Report on the RF Testing of:

KYOCERA Corporation
Mobile Phone, Model: EB1086
FCC ID: JOYEB1086

In accordance with FCC Part15 Subpart E

Japan

Add value.
Inspire trust.

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

Document Number: JPD-TR-21170-0

SIGNATURE			
Hiroaki Suzuki			
NAME	**JOB TITLE**	**RESPONSIBLE FOR**	**ISSUE DATE**
Hiroaki Suzuki	Deputy Manager of RF Group	Approved Signatory	2021.10.12

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

EXECUTIVE SUMMARY – Result: Complied
A sample of this product was tested and the result above was confirmed in accordance with FCC Part15 Subpart E.

ACCREDITED
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

Japan

Contents

Japan

1 Summary of Test

1.1 Modification history of the test report

Document Number	Modification History	Issue Date
JPD-TR-21170-0	First Issue	Refer to the cover page

1.2 Standards

CFR47 FCC Part 15 Subpart E

1.3 Test methods

ANSI C63.10-2013
KDB662911 D01 Multiple Transmitter Output v02r01
KDB789033 D02 General U-NII Test Procedures New Rules v02r01

1.4 Deviation from standards

None

1.5 List of applied test(s) of the EUT

Test item section	Test item	Condition	Result	Remark
15.407(a)	26dB Bandwidth	Conducted	Reporting Purposes only	-
15.407(a)	Maximum Conducted Output Power	Conducted	PASS	-
15.407(a)	Peak Power Spectral Density	Conducted	PASS	-
15.407(b) 15.205 15.209	Radiated emissions (Restricted Bands of Operation)	Radiated	PASS	-
15.407(g)	Frequency Stability	Conducted	PASS	-
15.207	AC Power Line Conducted Emissions	Conducted	PASS	-
ANSI C63.10, Section 12.2	Duty Cycle	Conducted	Reporting Purposes only	

1.6 Test information

None

1.7 Test set up

Table-top

1.8 Test period

18-August-2021 - 6-September-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	EB1086
Serial number	351292040016006, 351292040000406
Trade name	Kyocera
Number of sample(s)	2
EUT condition	Pre-Production
Power rating	Battery: DC 3.87 V
Size	(W) 71 mm × (D) 8.9 mm × (H) 161 mm
Environment	Indoor and Outdoor use
Terminal limitation	-20˚C to 60˚C
Hardware version	DMT
Software version	0.090DC
Firmware version	Not applicable
RF Specification	
Protocol	IEEE802.11a, IEEE802.11n (HT20), IEEE802.11n (HT40) IEEE802.11ac (VHT20), IEEE802.11ac (VHT40), EEE802.11ac (VHT80)
Frequency range	IEEE802.11a/n (HT20) / IEEE802.11ac (VHT20): 5180 MHz-5320 MHz, 5500 MHz-5720 MHz, 5745MHz-5825MHz IEEE802.11n (HT40) / IEEE802.11ac (VHT40): 5190 MHz-5310 MHz, 5510 MHz-5710 MHz, 5755MHz, 5795MHz IEEE802.11ac (VHT80): 5210 MHz, 5290 MHz, 5530 MHz, 5610 MHz, 5690MHz, 5775MHz
Number of RF Channels	IEEE802.11a/n (HT20) / IEEE802.11ac (VHT20): 25 Channels IEEE802.11n (HT40) / IEEE802.11ac (VHT40): 12 Channels IEEE802.11ac (VHT80): 6 Channels
Modulation type	IEEE802.11a/n/ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)

Data rate	IEEE802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps IEEE802.11n (HT20 LGI): 6.5, 13, 19.5, 26, 39, 52, 58.5, 65, 78, 86.5Mbps IEEE802.11n (HT20 SGI): 7.2, 14.4, 21.7, 28.9, 43.3, 57.8, 65, 72.2, 86.7, 96.1Mbps IEEE802.11ac (VHT20 LGI): 6.5, 13, 19.5, 26, 39, 52, 58.5, 65, 78, 86.5Mbps IEEE802.11ac (VHT20 SGI): 7.2, 14.4, 21.7, 28.9, 43.3, 57.8, 65, 72.2, 86.6, 96.1Mbps IEEE802.11n (HT40 LGI): 13.5, 27, 40.5, 54, 81, 108, 121.5, 135, 162, 180Mbps IEEE802.11n (HT40 SGI): 15, 30, 45, 60, 90, 120, 135, 150, 180, 200Mbps IEEE802.11ac (VHT40 LGI): 13.5, 27, 40.5, 54, 81, 108, 121.5, 135, 162, 180Mbps IEEE802.11ac (VHT40 SGI): 15, 30, 45, 60, 90, 120, 135, 150, 180, 200Mbps IEEE802.11ac (VHT80 LGI): 29.5, 58.5, 87.8, 117, 175.5, 234, 263.3, 292.5, 351, 390Mbps IEEE802.11ac (VHT80 SGI): 32.5, 65, 97.5, 130, 195, 260, 292.5, 325, 390, 433.3Mbps
Channel separation	IEEE802.11a/n(HT20) / IEEE802.11ac (VHT20): 20 MHz IEEE802.11n (HT40) / IEEE802.11ac (VHT40): 40 MHz IEEE802.11ac (VHT80): 80 MHz
Conducted power	15.373 mW (IEEE802.11a) 15.403 mW (IEEE802.11n: HT20) 16.746 mW (IEEE802.11n: HT40) 16.705 mW (IEEE802.11ac: VHT80)
Antenna type	Internal antenna
Antenna gain	5.15-5.35 GHz band: 0.9 dBi 5.47-5.725 GHz band: 1.9 dBi 5.735-5.835 GHz band: 1.2 dBi

2.2 Modification to the EUT

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

Modification State	Description of Modification	Modification fitted by	Date of Modification
Model: EB1086, Serial Number: 351292040016006, 351292040000406			
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

Japan

2.4 Operating channels and frequencies

[IEEE802.11a/n (HT20) / IEEE802.11ac (VHT20)]

Channel	Frequency [MHz]
36	5180
40	5200
44	5220
48	5240
52	5260
56	5280
60	5300
64	5320
100	5500
104	5520
108	5540
112	5560
116	5580
120	5600
124	5620
128	5640
132	5660
136	5680
140	5700
144	5720
149	5745
153	5765
157	5785
161	5805
165	5825

[IEEE802.11n (HT40) / IEEE802.11ac (VHT40)]

Channel	Frequency [MHz]
38	5190
46	5230
54	5270
62	5310
102	5510
110	5550
118	5590
126	5630
134	5670
142	5710
151	5755
159	5795

[IEEE802.11ac (VHT80)]

Channel	Frequency [MHz]
42	5210
58	5290
106	5530
122	5610
138	5690
155	5775

2.5 Description of test mode

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

Band	IEEE802.11a/n (HT20) IEEE802.11ac (VHT20)		IEEE802.11n (HT40) IEEE802.11ac (VHT40)		IEEE802.11ac (HT80)	
	Channel	Frequency [MHz]	Channel	Frequency [MHz]	Channel	Frequency [MHz]
5.2 GHz Band	36	5180	38	5190	42	5210
	40	5200	-	-	-	-
	48	5240	46	5230	-	-
5.3 GHz Band	52	5260	54	5270	58	5290
	56	5280	-	-	-	-
	64	5320	62	5310	-	-
5.6 GHz Band	100	5500	102	5510	106	5530
	116	5580	110	5550	122	5610
	140	5700	134	5670	138	5690
	144	5720	142	5710	-	-
5.8 GHz Band	149	5745	151	5755	155	5775
	157	5785	159	5795	-	-
	165	5825	-	-	-	-

The pre-test has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates.

Band	Modulation Type	Data Rate
5.2 GHz Band	IEEE802.11a: OFDM	6Mbps
	IEEE802.11n (HT20): OFDM	MCS0 (6.5Mbps)
	IEEE802.11n (HT40): OFDM	MCS0 (13.5Mbps)
	IEEE802.11ac (VHT80): OFDM	MCS0 (29.5Mbps)
5.3 GHz Band	IEEE802.11a: OFDM	6Mbps
	IEEE802.11n (HT20): OFDM	MCS0 (6.5Mbps)
	IEEE802.11n (HT40): OFDM	MCS0 (13.5Mbps)
	IEEE802.11ac (VHT80): OFDM	MCS0 (29.5Mbps)
5.6 GHz Band	IEEE802.11a: OFDM	6Mbps
	IEEE802.11n (HT20): OFDM	MCS0 (6.5Mbps)
	IEEE802.11n (HT40): OFDM	MCS0 (13.5Mbps)
	IEEE802.11ac (VHT80): OFDM	MCS0 (29.5Mbps)
5.8 GHz Band	IEEE802.11a: OFDM	6Mbps
	IEEE802.11n (HT20): OFDM	MCS0 (6.5Mbps)
	IEEE802.11n (HT40): OFDM	MCS0 (13.5Mbps)
	IEEE802.11ac (VHT80): OFDM	MCS0 (29.5Mbps)

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 Z-axis 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

2.6 Operating flow

- Tx mode

i) Test program setup to the DM tool
ii) Select a Test mode
Operating frequency: 5.2GHz Band, 5.3GHz Band, 5.6GHz Band, 5.8GHz Band
iii) Start test mode

- Rx mode

i) Test program setup to DM tool
ii) Select a Test mode
Operating frequency: 5.2GHz Band, 5.3GHz Band, 5.6GHz Band, 5.8GHz Band
iii) Start test mode

Japan

3 Configuration of Equipment

Numbers assigned to equipment on the diagram in “3.3 System configuration” correspond to the lists in “3.1 Equipment used” and “3.2 Cable(s) 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	EB1086	351292040016006, 351292040000406	JOYEB1086	EUT
2	AC Adapter	KDDI	0602PQA	N/A	N/A	*

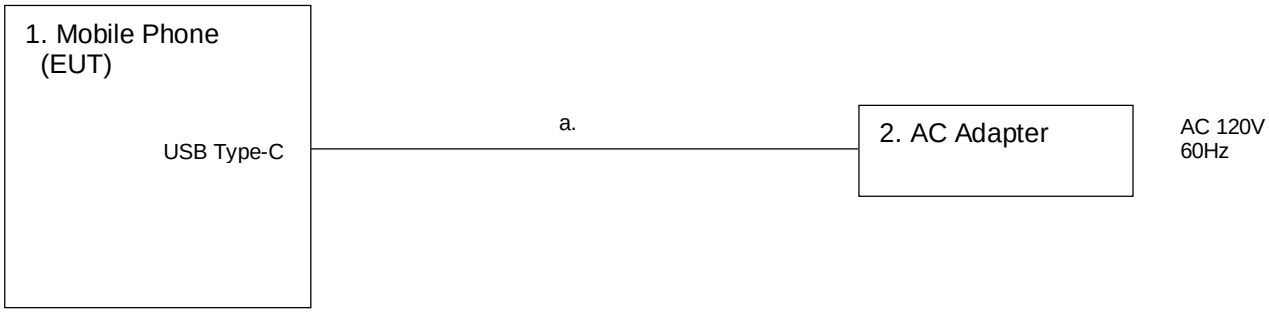
*: AC power line Conducted Emission Test.

3.2 Cable(s) used

No.	Cable	Length[m]	Shield	Connector	Comment
a	USB cable (for AC Adapter)	1.5	No	Plastic	*

*: AC power line Conducted Emission Test.

3.3 System configuration



Japan

4 Test Result

4.1 26dB Bandwidth and 99% Occupied Bandwidth

4.1.1 Measurement procedure

[FCC 15.407(a), KDB 789033 D02, Section C, D]

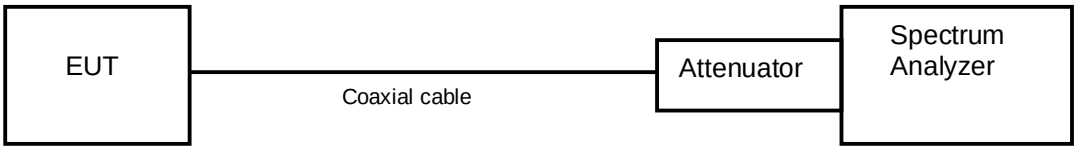
The 26dB bandwidth and 99% occupied bandwidth is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

The spectrum analyzer is set to;
- RBW=200 kHz/430 kHz/820 kHz, VBW=620 kHz/1.3 MHz/2.4 MHz, Span=40 MHz/80 MHz/160 MHz
  Sweep=auto, Detector=Peak, Trace mode=Max hold

The EUT was set to operate with following conditions.
- 5.2 GHz Band, 5.3 GHz Band, 5.6 GHz Band, 5.8 GHz Band

The test mode of EUT is as follows.
- Tx mode

- Test configuration



4.1.2 Limit

None

Japan

4.1.3 Measurement result

Date : 27-August-2021
Temperature : 24.8 [˚C]
Humidity : 48.3 [%] Test engineer :
Test place : Shielded room No.3 Tadahiro Seino

Mode	Band	Channel	Frequency (MHz)	26dB bandwidth (MHz)	99% Occupied bandwidth (MHz)
802.11a	5.2GHz Band	36	5180	22.290	16.5498
		40	5200	22.750	16.5910
		48	5240	22.318	16.5940
	5.3GHz Band	52	5260	22.137	16.5721
		56	5280	22.309	16.5934
		64	5320	22.102	16.5831
	5.6GHz Band	100	5500	22.409	16.5681
		116	5580	22.636	16.5854
		140	5700	22.981	16.5882
		144	5720	22.407	16.5722
	5.8GHz Band	149	5745	23.042	16.5901
		157	5785	23.071	16.5827
		165	5825	23.093	16.6105

Mode	Band	Channel	Frequency (MHz)	26dB bandwidth (MHz)	99% Occupied bandwidth (MHz)
802.11n (20MHz)	5.2GHz Band	36	5180	22.403	17.7146
		40	5200	22.823	17.7558
		48	5240	22.897	17.7421
	5.3GHz Band	52	5260	22.847	17.7236
		56	5280	22.654	17.7036
		64	5320	22.578	17.7192
	5.6GHz Band	100	5500	23.208	17.7070
		116	5580	23.460	17.7537
		140	5700	23.180	17.7160
		144	5720	22.653	17.7237
	5.8GHz Band	149	5745	22.831	17.7232
		157	5785	23.320	17.7554
		165	5825	23.469	17.7327

Japan

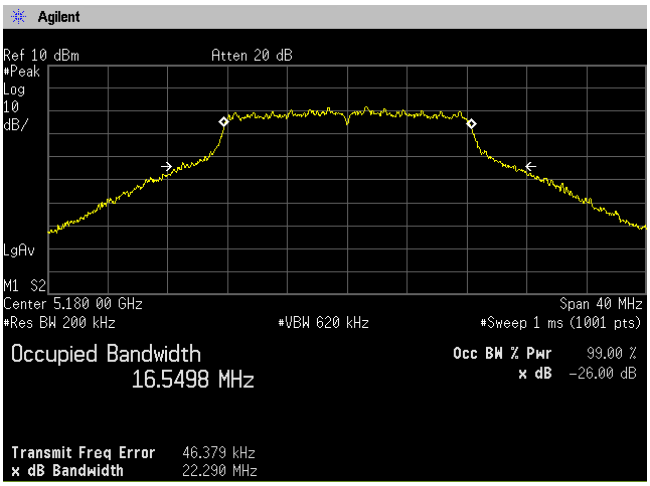
Mode	Band	Channel	Frequency (MHz)	26dB bandwidth (MHz)	99% Occupied bandwidth (MHz)
802.11n (40MHz)	5.2GHz Band	38	5190	41.120	36.2376
		46	5230	41.522	36.2374
	5.3GHz Band	54	5270	41.403	36.2123
		62	5310	41.455	36.2261
	5.6GHz Band	102	5510	41.622	36.2251
		110	5550	41.517	36.2244
		134	5670	41.537	36.2021
		142	5710	41.489	36.2323
	5.8GHz Band	151	5755	41.088	36.2040
		159	5795	41.226	36.2054

Mode	Band	Channel	Frequency (MHz)	26dB bandwidth (MHz)	99% Occupied bandwidth (MHz)
802.11ac (80MHz)	5.2GHz Band	42	5210	83.283	75.5183
	5.3GHz Band	58	5290	83.800	75.5766
	5.6GHz Band	106	5530	83.442	75.5235
		122	5610	83.936	75.5410
		138	5690	83.030	75.5387
	5.8GHz Band	155	5775	83.718	75.6726

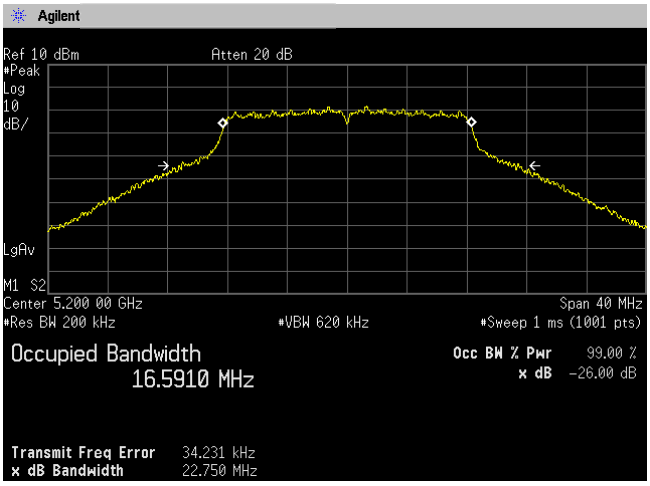
Japan

4.1.4 Trace data

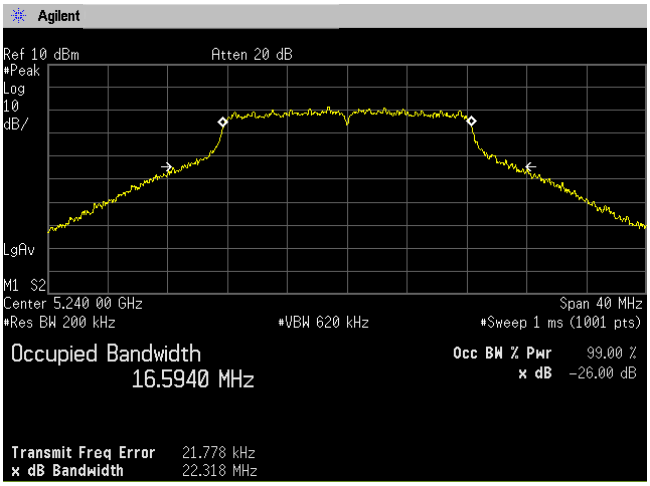
[IEEE802.11a]
(5.2 GHz Band)
Channel: 36



