FCC Test Report

Product Name	360 CAM(WIFI+Bluetooth)
Model No	VSF013W
FCC ID	2AAD3013W

Applicant	ABILITY ENTERPRISE CO., LTD.
Address	No.200, Sec. 3, Zhonghuan Rd., Xinzhuang Dist.,New Taipei City 24242,Taiwan(R.O.C.)

Date of Receipt	Jul. 13, 2018
Issued Date	Dec. 19, 2018
Report No.	1870168R-RFUSP70V01-A
Report Version	V1.0

Testing Laboratory
3023

Test Report

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Applicant	ABILITY ENTERPRISE CO., LTD.
Address	No.200, Sec. 3, Zhonghuan Rd., Xinzhuang Dist.,New Taipei City 24242,Taiwan(R.O.C.)
Manufacturer	ABILITY ENTERPRISE CO., LTD.
Model No.	VSF013W
FCC ID.	2AAD3013W
EUT Rated Voltage	By Battery
EUT Test Voltage	AC 120V /60 Hz (Adapter); By Battery
Trade Name	ABILITY
Applicable Standard	FCC CFR Title 47 Part 15 Subpart E: 2017 ANSI C63.4: 2014, ANSI C63.10: 2013 789033 D02 General UNII Test Procedures New Rules v02
Test Result	Complied

Documented By : Anita Chou

(Senior Engineering Adm. Specialist / Anita Chou)

Tested By : Jason Tuan

(Engineer / Jason Tuan)

Approved By :

(Director / Vincent Lin)

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	360 CAM(WIFI+Bluetooth)
Trade Name	ABILITY
Model No.	VSF013W
FCC ID.	2AAD3013W
Frequency Range	802.11a/n-20MHz: 5180-5240MHz, 5745-5825MHz 802.11n-40MHz: 5190-5230, 5755-5795MHz 802.11ac-80MHz: 5210, 5775MHz
Number of Channels	802.11a/n-20MHz: 9; 802.11n-40MHz: 4; 802.11ac-80MHz: 2
Data Rate	802.11a: 6 - 54Mbps 802.11n: up to 150Mbps 802.11ac-80MHz: up to 433.3MHz
Channel Control	Auto
Type of Modulation	802.11a/n: OFDM, BPSK, QPSK, 16QAM, 64QAM, 256QAM
Antenna type	PIFA Antenna
Antenna Gain	Refer to the table “Antenna List”
USB Cable	Shielded, 0.8m
USB Cable	Shielded, 0.6m
Power Adapter	MFR: AQUIL STAR PRECISION INDUSTRIAL(SHENZHEN)CO., LTD, M/N: ASSA55E-050200 INPUT: AC 100-240V~50/60Hz 0.45A OUTPUT：DC 5V, 2.0A

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	LYNwave	N/A	PIFA Antenna	1.67dBi For 5.15~5.25GHz 1.05dBi For 5.725~5.825GHz

Note: The antenna of EUT is conform to FCC 15.203

802.11a/n-20MHz Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 36:	5180 MHz	Channel 40:	5200 MHz	Channel 44:	5220 MHz	Channel 48:	5240 MHz
Channel 149:	5745 MHz	Channel 153:	5765 MHz	Channel 157:	5785 MHz	Channel 161:	5805 MHz
Channel 165:	5825 MHz						

802.11n-40MHz Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 38:	5190 MHz	Channel 46:	5230 MHz	Channel 151:	5755 MHz	Channel 159:	5795 MHz

802.11ac-80MHz Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 42:	5210 MHz	Channel 155:	5775 MHz				

Note:

1. This device is a 360 CAM(WIFI+Bluetooth) with a built-in WLAN and Bluetooth transceiver, this report for WLAN 5G.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11a is 6Mbps、802.11n-20BW is 7.2Mbps、802.11n-40BW is 15Mbps and 802.11ac(80M-BW) is 32.5 Mbps)
4. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart E for Unlicensed National Information Infrastructure devices.
5. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

Test Mode	Mode 1: Transmit (802.11a-6Mbps) Mode 2: Transmit (802.11n-20BW 7.2Mbps) Mode 3: Transmit (802.11n-40BW 15Mbps) Mode 4 Transmit (802.11ac-80BW-32.5Mbps) Mode 5: Charge mode

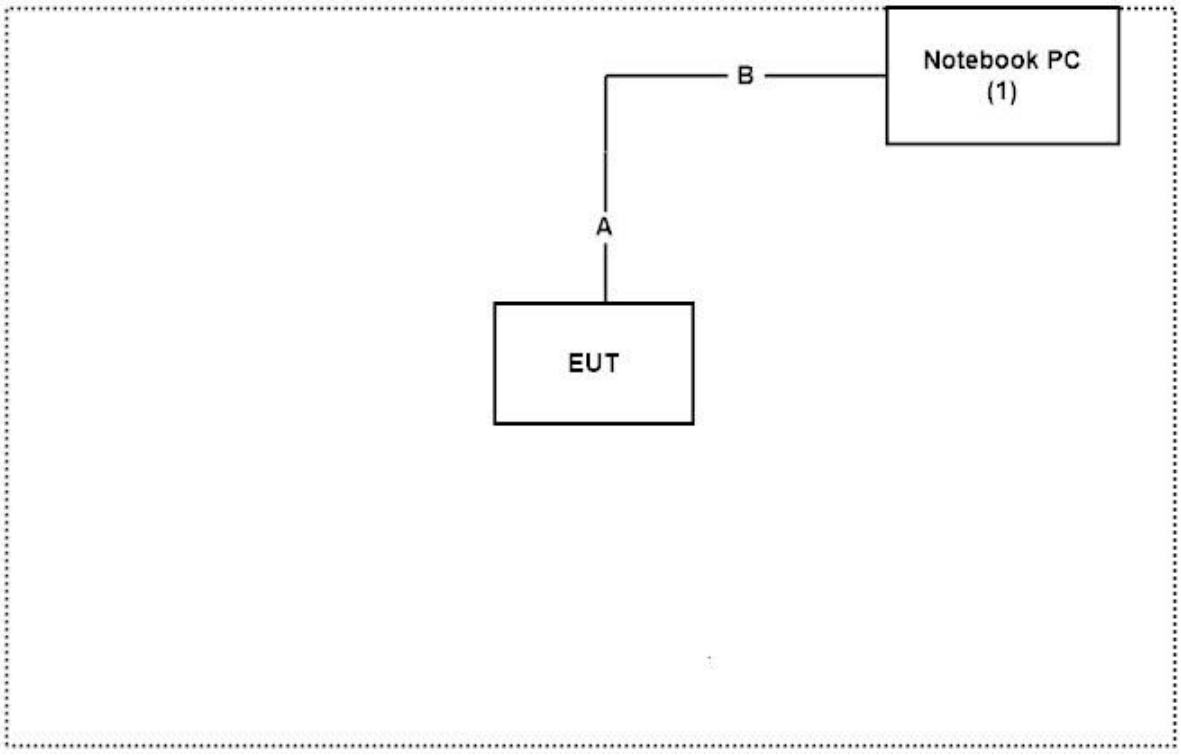
1.3. Tested System Datails

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook PC	DELL	Latitude E5440	B6TYTZ1	Non-Shielded, 0.8m

Signal Cable Type		Signal cable Description
A	USB Cable	Shielded, 0.8m
B	USB Cable	Shielded, 2m

1.4. Configuration of tested System



1.5. EUT Exercise Software

(1) Setup the EUT as shown on 1.4

(2) Execute software ”Vendor command v.01.08.2018.0828” on the Notebook PC.

(3) Configure the test mode, the test channel, and the data rate.

(4) Start the continuous transmission.

(5) Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

The related certificate for our laboratories about the test site and management system can be downloaded from DEKRA Testing and Certification Co., Ltd. Web Site:
http://www.dekra.com.tw/english/about/certificates.aspx?bval=5
The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site: http://www.dekra.com.tw/index_en.aspx

Site Description: Accredited by TAF
Accredited Number: 3023

Site Name: DEKRA Testing and Certification Co., Ltd
Site Address: No.5-22, Ruishukeng, Linkou Dist., New Taipei City 24451, Taiwan, R.O.C.
TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : info.tw@dekra.com

FCC Accreditation Number: TW3023

1.7. List of Test Equipment

For Conducted measurements /CB3/SR8

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Date	Due. Date
	Temperature Chamber	WIT GROUP	TH-1S-B	EQ-201-00146	2018/02/12	2019/02/11
X	Spectrum Analyzer	Agilent	N9010A	MY53470892	2018/09/27	2019/09/26
X	Peak Power Analyzer	Keysight	8990B	MY51000410	2018/08/01	2019/07/31
X	Wideband Power Sensor	Keysight	N1923A	MY56080003	2018/07/25	2019/07/24
X	Wideband Power Sensor	Keysight	N1923A	MY56080004	2018/07/25	2019/07/24
X	EMI Test Receiver	R&S	ESCS 30	100369	2017/11/07	2018/11/06
X	LISN	R&S	ESH3-Z5	836679/017	2018/02/09	2019/02/08
X	LISN	R&S	ENV216	100097	2018/02/09	2019/02/08
X	Coaxial Cable	DEKRA	RG 400	LC018-RG	2018/06/21	2019/06/20

For Radiated measurements /Site3/CB8

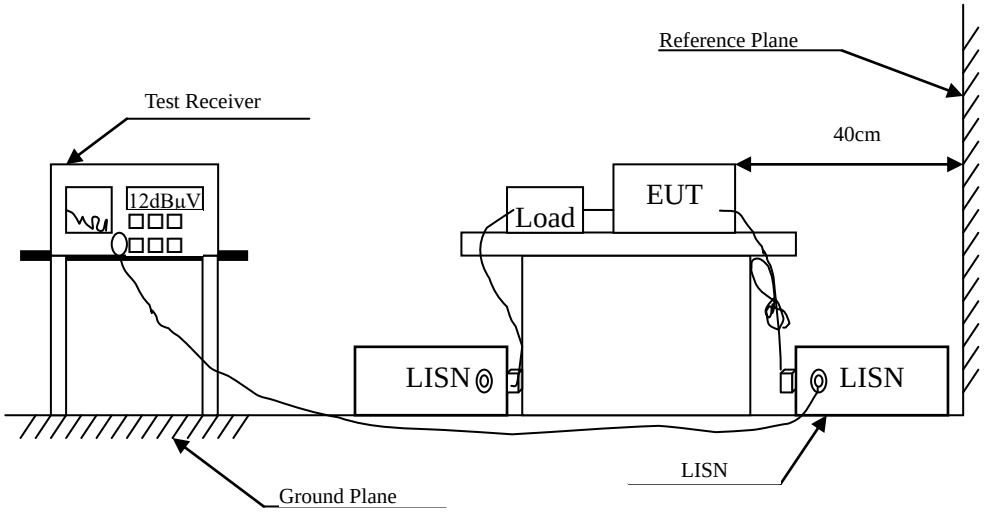
	Equipment	Manufacturer	Model No.	Serial No.	Cali. Date	Due. Date
X	Spectrum Analyzer	R&S	FSP40	100170	2018/03/12	2019/03/11
	Loop Antenna	Teseq	HLA6121	37133	2017/10/13	2019/10/12
X	Bilog Antenna	Schaffner Chase	CBL6112B	2707	2018/06/24	2019/06/23
X	Coaxial Cable	DEKRA	RG 214	LC003-RG	2018/06/14	2019/06/13
X	Pre-Amplifier	Jet-Power	JPA-10M1G33	170101000330010	2018/06/14	2019/06/13
X	Horn Antenna	ETS-Lindgren	3117	00135205	2018/05/03	2019/05/02
X	Horn Antenna	SCHWARZBECK	9120D	576	2017/11/30	2018/11/29
X	Pre-Amplifier	EMCI	EMC012630SE	980210	2018/04/10	2019/04/09
X	Horn Antenna	Com-Power	AH-840	101043	2018/01/09	2019/01/08
X	Amplifier + Cable	EMCI	EMC184045SE	980370	2018/03/21	2019/03/20
X	Filter	MICRO-TRONICS	BRM50702	G270	2018/08/06	2019/08/05
X	Filter	MICRO-TRONICS	BRM50716	G196	2018/08/06	2019/08/05

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked with “X” are used to measure the final test results.
3. Test Software version :QuieTek EMI 2.0 V2.1.113.

2. Conducted Emission

2.1. Test Setup



2.2. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBµV) Limit		
Frequency MHz	Limits	
	QP	AV
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

Remarks : In the above table, the tighter limit applies at the band edges.

2.3. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4:2014 on conducted measurement.

Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

The EUT was setup to ANSI C63.4, 2014; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

2.4. Uncertainty

± 2.26 dB

2.5. Test Result of Conducted Emission

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Conducted Emission Test
Power Line : Line 1
Test Date : 2018/10/17
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps) (5210MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 1					
Quasi-Peak					
0.177	9.741	37.780	47.521	-17.708	65.229
0.224	9.739	29.940	39.679	-24.207	63.886
0.494	9.750	32.480	42.230	-13.941	56.171
1.435	9.798	26.080	35.878	-20.122	56.000
3.162	9.862	28.920	38.782	-17.218	56.000
9.279	10.049	27.020	37.069	-22.931	60.000
Average					
0.177	9.741	25.790	35.531	-19.698	55.229
0.224	9.739	19.400	29.139	-24.747	53.886
0.494	9.750	23.170	32.920	-13.251	46.171
1.435	9.798	16.160	25.958	-20.042	46.000
3.162	9.862	17.950	27.812	-18.188	46.000
9.279	10.049	21.240	31.289	-18.711	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Conducted Emission Test
Power Line : Line 2
Test Date : 2018/10/17
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps) (5210MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 2					
Quasi-Peak					
0.173	9.737	38.260	47.997	-17.346	65.343
0.216	9.738	32.860	42.598	-21.516	64.114
0.509	9.740	34.300	44.040	-11.960	56.000
1.435	9.788	26.700	36.488	-19.512	56.000
3.486	9.869	29.420	39.289	-16.711	56.000
9.584	10.074	20.440	30.514	-29.486	60.000
Average					
0.173	9.737	25.190	34.927	-20.416	55.343
0.216	9.738	19.770	29.508	-24.606	54.114
0.509	9.740	26.010	35.750	-10.250	46.000
1.435	9.788	17.350	27.138	-18.862	46.000
3.486	9.869	18.130	27.999	-18.001	46.000
9.584	10.074	13.970	24.044	-25.956	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ “ means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Conducted Emission Test
Power Line : Line 1
Test Date : 2018/10/17
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps) (5775MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 1					
Quasi-Peak					
0.173	9.742	35.560	45.302	-20.041	65.343
0.248	9.740	27.120	36.860	-26.340	63.200
0.498	9.750	32.940	42.690	-13.367	56.057
1.451	9.799	25.240	35.039	-20.961	56.000
3.416	9.867	29.900	39.767	-16.233	56.000
9.138	10.046	26.040	36.086	-23.914	60.000
Average					
0.173	9.742	16.950	26.692	-28.651	55.343
0.248	9.740	19.090	28.830	-24.370	53.200
0.498	9.750	25.340	35.090	-10.967	46.057
1.451	9.799	14.450	24.249	-21.751	46.000
3.416	9.867	17.820	27.687	-18.313	46.000
9.138	10.046	20.400	30.446	-19.554	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ “ means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Conducted Emission Test
Power Line : Line 2
Test Date : 2018/10/17
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps) (5775MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 2					
Quasi-Peak					
0.162	9.736	40.720	50.456	-15.201	65.657
0.252	9.740	29.020	38.760	-24.326	63.086
0.509	9.740	31.720	41.460	-14.540	56.000
1.505	9.800	25.400	35.200	-20.800	56.000
3.353	9.866	29.780	39.646	-16.354	56.000
9.404	10.071	20.600	30.671	-29.329	60.000
Average					
0.162	9.736	28.420	38.156	-17.501	55.657
0.252	9.740	12.410	22.150	-30.936	53.086
0.509	9.740	16.900	26.640	-19.360	46.000
1.505	9.800	14.650	24.450	-21.550	46.000
3.353	9.866	18.680	28.546	-17.454	46.000
9.404	10.071	13.970	24.041	-25.959	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ “ means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Conducted Emission Test
Power Line : Line 1
Test Date : 2018/10/17
Test Mode : Mode 5: Charge mode

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 1					
Quasi-Peak					
0.185	9.738	33.780	43.518	-21.482	65.000
0.259	9.740	25.000	34.740	-28.146	62.886
0.498	9.750	31.680	41.430	-14.627	56.057
1.439	9.799	24.380	34.179	-21.821	56.000
3.310	9.865	30.020	39.885	-16.115	56.000
9.408	10.055	24.580	34.635	-25.365	60.000
Average					
0.185	9.738	14.040	23.778	-31.222	55.000
0.259	9.740	10.460	20.200	-32.686	52.886
0.498	9.750	21.120	30.870	-15.187	46.057
1.439	9.799	16.480	26.279	-19.721	46.000
3.310	9.865	18.770	28.635	-17.365	46.000
9.408	10.055	18.850	28.905	-21.095	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ “ means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Conducted Emission Test
Power Line : Line 2
Test Date : 2018/10/17
Test Mode : Mode 5: Charge mode

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 2					
Quasi-Peak					
0.181	9.737	36.100	45.837	-19.277	65.114
0.212	9.738	31.440	41.178	-23.051	64.229
0.509	9.740	33.140	42.880	-13.120	56.000
1.056	9.773	20.160	29.933	-26.067	56.000
3.420	9.868	27.560	37.428	-18.572	56.000
9.166	10.066	17.840	27.906	-32.094	60.000
Average					
0.181	9.737	17.950	27.687	-27.427	55.114
0.212	9.738	15.410	25.148	-29.081	54.229
0.509	9.740	25.340	35.080	-10.920	46.000
1.056	9.773	11.370	21.143	-24.857	46.000
3.420	9.868	16.380	26.248	-19.752	46.000
9.166	10.066	10.670	20.736	-29.264	50.000

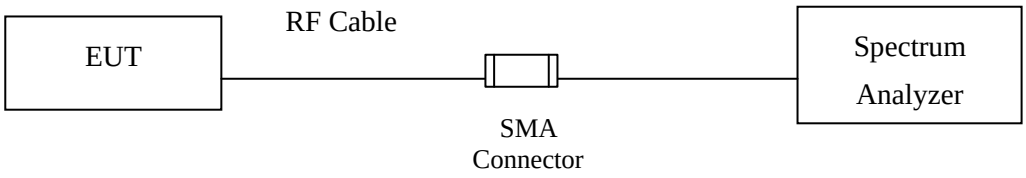
Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ “ means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

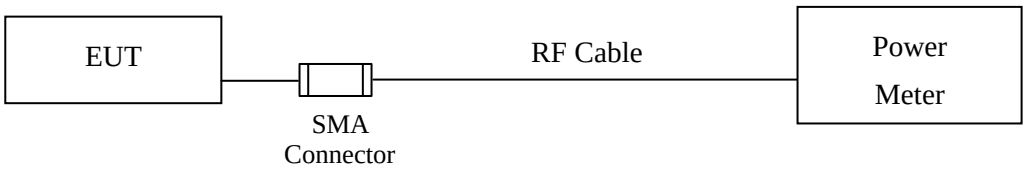
3. Maximun conducted output power

3.1. Test Setup

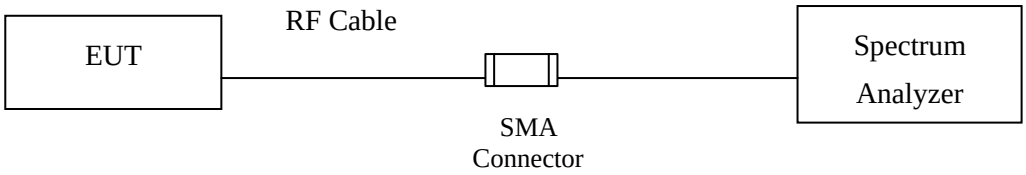
99% Occupied Bandwidth



Conduction Power Measurement (for 802.11an)



Conduction Power Measurement (for 802.11ac)



3.2. Limits

3.2.1. For the band 5.15-5.25 GHz,

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna

gain does not exceed 6 dBi. In addition. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-topoint U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) 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 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.2.2. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.2.3. For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point UNII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

3.3. Test Procedure

As an alternative to FCC KDB-789033, the EUT maximum conducted output power was measured with an average power meter employing a video bandwidth greater the 6dB BW of the emission under test. Maximum conducted output power was read directly from the meter across all data rates, and across three channels within each sub-band. Special care was used to make sure that the EUT

was transmitting in continuous mode. This method exceeds the limitations of FCC KDB-789033, and provides more accurate measurements.

802.11an (BW≦40MHz) Maximum conducted output power using KDB 789033 section E)3)b) Method PM-G (Measurement using a gated RF average power meter)
Note: the power meter have a video bandwidth that is greater than or equal to the measurement bandwidth, (Anritsu/ MA2411B video bandwidth: 65MHz)

802.11ac (BW=80MHz) Maximum conducted output power using KDB 789033 section E)2)b) Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep).

When transmitted signals consist of two or more non-contiguous spectrum segments (e.g., 80+80 MHz mode) or when a single spectrum segment of a transmission crosses the boundary between two adjacent U-NII bands, KDB 644545 D03 section D) procedure is used for measurements.

3.4. Uncertainty

± 1.62 dB

3.5. Test Result of Maximum conducted output power

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Date : 2018/10/23
Test Mode : Mode 1: Transmit (802.11a-6Mbps)

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		6	9	12	18	24	36	48	54	
		Measurement Level (dBm)								
36	5180	8.35	-	-	-	-	-	-	-	<30dBm
44	5220	8.14	8.07	7.91	7.80	7.69	7.54	7.32	7.18	<30dBm
48	5240	8.44	-	-	-	-	-	-	-	<30dBm
149	5745	9.15	-	-	-	-	-	-	-	<30dBm
157	5785	8.71	8.6	8.49	8.34	8.26	8.13	8.01	7.90	<30dBm
165	5825	8.95	-	-	-	-	-	-	-	<30dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	Output Power (dBm)	Output Power Limit (dBm)
36	5180	8.35	30
44	5220	8.14	30
48	5240	8.44	30
149	5745	9.15	30
157	5785	8.71	30
165	5825	8.95	30

Note:
1. Power Output Value =Reading value on average power meter + cable loss

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Date : 2018/10/23
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps)

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		7.2	14.4	21.7	28.9	43.3	57.8	65	72.2	
		Measurement Level (dBm)								
36	5180	7.78	-	-	-	-	-	-	-	<30dBm
44	5220	7.63	7.52	7.41	7.30	7.19	7.07	6.92	6.81	<30dBm
48	5240	7.85	-	-	-	-	-	-	-	<30dBm
149	5745	8.78	-	-	-	-	-	-	-	<30dBm
157	5785	8.43	8.33	8.19	8.08	7.91	7.80	7.69	7.54	<30dBm
165	5825	8.01	-	-	-	-	-	-	-	<30dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	Output Power (dBm)	Output Power Limit (dBm)
36	5180	7.78	30
44	5220	7.63	30
48	5240	7.85	30
149	5745	8.78	30
157	5785	8.43	30
165	5825	8.01	30

Note:
1. Power Output Value =Reading value on average power meter + cable loss

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Date : 2018/10/23
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps)

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		15	30	45	60	90	120	135	150	
		Measurement Level (dBm)								
38	5190	7.83	-	-	-	-	-	-	-	<30dBm
46	5230	7.75	7.6	7.49	7.35	7.24	7.12	7.01	6.90	<30dBm
151	5755	8.92	-	-	-	-	-	-	-	<30dBm
159	5795	8.21	8.02	7.91	7.80	7.69	7.56	7.45	7.32	<30dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	Output Power (dBm)	Output Power Limit (dBm)
38	5190	7.83	30
46	5230	7.75	30
151	5755	8.92	30
159	5795	8.21	30

Note:
1. Power Output Value =Reading value on average power meter + cable loss

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Date : 2018/10/23
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps)

Cable loss=1dB		Maximum conducted output power										
Channel No	Frequency (MHz)	Data Rate (Mbps)										Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
42	5210	7.93	7.8	7.69	7.54	7.42	7.31	7.19	7.07	6.91	6.8	<30dBm
155	5775	8.72	8.6	8.49	8.32	8.21	8.08	7.95	7.84	7.77	7.60	<30dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

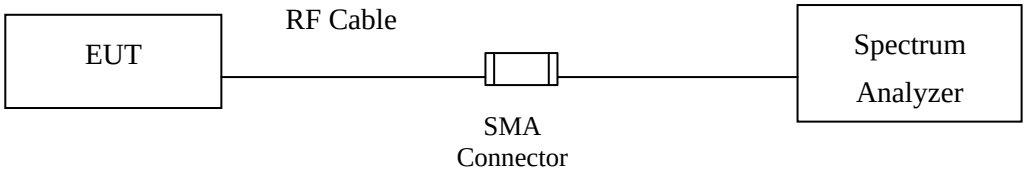
Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	Output Power (dBm)	Output Power Limit (dBm)
42	5210	7.93	30
155	5775	8.72	30

Note:
1. Power Output Value =Reading value on average power meter + cable loss

4. Peak Power Spectral Density

4.1. Test Setup



4.2. Limits

(1) For the band 5.15-5.25 GHz,

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-topoint U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) 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 maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.+

(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 maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, 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, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point UNII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

4.3. Test Procedure

The EUT was setup to ANSI C63.10, 2013; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

The Peak Power Spectral Density using KDB 789033 section F) procedure, Create an average power spectrum for the EUT operating mode being tested by following the instructions in section E)2) for measuring maximum conducted output power using a spectrum analyzer.

SA-1 method is selected to run the test.

For the band 5.725-5.85 GHz, Scale the observed power level to an equivalent value in 500 kHz by adjusting (increase) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log (500 kHz/100 kHz) = 6.98 dB.

