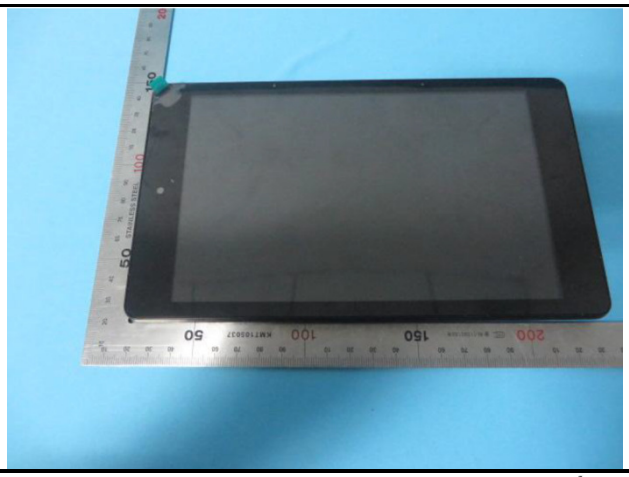
Prüfbericht-Nr.: *Test Report No.*:	**50080307 001**	**Auftrags-Nr.:** *Order No.*:	**154243386**	**Seite 1 von 39** *Page 1 of 39*
Kunden-Referenz-Nr.: *Client Reference No.*:	**52195766**	**Auftragsdatum:** *Order date*:	**04.25.2017**	

Auftraggeber: *Client*:	**Lightcomm Technology Co.,Ltd.** RM 1808 18/F, FO TAN INDUSTRIAL CENTRE, NOS. 26-28 AU PUI WAN STREET, FO TAN SHATIN NEW TERRITORIES, HONGKONG
Prüfgegenstand: *Test item*:	**MID**
Bezeichnung / Typ-Nr.: *Identification / Type No.*:	**MID8006-L, DL8006, DL80XXXXXX (x=0-9, A-Z, a-z, - or blank, for market purpose only, all models are identical except the model number, brand or color)** **FCC ID: XMF-MID8006L**
Auftrags-Inhalt: *Order content*:	**Complete test**
Prüfgrundlage: *Test specification*:	**FCC CFR47 Part 15, Subpart E Section 15.407** **ANSI C63.10: 2013**
Wareneingangsdatum: *Date of receipt*:	**04.01.2017**
Prüfmuster-Nr.: *Test sample No.*:	**A000567056-001**
Prüfzeitraum: *Testing period*:	**04.01.2017 to 07.04.2017**
Ort der Prüfung: *Place of testing*:	**MRT Technology(Suzhou) Co., Ltd.**
Prüflaboratorium: *Testing laboratory*:	**TÜV Rheinland (Shanghai) Co., Ltd.**
Prüfergebnis*: *Test result**:	**Pass**



geprüft von / *tested by*:

07.06.2017Elliot Zhang / Assistant Project Manager

Datum *Date*	**Name / Stellung** *Name / Position*	**Unterschrift** *Signature*

kontrolliert von / *reviewed by*:

07.06.2017Shi Li / Department Manager

Datum *Date*	**Name / Stellung** *Name / Position*	**Unterschrift** *Signature*

Sonstiges / *Other*

Only evaluate the 5GHz Wi-Fi 802.11a function in this test report.

FCC ID: XMF-MID8006L

Zustand des Prüfgegenstandes bei Anlieferung: *Condition of the test item at delivery*:	Prüfmuster vollständig und unbeschädigt *Test item complete and undamaged*

* Legende:	1 = sehr gut	2 = gut	3 = befriedigend	4 = ausreichend	5 = mangelhaft
	P(ass) = entspricht o.g. Prüfgrundlage(n)		F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
Legend:	*1 = very good*	*2 = good*	*3 = satisfactory*	*4 = sufficient*	*5 = poor*
	P(ass) = passed a.m. test specification(s)		*F(ail) = failed a.m. test specification(s)*	*N/A = not applicable*	*N/T = not tested*

TEST SUMMARY

5.1.1 ANTENNA REQUIREMENT
RESULT: *Pass*

5.1.2 OUTPUT POWER
RESULT: *Pass*

5.1.3 26DB BANDWIDTH
RESULT: *Pass*

5.1.4 6DB BANDWIDTH
RESULT: *Pass*

5.1.5 POWER SPECTRAL DENSITY
RESULT: *Pass*

5.1.6 FREQUENCY STABILITY MEASUREMENT
RESULT: *Pass*

5.1.7 CONDUCTED EMISSION
RESULT: *Pass*

5.1.8 SPURIOUS EMISSION
RESULT: *Pass*

Contents

1. General Remarks

1.1 Complementary Materials

Null

2. Test Sites

2.1 Test Facilities

MRT Technology (Suzhou) Co., Ltd.

D8 Building, Youxin Industrial Park, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China

The used test equipment is in accordance with CISPR 16 for measurement of radio interference.

The Federal Communications Commission has reviewed the technical characteristics of the radiated and conducted emission facility, and has found these test facilities to be in compliance with the requirements of section 2.948 of the FCC rules. The description of the test facility is listed under FCC registration number 809388.

The Industry Canada has reviewed the technical characteristics of the radiated and conducted emission facility, and has found these test facilities to be in compliance. The description of the test facility is listed under chambers filing number 11384A.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Conducted Emissions

Instrument	Manufacturer	Type No.	Serial No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR7	MRTSUE06001	1 year	2017/06/20
EMI Test Receiver	R&S	ESR7	MRTSUE06001	1 year	2018/06/20
Two-Line V-Network	R&S	ENV216	MRTSUE06002	1 year	2017/06/20
Two-Line V-Network	R&S	ENV216	MRTSUE06002	1 year	2018/06/20
Two-Line V-Network	R&S	ENV216	MRTSUE06003	1 year	2017/06/20
Two-Line V-Network	R&S	ENV216	MRTSUE06003	1 year	2018/06/20
Temperature/ Meter Humidity	Ouleinuo	N/A	MRTSUE06114	1 year	2017/12/20

Radiated Emission

Spectrum Analyzer	Agilent	E4447A	MRTSUE06028	1 year	2017/12/08
EMI Test Receiver	R&S	ESR7	MRTSUE06001	1 year	2017/11/03
Preamplifier	Agilent	83017A	MRTSUE06020	1 year	2018/03/29
Preamplifier	Schwarzbeck	BBV9721	MRTSUE06121	1 year	2018/04/16
Loop Antenna	Schwarzbeck	FMZB1519	MRTSUE06025	1 year	2017/11/07
TRILOG Antenna	Schwarzbeck	VULB9162	MRTSUE06022	1 year	2017/11/07
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	MRTSUE06023	1 year	2017/11/07
Broadband Horn Antenna	Schwarzbeck	BBHA9170	MRTSUE06024	1 year	2018/01/05
Temperature/Humidity Meter	Ouleinuo	N/A	MRTSUE06115	1 year	2017/11/20

Conducted Test Equipment

Spectrum Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2018/05/08
USB Wideband Power Sensor	Boonton	55006	MRTSUE06109	1 year	2018/05/08
Temperature/Humidity Meter	Ouleinuo	N/A	MRTSUE06114	1 year	2017/11/20

2.3 Traceability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basics using in house standards or comparisons.

2.5 Measurement Uncertainty

Table 2: Measurement Uncertainty

AC Conducted Emission Measurement
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 150kHz~30MHz: ± 3.46dB
Radiated Emission Measurement
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 9kHz ~ 1GHz: ± 4.18dB 1GHz ~ 40GHz: ± 4.76dB
Output Power
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 1.13dB
Power Spectrum Density
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 1.15dB
Occupied Bandwidth
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 0.28%

3. General Product Information

3.1 Product Function and Intended Use

The EUT (Equipment Under Test) is a 'Tablet PC' device.It supports Bluetooth 4.0 (Dual mode) & 2.4GHz Wi-Fi 802.11 b/g/n(HT20)/n(HT40) & 5GHz Wi-Fi 802.11 a wireless technology.
The 2.4GHz WIFI, 5GHz WIFI and Bluetooth can TX simultaneously

For details refer to the User Manual and Circuit Diagram.

3.2 Ratings and System Details

Kind of Equipment	Tablet PC
Type Designation	MID8006-L, DL8006, DL80XXXXXX(x=0-9, A-Z, a-z, - or blank, for market purpose only, all models are identical except the model number, brand or color)
Wireless Technology	2.4GHz Wi-Fi 802.11b/g/n 5GHz Wi-Fi 802.11a
Operating Frequency band	2412 ~ 2462MHz, 5180 ~ 5240MHz, 5745 ~ 5825MHz
Channel Separation	5MHz for 2.4GHz; 20MHz for 5GHz
Modulation	802.11b: DSSS(DBPSK/DQPSK/CCK) 802.11a/g/n: OFDM(BPSK/QPSK/16QAM/64QAM)
Antenna Type	PIFA Antenna
Antenna Gain	1.28 dBi for 2.4GHz; 1.12 dBi for 5GHz
Extreme Temperature Range	0 ~ 40°C
Operation Voltage	DC 3.7V 6000mAh via internal rechargeable Li-Poly battery DC 5.0V 2.5A via AC/DC adapter for charging

Table 3: Carrier Frequency of 5GHz WLAN

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
5180 ~ 5240 MHz, 5745 ~ 5825 MHz	36	5180 MHz	153	5765 MHz
	40	5200 MHz	157	5785 MHz
	44	5220 MHz	161	5805 MHz
	48	5240 MHz	165	5825 MHz
	149	5745 MHz	--	--

3.3 Independent Operation Modes

Test Mode	Operation Mode	Channel
TM1	802.11a	36
TM2	802.11a	44
TM3	802.11a	48
TM4	802.11a	149
TM5	802.11a	157
TM6	802.11a	165
TM7	Carrier Frequency	36
TM8	802.11a	36 Normal Operation

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

- Application Form
- Circuit Diagram
- ID Label and Location Info
- Photo Document
- Operation Description
- Block Diagram
- PCB Layout
- Model Difference Letter
- Schematics
- User Manual

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.10: 2013.

Software used for testing: MTK Engineer.app

This software was running on the EUT. It was used to enable the test operation modes listed in section 3.3 as appropriate for conducted test.

Mode	Data Rate (Mbps)	Worst Case
802.11a	6, 9, 12, 18, 24, 36, 48, 54	6 Mbps

All modes of operation and data rates were investigated, but only worst case data rata was executed for all test requirements.

4.3 Special Accessories and Auxiliary Equipment

The EUT was tested together with the following accessories:

Description	Manufacturer	Part No.	S/N
N/A	N/A	N/A	N/A

4.4 Countermeasures to achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Constructional Data Form or the Technical Construction File. No additional measures were employed to achieve compliance.

