Test Report

FCC Part15 Subpart E

Product Name	:	5GHz 300Mbps Outdoor Wireless Base Station
Model No.	:	WBS510
FCC ID	:	TE7WBS510

Applicant	:	TP-LINK TECHNOLOGIES CO., LTD.
Address	:	Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park,Shennan Rd, Nanshan, Shenzhen,China

Date of Receipt	:	Mar. 29, 2016
Test Date	:	Mar. 29, 2016~ Apr. 27, 2016
Issued Date	:	Aug. 30, 2016
Report No.	:	1632114R-RF-US-P09V01
Report Version	:	V3.3

Test Report Certification

Issued Date : Aug. 30, 2016
Report No. : 1632114R-RF-US-P09V01

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Applicant	:	TP-LINK TECHNOLOGIES CO., LTD.
Address	:	Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park,Shennan Rd, Nanshan, Shenzhen,China
Manufacturer	:	TP-LINK TECHNOLOGIES CO., LTD.
Address	:	Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park,Shennan Rd, Nanshan, Shenzhen,China
Model No.	:	WBS510
FCC ID	:	TE7WBS510
EUT Voltage	:	100-240V, 50/60HZ
Brand Name	:	TP-LINK
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart E: 2015 ANSI C63.4:2014; ANSI C63.10:2013; 789033 D02 General UNII Test Procedures New Rules v01 KDB 662911 D01 Multiple Transmitter Output v02r01
Test Result	:	Complied
Performed Location	:	Quietek Corporation - Suzhou EMC Laboratory No.99 Hongye Rd., Suzhou Industrial Park, Suzhou,215006, Jiangsu, China TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098 FCC Registration Number: 800392

Documented By : Kery Zha

(Vice Supervisor: Kery Zha)

Reviewed By : Frank He

(Senior Engineer: Frank He)

Approved By : Harry Zhao

(Engineering Manager : Harry Zhao)

Laboratory Information

We, **QuieTek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted(audited or listed) by the following related bodies in compliance with ISO 17025, EN 45001 and specified testing scope:

Taiwan R.O.C.	**:**	**BSMI, NCC, TAF**
USA	**:**	**FCC**
Japan	**:**	**VCCI**
China	**:**	**CNAS**

The related certificate for our laboratories about the test site and management system can be downloaded from QuieTek Corporation's Web Site : http://www.quietek.com/english/about/certificates.aspx?bval=5
The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site : http://www.quietek.com/index_en.aspx
If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

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No.75-2, 3rd Lin, Wangye Keng, Yonghxing Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan, R.O.C.
TEL:+886-3-592-8858 / FAX:+886-3-592-8859 E-Mail : service@quietek.com

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TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789 E-Mail : service@quietek.com

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TEL : +86-512-6251-5088 / FAX : 86-512-6251-5098 E-Mail : service@quietek.com

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History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
1632114R-RF-US-P09V01	V1.0	Original Report	May. 06, 2016
1632114R-RF-US-P09V01	V1.1	Changed the network port rate from 1000 mbit to 100 mbit	May. 10, 2016
1632114R-RF-US-P09V01	V2.1	Add another dipole antenna pair.	Jun. 12, 2016
1632114R-RF-US-P09V01	V3.1	Add 10MHz bandwidth for 802.11a/n	Jul. 15, 2016
1632114R-RF-US-P09V01	V3.2	Modified Some typo	Jul. 27, 2016
1632114R-RF-US-P09V01	V3.3	Modified a typo at page 8	Aug. 30, 2016

1. General Information

1.1. EUT Description

Product Name	5GHz 300Mbps Outdoor Wireless Base Station						
Brand Name	TP-LINK						
Model No.	WBS510						
EUT Voltage	100-240V, 50/60HZ						
Test Voltage	120V/60Hz						
Type of Modulation	OFDM						
Data Rate	802.11a: 6/9/12/18/24/36/48/54 Mbps						
	802.11n: up to 300 Mbps						
Channel Control	Auto						
Transmit modes	☒	802.11a(10MHz)	☒	802.11n(10MHz)			
	☒	802.11a(20MHz)	☒	802.11n(20MHz)	☒	802.11n(40MHz)	
	☐	802.11ac(20MHz)	☐	802.11ac(40MHz)	☐	802.11ac(80MHz)	
Support Bands	☒	5150MHz~5250MHz	☒	Outdoor AP			
			☐	Indoor AP			
			☐	Fixed point-to-point AP			
			☐	Mobile and Portable Client			
	☐	5250MHz~5350MHz					
	☐	5470MHz~5725MHz	☐	With TDWR Channels			
			☐	Without TDWR Channels			
	☒	5725MHz~5850MHz					

1.2. Antenna information

For Sectorized Antenna

Antenna Model	3101500451						
Antenna Manufacturer	N/A						
Antenna Delivery	☐	1*TX+1*RX	☒	2*TX+2*RX	☐	3*TX+3*RX	
Antenna Technology	☐	SISO					
	☒	MIMO	☐	Basic methodology with NANT transmit antennas			
			☒	Sectorized antenna systems			
			☐	Cross-polarized antennas			
			☐	Unequal antenna gains, with equal transmit powers			
			☐	Spatial Multiplexing			
			☐	Cyclic Delay Diversity (CDD)			

Antenna Type	External Antenna

Antenna Information					
No.				Ant Type	Ant Gain/ Direction Gain
☐	SISO	☐	Antenna 1	Sector Antenna	19dBi
		☐	Antenna 2	Sector Antenna	19dBi
		☐	Antenna 3		
☐	Basic				
☒	Sectorized antenna systems			Sector Antenna	19dBi
☐	Beam-forming				

For Dipole Antenna

Antenna Model	T3030-KS000					
Antenna Manufacturer	N/A					
Antenna Delivery	☐	1*TX+1*RX	☒	2*TX+2*RX	☐	3*TX+3*RX
Antenna Technology	☐	SISO				
	☒	MIMO	☐	Basic methodology with NANT transmit antennas		
			☐	Sectorized antenna systems		
			☐	Cross-polarized antennas		
			☐	Unequal antenna gains, with equal transmit powers		
			☐	Spatial Multiplexing		
			☒	Cyclic Delay Diversity (CDD)		
Antenna Type	External Antenna					

Antenna Information					
No.				Ant Type	Ant Gain/ Direction Gain
☐	SISO	☐	Antenna 1	Dipole Antenna	3dBi
		☐	Antenna 2	Dipole Antenna	3dBi
		☐	Antenna 3		
☐	Basic				
☒	CDD			External Antenna	6.0dBi
☐	Beam-forming				

1.3. Working Frequency of Each Channel:

802.11a/n(10MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180 MHz	40	5200 MHz	44	5220 MHz	48	5240 MHz
149	5745 MHz	153	5765 MHz	157	5785 MHz	161	5805 MHz
165	5825MHz	N/A	N/A	N/A	N/A	N/A	N/A
802.11a/n(20MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180 MHz	40	5200 MHz	44	5220 MHz	48	5240 MHz
149	5745 MHz	153	5765 MHz	157	5785 MHz	161	5805 MHz
165	5825MHz	N/A	N/A	N/A	N/A	N/A	N/A
802.11n(40MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz	151	5755 MHz	159	5795 MHz

1.4. Power Parameter Value of the test software

For Sectorized Antenna

Test Mode	Test Channel	Power Setting
802.11a(10MHz)	5180	9
	5220	8
	5240	6
	5745	15
	5785	14
	5825	13
802.11n(10MHz)	5180	10
	5220	10
	5240	11
	5745	15
	5785	14
	5825	13
802.11a(20MHz)	5180	13
	5220	10
	5240	6
	5745	15
	5785	14
	5825	13
802.11n(20MHz)	5180	13
	5220	14
	5240	15
	5745	15
	5785	14
	5825	13
802.11n(40MHz)	5190	13
	5230	15
	5755	14
	5795	14

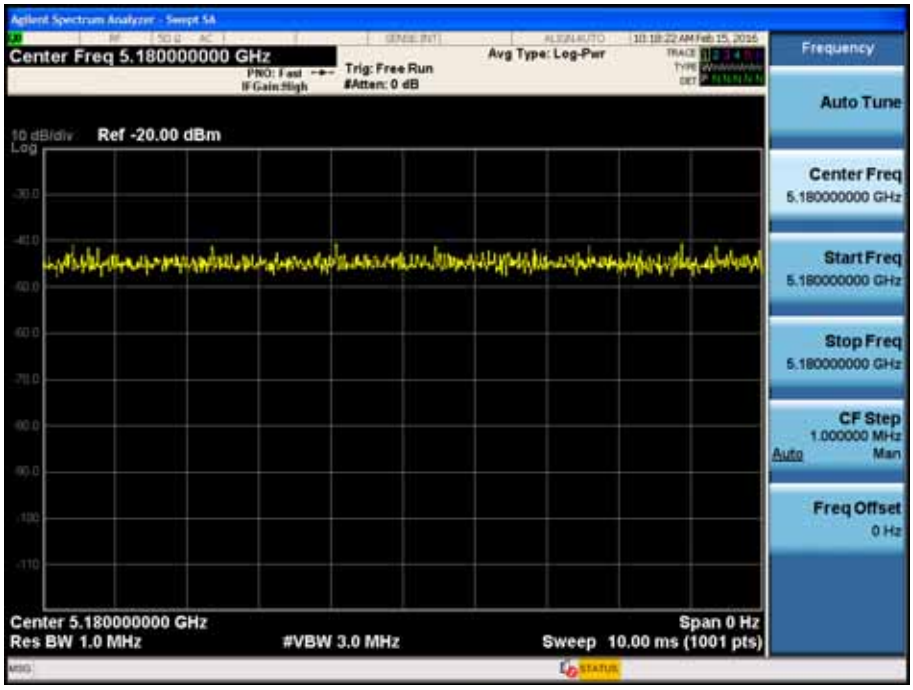
For Dipole Antenna

Test Mode	Test Channel	Power Setting
802.11a(10MHz)	5180	21
	5220	21
	5240	21
	5745	19
	5785	20
	5825	20
802.11n(10MHz)	5180	21
	5220	21
	5240	21
	5745	17
	5785	20
	5825	20
802.11a(20MHz)	5180	23
	5220	23
	5240	23
	5745	19
	5785	20
	5825	20
802.11n(20MHz)	5180	23
	5220	23
	5240	23
	5745	17
	5785	20
	5825	20
802.11n(40MHz)	5190	17
	5230	23
	5755	13
	5795	21

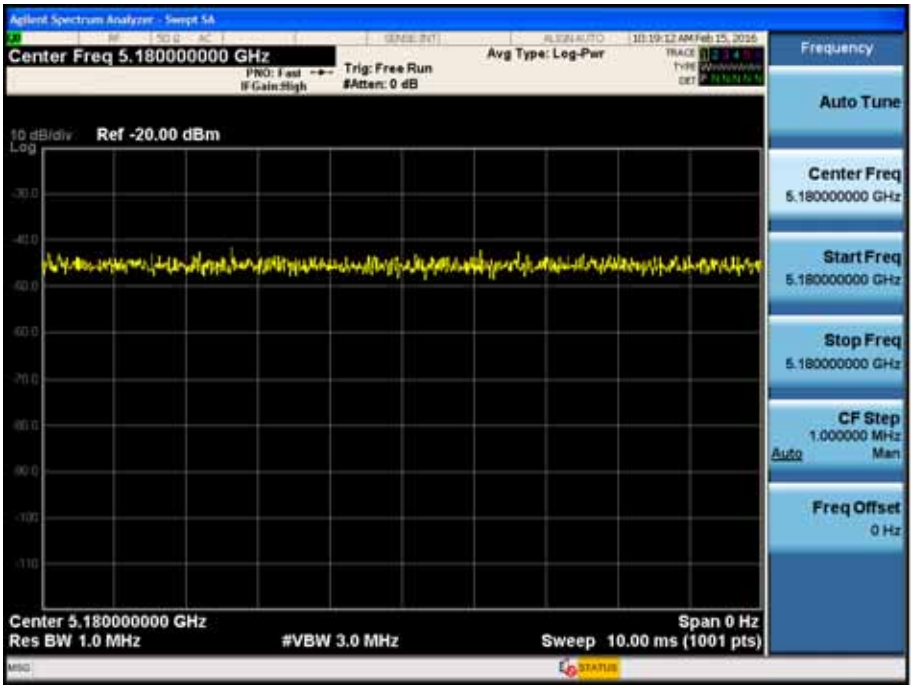
1.5. Duty Cycle

Test Mode	Duty Cycle
802.11a(10MHz)	100.0%
802.11n(10MHz)	100.0%
802.11a(20MHz)	100.0%
802.11n(20MHz)	100.0%
802.11n(40MHz)	100.0%

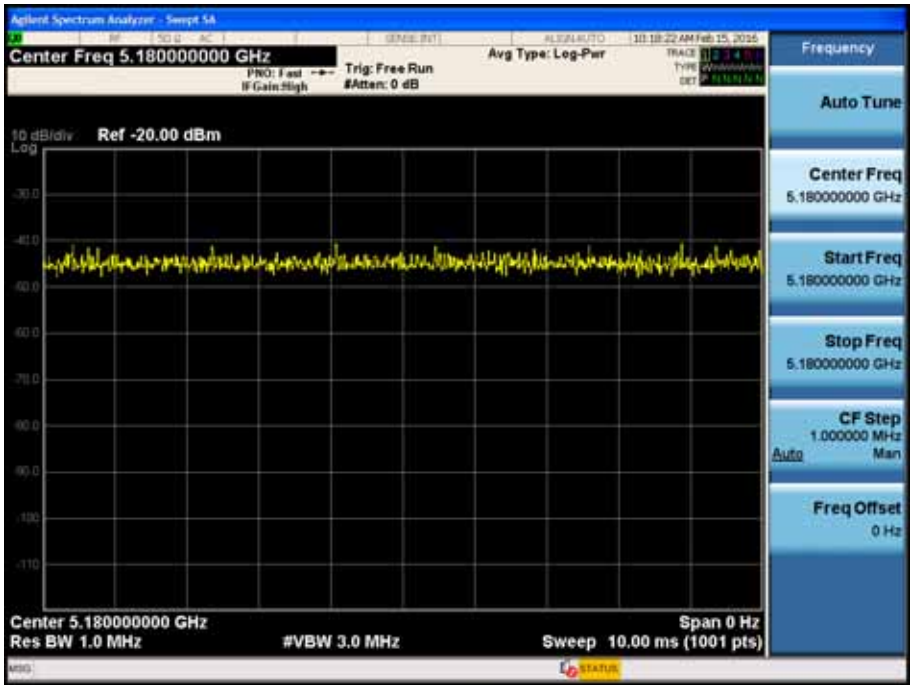
802.11a(10MHz) with CDD



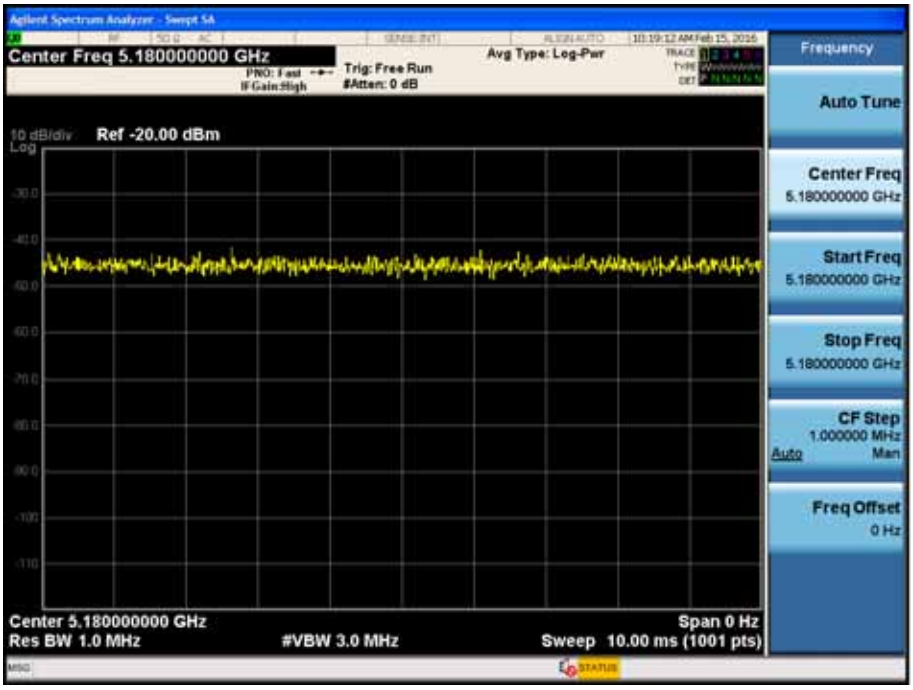
802.11n(10MHz) with CDD



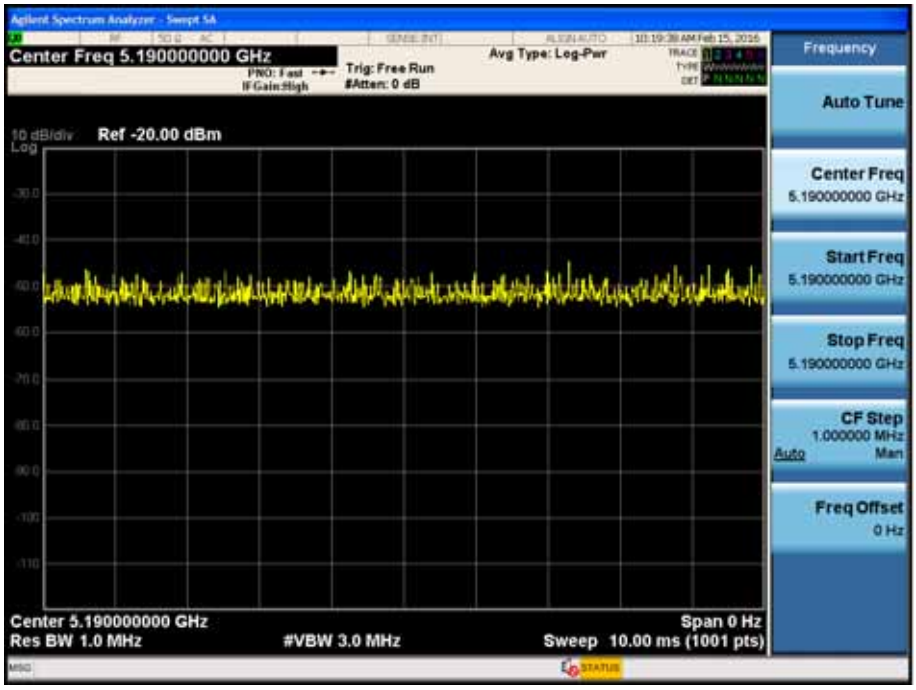
802.11a(20MHz) with CDD



802.11n(20MHz) with CDD



802.11n(40MHz) with CDD



1.6. Mode of Operation

QuieTek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: Transmit by 802.11a(10MHz)
Mode 2: Transmit by 802.11n(10MHz)
Mode 3: Transmit by 802.11a(20MHz)
Mode 4: Transmit by 802.11n(20MHz)
Mode 5: Transmit by 802.11n(40MHz)

Note 1: Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.