Channel: 40

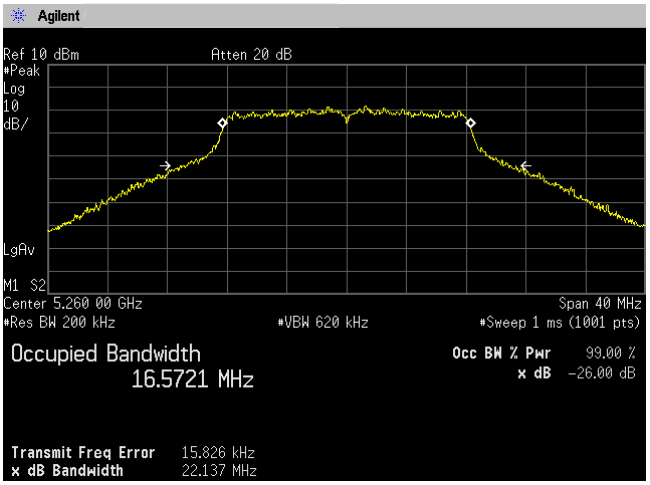


Channel: 48

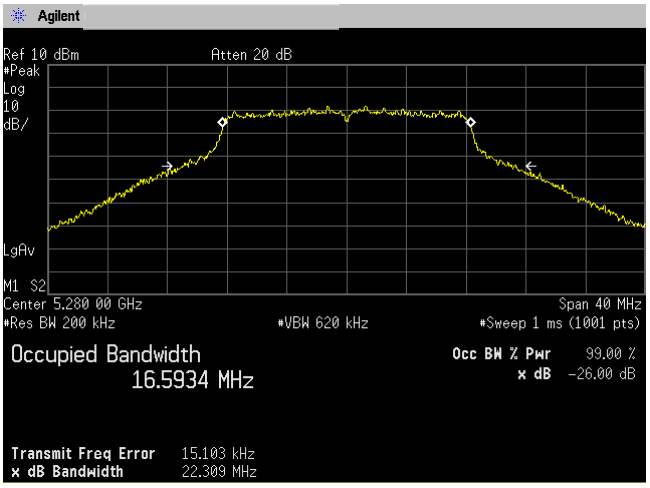


Japan

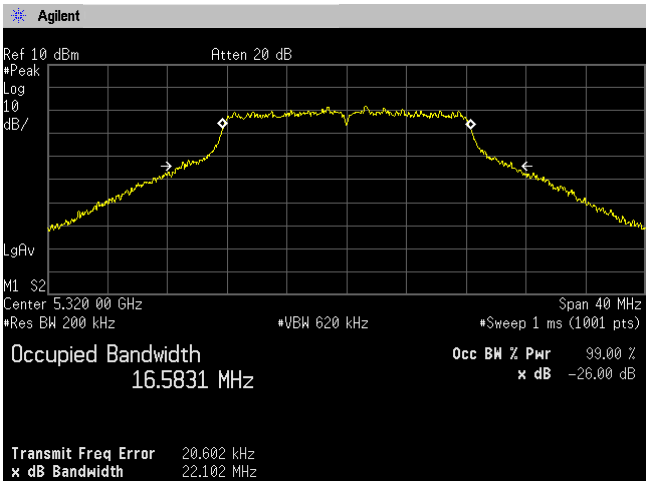
(5.3 GHz Band)
Channel: 52



Channel: 56

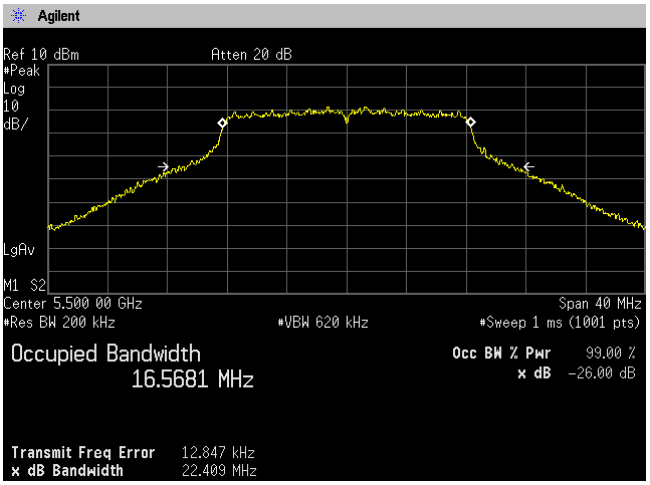


Channel: 64

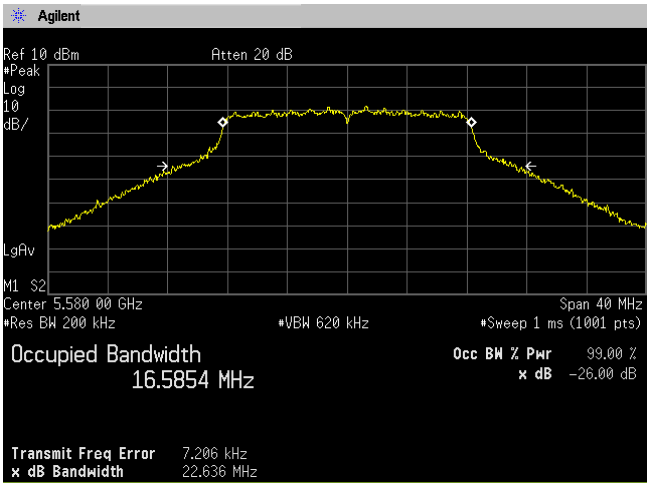


Japan

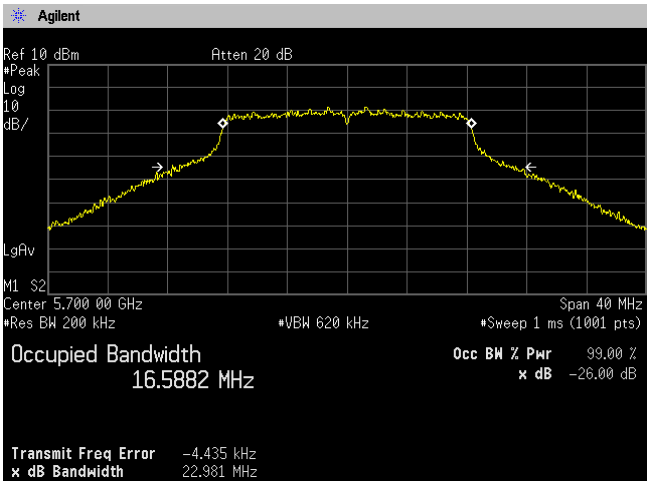
(5.6 GHz Band)
Channel: 100



Channel: 116

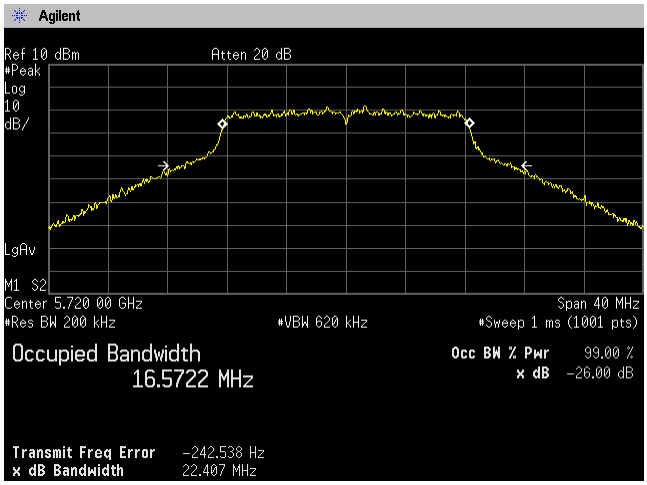


Channel: 140

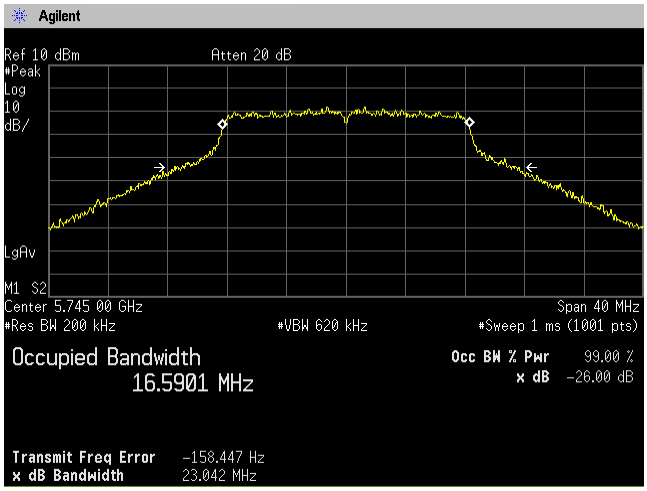


Japan

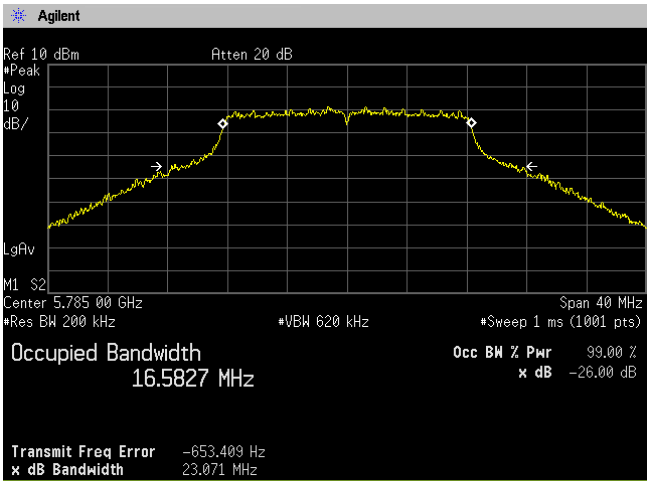
(5.6 GHz Band)
Channel: 144



(5.8 GHz Band)
Channel: 149

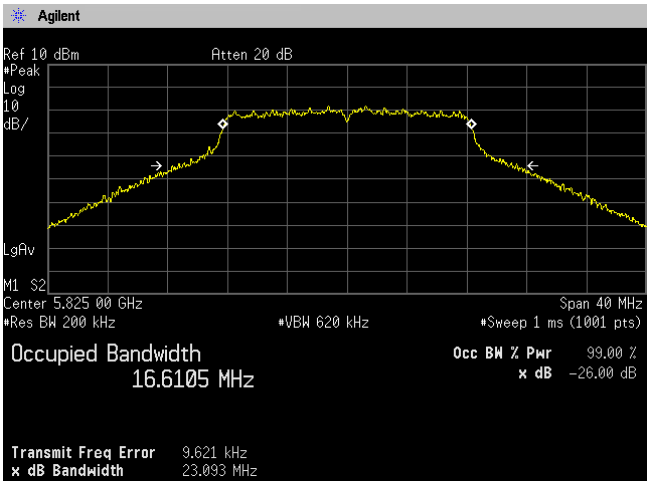


Channel: 157

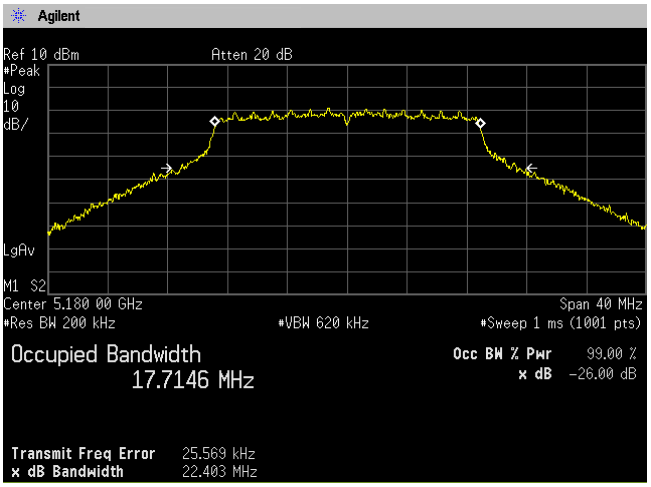


Japan

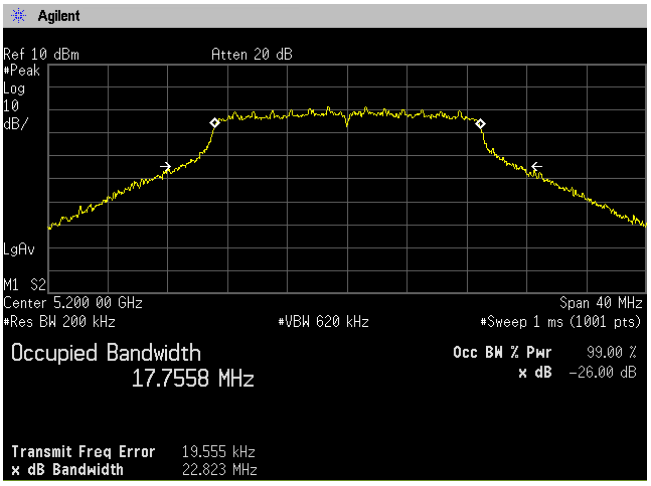
(5.8 GHz Band)
Channel: 165



[IEEE802.11n (HT20)]
(5.2 GHz Band)
Channel: 36

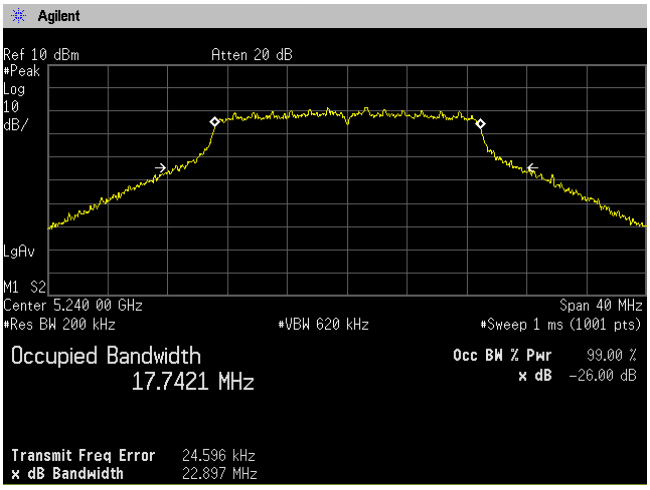


Channel: 40

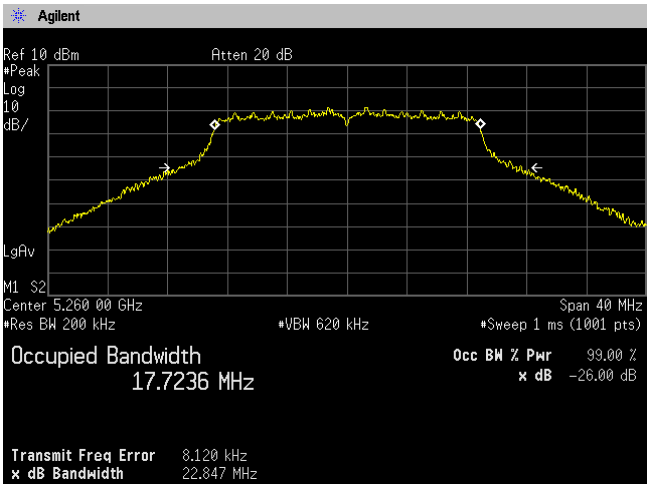


Japan

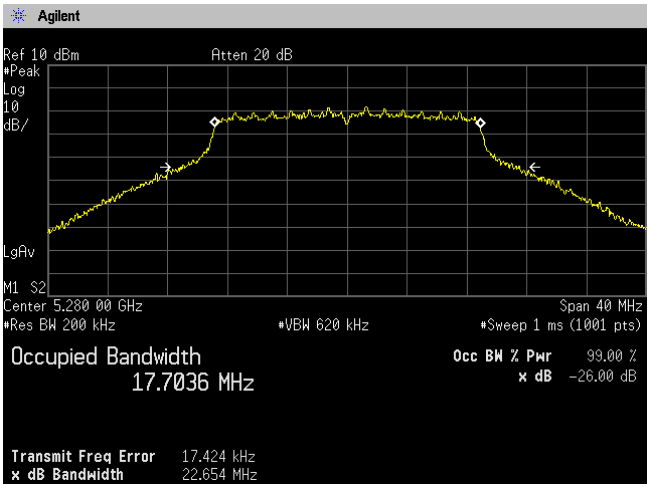
(5.2 GHz Band)
Channel: 48



(5.3 GHz Band)
Channel: 52

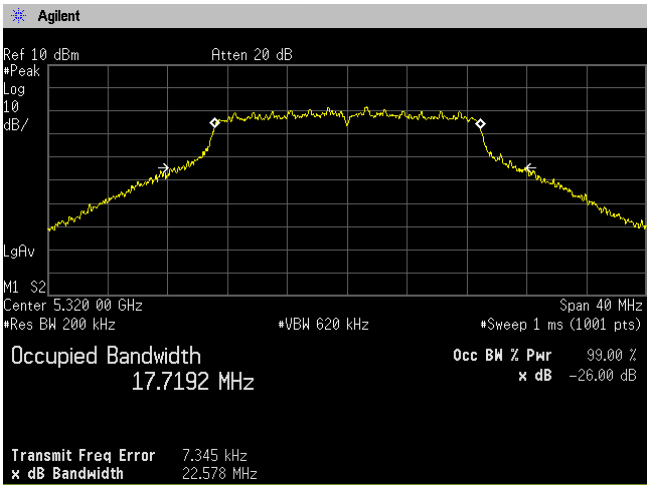


(5.3 GHz Band)
Channel: 56

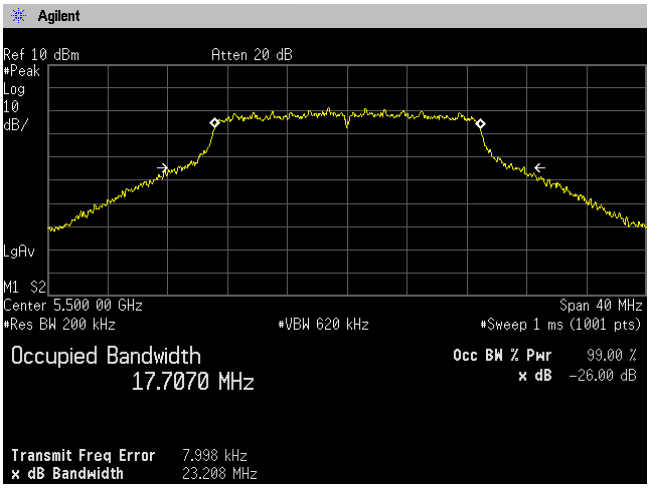


Japan

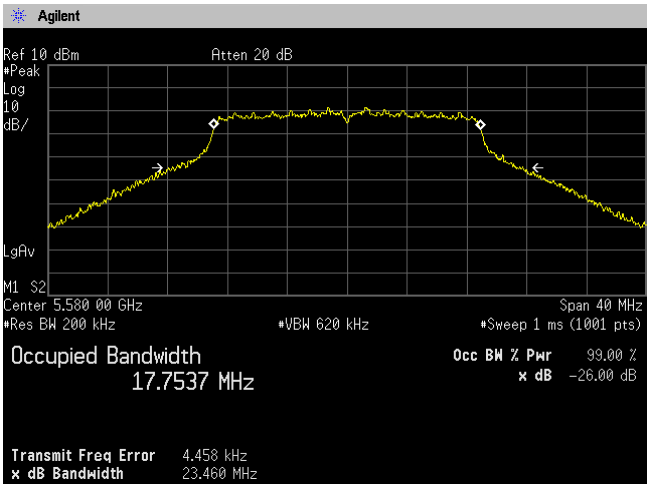
(5.3 GHz Band)
Channel: 64



(5.6 GHz Band)
Channel: 100

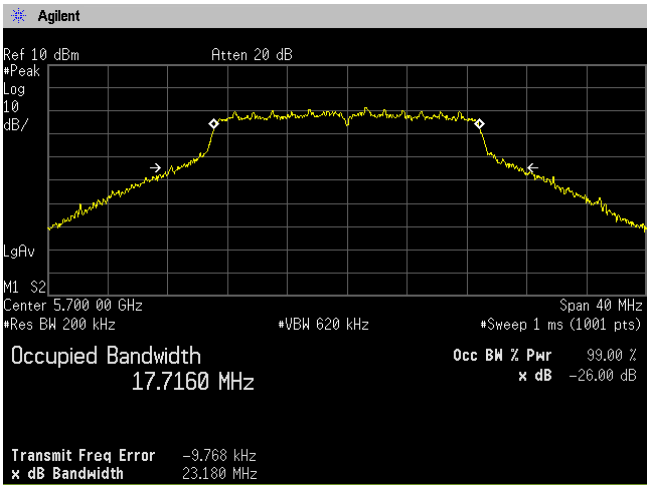


Channel: 116

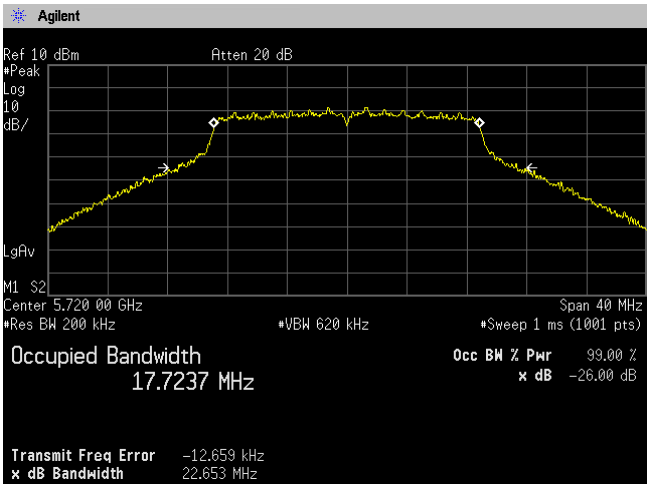


Japan

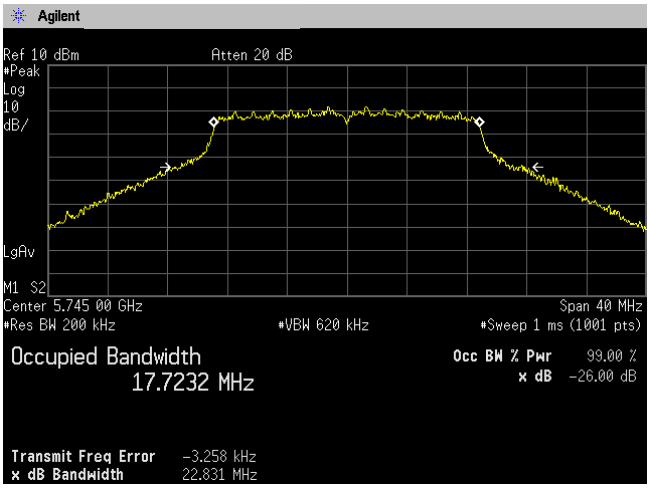
(5.6 GHz Band)
Channel: 140



Channel: 144

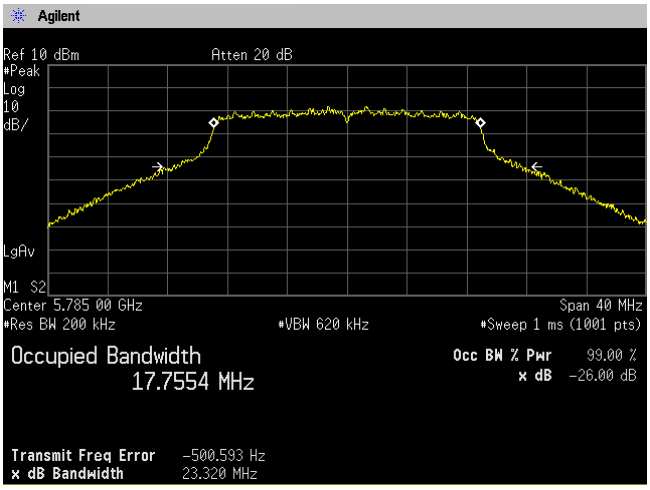


(5.8 GHz Band)
Channel: 149

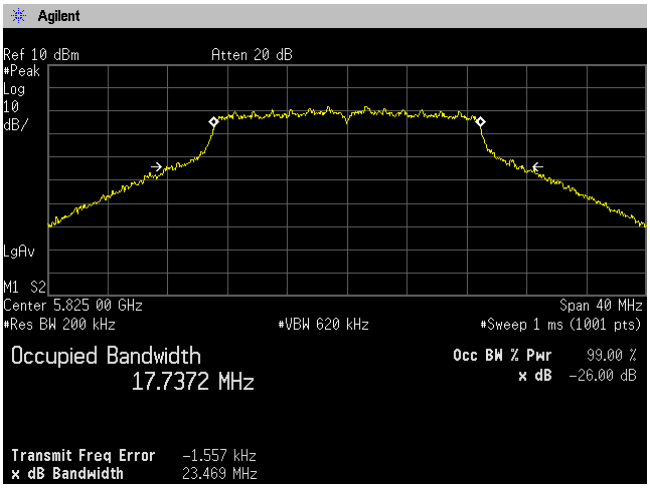


Japan

(5.8 GHz Band)
Channel: 157

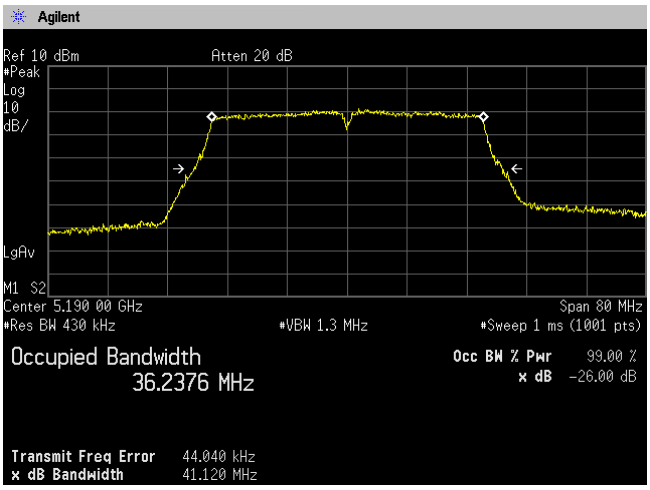


Channel: 165

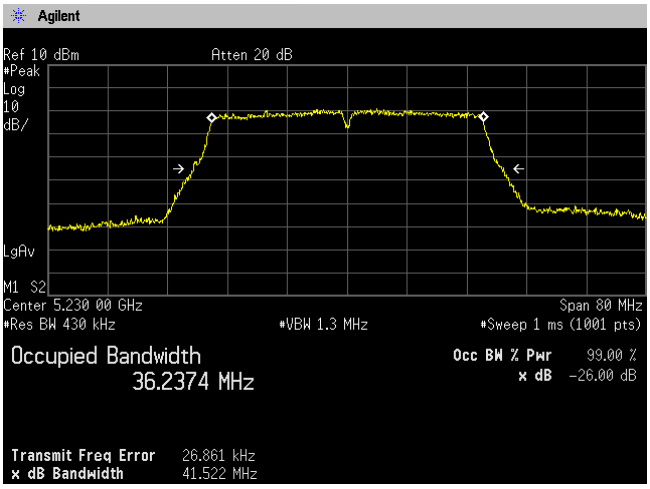


Japan

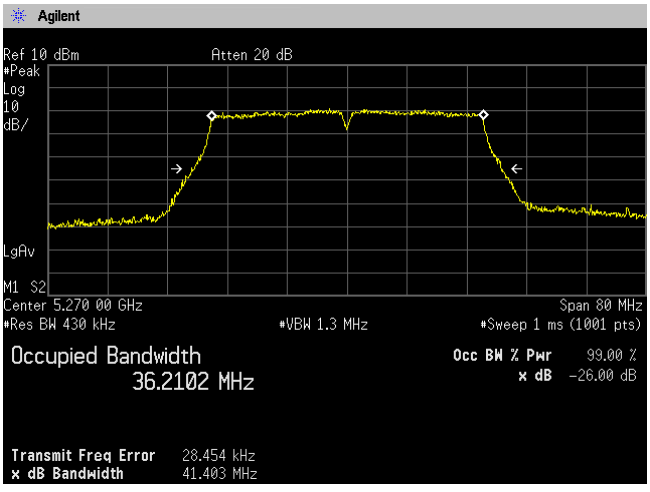
[IEEE802.11n (HT40)]
(5.2 GHz Band)
Channel: 38



Channel: 46

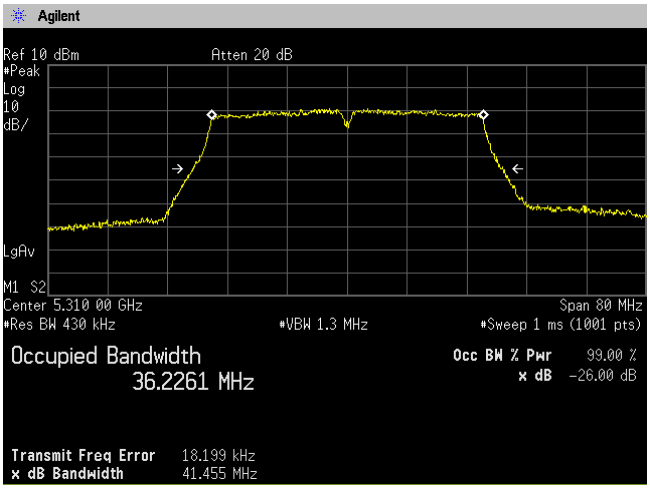


(5.3 GHz Band)
Channel: 54

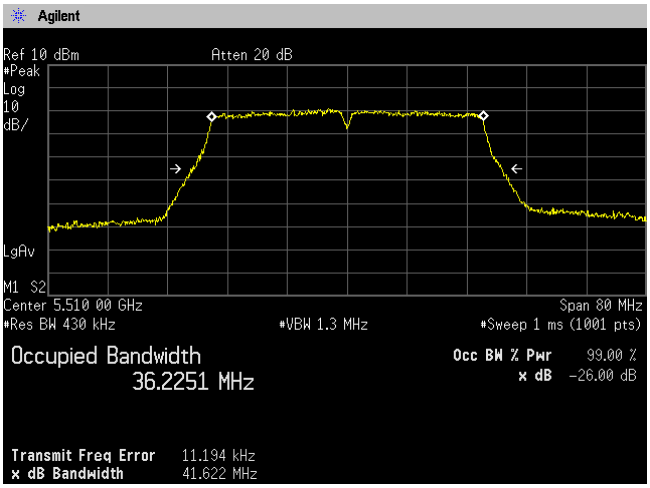


Japan

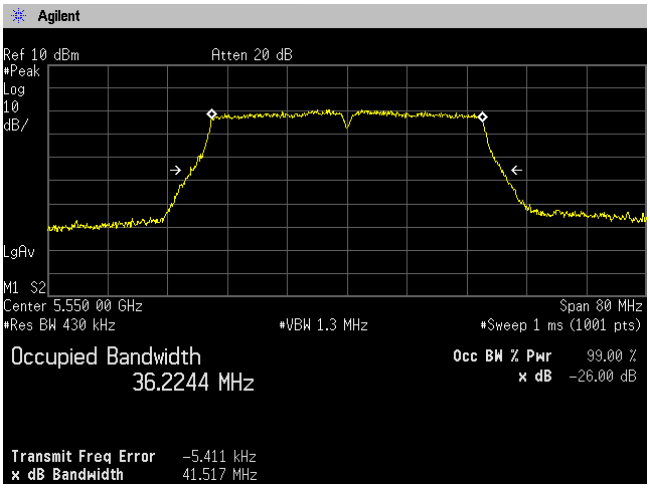
(5.3 GHz Band)
Channel: 62



(5.6 GHz Band)
Channel: 102

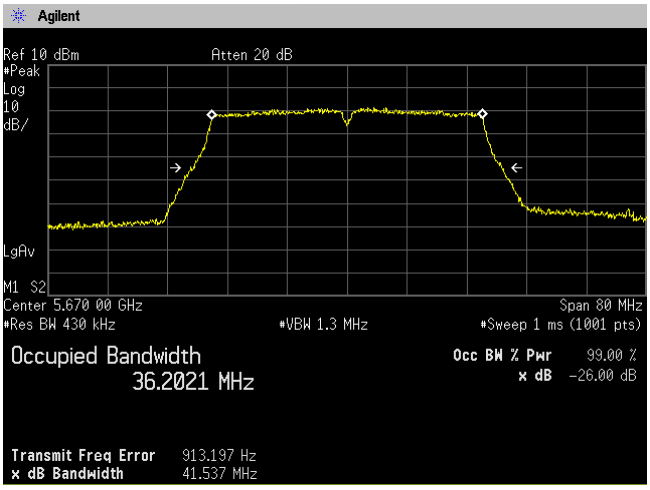


Channel: 110

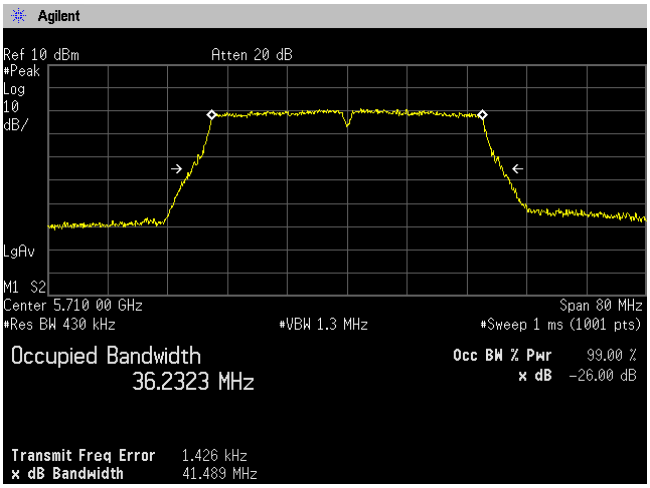


Japan

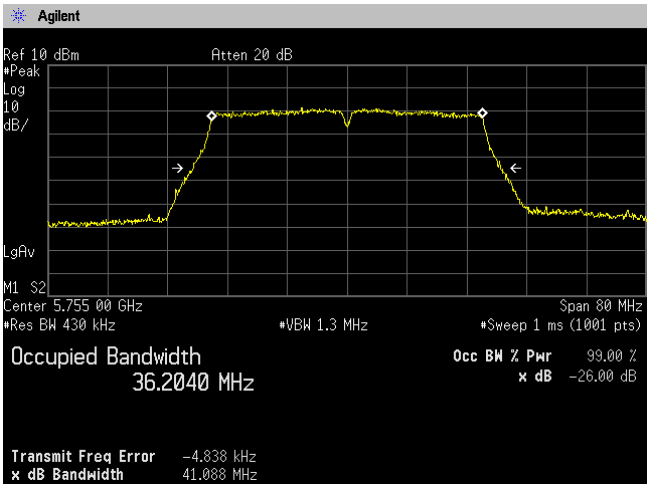
(5.6 GHz Band)
Channel: 134



Channel: 142

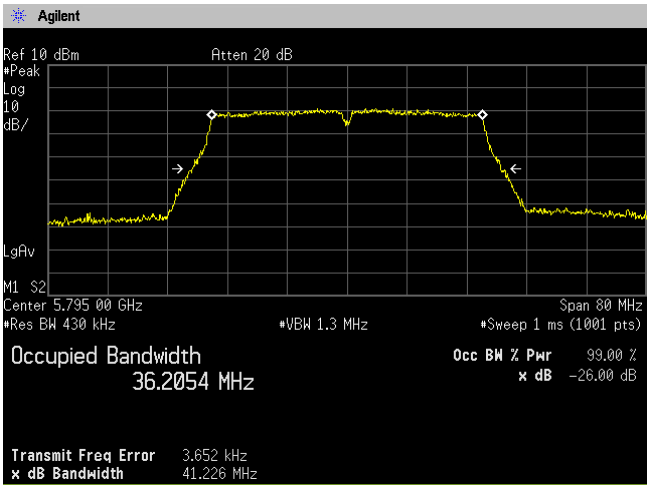


(5.8 GHz Band)
Channel: 151



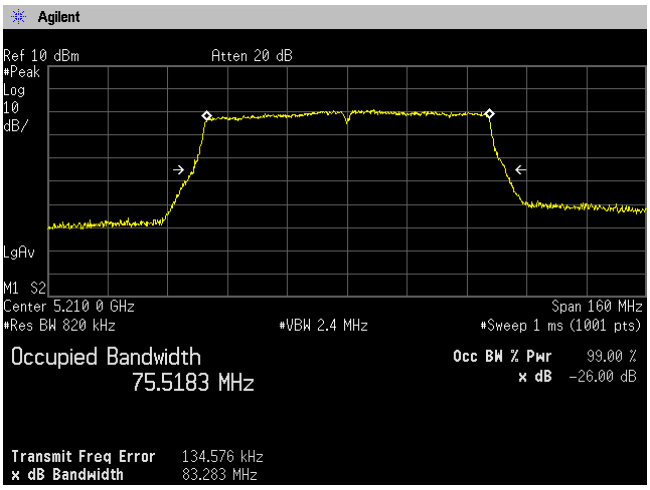
Japan

(5.8 GHz Band)
Channel: 159

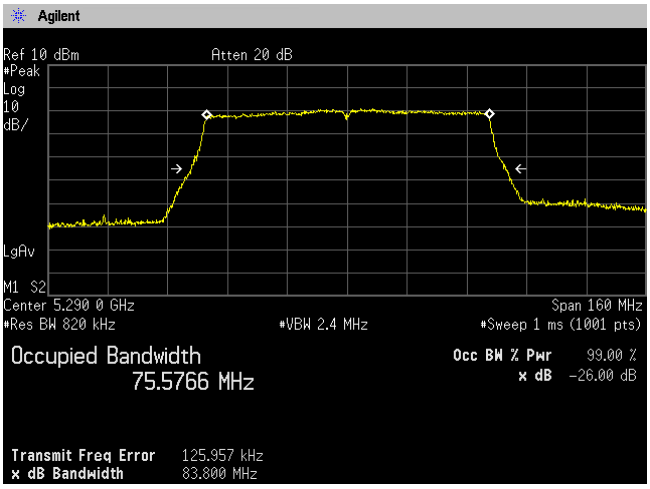


Japan

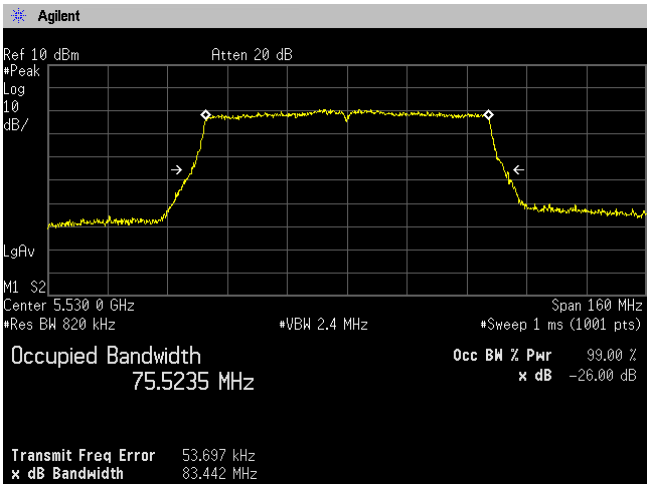
[IEEE802.11ac (HT80)]
(5.2 GHz Band)
Channel: 42



(5.3GHz Band)
Channel: 58

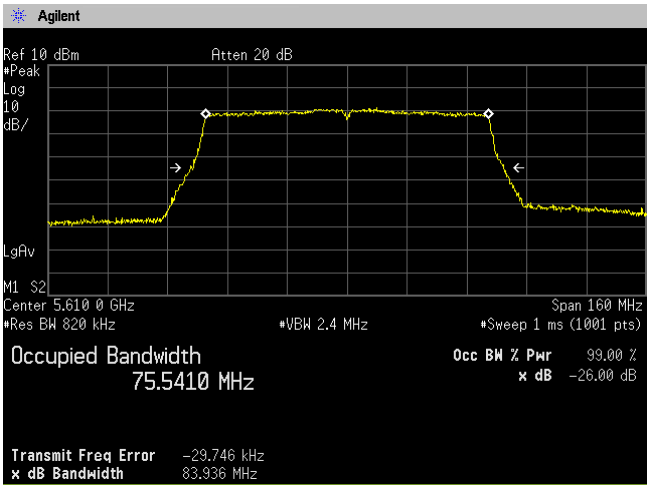


(5.6 GHz Band)
Channel: 106

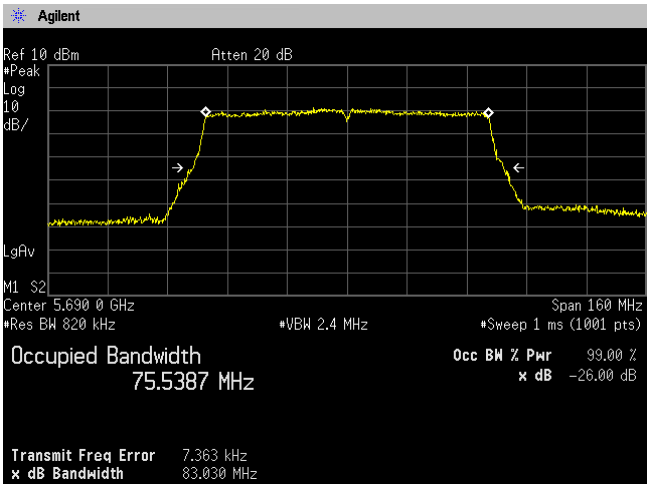


Japan

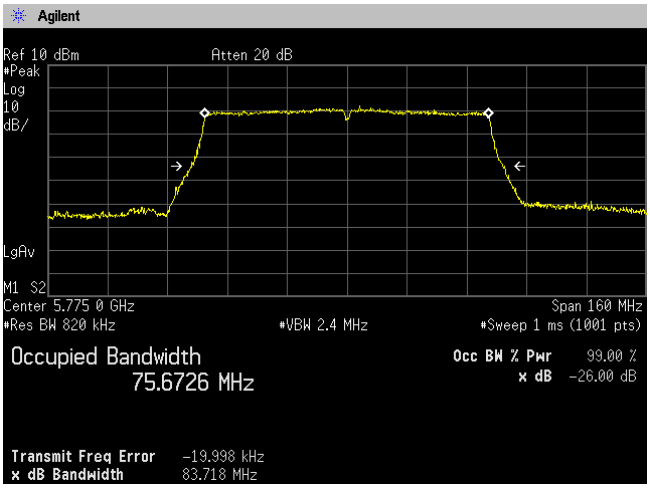
(5.6 GHz Band)
Channel: 122



Channel: 138



(5.8 GHz Band)
Channel: 155



Japan

4.2 6dB Bandwidth and 99% Occupied Bandwidth

4.2.1 Measurement Procedure

[FCC 15.407(e), KDB 789033 D02, Section C, D]

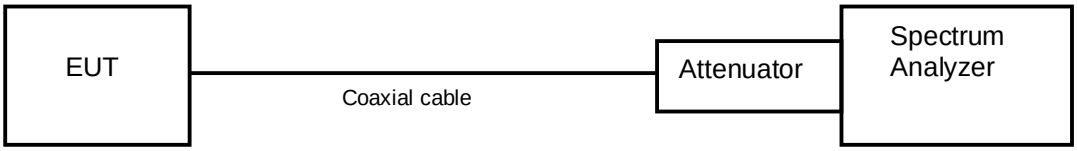
The 6dB bandwidth and 99% occupied bandwidth is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

The spectrum analyzer is set to;
- RBW=100 kHz, VBW=300 kHz, Span=40 MHz/80 MHz/160 MHz
  Sweep=auto, Detector=Peak, Trace mode=Max hold

The EUT was set to operate with following conditions.
- 5.8 GHz Band

The test mode of EUT is as follows.
- Tx mode

- Test configuration



4.2.2 Limit

The minimum 6dB bandwidth shall be at least 500kHz.

Japan

4.2.3 Measurement result

Date : 27-August-2021
Temperature : 24.8 [˚C]
Humidity : 48.3 [%] Test engineer :
Test place : Shielded room No.3 Tadahiro Seino

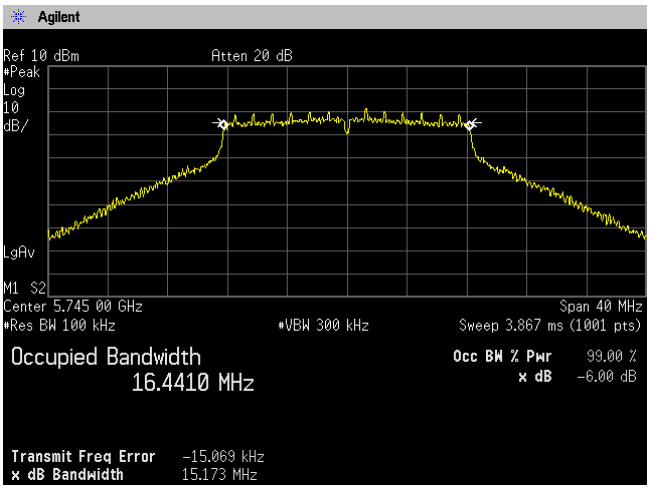
Channel	6dB bandwidth [MHz]			
	IEEE802.11a	IEEE802.11n (HT20)	IEEE802.11n (HT40)	IEEE802.11n (HT80)
Low	15.173	15.184	35.874	-
Middle	15.381	15.365	-	75.437
High	15.117	15.180	36.087	-

Channel	Occupied bandwidth [MHz]			
	IEEE802.11a	IEEE802.11n (HT20)	IEEE802.11n (HT40)	IEEE802.11n (HT80)
Low	16.441	17.639	36.060	-
Middle	16.475	17.649	-	75.329
High	16.469	17.653	36.094	-

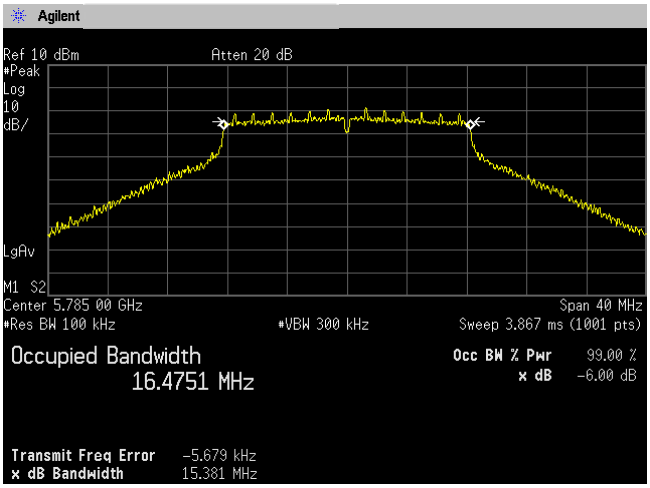
Japan

4.2.4 Trace data

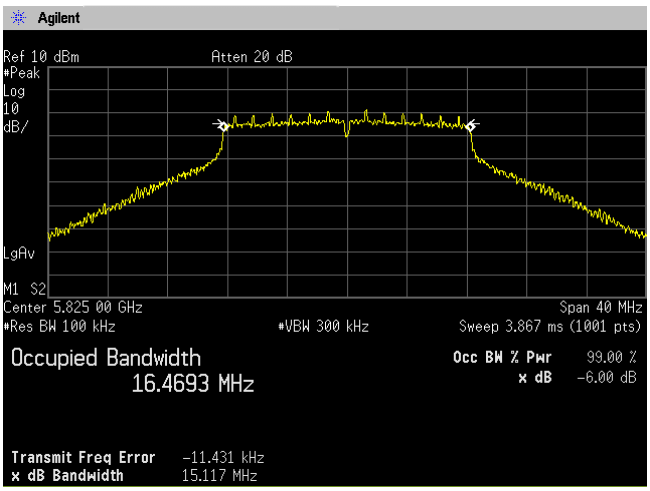
[IEEE802.11a]
(5.8 GHz Band)
Channel: 149



Channel: 157

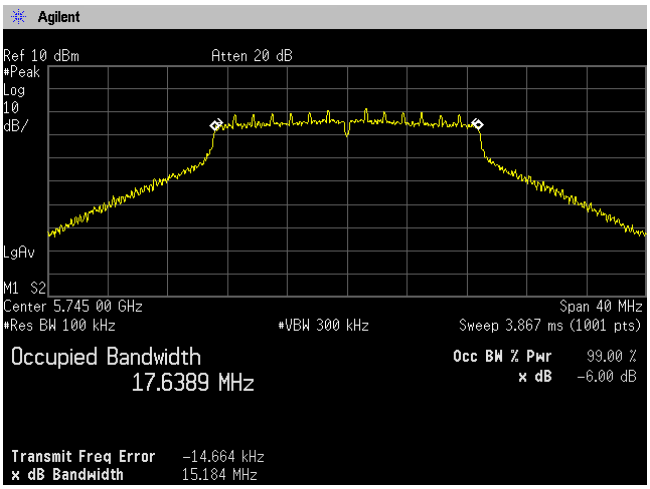


Channel: 165

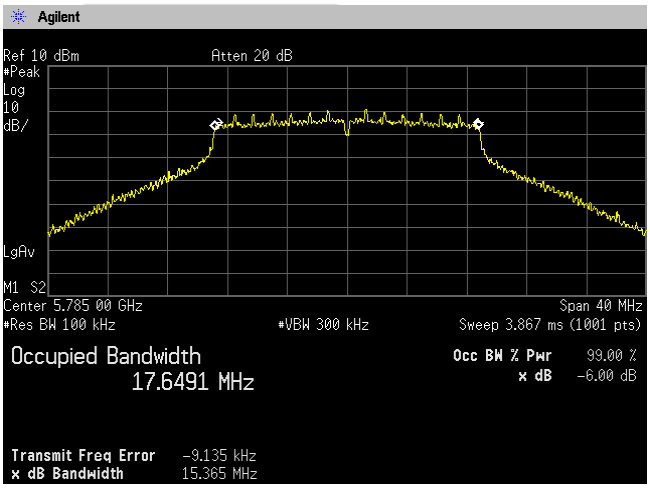


Japan

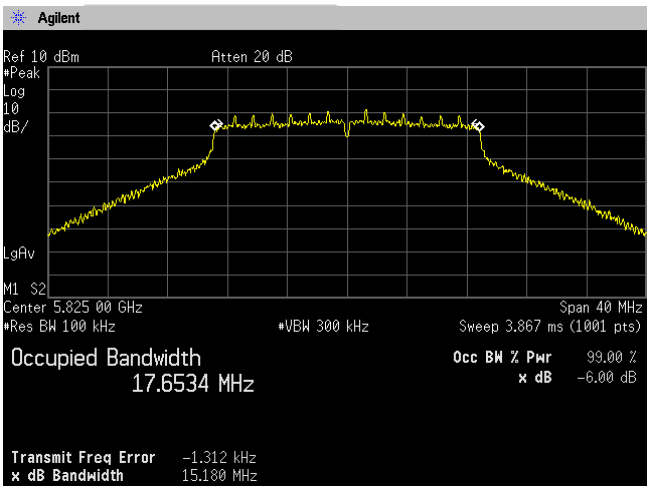
[IEEE802.11n(HT20)]
(5.8 GHz Band)
Channel: 149



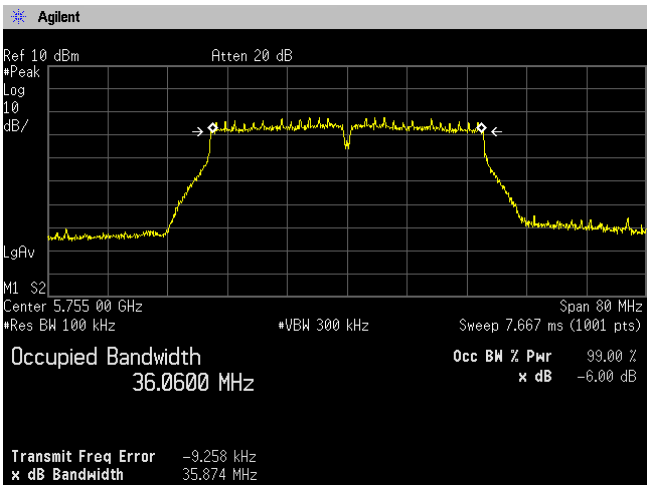
Channel: 157



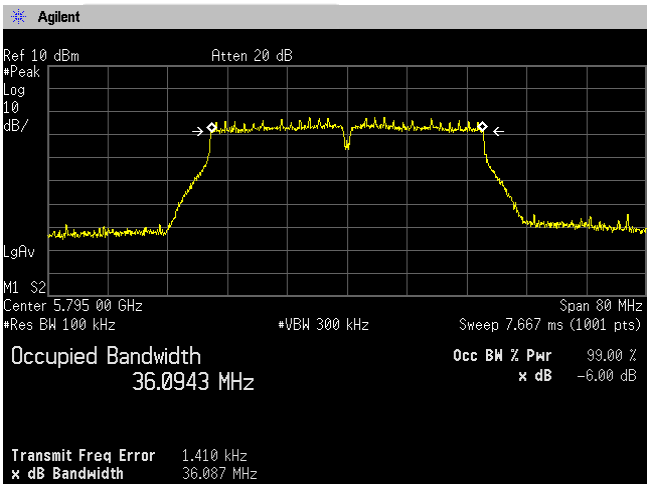
Channel: 165



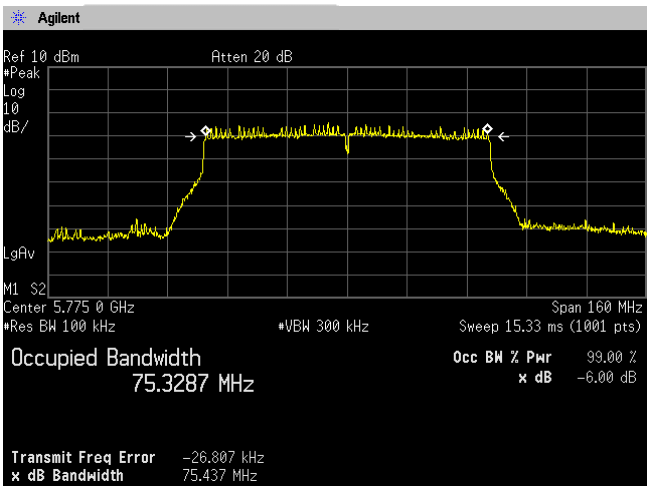
[IEEE802.11n(HT40)]
(5.8 GHz Band)
Channel: 151



Channel: 159



[IEEE802.11n(HT80)]
Channel: 155



4.3 Maximum Conducted Output Power

4.3.1 Measurement procedure

[FCC 15.407(a), KDB 789033 D02, Section E.2.b) Method SA-1, d) Method SA-2]

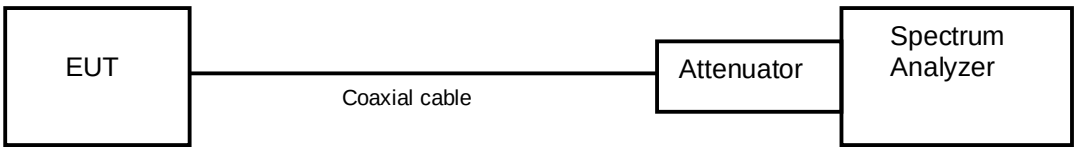
The peak power is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

The spectrum analyzer is set to;
- RBW=1MHz, VBW=3MHz, Span=35MHz/70MHz/140MHz, Sweep=auto, Detector=RMS, Trace mode=Averaging

The EUT was set to operate with following conditions.
- 5.2GHz Band, 5.3GHz Band, 5.6GHz Band, 5.8 GHz Band

The test mode of EUT is as follows.
- Tx mode

- Test configuration



4.3.2 Limit

(1) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250mW provided the maximum antenna gain does not exceed 6 dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250mW or 11dBm + 10logB, where B is the 26dB emission bandwidth in megahertz.