5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT: **Pass**

Test standard	:	FCC Part 15.407(b)(4) and Part 15.203
Limit	:	The use of antennas with directional gains that do not exceed 6dBi

According to the manufacturer declared, the EUT has one PIFA antenna, the directional gain of 5GHz antenna is 1.12dBi and the PIFA antenna is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

FCC 15.203 – Antenna Requirement 1		**Pass**
FCC Requirement:	No antenna other than that furnished by the responsible party shall be used with the device	
Results:	Antenna type:	Fixed Integral wire antenna
Verdict:	Pass	

FCC 15.204 – Antenna Requirement 2		**Pass**
FCC Requirement:	An intentional radiator may be operated only with the antenna with which it is authorized. If an antenna is marketed with the intentional radiator, it shall be of a type which is authorized with the intentional radiator.	
Results:	Only one integral antenna can be used.	
Verdict:	N/A	

5.1.2 Output Power

RESULT: **Pass**

Test date	:	2017-04-01
Test standard	:	FCC Part 15.407(a)(iv)
Basic standard	:	ANSI C63.10: 2013 Clause E.3 of KDB 789033 D02 v01r04
Limit	:	250mW
Kind of test site	:	Shielded room

Test setup

Test Channel	:	36, 44, 48, 149, 157, 165
Operation Mode	:	TM1 ~ TM6
Ambient temperature	:	25℃
Relative humidity	:	52%
Atmospheric pressure	:	101kPa

Table 4: Test result of Output Power of Wi-Fi (802.11a)

Channel	Channel Frequency (MHz)	Output Power (dBm)	Limit (dBm)
36	5180	7.12	23.98
44	5220	6.78	23.98
48	5240	7.31	23.98
149	5745	7.22	23.98
157	5785	7.56	23.98
165	5825	7.18	23.98

5.1.3 26dB Bandwidth

RESULT: **Pass**

Date of testing	:	2017-04-02
Test standard	:	FCC Part 15.407(a)(5)
Basic standard	:	ANSI C63.10: 2013 Clause C.1 of KDB 789033 D02 v01r04
Limit	:	n/a
Kind of test site	:	Shielded room

Test setup

Test Channel	:	36, 44, 48, 149, 157, 165
Operation Mode	:	TM1 ~ TM6
Ambient temperature	:	25℃
Relative humidity	:	52%
Atmospheric pressure	:	101kPa

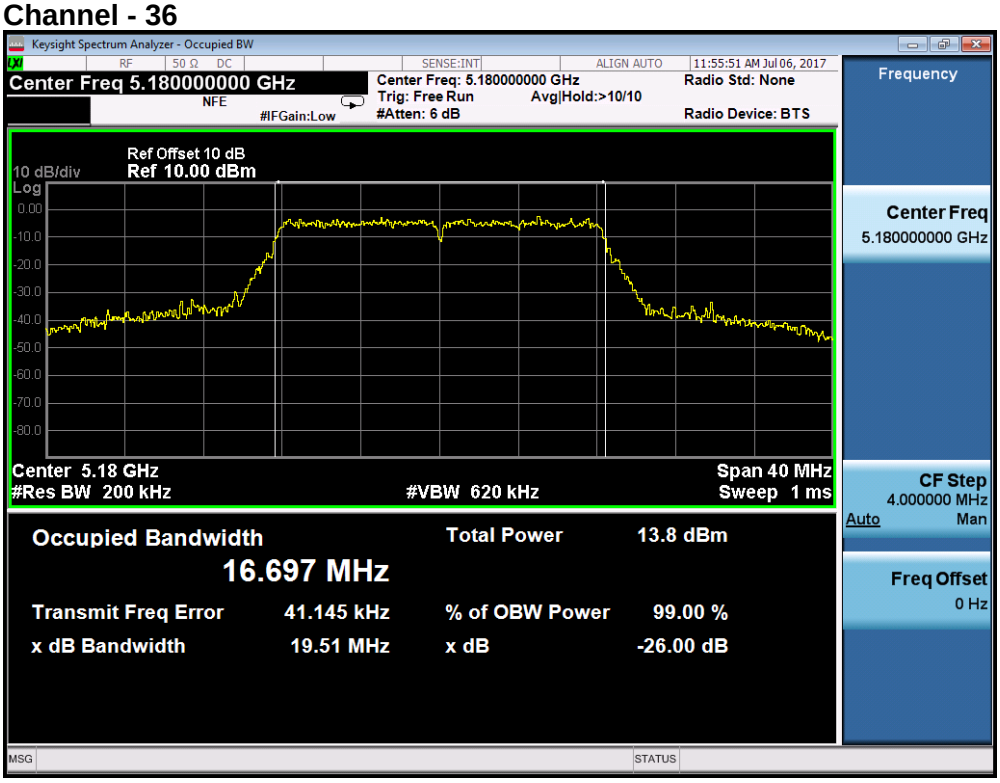
Table 5: Test result of 26dB Bandwidth of Wi-Fi (802.11a)

Channel	Channel Frequency (MHz)	26dB Bandwidth (MHz)
36	5180	19.51
44	5220	19.70
48	5240	19.30
149	5745	19.54
157	5785	19.56
165	5825	19.92

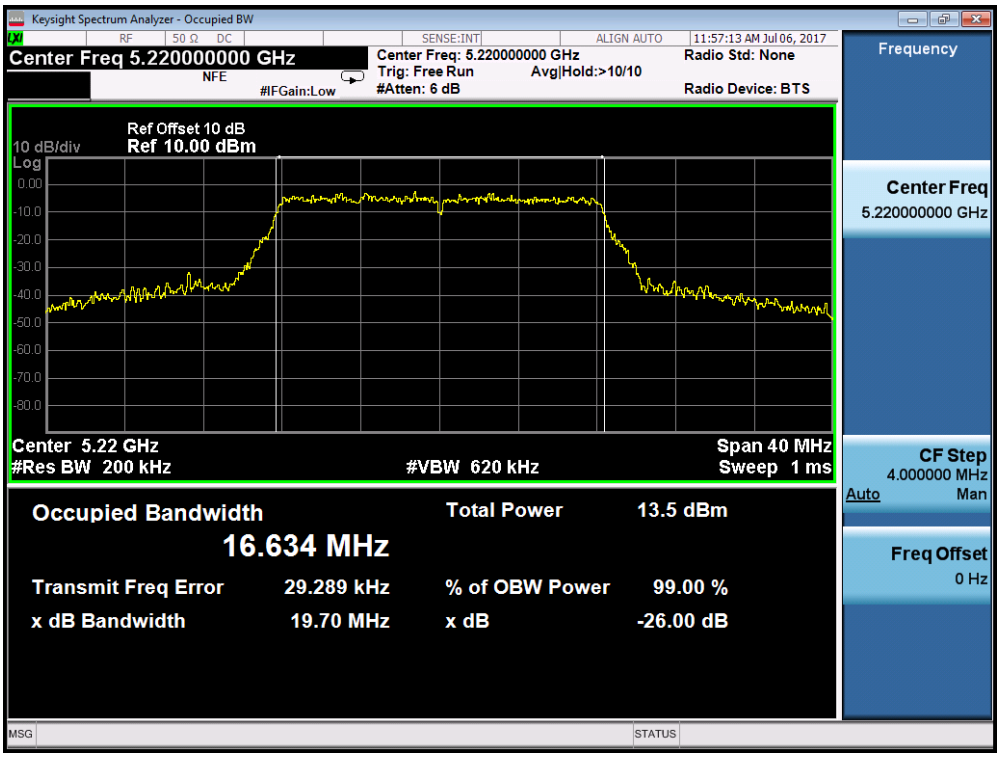
For details refer to following test plot.