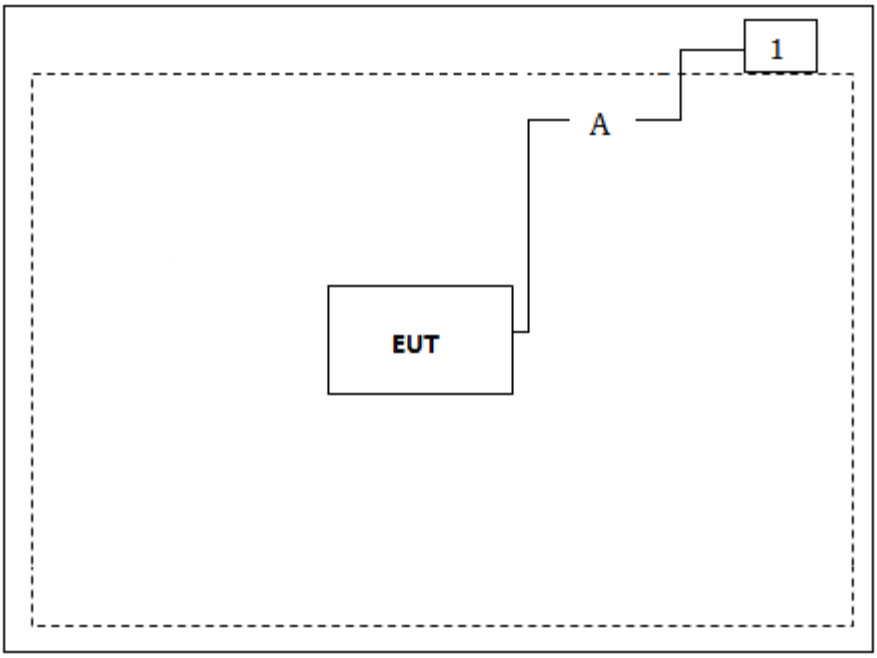
2: For portable device, radiated tests was verified over X, Y, Z axis, and shown the worst case on this report.

1.7. Tested System Details

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

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook	Asus	N80V	8BN0AS226971468	None-shielded

1.8. Configuration of Tested System

Connection Diagram


Signal Cable Type		Signal cable Description
A	LAN Cable	Non-shielded, 15m

1.9. EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of equipment.
3	Input RF commands, and set the test mode and channel, then press OK to start to continue transmit or receive.

2. Technical Test

2.1. Summary of Test Result

☒ No deviations from the test standards

☐ Deviations from the test standards as below description:

For Sectorized Antenna

Performed Test Item	Normative References	Limit	Result
Conducted Emission	FCC CFR Title 47 Part 15 Subpart E: 2015 Section 15.207	FCC 15.207	PASS
Radiated Emission	FCC CFR Title 47 Part 15 Subpart E: 2015 Section 15.209	FCC 15.209	PASS
26dB Emission Bandwidth	FCC CFR Title 47 Part 15 Subpart E: 2015 Section 15.407(a)	N/A	N/A
Power Output	FCC CFR Title 47 Part 15 Subpart E: 2015 Section 15.407(a)	FCC 15.407(a)	PASS
Peak Power Spectral Density	FCC CFR Title 47 Part 15 Subpart E: 2015 Section 15.407(a)	FCC 15.407(a)	N/A
Radiated Emission Band Edge	FCC CFR Title 47 Part 15 Subpart E: 2015 Section 15.205, 15.407(b)	FCC 15.407(b)	PASS
Frequency Stability	FCC CFR Title 47 Part 15 Subpart E: 2015 Section 15.407(g)	FCC 15.407(g)	N/A

For Dipole Antenna

Performed Test Item	Normative References	Limit	Result
Conducted Emission	FCC CFR Title 47 Part 15 Subpart E: 2015 Section 15.207	FCC 15.207	PASS
Radiated Emission	FCC CFR Title 47 Part 15 Subpart E: 2015 Section 15.209	FCC 15.209	PASS
26dB Emission Bandwidth	FCC CFR Title 47 Part 15 Subpart E: 2015 Section 15.407(a)	N/A	PASS
Power Output	FCC CFR Title 47 Part 15 Subpart E: 2015 Section 15.407(a)	FCC 15.407(a)	PASS
Peak Power Spectral Density	FCC CFR Title 47 Part 15 Subpart E: 2015 Section 15.407(a)	FCC 15.407(a)	PASS
Radiated Emission Band Edge	FCC CFR Title 47 Part 15 Subpart E: 2015 Section 15.205, 15.407(b)	FCC 15.407(b)	PASS
Frequency Stability	FCC CFR Title 47 Part 15 Subpart E: 2015 Section 15.407(g)	FCC 15.407(g)	PASS

2.2. Test Environment

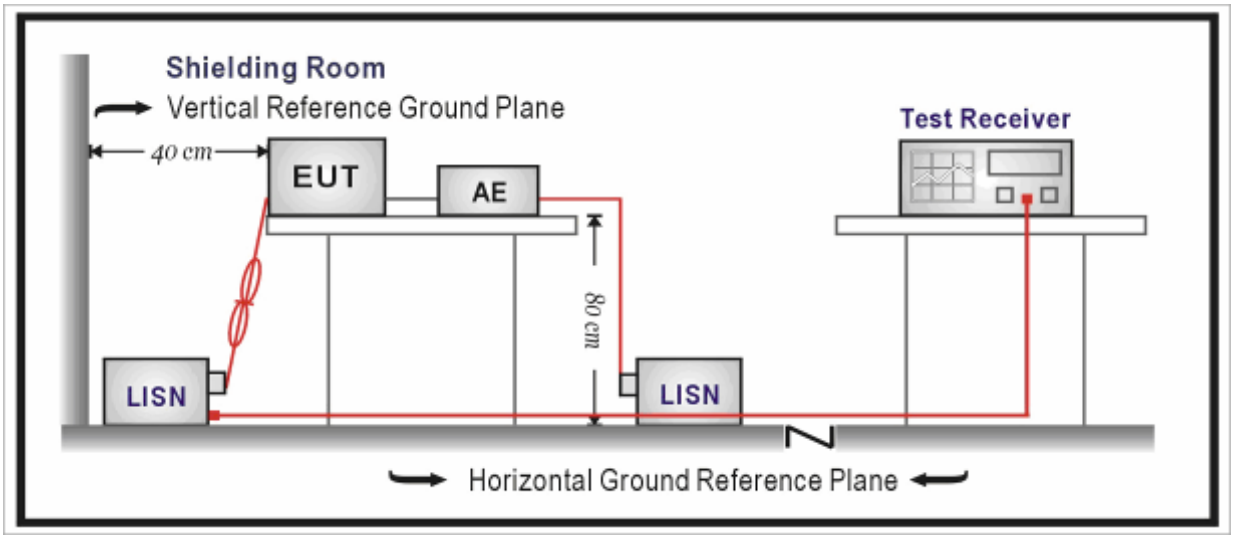
Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	21
Humidity (%RH)	25-75	50
Barometric pressure (mbar)	860-1060	950-1000

3. Conducted Emission

3.1. Test Equipment

Conducted Emission / TR-1					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100726	2016.03.29	2017.03.28
Two-Line V-Network	R&S	ENV216	100043	2016.03.29	2017.03.28
Two-Line V-Network	R&S	ENV216	100044	2015.09.17	2016.09.16
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2016.03.02	2017.03.01
50ohm Termination	SHX	TF2	07081401	2015.09.17	2016.09.16
Temperature/Humidity Meter	zhichen	ZC1-2	TR1-TH	2016.01.05	2017.01.04
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

3.2. Test Setup



3.3. Limit

Frequency (MHz)	QP (dBμV)	AV (dBμV)
0.15 - 0.50	66 – 56	56 – 46
0.50 - 5.0	56	46
5.0 - 30	60	50
Note 1: The lower limit shall apply at the transition frequencies. Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.		

3.4. Test Procedure

Test Method			
	References Rule	Chapter	Item
☒	ANSI C63.10-2013	6.2	Standard test method for ac power-line conducted emissions from unlicensed wireless devices
☒	ANSI C63.4-2014	7	AC power-line conducted emission measurements

3.5. Uncertainty

The measurement uncertainty is defined as ± 2.02 dB

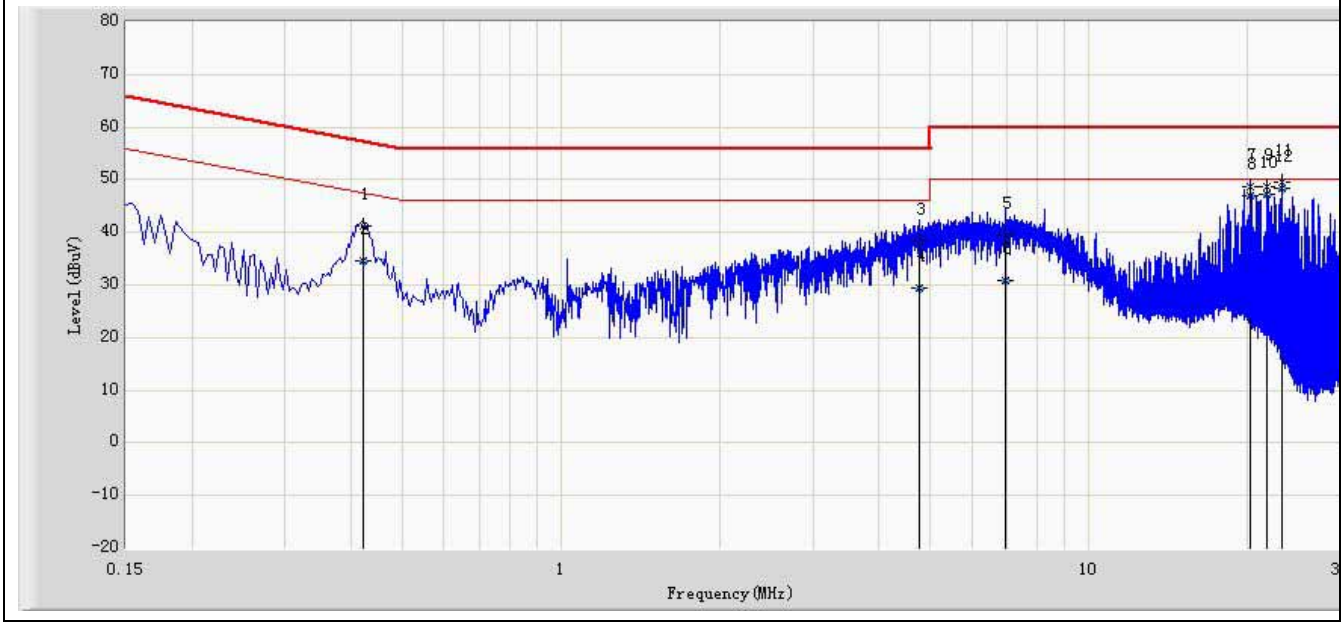
3.6. Test Result

For Sectorized Antenna

Product Name	:	5GHz 300Mbps Outdoor Wireless Base Station	Polarity	:	Line
Test Item	:	AC Power Line Conducted Emission	Power	:	AC 120V/60Hz
Test Site	:	TR1	Test Mode	:	Mode 3

No	Frequency (MHz)	Measure Level (dB μV)	Reading Level (dB μV)	Over Limit (dB)	Limit (dB μV)	Probe (dB)	Cable (dB)	Type
1	0.422	41.148	31.446	-16.261	57.409	9.632	0.070	QP
2	0.422	34.609	24.907	-12.800	47.409	9.632	0.070	AV
3	4.786	38.276	28.446	-17.724	56.000	9.670	0.160	QP
4	4.786	29.285	19.455	-16.715	46.000	9.670	0.160	AV
5	6.942	39.424	29.524	-20.576	60.000	9.700	0.200	QP
6	6.942	30.976	21.076	-19.024	50.000	9.700	0.200	AV
7	20.258	48.644	38.454	-11.356	60.000	9.710	0.480	QP
8	20.258	47.008	36.818	-2.992	50.000	9.710	0.480	AV
9	21.662	48.785	38.615	-11.215	60.000	9.660	0.510	QP
10	21.662	47.284	37.114	-2.716	50.000	9.660	0.510	AV
11	23.130	49.526	39.246	-10.474	60.000	9.740	0.540	QP
12	23.130	48.326	38.046	-1.674	50.000	9.740	0.540	AV

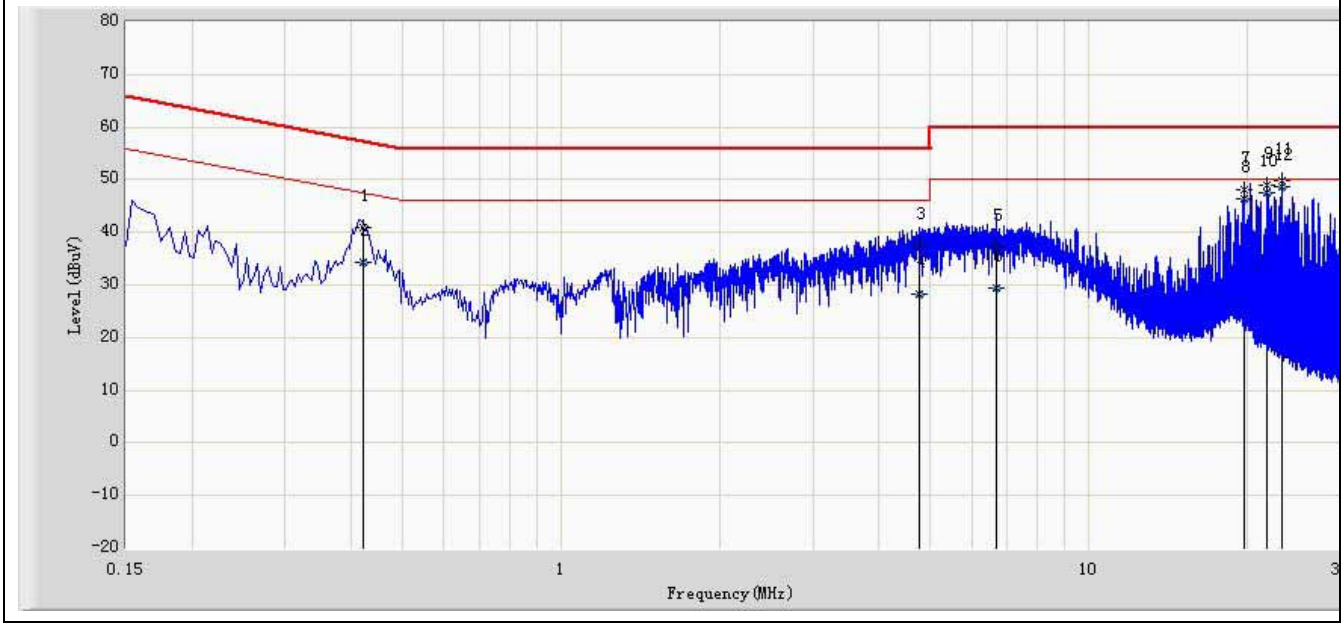
Polarity: Line



Product Name	:	5GHz 300Mbps Outdoor Wireless Base Station	Polarity	:	Neutral
Test Item	:	AC Power Line Conducted Emission	Power	:	AC 120V/60Hz
Test Site	:	TR1	Test Mode	:	Mode 3

No	Frequency (MHz)	Measure Level (dB μV)	Reading Level (dB μV)	Over Limit (dB)	Limit (dB μV)	Probe (dB)	Cable (dB)	Type
1	0.422	40.874	31.164	-16.535	57.409	9.640	0.070	QP
2	0.422	34.340	24.630	-13.069	47.409	9.640	0.070	AV
3	4.762	37.472	27.642	-18.528	56.000	9.670	0.160	QP
4	4.762	28.314	18.484	-17.686	46.000	9.670	0.160	AV
5	6.662	37.130	27.240	-22.870	60.000	9.690	0.200	QP
6	6.662	29.368	19.478	-20.632	50.000	9.690	0.200	AV
7	19.710	48.066	37.746	-11.934	60.000	9.850	0.470	QP
8	19.710	46.422	36.102	-3.578	50.000	9.850	0.470	AV
9	21.662	48.976	38.776	-11.024	60.000	9.690	0.510	QP
10	21.662	47.539	37.339	-2.461	50.000	9.690	0.510	AV
11	23.130	49.766	39.476	-10.234	60.000	9.750	0.540	QP
12	23.130	48.595	38.305	-1.405	50.000	9.750	0.540	AV

Polarity: Neutral

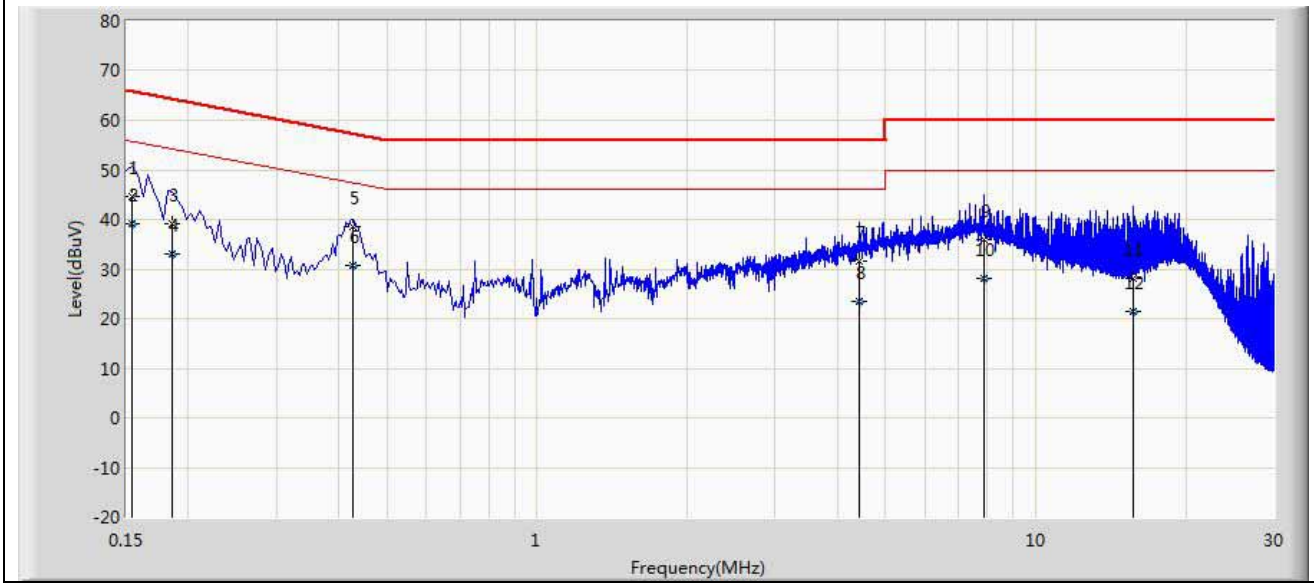


For Dipole Antenna

Product Name	:	5GHz 300Mbps Outdoor Wireless Base Station	Polarity	:	Line
Test Item	:	AC Power Line Conducted Emission	Power	:	AC 120V/60Hz
Test Site	:	TR1	Test Mode	:	Mode 3

