



FCC RF Test Report

Product Name: HUAWEI MediaPad 7 Lite

Model Number: S7-931w

**Report No: SYBH(Z-RF)006082012-2003
FCC ID:QISS7-931W**

Reliability Laboratory of Huawei Technologies Co., Ltd.

Huawei Base, Bantian, Longgang District, Shenzhen 518129, P.R. China

Tel: +86 755 28780808 Fax: +86 755 89652518



Notice

1. The laboratory has obtained the accreditation of China National Accreditation Service for Conformity Assessment (CNAS), and accreditation number: L0310.
2. The laboratory has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements. The site recognition number is 97456.
3. The laboratory has been listed by industry Canada to perform electromagnetic emission measurement. The site recognition number is 6369A-2.
4. The test report is invalid if not marked with "exclusive stamp for the test report".
5. The test report is invalid if not marked with the stamps or the signatures of the persons responsible for performing, revising and approving the test report.
6. The test report is invalid if there is any evidence of erasure and/or falsification.
7. If there is any dissidence for the test report, please file objection to the test centre within 15 days from the date of receiving the test report.
8. Normally, the test report is only responsible for the samples that have undergone the test.
9. Context of the test report cannot be used partially or in full for publicity and/or promotional purposes without previous written approval of the laboratory.



Contents

1	<u>Summary</u>	5
2	<u>Product Description</u>	6
2.1	PRODUCTION INFORMATION	6
2.2	MODIFICATION INFORMATION	7
3	<u>Test Site Description</u>	8
4	<u>Test Modes</u>	8
5	<u>Product Description</u>	9
5.1	TECHNICAL CHARACTERISTICS.....	9
5.2	EUT IDENTIFICATION LIST.....	11
6	<u>Main Test Instruments</u>	13
7	<u>Transmitter Measurements</u>	14
7.1	BANDWIDTH MEASUREMENT	14
7.2	PEAK OUTPUT POWER	16
7.3	BAND EDGE SPURIOUS EMISSION.....	18
7.4	CONDUCTED RF SPURIOUS.....	20
7.5	POWER SPECTRAL DENSITY	22
7.6	RADIATED SPURIOUS EMISSION & SPURIOUS IN RESTRICTED BAND.....	24
7.7	CONDUCTED EMISSION AT POWER PORT.....	27
8	<u>System Measurement Uncertainty</u>	29
9	<u>Appendices</u>	30



1 Summary

The table below summarizes the measurements and results for the EUT. Detailed results and descriptions are shown in the following pages.

Table 1 Summary of results

FCC Measurement Specification	Description	Result
15.247 (a) (2)	Bandwidth measurement	PASS
15.247 (b) (3)	Conducted Peak output power	PASS
15.247 (d)	Band edge compliance measurement	PASS
15.247 (d)	Conducted RF spurious	PASS
15.247 (e)	Power spectral density	PASS
15.247 (d) / 15.205 & 15.209	Radiated spurious emission & Radiated restricted band measurement	PASS
15.207	Conducted emission test for power port	PASS



2 Product Description

2.1 Production Information

2.1.1 General Description

HUAWEI MediaPad 7 Lite with Bluetooth and Wi-Fi provides convenient and quality services such as picture, audio, video, network, and information base on android operating system, enjoying both Google Android Play Store and Huawei's unique Cloud+ solutions. The HUAWEI MediaPad 7 Lite serves a powerful tool to obtain quality network and multimedia services conveniently, rendering entertainment to users' work and life. The HUAWEI MediaPad 7 Lite (MediaPad 7 Lite for short) is a 7 inch tablet computer has an ultra high definition IPS screen with a resolution of up to 1024 x 600 pixels.

Note: Only WIFI function was considered in this report.

2.1.2 Support function and Service

The EUT support the function and service as follows:

Characteristics	Description
TX/RX Operating Band	2400 MHz to 2483.5 MHz
IEEE 802.11 WLAN Mode Supported	802.11b: Supported 802.11g: Supported 802.11n : Supported
Channel Bandwidth	802.11b: 20 MHz 802.11g: 20 MHz 802.11n: 20 MHz,
TX Power Control (TPC)	Supported
Type of Modulation	802.11b: DSSS 802.11g: OFDM 802.11n: OFDM



2.2 Modification Information

For original equipment, following table is not application.

Table 2 Modification Information

Model Number	Board/Module	Original Version	New Version	Modify Information
Not applicable!				