Test Plot of 26dB Bandwidth measured of 802.11a mode

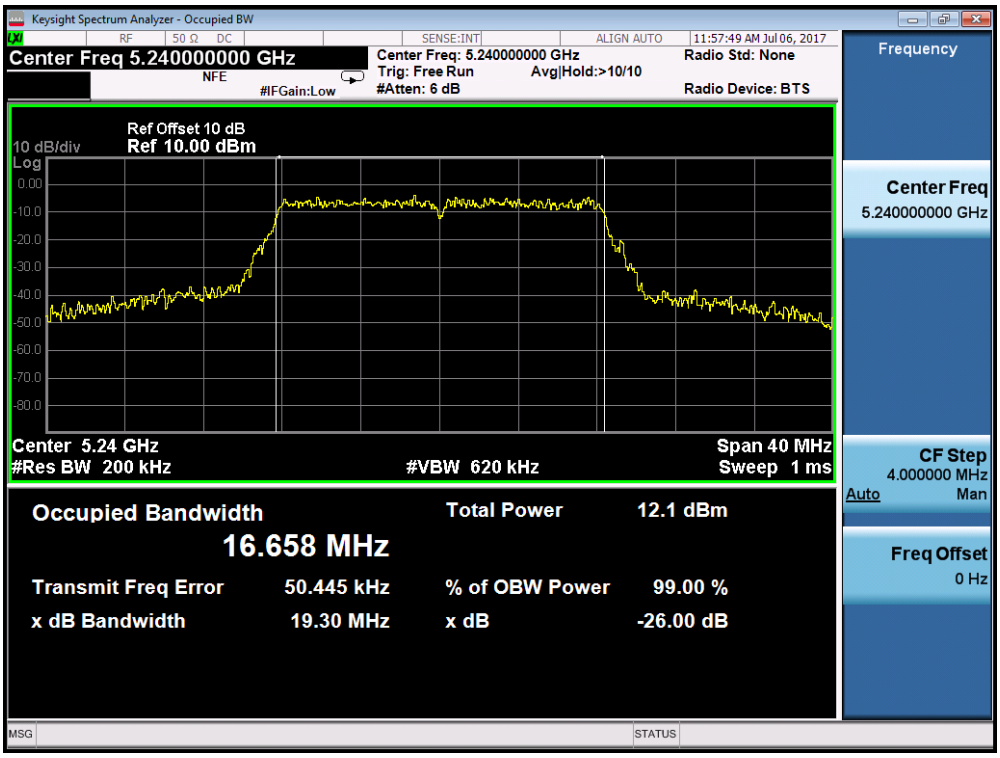
Channel - 36



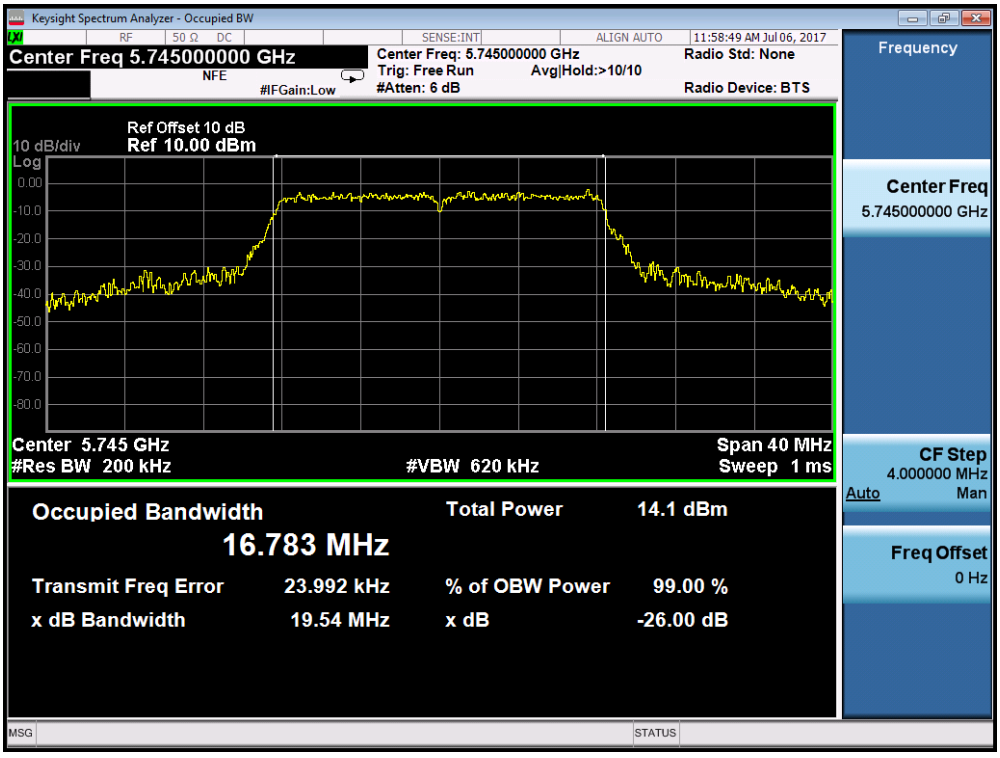
Channel - 44



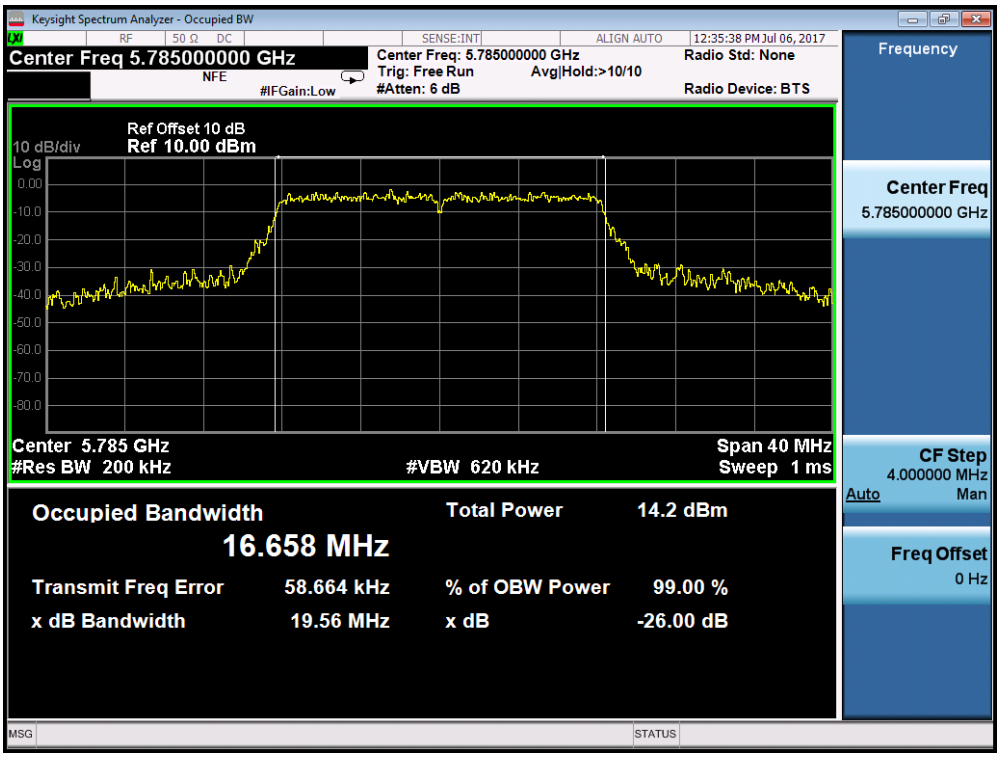
Channel - 48



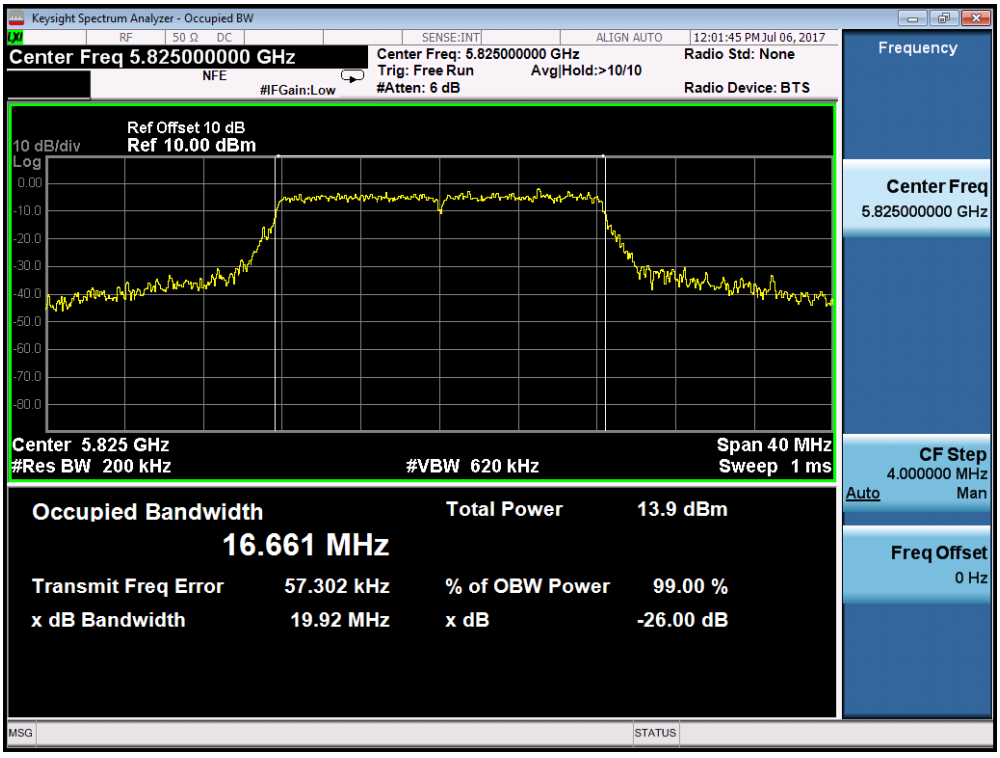
Channel - 149



Channel - 157



Channel - 165



5.1.4 6dB Bandwidth

RESULT: **Pass**

Date of testing	:	2017-04-02
Test standard	:	FCC Part 15.407(e)
Basic standard	:	ANSI C63.10: 2013 Clause C.2 of KDB 789033 D02 v01r04
Limit	:	≥500KHz for 6dB Bandwidth
Kind of test site	:	Shielded room

Test setup

Test Channel	:	149, 157, 165
Operation Mode	:	TM4 ~ TM6
Ambient temperature	:	25℃
Relative humidity	:	52%
Atmospheric pressure	:	101kPa

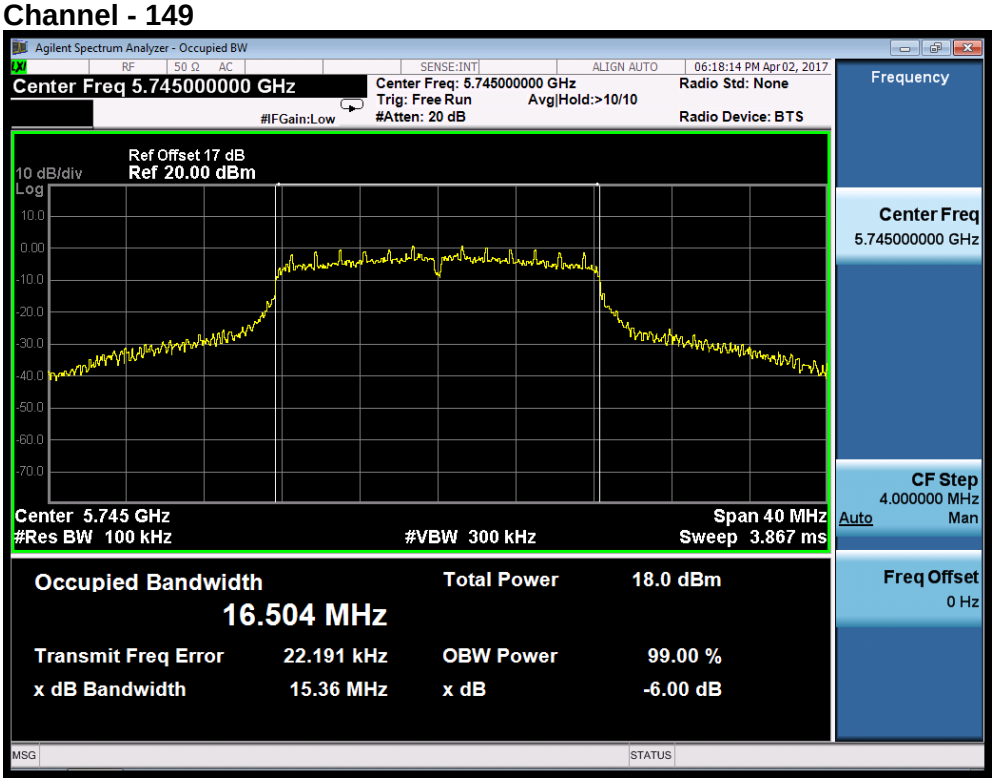
Table 6: Test result of 6dB Bandwidth of Wi-Fi (802.11b)

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (kHz)
149	5745	15.36	≥500kHz
157	5785	15.46	≥500kHz
165	5825	15.35	≥500kHz

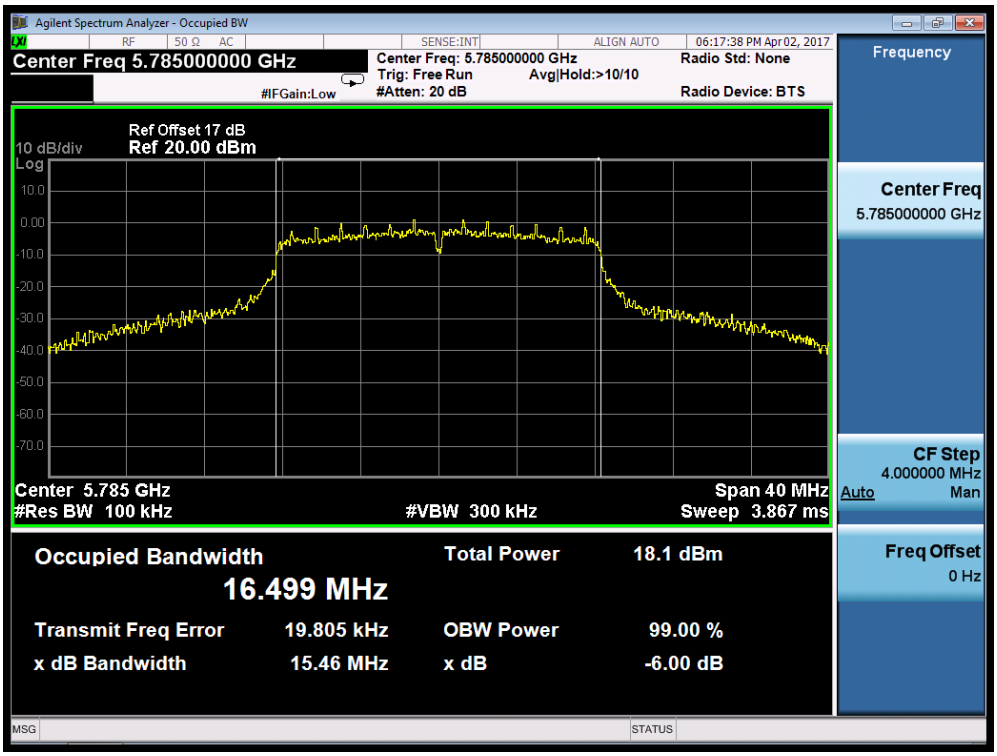
For details refer to following test plot.

