Report on the RF Testing of:

KYOCERA Corporation
Mobile Phone, Model: EB1083
FCC ID: JOYEB1083

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

Japan

Add value.
Inspire trust.

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COMMERCIAL-IN-CONFIDENCE

Document Number: JPD-TR-21199-0

SIGNATURE			
Hiroaki Suzuki			
NAME	**JOB TITLE**	**RESPONSIBLE FOR**	**ISSUE DATE**
Hiroaki Suzuki	Deputy Manager of RF Group	Approved Signatory	2021.10.15

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 and FCC Part 27 Subpart L.

ACCREDITED
Certificate #3686.03

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1 Summary of Test

1.1 Modification history of the test report

Document Number	Modification History	Issue Date
JPD-TR-21199-0	First Issue	Refer to the cover page

1.2 Standards

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

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	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

Table-top

1.8 Test period

27-August-2021 - 11-October-2021

Japan

2 Equipment Under Test

All information in this chapter was provided by the applicant.

2.1 EUT information

Applicant	KYOCERA Corporation Yokohama Office 2-1-1 Kagahara, Tsuzuki-ku Yokohama-shi, Kanagawa, Japan Phone: +81-45-943-6253 Fax: +81-45-943-6314
Equipment Under Test (EUT)	Mobile Phone
Model number	EB1083
Serial number	352837520004861, RF6
Trade name	Kyocera
Number of sample(s)	2
EUT condition	Pre-Production
Power rating	Battery: DC 3.87 V
Size	(W) 72 mm × (D) 8.9 mm × (H) 156 mm
Environment	Indoor and Outdoor use
Terminal limitation	-20˚C to 60˚C
Hardware version	DMT
Software version	0029.a
Firmware version	Not applicable
RF Specification	
Frequency of Operation	Up Link WCDMA Band IV: 1712.4-1752.6 MHz LTE Band IV: 1710.0-1755.0 MHz Down Link WCDMA Band IV: 2112.4-2152.6 MHz LTE Band IV: 2110.0-2155.0 MHz
Modulation type	WCDMA Band IV: QPSK, 16QAM LTE Band IV: QPSK, 16QAM, 64QAM
Emission designator	WCDMA Band IV: 4M16F9W LTE Band IV: BW 1.4M QPSK: 1M10G7D, 16QAM: 1M10W7D, 64QAM: 1M09W7D BW 3M QPSK: 2M71G7D, 16QAM: 2M72W7D, 64QAM: 2M71W7D BW 5M QPSK: 4M52G7D, 16QAM: 4M51W7D, 64QAM: 4M54W7D BW 10M QPSK: 8M99G7D, 16QAM: 9M01W7D, 64QAM: 8M99W7D BW 15M QPSK: 13M5G7D, 16QAM: 13M5W7D, 64QAM: 13M5W7D BW 20M QPSK: 17M9G7D, 16QAM: 18M0W7D, 16QAM: 18M0W7D

Effective Radiated Power (E.R.P.)	WCDMA Band IV: 0.234 W (23.7 dBm) LTE Band IV: 0.240 W (23.8 dBm)
Antenna type	Internal antenna
Antenna gain	WCDMA Band IV: 0.5 dBi LTE Band IV: ANT0 0.5 dBi, ANT1 -1.2dBi

Japan

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: 352837520004861, RF6			
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

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 (All Bands) and the worst case recorded.
Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports.

Japan

3 Configuration of Equipment

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

3.1 Equipment used

No.	Equipment	Company	Model No.	Serial No.	FCC ID/DoC	Comment
1	Mobile Phone	KYOCERA	EB1083	352837520004861, RF6	JOYEB1083	EUT

3.2 System configuration

Japan

4 Test Result

4.1 Equivalent Isotropic Radiated Power

4.1.1 Measurement procedure

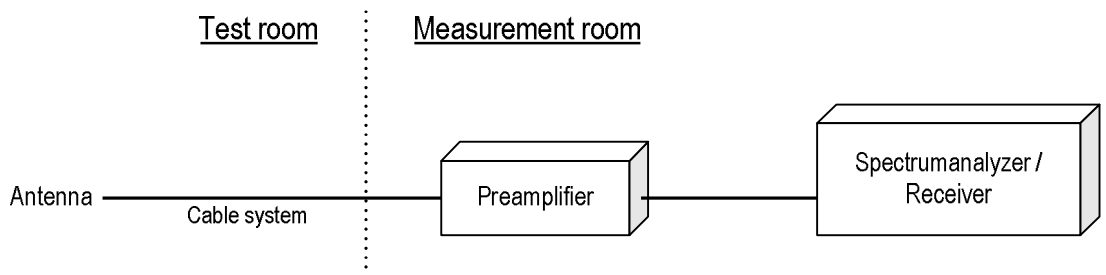
[FCC 27.50]

<Step 1>
The EUT and support equipment are placed on a 1 meter x 1 meter surface, 0.8 meter height 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

4.1.3 Limit

1W(30 dBm)

4.1.4 Test data

Date	:	21-September-2021			
Temperature	:	21.9 [˚C]			
Humidity	:	60.3 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Tadahiro Seino

Date	:	22-September-2021			
Temperature	:	22.9 [˚C]			
Humidity	:	67.3 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Tadahiro Seino

Date	:	24-September-2021			
Temperature	:	22.6 [˚C]			
Humidity	:	58.3 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Tadahiro Seino

[WCDMA Band IV]

H/V	Frequency [MHz]	S.A Reading [dBm]	Ant. Input [dBm]	Cable loss [dB]	Ant.Gain [dBi]	Result [dBm]	Limit [dBm]	Margin [dB]
H	1712.4	-27.5	18.8	1.1	5.5	23.2	30.0	6.8
H	1732.6	-27.1	19.0	1.1	5.1	23.0	30.0	7.0
H	1752.6	-27.5	20.0	1.1	4.8	23.7	30.0	6.3

[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	-27.9	18.4	1.1	5.5	22.8	30.0	7.2
H	1732.5	-27.7	18.4	1.1	5.1	22.4	30.0	7.6
H	1754.3	-27.9	19.6	1.1	4.8	23.3	30.0	6.7

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	-28.7	17.6	1.1	5.5	22.0	30.0	8.0
H	1732.5	-28.6	17.5	1.1	5.1	21.5	30.0	8.5
H	1754.3	-28.6	18.9	1.1	4.8	22.6	30.0	7.4

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	-29.6	16.7	1.1	5.5	21.1	30.0	8.9
H	1732.5	-29.3	16.8	1.1	5.1	20.8	30.0	9.2
H	1754.3	-29.8	17.7	1.1	4.8	21.4	30.0	8.6

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]
H	1711.5	-27.2	19.1	1.1	5.5	23.5	30.0	6.5
H	1732.5	-27.6	18.5	1.1	5.1	22.5	30.0	7.5
H	1753.5	-27.4	20.1	1.1	4.8	23.8	30.0	6.2

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]
H	1711.5	-28.1	18.2	1.1	5.5	22.6	30.0	7.4
H	1732.5	-28.2	17.9	1.1	5.1	21.9	30.0	8.1
H	1753.5	-28.2	19.3	1.1	4.8	23.0	30.0	7.0

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]
H	1711.5	-28.9	17.4	1.1	5.5	21.8	30.0	8.2
H	1732.5	-29.6	16.5	1.1	5.1	20.5	30.0	9.5
H	1753.5	-29.3	18.2	1.1	4.8	21.9	30.0	8.1

Japan

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	-27.3	19.0	1.1	5.5	23.4	30.0	6.6
H	1732.5	-27.5	18.6	1.1	5.1	22.6	30.0	7.4
H	1752.5	-28.1	19.4	1.1	4.8	23.1	30.0	6.9

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	-27.9	18.4	1.1	5.5	22.8	30.0	7.2
H	1732.5	-28.3	17.8	1.1	5.1	21.8	30.0	8.2
H	1752.5	-28.7	18.8	1.1	4.8	22.5	30.0	7.5

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	-29.2	17.1	1.1	5.5	21.5	30.0	8.5
H	1732.5	-29.4	16.7	1.1	5.1	20.7	30.0	9.3
H	1752.5	-29.6	17.9	1.1	4.8	21.6	30.0	8.4

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	-27.0	19.3	1.1	5.4	23.6	30.0	6.4
H	1732.5	-27.8	18.3	1.1	5.1	22.3	30.0	7.7
H	1750.0	-27.8	19.7	1.1	4.8	23.4	30.0	6.6

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	-27.9	18.4	1.1	5.4	22.7	30.0	7.3
H	1732.5	-28.5	17.6	1.1	5.1	21.6	30.0	8.4
H	1750.0	-28.8	18.7	1.1	4.8	22.4	30.0	7.6

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	-28.4	17.9	1.1	5.4	22.2	30.0	7.8
H	1732.5	-29.5	16.6	1.1	5.1	20.6	30.0	9.4
H	1750.0	-29.7	17.8	1.1	4.8	21.5	30.0	8.5

Japan

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	-27.1	19.2	1.1	5.4	23.5	30.0	6.5
H	1732.5	-28.0	18.1	1.1	5.1	22.1	30.0	7.9
H	1747.5	-28.4	19.1	1.1	4.9	22.9	30.0	7.1

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	-28.1	18.2	1.1	5.4	22.5	30.0	7.5
H	1732.5	-28.5	17.6	1.1	5.1	21.6	30.0	8.4
H	1747.5	-28.9	18.6	1.1	4.9	22.4	30.0	7.6

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	-29.0	17.3	1.1	5.4	21.6	30.0	8.4
H	1732.5	-29.6	16.5	1.1	5.1	20.5	30.0	9.5
H	1747.5	-29.8	17.7	1.1	4.9	21.5	30.0	8.5

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	-29.8	16.5	1.1	5.4	20.7	30.0	9.3
H	1732.5	-29.6	16.5	1.1	5.1	20.5	30.0	9.5
H	1745.0	-29.4	18.1	1.1	4.9	21.9	30.0	8.1

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	-30.9	15.4	1.1	5.4	19.6	30.0	10.4
H	1732.5	-30.5	15.6	1.1	5.1	19.6	30.0	10.4
H	1745.0	-30.1	17.4	1.1	4.9	21.2	30.0	8.8

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	-31.9	14.4	1.1	5.4	18.6	30.0	11.4
H	1732.5	-31.6	14.5	1.1	5.1	18.5	30.0	11.5
H	1745.0	-31.4	16.1	1.1	4.9	19.9	30.0	10.1

4.2 Peak to Average Ratio

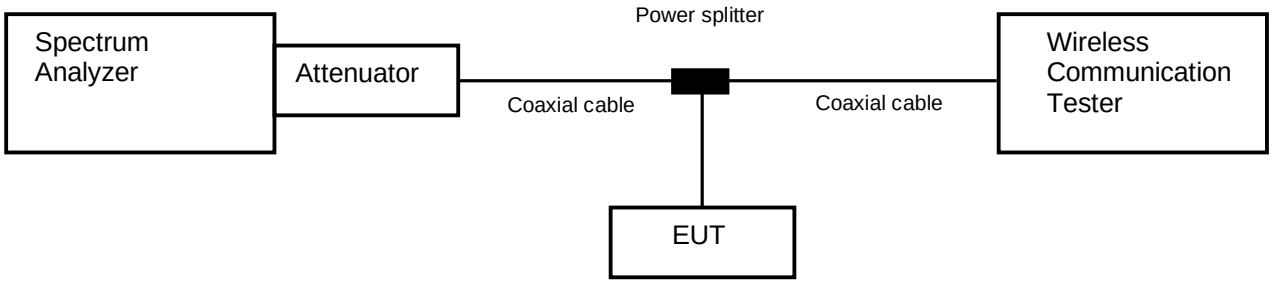
4.2.1 Measurement procedure

[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 : 12-September-2021
Temperature : 23.3 [˚C]
Humidity : 59.4 [%] Test engineer :
Test place : 3m Semi-anechoic chamber Kazunori Saito

Band	Channel	Frequency [MHz]	Peak to Average Power Ratio [dB]	Limit [dB]
WCDMA Band IV	1312	1712.4	3.02	13.0
	1413	1732.6	3.03	
	1513	1752.6	2.99	

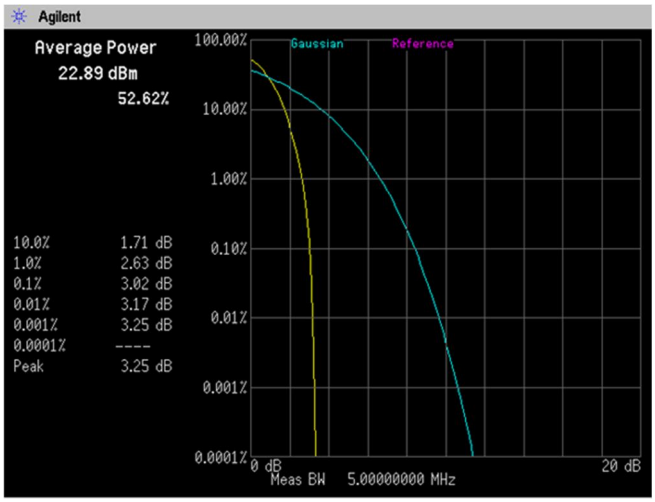
Band	Channel	Frequency [MHz]	Modulation	Bandwidth [MHz]	RB	Peak to Average Power Ratio [dB]	Limit [dB]
LTE Band IV	20175	1732.5	QPSK	1.4	6-0	5.42	13.0
				3	15-0	5.30	
				5	25-0	5.32	
				10	50-0	4.70	
				15	75-0	5.78	
				20	100-0	6.50	
			16QAM	1.4	6-0	6.14	
				3	15-0	6.18	
				5	25-0	6.09	
				10	50-0	6.23	
				15	75-0	6.89	
				20	100-0	7.31	
			64QAM	1.4	6-0	6.63	
				3	15-0	6.72	
				5	25-0	6.64	
				10	50-0	6.62	
				15	75-0	6.86	
				20	100-0	7.18	

Japan

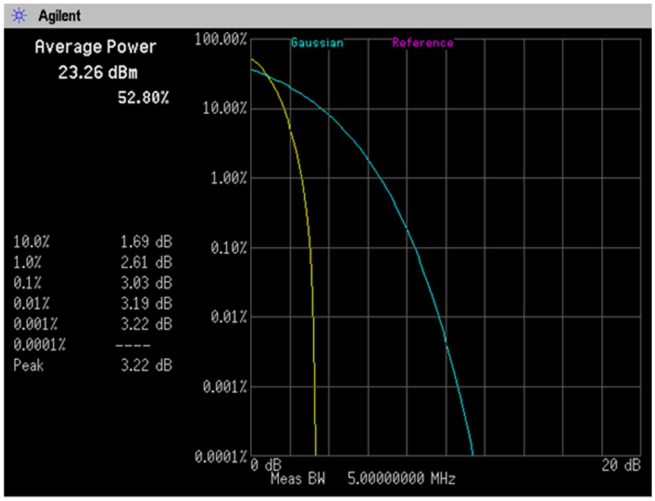
4.2.4 Trace data

[WCDMA Band IV]

Channel: 1312



Channel: 1413



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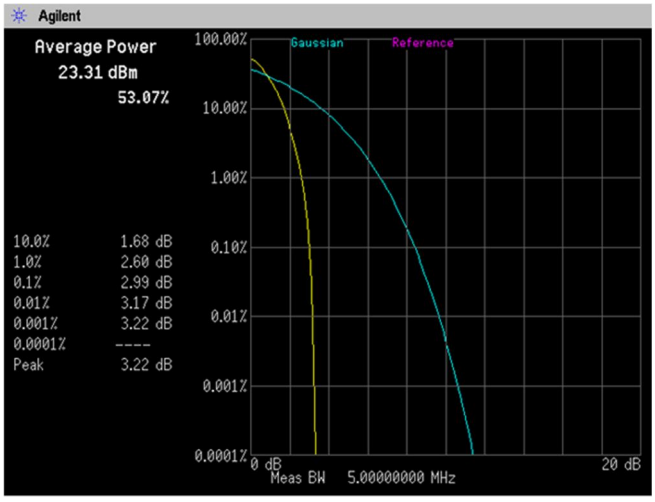