3 Test Site Description

The test site of:

***Huawei Technologies Co. Ltd.
P.O. Box 518129
Huawei base, bantian,
Longgang District, Shenzhen, China***

4 Test Modes

NOTE: Typical working modes for each IEEE 802.11 mode are selected to perform tests.

Test Mode	Test Modes Description
TM1	IEEE 802.11b
TM2	IEEE 802.11g
TM3	IEEE 802.11n of 20 MHz, using SISO mode

NOTE: All relevant operation modes have been tested, and the worst case data is included in this report.



5 Product Description

5.1 Technical Characteristics

5.1.1 Frequency Range

Table 3 Frequency Range

Uplink band:	2400 to 2483.5 MHz	
Downlink band:	2400 to 2483.5 MHz	
Hop frequency support:	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

5.1.2 Channel Spacing / Separation

Table 4 Channel Spacing / raster

Channel spacing:	22 MHz
Channel raster:	5 MHz

5.1.3 Antenna Information

Table 5 Antenna Information

Type:	Integrated / Internal
Maximum Gain(dBi):	0 (from 2400MHz to 2483.5MHz)

5.1.4 Environmental Requirements

Table 6 Environmental Requirements

Minimum temperature:	- 10 °C
Maximum temperature:	+ 55 °C
Relative Humidity:	5%-95%

5.1.5 Power Source

Table 7 Power Source

AC voltage nominal:	~120V
---------------------	-------



AC voltage range	~100V-240V
------------------	------------

5.1.6 Tune-up Procedure

According to CFR (FCC) part 2, subpart 2, section 2.1033(c) (9).

Please reference the document Tune-up Procedure in TCF.

5.2 EUT Identification List

5.2.1 Board Information

Table 8 Board Information

HUAWEI MediaPad 7 Lite		
S7-931w		
Board and Module		
Software Version	Hardware Version	S/N
S7-931w V100R001C001	SH1931UM	G5S6RB9271400002

5.2.2 Adapter Technical Data

Name	Manufacture	Description
Adapter	Huawei Technologies Co., Ltd.	Model:HW-050200U3W Input voltage: 100V~240V AC and 50/60 Hz,0.5A Output voltage: +5V $\overline{\text{---}}$ 2A

5.2.3 Battery Technical Data

Name	Manufacture	Description
Li-ion	Huawei Technologies Co., Ltd.	Battery Model: HB3G1 Rated capacity: 4000 mAh Nominal Voltage: $\overline{\text{---}}$ +3.7V Charging Voltage: $\overline{\text{---}}$ +4.2V

5.2.4 Cables Used during Test

Cable	Quantity	Length	Type of Cable
USB	1	<3m	shielded
Earphone	1	<3m	unshielded
SD Care	1		

Table 9

5.2.5 Associated Equipment Used during Test

Name	Model	Manufacture r	S/N	Calibrated Deadline	Cal interval (month)
Radio	CMU200	R&S	1117057	2012-9-2	12



Communication Tester					
Notebook	X200	Lenovo	3108052581	/	/
TF card	2GB	Kingdon	1040RE5672 k	/	/



6 Main Test Instruments

Table 10 Main Test Equipments

Equipment Description	Manufacturer	Model	Serial Number	Calibrated until
Power supply	KEITHLEY	2303	1288003	Sept., 27, 2012
Spectrum Analyzer	Agilent	E4440A	MY48250119	Jul., 16, 2013
Signal Analyzer	R&S	FSQ31	200021	Sept., 27, 2012
Spectrum Analyzer	Agilent	N9030A	MY49431698	Oct., 16, 2012
Temperature Chamber	WEISS	WKL64	24600294	Feb., 13, 2013
Signal generator	Agilent	E8257D	MY49281095	Jul., 08, 2013
Spectrum analyzer	R&S	FSU3	200474	Mar., 05, 2013
Spectrum analyzer	R&S	FSU43	100144	Mar., 05, 2013
Double-Ridged Waveguide Horn Antenna (1G~18GHz)	R&S	HF907	100304	Apr., 05, 2013
Double-Ridged Waveguide Horn Antenna (1G~18GHz)	R&S	HF907	100391	Apr., 05, 2013
Trilog Broadband Antenna (30M~3GHz)	SCHWARZBECK	VULB 9163	9163-521	Jul., 07, 2013
Pyramidal Horn Antenna(26GHz-40GHz)	ETS-Lindgren	3160-10	00123940	Feb., 27, 2013
Pyramidal Horn Antenna(18GHz-26.5GHz)	ETS-Lindgren	3160-09	00125912	Feb.,27, 2013
EMI Test receiver	R&S	ESCI	101163	Mar.05, 2013
Artificial Mains Network	R&S	ENV216	100382	Mar.21, 2013

Note: All the equipments are calibrated once a year. When it's almost due, we will arrange calibration again before the calibration deadline.