Test Plot of 6dB Bandwidth measured of 802.11a mode

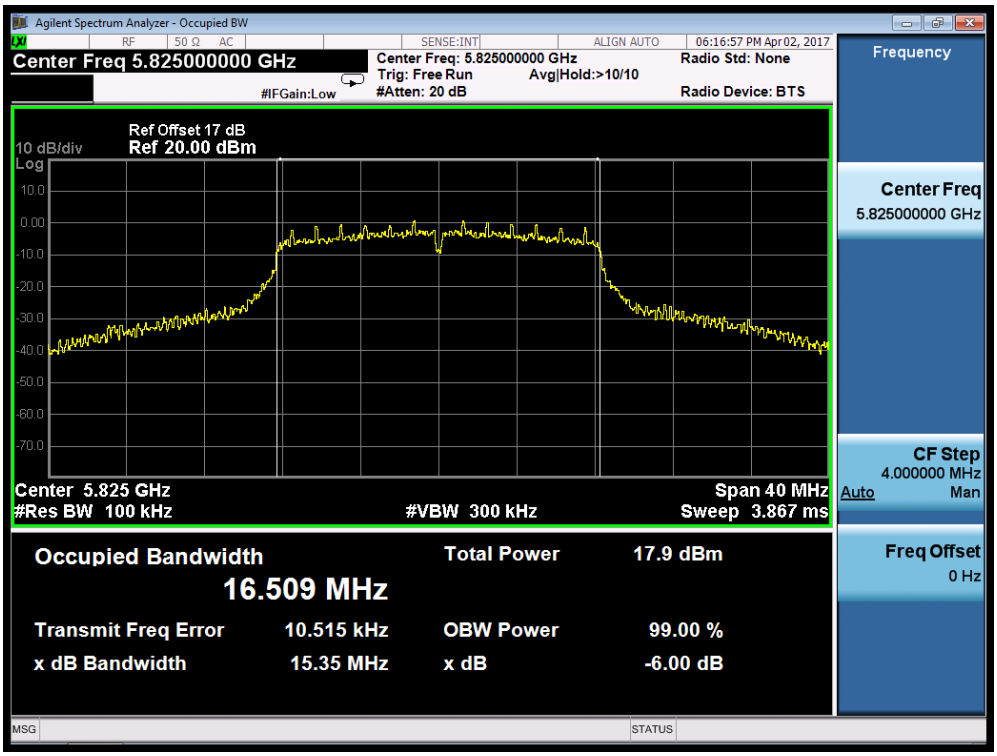
Channel - 149



Channel - 157



Channel - 165


Agilent Spectrum Analyzer - Occupied BW
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
06:16:57 PM Apr 02, 2017
Center Freq 5.825000000 GHz
Center Freq: 5.825000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#IFGain:Low
#Atten: 20 dB
Radio Std: None
Radio Device: BTS
Frequency
Ref Offset 17 dB
10 dB/div
Ref 20.00 dBm
Log
10.0
0.00
-10.0
-20.0
-30.0
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-50.0
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-70.0
Center Freq
5.825000000 GHz
Center 5.825 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 40 MHz
Sweep 3.867 ms
CF Step
4.000000 MHz
Auto
Man
Occupied Bandwidth
16.509 MHz
Total Power
17.9 dBm
Freq Offset
0 Hz
Transmit Freq Error
10.515 kHz
OBW Power
99.00 %
x dB Bandwidth
15.35 MHz
x dB
-6.00 dB
MSG
STATUS

5.1.5 Power spectral density

RESULT: **Pass**

Date of testing	:	2017-04-07
Test standard	:	FCC part 15.407(a)(iv), (a)(3)
Basic standard	:	ANSI C63.10: 2013 Clause F of KDB 789033 D02 v01r04
Limit	:	11dBm/MHz for 5180 ~ 5240 MHz 30 dBm/500kHz for 5745 ~ 5825 MHz
Kind of test site	:	Shielded room

Test setup

Test Channel	:	36, 44, 48, 149, 157, 165
Operation mode	:	TM1 ~ TM6
Ambient temperature	:	25℃
Relative humidity	:	52%
Atmospheric pressure	:	101kPa

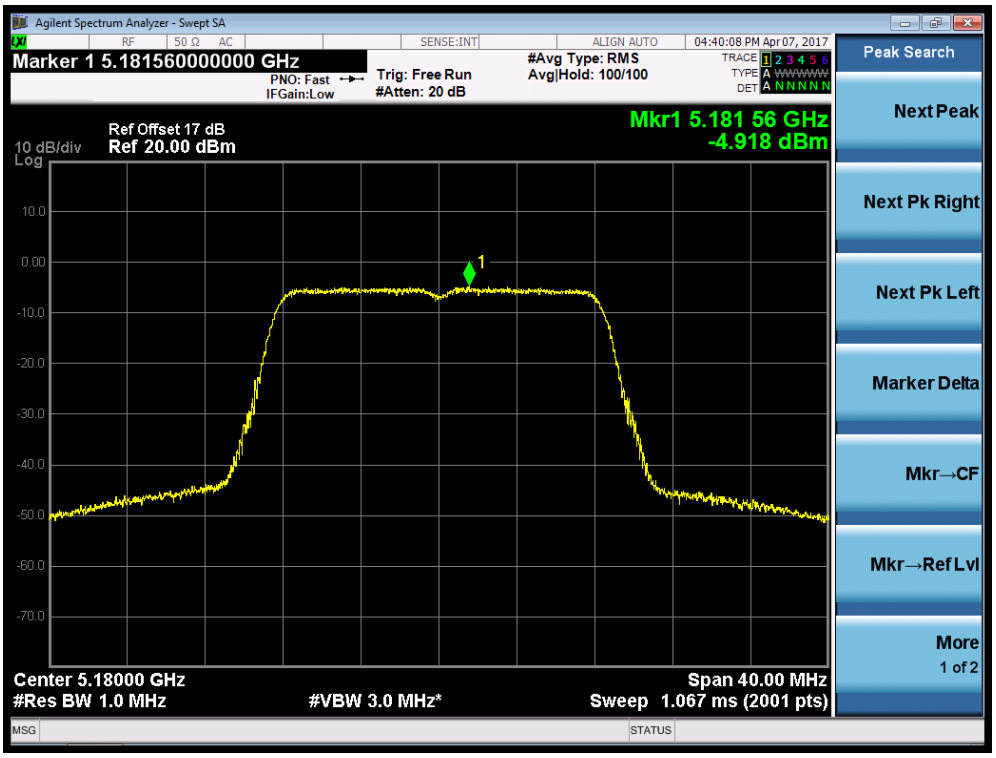
Table 7: Test result of Power Spectral Density of Wi-Fi (802.11a)

Channel	Channel Frequency (MHz)	Test Result	Limit
36	5180	-4.918dBm/MHz	11dBm/MHz
44	5220	-4.131dBm/MHz	11dBm/MHz
48	5240	-3.922dBm/MHz	11dBm/MHz
149	5745	-8.382 dBm/500kHz	30dBm/500kHz
157	5785	-8.656 dBm/500kHz	30dBm/500kHz
165	5825	-7.960 dBm/500kHz	30dBm/500kHz

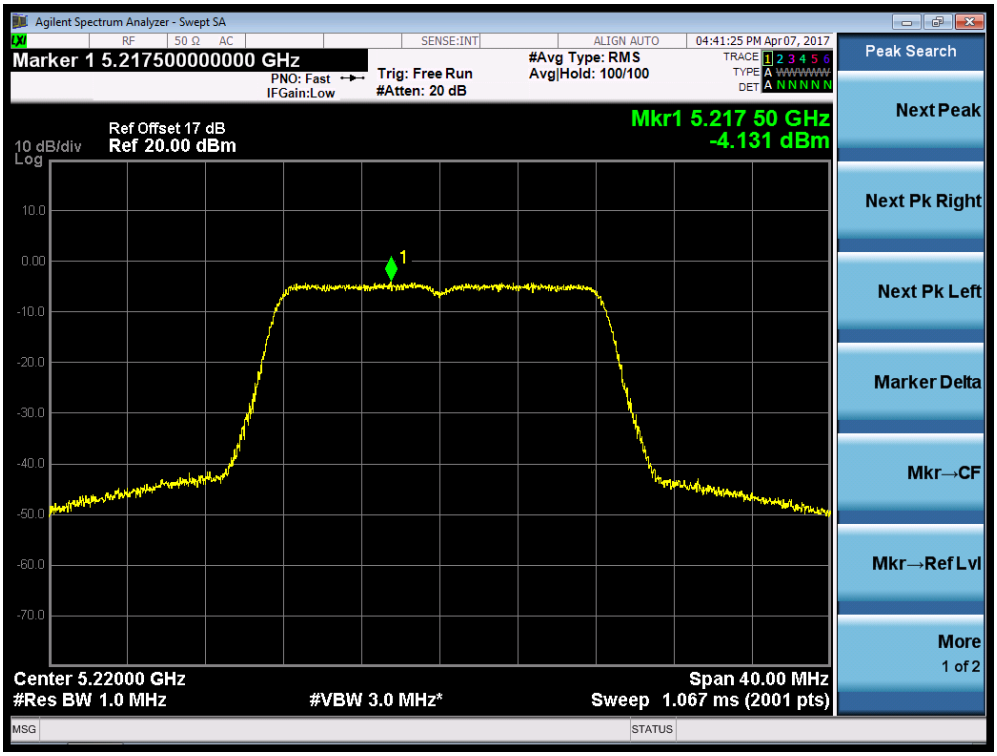
For details refer to following test plot.