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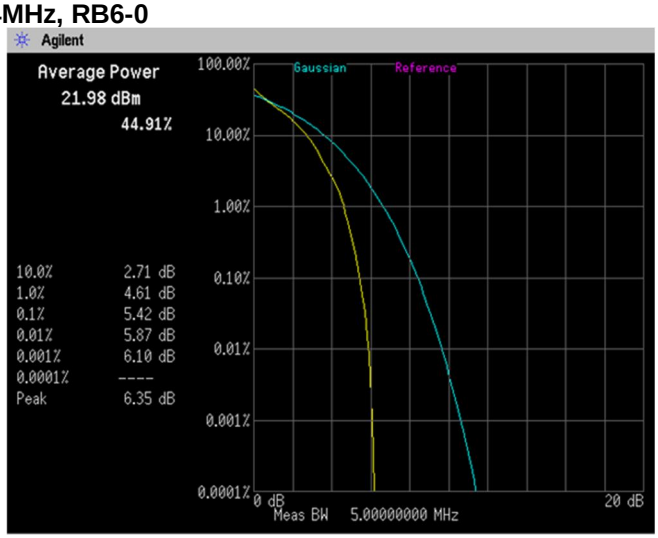
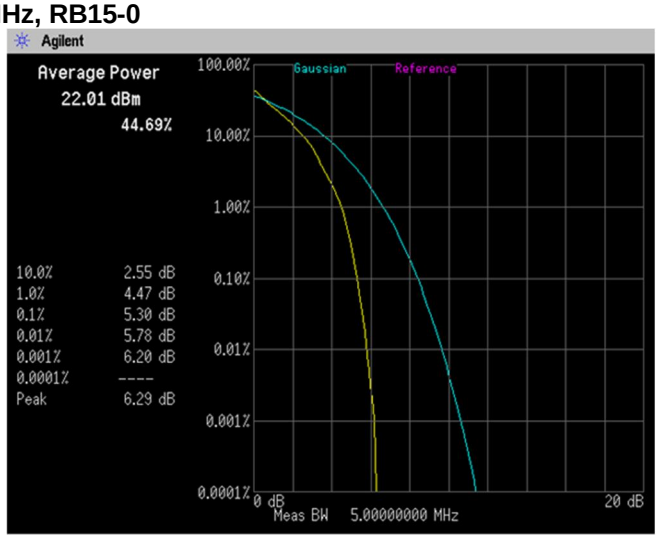
[LTE Band IV]

