Report on the RF Testing of:

KYOCERA Corporation
Mobile Phone, Model: DB05
FCC ID: JOYDB05

In accordance with FCC Part15 Subpart E

Japan

Add value.
Inspire trust.

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Document Number: JPD-TR-19157-0

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Hiroaki Suzuki	Deputy Manager of RF Group	Approved Signatory	02 OCT 2019

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

EXECUTIVE SUMMARY

A sample(s) of this product was tested and found to be compliant with FCC Part15 Subpart E.

NVLAP® TESTING
NVLAP LAB CODE 200308-0

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Japan

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1 Summary of Test

1.1 Modification history of the test report

Document Number	Modification History	Issue Date
JPD-TR-19157-0	First Issue	Refer to the cover page

1.2 Standards

CFR47 FCC Part 15 Subpart E

1.3 Test methods

ANSI C63.10-2013
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	PASS	-
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	-

1.6 Test information

None

1.7 Test set up

Table-top

1.8 Test period

3-August-2019 - 11-September-2019

2 Equipment Under Test

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	DB05
Serial number	N/A
Trade name	Kyocera
Number of sample(s)	1
EUT condition	Pre-Production
Power rating	Battery: DC 3.85 V
Size	(W) 73.0 × (D) 153.0 × (H) 8.9 mm
Environment	Indoor and Outdoor use
Terminal limitation	-20˚C to 60˚C
Hardware version	DMT1
Software version	0.400BE
Firmware version	Not applicable
RF Specification	
Protocol	IEEE802.11a, IEEE802.11n (HT20), IEEE802.11n (HT40) IEEE802.11ac (HT20), IEEE802.11ac (HT40), EEE802.11ac (HT80)
Frequency range	IEEE802.11a/n/ac (HT20): 5180 MHz-5320 MHz, 5500 MHz-5700 MHz IEEE802.11n/ac (HT40): 5190 MHz-5310 MHz, 5510 MHz-5670 MHz IEEE802.11ac (HT80): 5210 MHz, 5290 MHz, 5530 MHz, 5610 MHz
Number of RF Channels	IEEE802.11a/n/ac (HT20): 19 Channels IEEE802.11n/ac (HT40): 9 Channels IEEE802.11ac (HT80): 4 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, 65Mbps IEEE802.11n (HT20 SGI): 7.2, 14.4, 21.7, 28.9, 43.3, 57.8, 65, 72.2Mbps IEEE802.11ac (HT20 LGI): 6.5, 13, 19.5, 26, 39, 52, 58.5, 65, 78, 86.5Mbps IEEE802.11ac (HT20 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, 135Mbps IEEE802.11n (HT40 SGI): 15, 30, 45, 60, 90, 120, 135, 150Mbps IEEE802.11ac (HT40 LGI): 13.5, 27, 40.5, 54, 81, 108, 121.5, 135, 162, 180Mbps IEEE802.11ac (HT40 SGI): 15, 30, 45, 60, 90, 120, 135, 150, 180, 200Mbps IEEE802.11ac (HT80 LGI): 29.3, 58.5, 87.8, 117, 175.5, 234, 263.3, 292.6, 351, 390Mbps IEEE802.11ac (HT80 SGI): 32.5, 65, 97.5, 130, 195, 260, 292.5, 325, 390, 433.3Mbps
Channel separation	IEEE802.11a/n/ac (HT20): 20 MHz IEEE802.11n/ac (HT40): 40 MHz IEEE802.11ac (HT80): 80 MHz
Output power	27.805 mW (IEEE802.11a) 26.683 mW (IEEE802.11n: HT20) 20.405 mW (IEEE802.11n: HT40) 20.423 mW (IEEE802.11ac: HT80)
Antenna type	Internal antenna
Antenna gain	5.15-5.25 GHz band: -0.4 dBi 5.25-5.35 GHz band: -0.4 dBi 5.47-5.725 GHz band: -0.3 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: DB05, Serial Number: N/A			
0	As supplied by the applicant	Not Applicable	Not Applicable

2.3 Variation of family model(s)

2.3.1 List of family model(s)

Not applicable

2.3.2 Reason for selection of EUT

Not applicable

2.4 Operating channels and frequencies

[IEEE802.11a/n (HT20)]

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

[IEEE802.11n (HT40)]

Channel	Frequency [MHz]
38	5190
46	5230
54	5270
62	5310
102	5510
110	5550
118	5590
126	5630
134	5670

[IEEE802.11ac (HT80)]

Channel	Frequency [MHz]
42	5210
58	5290
106	5530
122	5610

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/ac (HT20)		IEEE802.11n/ac (HT40)		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	-	-

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 (HT80): OFDM	MCS0 (29.3Mbps)
5.3 GHz Band	IEEE802.11a: OFDM	6Mbps
	IEEE802.11n (HT20): OFDM	MCS0 (6.5Mbps)
	IEEE802.11n (HT40): OFDM	MCS0 (13.5Mbps)
	IEEE802.11ac (HT80): OFDM	MCS0 (29.3Mbps)
5.6 GHz Band	IEEE802.11a: OFDM	6Mbps
	IEEE802.11n (HT20): OFDM	MCS0 (6.5Mbps)
	IEEE802.11n (HT40): OFDM	MCS0 (13.5Mbps)
	IEEE802.11ac (HT80): OFDM	MCS0 (29.3Mbps)

The field strength of spurious emissions was measured at each position of all three axis X, Y and Z to compare the level, and the maximum noise.
The worst emission was found in X axis 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.

2.6 Operating flow

- Tx mode

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

- Rx mode

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

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”.
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	DB05	N/A	JOYDB05	EUT
2	AC Adapter	KDDI	0301PQA	N/A	N/A	*

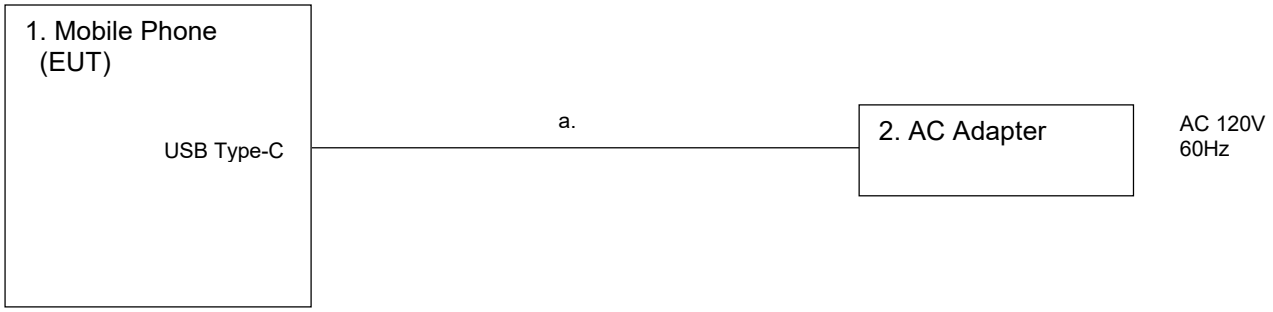
*: AC power line Conducted Emission Test.

3.2 Cable(s) used

No.	Cable	Length[m]	Shield	Connector	Comment
a	USB cable (for AC Adapter)	1.0	Yes	Metal	*

*: AC power line Conducted Emission Test.

3.3 System configuration



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]

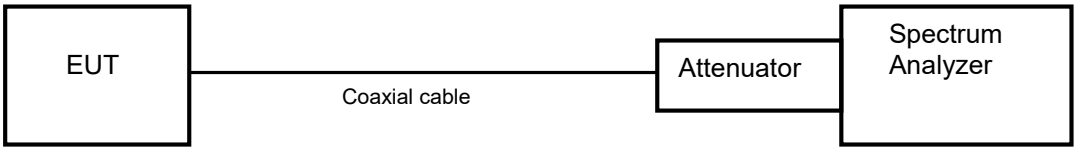
The 26dB bandwidth and 99% occupied bandwidth is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

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

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

- Test configuration



4.1.2 Limit

None

4.1.3 Measurement result

Date : 7-August-2019
Temperature : 24.5 [˚C]
Humidity : 43.1 [%]
Test place : Shielded room No.4
Test engineer : Chiaki Kanno

Mode	Band	Channel	Frequency (MHz)	26 dB bandwidth (MHz)	99% Occupied bandwidth (MHz)
802.11a	5.2 GHz Band	36	5180	19.632	16.4226
		40	5200	19.770	16.4093
		48	5240	19.747	16.4192
	5.3 GHz Band	52	5260	19.779	16.3750
		56	5280	19.825	16.4089
		64	5320	19.977	16.4238
	5.6 GHz Band	100	5500	19.766	16.4123
		116	5580	19.829	16.4251
		140	5700	19.687	16.4141

Mode	Band	Channel	Frequency (MHz)	26 dB bandwidth (MHz)	99% Occupied bandwidth (MHz)
802.11n (20 MHz)	5.2 GHz Band	36	5180	19.957	17.5516
		40	5200	20.171	17.5683
		48	5240	20.052	17.5316
	5.3 GHz Band	52	5260	19.952	17.5531
		56	5280	20.033	17.5477
		64	5320	19.995	17.5665
	5.6 GHz Band	100	5500	19.936	17.5666
		116	5580	20.123	17.5593
		140	5700	19.972	17.5612

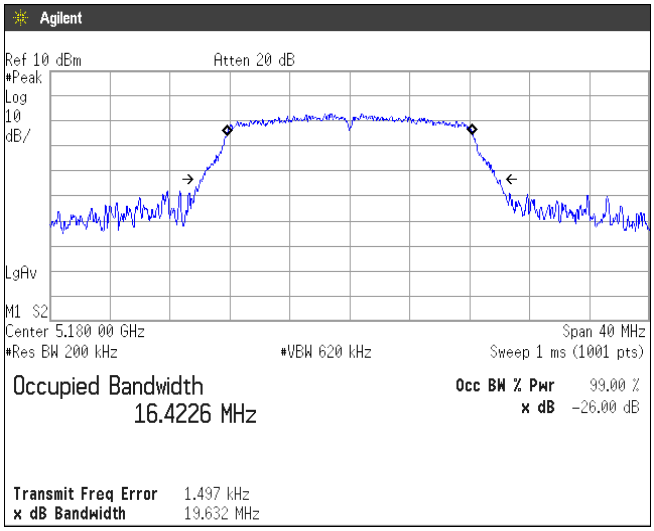
Mode	Band	Channel	Frequency (MHz)	26 dB bandwidth (MHz)	99% Occupied bandwidth (MHz)
802.11n (40 MHz)	5.2 GHz Band	38	5190	40.595	35.9997
		46	5230	40.399	35.9944
	5.3 GHz Band	54	5270	40.265	35.9937
		62	5310	40.692	35.9908
	5.6 GHz Band	102	5510	40.279	35.9912
		110	5550	40.280	35.9833
		134	5670	40.607	36.0541

Mode	Band	Channel	Frequency (MHz)	26dB bandwidth (MHz)	99% Occupied bandwidth (MHz)
802.11ac (80 MHz)	5.2 GHz Band	42	5210	80.668	75.1701
	5.3 GHz Band	58	5290	80.796	75.0546
	5.6 GHz Band	106	5530	80.772	75.1766
		122	5610	80.719	75.1528

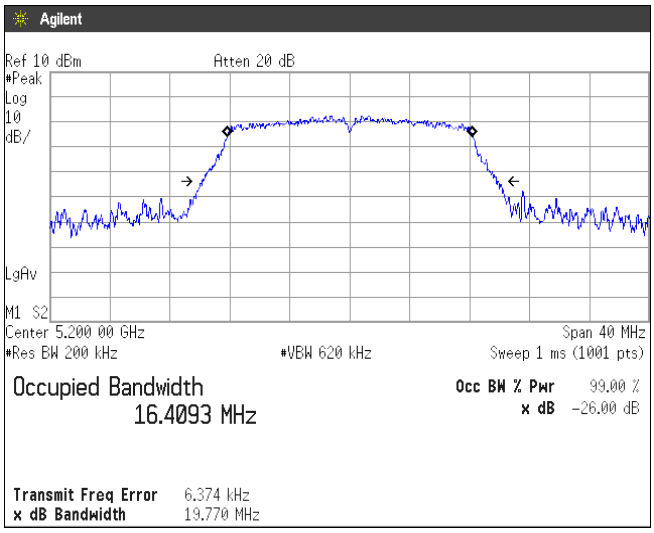
4.1.4 Trace data

[IEEE802.11a]
(5.2 GHz Band)

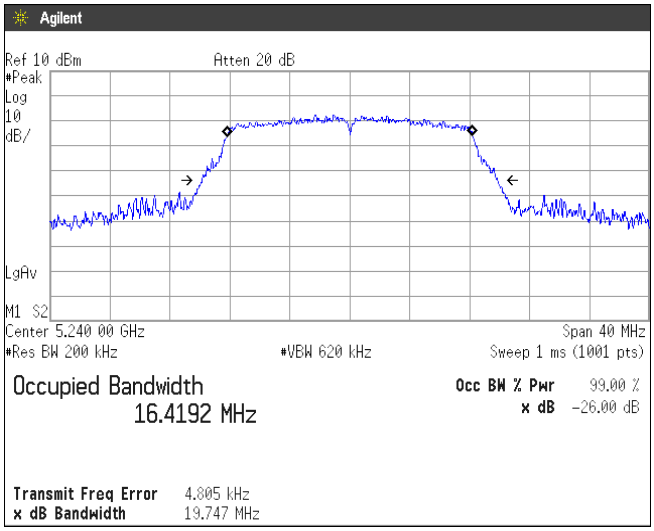
Channel: 36



Channel: 40

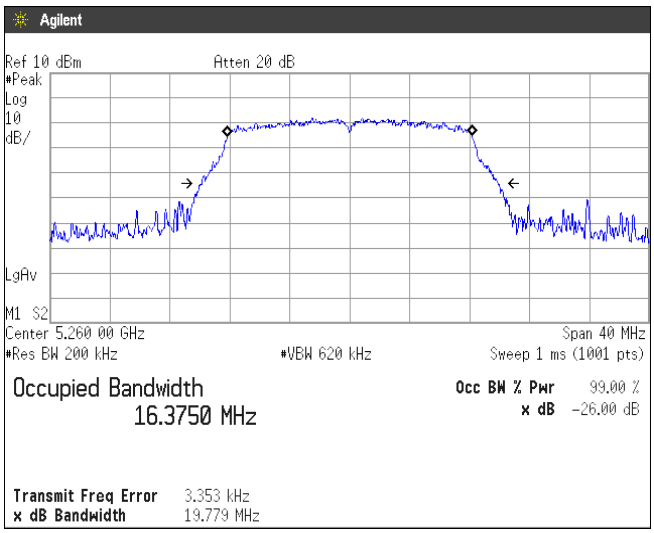


Channel: 48



(5.3 GHz Band)

Channel: 52



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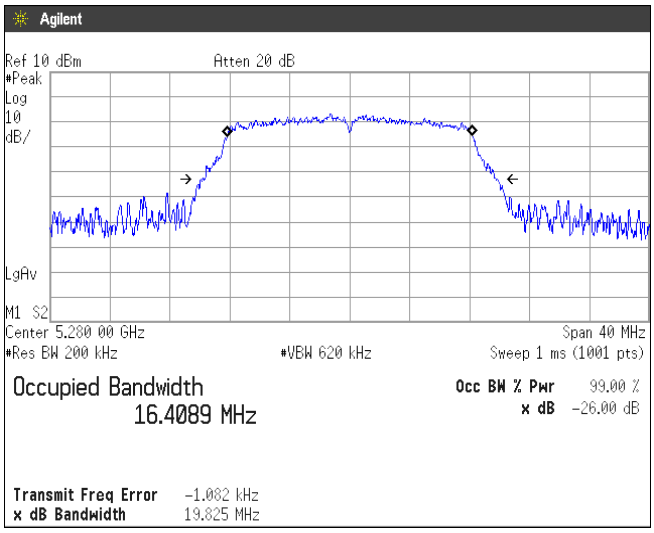

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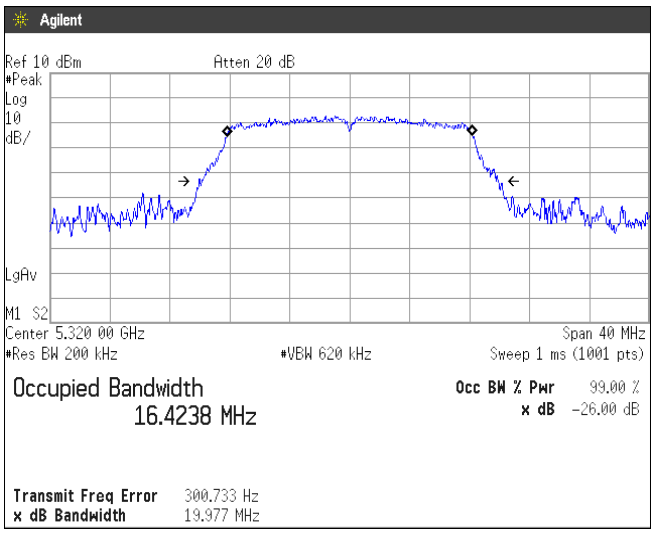
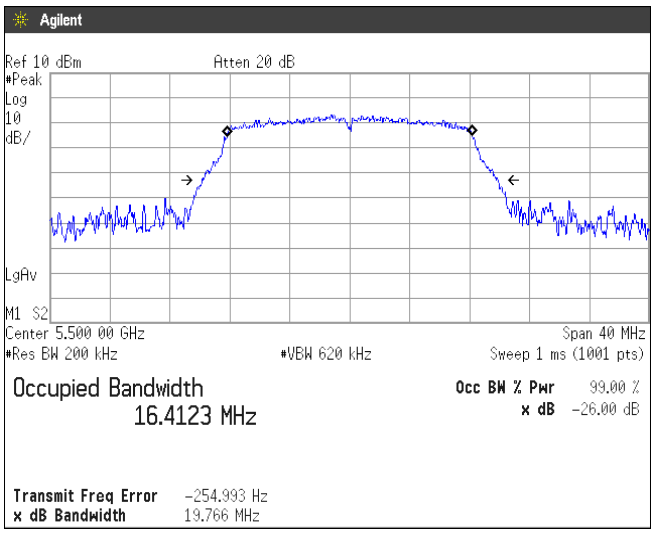


(5.6 GHz Band)

Channel: 100



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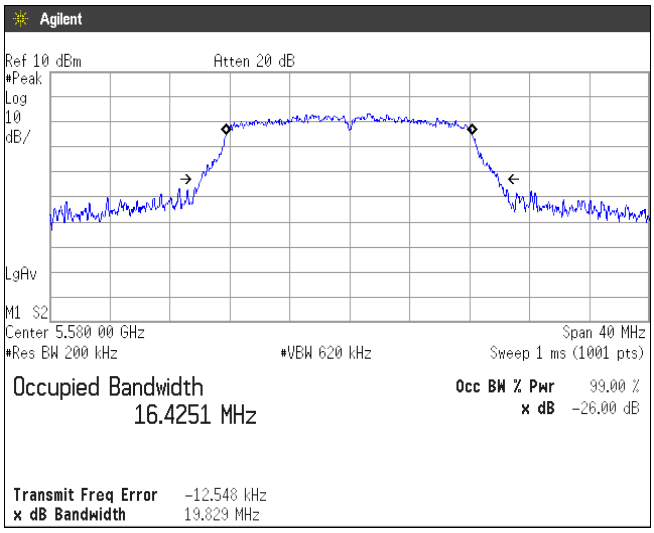

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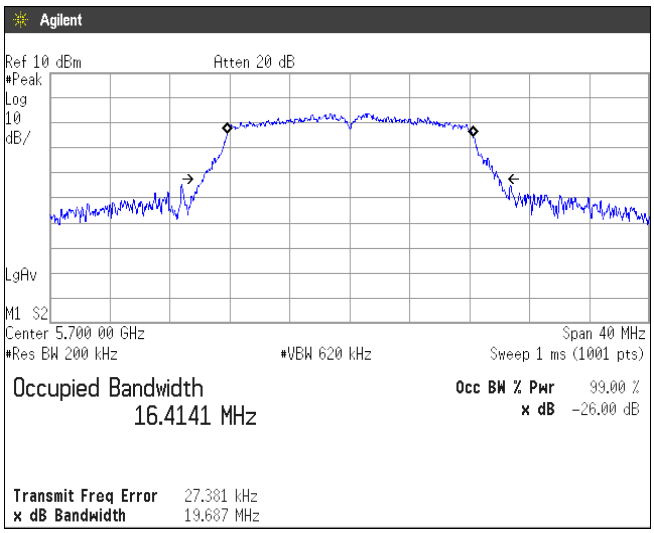
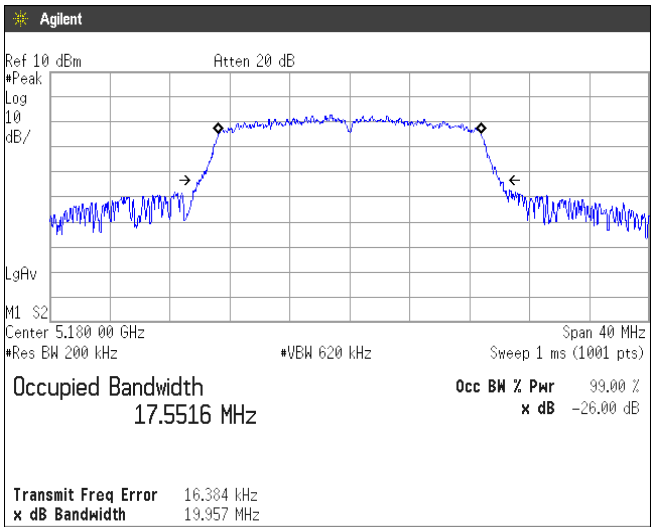
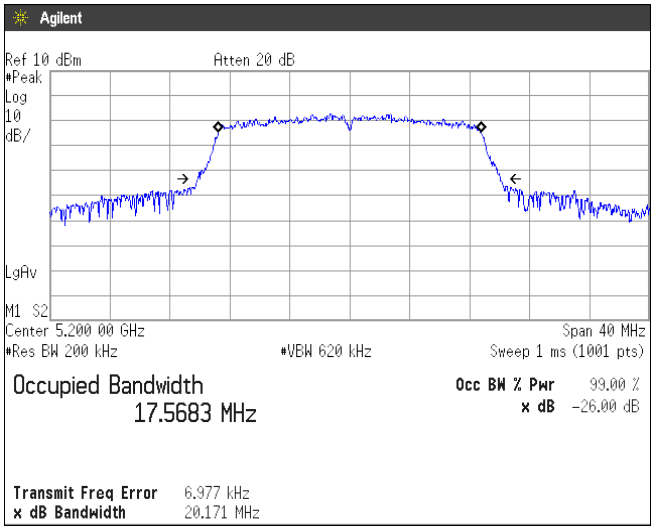


[IEEE802.11n (HT20)]
(5.2 GHz Band)

Channel: 36



Channel: 40



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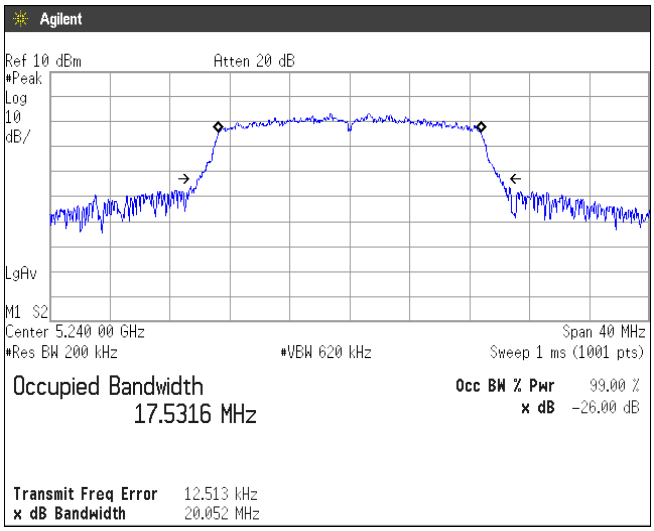
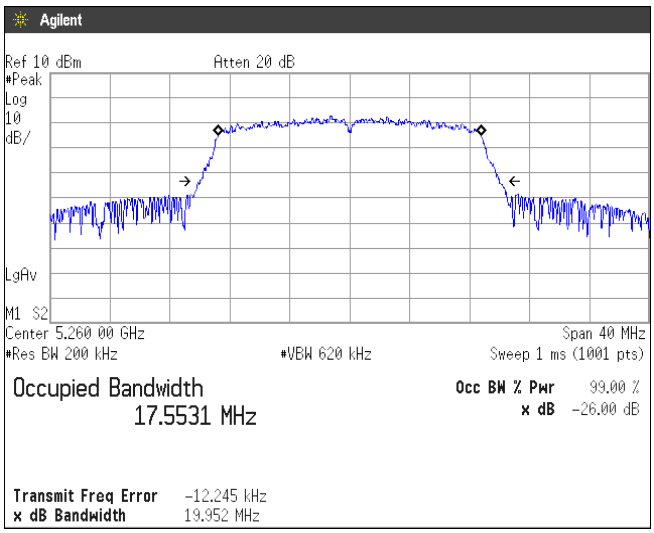
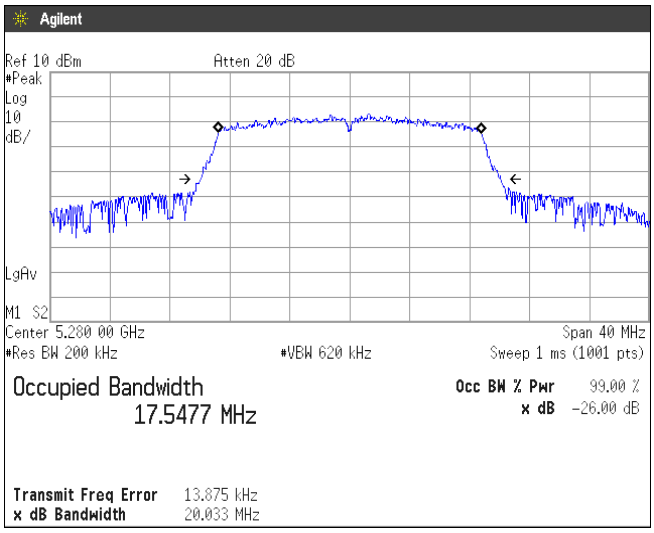


(5.3 GHz Band)