(3) For the 5.725-5.85 GHz bands, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

Japan

<Output Power Limit Calculation>

Band	Mode	Power Limit (mW)	Calculated Limit (dBm)	Antenna Gain (dBi)	Determined Limit (dBm)
5.2GHz Band	802.11a	250	23.97	0.9	23.97
	802.11n HT20				
	802.11n HT20				
	802.11ac HT80				

Band	Mode	Power Limit (mW) / Least 26dBc BW (MHz)	Calculated Limit (dBm)	Antenna Gain (dBi)	Determined Limit (dBm)
5.3GHz Band	802.11a	250	23.97	0.9	23.97
		22.102	24.44		
	802.11n HT20	250	23.97		23.97
		22.578	24.54		
	802.11n HT20	250	23.97		23.97
		41.403	27.17		
	802.11ac HT80	250	23.97		23.97
		83.800	30.23		

Band	Mode	Power Limit (mW) / Least 26dBc BW (MHz)	Calculated Limit (dBm)	Antenna Gain (dBi)	Determined Limit (dBm)
5.6GHz Band	802.11a	250	23.97	1.9	23.97
		22.409	24.50		
	802.11n HT20	250	23.97		23.97
		23.180	24.65		
	802.11n HT20	250	23.97		23.97
		41.489	27.18		
	802.11ac HT80	250	23.97		23.97
		83.030	30.19		

Band	Mode	Power Limit (mW)	Calculated Limit (dBm)	Antenna Gain (dBi)	Determined Limit (dBm)
5.8GHz Band	802.11a	1000	30.00	1.2	30.00
	802.11n HT20				
	802.11n HT20				
	802.11ac HT80				

Japan

4.3.3 Measurement result

Date : 27-August-2021
Temperature : 24.8 [˚C]
Humidity : 48.3 [%] Test engineer :
Test place : Shielded room No.3 Tadahiro Seino

Mode	Channel	Frequency (MHz)	Reading (dBm)	Duty Cycle			DCF (dB)	Test Result (dBm)	Test Result (mW)
				On Time(ms)	On+Off Time(ms)	X			
802.11a	36	5180	10.89	1.342	1.382	0.971	0.128	11.018	12.640
	40	5200	11.29					11.418	13.860
	58	5240	11.13					11.258	13.358
	52	5260	11.00	1.342	1.380	0.972	0.121	11.121	12.946
	56	5280	11.40					11.521	14.195
	64	5320	11.33					11.451	13.968
	100	5500	11.16	1.342	1.382	0.971	0.128	11.288	13.451
	116	5580	11.26					11.388	13.764
	140	5700	11.22					11.348	13.638
	144	5720	10.98					11.108	12.905
	149	5745	11.74	1.342	1.382	0.971	0.128	11.868	15.373
	157	5785	11.74					11.868	15.373
	165	5825	11.67					11.798	15.127

Mode	Channel	Frequency (MHz)	Reading (dBm)	Duty Cycle			DCF (dB)	Test Result (dBm)	Test Result (mW)
				On Time(ms)	On+Off Time(ms)	X			
802.11n (20MHz)	36	5180	11.34	1.258	1.298	0.969	0.136	11.476	14.047
	40	5200	11.43					11.566	14.341
	58	5240	11.28					11.416	13.855
	52	5260	11.07	1.256	1.294	0.971	0.129	11.199	13.181
	56	5280	10.68					10.809	12.049
	64	5320	11.07					11.199	13.181
	100	5500	11.07	1.260	1.298	0.971	0.129	11.199	13.180
	116	5580	11.07					11.199	13.180
	140	5700	10.87					10.999	12.586
	144	5720	11.02					11.149	13.029
	149	5745	11.74	1.256	1.296	0.969	0.136	11.876	15.403
	157	5785	11.74					11.876	15.403
	165	5825	11.67					11.806	15.157

Note1: X = On time / (On + Off time), DCF=10log (1/x)
Note2: Test Result=Reading + DCF

Mode	Channel	Frequency (MHz)	Reading (dBm)	Duty Cycle			DCF (dB)	Test Result (dBm)	Test Result (mW)
				On Time(ms)	On+Off Time(ms)	X			
802.11n (40MHz)	38	5190	11.75	0.626	0.664	0.943	0.256	12.006	15.871
	46	5230	11.84					12.096	16.203
	54	5270	11.74	0.628	0.665	0.944	0.249	11.989	15.807
	62	5310	11.61					11.859	15.341
	102	5510	11.53	0.627	0.664	0.944	0.249	11.779	15.063
	110	5550	11.38					11.629	14.551
	134	5670	11.99					12.239	16.746
	142	5710	11.81					12.059	16.066
	151	5755	11.95	0.626	0.663	0.944	0.249	12.199	16.594
	159	5795	11.73					11.979	15.774

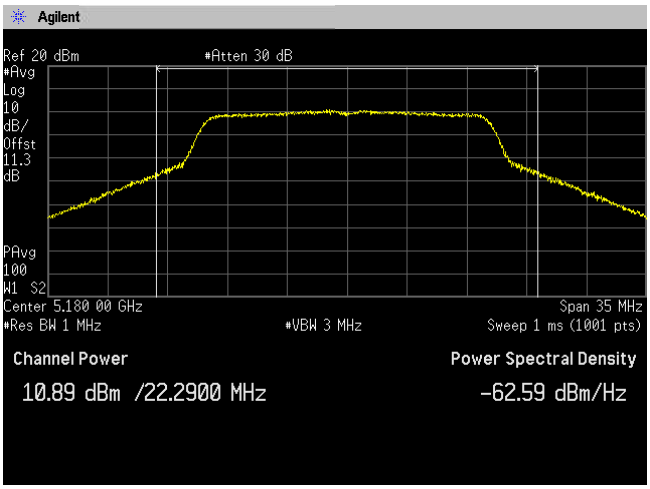
Mode	Channel	Frequency (MHz)	Reading (dBm)	Duty Cycle			DCF (dB)	Test Result (dBm)	Test Result (mW)
				On Time(ms)	On+Off Time(ms)	X			
802.11ac (80MHz)	42	5210	11.42	0.315	0.352	0.895	0.481	11.901	15.492
	58	5290	11.35	0.315	0.352	0.895	0.481	11.831	15.244
	106	5530	11.04	0.315	0.352	0.894	0.488	11.528	14.216
	122	5610	11.55	0.315	0.352	0.895	0.481	12.031	15.962
	138	5690	11.69	0.315	0.352	0.894	0.488	12.178	16.511
	155	5775	11.74	0.315	0.353	0.894	0.488	12.228	16.705

Note1: X = On time / (On + Off time), DCF=10log (1/x)
Note2: Test Result=Reading + DCF

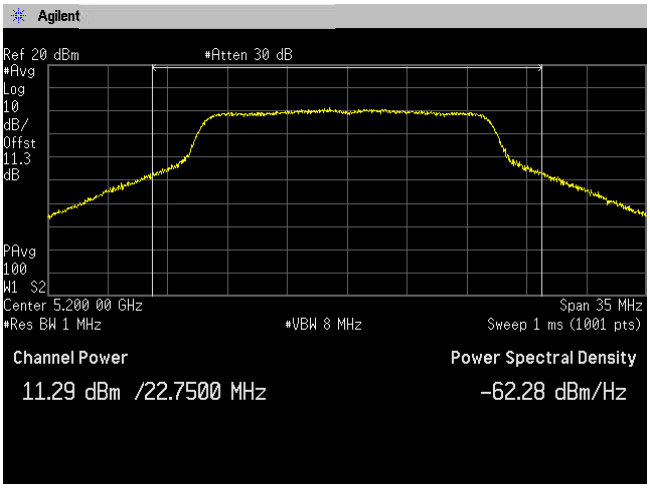
Japan

4.3.4 Trace data

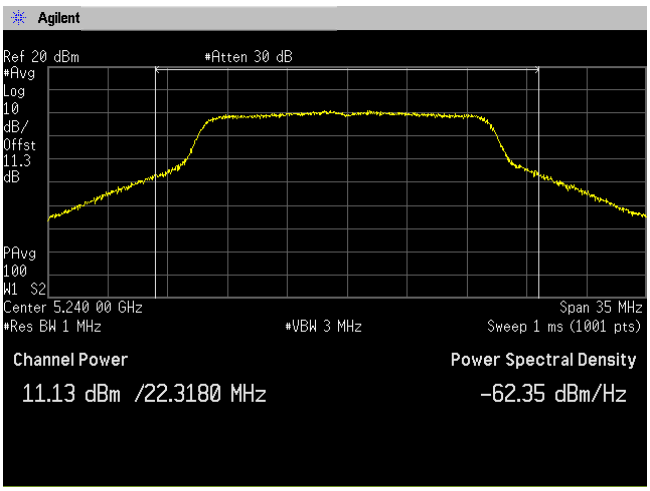
[IEEE802.11a]
(5.2 GHz Band)
Channel: 36



Channel: 40

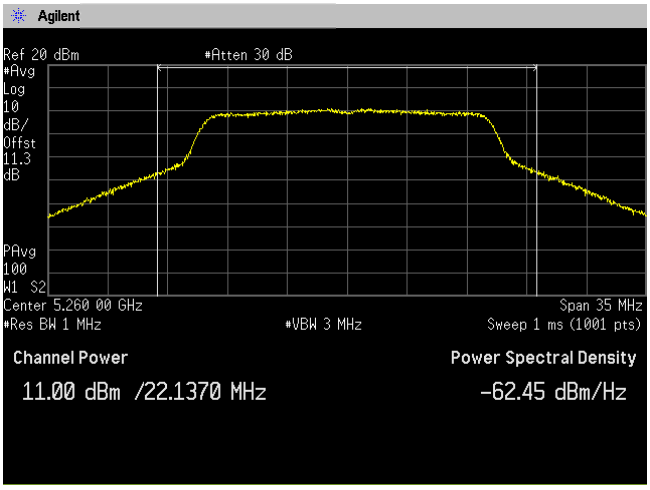


Channel: 48

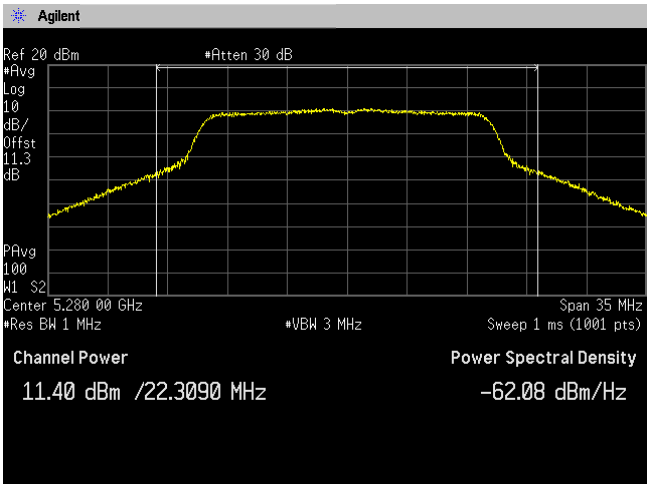


Japan

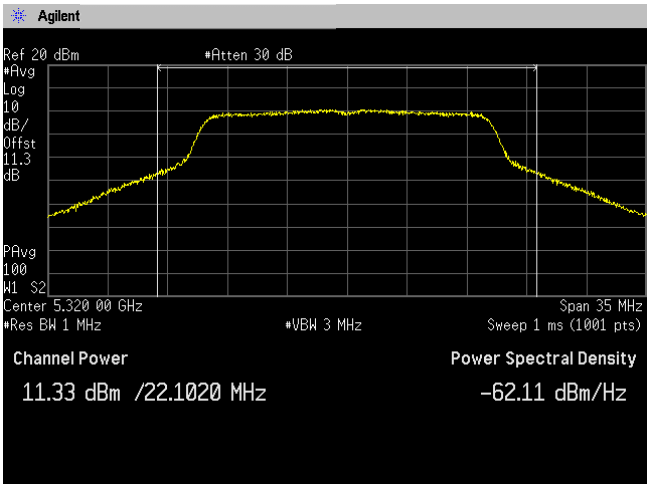
(5.3 GHz Band)
Channel: 52



Channel: 56

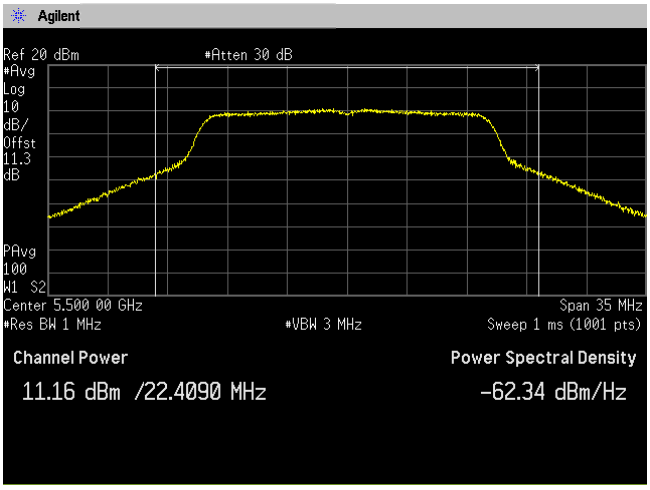


Channel: 64

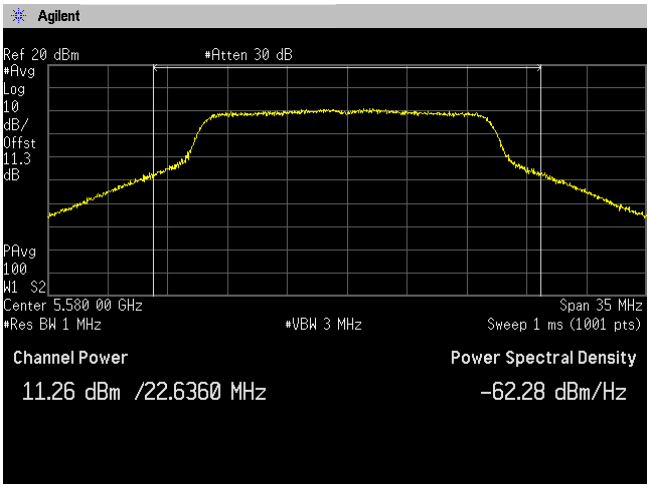


Japan

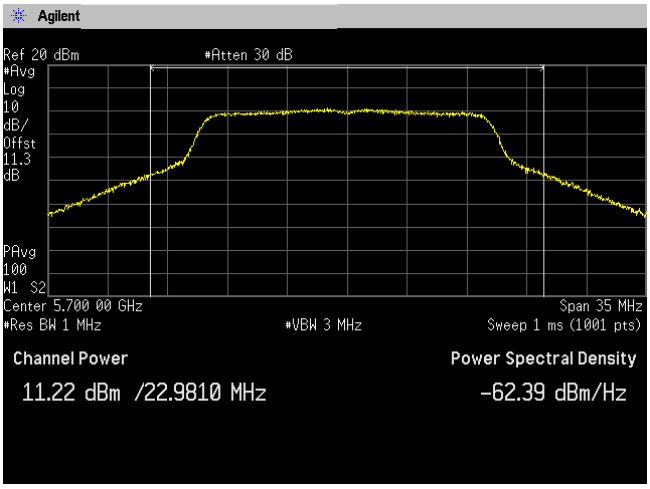
(5.6 GHz Band)
Channel: 100



Channel: 116

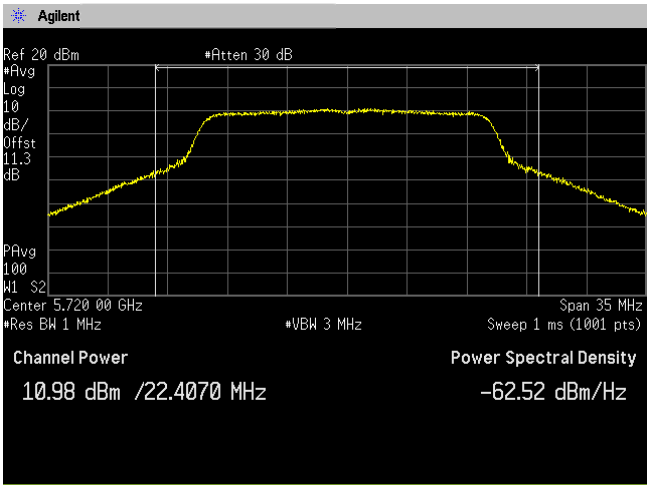


Channel: 140

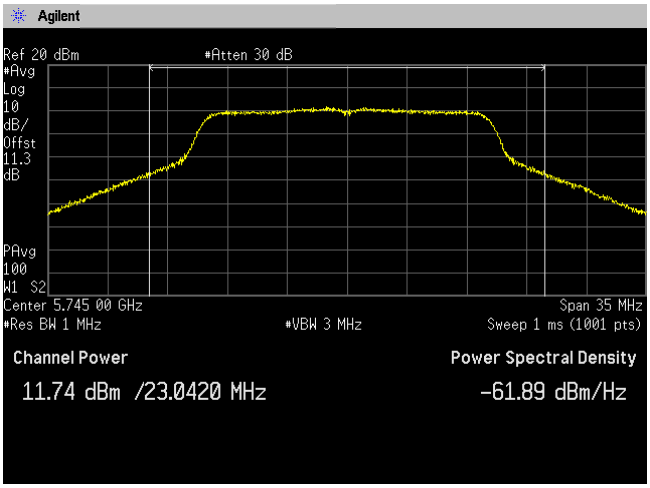


Japan

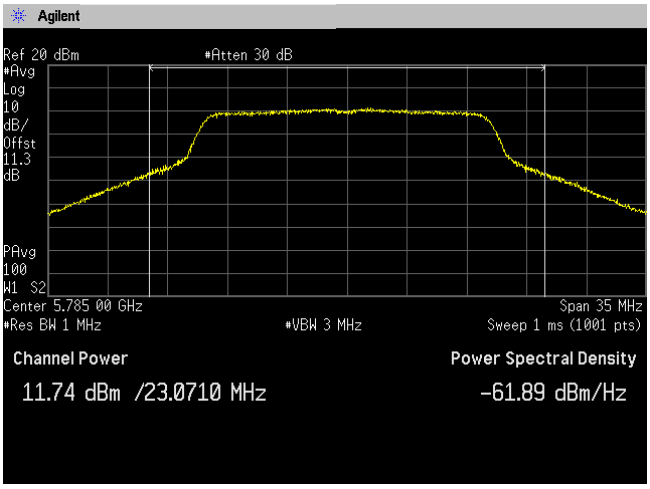
(5.6 GHz Band)
Channel: 144



(5.8 GHz Band)
Channel: 149

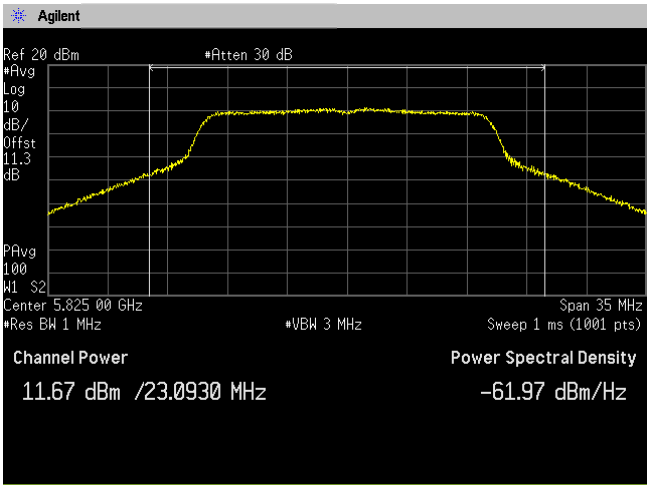


Channel: 157



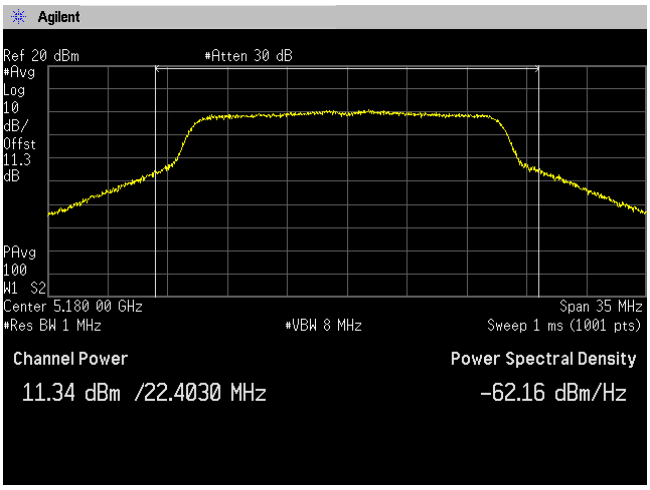
Japan

(5.8 GHz Band)
Channel: 165

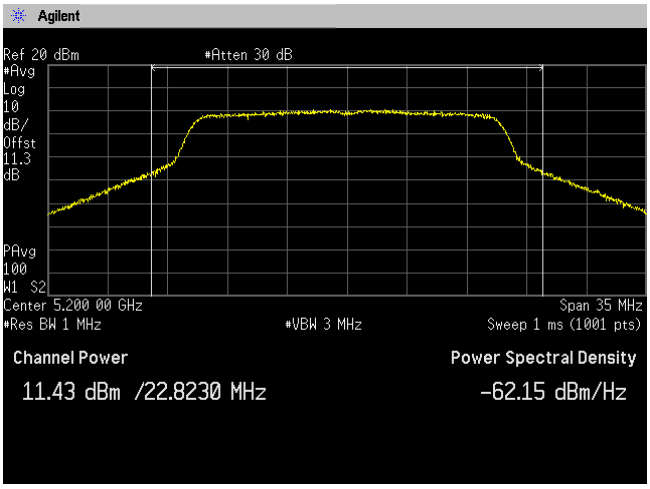


Japan

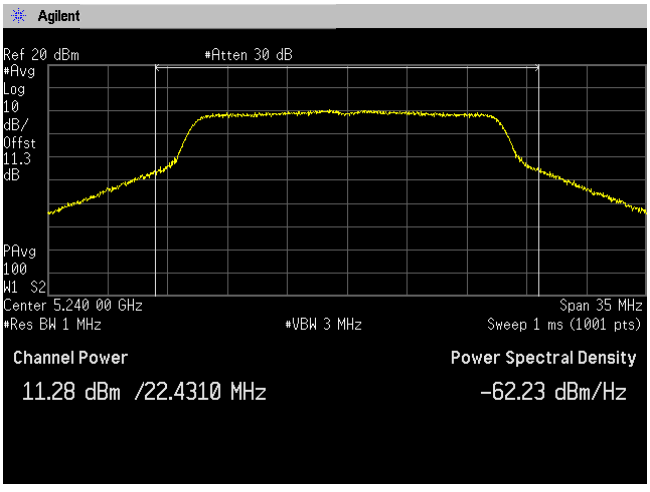
[IEEE802.11n (HT20)]
(5.2 GHz Band)
Channel: 36



Channel: 40

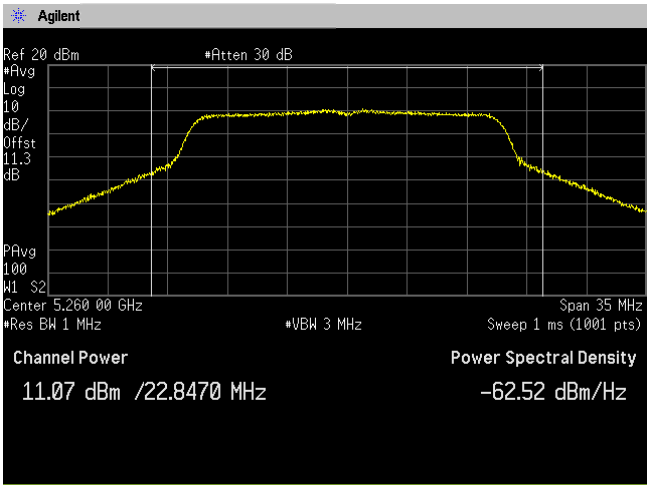


Channel: 48

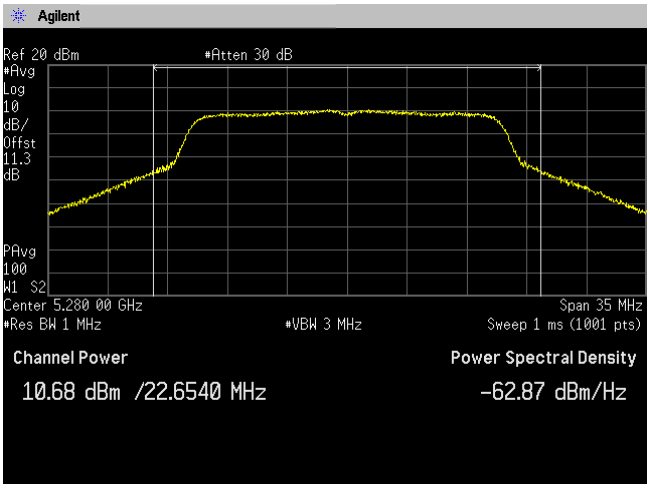


Japan

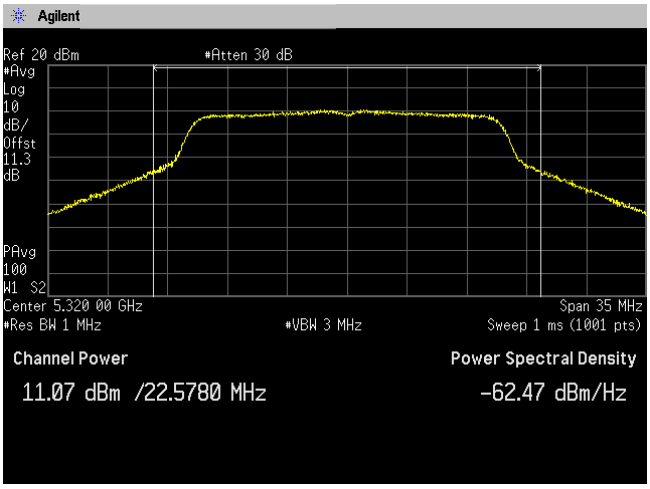
(5.3 GHz Band)
Channel: 52



Channel: 56

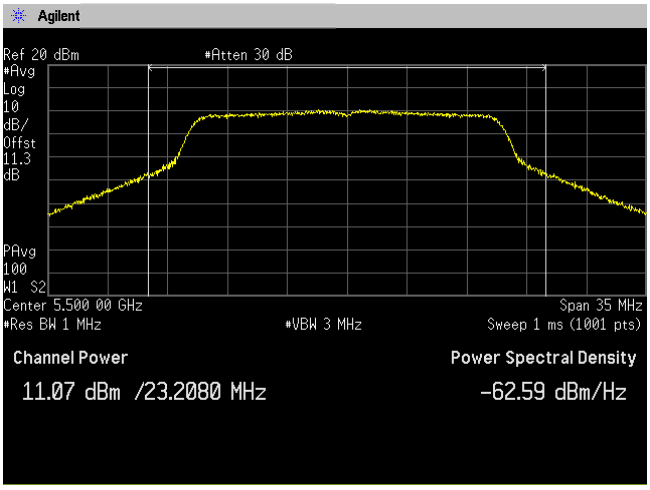


Channel: 64

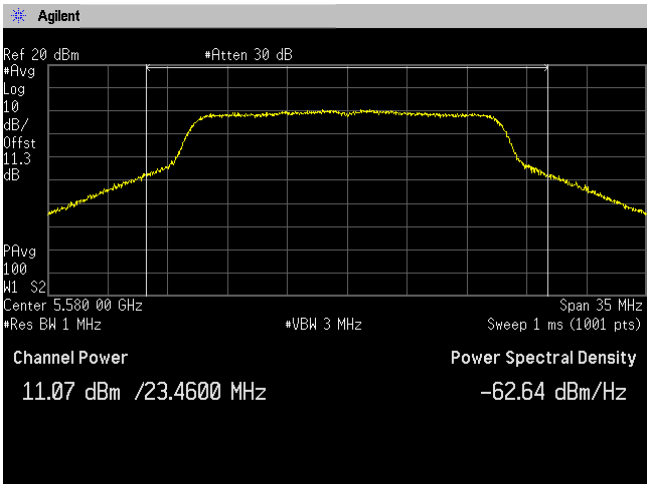


Japan

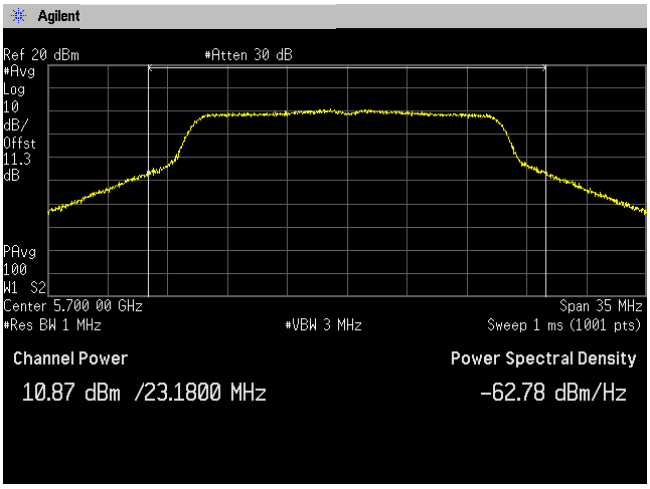
(5.6 GHz Band)
Channel: 100



Channel: 116

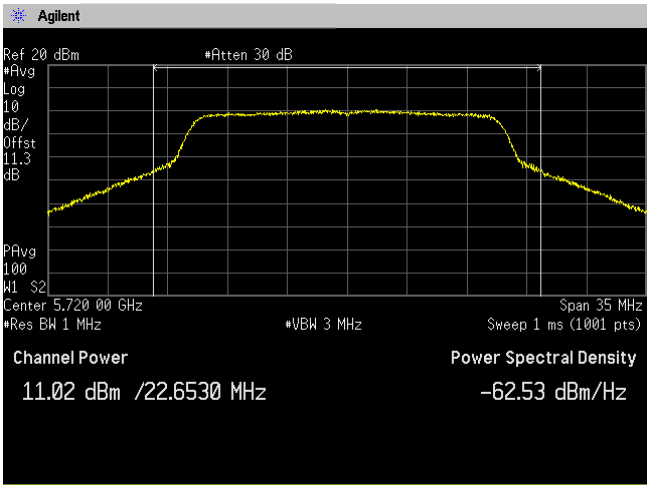


Channel: 140

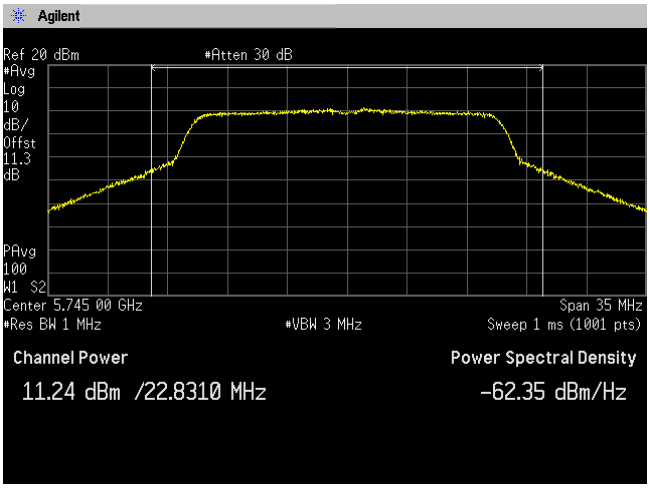


Japan

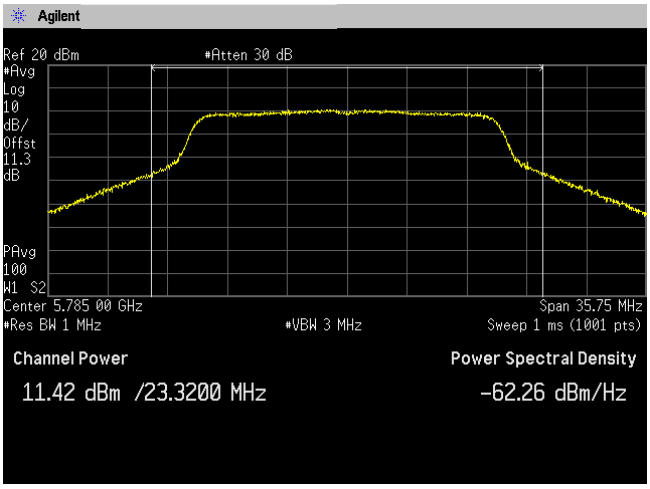
(5.6 GHz Band)
Channel: 144



(5.8 GHz Band)
Channel: 149

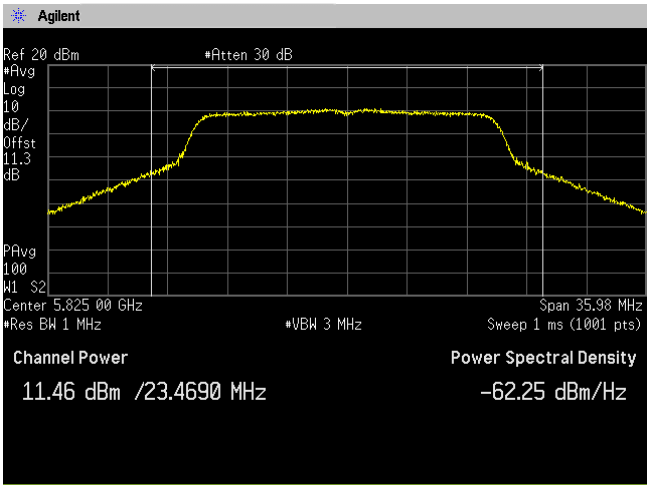


Channel: 157



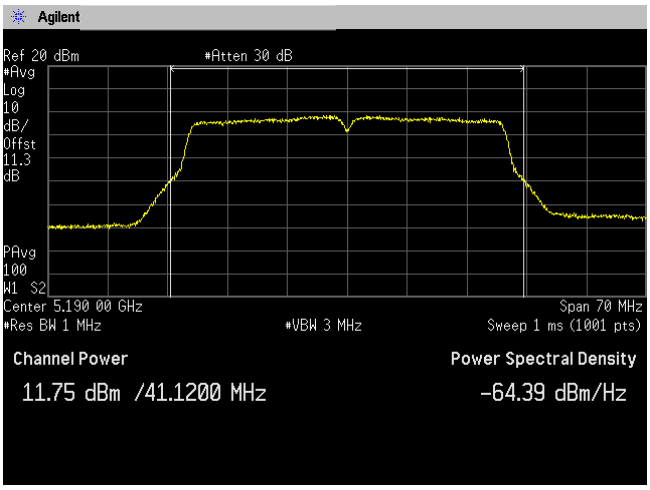
Japan

(5.8 GHz Band)
Channel: 165

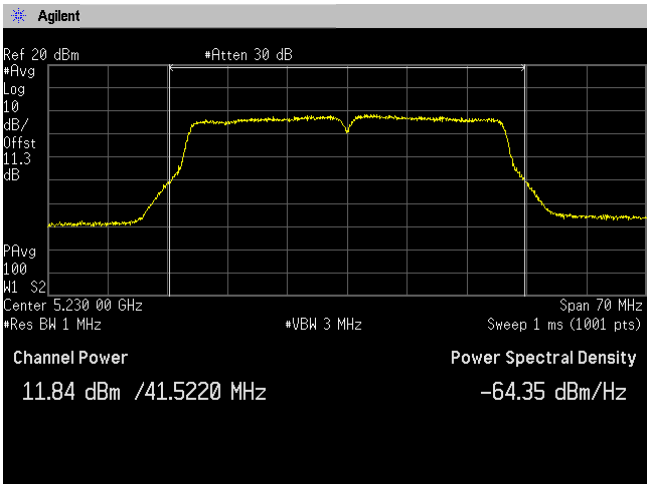


Japan

[IEEE802.11n (HT40)]
(5.2 GHz Band)
Channel: 38

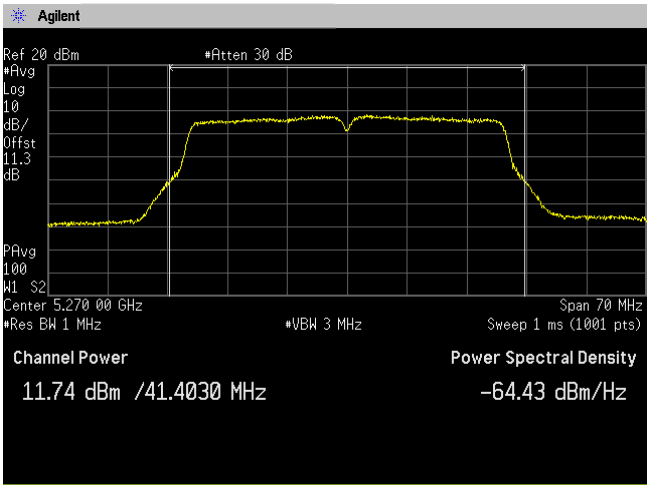


Channel: 46

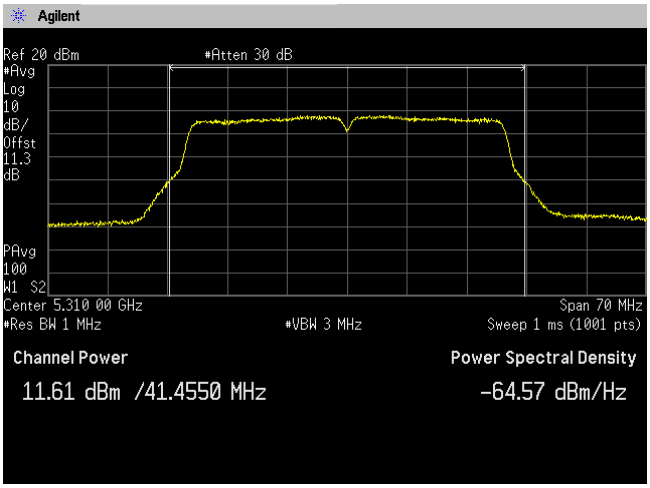


Japan

(5.3 GHz Band)
Channel: 54

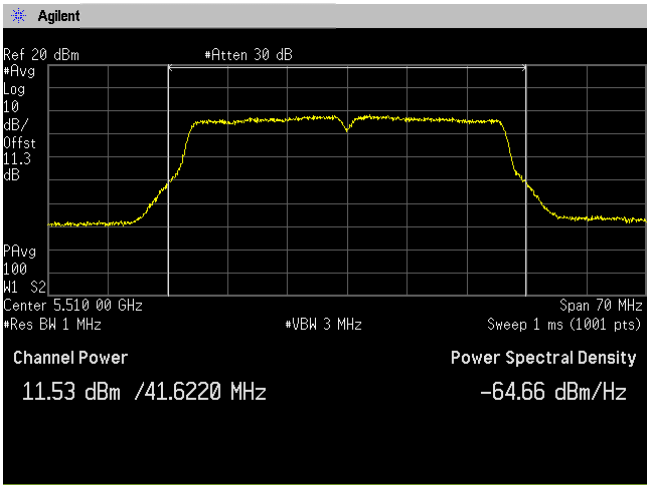


Channel: 62

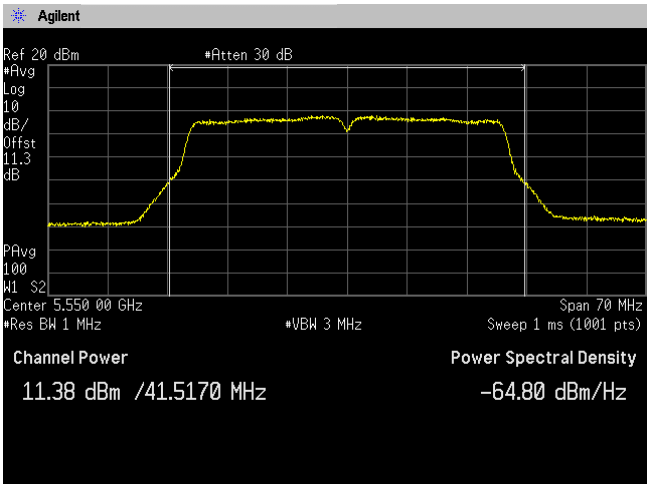


Japan

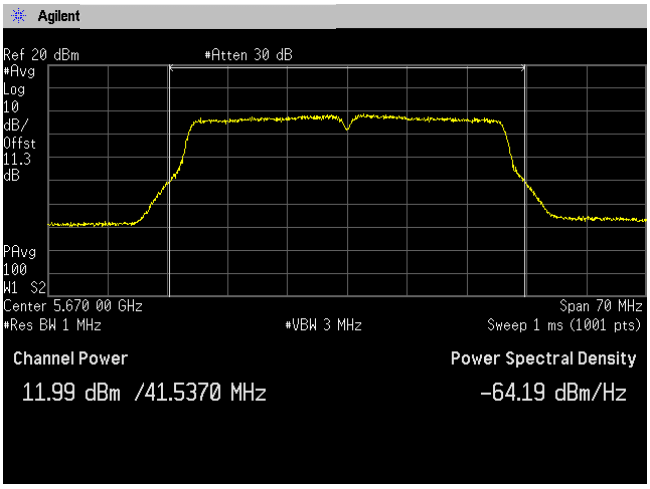
(5.6 GHz Band)
Channel: 102



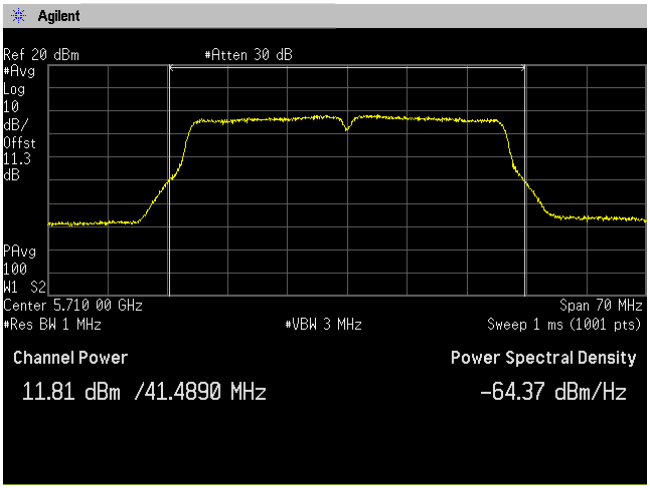
Channel: 110



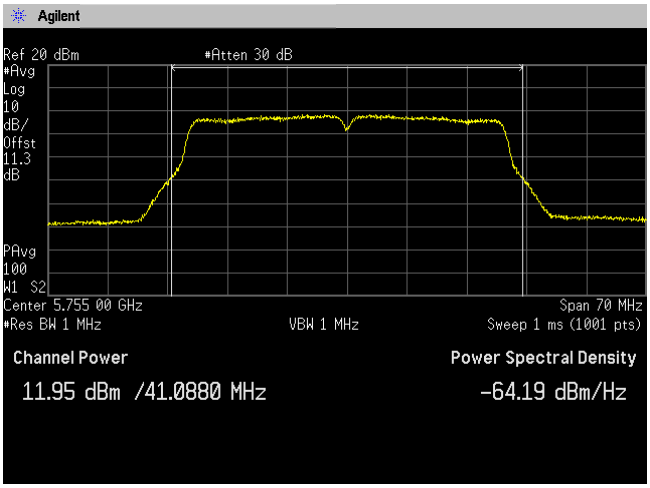
Channel: 134



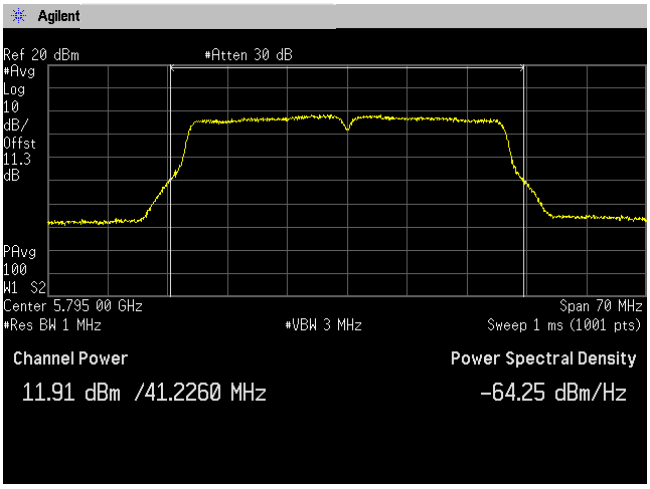
(5.6 GHz Band)
Channel: 142



(5.8 GHz Band)
Channel: 151

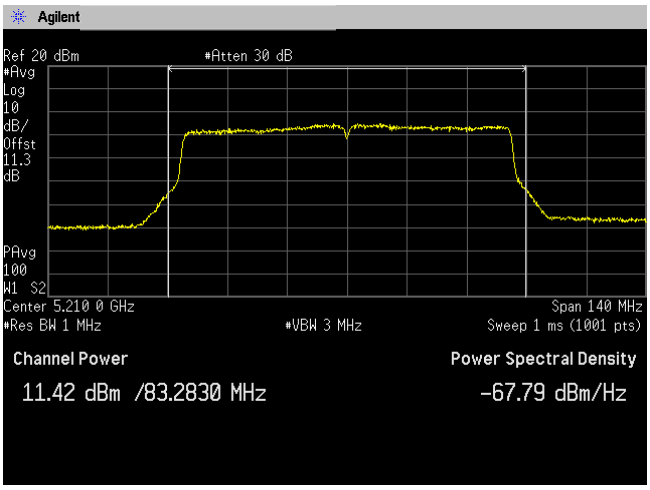


Channel: 159

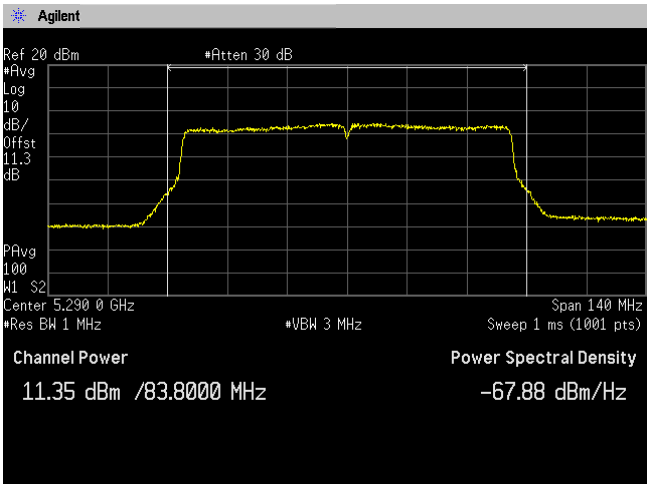


Japan

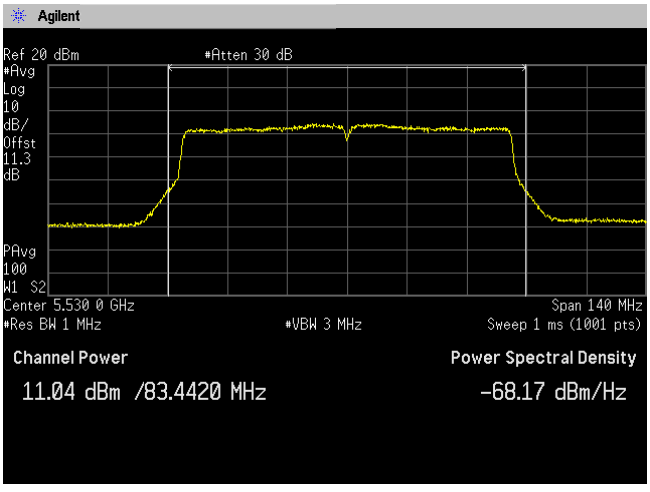
[IEEE802.11ac (HT80)]
(5.2 GHz Band)
Channel: 42