4.4. Uncertainty

± 1.62 dB

4.5. Test Result of Peak Power Spectral Density

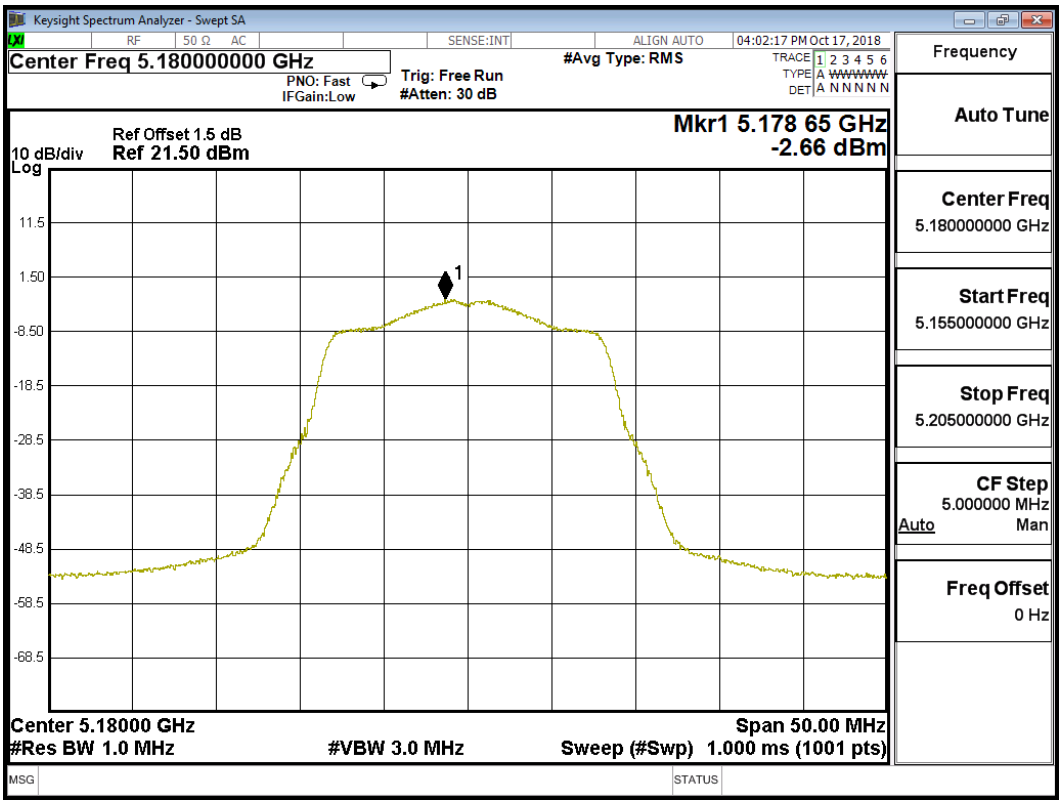
Product : 360 CAM(WIFI+Bluetooth)
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)

Channel Number	Frequency (MHz)	Data Rata (Mbps)	Measurement Level (dBm)	Required Limit (dBm)	Result
36	5180	6	-2.660	17	Pass
44	5220	6	-2.450	17	Pass
48	5240	6	-2.280	17	Pass

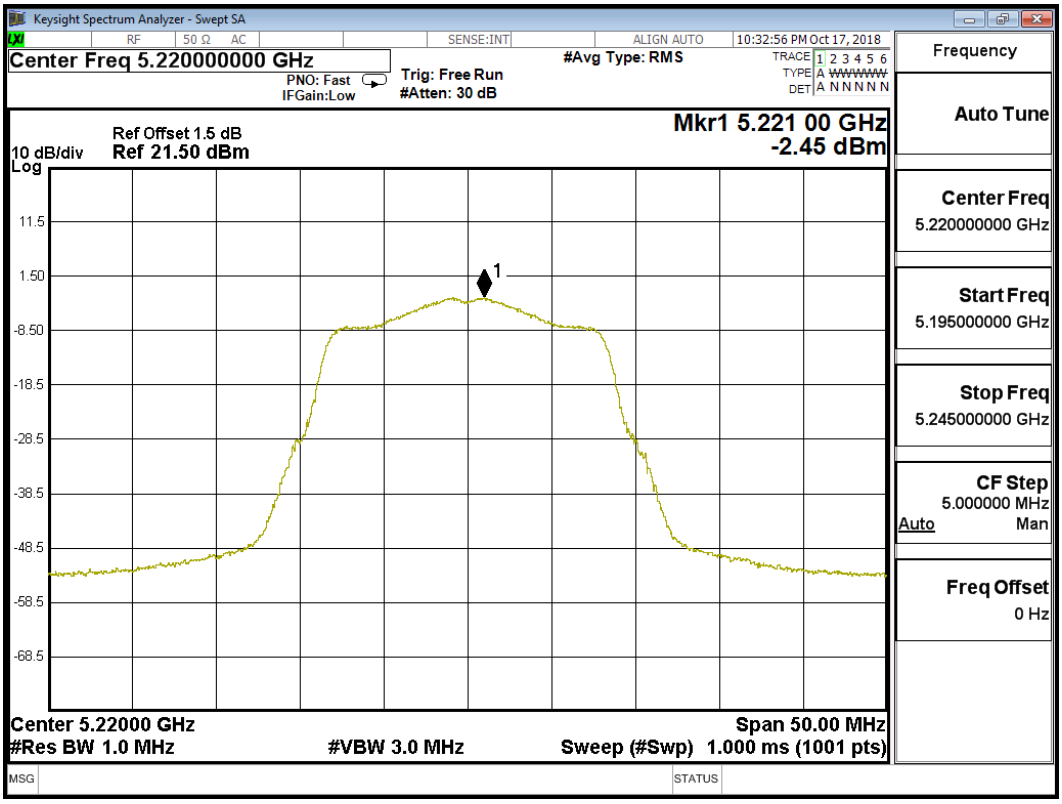
Channel Number	Frequency (MHz)	Data Rata (Mbps)	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
149	5745	6	-10.220	6.980	-3.240	<30	Pass
157	5785	6	-11.060	6.980	-4.080	<30	Pass
165	5825	6	-11.990	6.980	-5.010	<30	Pass

Note: Total PPSD Value = PPSD value + BWCF.

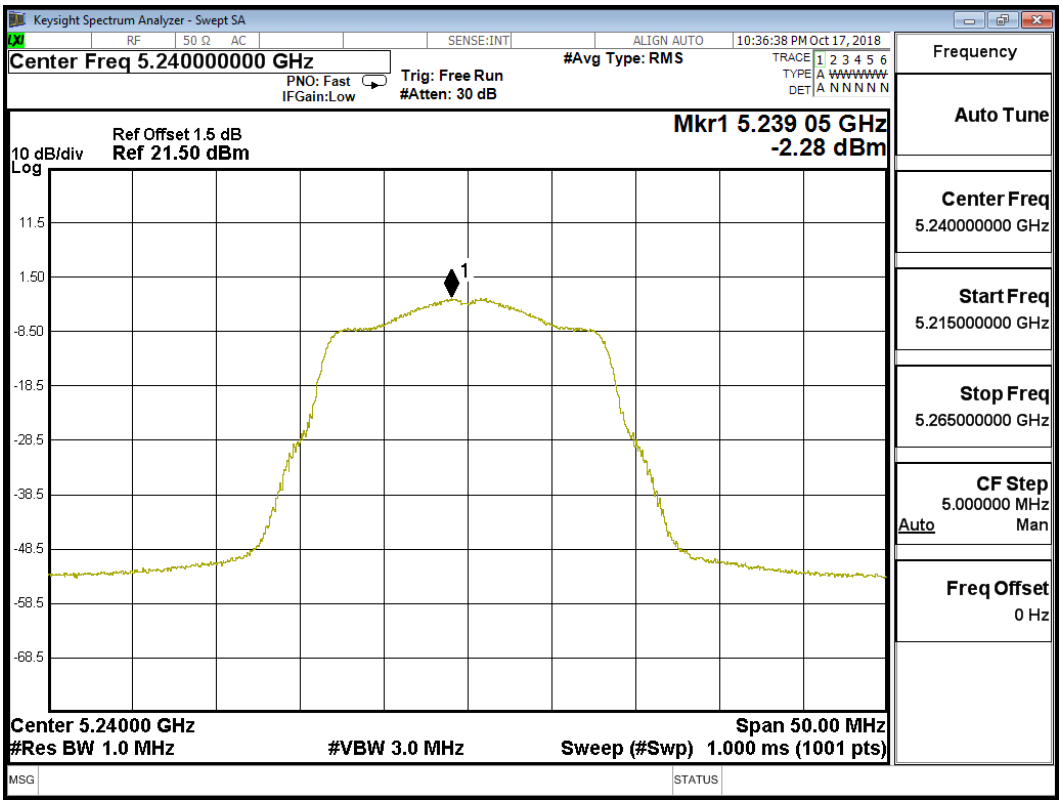
Channel 36:



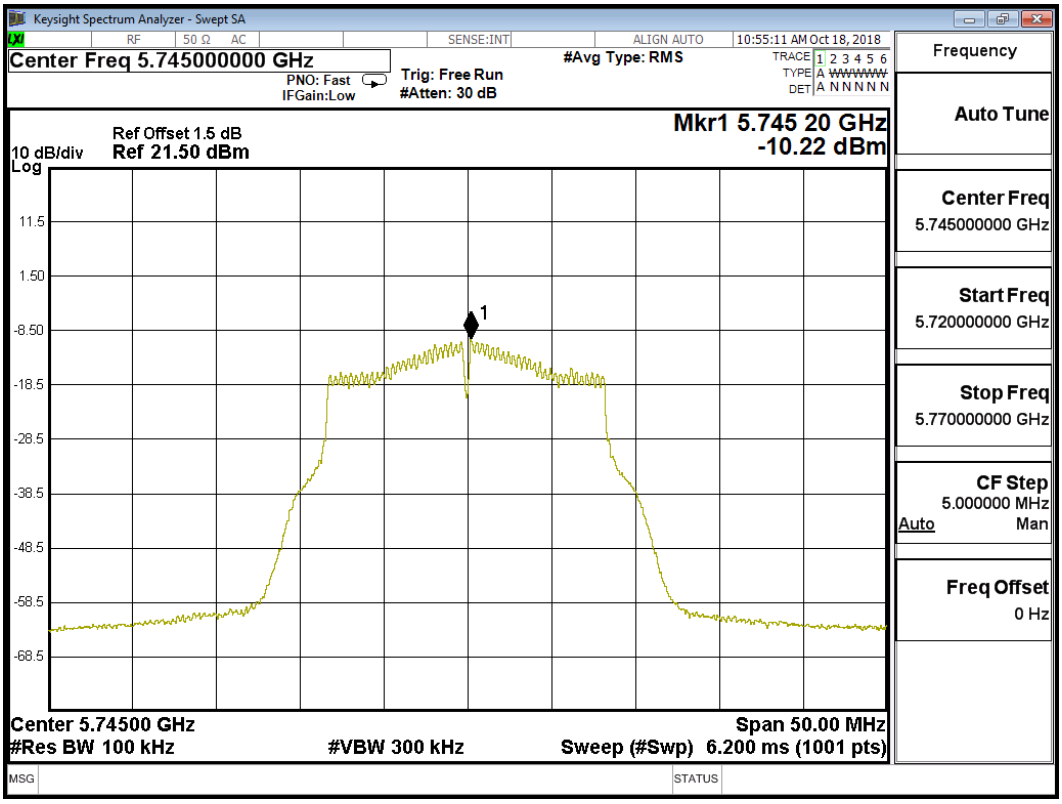
Channel 44:



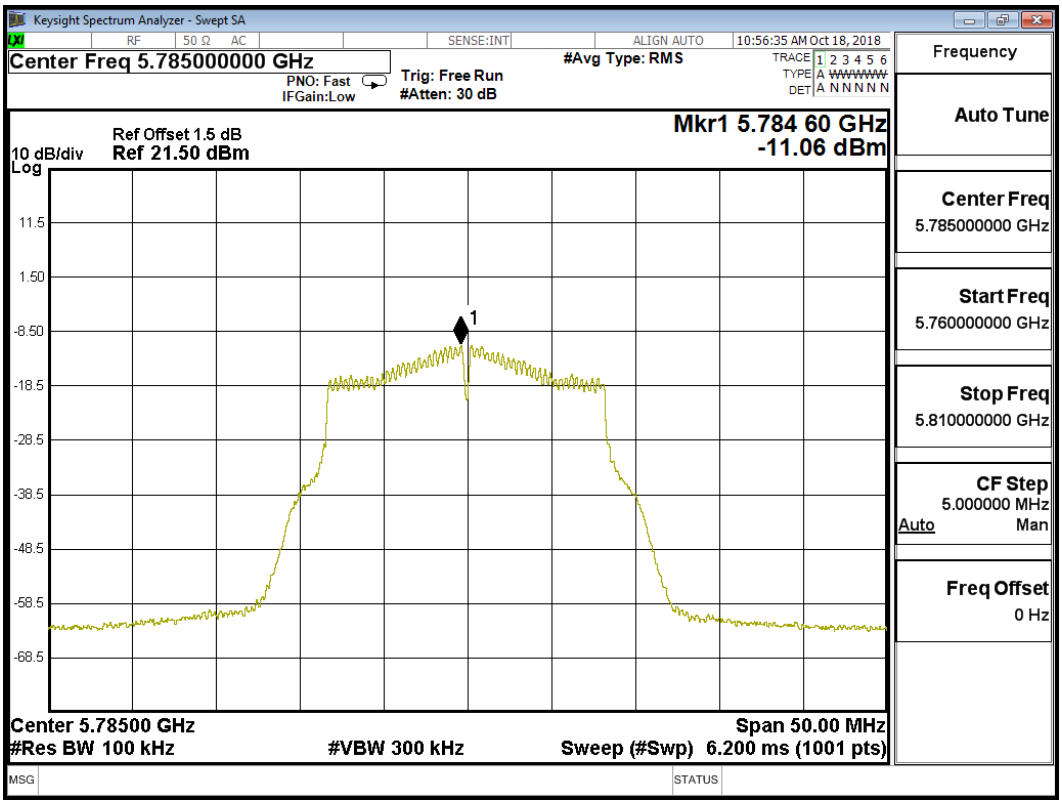
Channel 48:



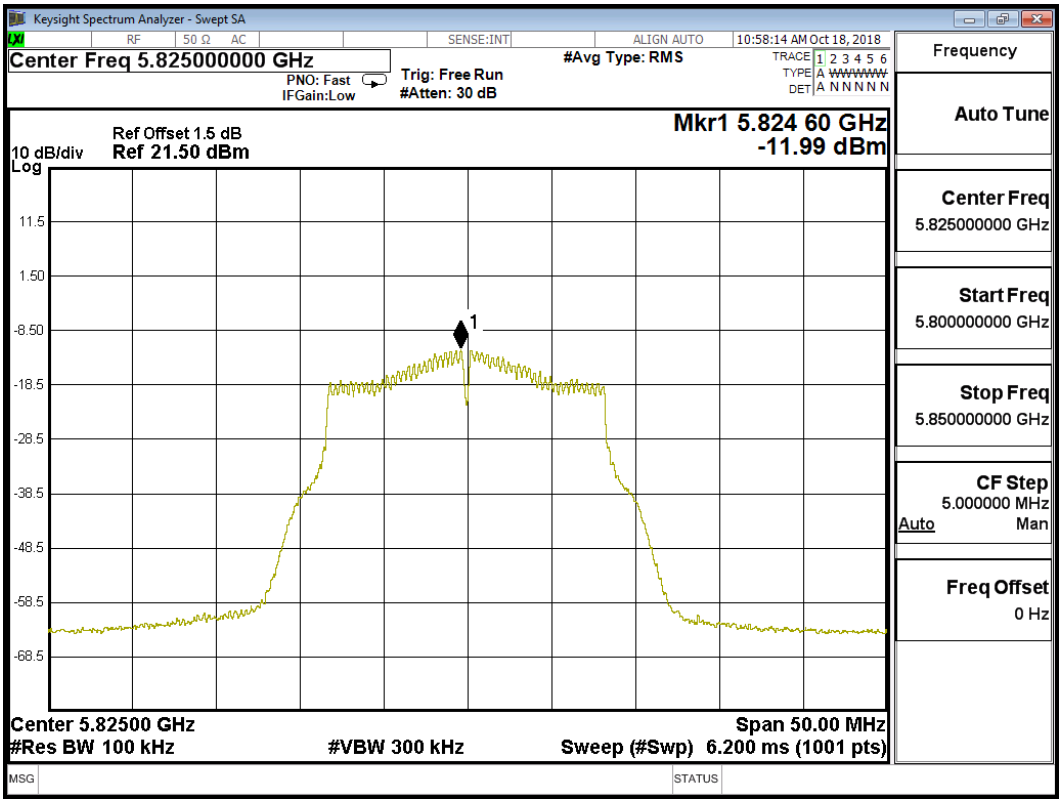
Channel 149



Channel 157



Channel 165



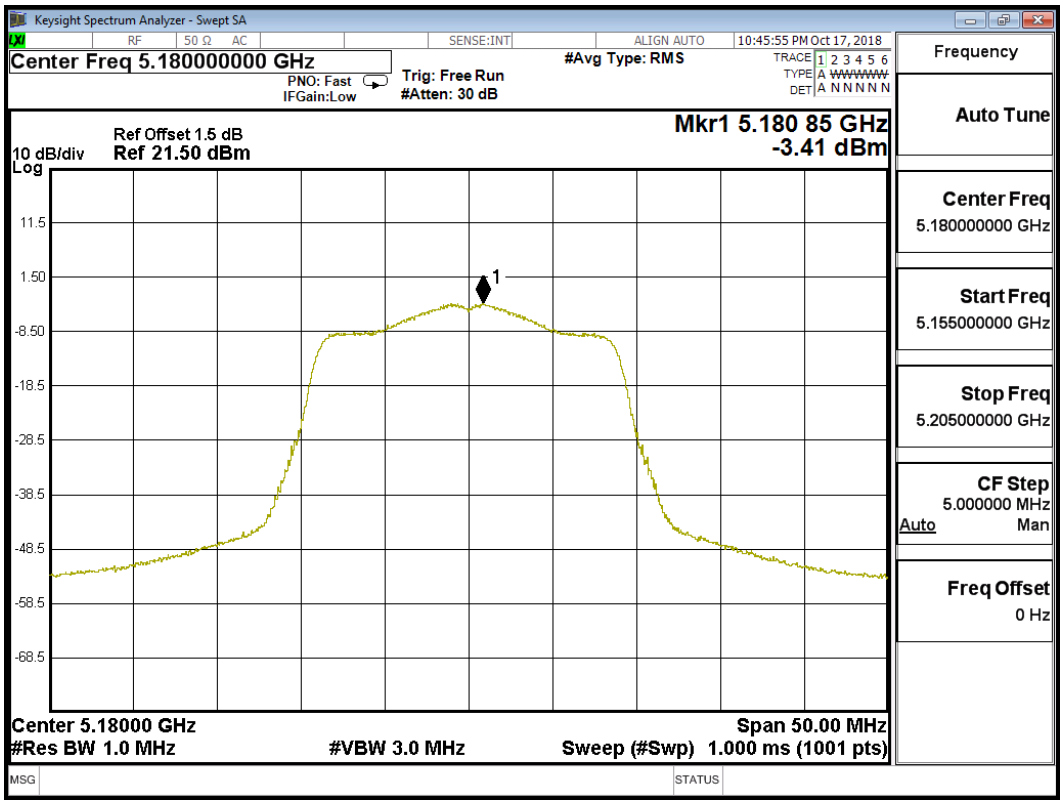
Product : 360 CAM(WIFI+Bluetooth)
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps)

Channel Number	Frequency (MHz)	Data Rata (Mbps)	Measurement Level (dBm)	Required Limit (dBm)	Result
36	5180	HT0	-3.410	17	Pass
44	5220	HT0	-3.210	17	Pass
48	5240	HT0	-2.770	17	Pass

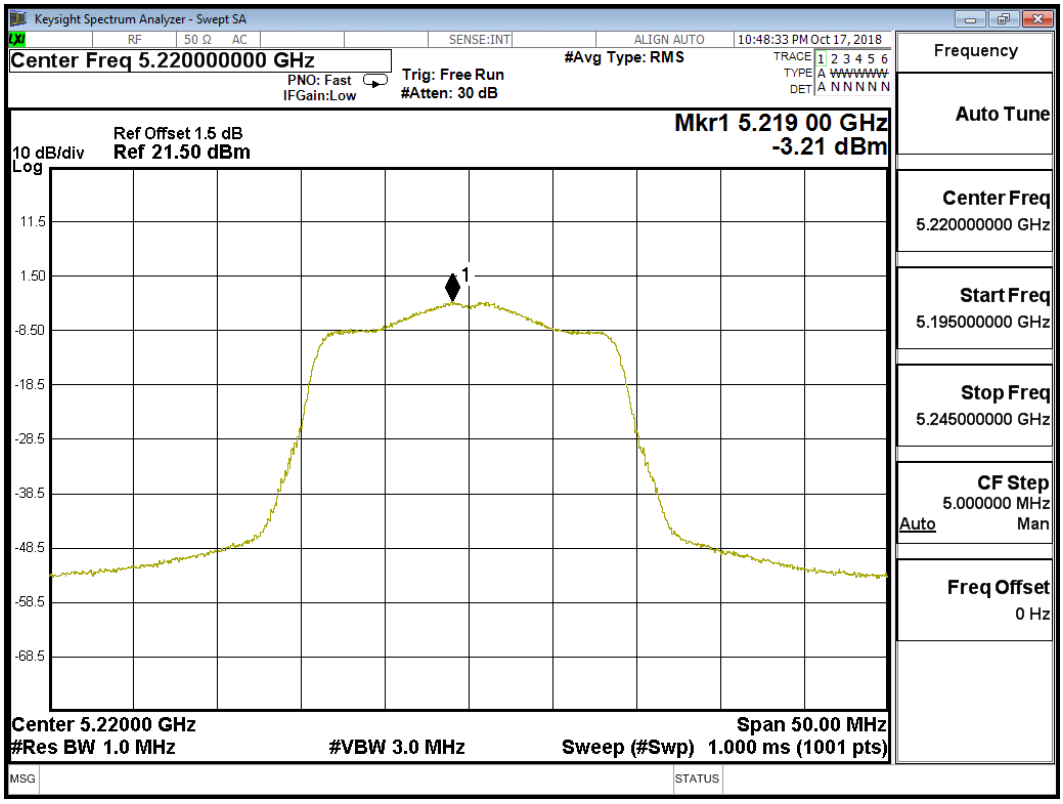
Channel Number	Frequency (MHz)	Data Rata (Mbps)	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
149	5745	HT0	-10.580	6.980	-3.600	<30	Pass
157	5785	HT0	-11.160	6.980	-4.180	<30	Pass
165	5825	HT0	-12.100	6.980	-5.120	<30	Pass

Note: Total PPSD Value = PPSD value + BWCF.