7 Transmitter Measurements

7.1 Bandwidth measurement

7.1.1 Test Conditions

Table 11 Test Conditions

Preconditioning:	0.5 hour
Measured at:	Antenna connector
Ambient temperature:	25°C
Relative humidity:	55%
Test Configurations:	TM1/TM2/TM3 at channel No.1, 6, 11

7.1.2 Test Specifications and Limits

7.1.2.1 Specification

CFR 47 (FCC) part 15.247 (a) (2) and KDB 558074

7.1.2.2 Supporting Standards

Table 12 Supporting Standards:

ANSI C63.10-2009	American National Standard for Testing Unlicensed Wireless Devices
------------------	--

7.1.2.3 Limits

Systems using digital modulation techniques may operate in the 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Table 13 Limits

Limits	≥ 500kHz
--------	----------

7.1.3 Test Method and Setup

- (a) Connect EUT test port to spectrum analyzer.
- (b) Set the EUT to transmit maximum output power at 2.4GHz, then set the measured frequency number and test the bandwidth with spectrum analyzer.

Test setup

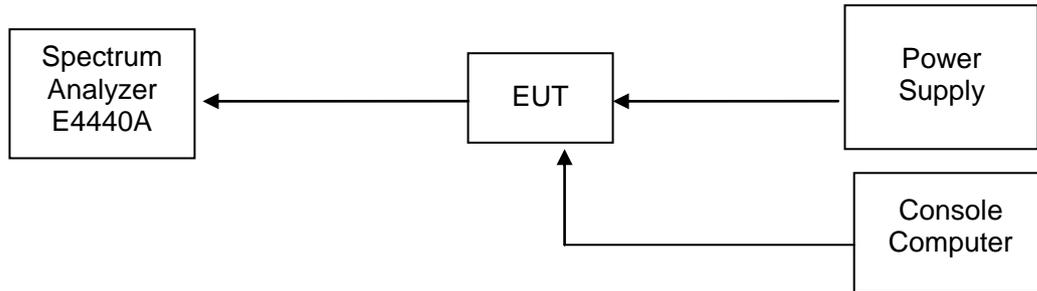


Figure 1. Test Set-up

7.1.4 Measurement Results

Table 14 Measurement Results

Test Conditions	Channel Position	Channel Number	Frequency [GHz]	Bandwidth Type	Measured Bandwidth [MHz]	Result
TM1	L	1	2.412	6dB	8.15	Pass
				99%	13.24	Pass
	M	6	2.437	6dB	8.14	Pass
				99%	13.26	Pass
	H	11	2.462	6dB	8.14	Pass
				99%	13.16	Pass
TM2	L	1	2.412	6dB	16.46	Pass
				99%	16.68	Pass
	M	6	2.437	6dB	16.45	Pass
				99%	16.64	Pass
	H	11	2.462	6dB	16.44	Pass
				99%	16.62	Pass
TM3	L	1	2.412	6dB	17.67	Pass
				99%	17.70	Pass
	M	6	2.437	6dB	17.67	Pass
				99%	17.66	Pass
	H	11	2.462	6dB	17.65	Pass
				99%	17.68	Pass

7.1.5 Conclusion

The equipment **PASSED** the requirement of this clause.
 For the measurement results refer to appendix A.

7.2 Peak output power

7.2.1 Test Conditions

Table 15 Test Conditions

Preconditioning:	0.5 hour
Measured at:	Antenna connector
Ambient temperature:	25°C
Relative humidity:	55%
Test Configurations:	TM1/TM2/TM3 at channel No.1, 6, 11

7.2.2 Test Specifications and Limits

7.2.2.1 Specification

CFR 47 (FCC) part 15.247 (b) (3) and KDB 558074

7.2.2.2 Supporting Standards

Table 16 Supporting Standards:

ANSI C63.10-2009	American National Standard for Testing Unlicensed Wireless Devices
------------------	--

7.2.2.3 Limits

Comply with part 15.247 (b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level.

Table 17 Limits

2.4GHz and 5.8GHz system using digital modulation	1 Watt / 30 dBm
---	-----------------

7.2.3 Test Method and Setup

- Connect EUT test port to spectrum analyzer.
- Set the EUT to transmit maximum output power at 2.4GHz.
- Then set the EUT to transmit at high, middle and low frequency and measure the conducted output power separately.