Channel: 20175

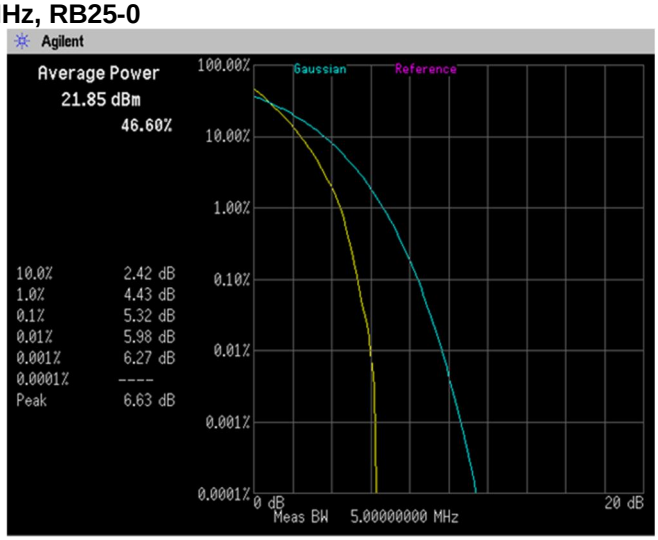
QPSK, BW 1.4MHz, RB6-0



QPSK, BW 3MHz, RB15-0

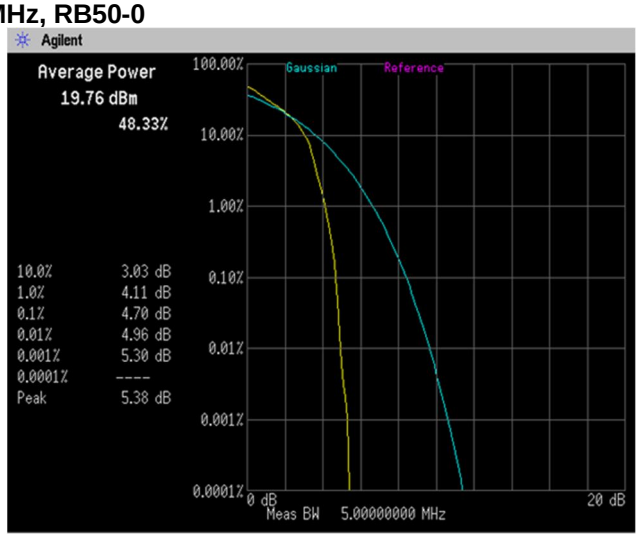


QPSK, BW 5MHz, RB25-0

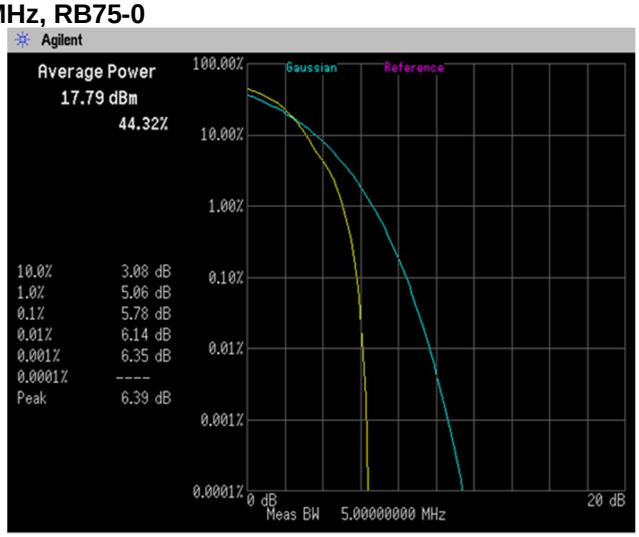


Japan

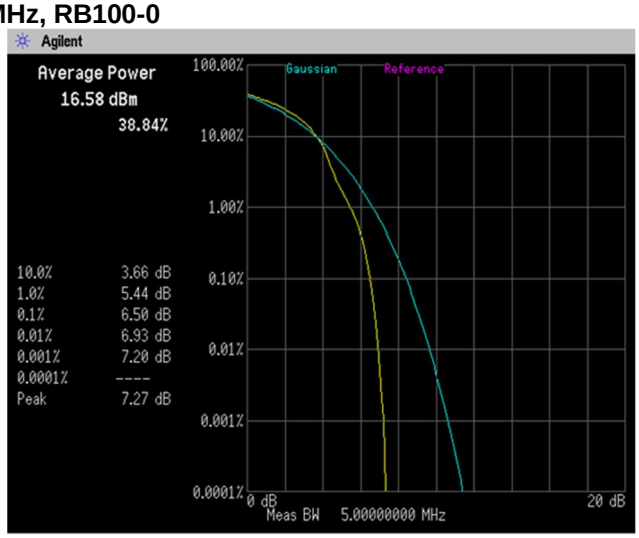
Channel: 20175
QPSK, BW 10MHz, RB50-0



QPSK, BW 15MHz, RB75-0

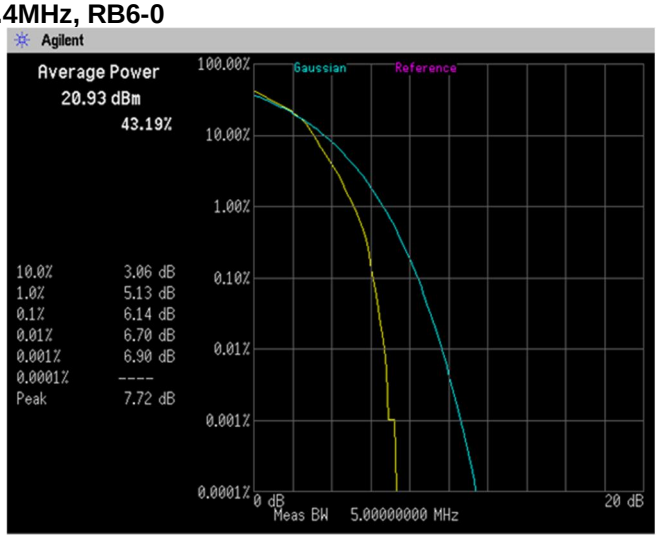


QPSK, BW 20MHz, RB100-0

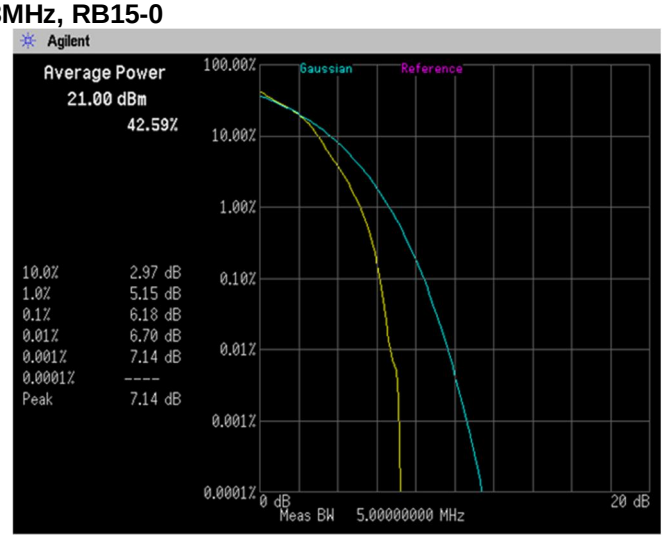


Japan

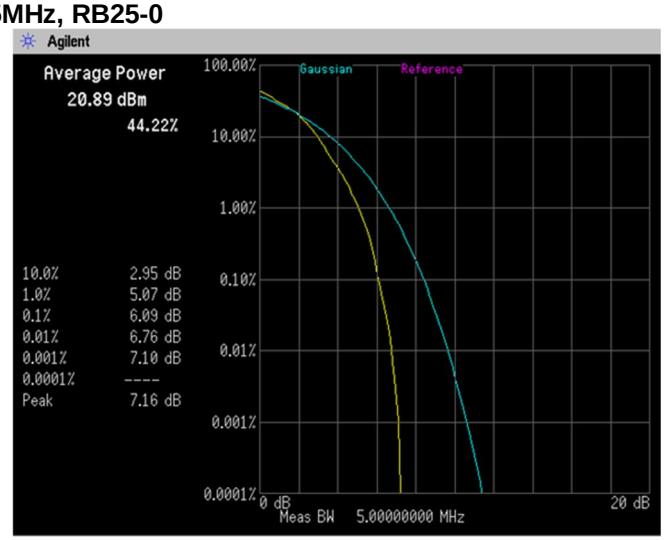
Channel: 20175
16QAM, BW 1.4MHz, RB6-0



16QAM, BW 3MHz, RB15-0



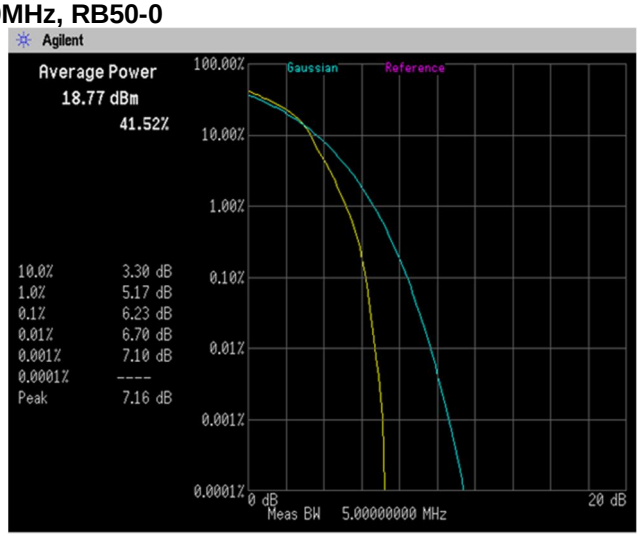
16QAM, BW 5MHz, RB25-0



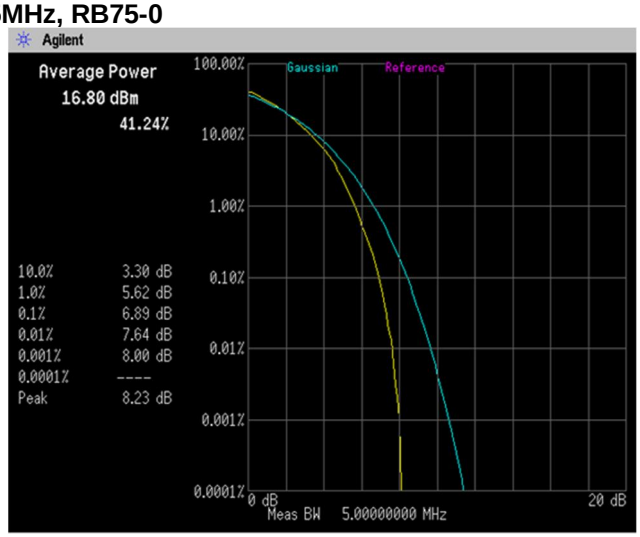
Japan

Channel: 20175

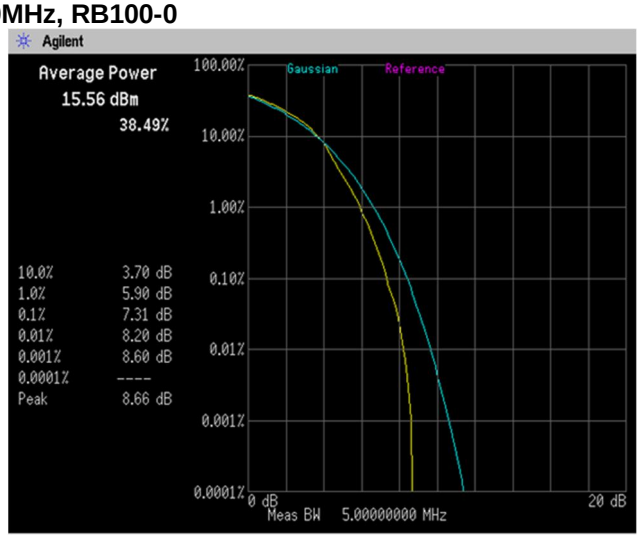
16QAM, BW 10MHz, RB50-0



16QAM, BW 15MHz, RB75-0

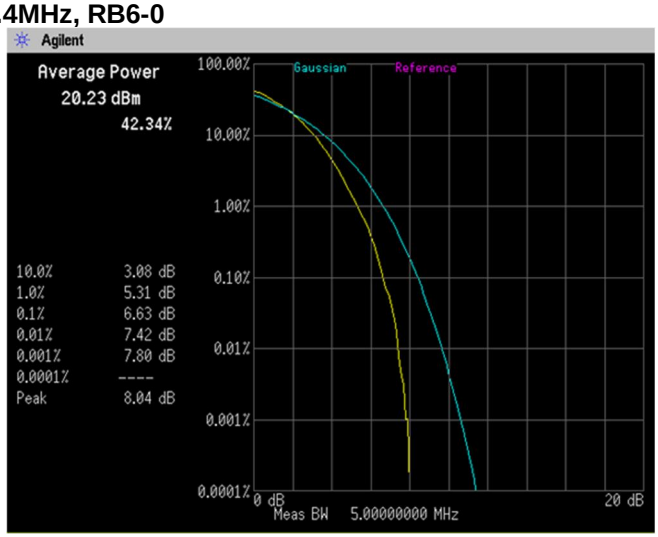


16QAM, BW 20MHz, RB100-0

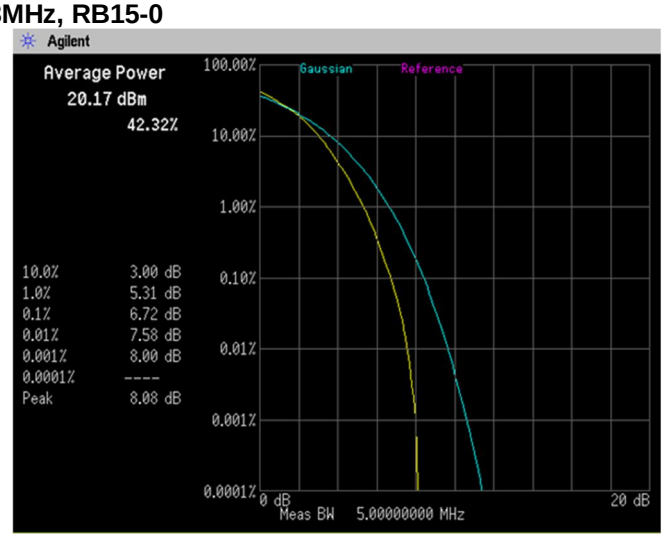


Japan

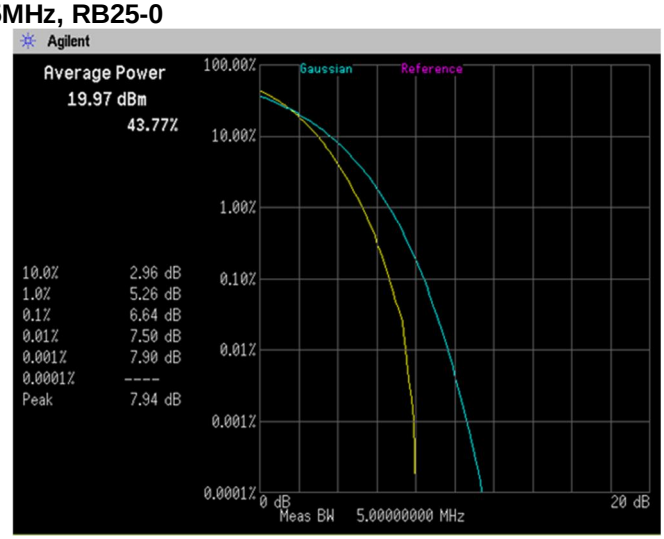
Channel: 20175
64QAM, BW 1.4MHz, RB6-0



64QAM, BW 3MHz, RB15-0

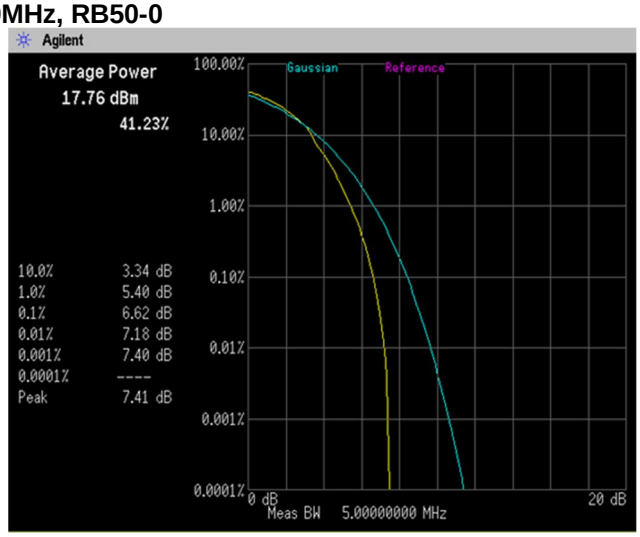


64QAM, BW 5MHz, RB25-0

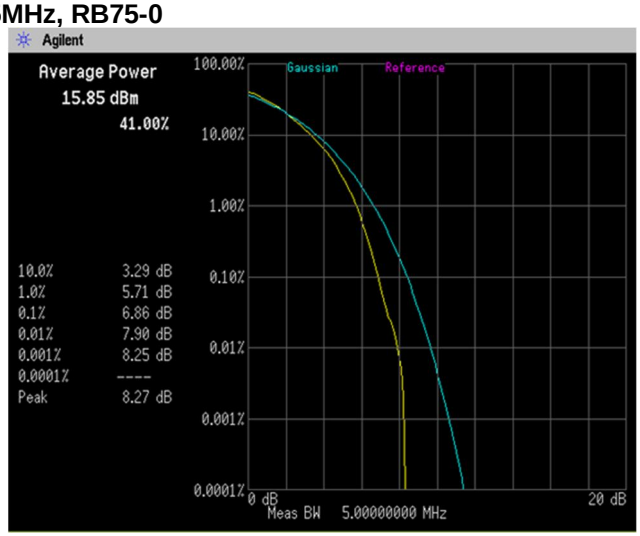


Japan

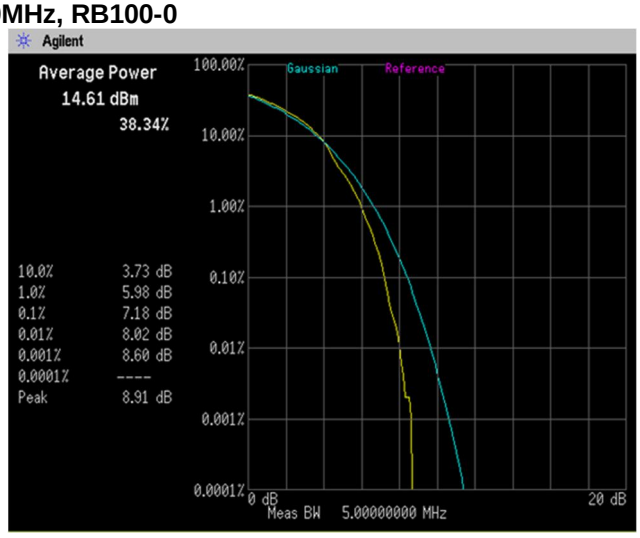
Channel: 20175
64QAM, BW 10MHz, RB50-0



64QAM, BW 15MHz, RB75-0



64QAM, BW 20MHz, RB100-0



Japan

4.3 Occupied Bandwidth

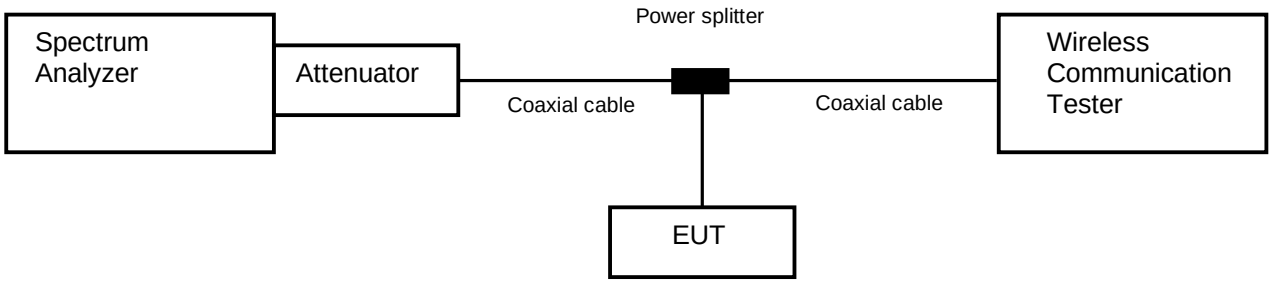
4.3.1 Measurement procedure

[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	:	27-August-2021			
Temperature	:	23.7 [˚C]			
Humidity	:	76.4 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Kazunori Saito

Date	:	12-September-2021			
Temperature	:	23.3 [˚C]			
Humidity	:	59.4 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Kazunori Saito

Band	Channel	Frequency [MHz]	Test Result [MHz]
WCDMA Band IV	1312	1712.4	4.1416
	1413	1732.6	4.1560
	1513	1752.6	4.1489

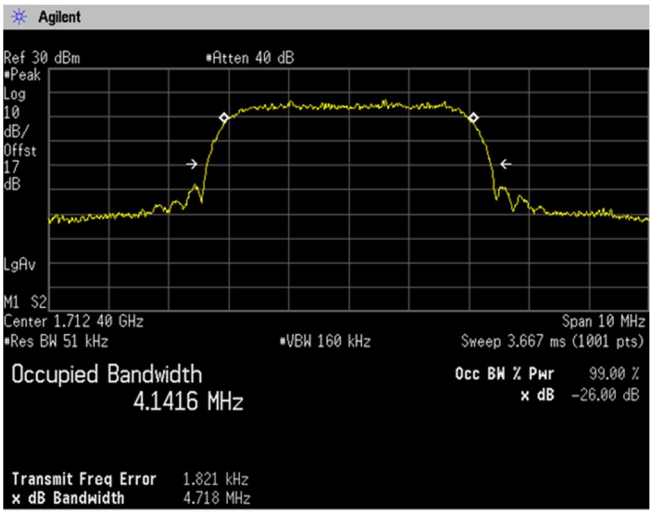
Band	Channel	Frequency [MHz]	Bandwidth [MHz]	Modulation	RB	Test Result [MHz]
LTE Band IV	20175	1732.5	1.4	QPSK	3-1	0.6183
					6-0	1.0958
				16QAM	3-1	0.6107
					6-0	1.1015
				64QAM	3-1	0.6031
					6-0	1.0913
			3	QPSK	8-4	1.5461
					15-0	2.7093
				16QAM	8-4	1.5557
					15-0	2.7165
				64QAM	8-4	1.5214
					15-0	2.7104
			5	QPSK	12-7	2.3313
					25-0	4.5225
				16QAM	12-7	2.3129
					25-0	4.5146
				64QAM	12-7	2.2962
					25-0	4.5351
			10	QPSK	25-12	4.6571
					50-0	8.9852
				16QAM	25-12	4.6696
					50-0	9.0092
				64QAM	25-12	4.6560
					50-0	8.9908
			15	QPSK	36-20	6.7835
					75-0	13.4790
				16QAM	36-20	6.7861
					75-0	13.4961
				64QAM	36-20	6.7503
					75-0	13.4772
			20	QPSK	50-24	9.2898
					100-0	17.9408
				16QAM	50-24	9.2577
					100-0	17.9806
				64QAM	50-24	9.2684
					100-0	17.9583

Japan

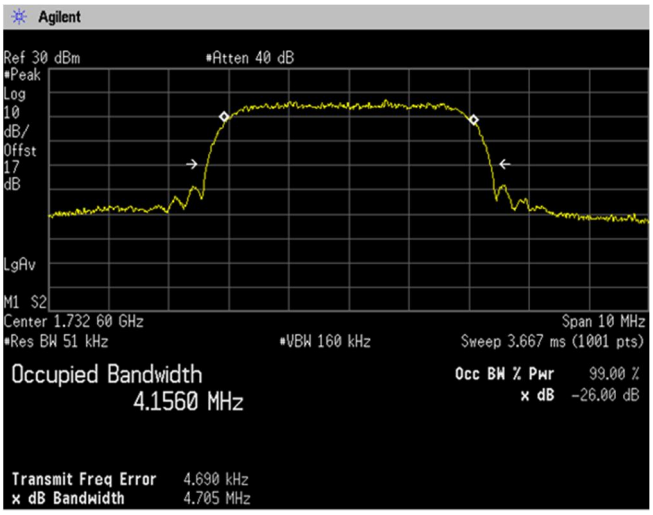
4.3.4 Trace data

[WCDMA Band IV]