Test Plot of Power spectral density measured of 802.11a mode

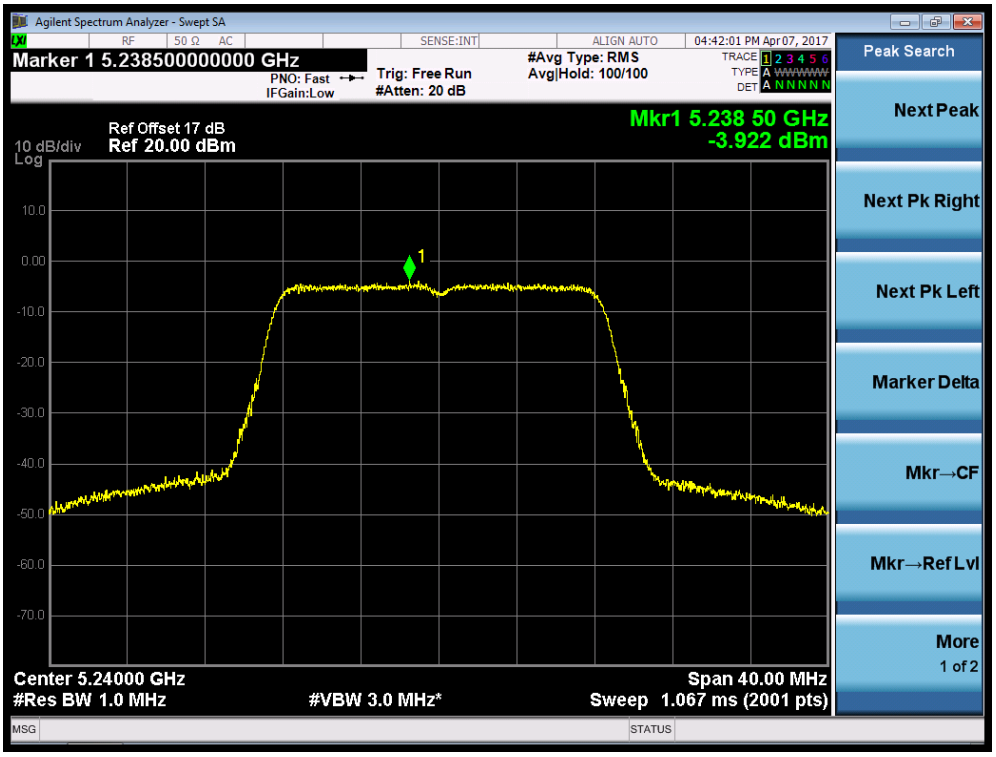
Channel - 36



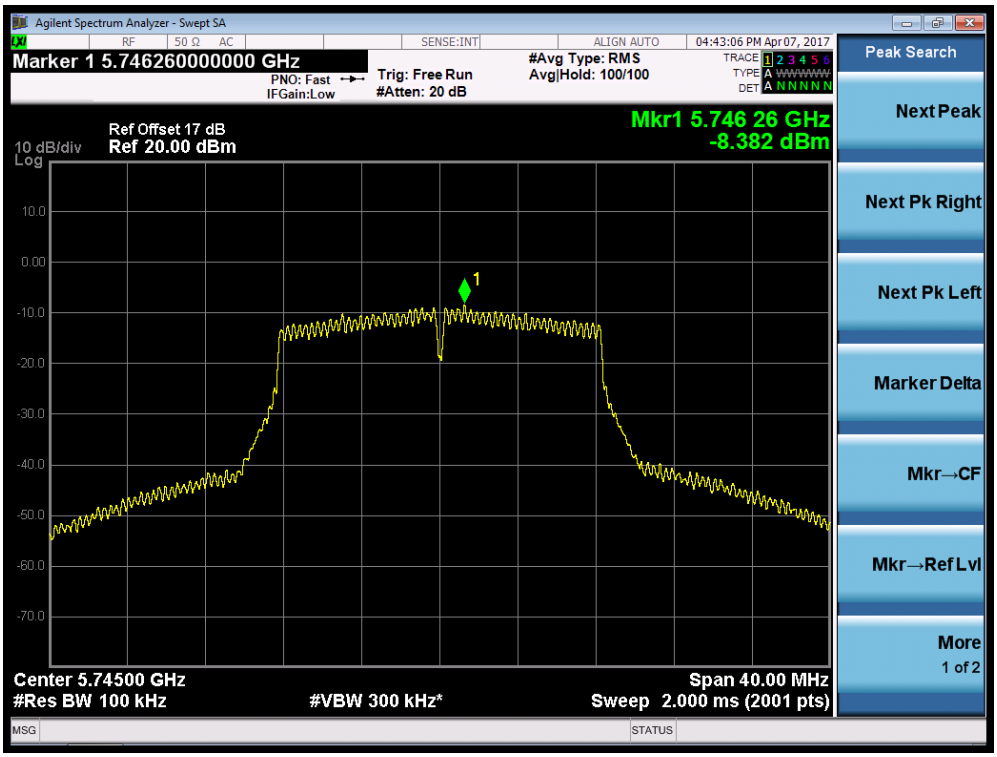
Channel - 44



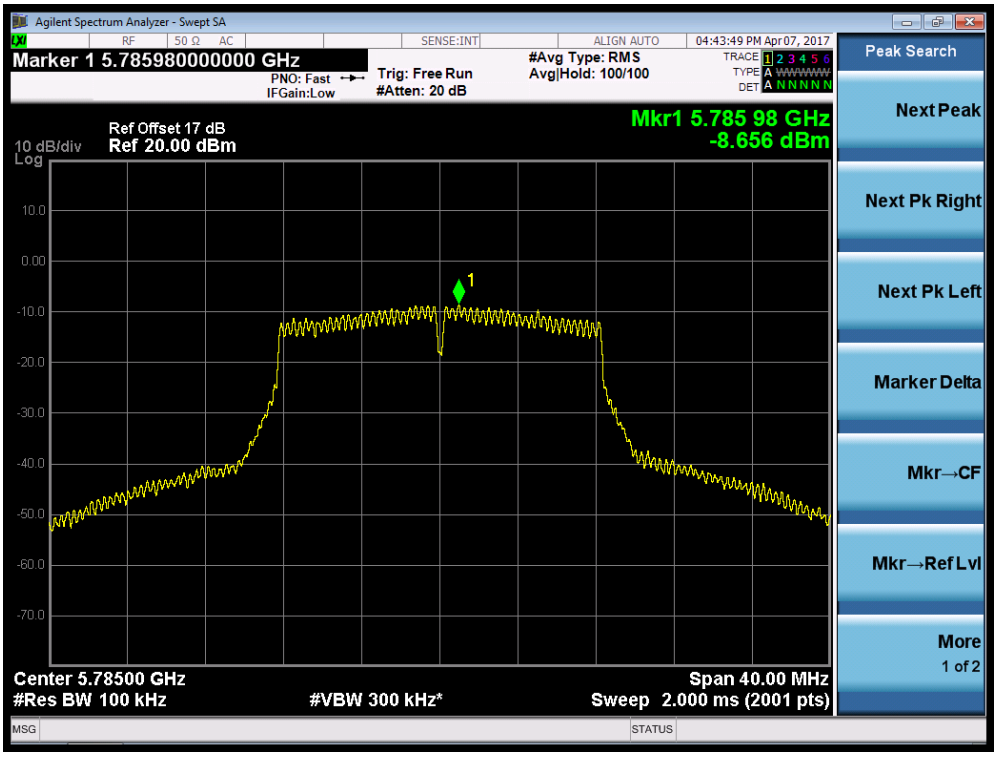
Channel - 48



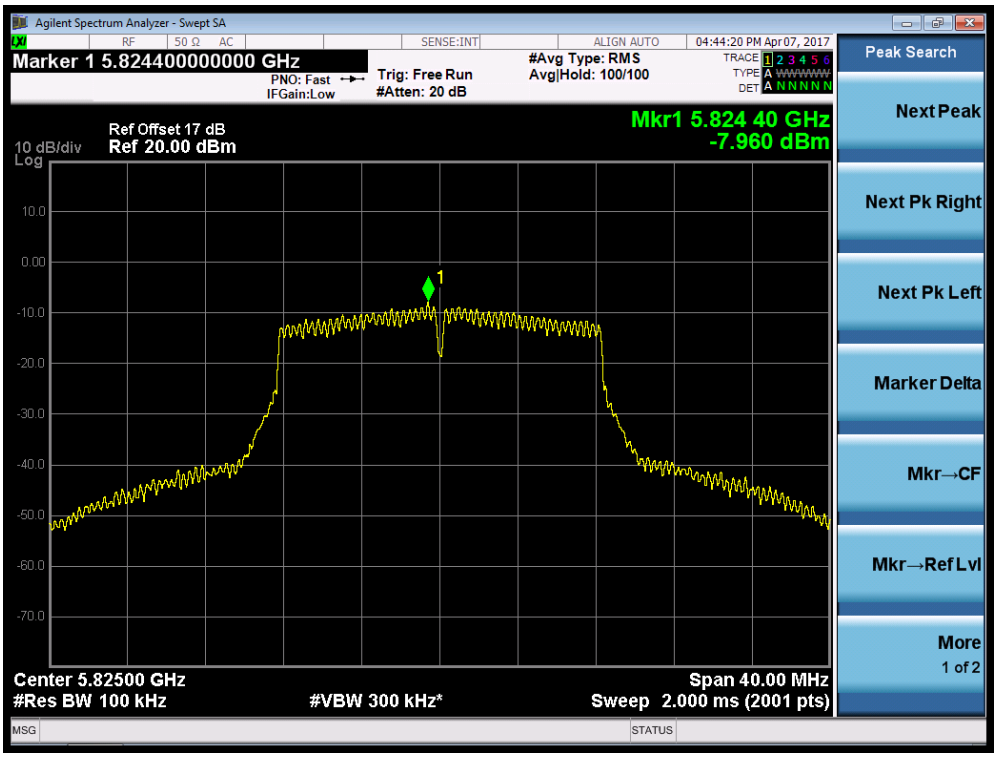
Channel - 149



Channel - 157



Channel - 165



5.1.6 Frequency Stability Measurement

RESULT: **Pass**

Date of testing	:	2017-04-07
Test standard	:	FCC part 15.407(g)
Basic standard	:	ANSI C63.10: 2013
Limit	:	Ensuring frequency stability such that an emission is maintained within the band of operation
Kind of test site	:	Shielded room

Test setup

Test Channel	:	36
Operation mode	:	TM7
Ambient temperature	:	25℃
Relative humidity	:	52%
Atmospheric pressure	:	101kPa

Table 8: Test result of Frequency Stability of Wi-Fi (802.11a)

Voltage (%)	Power (VAC)	Temp (°C)	Test Frequency (Hz)	Freq. Dev. (Hz)				Max Deviation (ppm)	Limit (ppm)
				0 Min	2 Min	5 Min	10 Min		
100%	120	+ 20 (Ref)	5180000000	45821	46840	43786	47094	9.09	±20
			5240000000	35568	25687	33580	14567	6.79	±20
			5745000000	28543	29456	27197	29741	5.18	±20
			5825000000	28543	29456	27197	29741	5.11	±20
		-30	5180000000	55250	56535	55100	56338	10.91	±20
			5240000000	44660	54823	46781	49734	10.46	±20
			5745000000	53567	52542	54796	51963	9.54	±20
			5825000000	53235	33582	66324	25469	11.39	±20
		-20	5180000000	33425	32054	35328	34442	6.82	±20
			5240000000	22596	20474	19473	16645	4.31	±20
			5745000000	18250	19507	19943	16129	3.47	±20
			5825000000	9974	10473	9831	10983	1.89	±20
		- 10	5180000000	-2170	-559	-2154	-745	0.42	±20
			5240000000	-2834	-4258	1235	485	0.81	±20
			5745000000	1456	13371	13020	-3348	2.33	±20
			5825000000	2647	4456	5664	10547	1.81	±20

		0	5180000000	6320	7347	6119	8227	1.59	±20
			5240000000	3475	4546	1048	645	0.87	±20
			5745000000	-1635	-615	100	20	0.28	±20
			5825000000	10475	23774	28456	20345	4.89	±20
		+ 10	5180000000	25255	23248	27380	23383	5.29	±20
			5240000000	25485	32284	12844	24852	6.16	±20
			5745000000	25820	25894	25346	26423	4.60	±20
			5825000000	27586	20084	30237	17485	5.19	±20
		+ 20	5180000000	24855	24462	25725	22782	4.97	±20
			5240000000	18455	18845	18985	27442	5.24	±20
			5745000000	14542	15370	15621	14500	2.72	±20
			5825000000	7334	18984	13266	34775	5.97	±20
		+ 30	5180000000	-6280	-4791	-4869	-4655	1.21	±20
			5240000000	-3475	-2245	-683	-2345	0.66	±20
			5745000000	38510	40180	37579	36798	6.99	±20
			5825000000	10457	2332	4452	11348	1.95	±20
		+ 40	5180000000	15320	17155	13916	13861	3.31	±20
			5240000000	20855	27665	23761	4356	5.28	±20
			5745000000	13740	15529	12722	14221	2.70	±20
			5825000000	34556	14422	12341	34563	5.93	±20
		+ 50	5180000000	45720	45474	44957	44133	8.83	±20
			5240000000	35567	34567	26756	17754	6.79	±20
			5745000000	66340	66838	64946	65745	11.63	±20
			5825000000	34562	23451	33456	23461	5.93	±20
115%	138	+ 20	5180000000	36631	36853	35819	36959	7.13	±20
			5240000000	32642	22774	30272	25614	6.23	±20
			5745000000	76450	75990	76934	78449	13.66	±20
			5825000000	10556	27545	25415	34632	5.95	±20
85%	102	+ 20	5180000000	46250	45884	44470	46774	9.03	±20
			5240000000	22215	34622	15631	23693	6.61	±20
			5745000000	63542	64527	65055	63649	11.32	±20
			5825000000	25678	24511	28853	36613	6.29	±20

