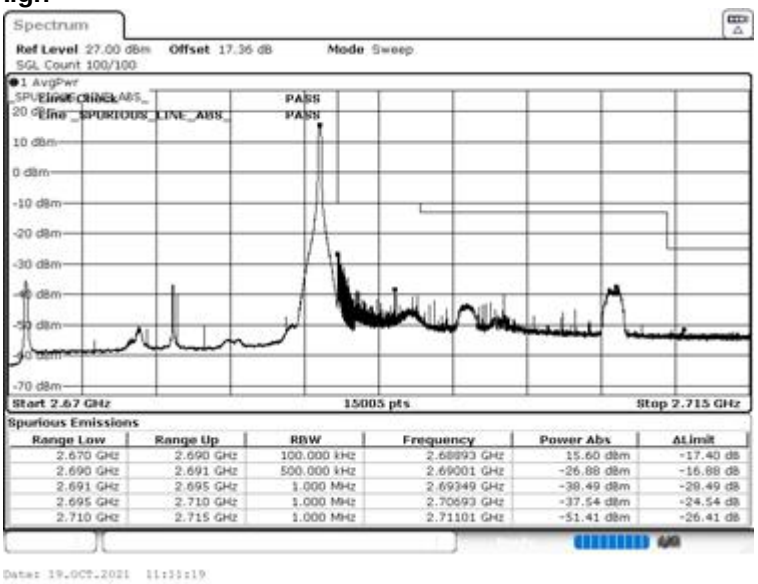


Japan

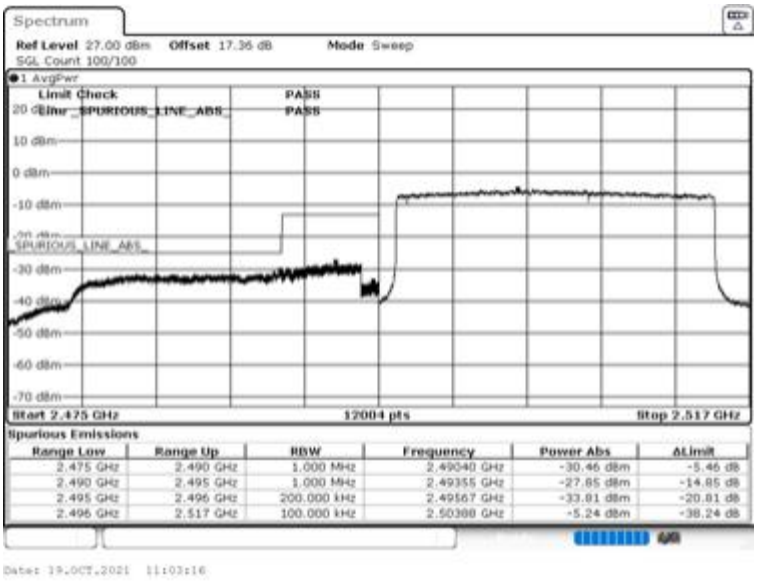
QPSK, 20MHz, RB1-0
Channel: Low



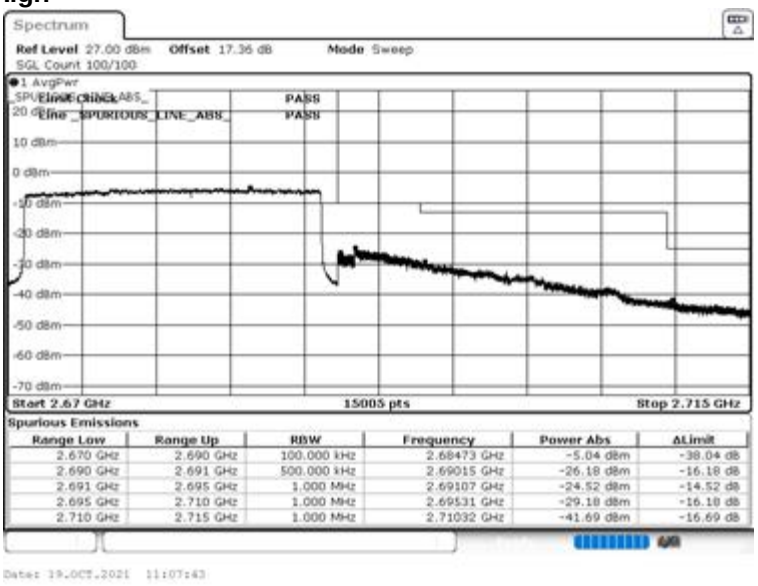
QPSK, BW 20MHz, RB1-99
Channel: High



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

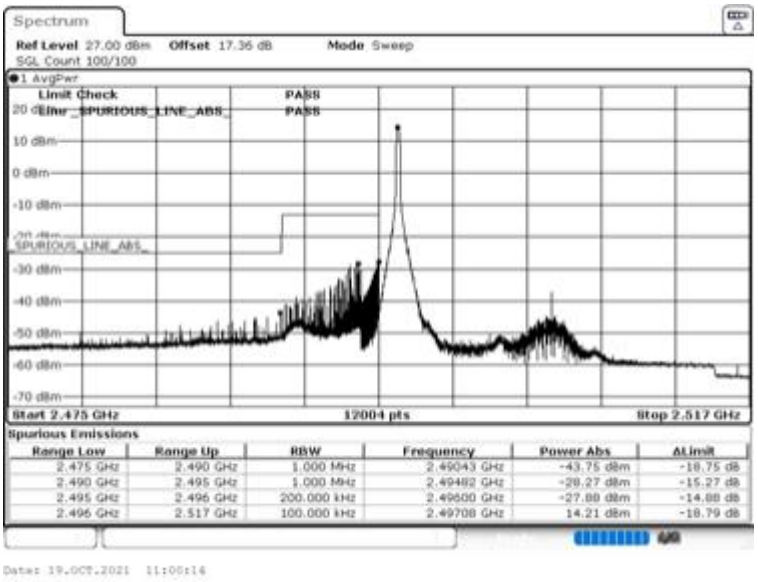


QPSK, BW 20MHz, RB100-0
Channel: High



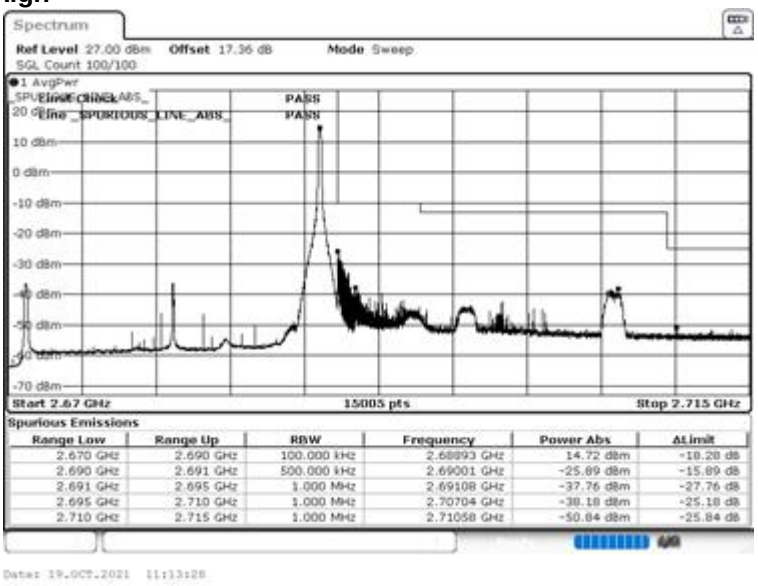
Japan

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



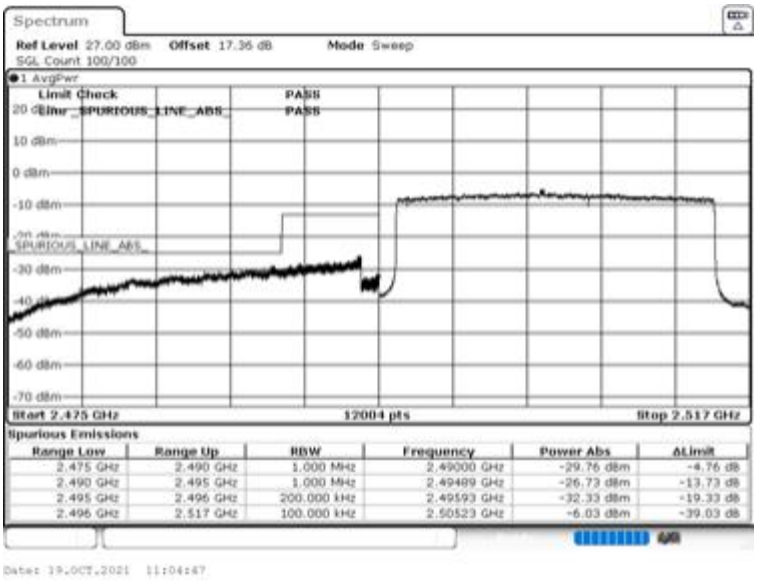
Date: 19.OCT.2021 11:06:16

16QAM, BW 20MHz, RB1-99
Channel: High

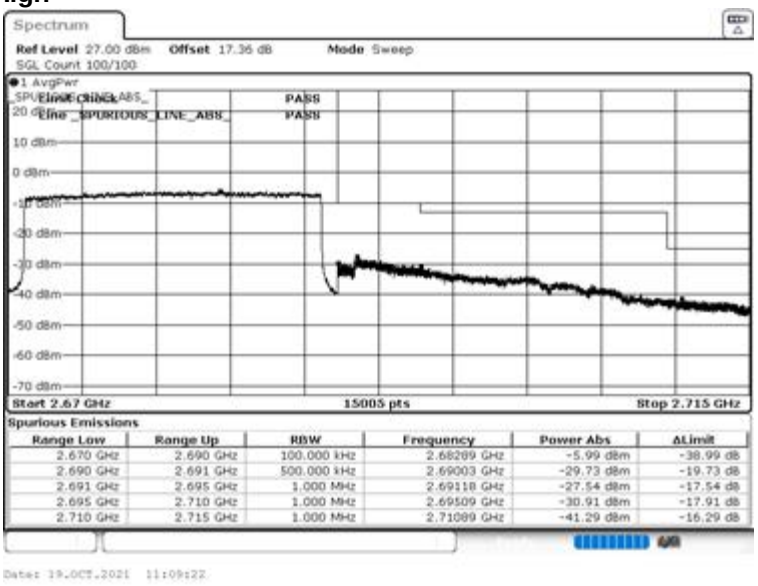


Date: 19.OCT.2021 11:13:28