(5.3GHz Band)
Channel: 58

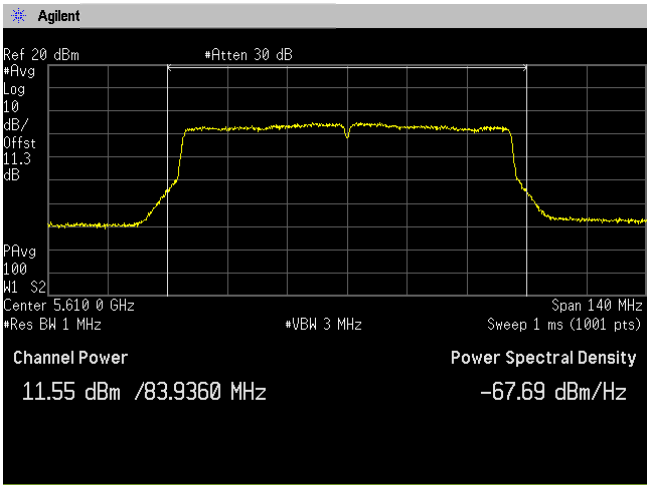


(5.6 GHz Band)
Channel: 106

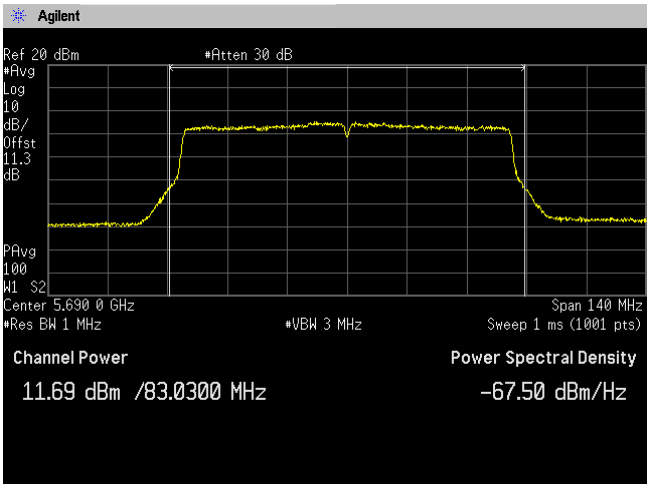


Japan

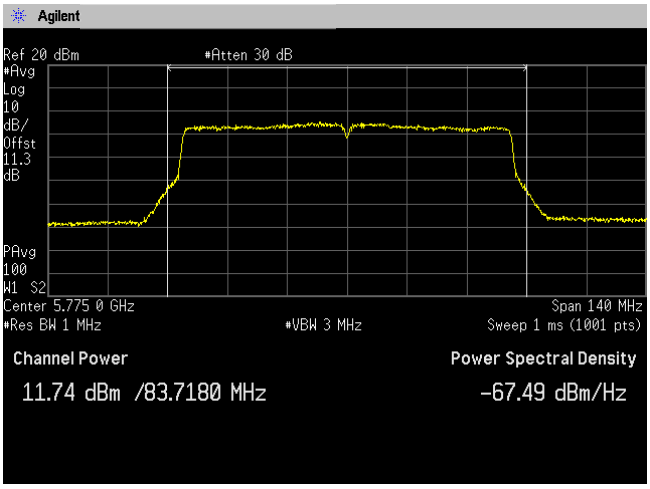
(5.6 GHz Band)
Channel: 122



Channel: 138



(5.8 GHz Band)
Channel: 155



4.4 Peak Power Spectral Density

4.4.1 Measurement procedure

[FCC 15.407(a), KDB 789033 D02, Section F]

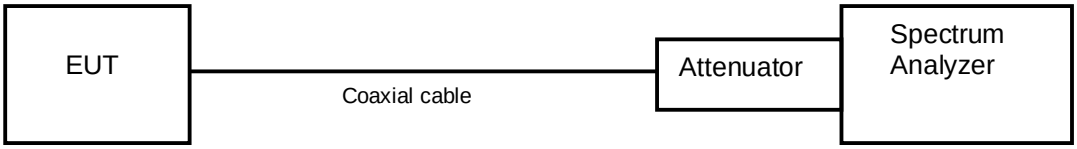
The peak power spectral density is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

The spectrum analyzer is set to;
- RBW=1 MHz, VBW=3 MHz, Span=25 MHz/50 MHz/100 MHz, Sweep=Auto, Detector=RMS, Trace mode=Averaging

The EUT was set to operate with following conditions.
- 5.2 GHz Band, 5.3 GHz Band, 5.6 GHz Band, 5.8 GHz Band

The test mode of EUT is as follows.
- Tx mode

- Test configuration



4.4.2 Limit

(1) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

(3) For the 5.725-5.85 GHz bands, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirection applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

Japan

<Peak Power Spectral Density Limit Calculation>

Band	Limit (dBm)	Antenna Gain (dBi)	Determined Limit (dBm)
5.2, 5.3 GHz Band	11	0.9	11.9 dBm/MHz
5.6 GHz Band	11	1.9	12.9 dBm/MHz
5.8 GHz Band	11	1.2	12.2 dBm/MHz

Japan

4.4.3 Measurement result

Date : 27-August-2021
Temperature : 24.8 [˚C]
Humidity : 48.3 [%] Test engineer :
Test place : Shielded room No.3 Tadahiro Seino

Mode	Channel	Frequency (MHz)	Reading (dBm)	Duty Cycle			DCF (dB)	Test Result (dBm)
				On Time(ms)	On+Off Time(ms)	X		
802.11a	36	5180	1.036	1.342	1.382	0.971	0.128	1.164
	40	5200	0.748					0.876
	48	5240	0.801					0.929
	52	5260	0.835	1.342	1.380	0.972	0.121	0.956
	56	5280	1.209					1.330
	64	5320	1.234					1.355
	100	5500	0.870	1.342	1.382	0.971	0.128	0.998
	116	5580	1.018					1.146
	140	5700	0.896					1.024
	144	5720	0.883					1.011
	149	5745	1.127	1.342	1.382	0.971	0.128	1.255
	157	5785	0.947					1.075
	165	5825	1.188					1.316

Mode	Channel	Frequency (MHz)	Reading (dBm)	Duty Cycle			DCF (dB)	Test Result (dBm)
				On Time(ms)	On+Off Time(ms)	X		
802.11n (20MHz)	36	5180	0.696	1.258	1.298	0.969	0.136	0.832
	40	5200	0.495					0.631
	48	5240	0.485					0.621
	52	5260	0.510	1.256	1.294	0.971	0.129	0.639
	56	5280	0.694					0.823
	64	5320	0.543					0.672
	100	5500	1.044	1.260	1.298	0.971	0.129	1.173
	116	5580	0.456					0.585
	140	5700	0.858					0.987
	144	5720	0.553					0.682
	149	5745	0.826	1.256	1.296	0.969	0.136	0.962
	157	5785	0.586					0.722
	165	5825	0.911					1.047

Note 1: X = On time / (On + Off time), DCF=10log (1/x)
Note 2: Test Result = Reading + DCF

Japan

Mode	Channel	Frequency (MHz)	Reading (dBm)	Duty Cycle			DCF (dB)	Test Result (dBm)
				On Time(ms)	On+Off Time(ms)	X		
802.11n (40MHz)	38	5190	-1.858	0.626	0.664	0.943	0.256	-1.602
	46	5230	-1.968					-1.712
	54	5270	-1.724	0.628	0.665	0.944	0.249	-1.475
	62	5310	-1.580					-1.331
	102	5510	-1.733	0.627	0.664	0.944	0.249	-1.484
	110	5550	-2.202					-1.953
	134	5670	-1.752					-1.503
	142	5710	-2.000					-1.751
	151	5755	-1.509	0.626	0.663	0.944	0.249	-1.260
	159	5795	-1.808					-1.559

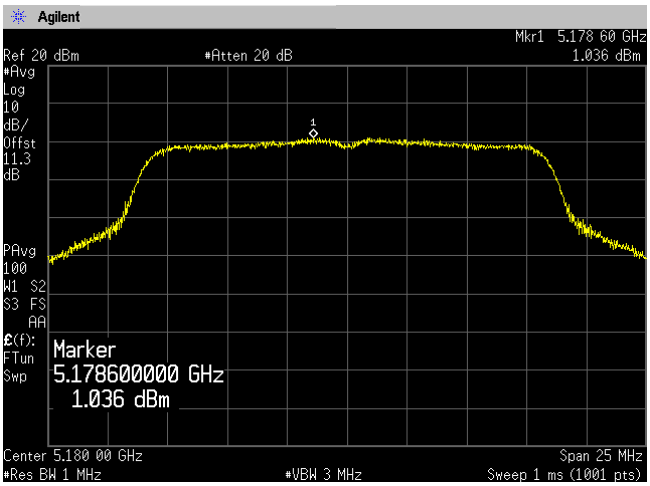
Mode	Channel	Frequency (MHz)	Reading (dBm)	Duty Cycle			DCF (dB)	Test Result (dBm)
				On Time(ms)	On+Off Time(ms)	X		
802.11ac (80MHz)	42	5210	-5.117	0.315	0.352	0.895	0.481	-4.636
	58	5290	-4.914	0.315	0.352	0.895	0.481	-4.433
	106	5530	-5.526	0.315	0.352	0.894	0.488	-5.038
	122	5610	-5.031	0.315	0.352	0.894	0.488	-4.543
	138	5690	-5.086	0.315	0.352	0.895	0.481	-4.605
	155	5775	-4.946	0.315	0.352	0.894	0.488	-4.458

Note 1: X = On time / (On + Off time), DCF=10log (1/x)
Note 2: Test Result = Reading + DCF

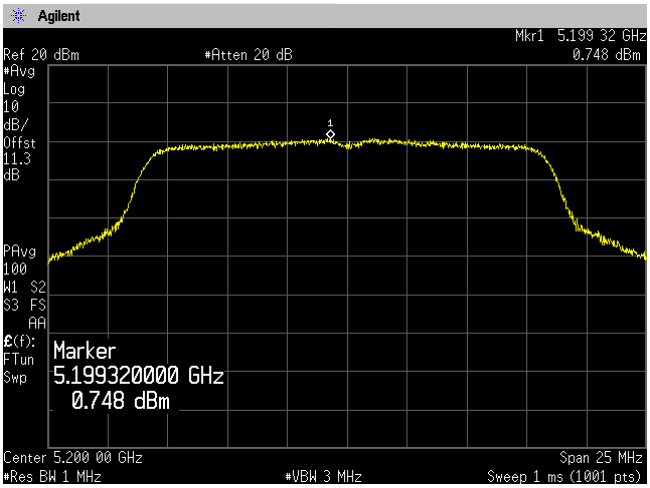
Japan

4.4.4 Trace data

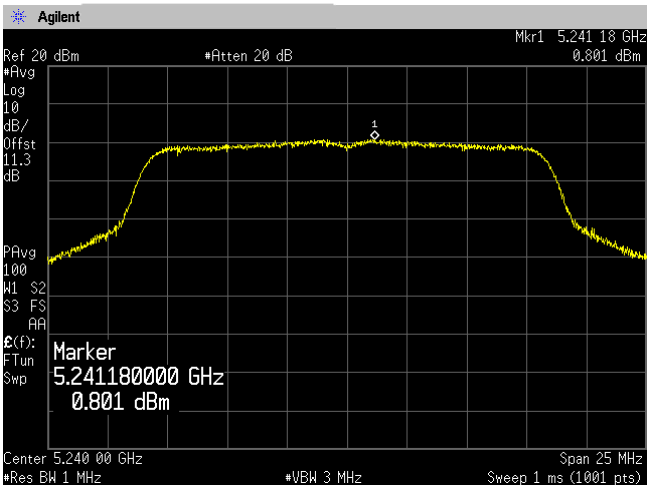
[IEEE802.11a]
(5.2 GHz Band)
Channel: 36



Channel: 40

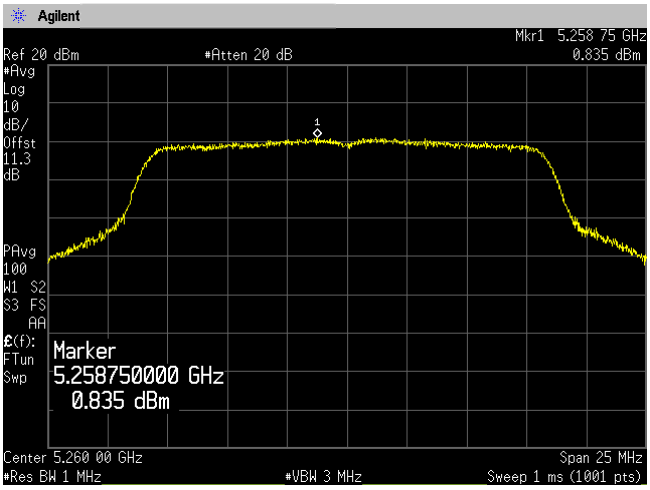


Channel: 48

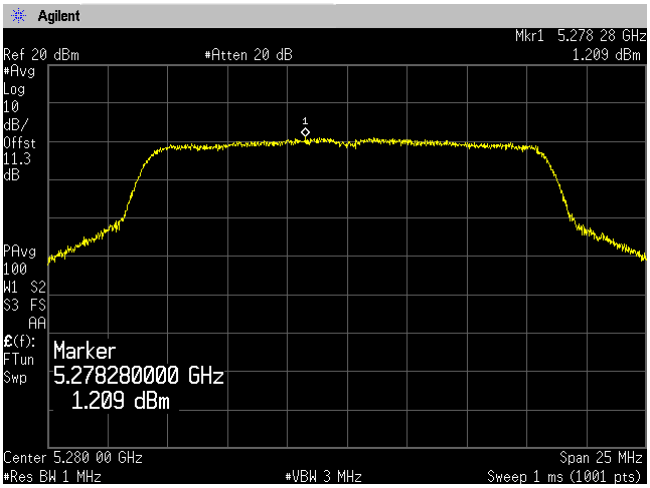


Japan

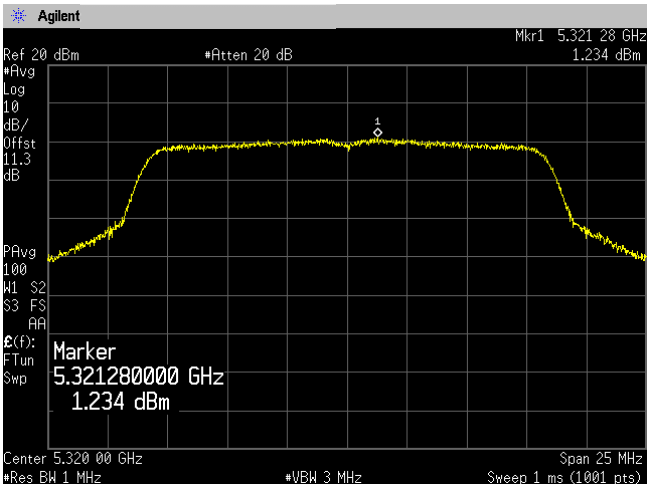
(5.3 GHz Band)
Channel: 52



Channel: 56

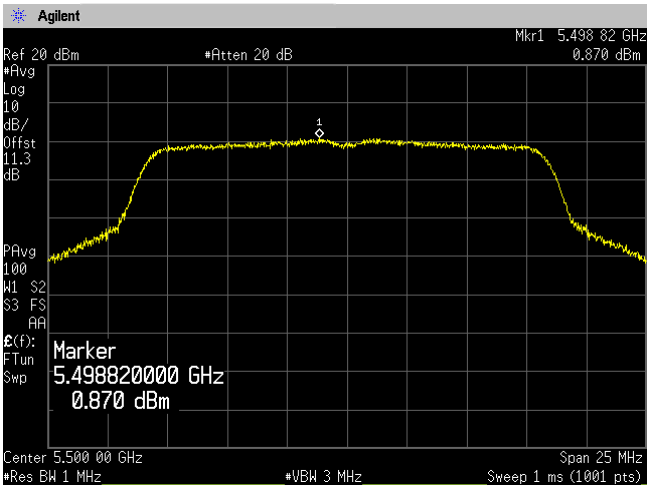


Channel: 64

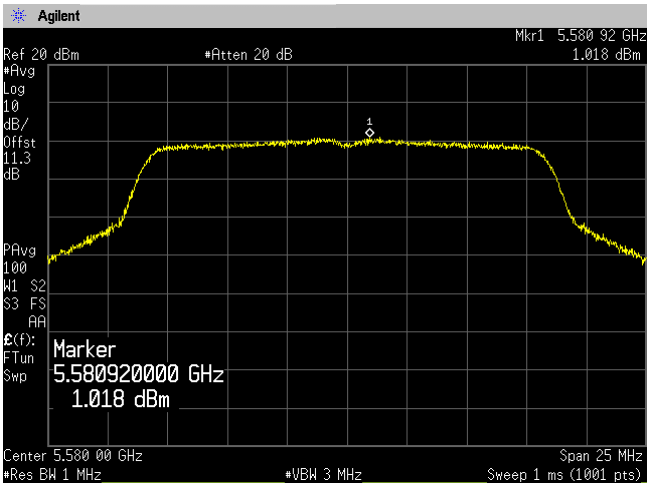


Japan

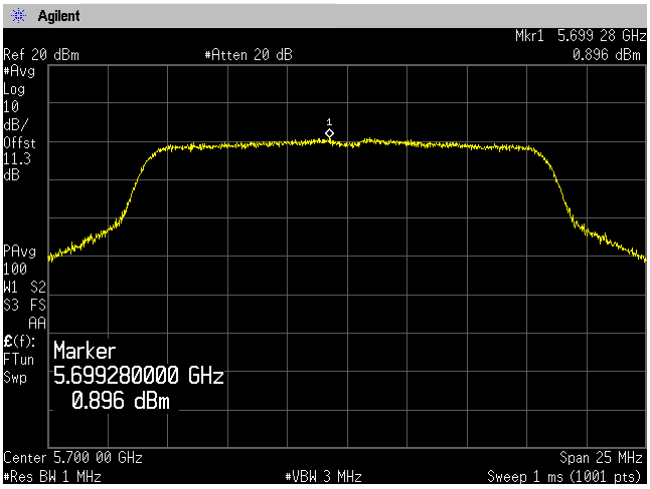
(5.6 GHz Band)
Channel: 100



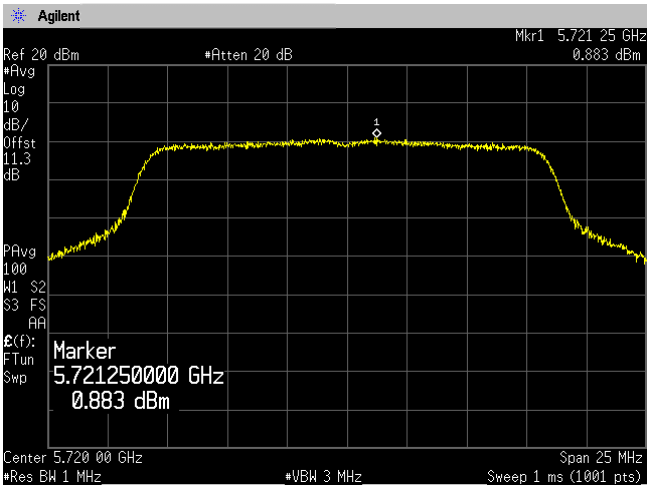
Channel: 116



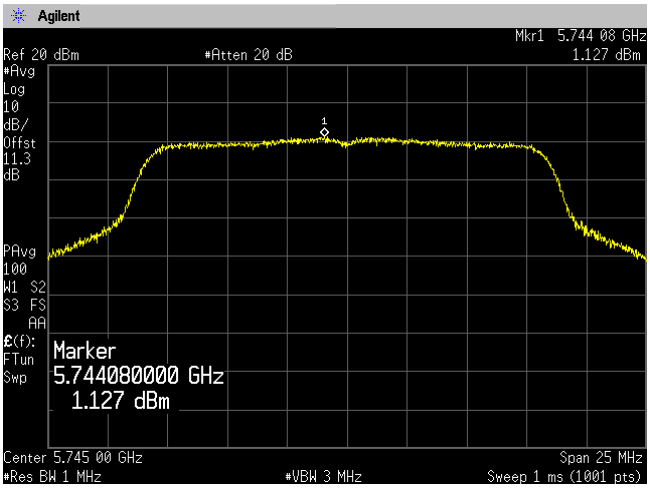
Channel: 140



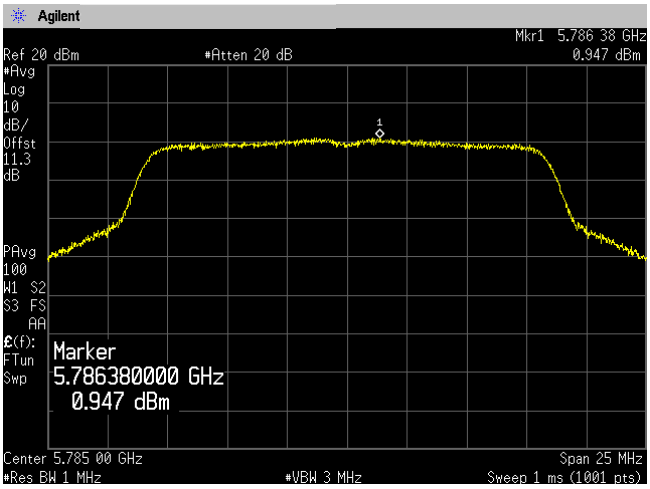
(5.6 GHz Band)
Channel: 144



(5.8 GHz Band)
Channel: 149

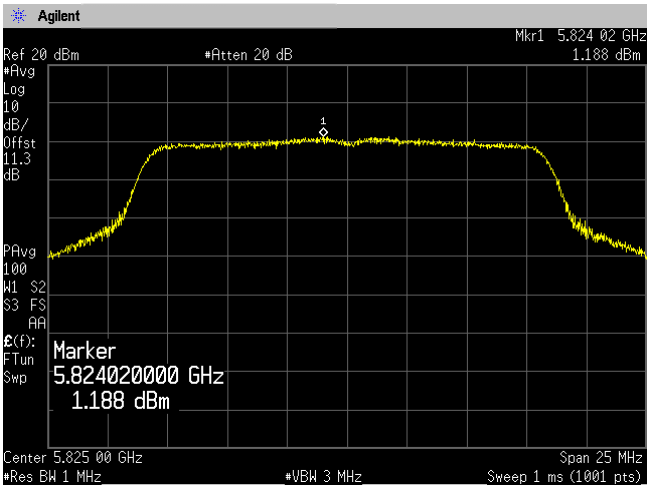


Channel: 157



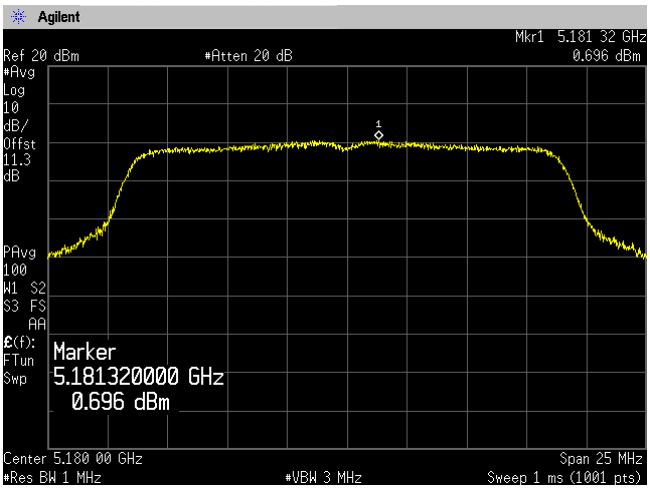
Japan

(5.8 GHz Band)
Channel: 165

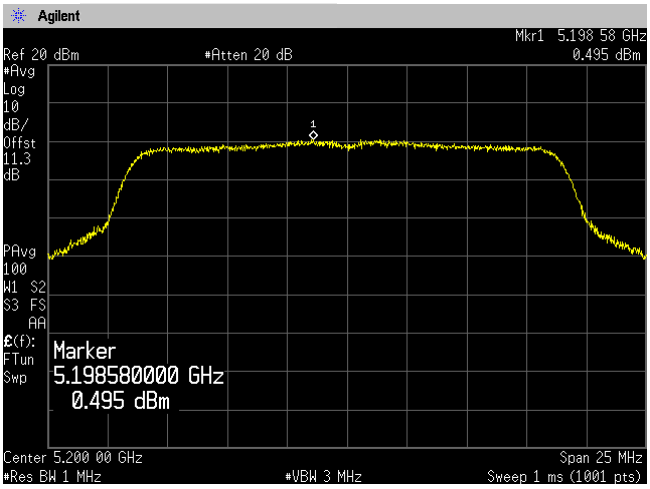


Japan

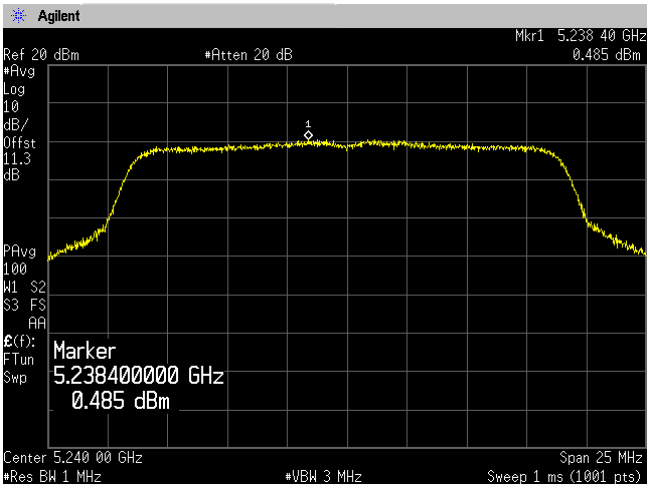
[IEEE802.11n (HT20)]
(5.2 GHz Band)
Channel: 36



Channel: 40

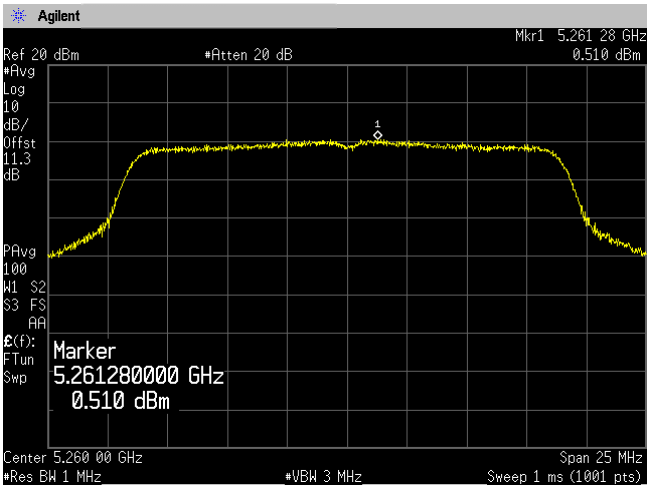


Channel: 48

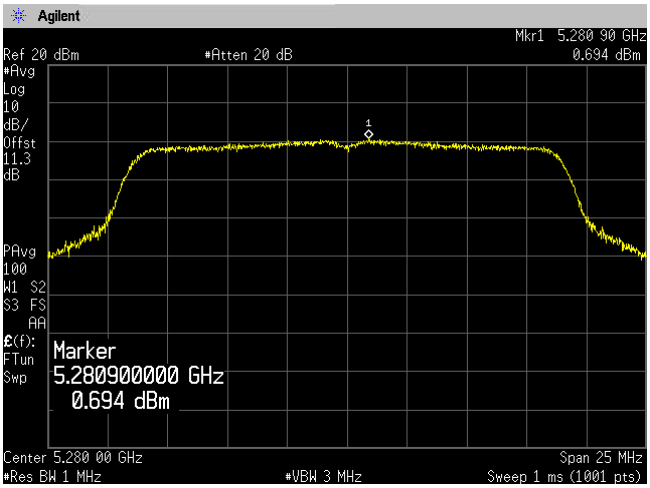


Japan

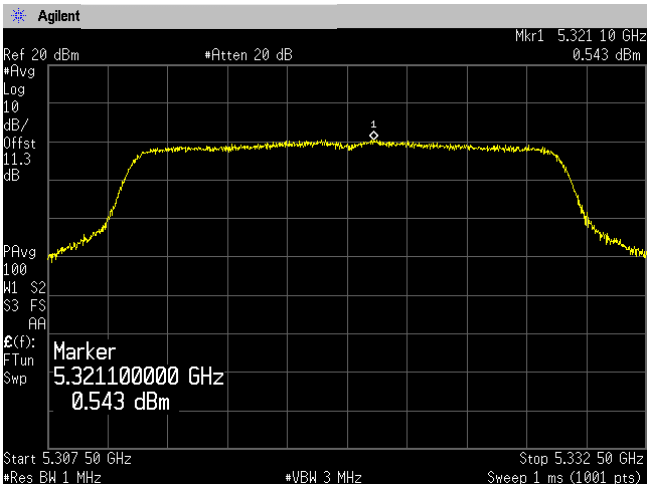
(5.3 GHz Band)
Channel: 52



Channel: 56

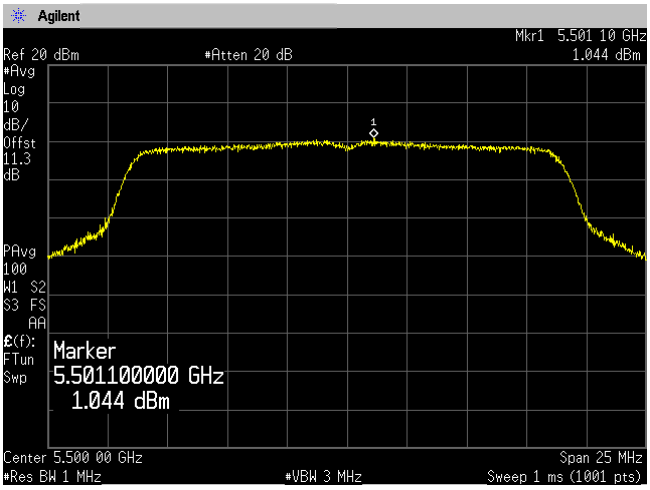


Channel: 64

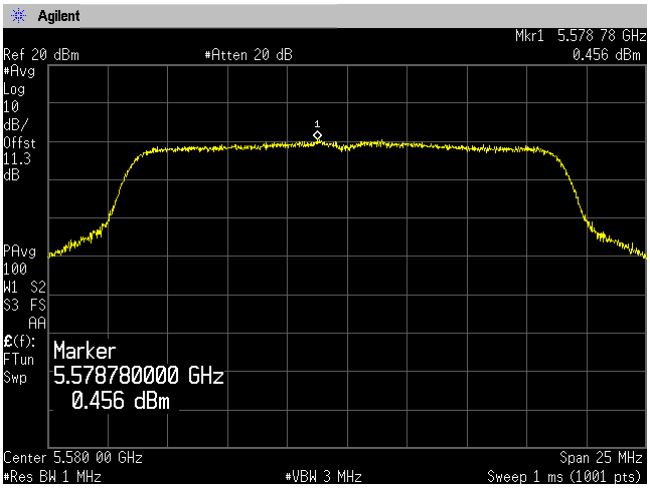


Japan

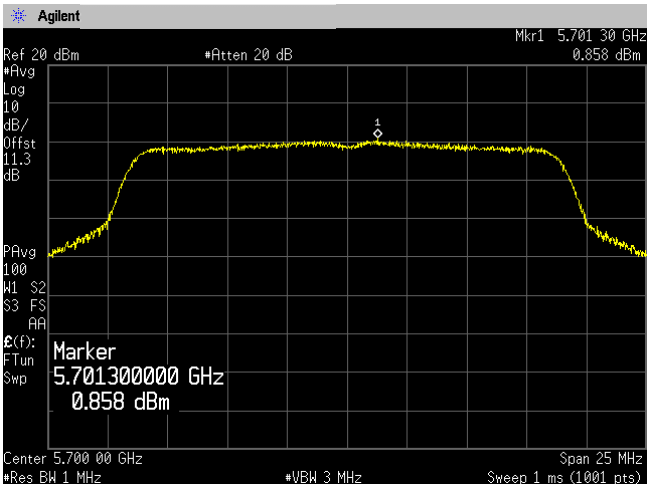
(5.6 GHz Band)
Channel: 100



Channel: 116

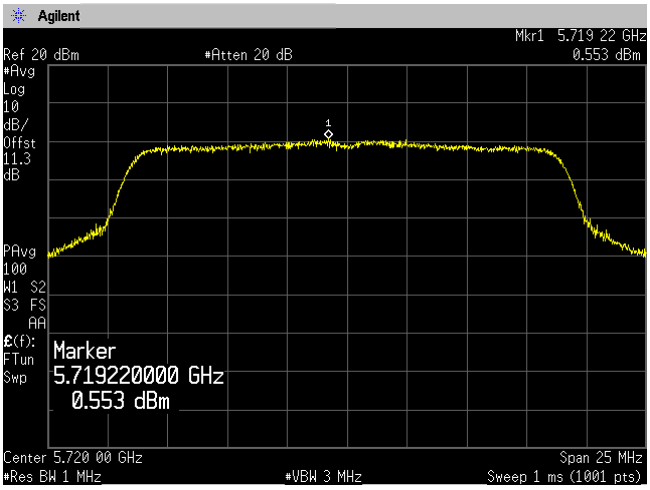


Channel: 140

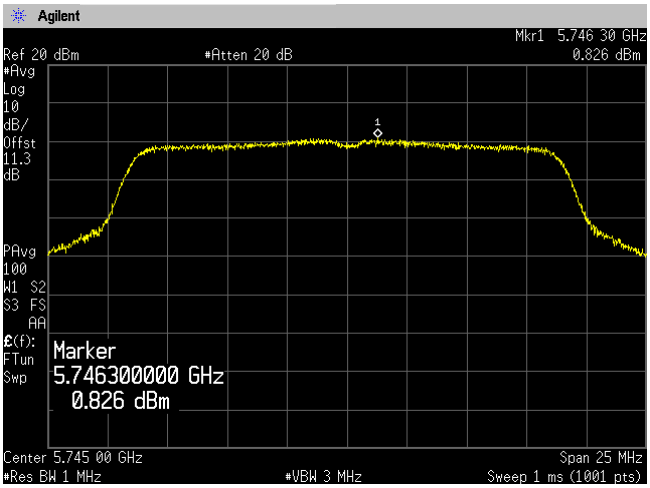


Japan

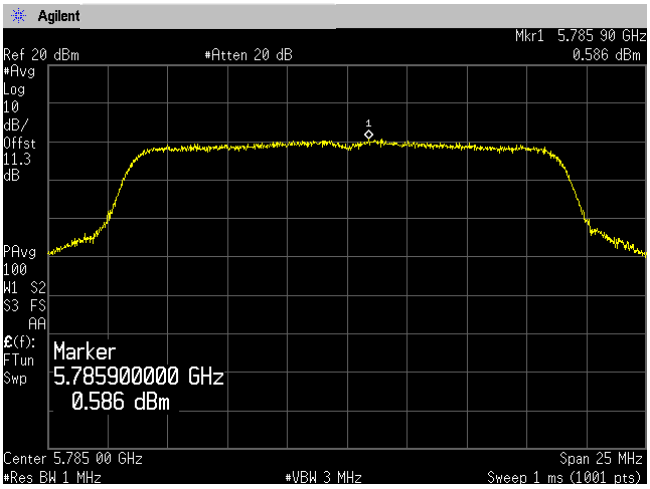
(5.6 GHz Band)
Channel: 144



(5.8 GHz Band)
Channel: 149

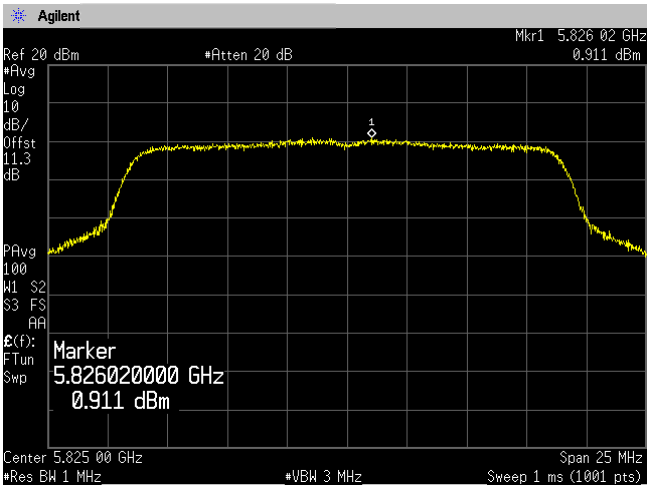


Channel: 157



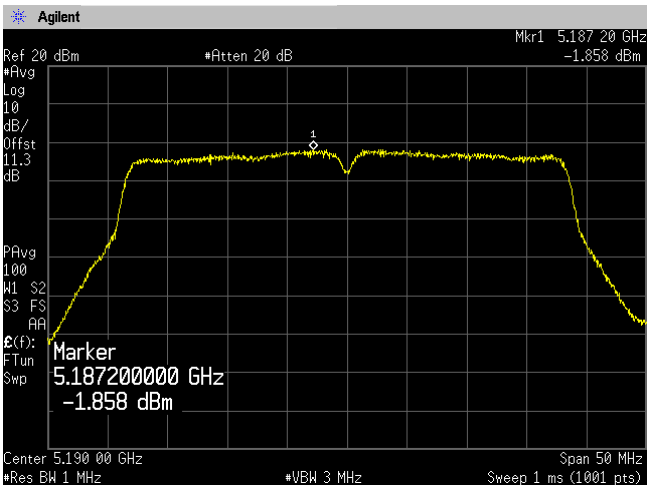
Japan

(5.8 GHz Band)
Channel: 165

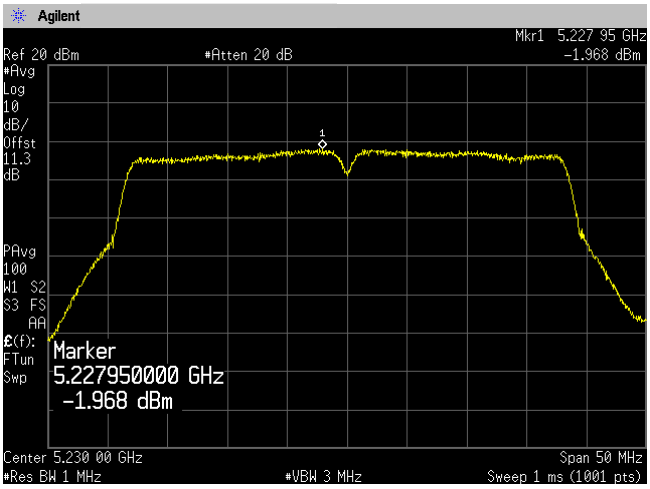


Japan

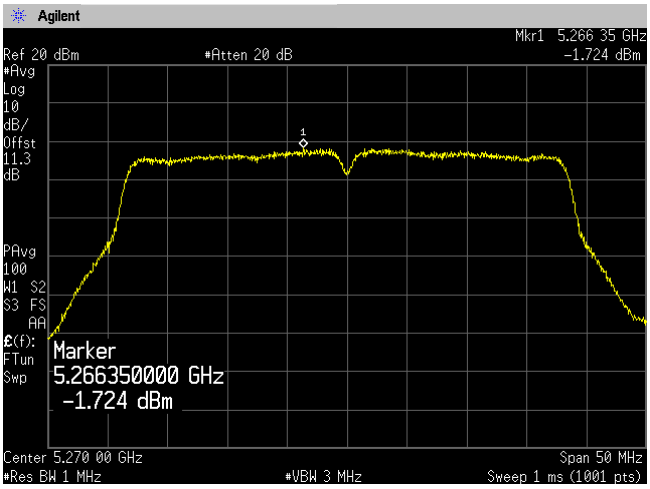
[IEEE802.11n (HT40)]
(5.2 GHz Band)
Channel: 38