Test setup

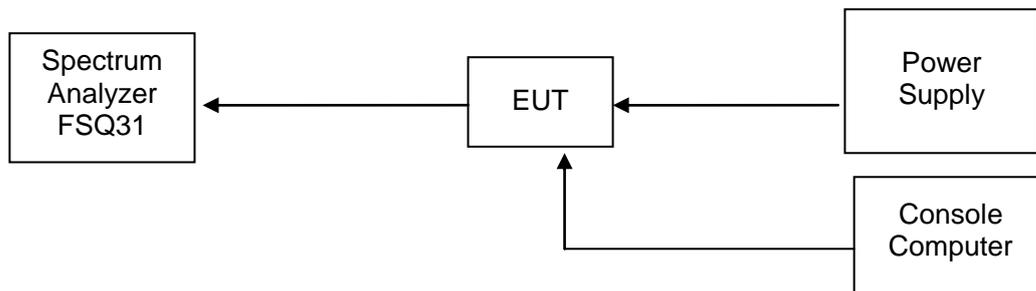


Figure 2. Test Set-up

7.2.4 Measurement Results

Table 18 Measurement Results

Test Conditions	Channel	Channel No.	Center Freq.[MHz]	Meas. Level (Cond.) [dBm]	Limit [dBm]	Result
TM1	L	1	2412	18.88	< 30	Pass
	M	6	2437	19.08	< 30	Pass
	H	11	2462	19.11	< 30	Pass
TM2	L	1	2412	22.18	< 30	Pass
	M	6	2437	22.09	< 30	Pass
	H	11	2462	21.87	< 30	Pass
TM3	L	1	2412	22.03	< 30	Pass
	M	6	2437	21.95	< 30	Pass
	H	11	2462	22.15	< 30	Pass

7.2.5 Conclusion

The equipment **PASSED** the requirement of this clause.
 For the measurement results refer to appendix B.



7.3 Band edge spurious emission

7.3.1 Test Conditions

Table 19 Test Conditions

Preconditioning:	0.5 hour
Measured at:	Antenna connector
Ambient temperature:	25°C
Relative humidity:	55%
Test Configurations:	TM1/TM2/TM3 at channel No. 1, 11

7.3.2 Test Specifications and Limits

7.3.2.1 Specification

CFR 47 (FCC) part 15.247(d) and KDB 558074

7.3.2.2 Supporting Standards

Table 20 Supporting Standards:

ANSI C63.10-2009	American National Standard for Testing Unlicensed Wireless Devices
------------------	--

7.3.2.3 Limits

Comply with part 15.247 (d), 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 Section 15.209(a) is not required.

Table 21 Limits

Band edge spurious:	20 dBc/100kHz
---------------------	---------------

7.3.3 Test Method and Setup

- (a) Connect EUT test port to spectrum analyzer
- (b) Set the EUT to transmit maximum output power at 2.4GHz.
- (c) Then set the EUT to transmit at high, low frequency and measure the conducted band edge spurious separately.

Test setup

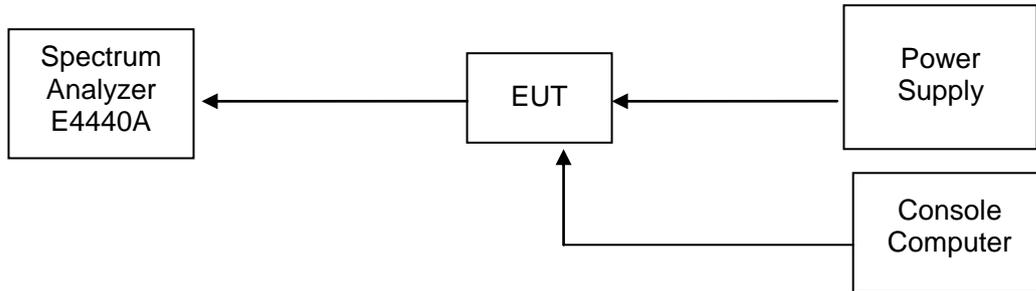


Figure 3. Test Set-up

7.3.4 Measurement Results

Table 22 Measurement Results

Test Conditions		Channel No.	Carrier Frequency [MHz]	Carrier Power [dBm]	Max. Spurious Level [dBm]	Limit [dBm]	Result
TM1	Low Edge	1	2412	8.39	-35.48	<-11.6	Pass
	High Edge	11	2462	8.39	-32.48	<-11.6	Pass
TM2	Low Edge	1	2412	2.62	-30.93	<-17.4	Pass
	High Edge	11	2462	3.08	-24.25	<-16.9	Pass
TM3	Low Edge	1	2412	2.66	-30.25	<-17.3	Pass
	High Edge	11	2462	3.08	-21.59	<-16.9	Pass

7.3.5 Conclusion

The equipment **PASSED** the requirement of this clause.
 For the measurement results refer to appendix C.