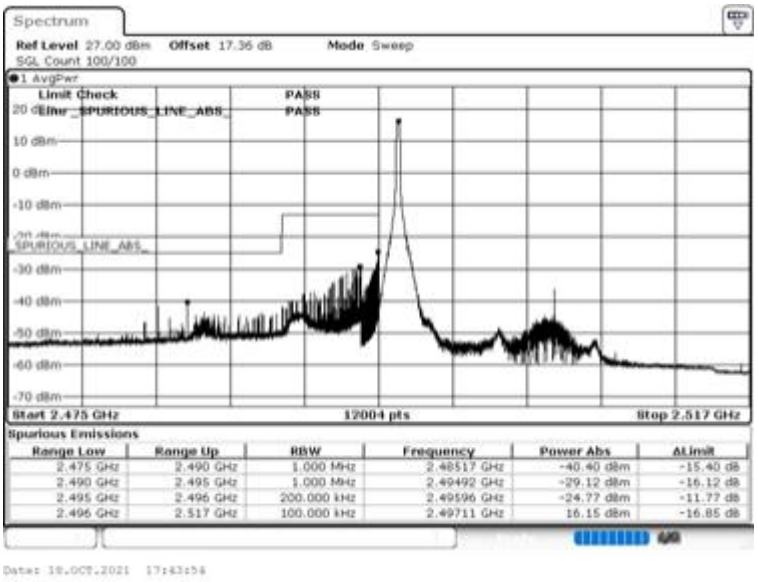
16QAM, BW 20MHz, RB100-0
Channel: Low



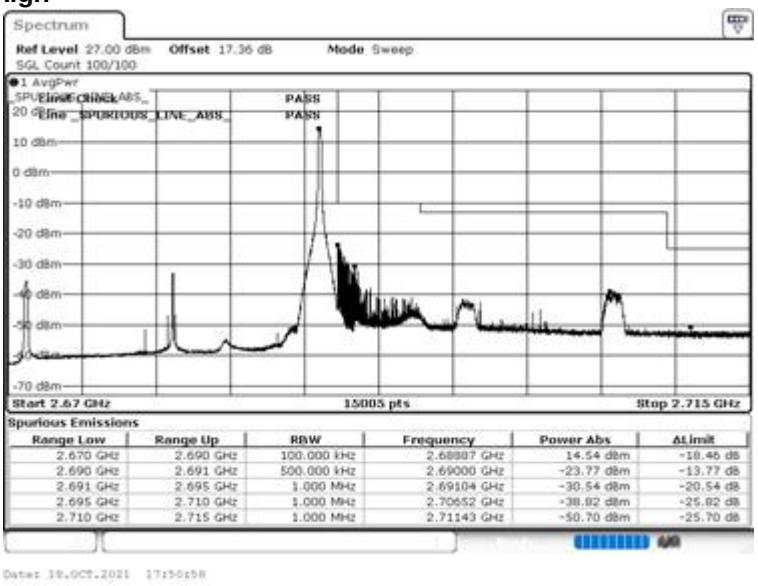
16QAM, BW 20MHz, RB100-0
Channel: High



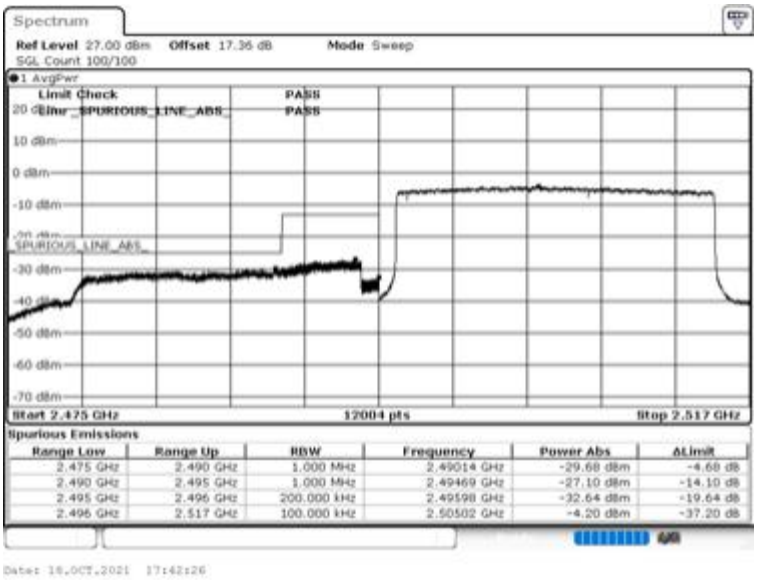
64QAM, BW 20MHz, RB1-0
Channel: Low



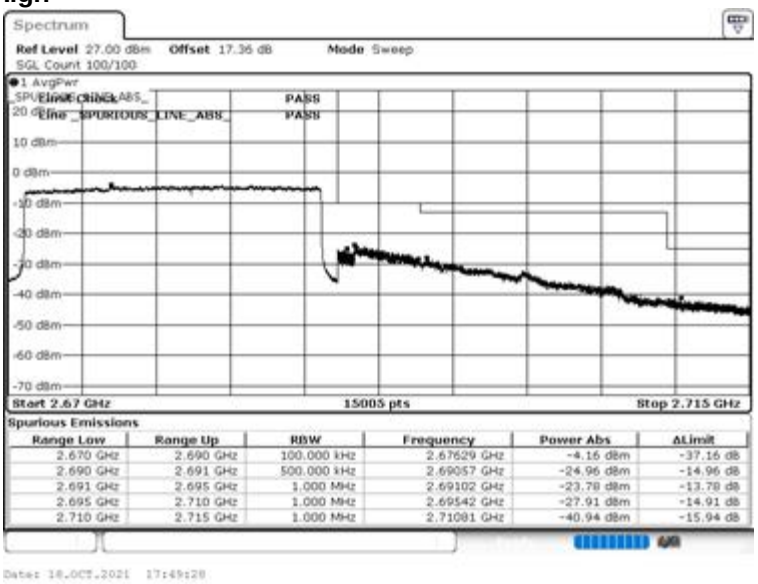
64QAM, BW 20MHz, RB1-99
Channel: High



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



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

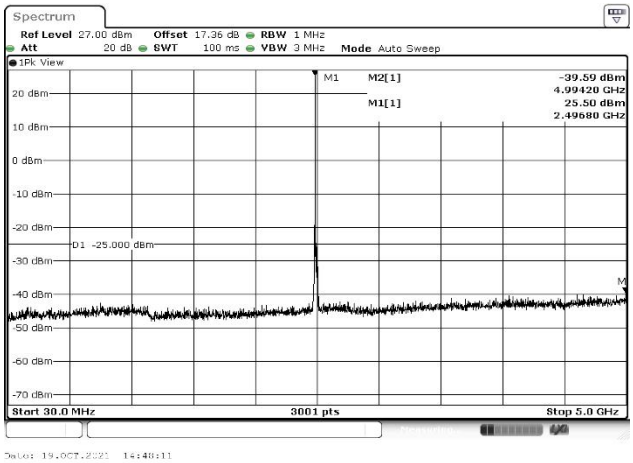


Japan

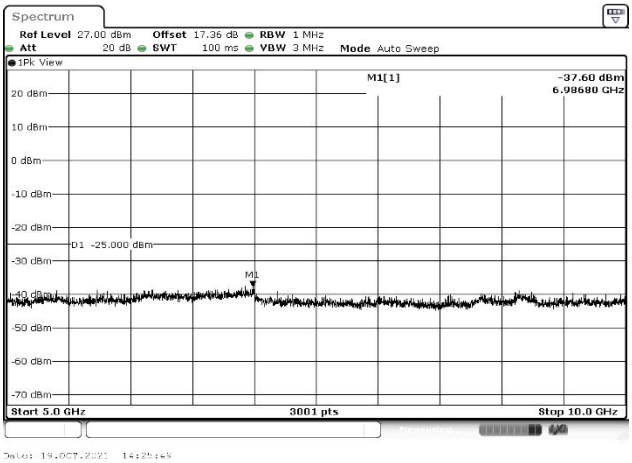
(Spurious Emissions)
Note: Conducted spurious test was measured in the worst case of conducted output power.