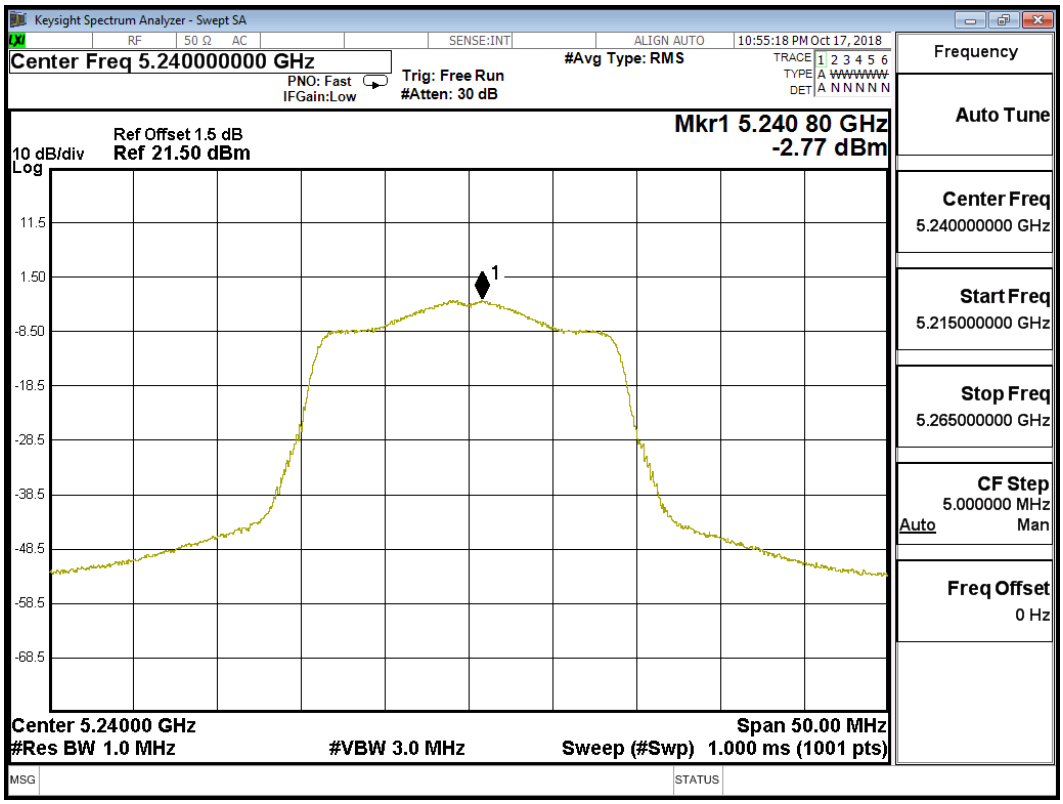
Channel 36



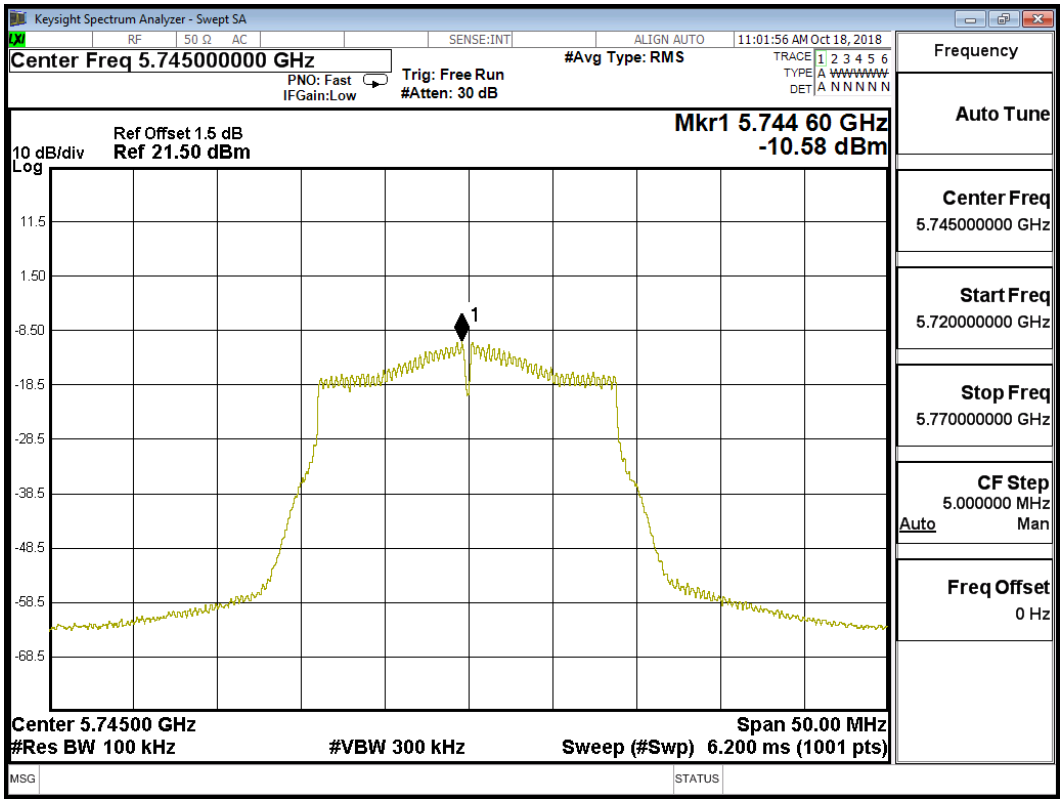
Channel 44



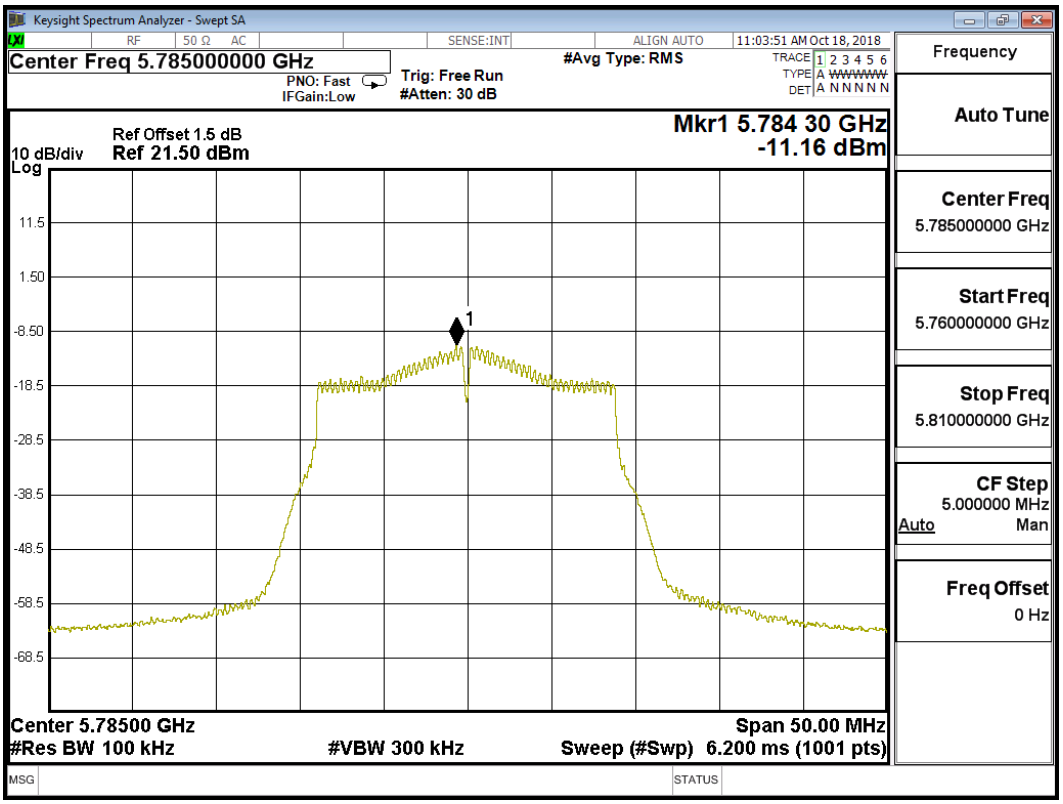
Channel 48



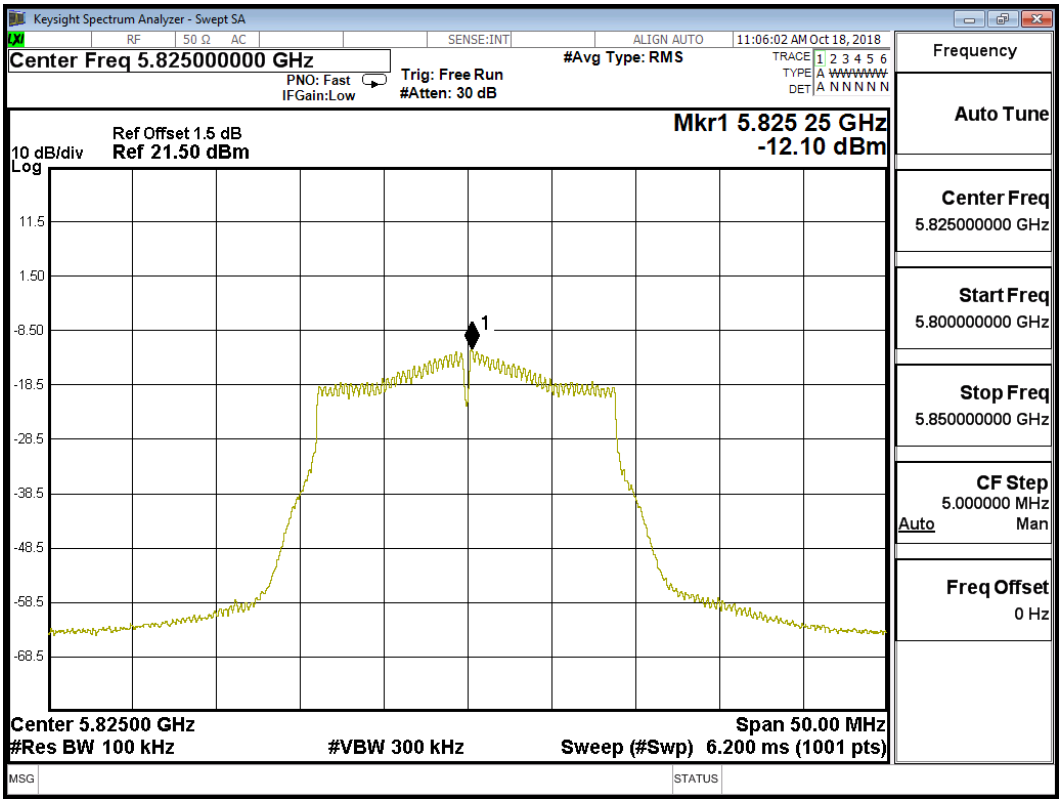
.Channel 149



Channel 157



Channel 165



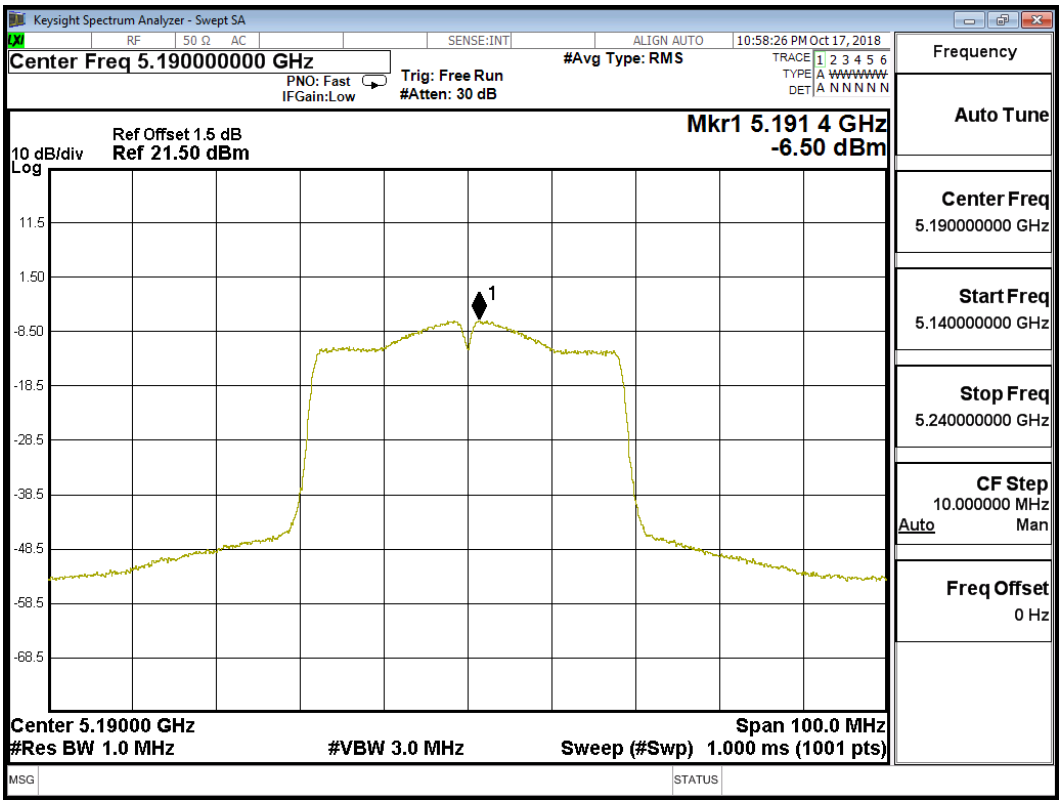
Product : 360 CAM(WIFI+Bluetooth)
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps)

Channel Number	Frequency (MHz)	Data Rata (Mbps)	Measurement Level (dBm)	Required Limit (dBm)	Result
38	5190	6	-6.500	17	Pass
46	5230	6	-6.160	17	Pass

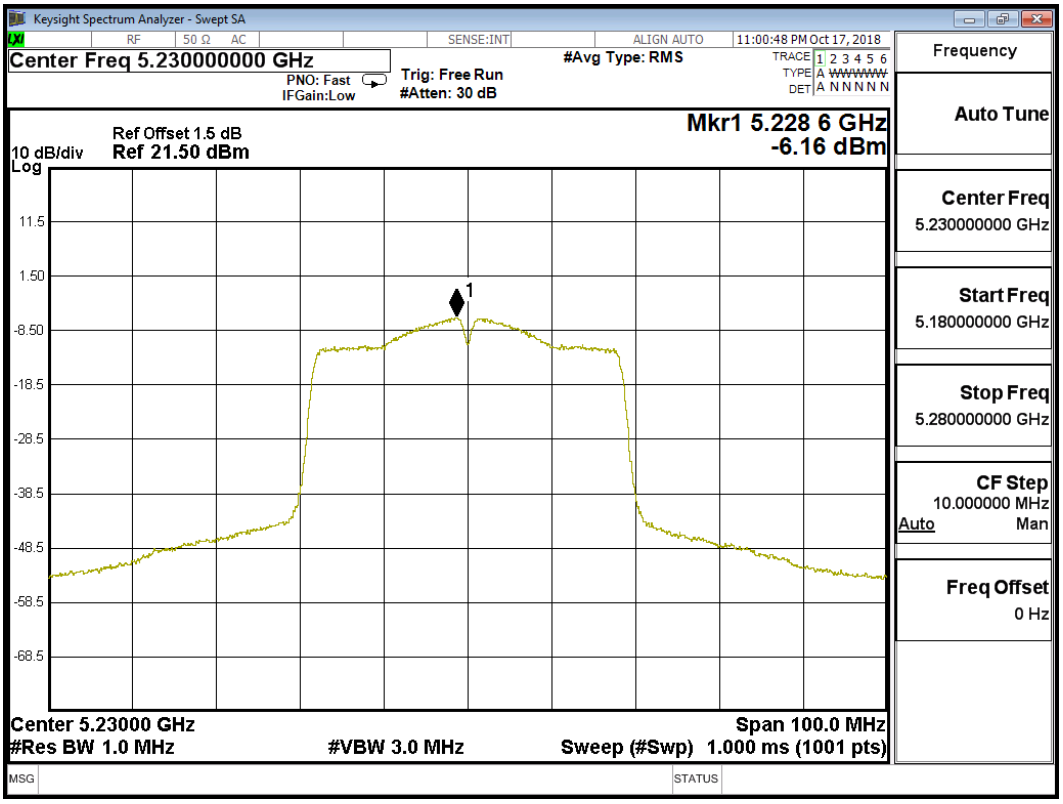
Channel Number	Frequency (MHz)	Data Rata (Mbps)	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
151	5755	HT0	-13.610	6.980	-6.630	<30	Pass
159	5795	HT0	-14.890	6.980	-7.910	<30	Pass

Note: Total PPSD Value = PPSD value + BWCF.

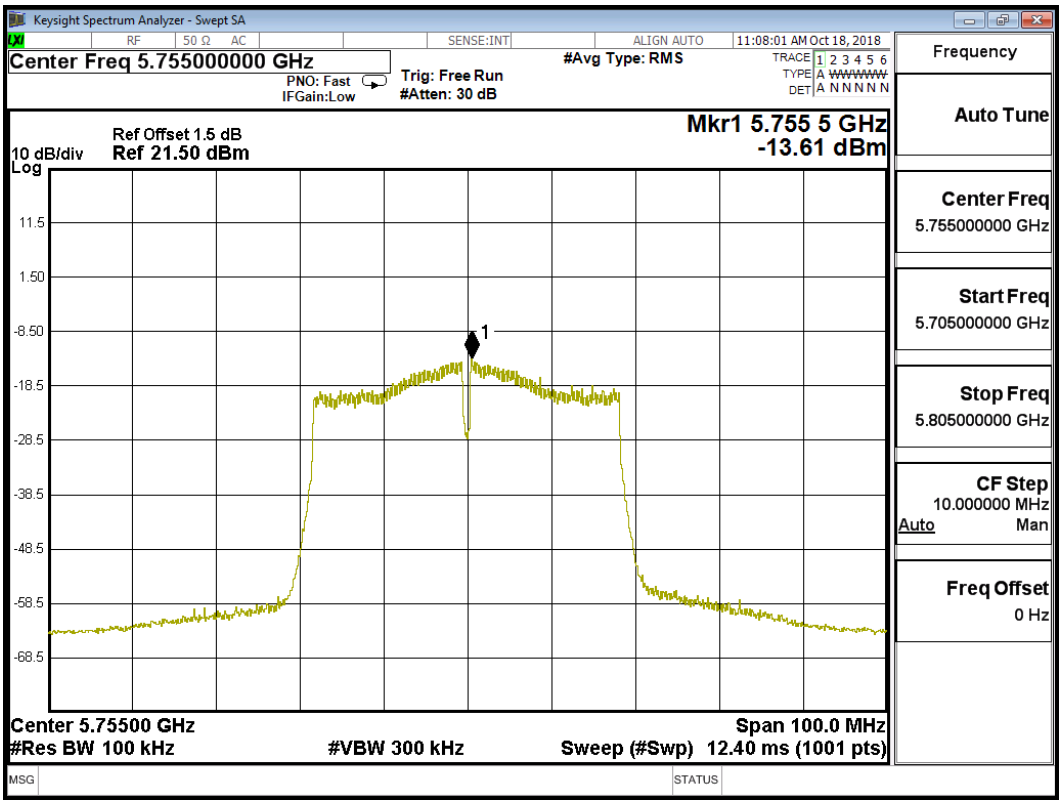
Channel 38



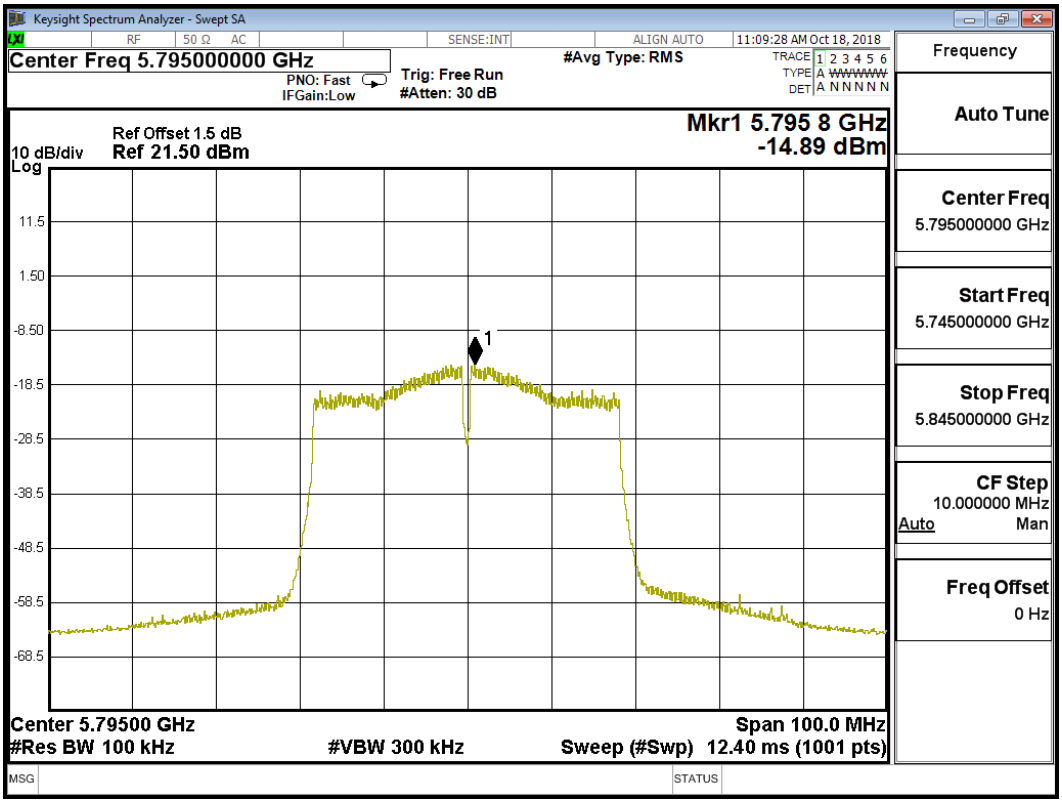
Channel 46



Channel 151



Channel 159

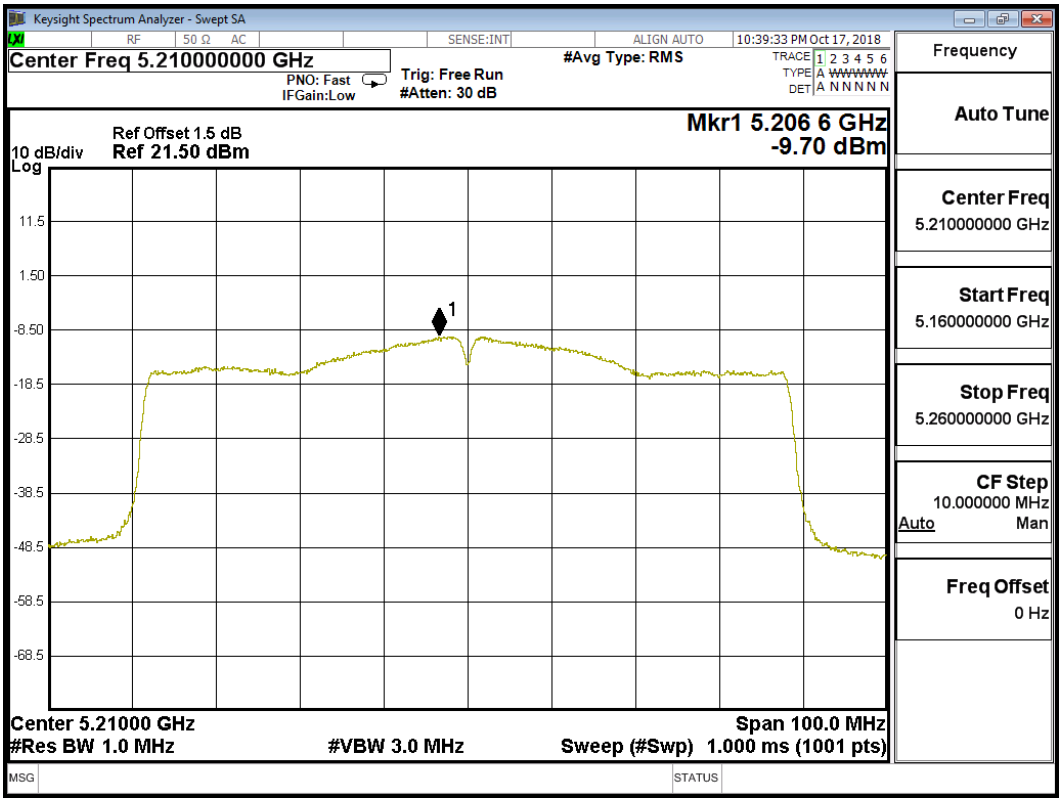


Product : 360 CAM(WIFI+Bluetooth)
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps)

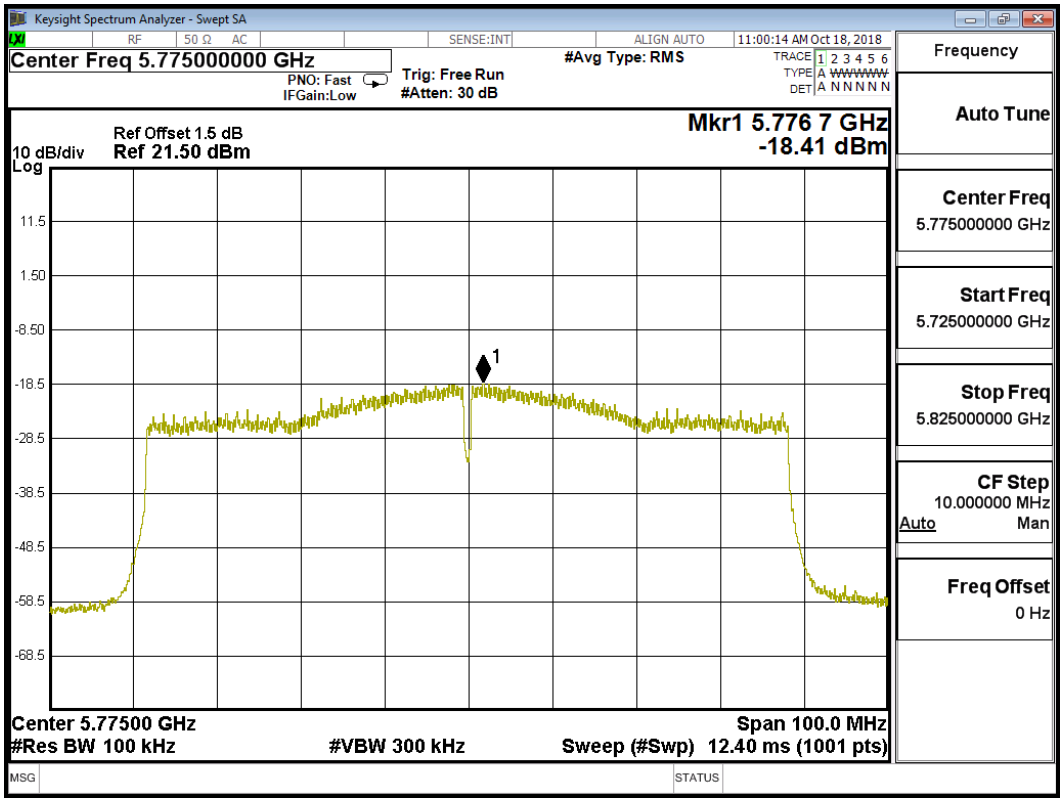
Channel Number	Frequency (MHz)	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)	Result
42	5210	-9.700	--	-9.700	<11
155	5775	-18.410	6.98	-11.430	<30

Note: Total PPSD Value = PPSD value + BWCF

Channel 42



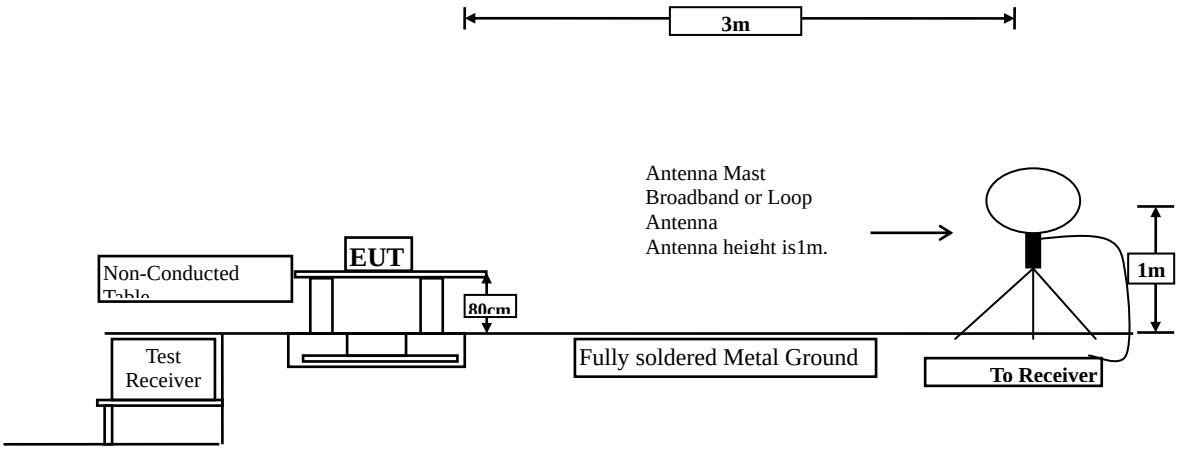
Channel 155



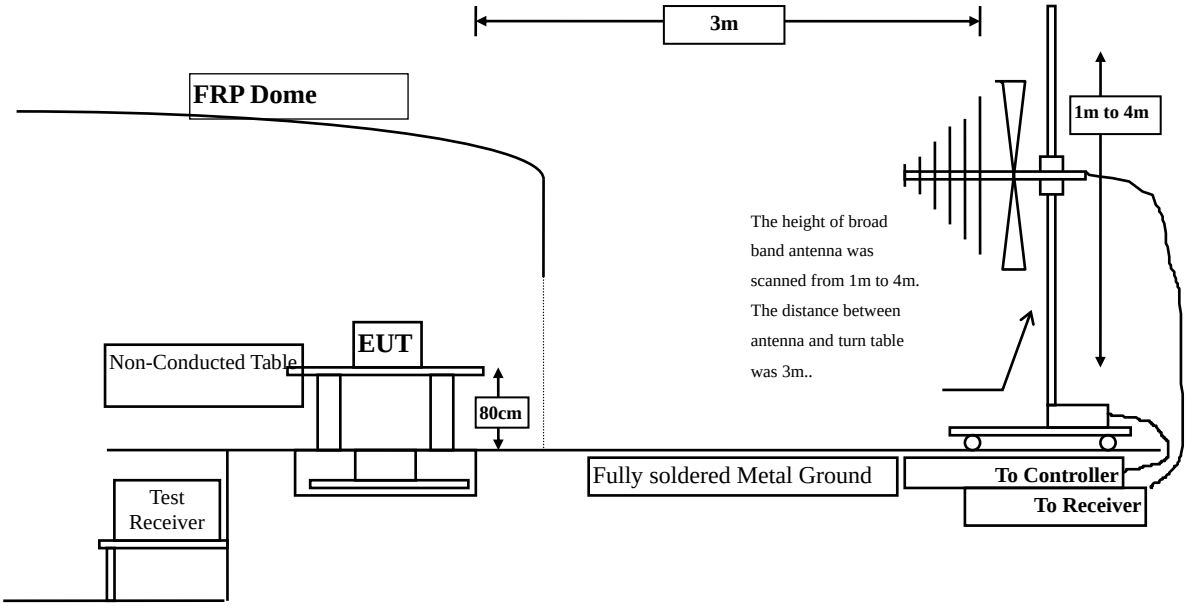
5. Radiated Emission

5.1. Test Setup

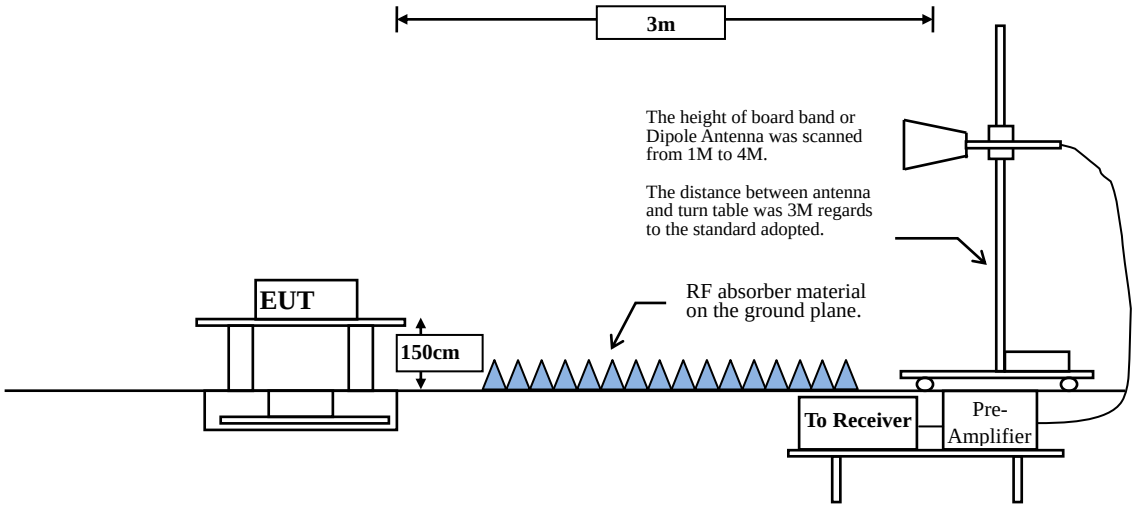
Radiated Emission Under 30MHz



Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



5.2. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209(a) Limits		
Frequency MHz	Field strength (microvolts/meter)	Measurement distance (meter)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remarks: E field strength (dBμV/m) = 20 log E field strength (uV/m)

5.3. Test Procedure

The EUT was setup according to ANSI C63.10, 2013 and tested according to FCC KDB-789033 test procedure for compliance to FCC 47CFR 15. 407 requirements.