No	Frequency (MHz)	Measure Level (dB μV)	Reading Level (dB μV)	Over Limit (dB)	Limit (dB μV)	Probe (dB)	Cable (dB)	Type
1	0.154	44.647	34.914	-21.134	65.781	9.673	0.060	QP
2	0.154	39.020	29.287	-16.761	55.781	9.673	0.060	AV
3	0.186	39.101	29.389	-25.112	64.213	9.652	0.060	QP
4	0.186	32.947	23.235	-21.266	54.213	9.652	0.060	AV
5	0.426	38.459	28.758	-18.871	57.330	9.631	0.070	QP
6	0.426	30.799	21.098	-16.531	47.330	9.631	0.070	AV
7	4.418	31.503	21.693	-24.497	56.000	9.660	0.150	QP
8	4.418	23.543	13.733	-22.457	46.000	9.660	0.150	AV
9	7.858	35.935	26.005	-24.065	60.000	9.710	0.220	QP
10	7.858	28.137	18.207	-21.863	50.000	9.710	0.220	AV
11	15.654	28.130	17.910	-31.870	60.000	9.840	0.380	QP
12	15.654	21.321	11.101	-28.679	50.000	9.840	0.380	AV

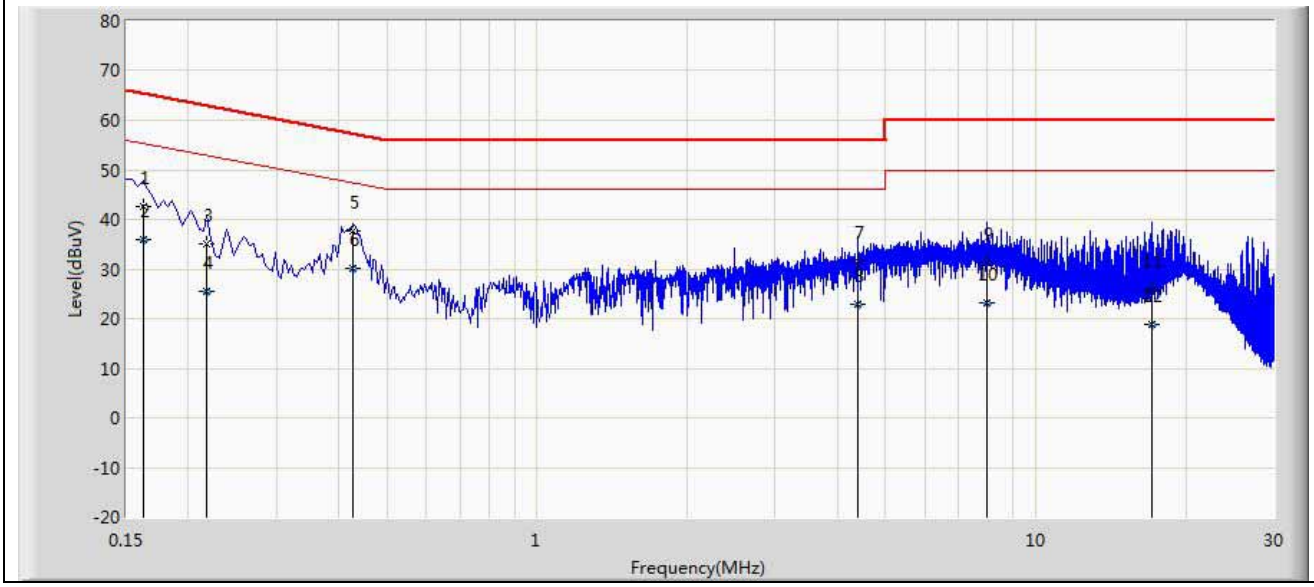
Polarity: Line



Product Name	:	5GHz 300Mbps Outdoor Wireless Base Station	Polarity	:	Neutral
Test Item	:	AC Power Line Conducted Emission	Power	:	AC 120V/60Hz
Test Site	:	TR1	Test Mode	:	Mode 3

No	Frequency (MHz)	Measure Level (dB μV)	Reading Level (dB μV)	Over Limit (dB)	Limit (dB μV)	Probe (dB)	Cable (dB)	Type
1	0.162	42.630	32.901	-22.731	65.361	9.669	0.060	QP
2	0.162	35.854	26.125	-19.507	55.361	9.669	0.060	AV
3	0.218	34.928	25.208	-27.967	62.895	9.660	0.060	QP
4	0.218	25.553	15.833	-27.342	52.895	9.660	0.060	AV
5	0.426	37.798	28.088	-19.532	57.330	9.640	0.070	QP
6	0.426	30.237	20.527	-17.093	47.330	9.640	0.070	AV
7	4.398	31.619	21.809	-24.381	56.000	9.660	0.150	QP
8	4.398	22.971	13.161	-23.029	46.000	9.660	0.150	AV
9	7.978	31.402	21.472	-28.598	60.000	9.710	0.220	QP
10	7.978	23.100	13.170	-26.900	50.000	9.710	0.220	AV
11	17.114	25.910	15.670	-34.090	60.000	9.830	0.410	QP
12	17.114	18.933	8.693	-31.067	50.000	9.830	0.410	AV

Polarity: Neutral



4. Radiated Emission

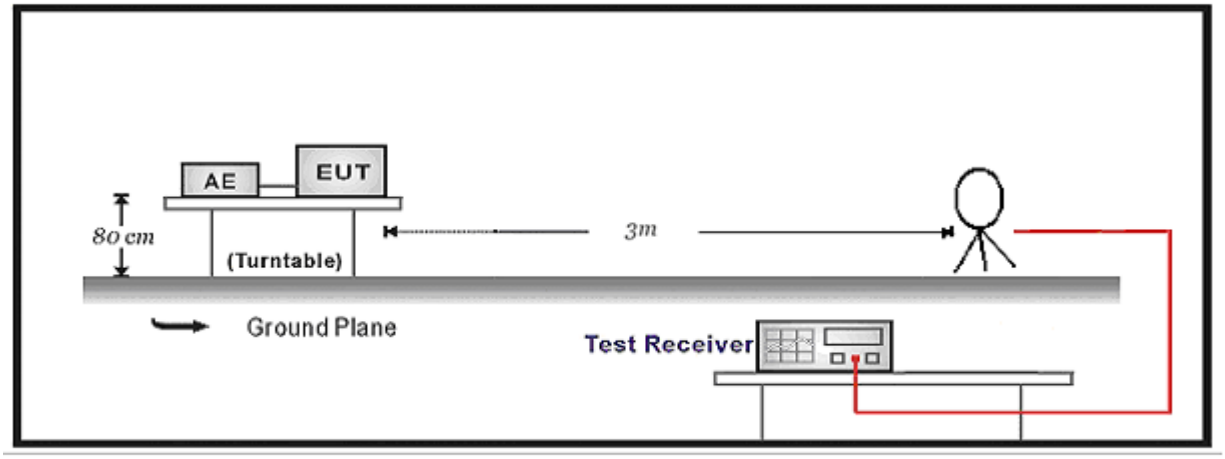
4.1. Test Equipment

Radiated Emission / AC-2					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100573	2016.03.29	2017.03.28
Loop Antenna	R&S	HFH2-Z2	833799/003	2015.11.18	2016.11.17
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2015.10.16	2016.10.15
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2016.03.02	2017.03.01
Temperature/Humidity Meter	Zhichen	ZC1-2	AC2-TH	2016.01.05	2017.01.04

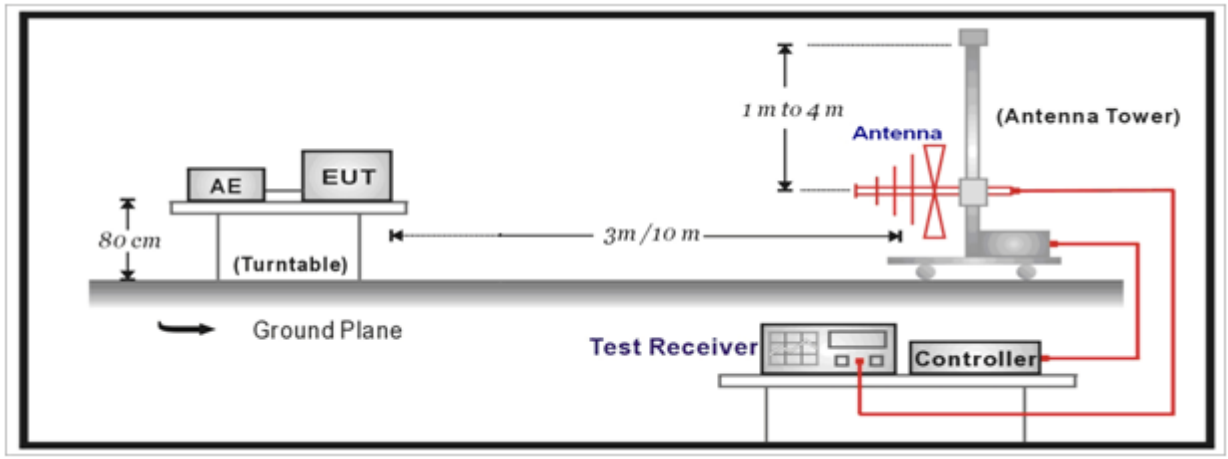
Radiated Emission / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2016.01.04	2017.01.03
Preamplifier	Miteq	NSP1800-25	1364185	2015.05.06	2016.05.05
Preamplifier	QuieTek	AP-040G	CHM-0906001	2015.05.06	2016.05.05
DRG Horn	ETS-Lindgren	3117	00165315	2015.07.01	2016.06.30
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2015.11.25	2016.11.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2016.03.02	2017.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2016.03.02	2017.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2016.03.02	2017.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2015.06.10	2016.06.09
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2016.01.05	2017.01.04
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

4.2. Test Setup

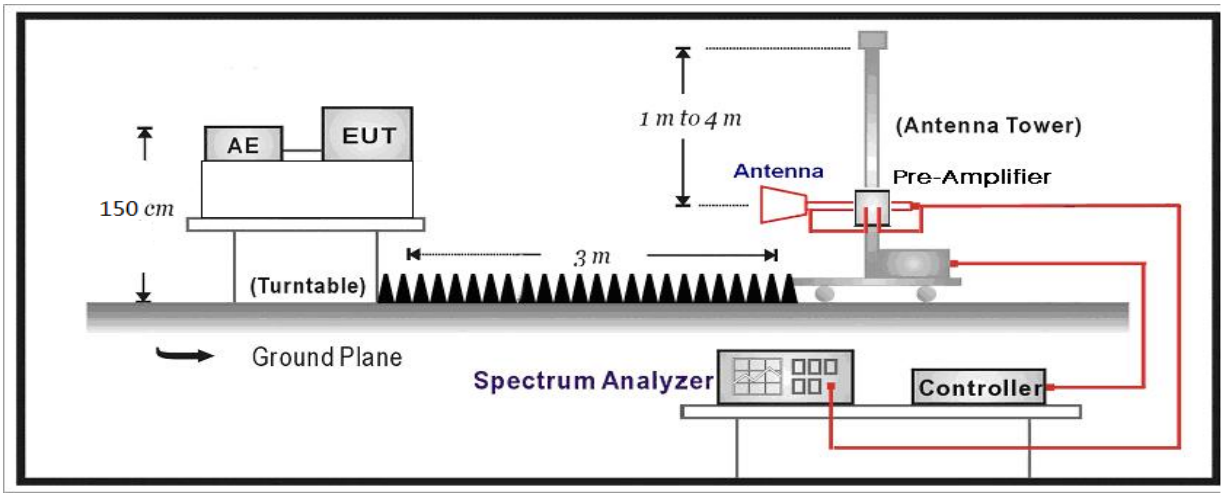
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



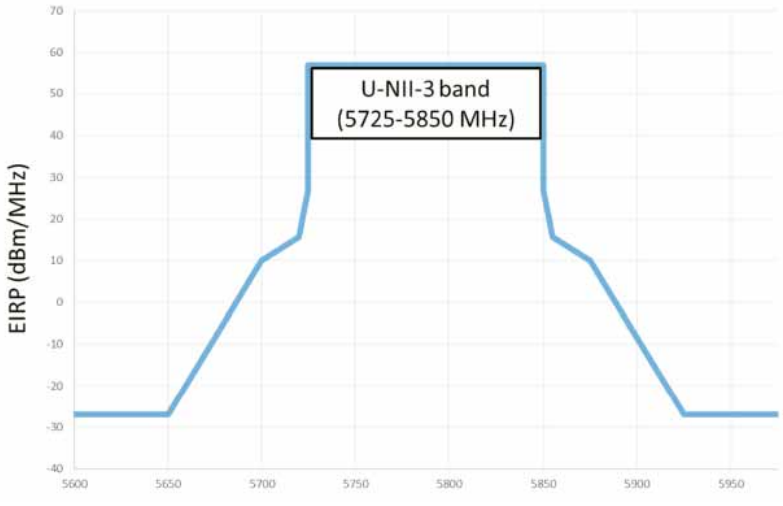
4.3. Limit

FCC Part 15 Subpart C Paragraph 15.209 (Restricted Band Emissions Limit)		
Frequency (MHz)	Distance (m)	Level (dB μV/m)
0.009-0.490	300	2400/F(kHz)
0.490-1.705	30	24000/F(kHz)
1.705-30.0	30	30
30-88	3	100**
88-216	3	150**
216-960	3	200**
Above 960	3	500

Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).

Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

FCC Part 15 Subpart C Paragraph 15.205 (Restricted Band)			
Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 – 0.110	16.42 – 16.423	399.9 – 410	4.5 – 5.15
0.495 – 0.505	16.69475 –16.69525	608 – 614	5.35 – 5.46
2.1735 – 2.1905	16.80425 – 16.80475	960 – 1240	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1300 – 1427	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1435 – 1626.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1645.5 – 1646.5	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1660 – 1710	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	1718.8 – 1722.2	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2200 – 2300	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2310 – 2390	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2483.5 – 2500	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	2690 – 2900	22.01 – 23.12
8.81425 – 8.81475	162.0125 – 167.17	3260 – 3267	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3332 – 3339	31.2 – 31.8
12.51975–12.52025	240 – 285	3345.8 – 3358	36.43 – 36.5
12.57675–12.57725	322 – 335.4	3600 – 4400	
13.36 – 13.41			

<table>
<tr><td colspan="3">FCC Part 15 Subpart C Paragraph 15.407(5)(b) (Unrestricted Band Emissions Limit)</td></tr>
<tr><td>Operating Frequency Band (MHz)</td><td>EIRP Limit (dBm/MHz)</td><td>Equivalent Field Strength at 3m (dB μ V/m)</td></tr>
<tr><td>5150 - 5250</td><td>-27</td><td>68.3</td></tr>
<tr><td>5250 - 5350</td><td>-27</td><td>68.3</td></tr>
<tr><td>5470 - 5725</td><td>-27</td><td>68.3</td></tr>
<tr><td rowspan="2">5725 - 5825</td><td>-27 [Note(1)]</td><td>68.3</td></tr>
<tr><td>-17 [Note(2)]</td><td>78.3</td></tr>
<tr><td colspan="3">Note1: Outside the frequency range 5715 - 5835MHz.
Note2: Within the frequency range from the band edge to 10MHz below or above the band edge, 5715 – 5725MHz and 5825 - 5835MHz.</td></tr>
<tr><td colspan="3">FCC 16-24</td></tr>
<tr><td>Operating Frequency Band (MHz)</td><td colspan="2">EIRP Limit (dBm/MHz)</td></tr>
<tr><td>5725 - 5850</td><td colspan="2"> 
</td></tr>
</table>

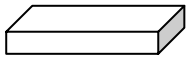
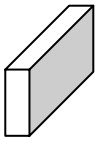
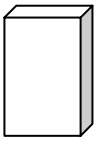
4.4. Test Procedure

Test Method				
	References Rule		Chapter	Description
☐	ANSI C63.10		12.7.3	Emissions in non-restricted frequency bands
☒	ANSI C63.10		12.7.2	Emissions in restricted frequency bands
	☒	ANSI C63.10	12.7.5	Radiated emission measurements
	☒	ANSI C63.10	12.7.6	Procedure for peak unwanted emissions measurements above 1000 MHz
	☒	ANSI C63.10	12.7.7	Procedures for average unwanted emissions measurements above 1000 MHz
		☐ ANSI C63.10	12.7.7.2	Method AD (average detection)—primary method
		☒ ANSI C63.10	12.7.7.3	Method VB-A (Alternative)
	☒	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
	☒	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
	☒	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz
☐	FCC KDB 789033 D02v01		G.2	Unwanted Emissions that fall Outside of the Restricted Bands
☐	FCC KDB 789033 D02v01		G.1	Unwanted Emissions in the Restricted Bands
	☐	FCC KDB 789033 D02v01	G.4	Procedure for Unwanted Emissions Measurements below 1000 MHz
	☐	FCC KDB 789033 D02v01	G.5	Procedure for Unwanted Maximum Emissions Measurements above 1000 MHz
	☐	FCC KDB 789033 D02v01	G.6	Procedures for Average Unwanted Emissions Measurements above 1000 MHz
		☐ FCC KDB 789033 D02v01	G.6.c	Method AD (Average detection)—primary method
		☐ FCC KDB 789033 D02v01	G.6.d	Method VB (Averaging using reduced video bandwidth): Alternative method.