QPSK, BW 15MHz
Channel: 39725

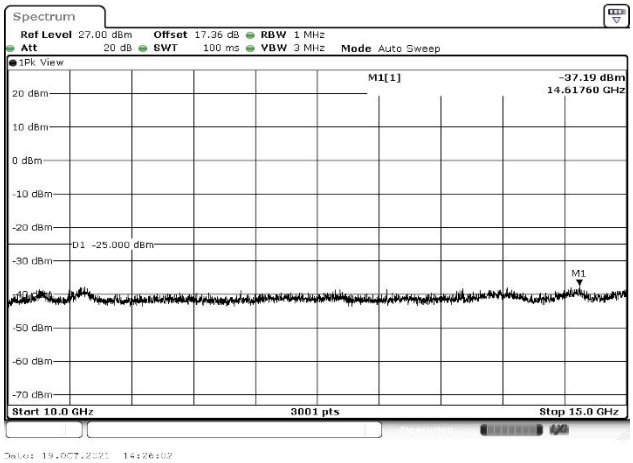
30MHz-5GHz



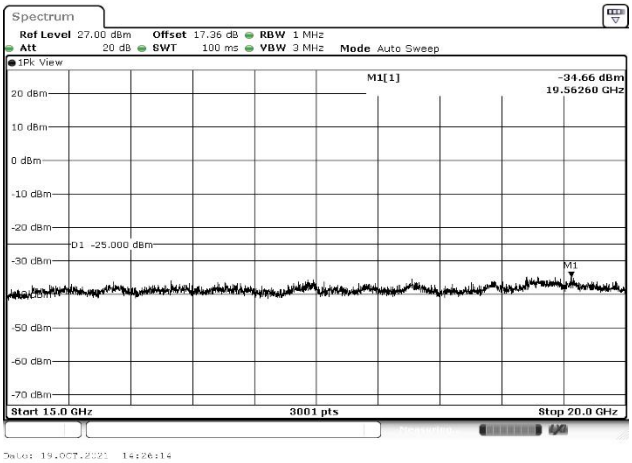
5GHz-10GHz



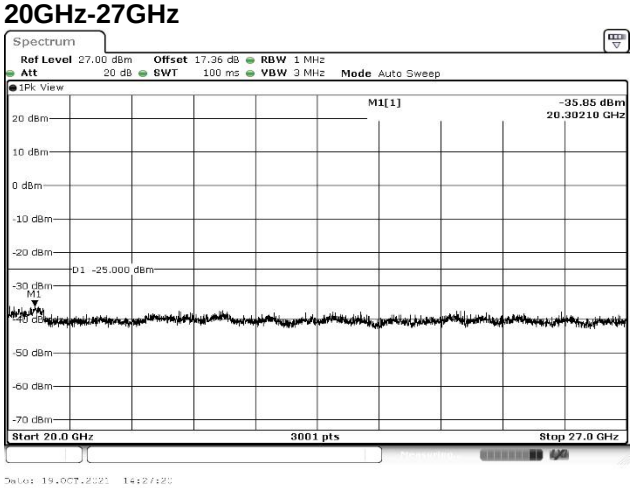
10GHz-15GHz



15GHz-20GHz

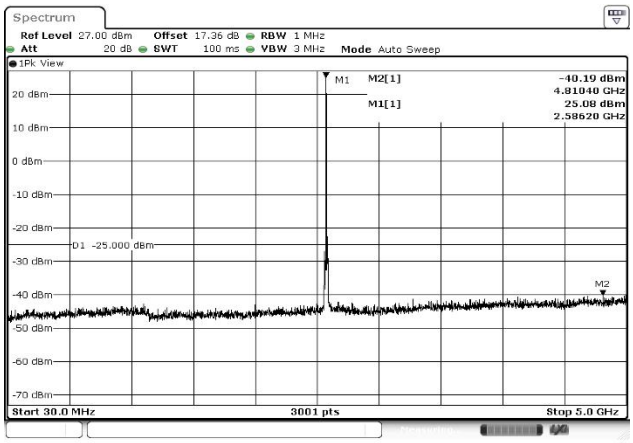


20GHz-27GHz

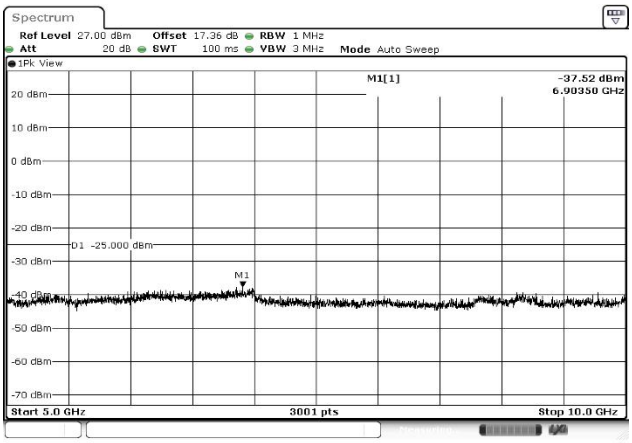


Channel: 40620

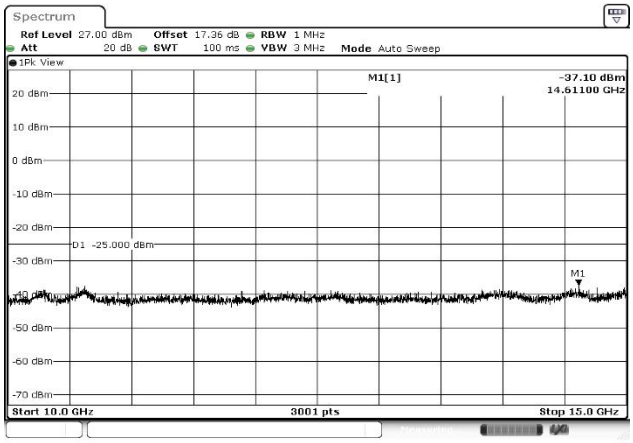
30MHz-5GHz



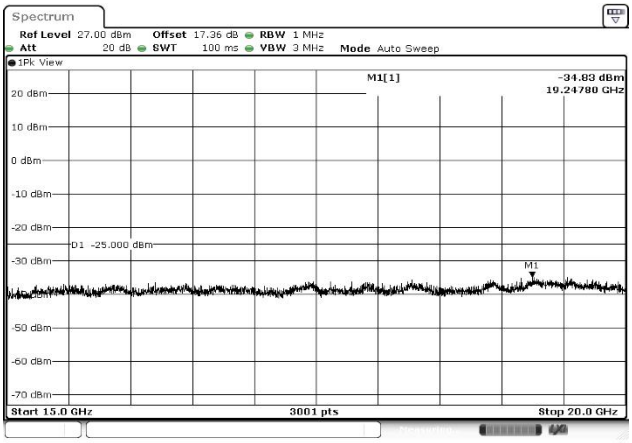
5GHz-10GHz



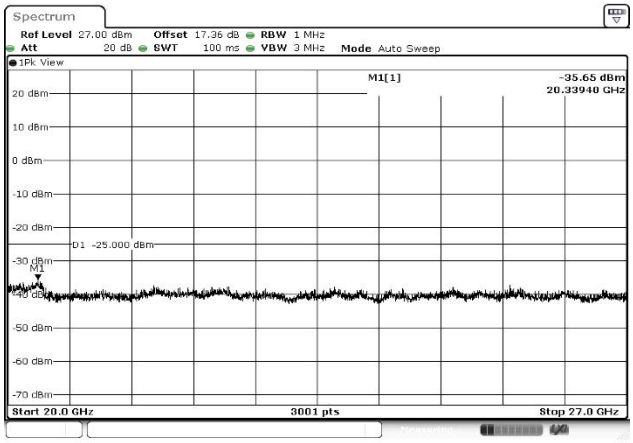
10GHz-15GHz



15GHz-20GHz



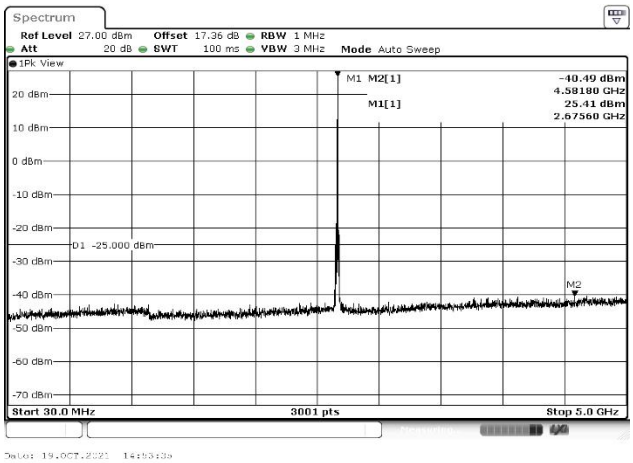
20GHz-27GHz



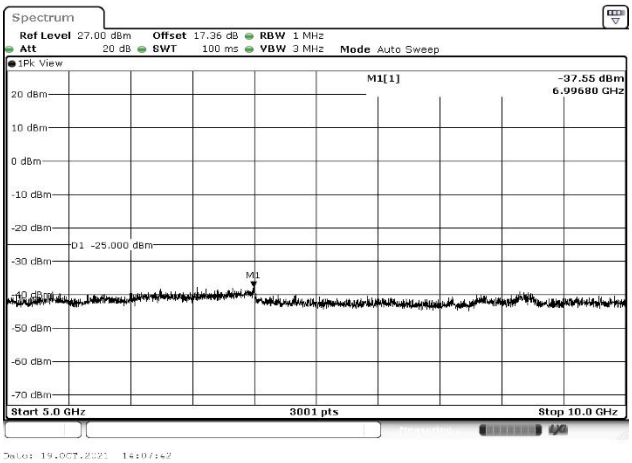
Japan

Channel: 41515

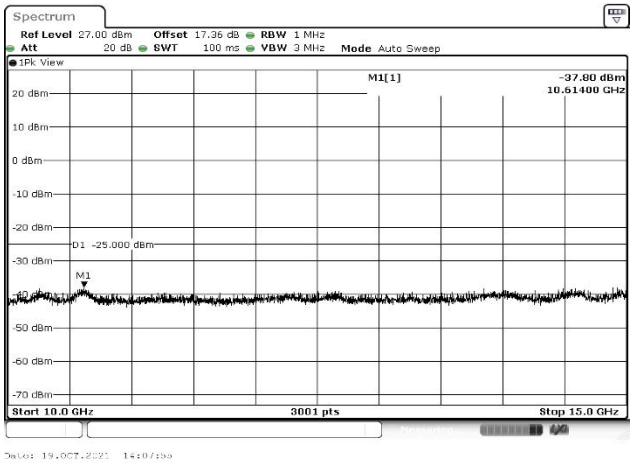
30MHz-5GHz



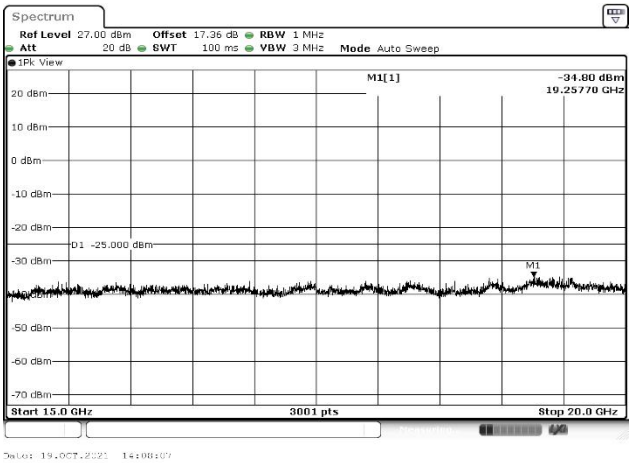
5GHz-10GHz



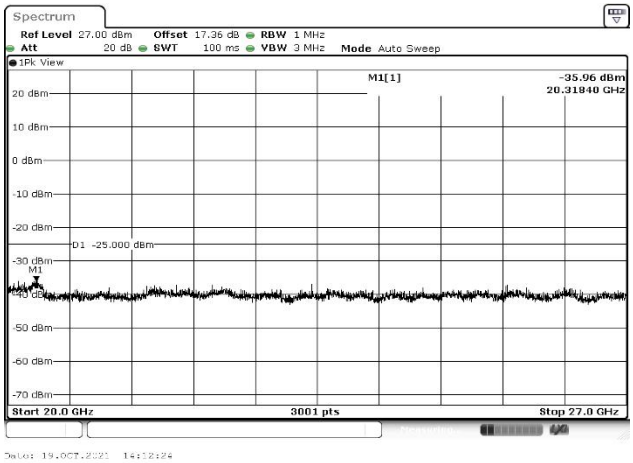
10GHz-15GHz



15GHz-20GHz



20GHz-27GHz



4.5 Radiated Emissions and Harmonic Emissions

4.5.1 Measurement procedure

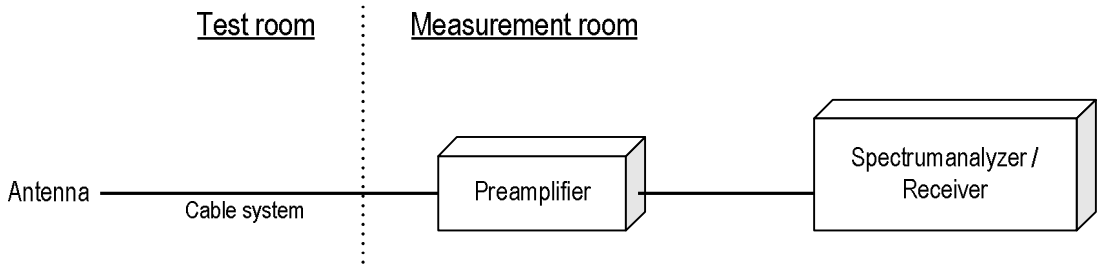
[FCC 27.53, 2.1053]

<Step 1>
The EUT and support equipment are placed on a 1 meter x 1 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 20GHz.

<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

4.5.2 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

4.5.3 Limit

-13 dBm or less

4.5.4 Test data

Date	:	25-September-2021			
Temperature	:	21.4 [˚C]			
Humidity	:	58.1 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Taiki Watanabe

Date	:	27-September-2021			
Temperature	:	19.1 [˚C]			
Humidity	:	58.6 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Chiaki Kanno

Date	:	4-October-2021			
Temperature	:	18.6 [˚C]			
Humidity	:	62.1 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Chiaki Kanno

Date	:	5-October-2021			
Temperature	:	21.0 [˚C]			
Humidity	:	62.1 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Chiaki Kanno

Date	:	6-October-2021			
Temperature	:	22.3 [˚C]			
Humidity	:	55.8 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Chiaki Kanno

[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	-54.9	-52.3	1.6	8.0	-45.9	-13.0	32.9

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	-54.8	-51.9	1.6	8.1	-45.4	-13.0	32.4

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	-54.7	-52.2	1.6	8.1	-45.7	-13.0	32.7