7.4 Conducted RF spurious

7.4.1 Test Conditions

Table 23 Test Conditions

Preconditioning:	0.5 hour
Measured at:	Antenna connector
Ambient temperature:	25°C
Relative humidity:	55%
Test Configurations:	TM1/TM2/TM3 at channel No.1, 6, 11

7.4.2 Test Specifications and Limits

7.4.2.1 Specification

CFR 47 (FCC) part 15.247 (d) and KDB 558074

7.4.2.2 Supporting Standards

Table 24 Supporting Standards:

ANSI C63.10-2009	American National Standard for Testing Unlicensed Wireless Devices
------------------	--

7.4.2.3 Limits

Comply with part 15.247 (d), 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 Section 15.209(a) is not required.

Table 25 Limits

Band edge spurious:	20 dBc/100kHz
---------------------	---------------

7.4.3 Test Method and Setup

- (a) Connect EUT test port to spectrum analyzer
- (b) Set the EUT to transmit maximum output power at 2.4GHz.
- (c) Then set the EUT to transmit at high, middle and low frequency and measure the conducted band edge spurious separately.

Test setup

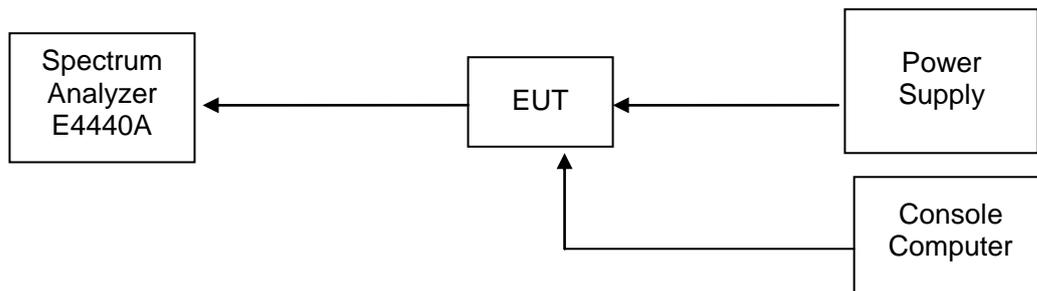


Figure 4. Test Set-up

7.4.4 Measurement Results

Table 26 Measurement Results

Test Conditions	Test Frequency Range	Channel No.	Carrier Frequency [MHz]	Carrier Power [dBm]	Max. Spurious Level [dBm]	Limit [dBm]	Result
TM1	9KHz-26GHz	1	2412	11.42	-42.46	<-8.6	Pass
	9KHz-26GHz	6	2437	11.47	-42.60	<-8.5	Pass
	9KHz-26GHz	11	2462	10.58	-42.58	<-9.4	Pass
TM2	9KHz-26GHz	1	2412	10.59	-42.17	<-9.4	Pass
	9KHz-26GHz	6	2437	10.08	-43.26	<-9.9	Pass
	9KHz-26GHz	11	2462	10.41	-42.10	<-9.6	Pass
TM3	9KHz-26GHz	1	2412	10.27	-42.46	<-9.7	Pass
	9KHz-26GHz	6	2437	10.16	-43.27	<-9.8	Pass
	9KHz-26GHz	11	2462	9.47	-42.94	<-10.5	Pass

7.4.5 Conclusion

The equipment **PASSED** the requirement of this clause.
 For the measurement results refer to appendix D.



7.5 Power spectral density

7.5.1 Test Conditions

Table 27 Test Conditions

Preconditioning:	0.5 hour
Measured at:	Antenna connector
Ambient temperature:	25°C
Relative humidity:	55%
Test Configurations:	TM1/TM2/TM3 at channel No.1, 6, 11

7.5.2 Test Specifications and Limits

7.5.2.1 Specification

CFR 47 (FCC) part 15.247 (e) and KDB 558074

7.5.2.2 Supporting Standards

Table 28 Supporting Standards:

ANSI C63.10-2009	American National Standard for Testing Unlicensed Wireless Devices
------------------	--

7.5.2.3 Limits

Comply with part 15.247 (e), For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. The same method of determining the conducted output power shall be used to determine the power spectral density.