Measuring the frequency range below 1GHz, the EUT is placed on a turn table which is 0.8 meter above ground,when measuring the frequency range above 1GHz, the EUT is placed on a turn table which is 1.5 meter above ground.

The turn table is rotated 360 degrees to determine the position of the maximum emission level.

The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10: 2013 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz.

Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

The worst radiated emission is measured in the Open Area Test Site on the Final Measurement.

The measurement frequency range form 9kHz - 10th Harmonic of fundamental was investigated.

RBW and VBW Parameter setting:

According to KDB 789033 section II.G.5 Procedure for Unwanted Maximum Emissions Measurements above 1000 MHz.

RBW = 1MHz.

VBW ≥ 3MHz.

According to KDB 789033 section II.G.6 Procedures for Average Unwanted Emissions Measurements above 1000 MHz.

RBW = 1MHz.

VBW = 10Hz, when duty cycle ≥ 98 %

VBW ≥ 1/T, when duty cycle < 98 %

(T refers to the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.)

5GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11a	93.03	1.3928	718	1000
802.11n20	92.56	1.2986	770	1000
802.11n40	81.47	0.6116	1635	2000
802.11ac80	68.71	0.2928	3416	5000

Note: Duty Cycle Refer to Section 8

5.4. Uncertainty

± 4.08 dB above 1GHz

± 4.22 dB below 1GHz

5.5. Test Result of Radiated Emission

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/10/17
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5180MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10360.000	10.540	37.541	48.081	-25.919	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10360.000	12.044	37.315	49.358	-24.642	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/10/17
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5220MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10440.000	9.649	38.063	47.711	-26.289	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10440.000	11.429	37.658	49.086	-24.914	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*

Note:
1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/10/17
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5240MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10480.000	10.166	38.153	48.319	-25.681	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
Average					
Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10480.000	12.101	37.750	49.851	-24.149	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
Average					
Detector:					
*	*	*	*	*	*

Note:
1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/10/17
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5745MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
11490.000	14.326	36.139	50.464	-23.536	74.000
17235.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical Peak Detector:					
11490.000	15.842	36.446	52.287	-21.713	74.000
17235.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/10/17
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5785MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11570.000	14.849	36.206	51.055	-22.945	74.000
17355.000	*	*	*	*	74.000
20800.000	*	*	*	*	74.000
26000.000	*	*	*	*	74.000
31200.000	*	*	*	*	74.000
36400.000	*	*	*	*	74.000
Average					
Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11570.000	16.215	35.868	52.082	-21.918	74.000
17355.000	*	*	*	*	74.000
20800.000	*	*	*	*	74.000
26000.000	*	*	*	*	74.000
31200.000	*	*	*	*	74.000
36400.000	*	*	*	*	74.000
Average					
Detector:					
*	*	*	*	*	*

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/10/17
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5825MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
11650.000	13.179	36.943	50.122	-23.878	74.000
17475.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical Peak Detector:					
11650.000	14.634	36.269	50.903	-23.097	74.000
17475.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/10/17
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5180MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10360.000	10.540	36.878	47.418	-26.582	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10360.000	12.044	36.682	48.725	-25.275	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/10/17
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5220MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10440.000	9.649	37.790	47.438	-26.562	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10440.000	11.429	37.791	49.219	-24.781	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/10/17
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5240MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10480.000	10.166	37.799	47.965	-26.035	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10480.000	12.101	37.479	49.580	-24.420	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*

Note:
1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/10/17
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5745MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11490.000	14.326	36.596	50.921	-23.079	74.000
17235.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11490.000	15.842	36.497	52.338	-21.662	74.000
17235.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/10/17
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5785MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11570.000	14.849	36.233	51.082	-22.918	74.000
17355.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
31320.000	*	*	*	*	74.000
36540.000	*	*	*	*	74.000
Average					
Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11570.000	16.215	35.975	52.189	-21.811	74.000
17355.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
31320.000	*	*	*	*	74.000
36540.000	*	*	*	*	74.000
Average					
Detector:					
*	*	*	*	*	*

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	:	360 CAM(WIFI+Bluetooth)
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2018/10/17
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5825MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11650.000	13.179	37.027	50.206	-23.794	74.000
17475.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440.000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11650.000	14.634	36.279	50.913	-23.087	74.000
17475.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440.000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/10/17
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5190MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10380.000	10.164	36.738	46.902	-27.098	74.000
15570.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10380.000	11.729	37.097	48.827	-25.173	74.000
15570.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/10/17
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5230MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10460.000	9.786	37.687	47.473	-26.527	74.000
15690.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10460.000	11.644	37.399	49.043	-24.957	74.000
15690.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*

Note:
1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/10/17
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5755MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
11510.000	14.402	36.750	51.152	-22.848	74.000
17265.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
31140.000	*	*	*	*	74.000
36330.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical Peak Detector:					
11510.000	15.894	36.301	52.195	-21.805	74.000
17265.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
31140.000	*	*	*	*	74.000
36330.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	:	360 CAM(WIFI+Bluetooth)
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Date	:	2018/10/17
Test Mode	:	Mode 3: Transmit (802.11n-40BW 15Mbps) (5795MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11590.000	15.138	36.331	51.469	-22.531	74.000
17385.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
31380.000	*	*	*	*	74.000
36610.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11590.000	16.461	36.154	52.615	-21.385	74.000
17385.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
31380.000	*	*	*	*	74.000
36610.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/10/17
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps) (5210MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
10420.000	9.711	37.363	47.075	-26.925	74.000
11550.000	*	*	*	*	74.000
17325.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average					
Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10420.000	11.415	37.621	49.036	-24.964	74.000
11550.000	*	*	*	*	74.000
17325.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average					
Detector:					
*	*	*	*	*	*

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Date : 2018/10/17
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps) (5775MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
11550.000	14.599	36.546	51.145	-22.855	74.000
17325.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical Peak Detector:					
11550.000	16.007	36.644	52.651	-21.349	74.000
17325.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/12/19
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5220MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
173.560	-13.726	44.039	30.313	-13.187	43.500
294.810	-8.432	39.901	31.469	-14.531	46.000
366.590	-5.852	44.387	38.535	-7.465	46.000
494.630	-2.876	39.196	36.320	-9.680	46.000
719.670	1.425	31.953	33.378	-12.622	46.000
833.160	3.681	29.447	33.128	-12.872	46.000
Vertical					
Peak Detector					
179.380	-13.694	48.909	35.215	-8.285	43.500
375.320	-5.530	34.484	28.954	-17.046	46.000
598.420	-0.449	30.847	30.398	-15.602	46.000
719.670	1.425	27.945	29.370	-16.630	46.000
833.160	3.681	27.841	31.522	-14.478	46.000
935.980	5.646	24.994	30.640	-15.360	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.
6. No emission found between lowest internal used/generated frequency to 30MHz.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/12/19
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5785MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
176.470	-13.705	44.193	30.488	-13.012	43.500
368.530	-5.784	44.050	38.266	-7.734	46.000
492.690	-2.917	38.297	35.380	-10.620	46.000
719.670	1.425	31.362	32.787	-13.213	46.000
833.160	3.681	28.751	32.432	-13.568	46.000
935.980	5.646	24.086	29.732	-16.268	46.000
Vertical					
Peak Detector					
179.380	-13.694	48.614	34.920	-8.580	43.500
370.470	-5.706	36.210	30.504	-15.496	46.000
499.480	-2.758	30.783	28.025	-17.975	46.000
719.670	1.425	27.722	29.147	-16.853	46.000
833.160	3.681	28.900	32.581	-13.419	46.000
935.980	5.646	26.868	32.514	-13.486	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.
6. No emission found between lowest internal used/generated frequency to 30MHz.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/12/19
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5220MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
177.440	-13.704	45.654	31.950	-11.550	43.500
253.100	-9.218	41.690	32.472	-13.528	46.000
366.590	-5.852	45.121	39.269	-6.731	46.000
492.690	-2.917	38.018	35.101	-10.899	46.000
719.670	1.425	33.316	34.741	-11.259	46.000
833.160	3.681	28.733	32.414	-13.586	46.000
Vertical					
Peak Detector					
179.380	-13.694	48.000	34.306	-9.194	43.500
365.620	-5.891	37.791	31.900	-14.100	46.000
499.480	-2.758	31.057	28.299	-17.701	46.000
597.450	-0.471	30.595	30.124	-15.876	46.000
800.180	2.853	29.266	32.119	-13.881	46.000
935.980	5.646	26.492	32.138	-13.862	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.
6. No emission found between lowest internal used/generated frequency to 30MHz.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/12/19
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5785MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
175.500	-13.715	46.571	32.856	-10.644	43.500
352.040	-6.399	45.293	38.894	-7.106	46.000
492.690	-2.917	37.070	34.153	-11.847	46.000
719.670	1.425	36.625	38.050	-7.950	46.000
833.160	3.681	29.710	33.391	-12.609	46.000
935.980	5.646	24.483	30.129	-15.871	46.000
Vertical					
Peak Detector					
179.380	-13.694	48.380	34.686	-8.814	43.500
374.350	-5.560	34.498	28.938	-17.062	46.000
499.480	-2.758	31.496	28.738	-17.262	46.000
598.420	-0.449	34.521	34.072	-11.928	46.000
833.160	3.681	28.205	31.886	-14.114	46.000
935.980	5.646	27.333	32.979	-13.021	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.
6. No emission found between lowest internal used/generated frequency to 30MHz.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/12/19
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5230MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
174.530	-13.715	44.218	30.503	-12.997	43.500
370.470	-5.706	44.394	38.688	-7.312	46.000
494.630	-2.876	38.601	35.725	-10.275	46.000
599.390	-0.417	30.620	30.203	-15.797	46.000
719.670	1.425	30.368	31.793	-14.207	46.000
833.160	3.681	28.166	31.847	-14.153	46.000
Vertical					
Peak Detector					
179.380	-13.694	48.447	34.753	-8.747	43.500
375.320	-5.530	37.733	32.203	-13.797	46.000
499.480	-2.758	31.737	28.979	-17.021	46.000
597.450	-0.471	30.997	30.526	-15.474	46.000
719.670	1.425	28.004	29.429	-16.571	46.000
833.160	3.681	29.078	32.759	-13.241	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.
6. No emission found between lowest internal used/generated frequency to 30MHz.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/12/19
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5755MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
176.470	-13.705	44.071	30.366	-13.134	43.500
291.900	-8.491	39.027	30.536	-15.464	46.000
363.680	-5.960	43.910	37.950	-8.050	46.000
494.630	-2.876	38.198	35.322	-10.678	46.000
719.670	1.425	33.711	35.136	-10.864	46.000
833.160	3.681	28.366	32.047	-13.953	46.000
Vertical					
Peak Detector					
177.440	-13.704	49.246	35.542	-7.958	43.500
373.380	-5.599	36.144	30.545	-15.455	46.000
499.480	-2.758	32.388	29.630	-16.370	46.000
601.330	-0.379	30.969	30.590	-15.410	46.000
719.670	1.425	28.854	30.279	-15.721	46.000
833.160	3.681	29.001	32.682	-13.318	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.
6. No emission found between lowest internal used/generated frequency to 30MHz.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/12/19
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps) (5210MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
174.530	-13.715	45.543	31.828	-11.672	43.500
376.290	-5.491	45.054	39.563	-6.437	46.000
492.690	-2.917	37.967	35.050	-10.950	46.000
719.670	1.425	34.399	35.824	-10.176	46.000
833.160	3.681	27.630	31.311	-14.689	46.000
935.980	5.646	25.544	31.190	-14.810	46.000
Vertical					
Peak Detector					
178.410	-13.704	48.312	34.608	-8.892	43.500
375.320	-5.530	37.680	32.150	-13.850	46.000
499.480	-2.758	30.273	27.515	-18.485	46.000
597.450	-0.471	28.894	28.423	-17.577	46.000
719.670	1.425	28.767	30.192	-15.808	46.000
833.160	3.681	28.807	32.488	-13.512	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.
6. No emission found between lowest internal used/generated frequency to 30MHz.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/12/19
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps) (5775MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector					
177.440	-13.704	46.756	33.052	-10.448	43.500
282.200	-8.766	37.982	29.216	-16.784	46.000
370.470	-5.706	45.408	39.702	-6.298	46.000
494.630	-2.876	37.064	34.188	-11.812	46.000
719.670	1.425	32.317	33.742	-12.258	46.000
833.160	3.681	28.207	31.888	-14.112	46.000
Vertical					
Peak Detector					
177.440	-13.704	49.097	35.393	-8.107	43.500
371.440	-5.677	36.531	30.854	-15.146	46.000
499.480	-2.758	31.501	28.743	-17.257	46.000
719.670	1.425	27.715	29.140	-16.860	46.000
833.160	3.681	28.259	31.940	-14.060	46.000
935.980	5.646	26.979	32.625	-13.375	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.
6. No emission found between lowest internal used/generated frequency to 30MHz.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Date : 2018/12/19
Test Mode : Mode 5: Charge mode

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
137.670	-11.980	39.374	27.394	-16.106	43.500
239.520	-10.448	44.030	33.582	-12.418	46.000
348.160	-6.535	42.733	36.198	-9.802	46.000
530.520	-2.013	33.952	31.939	-14.061	46.000
647.890	0.433	25.759	26.192	-19.808	46.000
815.700	3.241	27.316	30.557	-15.443	46.000
Vertical					
136.700	-11.932	40.454	28.522	-14.978	43.500
211.390	-12.234	45.420	33.186	-10.314	43.500
348.160	-6.535	45.743	39.208	-6.792	46.000
547.980	-1.578	28.256	26.678	-19.322	46.000
702.210	1.001	24.182	25.183	-20.817	46.000
860.320	4.221	22.771	26.992	-19.008	46.000

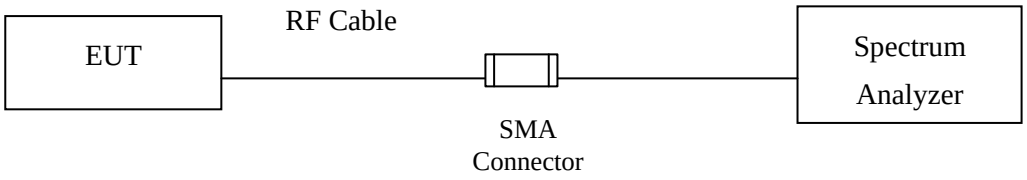
Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.
6. No emission found between lowest internal used/generated frequency to 30MHz.

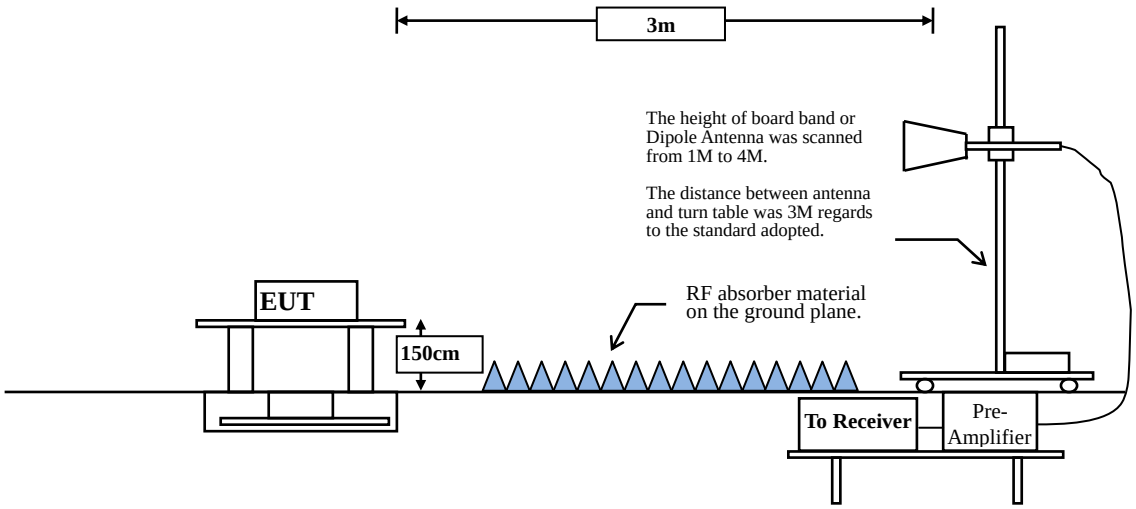
6. Band Edge

6.1. Test Setup

RF Conducted Measurement:



RF Radiated Measurement:



6.2. Limits

The provisions of Section 15.205 of this part apply to intentional radiators operating under this section.

Radiated emissions which fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209:

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	uV/m @3m	dBμV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Remarks : 1. RF Voltage (dBμV) = 20 log RF Voltage (uV)

2. In the Above Table, the tighter limit applies at the band edges.

3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

6.3. Test Procedure

The EUT is placed on a turn table which is 1.5 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10:2013 on radiated measurement.

The bandwidth below 1GHz setting on the field strength meter is 120 kHz, above 1GHz are 1 MHz.

The EUT was setup to ANSI C63.10, 2013; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

RBW and VBW Parameter setting:

According to KDB 789033 section II.G.5 Procedure for Unwanted Maximum Emissions Measurements above 1000 MHz.

RBW = 1MHz.

VBW ≥ 3MHz.

According to KDB 789033 section II.G.6 Procedures for Average Unwanted Emissions Measurements above 1000 MHz.

RBW = 1MHz.

VBW = 10Hz, when duty cycle ≥ 98 %

VBW ≥ 1/T, when duty cycle < 98 %

(T refers to the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.)

5GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11a	93.03	1.3928	718	1000
802.11n20	92.56	1.2986	770	1000
802.11n40	81.47	0.6116	1635	2000
802.11ac80	68.71	0.2928	3416	5000

Note: Duty Cycle Refer to Section 8

6.4. Uncertainty

± 4.08 dB above 1GHz

± 4.22 dB below 1GHz

6.5. Test Result of Band Edge

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Date : 2018/10/13
Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 36

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
36 (Peak)	5150.000	10.470	42.044	52.515	74.00	54.00	Pass
36 (Peak)	5179.130	10.396	81.868	92.264	--	--	--
36 (Average)	5150.000	10.470	25.140	35.611	74.00	54.00	Pass
36 (Average)	5179.130	10.396	75.474	85.870	--	--	--

Figure Channel 36: Horizontal (Peak)

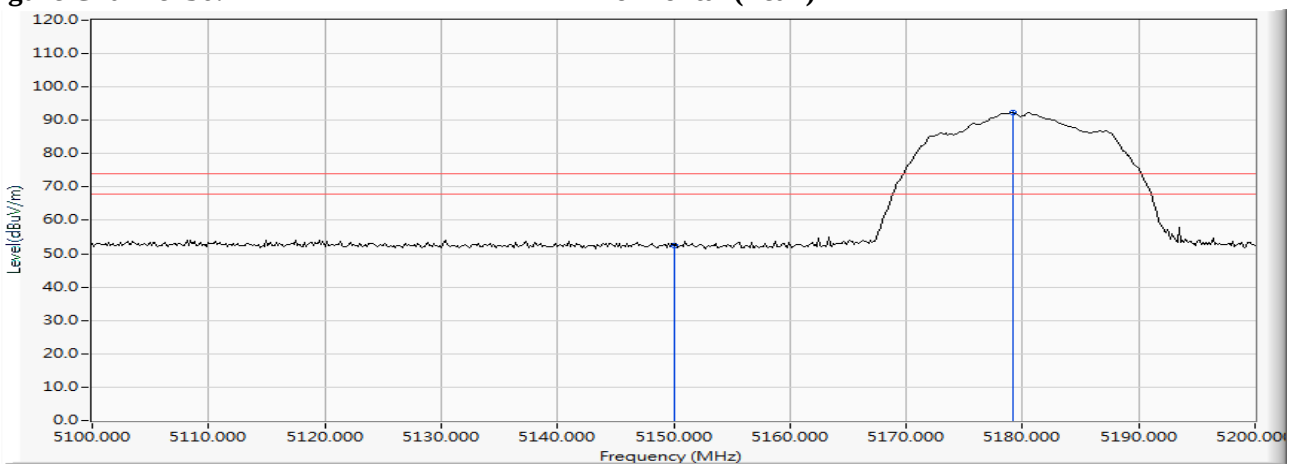
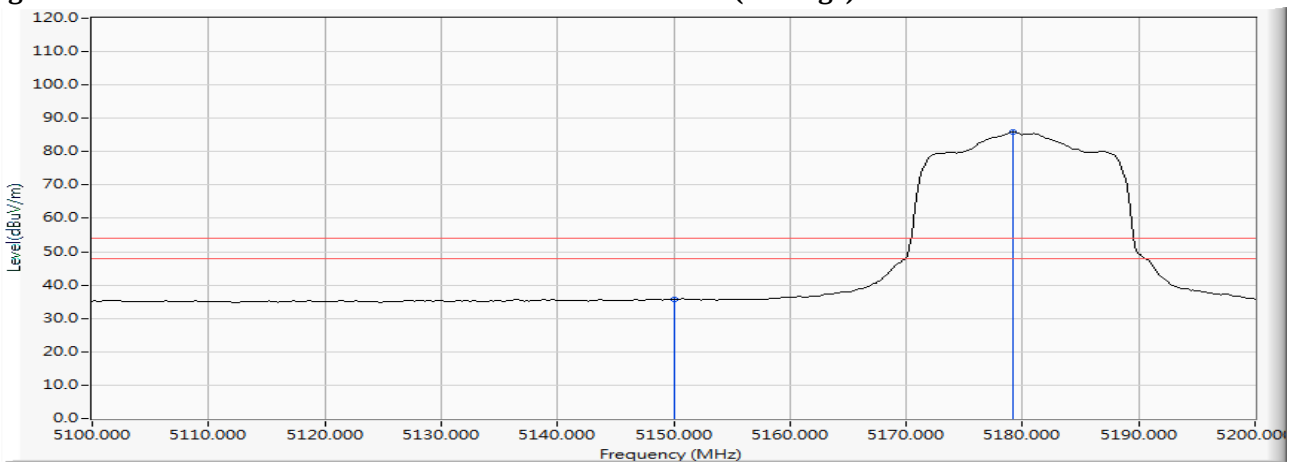


Figure Channel 36: Horizontal (Average)



Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	360 CAM(WIFI+Bluetooth)
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2018/10/13
Test Mode	:	Mode 1: Transmit (802.11a-6Mbps)-Channel 36

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
36 (Peak)	5150.000	12.390	41.499	53.889	74.00	54.00	Pass
36 (Peak)	5179.130	12.498	82.235	94.733	--	--	--
36 (Average)	5150.000	12.390	25.296	37.686	74.00	54.00	Pass
36 (Average)	5179.130	12.498	75.847	88.345	--	--	--

Figure Channel 36: Vertical (Peak)

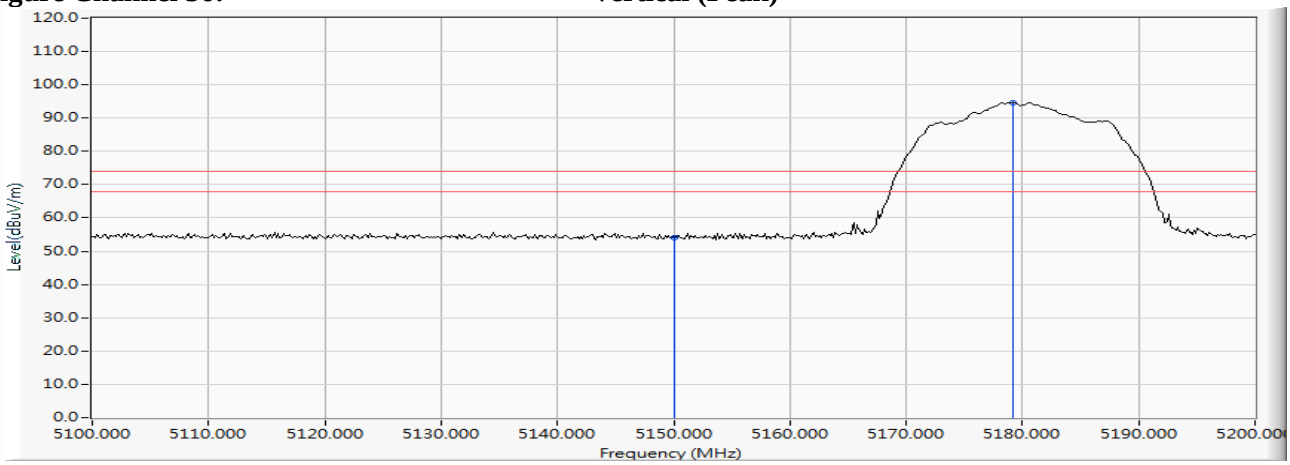
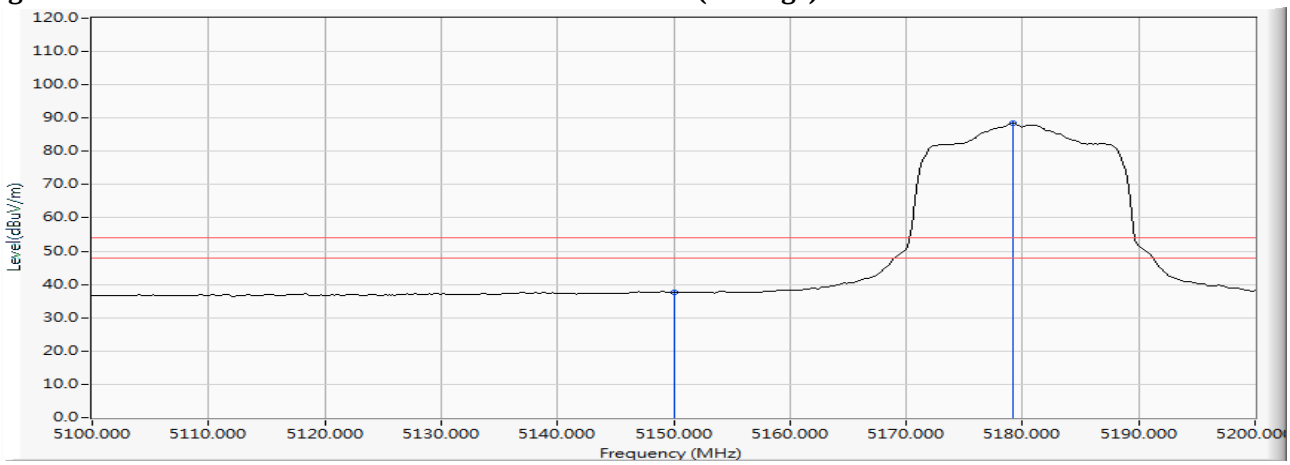


Figure Channel 36: Vertical (Average)