Channel: 52



Channel: 56



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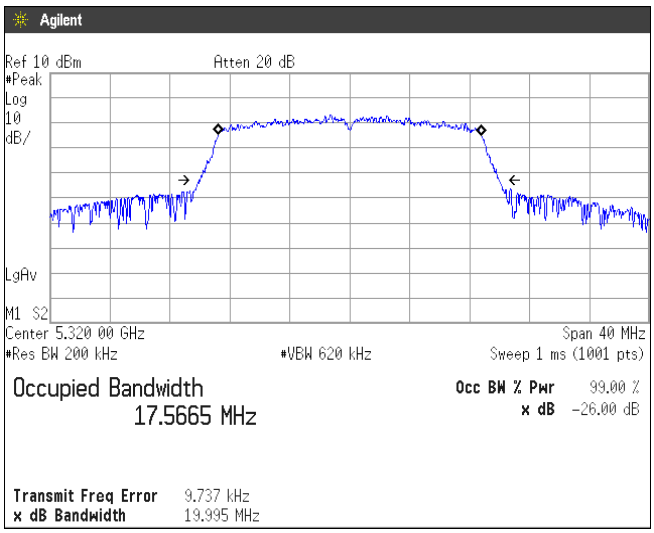
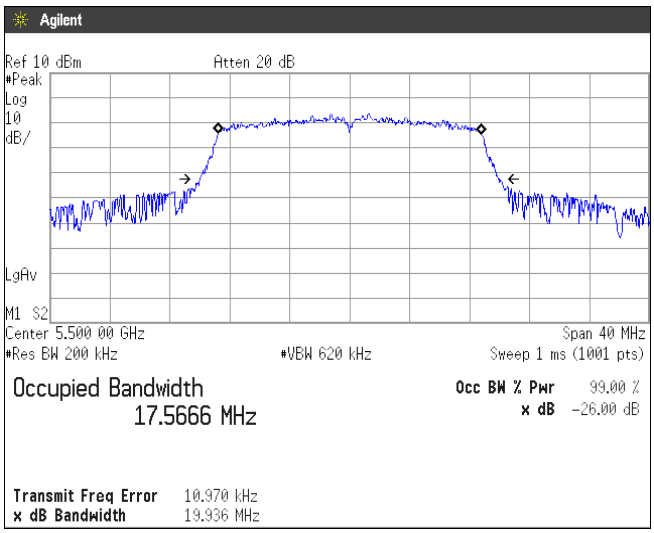


(5.6 GHz Band)

Channel: 100



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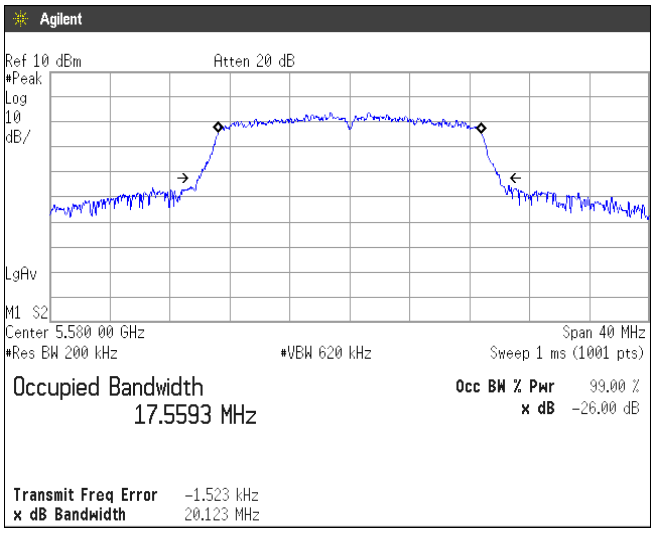

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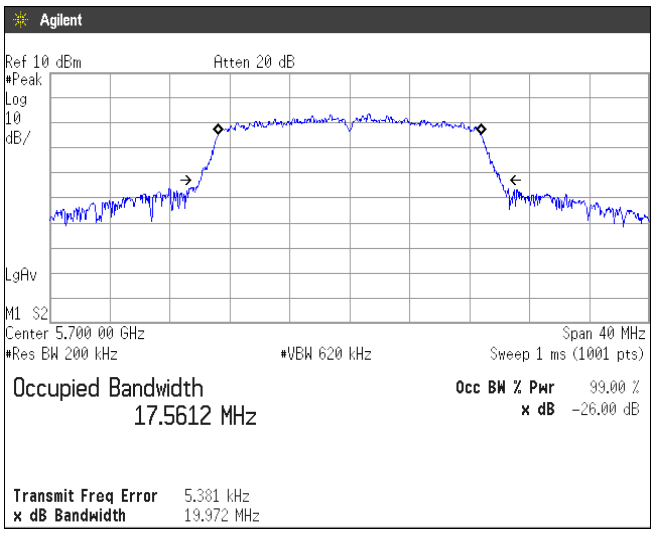
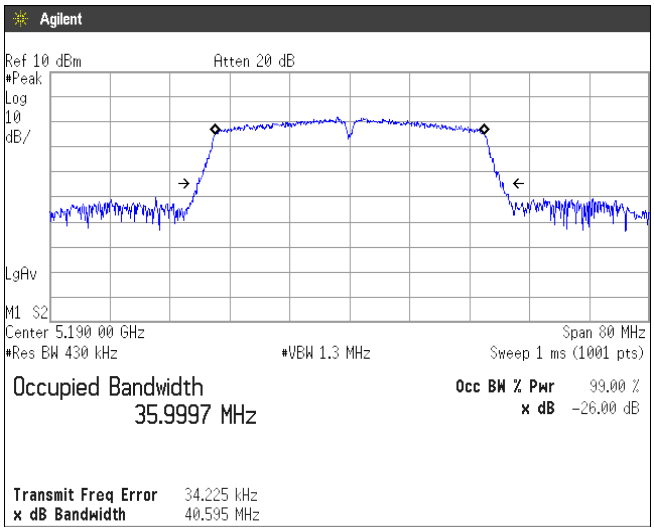


[IEEE802.11n (HT40)]
(5.2 GHz Band)

Channel: 38



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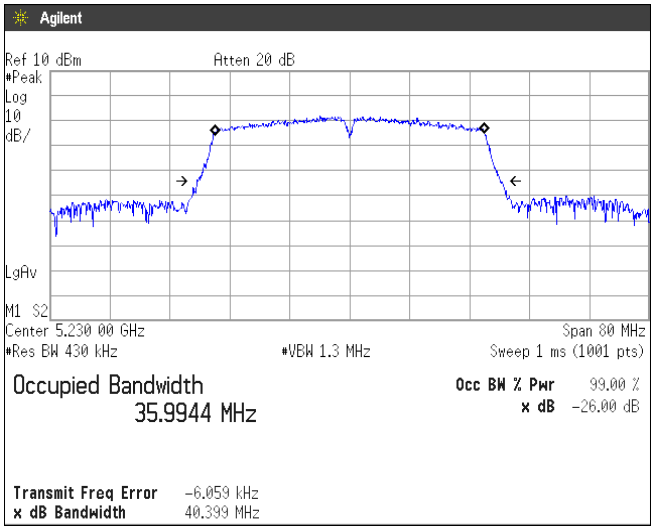
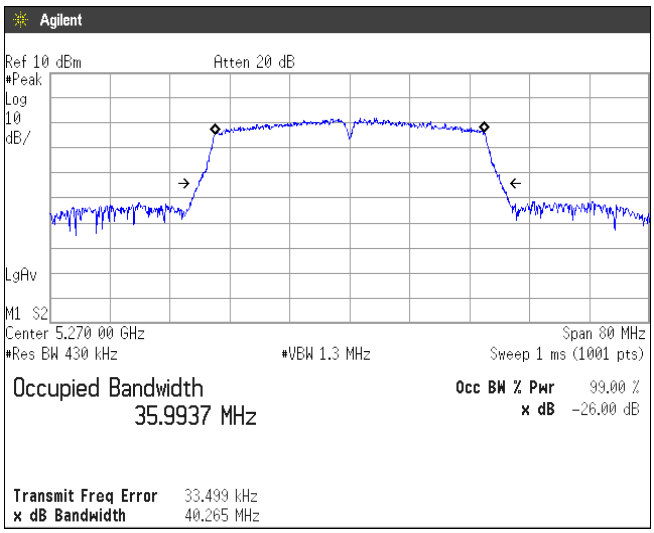
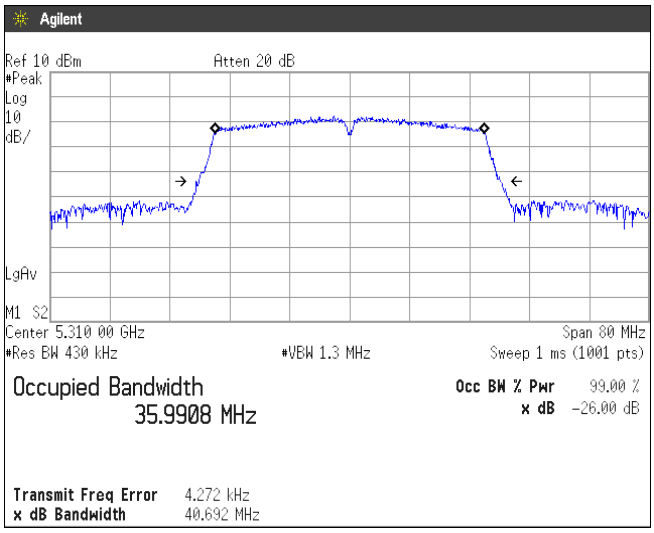


(5.3 GHz Band)

Channel: 54

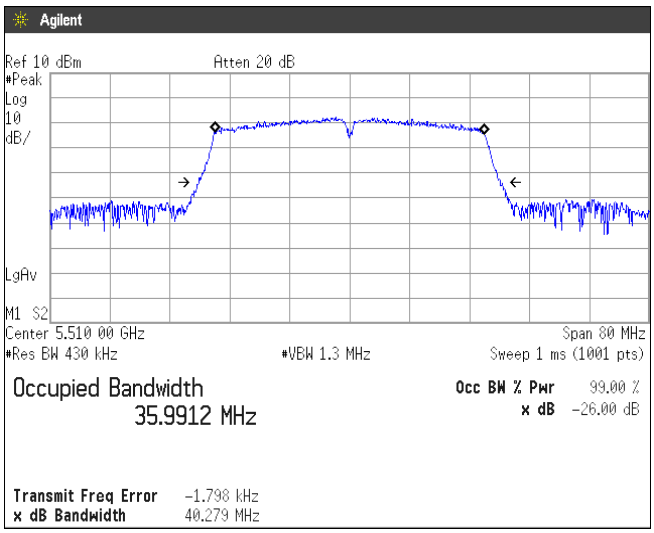


Channel: 62

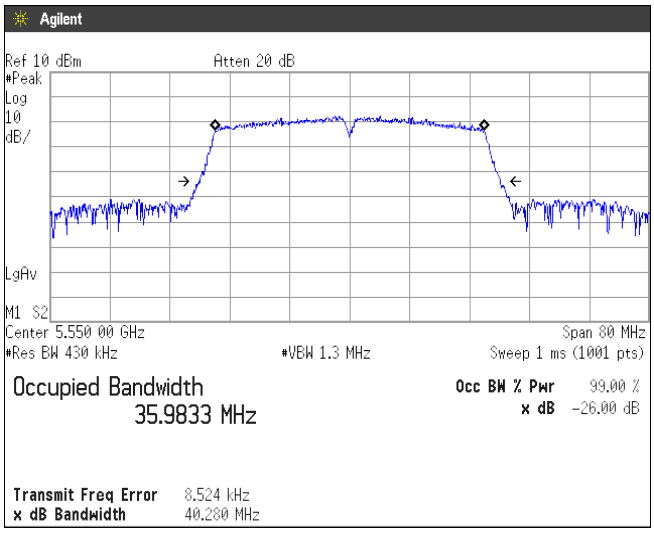


(5.6 GHz Band)

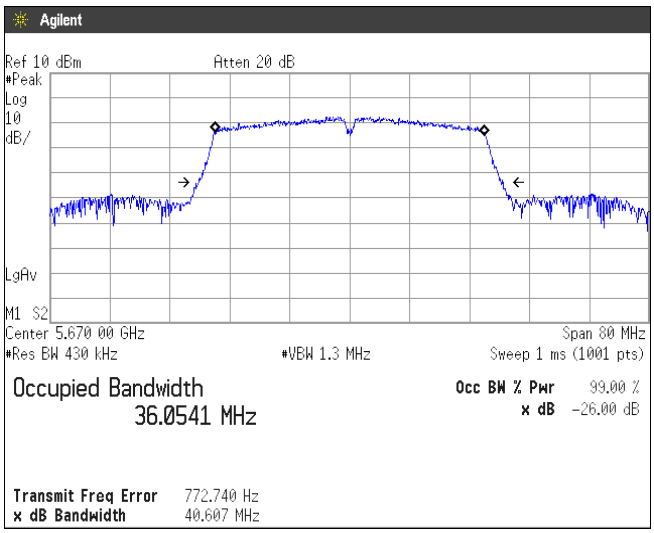
Channel: 102



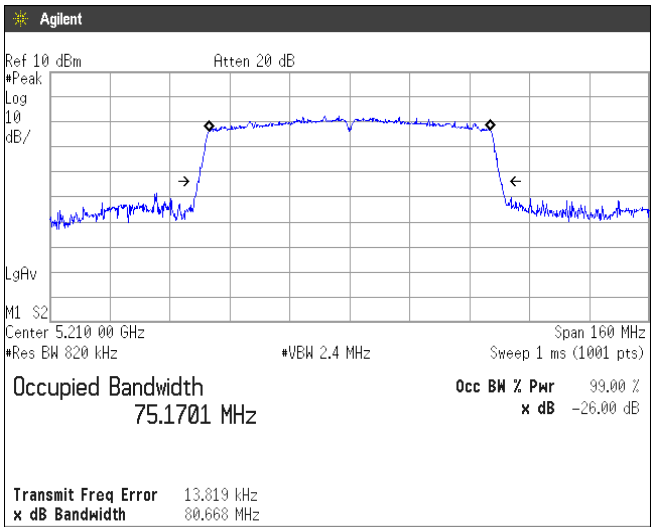
Channel: 110



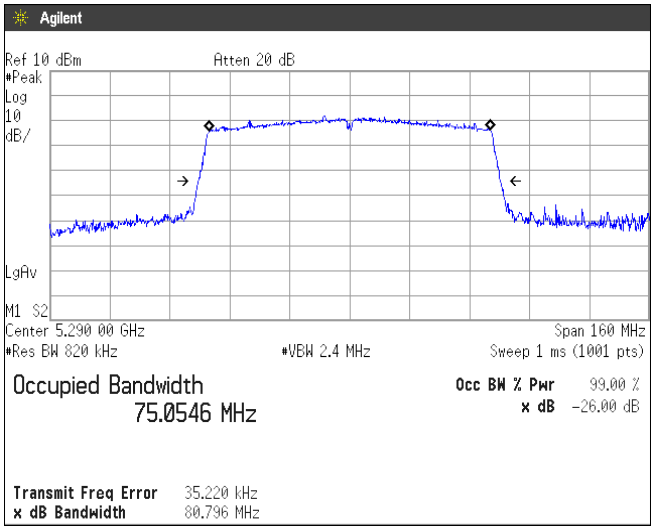
Channel: 134



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

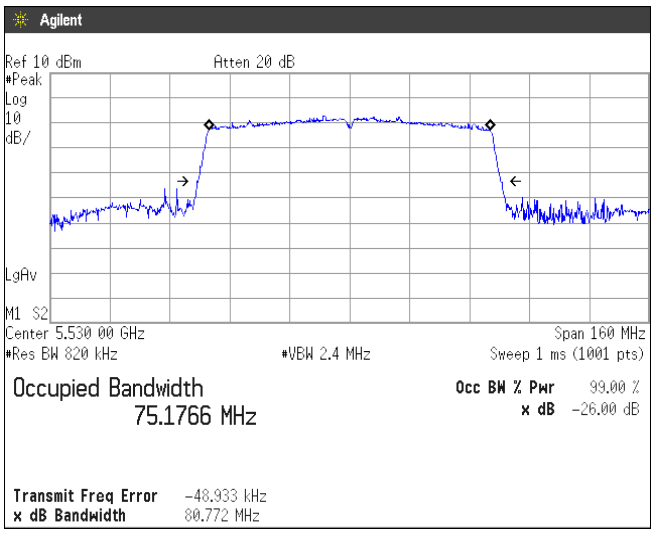


(5.3GHz Band)
Channel: 58

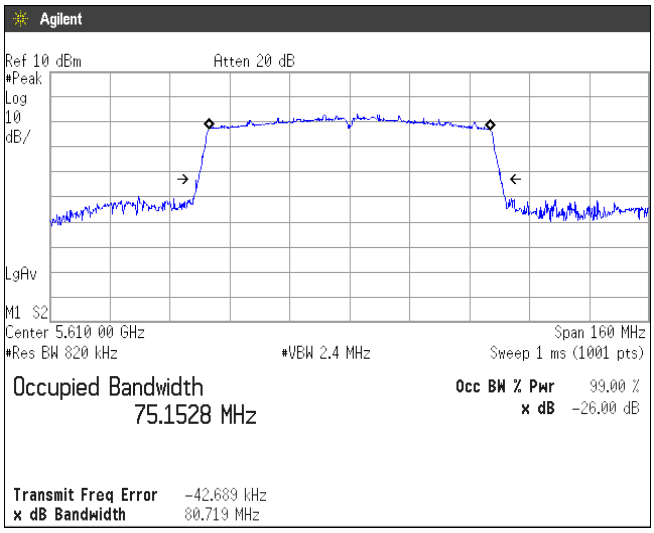


(5.6 GHz Band)

Channel: 106



Channel: 122



4.2 Maximum Conducted Output Power

4.2.1 Measurement procedure

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

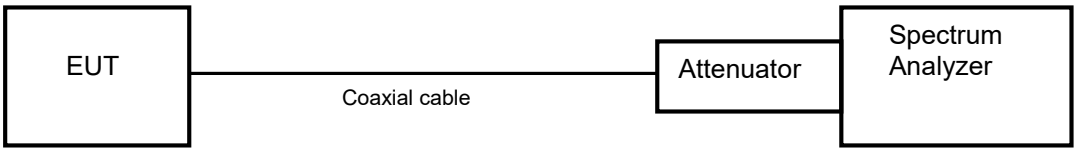
The peak power is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

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

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

- Test configuration



4.2.2 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 2 6dB 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.

<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	-0.4	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	-0.4	23.96
		19.779	23.96		
	802.11n HT20	250	23.97		23.97
		19.952	24.00		
	802.11n HT20	250	23.97		23.97
		40.265	27.05		
	802.11ac HT80	250	23.97		23.97
		80.796	30.07		

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	-0.3	23.94
		19.687	23.94		
	802.11n HT20	250	23.97		23.97
		19.936	24.00		
	802.11n HT20	250	23.97		23.97
		40.279	27.05		
	802.11ac HT80	250	23.97		23.97
		80.719	30.07		

4.2.3 Measurement result

Date : 7-August-2019
Temperature : 24.5 [˚C]
Humidity : 43.1 [%]
Test place : Shielded room No.4
Test engineer : Chiaki Kanno

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	13.33	1.392	1.436	0.969	0.135	13.465	22.208
	40	5200	13.37					13.505	22.414
	48	5240	13.09					13.225	21.014
	52	5260	13.43	1.392	1.438	0.968	0.141	13.571	22.757
	56	5280	13.44					13.581	22.810
	64	5320	13.67					13.811	24.050
	100	5500	13.97	1.392	1.438	0.968	0.141	14.111	25.770
	116	5580	13.96					14.101	25.711
	140	5700	14.30					14.441	27.805

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 (20MHz)	36	5180	12.85	1.288	1.334	0.966	0.152	13.002	19.964
	40	5200	12.95					13.102	20.429
	48	5240	12.79					12.942	19.690
	52	5260	12.76	1.288	1.334	0.966	0.152	12.912	19.554
	56	5280	13.37					13.522	22.503
	64	5320	13.50					13.652	23.187
	100	5500	13.97	1.288	1.334	0.966	0.152	14.122	25.837
	116	5580	13.77					13.922	24.674
	140	5700	14.11					14.262	26.683

Note: 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	12.12	0.635	0.680	0.934	0.297	12.417	17.448
	46	5230	12.21					12.507	17.813
	54	5270	12.26	0.636	0.680	0.935	0.291	12.551	17.991
	62	5310	12.31					12.601	18.199
	102	5510	12.69	0.635	0.680	0.934	0.297	12.987	19.895
	110	5550	12.80					13.097	20.405
	134	5670	12.79					13.087	20.358

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

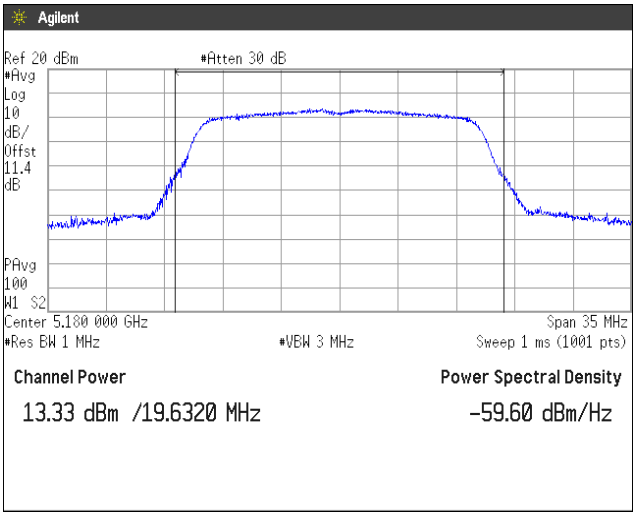
Mode	Channel	Frequency (MHz)	Reading (dBm)	Duty Cycle			DCF (dB)	Test Result (dBm)	Test Result (mW)
				On Time(ms)	On+Off Time(ms)	X			
802.11ac (80MHz)	42	5210	11.86	0.323	0.368	0.877	0.570	12.430	17.499
	58	5290	11.98	0.323	0.368	0.878	0.563	12.543	17.962
	106	5530	12.54	0.324	0.369	0.879	0.561	13.101	20.423
	122	5610	12.42	0.323	0.368	0.877	0.570	12.990	19.907

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

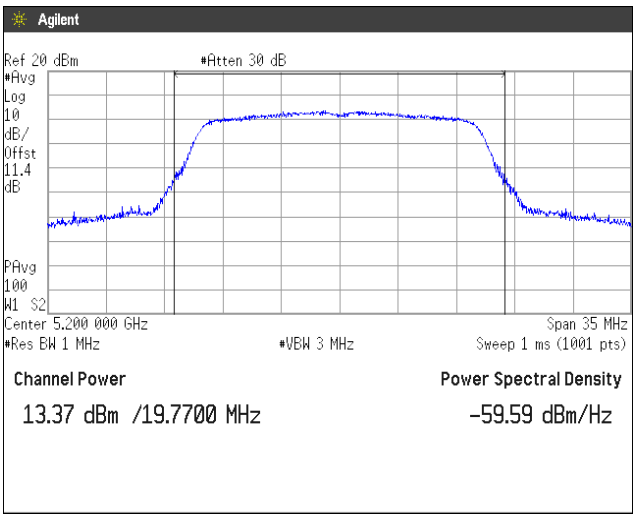
4.2.4 Trace data

[IEEE802.11a]
(5.2GHz Band)

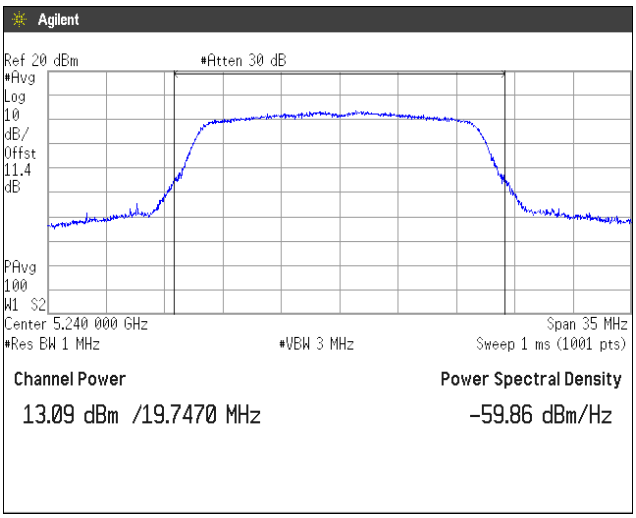
Channel: 36



Channel: 40

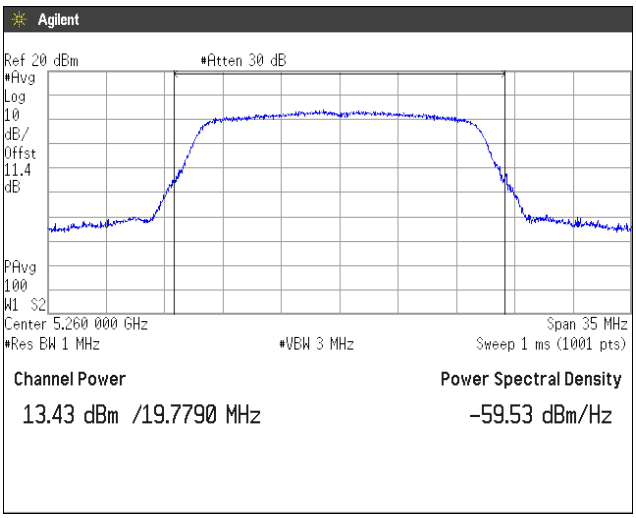


Channel: 48

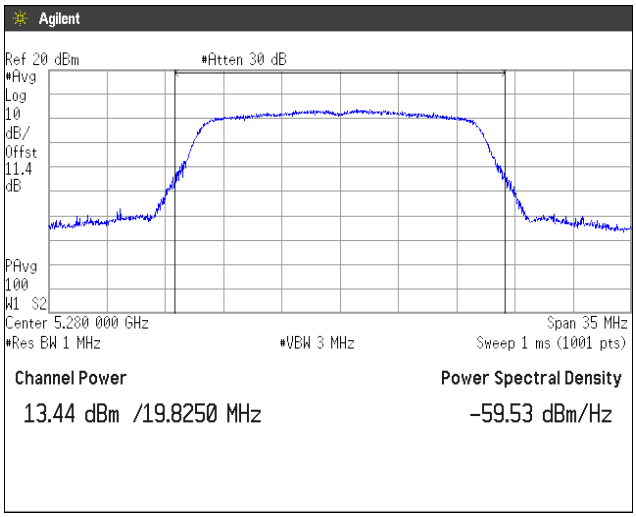


(5.3GHz Band)

