

FCC RADIO TEST REPORT

FCC ID:XFT-AIRDIAL2A

Product: Ooma AirDial2

Trade Mark: OOMA

Model No.: OOMA AIRDIAL2

Family Model: N/A

Report No.: S25032503406003

Issue Date: April. 28, 2025

Prepared for

Ooma, Inc.

525 Almanor Ave #200, Sunnyvale, CA 94085 USA

Prepared by

Shenzhen NTEK Testing Technology Co., Ltd.

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1 TEST RESULT CERTIFICATION

Applicant's name:	Ooma, Inc.
Address	525 Almanor Ave #200, Sunnyvale, CA 94085 USA
Manufacturer 1 's Name:	Mitac Computer (KUNSHAN)Co., Ltd
Address	No.269,2nd Avenue,District A,Comprehensive Free Trade Zone, Kunshan,Jiangsu, P.R.C
Manufacturer 2 's Name:	Dong guan HuaLi Technology Co.,Ltd
Address	Room 308, building 3, No. 8, shangxiawei Industrial Road, Zhutang village, Fenggang town, Dongguan City, Guangdong Province, China
Manufacturer 3 's Name:	Luxshare-ICT (Vietnam) Limited
Address	Lot E, Quang Chau Industrial Park, Quang Chau Village, Viet Yen District, Bac Giang Province Vietnam
Product description	
Product name	Ooma AirDial2
Model and/or type reference	OOMA AIRDIAL2
Family Model	N/A
Sample number	S250325034006
Date of Test	Mar. 25, 2025 ~ April. 28, 2025

Measurement Procedure Used:

APPLICABLE STANDARDS	
APPLICABLE STANDARD/ TEST PROCEDURE	TEST RESULT
47 CFR Part 2, Part 22H, Part 24E, Part 27, Part 90 FCC KDB 971168 D01 Power Meas License Digital Systems v03r01 ANSI C63.26:2015	Complied

This device described above has been tested by Shenzhen NTEK Testing Technology Co., Ltd., and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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The test results of this report relate only to the tested sample identified in this report.

Prepared By : Joe Yan
Joe Yan
(Project Engineer)

Reviewed By : Aaron Cheng
Aaron Cheng
(Supervisor)

Approved By : Alex Li
Alex Li
(Manager)

2 SUMMARY OF TEST RESULTS

FCC Part22H / FCC Part24E / FCC Part27 / Part 90 & ANSI C63.26-2015			
FCC Rule	Test Item	Verdict	Remark
2.1046	Conducted Output Power	PASS**	
24.232	Peak-to-Average Ratio	PASS**	
2.1049	Occupied Bandwidth	PASS**	
2.1051 22.917 24.238 27.53 90.543 90.691	Band Edge	PASS**	
22.913 24.232 27.50 90.542 90.635	Effective Radiated Power & Equivalent Isotropic Radiated Power	PASS**	
2.1053 22.917 24.238 27.53 90.543 90.691	Field Strength of Spurious Radiation	PASS	
2.1055 22.355 24.235 27.54 90.213 90.539	Frequency Stability for Temperature & Voltage	PASS**	
2.1051 22.917 24.238 27.53 90.543 90.691	Conducted Emission	PASS**	

Remark:

1. "N/A" denotes test is not applicable in this Test Report.
2. All test items were verified and recorded according to the standards and without any deviation during the test.
3. No modifications are made to the EUT during all test items.
4. **The maximum conducted power is verified to be the same. The conducted signal test data may be re-used. Please check FCC ID: XMR202008EC25AFXD (Report No.: R2203A0238-R1, R2203A0238-R2, R2203A0238-R3, R2203A0238-R4).

3 FACILITIES AND ACCREDITATIONS

3.1 FACILITIES

All measurement facilities used to collect the measurement data are located at No. 24 Xinfu East Road, Xiangshan Community, Xinqiao Street, Baoan District, Shenzhen, Guangdong, People's Republic of China.

The sites are constructed in conformance with the requirements of ANSI C63.4, ANSI C63.10 and CISPR Publication 22.

3.2 LABORATORY ACCREDITATIONS AND LISTINGS

Site Description

CNAS-Lab.

: The Certificate Registration Number is L5516.

IC-Registration

The Certificate Registration Number is 9270A.

FCC- Accredited

Test Firm Registration Number: 463705.

Designation Number: CN1184

A2LA-Lab.

The Certificate Registration Number is 4298.01

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories.

This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).

Name of Firm

: Shenzhen NTEK Testing Technology Co., Ltd.

