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Report No.: GZEM181200013202

Page: 1 of 104

FCC ID: PUU-CPLGSTDBLW1

TEST REPORT

Application No.: GZEM1812000132CR
Applicant: GE Lighting
Address of Applicant: Nele park, Cleveland, OH 44112
Manufacturer: GE Lighting
Address of Manufacturer: Nele park, Cleveland, OH 44112
Factory: Nanchang Innotech Technology Co., Ltd
Address of Factory: No.399, Rule Lake Avenue, Nanchang Airport Economic Zone, Nanchang, China
Equipment Under Test (EUT):
FCC ID: PUU-CPLGSTDBLW1
EUT Name: Smart Plug
Model No.: CPLGSTDBLW1
Trade Mark: GE
Standard(s) : 47 CFR Part 15, Subpart C 15.247
Date of Receipt: 2018-12-26
Date of Test: 2019-01-02 to 2019-01-07
Date of Issue: 2019-03-04

Test Result:	Pass*
---------------------	--------------

* In the configuration tested, the EUT complied with the standards specified above.



Kobe Jian
Lab Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

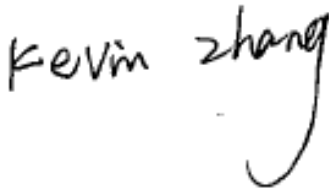


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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2019-03-04		Original

Authorized for issue by:			
Tested By		2019-01-02 to 2019-01-07 Date	
Checked By		2019-01-09 Date	



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2 Test Summary

Radio Spectrum Technical Requirement				
Item	Standard	Method	Requirement	Result
Antenna Requirement	47 CFR Part 15, Subpart C 15.247	N/A	47 CFR Part 15, Subpart C 15.203 & 15.247(c)	Pass

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass
Minimum 6dB Bandwidth	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.8.1	47 CFR Part 15, Subpart C 15.247a(2)	Pass
Conducted Peak Output Power	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.9.1	47 CFR Part 15, Subpart C 15.247(b)(3)	Pass
Power Spectrum Density	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.10.2	47 CFR Part 15, Subpart C 15.247(e)	Pass
Conducted Band Edges Measurement	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.13.3.2	47 CFR Part 15, Subpart C 15.247(d)	Pass
Conducted Spurious Emissions	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.11	47 CFR Part 15, Subpart C 15.247(d)	Pass
Radiated Emissions which fall in the restricted bands	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.10.5	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass
Radiated Spurious Emissions	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.4,6.5,6.6	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass



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3 Contents

	Page
1 Cover Page.....	1
2 Test Summary.....	3
3 Contents	4
4 General Information	6
4.1 Details of E.U.T.....	6
4.2 Environment Parameter.....	6
4.3 Description of Support Units	8
4.4 Measurement Uncertainty.....	8
4.5 Test Location	8
4.6 Test Facility.....	9
4.7 Deviation from Standards	10
4.8 Abnormalities from Standard Conditions	10
5 Equipment List.....	11
6 Radio Spectrum Technical Requirement	15
6.1 Antenna Requirement.....	15
6.1.1 Test Requirement:	15
6.1.2 Conclusion.....	15
7 Radio Spectrum Matter Test Results.....	16
7.1 Conducted Emissions at AC Power Line (150kHz-30MHz).....	16
7.1.1 E.U.T. Operation.....	17
7.1.2 Test Setup Diagram.....	17
7.1.3 Measurement Procedure and Data	17
7.2 Minimum 6dB Bandwidth	20
7.2.1 E.U.T. Operation.....	20
7.2.2 Test Setup Diagram.....	20
7.2.3 Measurement Procedure and Data	20
7.3 Conducted Peak Output Power	21
7.3.1 E.U.T. Operation.....	22
7.3.2 Test Setup Diagram.....	22
7.3.3 Measurement Procedure and Data	22
7.4 Power Spectrum Density	23
7.4.1 E.U.T. Operation.....	23
7.4.2 Test Setup Diagram.....	23
7.4.3 Measurement Procedure and Data	23
7.5 Conducted Band Edges Measurement.....	24
7.5.1 E.U.T. Operation.....	25
7.5.2 Test Setup Diagram.....	25
7.5.3 Measurement Procedure and Data	25
7.6 Conducted Spurious Emissions.....	26



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7.6.1	E.U.T. Operation.....	27
7.6.2	Test Setup Diagram.....	27
7.6.3	Measurement Procedure and Data	27
7.7	Radiated Emissions which fall in the restricted bands.....	28
7.7.1	E.U.T. Operation.....	29
7.7.2	Test Setup Diagram.....	29
7.7.3	Measurement Procedure and Data	31
7.8	Radiated Spurious Emissions.....	40
7.8.1	E.U.T. Operation.....	40
7.8.2	Test Setup Diagram.....	41
7.8.3	Measurement Procedure and Data	43
8	Appendix	60
8.1	Appendix 15.247	60



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4 General Information

4.1 Details of E.U.T.

Power Supply:	AC 120V 60Hz
Test Voltage:	AC 120V 60Hz
Cable:	N/A
Antenna Gain	0.2dBi
Antenna Type	Integrated Antenna
Channel Spacing	5MHz
Modulation Type	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Number of Channels	802.11b/g/n(HT20):11 802.11n(HT40):7
Operation Frequency	802.11b/g/n(HT20): 2412MHz to 2462MHz 802.11n(HT40): 2422MHz to 2452MHz

4.2 Environment Parameter

Environment Parameter	Selected Values During Tests	
Relative Humidity	Ambient	
Value	Temperature(°C)	Voltage(V)
TNVN	25	120
TLVN	0	120
THVN	50	120

Note:

VN: Normal Voltage
TN: Normal Temperature
TL: Low Extreme Test Temperature
TH: High Extreme Test Temperature



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Operation Frequency each of channel (802.11b/g/n HT20)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	5	2432MHz	9	2452MHz		
2	2417MHz	6	2437MHz	10	2457MHz		
3	2422MHz	7	2442MHz	11	2462MHz		
4	2427MHz	8	2447MHz				

Operation Frequency each of channel(802.11n HT40)					
Channel	Frequency	Channel	Frequency	Channel	Frequency
3	2422MHz	6	2437MHz	9	2452MHz
4	2427MHz	7	2442MHz		
5	2432MHz	8	2447MHz		

Using test software was control EUT work in continuous transmitter and receiver mode. And select test channel as below:

For 802.11b/g/n (HT20):

Channel	Frequency
The lowest channel (CH1)	2412MHz
The middle channel (CH7)	2442MHz
The highest channel (CH13)	2462MHz

For 802.11n (HT40):

Channel	Frequency
The lowest channel (CH3)	2422MHz
The middle channel (CH7)	2442MHz
The highest channel (CH11)	2452MHz





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Report No.: GZEM181200013202

Page: 8 of 104

4.3 Description of Support Units

The EUT has been tested with 100W incandescent bulb supplied by SGS and used for support testing.

4.4 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	$\pm 5.5 \times 10^{-8}$
2	Duty cycle	$\pm 0.57\%$
3	Occupied Bandwidth	$\pm 3\%$
4	RF Conducted power	$\pm 0.68\text{dB}$
5	RF Power Density	$\pm 1.50\text{dB}$
6	Conducted Spurious Emissions	$\pm 1.04\text{dB}$
7	RF Radiated Power	$\pm 4.5\text{dB}$ (below 1GHz)
		$\pm 4.8\text{dB}$ (above 1GHz)
8	Radiated Spurious Emission Test	$\pm 4.5\text{dB}$ (30MHz-1GHz)
		$\pm 4.8\text{dB}$ (1GHz-18GHz)
9	Temperature	$\pm 0.4^\circ\text{C}$
10	Humidity	$\pm 1.3\%$
11	Supply Voltages	$\pm 1.5\%$
12	Time	$\pm 3\%$

4.5 Test Location

All tests were performed at:

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No tests were sub-contracted.



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4.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

● NVLAP (Lab Code: 200611-0)

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

● ACMA

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our NVLAP accreditation.

● SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

● CNAS (Lab Code: L0167)

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAS-CL01:2006 accreditation criteria for testing laboratories (identical to

ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

● FCC Recognized 2.948 Listed Test Firm(Registration No.: 282399)

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 282399, May 31, 2002.

● FCC Recognized Accredited Test Firm(Registration No.: 486818)

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: CN5016, Test Firm Registration Number: 486818, Jul 13, 2017.

● Industry Canada (Registration No.: 4620B-1)

The 3m/10m Alternate Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Certification and Engineering of Industry Canada for radio equipment testing with Registration No. 4620B-1.

● VCCI (Registration No.: R-2460, C-2584, G-449 and T-1179)

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2460, C-2584, G-449 and T-1179 respectively.

● CBTL (Lab Code: TL129)

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2005, the Basic Rules, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.



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Guangzhou Branch

Report No.: GZEM181200013202
Page: 10 of 104

4.7 Deviation from Standards

None

4.8 Abnormalities from Standard Conditions

None



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SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

Report No.: GZEM181200013202

Page: 11 of 104

5 Equipment List

Conducted Emissions at AC Power Line (150kHz-30MHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	Zhong Yu	8m x 3m x 3.8m	EMC0306	N/A	N/A
Two-Line V-Netwok	R&S	ENV216	EMC0118	2018-01-19	2019-01-18
LISN	R&S	ENV216	EMC2135	2018-09-21	2019-09-20
EMI Test Receiver	Rohde & Schwarz	ESCS30	EMC0506	2018-11-19	2019-11-18
Coaxial Cable	HangTianXing	2m	EMC0107	2017-07-23	2019-07-22
Voltage Probe	SGS	N/A	EMC0106	2018-04-04	2020-04-03
Conical Metal Housing	SGS-EMC	N/A	EMC0167	2018-04-19	2020-04-18
Test Software E3c	Audix	Ver. 5.4.1221b	GZE100-62	N/A	N/A

Minimum 6dB Bandwidth					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EXA Signal Analyzer	AgilentTechnologies	N9010A	EMC2138	2018-11-19	2019-11-18
6dB Attenuator	HP	8491A	EMC2062	2018-04-04	2020-04-03
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A

Conducted Peak Output Power					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EXA Signal Analyzer	AgilentTechnologies	N9010A	EMC2138	2018-11-19	2019-11-18
6dB Attenuator	HP	8491A	EMC2062	2018-04-04	2020-04-03
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A

Power Spectrum Density					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EXA Signal Analyzer	AgilentTechnologies	N9010A	EMC2138	2018-11-19	2019-11-18
6dB Attenuator	HP	8491A	EMC2062	2018-04-04	2020-04-03
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A



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Conducted Band Edges Measurement					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
MXA Signal Analyzer	AgilentTechnologies	N9020A	SEM004-10	2018-03-10	2019-03-09
ESG Vector Signal Generator	Keysight	E4438C	SEM006-03	2018-04-10	2019-04-10
EXG Analog Signal Generator	AgilentTechnologies	N5171B	SEM006-04	2017-07-26	2020-07-25
Power Meter	AgilentTechnologies	U2021XA_Ch2	SEM009-02	2018-09-20	2019-09-19
Power Meter	AgilentTechnologies	U2021XA_Ch3	SEM009-03	2018-09-20	2019-09-19
EXA Signal Analyzer	AgilentTechnologies	N9010A	EMC2138	2018-11-19	2019-11-18
6dB Attenuator	HP	8491A	EMC2062	2018-04-04	2020-04-03
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A

Conducted Spurious Emissions					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EXA Signal Analyzer	AgilentTechnologies	N9010A	EMC2138	2018-11-19	2019-11-18
6dB Attenuator	HP	8491A	EMC2062	2018-04-04	2020-04-03
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A



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Radiated Emissions which fall in the restricted bands					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test Receiver	Rohde & Schwarz	ESIB26	EMC0522	2018-01-19	2019-01-18
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC0056	2018-01-19	2019-01-18
Chamber cable	HangTianXing	N/A	EMC0542	2017-06-30	2019-06-30
Trilog Broadband Antenna 30MHz-1GHz	SCHWARZBECKME SS-ELEKTRONIK	VULB 9160	EMC2025	2016-09-08	2019-09-07
Bi-log Type Antenna	Schaffner -Chase	CBL6112B	EMC0524	2016-09-08	2019-09-07
Bi-log Type Antenna	Schaffner -Chase	CBL6143	EMC0519	2017-05-04	2020-05-03
Horn Antenna 1GHz-18GHz	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2016-09-09	2019-09-08
1GHz-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2019-01-07	2020-01-08
Amplifier	HP	8447F	EMC2065	2018-06-01	2019-05-31
Pre-Amplifier MH648A	ANRITSU CORP	MH648A	EMC2086	2018-11-19	2019-11-18
Active Loop Antenna	EMCO	6502	EMC0523	2018-02-24	2019-02-23
High Pass Filter(915MHz)	FSY MICROWAVE	HM1465-9SS	EMC2079	2018-01-19	2019-01-18
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2019-01-07	2020-01-08
10m Semi-Anechoic Chamber	ETS	N/A	EMC0530	2017-06-18	2019-06-18
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2017-12-19	2019-12-18
MXE EMI Receiver	Keysight	N9038A	EMC2139	2018-11-19	2019-11-18
EXA Signal Analyzer	Keysight	N9010A	EMC2138	2018-11-19	2019-11-18
Trilog Broadband Antenna 30MHz-1GHz	SCHWARZBECKME SS-ELEKTRONIK	VULB 9168	SEM003-18	2016-06-29	2019-06-28
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A