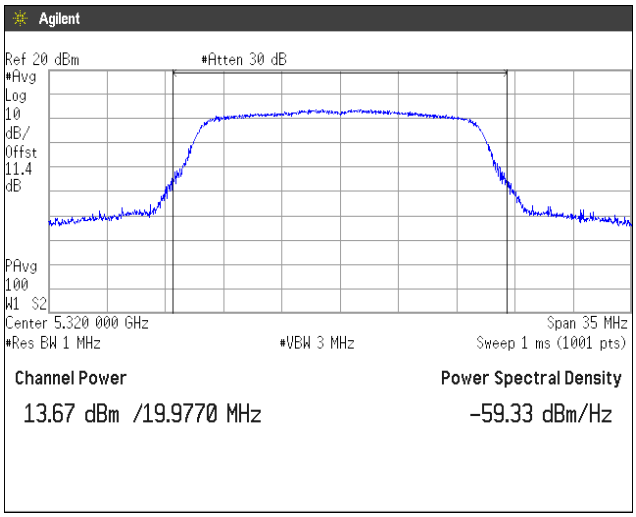
Channel: 52



Channel: 56

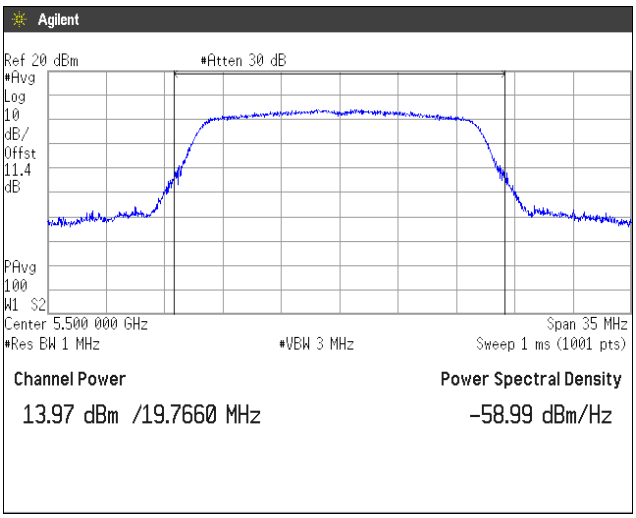


Channel: 64

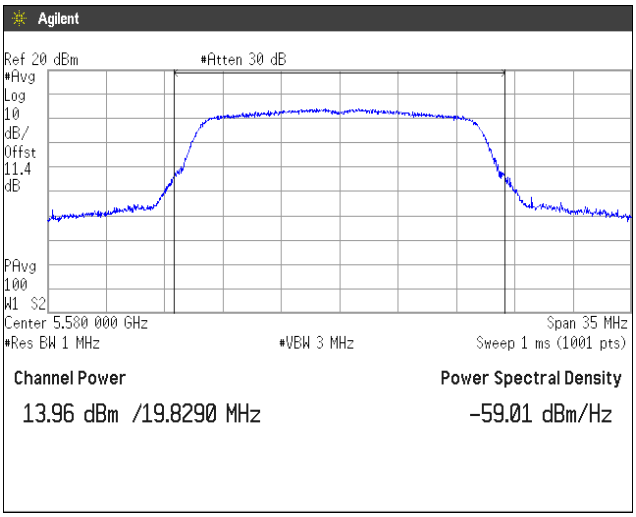


(5.6GHz Band)

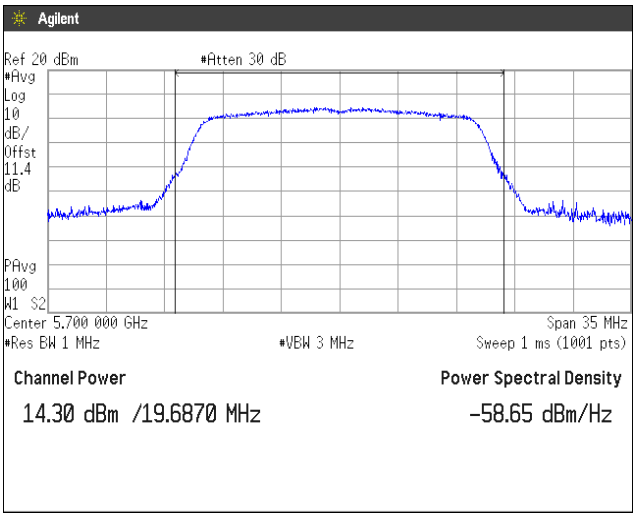
Channel: 100



Channel: 116

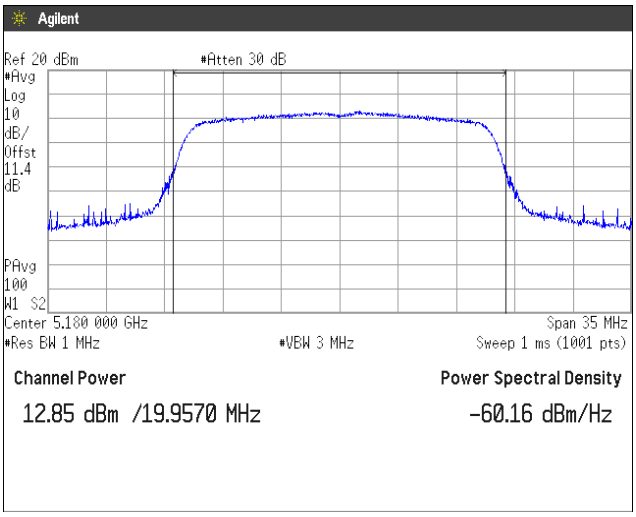


Channel: 140

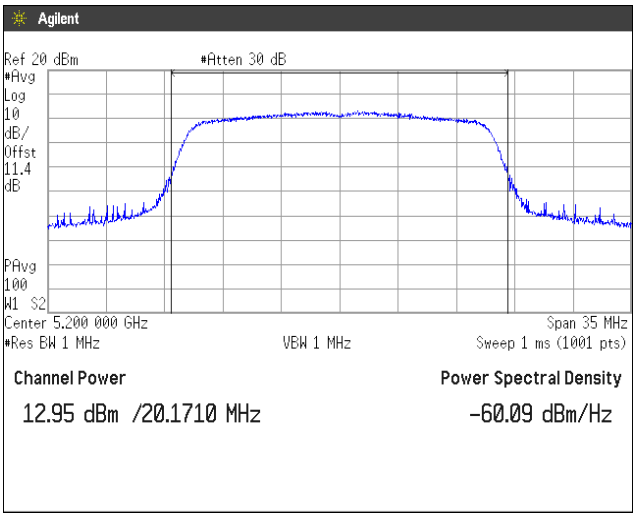


[IEEE802.11n (HT20)]
(5.2GHz Band)

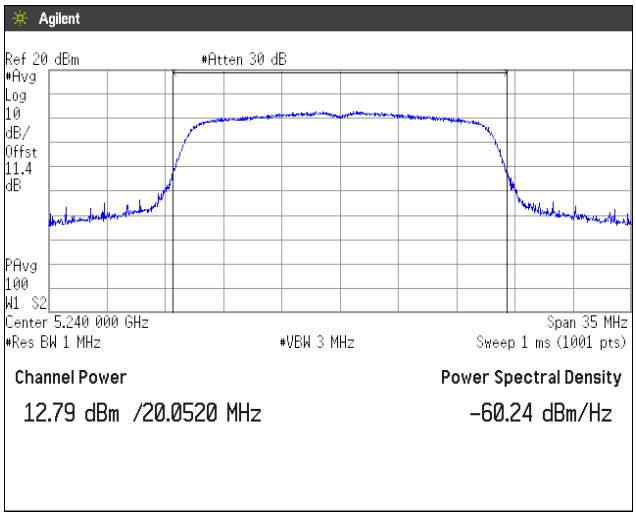
Channel: 36



Channel: 40

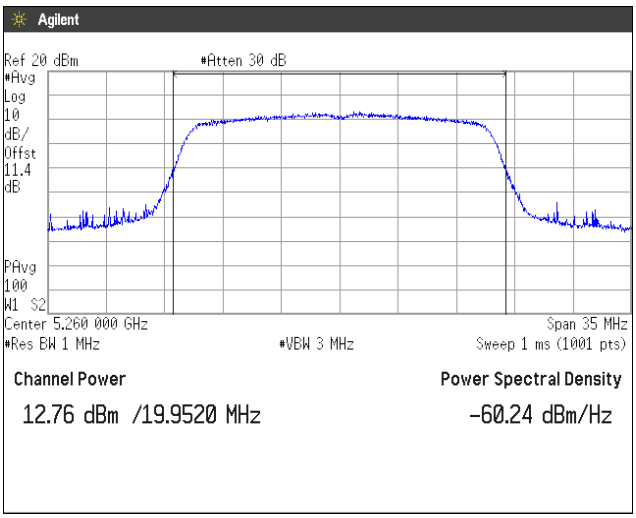


Channel: 48

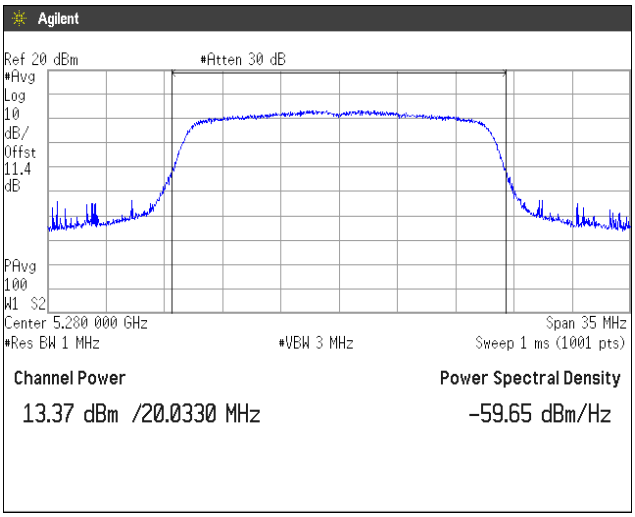


(5.3GHz Band)

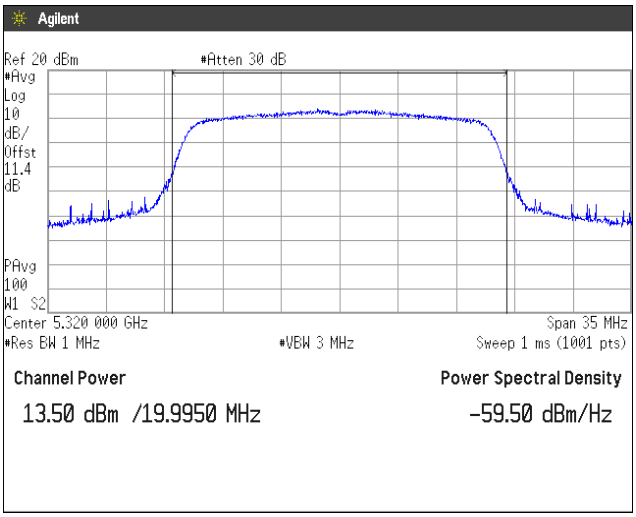
Channel: 52



Channel: 56

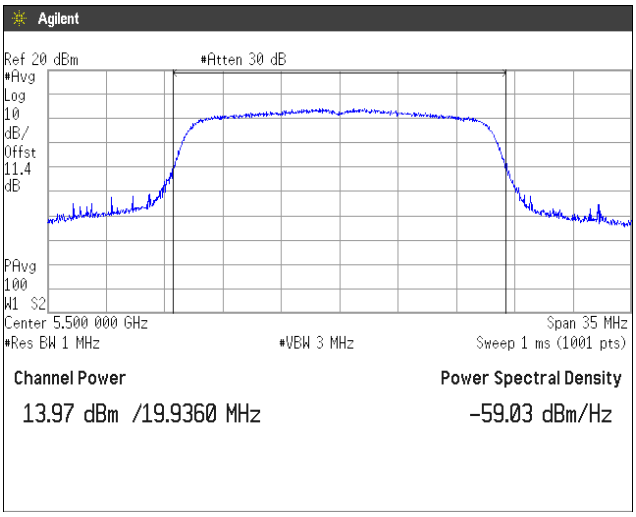


Channel: 64

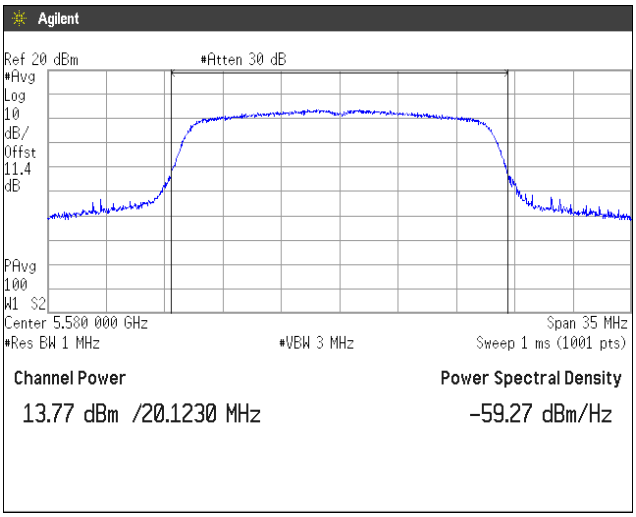


(5.6GHz Band)

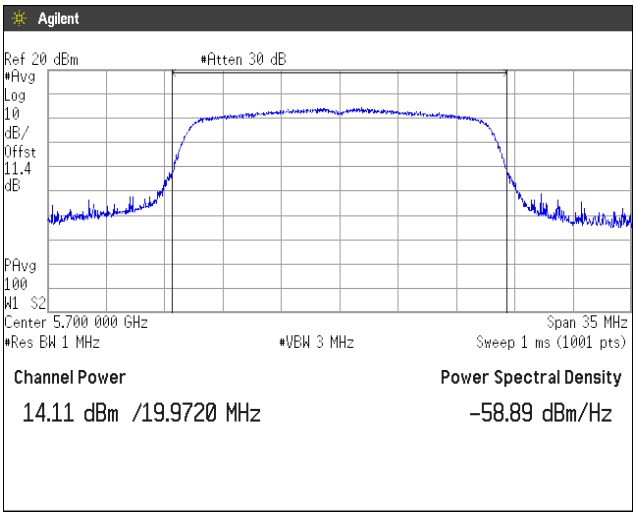
Channel: 100



Channel: 116

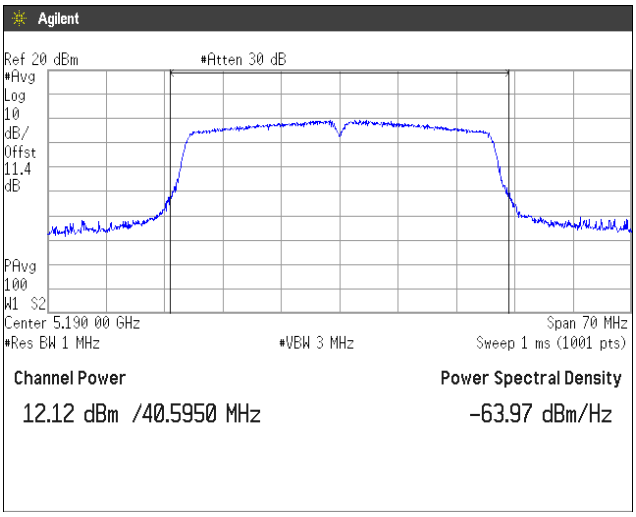


Channel: 140

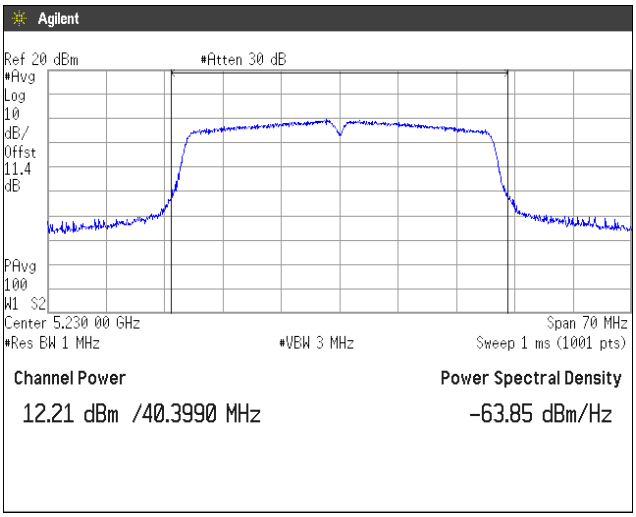


[IEEE802.11n (HT40)]
(5.2GHz Band)

Channel: 38

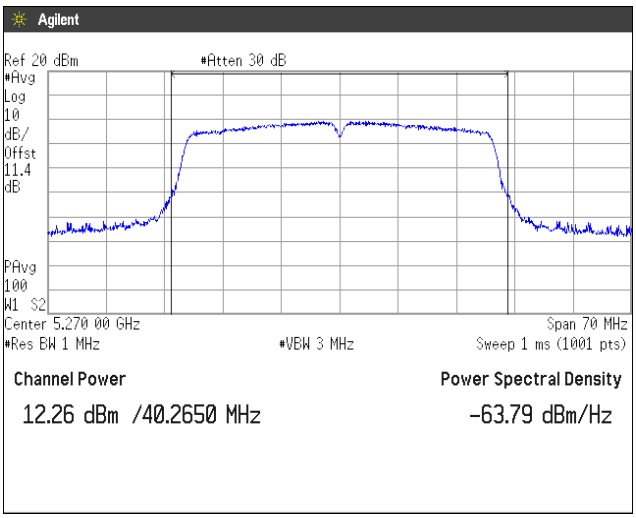


Channel: 46

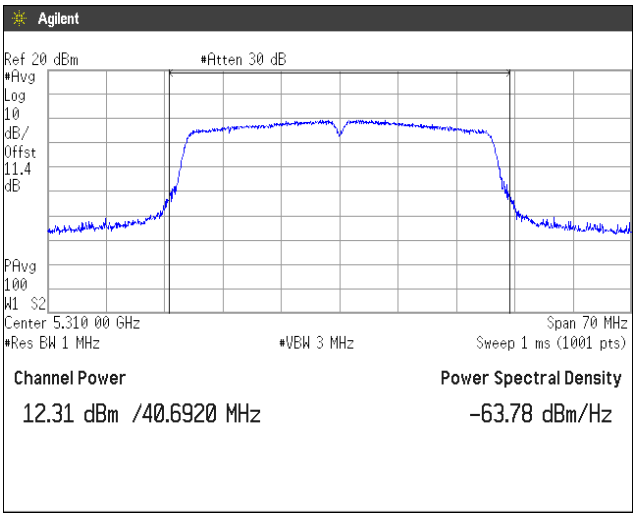


(5.3GHz Band)

Channel: 54

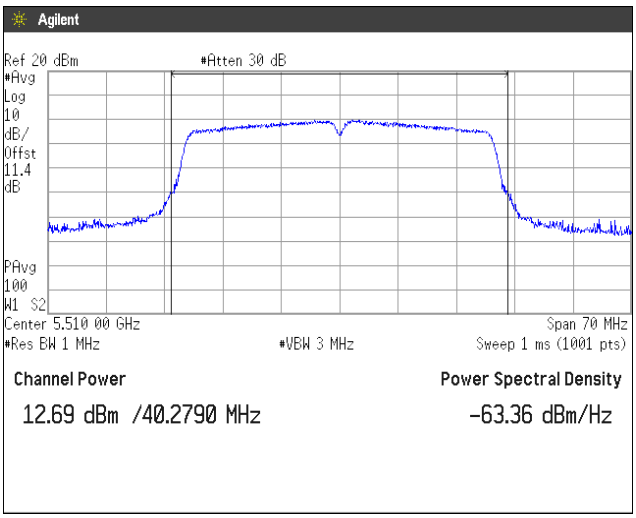


Channel: 62

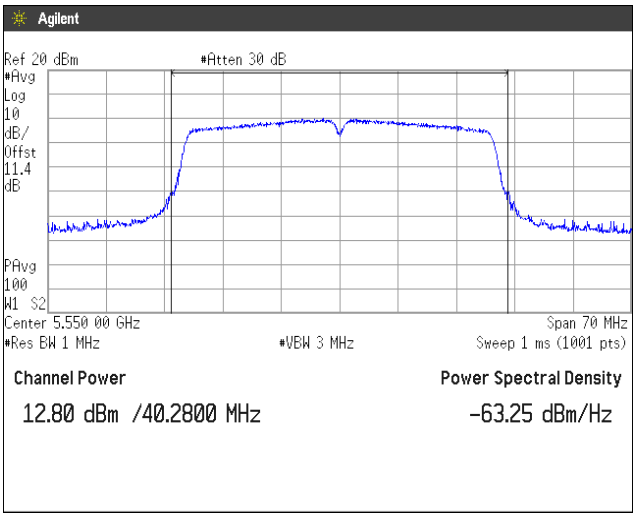


(5.6GHz Band)

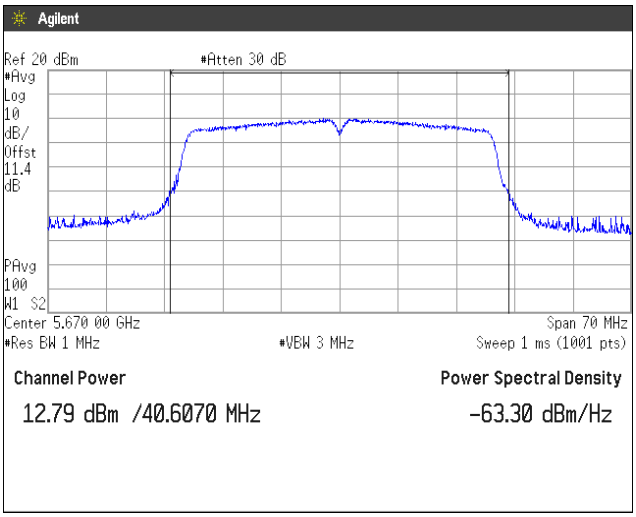
Channel: 102



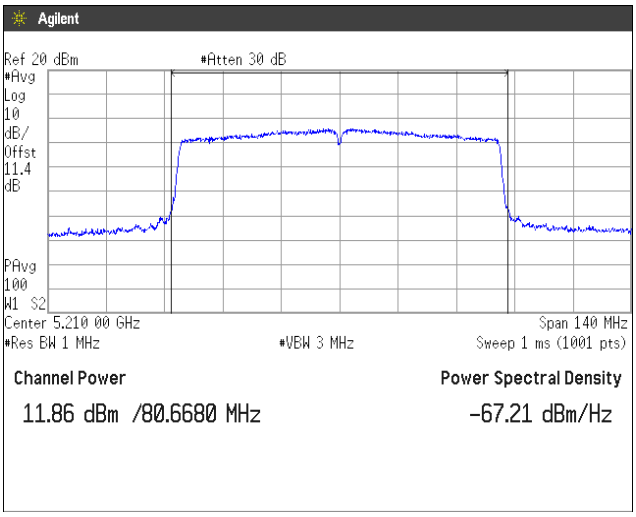
Channel: 110



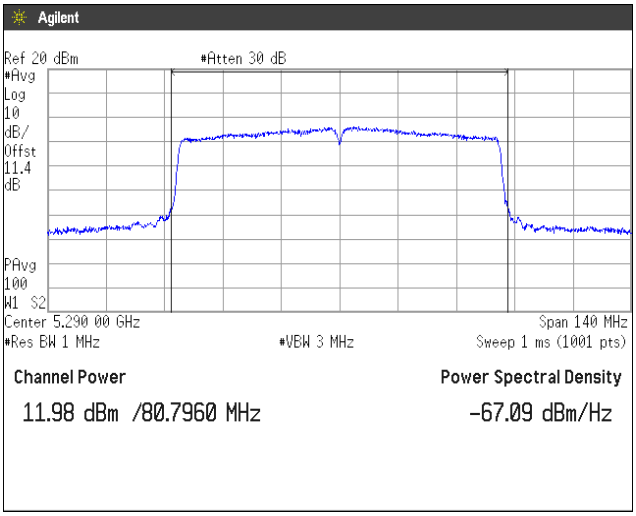
Channel: 134



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

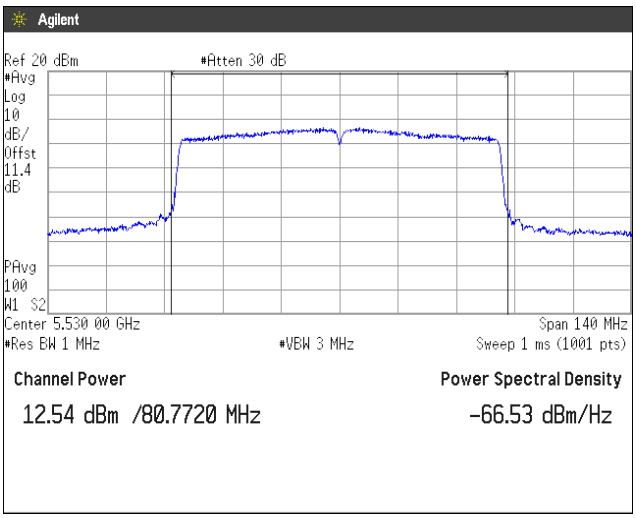


(5.3GHz Band)
Channel: 58

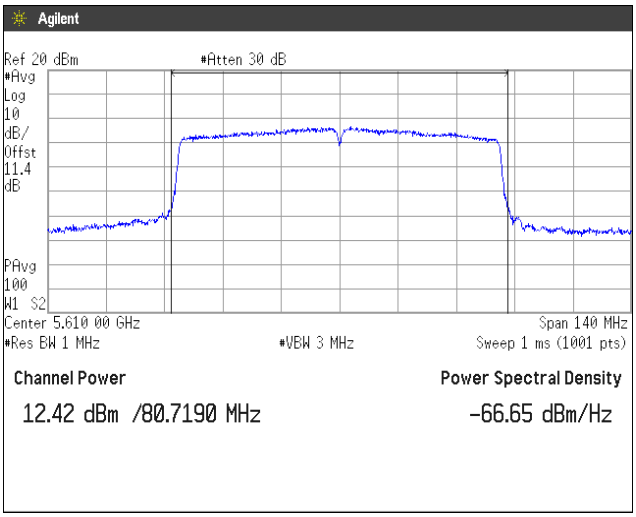


(5.6 GHz Band)

Channel: 106



Channel: 122



4.3 Peak Power Spectral Density

4.3.1 Measurement procedure

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

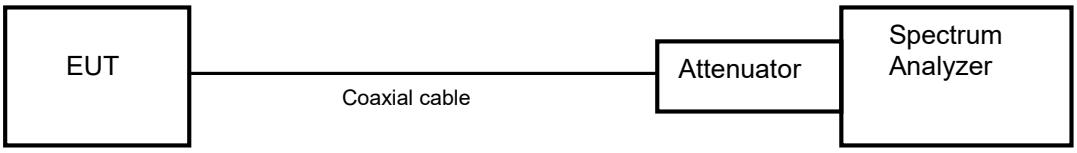
The peak power spectral density is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

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

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 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.