4.5. Uncertainty

The measurement uncertainty above 1GHz is defined as ± 3.9 dB
below 1GHz is defined as ± 3.8 dB

4.6. EUT test Axis definition

Item	Radiated Emissions		
Device Category	☒ Fixed position use		
	☐ Mobile position use		
Test mode	Mode 1, Mode 2, Mode 3		
Axis	X Axis	Y Axis	Z Axis
			
Worst Axis	Worst Axis ☐	Worst Axis ☐	Worst Axis ☒

4.7. Test Result

For Sectorized Antenna

Mode1: Transmit by 802.11a(10MHz)									
Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBμV/m)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Ant 0+1	36	H	10360.0	30.9	13.0	43.9	54(Note3)	10.1	PK
		V	10360.0	32.0	13.0	45.0	54(Note3)	9.0	PK
		H	15540.0	30.7	16.8	47.5	54(Note3)	6.5	PK
		V	15540.0	32.0	16.8	48.7	54(Note3)	5.3	PK
	44	H	10440.0	31.0	12.4	43.5	54(Note3)	10.5	PK
		V	10440.0	31.1	12.4	43.5	54(Note3)	10.5	PK
		H	15660.0	31.1	16.9	48.0	54(Note3)	6.0	PK
		V	15660.0	31.2	16.9	48.1	54(Note3)	5.9	PK
	48	H	10480.0	31.2	13.2	44.4	54(Note3)	9.6	PK
		V	10480.0	30.9	13.2	44.1	54(Note3)	9.9	PK
		H	15720.0	31.9	17.9	49.7	54(Note3)	4.3	PK
		V	15720.0	30.0	17.9	47.9	54(Note3)	6.1	PK
	149	H	11490.0	30.1	14.5	44.6	54(Note3)	9.4	PK
		V	11490.0	29.5	14.5	44.0	54(Note3)	10.0	PK
		H	17235.0	30.2	18.0	48.2	54(Note3)	5.8	PK
		V	17235.0	31.3	18.0	49.3	54(Note3)	4.7	PK
	157	H	11570.0	28.1	15.4	43.4	54(Note3)	10.6	PK
		V	11570.0	28.4	15.4	43.8	54(Note3)	10.2	PK
		H	17355.0	30.4	18.8	49.1	54(Note3)	4.9	PK
		V	17355.0	30.3	18.8	49.1	54(Note3)	4.9	PK
	165	H	11650.0	28.1	15.5	43.6	54(Note3)	10.4	PK
		V	11650.0	28.6	15.5	44.1	54(Note3)	9.9	PK
		H	17475.0	30.4	19.4	49.9	54(Note3)	4.1	PK
		V	17475.0	30.0	19.4	49.4	54(Note3)	4.6	PK

1. Measure Level = Reading Level + Factor.
2. The test frequency range, 9kHz~30MHz, 18GHz~40GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Mode2: Transmit by 802.11n(10MHz)									
Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBμV/m)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Ant 0+1	36	H	10360.0	30.8	13.0	43.7	54(Note3)	10.3	PK
		V	10360.0	30.2	13.0	43.1	54(Note3)	10.9	PK
		H	15540.0	31.2	16.8	47.9	54(Note3)	6.1	PK
		V	15540.0	30.4	16.8	47.2	54(Note3)	6.8	PK
	44	H	10440.0	32.7	12.4	45.1	54(Note3)	8.9	PK
		V	10440.0	31.6	12.4	44.0	54(Note3)	10.0	PK
		H	15660.0	31.8	16.9	48.7	54(Note3)	5.3	PK
		V	15660.0	30.3	16.9	47.2	54(Note3)	6.8	PK
	48	H	10480.0	31.9	13.2	45.1	54(Note3)	8.9	PK
		V	10480.0	31.8	13.2	45.0	54(Note3)	9.0	PK
		H	15720.0	31.3	17.9	49.2	54(Note3)	4.8	PK
		V	15720.0	31.2	17.9	49.1	54(Note3)	4.9	PK
	149	H	11490.0	28.8	14.5	43.3	54(Note3)	10.7	PK
		V	11490.0	32.3	14.5	46.8	54(Note3)	7.2	PK
		H	17235.0	30.8	18.0	48.8	54(Note3)	5.2	PK
		V	17235.0	30.8	18.0	48.8	54(Note3)	5.3	PK
	157	H	11570.0	28.7	15.4	44.0	54(Note3)	10.0	PK
		V	11570.0	29.8	15.4	45.2	54(Note3)	8.8	PK
		H	17355.0	29.9	18.8	48.7	54(Note3)	5.3	PK
		V	17355.0	31.5	18.8	50.3	54(Note3)	3.7	PK
	165	H	11650.0	28.4	15.5	43.8	54(Note3)	10.2	PK
		V	11650.0	29.4	15.5	44.8	54(Note3)	9.2	PK
		H	17475.0	30.0	19.4	49.4	54(Note3)	4.6	PK
		V	17475.0	30.6	19.4	50.0	54(Note3)	4.0	PK

1. Measure Level = Reading Level + Factor.
2. The test frequency range, 9kHz~30MHz, 18GHz~40GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Mode3: Transmit by 802.11a(20MHz)									
Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBμV/m)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Ant 0+1	36	H	10360.0	31.5	15.3	46.8	54(Note3)	7.2	PK
		V	15540.0	23.3	22.3	45.6	54(Note3)	8.4	PK
		H	10360.0	32.0	15.3	47.3	54(Note3)	6.7	PK
		V	15540.0	23.4	22.3	45.7	54(Note3)	8.3	PK
	44	H	10401.0	31.2	18.7	49.9	54(Note3)	4.1	PK
		V	15594.0	20.3	27.5	47.8	54(Note3)	6.2	PK
		H	10401.0	30.7	18.7	49.4	54(Note3)	4.6	PK
		V	15603.0	19.7	27.5	47.2	54(Note3)	6.8	PK
	48	H	10486.0	31.8	17.2	49.0	54(Note3)	5.0	PK
		V	15720.0	20.0	26.4	46.4	54(Note3)	7.6	PK
		H	10486.0	32.3	17.2	49.5	54(Note3)	4.5	PK
		V	15713.5	20.4	26.4	46.8	54(Note3)	7.2	PK
	149	H	11490.0	30.6	19.2	49.8	54(Note3)	4.2	PK
		V	17235.0	23.0	24.3	47.3	54(Note3)	6.7	PK
		H	11490.0	34.1	19.2	53.3	54(Note3)	0.7	PK
		V	17235.0	23.2	24.3	47.5	54(Note3)	6.5	PK
	157	H	11565.5	29.1	22.4	51.5	54(Note3)	2.5	PK
		V	17362.5	22.8	25.8	48.6	54(Note3)	5.4	PK
		H	11565.5	30.0	22.4	52.4	54(Note3)	1.6	PK
		V	17345.5	23.9	25.8	49.7	54(Note3)	4.3	PK
	165	H	11650.5	26.9	23.2	50.1	54(Note3)	3.9	PK
		V	17475.0	22.8	25.9	48.7	54(Note3)	5.3	PK
		H	11650.5	28.8	23.2	52.0	54(Note3)	2.0	PK
		V	17475.0	22.9	25.9	48.8	54(Note3)	5.2	PK

1. Measure Level = Reading Level + Factor.
2. The test frequency range, 9kHz~30MHz, 18GHz~40GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Mode4: Transmit by 802.11n(20MHz)									
Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBμV/m)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Ant 0+1	36	H	10360.0	31.4	15.3	46.7	54(Note3)	7.3	PK
		V	15540.0	23.9	22.3	46.2	54(Note3)	7.8	PK
		H	10360.0	31.8	15.3	47.1	54(Note3)	6.9	PK
		V	15540.0	24.3	22.3	46.6	54(Note3)	7.4	PK
	44	H	10401.0	29.9	18.7	48.6	54(Note3)	5.4	PK
		V	15603.0	20.9	27.5	48.4	54(Note3)	5.6	PK
		H	10401.0	32.2	18.7	50.9	54(Note3)	3.1	PK
		V	15603.0	19.8	27.5	47.3	54(Note3)	6.7	PK
	48	H	10477.5	32.0	17.2	49.2	54(Note3)	4.8	PK
		V	15722.0	19.8	26.4	46.2	54(Note3)	7.8	PK
		H	10486.0	32.5	17.2	49.7	54(Note3)	4.3	PK
		V	15713.0	20.7	26.4	47.1	54(Note3)	6.9	PK
	149	H	11490.0	31.9	19.2	51.1	54(Note3)	2.9	PK
		H	17235.0	23.5	24.3	47.8	54(Note3)	6.2	PK
		V	11489.0	36.7	19.2	55.9	74	18.1	PK
		V	11489.0	28.1	19.2	47.3	54	6.7	AV
		V	17235.0	22.7	24.3	47.0	54(Note3)	7.0	PK
	157	H	11574.0	29.1	22.4	51.5	54(Note3)	2.5	PK
		H	17345.0	22.5	25.8	48.3	54(Note3)	5.7	PK
		V	11574.0	31.9	22.4	54.3	74	19.7	PK
		V	11575.7	29.3	19.3	48.6	54	5.4	AV
		V	17345.0	23.3	25.8	49.1	54(Note3)	4.9	PK
	165	H	11650.5	35.1	19.3	54.4	74	19.6	PK
		H	11650.0	27.5	19.3	46.8	54	7.2	AV
		H	17475.0	23.3	24.3	47.6	54(Note3)	6.4	PK
		V	11642.0	39.6	19.6	59.2	74	14.8	PK
		V	11650.5	29.7	19.6	49.3	54	4.7	AV
		V	17475.0	23.9	24.3	48.2	54(Note3)	5.8	PK

1. Measure Level = Reading Level + Factor.
2. The test frequency range, 9kHz~30MHz, 18GHz~40GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Mode5: Transmit by 802.11n(40MHz)									
Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBµV/m)	Factor (dB)	Measure Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
Ant 0+1	38	H	10380.0	31.9	15.8	47.7	54(Note3)	6.3	PK
		H	15570.0	22.9	22.3	45.2	54(Note3)	8.8	PK
		V	10380.0	31.6	15.8	47.4	54(Note3)	6.6	PK
		V	15570.0	23.1	22.3	45.4	54(Note3)	8.6	PK
	46	H	10460.5	33.6	15.4	49.0	54(Note3)	5.0	PK
		H	15679.5	27.9	22.6	50.5	54(Note3)	3.5	PK
		V	10452.0	31.4	15.5	46.9	54(Note3)	7.1	PK
		V	15679.5	28.6	22.6	51.2	54(Note3)	2.8	PK
	151	H	11510.0	31.0	18.4	49.4	54(Note3)	4.6	PK
		H	17265.0	24.1	24.5	48.6	54(Note3)	5.4	PK
		V	11510.0	31.2	18.4	49.6	54(Note3)	4.4	PK
		V	17265.0	24.4	24.5	48.9	54(Note3)	5.1	PK
	159	H	11590.0	41.5	6.5	48.0	54(Note3)	6.0	PK
		H	17385.0	36.0	13.3	49.3	54(Note3)	4.7	PK
		V	11590.0	40.4	6.5	46.9	54(Note3)	7.1	PK
		V	17385.0	35.4	13.3	48.7	54(Note3)	5.3	PK

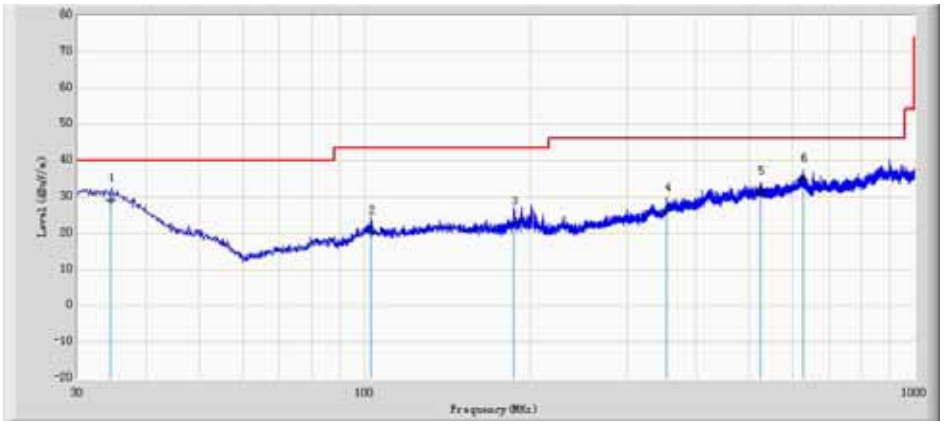
1. Measure Level = Reading Level + Factor.
2. The test frequency range, 9kHz~30MHz, 18GHz~40GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

The worst case of Radiated Emission below 1GHz:

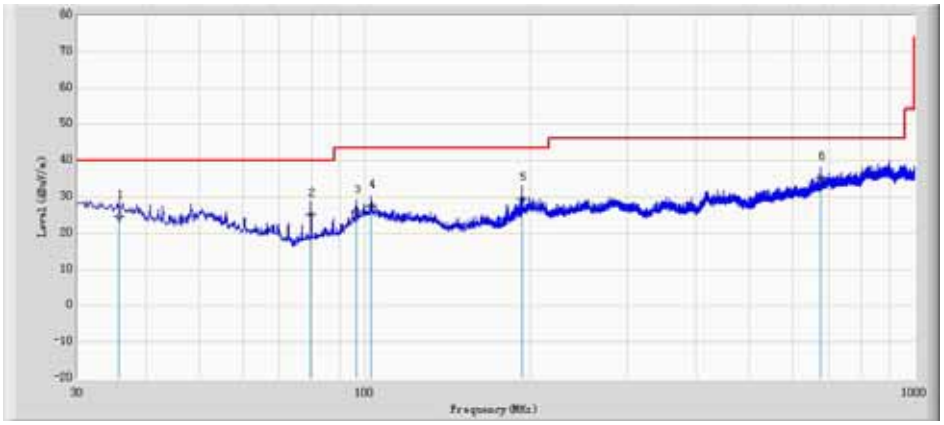
Chain	CH	Antenna	Frequency (MHz)	Reading Level (dB μ V/m)	Factor (dB)	Measure Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Detector
Ant 0+1	36	H	34.526	35.428	-6.352	29.076	40.000	10.924	QP
		H	102.626	30.917	-10.700	20.217	43.500	23.283	QP
		H	186.626	35.345	-12.416	22.929	43.500	20.571	QP
		H	354.853	32.618	-6.095	26.523	46.000	19.477	QP
		H	523.927	32.925	-1.915	31.010	46.000	14.990	QP
		H	626.726	35.327	-0.768	34.559	46.000	11.441	QP
		V	35.727	31.558	-7.052	24.506	40.000	15.494	QP
		V	79.626	40.271	-15.156	25.115	40.000	14.885	QP
		V	96.665	37.495	-11.660	25.835	43.500	17.665	QP
		V	102.427	38.277	-10.724	27.553	43.500	15.947	QP
		V	193.226	41.679	-12.346	29.333	43.500	14.167	QP
		V	675.265	35.645	-0.568	35.077	46.000	10.923	QP

Note 1: The worst case of Radiated Emission below 1GHz:

Polarity: Horizontal



Polarity: Vertical



For Dipole Antenna

Mode1: Transmit by 802.11a(10MHz)									
Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBμV/m)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Ant 0+1	36	H	10358.5	36.8	12.9	49.7	54(Note3)	4.3	PK
		V	10358.5	42.3	12.9	55.2	74	18.8	PK
		V	10355.0	29.9	12.7	42.6	54	11.4	AV
		H	15540.0	31.8	16.8	48.6	54(Note3)	5.4	PK
		V	15540.0	35.0	16.8	51.8	54(Note3)	2.2	PK
	44	H	10443.5	34.8	12.7	47.5	54(Note3)	6.5	PK
		V	10435.0	44.4	12.0	56.4	74	17.6	PK
		V	10438.6	30.8	12.3	43.2	54	10.8	AV
		H	15660.0	31.5	16.9	48.4	54(Note3)	5.6	PK
		V	15660.0	31.3	16.9	48.2	54(Note3)	5.8	PK
	48	H	10486.0	36.4	13.2	49.6	54(Note3)	4.4	PK
		V	10477.5	42.8	13.3	56.1	74	17.9	PK
		V	10476.9	29.8	13.3	43.1	54	10.9	AV
		H	15720.0	31.5	17.9	49.4	54(Note3)	4.6	PK
		V	15720.0	31.9	17.9	49.8	54(Note3)	4.2	PK
	149	H	11490.0	29.3	14.5	43.8	54(Note3)	10.2	PK
		V	11489.0	35.5	14.5	50.0	54(Note3)	4.0	PK
		H	17235.0	31.4	18.0	49.4	54(Note3)	4.6	PK
		V	17235.0	32.5	18.0	50.5	54(Note3)	3.5	PK
	157	H	11570.0	29.0	15.4	44.4	54(Note3)	9.6	PK
		V	11565.5	36.7	15.3	52.0	54(Note3)	2.0	PK
		H	17355.0	31.0	18.8	49.8	54(Note3)	4.2	PK
		V	17355.0	31.2	18.8	50.0	54(Note3)	4.0	PK
	165	H	11650.0	28.7	15.5	44.2	54(Note3)	9.8	PK
		V	11650.5	37.2	15.5	52.7	54(Note3)	1.3	PK
		H	17475.0	30.6	19.4	50.0	54(Note3)	4.0	PK
		V	17475.0	30.7	19.4	50.1	54(Note3)	3.9	PK

1. Measure Level = Reading Level + Factor.
2. The test frequency range, 9kHz~30MHz, 18GHz~40GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Mode2: Transmit by 802.11n(10MHz)									
Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBμV/m)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Ant 0+1	36	H	10358.5	36.8	12.9	49.7	54(Note3)	4.3	PK
		V	10358.5	44.4	12.9	57.3	74	16.7	PK
		V	10354.9	31.6	12.7	44.3	54	9.7	AV
		H	15540.0	31.1	16.8	47.9	54(Note3)	6.1	PK
		V	15540.0	34.0	16.8	50.8	54(Note3)	3.2	PK
	44	H	10435.0	37.2	12.0	49.2	54(Note3)	4.8	PK
		V	10443.5	43.7	12.7	56.4	74	17.6	PK
		V	10446.0	29.8	12.9	42.7	54	11.3	AV
		H	15660.0	31.6	16.9	48.5	54(Note3)	5.5	PK
		V	15660.0	31.9	16.9	48.9	54(Note3)	5.1	PK
	48	H	10477.5	35.9	13.3	49.2	54(Note3)	4.8	PK
		V	10486.0	46.2	13.2	59.3	74	14.7	PK
		V	10485.7	33.0	13.2	46.2	54	7.8	AV
		H	15720.0	31.5	17.9	49.4	54(Note3)	4.6	PK
		V	15720.0	33.3	17.9	51.1	54(Note3)	2.9	PK
	149	H	11490.0	29.8	14.5	44.3	54(Note3)	9.7	PK
		V	11490.0	31.7	14.5	46.1	54(Note3)	7.9	PK
		H	17235.0	32.3	18.0	50.3	54(Note3)	3.7	PK
		V	17235.0	30.9	18.0	48.9	54(Note3)	5.1	PK
	157	H	11570.0	28.8	15.4	44.2	54(Note3)	9.8	PK
		V	11565.5	36.3	15.3	51.6	54(Note3)	2.4	PK
		H	17355.0	31.4	18.8	50.2	54(Note3)	3.8	PK
		V	17355.0	32.6	18.8	51.4	54(Note3)	2.6	PK
	165	H	11650.0	28.5	15.5	43.9	54(Note3)	10.1	PK
		V	11650.5	37.3	15.5	52.8	54(Note3)	1.2	PK
		H	17475.0	30.5	19.4	49.9	54(Note3)	4.1	PK
		V	17475.0	31.2	19.4	50.6	54(Note3)	3.4	PK