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Radiated Spurious Emissions					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test Receiver	Rohde & Schwarz	ESIB26	EMC0522	2018-01-19	2019-01-18
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC0056	2018-01-19	2019-01-18
Chamber cable	HangTianXing	N/A	EMC0542	2017-06-30	2019-06-30
Trilog Broadband Antenna 30MHz-1GHz	SCHWARZBECKME SS-ELEKTRONIK	VULB 9160	EMC2025	2016-09-08	2019-09-07
Bi-log Type Antenna	Schaffner -Chase	CBL6112B	EMC0524	2016-09-08	2019-09-07
Bi-log Type Antenna	Schaffner -Chase	CBL6143	EMC0519	2017-05-04	2020-05-03
Horn Antenna 1GHz-18GHz	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2016-09-09	2019-09-08
1GHz-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2019-01-07	2020-01-08
Amplifier	HP	8447F	EMC2065	2018-06-01	2019-05-31
Pre-Amplifier MH648A	ANRITSU CORP	MH648A	EMC2086	2018-11-19	2019-11-18
Active Loop Antenna	EMCO	6502	EMC0523	2018-02-24	2019-02-23
High Pass Filter(915MHz)	FSY MICROWAVE	HM1465-9SS	EMC2079	2018-01-19	2019-01-18
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2019-01-07	2020-01-08
10m Semi-Anechoic Chamber	ETS	N/A	EMC0530	2017-06-18	2019-06-18
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2017-12-19	2019-12-18
MXE EMI Receiver	Keysight	N9038A	EMC2139	2018-11-19	2019-11-18
EXA Signal Analyzer	Keysight	N9010A	EMC2138	2018-11-19	2019-11-18
Trilog Broadband Antenna 30MHz-1GHz	SCHWARZBECKME SS-ELEKTRONIK	VULB 9168	SEM003-18	2016-06-29	2019-06-28
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A

General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
DMM	Fluke	73	EMC0006	2018-07-20	2019-07-19
DMM	Fluke	73	EMC0007	2018-07-19	2019-07-18



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6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203 & 15.247(c)

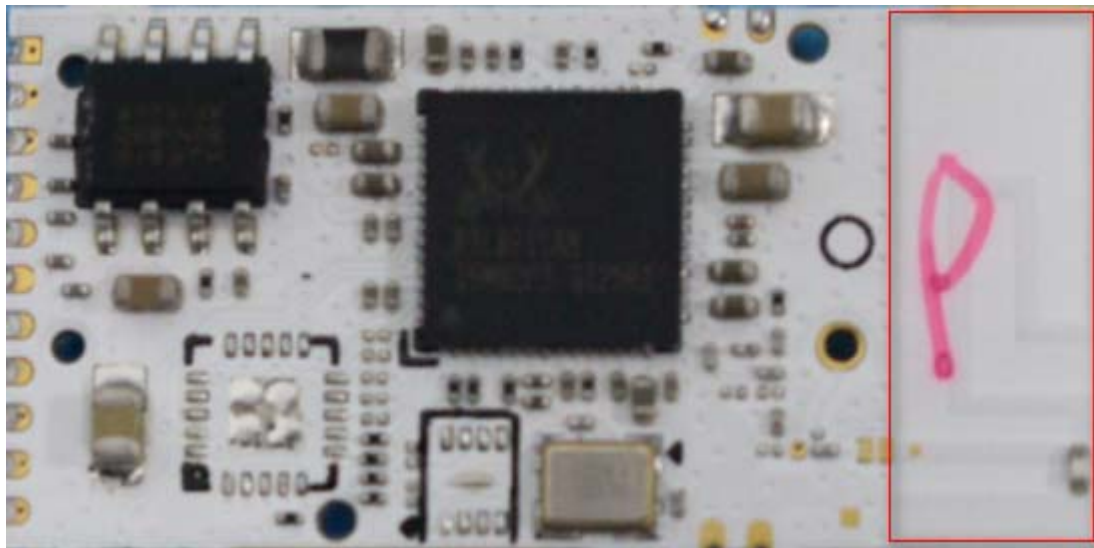
6.1.2 Conclusion

Standard Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.



EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 0.2dBi.

7 Radio Spectrum Matter Test Results

7.1 Conducted Emissions at AC Power Line (150kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.207
Test Method: ANSI C63.10 (2013) Section 6.2
Limit:

Frequency of emission(MHz)	Conducted limit(dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.



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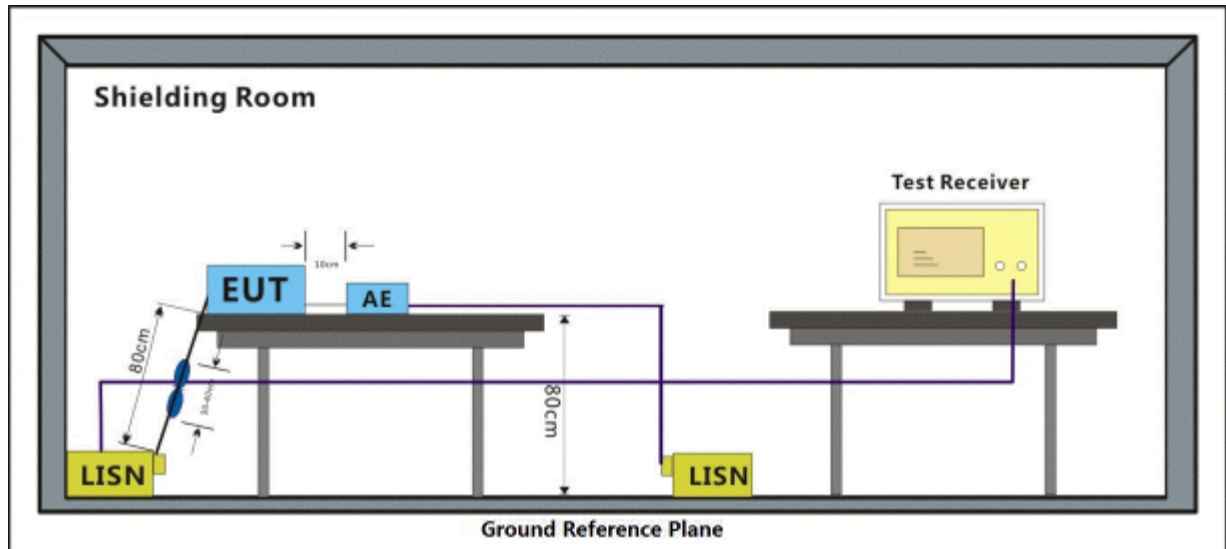
7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 20.5 °C Humidity: 52 % RH Atmospheric Pressure: 1020 mbar

Test mode c:Normal Working_Keep the EUT in communication with other device.

7.1.2 Test Setup Diagram

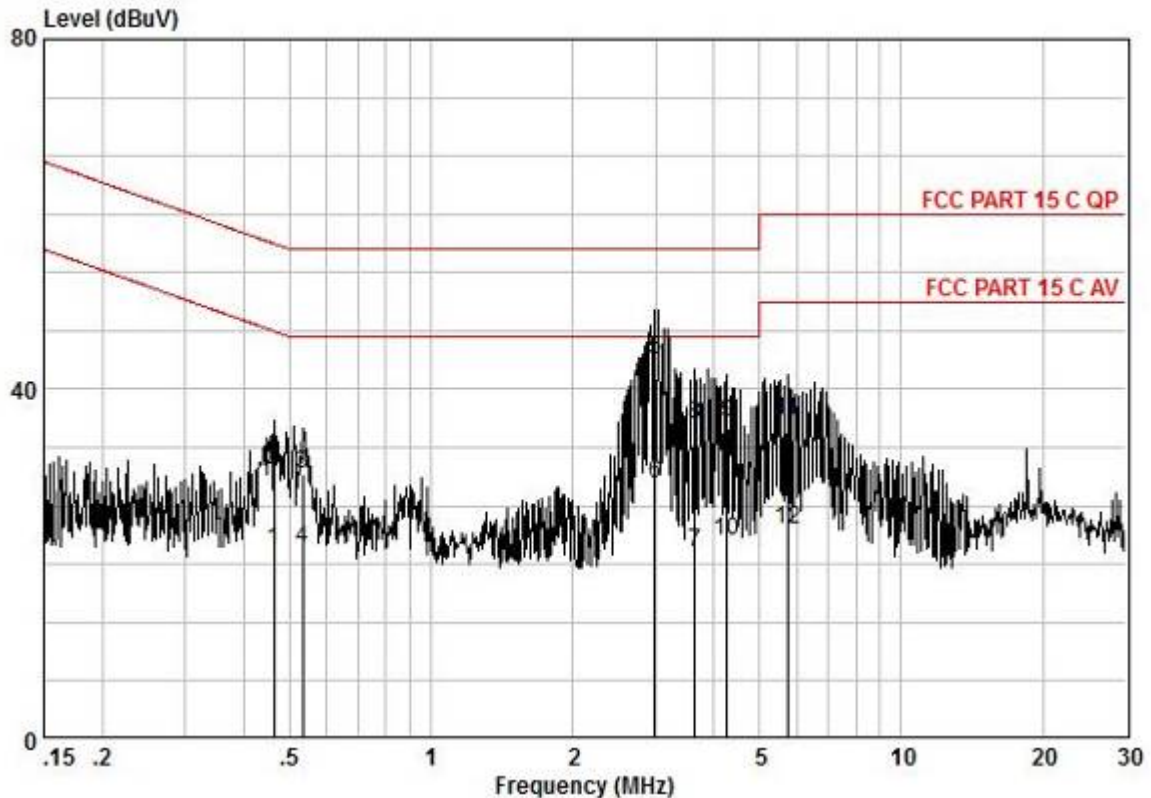


7.1.3 Measurement Procedure and Data

- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50μH + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
- 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
- 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
- 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

Remark: LISN=Read Level+ Cable Loss+ LISN Factor

Mode:c; Line:Live Line



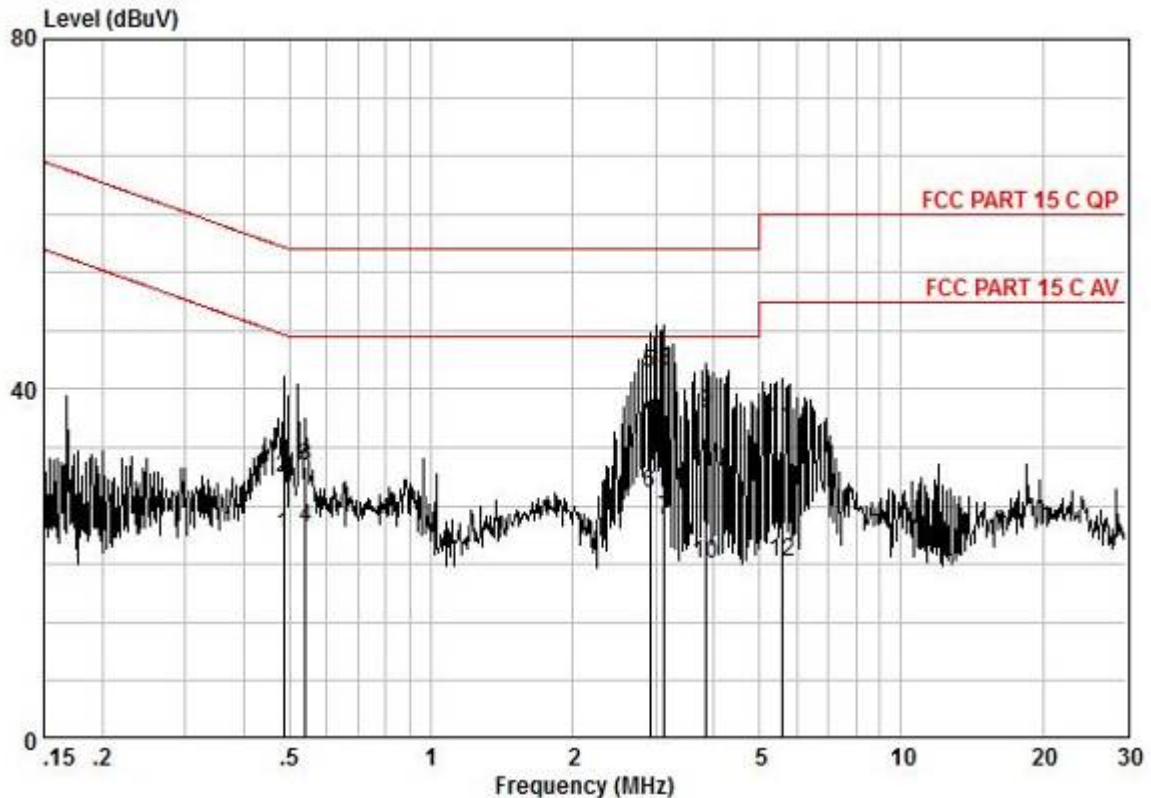
Pol	:LIVE							
No	:							
Model	:							
Frequency MHz	read level dBuV	Cable Loss dB	LISN Factor dB	Measured level dBuV	Limit Line dBuV	Over limit dB	Remark	
0,46	11,72	0,19	9,65	21,56	46,63	-25,07	AVERAGE	
0,46	20,84	0,19	9,65	30,68	56,63	-25,95	QP	
0,53	20,49	0,21	9,64	30,34	56,00	-25,66	QP	
0,53	12,00	0,21	9,64	21,85	46,00	-24,15	AVERAGE	
2,99	33,16	0,53	9,62	43,31	56,00	-12,69	QP	
2,99	19,13	0,53	9,62	29,28	46,00	-16,72	AVERAGE	
3,64	11,10	0,60	9,62	21,32	46,00	-24,68	AVERAGE	
3,64	25,84	0,60	9,62	36,06	56,00	-19,94	QP	
4,27	25,92	0,65	9,63	36,20	56,00	-19,80	QP	
4,27	12,36	0,65	9,63	22,64	46,00	-23,36	AVERAGE	
5,71	25,99	0,68	9,63	36,30	60,00	-23,70	QP	
5,71	13,57	0,68	9,63	23,88	50,00	-26,12	AVERAGE	



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Mode:c; Line:Neutral Line



Pol	: NEUTRAL						
No	:						
Model	:						
Frequency MHz	read level dBuV	Cable Loss dB	LISN Factor dB	Measured level dBuV	Limit Line dBuV	Over limit dB	Remark
0,49	13,58	0,20	9,55	23,33	46,23	-22,90	AVERAGE
0,49	20,12	0,20	9,55	29,87	56,23	-26,36	QP
0,54	21,49	0,21	9,56	31,26	56,00	-24,74	QP
0,54	14,35	0,21	9,56	24,12	46,00	-21,88	AVERAGE
2,92	31,70	0,52	9,56	41,78	56,00	-14,22	QP
2,92	18,14	0,52	9,56	28,22	46,00	-17,78	AVERAGE
3,14	14,85	0,55	9,56	24,96	46,00	-21,04	AVERAGE
3,14	31,95	0,55	9,56	42,06	56,00	-13,94	QP
3,84	27,06	0,62	9,58	37,26	56,00	-18,74	QP
3,84	9,86	0,62	9,58	20,06	46,00	-25,94	AVERAGE
5,56	25,22	0,68	9,60	35,51	60,00	-24,49	QP
5,56	9,93	0,68	9,60	20,22	50,00	-29,78	AVERAGE