[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	-54.3	-51.6	1.6	8.0	-45.2	-13.0	32.2

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	-55.2	-52.4	1.6	8.1	-45.9	-13.0	32.9

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	-50.7	-45.5	1.6	8.1	-39.0	-13.0	26.0

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	-54.5	-51.8	1.6	8.0	-45.4	-13.0	32.4

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	-55.3	-52.5	1.6	8.1	-46.0	-13.0	33.0

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	-50.8	-45.6	1.6	8.1	-39.1	-13.0	26.1

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	-54.6	-51.9	1.6	8.0	-45.5	-13.0	32.5

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	-55.2	-52.4	1.6	8.1	-45.9	-13.0	32.9

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	-51.0	-45.8	1.6	8.1	-39.3	-13.0	26.3

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	-54.6	-51.4	1.6	8.0	-45.0	-13.0	32.0
V	3423.0	-54.3	-51.2	1.6	8.0	-44.8	-13.0	31.8

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	-55.1	-52.3	1.6	8.1	-45.8	-13.0	32.8
V	3465.0	-55.2	-51.8	1.6	8.1	-45.3	-13.0	32.3

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	-50.6	-44.9	1.6	8.1	-38.4	-13.0	25.4
V	3507.0	-52.4	-46.2	1.6	8.1	-39.7	-13.0	26.7

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	-54.6	-51.4	1.6	8.0	-45.0	-13.0	32.0
V	3423.0	-54.3	-51.2	1.6	8.0	-44.8	-13.0	31.8

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	-55.3	-52.5	1.6	8.1	-46.0	-13.0	33.0
V	3465.0	-55.3	-51.9	1.6	8.1	-45.4	-13.0	32.4

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	-50.6	-44.9	1.6	8.1	-38.4	-13.0	25.4
V	3507.0	-52.5	-46.3	1.6	8.1	-39.8	-13.0	26.8

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	-54.5	-51.3	1.6	8.0	-44.9	-13.0	31.9
V	3423.0	-54.5	-51.4	1.6	8.0	-45.0	-13.0	32.0

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	-55.2	-52.4	1.6	8.1	-45.9	-13.0	32.9
V	3465.0	-55.4	-52.0	1.6	8.1	-45.5	-13.0	32.5

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	-50.8	-45.1	1.6	8.1	-38.6	-13.0	25.6
V	3507.0	-52.7	-46.5	1.6	8.1	-40.0	-13.0	27.0

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	-52.7	-50.2	1.6	8.0	-43.8	-13.0	30.8

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	-54.8	-52.0	1.6	8.1	-45.5	-13.0	32.5