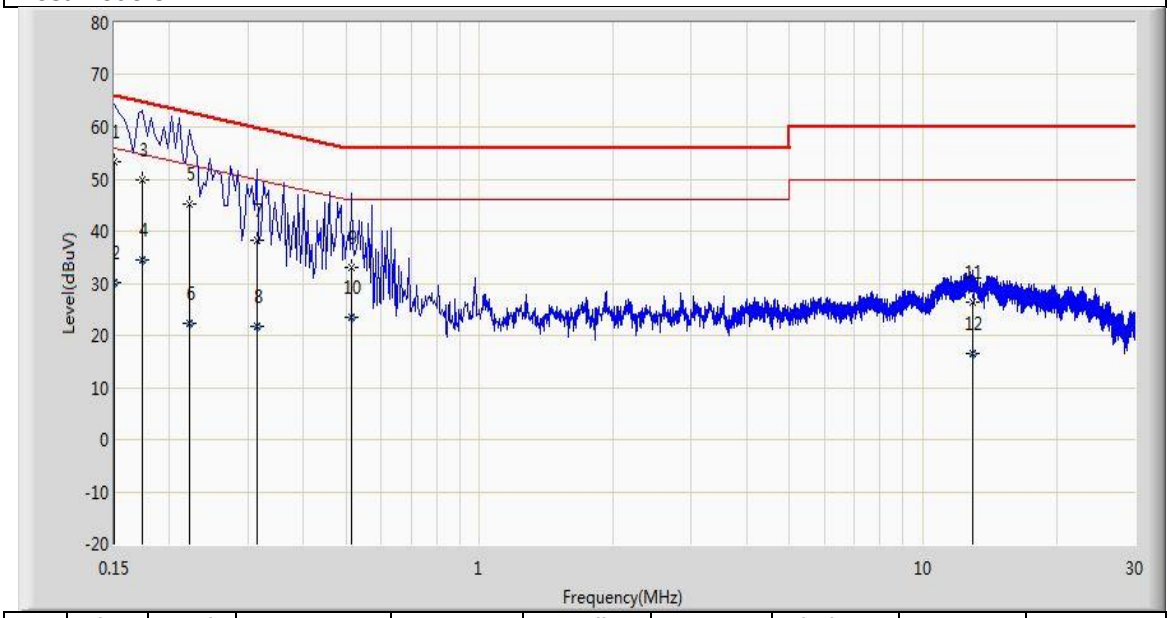
Note: Max Deviation (ppm) = {Max [ABS(Freq. Dev. at 0 Min): ABS(Freq. Dev. at 2 Min): ABS(Freq. Dev. at 5 Min): ABS(Freq. Dev. at 10 Min)]} / Test Frequency (Hz)

5.1.7 Conducted Emission

RESULT: **PASS**

Date of testing	:	2017/07/04
Test standard	:	FCC Part 15.207 (a)
Test procedure	:	ANSI C63.10: 2013
Limit	:	FCC Part 15.207(a)
Kind of test site	:	Shielded room

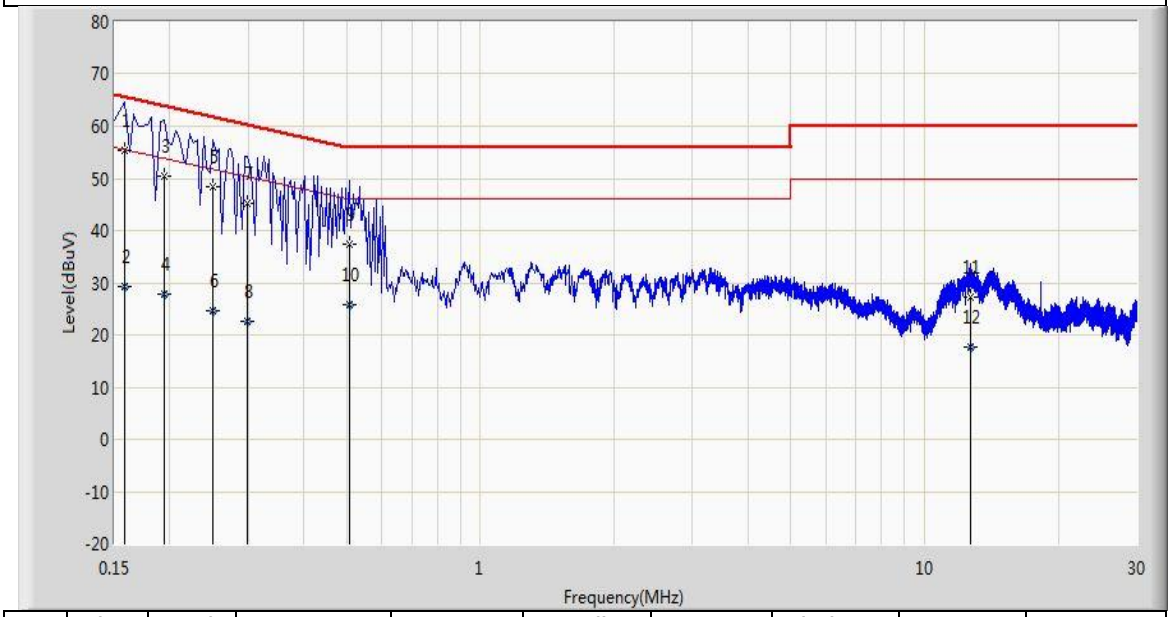
Limit: FCC_Part15.207_CE_AC Power	Engineer: Bacon Dong
Probe: ENV216_101683_Filter On	Polarity: Line
EUT: MID	Power: AC 120V/60Hz
Test Mode 8	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		*	0.150	53.382	42.213	-12.618	66.000	11.168	QP
2			0.150	30.139	18.971	-25.861	56.000	11.168	AV
3			0.174	49.905	39.837	-14.863	64.767	10.068	QP
4			0.174	34.595	24.527	-20.172	54.767	10.068	AV
5			0.222	45.197	35.256	-17.547	62.744	9.941	QP
6			0.222	22.321	12.380	-30.423	52.744	9.941	AV
7			0.314	38.146	28.130	-21.718	59.864	10.015	QP
8			0.314	21.723	11.707	-28.141	49.864	10.015	AV
9			0.514	33.178	23.021	-22.822	56.000	10.156	QP
10			0.514	23.567	13.411	-22.433	46.000	10.156	AV
11			12.966	26.451	16.387	-33.549	60.000	10.064	QP
12			12.966	16.579	6.515	-33.421	50.000	10.064	AV

Note: Measure Level (dBµV) = Reading Level (dBµV) + Factor (dB)
Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

Limit: FCC_Part15.207_CE_AC Power	Engineer: Bacon Dong
Probe: ENV216_101683_Filter On	Polarity: Neutral
EUT: MID	Power: AC 120V/60Hz
Test Mode 8	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		*	0.158	55.489	45.199	-10.080	65.568	10.290	QP
2			0.158	29.235	18.945	-26.333	55.568	10.290	AV
3			0.194	50.320	40.299	-13.543	63.864	10.021	QP
4			0.194	27.847	17.826	-26.017	53.864	10.021	AV
5			0.250	48.460	38.459	-13.297	61.757	10.001	QP
6			0.250	24.621	14.620	-27.136	51.757	10.001	AV
7			0.298	45.265	35.228	-15.034	60.298	10.036	QP
8			0.298	22.623	12.587	-27.675	50.298	10.036	AV
9			0.506	37.392	27.215	-18.608	56.000	10.177	QP
10			0.506	25.801	15.624	-20.199	46.000	10.177	AV
11			12.718	27.116	16.994	-32.884	60.000	10.123	QP
12			12.718	17.750	7.627	-32.250	50.000	10.123	AV

Note: Measure Level (dBµV) = Reading Level (dBµV) + Factor (dB)
Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

5.1.8 Spurious Emission

RESULT: **Pass**

Date of testing	:	2017-04-18
Test standard	:	FCC part 15.407(b)
Basic standard	:	ANSI C63.10: 2013 Clause G.4 G.5 G.6 of KDB 789033 D02 v01r04
Limits	:	FCC part 15.209(a)
Kind of test site	:	3m Semi-Anechoic Chamber

Test setup

Test Channel	:	36, 44, 48, 149, 157, 165
Operation mode	:	TM1 ~ TM6
Ambient temperature	:	25℃
Relative humidity	:	52%
Atmospheric pressure	:	101kPa

Note: There is no additional emission generated due to simultaneous-transmission operations compared to standalone operations testing

Table 9: Test result of Spurious Emission of Wi-Fi (802.11a 5180 ~ 5240MHz)

Channel	Freq. (MHz)	Reading (dBμ V)	Correct Factor (dB)	Measure Level (dBμ V/m)	Limit (dBμ V/m)	Margin (dB)	Detector	Polar
36	8922.000	35.457	11.757	47.213	68.200	-20.987	PK	H
	10358.500	38.125	14.921	53.046	68.200	-15.154	PK	
	11557.000	33.927	17.672	51.599	74.000	-22.401	PK	
	15539.600	36.080	17.415	53.496	54.000	-0.504	AV	
	15543.500	51.647	17.444	69.091	74.000	-4.909	PK	
	8947.500	36.248	11.580	47.828	68.200	-20.372	PK	V
	10358.500	36.931	14.921	51.852	68.200	-16.348	PK	
	11659.000	34.040	17.500	51.540	74.000	-22.460	PK	
	15539.200	30.430	17.413	47.843	54.000	-6.157	AV	
	15543.500	44.305	17.444	61.749	74.000	-12.251	PK	
44	9219.500	34.800	13.084	47.885	68.200	-20.315	PK	H
	10435.000	38.566	14.603	53.169	68.200	-15.031	PK	
	11489.000	34.749	17.121	51.871	74.000	-22.129	PK	
	15660.100	36.270	17.072	53.342	54.000	-0.658	AV	
	15662.500	52.371	17.006	69.377	74.000	-4.623	PK	
	8352.500	39.182	10.068	49.250	74.000	-24.750	PK	V
	15660.400	30.110	17.063	47.173	54.000	-6.827	AV	
	15662.500	45.490	17.006	62.496	74.000	-11.504	PK	
	17184.000	33.054	22.263	55.318	68.200	-12.882	PK	
	17685.500	32.020	24.957	56.976	68.200	-11.224	PK	
48	9287.500	35.373	12.683	48.056	68.200	-20.144	PK	H
	10477.500	39.014	14.848	53.863	68.200	-14.337	PK	
	11565.500	34.419	17.556	51.975	74.000	-22.025	PK	
	15719.500	36.670	16.595	53.265	54.000	-0.735	AV	
	15730.500	52.302	16.747	69.049	74.000	-4.951	PK	
	8386.500	39.863	10.398	50.261	74.000	-23.739	PK	V
	15713.500	45.847	16.817	62.664	74.000	-11.336	PK	
	15719.200	30.740	16.607	47.347	54.000	-6.653	AV	
	17022.500	33.209	21.271	54.480	68.200	-13.720	PK	
	17617.500	32.604	23.968	56.572	68.200	-11.628	PK	

Table 10: Test result of Spurious Emission of Wi-Fi (802.11a 5745 ~ 5825MHz)