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7.2 Minimum 6dB Bandwidth

Test Requirement: 47 CFR Part 15, Subpart C 15.247a(2)
Test Method: ANSI C63.10 (2013) Section 11.8.1
Limit: ≥ 500 kHz

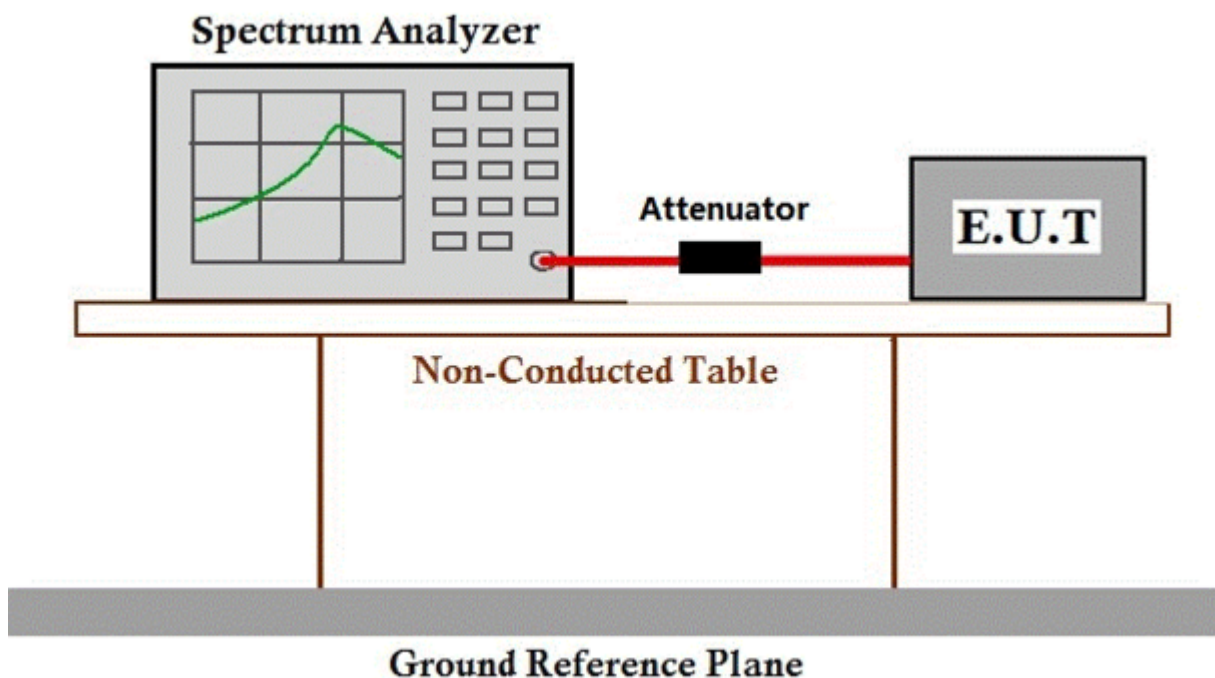
7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 22.2 °C Humidity: 56.2 % RH Atmospheric Pressure: 1020 mbar

Test mode: b:TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). Only the data of worst case is recorded in the report.

7.2.2 Test Setup Diagram



7.2.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247

7.3 Conducted Peak Output Power

Test Requirement 47 CFR Part 15, Subpart C 15.247(b)(3)
Test Method: ANSI C63.10 (2013) Section 11.9.1
Limit:

Frequency range(MHz)	Output power of the intentional radiator(watt)
902-928	1 for ≥ 50 hopping channels
	0.25 for $25 \leq$ hopping channels < 50
	1 for digital modulation
2400-2483.5	1 for ≥ 75 non-overlapping hopping channels
	0.125 for all other frequency hopping systems
	1 for digital modulation
5725-5850	1 for frequency hopping systems and digital modulation



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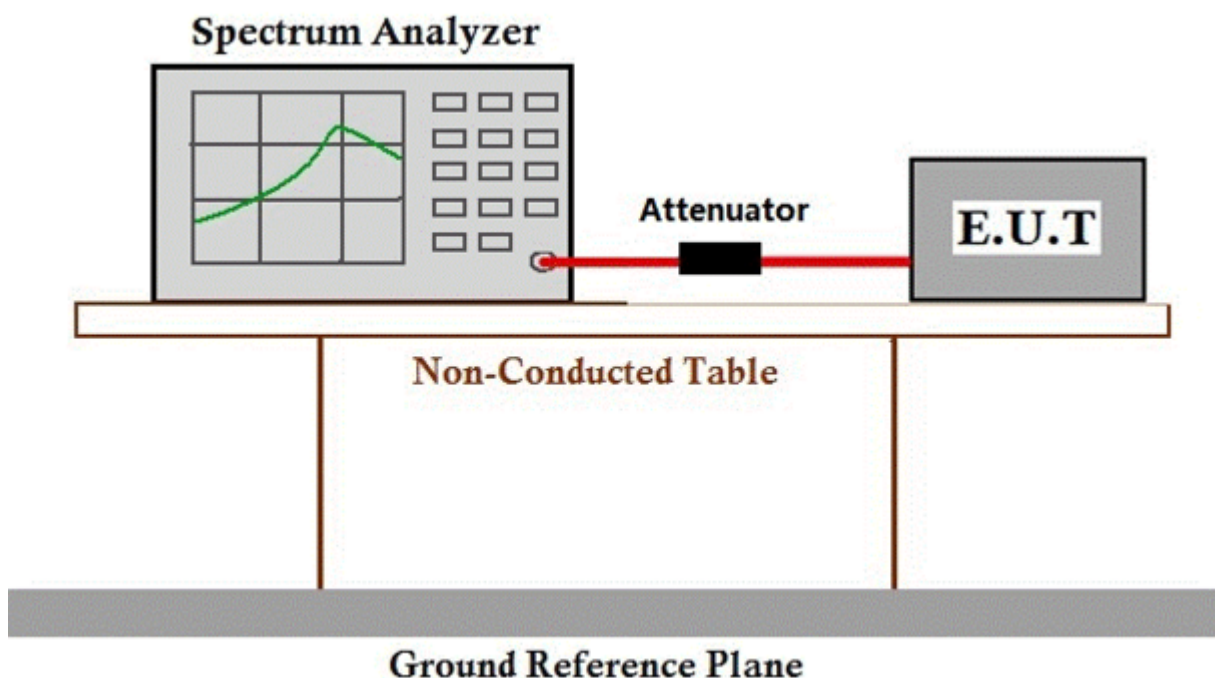
7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 22.2 °C Humidity: 56.2 % RH Atmospheric Pressure: 1020 mbar

Test mode b:TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). Only the data of worst case is recorded in the report.

7.3.2 Test Setup Diagram



7.3.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247

7.4 Power Spectrum Density

Test Requirement: 47 CFR Part 15, Subpart C 15.247(e)
Test Method: ANSI C63.10 (2013) Section 11.10.2
Limit: $\leq 8\text{dBm}$ in any 3 kHz band during any time interval of continuous transmission

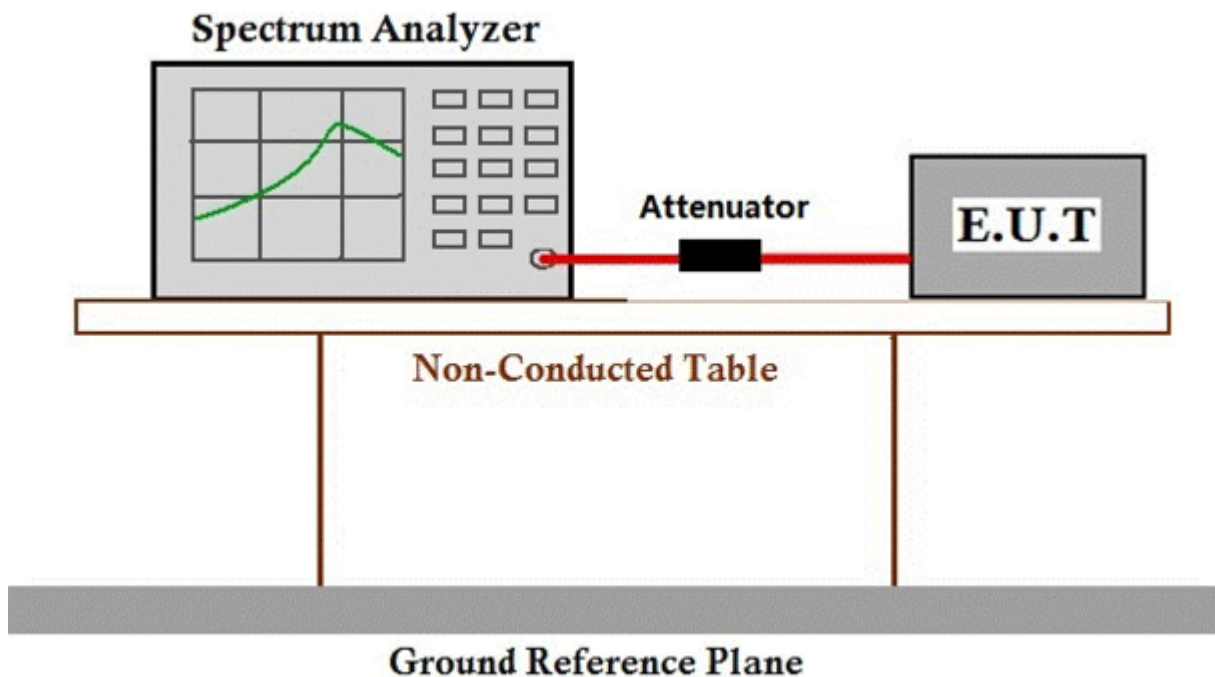
7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 22.2 °C Humidity: 56.2 % RH Atmospheric Pressure: 1020 mbar

Test mode: b:TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). Only the data of worst case is recorded in the report.

7.4.2 Test Setup Diagram



7.4.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247



7.5 Conducted Band Edges Measurement

Test Requirement 47 CFR Part 15, Subpart C 15.247(d)

Test Method: ANSI C63.10 (2013) Section 11.13.3.2

Limit: In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c))



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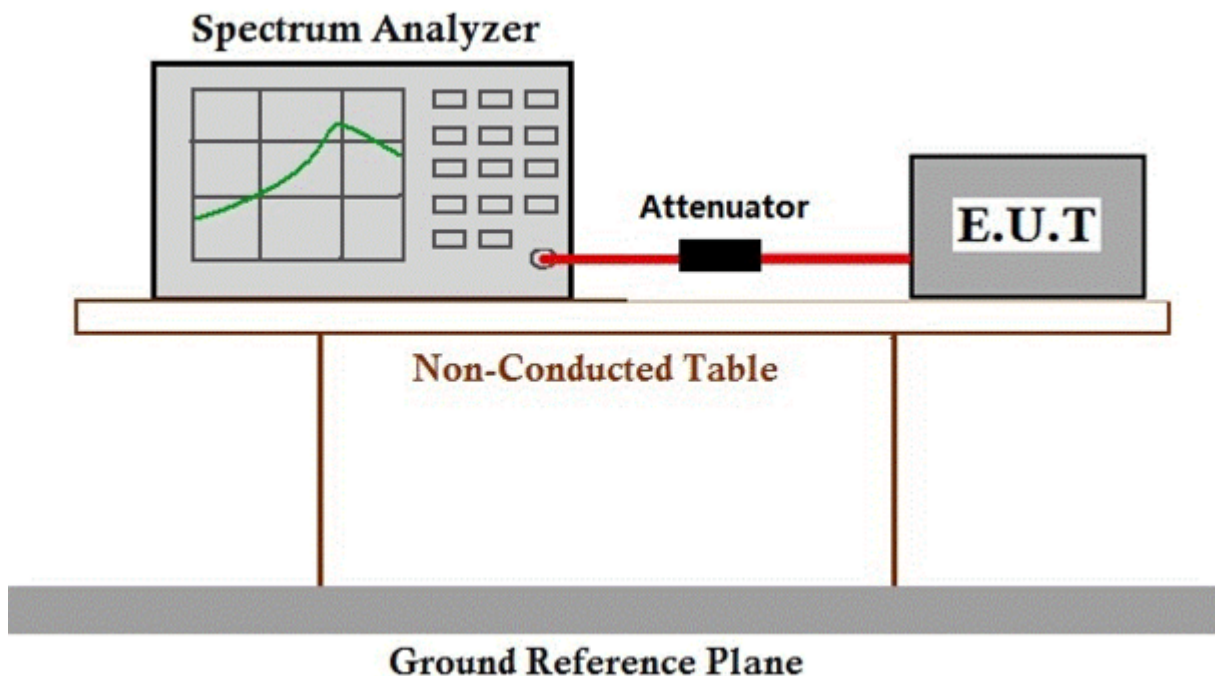
7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 22.2 °C Humidity: 56.2 % RH Atmospheric Pressure: 1020 mbar

Test mode b:TX mode Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). Only the data of worst case is recorded in the report.