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	-50.1	-44.5	1.6	8.1	-38.0	-13.0	25.0

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	-52.4	-49.9	1.6	8.0	-43.5	-13.0	30.5

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	-54.8	-52.0	1.6	8.1	-45.5	-13.0	32.5

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	-50.3	-44.7	1.6	8.1	-38.2	-13.0	25.2

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	-52.6	-50.1	1.6	8.0	-43.7	-13.0	30.7

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	-55.0	-52.2	1.6	8.1	-45.7	-13.0	32.7

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	-50.5	-44.9	1.6	8.1	-38.4	-13.0	25.4

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	-52.1	-46.5	1.6	8.0	-40.1	-13.0	27.1

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	-53.5	-50.7	1.6	8.1	-44.2	-13.0	31.2

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	-50.6	-44.7	1.6	8.1	-38.2	-13.0	25.2

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	-51.8	-46.2	1.6	8.0	-39.8	-13.0	26.8

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	-53.3	-50.5	1.6	8.1	-44.0	-13.0	31.0

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	-50.8	-44.9	1.6	8.1	-38.4	-13.0	25.4

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	-51.8	-46.2	1.6	8.0	-39.8	-13.0	26.8

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	-53.8	-51.0	1.6	8.1	-44.5	-13.0	31.5

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	-50.6	-44.7	1.6	8.1	-38.2	-13.0	25.2

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	3435.0	-51.0	-45.4	1.6	8.0	-39.0	-13.0	26.0

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	-54.5	-51.7	1.6	8.1	-45.2	-13.0	32.2

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	-51.5	-45.9	1.6	8.1	-39.4	-13.0	26.4

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	-51.2	-45.6	1.6	8.0	-39.2	-13.0	26.2

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	-54.8	-52.0	1.6	8.1	-45.5	-13.0	32.5

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	-51.8	-46.2	1.6	8.1	-39.7	-13.0	26.7

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	-51.5	-45.9	1.6	8.0	-39.5	-13.0	26.5

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	-54.8	-52.0	1.6	8.1	-45.5	-13.0	32.5