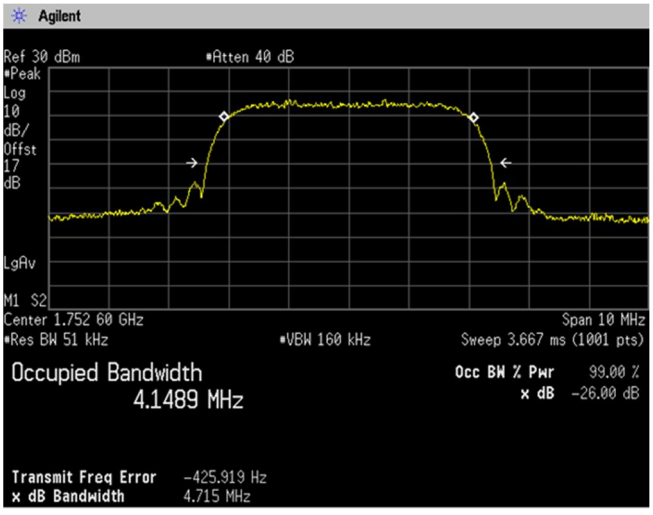
Channel: 1312



Channel: 1413



Channel: 1513

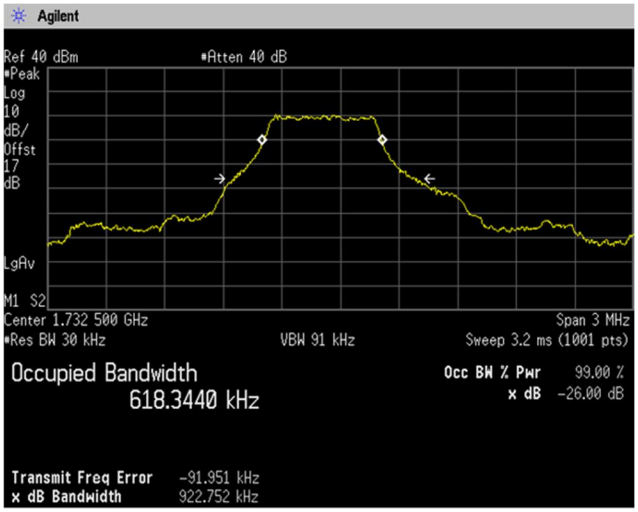


Japan

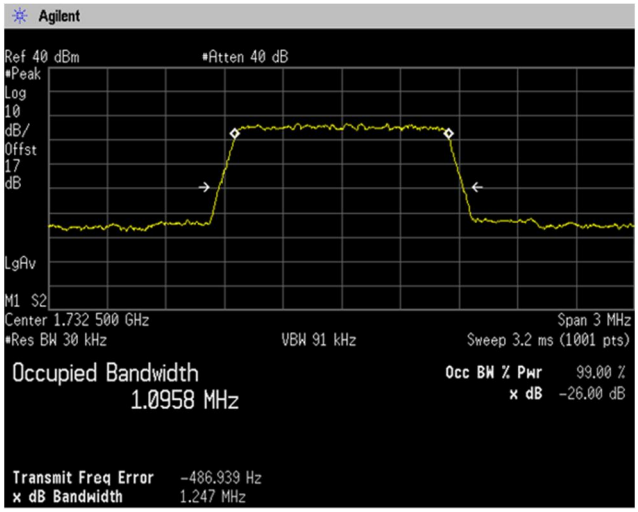
[LTE Band IV]
Channel: 20175

QPSK, BW 1.4MHz

RB3-1

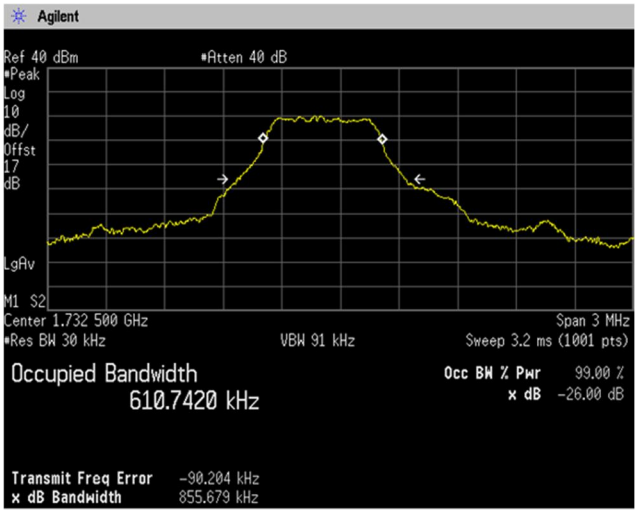


RB6-0

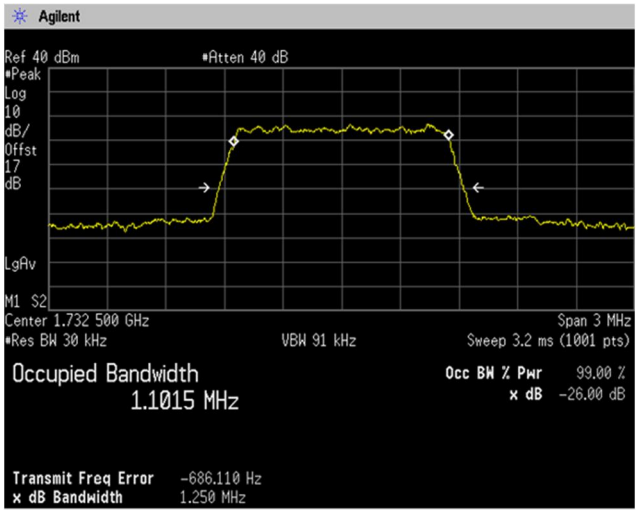


16QAM, BW 1.4MHz

RB3-1

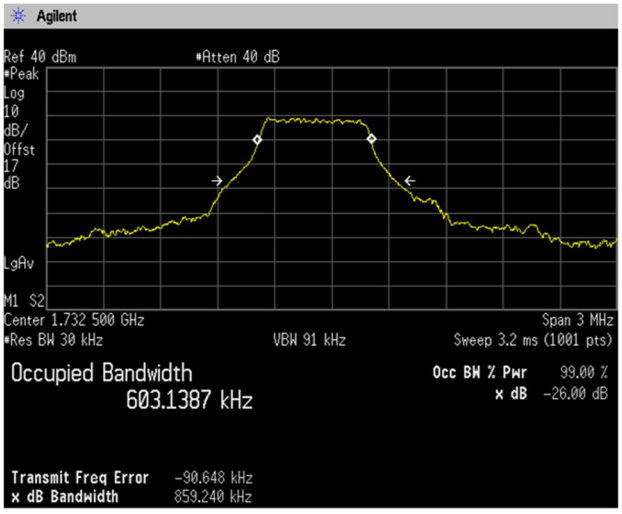


RB6-0

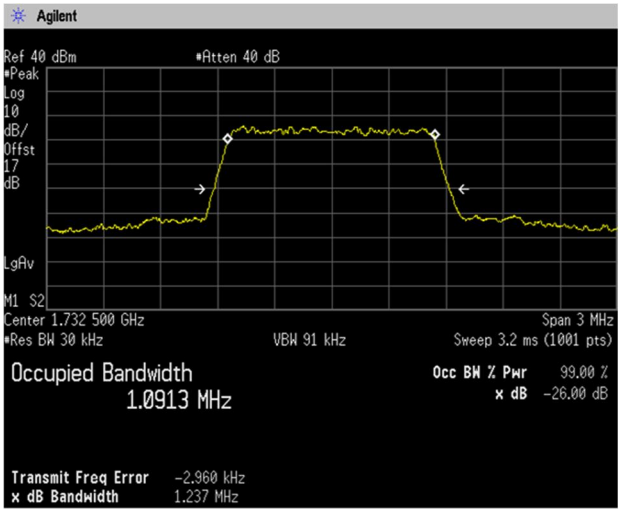


64QAM, BW 1.4MHz

RB3-1

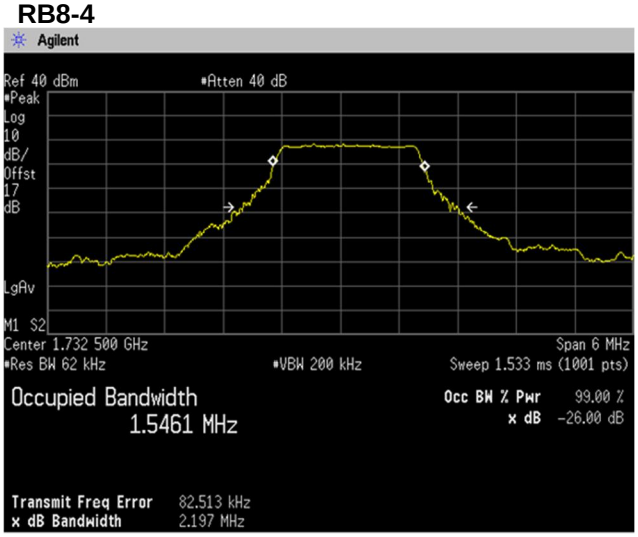


RB6-0

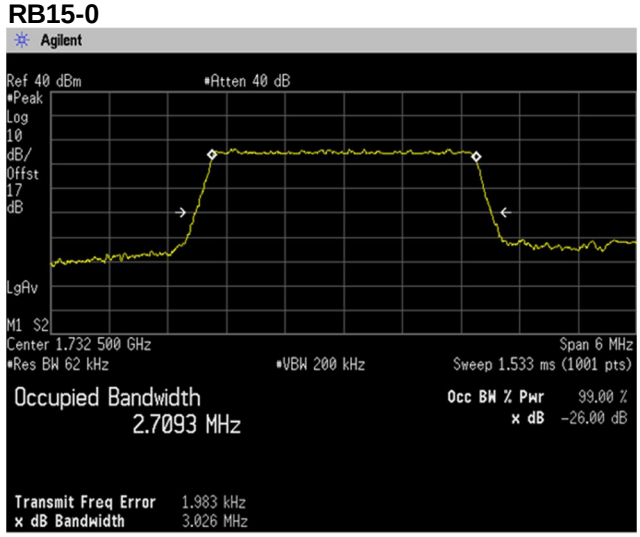


QPSK, BW 3MHz

RB8-4

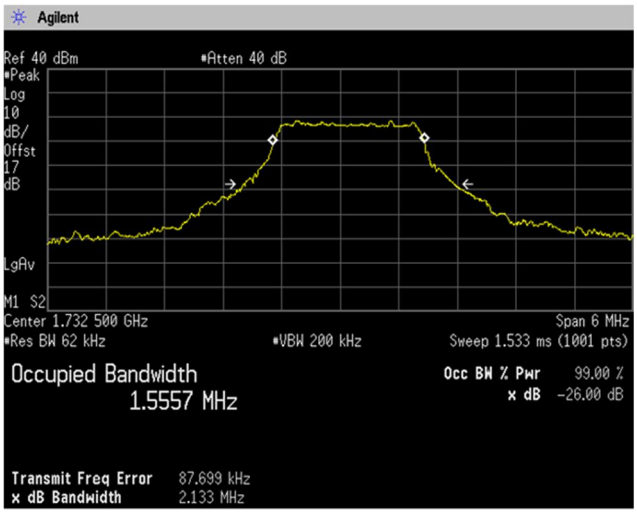


RB15-0

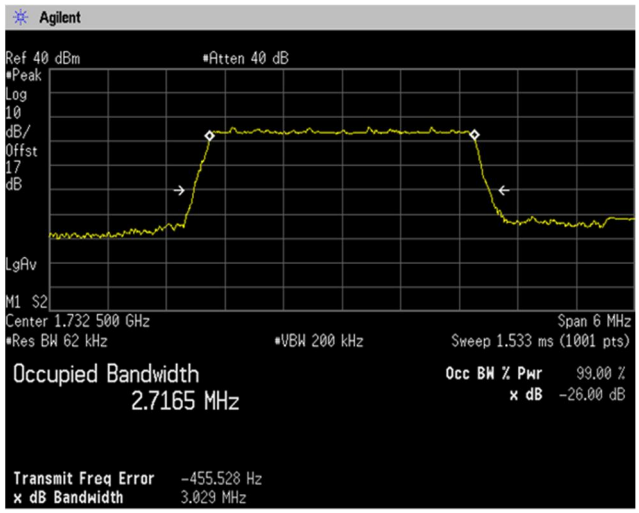


16QAM, BW 3MHz

RB8-4

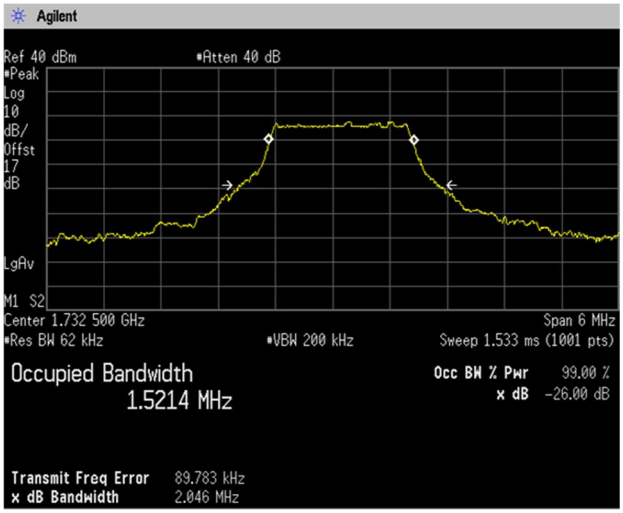


RB15-0

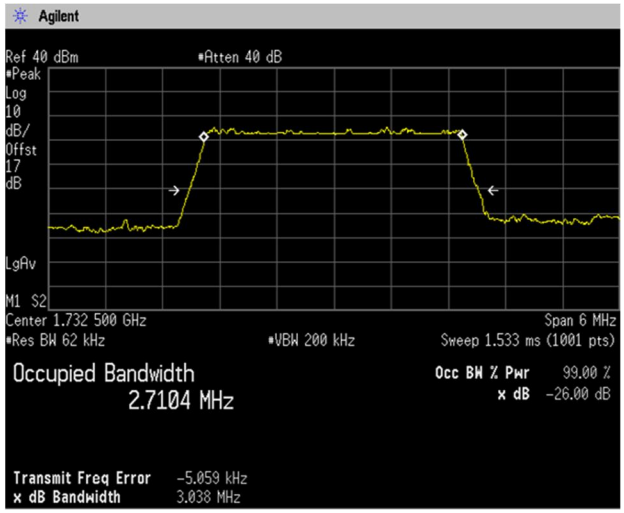


64QAM, BW 3MHz

RB8-4

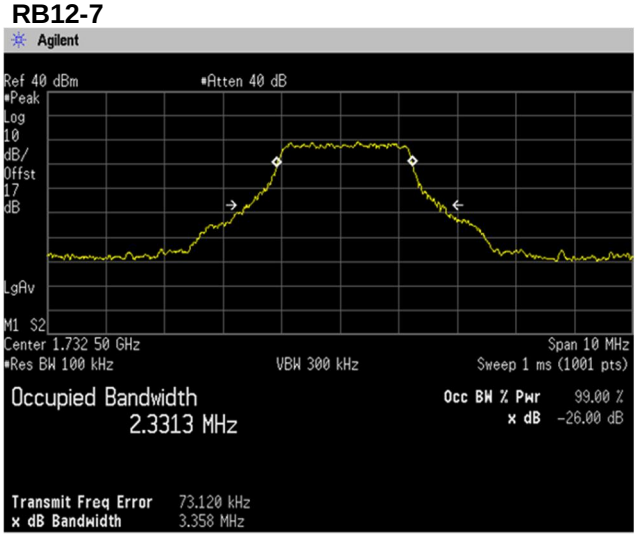


RB15-0

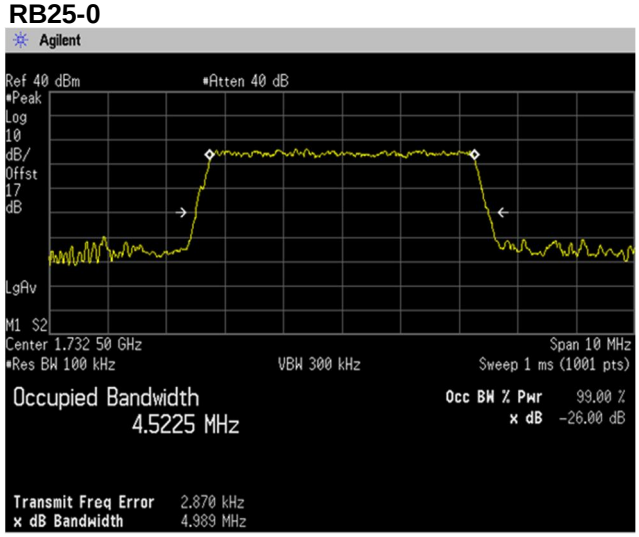


QPSK, BW 5MHz

RB12-7

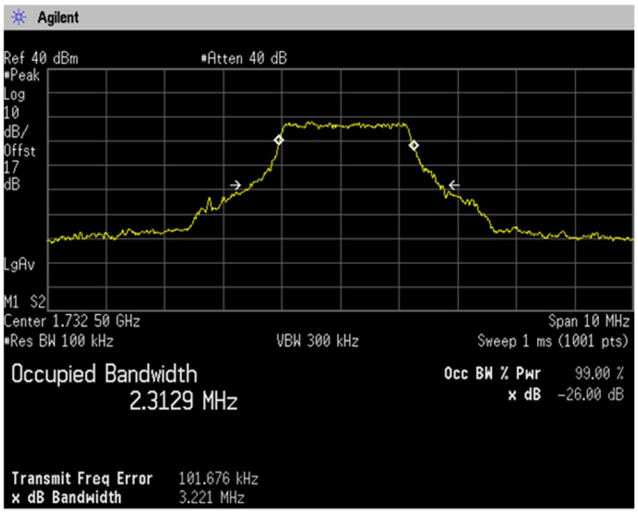


RB25-0

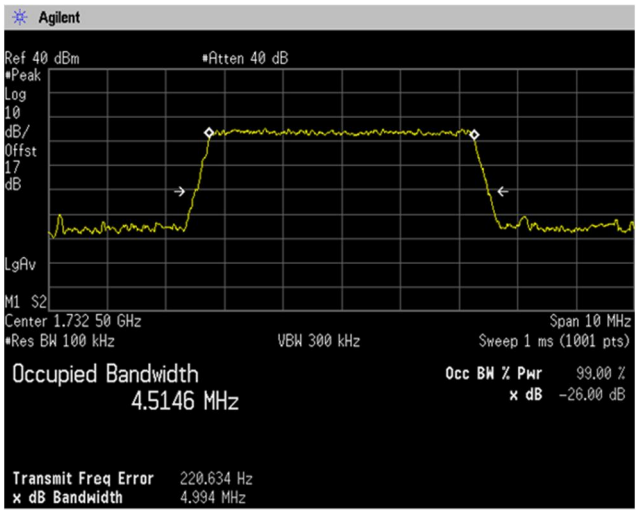


16QAM, BW 5MHz

RB12-7

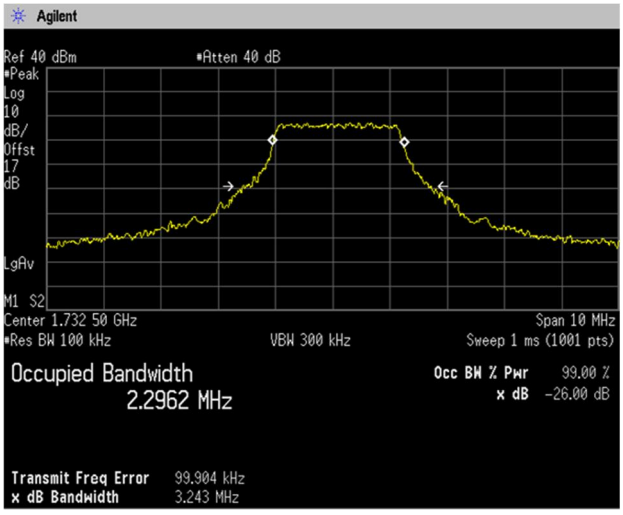


RB25-0

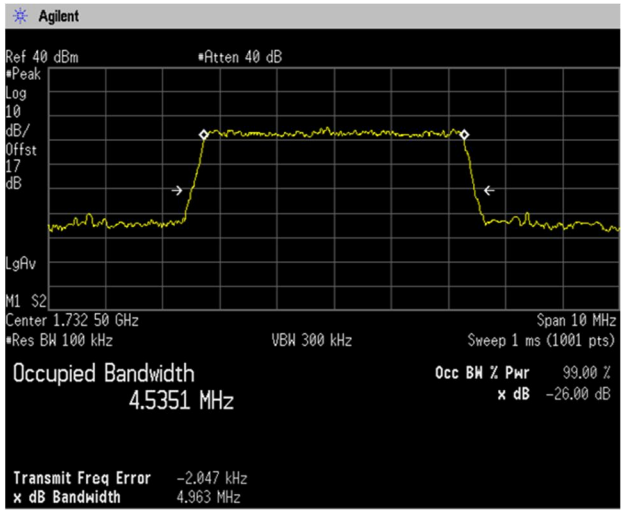


64QAM, BW 5MHz

RB12-7

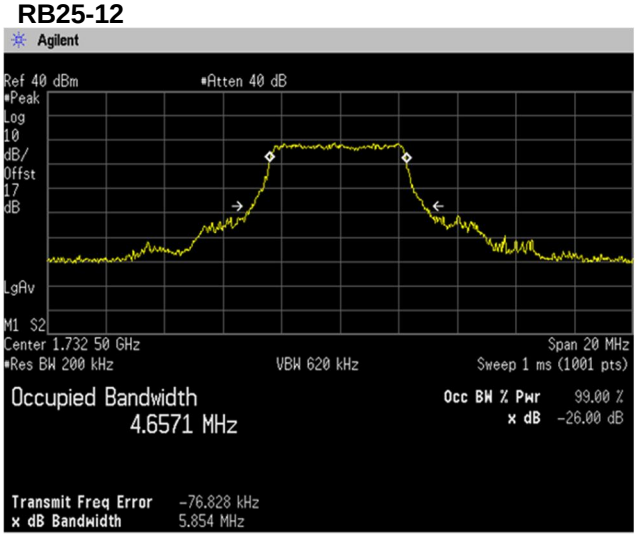