Table 29 Limits

Band edge spurious:	8 dBm/3kHz
---------------------	------------

7.5.3 Test Method and Setup

- (a) Connect EUT test port to spectrum analyzer
- (b) Set the EUT to transmit maximum output power at 2.4GHz.
- (c) Then set the EUT to transmit at high, middle and low frequency and measure the conducted band edge spurious separately.

Test setup

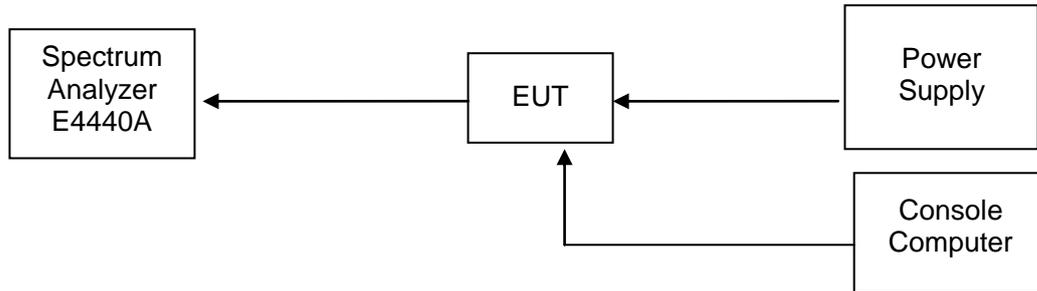


Figure 5. Test Set-up

7.5.4 Measurement Results

Table 30 Measurement Results

Test Conditions	Channel No.	Carrier Frequency [MHz]	Measured Power spectral density [dBm]	Limit [dBm]	Result
TM1	1	2412	-3.71	<8	Pass
	6	2437	-3.63	<8	Pass
	11	2462	-4.97	<8	Pass
TM2	1	2412	-11.45	<8	Pass
	6	2437	-11.09	<8	Pass
	11	2462	-10.94	<8	Pass
TM3	1	2412	-10.42	<8	Pass
	6	2437	-10.19	<8	Pass
	11	2462	-10.61	<8	Pass

7.5.5 Conclusion

The equipment **PASSED** the requirement of this clause.
 For the measurement results refer to appendix E.

7.6 Radiated spurious emission & spurious in restricted band

7.6.1 Test Conditions

Table 31 Test Conditions

Preconditioning:	0.5 hour
Measured at:	enclosure
Ambient temperature:	25 °C
Relative humidity:	55%
Test Configurations:	TM1/TM2/TM3 at channel No.1, 6, 11

7.6.2 Test Specifications and Limits

7.6.2.1 Specification

CFR 47 (FCC) part 15.247 (d), 15.205 & 15.209 and KDB 558074

7.6.2.2 Supporting Standards

Table 32 Supporting Standards:

ANSI C63.10-2009	American National Standard for Testing Unlicensed Wireless Devices
------------------	--

7.6.2.3 Limits

According to part 15.247 (d) / 15.205 & 15.209, all spurious emission in the frequency range from 30MHz to 10th harmonics of carrier frequency should be meet the requirement of following table.

Table 33 Limits

Frequency (MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Measurement Distance (meters)	Detector
0.009 - 0.490	2400/F(kHz)	20*Ig(2400/F(kHz))	300	QP
0.490 - 1.705	24000/F(kHz)	20*Ig(24000/F(kHz))	30	QP
1.705 - 30	30	29.5	30	QP
30 – 88	100	40	3	QP
88 – 216	150	43.5	3	QP
216 – 960	200	46	3	QP
960 -1000	500	54	3	QP
Above 1000	500	54	3	AV
Above 1000	500	74	3	PK

In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), also should comply with the radiated emission limits specified in Section 15.209(a)(above table 42).

7.6.3 Test Method and Setup

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4dB according to the standards: ANSI C63.10 (2009). The EUT was set-up on insulator 80cm above the Ground Plane. The

set-up and test methods were according to ANSI C63.10:2009. The Radiated Disturbance measurements were made using a Rohde and Schwarz Test Receiver and control software.