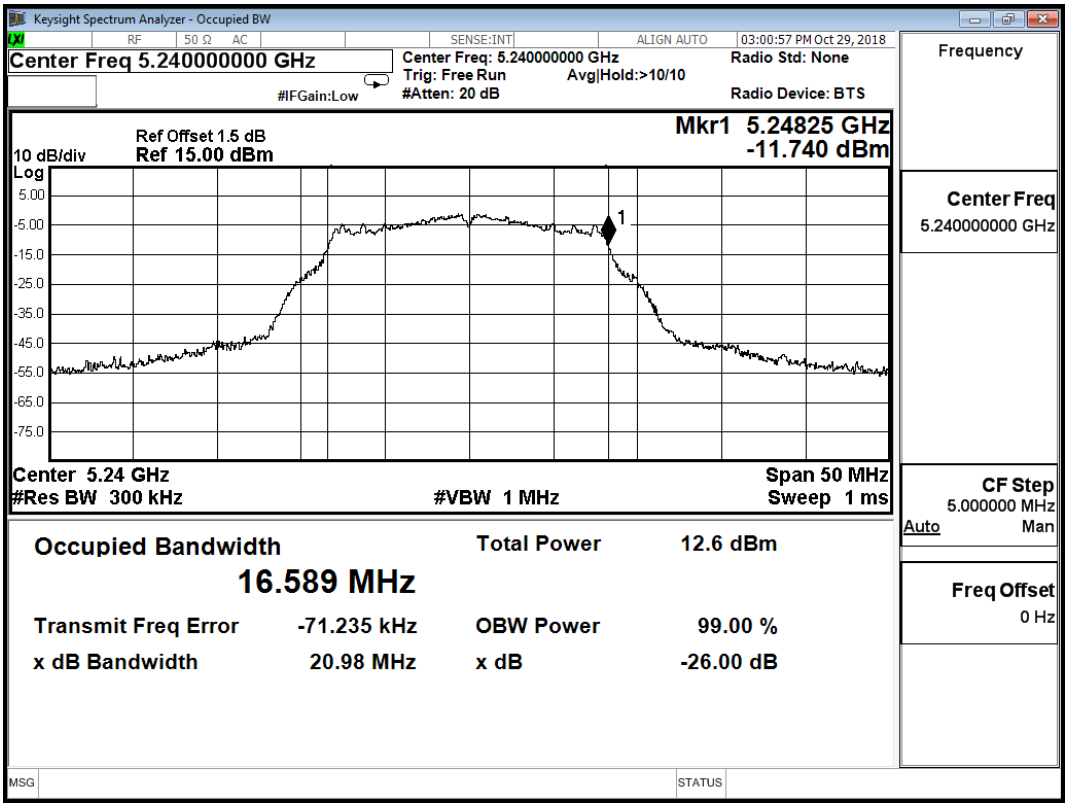


Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 48

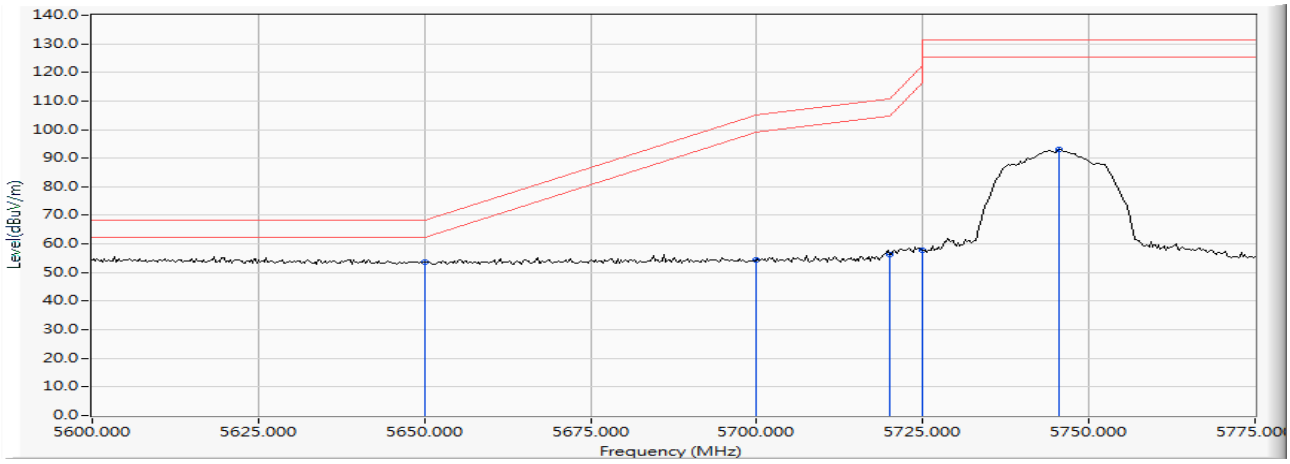
Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5240	5248.25	<5250	PASS

NOTE: Accordance with 15.215 requirement.

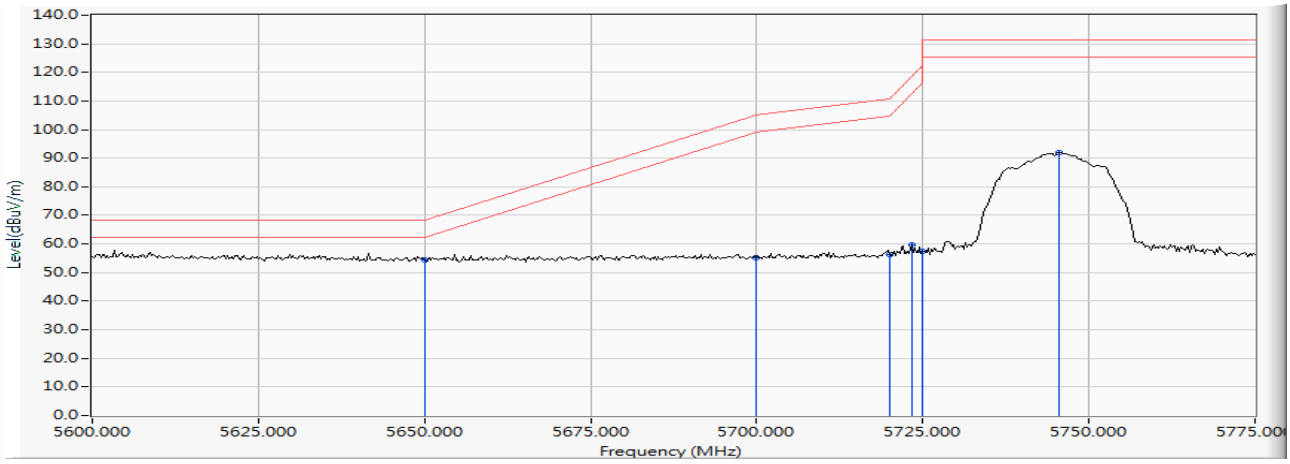


Product : 360 CAM(WIFI+Bluetooth)
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Date : 2018/10/13
Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 149

RF Radiated Measurement:



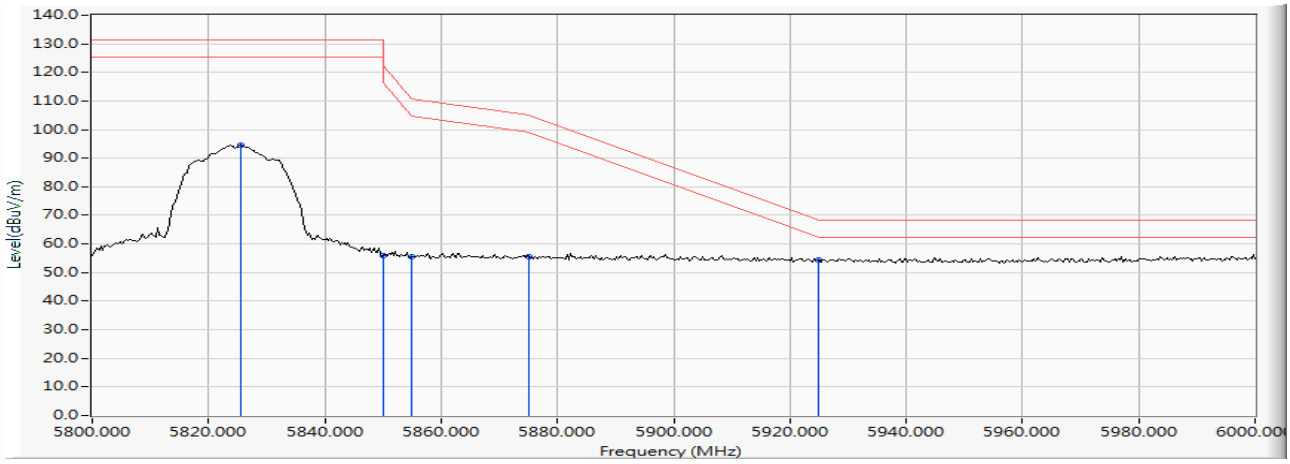
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5650.000	11.554	42.097	53.652	-14.568	68.220	Pass
Horizontal	5700.000	11.647	42.683	54.330	-50.870	105.200	Pass
Horizontal	5720.000	11.607	44.775	56.382	-54.418	110.800	Pass
Horizontal	5725.000	11.592	46.203	57.795	-64.405	122.200	Pass
Horizontal	5745.580	11.526	81.429	92.955	-38.245	131.200	Pass



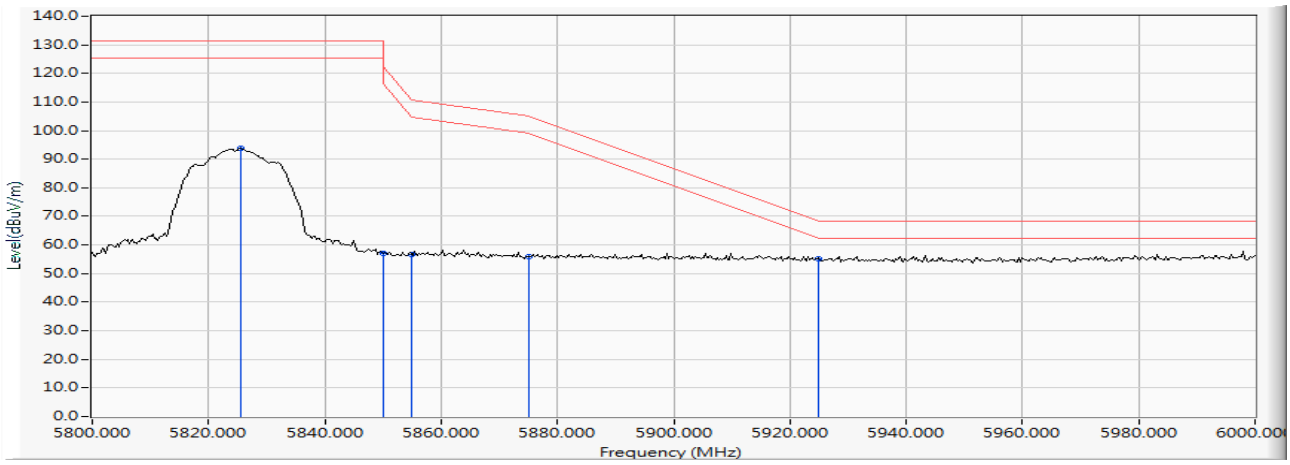
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5650.000	13.029	41.407	54.436	-13.784	68.220	Pass
Vertical	5700.000	13.003	42.265	55.268	-49.932	105.200	Pass
Vertical	5720.000	12.947	43.437	56.384	-54.416	110.800	Pass
Vertical	5723.261	12.936	46.675	59.611	-58.624	118.235	Pass
Vertical	5725.000	12.930	44.317	57.247	-64.953	122.200	Pass
Vertical	5745.580	12.858	79.255	92.113	-39.087	131.200	Pass

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Date : 2018/10/13
Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 165

RF Radiated Measurement:



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5825.507	11.531	83.149	94.680	-36.520	131.200	Pass
Horizontal	5850.000	11.701	44.185	55.886	-66.314	122.200	Pass
Horizontal	5855.000	11.735	43.776	55.511	-55.289	110.800	Pass
Horizontal	5875.000	11.873	43.753	55.626	-49.574	105.200	Pass
Horizontal	5925.000	12.068	42.223	54.292	-13.908	68.200	Pass



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5825.507	12.722	81.147	93.869	-37.331	131.200	Pass
Vertical	5850.000	12.774	44.437	57.211	-64.989	122.200	Pass
Vertical	5855.000	12.784	43.831	56.615	-54.185	110.800	Pass
Vertical	5875.000	12.825	43.163	55.988	-49.212	105.200	Pass
Vertical	5925.000	12.911	42.401	55.312	-12.888	68.200	Pass

Product	:	360 CAM(WIFI+Bluetooth)
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2018/10/13
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 36

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
36 (Peak)	5146.667	10.479	43.543	54.022	74.00	54.00	Pass
36 (Peak)	5150.000	10.470	41.835	52.306	74.00	54.00	Pass
36 (Peak)	5178.551	10.398	80.219	90.616	--	--	--
36 (Average)	5150.000	10.470	24.336	34.807	74.00	54.00	Pass
36 (Average)	5179.130	10.396	73.548	83.944	--	--	--

Figure Channel 36: Horizontal (Peak)

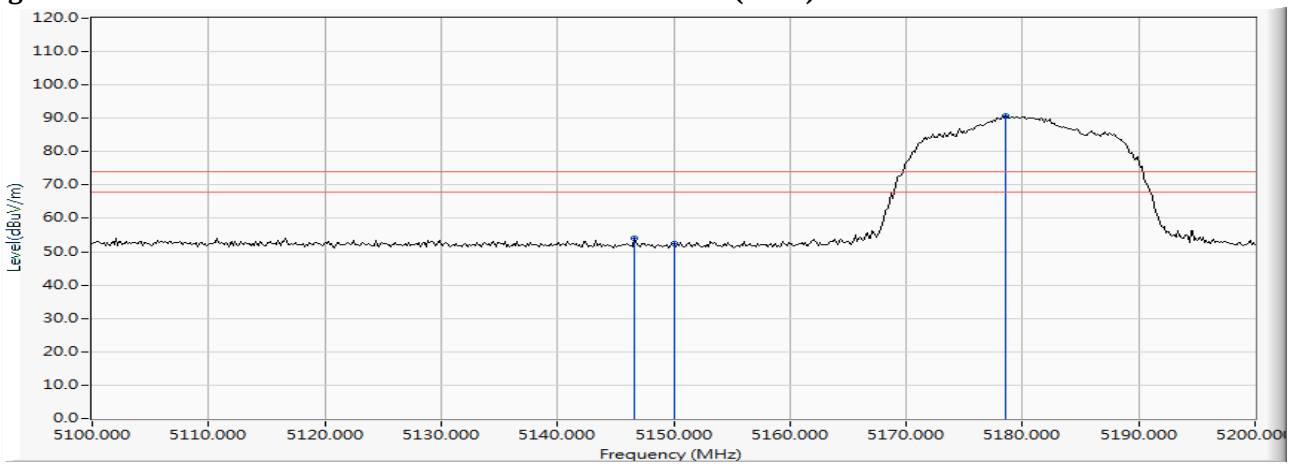
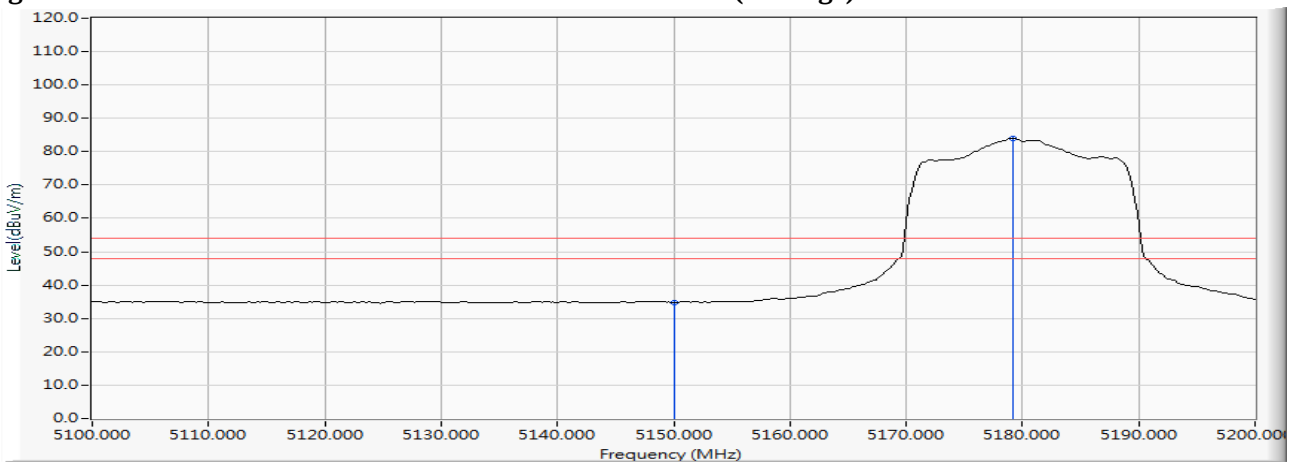


Figure Channel 36: Horizontal (Average)



Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Date : 2018/10/13
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 36

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
36 (Peak)	5139.855	12.352	43.810	56.162	74.00	54.00	Pass
36 (Peak)	5150.000	12.390	42.614	55.004	74.00	54.00	Pass
36 (Peak)	5178.261	12.495	82.674	95.169	--	--	--
36 (Average)	5150.000	12.390	24.919	37.309	74.00	54.00	Pass
36 (Average)	5178.986	12.497	74.915	87.413	--	--	--

Figure Channel 36: Vertical (Peak)

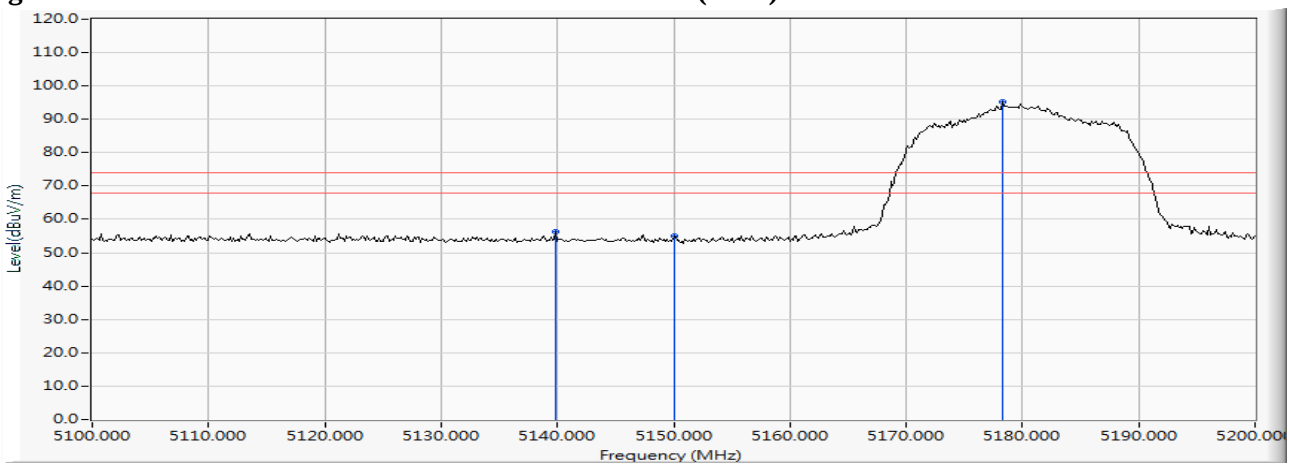
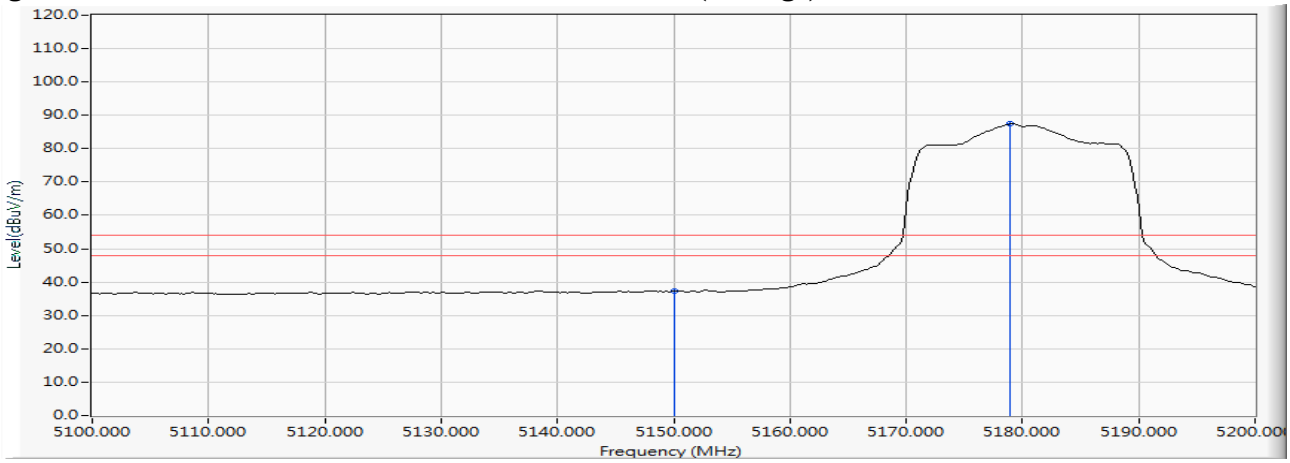


Figure Channel 36: Vertical (Average)

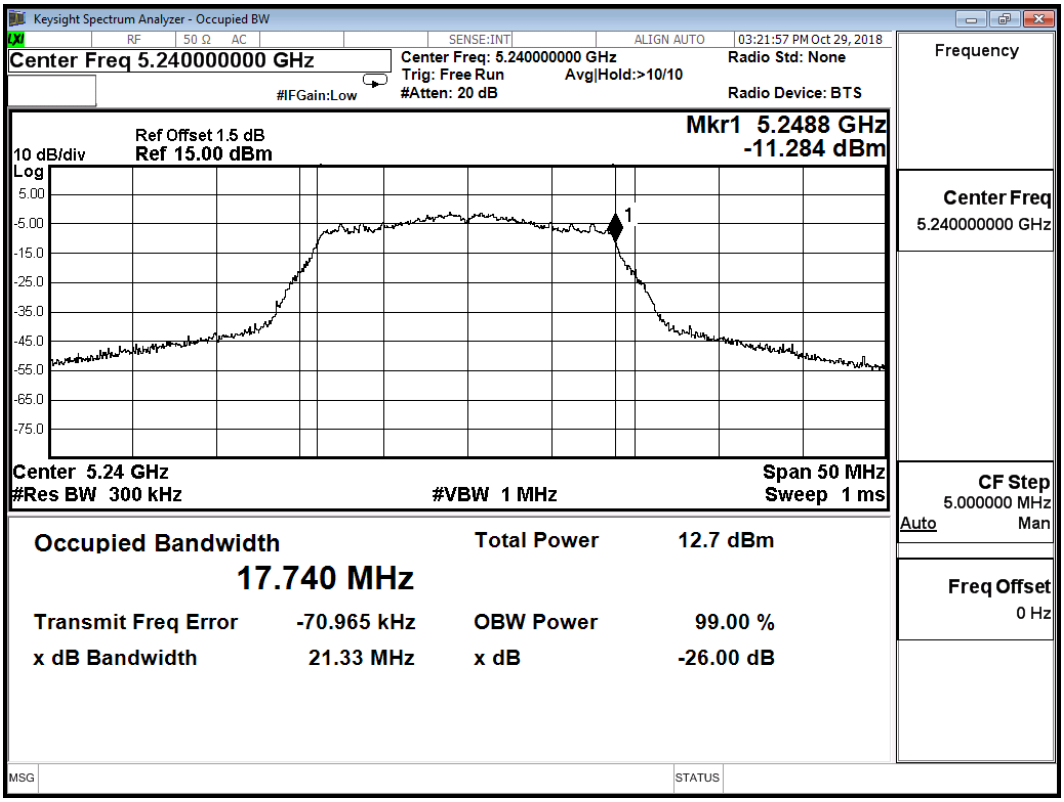


Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) Channel 48

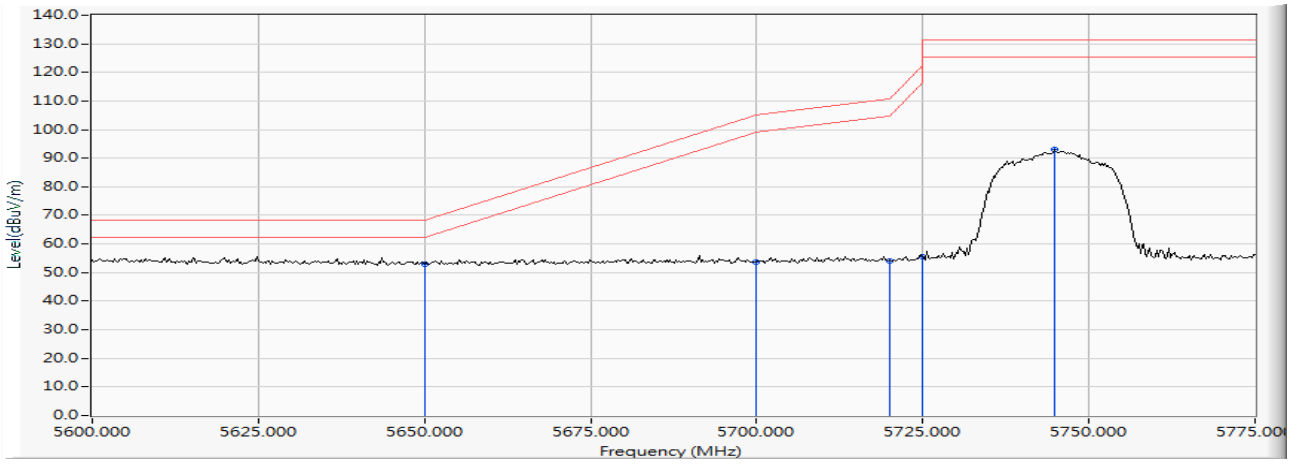
Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5240	5248.80	<5250	PASS

NOTE: Accordance with 15.215 requirement.