<Peak Power Spectral Density Limit Calculation>

Band	Antenna Gain (dBi)	Limit
5.2 GHz Band	-0.4	10.6 dBm/MHz
5.3 GHz Band	-0.4	10.6 dBm/MHz
5.6 GHz Band	-0.4	10.7 dBm/MHz

4.3.3 Measurement result

Date : 8-August-2019
Temperature : 23.1 [˚C]
Humidity : 48.6 [%]
Test place : Shielded room No.4
Test engineer : Chiaki Kanno

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	3.703	1.392	1.436	0.969	0.135	3.838
	40	5200	3.799					4.019
	48	5240	3.913					4.048
	52	5260	3.562	1.392	1.438	0.968	0.141	3.703
	56	5280	4.012					4.153
	64	5320	4.287					4.428
	100	5500	4.078	1.392	1.438	0.968	0.141	4.219
	116	5580	4.240					4.381
	140	5700	4.321					4.462

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

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	3.290	1.288	1.334	0.966	0.152	3.442
	40	5200	3.492					3.644
	48	5240	3.861					4.013
	52	5260	3.391	1.288	1.334	0.966	0.152	3.543
	56	5280	3.757					3.909
	64	5320	3.740					3.892
	100	5500	3.949	1.288	1.334	0.966	0.152	4.101
	116	5580	3.853					4.005
	140	5700	3.584					3.736

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

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	-0.680	0.635	0.680	0.934	0.297	-0.383
	46	5230	-0.098					0.199
	54	5270	-0.526	0.636	0.680	0.935	0.291	-0.235
	62	5310	-0.279					0.012
	102	5510	-0.062	0.635	0.680	0.934	0.297	0.235
	110	5550	0.385					0.682
	134	5670	-0.094					0.203

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

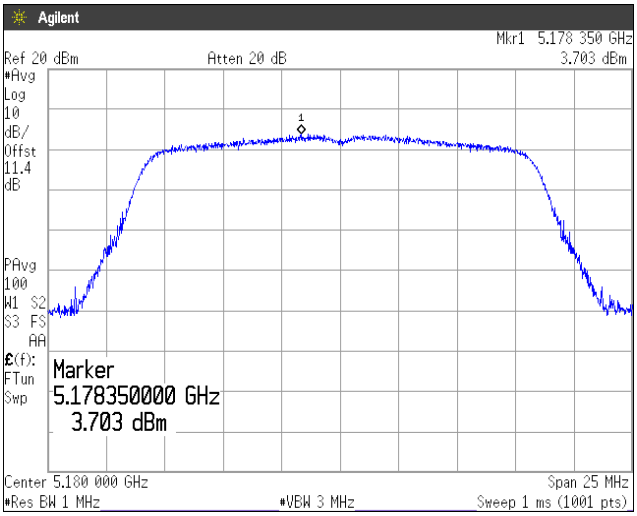
Mode	Channel	Frequency (MHz)	Reading (dBm)	Duty Cycle			DCF (dB)	Test Result (dBm)
				On Time(ms)	On+Off Time(ms)	X		
802.11ac (80MHz)	42	5210	-4.148	0.323	0.368	0.877	0.570	-3.578
	58	5290	-4.104	0.323	0.368	0.878	0.563	-3.541
	106	5530	-3.575	0.324	0.369	0.879	0.561	-3.014
	122	5610	-3.428	0.323	0.368	0.877	0.570	-2.858

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

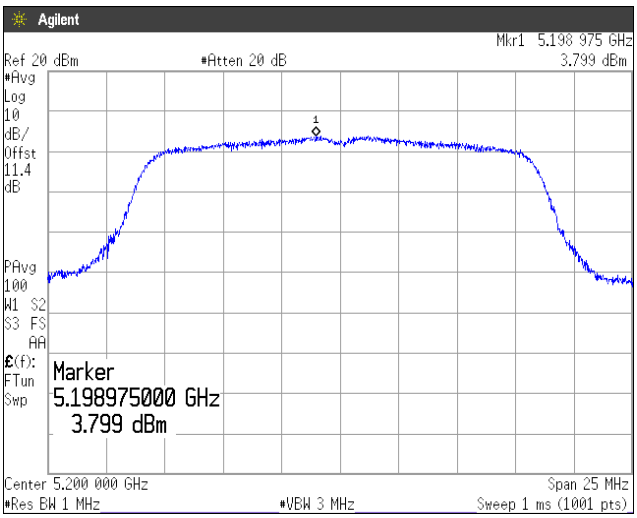
4.3.4 Trace data

[IEEE802.11a]
(5.2 GHz Band)

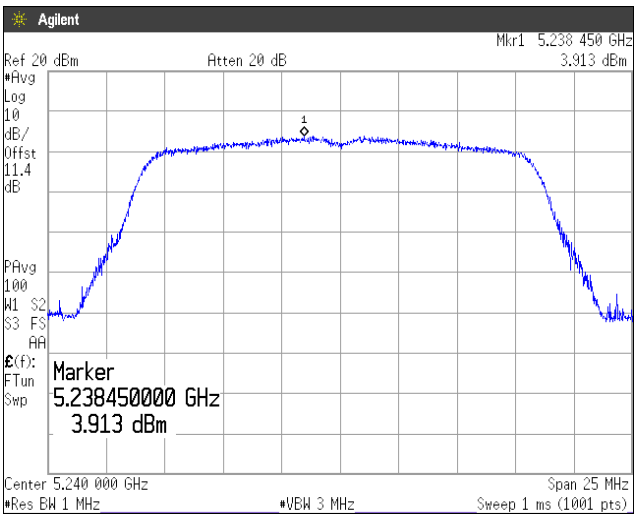
Channel: 36



Channel: 40

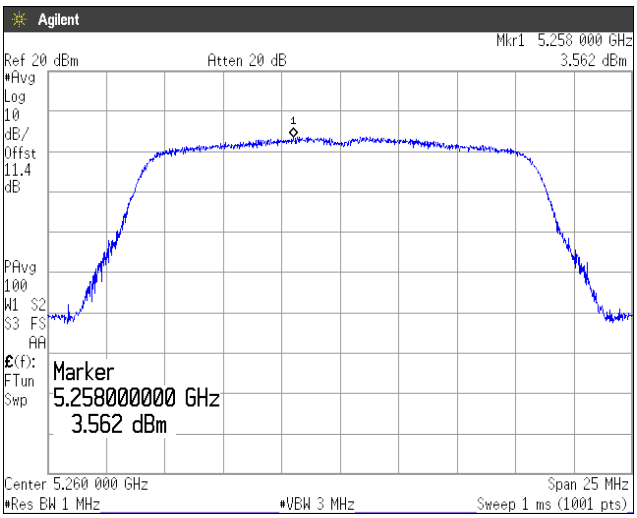


Channel: 48

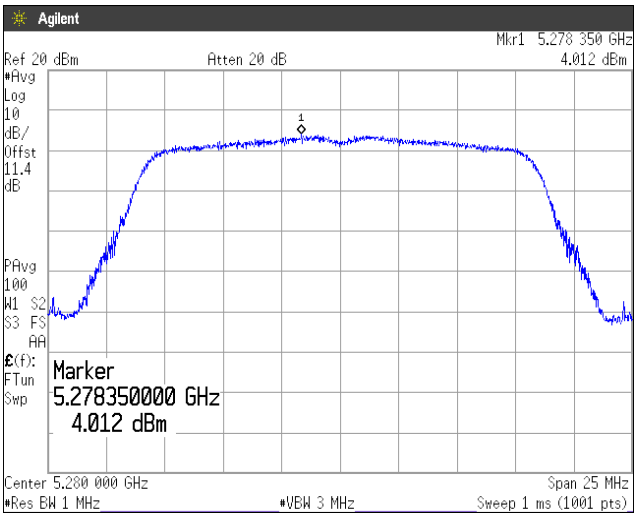


(5.3 GHz Band)

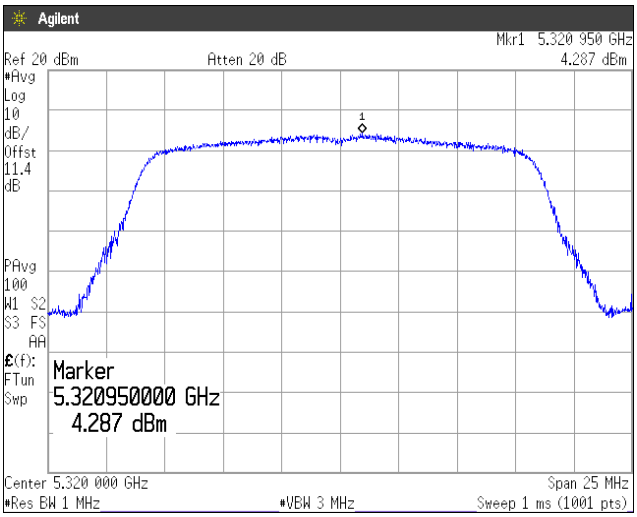
Channel: 52



Channel: 56

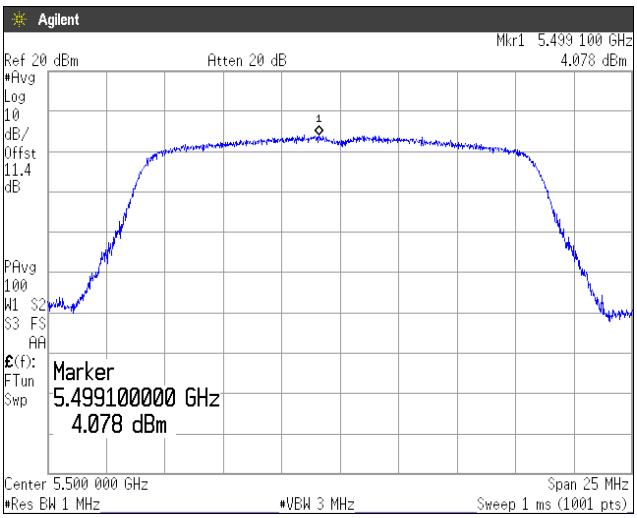


Channel: 64

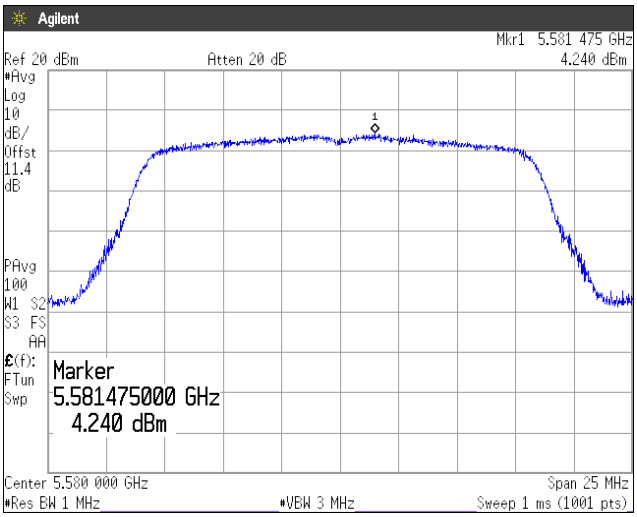


(5.6 GHz Band)

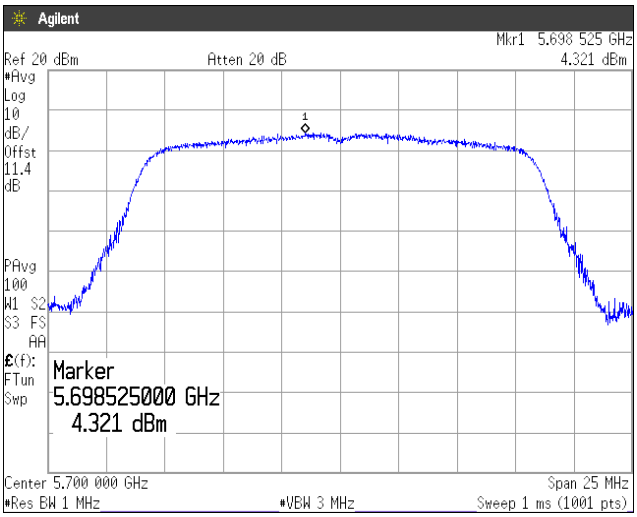
Channel: 100



Channel: 116

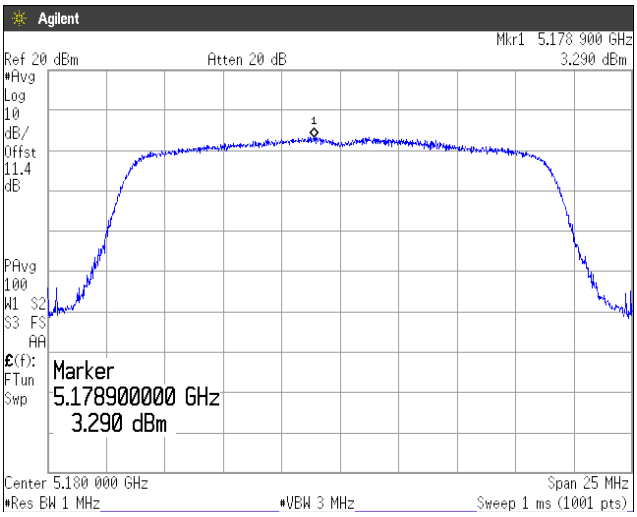


Channel: 140

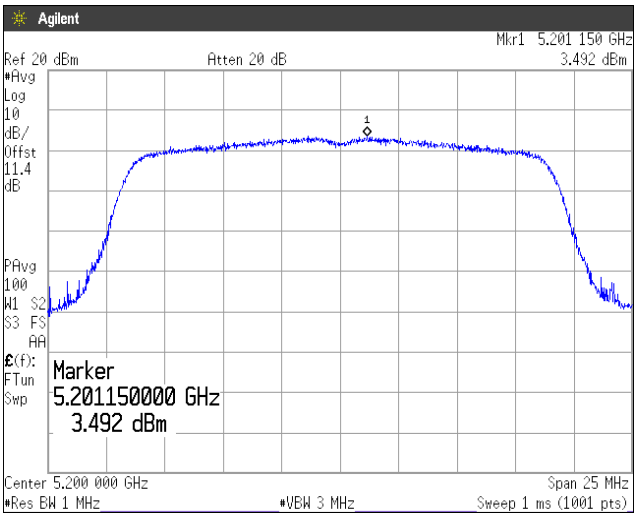


[IEEE802.11n (HT20)]
(5.2 GHz Band)

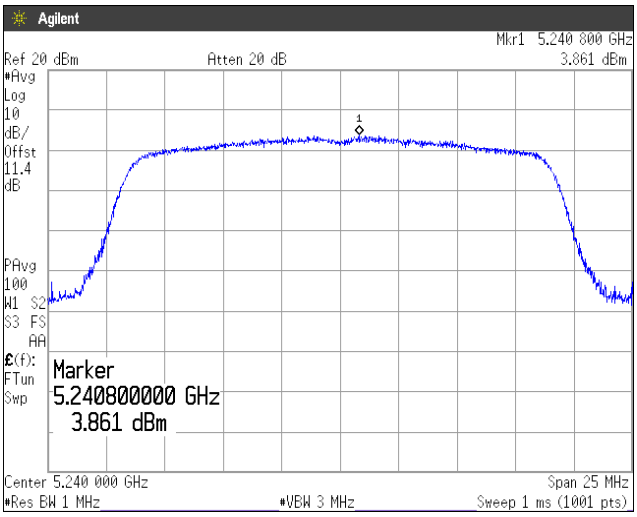
Channel: 36



Channel: 40

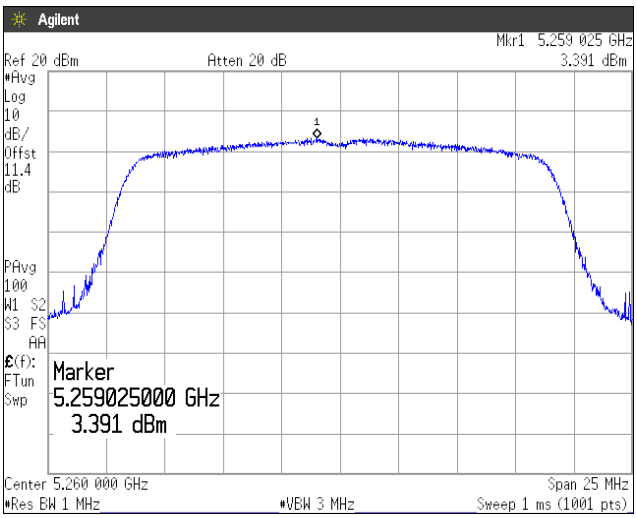


Channel: 48

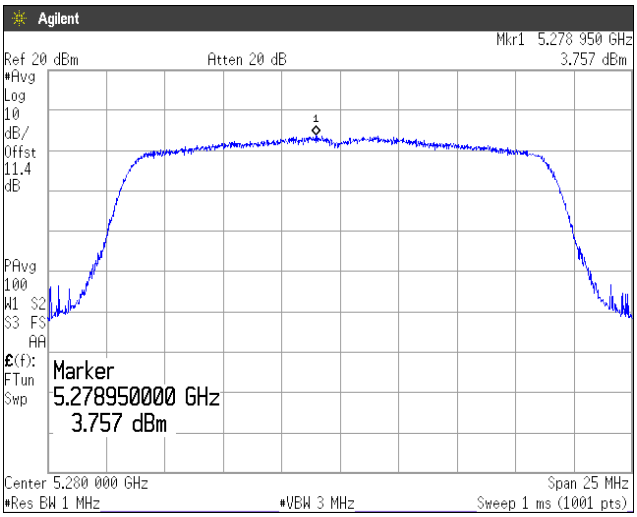


(5.3 GHz Band)

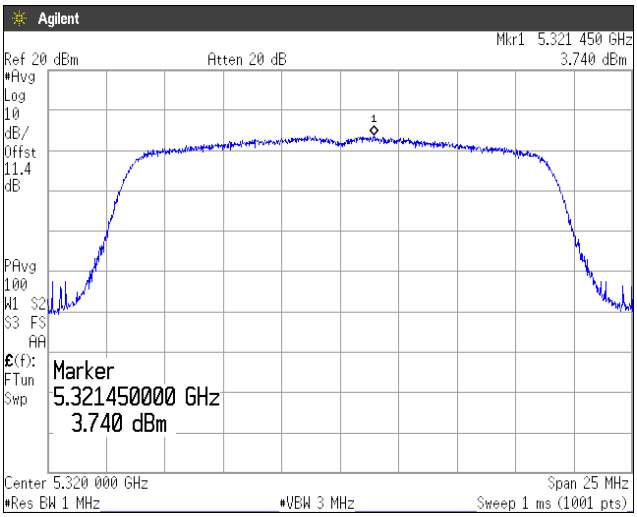
Channel: 52



Channel: 56

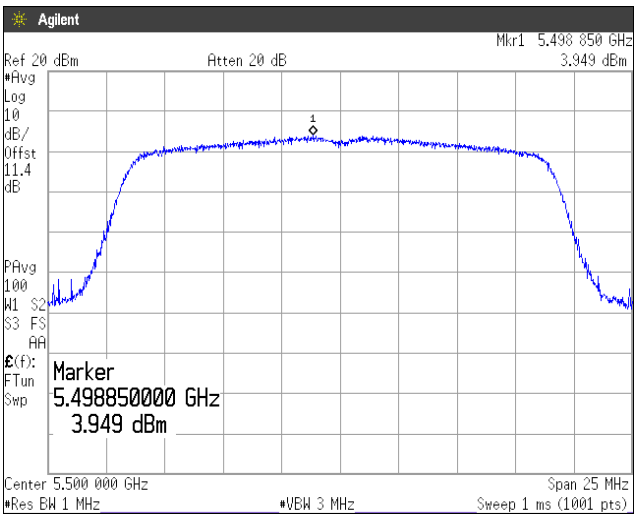


Channel: 64

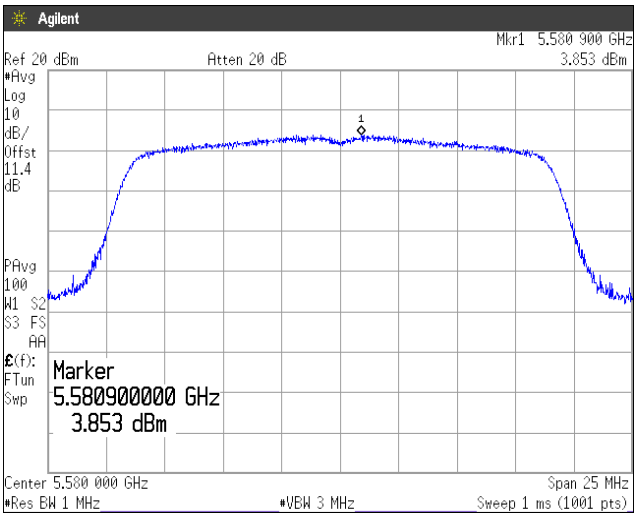


(5.6 GHz Band)

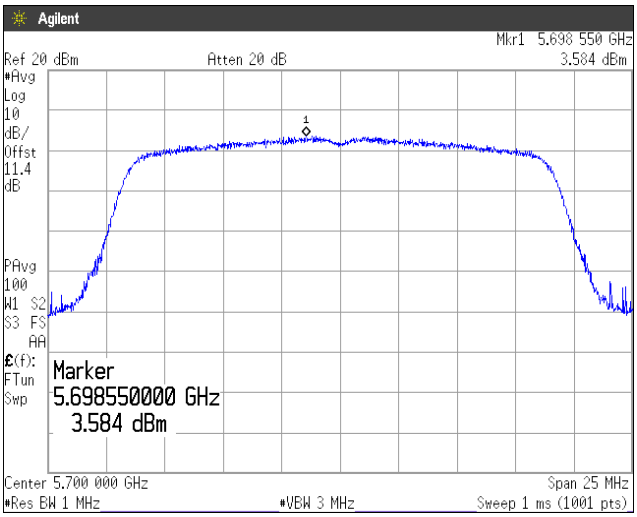
Channel: 100



Channel: 116

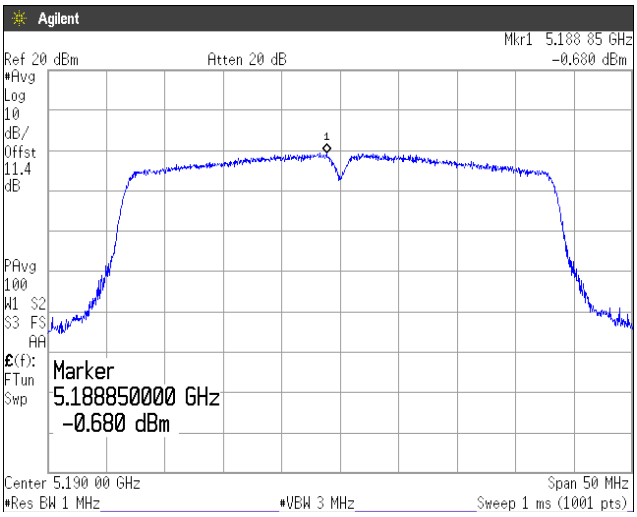


Channel: 140

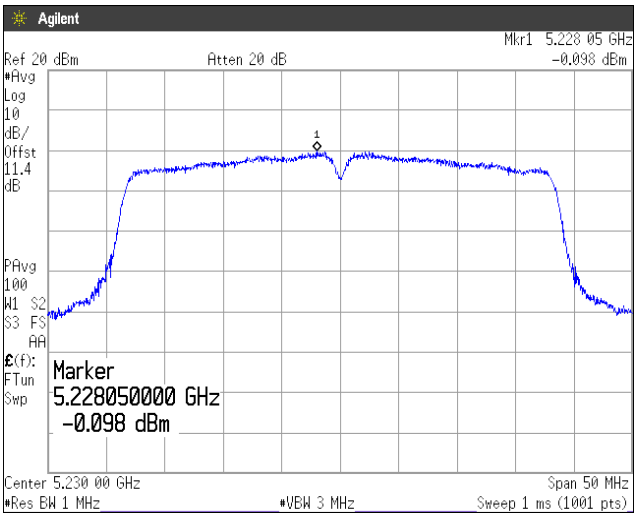


[IEEE802.11n (HT40)]
(5.2 GHz Band)

Channel: 38

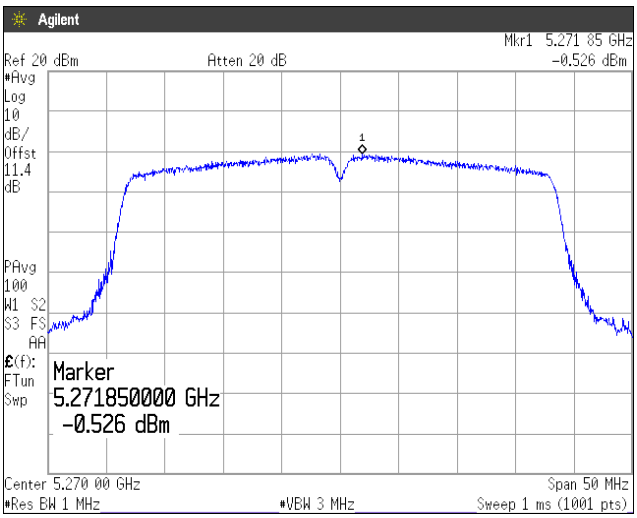


Channel: 46

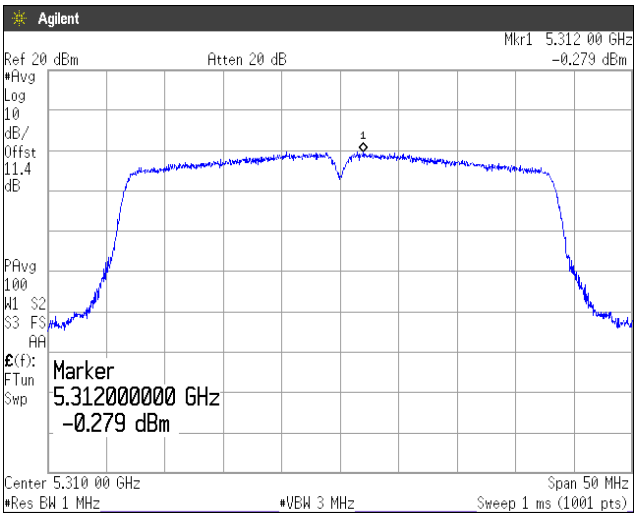


(5.3 GHz Band)

Channel: 54

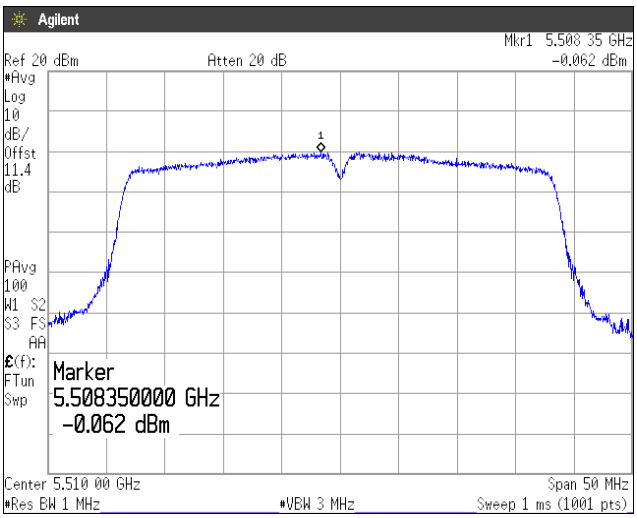


Channel: 62

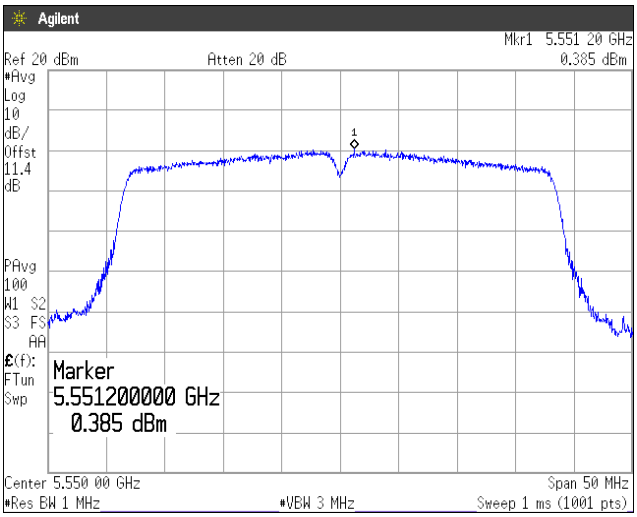


(5.6 GHz Band)