Channel: 46

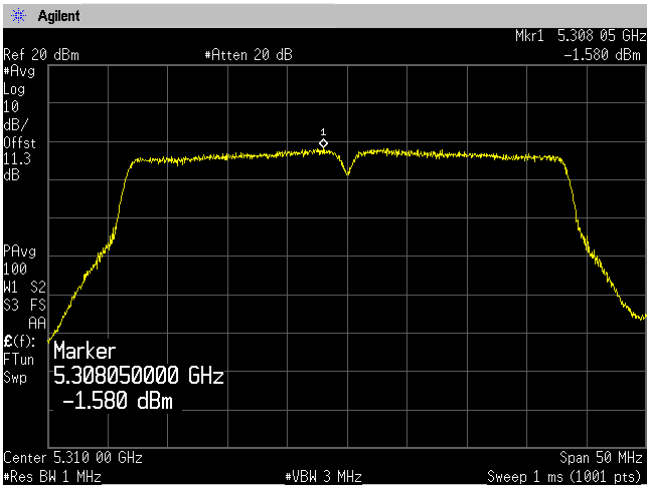


(5.3 GHz Band)
Channel: 54

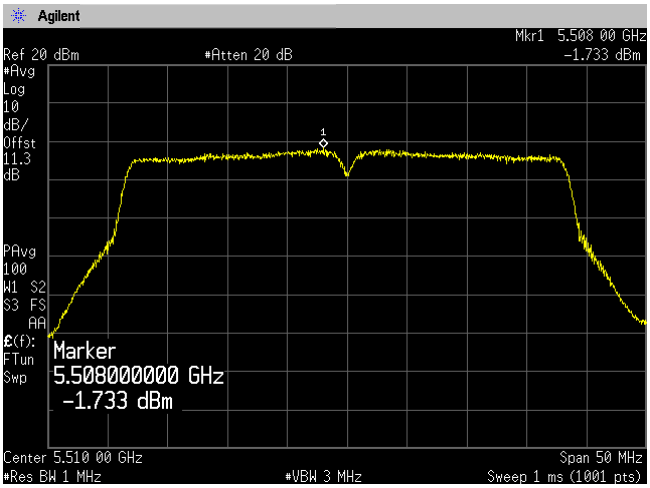


Japan

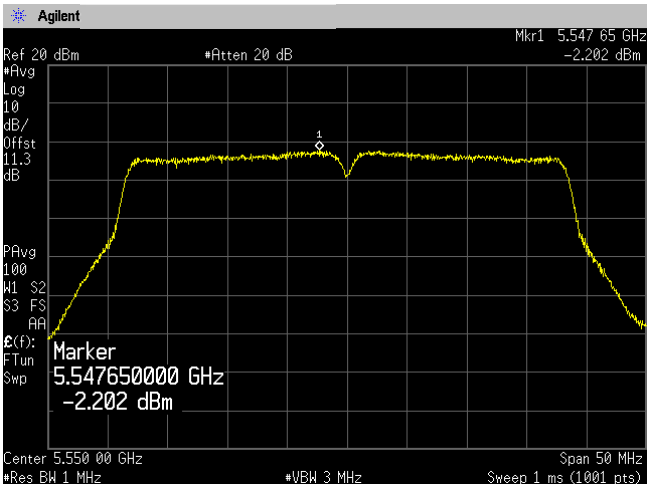
(5.3 GHz Band)
Channel: 62



(5.6 GHz Band)
Channel: 102

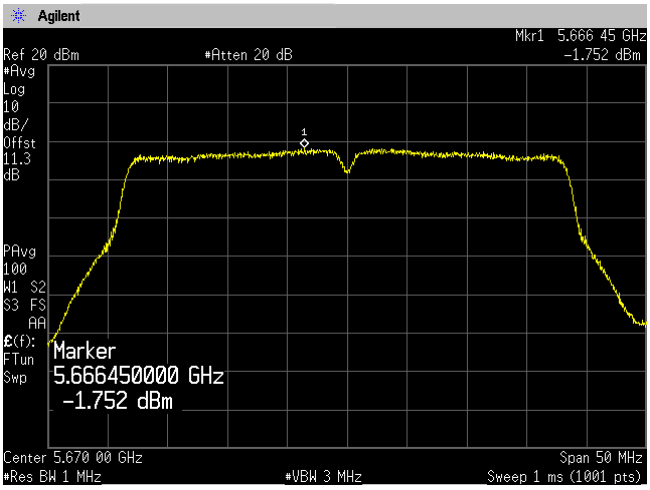


Channel: 110

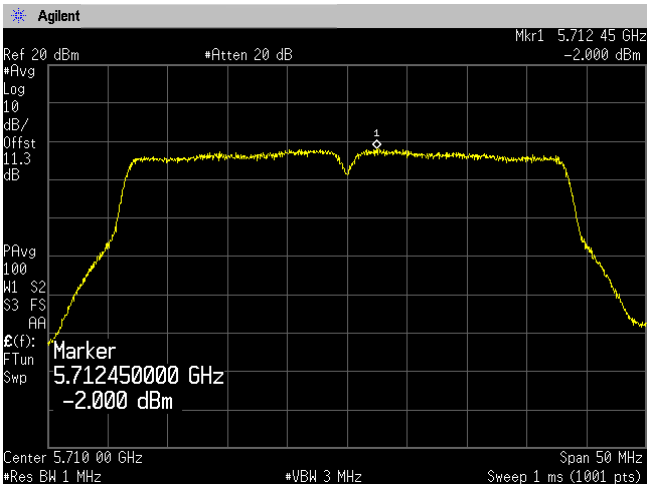


Japan

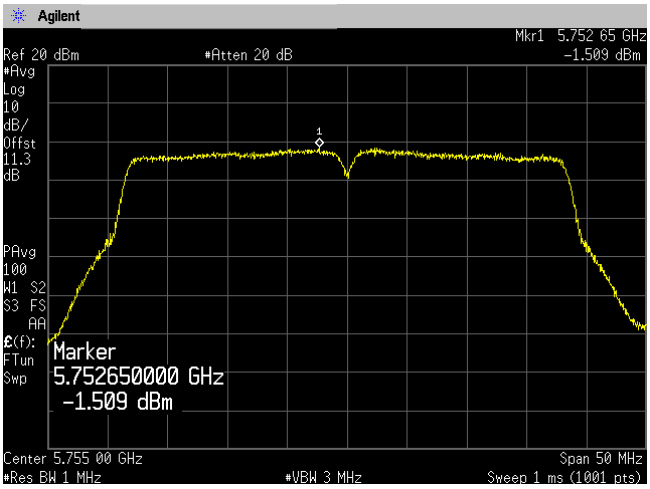
(5.6 GHz Band)
Channel: 134



Channel: 142

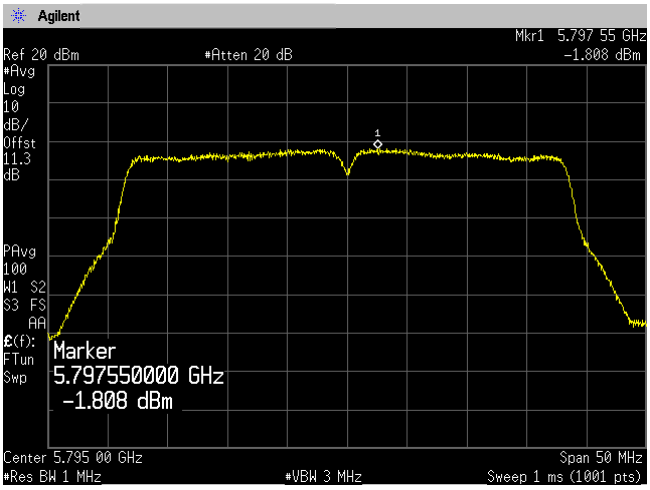


(5.8 GHz Band)
Channel: 151



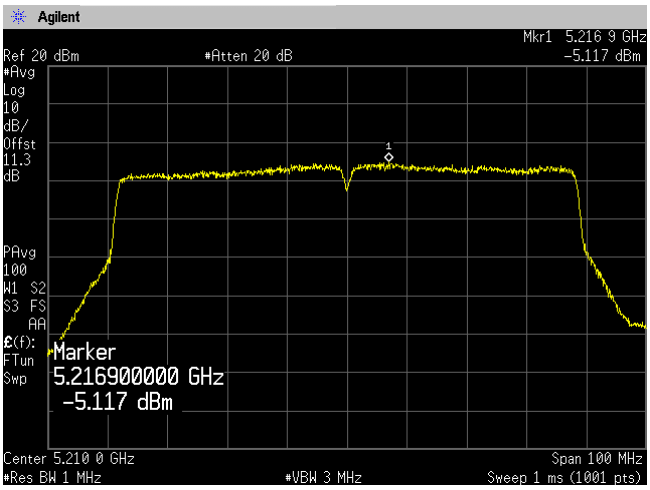
Japan

(5.8 GHz Band)
Channel: 159

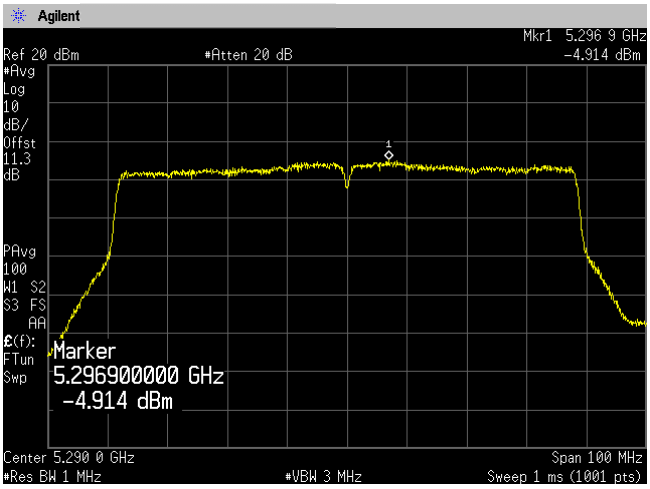


Japan

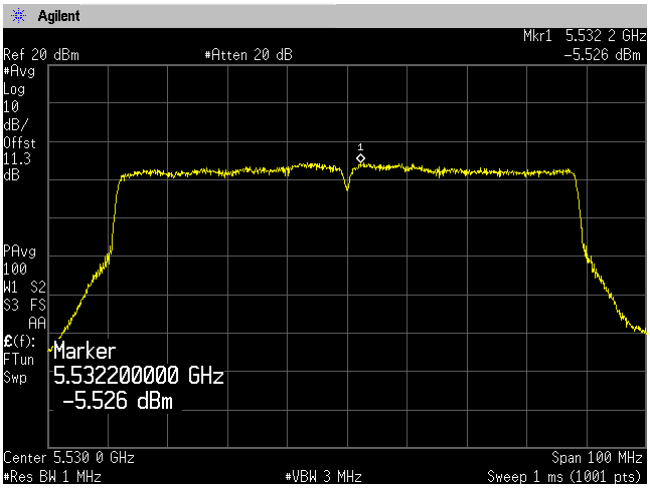
[IEEE802.11ac (HT80)]
(5.2 GHz Band)
Channel: 42



(5.3GHz Band)
Channel: 58

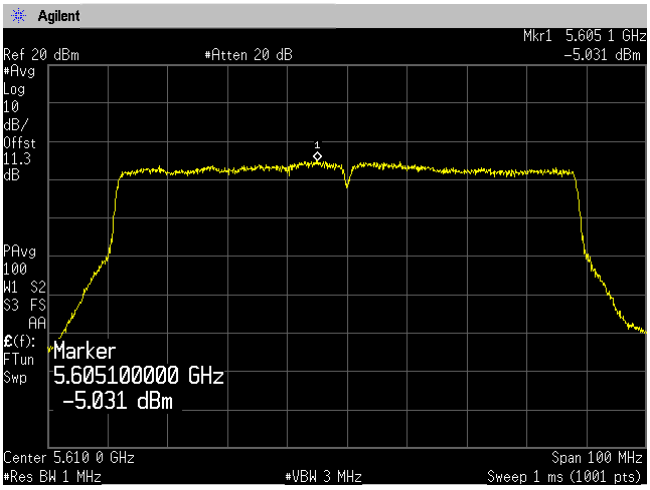


(5.6GHz Band)
Channel: 106

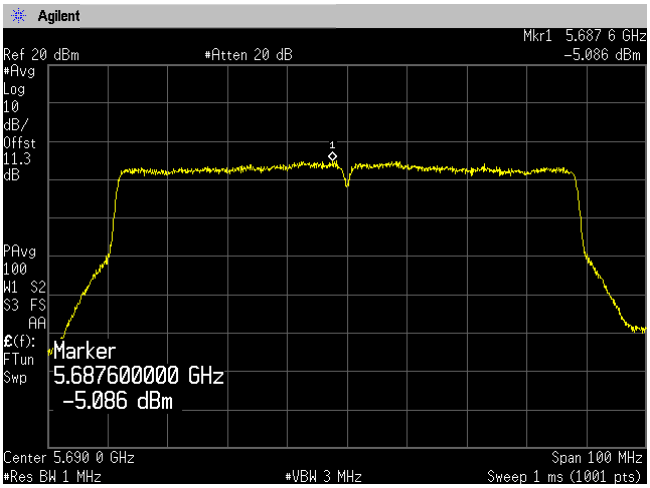


Japan

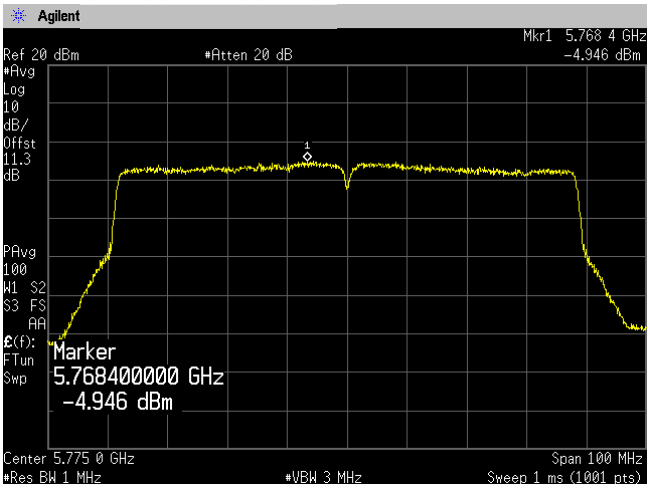
(5.6GHz Band)
Channel: 122



Channel: 138



(5.8GHz Band)
Channel: 155



Japan

4.5 Radiated Emissions (Restricted Bands of Operation)

4.5.1 Measurement procedure

[FCC 15.407(b), 15.205, 15.209, KDB 789033 D02, Section G.4, 5, 6.c) Method AD]

Test was applied by following conditions.

Test method	:	ANSI C63.10
Frequency range	:	9 kHz to 40 GHz
Test place	:	3m Semi-anechoic chamber
EUT was placed on	:	Styrofoam table / (W) 1.0 × (D) 1.0 ×(H) 0.8 m (below 1 GHz) Styrofoam table / (W) 0.6 × (D) 0.6 ×(H) 1.5 m (above 1 GHz)
Antenna distance	:	3m
Test receiver setting		Below 1 GHz
- Detector	:	Quasi-peak
- Bandwidth	:	120 kHz
Spectrum analyzer setting		Above 1 GHz
- Peak	:	RBW=1 MHz, VBW=3 MHz, Span=0 Hz, Sweep=auto, Detector=Peak Trace mode=Max hold
- Average	:	RBW=1 MHz, VBW=3 MHz, Span=0 Hz, Sweep=auto, Detector=RMS Trace mode=Averaging (300 counts)

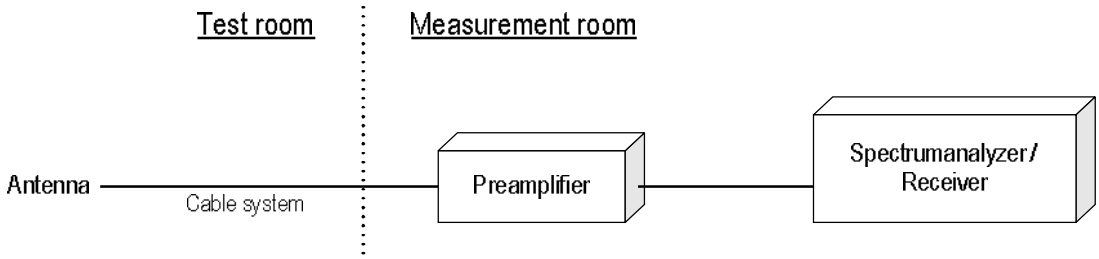
Radiated emission measurements are performed at 3m distance with the broadband antenna (Loop antenna, Biconical antenna, Log periodic antenna, Double ridged guide antenna and Bload-band horn Antenna). The antenna is positioned both the horizontal and vertical planes of polarization and height is varied 1m to 4m and stopped at height producing the maximum emission. As for the Loop antenna, it is positioned with its plane vertical, and the center of the Loop antenna is 1m above the ground plane.

The EUT is Placed on a turntable, which is 0.8m (below 1 GHz) and 1.5m (above 1 GHz) above ground plane. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level. The test results represent the worst case emission for each emission with manipulating the EUT, support equipment, interconnecting cables and varying the mode of operation. Sufficient time for the EUT, support equipment, and test equipment are allowed in order for them to warm up to their normal operating condition.

The EUT was set to operate with following conditions.
- 5.2 GHz Band, 5.3 GHz Band, 5.6 GHz Band

The test mode of EUT is as follows.
- Tx mode, Rx mode

- Test configuration



Duty cycle result

Mode	Band	On Time(ms)	On+Off Time(ms)	Duty Cycle (%)	DCF (dB)
802.11a	W52	1.342	1.382	97.11	0.128
	W53	1.342	1.380	97.25	0.121
	W56	1.342	1.382	97.11	0.128
	W58	1.342	1.382	97.11	0.128
802.11n (20MHz)	W52	1.258	1.298	96.92	0.136
	W53	1.256	1.294	97.06	0.129
	W56	1.260	1.298	97.07	0.129
	W58	1.256	1.296	96.91	0.136
802.11n (40MHz)	W52	0.626	0.664	94.28	0.256
	W53	0.628	0.665	94.44	0.249
	W56	0.627	0.664	94.43	0.249
	W58	0.626	0.663	94.42	0.249
802.11ac (80MHz)	W52	0.315	0.352	89.52	0.481
	W53	0.315	0.352	89.52	0.481
	W56	0.315	0.352	89.52	0.481
	W58	0.315	0.353	89.36	0.488

Note: DCF = 10log(1/x)

4.5.2 Calculation method

[150 kHz to 25 GHz]
Emission level = Reading + (Ant. factor + Cable system loss - Amp. Gain)
Margin = Limit - Emission level

Example:
Detector: Peak
Limit @ 5147.0 MHz: 74.0 dBuV/m (Peak Limit)
S.A Reading = 40.9 dBuV Cable system loss = 16.4 dB
Result = 40.9 + 16.4 = 57.3 dBuV/m
Margin = 74.0 - 57.3 = 16.7 dB

Japan

4.5.3 Limit

(1) For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.

(3) For transmitters operating in the 5.47-5.725GHz band: all emissions outside of the 5.47 5-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of -27 dBm/MHz.

Frequency [MHz]	Field strength		Distance [m]
	[uV/m]	[dBuV/m]	
0.009-0.490	2400 / F [kHz]	20logE [uV/m]	300
0.490-1.705	24000 / F [kHz]	20logE [uV/m]	30
1.705-30	30	29.5	30
30-88	100	40.0	3
88-216	150	43.5	3
216-960	200	46.0	3
Above 960	500	54.0	3

Note:
1. The lower limit shall apply at the transition frequencies.
2. Emission level [dBuV/m] = 20log Emission [uV/m]
3. As shown in 15.35(b), for frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition modulation.

Japan

4.5.4 Test data

Date	:	23-August-2021			
Temperature	:	23.0 [˚C]			
Humidity	:	71.0 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Taiki Watanabe

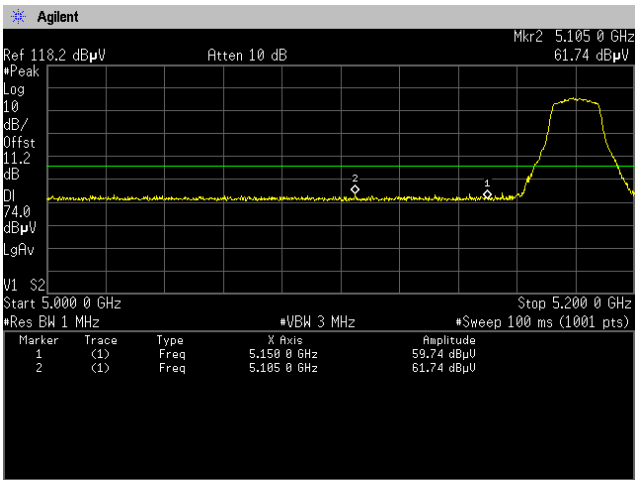
Date	:	24-August-2021			
Temperature	:	23.1 [˚C]			
Humidity	:	68.9 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Taiki Watanabe

Date	:	2-September-2021			
Temperature	:	22.4 [˚C]			
Humidity	:	61.8 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Taiki Watanabe

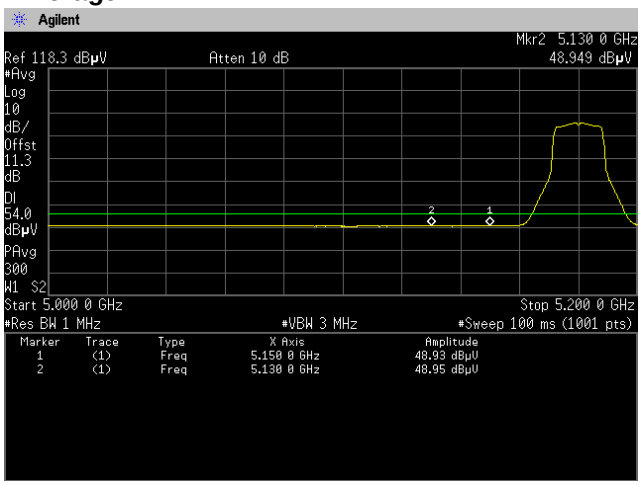
4.5.4.1 Restricted Bandedge

[IEEE802.11a]

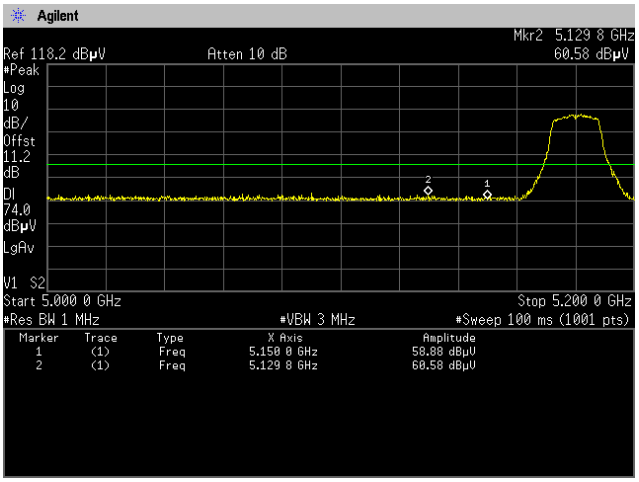
5.2 GHz Band, Channel Low
Horizontal
Peak



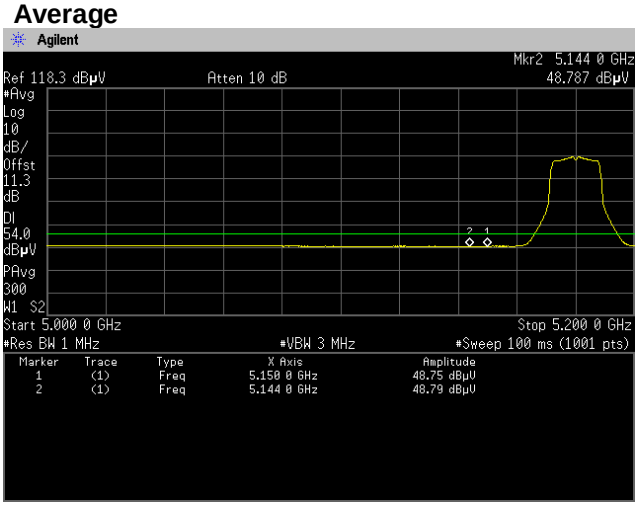
Average



Vertical
Peak



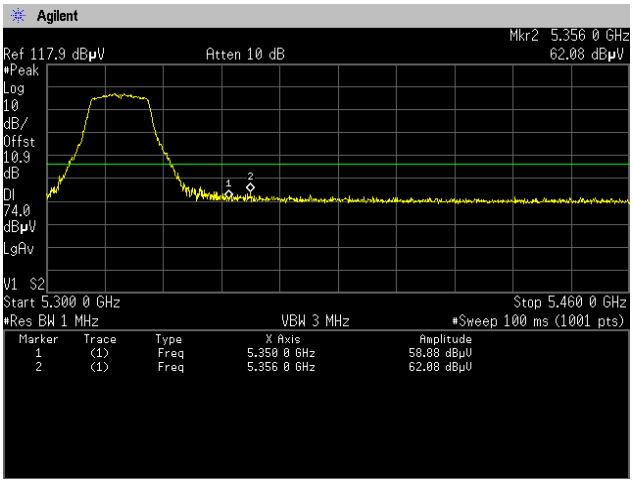
Average



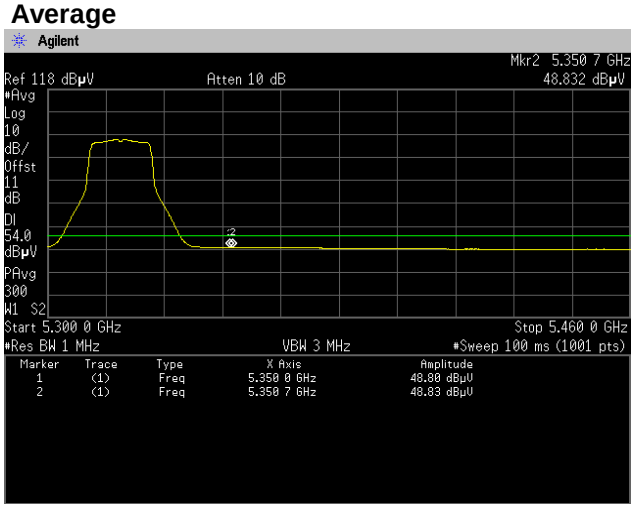
Japan

[IEEE802.11a]

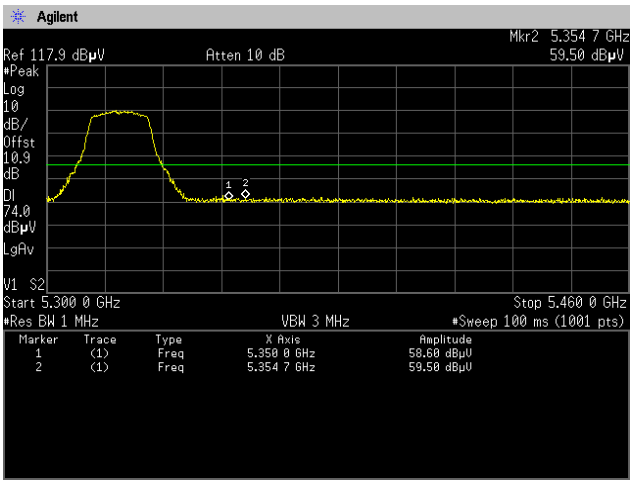
5.3 GHz Band, Channel High
Horizontal
Peak



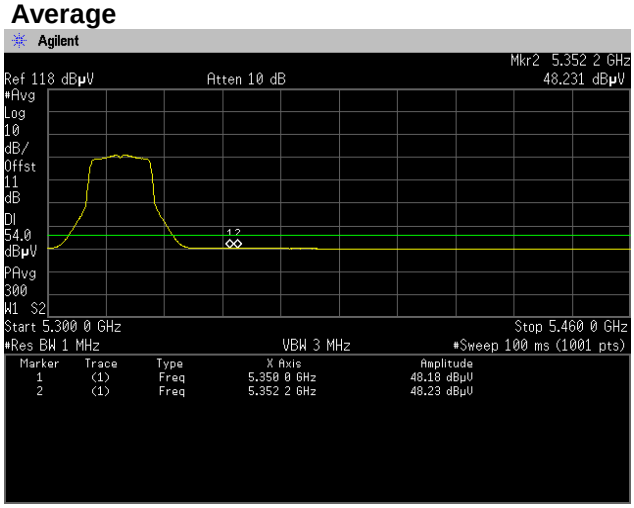
Average



Vertical
Peak



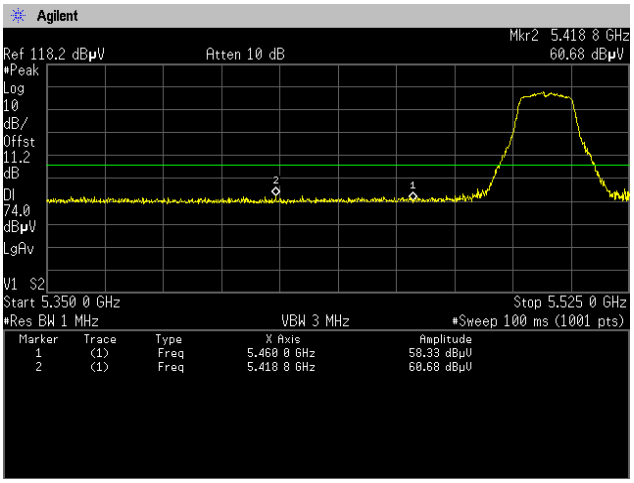
Average



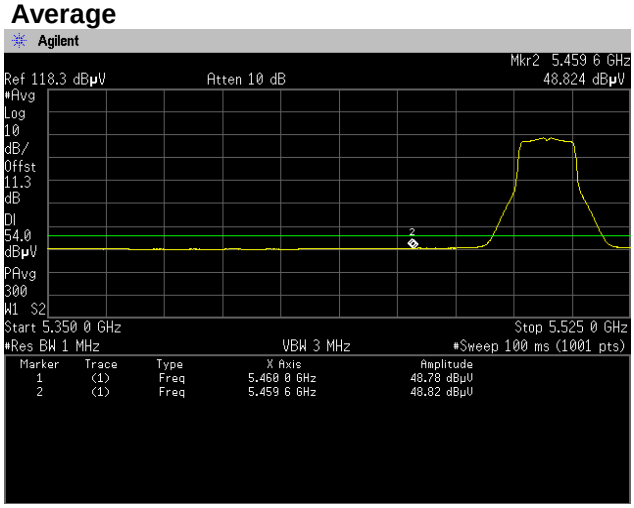
Japan

[IEEE802.11a]

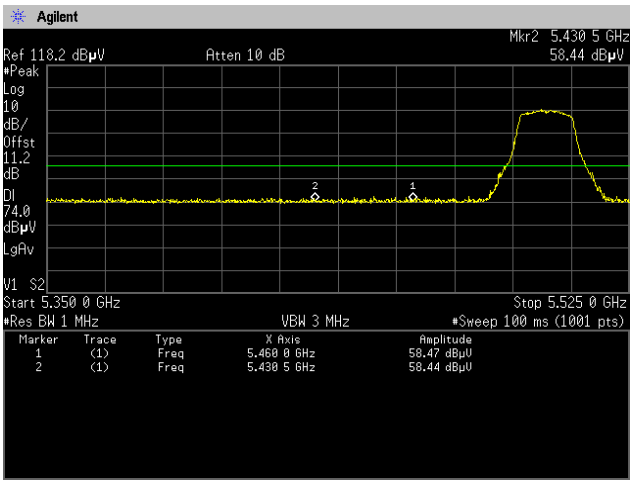
5.6 GHz Band, Channel Low
Horizontal
Peak



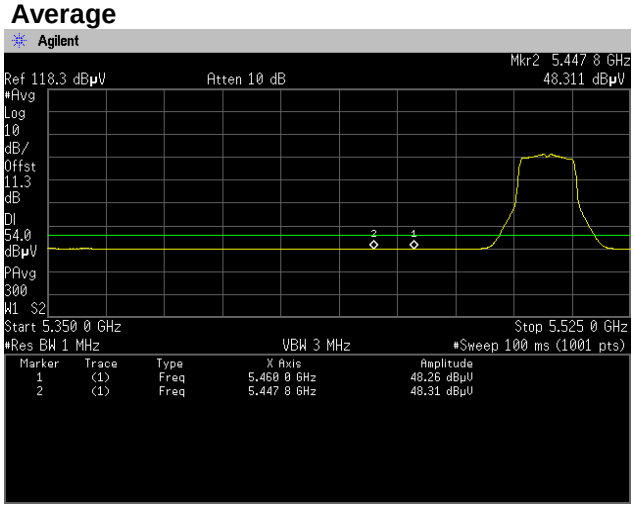
Average



Vertical
Peak



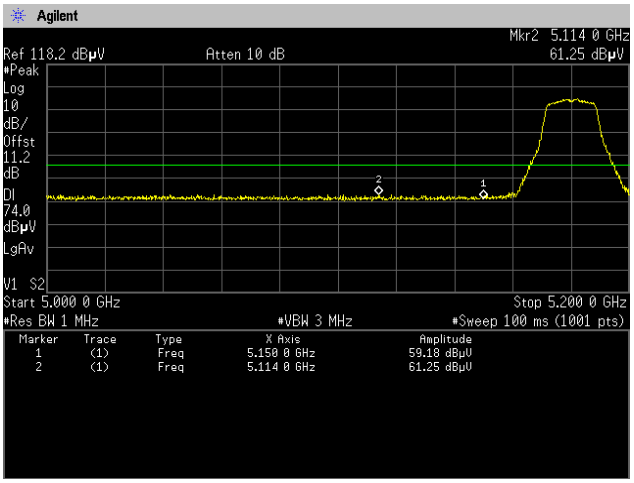
Average



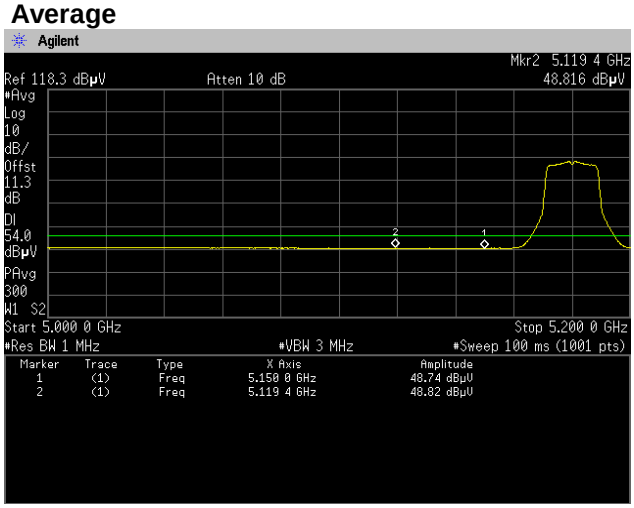
Japan

[IEEE802.11n (HT20)]