1. Measure Level = Reading Level + Factor.
2. The test frequency range, 9kHz~30MHz, 18GHz~40GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Mode3: Transmit by 802.11a(20MHz)									
Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBμV/m)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Ant 0+1	36	H	10358.5	40.7	16.5	57.2	74	16.8	PK
		H	10356.8	29.5	16.6	46.0	54	8.0	AV
		V	10358.5	45.1	16.5	61.6	74	12.4	PK
		V	10358.5	33.3	16.5	49.8	54	4.2	AV
		H	15807.0	20.8	27.1	48.0	54(Note3)	6.0	PK
		V	15815.5	21.7	28.6	50.3	54(Note3)	3.7	PK
	44	H	10443.5	39.6	16.7	56.4	74	17.6	PK
		H	10445.7	28.2	16.7	44.8	54	9.2	AV
		V	10443.5	47.9	16.7	64.6	74	9.4	PK
		V	10443.0	34.2	16.7	50.9	54	3.1	AV
		H	15824.0	22.0	30.1	52.0	54(Note3)	2.0	PK
		V	15654.0	24.9	25.1	50.0	54(Note3)	4.0	PK
	48	H	10486.0	41.7	16.7	58.4	74	15.6	PK
		H	10488.1	30.8	16.7	47.5	54	6.5	AV
		V	10478.0	46.7	16.6	63.3	74	10.7	PK
		V	10480.9	34.0	16.6	50.6	54	3.4	AV
		H	15720.0	26.0	26.8	52.8	54(Note3)	1.2	PK
		V	15720.0	23.2	26.8	50.0	54(Note3)	4.0	PK
	149	H	11497.5	36.5	21.4	57.9	74	16.1	PK
		H	11498.7	25.0	21.4	46.3	54	7.7	AV
		V	11497.5	43.3	21.4	64.7	74	9.3	PK
		V	11487.9	30.3	21.3	51.6	54	2.4	AV
		H	16164.0	23.2	30.2	53.4	54(Note3)	0.6	PK
		V	17235.0	28.2	25.7	53.9	54(Note3)	0.1	PK
	157	H	11574.0	41.7	22.1	63.7	74	10.3	PK
		H	11575.4	28.3	22.0	50.3	54	3.7	AV
		V	11574.0	46.7	22.1	68.7	74	5.3	PK
		V	11567.7	31.4	22.1	53.6	54	0.4	AV
		H	17355.0	18.5	25.3	43.8	54(Note3)	10.2	PK
		V	17345.5	27.7	25.8	53.5	54(Note3)	0.5	PK
	165	H	11650.5	42.9	23.0	65.9	74	8.1	PK
		H	11651.8	27.4	23.1	50.5	54	3.5	AV
		V	11659.0	47.9	23.6	71.5	74	2.5	PK

		V	11651.8	30.8	23.1	53.9	54	0.1	AV
		H	17475.0	25.9	25.3	51.2	54(Note3)	2.8	PK
		V	17473.0	39.0	25.4	64.3	74	9.7	PK
		V	17470.7	24.4	25.3	49.7	54	4.3	AV

1. Measure Level = Reading Level + Factor.
2. The test frequency range, 9kHz~30MHz, 18GHz~40GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Mode4: Transmit by 802.11n(20MHz)									
Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBμV/m)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Ant 0+1	36	H	10367.0	39.9	16.7	56.6	74	17.4	PK
		H	10358.5	28.4	16.7	45.1	54	8.9	AV
		V	10361.0	44.1	16.6	60.7	74	13.3	PK
		V	10362.1	31.7	16.6	48.3	54	5.7	AV
		H	15540.0	25.0	26.8	51.8	54(Note3)	2.2	PK
		V	15540.0	23.4	26.8	50.2	54(Note3)	3.8	PK
	44	H	10435.0	40.3	16.8	57.1	74	16.9	PK
		H	10439.3	26.7	16.8	43.5	54	10.5	AV
		V	10452.0	45.2	16.6	61.8	74	12.2	PK
		V	10443.6	34.5	16.7	51.2	54	2.8	AV
		H	15660.0	27.0	24.6	51.6	54(Note3)	2.4	PK
		V	15660.0	25.7	24.6	50.3	54(Note3)	3.7	PK
	48	H	10477.5	40.0	16.6	56.6	74	17.4	PK
		H	10478.7	26.5	16.6	43.1	54	10.9	AV
		V	10477.5	46.2	16.6	62.8	74	11.2	PK
		V	10479.3	34.5	16.6	51.1	54	2.9	AV
		H	15660.0	26.6	24.6	51.2	54(Note3)	2.8	PK
		V	15720.0	23.7	26.8	50.5	54(Note3)	3.5	PK
	149	H	11489.0	32.4	21.3	53.7	54(Note3)	0.3	PK
		V	11489.0	39.7	21.3	61.0	74	13.0	PK
		V	11486.9	25.5	21.2	46.7	54	7.3	AV
		H	17235.0	20.4	25.7	46.1	54(Note3)	7.9	PK
		V	17235.0	22.8	25.7	48.5	54(Note3)	5.5	PK
	157	H	11565.5	36.3	22.2	58.5	74	15.5	PK
		H	11567.0	23.6	22.1	45.7	54	8.3	AV
		V	11565.5	45.4	22.2	67.5	74	6.5	PK
		V	11565.9	31.5	22.2	53.7	54	0.3	AV
		H	17355.0	17.5	25.3	42.8	54(Note3)	11.2	PK
		V	17355.0	23.5	25.3	48.8	54(Note3)	5.2	PK
	165	H	11650.5	39.0	23.0	61.9	74	12.1	PK
		H	11652.7	24.7	23.1	47.8	54	6.2	AV
		V	11642.0	45.4	22.4	67.8	74	6.2	PK
		V	11645.5	30.9	22.7	53.6	54	0.4	AV

		H	17475.0	21.8	25.3	47.1	54(Note3)	6.9	PK
		V	17473.0	33.3	25.4	58.6	74	15.4	PK
		V	17475.6	21.7	25.3	46.9	54	7.1	AV

1. Measure Level = Reading Level + Factor.
2. The test frequency range, 9kHz~30MHz, 18GHz~40GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Mode5: Transmit by 802.11n(40MHz)									
Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBμV/m)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Ant 0+1	38	H	10380.0	39.9	17.2	56.1	74.0	17.9	PK
		H	10381.7	24.3	17.2	41.5	54.0	12.5	AV
		V	10384.0	40.0	17.5	57.5	74	16.5	PK
		V	10381.5	25.7	17.3	43.0	54	11.0	AV
		H	15570.0	22.6	27.1	49.7	54(Note3)	4.3	PK
		V	15570.0	26.1	27.1	53.2	54(Note3)	0.8	PK
	46	H	10460.0	40.6	16.5	57.1	74	16.9	PK
		H	10462.4	27.1	16.5	43.6	54	10.4	AV
		V	10452.0	41.7	16.6	58.3	74	15.7	PK
		V	10462.3	28.7	16.5	45.2	54	8.8	AV
		H	15690.0	28.6	23.6	52.2	54(Note3)	1.8	PK
		V	15690.0	27.9	23.6	51.5	54(Note3)	2.5	PK
	151	H	11510.0	25.3	21.6	46.8	54(Note3)	7.2	PK
		V	11514.5	33.7	21.8	55.5	74	18.5	PK
		V	11512.6	20.5	21.7	42.1	54	11.9	AV
		H	17265.0	21.3	25.2	46.5	54(Note3)	7.5	PK
		V	17265.0	21.9	25.2	47.0	54(Note3)	7.0	PK
	159	H	11582.5	36.1	21.6	57.7	74	16.3	PK
		H	11583.5	24.7	21.5	46.2	54	7.8	AV
		V	11574.0	42.5	22.1	64.6	74	9.4	PK
		V	11512.6	20.5	21.7	42.1	54	11.9	AV
		H	17385.0	20.6	27.0	47.6	54(Note3)	6.4	PK
		V	17371.0	32.5	26.5	59.0	74	15.0	PK
		V	17373.4	20.6	26.6	47.2	54	6.8	AV

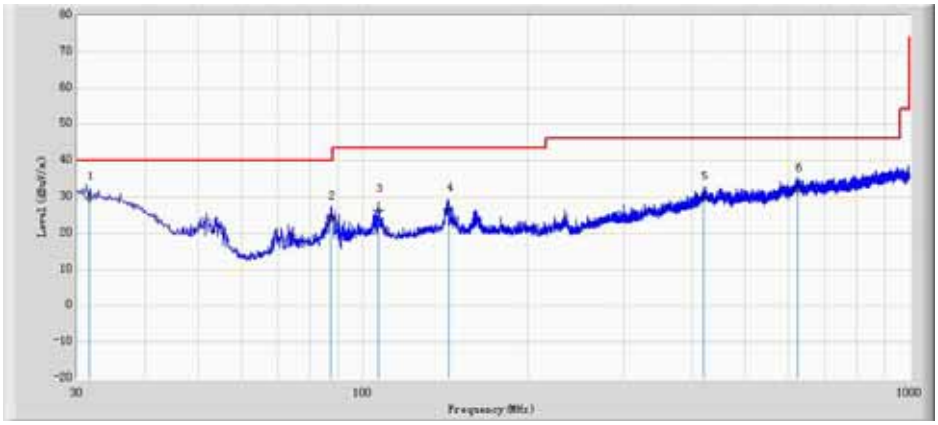
1. Measure Level = Reading Level + Factor.
2. The test frequency range, 9kHz~30MHz, 18GHz~40GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

The worst case of Radiated Emission below 1GHz:

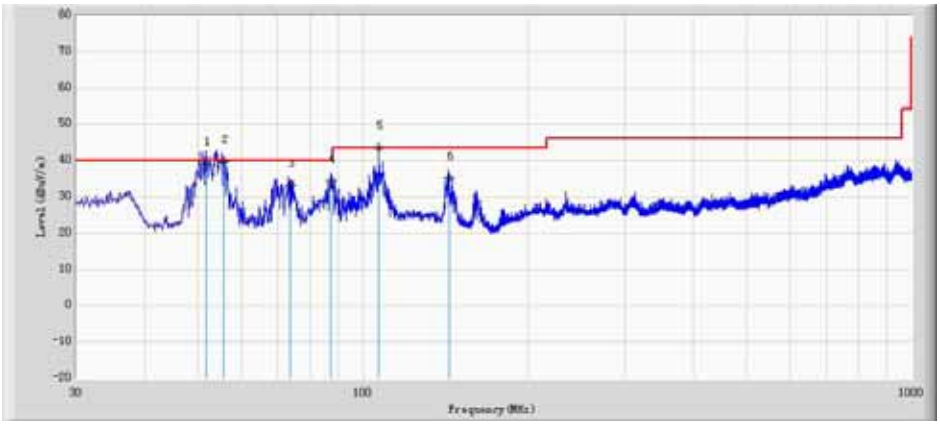
Chain	CH	Antenna	Frequency (MHz)	Reading Level (dB μ V/m)	Factor (dB)	Measure Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Detector
Ant 0+1	36	H	31.565	34.213	-4.604	29.609	40.000	10.391	QP
		H	87.265	37.827	-13.595	24.232	40.000	15.768	QP
		H	106.597	36.396	-10.271	26.125	43.500	17.375	QP
		H	143.565	37.294	-10.843	26.451	43.500	17.049	QP
		H	420.265	34.037	-4.265	29.772	46.000	16.228	QP
		H	624.827	32.794	-0.798	31.996	46.000	14.004	QP
		V	51.822	53.407	-14.34	39.067	40.000	0.933	QP
		V	55.757	54.629	-14.994	39.635	40.000	0.365	QP
		V	73.826	48.679	-15.593	33.086	40.000	6.914	QP
		V	87.265	47.918	-13.595	34.323	40.000	5.677	QP
		V	106.707	53.678	-10.259	43.419	43.500	0.081	QP
		V	143.827	46.090	-10.856	35.234	43.500	8.266	QP

Note 1: The worst case of Radiated Emission below 1GHz:

Polarity: Horizontal



Polarity: Vertical

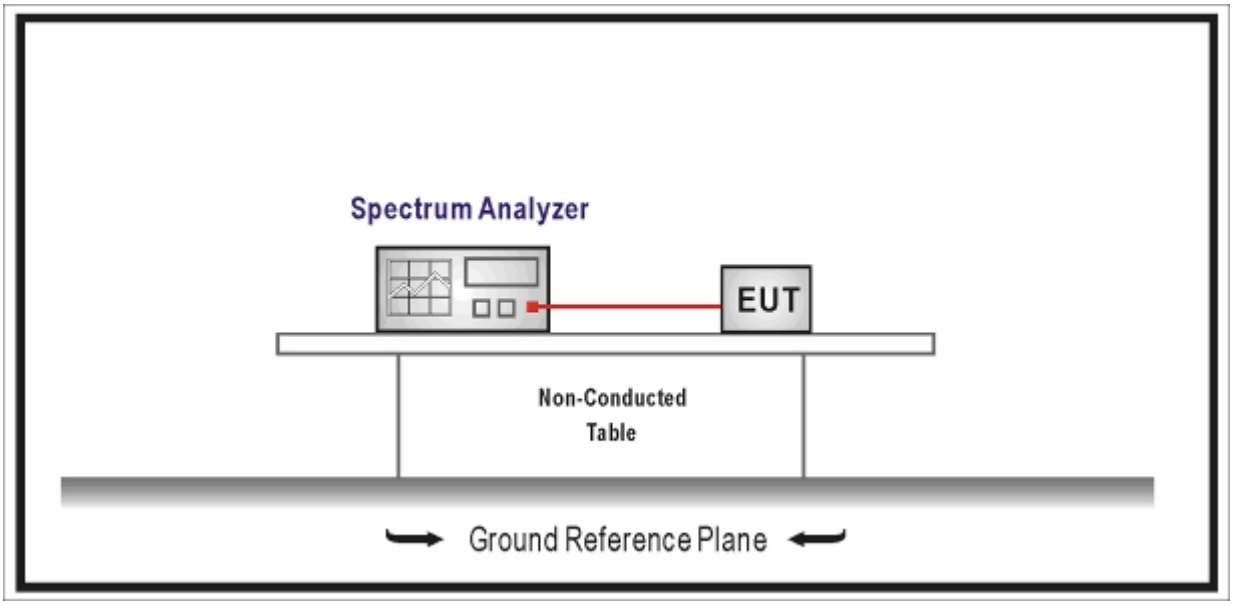


5. Emission bandwidth and occupied bandwidth

5.1. Test Equipment

Emission bandwidth and occupied bandwidth / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2016.03.11	2017.03.10
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2016.04.10	2017.04.09
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

5.2. Test Setup



5.3. Limit

N/A

5.4. Test Procedure

Test Method			
	References Rule	Chapter	Description
☒	ANSI C63.10	12.4	Emission bandwidth and occupied bandwidth
	☒ ANSI C63.10	12.4.1	Emission bandwidth (26dB)
	☒ ANSI C63.10	12.4.2	Occupied bandwidth (99%)
☐	FCC KDB 789033 D02v01	C	Bandwidth Measurement
	☐ FCC KDB 789033 D02v01	C.1	Emission Bandwidth (26dB)
	☐ FCC KDB 789033 D02v01	C.2	Minimum Emission Bandwidth for the band 5.725-5.85 GHz (6dB)
☐	FCC KDB 789033 D02v01	D	99 Percent Occupied Bandwidth

5.5. Uncertainty

The measurement uncertainty is defined as ± 1 kHz

5.6. Test Result

For Sectorized Antenna

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a(10MHz)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Lower/Higher Frequency (MHz)	Result
36	5180	9.432	8.2203	5175.890	Pass
44	5220	9.434	8.2004	N/A	Pass
48	5240	9.210	8.2309	5244.115	Pass
149	5745	9.177	8.1942	5740.903	Pass
157	5785	9.153	8.2022	N/A	Pass
165	5825	9.285	8.2227	5829.111	Pass

Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157(5785MHz)

Channel 165 (5825MHz)

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n(10MHz)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Lower/Higher Frequency (MHz)	Result
36	5180	9.829	8.7887	5175.606	Pass
44	5220	9.858	8.8013	N/A	Pass
48	5240	9.916	8.7862	5244.393	Pass
149	5745	9.876	8.7987	5740.601	Pass
157	5785	10.04	8.8425	N/A	Pass
165	5825	9.843	8.8437	5829.422	Pass

Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157(5785MHz)

Channel 165 (5825MHz)

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11a(20MHz)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Lower/Higher Frequency (MHz)	Result
36	5180	22.14	16.714	5171.643	Pass
44	5220	21.98	16.731	N/A	Pass
48	5240	22.55	16.773	5248.387	Pass
149	5745	21.79	16.681	5736.660	Pass
157	5785	22.26	16.726	N/A	Pass
165	5825	22.42	16.712	5833.356	Pass

Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157(5785MHz)

Channel 165 (5825MHz)

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 4: Transmit by 802.11n(20MHz)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Lower/Higher Frequency (MHz)	Result
36	5180	22.45	17.795	5171.103	Pass
44	5220	22.03	17.791	N/A	Pass
48	5240	22.41	17.778	5248.889	Pass
149	5745	22.23	17.786	5736.107	Pass
157	5785	22.72	17.800	N/A	Pass
165	5825	22.22	17.783	5833.892	Pass

Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157(5785MHz)

Channel 165 (5825MHz)

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 5: Transmit by 802.11n(40MHz)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Lower/Higher Frequency (MHz)	Result
38	5190	44.88	36.336	5171.832	Pass
46	5230	45.53	36.338	5248.169	Pass
149	5745	44.53	36.315	5726.843	Pass
159	5795	43.85	36.342	5813.171	Pass

Channel 38 (5190MHz)

Channel 42 (5230MHz)

Channel 151 (5755MHz)

Channel 159(5795MHz)

For Dipole Antenna

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a(10MHz)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Lower/Higher Frequency (MHz)	Result
36	5180	9.522	8.2315	5175.884	Pass
44	5220	9.316	8.2197	N/A	Pass
48	5240	9.245	8.2335	5244.117	Pass
149	5745	9.396	8.2213	5740.889	Pass
157	5785	9.235	8.2437	N/A	Pass
165	5825	9.424	8.2247	5829.112	Pass

Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157(5785MHz)

Channel 165 (5825MHz)

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n(10MHz)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Lower/Higher Frequency (MHz)	Result
36	5180	9.997	8.8155	5175.592	Pass
44	5220	9.979	8.8377	N/A	Pass
48	5240	10.15	8.8188	5244.409	Pass
149	5745	10.00	8.8135	5740.593	Pass
157	5785	9.917	8.7796	N/A	Pass
165	5825	9.772	8.7949	5829.397	Pass

Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157(5785MHz)

Channel 165 (5825MHz)

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11a(20MHz)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Lower/Higher Frequency (MHz)	Result
36	5180	21.88	16.585	5171.71	Pass
44	5220	22.16	16.605	N/A	Pass
48	5240	21.80	16.617	5248.31	Pass
149	5745	21.16	16.582	5736.71	Pass
157	5785	22.16	16.568	N/A	Pass
165	5825	21.70	16.570	5833.29	Pass

Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157 (5785MHz)

Channel 165 (55825MHz)