A preliminary scan and a final scan of the emissions were made by using test script of software; the emissions were measured using a Quasi-Peak Detector below 1GHz, Peak Detector and AV Detector above 1GHz. The maximal emission value was acquired by adjusting the antenna height, polarisation and turntable azimuth in accordance with the software setup. Normally, the height range of antenna was 1m to 4m, and the azimuth range of turntable was 0° to 360°. The receive antenna has two polarizations V and H.

A portable or small unlicensed wireless device shall be placed on a non-metallic test fixture or other nonmetallic support during testing. The supporting fixture shall permit orientation of the EUT in each of three orthogonal (x, y, z) axis positions such that emissions from the EUT are maximized.

The EUT communicates with the BTS simulator through Air interface. The EUT operated on the typical channel.

Measurement bandwidth: 30 MHz – 1000 MHz: 120 kHz
 Measurement bandwidth: 1000 MHz – 10th Carrier Frequency: 1 MHz

Test set up

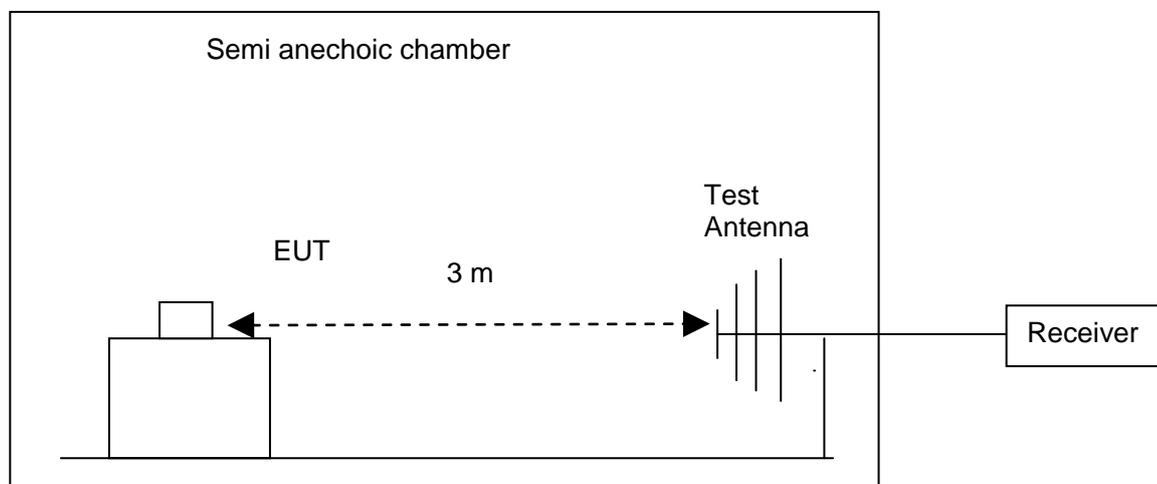


Figure 6. Test Set up

7.6.4 Measurement Results

Note 1: The following measurement results exceed the limit line is the carrier frequency.

Note 2: This test was carried out in all test modes, here only the worst test result was shown.

Test Conditions	Channel No.	Carrier Frequency [MHz]	Measured	Result
TM1	1	2412	Refer to Appendix F	Pass
	6	2437	Refer to Appendix F	Pass
	11	2462	Refer to Appendix F	Pass
TM2	1	2412	Refer to Appendix F	Pass
	6	2437	Refer to Appendix F	Pass
	11	2462	Refer to Appendix F	Pass
TM3	1	2412	Refer to Appendix F	Pass
	6	2437	Refer to Appendix F	Pass
	11	2462	Refer to Appendix F	Pass



7.6.5 Conclusion

The equipment **PASSED** the requirement of this clause.
For the measurement results refer to appendix F.

7.7 Conducted Emission at Power Port

7.7.1 Test Conditions

Table 34 Test Conditions

Preconditioning:	0.5 hour
Measured at:	Power port
Ambient temperature:	25°C
Relative humidity:	55%
Test Configurations:	TM1 at channel No. 6

7.7.2 Test Specifications and Limits

7.7.2.1 Specification

CFR 47 (FCC) part 15.207 and KDB 558074

7.7.2.2 Supporting Standards

Table 35 Supporting Standards:

ANSI C63.10-2009	American National Standard for Testing Unlicensed Wireless Devices
------------------	--

7.7.2.3 Limits

Comply with part15.207, conducted emission must meet the requirement of following table.

Table 36 Limits

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

Note: * Decreases with the logarithm of the frequency.

7.7.3 Test Method and Setup

The Table-top EUT was placed upon a non-metallic table 0.8 m above the horizontal metal reference ground plane. EUT was connected to LISN and LISN was connected to reference Ground Plane. EUT was 80cm from LISN. The set-up and test methods were according to ANSI C63.10: 2009.