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	-51.7	-46.1	1.6	8.1	-39.6	-13.0	26.6

Japan

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	-50.3	-43.5	1.6	8.0	-37.0	-13.0	24.0

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	-54.5	-51.7	1.6	8.1	-45.2	-13.0	32.2

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	-51.9	-45.7	1.6	8.1	-39.2	-13.0	26.2

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	-49.8	-43.0	1.6	10.2	-34.3	-13.0	21.3

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	-54.4	-51.6	1.6	10.3	-42.9	-13.0	29.9

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	-51.9	-45.7	1.6	10.3	-37.0	-13.0	24.0

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	-50.1	-43.3	1.6	10.2	-34.6	-13.0	21.6

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	-54.5	-51.7	1.6	10.3	-43.0	-13.0	30.0

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	-52.0	-45.8	1.6	10.3	-37.1	-13.0	24.1

[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	-55.8	-53.5	1.0	4.1	-50.4	-13.0	37.4

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	-53.7	1.0	4.5	-50.2	-13.0	37.2

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	-55.7	-53.7	1.0	4.9	-49.8	-13.0	36.8

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	-55.9	-53.6	1.0	4.1	-50.5	-13.0	37.5

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	-56.0	-53.9	1.0	4.5	-50.4	-13.0	37.4

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	-55.8	-53.8	1.0	4.9	-49.9	-13.0	36.9

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	-55.9	-53.6	1.0	4.1	-50.5	-13.0	37.5

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	-56.0	-53.9	1.0	4.5	-50.4	-13.0	37.4

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	-53.9	1.0	4.9	-50.0	-13.0	37.0

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	-55.9	-53.5	1.0	4.2	-50.3	-13.0	37.3

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	-55.6	-53.5	1.0	4.5	-50.0	-13.0	37.0

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	-55.8	-53.6	1.0	4.8	-49.8	-13.0	36.8

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	-56.0	-53.6	1.0	4.2	-50.4	-13.0	37.4

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	-53.7	1.0	4.5	-50.2	-13.0	37.2

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	-55.9	-53.7	1.0	4.8	-49.9	-13.0	36.9

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	-55.9	-53.5	1.0	4.2	-50.3	-13.0	37.3

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	-55.9	-53.8	1.0	4.5	-50.3	-13.0	37.3

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	-55.8	-53.6	1.0	4.8	-49.8	-13.0	36.8

Japan

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	-55.7	-53.6	1.0	4.2	-50.4	-13.0	37.4

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	-55.9	-53.8	1.0	4.5	-50.3	-13.0	37.3

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	-53.7	1.0	4.8	-49.9	-13.0	36.9

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	-55.8	-53.7	1.0	4.2	-50.5	-13.0	37.5

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	-55.9	-53.8	1.0	4.5	-50.3	-13.0	37.3

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	-53.7	1.0	4.8	-49.9	-13.0	36.9

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	-55.8	-53.7	1.0	4.2	-50.5	-13.0	37.5

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	-56.0	-53.9	1.0	4.5	-50.4	-13.0	37.4

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	-55.9	-53.8	1.0	4.8	-50.0	-13.0	37.0

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	-55.9	-53.8	1.0	4.3	-50.5	-13.0	37.5

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	-55.8	-53.7	1.0	4.5	-50.2	-13.0	37.2

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	-53.6	1.0	4.7	-49.9	-13.0	36.9

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	-56.0	-53.9	1.0	4.3	-50.6	-13.0	37.6

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	-56.0	-53.9	1.0	4.5	-50.4	-13.0	37.4

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	-55.9	-53.7	1.0	4.7	-50.0	-13.0	37.0

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	-55.9	-53.8	1.0	4.3	-50.5	-13.0	37.5

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	-55.9	-53.8	1.0	4.5	-50.3	-13.0	37.3

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	-55.9	-53.7	1.0	4.7	-50.0	-13.0	37.0

[LTE Band X VII]
QPSK, BW 5MHz
Channel: 23755

H/V	Frequency [MHz]	S.A Reading [dBm]	S.G Reading [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2119.5	-54.7	-51.4	1.2	5.0	-47.7	-13.0	34.7

Channel: 23790

H/V	Frequency [MHz]	S.A Reading [dBm]	S.G Reading [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2130.0	-54.9	-51.4	1.2	5.1	-47.6	-13.0	34.6

Channel: 23825

H/V	Frequency [MHz]	S.A Reading [dBm]	S.G Reading [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2140.5	-54.2	-50.5	1.2	5.2	-46.6	-13.0	33.6

16QAM, BW 5MHz
Channel: 23755

H/V	Frequency [MHz]	S.A Reading [dBm]	S.G Reading [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2119.5	-54.2	-50.9	1.2	5.0	-47.2	-13.0	34.2

Channel: 23790

H/V	Frequency [MHz]	S.A Reading [dBm]	S.G Reading [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2130.0	-54.8	-51.3	1.2	5.1	-47.5	-13.0	34.5

Channel: 23825

H/V	Frequency [MHz]	S.A Reading [dBm]	S.G Reading [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2140.5	-54.5	-50.8	1.2	5.2	-46.9	-13.0	33.9

64QAM, BW 5MHz
Channel: 23755

H/V	Frequency [MHz]	S.A Reading [dBm]	S.G Reading [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2119.5	-54.4	-51.1	1.2	5.0	-47.4	-13.0	34.4

Channel: 23790

H/V	Frequency [MHz]	S.A Reading [dBm]	S.G Reading [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2130.0	-55.0	-51.5	1.2	5.1	-47.7	-13.0	34.7

Channel: 23825

H/V	Frequency [MHz]	S.A Reading [dBm]	S.G Reading [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2140.5	-54.6	-50.9	1.2	5.2	-47.0	-13.0	34.0

QPSK, BW 10MHz
Channel: 23780

H/V	Frequency [MHz]	S.A Reading [dBm]	S.G Reading [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2127.0	-54.9	-51.3	1.2	5.0	-47.5	-13.0	34.5

Channel: 23790

H/V	Frequency [MHz]	S.A Reading [dBm]	S.G Reading [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2130.0	-54.7	-51.2	1.2	5.1	-47.4	-13.0	34.4

Channel: 23800

H/V	Frequency [MHz]	S.A Reading [dBm]	S.G Reading [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2133.0	-54.8	-51.4	1.2	5.1	-47.5	-13.0	34.5

16QAM, BW 10MHz
Channel: 23780

H/V	Frequency [MHz]	S.A Reading [dBm]	S.G Reading [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2127.0	-54.7	-51.1	1.2	5.0	-47.3	-13.0	34.3

Channel: 23790

H/V	Frequency [MHz]	S.A Reading [dBm]	S.G Reading [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2130.0	-54.9	-51.4	1.2	5.1	-47.6	-13.0	34.6

Channel: 23800

H/V	Frequency [MHz]	S.A Reading [dBm]	S.G Reading [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2133.0	-54.9	-51.5	1.2	5.1	-47.6	-13.0	34.6

64QAM, BW 10MHz
Channel: 23780

H/V	Frequency [MHz]	S.A Reading [dBm]	S.G Reading [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2127.0	-54.6	-51.0	1.2	5.0	-47.2	-13.0	34.2

Channel: 23790

H/V	Frequency [MHz]	S.A Reading [dBm]	S.G Reading [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2130.0	-55.1	-51.6	1.2	5.1	-47.8	-13.0	34.8

Channel: 23800

H/V	Frequency [MHz]	S.A Reading [dBm]	S.G Reading [dBm]	Cable loss [dB]	Ant.Gain [dBd]	Result [dBm]	Limit [dBm]	Margin [dB]
H	2133.0	-54.9	-51.5	1.2	5.1	-47.6	-13.0	34.6