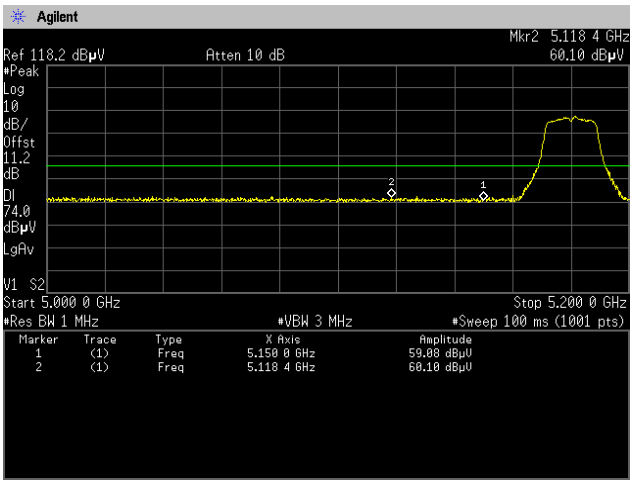
5.2 GHz Band, Channel Low
Horizontal
Peak



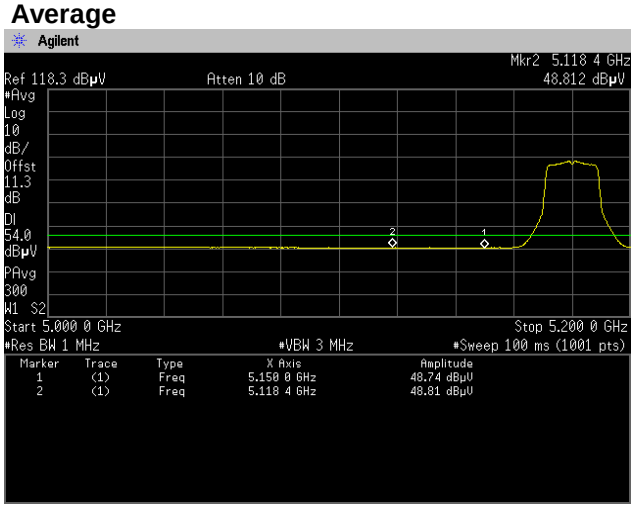
Average



Vertical
Peak



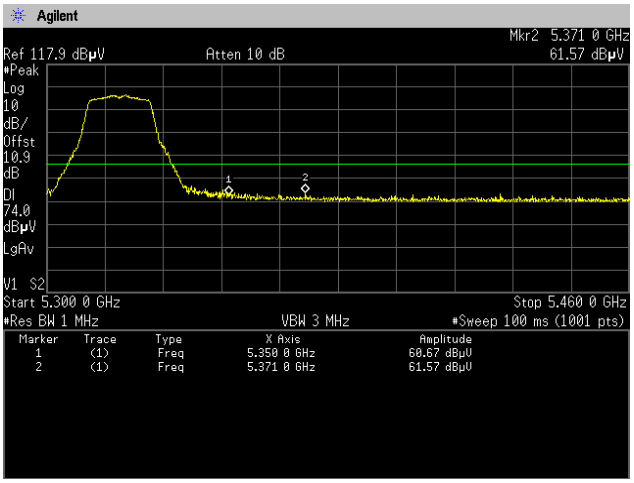
Average



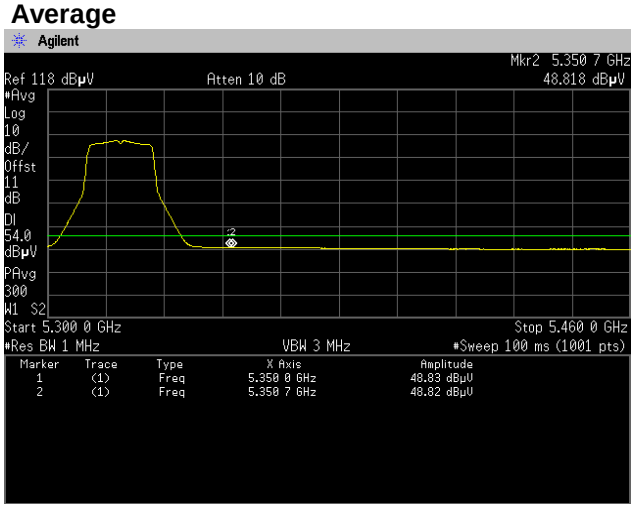
Japan

[IEEE802.11n (HT20)]

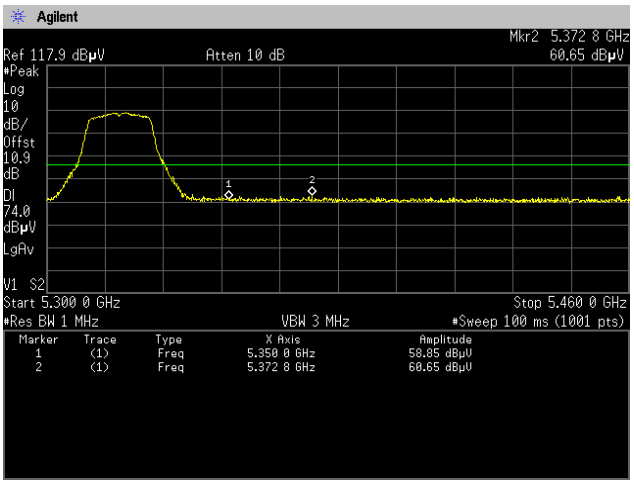
5.3 GHz Band, Channel High
Horizontal
Peak



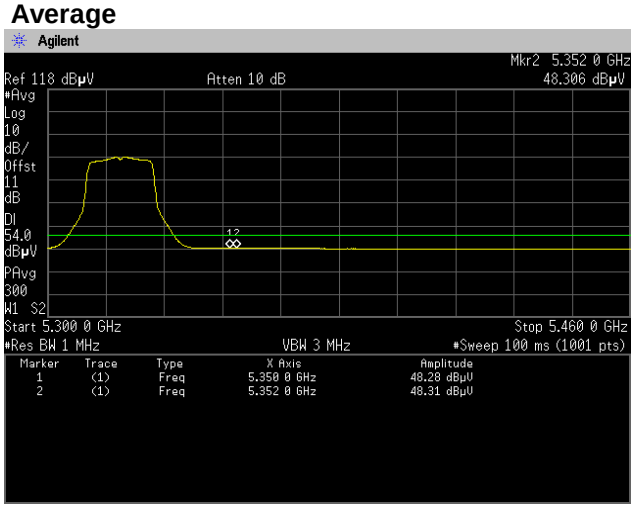
Average



Vertical
Peak



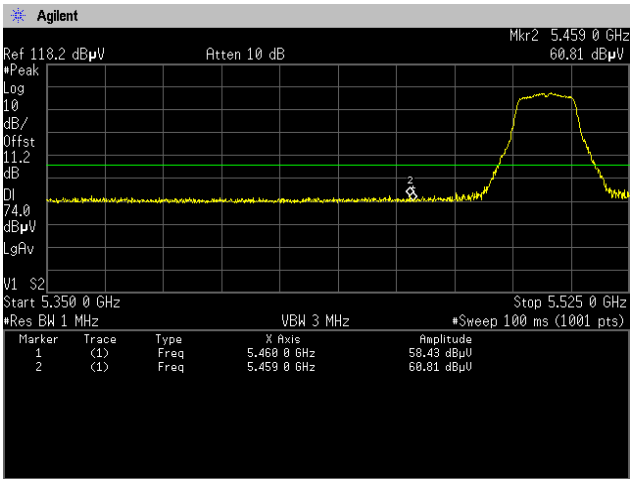
Average



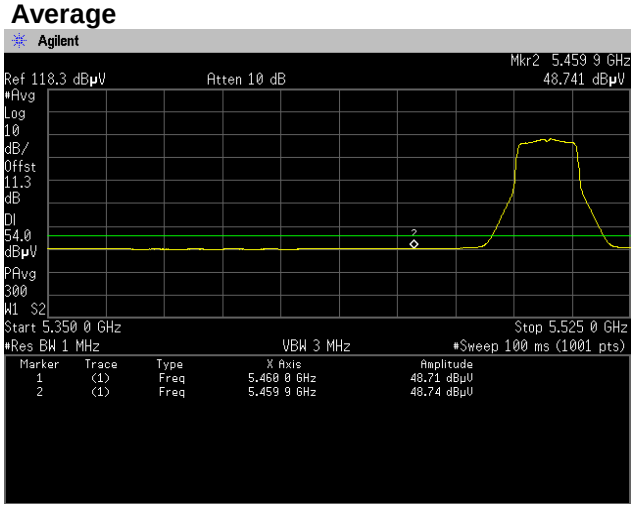
Japan

[IEEE802.11n (HT20)]

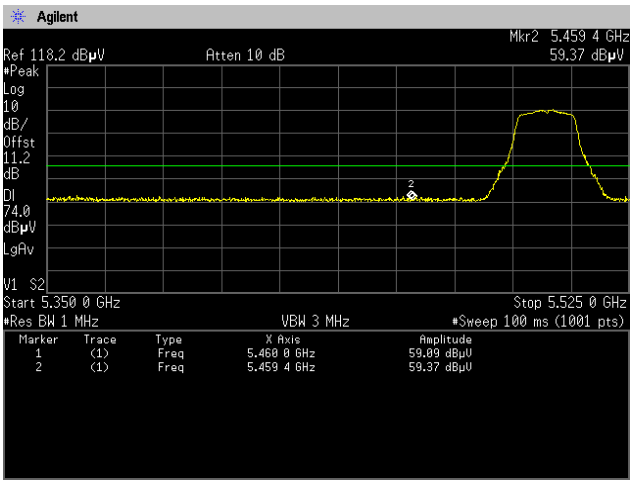
5.6 GHz Band, Channel Low
Horizontal
Peak



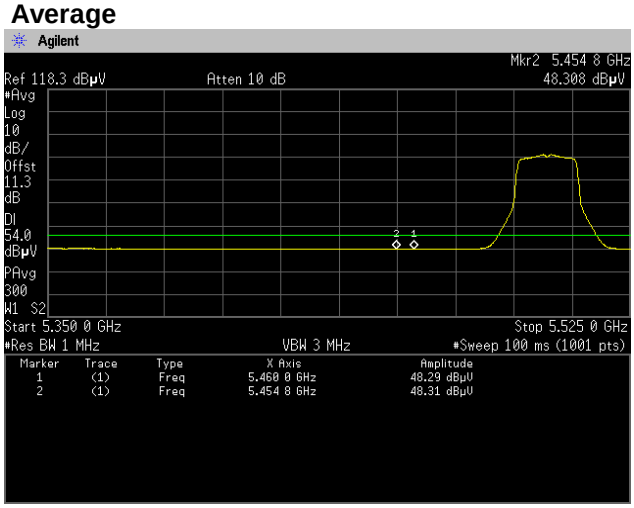
Average



Vertical
Peak



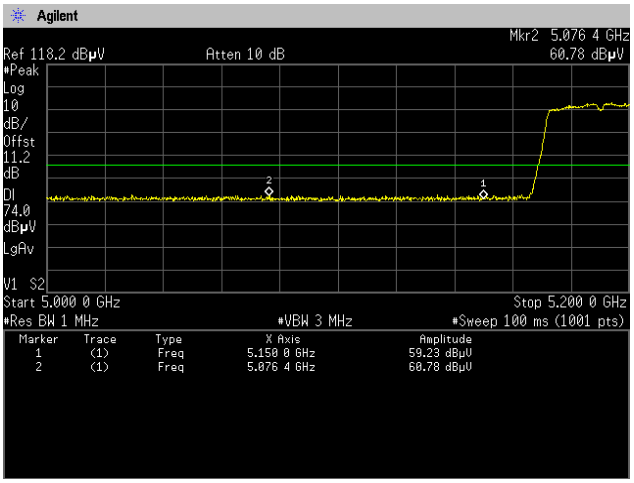
Average



Japan

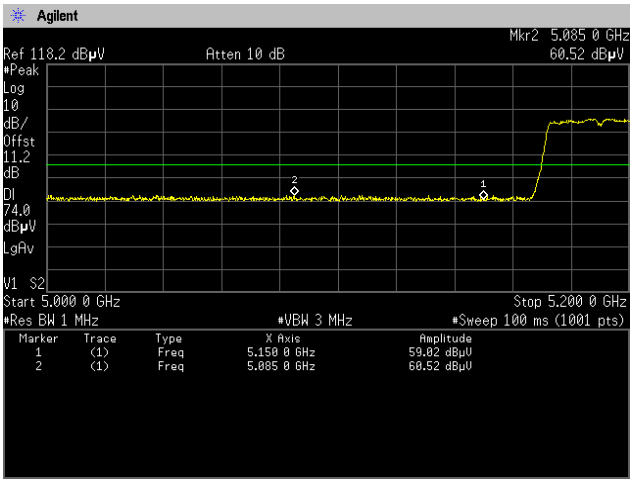
[IEEE802.11n (HT40)]

5.2 GHz Band, Channel Low
Horizontal
Peak

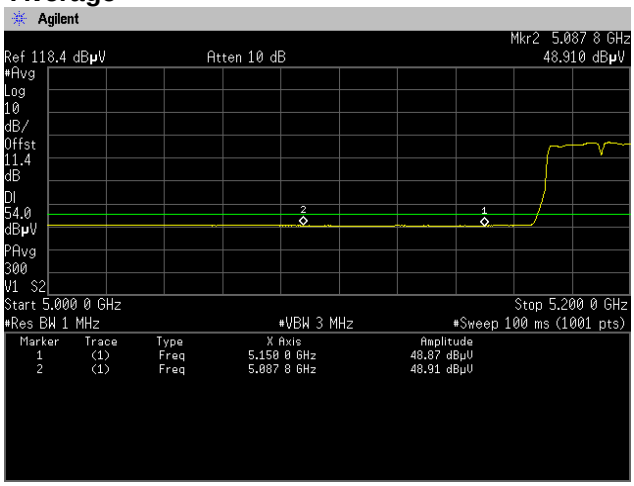


Average

Vertical
Peak

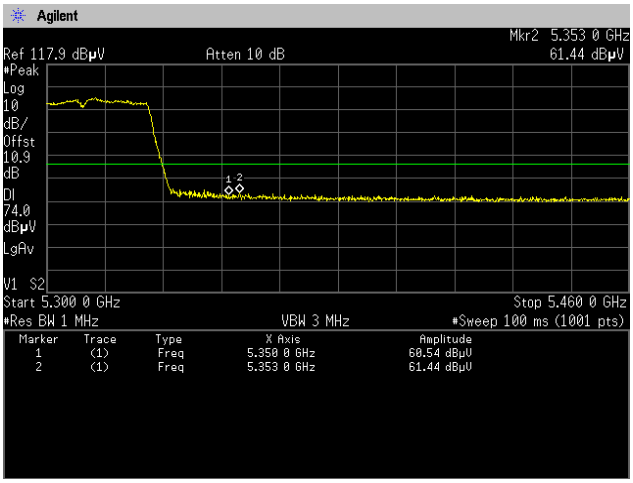


Average

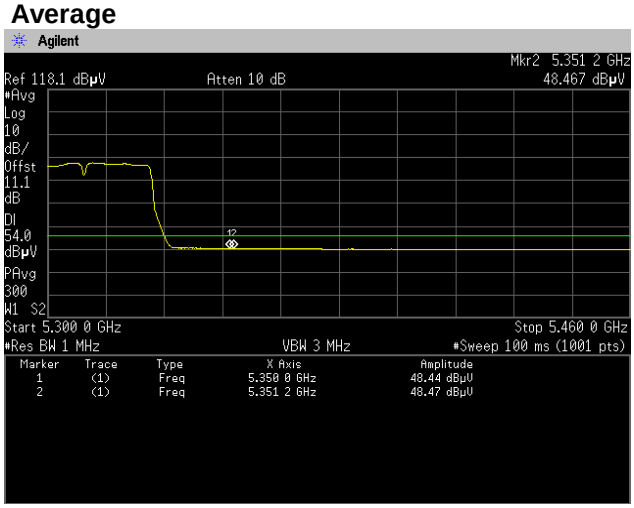


[IEEE802.11n (HT40)]

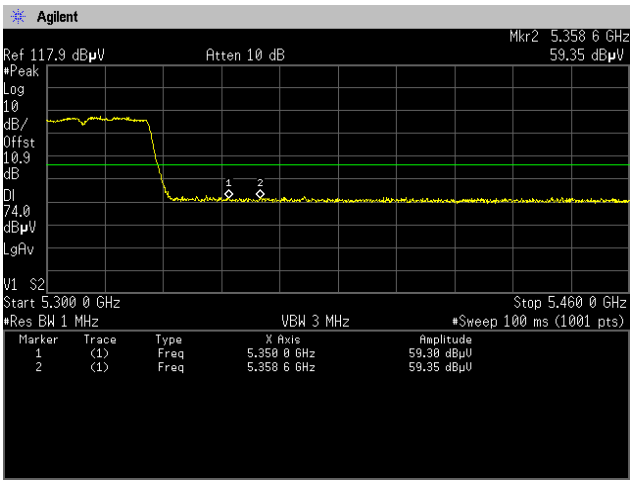
5.3 GHz Band, Channel High
Horizontal
Peak



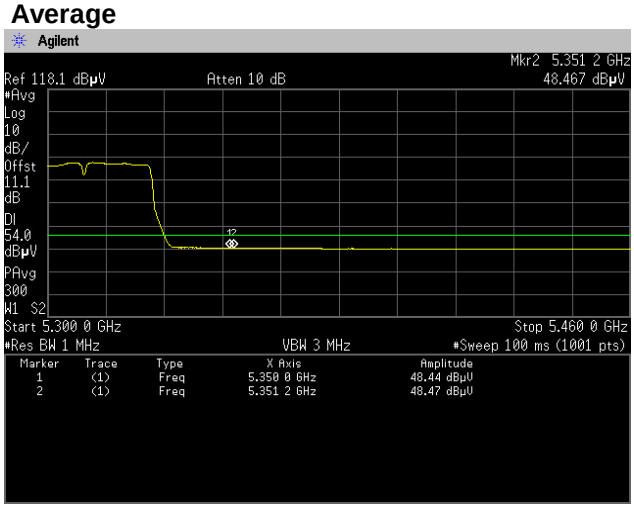
Average



Vertical
Peak



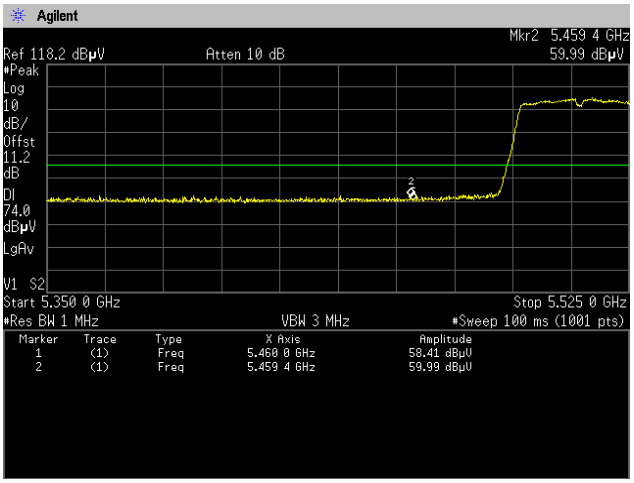
Average



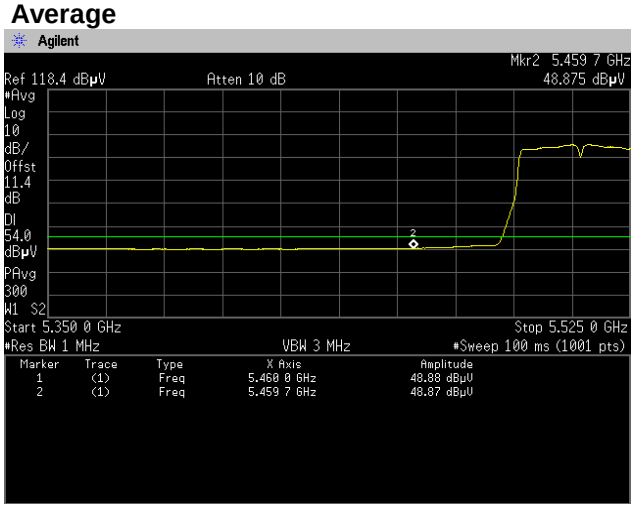
Japan

[IEEE802.11n (HT40)]

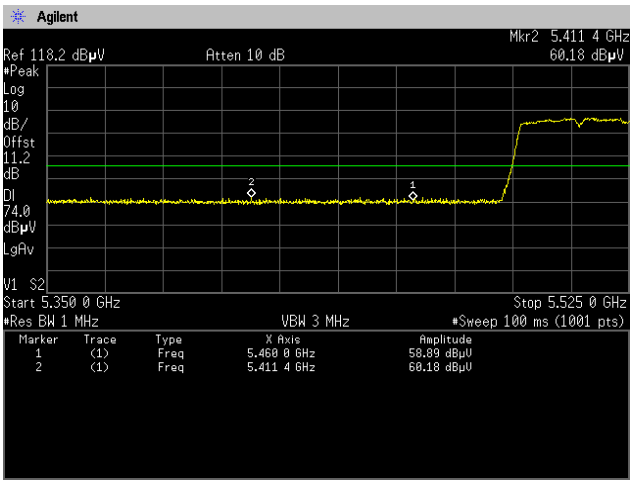
5.6 GHz Band, Channel Low
Horizontal
Peak



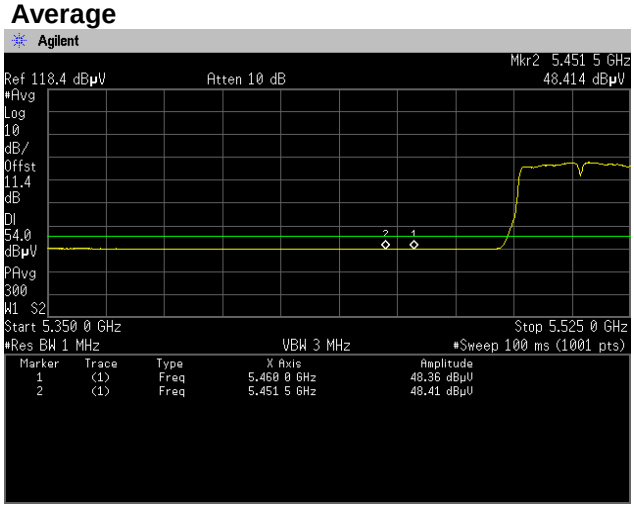
Average



Vertical
Peak

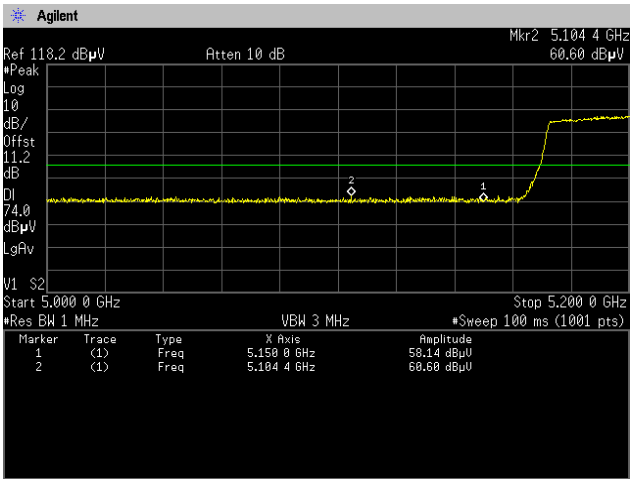


Average

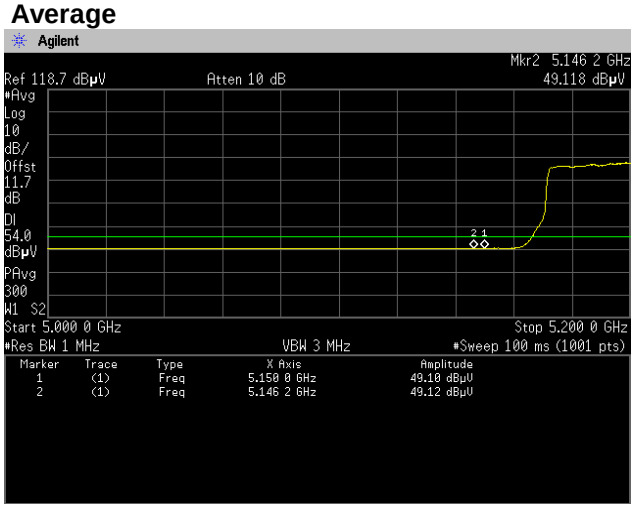


[IEEE802.11ac (VHT80)]

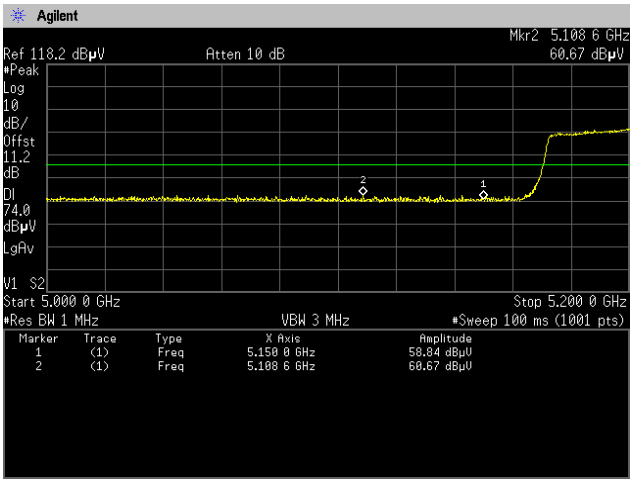
5.2 GHz Band, Channel Low
Horizontal
Peak



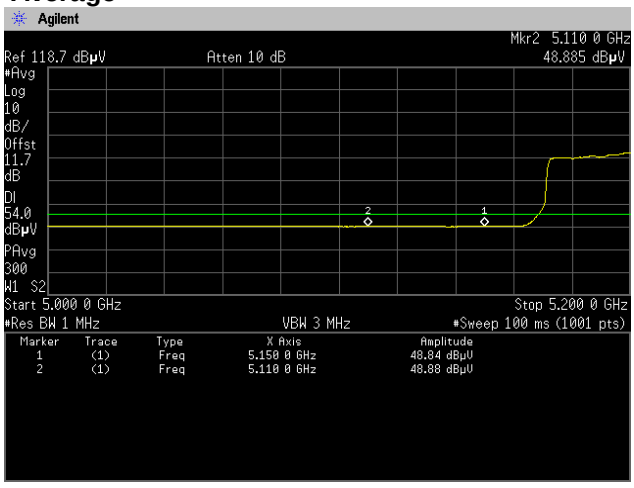
Average



Vertical
Peak



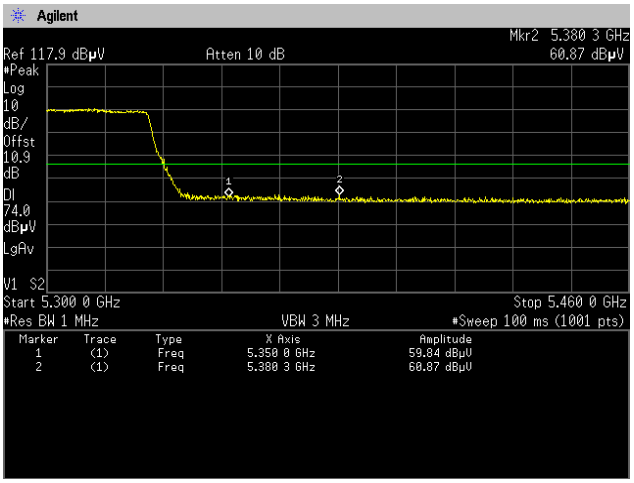
Average



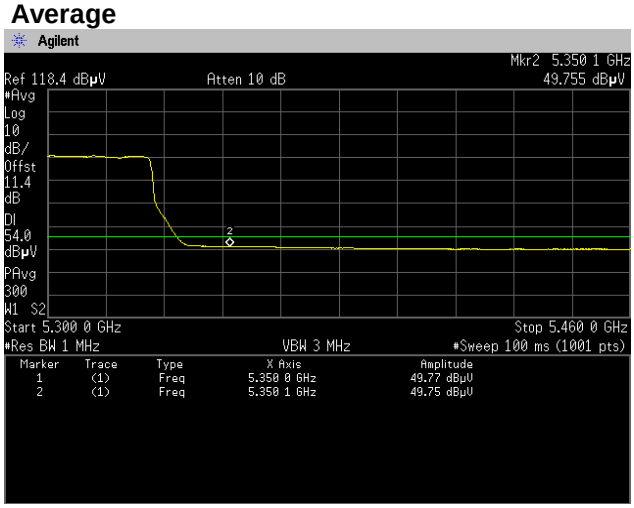
Japan

[IEEE802.11ac (VHT80)]

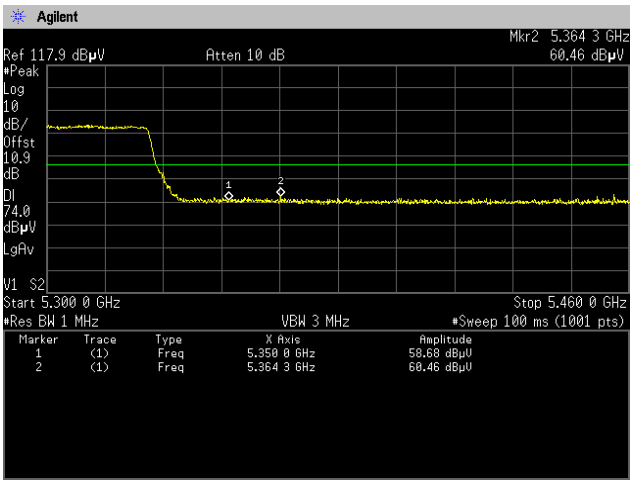
5.3 GHz Band, Channel High
Horizontal
Peak



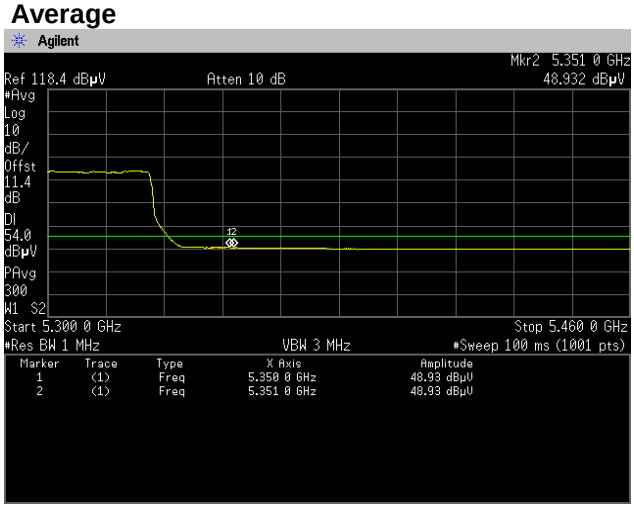
Average



Vertical
Peak

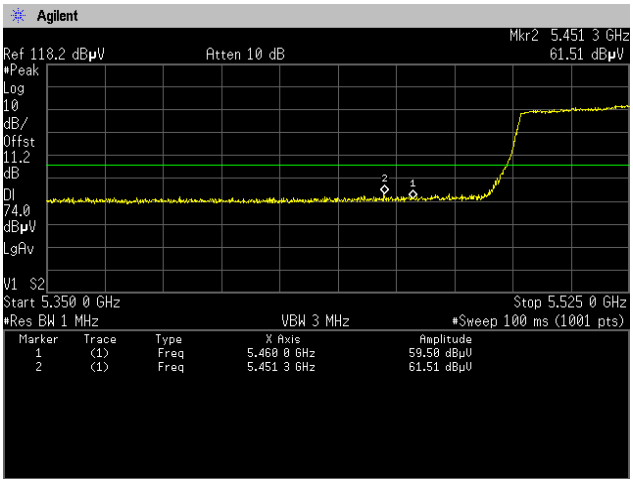


Average

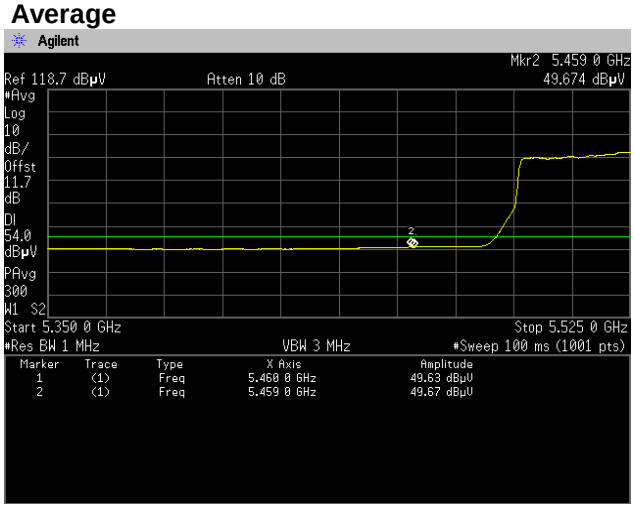


[IEEE802.11ac (VHT80)]

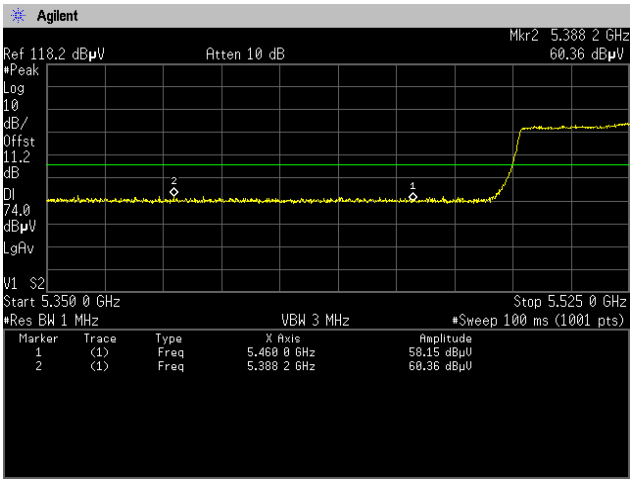
5.6 GHz Band, Channel Low
Horizontal
Peak



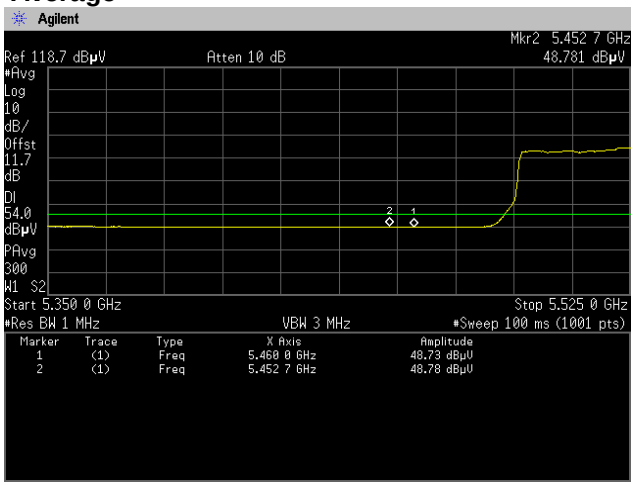
Average



Vertical
Peak



Average

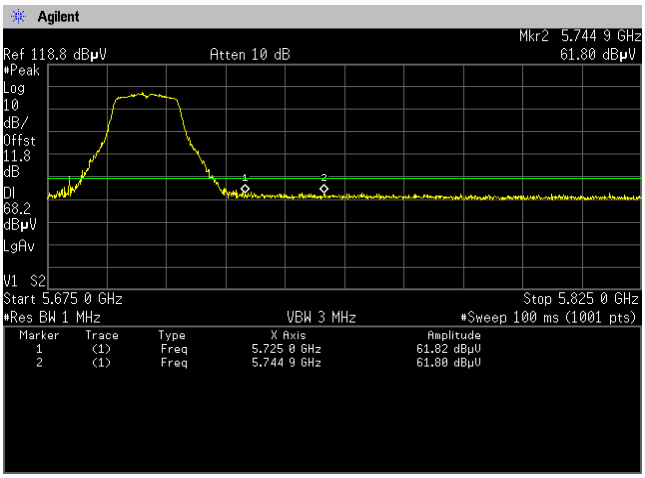


4.5.4.2 Non-Restricted Bandedge

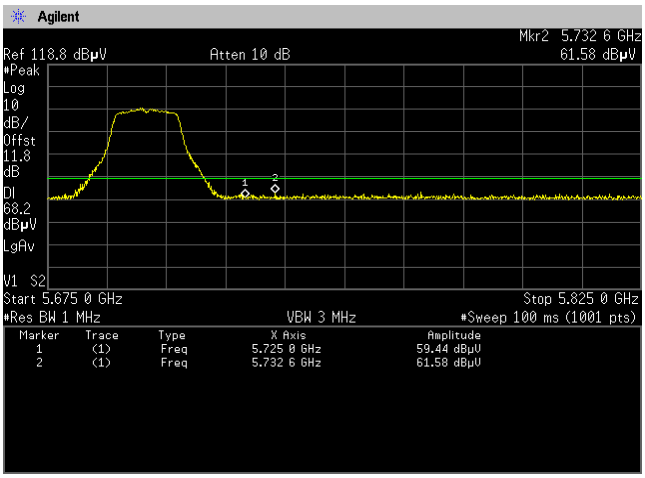
[IEEE802.11a]