RB25-0

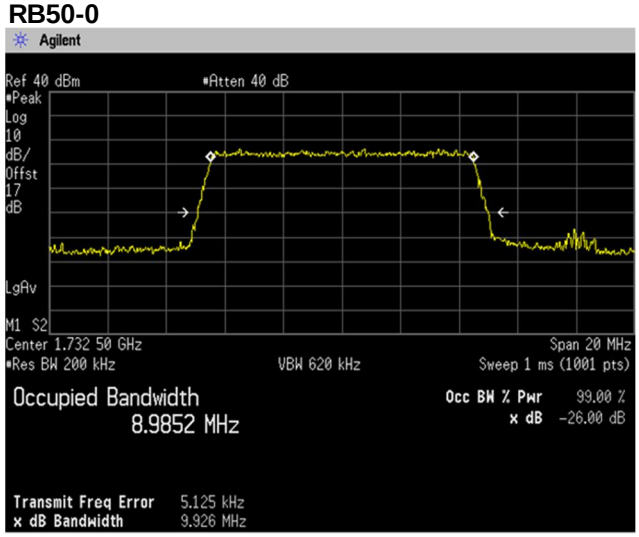


QPSK, BW 10MHz

RB25-12

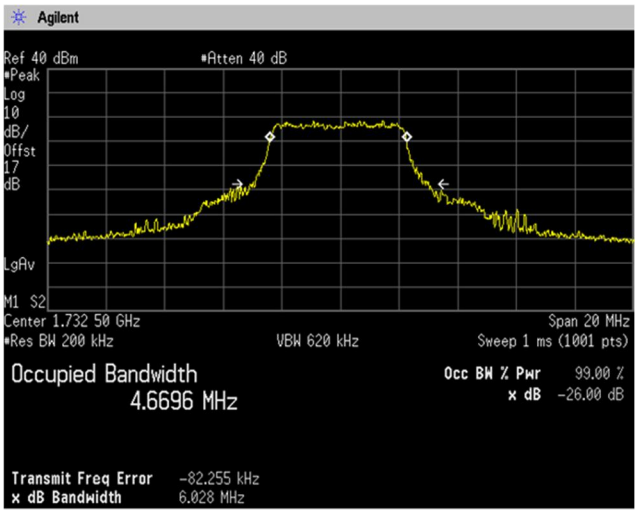


RB50-0

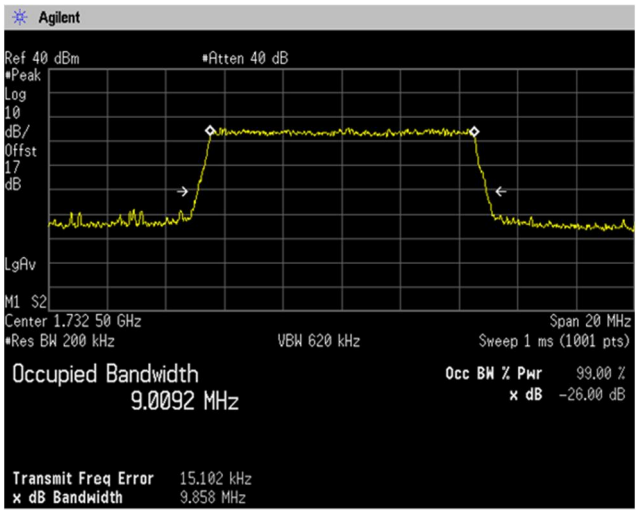


16QAM, BW 10MHz

RB25-12

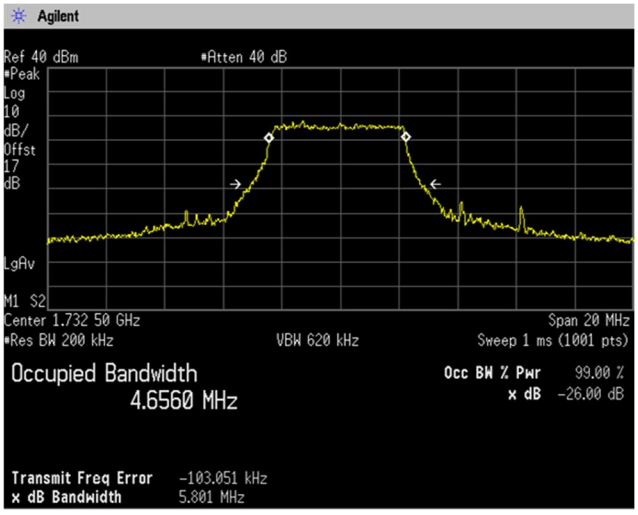


RB50-0

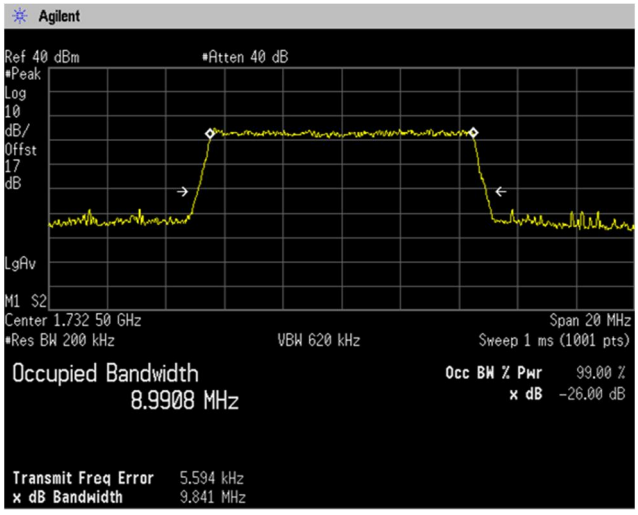


64QAM, BW 10MHz

RB25-12

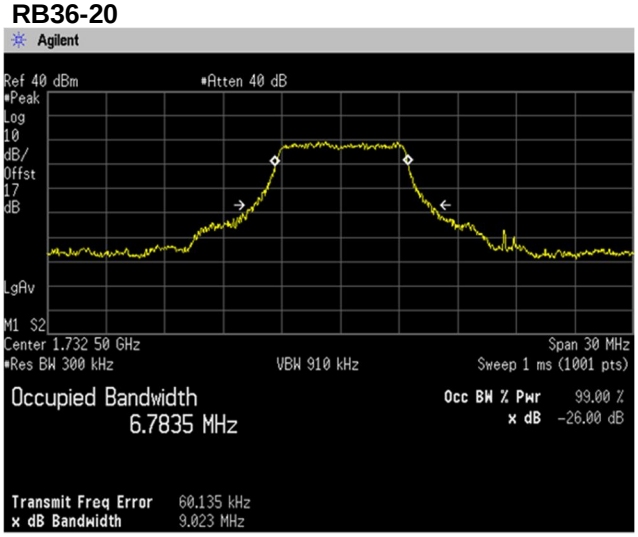


RB50-0

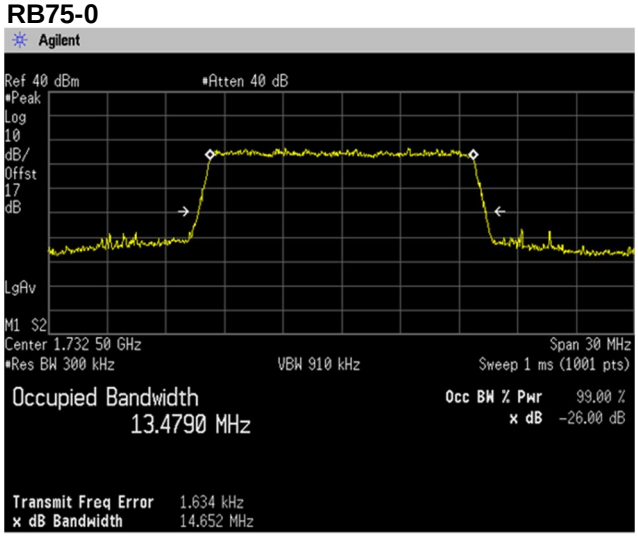


QPSK, BW 15MHz

RB36-20

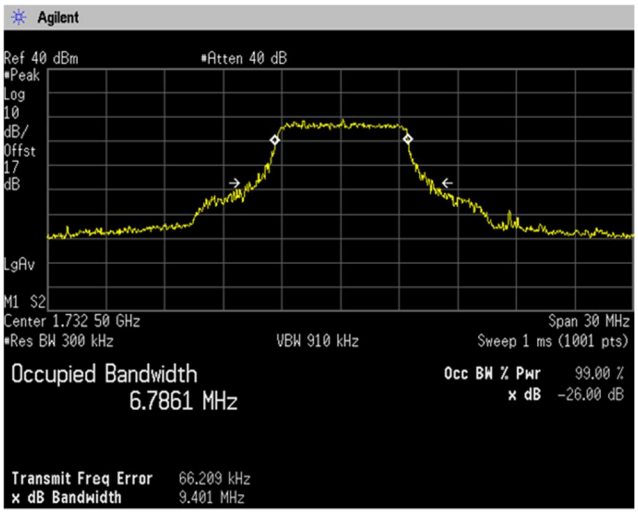


RB75-0

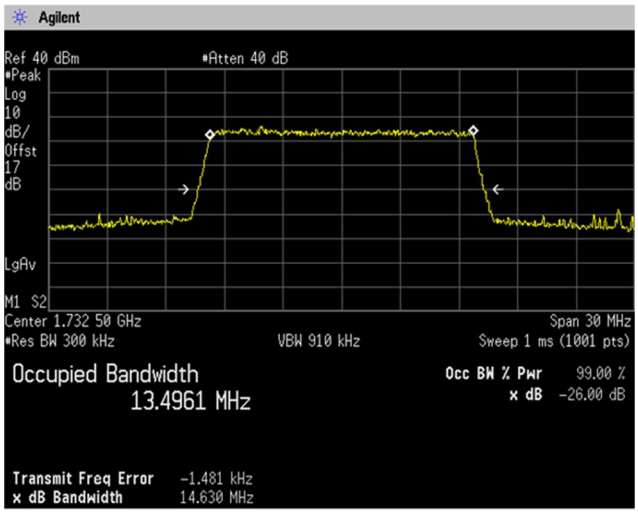


16QAM, BW 15MHz

RB36-20

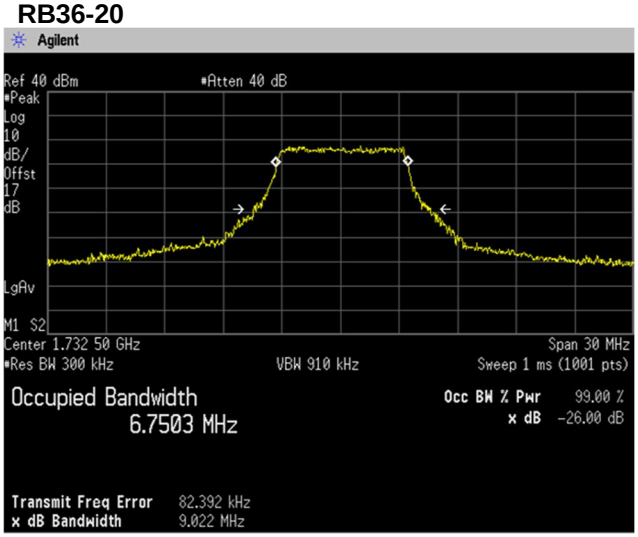


RB75-0

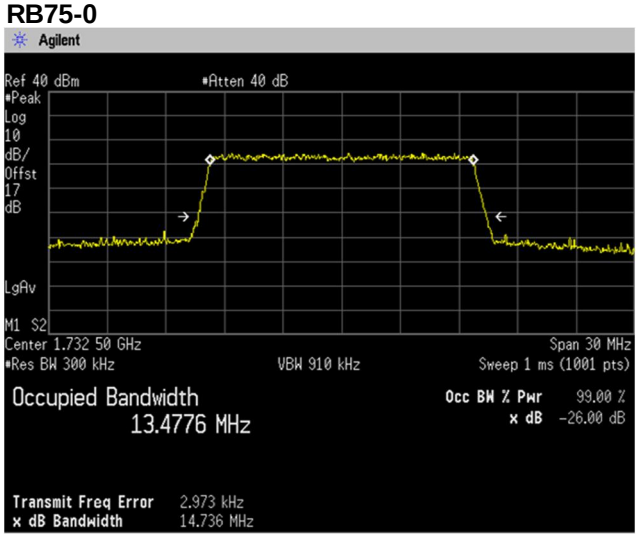


64QAM, BW 15MHz

RB36-20

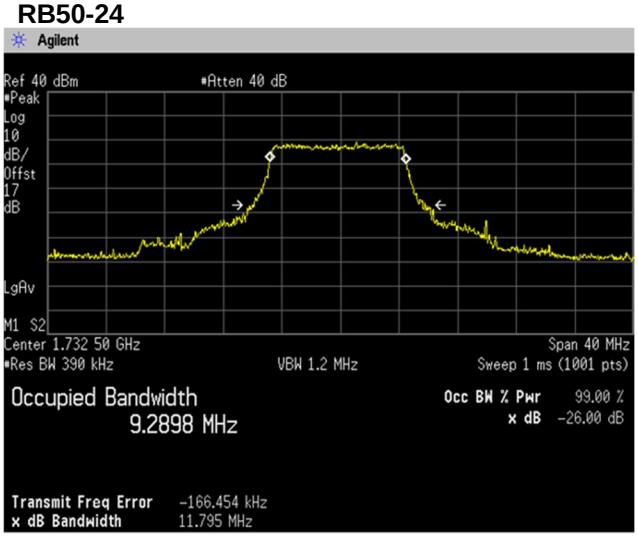


RB75-0

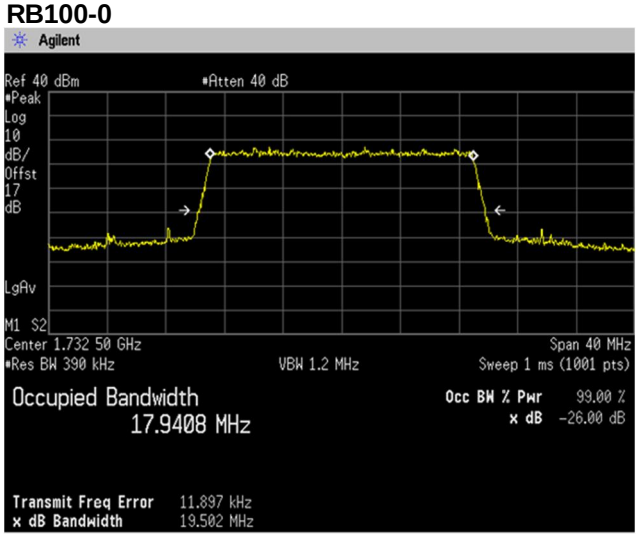


QPSK, BW 20MHz

RB50-24

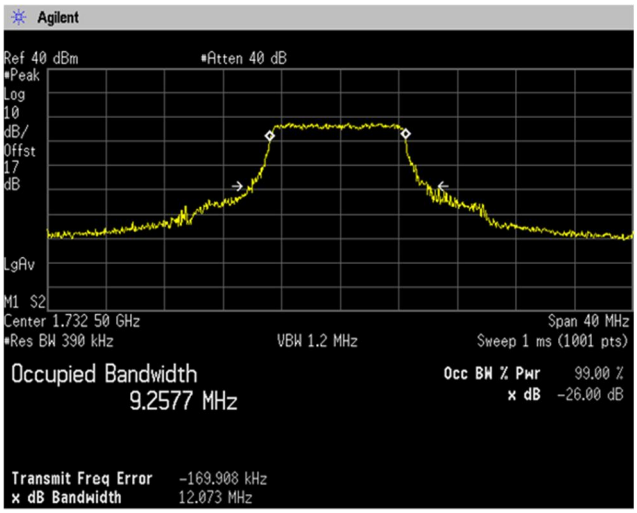


RB100-0

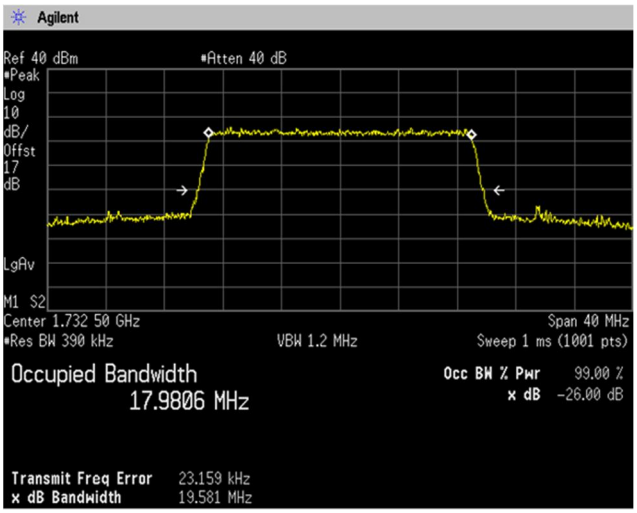


16QAM, BW 20MHz

RB50-24

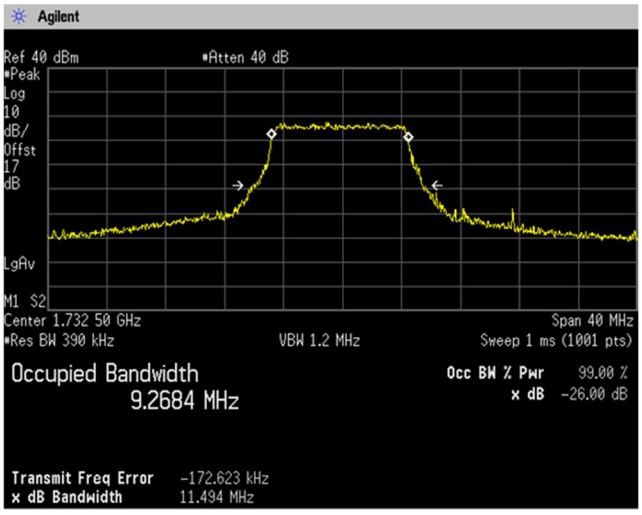


RB100-0

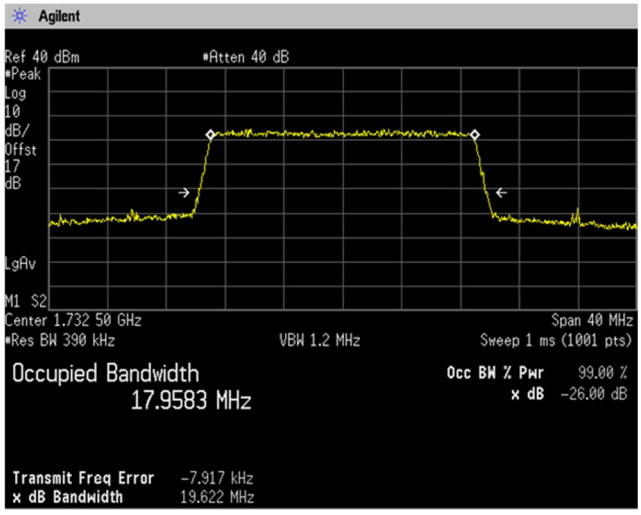


64QAM, BW 20MHz

RB50-24



RB100-0



Japan

4.4 Band Edge Spurious and Harmonic at Antenna Terminals

4.4.1 Measurement procedure

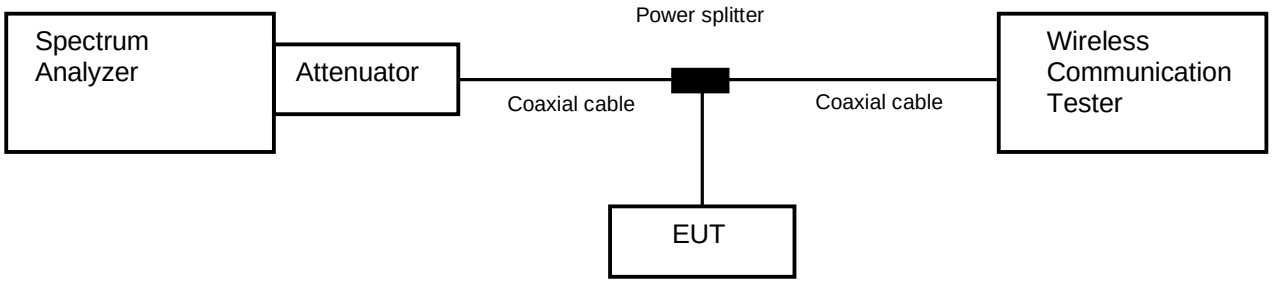
[FCC 27.53, 2.1051]