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 4: Transmit by 802.11n(20MHz)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Lower/Higher Frequency (MHz)	Result
36	5180	22.84	17.778	5171.11	Pass
44	5220	22.58	17.748	N/A	Pass
48	5240	21.67	17.751	5248.88	Pass
149	5745	22.26	17.697	5736.15	Pass
157	5785	21.99	17.719	N/A	Pass
165	5825	22.43	17.717	5833.86	Pass

Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157 (5785MHz)

Channel 165 (5825MHz)

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 5: Transmit by 802.11n(40MHz)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Lower/Higher Frequency (MHz)	Result
38	5190	45.07	36.367	5171.82	Pass
46	5230	45.04	36.284	5248.14	Pass
149	5745	44.88	36.351	5726.82	Pass
159	5795	46.05	36.358	5813.18	Pass

Channel 38 (5190MHz)

Channel 46 (5230MHz)

Channel 149 **(5745MHz)**

Channel 159 (5795MHz)

6. 6dB Occupied Bandwidth

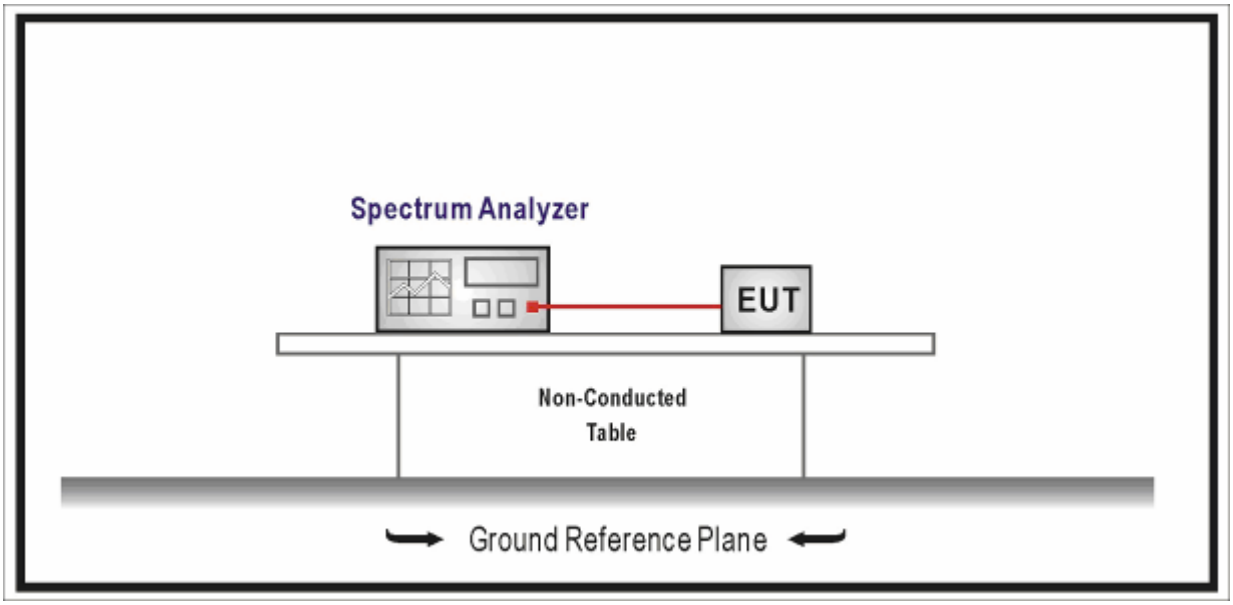
6.1. Test Equipment

Occupied Bandwidth / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2017.03.10
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2017.04.09

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

6.2. Test Setup



6.3. Limit

For FCC&IC

The minimum 6 dB bandwidth shall be 500 kHz.

6.4. Test Procedure

Test Method			
	References Rule	Chapter	Description
☐	ANSI C63.10	12.4	Emission bandwidth and occupied bandwidth
	☐ ANSI C63.10	12.4.1	Emission bandwidth (26dB)
	☐ ANSI C63.10	12.4.2	Occupied bandwidth (99%)
☒	FCC KDB 789033 D02v01	C	Bandwidth Measurement
	☐ FCC KDB 789033 D02v01	C.1	Emission Bandwidth (26dB)
	☒ FCC KDB 789033 D02v01	C.2	Minimum Emission Bandwidth for the band 5.725-5.85 GHz (6dB)
☐	FCC KDB 789033 D02v01	D	99 Percent Occupied Bandwidth

6.5. Uncertainty

The measurement uncertainty is defined as ± 1 kHz

6.6. Test Result

For Sectorized Antenna

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a(10MHz)

Channel No.	Frequency (MHz)	6dB Occupied Bandwidth (MHz)
149	5745	8.143
157	5785	8.143
165	5825	8.185

Channel 149 (5745MHz)

Channel 157(5785MHz)

Channel 165 (5825MHz)

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n(10MHz)

Channel No.	Frequency (MHz)	6dB Occupied Bandwidth (MHz)
149	5745	8.790
157	5785	8.595
165	5825	8.706

Channel 149 (5745MHz)

Channel 157(5785MHz)

Channel 165 (5825MHz)

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11a(20MHz)

Channel No.	Frequency (MHz)	6dB Occupied Bandwidth (MHz)
149	5745	16.52
157	5785	16.50
165	5825	16.54

Channel 149 (5745MHz)

Channel 157(5785MHz)

Channel 165 (5825MHz)

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 4: Transmit by 802.11n(20MHz)

Channel No.	Frequency (MHz)	6dB Occupied Bandwidth (MHz)
149	5745	17.70
157	5785	17.76
165	5825	17.74

Channel 149 (5745MHz)

Channel 157(5785MHz)

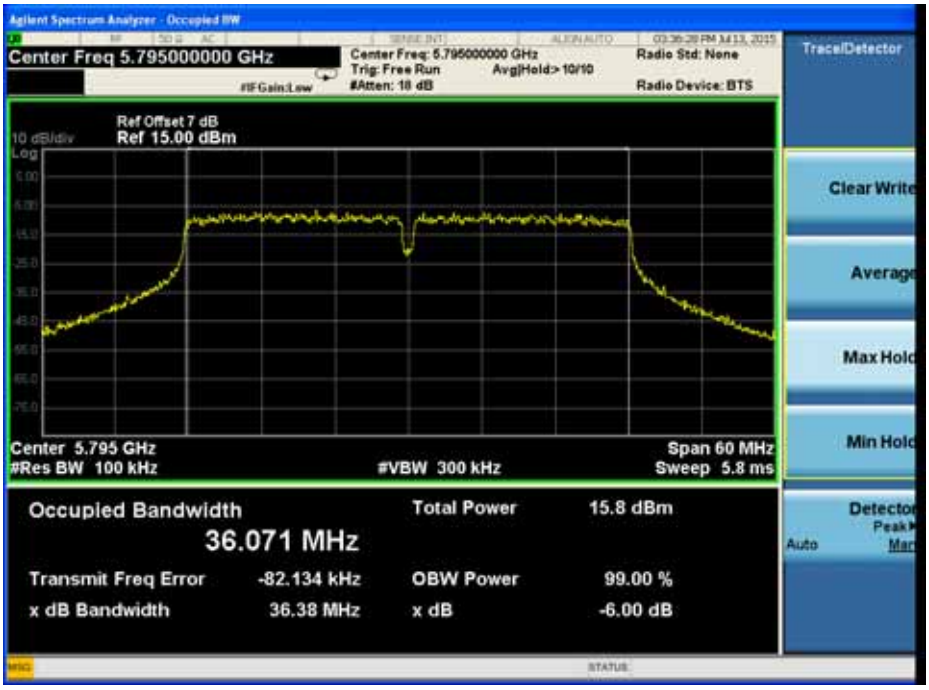
Channel 165 (5825MHz)

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 5: Transmit by 802.11n(40MHz)

Channel No.	Frequency (MHz)	6dB Occupied Bandwidth (MHz)
151	5775	36.17
159	5795	36.38

Channel 151 (5755MHz)

Channel 159(5795MHz)



For Dipole Antenna

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a(10MHz)

Channel No.	Frequency (MHz)	6dB Occupied Bandwidth (MHz)
149	5745	8.183
157	5785	8.184
165	5825	8.172

Channel 149 (5745MHz)

Channel 157(5785MHz)

Channel 165 (5825MHz)

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n(10MHz)

Channel No.	Frequency (MHz)	6dB Occupied Bandwidth (MHz)
149	5745	8.814
157	5785	8.811
165	5825	8.470

Channel 149 (5745MHz)

Channel 157(5785MHz)

Channel 165 (5825MHz)

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11a(20MHz)

Channel No.	Frequency (MHz)	6dB Occupied Bandwidth (MHz)
149	5745	16.56
157	5785	16.42
165	5825	16.52

Channel 149 (5745MHz)

Channel 157(5785MHz)

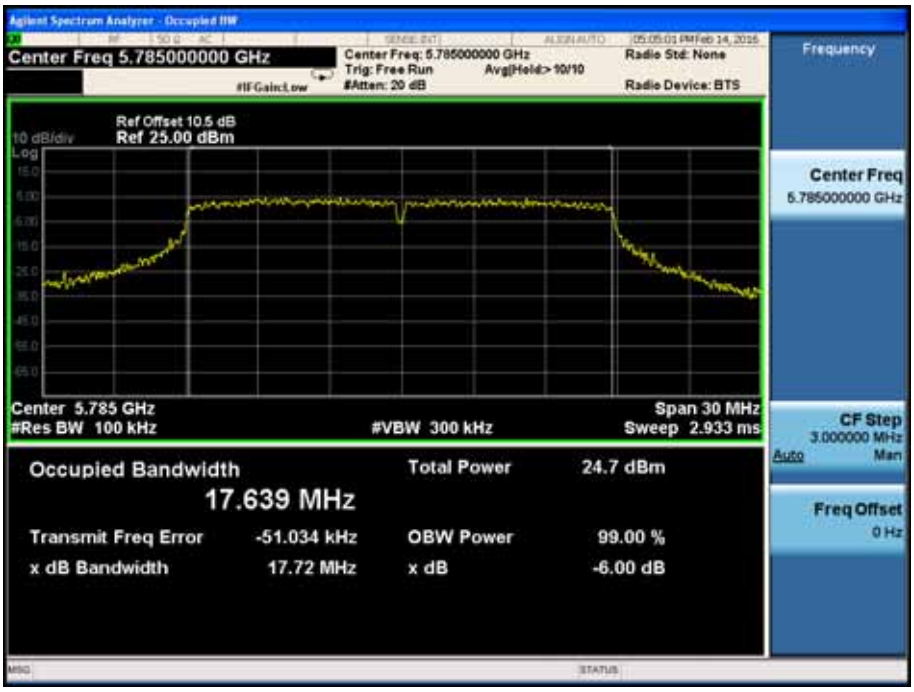
Channel 165 (5825MHz)

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 4: Transmit by 802.11n(20MHz)

Channel No.	Frequency (MHz)	6dB Occupied Bandwidth (MHz)
149	5745	17.67
157	5785	17.72
165	5825	17.67

Channel 149 (5745MHz)

Channel 157(5785MHz)



Channel 165 (5825MHz)

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Occupied Bandwidth
Test Site	:	TR-8
Test Mode	:	Mode 5: Transmit by 802.11n(40MHz)

Channel No.	Frequency (MHz)	6dB Occupied Bandwidth (MHz)
151	5755	36.51
159	5795	36.46

Channel 151 (5755MHz)

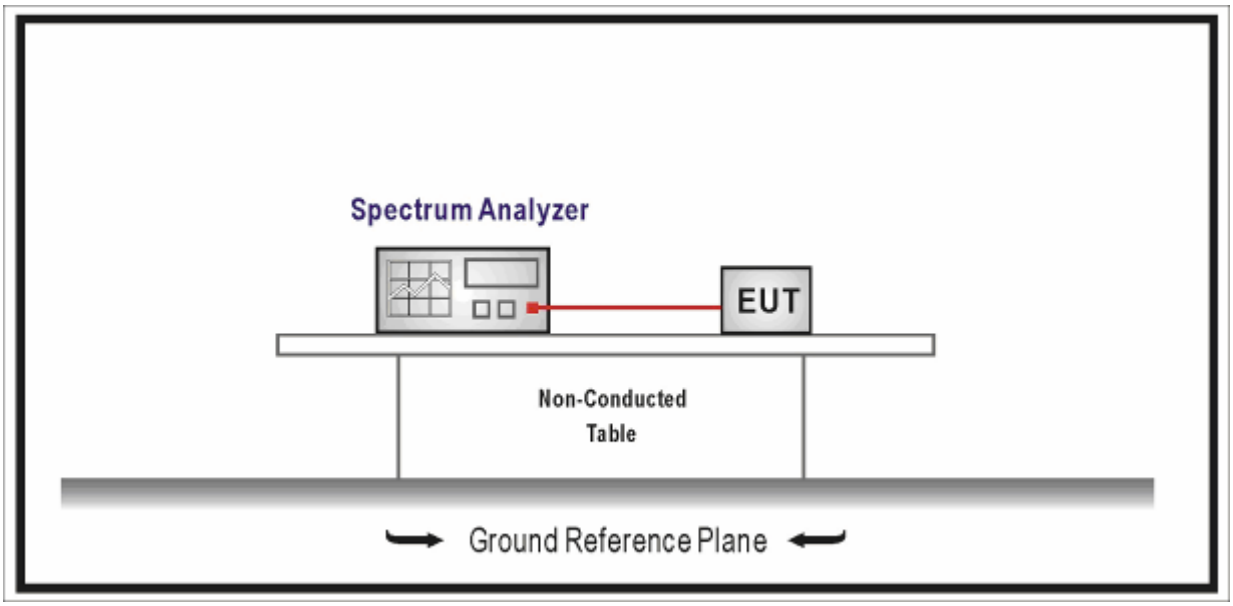
Channel 159(5795MHz)

7. Power Output

7.1. Test Equipment

Power Output / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2016.03.11	2017.03.10
Power Sensor	Anritsu	MA2411B	0846014	2016.11.11	2016.11.10
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2016.04.10	2017.04.09
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

7.2. Test Setup



7.3. Limit

Fundamental emission output power Limit		
☒	For the band 5.15-5.25 GHz	
	☒	Outdoor access point: the maximum conducted output power shall not exceed 1 W. If G_{TX} ＞6dBi, then Pout≤30 - (G_{TX} - 6) and ≤125mW at any angle above 30 degrees
	☐	Indoor access point: the maximum conducted output power shall not exceed 1 W. If G_{TX} ＞6dBi, then Pout≤30 - (G_{TX} - 6)
	☐	Fixed point-to-point access points: the maximum conducted output power shall not exceed 1 W. If G_{TX}＞23dBi, then Pout≤30 - (G_{TX} - 23)
	☐	Mobile and portable client devices: the maximum conducted output power shall not exceed 250mW. If G_{TX}＞6dBi, then Pout≤24 - (G_{TX} - 6)
☐	For the 5.25-5.35 GHz: the maximum conducted output power shall not exceed 250mW or 11dBm+10 Log B, where B is the 26dB emission bandwidth in MHz. If G_{TX} ＞ 6dBi, then Pout ≤ (The lesser of 24 or 11dBm+10 Log B) - (GTX - 6)	
☐	For the 5.47-5.725 GHz: the maximum conducted output power shall not exceed 250mW or 11dBm+10 Log B, where B is the 26dB emission bandwidth in MHz. If G_{TX}＞6dBi, then Pout ≤ (The lesser of 24 or 11dBm+10 Log B) - (G_{TX} - 6)	
☒	For the band 5.725-5.85 GHz:	
	☒	Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6)
	☐	Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W
Note 1 : G_{TX} directional gain of transmitting antennas. Note 2 : P_{out} is maximum peak conducted output power .		

7.4. Test Procedure

Fundamental emission output power Test Method					
	References Rule			Chapter	Description
☒	ANSI C63.10			12.3	Maximum conducted output power
	☐	ANSI C63.10		12.3.2	Maximum conducted output power measurement using a spectrum analyzer (SA) or EMI receiver
		☐	ANSI C63.10	12.3.2.2	Method SA-1
		☐	ANSI C63.10	12.3.2.3	Method SA-1A (alternative)
		☐	ANSI C63.10	12.3.2.4	Method SA-2
		☐	ANSI C63.10	12.3.2.5	Method SA-2A (alternative)
		☐	ANSI C63.10	12.3.2.6	Method SA-3
		☐	ANSI C63.10	12.3.2.7	Method SA-3A (alternative)
	☒	ANSI C63.10		12.3.3	Maximum conducted output power using a power meter
		☐	ANSI C63.10	12.3.3.1	Method PM
		☒	ANSI C63.10	12.3.3.2	Method PM-G
☐	FCC KDB 789033 D02v01			E	Maximum conducted output power
	☐	FCC KDB 789033 D02v01		E.2	Measurement using a Spectrum Analyzer or EMI Receiver (SA)
		☐	FCC KDB 789033 D02v01	E.2.b	Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep)
		☐	FCC KDB 789033 D02v01	E.2.c	Method SA-1 Alternative (RMS detection with slow sweep and EUT transmitting continuously at full power)
		☐	FCC KDB 789033 D02v01	E.2.d	Method SA-2 (trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction)
		☐	FCC KDB 789033 D02v01	E.2.e	Method SA-2 Alternative (RMS detection with slow sweep with each spectrum bin averaging across on and off times of the EUT transmissions, followed by duty cycle correction)

		☐	FCC KDB 789033 D02v01	E.2.f	Method SA-3 (RMS detection with max hold)
		☐	FCC KDB 789033 D02v01	E.2.g	Method SA-3 Alternative (Reduced VBW with max hold)
	☐	FCC KDB 789033 D02v01		E.3	Measurement using a Power Meter (PM)
		☐	FCC KDB 789033 D02v01	E.3.a	Method PM (Measurement using an RF average power meter)
		☐	FCC KDB 789033 D02v01	E.3.b	Method PM-G (Measurement using a gated RF average power meter)

Directional Gain Calculations for In-Band test method				
	References Rule		Chapter	Description
☐	KDB 662911		F2)a)	Basic methodology with NANT transmit antennas
	☐	KDB 662911	F2)a) (i)	transmit signals are correlated
	☐	KDB 662911	F2)a) (ii)	transmit signals are uncorrelated
☒	KDB 662911		F2)b)	Sectorized antenna systems.
☐	KDB 662911		F2)c)	Cross-polarized antennas
	☐	ANSI C63.10	F2)c) (i)	Cross-polarized antennas with NANT = 2.
	☐	ANSI C63.10	F2)c) (ii)	Multiple antennas
☐	KDB 662911		F2)d)	MIMO
	☐	KDB 662911	F2)d) (i)	transmit signals are correlated
	☐	KDB 662911	F2)d) (ii)	transmit signals are uncorrelated
☐	KDB 662911		F2)e)	Spatial Multiplexing
	☐	KDB 662911	F2)e) (i)	Antennas have the same gain
	☐	KDB 662911	F2)e) (ii)	Antenna have the different gain with one spatial stream
	☐	KDB 662911	F2)e) (iii)	Antenna have the different gain with more than one spatial stream
☒	KDB 662911		F2)f)	Cyclic Delay Diversity (CDD)
	☒	KDB 662911	F2)f) (i)	Antennas have the same gain
	☐	KDB 662911	F2)f) (ii)	Antenna have the different gain with one spatial stream
	☐	KDB 662911	F2)f) (ii)	Antenna have the different gain with more than one spatial stream