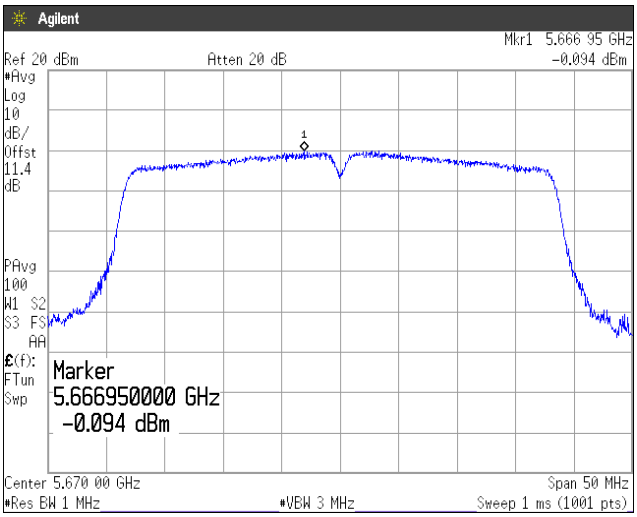
Channel: 102



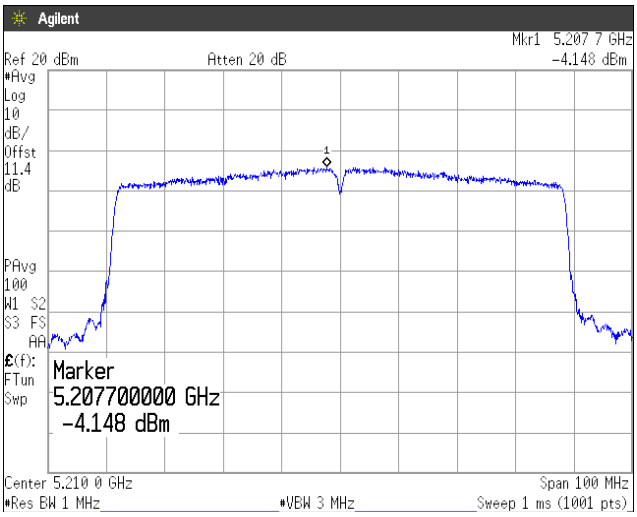
Channel: 110



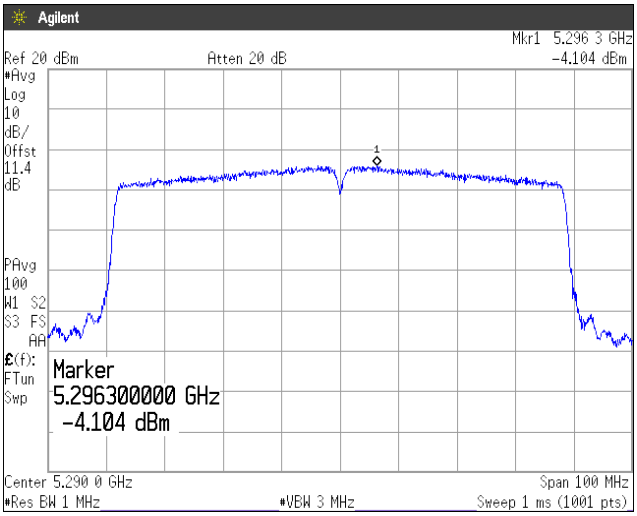
Channel: 134



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

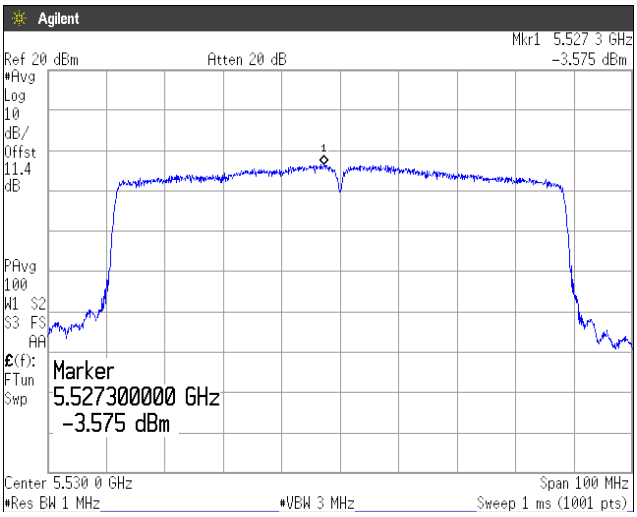


(5.3 GHz Band)
Channel: 58

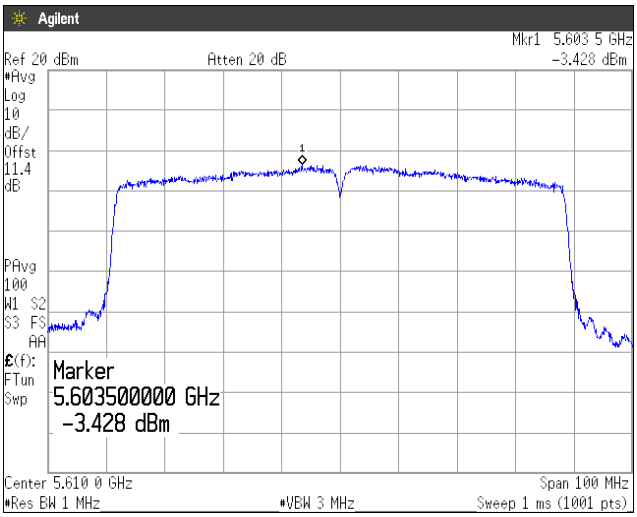


(5.6 GHz Band)

Channel: 106



Channel: 122



4.4 Radiated Emissions (Restricted Bands of Operation)

4.4.1 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.

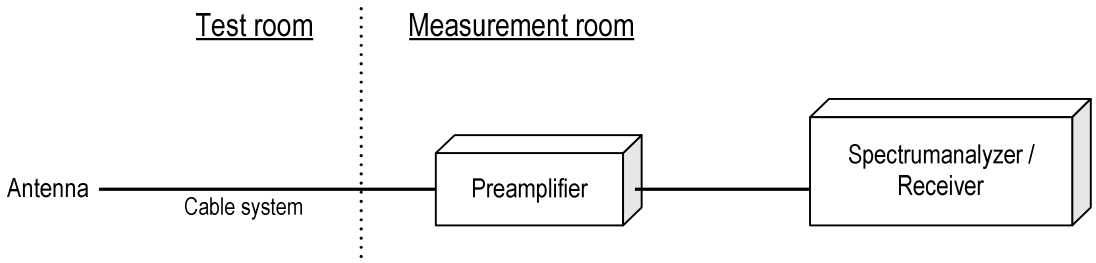
The EUT was set to operate with following conditions.

- 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	1.392	1.436	96.94	0.135
	W53	1.392	1.438	96.80	0.141
	W56	1.392	1.438	96.80	0.141
802.11n (20MHz)	W52	1.288	1.334	96.55	0.152
	W53	1.288	1.334	96.55	0.152
	W56	1.288	1.334	96.55	0.152
802.11n (40MHz)	W52	0.635	0.680	93.38	0.297
	W53	0.636	0.680	93.53	0.291
	W56	0.635	0.680	93.38	0.297
802.11ac (80MHz)	W52	0.323	0.368	87.70	0.570
	W53	0.323	0.368	87.83	0.563
	W56	0.324	0.369	87.88	0.561

Note: DCF = 10log(1/x)

4.4.2 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

4.4.3 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.

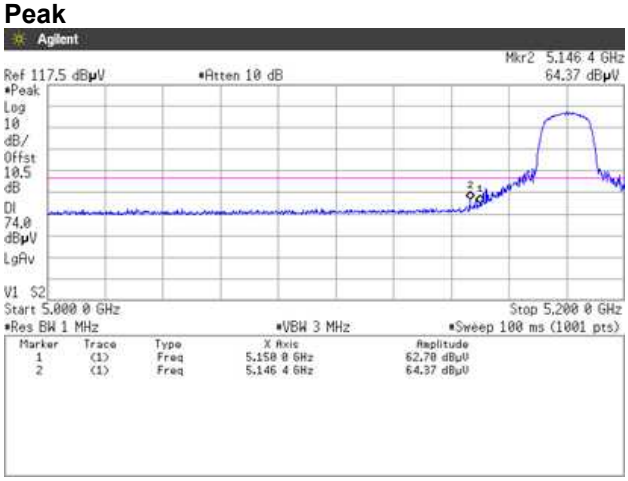
4.4.4 Test data

Date	:	23-August-2019		
Temperature	:	21.7 [˚C]		
Humidity	:	64.1 [%]	Test engineer	:
Test place	:	3m Semi-anechoic chamber		Taiki Watanabe

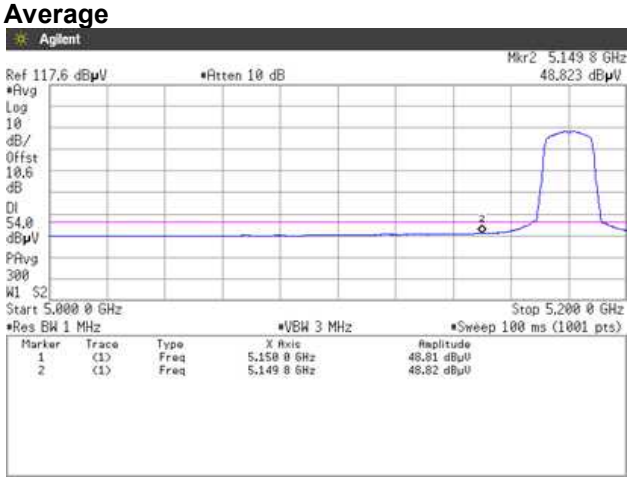
4.4.4.1 Restricted Bandedge

[IEEE802.11a]

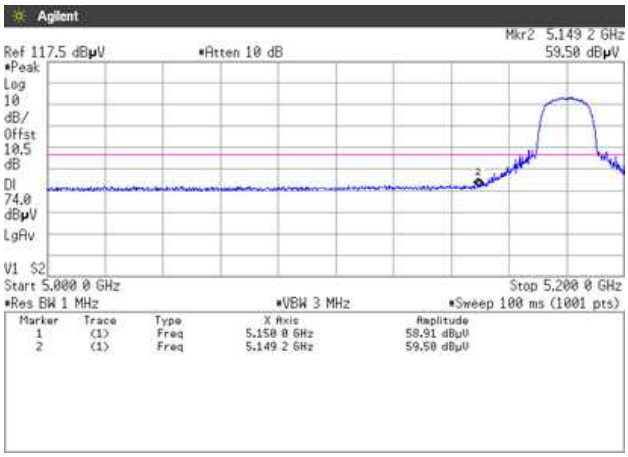
5.2 GHz Band, Channel Low
Horizontal
Peak



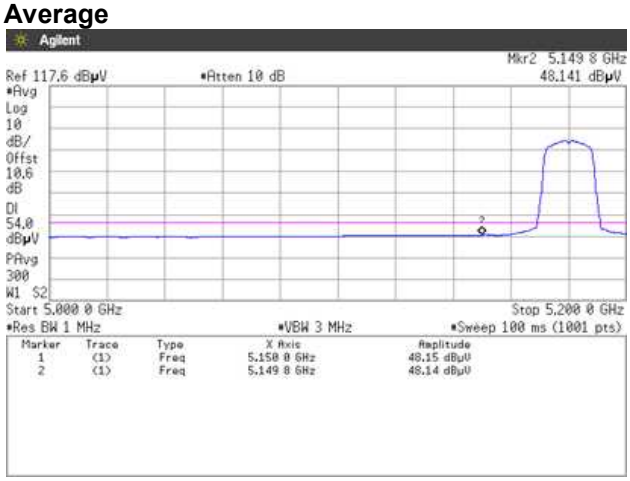
Average



Vertical
Peak

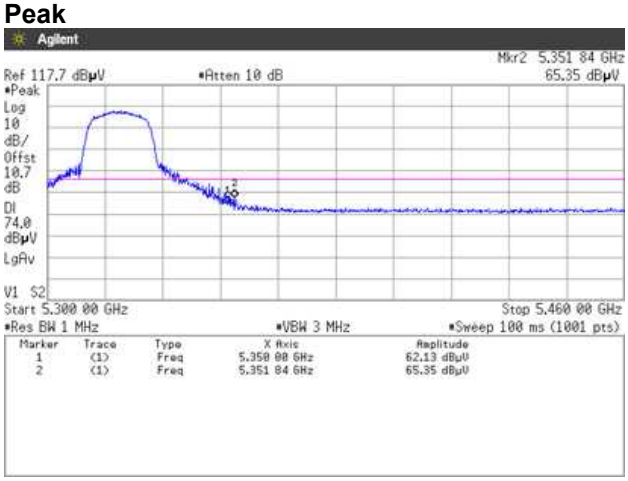


Average

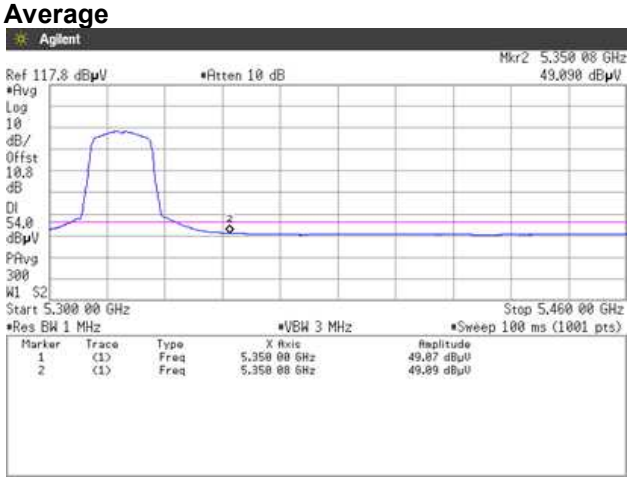


[IEEE802.11a]

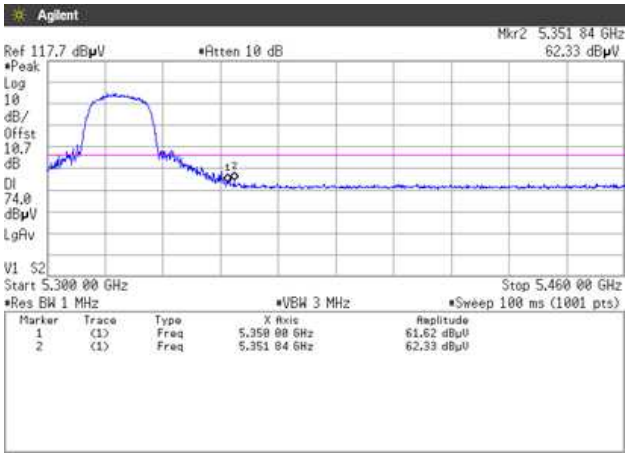
5.3 GHz Band, Channel High
Horizontal
Peak



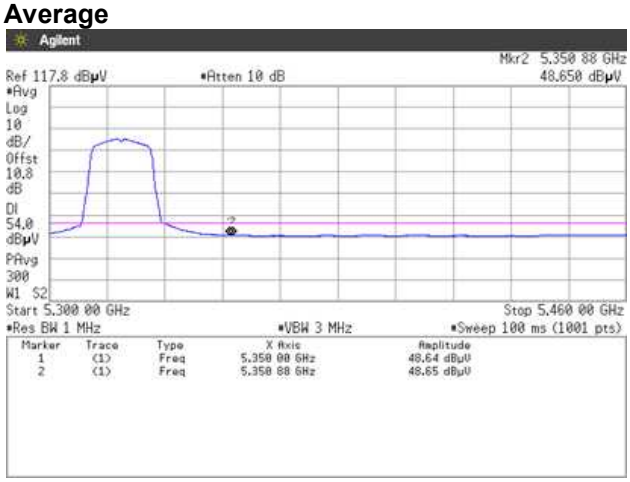
Average



Vertical
Peak

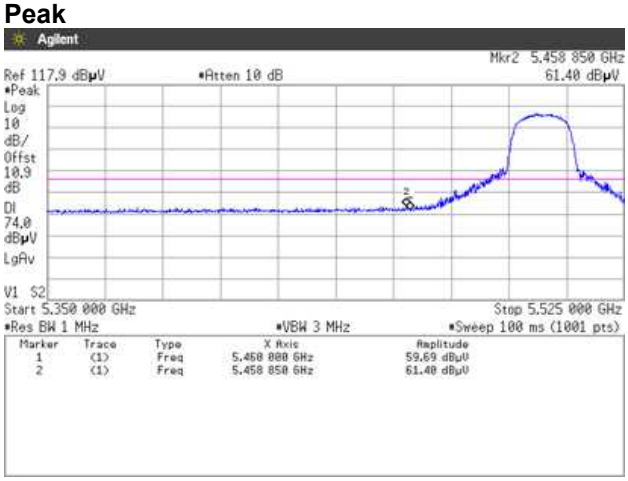


Average

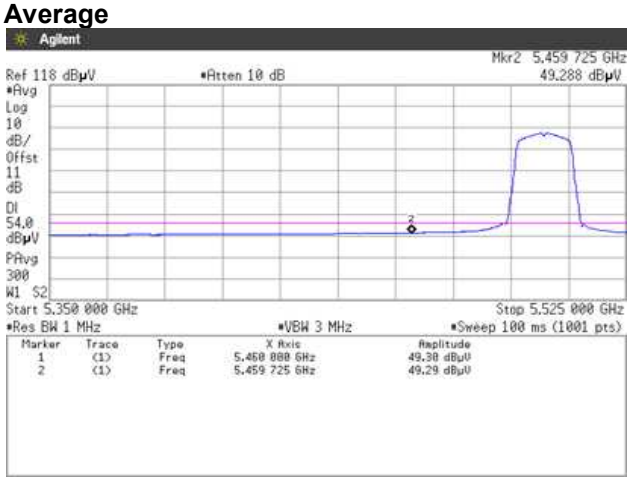


[IEEE802.11a]

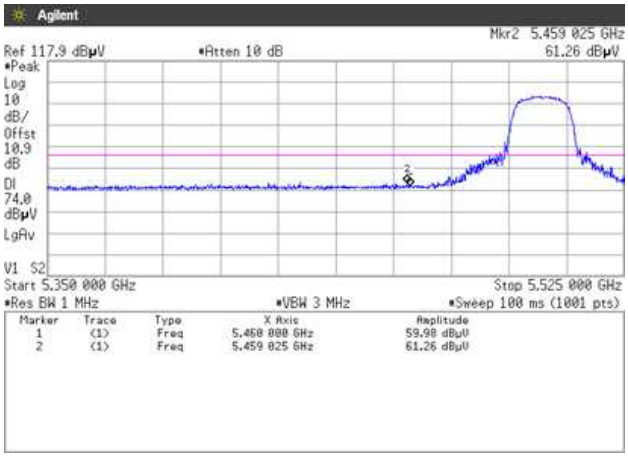
5.6 GHz Band, Channel Low
Horizontal
Peak



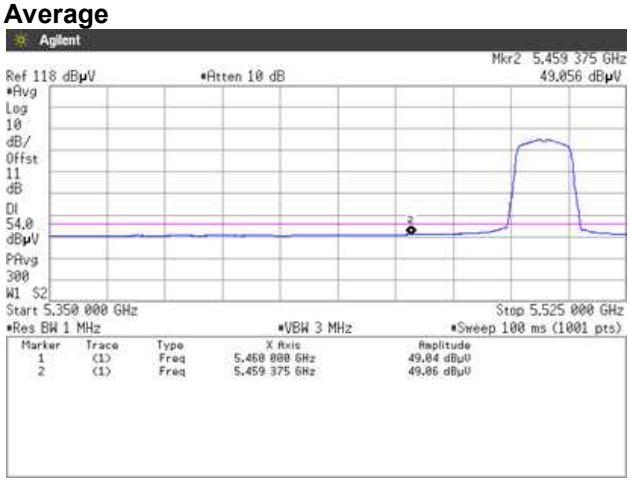
Average



Vertical
Peak

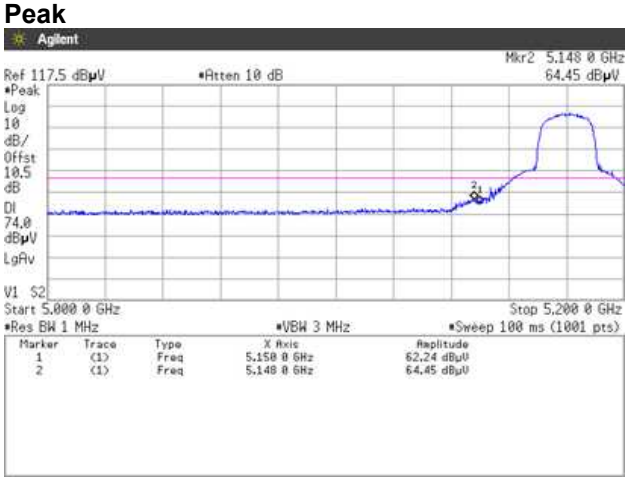


Average

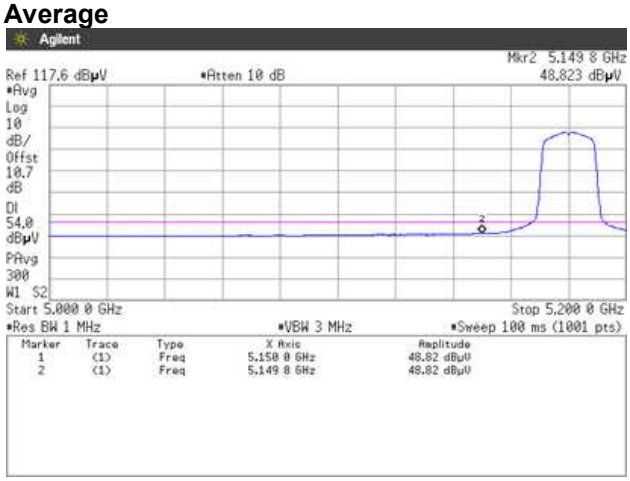


[IEEE802.11n (HT20)]

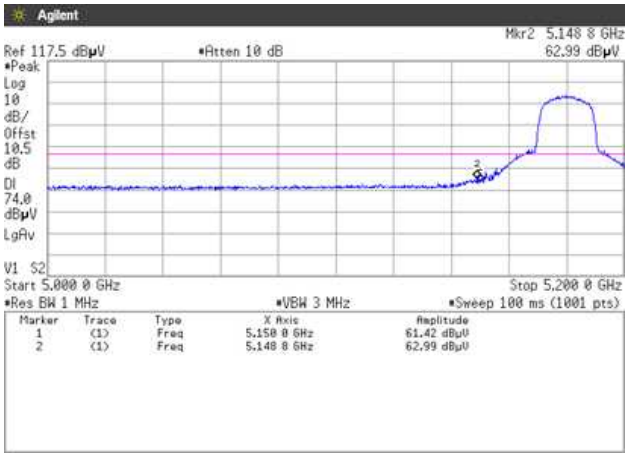
5.2 GHz Band, Channel Low
Horizontal
Peak



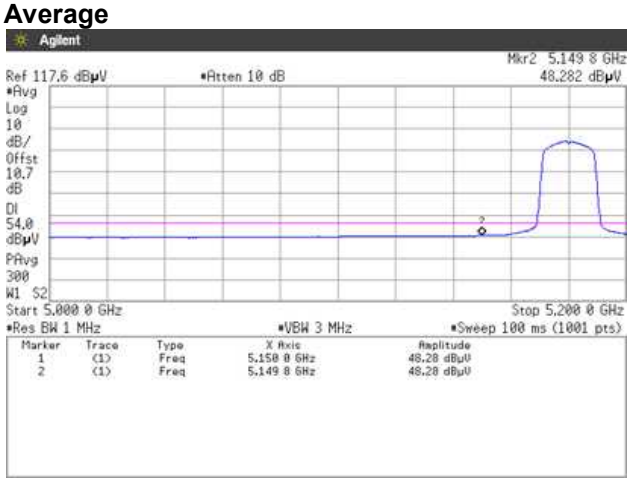
Average



Vertical
Peak

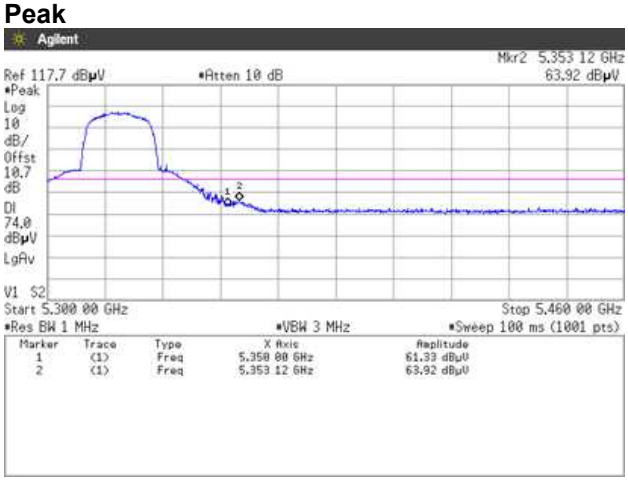


Average

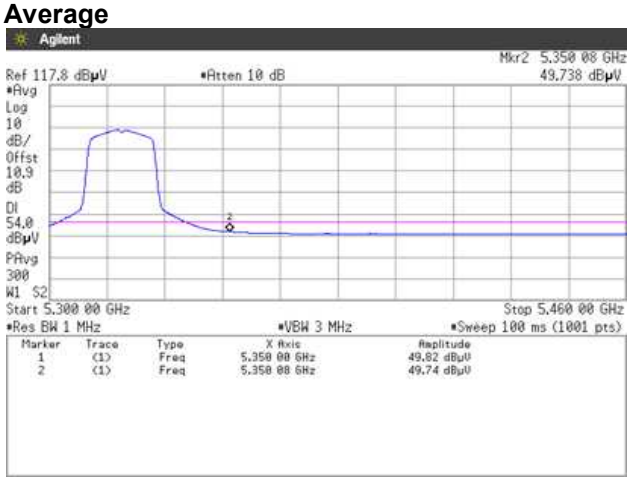


[IEEE802.11n (HT20)]

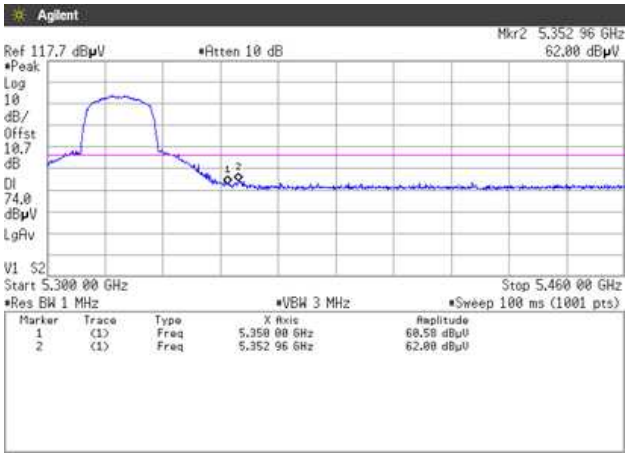
5.3 GHz Band, Channel High
Horizontal
Peak