5.6 GHz Band, Channel High (140)
Peak

Horizontal

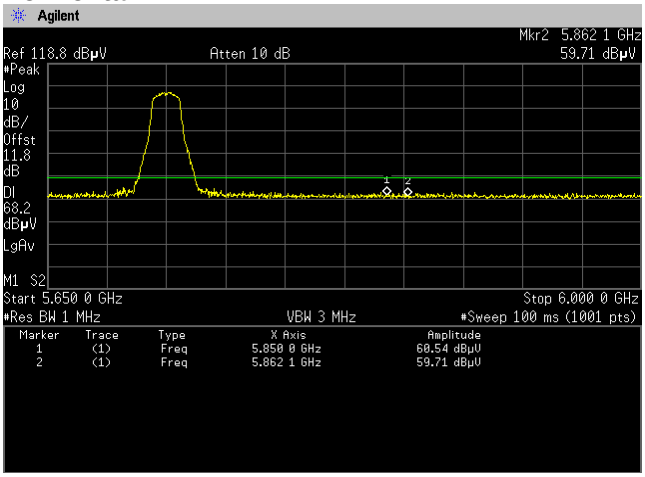


Vertical

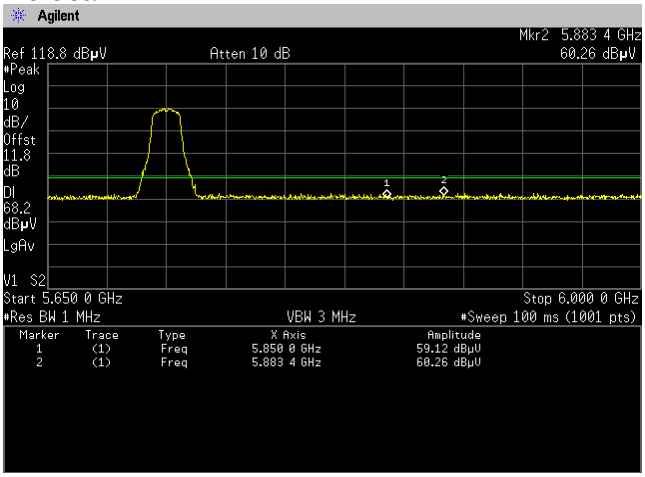


5.6 GHz Band, Channel High (144)
Peak

Horizontal



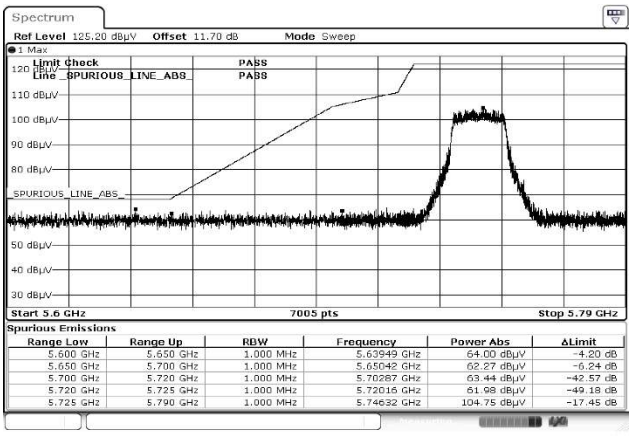
Vertical



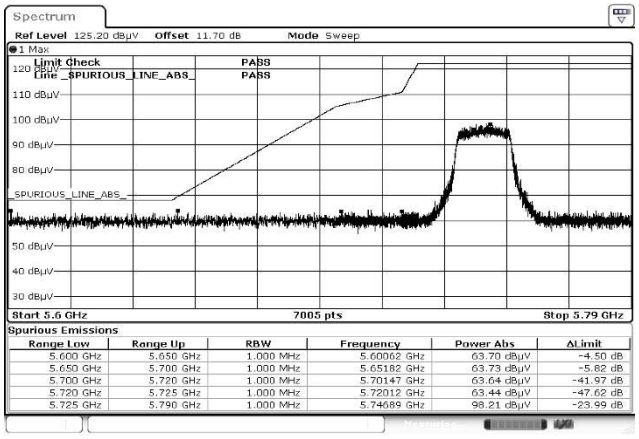
Japan

[IEEE802.11a]

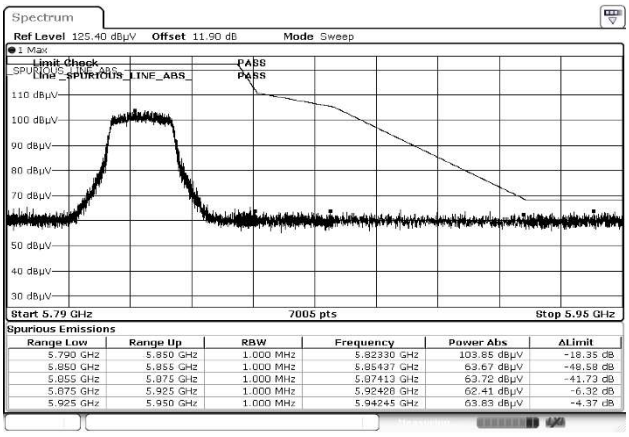
5.8 GHz Band, Channel High (149)
Peak
Horizontal



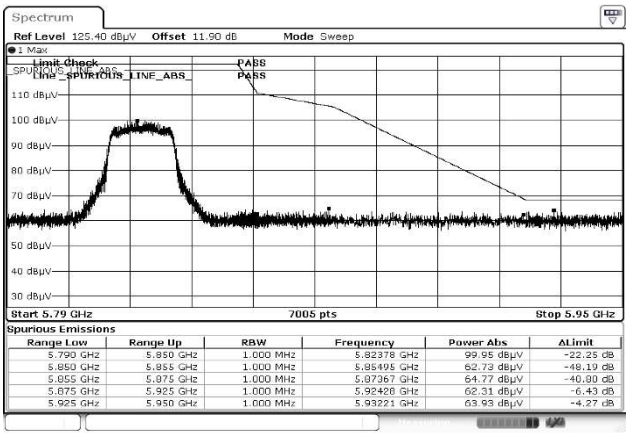
Vertical



5.8 GHz Band, Channel High (165)
Peak
Horizontal



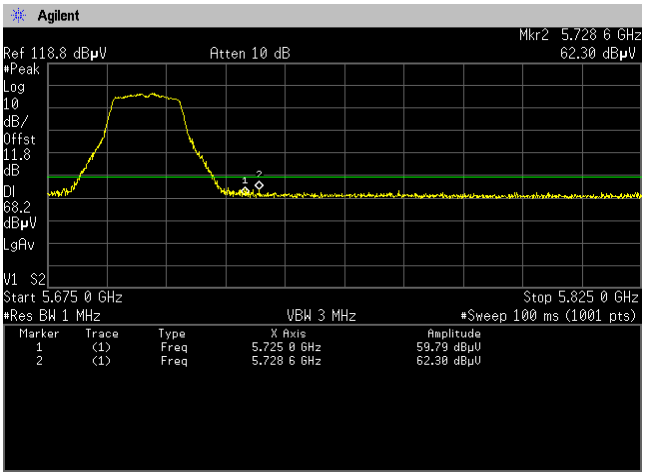
Vertical



Japan

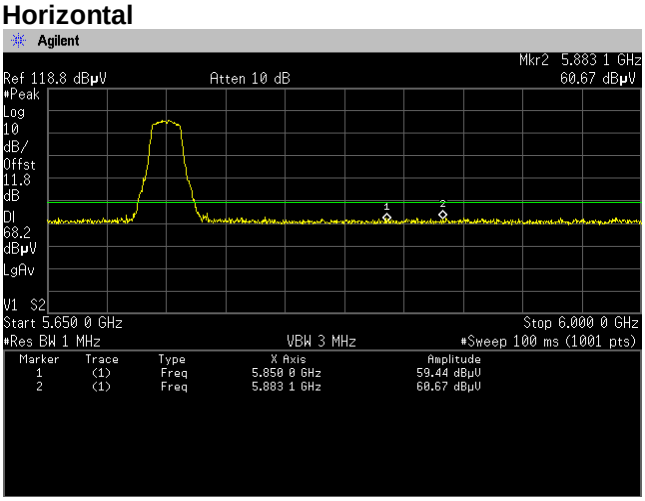
[IEEE802.11n (HT20)]

5.6 GHz Band, Channel High (140)
Peak
Horizontal

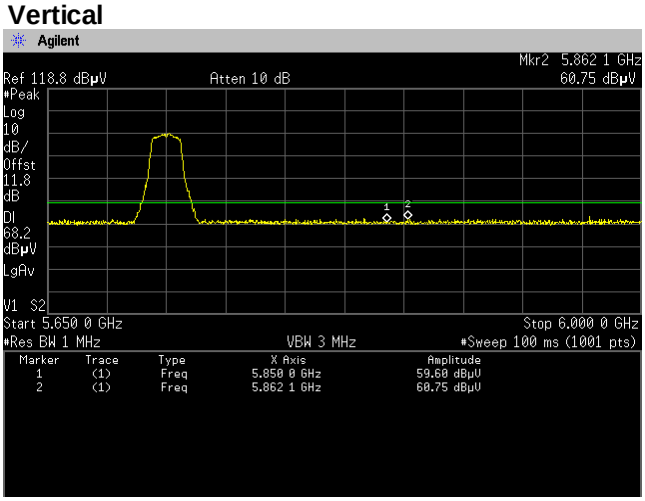


Vertical

5.6 GHz Band, Channel High (144)
Peak
Horizontal



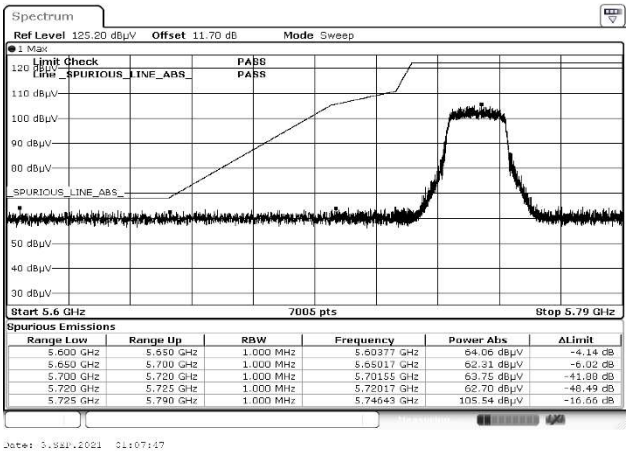
Vertical



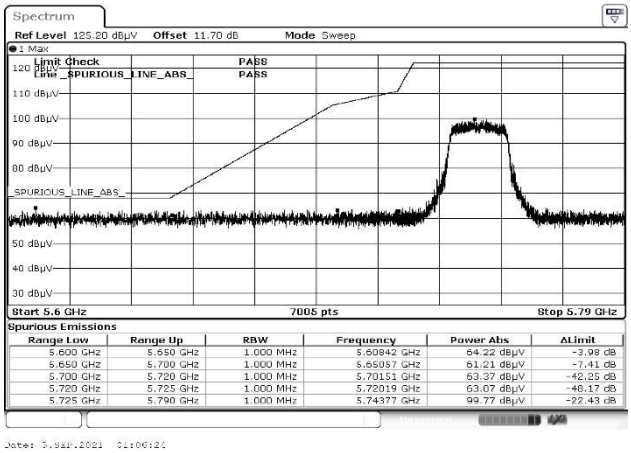
Japan

[IEEE802.11n (HT20)]

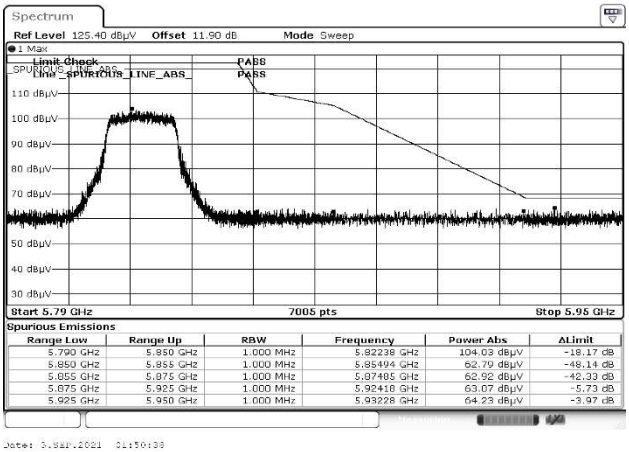
5.8 GHz Band, Channel High (149)
Peak
Horizontal



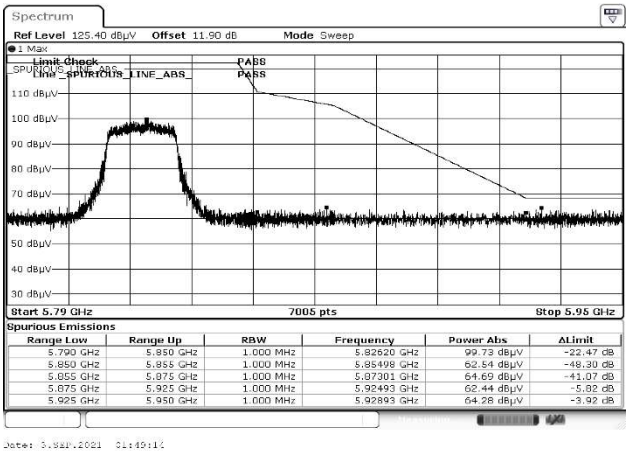
Vertical



5.8 GHz Band, Channel High (165)
Peak
Horizontal



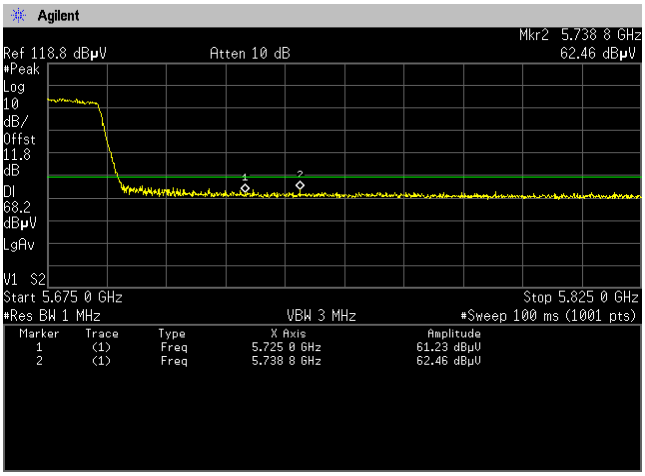
Vertical



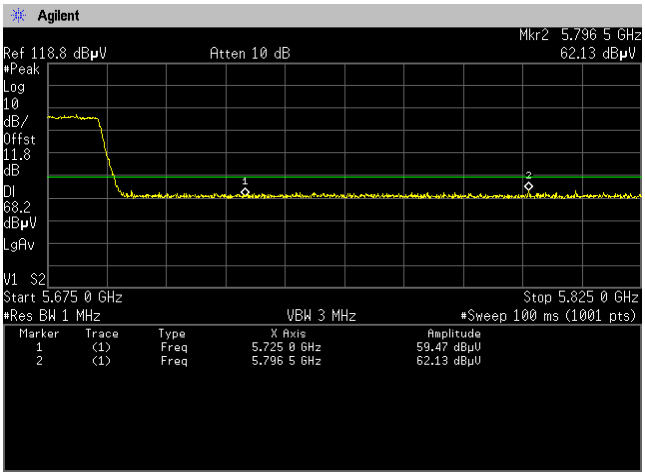
Japan

[IEEE802.11n (HT40)]

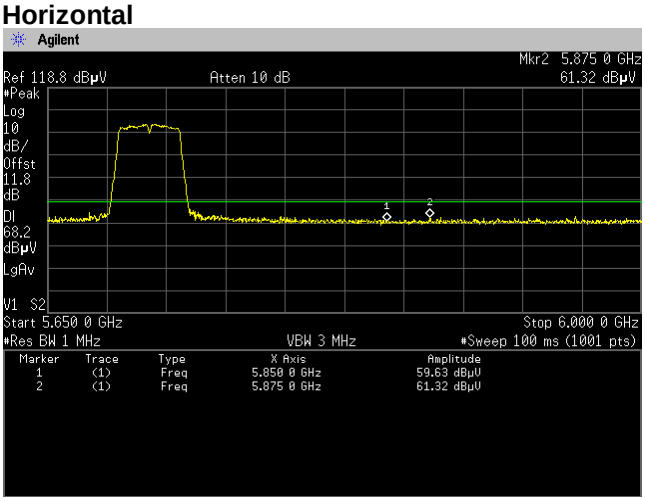
5.6GHz Band, Channel High (134)
Peak
Horizontal



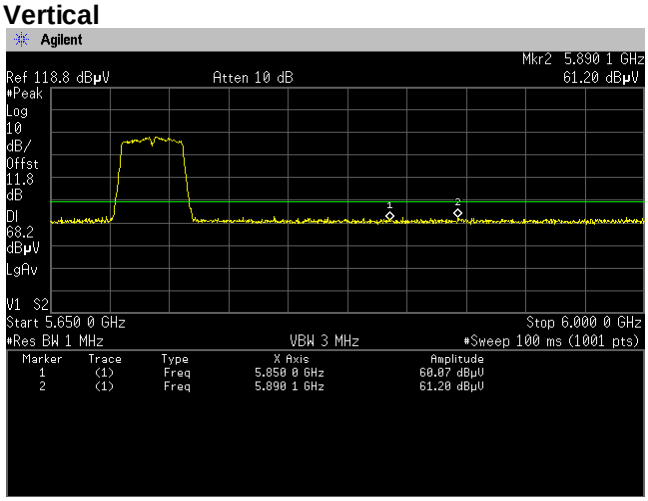
Vertical



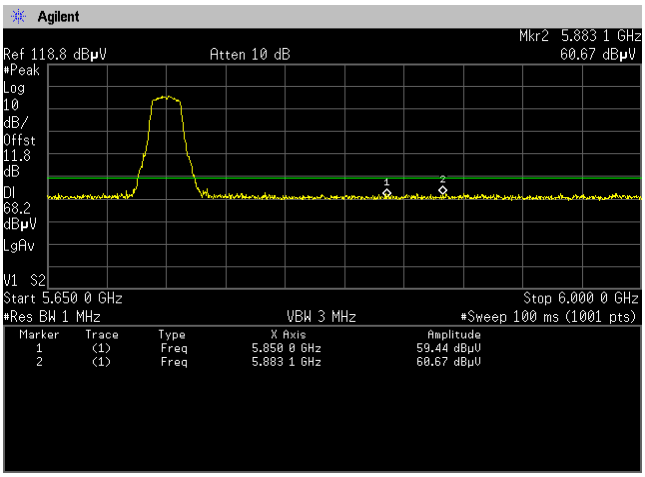
5.6GHz Band, Channel High (142)
Peak
Horizontal



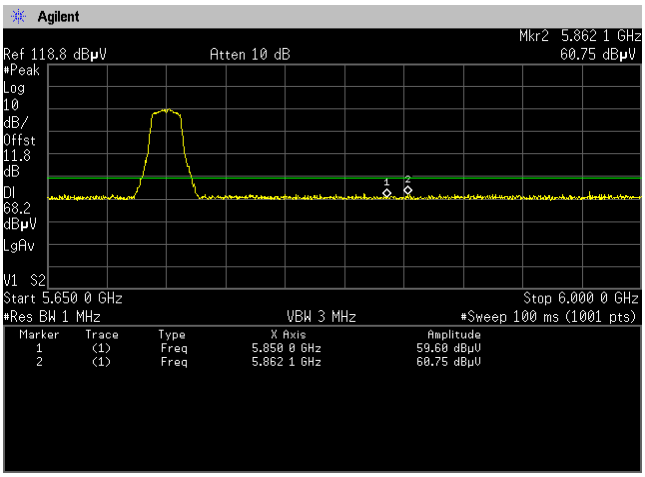
Vertical



5.6GHz Band, Channel High (144)
Peak
Horizontal



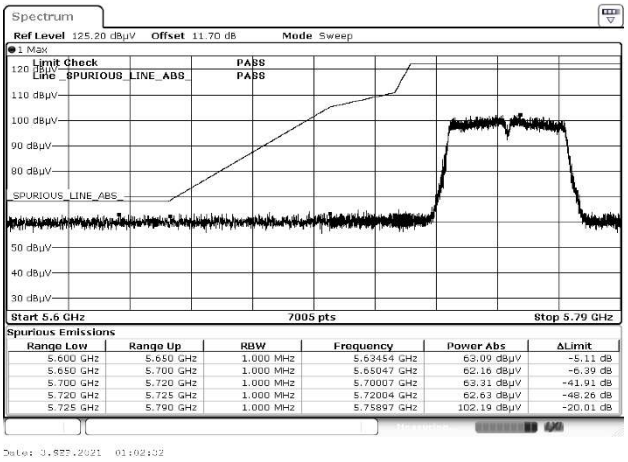
Vertical



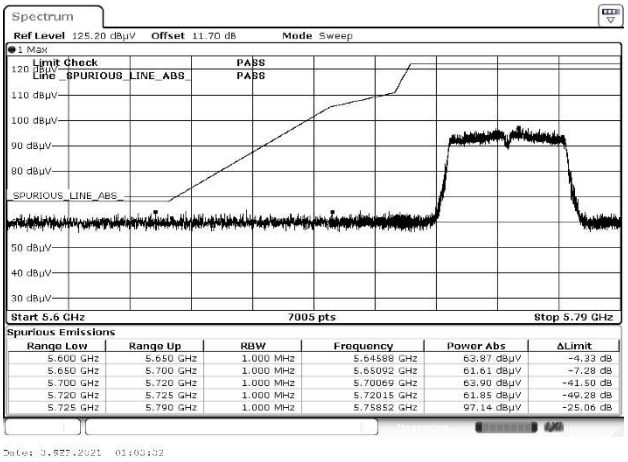
Japan

[IEEE802.11n (HT40)]

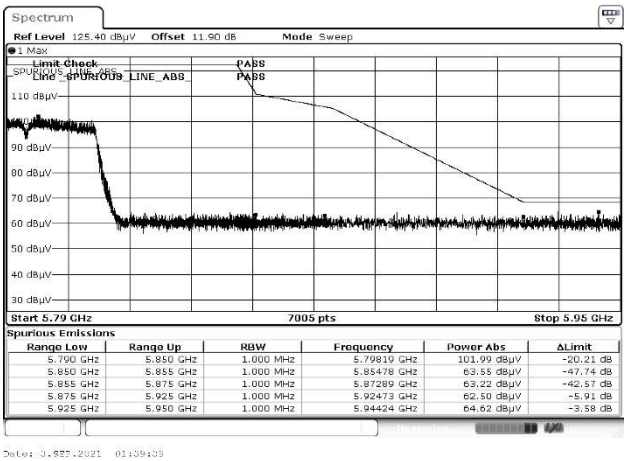
5.8 GHz Band, Channel High (151)
Peak
Horizontal



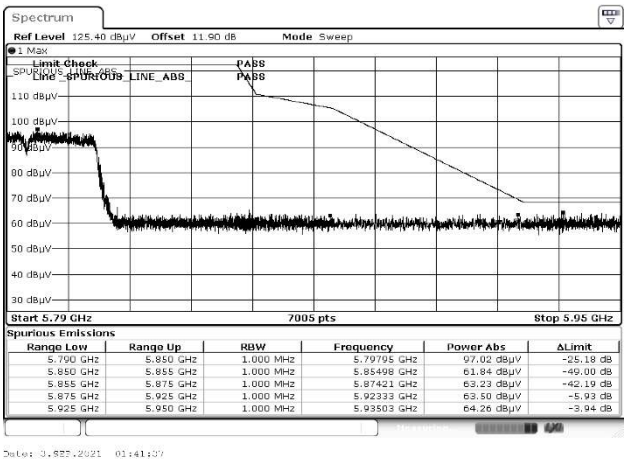
Vertical



5.8 GHz Band, Channel High (159)
Peak
Horizontal

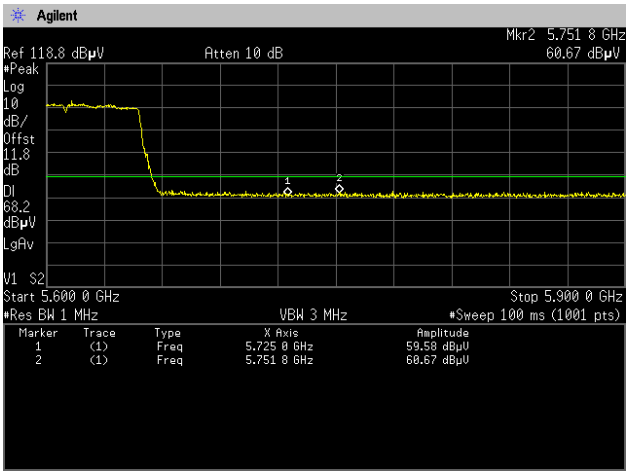


Vertical

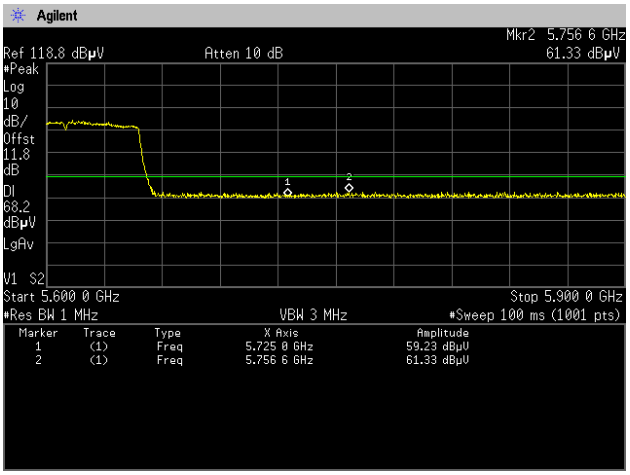


[IEEE802.11ac (VHT80)]

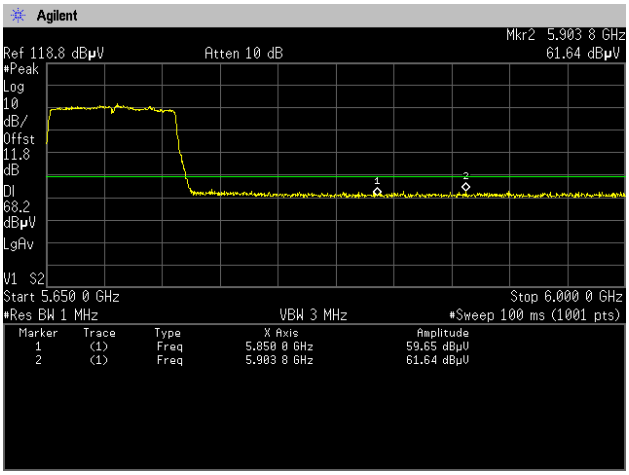
5.6 GHz Band, Channel High (122)
Peak
Horizontal



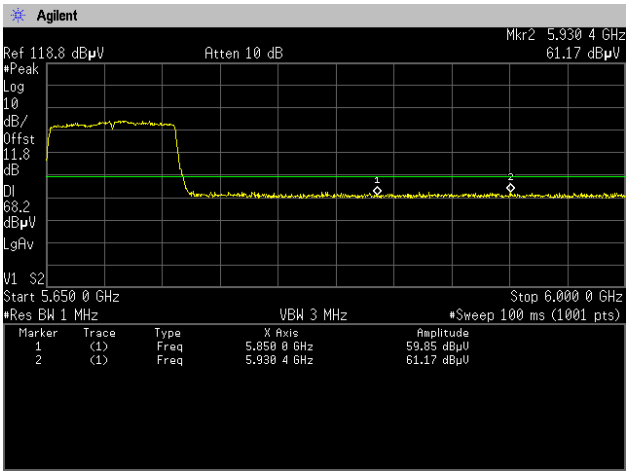
Vertical



5.6 GHz Band, Channel High (138)
Peak
Horizontal



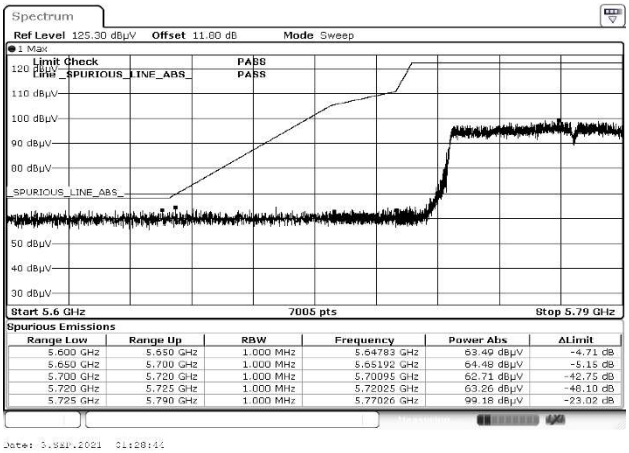
Vertical



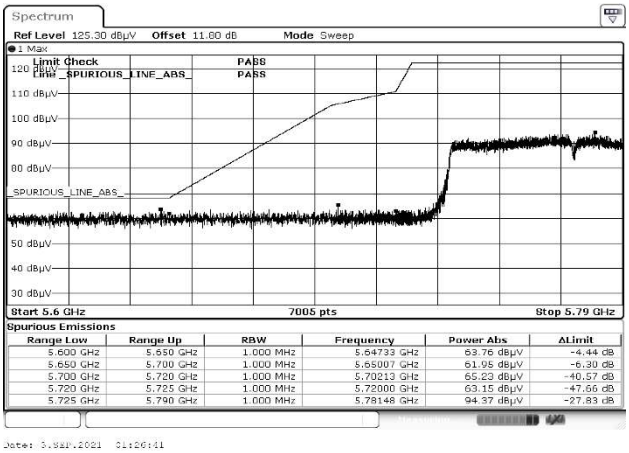
Japan

[IEEE802.11ac (VHT80)]

5.8 GHz Band, Channel High (155)
Peak
Horizontal

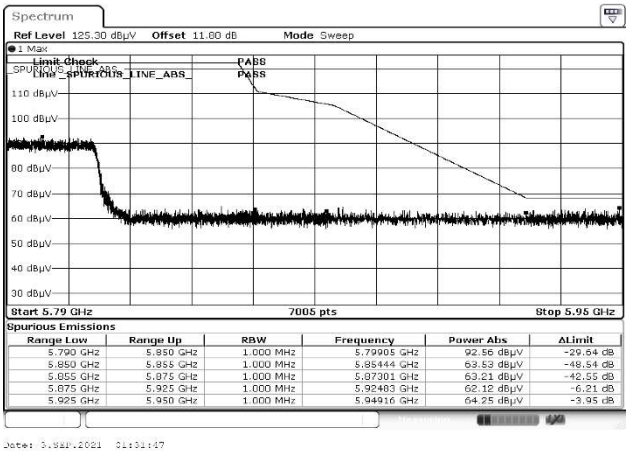


Vertical



5.8 GHz Band, Channel High (155)
Peak
Horizontal

Vertical



Japan

4.5.4.3 Radiated Emissions

Date	:	18-August-2021			
Temperature	:	22.4 [˚C]			
Humidity	:	66.2 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Chiaki Kanno
Date	:	19-August-2021			
Temperature	:	20.7 [˚C]			
Humidity	:	68.7 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Chiaki Kanno
Date	:	20-August-2021			
Temperature	:	21.4 [˚C]			
Humidity	:	70.6 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Chiaki Kanno
Date	:	21-August-2021			
Temperature	:	22.8 [˚C]			
Humidity	:	68.1 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Chiaki Kanno
Date	:	23-August-2021			
Temperature	:	22.8 [˚C]			
Humidity	:	63.2 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Chiaki Kanno
Date	:	25-August-2021			
Temperature	:	23.3 [˚C]			
Humidity	:	71.2 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Chiaki Kanno
Date	:	28-August-2021			
Temperature	:	23.0 [˚C]			
Humidity	:	63.7 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Taiki Watanabe
Date	:	29-August-2021			
Temperature	:	22.2 [˚C]			
Humidity	:	64.9 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Taiki Watanabe
Date	:	30-August-2021			
Temperature	:	23.3 [˚C]			
Humidity	:	65.1 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Taiki Watanabe
Date	:	31-August-2021			
Temperature	:	23.3 [˚C]			
Humidity	:	65.1 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Taiki Watanabe

Japan

[IEEE802.11a]
(5.2 GHz Band)

Mode	Channel	Frequency (MHz)	Frequency (MHz)	ANT H/V	Detector PK/AV	Reading (dBµV)	C.F (dB)	DCF (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11a	36	5180	10360.00	H	PK	46.3	11.2		57.5	68.2	10.7
	40	5200	10400.00	H	PK	46.6	11.3		57.9	68.2	10.3
	48	5240	10480.00	H	PK	45.8	11.4		57.2	68.2	11.0

(5.3 GHz Band)

Mode	Channel	Frequency (MHz)	Frequency (MHz)	ANT H/V	Detector PK/AV	Reading (dBµV)	C.F (dB)	DCF (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11a	52	5260	10520.00	H	PK	45.2	11.5		56.7	68.2	11.5
	56	5280	10560.00	H	PK	45.3	11.5		56.8	68.2	11.4
	64	5320	10640.00	H	PK	46.2	11.7		57.9	74.0	16.1
			10640.00	H	AV	36.0	11.7	0.121	47.8	54.0	6.2

(5.6 GHz Band)

Mode	Channel	Frequency (MHz)	Frequency (MHz)	ANT H/V	Detector PK/AV	Reading (dBµV)	C.F (dB)	DCF (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11a	100	5500	5466.80	H	PK	49.2	11.8		61.0	68.2	7.2
			5468.20	V	PK	49.7	11.8		61.5	68.2	6.7
			11000.00	H	PK	46.5	12.3		58.8	74.0	15.2
			11000.00	H	AV	34.6	12.3	0.128	47.0	54.0	7.0
	116	5580	11160.00	H	PK	46.8	12.3		59.1	74.0	14.9
			11160.00	H	AV	34.6	12.3	0.128	47.0	54.0	7.0
	140	5700	11400.00	H	PK	45.4	12.5		57.9	74.0	16.1
			11400.00	H	AV	33.2	12.5	0.128	45.8	54.0	8.2
	144	5720	11440.00	H	PK	45.8	12.5		58.3	74.0	15.7
			11440.00	H	AV	33.5	12.5	0.128	46.1	54.0	7.9

(5.8 GHz Band)

Mode	Channel	Frequency (MHz)	Frequency (MHz)	ANT H/V	Detector PK/AV	Reading (dBµV)	C.F (dB)	DCF (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11a	149	5745	5692.50	H	PK	49.6	12.0		61.6	68.2	6.6
			5692.90	V	PK	49.5	12.0		61.5	68.2	6.7
			11490.00	H	PK	44.7	12.5		57.2	74.0	16.8
			11490.00	H	AV	33.2	12.5	0.128	45.8	54.0	8.2
	157	5785	11570.00	H	PK	45.9	12.5		58.4	74.0	15.6
			11570.00	H	AV	34.0	12.5	0.128	46.6	54.0	7.4
	165	5825	11650.00	H	PK	46.3	12.5		58.8	74.0	15.2
			11650.00	H	AV	34.4	12.5	0.128	47.0	54.0	7.0

[IEEE802.11n (HT20)]
(5.2 GHz Band)

Mode	Channel	Frequency (MHz)	Frequency (MHz)	ANT H/V	Detector PK/AV	Reading (dBµV)	C.F (dB)	DCF (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11n (20MHz)	36	5180	10360.00	H	PK	46.1	11.2		57.3	68.2	10.9
	40	5200	10400.00	H	PK	46.1	11.3		57.4	68.2	10.8
	48	5240	10480.00	H	PK	46.0	11.4		57.4	68.2	10.8

(5.3 GHz Band)

Mode	Channel	Frequency (MHz)	Frequency (MHz)	ANT H/V	Detector PK/AV	Reading (dBµV)	C.F (dB)	DCF (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11n (20MHz)	52	5260	10520.00	H	PK	45.5	11.5		57.0	68.2	11.2
	56	5280	10560.00	H	PK	45.1	11.5		56.6	68.2	11.6
	64	5320	10640.00	H	PK	45.5	11.7		57.2	74.0	16.8
			10640.00	H	AV	33.7	11.7	0.129	45.5	54.0	8.5

Note:
1. Emission Level (Margin) = Limit - [Reading + C.F (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 30 MHz to 1000 MHz at the 3 meters distance.
3. No emission was detected in the receive mode.

Japan

[IEEE802.11n (HT20)]
(5.6 GHz Band)

Mode	Channel	Frequency (MHz)	Frequency (MHz)	ANT H/V	Detector PK/AV	Reading (dBµV)	C.F (dB)	DCF (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11n (20MHz)	100	5500	5466.20	H	PK	49.4	11.8		61.2	68.2	7.0
			5467.90	V	PK	49.4	11.8		61.2	68.2	7.0
			11000.00	H	PK	46.5	12.3		58.8	74.0	15.2
			11000.00	H	AV	34.6	12.3	0.129	47.0	54.0	7.0
	116	5580	11160.00	H	PK	46.6	12.3		58.9	74.0	15.1
			11160.00	H	AV	34.8	12.3	0.129	47.2	54.0	6.8
	140	5700	11400.00	H	PK	45.8	12.5		58.3	74.0	15.7
			11400.00	H	AV	33.3	12.5	0.129	45.9	54.0	8.1
	144	5720	11440.00	V	PK	45.5	12.5		58.0	74.0	16.0
			11440.00	V	AV	33.6	12.5	0.129	46.2	54.0	7.8

(5.8 GHz Band)

Mode	Channel	Frequency (MHz)	Frequency (MHz)	ANT H/V	Detector PK/AV	Reading (dBµV)	C.F (dB)	DCF (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11n (20MHz)	149	5745	5627.40	H	PK	49.3	11.8		61.1	68.2	7.1
			5630.00	V	PK	49.2	11.9		61.1	68.2	7.1
			11490.00	H	PK	46.4	12.5		58.9	74.0	15.1
			11490.00	H	AV	32.2	12.5	0.136	44.8	54.0	9.2
	157	5785	11570.00	H	PK	47.2	12.5		59.7	74.0	14.3
			11570.00	H	AV	32.8	12.5	0.136	45.4	54.0	8.6
	165	5825	11650.00	H	PK	46.4	12.5		58.9	74.0	15.1
			11650.00	H	AV	32.6	12.5	0.136	45.2	54.0	8.8

[IEEE802.11n (HT40)]
(5.2 GHz Band)

Mode	Channel	Frequency (MHz)	Frequency (MHz)	ANT H/V	Detector PK/AV	Reading (dBµV)	C.F (dB)	DCF (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11n (40MHz)	38	5190	10380.00	H	PK	46.0	11.2		57.2	68.2	11.0
	46	5230	10460.00	H	PK	46.0	11.4		57.4	68.2	10.8

(5.3 GHz Band)

Mode	Channel	Frequency (MHz)	Frequency (MHz)	ANT H/V	Detector PK/AV	Reading (dBµV)	C.F (dB)	DCF (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11n (40MHz)	54	5270	10540.00	H	PK	45.7	11.5		57.2	68.2	11.0
	62	5310	10620.00	H	PK	45.2	11.7		56.9	74.0	17.1
			10620.00	H	AV	33.6	11.7	0.249	45.5	54.0	8.5

(5.6 GHz Band)

Mode	Channel	Frequency (MHz)	Frequency (MHz)	ANT H/V	Detector PK/AV	Reading (dBµV)	C.F (dB)	DCF (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11n (40MHz)	102	5510	5468.41	H	PK	48.7	11.8		60.5	68.2	7.7
			5467.93	V	PK	49.2	11.8		61.0	68.2	7.2
			11020.00	H	PK	46.5	12.3		58.8	74.0	15.2
			11020.00	H	AV	33.8	12.3	0.249	46.3	54.0	7.7
	110	5550	11100.00	H	PK	46.8	12.3		59.1	74.0	14.9
			11100.00	H	AV	34.8	12.3	0.249	47.3	54.0	6.7
	134	5670	11340.00	H	PK	45.5	12.4		57.9	74.0	16.1
			11340.00	H	AV	33.9	12.4	0.249	46.5	54.0	7.5
	142	5710	11420.00	H	PK	45.2	12.5		57.7	74.0	16.3
			11420.00	H	AV	33.3	12.5	0.249	46.0	54.0	8.0

Note:
1. Emission Level (Margin) = Limit - [Reading + C.F (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 30 MHz to 1000 MHz at the 3 meters distance.
3. No emission was detected in the receive mode.