7.5. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB

7.6. Test Result

For Sectorized Antenna

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a(10MHz)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	DiretionalGain (dBi)	FCC Limit (dBm)	Result
		Ant 0	Ant 1				
36	5180	9.10	8.95	12.04	19.0	17.0	Pass
44	5220	8.71	8.46	11.60	19.0	17.0	Pass
48	5240	7.48	7.86	10.68	19.0	17.0	Pass
149	5745	11.15	12.08	14.65	19.0	17.0	Pass
157	5785	11.14	10.96	14.06	19.0	17.0	Pass
165	5825	8.95	9.89	12.46	19.0	17.0	Pass

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n(10MHz)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	DiretionalGain (dBi)	FCC Limit (dBm)	Result
		Ant 0	Ant 1				
36	5180	9.99	9.89	12.95	19.0	17.0	Pass
44	5220	10.14	10.12	13.14	19.0	17.0	Pass
48	5240	10.05	9.94	13.01	19.0	17.0	Pass
149	5745	12.65	12.74	15.71	19.0	17.0	Pass
157	5785	11.82	12.06	14.95	19.0	17.0	Pass
165	5825	9.54	10.46	13.03	19.0	17.0	Pass

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11a(20MHz)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	DiretionalGain (dBi)	FCC Limit (dBm)	Result
		Ant 0	Ant 1				
36	5180	8.40	9.63	12.07	19.0	17.0	Pass
44	5220	5.28	6.26	8.81	19.0	17.0	Pass
48	5240	1.43	10.60	11.10	19.0	17.0	Pass
149	5745	11.00	11.50	14.26	19.0	17.0	Pass
157	5785	10.57	10.47	13.53	19.0	17.0	Pass
165	5825	9.38	8.48	11.96	19.0	17.0	Pass

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 4: Transmit by 802.11n(20MHz)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	DiretionalGain (dBi)	FCC Limit (dBm)	Result
		Ant 0	Ant 1				
36	5180	8.89	9.24	12.08	19.0	17.0	Pass
44	5220	9.41	10.81	13.18	19.0	17.0	Pass
48	5240	10.94	10.21	13.60	19.0	17.0	Pass
149	5745	11.06	11.10	14.09	19.0	17.0	Pass
157	5785	10.16	10.22	13.20	19.0	17.0	Pass
165	5825	9.03	7.88	11.51	19.0	17.0	Pass

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 5: Transmit by 802.11n(40MHz)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	DiretionalGain (dBi)	FCC Limit (dBm)	Result
		Ant 0	Ant 1				
38	5190	8.60	10.42	12.62	19.0	17.0	Pass
46	5230	10.69	10.36	13.54	19.0	17.0	Pass
151	5755	10.01	9.46	12.76	19.0	17.0	Pass
159	5795	10.67	9.77	13.25	19.0	17.0	Pass

For Dipole Antenna

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a(10MHz)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	DiretionalGain (dBi)	FCC Limit (dBm)	Result
		Ant 0	Ant 1				
36	5180	21.88	21.76	24.83	3.0	30.0	Pass
44	5220	22.20	21.97	25.10	3.0	30.0	Pass
48	5240	22.53	22.34	25.45	3.0	30.0	Pass
149	5745	19.42	19.53	22.49	3.0	30.0	Pass
157	5785	19.12	20.58	22.92	3.0	30.0	Pass
165	5825	20.32	21.84	24.16	3.0	30.0	Pass

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n(10MHz)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	DiretionalGain (dBi)	FCC Limit (dBm)	Result
		Ant 0	Ant 1				
36	5180	21.76	21.64	24.71	3.0	30.0	Pass
44	5220	21.93	21.83	24.89	3.0	30.0	Pass
48	5240	22.34	22.18	25.27	3.0	30.0	Pass
149	5745	21.53	22.18	24.88	3.0	30.0	Pass
157	5785	19.49	20.63	23.11	3.0	30.0	Pass
165	5825	20.17	20.94	23.58	3.0	30.0	Pass

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11a(20MHz)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	DiretionalGain (dBi)	FCC Limit (dBm)	Result
		Ant 0	Ant 1				
36	5180	24.23	23.86	27.06	3.0	30.0	Pass
44	5220	23.62	23.84	26.74	3.0	30.0	Pass
48	5240	23.59	24.57	27.12	3.0	30.0	Pass
149	5745	18.95	18.69	21.83	3.0	30.0	Pass
157	5785	19.64	19.67	22.66	3.0	30.0	Pass
165	5825	20.43	19.91	23.19	3.0	30.0	Pass

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 4: Transmit by 802.11n(20MHz)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	DiretionalGain (dBi)	FCC Limit (dBm)	Result
		Ant 0	Ant 1				
36	5180	23.91	23.53	26.73	3.0	30.0	Pass
44	5220	23.12	23.98	26.58	3.0	30.0	Pass
48	5240	23.42	24.34	26.91	3.0	30.0	Pass
149	5745	20.65	21.10	23.89	3.0	30.0	Pass
157	5785	19.37	19.55	22.47	3.0	30.0	Pass
165	5825	19.23	19.53	22.39	3.0	30.0	Pass

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Power Output
Test Site	:	TR-8
Test Mode	:	Mode 5: Transmit by 802.11n(40MHz)

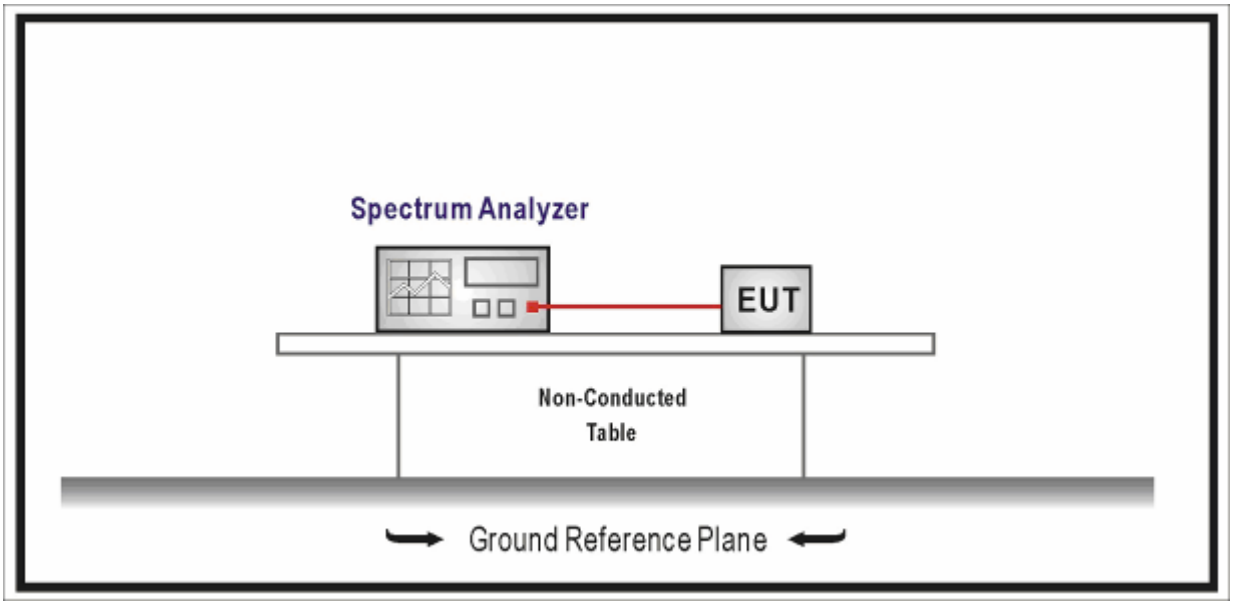
Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	DiretionalGain (dBi)	FCC Limit (dBm)	Result
		Ant 0	Ant 1				
38	5190	17.41	18.21	20.84	3.0	30.0	Pass
46	5230	22.87	24.37	26.69	3.0	30.0	Pass
151	5755	12.29	13.13	15.74	3.0	30.0	Pass
159	5795	21.58	20.90	24.26	3.0	30.0	Pass

8. Peak Power Spectral Density

8.1. Test Equipment

Peak Power Spectral Density / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2016.03.11	2017.03.10
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2016.04.10	2017.04.09
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

8.2. Test Setup



8.3. Limit

Fundamental emission output power Limit		
☒	For the band 5.15-5.25 GHz	
	☒	Outdoor access point: the maximum power spectral density shall not exceed 17 dBm/MHz. If G_{TX}＞6dBi, then Pout≤17 - (G_{TX} - 6)
	☐	Indoor access point: the maximum power spectral density shall not exceed 17 dBm/MHz. If G_{TX}＞6dBi, then Pout≤17 - (G_{TX} - 6)
	☐	Fixed point-to-point access points: the maximum power spectral density shall not exceed 17 dBm/MHz. If G_{TX}＞23dBi, then Pout≤17 - (G_{TX} - 23)
	☐	Mobile and portable client devices: the maximum power spectral density shall not exceed 11 dBm/MHz. If G_{TX}＞6dBi, then Pout≤11 - (G_{TX} - 6)
☐	For the 5.25-5.35 GHz: the maximum power spectral density shall not exceed 11 dBm/MHz. If G_{TX}＞6dBi, then Pout≤11 - (G_{TX} - 6)	
☐	For the 5.47-5.725 GHz: the maximum power spectral density shall not exceed 11 dBm/MHz. If G_{TX}＞6dBi, then Pout≤11 - (G_{TX} - 6)	
☒	For the band 5.725-5.85 GHz: the maximum power spectral density shall not exceed 30 dBm/500KHz. If G_{TX}＞6dBi, then Pout≤30 - (G_{TX} - 6)	
Note 1 : G_{TX} directional gain of transmitting antennas. Note 2 : P_{out} is maximum peak conducted output power .		

8.4. Test Procedure

Fundamental emission output power Test Method			
	References Rule	Chapter	Description
☒	ANSI C63.10	12.5	Peak power spectral density
☒	FCC KDB 789033 D02v01	F	Maximum Power Spectral Density (PSD)

Directional Gain Calculations for In-Band test method				
	References Rule		Chapter	Description
☐	KDB 662911		F2)a)	Basic methodology with NANT transmit antennas
	☐	KDB 662911	F2)a) (i)	transmit signals are correlated
	☐	KDB 662911	F2)a) (ii)	transmit signals are uncorrelated
☒	KDB 662911		F2)b)	Sectorized antenna systems.
☐	KDB 662911		F2)c)	Cross-polarized antennas
	☐	ANSI C63.10	F2)c) (i)	Cross-polarized antennas with NANT = 2.
	☐	ANSI C63.10	F2)c) (ii)	Multiple antennas
☐	KDB 662911		F2)d)	MIMO
	☐	KDB 662911	F2)d) (i)	transmit signals are correlated
	☐	KDB 662911	F2)d) (ii)	transmit signals are uncorrelated
☐	KDB 662911		F2)e)	Spatial Multiplexing
	☐	KDB 662911	F2)e) (i)	Antennas have the same gain
	☐	KDB 662911	F2)e) (ii)	Antenna have the different gain with one spatial stream
	☐	KDB 662911	F2)e) (iii)	Antenna have the different gain with more than one spatial stream
☒	KDB 662911		F2)f)	Cyclic Delay Diversity (CDD)
	☒	KDB 662911	F2)f) (i)	Antennas have the same gain
	☐	KDB 662911	F2)f) (ii)	Antenna have the different gain with one spatial stream
	☐	KDB 662911	F2)f) (ii)	Antenna have the different gain with more than one spatial stream

8.5. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB

8.6. Test Result

For Sectorized Antenna

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a(10MHz)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm/MHz)		Duty Cycle (%)	Total PPSD (dBm/MHz)	DiretionalGain (dBi)	Limit (dBm/MHz)	Result
		Ant0	Ant1					
36	5180	-0.882	0.607	100	2.94	19.0	4	Pass
40	5200	-0.660	-0.796	100	2.28	19.0	4	Pass
48	5240	-2.437	-2.777	100	0.41	19.0	4	Pass
Channel No.	Frequency (MHz)	Measurement Power Output (dBm/MHz)		Duty Cycle (%)	Total PPSD (dBm/MHz)	DiretionalGain (dBi)	Limit (dBm/500kHz)	Result
		Ant0	Ant1					
149	5745	4.453	3.001	100	6.80	19.0	17	Pass
157	5785	3.183	2.173	100	5.72	19.0	17	Pass
165	5825	1.600	2.268	100	4.96	19.0	17	Pass

Ant 0

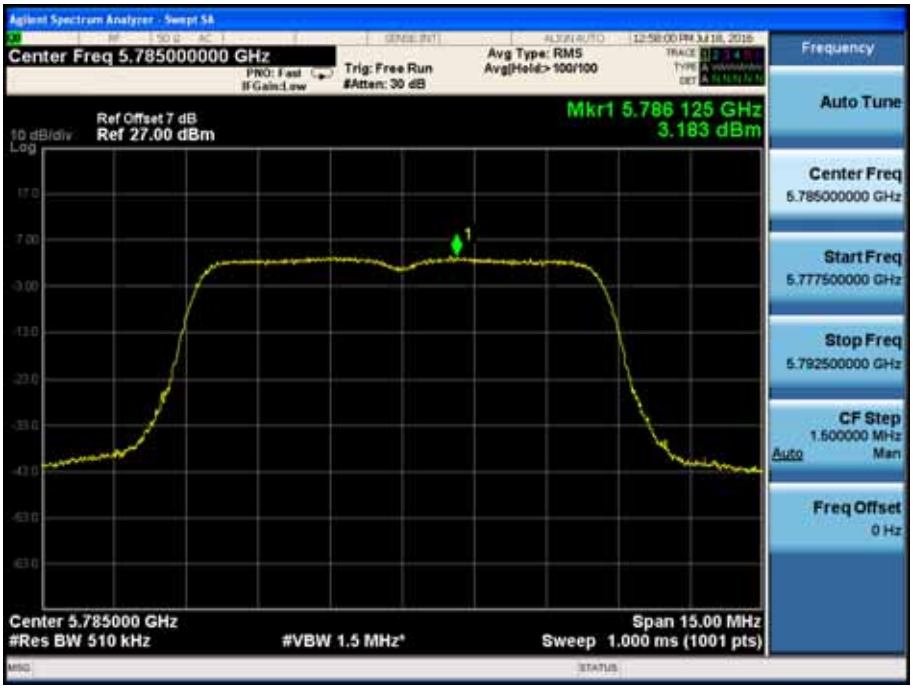
Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157(5785MHz)



Channel 165 (5825MHz)

Ant 1

Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157(5785MHz)

Channel 165 (5825MHz)

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n(10MHz)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm/MHz)		Duty Cycle (%)	Total PPSD (dBm/MHz)	DiretionalGain (dBi)	Limit (dBm/MHz)	Result
		Ant0	Ant1					
36	5180	0.291	0.345	100	3.33	19.0	4	Pass
40	5200	0.546	0.823	100	3.70	19.0	4	Pass
48	5240	-0.463	0.412	100	3.01	19.0	4	Pass
Channel No.	Frequency (MHz)	Measurement Power Output (dBm/MHz)		Duty Cycle (%)	Total PPSD (dBm/MHz)	DiretionalGain (dBi)	Limit (dBm/500kHz)	Result
		Ant0	Ant1					
149	5745	3.818	2.706	100	6.31	19.0	17	Pass
157	5785	2.561	2.245	100	5.42	19.0	17	Pass
165	5825	1.607	1.626	100	4.63	19.0	17	Pass

Ant 0

Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157(5785MHz)

Channel 165 (5825MHz)

Ant 1

Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157(5785MHz)

Channel 165 (5825MHz)

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11a(20MHz)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm/MHz)		Duty Cycle (%)	Total PPSD (dBm/MHz)	DiretionalGain (dBi)	Limit (dBm/MHz)	Result
		Ant0	Ant1					
36	5180	-5.176	-4.192	100	-1.646	19.0	4	Pass
40	5200	-8.859	-6.890	100	-4.754	19.0	4	Pass
48	5240	-12.577	-11.553	100	-9.025	19.0	4	Pass
Channel No.	Frequency (MHz)	Measurement Power Output (dBm/MHz)		Duty Cycle (%)	Total PPSD (dBm/MHz)	DiretionalGain (dBi)	Limit (dBm/500kHz)	Result
		Ant0	Ant1					
149	5745	-4.626	-4.692	100	-1.649	19.0	17	Pass
157	5785	-5.931	-5.645	100	-2.775	19.0	17	Pass
165	5825	-6.826	-7.066	100	-3.934	19.0	17	Pass

Ant 0

Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

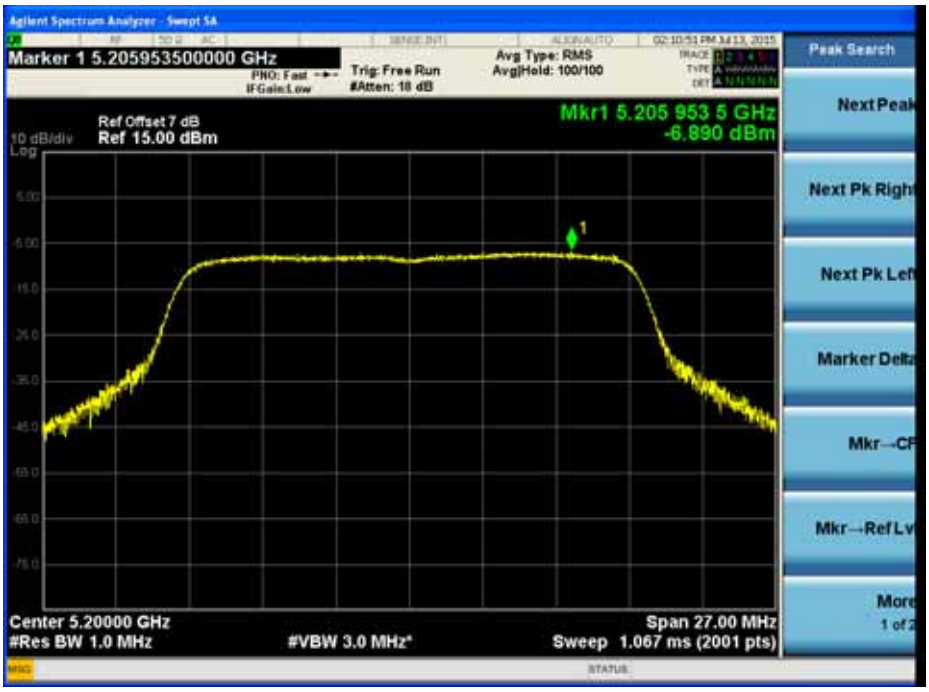
Channel 157(5785MHz)