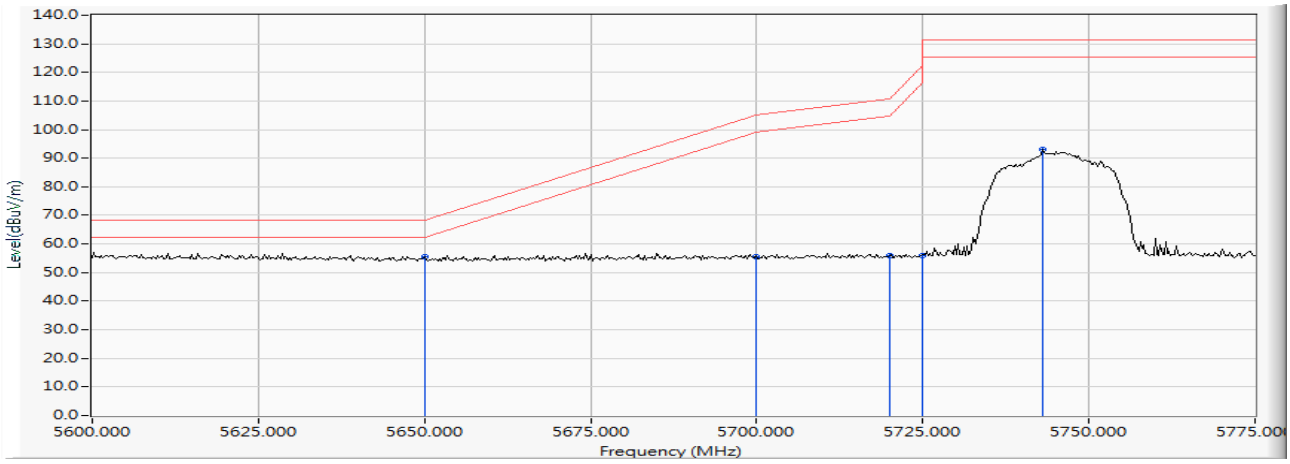


Product	:	360 CAM(WIFI+Bluetooth)
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2018/10/13
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps)-Channel 149

RF Radiated Measurement:



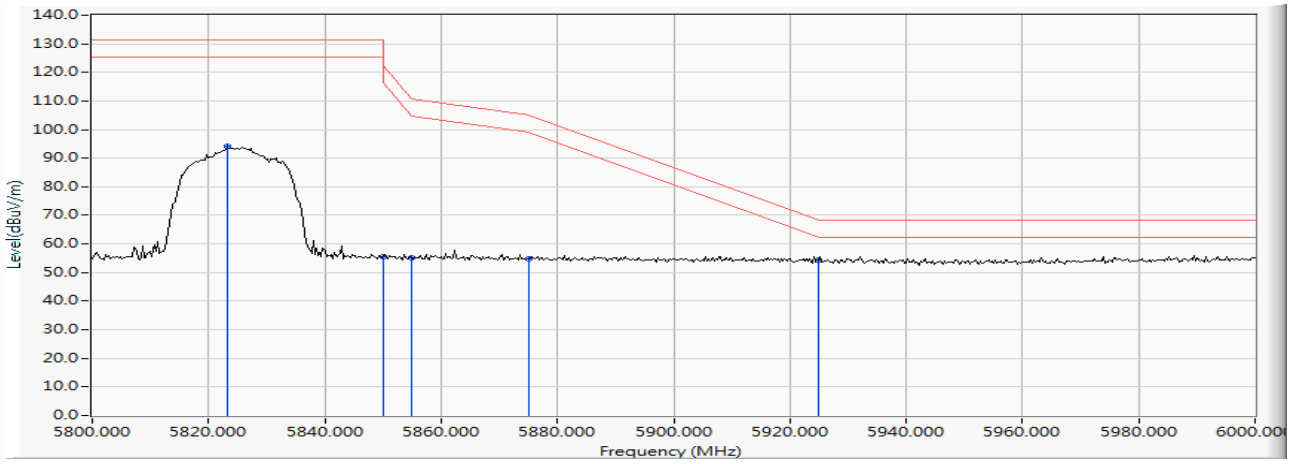
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5650.000	11.554	41.327	52.882	-15.338	68.220	Pass
Horizontal	5700.000	11.647	42.125	53.772	-51.428	105.200	Pass
Horizontal	5720.000	11.607	42.600	54.207	-56.593	110.800	Pass
Horizontal	5725.000	11.592	44.141	55.733	-66.467	122.200	Pass
Horizontal	5744.819	11.529	81.393	92.922	-38.278	131.200	Pass
Horizontal	5650.000	11.554	41.327	52.882	-15.338	68.220	Pass



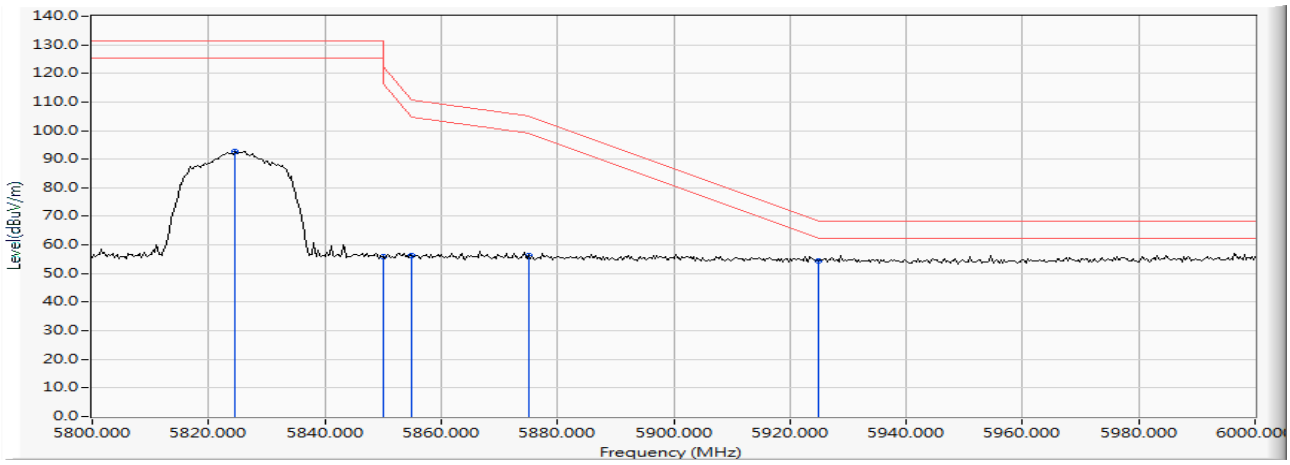
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5650.000	13.029	42.428	55.457	-12.763	68.220	Pass
Vertical	5700.000	13.003	42.623	55.626	-49.574	105.200	Pass
Vertical	5720.000	12.947	43.070	56.017	-54.783	110.800	Pass
Vertical	5725.000	12.930	43.170	56.100	-66.100	122.200	Pass
Vertical	5743.043	12.867	80.385	93.252	-37.948	131.200	Pass

Product	:	360 CAM(WIFI+Bluetooth)
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2018/10/13
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps)-Channel 165

RF Radiated Measurement:



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5823.188	11.515	82.626	94.141	-37.059	131.200	Pass
Horizontal	5850.000	11.701	43.699	55.400	-66.800	122.200	Pass
Horizontal	5855.000	11.735	43.266	55.001	-55.799	110.800	Pass
Horizontal	5875.000	11.873	42.887	54.760	-50.440	105.200	Pass
Horizontal	5925.000	12.068	42.257	54.326	-13.874	68.200	Pass



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5824.638	12.721	80.005	92.725	-38.475	131.200	Pass
Vertical	5850.000	12.774	43.137	55.911	-66.289	122.200	Pass
Vertical	5855.000	12.784	43.389	56.173	-54.627	110.800	Pass
Vertical	5875.000	12.825	43.362	56.187	-49.013	105.200	Pass
Vertical	5925.000	12.911	41.576	54.487	-13.713	68.200	Pass

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Date : 2018/10/13
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps)-Channel 38

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
38 (Peak)	5150.000	10.470	39.826	50.297	74.00	54.00	Pass
38 (Peak)	5188.406	10.372	77.924	88.296	--	--	--
38 (Average)	5150.000	10.470	24.855	35.326	74.00	54.00	Pass
38 (Average)	5188.841	10.370	71.615	81.985	--	--	--

Figure Channel 38: Horizontal (Peak)

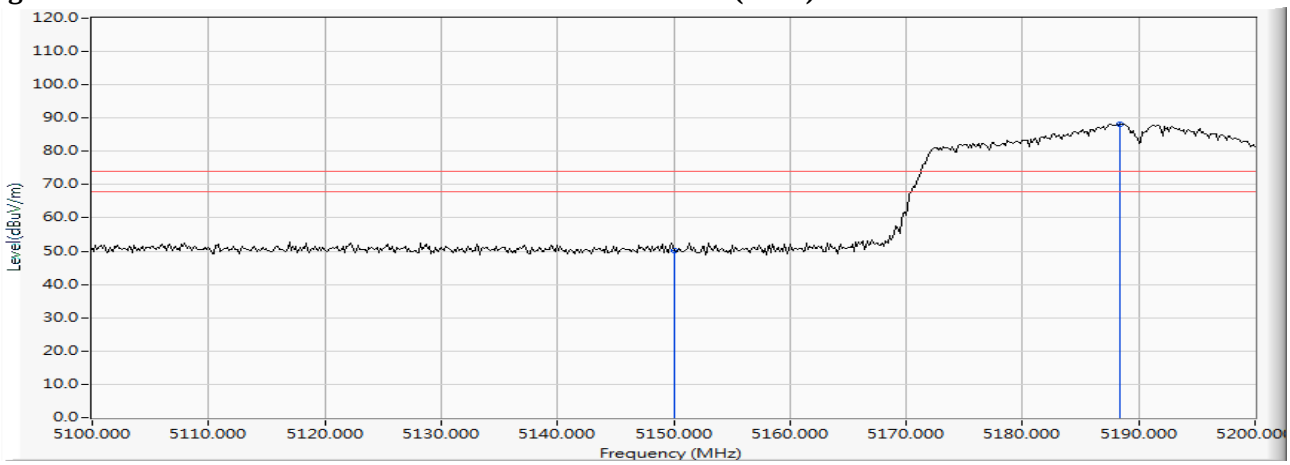
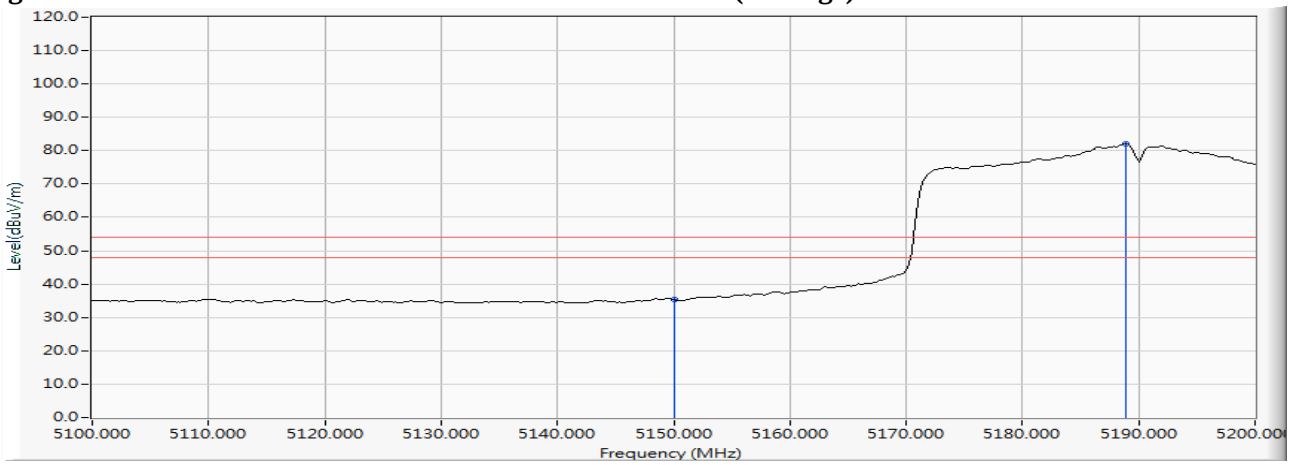


Figure Channel 38: Horizontal (Average)



Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Date : 2018/10/13
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps)-Channel 38

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
38 (Peak)	5140.725	12.355	44.427	56.782	74.00	54.00	Pass
38 (Peak)	5150.000	12.390	43.028	55.418	74.00	54.00	Pass
38 (Peak)	5186.377	12.525	79.651	92.176	--	--	--
38 (Average)	5150.000	12.390	26.510	38.900	74.00	54.00	Pass
38 (Average)	5188.551	12.533	72.737	85.270	--	--	--

Figure Channel 38: Vertical (Peak)

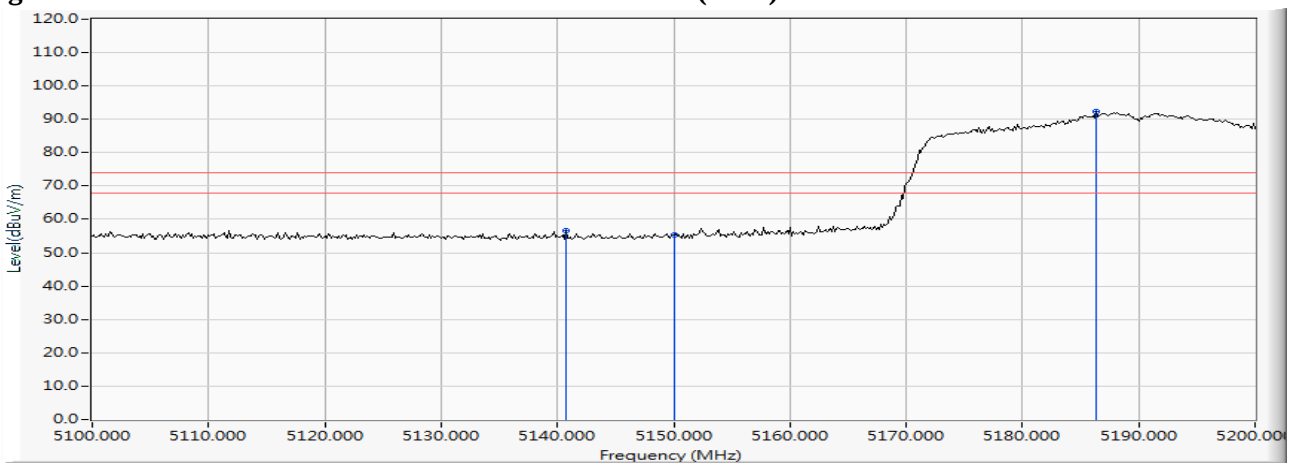
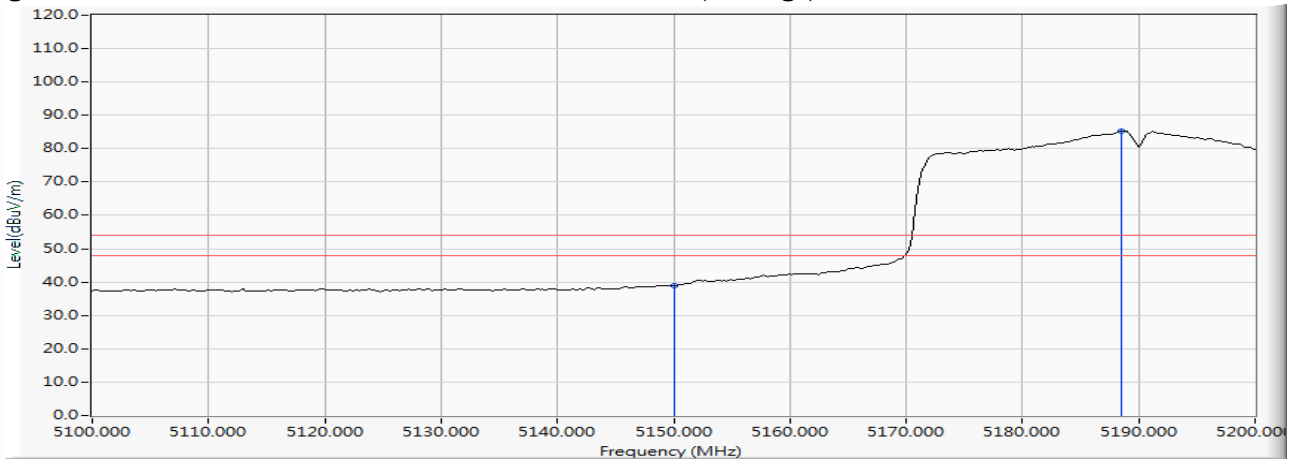


Figure Channel 38: Vertical (Average)

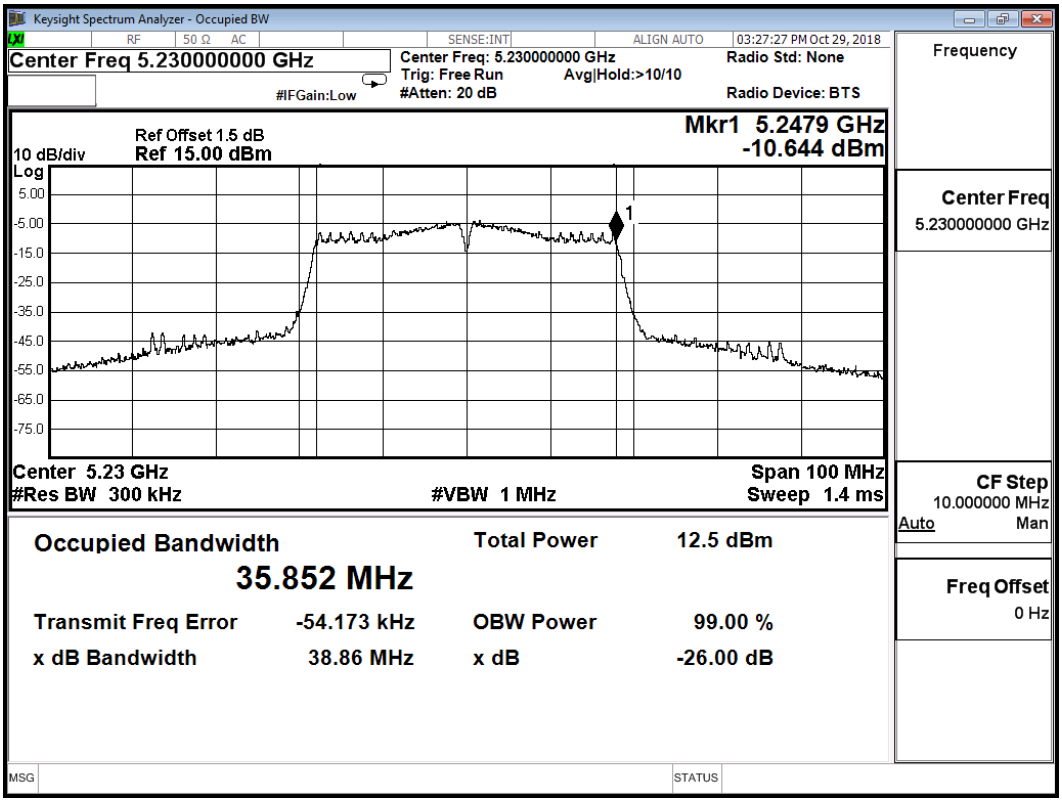


Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps)-Channel 46

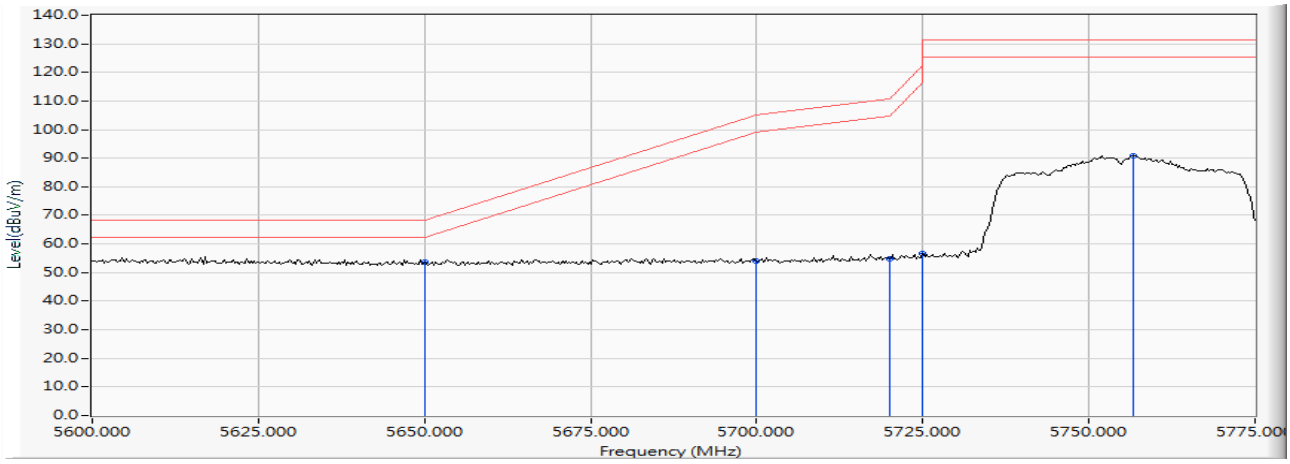
Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5230	5247.90	<5250	PASS

NOTE: Accordance with 15.215 requirement.

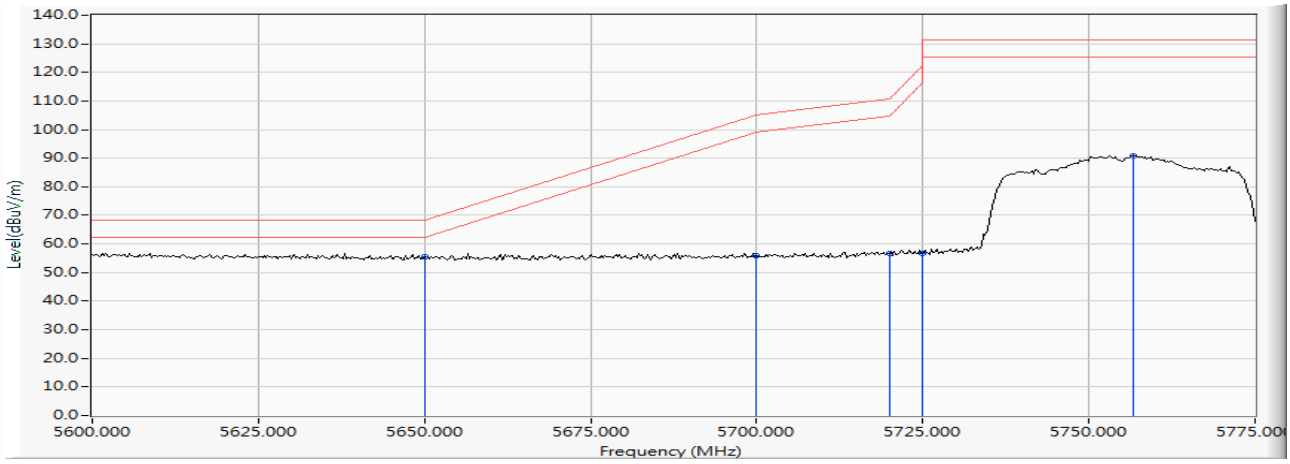


Product : 360 CAM(WIFI+Bluetooth)
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Date : 2018/10/13
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 151

RF Radiated Measurement :



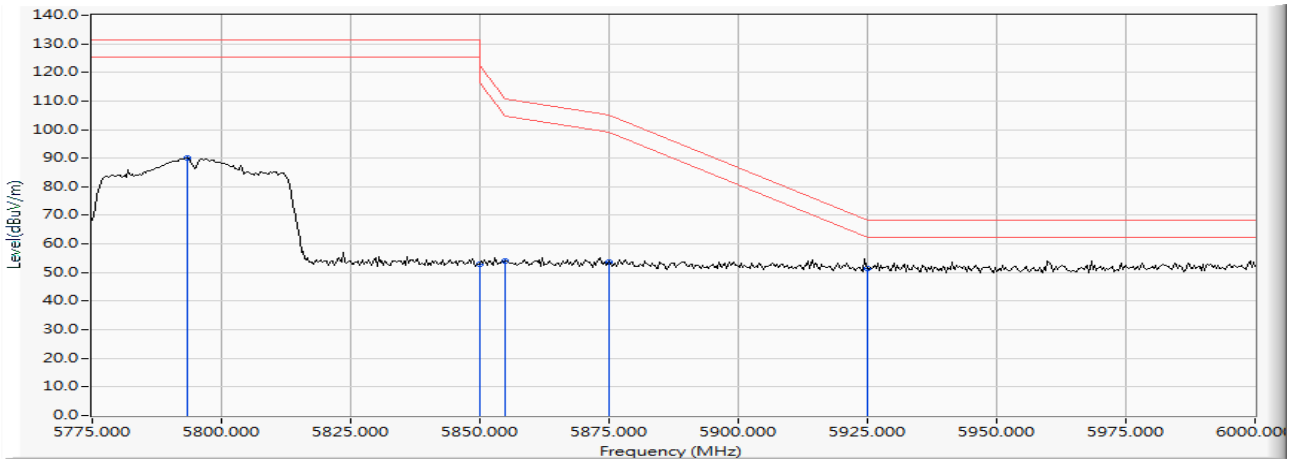
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5650.000	11.554	42.045	53.600	-14.620	68.220	Pass
Horizontal	5700.000	11.647	42.320	53.967	-51.233	105.200	Pass
Horizontal	5720.000	11.607	43.294	54.901	-55.899	110.800	Pass
Horizontal	5725.000	11.592	45.000	56.592	-65.608	122.200	Pass
Horizontal	5756.739	11.491	79.296	90.787	-40.413	131.200	Pass



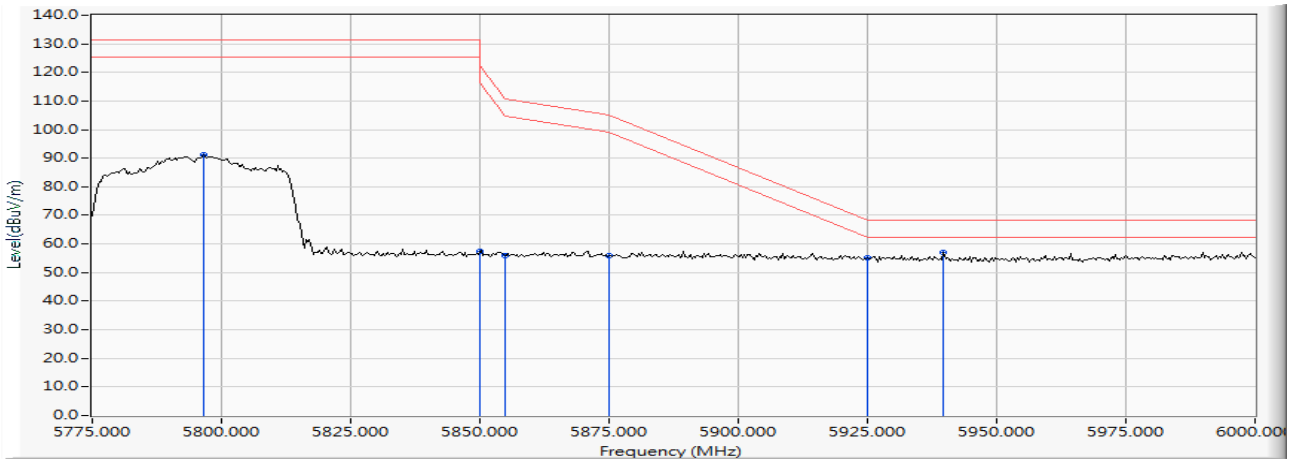
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5650.000	13.029	42.536	55.565	-12.655	68.220	Pass
Vertical	5700.000	13.003	42.920	55.923	-49.277	105.200	Pass
Vertical	5720.000	12.947	43.636	56.583	-54.217	110.800	Pass
Vertical	5725.000	12.930	43.642	56.572	-65.628	122.200	Pass
Vertical	5756.739	12.819	78.172	90.991	-40.209	131.200	Pass

Product	:	360 CAM(WIFI+Bluetooth)
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2018/10/13
Test Mode	:	Mode 3: Transmit (802.11n-40BW 15Mbps)-Channel 159

RF Radiated Measurement:



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5793.261	11.376	78.607	89.983	-41.217	131.200	Pass
Horizontal	5850.000	11.701	41.369	53.070	-69.130	122.200	Pass
Horizontal	5855.000	11.735	42.403	54.138	-56.662	110.800	Pass
Horizontal	5875.000	11.873	41.752	53.625	-51.575	105.200	Pass
Horizontal	5925.000	12.068	39.376	51.445	-16.755	68.200	Pass



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5796.522	12.686	78.594	91.280	-39.920	131.200	Pass
Vertical	5850.000	12.774	44.732	57.506	-64.694	122.200	Pass
Vertical	5855.000	12.784	43.081	55.865	-54.935	110.800	Pass
Vertical	5875.000	12.825	42.968	55.793	-49.407	105.200	Pass
Vertical	5925.000	12.911	42.363	55.274	-12.926	68.200	Pass
Vertical	5939.674	12.932	44.087	57.018	-11.182	68.200	Pass