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

-13 dB or less

Japan

4.4.3 Measurement result

Date : 12-September-2021
Temperature : 23.0 [˚C]
Humidity : 64.4 [%] Test engineer :
Test place : 3m Semi-anechoic chamber Kazunori Saito

Band	Channel	Frequency [MHz]	Limit [dB]	Results	
WCDMA Band IV	1312	1712.4	-13.0	See the trace data	PASS
	1513	1752.6	-13.0	See the trace data	PASS

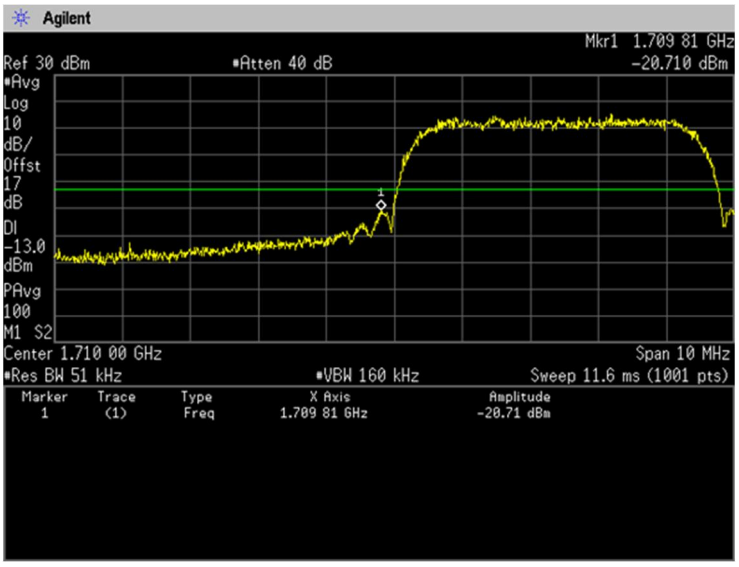
Band	Modulation	Bandwidth [MHz]	Channel	Frequency [MHz]	Limit [dB]	Results	
LTE Band IV	QPSK, 16QAM, 64QAM	1.4	19957	1710.7	-13.0	See the trace data	PASS
			20393	1754.3	-13.0	See the trace data	PASS
		3	19965	1711.5	-13.0	See the trace data	PASS
			20385	1753.5	-13.0	See the trace data	PASS
		5	19975	1712.5	-13.0	See the trace data	PASS
			20375	1752.5	-13.0	See the trace data	PASS
		10	20000	1715.0	-13.0	See the trace data	PASS
			20350	1750.0	-13.0	See the trace data	PASS
		15	20025	1717.5	-13.0	See the trace data	PASS
			20325	1747.5	-13.0	See the trace data	PASS
		20	20050	1720.0	-13.0	See the trace data	PASS
			20300	1745.0	-13.0	See the trace data	PASS

Japan

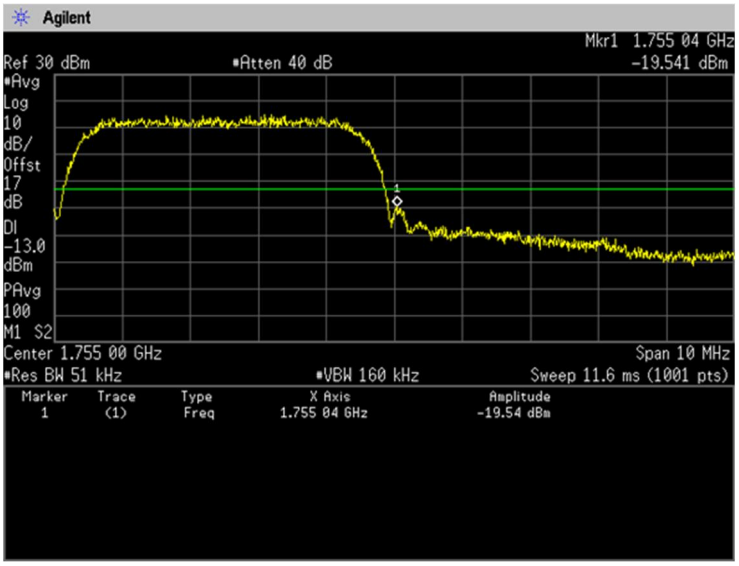
4.4.4 Trace data

[WCDMA Band IV]
(Band Edge)

Channel: 1312



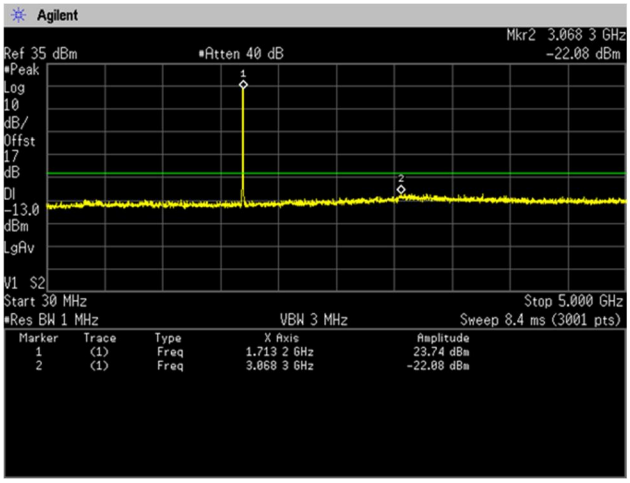
Channel: 1513



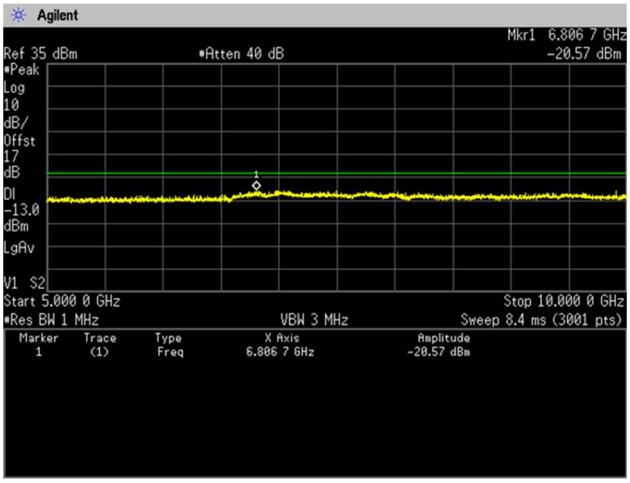
(Spurious Emissions)
Note: Conducted spurious test was measured in the worst case of conducted output power.