Channel 165 (5825MHz)

Ant 1

Channel 36 (5180MHz)

Channel 44 (5220MHz)



Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157(5785MHz)

Channel 165 (5825MHz)

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 4: Transmit by 802.11n(20MHz)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm/MHz)		Duty Cycle (%)	Total PPSD (dBm/MHz)	DiretionalGain (dBi)	Limit (dBm/MHz)	Result
		Ant0	Ant1					
36	5180	-5.868	-4.086	100	-1.876	19.0	4	Pass
40	5200	-4.931	-3.103	100	-0.911	19.0	4	Pass
48	5240	-3.098	-2.836	100	0.045	19.0	4	Pass
Channel No.	Frequency (MHz)	Measurement Power Output (dBm/MHz)		Duty Cycle (%)	Total PPSD (dBm/MHz)	DiretionalGain (dBi)	Limit (dBm/500kHz)	Result
		Ant0	Ant1					
149	5745	-5.387	-5.535	100	-2.450	19.0	17	Pass
157	5785	-6.751	-6.037	100	-3.369	19.0	17	Pass
165	5825	-7.190	-7.916	100	-4.528	19.0	17	Pass

Ant 0

Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157(5785MHz)

Channel 165 (5825MHz)

Ant 1

Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157(5785MHz)

Channel 165 (5825MHz)

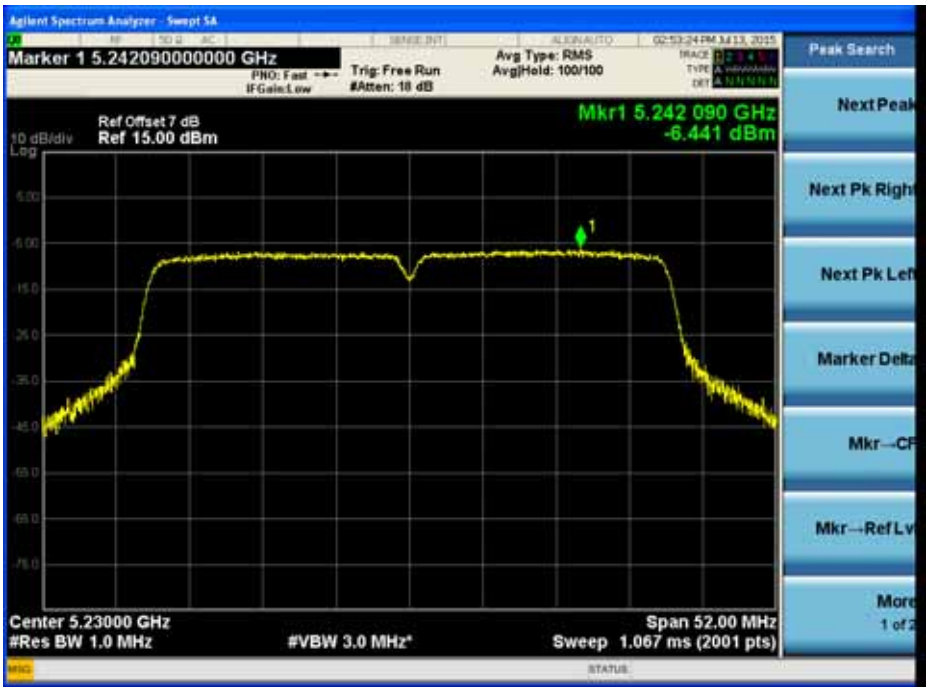
Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 5: Transmit by 802.11n(40MHz)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm/MHz)		Duty Cycle (%)	Total PPSD (dBm/MHz)	DiretionalGain (dBi)	Limit (dBm/MHz)	Result
		Ant0	Ant1					
38	5190	-8.381	-6.640	100	-4.414	19.0	4	Pass
46	5230	-6.441	-6.135	100	-3.275	19.0	4	Pass
Channel No.	Frequency (MHz)	Measurement Power Output (dBm/MHz)		Duty Cycle (%)	Total PPSD (dBm/MHz)	DiretionalGain (dBi)	Limit (dBm/500kHz)	Result
		Ant0	Ant1					
151	5755	-9.813	-9.767	100	-6.780	19.0	17	Pass
159	5795	-9.906	-9.253	100	-6.557	19.0	17	Pass

Ant 0

Channel 38 (5190MHz)

Channel 42 (5230MHz)



Channel 151 (5755MHz)

Channel 159(5795MHz)

Ant 1

Channel 38 (5190MHz)

Channel 42 (5230MHz)

Channel 151 (5755MHz)

Channel 159(5795MHz)

For Dipole Antenna

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a(10MHz)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm/MHz)		Duty Cycle (%)	Total PPSD (dBm/MHz)	DiretionalGain (dBi)	Limit (dBm/MHz)	Result
		Ant0	Ant1					
36	5180	12.814	12.825	100	15.83	6.0	17	Pass
40	5200	13.279	12.666	100	15.99	6.0	17	Pass
48	5240	13.529	12.797	100	16.19	6.0	17	Pass
Channel No.	Frequency (MHz)	Measurement Power Output (dBm/MHz)		Duty Cycle (%)	Total PPSD (dBm/MHz)	DiretionalGain (dBi)	Limit (dBm/500kHz)	Result
		Ant0	Ant1					
149	5745	8.308	6.640	100	10.56	6.0	30	Pass
157	5785	7.909	8.269	100	11.10	6.0	30	Pass
165	5825	8.123	8.167	100	11.16	6.0	30	Pass

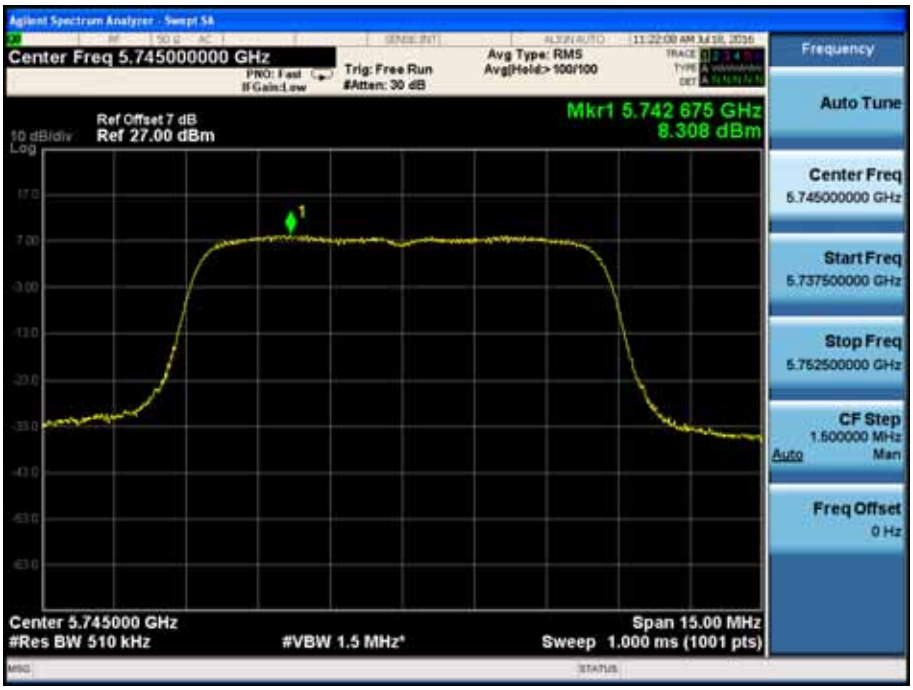
Ant 0

Channel 36 (5180MHz)

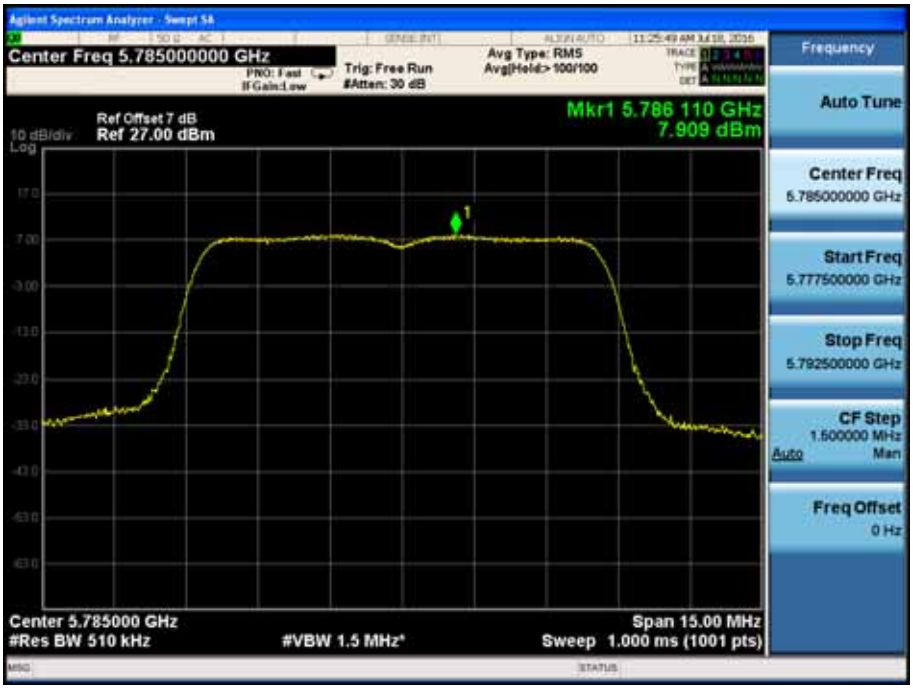
Channel 44 (5220MHz)

Channel 48 (5240MHz)

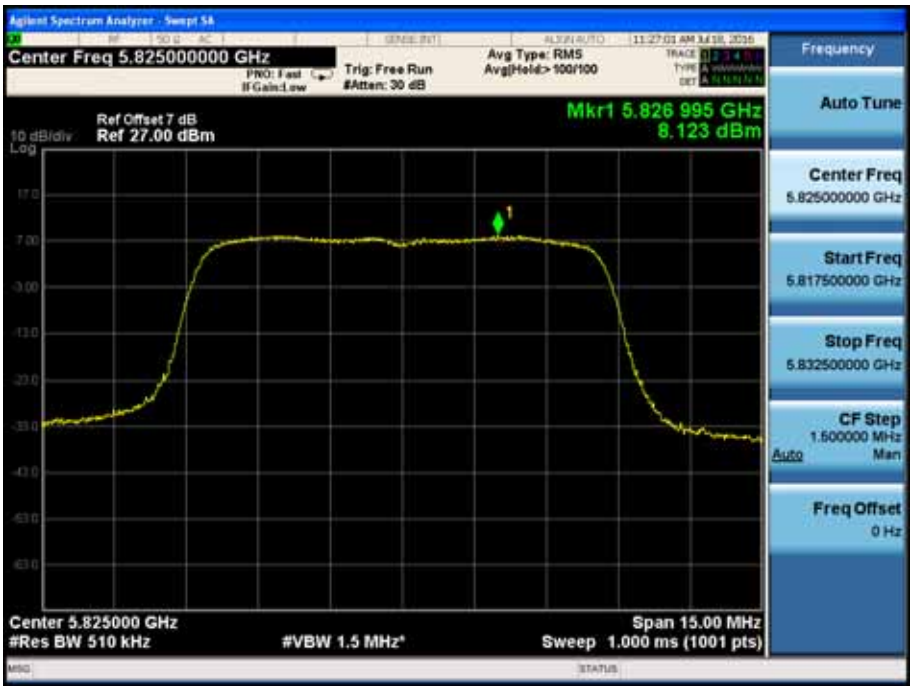
Channel 149 (5745MHz)



Channel 157 (5785MHz)



Channel 165 (5825MHz)



Ant 1

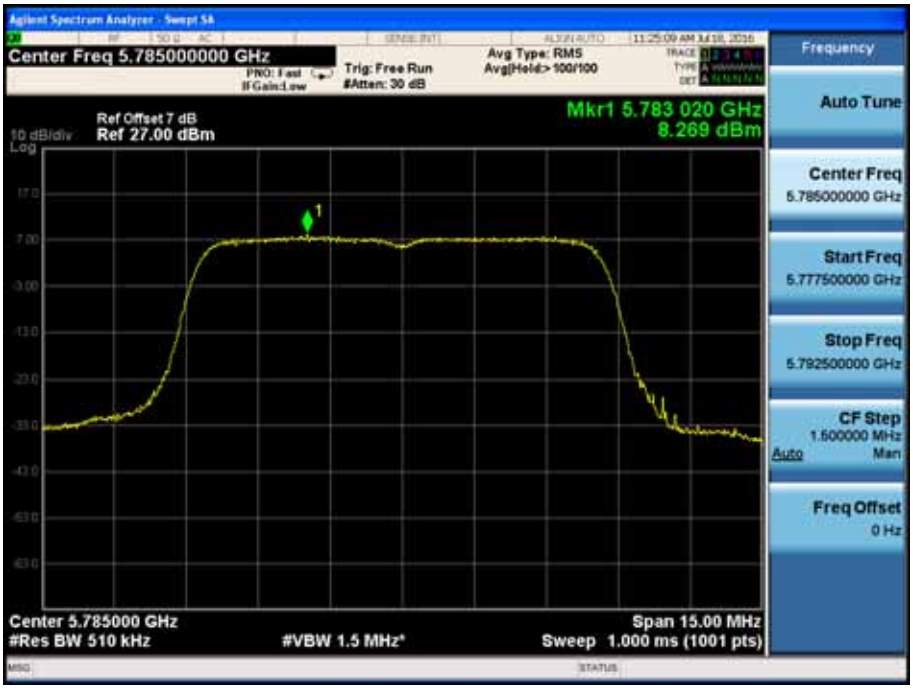
Channel 36 (5180MHz)

Channel 44 (5220MHz)

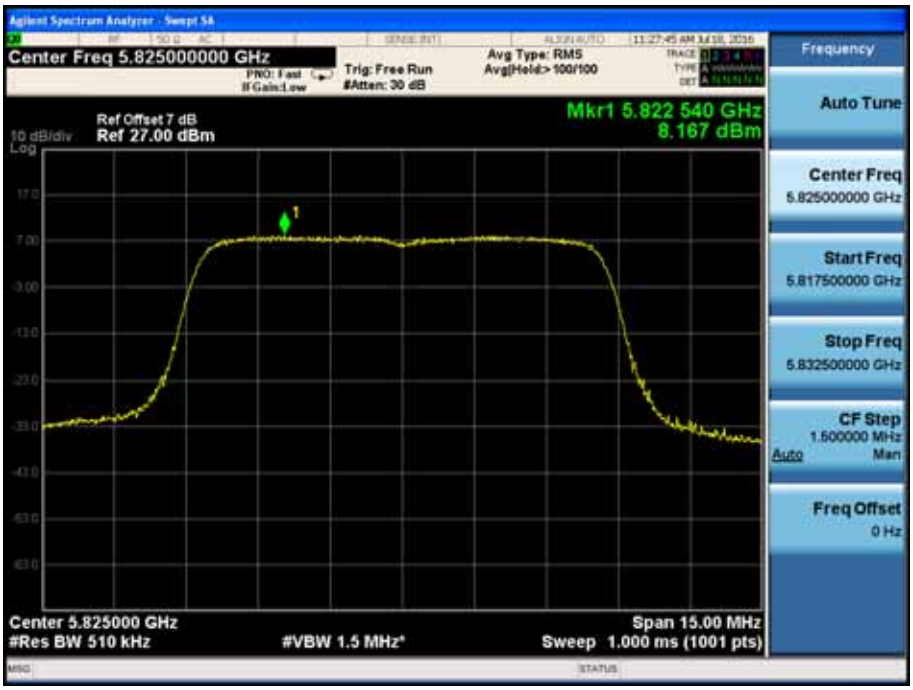
Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157 (5785MHz)



Channel 165 (5825MHz)



Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11a(20MHz)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm/MHz)		Duty Cycle (%)	Total PPSD (dBm/MHz)	DiretionalGain (dBi)	Limit (dBm/MHz)	Result
		Ant0	Ant1					
36	5180	12.286	13.180	100	15.77	6.0	17	Pass
40	5200	12.934	12.465	100	15.72	6.0	17	Pass
48	5240	12.845	12.273	100	15.58	6.0	17	Pass
Channel No.	Frequency (MHz)	Measurement Power Output (dBm/MHz)		Duty Cycle (%)	Total PPSD (dBm/MHz)	DiretionalGain (dBi)	Limit (dBm/500kHz)	Result
		Ant0	Ant1					
149	5745	5.923	4.783	100	8.40	6.0	30	Pass
157	5785	8.083	7.738	100	10.92	6.0	30	Pass
165	5825	8.314	7.597	100	10.98	6.0	30	Pass

Ant 0

Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157 (5785MHz)

Channel 165 (5825MHz)

Ant 1

Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157 (5785MHz)

Channel 165 (5825MHz)

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11a(20MHz)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm/MHz)		Duty Cycle (%)	Total PPSD (dBm/MHz)	DiretionalGain (dBi)	Limit (dBm/MHz)	Result
		Ant0	Ant1					
36	5180	7.179	7.863	100	10.545	6.0	17	Pass
40	5200	7.117	7.676	100	10.416	6.0	17	Pass
48	5240	7.268	7.547	100	10.420	6.0	17	Pass
Channel No.	Frequency (MHz)	Measurement Power Output (dBm/MHz)		Duty Cycle (%)	Total PPSD (dBm/MHz)	DiretionalGain (dBi)	Limit (dBm/500kHz)	Result
		Ant0	Ant1					
149	5745	5.503	5.740	100	8.633	6.0	30	Pass
157	5785	5.072	5.061	100	8.077	6.0	30	Pass
165	5825	5.223	4.109	100	7.712	6.0	30	Pass

Ant 0

Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157 (5785MHz)

Channel 165 (5825MHz)

Ant 1

Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157 (5785MHz)

Channel 165 (5825MHz)

Product	:	5GHz 300Mbps Outdoor Wireless Base Station
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 4: Transmit by 802.11n(20MHz)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm/MHz)		Duty Cycle (%)	Total PPSD (dBm/MHz)	DiretionalGain (dBi)	Limit (dBm/MHz)	Result
		Ant0	Ant1					
36	5180	7.179	7.132	100	10.166	6.0	17	Pass
40	5200	7.194	7.380	100	10.298	6.0	17	Pass
48	5240	7.245	7.312	100	10.289	6.0	17	Pass
Channel No.	Frequency (MHz)	Measurement Power Output (dBm/MHz)		Duty Cycle (%)	Total PPSD (dBm/MHz)	DiretionalGain (dBi)	Limit (dBm/500kHz)	Result
		Ant0	Ant1					
149	5745	7.805	5.477	100	9.805	6.0	30	Pass
157	5785	4.984	4.600	100	7.807	6.0	30	Pass
165	5825	5.177	4.170	100	7.713	6.0	30	Pass

Ant 0

Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157 (5785MHz)

Channel 165 (5825MHz)

Ant 1

Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)