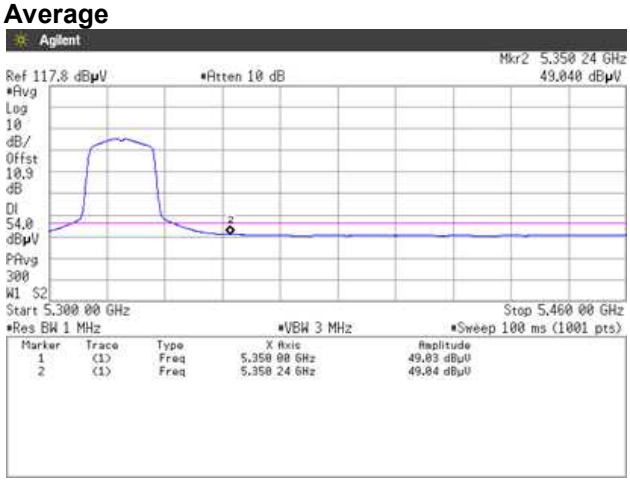
Average



Vertical
Peak

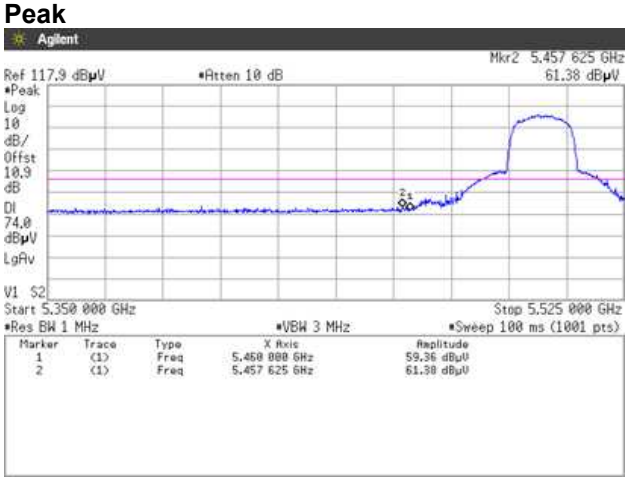


Average

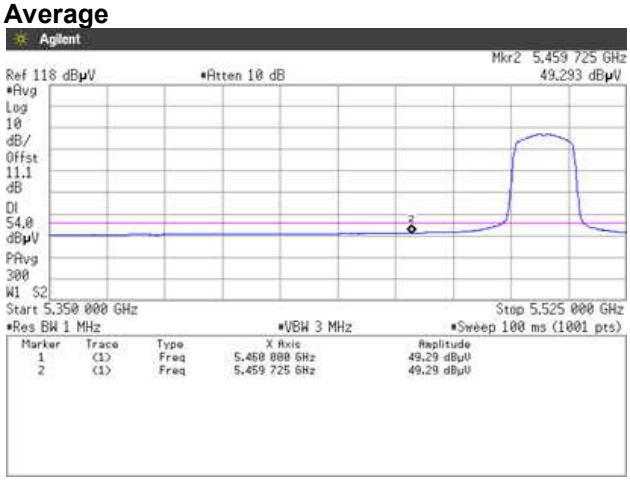


[IEEE802.11n (HT20)]

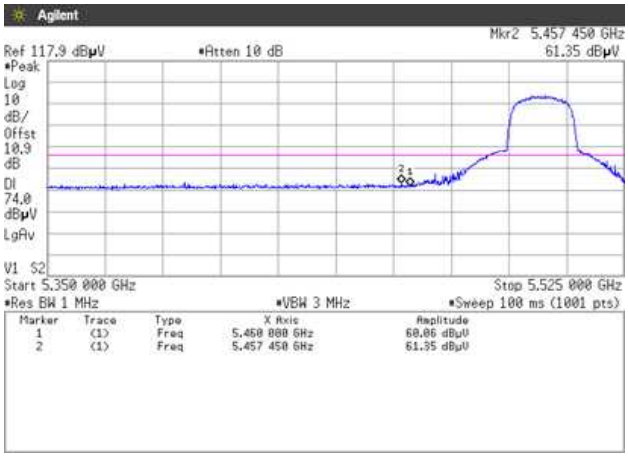
5.6 GHz Band, Channel Low
Horizontal
Peak



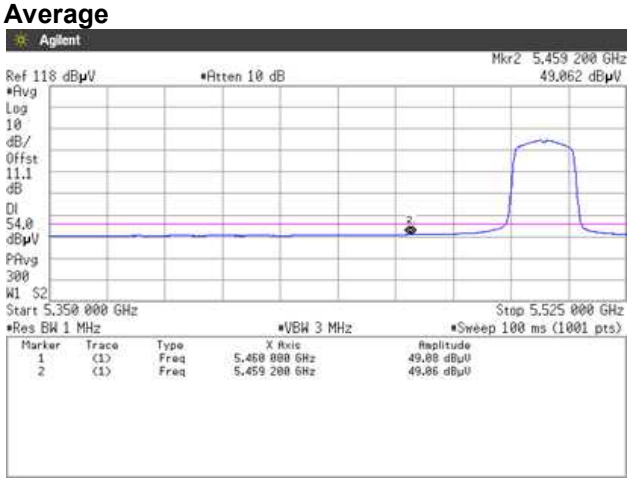
Average



Vertical
Peak

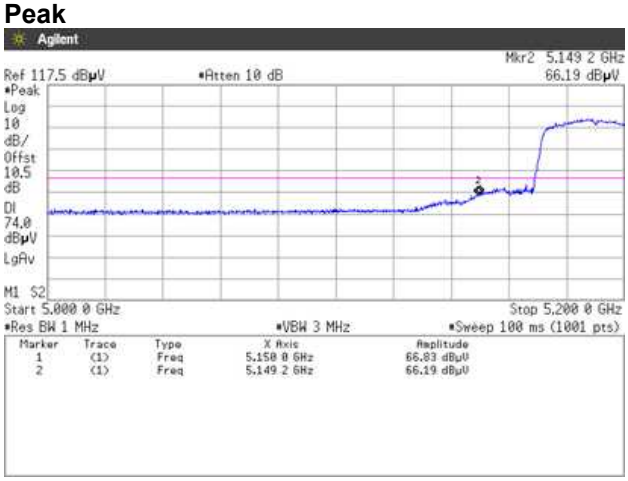


Average

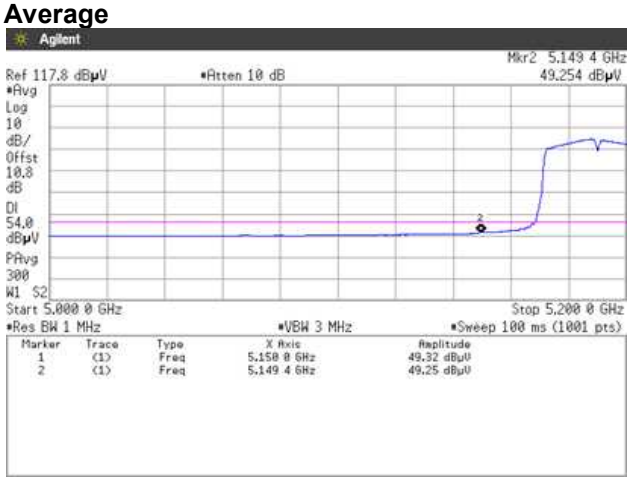


[IEEE802.11n (HT40)]

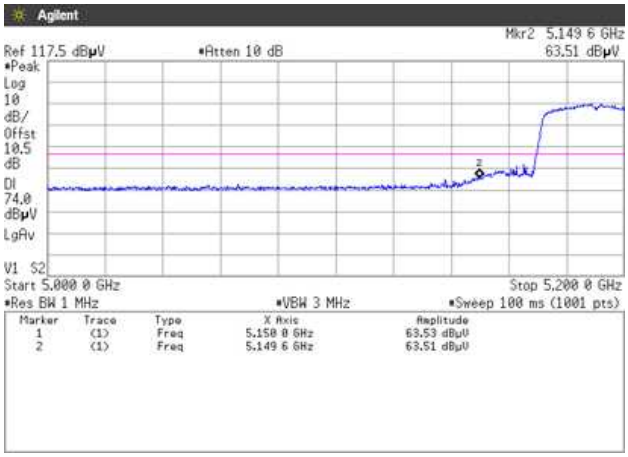
5.2 GHz Band, Channel Low
Horizontal
Peak



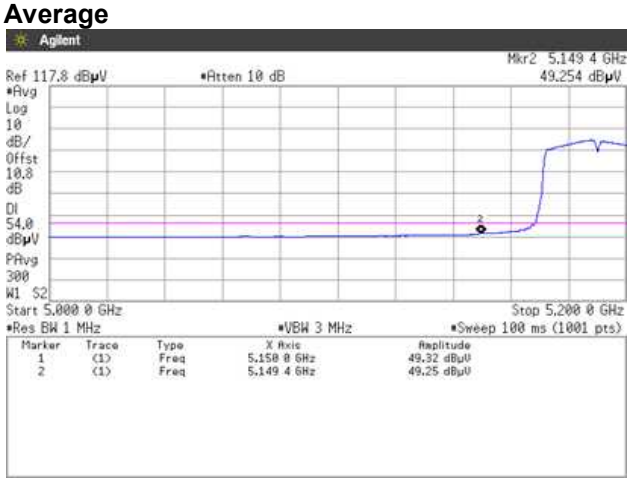
Average



Vertical
Peak

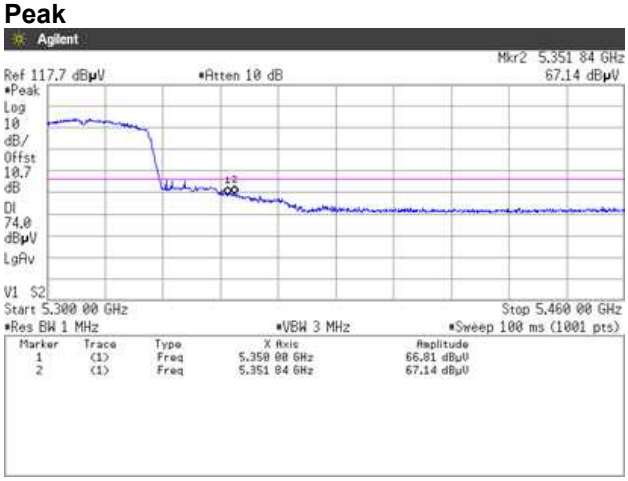


Average

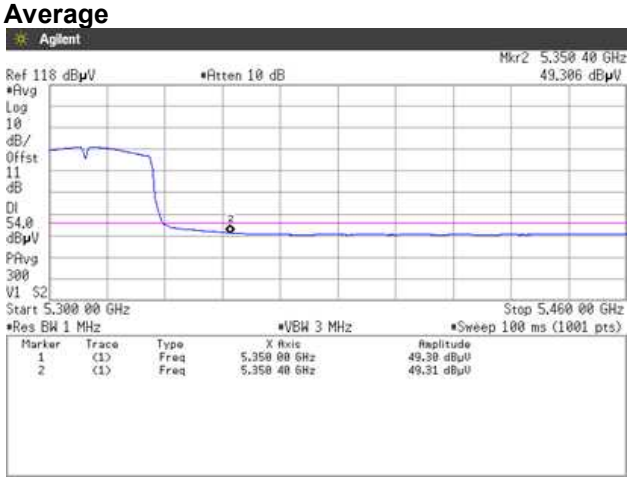


[IEEE802.11n (HT40)]

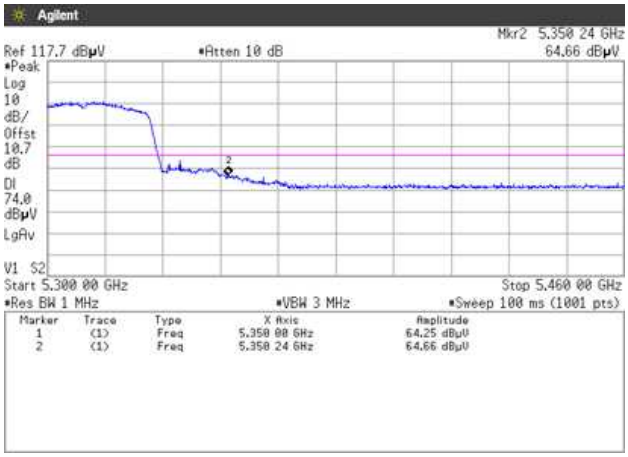
5.3 GHz Band, Channel High
Horizontal
Peak



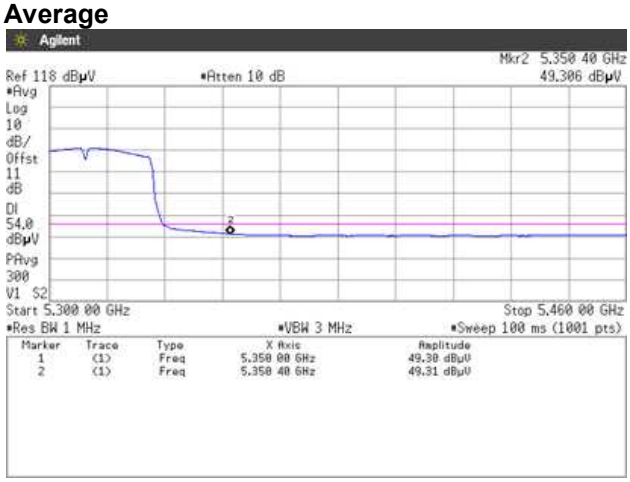
Average



Vertical
Peak

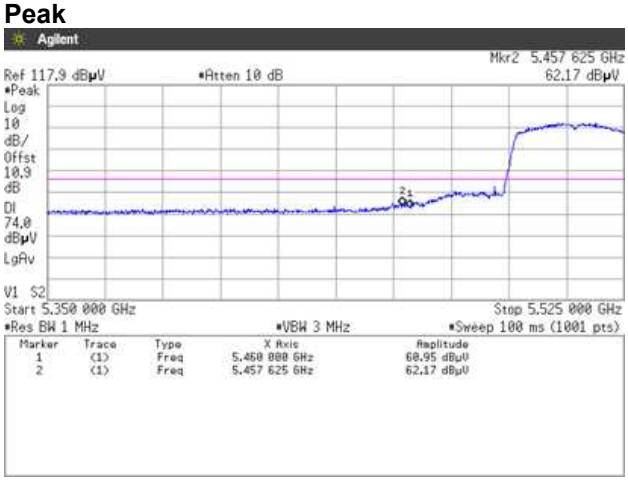


Average

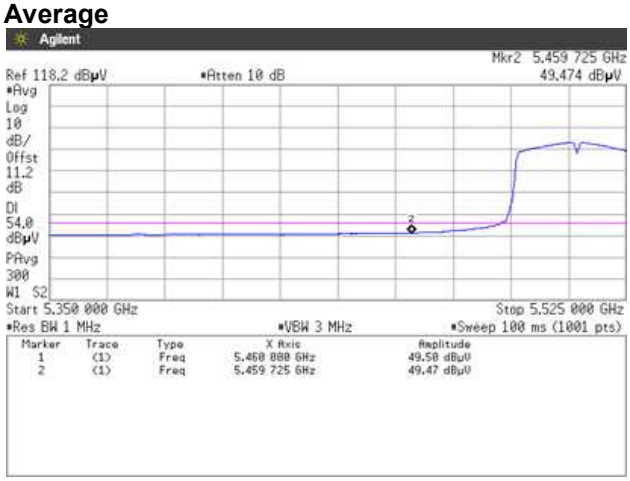


[IEEE802.11n (HT40)]

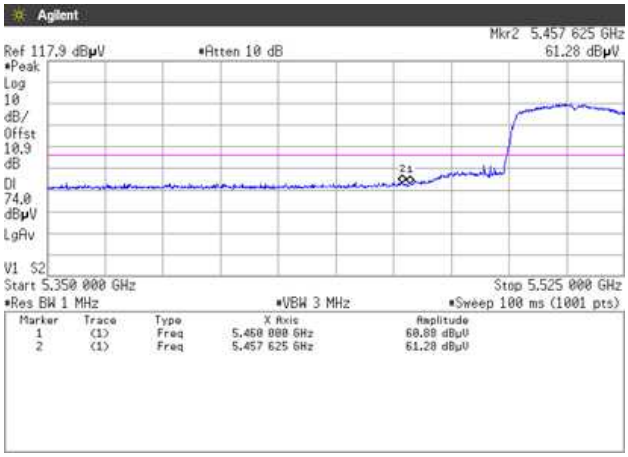
5.6 GHz Band, Channel Low
Horizontal
Peak



Average



Vertical
Peak



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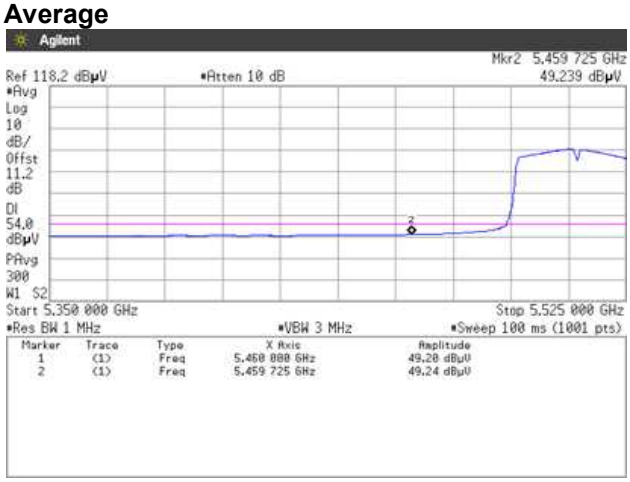
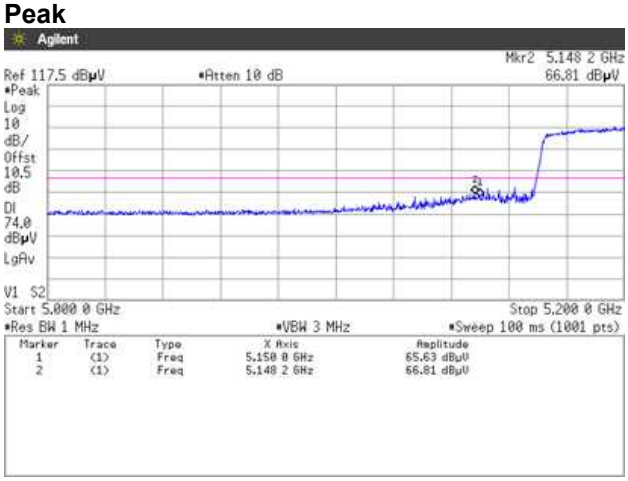
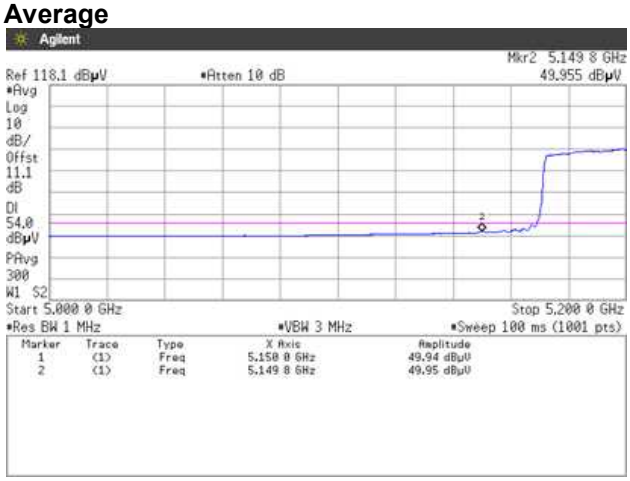


[IEEE802.11ac (HT80)]

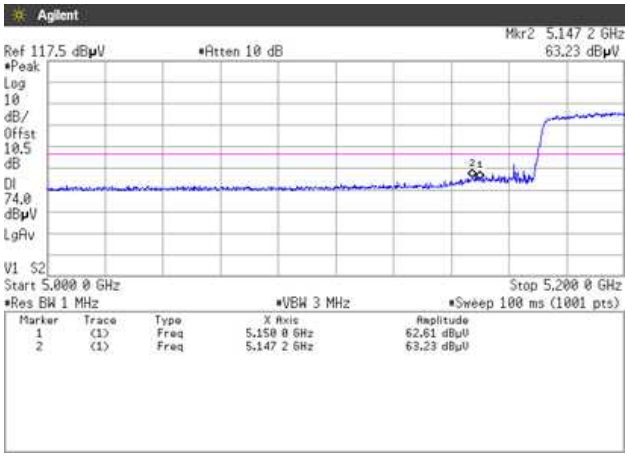
5.2 GHz Band, Channel Low
Horizontal
Peak



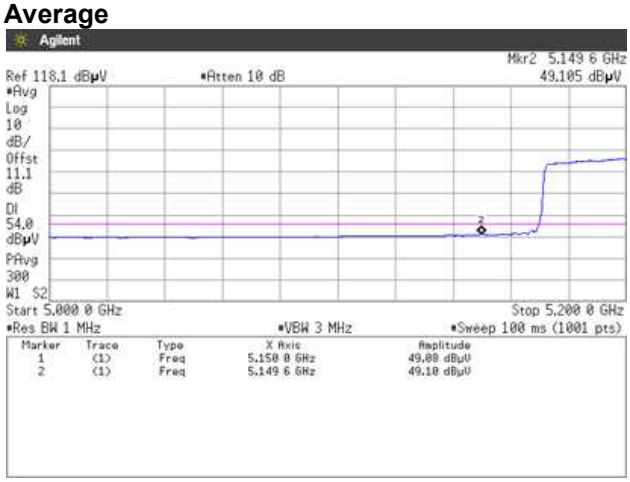
Average



Vertical
Peak

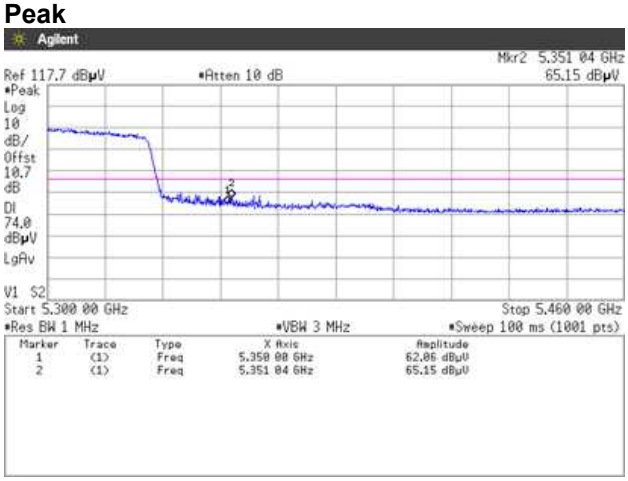


Average

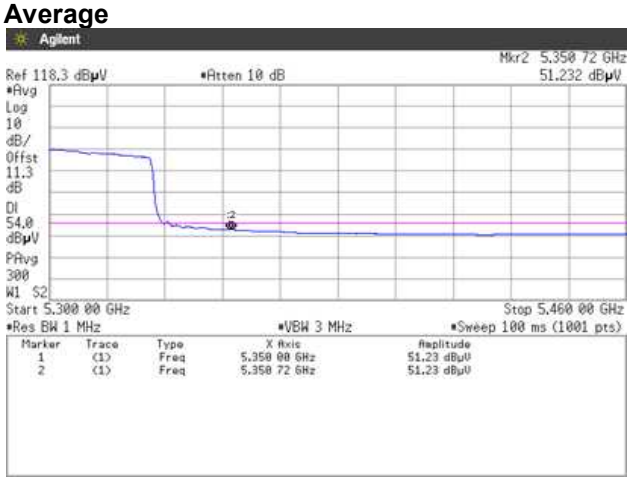


[IEEE802.11ac (HT80)]

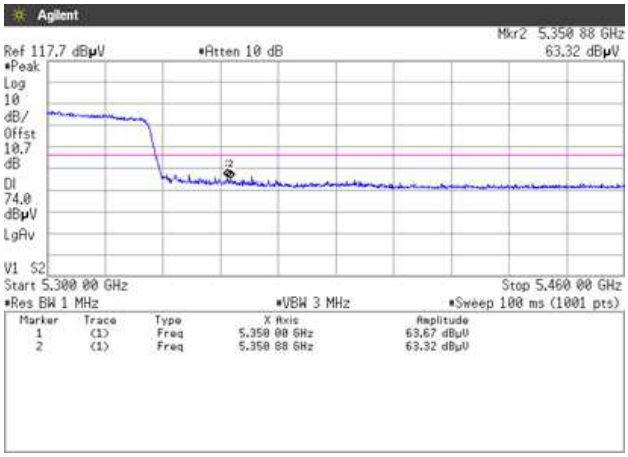
5.3 GHz Band, Channel High
Horizontal
Peak



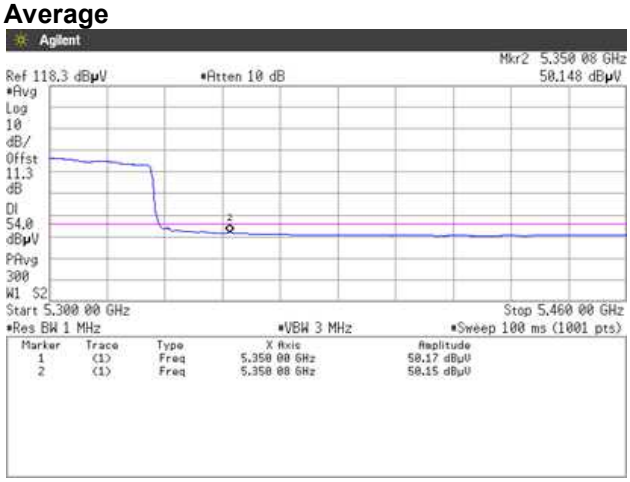
Average



Vertical
Peak

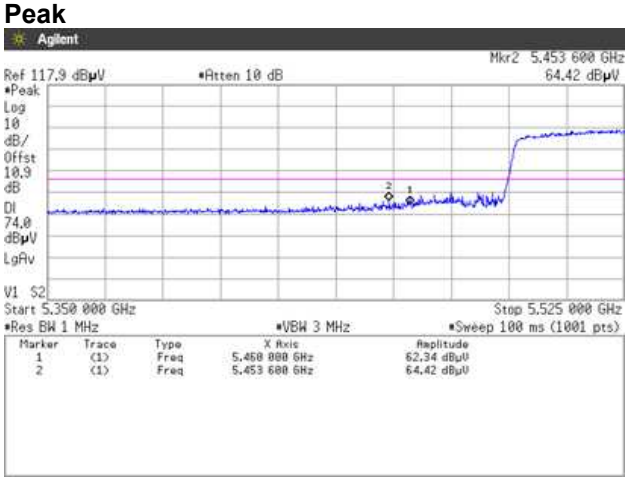


Average

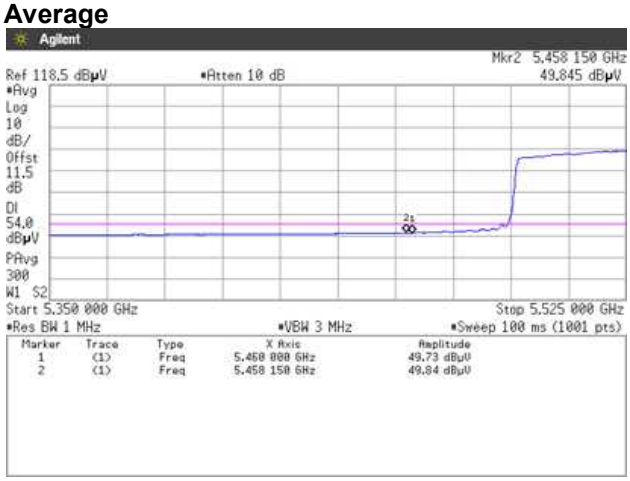


[IEEE802.11ac (HT80)]

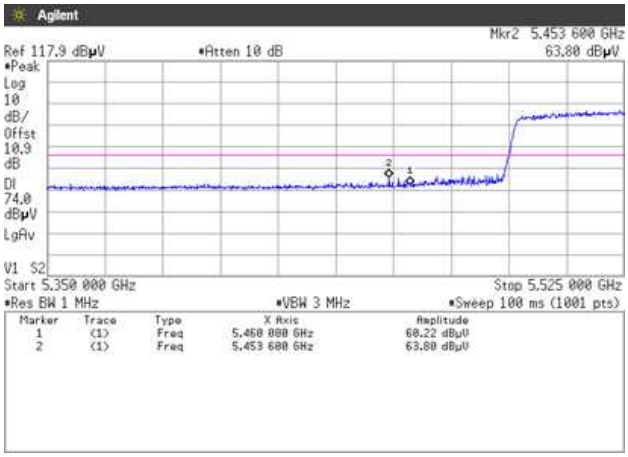
5.6 GHz Band, Channel Low
Horizontal
Peak