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Date : 2018/10/13
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps)-Channel 42

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
42 (Peak)	5150.000	10.470	43.038	53.509	74.00	54.00	Pass
42 (Peak)	5199.855	10.344	73.931	84.274	--	--	--
42 (Average)	5150.000	10.470	28.470	38.941	74.00	54.00	Pass
42 (Average)	5199.565	10.341	67.244	77.585	--	--	--

Figure Channel 42: Horizontal (Peak)

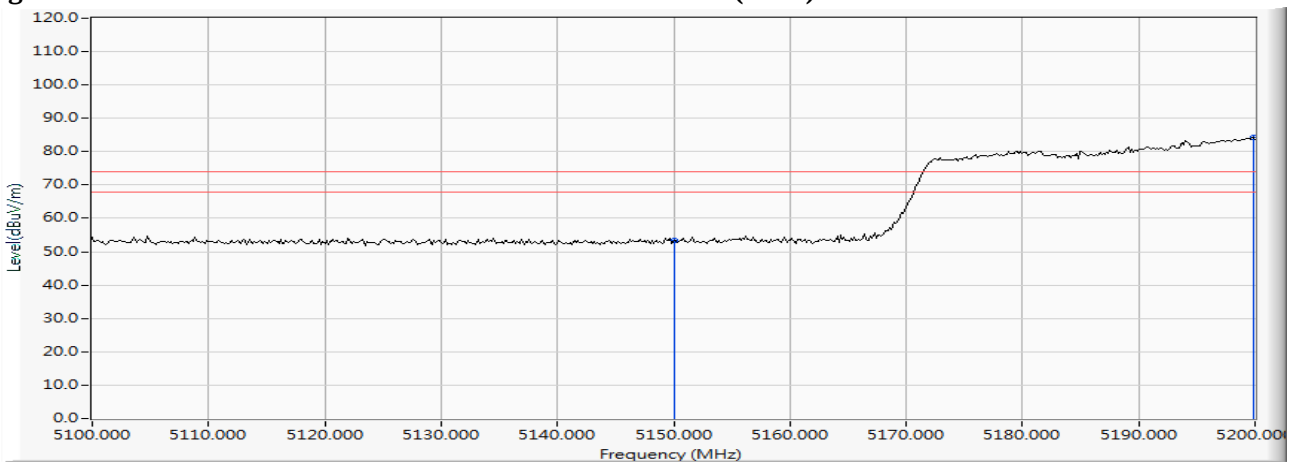
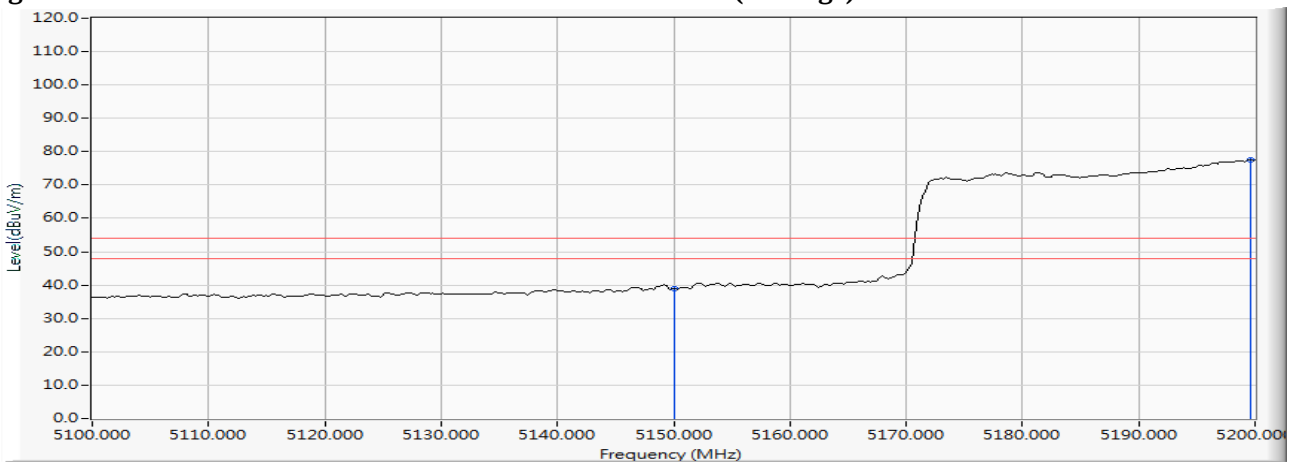


Figure Channel 42: Horizontal (Average)



Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	360 CAM(WIFI+Bluetooth)
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Date	:	2018/10/13
Test Mode	:	Mode 4 Transmit (802.11ac-80BW-32.5Mbps) -Channel 42

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
42 (Peak)	5148.986	12.386	44.508	56.895	74.00	54.00	Pass
42 (Peak)	5150.000	12.390	42.813	55.203	74.00	54.00	Pass
42 (Peak)	5199.130	12.562	73.680	86.243	--	--	--
42 (Average)	5150.000	12.390	28.500	40.890	74.00	54.00	Pass
42 (Average)	5198.696	12.561	67.434	79.995	--	--	--

Figure Channel 42: Vertical (Peak)

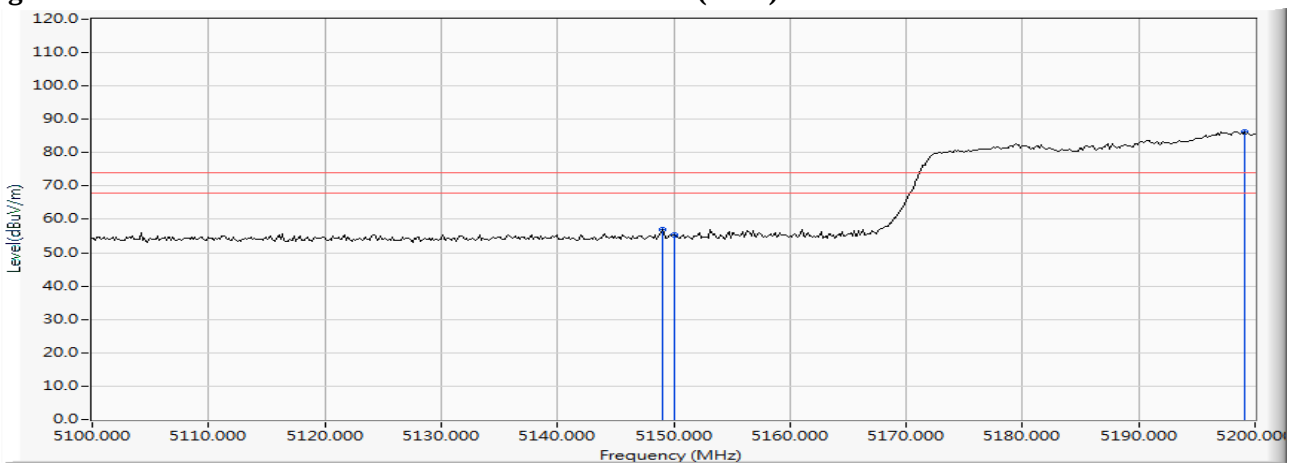
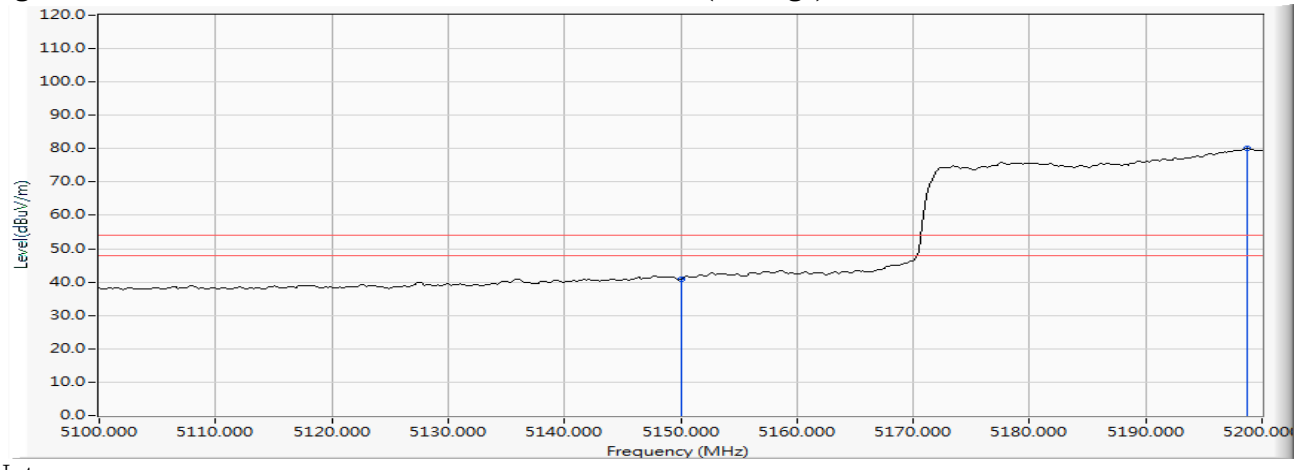


Figure Channel 42: Vertical (Average)

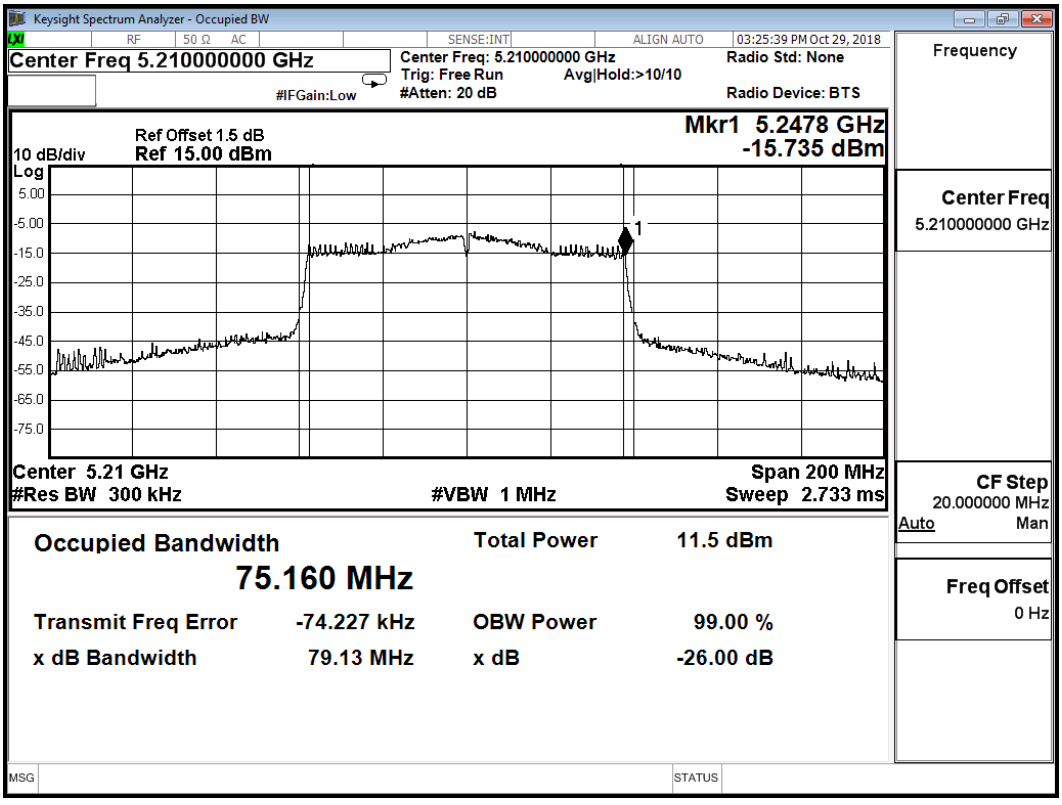


Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps) -Channel 42

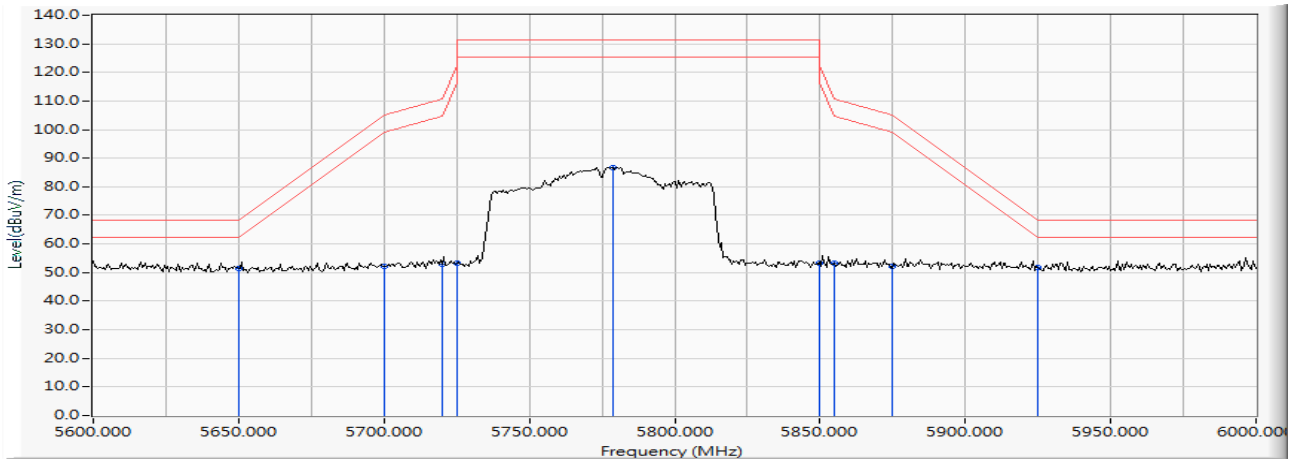
Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5210	5247.80	<5250	PASS

NOTE: Accordance with 15.215 requirement.

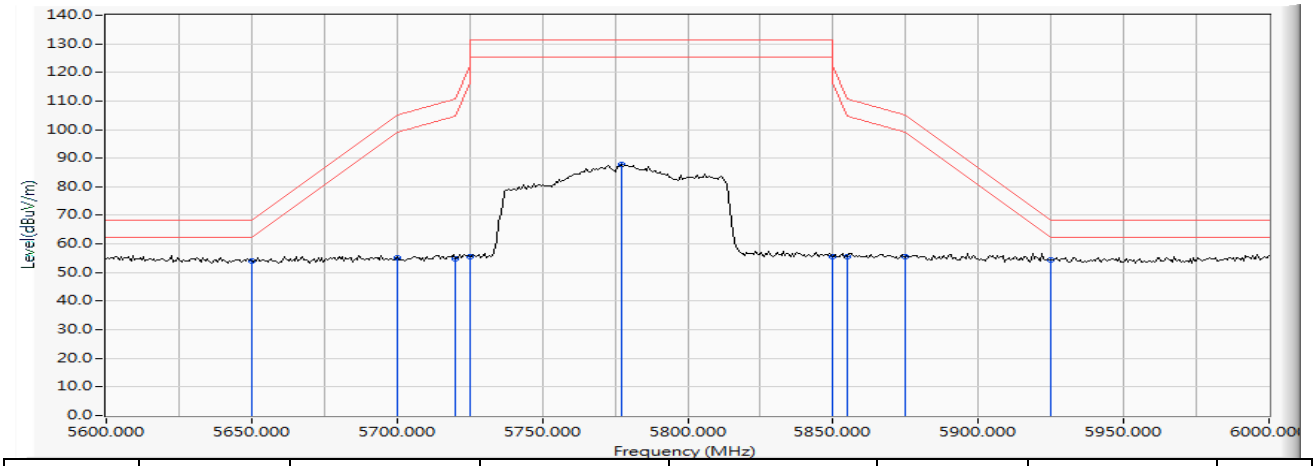


Product : 360 CAM(WIFI+Bluetooth)
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Date : 2018/10/13
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps)-Channel 155

RF Radiated Measurement:



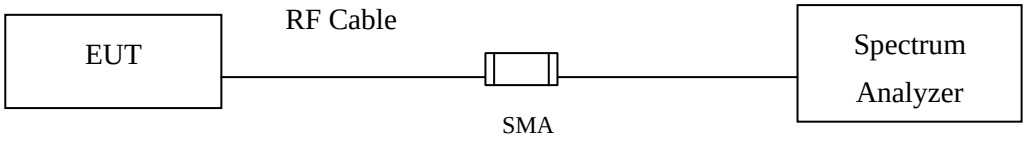
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV /m)	Margin (dB)	Limit (dBμV /m)	Result
Horizontal	5650.000	11.554	39.776	51.331	-16.889	68.220	Pass
Horizontal	5700.000	11.647	40.512	52.159	-53.041	105.200	Pass
Horizontal	5720.000	11.607	41.461	53.068	-57.732	110.800	Pass
Horizontal	5725.000	11.592	41.709	53.301	-68.899	122.200	Pass
Horizontal	5778.551	11.422	75.363	86.785	-44.415	131.200	Pass
Horizontal	5850.000	11.701	41.560	53.261	-68.939	122.200	Pass
Horizontal	5855.000	11.735	41.399	53.134	-57.666	110.800	Pass
Horizontal	5875.000	11.873	40.146	52.019	-53.181	105.200	Pass
Horizontal	5925.000	12.068	39.697	51.766	-16.434	68.200	Pass
Horizontal	5650.000	11.554	39.776	51.331	-16.889	68.220	Pass



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV /m)	Margin (dB)	Limit (dBμV /m)	Result
Vertical	5650.000	13.029	40.952	53.981	-14.239	68.220	Pass
Vertical	5700.000	13.003	42.226	55.229	-49.971	105.200	Pass
Vertical	5720.000	12.947	41.742	54.689	-56.111	110.800	Pass
Vertical	5725.000	12.930	42.643	55.573	-66.627	122.200	Pass
Vertical	5777.391	12.747	75.162	87.909	-43.291	131.200	Pass
Vertical	5850.000	12.774	42.882	55.656	-66.544	122.200	Pass
Vertical	5855.000	12.784	42.674	55.458	-55.342	110.800	Pass
Vertical	5875.000	12.825	42.729	55.554	-49.646	105.200	Pass
Vertical	5925.000	12.911	41.430	54.341	-13.859	68.200	Pass

7. Occupied Bandwidth

7.1. Test Setup



7.2. Limits

For the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz

7.3. .Test Procedure

The EUT was setup to ANSI C63.10, 2013; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

7.4. Uncertainty

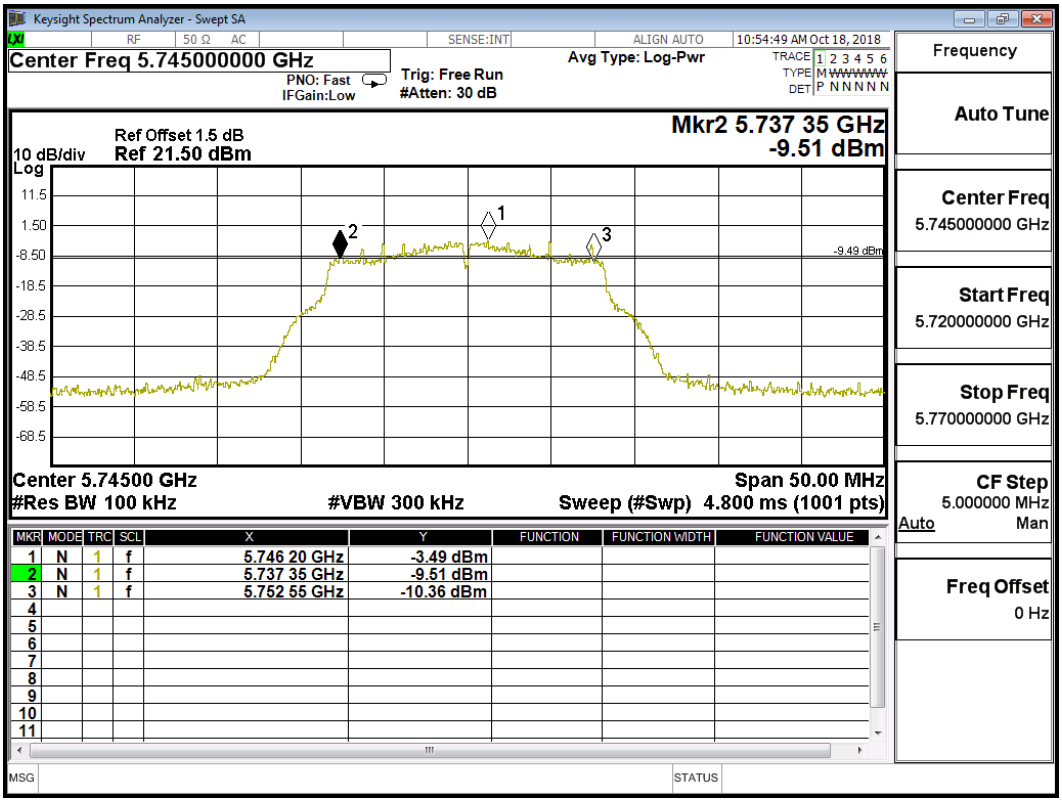
± 681.6Hz

7.5. Test Result of Occupied Bandwidth

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5745MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
149	5745.00	15200	>500	Pass

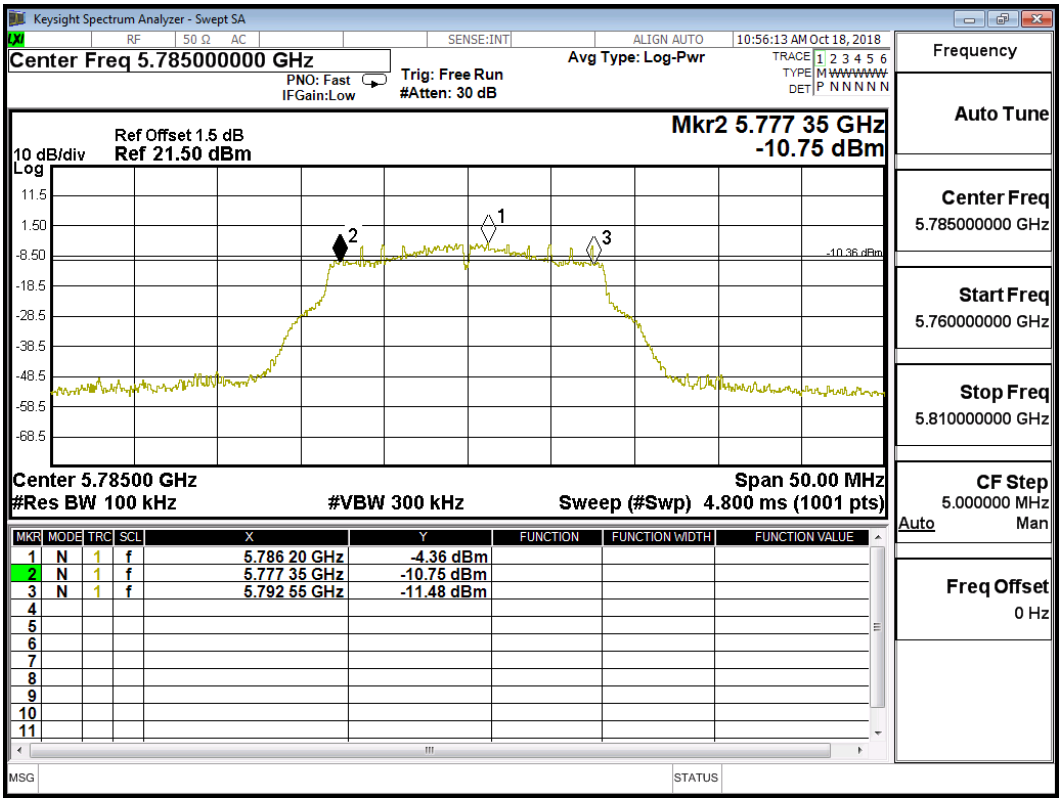
Figure Channel 149:



Product : 360 CAM(WIFI+Bluetooth)
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5785MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
157	5785.00	15200	>500	Pass

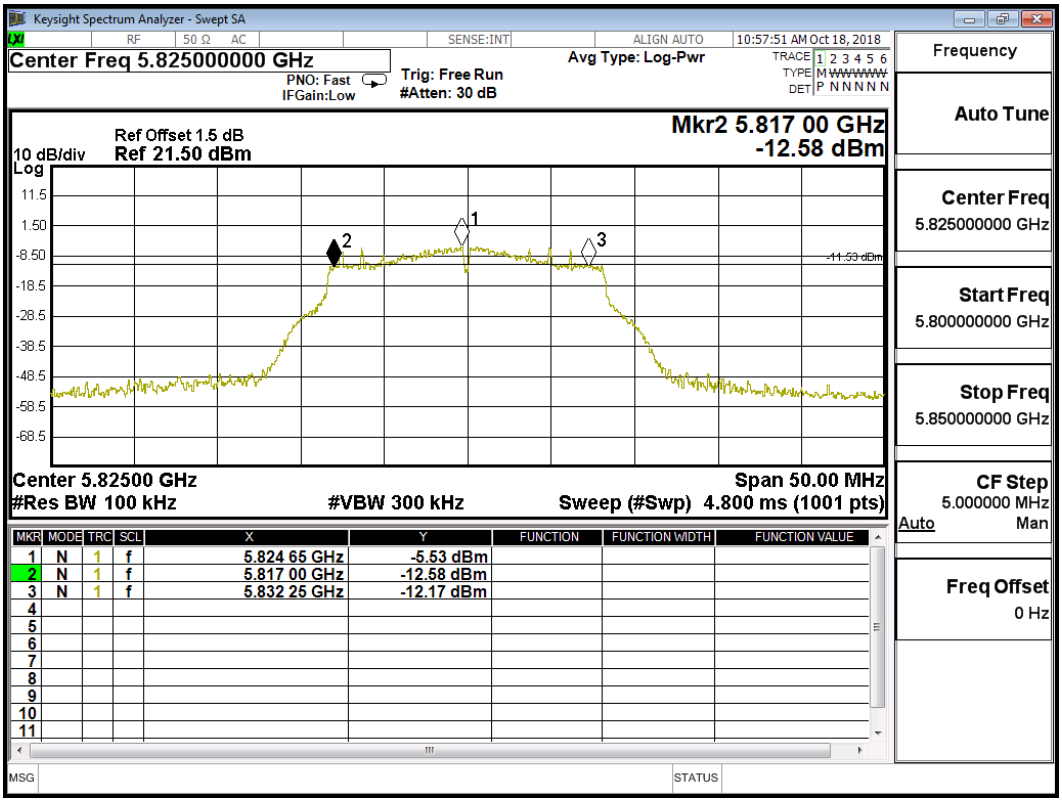
Figure Channel 157:



Product : 360 CAM(WIFI+Bluetooth)
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5825MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
165	5825.00	15250	>500	Pass