7.5.2 Test Setup Diagram



7.5.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247

7.6 Conducted Spurious Emissions

Test Requirement 47 CFR Part 15, Subpart C 15.247(d)

Test Method: ANSI C63.10 (2013) Section 11.11

Limit: In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c))



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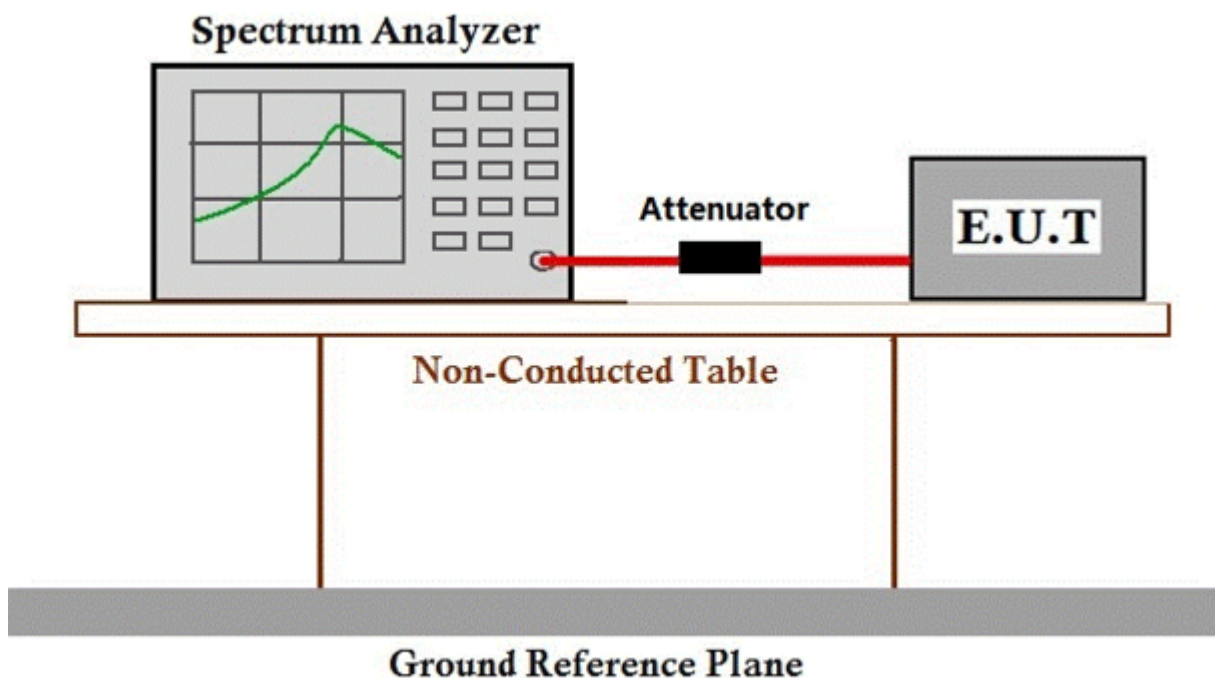
7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 22.2 °C Humidity: 56.2 % RH Atmospheric Pressure: 1020 mbar

Test mode b:TX mode Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). Only the data of worst case is recorded in the report.

7.6.2 Test Setup Diagram



7.6.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247

7.7 Radiated Emissions which fall in the restricted bands

Test Requirement: 47 CFR Part 15, Subpart C 15.209 & 15.247(d)
Test Method: ANSI C63.10 (2013) Section 6.10.5
Measurement Distance: 3m
Limit:

Frequency(MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.



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7.7.1 E.U.T. Operation

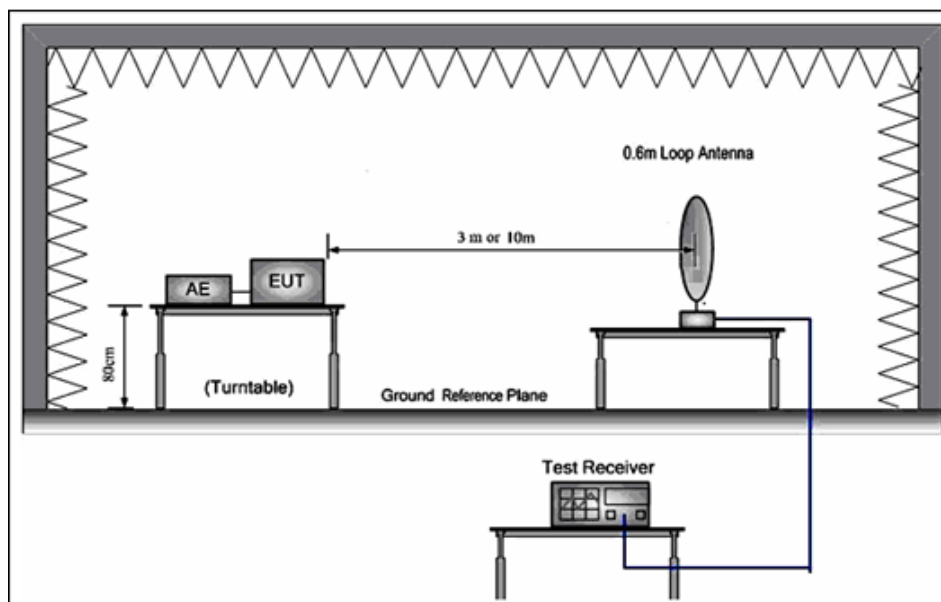
Operating Environment:

Temperature: 19.5 °C Humidity: 60.7 % RH Atmospheric Pressure: 1020 mbar

Test mode b:TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). Only the data of worst case is recorded in the report.

7.7.2 Test Setup Diagram

9kHz to 30MHz



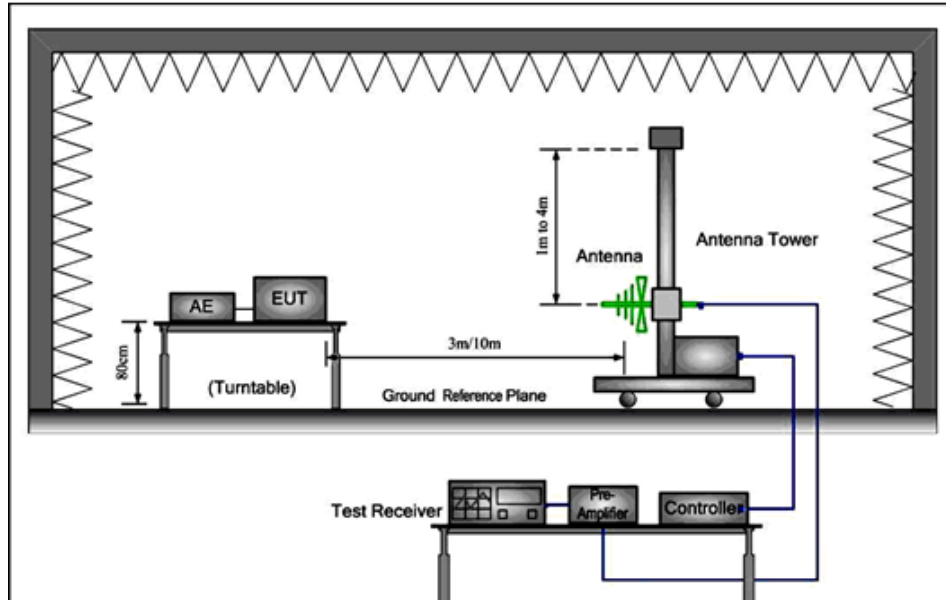
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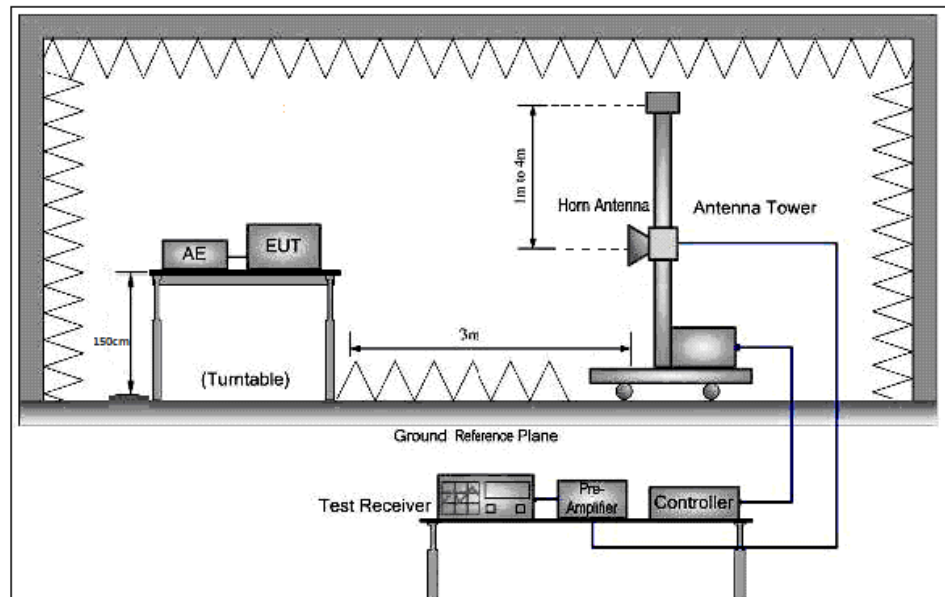
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30MHz to 1GHz



Above 1GHz



7.7.3 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.

Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

Level=Read Level + Antenna Factor + Cable Loss - Preamp Factor



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Mode:b; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:Low

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	35.01	26.25	5.03	37.44	28.85	54.00	-25.15 HORIZONTAL Average
2	2310.000	48.77	26.25	5.03	37.44	42.61	74.00	-31.39 HORIZONTAL Peak
3	2390.000	46.40	26.43	4.88	37.42	40.29	54.00	-13.71 HORIZONTAL Average
4	2390.000	58.82	26.43	4.88	37.42	52.71	74.00	-21.29 HORIZONTAL Peak
5	2483.500	37.71	26.58	5.23	37.40	32.12	54.00	-21.88 HORIZONTAL Average
6	2483.500	50.48	26.58	5.23	37.40	44.89	74.00	-29.11 HORIZONTAL Peak
7	2500.000	38.36	26.60	4.95	37.39	32.52	54.00	-21.48 HORIZONTAL Average
8	2500.000	52.69	26.60	4.95	37.39	46.85	74.00	-27.15 HORIZONTAL Peak

Mode:b; Polarization:Vertical; Modulation:b; bandwidth:20MHz; Channel:Low

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	32.70	26.25	5.03	37.44	26.54	54.00	-27.46 VERTICAL Average
2	2310.000	46.71	26.25	5.03	37.44	40.55	74.00	-33.45 VERTICAL Peak
3	2390.000	33.16	26.43	4.88	37.42	27.05	54.00	-26.95 VERTICAL Average
4	2390.000	49.58	26.43	4.88	37.42	43.47	74.00	-30.53 VERTICAL Peak
5	2483.500	34.31	26.58	5.23	37.40	28.72	54.00	-25.28 VERTICAL Average
6	2483.500	47.54	26.58	5.23	37.40	41.95	74.00	-32.05 VERTICAL Peak
7	2500.000	34.56	26.60	4.95	37.39	28.72	54.00	-25.28 VERTICAL Average
8	2500.000	48.38	26.60	4.95	37.39	42.54	74.00	-31.46 VERTICAL Peak



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Mode:b; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:High

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	35.38	26.25	5.03	37.44	29.22	54.00	-24.78 HORIZONTAL Average
2	2310.000	48.25	26.25	5.03	37.44	42.09	74.00	-31.91 HORIZONTAL Peak
3	2390.000	37.46	26.43	4.88	37.42	31.35	54.00	-22.65 HORIZONTAL Average
4	2390.000	50.31	26.43	4.88	37.42	44.20	74.00	-29.80 HORIZONTAL Peak
5	2483.500	42.62	26.58	5.23	37.40	37.03	54.00	-16.97 HORIZONTAL Average
6	2483.500	56.25	26.58	5.23	37.40	50.66	74.00	-23.34 HORIZONTAL Peak
7	2500.000	39.73	26.60	4.95	37.39	33.89	54.00	-20.11 HORIZONTAL Average
8	2500.000	54.67	26.60	4.95	37.39	48.83	74.00	-25.17 HORIZONTAL Peak

Mode:b; Polarization:Horizontal; Modulation:g; bandwidth:20MHz; Channel:Low

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	35.81	26.25	5.03	37.44	29.65	54.00	-24.35 HORIZONTAL Average
2	2310.000	47.17	26.25	5.03	37.44	41.01	74.00	-32.99 HORIZONTAL Peak
3	2390.000	46.95	26.43	4.88	37.42	40.84	54.00	-13.16 HORIZONTAL Average
4	2390.000	60.32	26.43	4.88	37.42	54.21	74.00	-19.79 HORIZONTAL Peak
5	2483.500	36.12	26.58	5.23	37.40	30.53	54.00	-23.47 HORIZONTAL Average
6	2483.500	50.76	26.58	5.23	37.40	45.17	74.00	-28.83 HORIZONTAL Peak
7	2500.000	36.55	26.60	4.95	37.39	30.71	54.00	-23.29 HORIZONTAL Average
8	2500.000	52.39	26.60	4.95	37.39	46.55	74.00	-27.45 HORIZONTAL Peak



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Mode:b; Polarization:Vertical; Modulation:g; bandwidth:20MHz; Channel:Low

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	34.94	26.25	5.03	37.44	28.78	54.00	-25.22 VERTICAL Average
2	2310.000	46.74	26.25	5.03	37.44	40.58	74.00	-33.42 VERTICAL Peak
3	2390.000	40.98	26.43	4.88	37.42	34.87	54.00	-19.13 VERTICAL Average
4	2390.000	53.08	26.43	4.88	37.42	46.97	74.00	-27.03 VERTICAL Peak
5	2483.500	32.16	26.58	5.23	37.40	26.57	54.00	-27.43 VERTICAL Average
6	2483.500	47.01	26.58	5.23	37.40	41.42	74.00	-32.58 VERTICAL Peak
7	2500.000	32.62	26.60	4.95	37.39	26.78	54.00	-27.22 VERTICAL Average
8	2500.000	46.79	26.60	4.95	37.39	40.95	74.00	-33.05 VERTICAL Peak

Mode:b; Polarization:Horizontal; Modulation:g; bandwidth:20MHz; Channel:High

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	33.75	26.25	5.03	37.44	27.59	54.00	-26.41 HORIZONTAL Average
2	2310.000	48.43	26.25	5.03	37.44	42.27	74.00	-31.73 HORIZONTAL Peak
3	2390.000	35.44	26.43	4.88	37.42	29.33	54.00	-24.67 HORIZONTAL Average
4	2390.000	48.85	26.43	4.88	37.42	42.74	74.00	-31.26 HORIZONTAL Peak
5	2483.500	47.14	26.58	5.23	37.40	41.55	54.00	-12.45 HORIZONTAL Average
6	2483.500	66.76	26.58	5.23	37.40	61.17	74.00	-12.83 HORIZONTAL Peak
7	2500.000	40.75	26.60	4.95	37.39	34.91	54.00	-19.09 HORIZONTAL Average
8	2500.000	56.04	26.60	4.95	37.39	50.20	74.00	-23.80 HORIZONTAL Peak



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Mode:b; Polarization:Vertical; Modulation:g; bandwidth:20MHz; Channel:High