Conducted Disturbance at AC Port measurements were undertaken on the L and N Lines. The emissions were measured using a Quasi-Peak Detector and Average Detector.

The EUT communicates with the BTS simulator through Air interface, the BTS simulator controls the Wireless Modem to transmitter the maximum power which defined in specification of product. The

Wireless Modem operated on the typical channel.

Measurement bandwidth (RBW) for 150kHz to 30 MHz: 9 kHz;

Test Set-up

The EUT was set in the screened chamber and operated under nominal conditions.

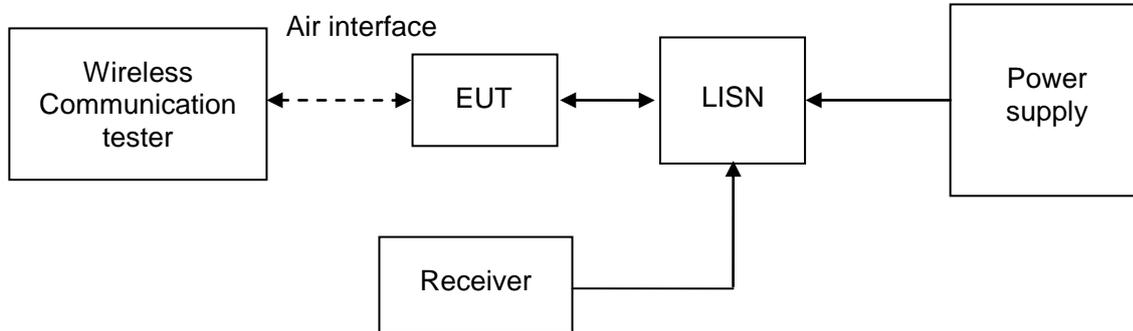


Figure 7. Test Set-up

7.7.4 Measurement Results

Table 37 MEASUREMENT RESULT:QP DECTER

Frequency MHz	Level dB μ V	Transducer dB	Limit dB μ V	Margin dB	Line	PE
0.152976	48.7	9.7	65.8	17.1	L1	FLO
0.425839	49.3	9.7	57.3	8.0	L1	FLO
0.517788	48.7	9.7	56.0	7.3	L1	FLO
1.221982	47.1	9.7	56.0	8.9	L1	FLO
1.791104	44.0	9.7	56.0	12.0	L1	FLO
9.172362	46.1	9.9	60.0	13.9	L1	FLO

Table 38 MEASUREMENT RESULT:AV DECTER

Frequency MHz	Level dB μ V	Transducer dB	Limit dB μ V	Margin dB	Line	PE
0.420304	38.3	9.7	47.4	9.1	L1	FLO
0.521298	39.0	9.7	46.0	7.0	L1	FLO
0.702893	36.5	9.7	46.0	9.5	L1	FLO
1.217194	37.1	9.7	46.0	8.9	L1	FLO
9.219434	35.9	9.9	50.0	14.1	L1	FLO
9.316140	35.9	9.9	50.0	14.1	L1	FLO

7.7.5 Conclusion

The equipment **PASSED** the requirement of this clause.
 For the measurement results refer to appendix G.



8 System Measurement Uncertainty

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 as following:

Table 39 System Measurement Uncertainty

Items		Extended Uncertainty
Bandwidth measurement	Magnitude (%)	U=0.2%; k=2
Peak output power	Power(dBm)	U=0.39dB; k=2
Band edge compliance measurement	Disturbance Power(dBm)	U=2.0dB; k=2
Conducted RF spurious	Disturbance Power(dBm)	U=0.4dB; k=2
Power spectral density	Disturbance Power(dBm)	U=0.4dB; k=2
Radiated spurious emission & Radiated restricted band measurement	Field strength (dB μ V/m)	U=4.1dB; k=2 U=4.1dB; k=2
Conducted emission test for power port	Disturbance Voltage(dB μ V)	U=3.4dB; k=2



9 Appendices

Appendix A	Measurement Results Bandwidth measurement
Appendix B	Measurement Results Peak output power
Appendix C	Measurement Results Band edge compliance measurement
Appendix D	Measurement Results Conducted RF spurious
Appendix E	Measurement Results Power spectral density
Appendix F	Measurement Results Radiated spurious emission
Appendix G	Measurement Results Conducted emission test for power port
Appendix H	Photos of Test Setup

-----The END-----