Channel: 1312

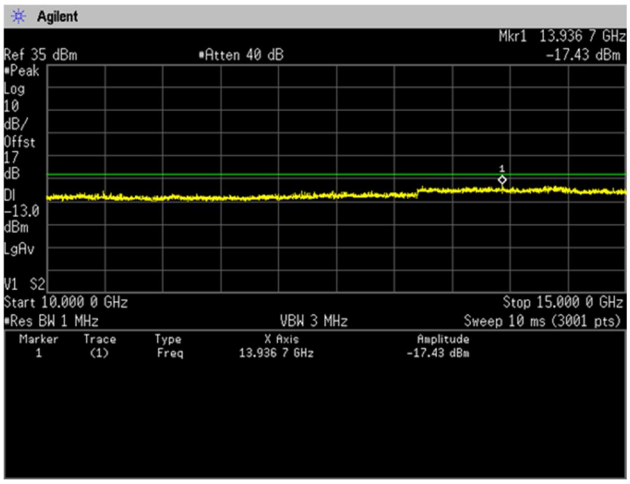
30MHz-5GHz



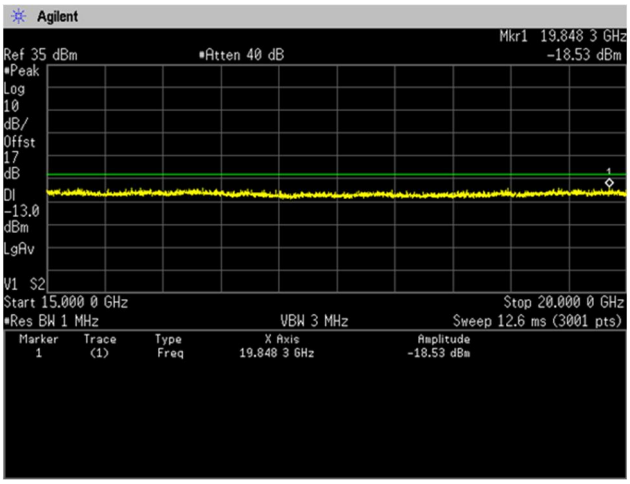
5GHz-10GHz



10GHz-15GHz

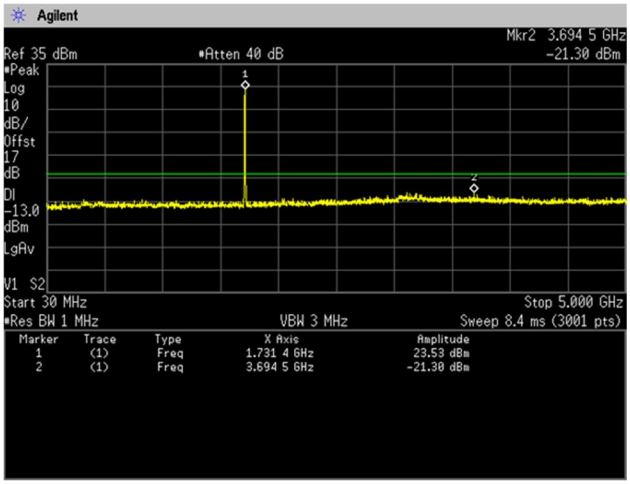


15GHz-20GHz

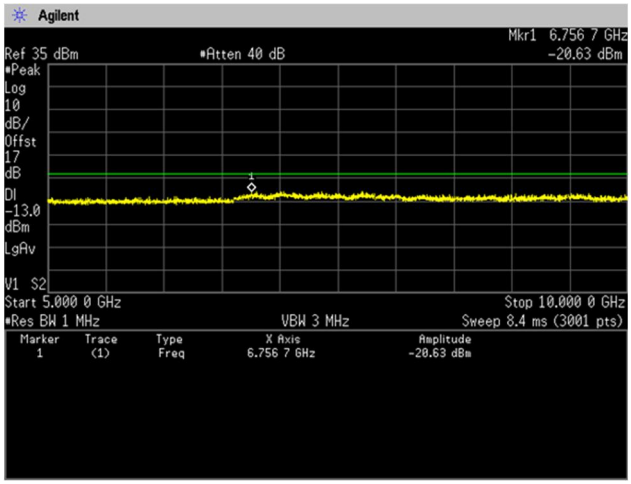


Channel: 1413

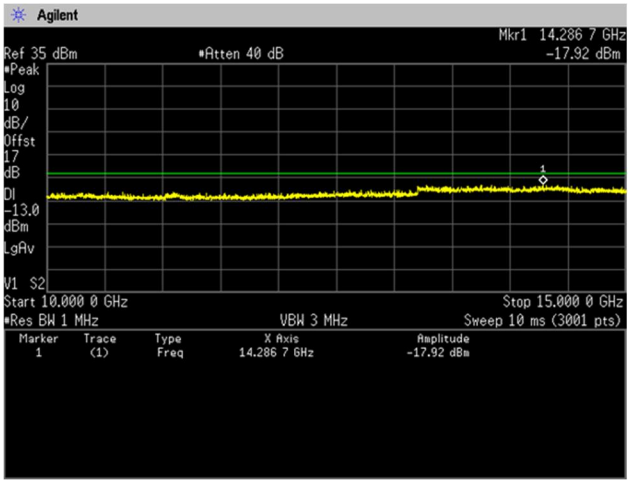
30MHz-5GHz



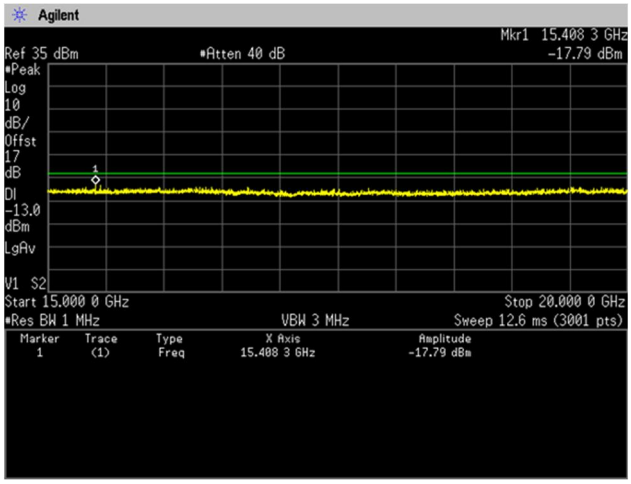
5GHz-10GHz



10GHz-15GHz



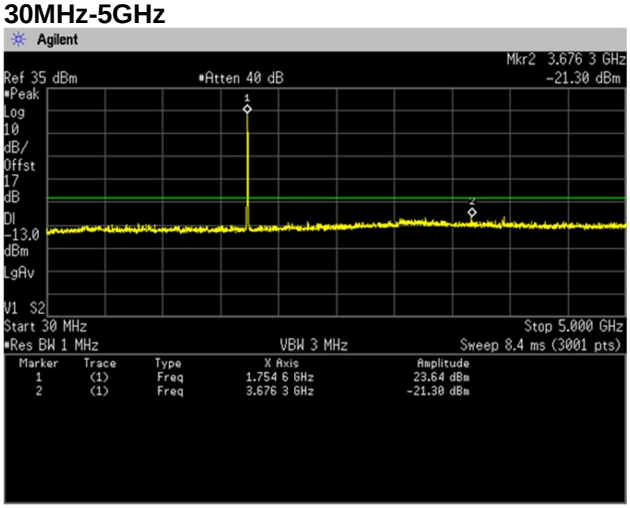
15GHz-20GHz



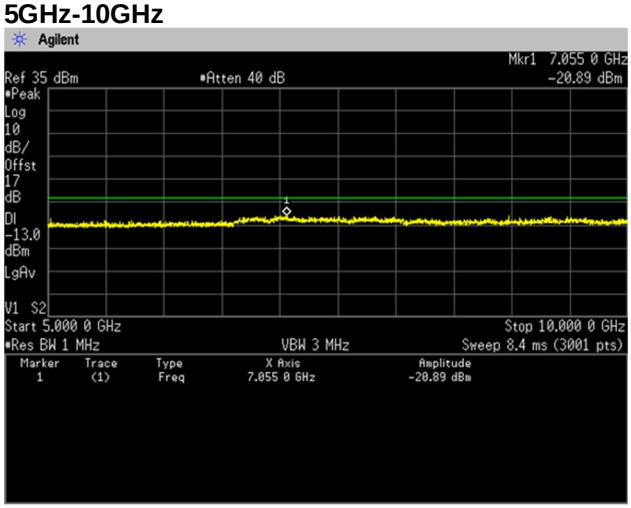
Japan

Channel: 1513

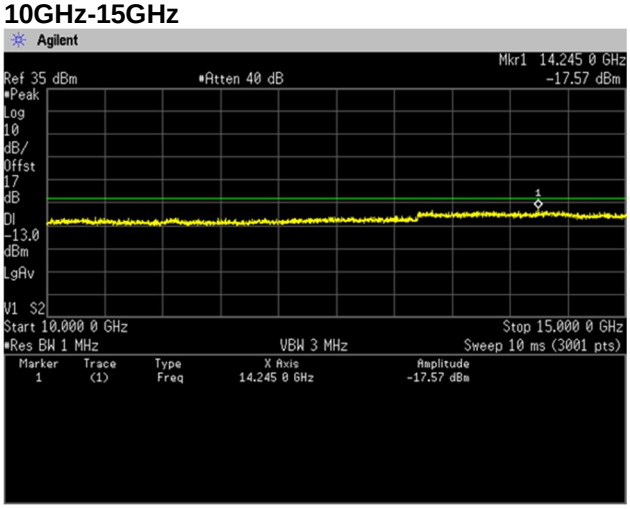
30MHz-5GHz



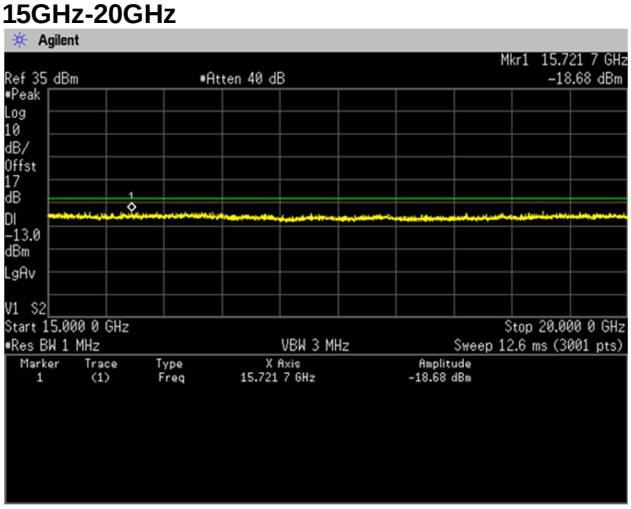
5GHz-10GHz



10GHz-15GHz

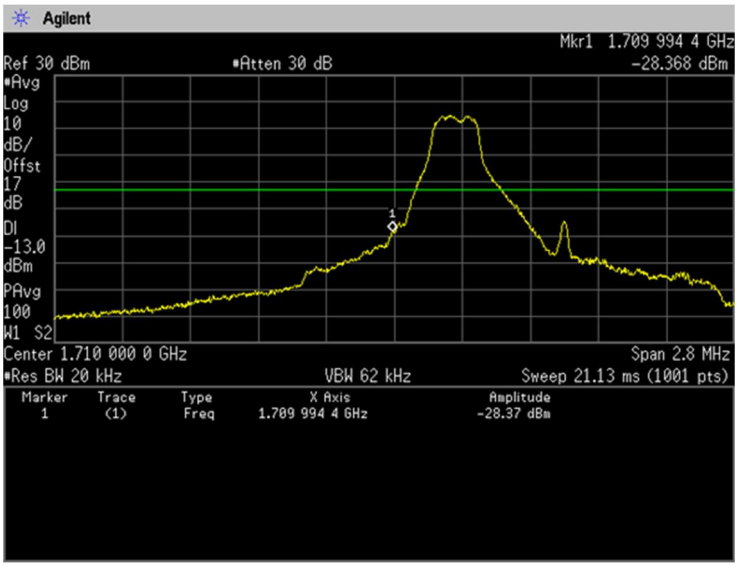


15GHz-20GHz

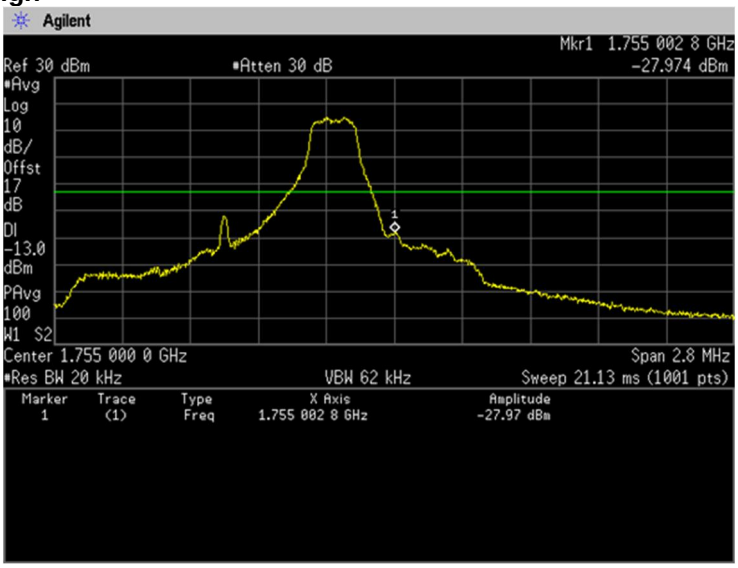


Japan

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

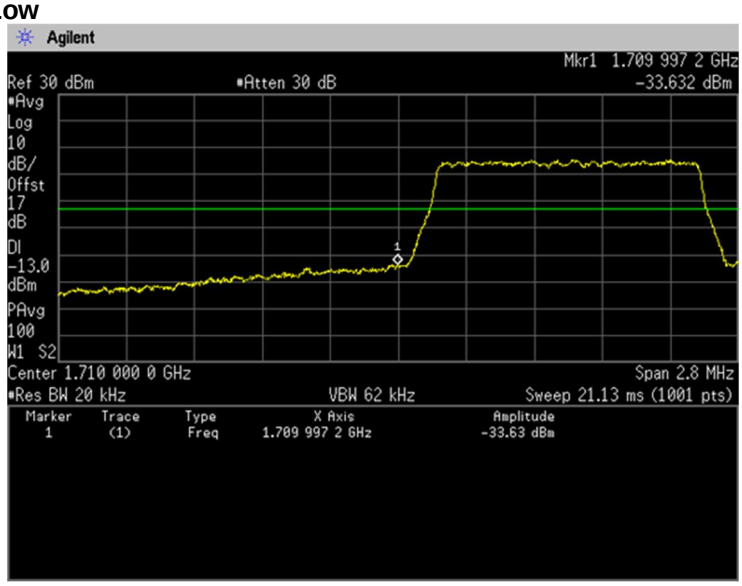


QPSK, BW 1.4MHz, RB1-5
Channel: High

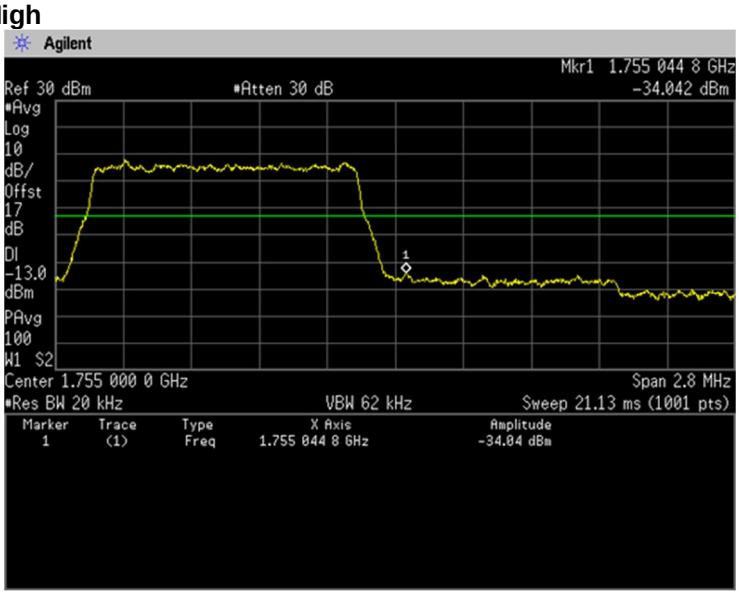


Japan

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

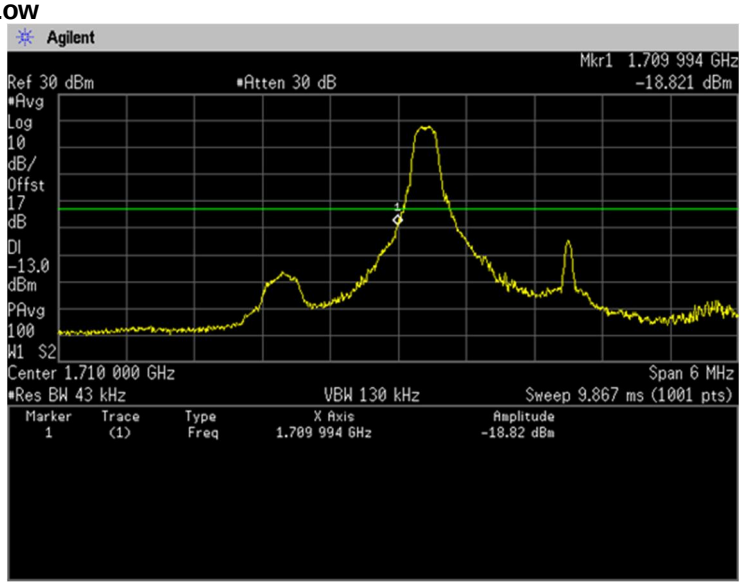


QPSK, BW 1.4MHz, RB6-0
Channel: High

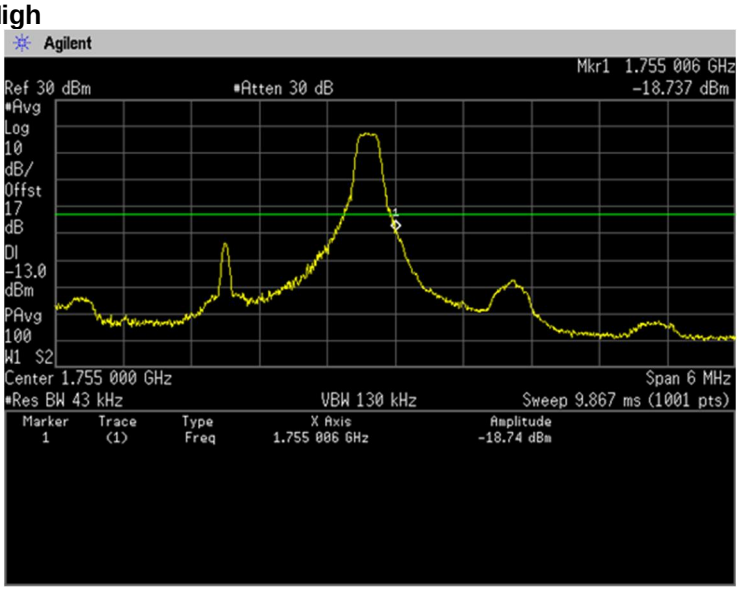


Japan

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

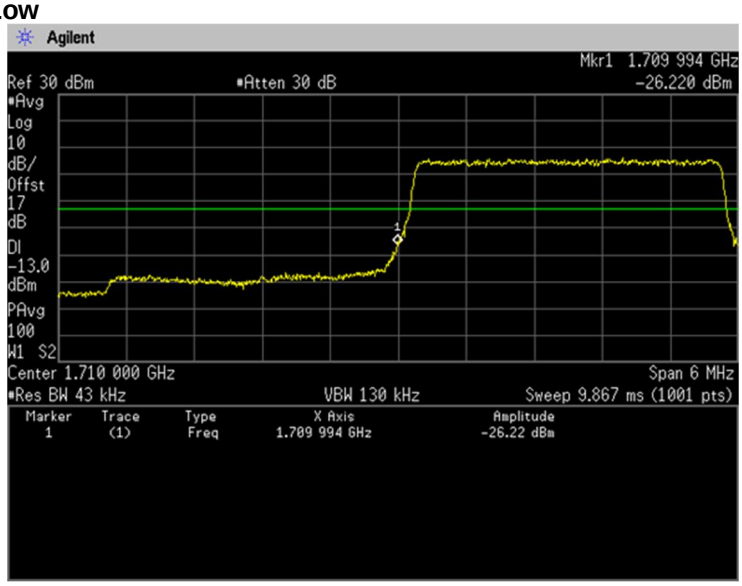


QPSK, BW 3MHz, RB1-14
Channel: High

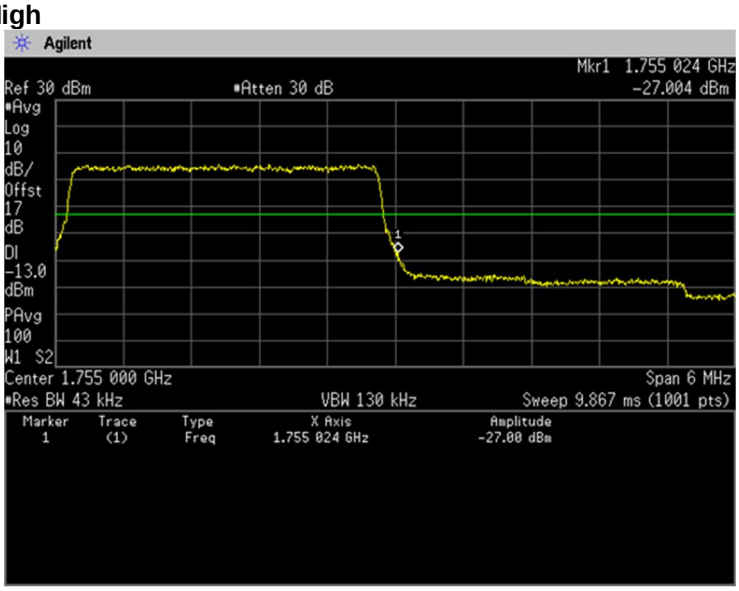


Japan

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

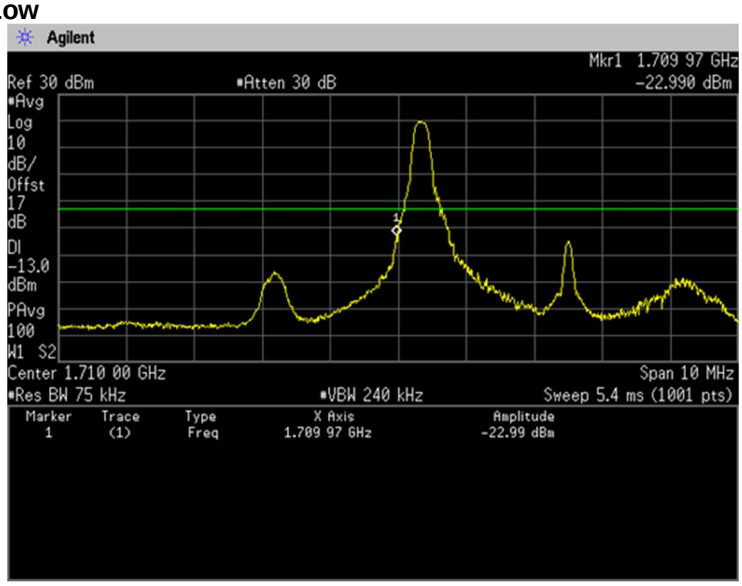


QPSK, BW 3MHz, RB15-0
Channel: High