[LTE Band XL I]
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	-55.5	-51.7	1.9	10.2	-43.4	-25.0	18.4

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	-55.1	-51.0	1.9	12.5	-40.5	-25.0	15.5

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	-55.9	-51.9	2.0	12.6	-41.3	-25.0	16.3

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	-55.5	-51.7	1.9	10.2	-43.4	-25.0	18.4

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	-55.4	-51.3	1.9	12.5	-40.8	-25.0	15.8

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	-56.2	-52.2	2.0	12.6	-41.6	-25.0	16.6

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	-55.7	-51.9	1.9	10.2	-43.6	-25.0	18.6

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	-55.3	-51.2	1.9	12.5	-40.7	-25.0	15.7

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	-56.1	-52.1	2.0	12.6	-41.5	-25.0	16.5

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	-56.0	-52.0	1.9	12.4	-41.5	-25.0	16.5

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	-54.9	-50.8	1.9	12.5	-40.3	-25.0	15.3

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	-56.2	-51.8	2.0	12.6	-41.2	-25.0	16.2

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	-56.0	-52.0	1.9	12.4	-41.5	-25.0	16.5

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	-55.1	-51.0	1.9	12.5	-40.5	-25.0	15.5

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	-56.1	-51.7	2.0	12.6	-41.1	-25.0	16.1

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	-56.1	-52.0	1.9	12.4	-41.5	-25.0	16.5

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	-55.1	-51.0	1.9	12.5	-40.5	-25.0	15.5

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	-56.4	-52.0	2.0	12.6	-41.4	-25.0	16.4

Japan

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	-55.4	-51.0	1.9	12.4	-40.5	-25.0	15.5

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	-54.7	-50.6	1.9	12.5	-40.1	-25.0	15.1

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	-55.9	-51.7	2.0	12.5	-41.2	-25.0	16.2

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	-55.8	-51.4	1.9	12.4	-40.9	-25.0	15.9

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	-54.7	-50.6	1.9	12.5	-40.1	-25.0	15.1

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	-56.4	-52.2	2.0	12.5	-41.7	-25.0	16.7

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	-55.8	-51.4	1.9	12.4	-40.9	-25.0	15.9

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	-55.0	-50.9	1.9	12.5	-40.4	-25.0	15.4

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	-56.2	-52.0	2.0	12.5	-41.5	-25.0	16.5

Japan

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	-55.8	-51.6	1.9	12.4	-41.1	-25.0	16.1

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	-55.7	-51.6	1.9	12.5	-41.1	-25.0	16.1

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	-56.2	-51.9	2.0	12.5	-41.4	-25.0	16.4

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	-55.7	-51.5	1.9	12.4	-41.0	-25.0	16.0

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	-55.7	-51.6	1.9	12.5	-41.1	-25.0	16.1

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	-56.1	-51.8	2.0	12.5	-41.3	-25.0	16.3

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	-56.0	-51.8	1.9	12.4	-41.3	-25.0	16.3

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	-55.6	-51.5	1.9	12.5	-41.0	-25.0	16.0

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	-56.2	-51.9	2.0	12.5	-41.4	-25.0	16.4

Japan

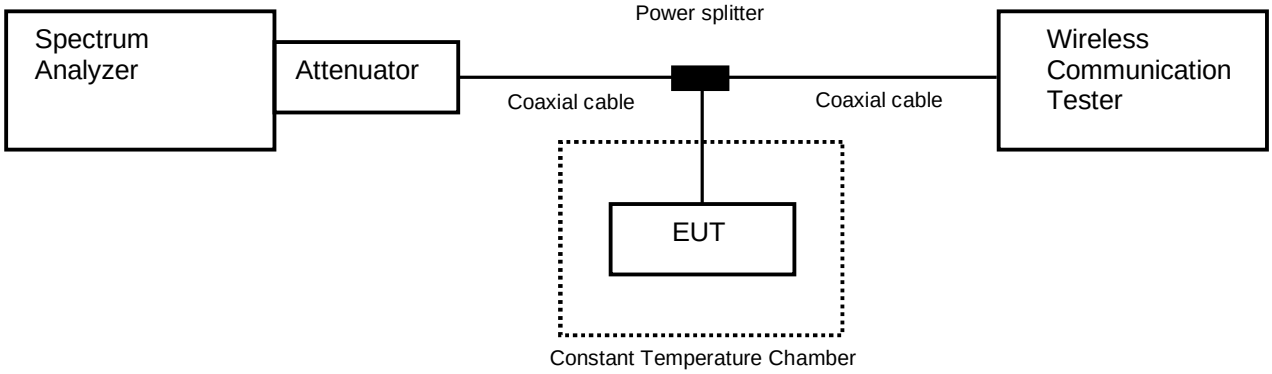
4.6 Frequency Stability

4.6.1 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



4.6.2 Limit

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

4.6.3 Measurement result

Date	:	15-October-2021		
Temperature	:	22.4 [˚C]		
Humidity	:	52.1 [%]	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.)	1,732,599,987	0.00000	Pass
	50	1,732,599,985	-0.00145	Pass
	40	1,732,599,986	-0.00073	Pass
	30	1,732,599,985	-0.00125	Pass
	20	1,732,599,988	0.00058	Pass
	10	1,732,599,988	0.00008	Pass
	0	1,732,599,988	0.00056	Pass
	-10	1,732,599,988	0.00055	Pass
	-20	1,732,599,986	-0.00105	Pass
	-30	1,732,599,985	-0.00144	Pass
3.48	25	1,732,599,985	-0.00161	Pass
4.26	25	1,732,599,987	-0.00013	Pass

[LTE Band IV]
QPSK, BW 10MHz
Channel: 20175

Power Supply [V]	Temperature [°C]	Measurements Frequency [Hz]	Frequency Tolerance [ppm]	Result
3.87	25(Ref.)	1,732,500,011	0.00000	Pass
	50	1,732,499,988	-0.01339	Pass
	40	1,732,500,013	0.00084	Pass
	30	1,732,499,988	-0.01339	Pass
	20	1,732,500,013	0.00088	Pass
	10	1,732,500,015	0.00207	Pass
	0	1,732,499,991	-0.01186	Pass
	-10	1,732,499,990	-0.01236	Pass
	-20	1,732,500,010	-0.00073	Pass
	-30	1,732,499,986	-0.01469	Pass
3.48	25	1,732,499,988	-0.01334	Pass
4.26	25	1,732,499,988	-0.01349	Pass

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

[LTE Band XII]
QPSK, BW 10MHz
Channel: 23095

Power Supply [V]	Temperature [°C]	Measurements Frequency [Hz]	Frequency Tolerance [ppm]	Result
3.87	25(Ref.)	707,500,005	0.00000	Pass
	50	707,499,997	-0.01159	Pass
	40	707,499,993	-0.01686	Pass
	30	707,499,994	-0.01502	Pass
	20	707,499,995	-0.01320	Pass
	10	707,500,003	-0.00311	Pass
	0	707,499,994	-0.01541	Pass
	-10	707,499,994	-0.01502	Pass
	-20	707,499,995	-0.01433	Pass
	-30	707,499,994	-0.01567	Pass
3.48	25	707,499,993	-0.01741	Pass
4.26	25	707,499,995	-0.01428	Pass

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

[LTE Band X VII]
QPSK, BW 10MHz
Channel: 23790

Power Supply [V]	Temperature [°C]	Measurements Frequency [Hz]	Frequency Tolerance [ppm]	Result
3.87	25(Ref.)	710,000,009	0.00000	Pass
	50	709,999,994	-0.02018	Pass
	40	709,999,983	-0.03563	Pass
	30	710,000,011	0.00279	Pass
	20	709,999,988	-0.02977	Pass
	10	709,999,992	-0.02383	Pass
	0	709,999,994	-0.02132	Pass
	-10	709,999,993	-0.02177	Pass
	-20	710,000,012	0.00527	Pass
	-30	710,000,008	-0.00028	Pass
3.48	25	709,999,990	-0.02649	Pass
4.26	25	709,999,994	-0.02062	Pass