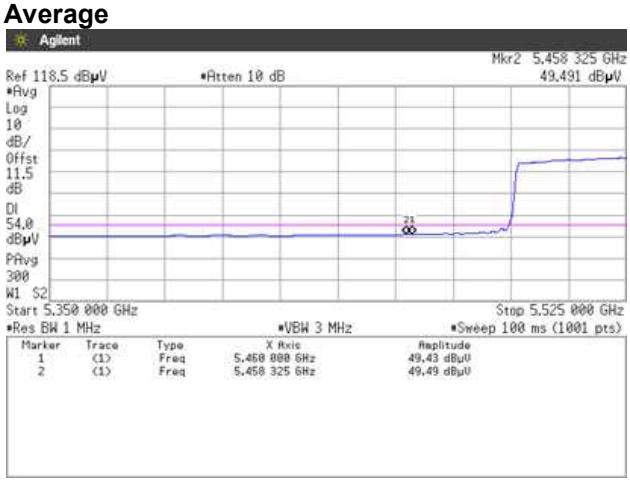
Average



Vertical
Peak



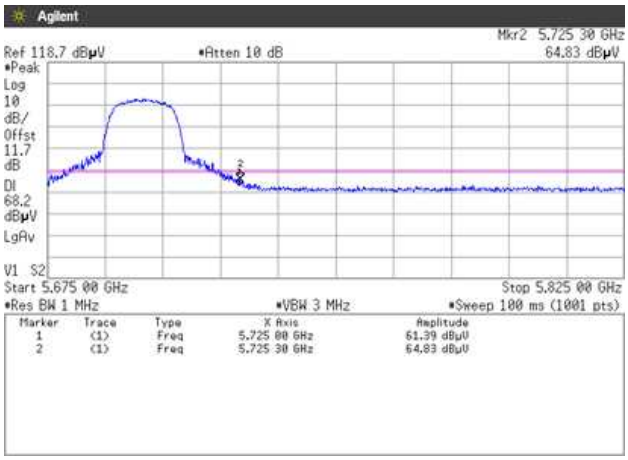
Average



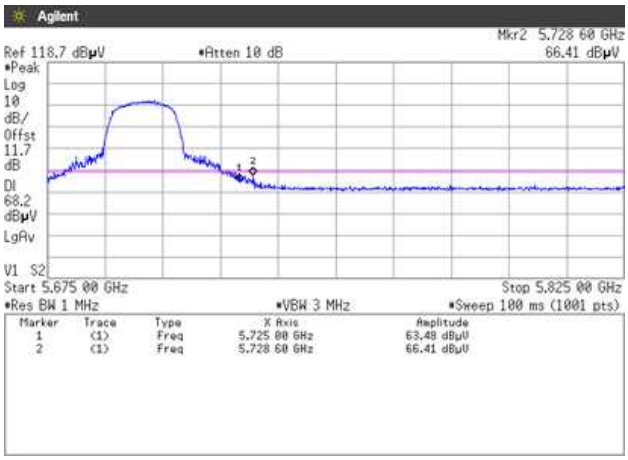
4.4.4.2 Non-Restricted Bandedge

[IEEE802.11a]

5.6 GHz Band, Channel High
Peak
Horizontal

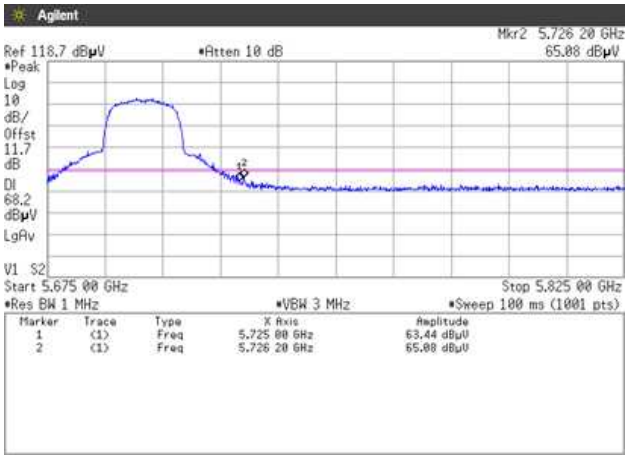


Vertical

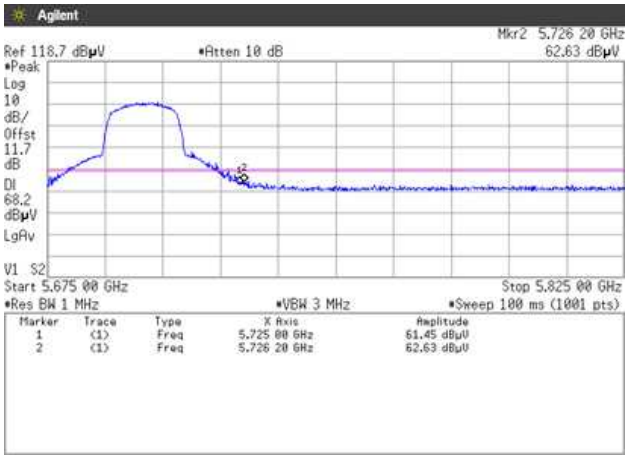


[IEEE802.11n (HT20)]

5.6GHz Band, Channel High
Peak
Horizontal

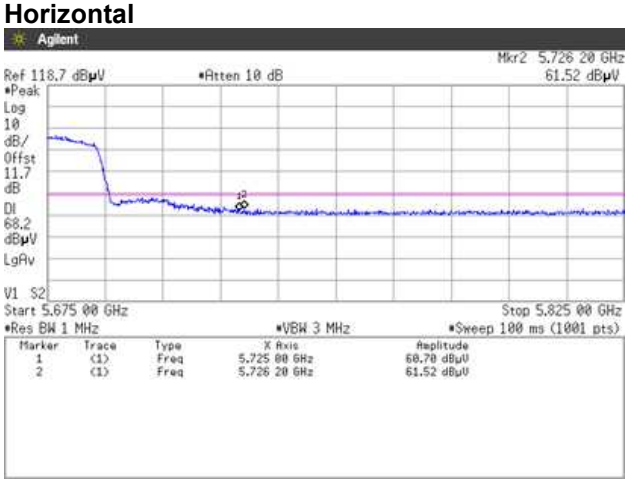


Vertical

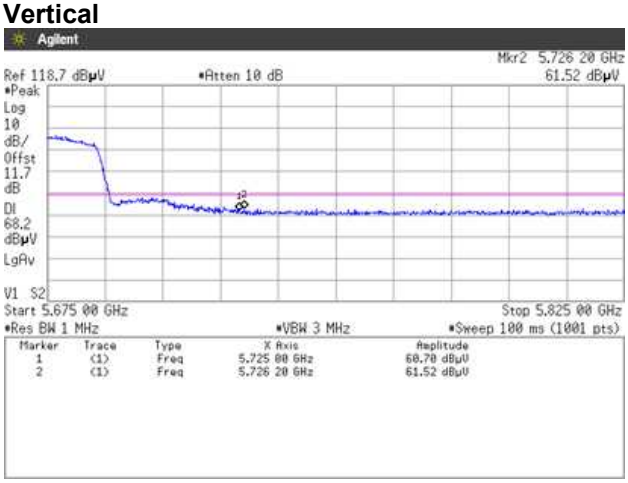


[IEEE802.11n (HT40)]

5.6GHz Band, Channel High
Peak
Horizontal

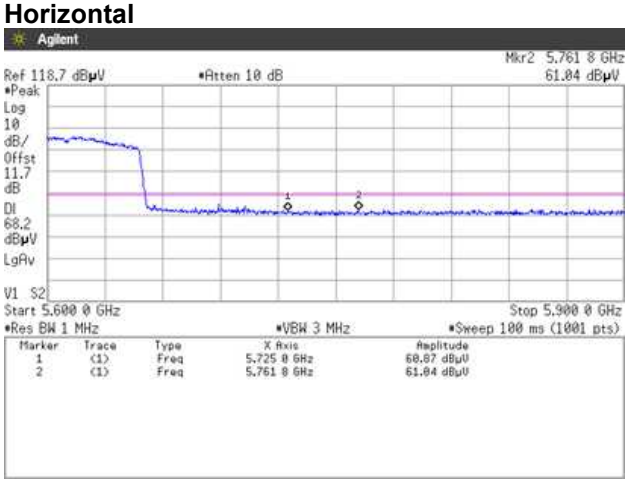


Vertical

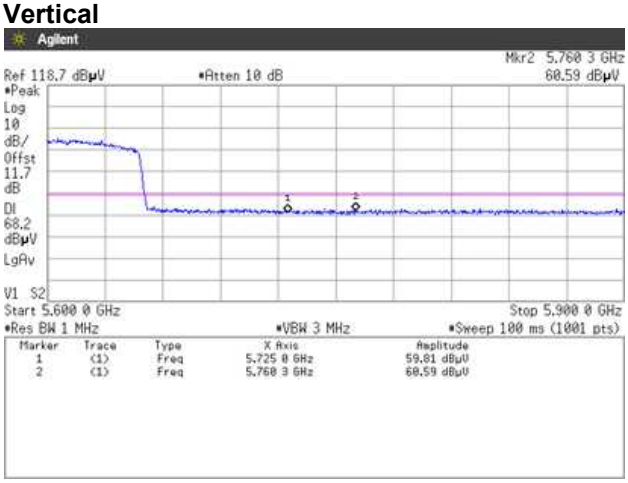


[IEEE802.11ac (HT80)]

5.6GHz Band, Channel High
Peak
Horizontal



Vertical



4.4.4.3 Radiated Emissions

Date	:	15-August-2019			
Temperature	:	21.4 [˚C]			
Humidity	:	63.8 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Taiki Watanabe
Date	:	16-August-2019			
Temperature	:	23.7 [˚C]			
Humidity	:	59.0 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Taiki Watanabe
Date	:	21-August-2019			
Temperature	:	20.8 [˚C]			
Humidity	:	64.8 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Taiki Watanabe
Date	:	22-August-2019			
Temperature	:	21.3 [˚C]			
Humidity	:	63.1 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Taiki Watanabe
Date	:	26-August-2019			
Temperature	:	21.9 [˚C]			
Humidity	:	63.0 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Taiki Watanabe
Date	:	27-August-2019			
Temperature	:	20.6 [˚C]			
Humidity	:	58.3 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Taiki Watanabe
Date	:	28-August-2019			
Temperature	:	23.5 [˚C]			
Humidity	:	59.4 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Tadahiro Seino
Date	:	11-September-2019			
Temperature	:	23.8 [˚C]			
Humidity	:	59.3 [%]	Test engineer	:	
Test place	:	3m Semi-anechoic chamber			Chiaki Kanno

[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	44.9	10.8		55.7	68.2	12.5
	40	5200	10400.00	H	PK	44.8	10.8		55.6	68.2	12.6
	48	5240	10480.00	H	PK	46.1	11.0		57.1	68.2	11.1

(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	45.1	11.1		56.2	68.2	12.0
	56	5280	10560.00	H	PK	44.9	11.2		56.1	68.2	12.1
	64	5320	10640.00	H	PK	44.8	11.3		56.1	74.0	17.9
	64	5320	10640.00	H	AV	35.2	11.3	0.141	46.6	75.0	28.4

(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	5461.30	H	PK	50.2	10.9		61.1	68.2	7.1
			5468.50	V	PK	49.6	11.0		60.6	68.2	7.6
			11000.00	H	PK	44.8	11.9		56.7	74.0	17.3
			11000.00	H	AV	34.5	11.9	0.141	46.5	54.0	7.5
	116	5580	11160.00	H	PK	44.6	12.0		56.6	74.0	17.4
			11160.00	H	AV	34.9	12.0	0.141	47.0	54.0	7.0
	140	5700	11400.00	H	PK	46.0	12.2		58.2	74.0	15.8
			11400.00	H	AV	35.2	12.2	0.141	47.5	54.0	6.5

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.

[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	44.8	10.8		55.6	68.2	12.6
	40	5200	10400.00	H	PK	45.3	10.8		56.1	68.2	12.1
	48	5240	10480.00	H	PK	44.2	11.0		55.2	68.2	13.0

(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)
802.11n (20MHz)	52	5260	10520.00	H	PK	44.6	11.1		55.7	68.2	12.5
	56	5280	10560.00	H	PK	44.4	11.2		55.6	68.2	12.6
	64	5320	10640.00	H	PK	46.0	11.3		57.3	74.0	16.7
			10640.00	H	AV	35.5	11.3	0.152	47.0	54.0	7.0

(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)
802.11n (20MHz)	100	5500	5466.80	H	PK	53.6	11.0		64.6	68.2	3.6
			5468.60	V	PK	52.6	11.0		63.6	68.2	4.6
			11000.00	H	PK	44.8	11.9		56.7	74.0	17.3
			11000.00	H	AV	34.3	11.9	0.152	46.4	54.0	7.6
	116	5580	11160.00	H	PK	45.2	12.0		57.2	74.0	16.8
			11160.00	H	AV	34.9	12.0	0.152	47.1	54.0	6.9
	140	5700	11400.00	H	PK	45.2	12.2		57.4	74.0	16.6
			11400.00	H	AV	35.3	12.2	0.152	47.7	54.0	6.3

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.

[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	45.3	10.8		56.1	68.2	12.1
	46	5230	10460.00	H	PK	44.4	11.0		55.4	68.2	12.8

(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	44.8	11.1		55.9	68.2	12.3
	62	5310	10620.00	H	PK	45.5	11.3		56.8	74.0	17.2
			10620.00	H	AV	35.1	11.3	0.291	46.7	54.0	7.3

(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	5467.70	H	PK	53.6	11.0		64.6	68.2	3.6
			5469.80	V	PK	52.7	11.0		63.7	68.2	4.5
			11020.00	H	PK	45.2	11.9		57.1	74.0	16.9
			11020.00	H	AV	34.5	11.9	0.291	46.7	54.0	7.3
	110	5550	11100.00	H	PK	45.7	12.0		57.7	74.0	16.3
			11100.00	H	AV	34.6	12.0	0.291	46.9	54.0	7.1
	134	5670	11340.00	H	PK	44.6	12.2		56.8	74.0	17.2
			11340.00	H	AV	34.9	12.2	0.291	47.4	54.0	6.6

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.

[IEEE802.11ac (HT80)]

(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	44.8	10.9		55.7	68.2	12.5

(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	44.3	11.2		55.5	68.2	12.7

(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	5466.60	H	PK	53.7	11.0		64.7	68.2	3.5
			5468.90	V	PK	52.0	11.0		63.0	68.2	5.2
			11060.00	H	PK	45.1	11.9		57.0	74.0	17.0
			11060.00	H	AV	34.5	11.9	0.561	47.0	54.0	7.0
	122	5610	11220.00	H	PK	45.5	12.1		57.6	74.0	16.4
			11220.00	H	AV	35.1	12.1	0.570	47.8	54.0	6.2

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.

4.4.4.4 Measurement chart

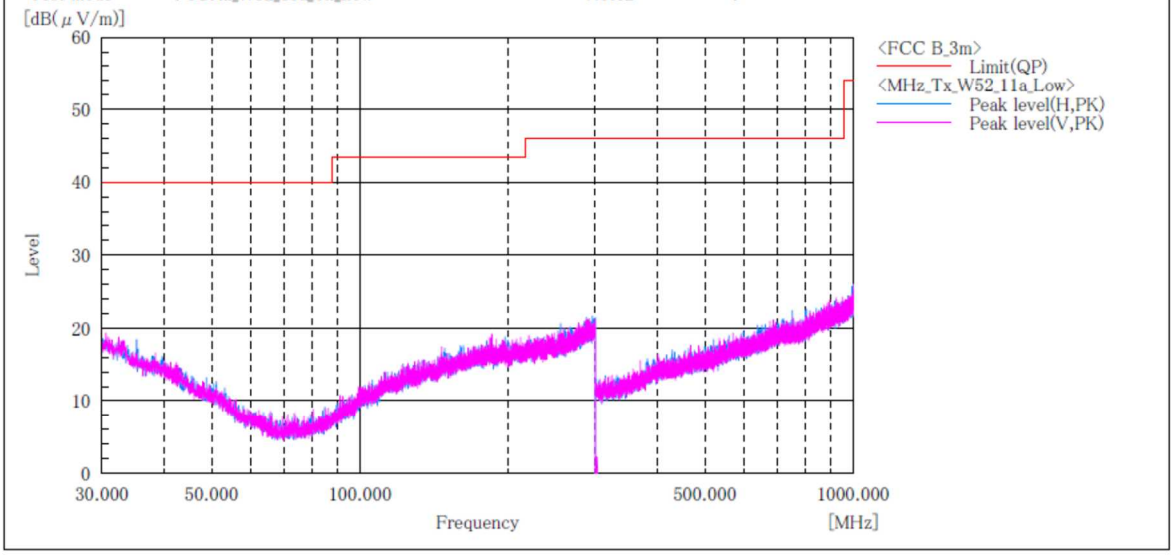
Transmission mode

[11a]
W52 / Channel Low
BELOW 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.01>> 26 August,2019 11:46

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 Subpart E
EUT	: Mobile Phone	Operator	: T.Watanabe
Model No.	: DB05	Temp,Hum,Atm	: 21.9[℃] 63.0[%]
Serial No.	: N/A	Note1	: Ch:36_5180MHz
Test mode	: 5GHz_W52_11a_Tx_Low	Note2	:



Final Result

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

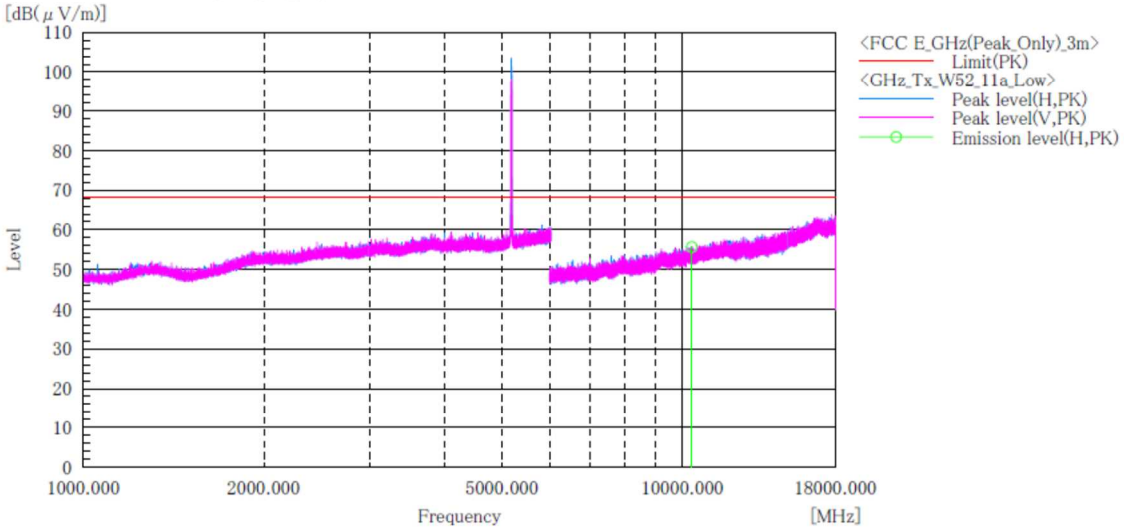
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.

[11a]
W52 / Channel Low
ABOVE 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.02>> 15 August,2019 11:23

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 subpart E
EUT	: Mobile Phone	Operator	: T.Watanabe
Model No.	: DB05	Temp,Hum,Atm	: 21.4[℃] 63.8[%]
Serial No.	: N/A	Note1	: ch:36_5180MHz
Test mode	: 5GHz_W52_11a_Tx_Low	Note2	:



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin PK [dB]	Height [cm]	Angle [°]	Remark
1	10360.000	H	44.9	10.8	55.7	68.2	12.5	168.0	45.0	

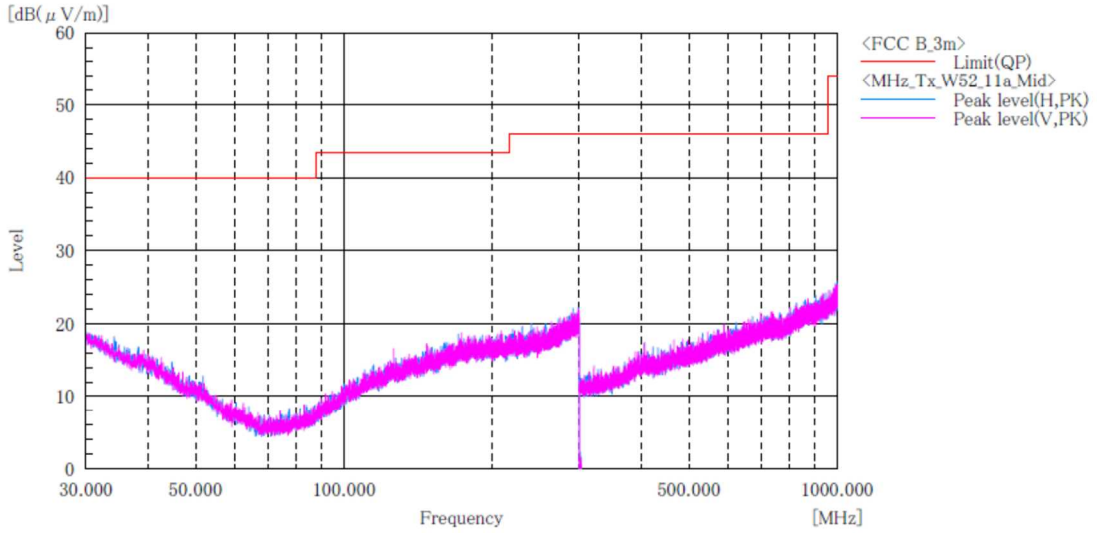
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

[11a]
W52 / Channel Middle
BELOW 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.03>> 26 August,2019 14:10

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 Subpart E
EUT	: Mobile Phone	Operator	: T.Watanabe
Model No.	: DB05	Temp,Hum,Atm	: 21.9[℃] 63.0[%]
Serial No.	: N/A	Note1	: Ch:40_5200MHz
Test mode	: 5GHz_W52_11a_Tx_Middle	Note2	:



Final Result

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

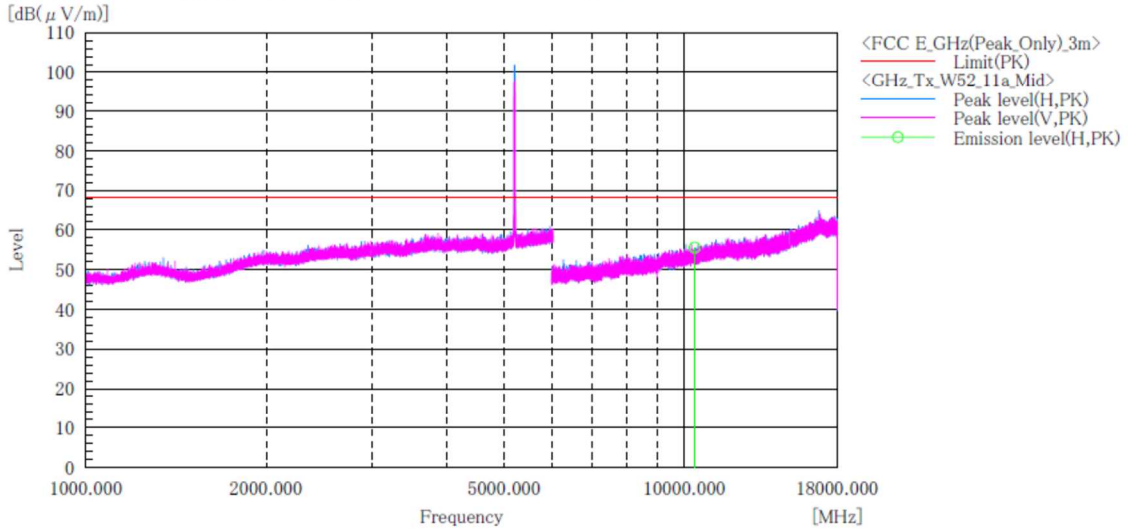
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.

[11a]
W52 / Channel Middle
ABOVE 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.04>> 15 August,2019 13:12

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 subpart E
EUT	: Mobile Phone	Operator	: T.Watanabe
Model No.	: DB05	Temp,Hum,Atm	: 21.4[℃] 63.8[%]
Serial No.	: N/A	Note1	: ch:40_5200MHz
Test mode	: 5GHz_W52_11a_Tx_Mid	Note2	:



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin PK [dB]	Height [cm]	Angle [°]	Remark
1	10400.000	H	44.8	10.8	55.6	68.2	12.6	127.0	277.0	

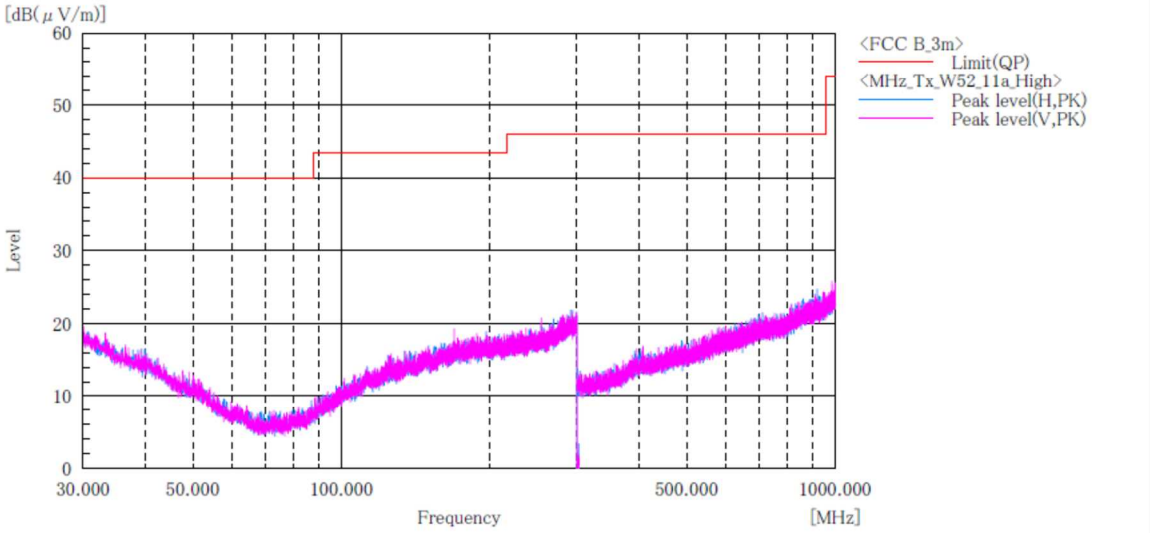
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

[11a]
W52 / Channel High
BELOW 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.05>> 26 August,2019 15:11

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 Subpart E
EUT	: Mobile Phone	Operator	: T.Watanabe
Model No.	: DB05	Temp,Hum,Atm	: 21.9[℃] 63.0[%]
Serial No.	: N/A	Note1	: Ch:48_5240MHz
Test mode	: 5GHz_W52_11a_Tx_High	Note2	:



Final Result

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

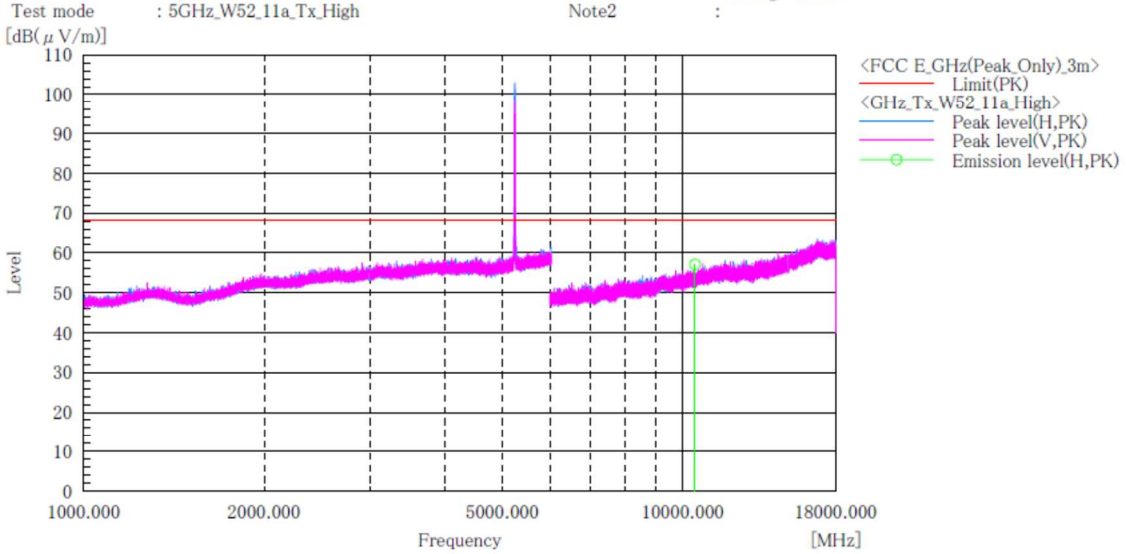
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.