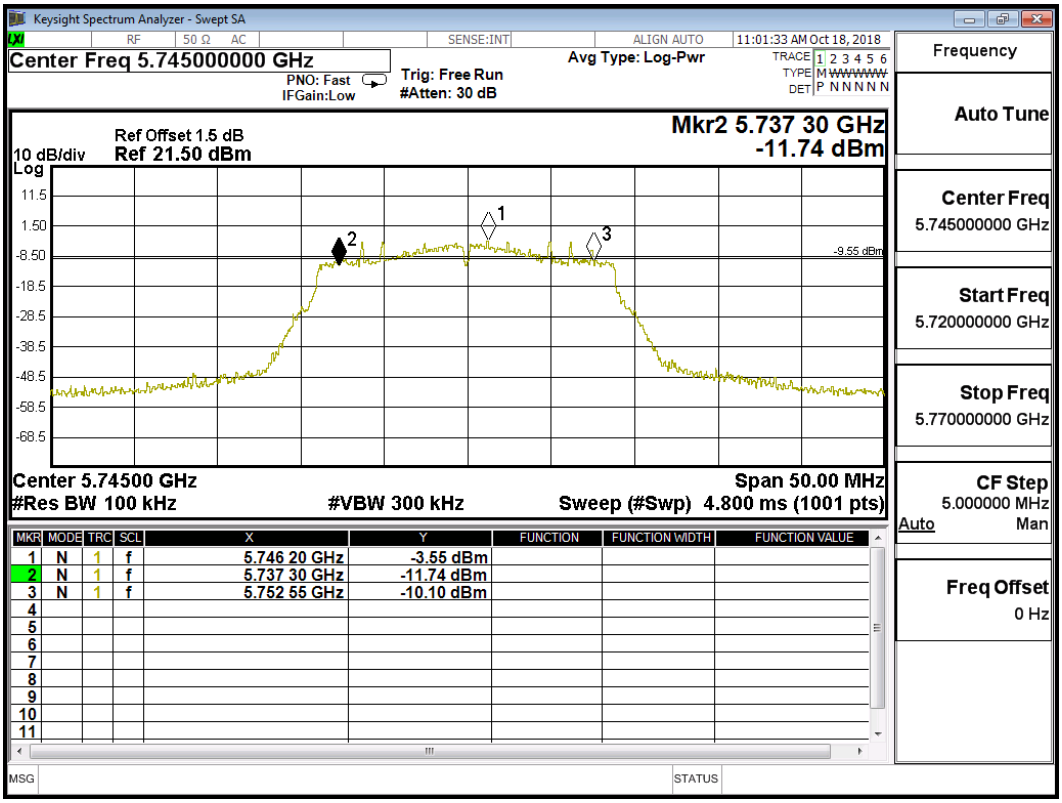
Figure Channel 165:



Product : 360 CAM(WIFI+Bluetooth)
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5745MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
149	5745.00	15250	>500	Pass

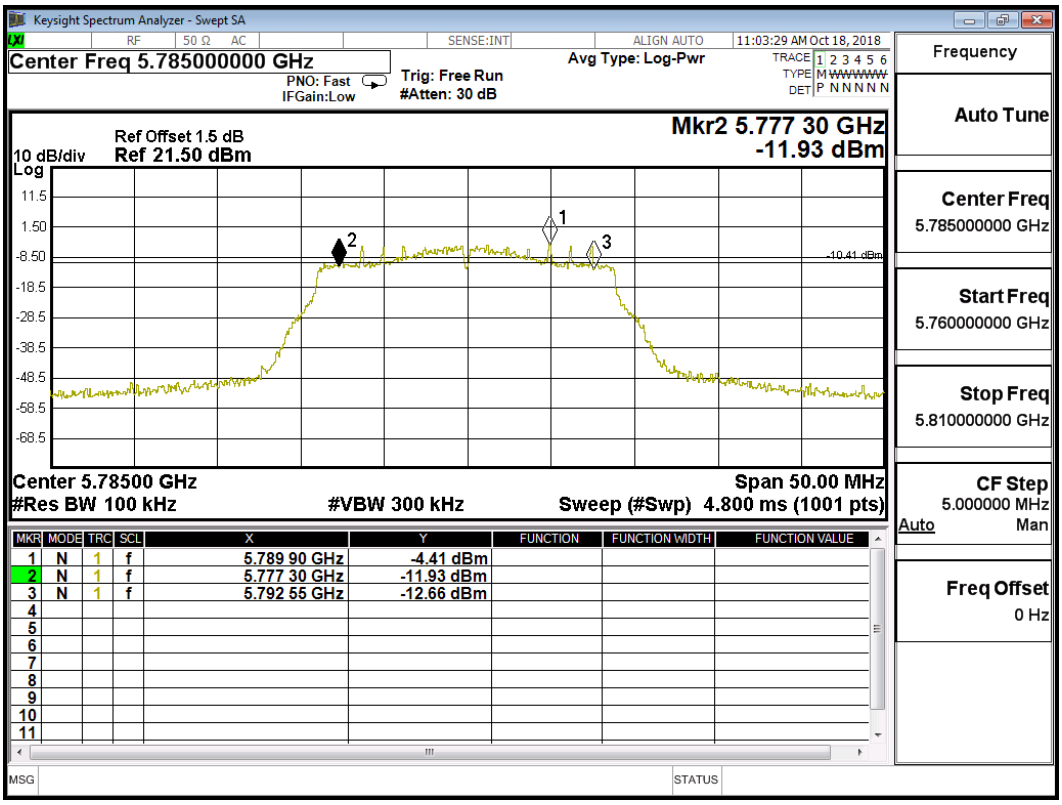
Figure Channel 149:



Product : 360 CAM(WIFI+Bluetooth)
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5785MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
157	5785.00	15250	>500	Pass

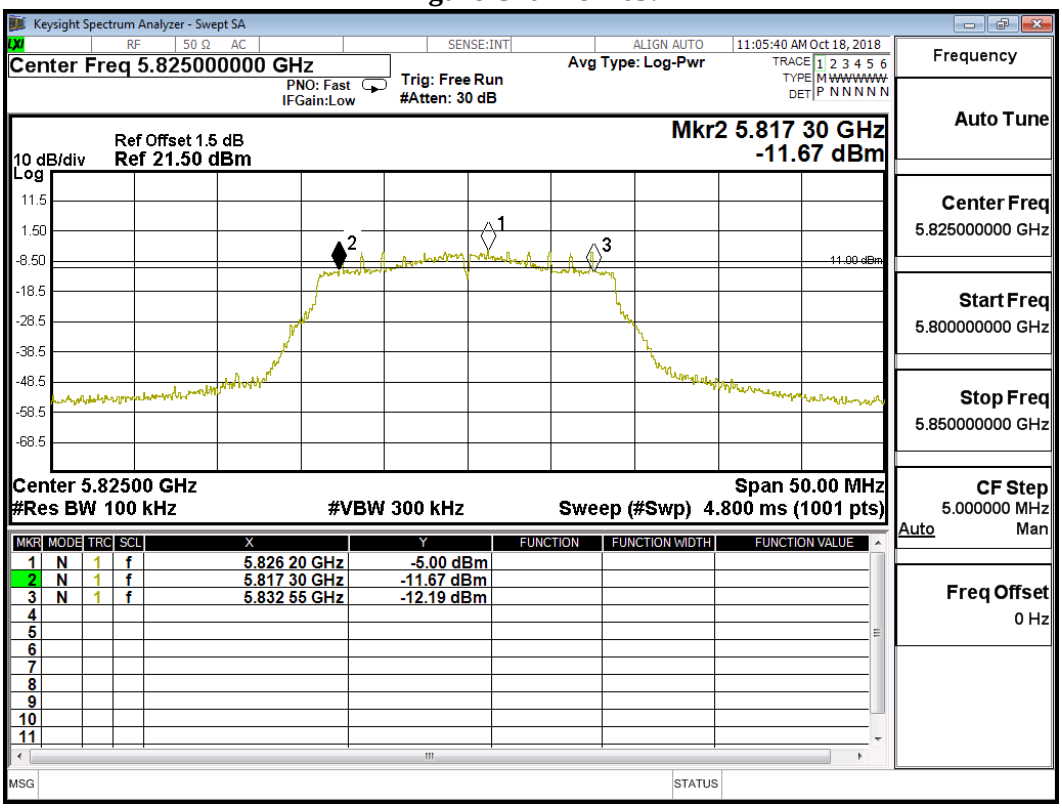
Figure Channel 157:



Product : 360 CAM(WIFI+Bluetooth)
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5825MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
165	5825.00	15250	>500	Pass

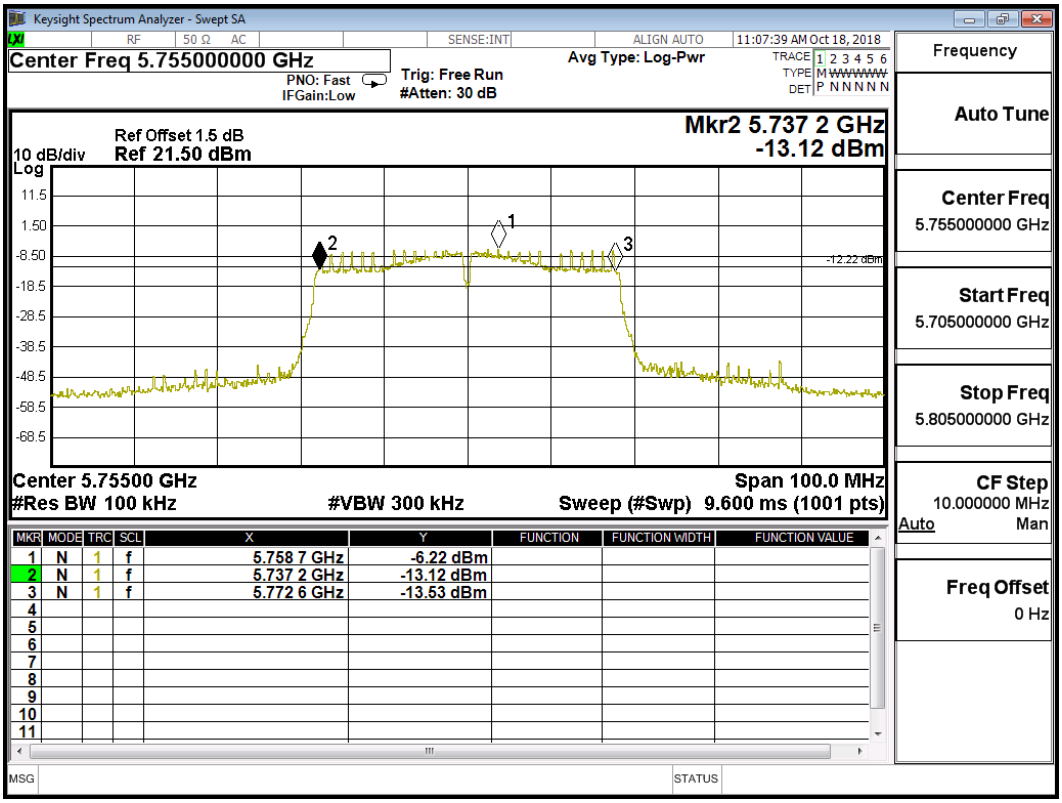
Figure Channel 165:



Product : 360 CAM(WIFI+Bluetooth)
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5755MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
151	5755.00	35400	>500	Pass

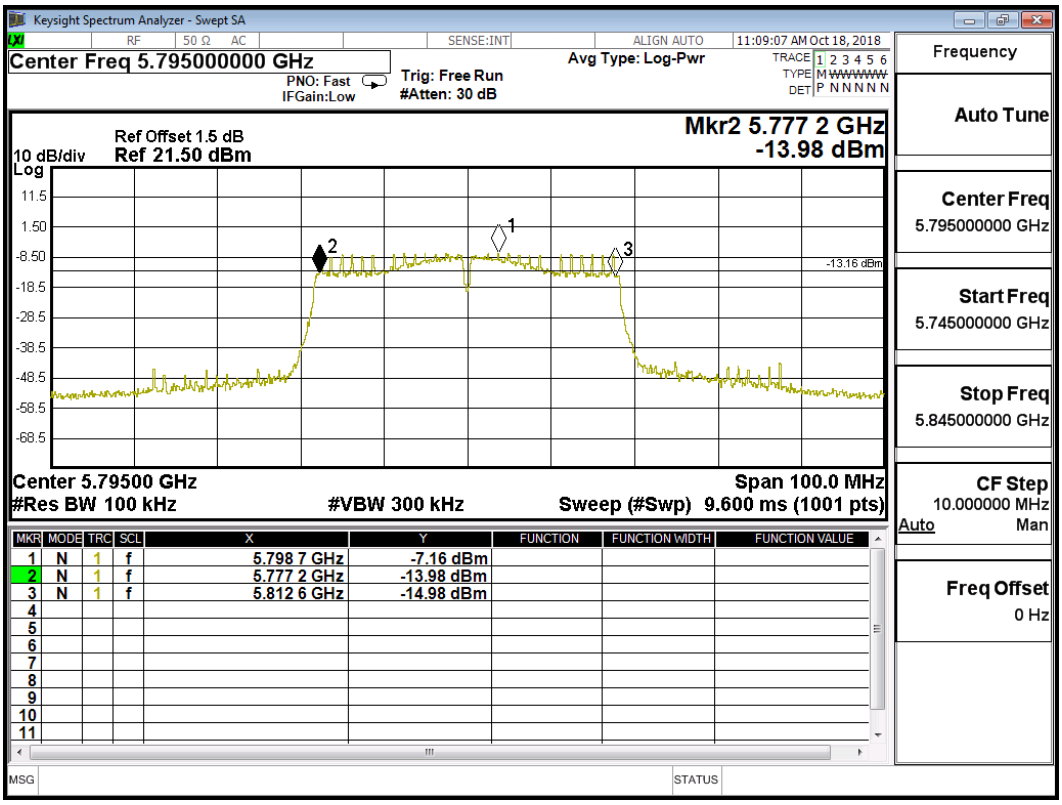
Figure Channel 151:



Product : 360 CAM(WIFI+Bluetooth)
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5795MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
159	5795.00	35400	>500	Pass

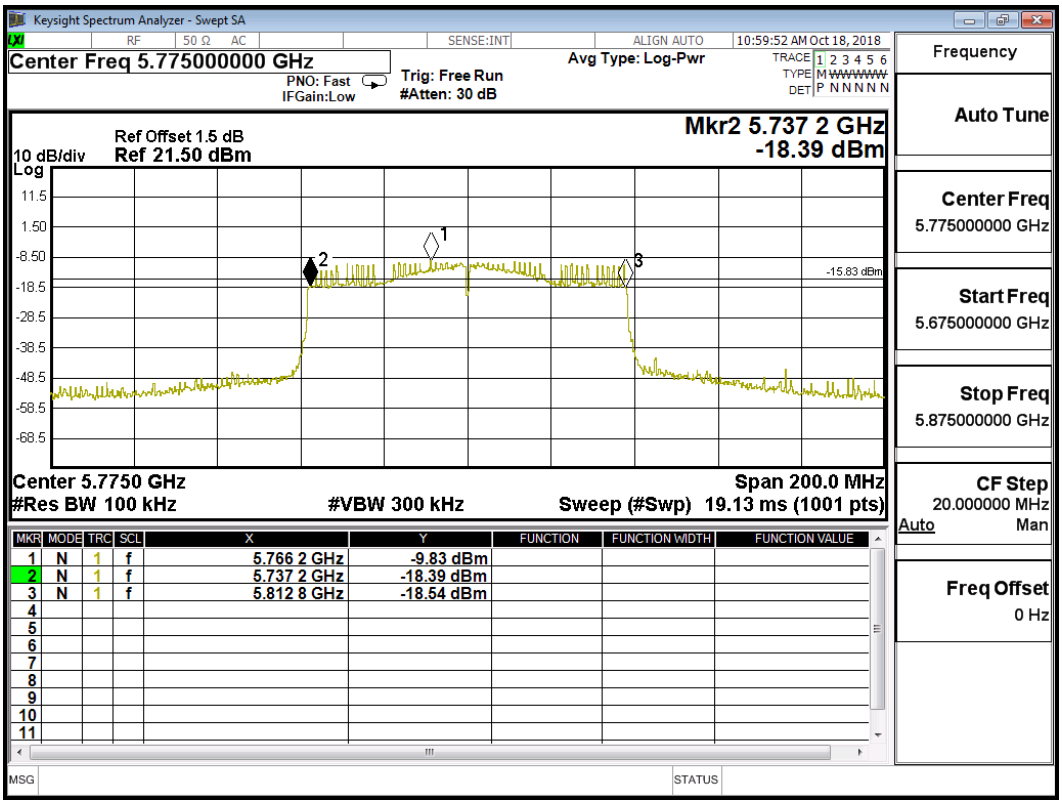
Figure Channel 159:



Product : 360 CAM(WIFI+Bluetooth)
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 4 Transmit (802.11ac-80BW-32.5Mbps) (5775MHz)

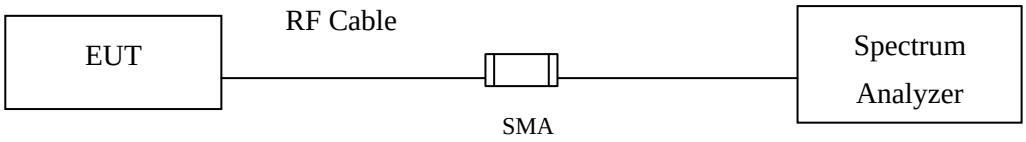
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
155	5775.00	75600	>500	Pass

Figure Channel 155:



8. Duty Cycle

8.1. Test Setup



8.2. Test Procedure

The EUT was setup according to ANSI C63.10 2013; tested according to test procedure of KDB789033 for compliance to FCC 47CFR 15.407 requirements.

8.3. Uncertainty

± 2.31msec

8.4. Test Result of Duty Cycle

Product : 360 CAM(WIFI+Bluetooth)
Test Item : Duty Cycle
Test Mode : Transmit

Duty Cycle Formula:

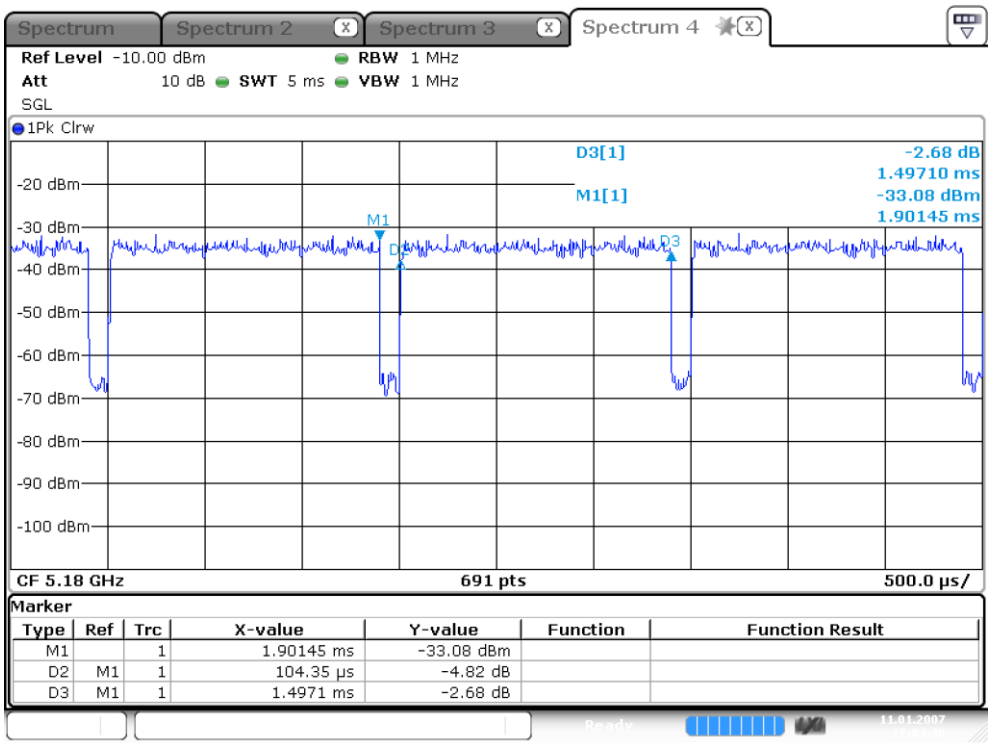
Duty Cycle = Ton / (Ton + Toff)

Duty Factor = 10 Log (1/Duty Cycle)

Results:

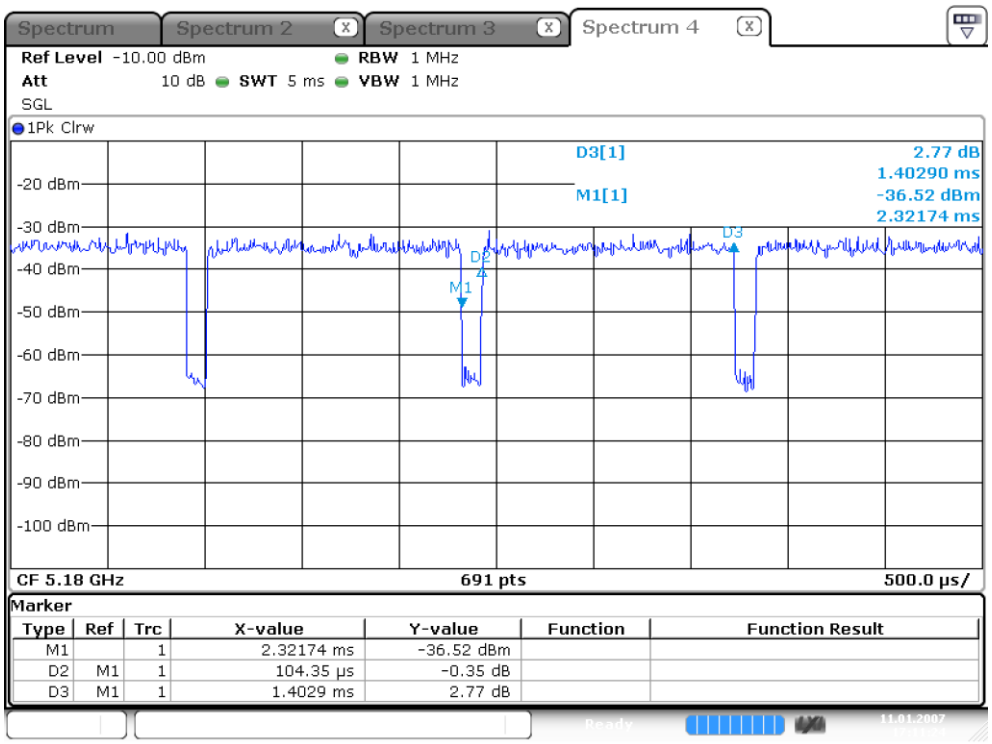
5GHz band	Ton (ms)	Ton + Toff (ms)	Duty Cycle (%)	Duty Factor (dB)
802.11a	1.3928	1.4971	93.03	0.31
802.11n20	1.2986	1.4029	92.56	0.34
802.11n40	0.6116	0.7507	81.47	0.89
802.11ac80	0.2928	0.4261	68.71	1.63

802.11a



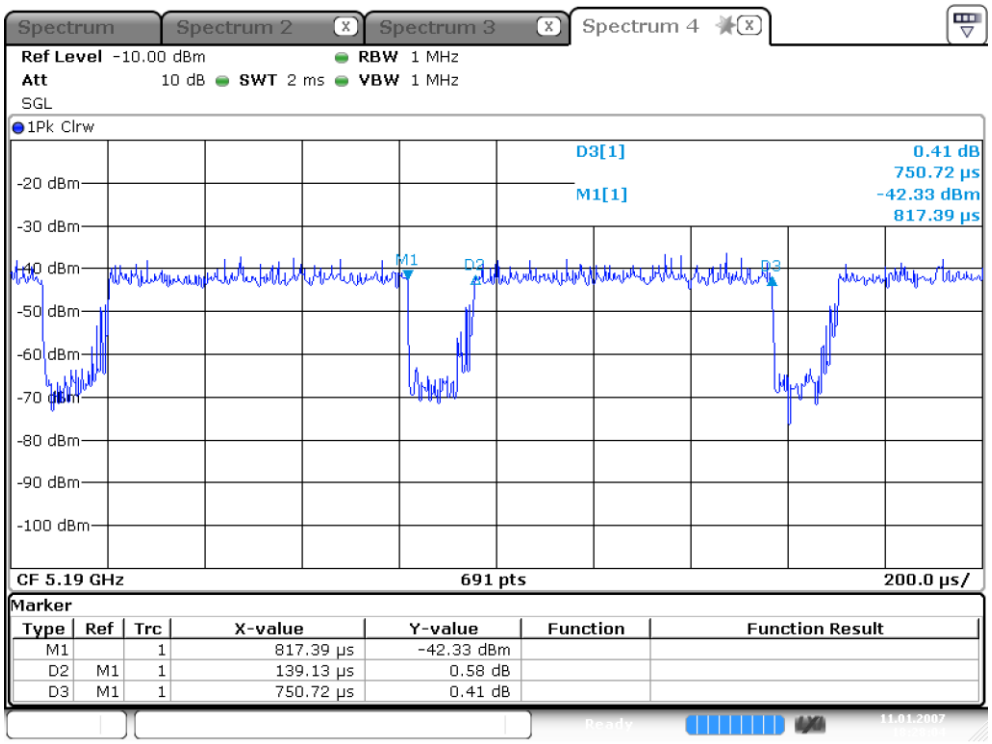
Date: 11.JAN.2007 17:04:36

802.11n20



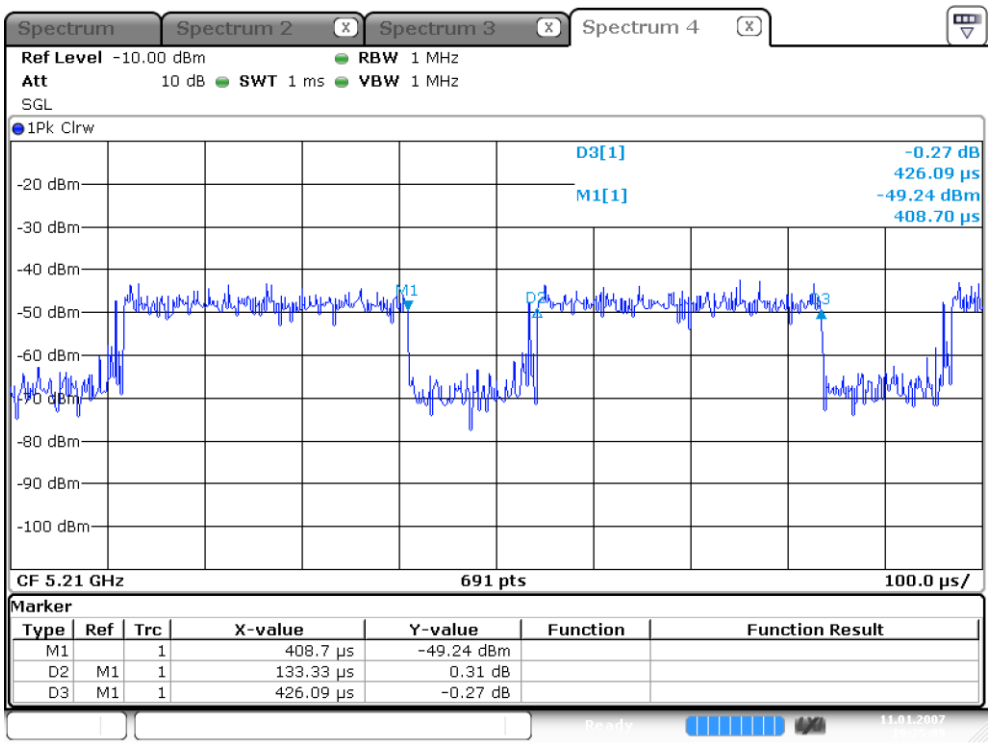
Date: 11.JAN.2007 17:11:24

802.11n40



Date: 11.JAN.2007 18:28:04

802.11ac80



Date: 11.JAN.2007 19:25:09

9. EMI Reduction Method During Compliance Testing

No modification was made during testing.