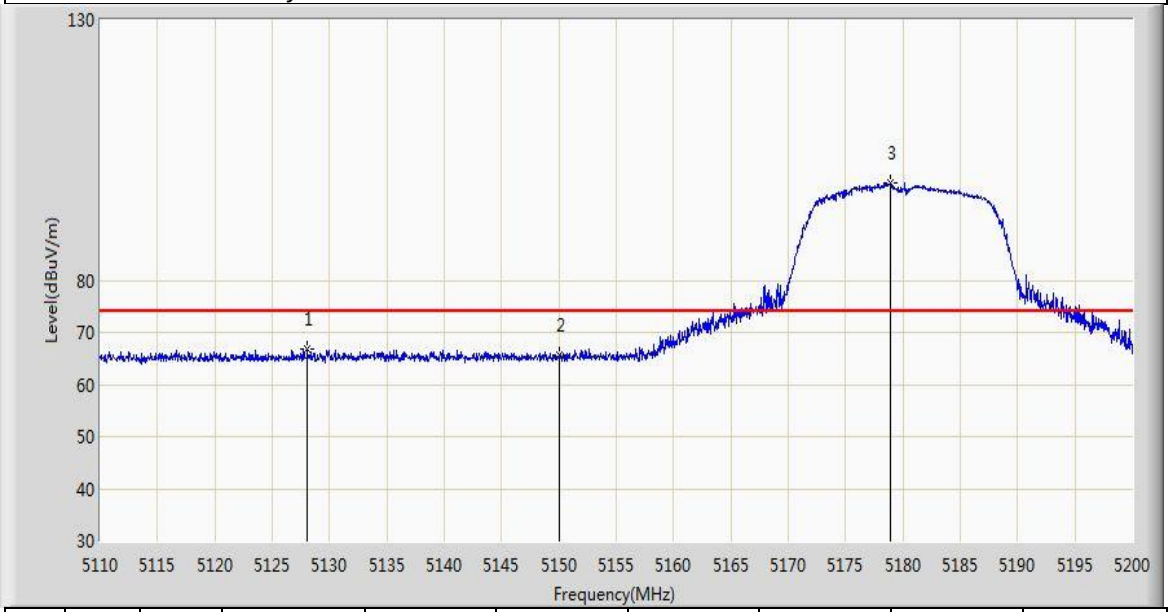
Channel	Freq. (MHz)	Reading (dBμ V)	Correct Factor (dB)	Measure Level (dBμ V/m)	Limit (dBμ V/m)	Margin (dB)	Detector	Polar
149	9015.500	34.116	11.513	45.629	74.000	-28.371	PK	H
	10851.500	34.980	16.066	51.047	74.000	-22.953	PK	
	14787.000	34.767	20.593	55.359	68.200	-12.841	PK	
	17243.500	43.595	22.228	65.823	68.200	-2.377	PK	
	10622.000	35.808	15.548	51.356	74.000	-22.644	PK	V
	11667.500	34.398	17.592	51.991	74.000	-22.009	PK	
	14778.500	34.493	20.694	55.187	68.200	-13.013	PK	
	17235.000	41.234	22.360	63.594	68.200	-4.606	PK	
157	10690.000	35.545	15.634	51.179	74.000	-22.821	PK	H
	11438.000	35.288	16.982	52.271	74.000	-21.729	PK	
	14829.500	34.916	20.737	55.653	68.200	-12.547	PK	
	17362.500	44.805	22.888	67.693	68.200	-0.507	PK	
	9466.000	35.184	12.459	47.643	74.000	-26.357	PK	V
	10741.000	35.459	15.882	51.341	74.000	-22.659	PK	
	14974.000	34.006	19.991	53.997	68.200	-14.203	PK	
	17362.500	38.102	22.888	60.990	68.200	-7.210	PK	
165	9321.500	36.332	12.859	49.191	74.000	-24.809	PK	H
	10639.000	35.559	15.570	51.129	74.000	-22.871	PK	
	14795.500	34.220	20.303	54.524	68.200	-13.676	PK	
	17481.500	44.040	23.503	67.543	68.200	-0.657	PK	
	9321.500	38.382	12.859	51.241	74.000	-22.759	PK	V
	10656.000	36.494	15.759	52.253	74.000	-21.747	PK	
	14829.500	34.650	20.737	55.387	68.200	-12.813	PK	
	17473.000	42.665	23.133	65.797	68.200	-2.403	PK	

Transmit mode comply with the field strength within the restricted bands.
There is no spurious found below 30MHz.

1. There is the ambient noise within frequency range 9kHz~30MHz and 18GHz~40GHz, the permissible value is not show in the report.
2. Due to the peak measure values also meet the average limit (54dBm), the average measurement is not tested based on technical judgment.

Test Plot of Frequency Band Edge of 802.11a mode

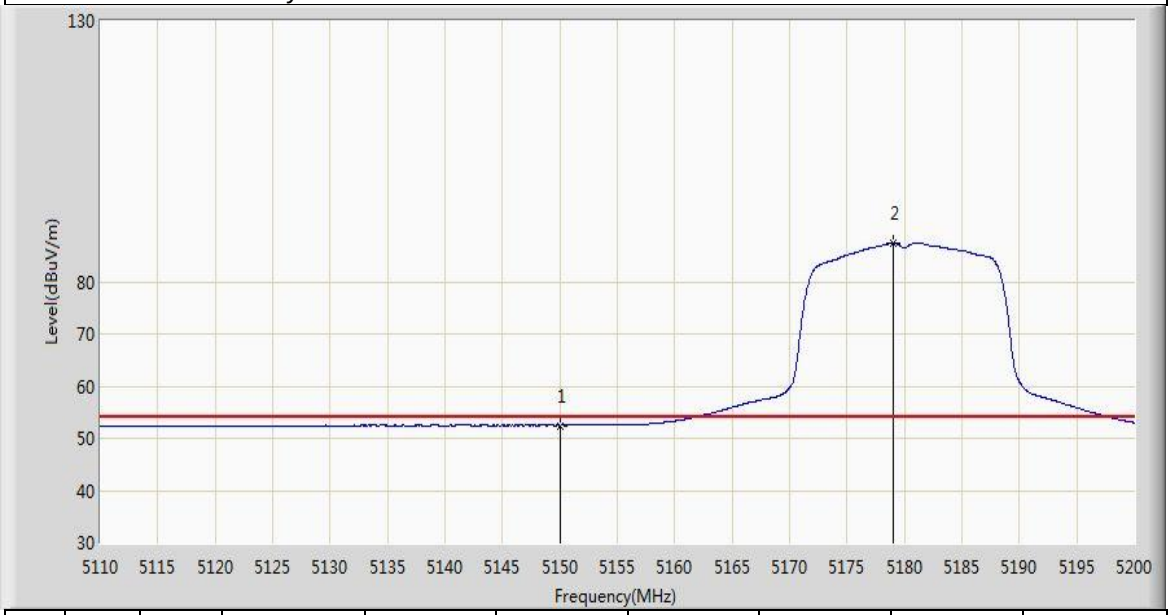
Site: AC2	Time: 2017/04/02 - 00:58
Limit: FCC_Part15.209_RE(3m)	Engineer: Elliot Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5128.090	66.842	27.745	-7.158	74.000	39.097	PK
2			5150.000	65.696	26.645	-8.304	74.000	39.051	PK
3		*	5178.895	98.601	59.542	N/A	N/A	39.059	PK

Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

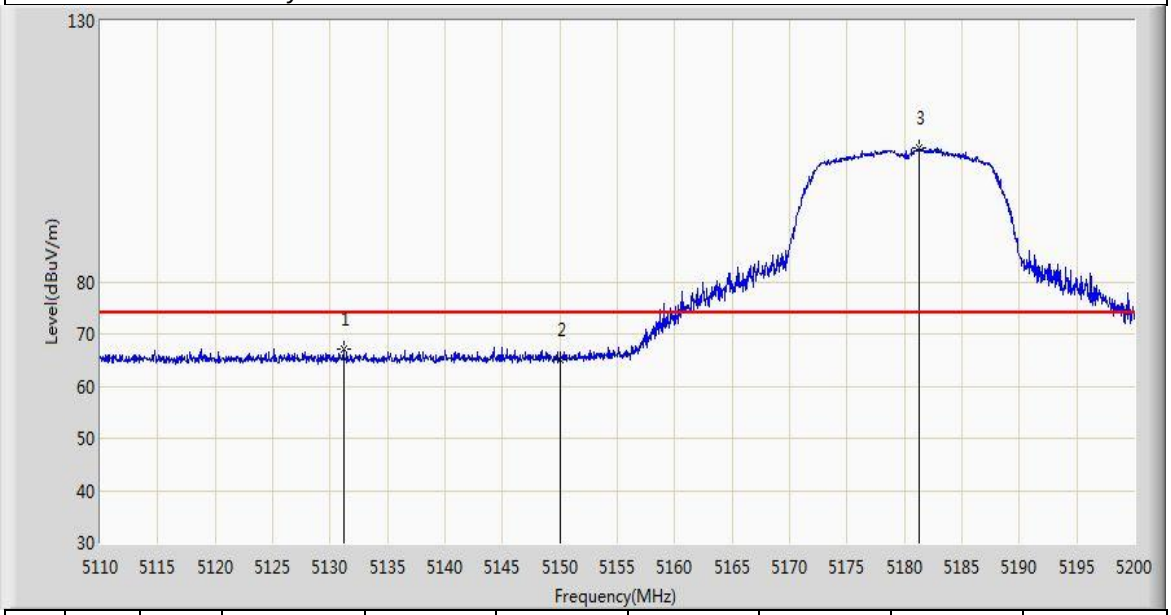
Site: AC2	Time: 2017/04/02 - 01:00
Limit: FCC_Part15.209_RE(3m)	Engineer: Elliot Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	52.457	13.406	-1.543	54.000	39.051	AV
2		*	5179.030	87.480	48.420	N/A	N/A	39.059	AV

Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

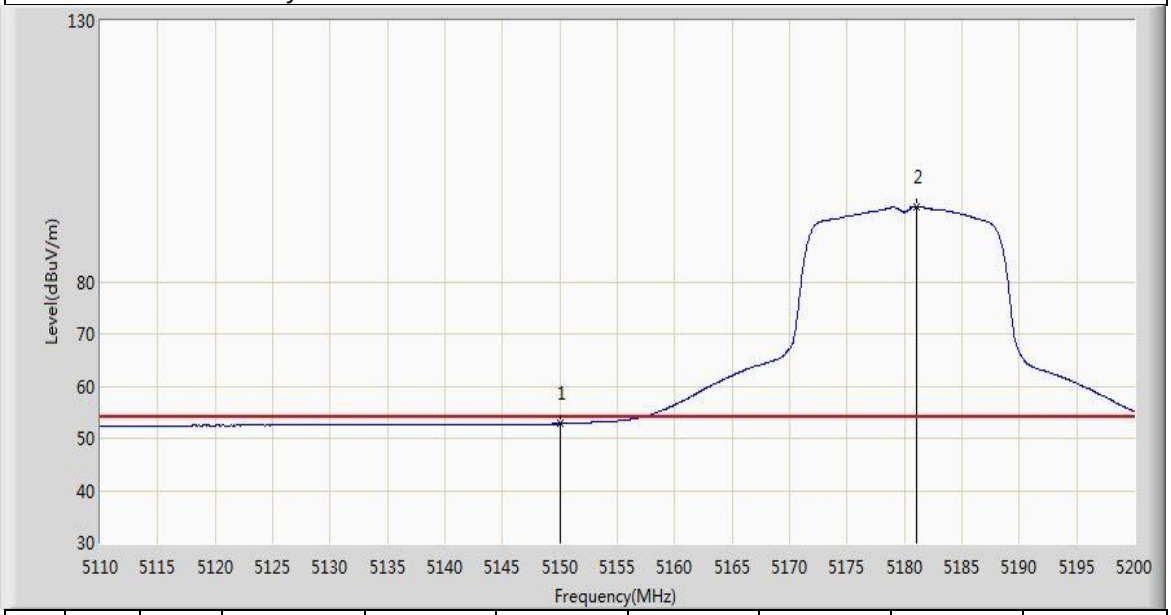
Site: AC2	Time: 2017/04/02 - 01:02
Limit: FCC_Part15.209_RE(3m)	Engineer: Elliot Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5131.150	67.166	28.060	-6.834	74.000	39.106	PK
2			5150.000	65.023	25.972	-8.977	74.000	39.051	PK
3		*	5181.280	105.649	66.577	N/A	N/A	39.072	PK

Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

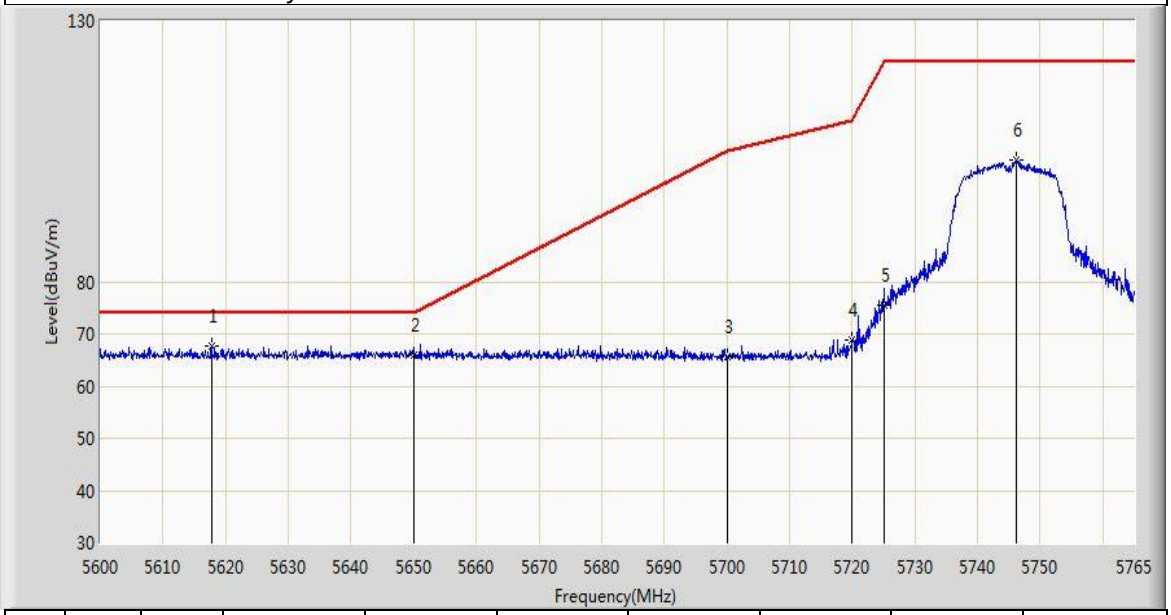
Site: AC2	Time: 2017/04/02 - 01:03
Limit: FCC_Part15.209_RE(3m)	Engineer: Elliot Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	52.775	13.724	-1.225	54.000	39.051	AV
2		*	5181.055	94.418	55.348	N/A	N/A	39.070	AV

Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

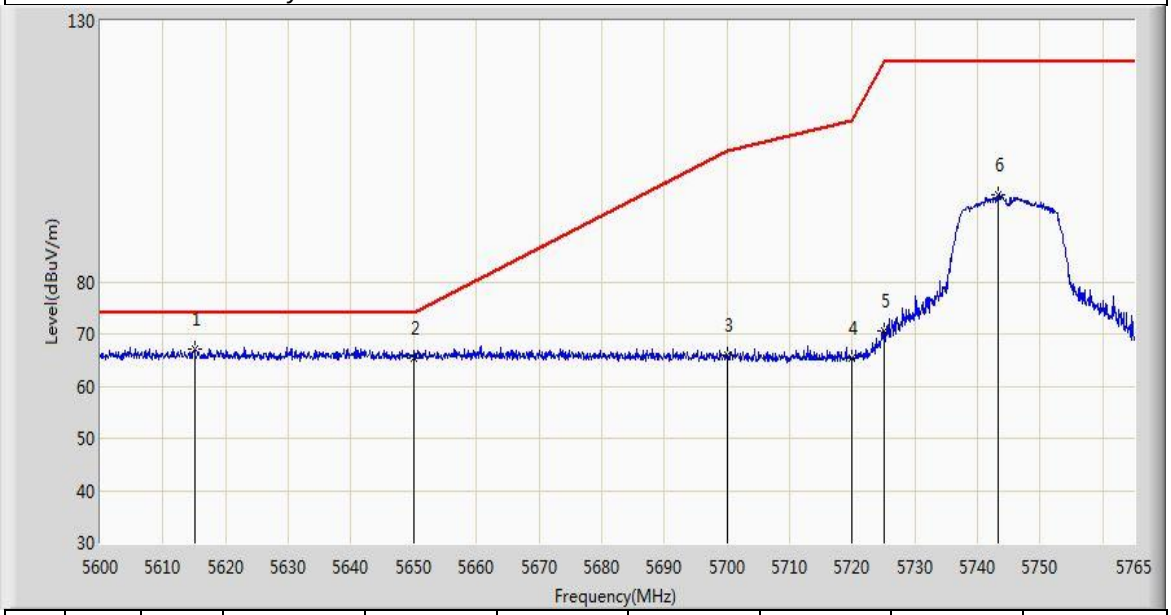
Site: AC2	Time: 2017/04/02 - 01:04
Limit: FCC_Part15.407_RE(3m)_Bandedge	Engineer: Elliot Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5745MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	5617.737	67.737	28.269	-0.463	68.200	39.468	PK
2			5650.000	65.987	26.503	-2.213	68.200	39.483	PK
3			5700.000	65.530	25.951	-39.670	105.200	39.579	PK
4			5720.000	68.735	29.108	-42.065	110.800	39.627	PK
5			5725.000	75.559	35.896	-46.641	122.200	39.663	PK
6			5746.272	103.225	63.393	N/A	N/A	39.832	PK

Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

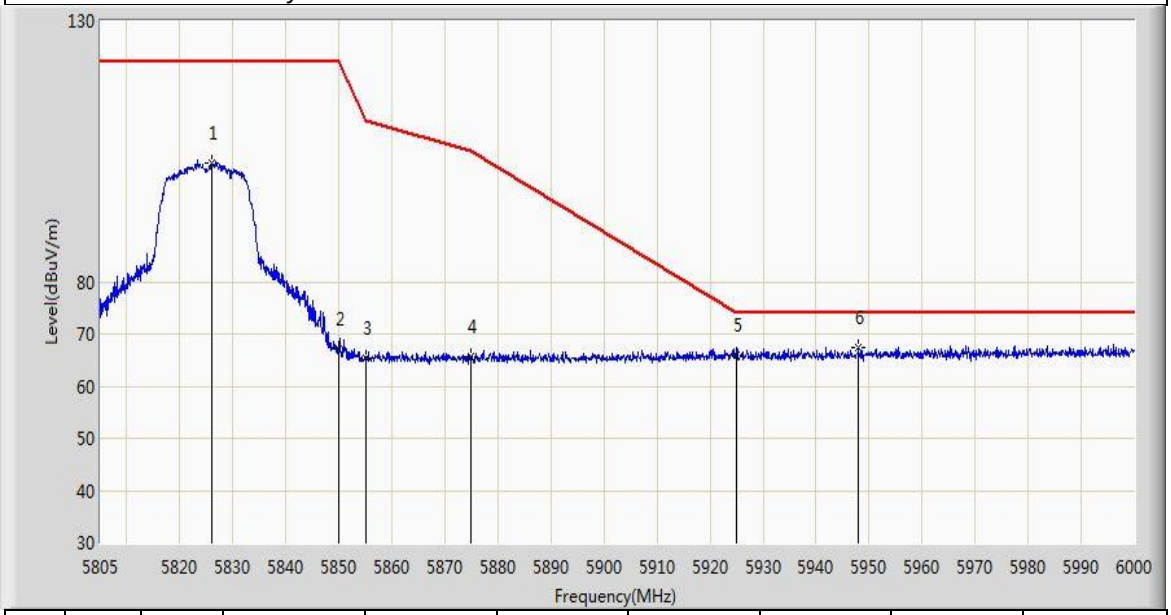
Site: AC2	Time: 2017/04/02 - 01:07
Limit: FCC_Part15.407_RE(3m)_Bandedge	Engineer: Elliot Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5745MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	5615.015	67.140	27.663	-1.060	68.200	39.478	PK
2			5650.000	65.386	25.902	-2.814	68.200	39.483	PK
3			5700.000	65.830	26.251	-39.370	105.200	39.579	PK
4			5720.000	65.252	25.625	-45.548	110.800	39.627	PK
5			5725.000	70.513	30.850	-51.687	122.200	39.663	PK
6			5743.385	96.673	56.868	N/A	N/A	39.806	PK

Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

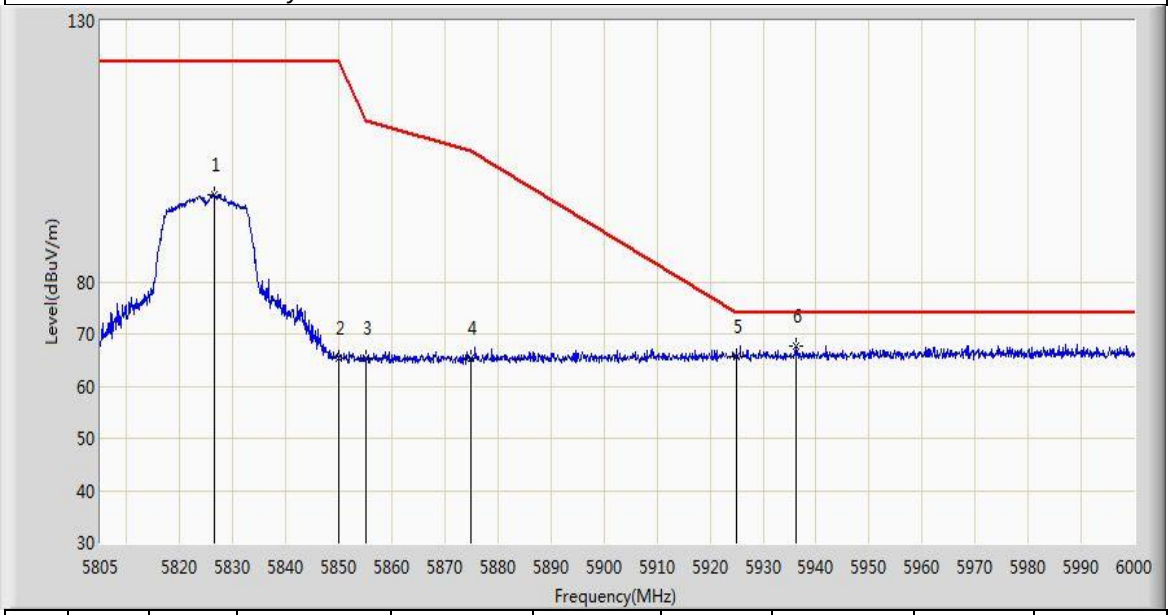
Site: AC2	Time: 2017/04/02 - 01:08
Limit: FCC_Part15.407_RE(3m)_Bandedge	Engineer: Elliot Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5825MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5825.962	102.850	62.734	N/A	N/A	40.116	PK
2			5850.000	66.980	26.712	-55.220	122.200	40.268	PK
3			5855.000	65.364	25.093	-45.436	110.800	40.270	PK
4			5875.000	65.707	25.399	-39.493	105.200	40.308	PK
5			5925.000	65.918	25.588	-2.282	68.200	40.330	PK
6		*	5947.935	67.425	27.209	-0.775	68.200	40.216	PK

Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: AC2	Time: 2017/04/02 - 01:09
Limit: FCC_Part15.407_RE(3m)_Bandedge	Engineer: Elliot Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5825MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5826.450	96.676	56.557	N/A	N/A	40.119	PK
2			5850.000	65.246	24.978	-56.954	122.200	40.268	PK
3			5855.000	65.426	25.155	-45.374	110.800	40.270	PK
4			5875.000	65.292	24.984	-39.908	105.200	40.308	PK
5			5925.000	65.605	25.275	-2.595	68.200	40.330	PK
6		*	5936.138	67.625	27.327	-0.575	68.200	40.298	PK

Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

6. List of Tables