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	32.18	26.25	5.03	37.44	26.02	54.00	-27.98 VERTICAL Average
2	2310.000	46.96	26.25	5.03	37.44	40.80	74.00	-33.20 VERTICAL Peak
3	2390.000	33.80	26.43	4.88	37.42	27.69	54.00	-26.31 VERTICAL Average
4	2390.000	47.07	26.43	4.88	37.42	40.96	74.00	-33.04 VERTICAL Peak
5	2483.500	48.46	26.58	5.23	37.40	42.87	54.00	-11.13 VERTICAL Average
6	2483.500	60.43	26.58	5.23	37.40	54.84	74.00	-19.16 VERTICAL Peak
7	2500.000	36.10	26.60	4.95	37.39	30.26	54.00	-23.74 VERTICAL Average
8	2500.000	48.54	26.60	4.95	37.39	42.70	74.00	-31.30 VERTICAL Peak

Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:20MHz; Channel:Low

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	35.67	26.25	5.03	37.44	29.51	54.00	-24.49 HORIZONTAL Average
2	2310.000	48.81	26.25	5.03	37.44	42.65	74.00	-31.35 HORIZONTAL Peak
3	2390.000	50.08	26.43	4.88	37.42	43.97	54.00	-10.03 HORIZONTAL Average
4	2390.000	64.19	26.43	4.88	37.42	58.08	74.00	-15.92 HORIZONTAL Peak
5	2483.500	38.17	26.58	5.23	37.40	32.58	54.00	-21.42 HORIZONTAL Average
6	2483.500	50.90	26.58	5.23	37.40	45.31	74.00	-28.69 HORIZONTAL Peak
7	2500.000	39.10	26.60	4.95	37.39	33.26	54.00	-20.74 HORIZONTAL Average
8	2500.000	53.72	26.60	4.95	37.39	47.88	74.00	-26.12 HORIZONTAL Peak



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Mode:b; Polarization:Vertical; Modulation:n; bandwidth:20MHz; Channel:Low

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	33.22	26.25	5.03	37.44	27.06	54.00	-26.94 VERTICAL Average
2	2310.000	47.80	26.25	5.03	37.44	41.64	74.00	-32.36 VERTICAL Peak
3	2390.000	42.17	26.43	4.88	37.42	36.06	54.00	-17.94 VERTICAL Average
4	2390.000	56.66	26.43	4.88	37.42	50.55	74.00	-23.45 VERTICAL Peak
5	2483.500	31.36	26.58	5.23	37.40	25.77	54.00	-28.23 VERTICAL Average
6	2483.500	50.76	26.58	5.23	37.40	45.17	74.00	-28.83 VERTICAL Peak
7	2500.000	35.00	26.60	4.95	37.39	29.16	54.00	-24.84 VERTICAL Average
8	2500.000	48.55	26.60	4.95	37.39	42.71	74.00	-31.29 VERTICAL Peak

Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:20MHz; Channel:High

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	35.78	26.25	5.03	37.44	29.62	54.00	-24.38 HORIZONTAL Average
2	2310.000	48.90	26.25	5.03	37.44	42.74	74.00	-31.26 HORIZONTAL Peak
3	2390.000	35.47	26.43	4.88	37.42	29.36	54.00	-24.64 HORIZONTAL Average
4	2390.000	49.89	26.43	4.88	37.42	43.78	74.00	-30.22 HORIZONTAL Peak
5	2483.500	53.07	26.58	5.23	37.40	47.48	54.00	-6.52 HORIZONTAL Average
6	2483.500	67.30	26.58	5.23	37.40	61.71	74.00	-12.29 HORIZONTAL Peak
7	2500.000	46.85	26.60	4.95	37.39	41.01	54.00	-12.99 HORIZONTAL Average
8	2500.000	60.69	26.60	4.95	37.39	54.85	74.00	-19.15 HORIZONTAL Peak



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Mode:b; Polarization:Vertical; Modulation:n; bandwidth:20MHz; Channel:High

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	36.05	26.25	5.03	37.44	29.89	54.00	-24.11 VERTICAL Average
2	2310.000	48.52	26.25	5.03	37.44	42.36	74.00	-31.64 VERTICAL Peak
3	2390.000	36.16	26.43	4.88	37.42	30.05	54.00	-23.95 VERTICAL Average
4	2390.000	47.24	26.43	4.88	37.42	41.13	74.00	-32.87 VERTICAL Peak
5	2483.500	49.18	26.58	5.23	37.40	43.59	54.00	-10.41 VERTICAL Average
6	2483.500	61.68	26.58	5.23	37.40	56.09	74.00	-17.91 VERTICAL Peak
7	2500.000	44.63	26.60	4.95	37.39	38.79	54.00	-15.21 VERTICAL Average
8	2500.000	55.51	26.60	4.95	37.39	49.67	74.00	-24.33 VERTICAL Peak

Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:40MHz; Channel:Low

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	34.72	26.25	5.03	37.44	28.56	54.00	-25.44 HORIZONTAL Average
2	2310.000	48.90	26.25	5.03	37.44	42.74	74.00	-31.26 HORIZONTAL Peak
3	2390.000	47.11	26.43	4.88	37.42	41.00	54.00	-13.00 HORIZONTAL Average
4	2390.000	60.26	26.43	4.88	37.42	54.15	74.00	-19.85 HORIZONTAL Peak
5	2483.500	42.24	26.58	5.23	37.40	36.65	54.00	-17.35 HORIZONTAL Average
6	2483.500	55.57	26.58	5.23	37.40	49.98	74.00	-24.02 HORIZONTAL Peak
7	2500.000	39.46	26.60	4.95	37.39	33.62	54.00	-20.38 HORIZONTAL Average
8	2500.000	51.63	26.60	4.95	37.39	45.79	74.00	-28.21 HORIZONTAL Peak



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Mode:b; Polarization:Vertical; Modulation:n; bandwidth:40MHz; Channel:Low

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	33.17	26.25	5.03	37.44	27.01	54.00	-26.99 VERTICAL Average
2	2310.000	46.25	26.25	5.03	37.44	40.09	74.00	-33.91 VERTICAL Peak
3	2390.000	41.05	26.43	4.88	37.42	34.94	54.00	-19.06 VERTICAL Average
4	2390.000	54.46	26.43	4.88	37.42	48.35	74.00	-25.65 VERTICAL Peak
5	2483.500	34.25	26.58	5.23	37.40	28.66	54.00	-25.34 VERTICAL Average
6	2483.500	50.09	26.58	5.23	37.40	44.50	74.00	-29.50 VERTICAL Peak
7	2500.000	33.40	26.60	4.95	37.39	27.56	54.00	-26.44 VERTICAL Average
8	2500.000	49.70	26.60	4.95	37.39	43.86	74.00	-30.14 VERTICAL Peak

Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:40MHz; Channel:High

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	27.11	26.25	5.03	37.44	20.95	54.00	-33.05 HORIZONTAL Average
2	2310.000	43.21	26.25	5.03	37.44	37.05	74.00	-36.95 HORIZONTAL Peak
3	2390.000	31.42	26.43	4.88	37.42	25.31	54.00	-28.69 HORIZONTAL Average
4	2390.000	46.85	26.43	4.88	37.42	40.74	74.00	-33.26 HORIZONTAL Peak
5	2483.500	31.60	26.58	5.23	37.40	26.01	54.00	-27.99 HORIZONTAL Average
6	2483.500	46.90	26.58	5.23	37.40	41.31	74.00	-32.69 HORIZONTAL Peak
7	2500.000	32.26	26.60	4.95	37.39	26.42	54.00	-27.58 HORIZONTAL Average
8	2500.000	47.95	26.60	4.95	37.39	42.11	74.00	-31.89 HORIZONTAL Peak



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Mode:b; Polarization:Vertical; Modulation:n; bandwidth:40MHz; Channel:High

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2310.000	33.16	26.25	5.03	37.44	27.00	54.00	-27.00 VERTICAL Average
2	2310.000	46.76	26.25	5.03	37.44	40.60	74.00	-33.40 VERTICAL Peak
3	2390.000	34.22	26.43	4.88	37.42	28.11	54.00	-25.89 VERTICAL Average
4	2390.000	47.50	26.43	4.88	37.42	41.39	74.00	-32.61 VERTICAL Peak
5	2483.500	42.72	26.58	5.23	37.40	37.13	54.00	-16.87 VERTICAL Average
6	2483.500	57.48	26.58	5.23	37.40	51.89	74.00	-22.11 VERTICAL Peak
7	2500.000	43.20	26.60	4.95	37.39	37.36	54.00	-16.64 VERTICAL Average
8	2500.000	54.65	26.60	4.95	37.39	48.81	74.00	-25.19 VERTICAL Peak



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7.8 Radiated Spurious Emissions

Test Requirement: 47 CFR Part 15, Subpart C 15.209 & 15.247(d)
Test Method: ANSI C63.10 (2013) Section 6.4,6.5,6.6
Measurement Distance: 3m
Limit:

Frequency(MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

7.8.1 E.U.T. Operation

Operating Environment:

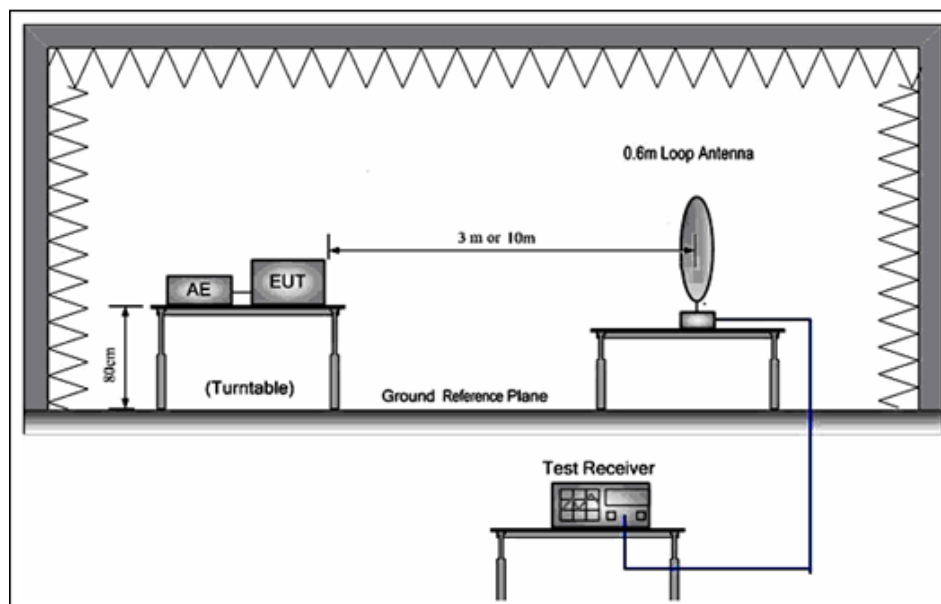
Temperature: 19.5 °C Humidity: 60.7 % RH Atmospheric Pressure: 1020 mbar

Test mode: b:TX mode_ Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20); data rate @ 13.5Mbps is the worst case of IEEE 802.11n(HT40). Only the data of worst case is recorded in the report.

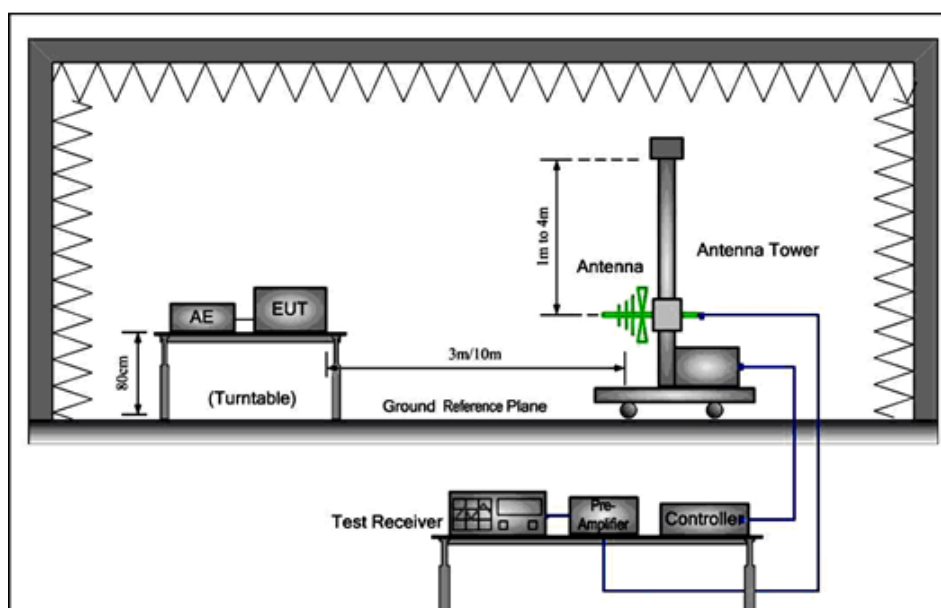


7.8.2 Test Setup Diagram

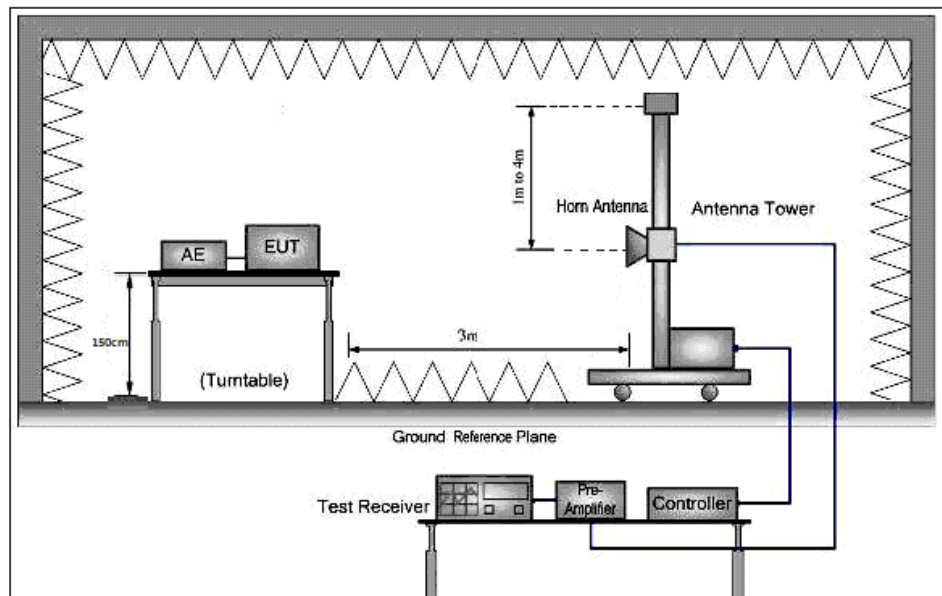
9kHz to 30MHz



30MHz to 1GHz



Above 1GHz



7.8.3 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.