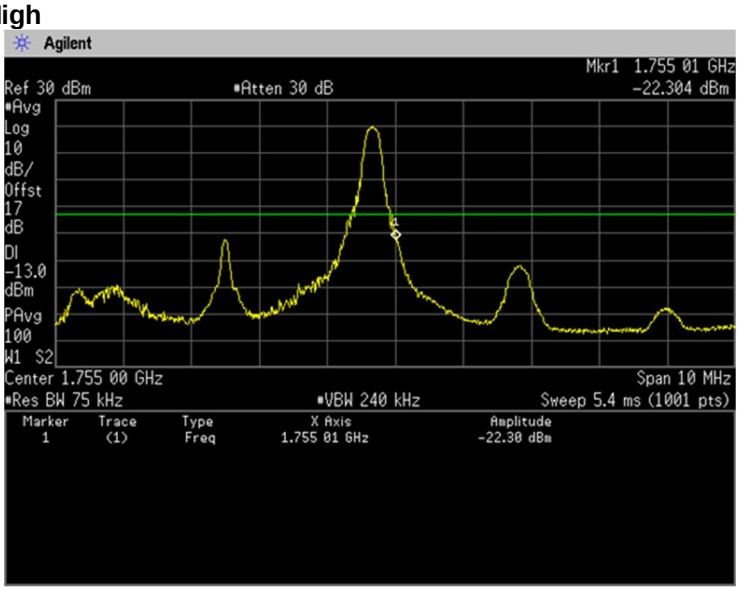


Japan

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

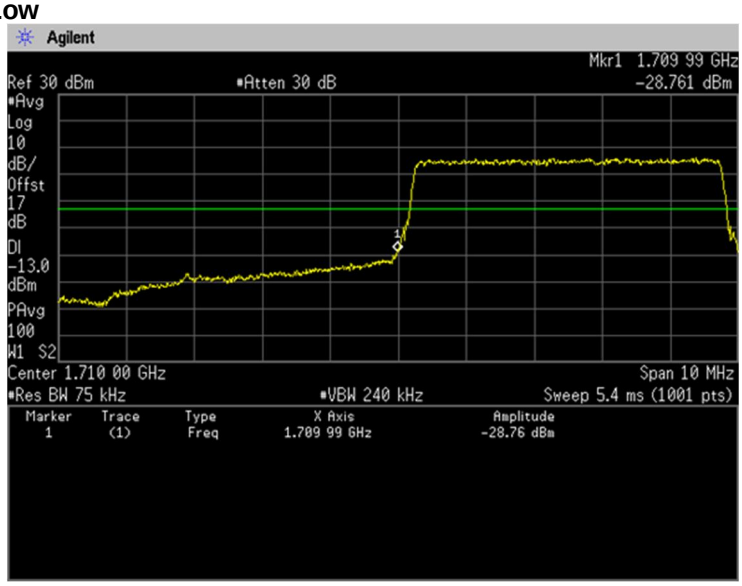


QPSK, BW 5MHz, RB1-24
Channel: High

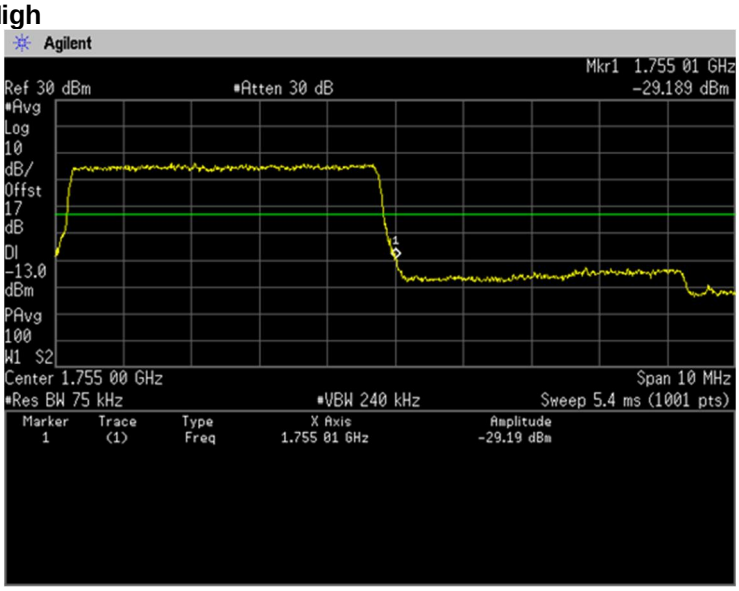


Japan

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

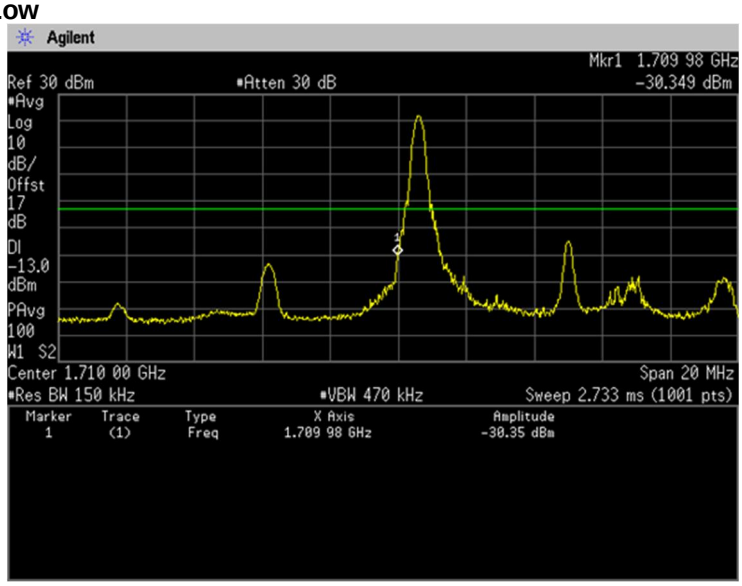


QPSK, BW 5MHz, RB25-0
Channel: High

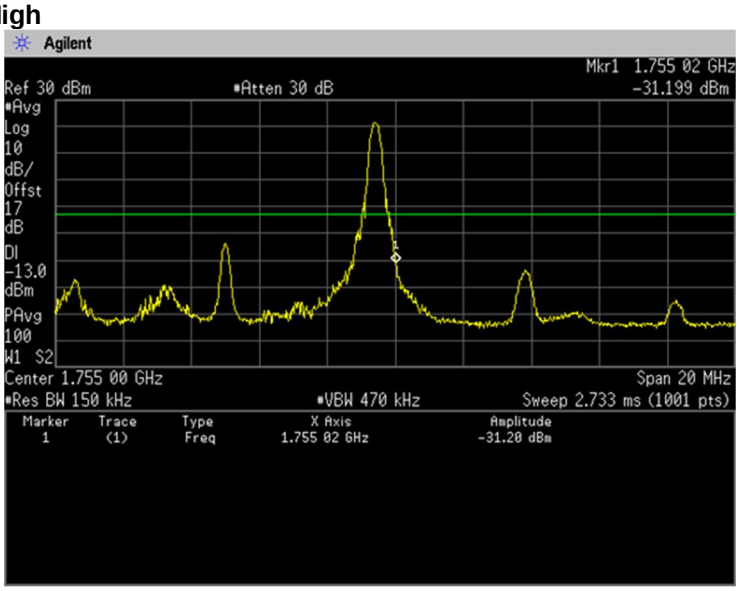


Japan

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

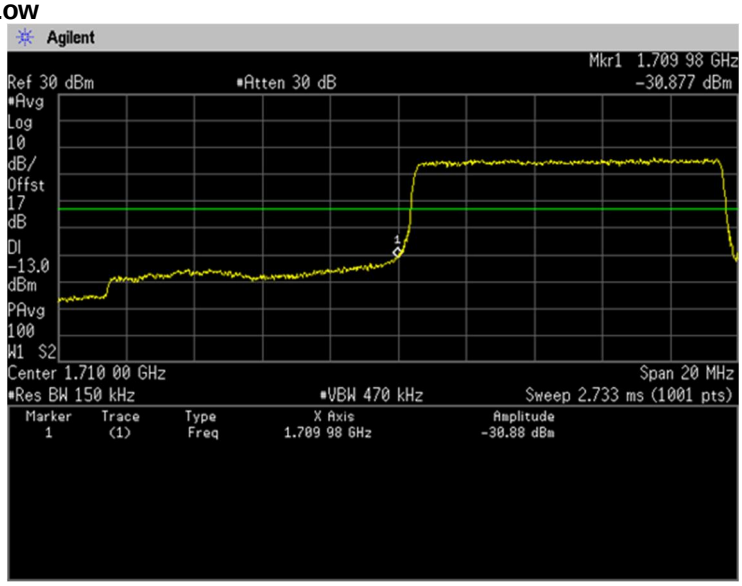


QPSK, BW 10MHz, RB1-49
Channel: High

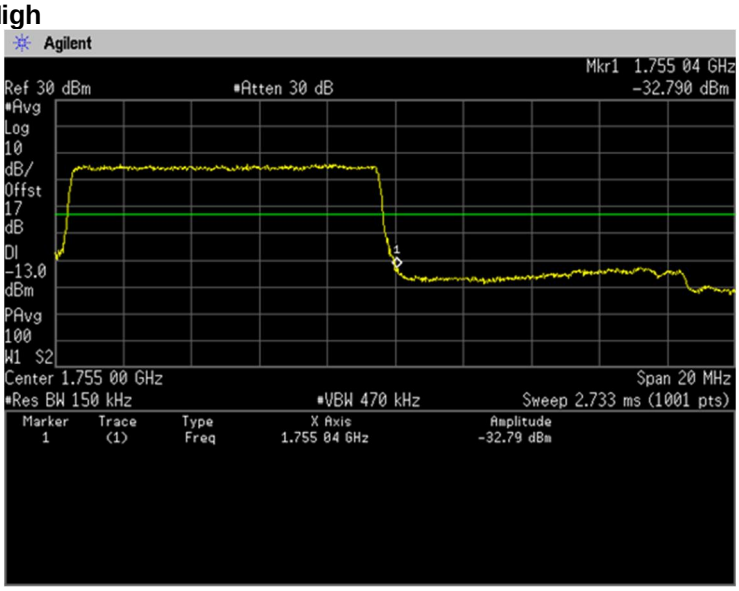


Japan

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

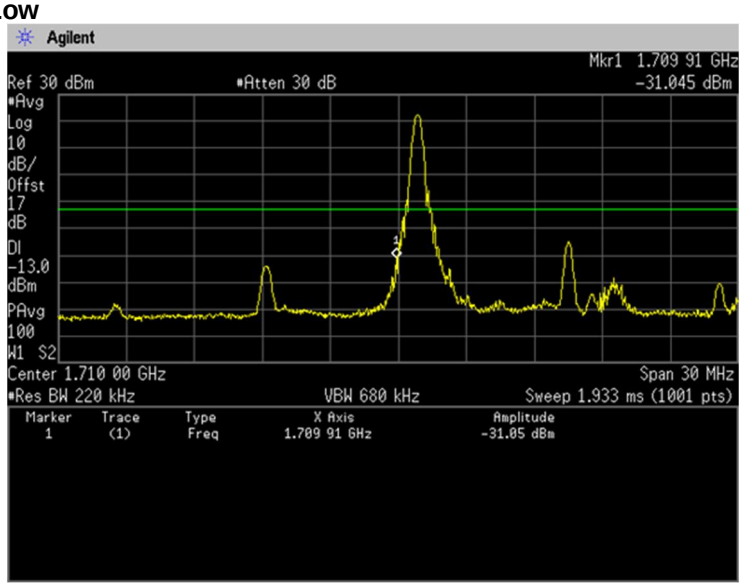


QPSK, BW 10MHz, RB50-0
Channel: High

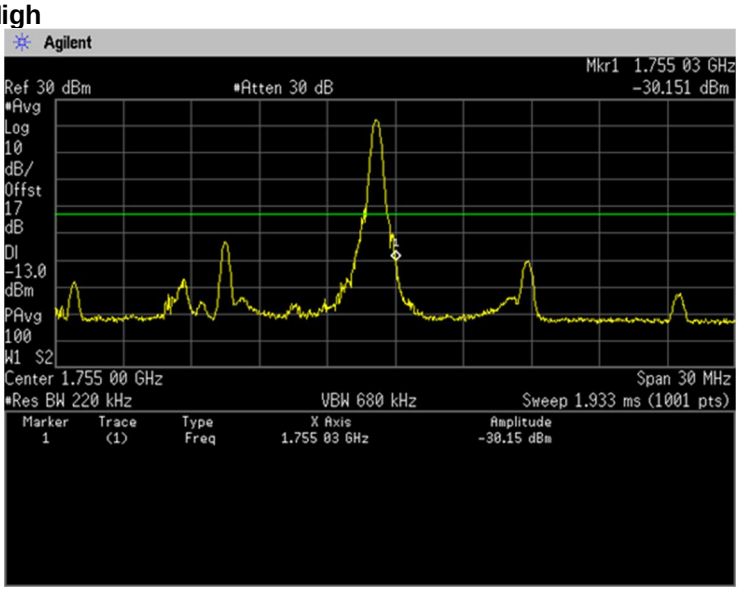


Japan

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

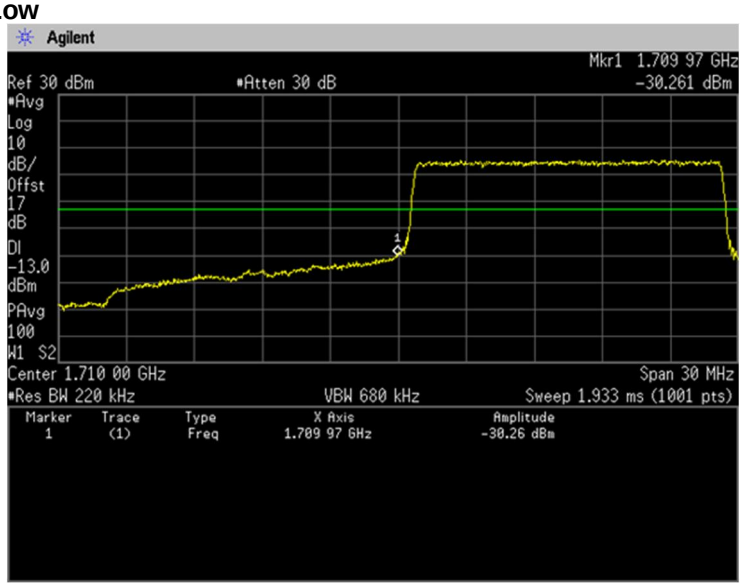


QPSK, BW 15MHz, RB1-74
Channel: High

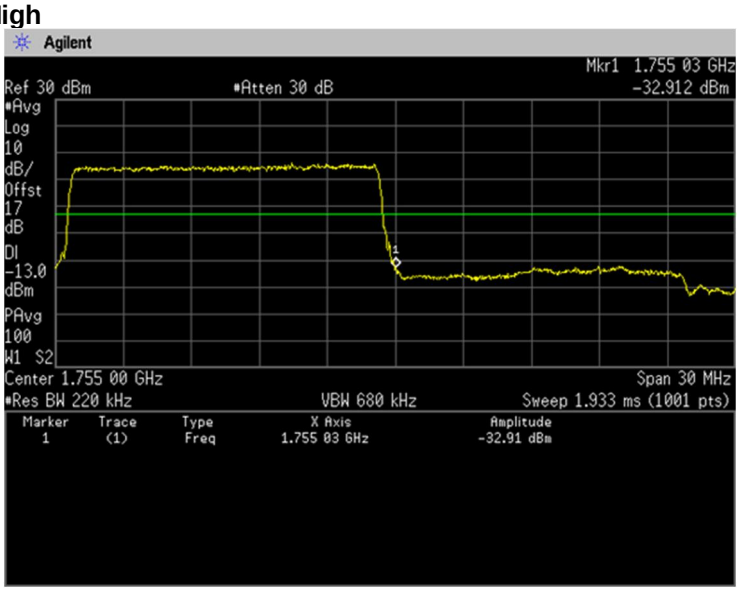


Japan

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

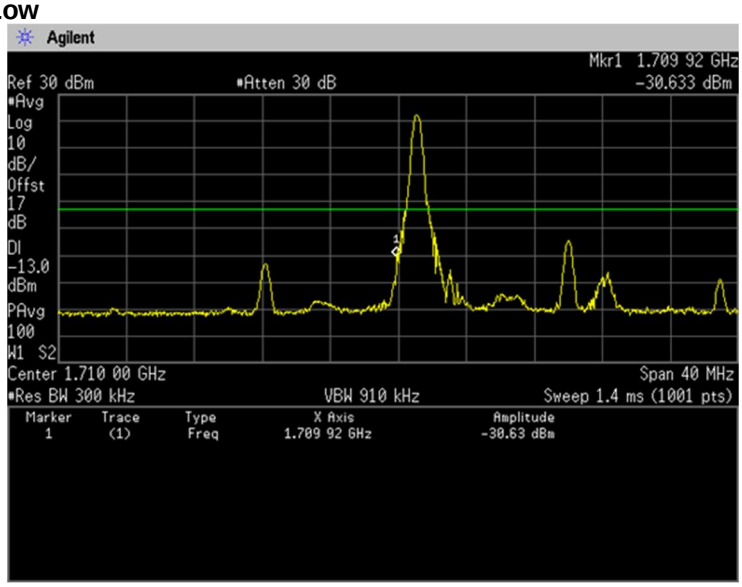


QPSK, BW 15MHz, RB75-0
Channel: High

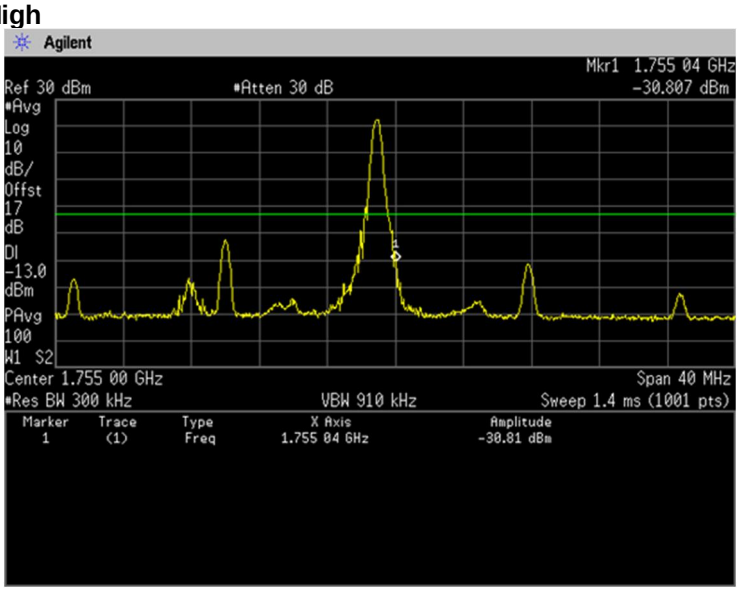


Japan

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

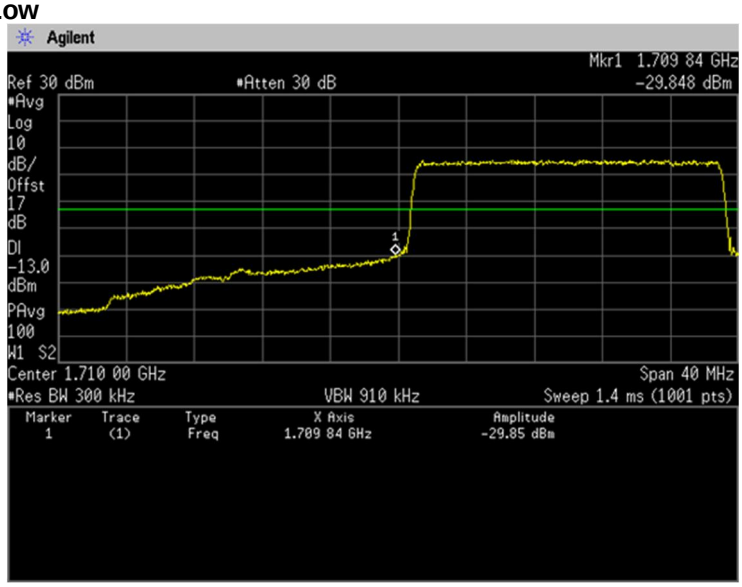


QPSK, BW 20MHz, RB1-99
Channel: High



Japan

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



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