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

[LTE Band XL I]
QPSK, BW 10MHz
Channel: 40620

Power Supply [V]	Temperature [ºC]	Measurements Frequency [Hz]	Frequency Tolerance [ppm]	Result
3.87	25(Ref.)	2,592,999,970	0.00000	Pass
	50	2,592,999,974	0.00148	Pass
	40	2,592,999,971	0.00049	Pass
	30	2,592,999,973	0.00125	Pass
	20	2,592,999,974	0.00141	Pass
	10	2,592,999,969	-0.00023	Pass
	0	2,592,999,975	0.00195	Pass
	-10	2,592,999,975	0.00190	Pass
	-20	2,592,999,974	0.00157	Pass
	-30	2,592,999,978	0.00319	Pass
3.48	25	2,592,999,970	-0.00016	Pass
4.26	25	2,592,999,985	0.00566	Pass

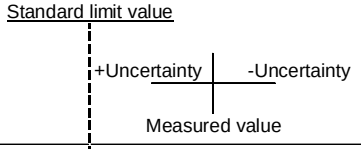
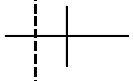
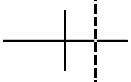
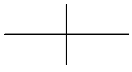
Calculation;
Frequency Tolerance (ppm) = Measurements Frequency (Hz) – Reference Frequency (Hz) / Reference Frequency (Hz) x 1000000

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)	±3.2 dB
Radiated emission (30 MHz – 1000 MHz)	±5.3 dB
Radiated emission (1 GHz – 6 GHz)	±4.8 dB
Radiated emission (6 GHz – 18 GHz)	±4.5 dB
Radiated emission (18 GHz – 40 GHz)	±6.4 dB
Radio Frequency	$\pm 1.4 * 10^{-8}$
RF power, conducted	±0.8 dB
Adjacent channel power	±2.4 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	US40420937	31-Dec-2021	11-Dec-2020
Spectrum analyzer	Agilent Technologies	E4440A	US44302655	31-Aug-2021	20-Aug-2020
				30-Sep-2022	01-Sep-2021
Spectrum analyzer	ROHDE&SCHWARZ	FSV40	101731	30-Jun-2022	08-Jun-2021
Attenuator	Weinschel	56-10	J4993	31-Dec-2021	14-Dec-2020
Microwave cable	HUBER+SUHNER	SUCOFLEX 104/1m	199120/4	31-Dec-2021	14-Dec-2020
Microwave cable	HUBER+SUHNER	SUCOFLEX104/1m	SN MY20492/6	31-Mar-2022	10-Mar-2021
Power divider	Keysight	11636B	MY51359874	30-Sep-2021	29-Sep-2020
				30-Sep-2022	15-Sep-2021
Wideband Radio Frequency Tester	ROHDE&SCHWARZ	CMW500	126079	31-Oct-2021	21-Oct-2020
Wideband Radio Frequency Tester	ROHDE&SCHWARZ	CMW500	116338	30-Sep-2021	02-Sep-2020
				31-Aug-2022	04-Aug-2021
Temperature and humidity chamber	ESPEC	PL1KP	14007261	30-Sep-2021	02-Sep-2020
				30-Sep-2022	03-Sep-2021

Japan

Radiated emission

Equipment	Company	Model No.	Serial No.	Cal. Due	Cal. Date
EMI Receiver	ROHDE&SCHWARZ	ESCI	100765	30-Sep-2021	28-Sep-2020
				30-Sep-2022	15-Sep-2021
Spectrum analyzer	Agilent Technologies	E4447A	MY46180188	31-Mar-2022	11-Mar-2021
Spectrum analyzer	Agilent Technologies	E4440A	US40420937	31-Dec-2021	11-Dec-2020
Spectrum analyzer	ROHDE&SCHWARZ	FSV40	101731	30-Jun-2022	08-Jun-2021
Preamplifier	SONOMA	310	372170	30-Sep-2021	29-Sep-2020
				30-Sep-2022	15-Sep-2021
Biconical antenna	Schwarzbeck	VHBB9124/BBA9106	1333	31-Dec-2021	15-Dec-2020
Log periodic antenna	Schwarzbeck	VUSLP9111B	345	31-Oct-2021	19-Oct-2020
Attenuator	TOYO Connector	NA-PJ-6/6dB	N/A(S541)	30-Sep-2021	29-Sep-2020
				30-Sep-2022	16-Sep-2021
Attenuator	TAMAGAWA.ELEC	CFA-10/3dB	N/A(S503)	31-Jul-2022	20-Jul-2021
Preamplifier	TSJ	MLA-100M18-B02-40	1929118	31-Dec-2021	15-Dec-2020
Attenuator	AEROFLEX	26A-10	081217-08	31-Dec-2021	14-Dec-2020
Double ridged guide antenna	ETS LINDGREN	3117	00052315	31-Mar-2022	30-Mar-2021
Attenuator	HUBER+SUHNER	6803.17.B	N/A(2340)	31-Dec-2021	15-Dec-2020
Double ridged guide antenna	A.H.Systems Inc.	SAS-574	469	30-Sep-2021	02-Sep-2020
				31-Aug-2022	02-Aug-2021
Preamplifier	TSJ	MLA-1840-B03-35	1240332	30-Sep-2021	02-Sep-2020
				31-Aug-2022	02-Aug-2021
Notch Filter	Micro-Tronics	BRM50706	003	31-Jul-2022	19-Jul-2021
Band rejection filter	Micro-Tronics	BRC50720	014	31-Dec-2021	14-Dec-2020
Signal generator	ROHDE&SCHWARZ	SMB100A	177525	31-Dec-2021	23-Dec-2020
RF power amplifier	R&K	CGA020M602-2633R	B40240	30-Jun-2022	15-Jun-2021
Microwave cable	HUBER+SUHNER	SUCOFELX102/2m	31648	31-Mar-2022	10-Mar-2021
Dipole antenna	Schwarzbeck	VHAP	1021	31-Jul-2022	28-Jul-2021
Dipole antenna	Schwarzbeck	UHAP	993	31-Jul-2022	28-Jul-2021
Double ridged guide antenna	ETS LINDGREN	3117	00218815	31-Dec-2021	07-Dec-2020
Wideband Radio Frequency Tester	ROHDE&SCHWARZ	CMW500	126079	31-Oct-2021	21-Oct-2020
Wideband Radio Frequency Tester	ROHDE&SCHWARZ	CMW500	116338	30-Sep-2021	02-Sep-2020
				31-Aug-2022	04-Aug-2021
Microwave cable	HUBER+SUHNER	SUCOFLEX104/9m	MY30037/4	31-Dec-2021	15-Dec-2020
		SUCOFLEX104/1m	my24610/4	31-Dec-2021	15-Dec-2020
		SUCOFLEX104/8m	SN MY30033/4	31-Dec-2021	15-Dec-2020
		SUCOFLEX104	MY32976/4	31-Dec-2021	15-Dec-2020
		SUCOFLEX104/1.5m	SN MY28404/4	31-Dec-2021	15-Dec-2020
		SUCOFLEX104/7m	41625/6	31-Dec-2021	15-Dec-2020
PC	DELL	DIMENSION E521	75465BX	N/A	N/A
Software	TOYO Corporation	EP5/RE-AJ	0611193/V6.0.140	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-2022	20-May-2021
3m Semi an-echoic Chamber	TOKIN	N/A	N/A(9002-SVSWR)	31-May-2022	20-May-2021

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