Remark:

- 1) For emission below 1GHz, through pre-scan found the worst case is the lowest channel. Only the worst case is recorded in the report.
- 2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor
- 3) Scan from 9kHz to 25GHz, the disturbance above 18GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
- 4) For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown



Mode:b; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:Low

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	51.301	26.12	12.93	0.60	29.50	10.15	40.00	-29.85 HORIZONTAL QP
2	59.025	28.18	12.25	0.58	29.48	11.53	40.00	-28.47 HORIZONTAL QP
3	147.404	27.62	13.20	1.14	29.40	12.56	43.50	-30.94 HORIZONTAL QP
4	199.986	37.42	11.20	1.16	29.40	20.38	43.50	-23.12 HORIZONTAL QP
5	633.907	29.35	20.84	2.10	29.49	22.80	46.00	-23.20 HORIZONTAL QP
6	938.833	29.12	24.39	3.62	28.28	28.85	46.00	-17.15 HORIZONTAL QP

Mode:b; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:Low

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	4824.962	41.59	30.82	6.01	36.94	41.48	54.00	-12.52 HORIZONTAL Average
2	4824.962	48.31	30.82	6.01	36.94	48.20	74.00	-25.80 HORIZONTAL Peak
3	5864.443	34.83	32.22	7.44	37.00	37.49	54.00	-16.51 HORIZONTAL Average
4	5864.443	45.01	32.22	7.44	37.00	47.67	74.00	-26.33 HORIZONTAL Peak
5	7236.052	45.17	35.55	7.35	36.93	51.14	54.00	-3.86 HORIZONTAL Average
6	7236.052	48.78	35.55	7.35	36.93	54.75	74.00	-19.25 HORIZONTAL Peak
7	8595.123	29.91	36.16	7.98	36.95	37.10	54.00	-16.90 HORIZONTAL Average
8	8595.123	43.71	36.16	7.98	36.95	50.90	74.00	-23.10 HORIZONTAL Peak
9	9648.371	30.26	37.54	8.18	37.08	38.90	54.00	-15.10 HORIZONTAL Average
10	9648.371	44.64	37.54	8.18	37.08	53.28	74.00	-20.72 HORIZONTAL Peak
11	12060.220	26.52	39.46	10.71	37.17	39.52	54.00	-14.48 HORIZONTAL Average
12	12060.220	41.40	39.46	10.71	37.17	54.40	74.00	-19.60 HORIZONTAL Peak



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Mode:b; Polarization:Vertical; Modulation:b; bandwidth:20MHz; Channel:Low

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	50.232	24.95	12.99	0.60	29.50	9.04	40.00	-30.96	VERTICAL	QP
2	61.132	28.08	12.10	0.59	29.47	11.30	40.00	-28.70	VERTICAL	QP
3	98.833	30.23	9.46	0.85	29.40	11.14	43.50	-32.36	VERTICAL	QP
4	164.908	29.75	13.26	1.29	29.40	14.90	43.50	-28.60	VERTICAL	QP
5	607.787	30.15	20.65	2.10	29.50	23.40	46.00	-22.60	VERTICAL	QP
6	878.322	29.14	23.80	2.91	28.90	26.95	46.00	-19.05	VERTICAL	QP

Mode:b; Polarization:Vertical; Modulation:b; bandwidth:20MHz; Channel:Low

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	3834.438	33.61	29.12	7.80	36.91	33.62	54.00	-20.38	VERTICAL	Average
2	3834.438	45.80	29.12	7.80	36.91	45.81	74.00	-28.19	VERTICAL	Peak
3	4824.962	32.95	30.82	6.01	36.94	32.84	54.00	-21.16	VERTICAL	Average
4	4824.962	47.30	30.82	6.01	36.94	47.19	74.00	-26.81	VERTICAL	Peak
5	7236.052	45.15	35.55	7.35	36.93	51.12	54.00	-3.88	VERTICAL	Average
6	7236.052	47.68	35.55	7.35	36.93	53.65	74.00	-20.35	VERTICAL	Peak
7	8440.945	32.96	36.13	8.06	36.93	40.22	54.00	-13.78	VERTICAL	Average
8	8440.945	43.20	36.13	8.06	36.93	50.46	74.00	-23.54	VERTICAL	Peak
9	9648.390	31.83	37.54	8.18	37.08	40.47	54.00	-13.53	VERTICAL	Average
10	9648.390	43.00	37.54	8.18	37.08	51.64	74.00	-22.36	VERTICAL	Peak
11	12060.850	27.98	39.46	10.71	37.17	40.98	54.00	-13.02	VERTICAL	Average
12	12060.850	41.13	39.46	10.71	37.17	54.13	74.00	-19.87	VERTICAL	Peak



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Mode:b; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:middle

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	3867.831	34.26	29.22	7.69	36.91	34.26	54.00	-19.74 HORIZONTAL Average
2	3867.831	45.25	29.22	7.69	36.91	45.25	74.00	-28.75 HORIZONTAL Peak
3	4884.043	34.23	30.95	6.86	36.95	35.09	54.00	-18.91 HORIZONTAL Average
4	4884.043	47.81	30.95	6.86	36.95	48.67	74.00	-25.33 HORIZONTAL Peak
5	7326.267	43.88	35.74	7.39	36.92	50.09	54.00	-3.91 HORIZONTAL Average
6	7326.267	48.97	35.74	7.39	36.92	55.18	74.00	-18.82 HORIZONTAL Peak
7	8866.062	29.29	36.42	8.09	36.99	36.81	54.00	-17.19 HORIZONTAL Average
8	8866.062	42.98	36.42	8.09	36.99	50.50	74.00	-23.50 HORIZONTAL Peak
9	9768.257	30.53	37.74	8.37	37.09	39.55	54.00	-14.45 HORIZONTAL Average
10	9768.257	43.73	37.74	8.37	37.09	52.75	74.00	-21.25 HORIZONTAL Peak
11	12210.350	27.24	39.21	10.98	37.06	40.37	54.00	-13.63 HORIZONTAL Average
12	12210.350	41.29	39.21	10.98	37.06	54.42	74.00	-19.58 HORIZONTAL Peak

Mode:b; Polarization:Vertical; Modulation:b; bandwidth:20MHz; Channel:middle

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	4242.641	31.92	29.80	6.53	36.91	31.34	54.00	-22.66 VERTICAL Average
2	4242.641	45.96	29.80	6.53	36.91	45.38	74.00	-28.62 VERTICAL Peak
3	4884.043	34.62	30.95	6.86	36.95	35.48	54.00	-18.52 VERTICAL Average
4	4884.043	46.76	30.95	6.86	36.95	47.62	74.00	-26.38 VERTICAL Peak
5	7326.015	33.00	35.74	7.39	36.92	39.21	54.00	-14.79 VERTICAL Average
6	7326.015	46.31	35.74	7.39	36.92	52.52	74.00	-21.48 VERTICAL Peak
7	8840.473	27.91	36.40	8.06	36.98	35.39	54.00	-18.61 VERTICAL Average
8	8840.473	43.06	36.40	8.06	36.98	50.54	74.00	-23.46 VERTICAL Peak
9	9768.390	31.93	37.74	8.37	37.09	40.95	54.00	-13.05 VERTICAL Average
10	9768.390	44.41	37.74	8.37	37.09	53.43	74.00	-20.57 VERTICAL Peak
11	12210.610	28.04	39.21	10.98	37.06	41.17	54.00	-12.83 VERTICAL Average
12	12210.610	41.34	39.21	10.98	37.06	54.47	74.00	-19.53 VERTICAL Peak



Mode:b; Polarization:Horizontal; Modulation:b; bandwidth:20MHz; Channel:High

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark		
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	3757.637	30.67	28.82	7.65	36.92	30.22	54.00	-23.78	HORIZONTAL	Average
2	3757.637	44.97	28.82	7.65	36.92	44.52	74.00	-29.48	HORIZONTAL	Peak
3	4924.993	29.32	31.01	7.49	36.95	30.87	54.00	-23.13	HORIZONTAL	Average
4	4924.993	44.29	31.01	7.49	36.95	45.84	74.00	-28.16	HORIZONTAL	Peak
5	7386.906	30.20	35.85	7.42	36.92	36.55	54.00	-17.45	HORIZONTAL	Average
6	7386.906	43.15	35.85	7.42	36.92	49.50	74.00	-24.50	HORIZONTAL	Peak
7	8295.823	30.17	36.25	8.17	36.92	37.67	54.00	-16.33	HORIZONTAL	Average
8	8295.823	44.28	36.25	8.17	36.92	51.78	74.00	-22.22	HORIZONTAL	Peak
9	9848.689	30.63	37.82	8.46	37.09	39.82	54.00	-14.18	HORIZONTAL	Average
10	9848.689	43.87	37.82	8.46	37.09	53.06	74.00	-20.94	HORIZONTAL	Peak
11	12310.540	28.53	39.03	11.10	36.97	41.69	54.00	-12.31	HORIZONTAL	Average
12	12310.540	41.51	39.03	11.10	36.97	54.67	74.00	-19.33	HORIZONTAL	Peak

Mode:b; Polarization:Vertical; Modulation:b; bandwidth:20MHz; Channel:High

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark		
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	3992.781	32.72	29.48	7.26	36.90	32.56	54.00	-21.44	VERTICAL	Average
2	3992.781	45.70	29.48	7.26	36.90	45.54	74.00	-28.46	VERTICAL	Peak
3	4924.662	34.01	31.01	7.49	36.95	35.56	54.00	-18.44	VERTICAL	Average
4	4924.662	46.37	31.01	7.49	36.95	47.92	74.00	-26.08	VERTICAL	Peak
5	7386.349	29.16	35.85	7.42	36.92	35.51	54.00	-18.49	VERTICAL	Average
6	7386.349	43.83	35.85	7.42	36.92	50.18	74.00	-23.82	VERTICAL	Peak
7	8764.146	29.97	36.33	8.00	36.97	37.33	54.00	-16.67	VERTICAL	Average
8	8764.146	43.45	36.33	8.00	36.97	50.81	74.00	-23.19	VERTICAL	Peak
9	9848.880	29.25	37.82	8.46	37.09	38.44	54.00	-15.56	VERTICAL	Average
10	9848.880	43.71	37.82	8.46	37.09	52.90	74.00	-21.10	VERTICAL	Peak
11	12310.930	27.17	39.03	11.10	36.97	40.33	54.00	-13.67	VERTICAL	Average
12	12310.930	40.28	39.03	11.10	36.97	53.44	74.00	-20.56	VERTICAL	Peak



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Mode:b; Polarization:Horizontal; Modulation:g; bandwidth:20MHz; Channel:Low

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	39.715	24.46	12.60	0.60	29.58	8.08	40.00	-31.92 HORIZONTAL QP
2	55.221	27.09	12.54	0.59	29.49	10.73	40.00	-29.27 HORIZONTAL QP
3	100.934	29.90	9.66	0.85	29.40	11.01	43.50	-32.49 HORIZONTAL QP
4	180.649	28.98	12.67	1.34	29.40	13.59	43.50	-29.91 HORIZONTAL QP
5	612.064	30.24	20.67	2.10	29.50	23.51	46.00	-22.49 HORIZONTAL QP
6	942.131	29.29	24.44	3.59	28.26	29.06	46.00	-16.94 HORIZONTAL QP

Mode:b; Polarization:Horizontal; Modulation:g; bandwidth:20MHz; Channel:Low

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	4824.721	43.37	30.82	6.01	36.94	43.26	54.00	-10.74 HORIZONTAL Average
2	4824.721	50.14	30.82	6.01	36.94	50.03	74.00	-23.97 HORIZONTAL Peak
3	5915.516	33.09	32.25	7.37	37.00	35.71	54.00	-18.29 HORIZONTAL Average
4	5915.516	45.15	32.25	7.37	37.00	47.77	74.00	-26.23 HORIZONTAL Peak
5	7236.070	45.68	35.55	7.35	36.93	51.65	54.00	-3.35 HORIZONTAL Average
6	7236.070	48.16	35.55	7.35	36.93	54.13	74.00	-19.87 HORIZONTAL Peak
7	8764.146	31.35	36.33	8.00	36.97	38.71	54.00	-15.29 HORIZONTAL Average
8	8764.146	43.34	36.33	8.00	36.97	50.70	74.00	-23.30 HORIZONTAL Peak
9	9648.240	32.05	37.54	8.18	37.08	40.69	54.00	-13.31 HORIZONTAL Average
10	9648.240	43.90	37.54	8.18	37.08	52.54	74.00	-21.46 HORIZONTAL Peak
11	12060.610	27.56	39.46	10.71	37.17	40.56	54.00	-13.44 HORIZONTAL Average
12	12060.610	41.08	39.46	10.71	37.17	54.08	74.00	-19.92 HORIZONTAL Peak



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Mode:b; Polarization:Vertical; Modulation:q; bandwidth:20MHz; Channel:Low

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	46.503	28.95	12.90	0.68	29.52	13.01	40.00	-26.99	VERTICAL	QP
2	52.391	33.54	12.86	0.60	29.50	17.50	40.00	-22.50	VERTICAL	QP
3	89.276	37.46	7.63	0.84	29.40	16.53	43.50	-26.97	VERTICAL	QP
4	138.874	28.12	13.06	1.03	29.40	12.81	43.50	-30.69	VERTICAL	QP
5	668.142	30.04	21.22	2.15	29.47	23.94	46.00	-22.06	VERTICAL	QP
6	922.516	28.11	24.20	3.72	28.40	27.63	46.00	-18.37	VERTICAL	QP