Japan

[IEEE802.11n (HT40)]
(5.8 GHz Band)

Mode	Channel	Frequency (MHz)	Frequency (MHz)	ANT H/V	Detector PK/AV	Reading (dBµV)	C.F (dB)	DCF (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11n (40MHz)	151	5755	5648.00	H	PK	49.8	11.9		61.7	68.2	6.5
			5647.50	V	PK	49.7	11.9		61.6	68.2	6.6
			11510.00	H	PK	46.2	12.5		58.7	74.0	15.3
			11510.00	H	AV	32.2	12.5	0.249	44.9	54.0	9.1
	159	5795	11590.00	H	PK	46.7	12.5		59.2	74.0	14.8
			11590.00	H	AV	32.6	12.5	0.249	45.3	54.0	8.7

[IEEE802.11ac (VHT80)]
(5.2 GHz Band)

Mode	Channel	Frequency (MHz)	Frequency (MHz)	ANT H/V	Detector PK/AV	Reading (dBµV)	C.F (dB)	DCF (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11ac (80MHz)	42	5210	10420.00	H	PK	45.3	11.3		56.6	68.2	11.6

(5.3 GHz Band)

Mode	Channel	Frequency (MHz)	Frequency (MHz)	ANT H/V	Detector PK/AV	Reading (dBµV)	C.F (dB)	DCF (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11ac (80MHz)	58	5290	10580.00	H	PK	45.6	11.6		57.2	68.2	11.0

(5.6 GHz Band)

Mode	Channel	Frequency (MHz)	Frequency (MHz)	ANT H/V	Detector PK/AV	Reading (dBµV)	C.F (dB)	DCF (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11ac (80MHz)	106	5530	5468.30	H	PK	50.3	11.8		62.1	68.2	6.1
			5467.90	V	PK	49.1	11.8		60.9	68.2	7.3
			11060.00	H	PK	46.6	12.3		58.9	74.0	15.1
			11060.00	H	AV	34.8	12.3	0.488	47.6	54.0	6.4
	122	5610	11220.00	H	PK	46.8	12.4		59.2	74.0	14.8
			11220.00	H	AV	34.6	12.4	0.481	47.5	54.0	6.5
	138	5690	11380.00	H	PK	45.4	12.5		57.9	74.0	16.1
			11380.00	H	AV	33.5	12.5	0.488	46.5	54.0	7.5

(5.8 GHz Band)

Mode	Channel	Frequency (MHz)	Frequency (MHz)	ANT H/V	Detector PK/AV	Reading (dBµV)	C.F (dB)	DCF (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11ac (80MHz)	155	5775	5649.40	H	PK	50.5	11.9		62.4	68.2	5.8
			5647.00	V	PK	49.7	11.9		61.6	68.2	6.6
			11550.00	H	PK	45.9	12.5		58.4	74.0	15.6
			11550.00	H	AV	33.8	12.5	0.488	46.8	54.0	7.2

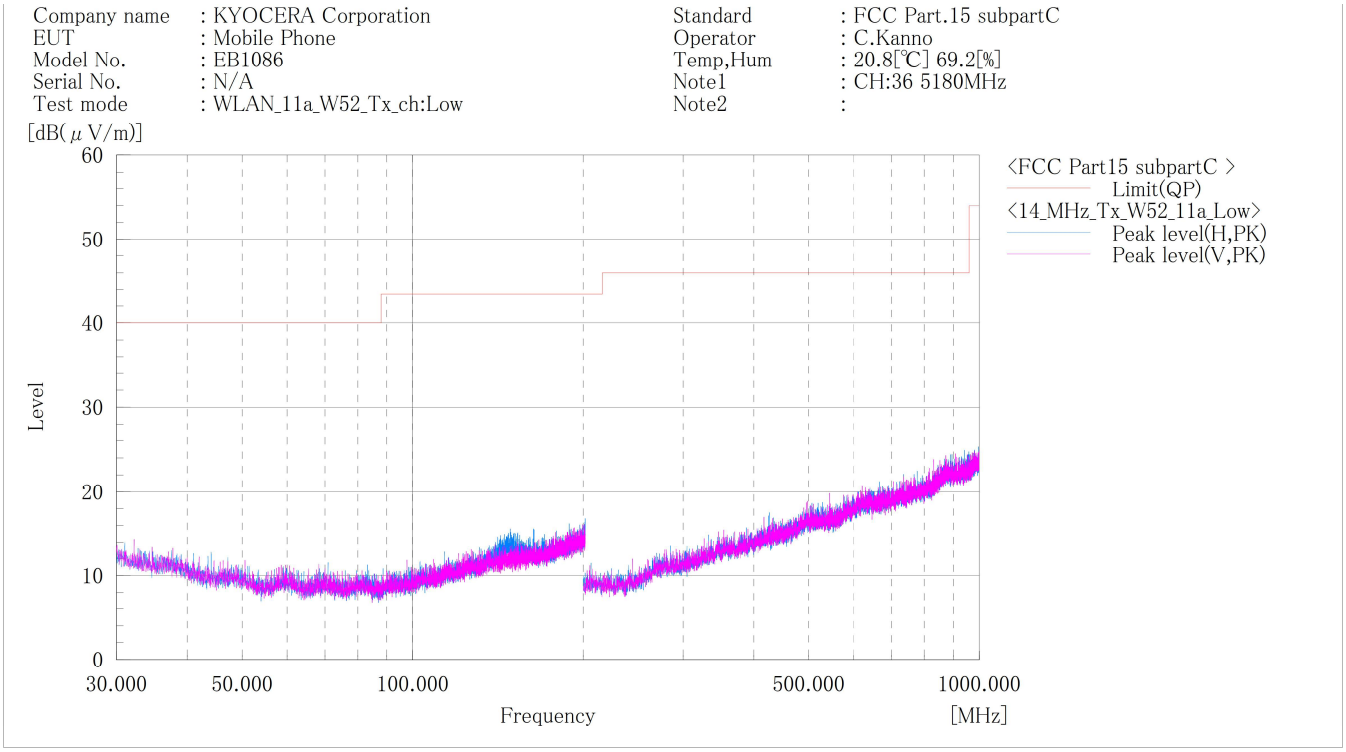
Note:
1. Emission Level (Margin) = Limit - [Reading + C.F (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 30 MHz to 1000 MHz at the 3 meters distance.
3. No emission was detected in the receive mode.

Japan

4.5.4.4 Measurement chart

Transmission mode

[11a]
5.2 GHz Band / Channel Low
BELOW 1GHz



Final Result

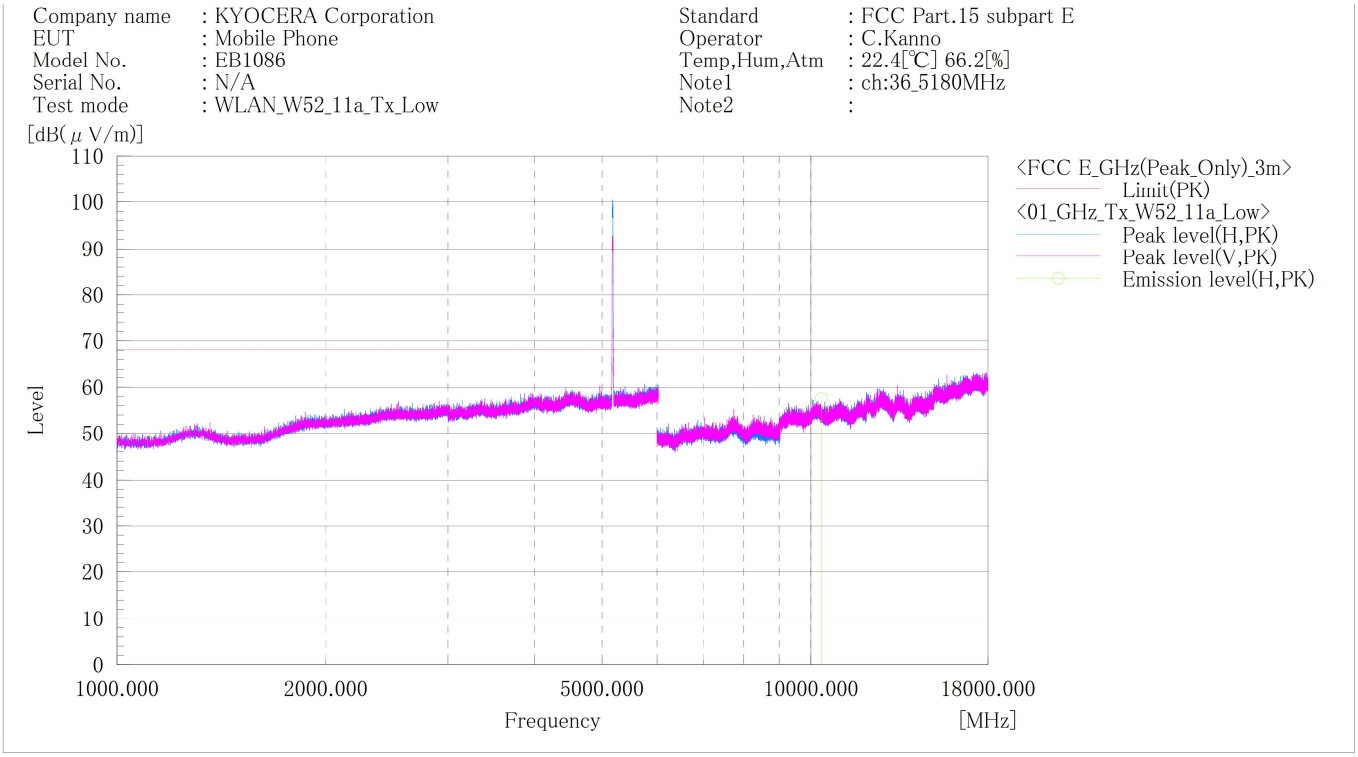
No.	Frequency [MHz]	(P)	c.f [dB(1/m)]	Height [cm]	Angle [°]	Remark

Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.

Japan

[11a]
5.2 GHz Band / Channel Low
ABOVE 1GHz

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 subpart E
EUT	: Mobile Phone	Operator	: C.Kanno
Model No.	: EB1086	Temp,Hum,Atm	: 22.4[℃] 66.2[%]
Serial No.	: N/A	Note1	: ch:36_5180MHz
Test mode	: WLAN_W52_11a_Tx_Low	Note2	:



Final Result

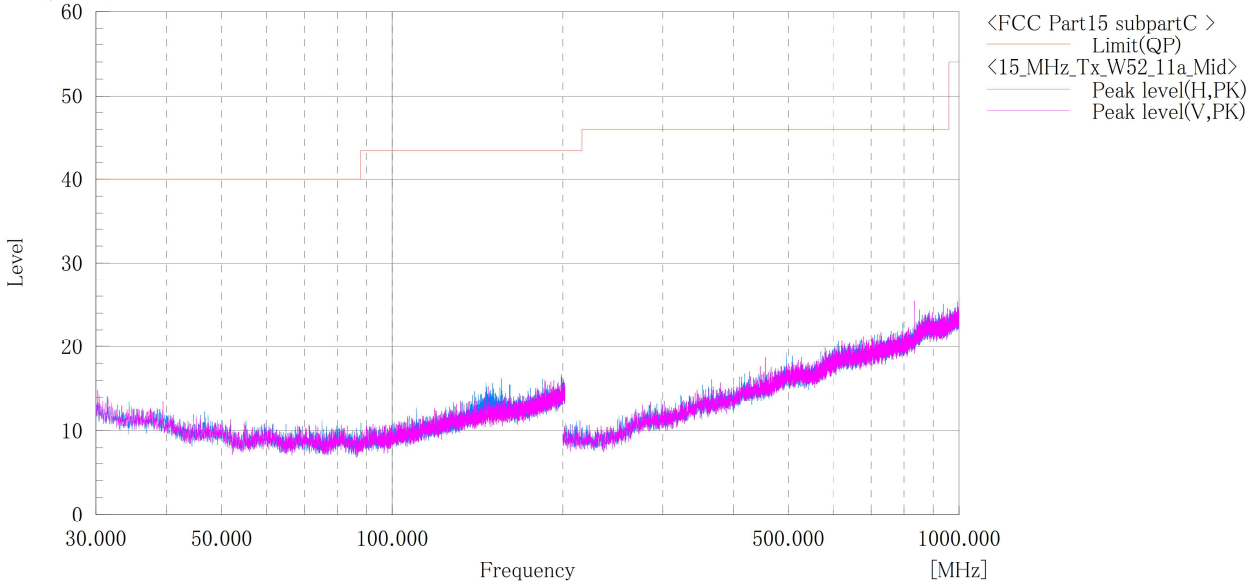
No.	Frequency	(P)	Reading PK	c.f	Result PK	Limit PK	Margin PK	Height	Angle	Remark
	[MHz]		[dB(μV)]	[dB(1/m)]	[dB(μV/m)]	[dB(μV/m)]	[dB]	[cm]	[°]	
1	10360.000	H	46.3	11.2	57.5	68.2	10.7	100.0	268.0	

Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

Japan

[11a]
5.2 GHz Band / Channel Middle
BELOW 1GHz

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 subpartC
EUT	: Mobile Phone	Operator	: C.Kanno
Model No.	: EB1086	Temp,Hum	: 20.8[℃] 69.2[%]
Serial No.	: N/A	Note1	: CH:40 5200MHz
Test mode	: WLAN_11a_W52_Tx_ch:Mid	Note2	:



Final Result

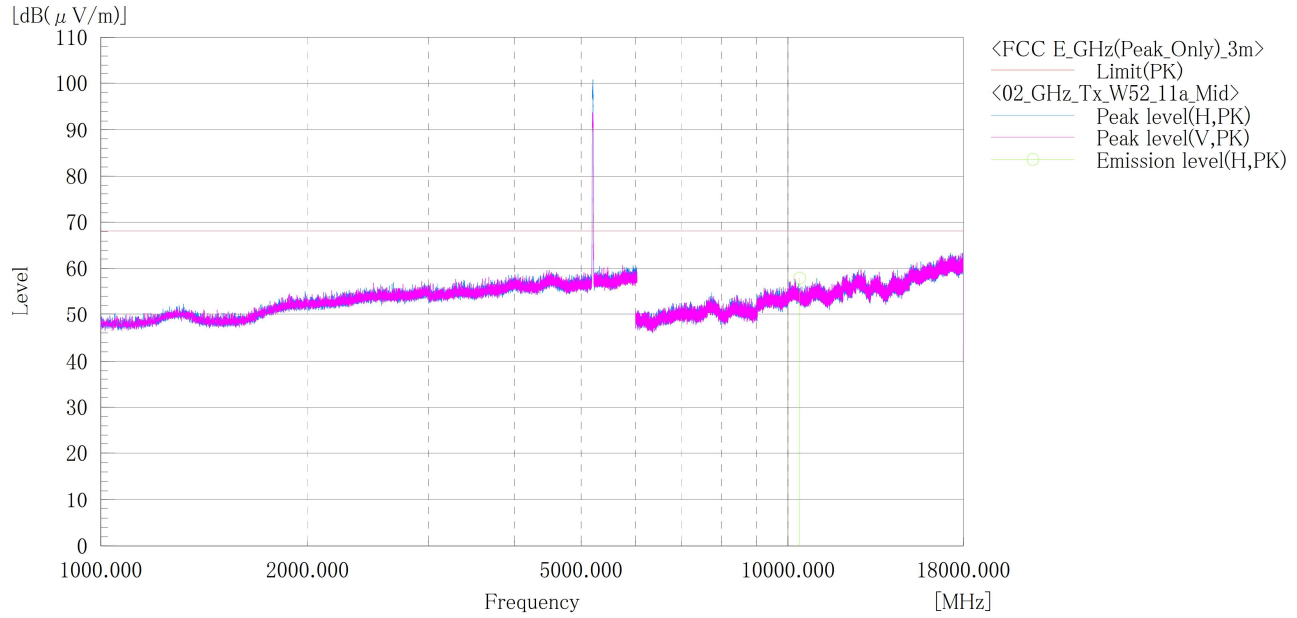
No.	Frequency [MHz]	(P)	c.f [dB(1/m)]	Height [cm]	Angle [°]	Remark

Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.

Japan

[11a]
5.2 GHz Band / Channel Middle
ABOVE 1GHz

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 subpart E
EUT	: Mobile Phone	Operator	: C.Kanno
Model No	: E8108	Temp Hum Atm	: 22.4[°C] 66.2[%]



Final Result

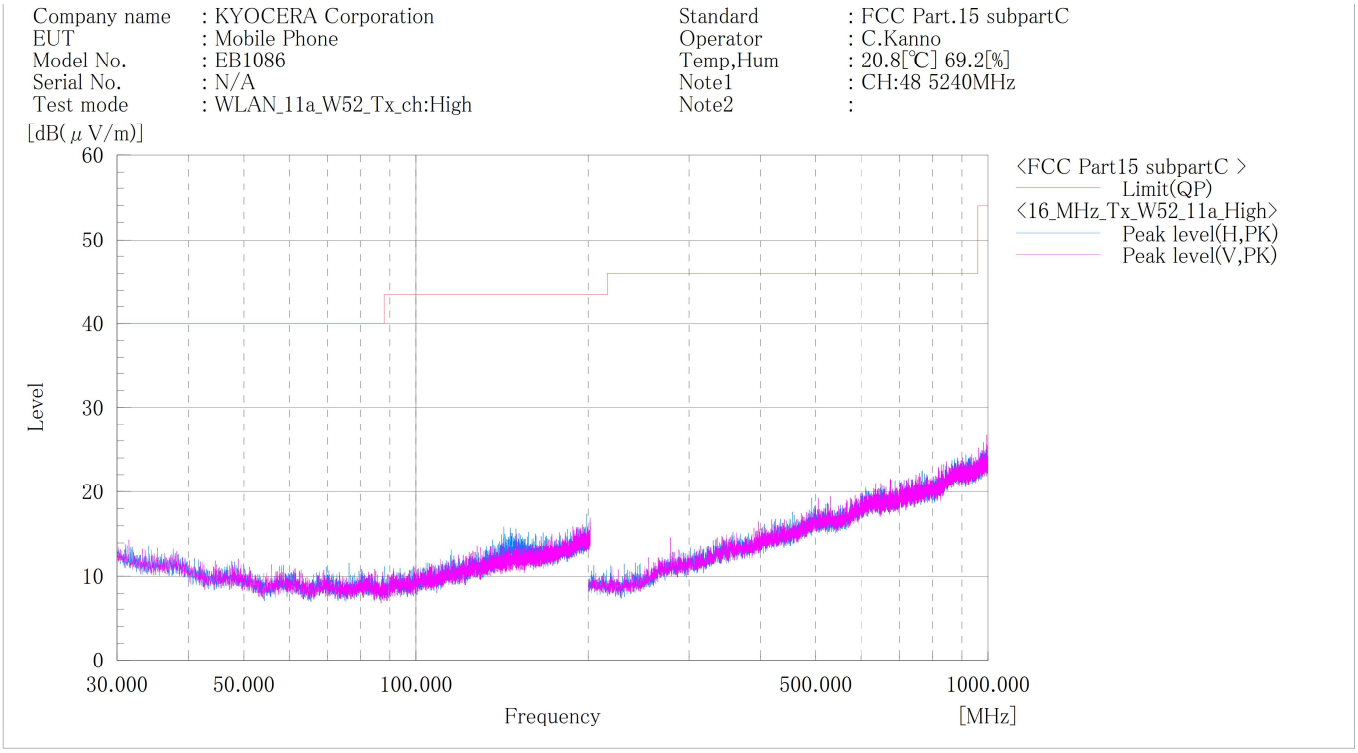
No.	Frequency	(P)	Reading PK	c.f	Result PK	Limit PK	Margin PK	Height	Angle	Remark
	[MHz]		[dB(μV)]	[dB(1/m)]	[dB(μV/m)]	[dB(μV/m)]	[dB]	[cm]	[°]	
1	10400.000	H	46.6	11.3	57.9	68.2	10.3	100.0	259.0	

Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

Japan

[11a]
5.2 GHz Band / Channel High
BELOW 1GHz

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 subpartC
EUT	: Mobile Phone	Operator	: C.Kanno
Model No.	: EB1086	Temp,Hum	: 20.8[℃] 69.2[%]
Serial No.	: N/A	Note1	: CH:48 5240MHz
Test mode	: WLAN_11a_W52_Tx_ch:High	Note2	:



Final Result

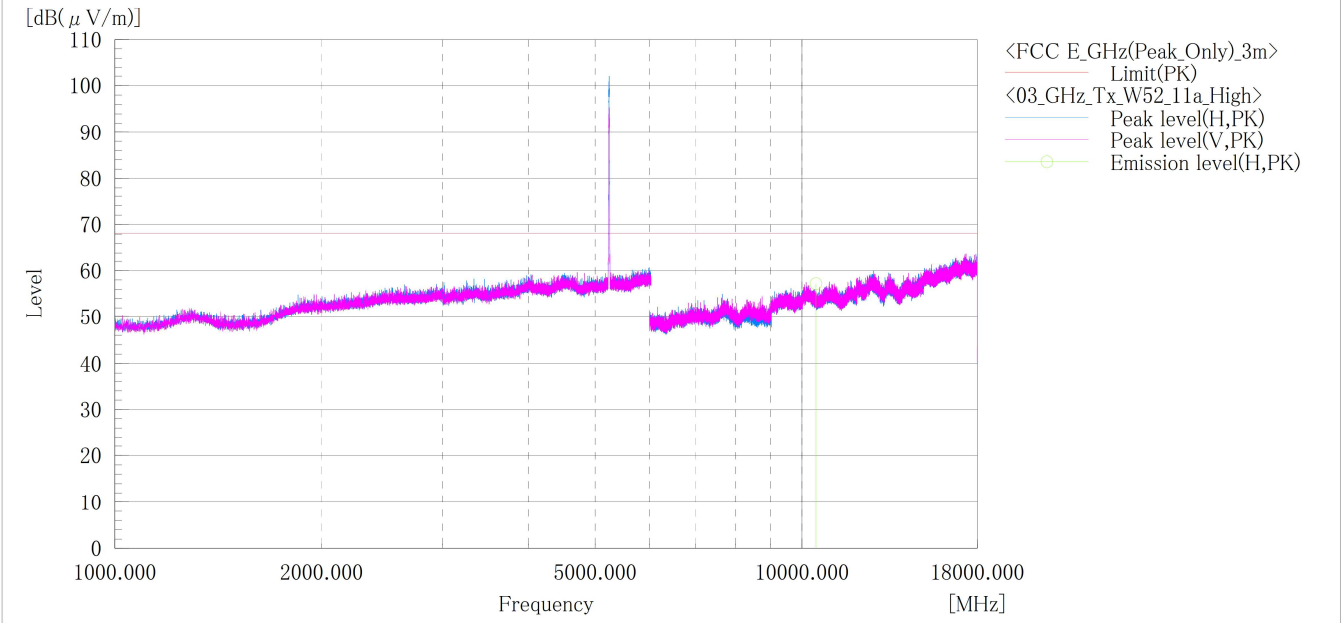
No.	Frequency [MHz]	(P)	c.f [dB(1/m)]	Height [cm]	Angle [°]	Remark

Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.

Japan

[11a]
5.2 GHz Band / Channel High
ABOVE 1GHz

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 subpart E
EUT	: Mobile Phone	Operator	: C.Kanno
Model No.	: EB1086	Temp,Hum,Atm	: 22.4[℃] 66.2[%]
Serial No.	: N/A	Note1	: ch:48_5240MHz
Test mode	: WLAN_W52_11a_Tx_High	Note2	:



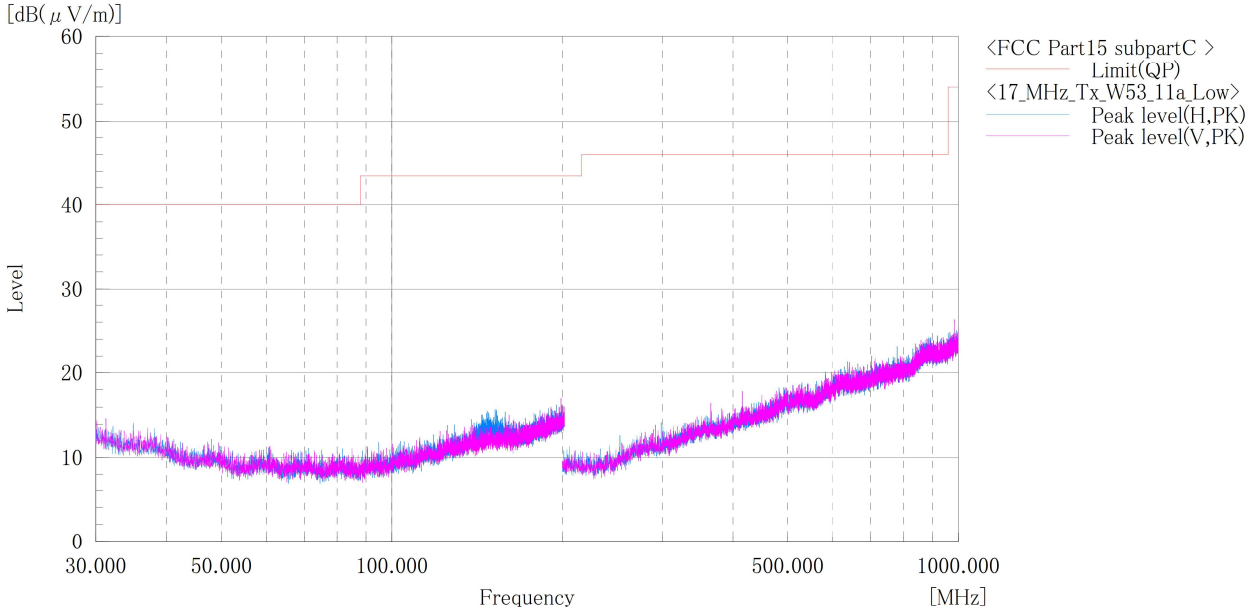
Final Result

No.	Frequency	(P)	Reading PK	c.f	Result PK	Limit PK	Margin PK	Height	Angle	Remark
	[MHz]		[dB(μV)]	[dB(1/m)]	[dB(μV/m)]	[dB(μV/m)]	[dB]	[cm]	[°]	
1	10480.000	H	45.8	11.4	57.2	68.2	11.0	100.0	244.0	

Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

[11a]
5.3 GHz Band / Channel Low
BELOW 1GHz

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 subpartC
EUT	: Mobile Phone	Operator	: T.Watanabe
Model No.	: EB1086	Temp,Hum	: 23.0[℃] 63.7[%]
Serial No.	: N/A	Note1	: CH:48 5240MHz
Test mode	: WLAN_11a_W52_Tx_ch:High	Note2	:



Final Result

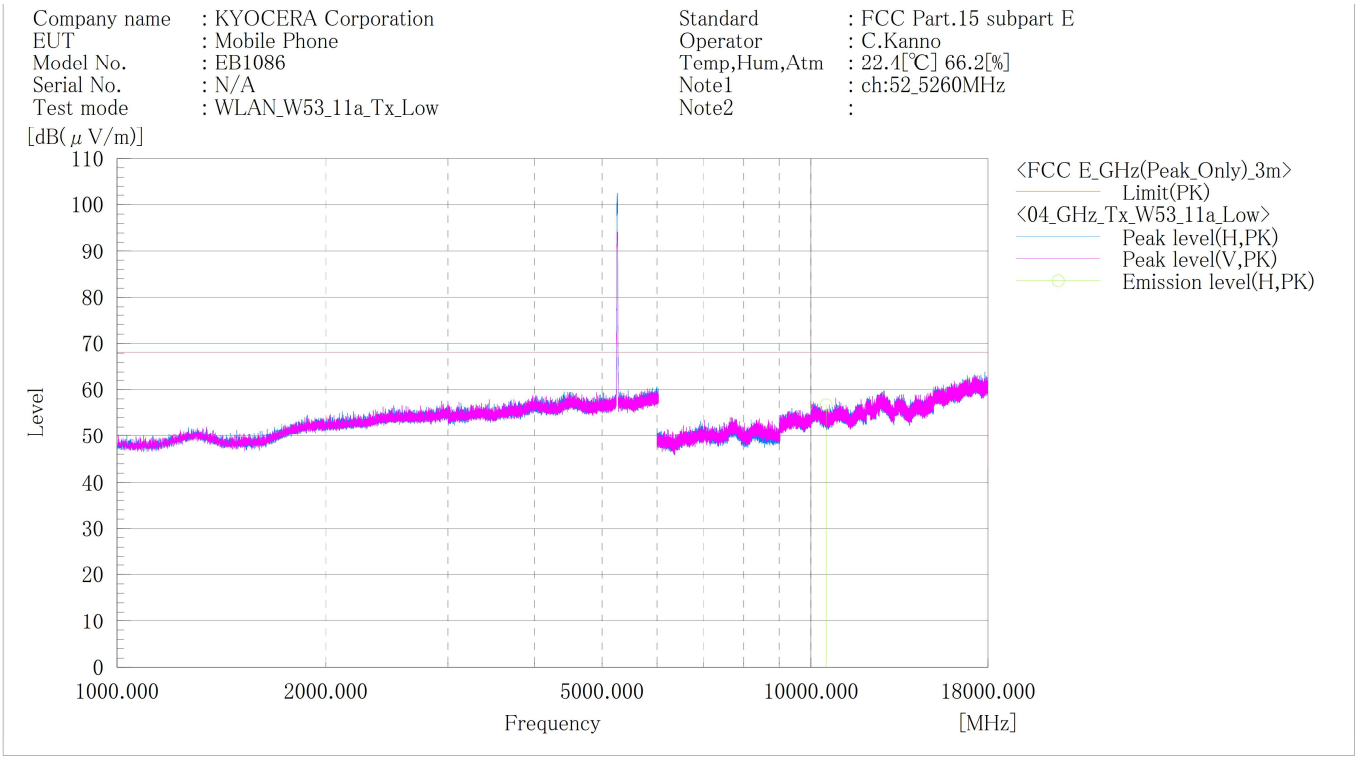
No.	Frequency [MHz]	(P)	c.f [dB(1/m)]	Height [cm]	Angle [°]	Remark

Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.

Japan

[11a]
5.3 GHz Band / Channel Low
ABOVE 1GHz

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 subpart E
EUT	: Mobile Phone	Operator	: C.Kanno
Model No.	: EB1086	Temp,Hum,Atm	: 22.4[℃] 66.2[%]
Serial No.	: N/A	Note1	: ch:52_5260MHz
Test mode	: WLAN_W53_11a_Tx_Low	Note2	:



Final Result

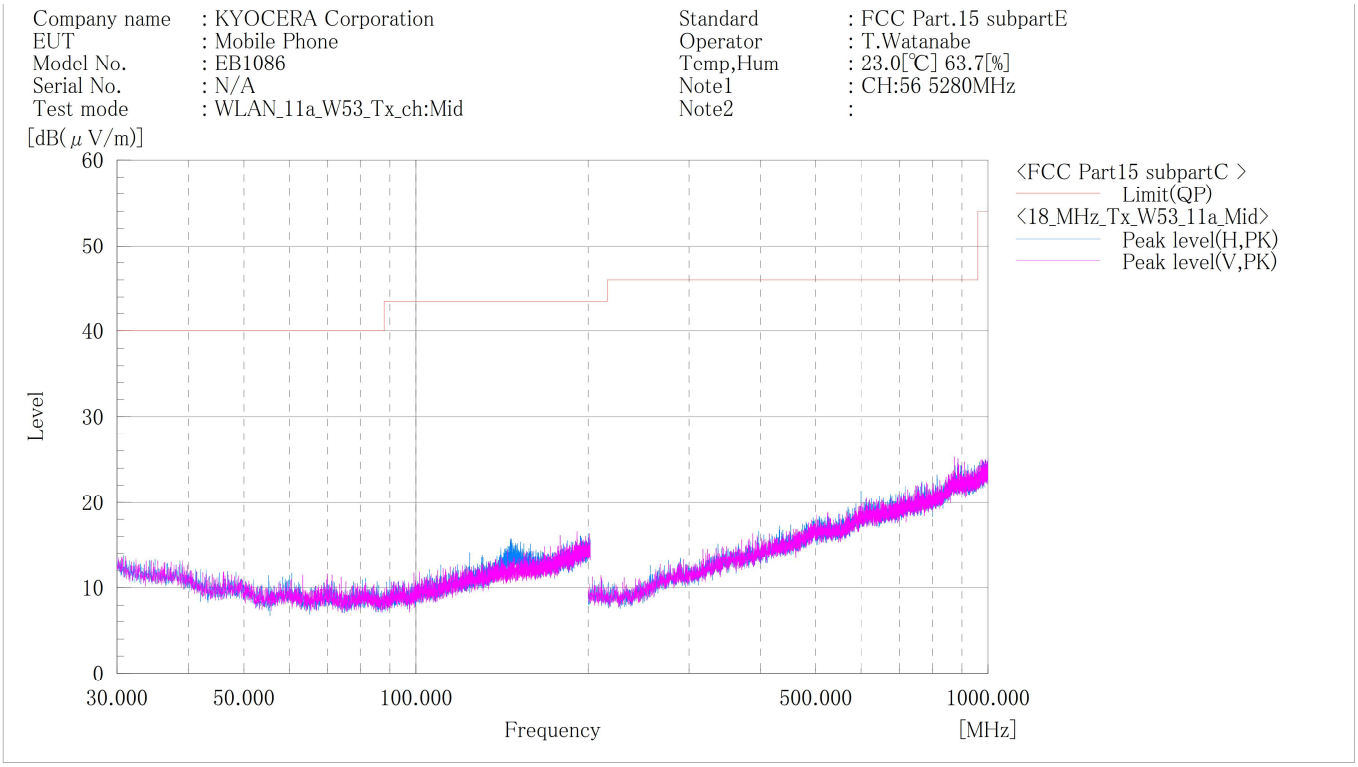
No.	Frequency	(P)	Reading PK	c.f	Result PK	Limit PK	Margin PK	Height	Angle	Remark
	[MHz]		[dB(μV)]	[dB(1/m)]	[dB(μV/m)]	[dB(μV/m)]	[dB]	[cm]	[°]	
1	10520.000	H	45.2	11.5	56.7	68.2	11.5	100.0	260.0	

Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

Japan

[11a]
5.3 GHz Band / Channel Middle
BELOW 1GHz

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 subpartE
EUT	: Mobile Phone	Operator	: T.Watanabe
Model No.	: EB1086	Temp,Hum	: 23.0[℃] 63.7[%]
Serial No.	: N/A	Note1	: CH:56 5280MHz
Test mode	: WLAN_11a_W53_Tx_ch:Mid	Note2	:



Final Result

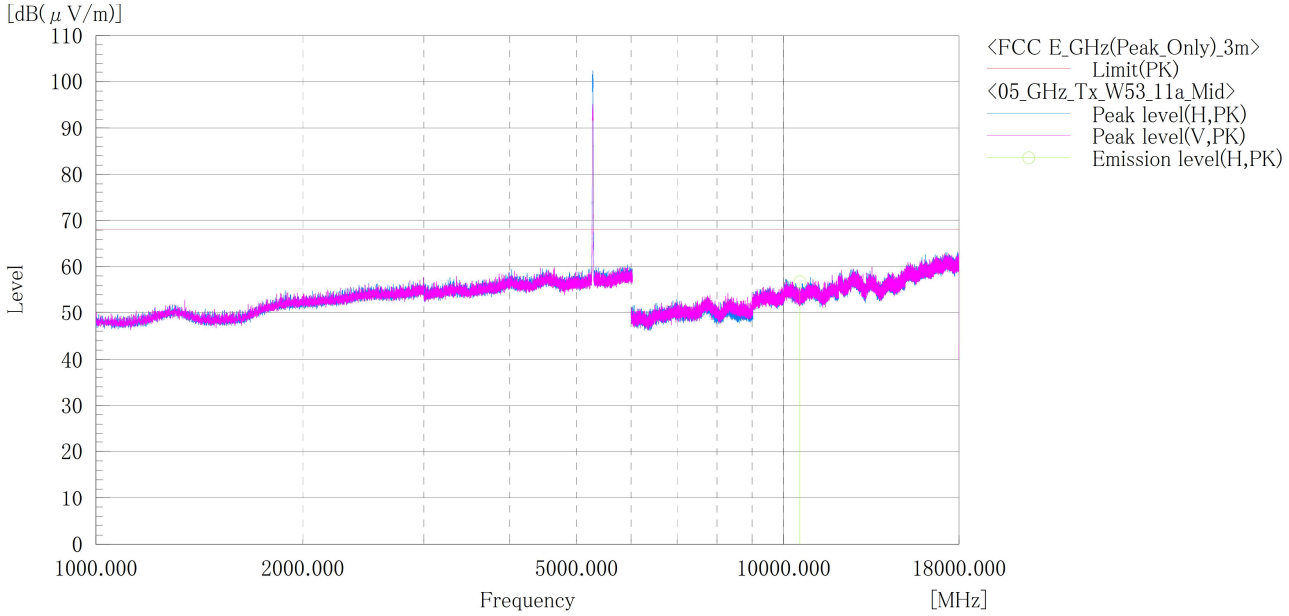
No.	Frequency [MHz]	(P)	c.f [dB(1/m)]	Height [cm]	Angle [°]	Remark

Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.

Japan

[11a]
5.3 GHz Band / Channel Middle
ABOVE 1GHz

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 subpart E
EUT	: Mobile Phone	Operator	: C.Kanno
Model No.	: EB1086	Temp,Hum,Atm	: 22.4[℃] 66.2[%]
Serial No.	: N/A	Note1	: ch:56_5280MHz
Test mode	: WLAN_W53_11a_Tx_Mid	Note2	:



Final Result

No.	Frequency	(P)	Reading PK	c.f	Result PK	Limit PK	Margin PK	Height	Angle	Remark
	[MHz]		[dB(μV)]	[dB(1/m)]	[dB(μV/m)]	[dB(μV/m)]	[dB]	[cm]	[°]	
1	10560.000	H	45.3	11.5	56.8	68.2	11.4	100.0	252.0	

Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.