[11a]
W52 / Channel High
ABOVE 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.06>> 15 August,2019 14:02

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 subpart E
EUT	: Mobile Phone	Operator	: T.Watanabe
Model No.	: DB05	Temp,Hum,Atm	: 21.4[℃] 63.8[%]
Serial No.	: N/A	Note1	: ch:48_5240MHz
Test mode	: 5GHz_W52_11a_Tx_High	Note2	:



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin PK [dB]	Height [cm]	Angle [°]	Remark
1	10480.000	H	46.1	11.0	57.1	68.2	11.1	152.0	197.0	

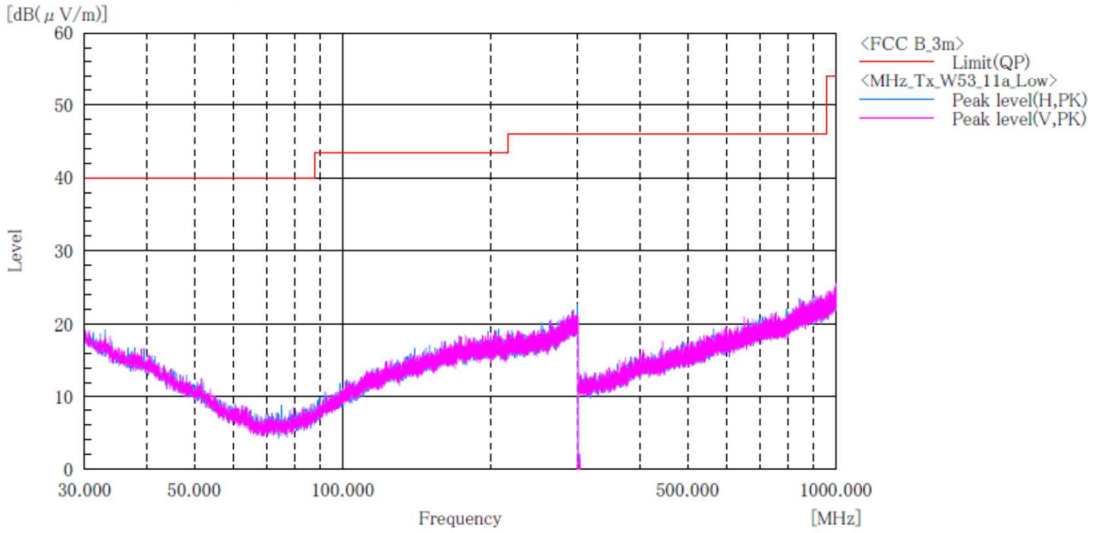
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

[11a]
W53 / Channel Low
BELOW 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.07>> 26 August,2019 15:35

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 subpart E
EUT	: Mobile Phone	Operator	: T.Watanabe
Model No.	: DB05	Temp,Hum,Atm	: 21.9[℃] 63.0[%]
Serial No.	: N/A	Note1	: ch:52_5260MHz
Test mode	: 5GHz_W53_11a_Tx_Low	Note2	:



Final Result

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

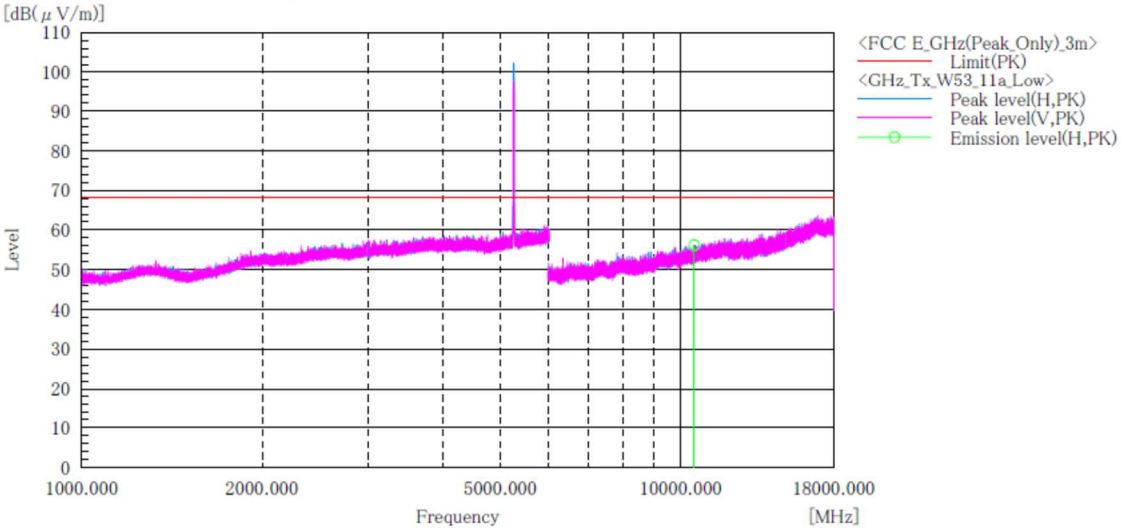
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.

[11a]
W53 / Channel Low
ABOVE 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.08>> 15 August,2019 15:00

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 subpart E
EUT	: Mobile Phone	Operator	: T.Watanabe
Model No.	: DB05	Temp,Hum,Atm	: 21.4[℃] 63.8[%]
Serial No.	: N/A	Note1	: ch:52_5260MHz
Test mode	: 5GHz_W53_11a_Tx_Low	Note2	:



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin PK [dB]	Height [cm]	Angle [°]	Remark
1	10520.000	H	45.1	11.1	56.2	68.2	12.0	205.0	257.0	

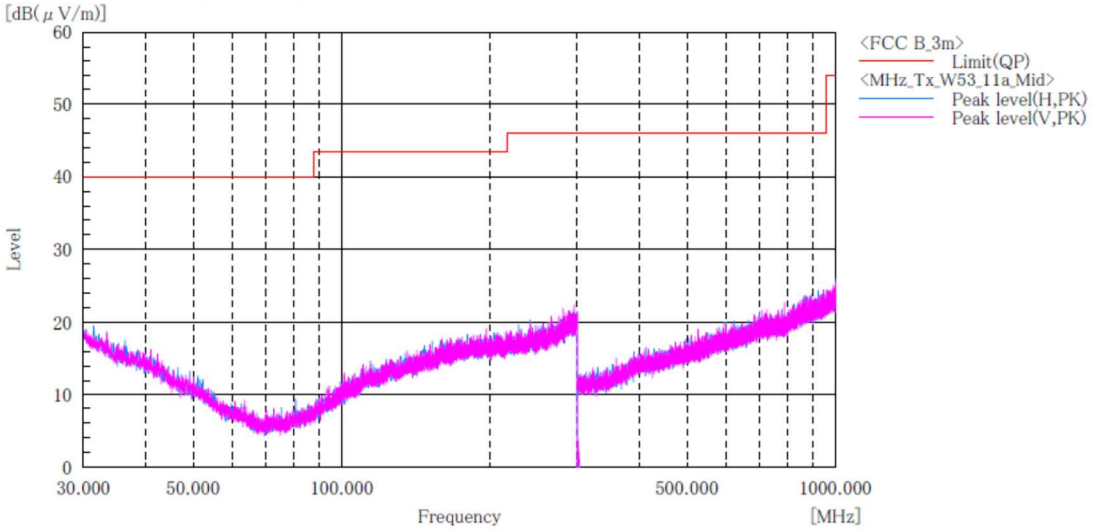
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

[11a]
W53 / Channel Middle
BELOW 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.09>> 26 August,2019 16:02

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 Subpart E
EUT	: Mobile Phone	Operator	: T.Watanabe
Model No.	: DB05	Temp,Hum,Atm	: 21.9[℃] 63.0[%]
Serial No.	: N/A	Note1	: Ch:56_5280MHz
Test mode	: 5GHz_W53_11a_Tx_Middle	Note2	:



Final Result

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

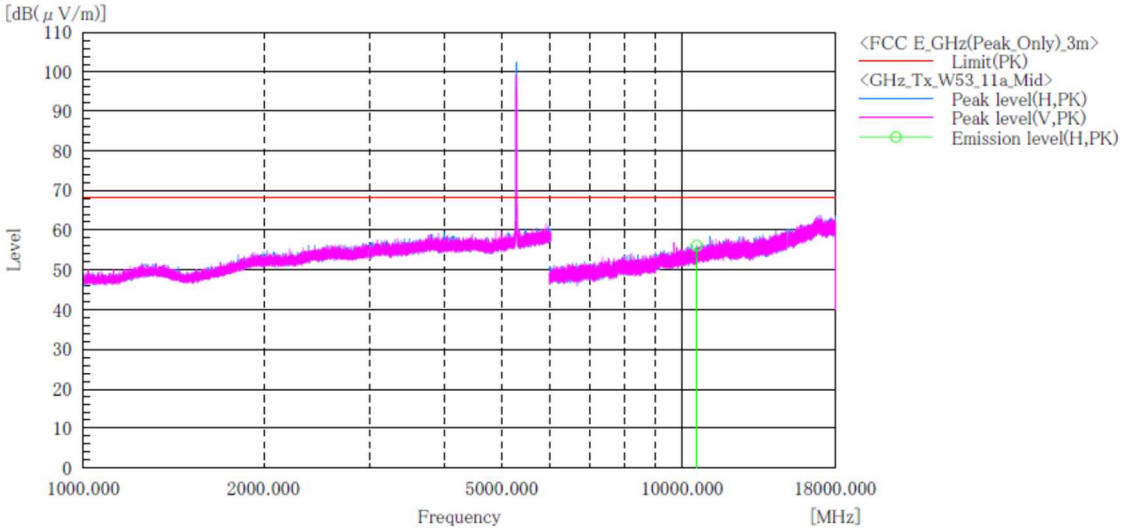
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.

[11a]
W53 / Channel Middle
ABOVE 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. | <<DATA Sheet No.10>> | 15 August,2019 15:40

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 subpart E
EUT	: Mobile Phone	Operator	: T.Watanabe
Model No.	: DB05	Temp,Hum,Atm	: 21.4[℃] 63.8[%]
Serial No.	: N/A	Note1	: ch:56_5280MHz
Test mode	: 5GHz_W53_11a_Tx_Mid	Note2	:



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin PK [dB]	Height [cm]	Angle [°]	Remark
1	10560.000	H	44.9	11.2	56.1	68.2	12.1	186.0	73.0	

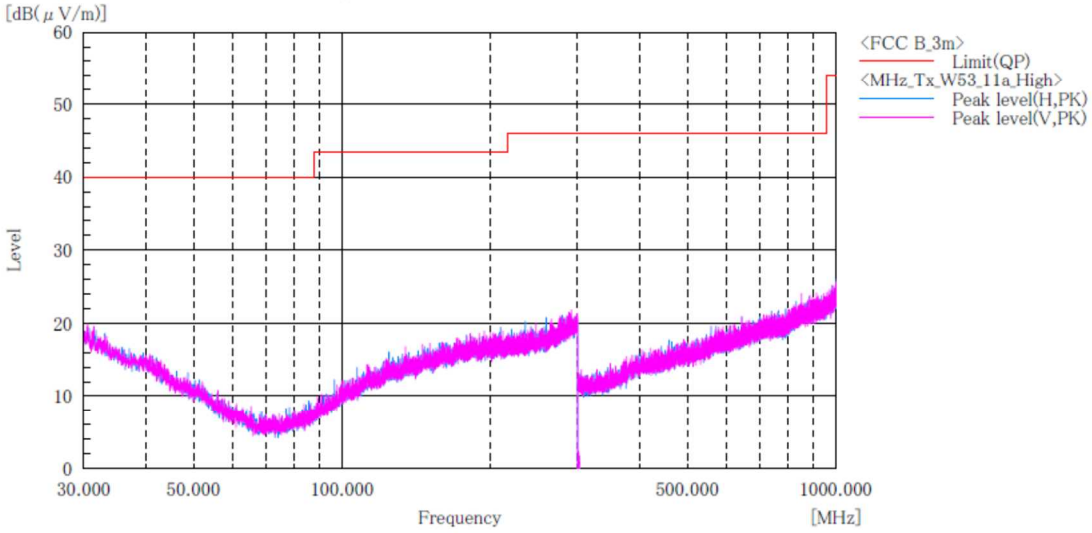
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

[11a]
W53 / Channel High
BELOW 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.11>> 26 August,2019 16:28

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 Subpart E
EUT	: Mobile Phone	Operator	: T.Watanabe
Model No.	: DB05	Temp,Hum,Atm	: 21.9[℃] 63.0[%]
Serial No.	: N/A	Note1	: Ch:64_5320MHz
Test mode	: 5GHz_W53_11a_Tx_High	Note2	:



Final Result

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

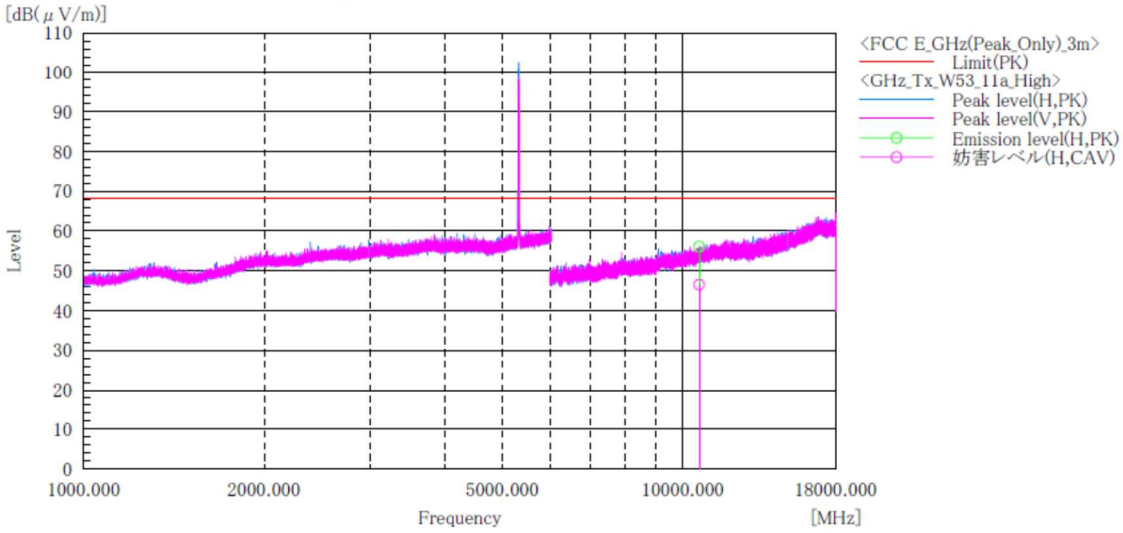
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.

[11a]
W53 / Channel High
ABOVE 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.12>> 15 August,2019 16:12

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 subpart E
EUT	: Mobile Phone	Operator	: T.Watanabe
Model No.	: DB05	Temp,Hum,Atm	: 21.4[℃] 63.8[%]
Serial No.	: N/A	Note1	: ch:64_5320MHz
Test mode	: 5GHz_W53_11a_Tx_High	Note2	:



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	Reading CAV [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Result CAV [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [°]	Remark
1	10640.000	H	44.8	35.2	11.3	56.1	46.5	74.0	17.9	7.5	152.0	134.0	

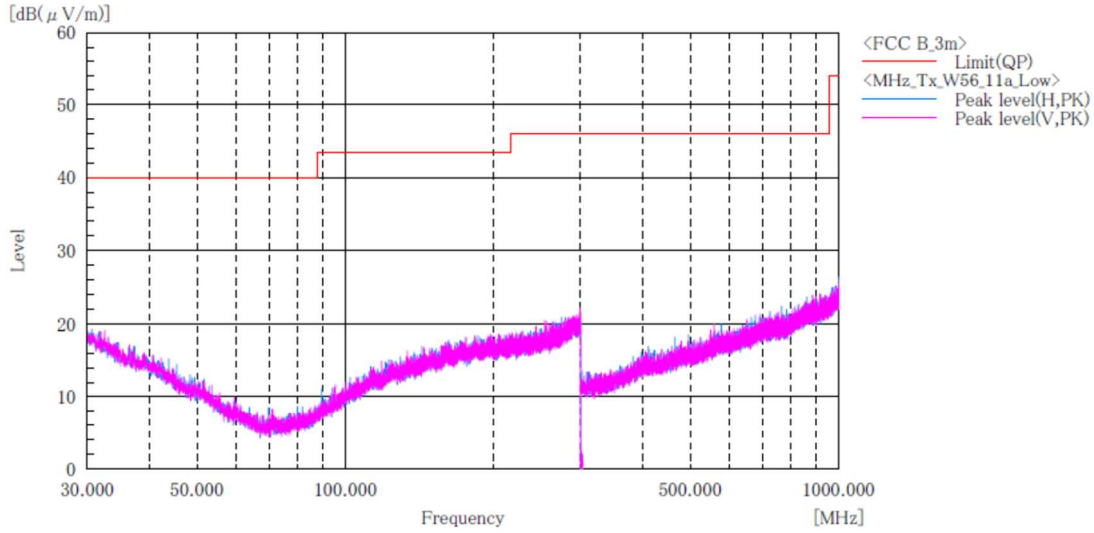
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

[11a]
W56 / Channel Low
BELOW 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.13>> 26 August,2019 16:54

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 Subpart E
EUT	: Mobile Phone	Operator	: T.Watanabe
Model No.	: DB05	Temp,Hum,Atm	: 21.9[℃] 63.0[%]
Serial No.	: N/A	Note1	: Ch:100_5500MHz
Test mode	: 5GHz_W56_11a_Tx_Low	Note2	:



Final Result

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

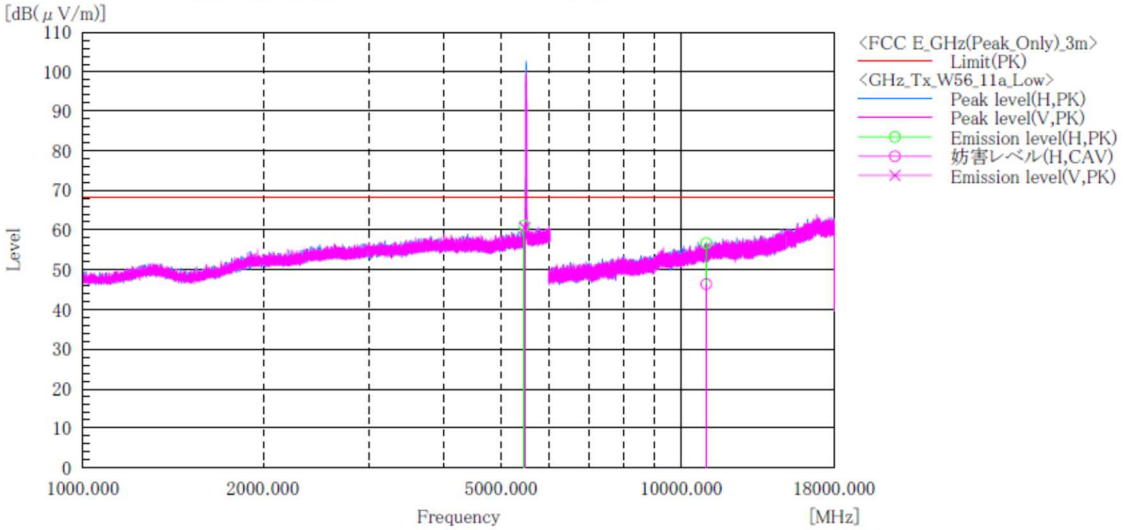
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.

[11a]
W56 / Channel Low
ABOVE 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.14>> 15 August,2019 16:50

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 subpart C
EUT	: Mobile Phone	Operator	: T.Watanabe
Model No.	: DB05	Temp,Hum,Atm	: 21.4[℃] 63.8[%]
Serial No.	: N/A	Note1	: ch:100_5500MHz
Test mode	: 5GHz_W56_11a_Tx_Low	Note2	:



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	Reading CAV [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Result CAV [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [°]	Remark
1	5461.300	H	50.2	--------	10.9	61.1	--------	68.2	7.1	--------	162.0	1.0	
2	5468.500	V	49.6	--------	11.0	60.6	--------	68.2	7.6	--------	173.0	48.0	
3	11000.000	H	44.8	34.5	11.9	56.7	46.4	74.0	17.3	7.6	177.0	107.0	

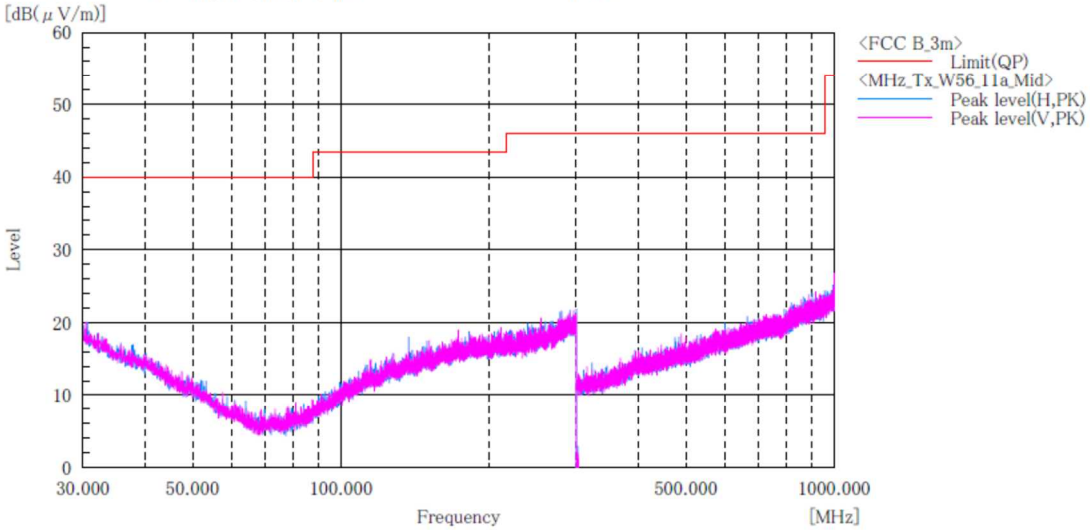
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

[11a]
W56 / Channel Middle
BELOW 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. <<DATA Sheet No.15>> 27 August,2019 09:51

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 Subpart E
EUT	: Mobile Phone	Operator	: T.Watanabe
Model No.	: DB05	Temp,Hum,Atm	: 20.6[℃] 58.3[%]
Serial No.	: N/A	Note1	: Ch:116_5580MHz
Test mode	: 5GHz_W56_11a_Tx_Middle	Note2	:



Final Result

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

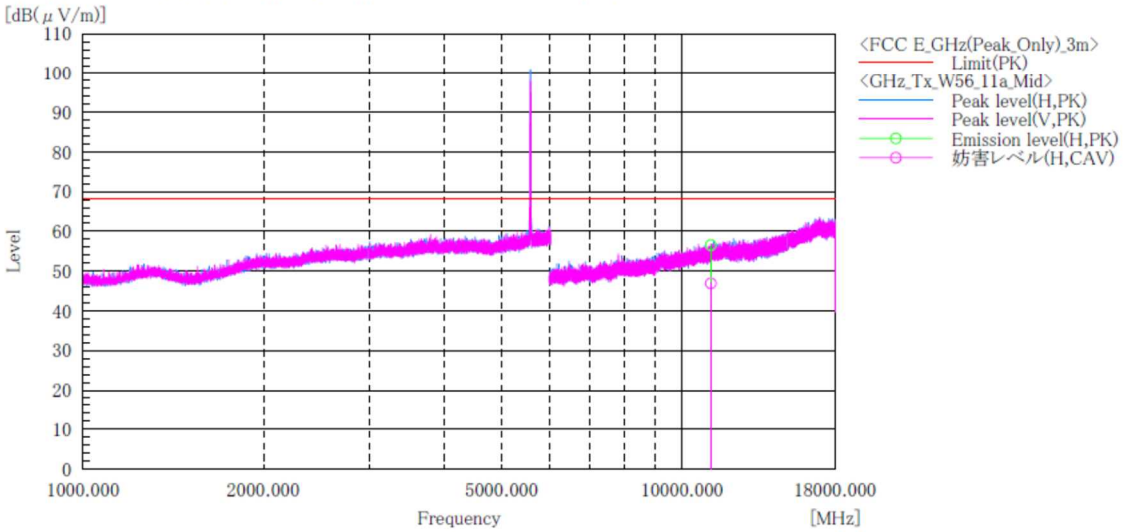
Note:
1. Emission Level (Margin) = Limit - [Reading + Factor (Antenna + Cable – Amp)]
2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.

[11a]
W56 / Channel Middle
ABOVE 1GHz

******* RADIATED EMISSION *******
[3m Semi-anechoic chamber]

TUV SUD Japan Ltd. | <<DATA Sheet No.16>> | 15 August,2019 17:28

Company name	: KYOCERA Corporation	Standard	: FCC Part.15 subpart E
EUT	: Mobile Phone	Operator	: T.Watanabe
Model No.	: DB05	Temp,Hum,Atm	: 21.4[℃] 63.8[%]
Serial No.	: N/A	Note1	: ch:116_5580MHz
Test mode	: 5GHz_W56_11a_Tx_Middle	Note2	:



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	Reading CAV [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Result CAV [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [°]	Remark
1	11160.000	H	44.6	34.9	12.0	56.6	46.9	74.0	17.4	7.1	156.0	316.0	

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.