Mode:b; Polarization:Vertical; Modulation:g; bandwidth:20MHz; Channel:Low

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	3992.781	29.52	29.48	7.26	36.90	29.36	54.00	-24.64	VERTICAL	Average
2	3992.781	44.96	29.48	7.26	36.90	44.80	74.00	-29.20	VERTICAL	Peak
3	4924.721	37.88	31.01	7.49	36.95	39.43	54.00	-14.57	VERTICAL	Average
4	4924.721	47.34	31.01	7.49	36.95	48.89	74.00	-25.11	VERTICAL	Peak
5	7236.070	30.31	35.55	7.35	36.93	36.28	54.00	-17.72	VERTICAL	Average
6	7236.070	46.00	35.55	7.35	36.93	51.97	74.00	-22.03	VERTICAL	Peak
7	8969.161	28.09	36.49	8.21	37.01	35.78	54.00	-18.22	VERTICAL	Average
8	8969.161	43.97	36.49	8.21	37.01	51.66	74.00	-22.34	VERTICAL	Peak
9	9648.710	29.61	37.54	8.18	37.08	38.25	54.00	-15.75	VERTICAL	Average
10	9648.710	43.74	37.54	8.18	37.08	52.38	74.00	-21.62	VERTICAL	Peak
11	12060.520	28.44	39.46	10.71	37.17	41.44	54.00	-12.56	VERTICAL	Average
12	12060.520	41.27	39.46	10.71	37.17	54.27	74.00	-19.73	VERTICAL	Peak



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Mode:b; Polarization:Horizontal; Modulation:g; bandwidth:20MHz; Channel:middle

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark	
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	4074.388	30.74	29.56	7.02	36.90	30.42	54.00	-23.58	HORIZONTAL Average
2	4074.388	44.38	29.56	7.02	36.90	44.06	74.00	-29.94	HORIZONTAL Peak
3	4884.977	32.62	30.95	6.86	36.95	33.48	54.00	-20.52	HORIZONTAL Average
4	4884.977	45.02	30.95	6.86	36.95	45.88	74.00	-28.12	HORIZONTAL Peak
5	7326.038	30.90	35.74	7.39	36.92	37.11	54.00	-16.89	HORIZONTAL Average
6	7326.038	45.85	35.74	7.39	36.92	52.06	74.00	-21.94	HORIZONTAL Peak
7	9047.272	29.78	36.57	8.29	37.02	37.62	54.00	-16.38	HORIZONTAL Average
8	9047.272	43.27	36.57	8.29	37.02	51.11	74.00	-22.89	HORIZONTAL Peak
9	9768.525	32.12	37.74	8.37	37.09	41.14	54.00	-12.86	HORIZONTAL Average
10	9768.525	44.18	37.74	8.37	37.09	53.20	74.00	-20.80	HORIZONTAL Peak
11	12210.390	27.91	39.21	10.98	37.06	41.04	54.00	-12.96	HORIZONTAL Average
12	12210.390	40.68	39.21	10.98	37.06	53.81	74.00	-20.19	HORIZONTAL Peak

Mode:b; Polarization:Vertical; Modulation:g; bandwidth:20MHz; Channel:middle

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark		
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	3790.361	33.51	28.97	7.83	36.92	33.39	54.00	-20.61	VERTICAL	Average
2	3790.361	45.78	28.97	7.83	36.92	45.66	74.00	-28.34	VERTICAL	Peak
3	4884.058	41.13	30.95	6.86	36.95	41.99	54.00	-12.01	VERTICAL	Average
4	4884.058	49.50	30.95	6.86	36.95	50.36	74.00	-23.64	VERTICAL	Peak
5	6756.708	27.93	34.75	7.19	36.97	32.90	54.00	-21.10	VERTICAL	Average
6	6756.708	44.43	34.75	7.19	36.97	49.40	74.00	-24.60	VERTICAL	Peak
7	7326.274	31.12	35.74	7.39	36.92	37.33	54.00	-16.67	VERTICAL	Average
8	7326.274	45.27	35.74	7.39	36.92	51.48	74.00	-22.52	VERTICAL	Peak
9	9768.371	29.70	37.74	8.37	37.09	38.72	54.00	-15.28	VERTICAL	Average
10	9768.371	43.63	37.74	8.37	37.09	52.65	74.00	-21.35	VERTICAL	Peak
11	12210.760	26.24	39.21	10.98	37.06	39.37	54.00	-14.63	VERTICAL	Average
12	12210.760	40.90	39.21	10.98	37.06	54.03	74.00	-19.97	VERTICAL	Peak



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Mode:b; Polarization:Horizontal; Modulation:g; bandwidth:20MHz; Channel:High

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark	
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	3768.513	33.61	28.87	7.71	36.92	33.27	54.00	-20.73	HORIZONTAL Average
2	3768.513	45.58	28.87	7.71	36.92	45.24	74.00	-28.76	HORIZONTAL Peak
3	4924.993	29.91	31.01	7.49	36.95	31.46	54.00	-22.54	HORIZONTAL Average
4	4924.993	44.46	31.01	7.49	36.95	46.01	74.00	-27.99	HORIZONTAL Peak
5	7386.015	30.38	35.85	7.42	36.92	36.73	54.00	-17.27	HORIZONTAL Average
6	7386.015	44.64	35.85	7.42	36.92	50.99	74.00	-23.01	HORIZONTAL Peak
7	8969.161	29.42	36.49	8.21	37.01	37.11	54.00	-16.89	HORIZONTAL Average
8	8969.161	43.70	36.49	8.21	37.01	51.39	74.00	-22.61	HORIZONTAL Peak
9	9848.390	29.78	37.82	8.46	37.09	38.97	54.00	-15.03	HORIZONTAL Average
10	9848.390	44.49	37.82	8.46	37.09	53.68	74.00	-20.32	HORIZONTAL Peak
11	12310.850	27.47	39.03	11.10	36.97	40.63	54.00	-13.37	HORIZONTAL Average
12	12310.850	41.23	39.03	11.10	36.97	54.39	74.00	-19.61	HORIZONTAL Peak

Mode:b; Polarization:Vertical; Modulation:g; bandwidth:20MHz; Channel:High

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark		
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	3992.781	33.14	29.48	7.26	36.90	32.98	54.00	-21.02	VERTICAL	Average
2	3992.781	45.72	29.48	7.26	36.90	45.56	74.00	-28.44	VERTICAL	Peak
3	4924.993	32.50	31.01	7.49	36.95	34.05	54.00	-19.95	VERTICAL	Average
4	4924.993	45.63	31.01	7.49	36.95	47.18	74.00	-26.82	VERTICAL	Peak
5	7386.806	28.38	35.85	7.42	36.92	34.73	54.00	-19.27	VERTICAL	Average
6	7386.806	43.58	35.85	7.42	36.92	49.93	74.00	-24.07	VERTICAL	Peak
7	8416.584	29.53	36.15	8.07	36.93	36.82	54.00	-17.18	VERTICAL	Average
8	8416.584	43.17	36.15	8.07	36.93	50.46	74.00	-23.54	VERTICAL	Peak
9	9648.430	29.24	37.54	8.18	37.08	37.88	54.00	-16.12	VERTICAL	Average
10	9648.430	43.86	37.54	8.18	37.08	52.50	74.00	-21.50	VERTICAL	Peak
11	12310.070	27.91	39.03	11.10	36.97	41.07	54.00	-12.93	VERTICAL	Average
12	12310.070	40.91	39.03	11.10	36.97	54.07	74.00	-19.93	VERTICAL	Peak



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Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:20MHz; Channel:Low

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	40.702	23.72	12.62	0.62	29.57	7.39	40.00	-32.61 HORIZONTAL QP
2	55.221	27.56	12.54	0.59	29.49	11.20	40.00	-28.80 HORIZONTAL QP
3	120.277	28.91	11.52	0.92	29.40	11.95	43.50	-31.55 HORIZONTAL QP
4	163.755	29.40	13.29	1.28	29.40	14.57	43.50	-28.93 HORIZONTAL QP
5	603.539	30.55	20.62	2.10	29.50	23.77	46.00	-22.23 HORIZONTAL QP
6	845.088	31.23	23.29	2.91	29.18	28.25	46.00	-17.75 HORIZONTAL QP

Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:20MHz; Channel:Low

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	3768.513	31.49	28.87	7.71	36.92	31.15	54.00	-22.85 HORIZONTAL Average
2	3768.513	44.85	28.87	7.71	36.92	44.51	74.00	-29.49 HORIZONTAL Peak
3	4824.307	32.63	30.82	6.01	36.94	32.52	54.00	-21.48 HORIZONTAL Average
4	4824.307	47.25	30.82	6.01	36.94	47.14	74.00	-26.86 HORIZONTAL Peak
5	7236.906	28.03	35.55	7.35	36.93	34.00	54.00	-20.00 HORIZONTAL Average
6	7236.906	43.37	35.55	7.35	36.93	49.34	74.00	-24.66 HORIZONTAL Peak
7	8588.607	30.03	36.16	7.98	36.95	37.22	54.00	-16.78 HORIZONTAL Average
8	8588.607	43.33	36.16	7.98	36.95	50.52	74.00	-23.48 HORIZONTAL Peak
9	9648.312	27.79	37.54	8.18	37.08	36.43	54.00	-17.57 HORIZONTAL Average
10	9648.312	43.04	37.54	8.18	37.08	51.68	74.00	-22.32 HORIZONTAL Peak
11	12060.240	26.44	39.46	10.71	37.17	39.44	54.00	-14.56 HORIZONTAL Average
12	12060.240	40.43	39.46	10.71	37.17	53.43	74.00	-20.57 HORIZONTAL Peak



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Mode:b; Polarization:Vertical; Modulation:n; bandwidth:20MHz; Channel:Low

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	52.391	33.74	12.86	0.60	29.50	17.70	40.00	-22.30 VERTICAL QP
2	64.887	30.41	11.50	0.65	29.44	13.12	40.00	-26.88 VERTICAL QP
3	94.098	37.80	8.40	0.85	29.40	17.65	43.50	-25.85 VERTICAL QP
4	170.793	29.22	12.99	1.31	29.40	14.12	43.50	-29.38 VERTICAL QP
5	574.626	30.60	20.22	1.92	29.52	23.22	46.00	-22.78 VERTICAL QP
6	922.516	29.45	24.20	3.72	28.40	28.97	46.00	-17.03 VERTICAL QP

Mode:b; Polarization:Vertical; Modulation:n; bandwidth:20MHz; Channel:Low

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	4824.771	30.37	30.82	6.01	36.94	30.26	54.00	-23.74 VERTICAL Average
2	4824.771	45.46	30.82	6.01	36.94	45.35	74.00	-28.65 VERTICAL Peak
3	6358.789	30.11	33.84	6.98	36.99	33.94	54.00	-20.06 VERTICAL Average
4	6358.789	43.66	33.84	6.98	36.99	47.49	74.00	-26.51 VERTICAL Peak
5	7236.806	29.65	35.55	7.35	36.93	35.62	54.00	-18.38 VERTICAL Average
6	7236.806	44.73	35.55	7.35	36.93	50.70	74.00	-23.30 VERTICAL Peak
7	9648.724	26.73	37.54	8.18	37.08	35.37	54.00	-18.63 VERTICAL Average
8	9648.724	42.98	37.54	8.18	37.08	51.62	74.00	-22.38 VERTICAL Peak
9	10423.800	25.86	38.84	9.44	37.11	37.03	54.00	-16.97 VERTICAL Average
10	10423.800	39.42	38.84	9.44	37.11	50.59	74.00	-23.41 VERTICAL Peak
11	12060.350	26.86	39.46	10.71	37.17	39.86	54.00	-14.14 VERTICAL Average
12	12060.350	40.79	39.46	10.71	37.17	53.79	74.00	-20.21 VERTICAL Peak



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Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:20MHz; Channel:middle

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dB	
1	3801.333	32.59	29.01	7.89	36.92	32.57	54.00	-21.43 HORIZONTAL Average
2	3801.333	45.17	29.01	7.89	36.92	45.15	74.00	-28.85 HORIZONTAL Peak
3	4884.041	32.68	30.95	6.86	36.95	33.54	54.00	-20.46 HORIZONTAL Average
4	4884.041	45.20	30.95	6.86	36.95	46.06	74.00	-27.94 HORIZONTAL Peak
5	7326.070	30.46	35.74	7.39	36.92	36.67	54.00	-17.33 HORIZONTAL Average
6	7326.070	44.26	35.74	7.39	36.92	50.47	74.00	-23.53 HORIZONTAL Peak
7	8917.462	31.51	36.45	8.14	37.00	39.10	54.00	-14.90 HORIZONTAL Average
8	8917.462	44.75	36.45	8.14	37.00	52.34	74.00	-21.66 HORIZONTAL Peak
9	9768.530	27.95	37.74	8.37	37.09	36.97	54.00	-17.03 HORIZONTAL Average
10	9768.530	42.83	37.74	8.37	37.09	51.85	74.00	-22.15 HORIZONTAL Peak
11	12210.390	25.42	39.21	10.98	37.06	38.55	54.00	-15.45 HORIZONTAL Average
12	12210.390	39.15	39.21	10.98	37.06	52.28	74.00	-21.72 HORIZONTAL Peak

Mode:b; Polarization:Vertical; Modulation:n; bandwidth:20MHz; Channel:middle

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dB	
1	3801.333	33.13	29.01	7.89	36.92	33.11	54.00	-20.89 VERTICAL Average
2	3801.333	45.56	29.01	7.89	36.92	45.54	74.00	-28.46 VERTICAL Peak
3	4884.200	33.36	30.95	6.86	36.95	34.22	54.00	-19.78 VERTICAL Average
4	4884.200	46.26	30.95	6.86	36.95	47.12	74.00	-26.88 VERTICAL Peak
5	7326.857	29.02	35.74	7.39	36.92	35.23	54.00	-18.77 VERTICAL Average
6	7326.857	43.21	35.74	7.39	36.92	49.42	74.00	-24.58 VERTICAL Peak
7	8416.584	29.20	36.15	8.07	36.93	36.49	54.00	-17.51 VERTICAL Average
8	8416.584	44.22	36.15	8.07	36.93	51.51	74.00	-22.49 VERTICAL Peak
9	9768.221	29.53	37.74	8.37	37.09	38.55	54.00	-15.45 VERTICAL Average
10	9768.221	44.17	37.74	8.37	37.09	53.19	74.00	-20.81 VERTICAL Peak
11	12210.520	28.51	39.21	10.98	37.06	41.64	54.00	-12.36 VERTICAL Average
12	12210.520	41.44	39.21	10.98	37.06	54.57	74.00	-19.43 VERTICAL Peak



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Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:20MHz; Channel:High

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	3790.361	34.26	28.97	7.83	36.92	34.14	54.00	-19.86 HORIZONTAL Average
2	3790.361	45.48	28.97	7.83	36.92	45.36	74.00	-28.64 HORIZONTAL Peak
3	4924.721	31.62	31.01	7.49	36.95	33.17	54.00	-20.83 HORIZONTAL Average
4	4924.721	44.93	31.01	7.49	36.95	46.48	74.00	-27.52 HORIZONTAL Peak
5	7386.906	29.37	35.85	7.42	36.92	35.72	54.00	-18.28 HORIZONTAL Average
6	7386.906	42.48	35.85	7.42	36.92	48.83	74.00	-25.17 HORIZONTAL Peak
7	8271.880	32.49	36.27	8.19	36.92	40.03	54.00	-13.97 HORIZONTAL Average
8	8271.880	44.48	36.27	8.19	36.92	52.02	74.00	-21.98 HORIZONTAL Peak
9	9849.497	31.08	37.82	8.46	37.09	40.27	54.00	-13.73 HORIZONTAL Average
10	9849.497	43.73	37.82	8.46	37.09	52.92	74.00	-21.08 HORIZONTAL Peak
11	12310.540	28.37	39.03	11.10	36.97	41.53	54.00	-12.47 HORIZONTAL Average
12	12310.540	40.89	39.03	11.10	36.97	54.05	74.00	-19.95 HORIZONTAL Peak

Mode:b; Polarization:Vertical; Modulation:n; bandwidth:20MHz; Channel:High

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	4230.396	33.48	29.77	6.56	36.91	32.90	54.00	-21.10 VERTICAL Average
2	4230.396	45.77	29.77	6.56	36.91	45.19	74.00	-28.81 VERTICAL Peak
3	4924.721	29.95	31.01	7.49	36.95	31.50	54.00	-22.50 VERTICAL Average
4	4924.721	43.91	31.01	7.49	36.95	45.46	74.00	-28.54 VERTICAL Peak
5	7386.038	28.84	35.85	7.42	36.92	35.19	54.00	-18.81 VERTICAL Average
6	7386.038	43.25	35.85	7.42	36.92	49.60	74.00	-24.40 VERTICAL Peak
7	8416.584	29.63	36.15	8.07	36.93	36.92	54.00	-17.08 VERTICAL Average
8	8416.584	44.36	36.15	8.07	36.93	51.65	74.00	-22.35 VERTICAL Peak
9	9768.789	28.53	37.74	8.37	37.09	37.55	54.00	-16.45 VERTICAL Average
10	9768.789	41.40	37.74	8.37	37.09	50.42	74.00	-23.58 VERTICAL Peak
11	12310.100	25.36	39.03	11.10	36.97	38.52	54.00	-15.48 VERTICAL Average
12	12310.100	40.10	39.03	11.10	36.97	53.26	74.00	-20.74 VERTICAL Peak



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Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:40MHz; Channel:Low

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	51.301	29.09	12.93	0.60	29.50	13.12	40.00	-26.88 HORIZONTAL QP
2	60.069	25.77	12.20	0.58	29.47	9.08	40.00	-30.92 HORIZONTAL QP
3	99.878	30.03	9.60	0.85	29.40	11.08	43.50	-32.42 HORIZONTAL QP
4	150.538	28.29	13.28	1.19	29.40	13.36	43.50	-30.14 HORIZONTAL QP
5	597.223	31.05	20.57	2.08	29.50	24.20	46.00	-21.80 HORIZONTAL QP
6	922.516	30.29	24.20	3.72	28.40	29.81	46.00	-16.19 HORIZONTAL QP

Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:40MHz; Channel:Low

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	3879.027	30.92	29.24	7.65	36.91	30.90	54.00	-23.10 HORIZONTAL Average
2	3879.027	44.30	29.24	7.65	36.91	44.28	74.00	-29.72 HORIZONTAL Peak
3	4844.741	30.36	30.88	6.31	36.94	30.61	54.00	-23.39 HORIZONTAL Average
4	4844.741	44.85	30.88	6.31	36.94	45.10	74.00	-28.90 HORIZONTAL Peak
5	7266.906	27.97	35.60	7.36	36.92	34.01	54.00	-19.99 HORIZONTAL Average
6	7266.906	42.91	35.60	7.36	36.92	48.95	74.00	-25.05 HORIZONTAL Peak
7	8489.882	27.91	36.10	8.03	36.94	35.10	54.00	-18.90 HORIZONTAL Average
8	8489.882	44.66	36.10	8.03	36.94	51.85	74.00	-22.15 HORIZONTAL Peak
9	9688.689	28.20	37.61	8.25	37.08	36.98	54.00	-17.02 HORIZONTAL Average
10	9688.689	42.68	37.61	8.25	37.08	51.46	74.00	-22.54 HORIZONTAL Peak
11	12110.420	27.37	39.37	10.82	37.15	40.41	54.00	-13.59 HORIZONTAL Average
12	12110.420	40.43	39.37	10.82	37.15	53.47	74.00	-20.53 HORIZONTAL Peak



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Mode:b: Polarization:Vertical: Modulation:n: bandwidth:40MHz: Channel:Low

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	46.503	29.80	12.90	0.68	29.52	13.86	40.00	-26.14	VERTICAL	QP
2	52.391	33.64	12.86	0.60	29.50	17.60	40.00	-22.40	VERTICAL	QP
3	92.139	37.56	7.96	0.84	29.40	16.96	43.50	-26.54	VERTICAL	QP
4	173.814	29.93	12.86	1.32	29.40	14.71	43.50	-28.79	VERTICAL	QP
5	612.064	30.69	20.67	2.10	29.50	23.96	46.00	-22.04	VERTICAL	QP
6	893.857	31.16	23.95	2.86	28.70	29.27	46.00	-16.73	VERTICAL	QP

Mode:b; Polarization:Vertical; Modulation:n; bandwidth:40MHz; Channel:Low

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	3801.333	30.16	29.01	7.89	36.92	30.14	54.00	-23.86	VERTICAL	Average
2	3801.333	45.47	29.01	7.89	36.92	45.45	74.00	-28.55	VERTICAL	Peak
3	4844.197	31.24	30.88	6.31	36.94	31.49	54.00	-22.51	VERTICAL	Average
4	4844.197	44.70	30.88	6.31	36.94	44.95	74.00	-29.05	VERTICAL	Peak
5	7266.516	28.13	35.60	7.36	36.92	34.17	54.00	-19.83	VERTICAL	Average
6	7266.516	43.25	35.60	7.36	36.92	49.29	74.00	-24.71	VERTICAL	Peak
7	8539.102	27.88	36.13	8.00	36.94	35.07	54.00	-18.93	VERTICAL	Average
8	8539.102	43.10	36.13	8.00	36.94	50.29	74.00	-23.71	VERTICAL	Peak
9	9688.151	27.13	37.61	8.25	37.08	35.91	54.00	-18.09	VERTICAL	Average
10	9688.151	42.84	37.61	8.25	37.08	51.62	74.00	-22.38	VERTICAL	Peak
11	12110.270	25.60	39.37	10.82	37.15	38.64	54.00	-15.36	VERTICAL	Average
12	12110.270	40.89	39.37	10.82	37.15	53.93	74.00	-20.07	VERTICAL	Peak



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Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:40MHz; Channel:middle

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	3735.978	33.29	28.70	7.50	36.92	32.57	54.00	-21.43 HORIZONTAL Average
2	3735.978	46.13	28.70	7.50	36.92	45.41	74.00	-28.59 HORIZONTAL Peak
3	4884.542	30.08	30.95	6.86	36.95	30.94	54.00	-23.06 HORIZONTAL Average
4	4884.542	45.84	30.95	6.86	36.95	46.70	74.00	-27.30 HORIZONTAL Peak
5	7326.516	29.70	35.74	7.39	36.92	35.91	54.00	-18.09 HORIZONTAL Average
6	7326.516	44.02	35.74	7.39	36.92	50.23	74.00	-23.77 HORIZONTAL Peak
7	8969.161	29.96	36.49	8.21	37.01	37.65	54.00	-16.35 HORIZONTAL Average
8	8969.161	44.17	36.49	8.21	37.01	51.86	74.00	-22.14 HORIZONTAL Peak
9	9768.916	28.22	37.74	8.37	37.09	37.24	54.00	-16.76 HORIZONTAL Average
10	9768.916	43.84	37.74	8.37	37.09	52.86	74.00	-21.14 HORIZONTAL Peak
11	12210.250	25.59	39.21	10.98	37.06	38.72	54.00	-15.28 HORIZONTAL Average
12	12210.250	40.17	39.21	10.98	37.06	53.30	74.00	-20.70 HORIZONTAL Peak

Mode:b; Polarization:Vertical; Modulation:n; bandwidth:40MHz; Channel:middle

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	3992.781	36.14	29.48	7.26	36.90	35.98	54.00	-18.02 VERTICAL Average
2	3992.781	47.27	29.48	7.26	36.90	47.11	74.00	-26.89 VERTICAL Peak
3	4884.058	41.76	30.95	6.86	36.95	42.62	54.00	-11.38 VERTICAL Average
4	4884.058	50.54	30.95	6.86	36.95	51.40	74.00	-22.60 VERTICAL Peak
5	7326.806	31.88	35.74	7.39	36.92	38.09	54.00	-15.91 VERTICAL Average
6	7326.806	43.44	35.74	7.39	36.92	49.65	74.00	-24.35 VERTICAL Peak
7	8271.880	29.56	36.27	8.19	36.92	37.10	54.00	-16.90 VERTICAL Average
8	8271.880	43.81	36.27	8.19	36.92	51.35	74.00	-22.65 VERTICAL Peak
9	9768.603	28.86	37.74	8.37	37.09	37.88	54.00	-16.12 VERTICAL Average
10	9768.603	44.16	37.74	8.37	37.09	53.18	74.00	-20.82 VERTICAL Peak
11	12210.220	27.70	39.21	10.98	37.06	40.83	54.00	-13.17 VERTICAL Average
12	12210.220	41.32	39.21	10.98	37.06	54.45	74.00	-19.55 VERTICAL Peak



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Mode:b; Polarization:Horizontal; Modulation:n; bandwidth:40MHz; Channel:High

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dB	
1	4109.872	29.29	29.60	6.87	36.90	28.86	54.00	-25.14 HORIZONTAL Average
2	4109.872	45.32	29.60	6.87	36.90	44.89	74.00	-29.11 HORIZONTAL Peak
3	4904.662	32.05	30.97	7.07	36.95	33.14	54.00	-20.86 HORIZONTAL Average
4	4904.662	45.57	30.97	7.07	36.95	46.66	74.00	-27.34 HORIZONTAL Peak
5	7356.015	30.43	35.78	7.40	36.92	36.69	54.00	-17.31 HORIZONTAL Average
6	7356.015	43.84	35.78	7.40	36.92	50.10	74.00	-23.90 HORIZONTAL Peak
7	8563.818	29.93	36.15	7.99	36.94	37.13	54.00	-16.87 HORIZONTAL Average
8	8563.818	43.84	36.15	7.99	36.94	51.04	74.00	-22.96 HORIZONTAL Peak
9	9808.432	26.11	37.79	8.41	37.09	35.22	54.00	-18.78 HORIZONTAL Average
10	9808.432	41.40	37.79	8.41	37.09	50.51	74.00	-23.49 HORIZONTAL Peak
11	12260.850	26.81	39.15	11.02	37.03	39.95	54.00	-14.05 HORIZONTAL Average
12	12260.850	40.38	39.15	11.02	37.03	53.52	74.00	-20.48 HORIZONTAL Peak

Mode:b; Polarization:Vertical; Modulation:n; bandwidth:40MHz; Channel:High

	Freq	ReadAntenna Level Factor	Cable Preamp Loss Factor	Level	Limit	Over	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dB	
1	4904.662	39.94	30.97	7.07	36.95	41.03	54.00	-12.97 VERTICAL Average
2	4904.662	50.73	30.97	7.07	36.95	51.82	74.00	-22.18 VERTICAL Peak
3	5949.811	29.08	32.27	7.26	37.00	31.61	54.00	-22.39 VERTICAL Average
4	5949.811	44.49	32.27	7.26	37.00	47.02	74.00	-26.98 VERTICAL Peak
5	7356.144	27.23	35.78	7.40	36.92	33.49	54.00	-20.51 VERTICAL Average
6	7356.144	43.26	35.78	7.40	36.92	49.52	74.00	-24.48 VERTICAL Peak
7	8764.146	27.24	36.33	8.00	36.97	34.60	54.00	-19.40 VERTICAL Average
8	8764.146	43.78	36.33	8.00	36.97	51.14	74.00	-22.86 VERTICAL Peak
9	9808.151	26.77	37.79	8.41	37.09	35.88	54.00	-18.12 VERTICAL Average
10	9808.151	42.13	37.79	8.41	37.09	51.24	74.00	-22.76 VERTICAL Peak
11	12260.420	23.96	39.15	11.02	37.03	37.10	54.00	-16.90 VERTICAL Average
12	12260.420	40.27	39.15	11.02	37.03	53.41	74.00	-20.59 VERTICAL Peak



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8 Appendix

8.1 Appendix 15.247

1.6dB Bandwidth

Test Mode	Test Channel	Ant	OBW[MHz]	EBW[MHz]	Limit	Verdict
11B	2412	Ant1	13.362	8.610	0.5	PASS
11B	2442	Ant1	13.416	8.621	0.5	PASS
11B	2462	Ant1	13.422	8.624	0.5	PASS
11G	2412	Ant1	16.423	16.40	0.5	PASS
11G	2442	Ant1	16.437	16.41	0.5	PASS
11G	2462	Ant1	16.439	16.41	0.5	PASS
11N20SISO	2412	Ant1	17.584	16.46	0.5	PASS
11N20SISO	2442	Ant1	17.601	17.13	0.5	PASS
11N20SISO	2462	Ant1	17.605	17.30	0.5	PASS
11N40SISO	2422	Ant1	35.955	35.46	0.5	PASS
11N40SISO	2442	Ant1	36.029	35.65	0.5	PASS
11N40SISO	2452	Ant1	36.016	35.80	0.5	PASS



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