Site Location

: No. 24 Xinfu East Road, Xiangshan Community, Xinqiao Street, Baoan District, Shenzhen, Guangdong, People's Republic of China

3.3 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	Conducted Emission Test	±3.1dB
2	RF power, conducted	±0.9dB
3	Spurious emissions, conducted	±2.2dB
4	All emissions, radiated(<1G)	±5.2dB
5	All emissions, radiated(>1G)	±5.1dB
6	Temperature	±0.5°C
7	Humidity	±2%
8	Occupied bandwidth	±3.7%

4 GENERAL DESCRIPTION OF EUT

Product Feature and Specification	
Equipment	Ooma AirDial2
Trade Mark	OOMA
FCC ID	XFT-AIRDIAL2A
Model No.	OOMA AIRDIAL2
Family Model	N/A
Model Difference	N/A
Frequency Bands:	☒ LTE FDD Band 2, 4, 5, 12, 13, 14, 66, 71
Operating Frequency	LTE FDD Band 2 Uplink: 1850MHz-1910MHz, Downlink: 1930MHz-1990MHz; LTE FDD Band 4 Uplink: 1710MHz-1755MHz, Downlink: 2110MHz-2155MHz; LTE FDD Band 5 Uplink: 824MHz-849MHz, Downlink: 869MHz-894MHz; LTE FDD Band 12 Uplink: 699MHz-716MHz, Downlink: 729MHz-746MHz; LTE FDD Band 13 Uplink: 777MHz-787MHz, Downlink: 746MHz-756MHz; LTE FDD Band 14 Uplink: 788MHz-798MHz, Downlink: 758MHz-768MHz; LTE FDD Band 66 Uplink: 1710MHz-1780MHz, Downlink: 2110MHz-2200MHz; LTE FDD Band 71 Uplink: 663MHz-698MHz, Downlink: 617MHz-652MHz;
Modulation	QPSK/16QAM/64QAM/256QAM
Power Class	Class 3
Antenna Description:	See antenna description below
Adapter	Model: KPL-040F-VI Input: 100-240V~50/60Hz 1.7A Output: 12.0V---3.33A 40.0W
Battery	DC 10.95V, 7.8Ah, 85.41Wh
Power supply	DC 10.95V from battery or DC 12V from adapter
HW Version	N/A
SW Version	N/A

Note: Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.

Antenna description:

Antenna	Antenna type	Antenna gain	manufacturer
Antenna 1	External Antenna	B2:4.17dBi, B4:3.95dBi,B5:3.42dBi, B12:2.87dBi,B13:2.87dBi,B14:2.87dBi, B66:3.95dBi,B71:-0.92dBi	TAOGLAS
Antenna 2	External Antenna	B2:1.25dBi,B4:1.25dBi,B5:1.58dBi, B12:0.63dBi,B13:0.63dBi,B14:0.63dBi, B66:1.25dBi,B71:0.63dBi	Quectel
Antenna 3	External Antenna	B2:2dBi,B4:2dBi,B5:0.5dBi, B12:0.5dBi,B13:0.5dBi,B14:0.5dBi, B66:2dBi,B71:0.5dBi	Quectel

Revision History

[illegible]

5 DESCRIPTION OF TEST MODES

During the testing, the EUT was controlled via Rhode & Schwarz Digital Radio Communication Tester (CMW 500) to ensure max power transmission and proper modulation. Three channels (The low channel, the middle channel and the high channel) were chosen for testing on, LTE Band 2/4/5/12/13/14/66/71.

Note: LTE Band 2/4/5/12/13/14/66/71 modes have been tested during the test. the worst condition (QPSK, 16QAM) be recorded in the test report if no other modes test data.

Antenna port conducted and radiated test items were performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

Radiated measurements were performed with rotating EUT in different three orthogonal test planes to find the maximum emission.

Radiated emissions were investigated as following frequency range:

1. 30 MHz to 10th harmonic for LTE Band 2/4/5/12/13/14/66/71

All modes and data rates and positions were investigated.

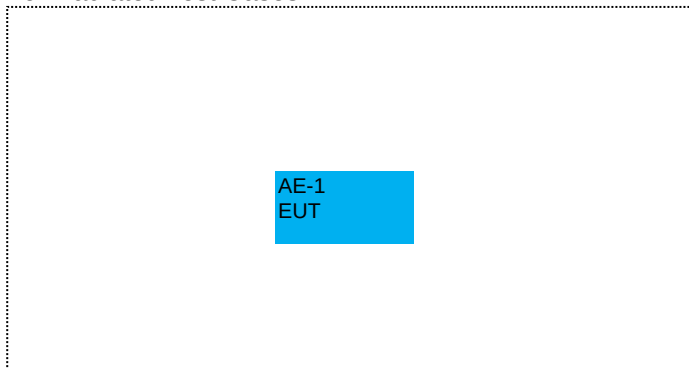
Test modes are chosen to be reported as the worst case configuration below:

Test Modes		
Band	For Conducted Test Cases	For Radiated Test Cases
LTE Band 2/4/5/12/13/14/66/71	QPSK Link	QPSK Link 16QAM Link

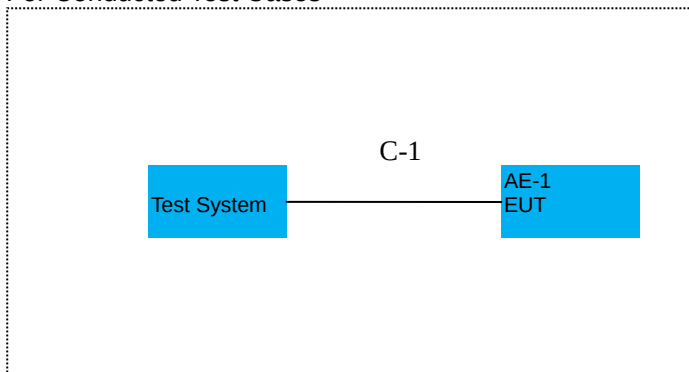
6 SETUP OF EQUIPMENT UNDER TEST

6.1 BLOCK DIAGRAM CONFIGURATION OF TEST SYSTEM

For Radiated Test Cases



For Conducted Test Cases



6.2 SUPPORT EQUIPMENT

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
AE-1	Ooma AirDial2	OOMA	OOMA AIRDIAL2	N/A	EUT

Item	Cable Type	Shielded Type	Ferrite Core	Length
C-1	RF Cable***	YES	NO	54cm

Notes:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.
- (3) “YES” is means “shielded” “with core”; “NO” is means “unshielded” “without core”.
- (4) “***” RF Cable is between the module and the antenna, that’s part of the EUT. Provided by the applicant.

6.3 EQUIPMENTS LIST FOR ALL TEST ITEMS

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Spectrum Analyzer	Agilent	N9020A	MY53280244	2024.07.17	2025.07.16	1 year
2	Spectrum Analyzer	R&S	FSV40	101417	2024.07.17	2025.07.16	1 year
3	Test Receiver	R&S	ESPI7	101318	2024.07.17	2025.07.16	1 year
4	Active Loop Antenna	SCHWARZBECK	FMZB 1519 B	055	2024.05.17	2027.05.16	3 year
5	Log-Periodic Antenna	SCHWARZBECK	VULB 9162	586	2024.05.12	2025.05.11	1 year
6	Broadband Horn Antenna	SCHWARZBECK	BBHA 9120 D	2816	2024.05.18	2027.05.17	3 year
7	Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	803	2024.05.12	2027.05.11	3 year
8	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2024.04.26	2027.04.25	3 year
9	Pre-Amplifier	EMC	EMC051835SE	980246	2024.07.17	2025.07.16	1 year
10	Low Noise Amplifier	B&Z	BZ-P540-550850-452727	16476-11729	2024.07.17	2025.07.16	1 year
11	Pre-Amplifier	Sonoma	310N	186604	2024.07.17	2025.07.16	1 year
12	Signal Generator	Keysight	N5183B	MY57280984	2024.05.30	2025.05.29	1 year
13	Wireless Communications Test Set	R&S	CMW500	103917	2024.07.17	2025.07.16	1 year
14	RF Control Unit	MWRFtest	MW200-RFCB	MW201103NTEK	N/A	N/A	N/A

Note: Each piece of equipment is scheduled for calibration once a year except the Test Cable& DC Power Source which is scheduled for calibration every 3 years.

Measurement Software

Item	Manufacturer	Software Name	Software Version	Description
1	MWRFtest	MTS 8200	2.0	RF Conducted Test
2	raditeq	RadiMation	2023.1.3	Radiated Test

7 TEST REQUIREMENTS

7.1 FIELD STRENGTH OF SPURIOUS RADIATION

7.1.1 Applicable Standard

According to FCC KDB 971168 D01 v03r01 Section 7 and ANSI C63.26: 2015 Section 5.5

7.1.2 Conformance Limit

For LTE Band 2, LTE Band 5:

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. The emission limit equal to -13 dBm.

For LTE Band 14:

According to FCC 47 CFR part 90.543 (e), for operations in the 758-768 MHz and the 788-798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log(P)$ dB.

According to FCC 47 CFR part 90.543 (f), for operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

For LTE Band 12, LTE Band 71:

According to FCC 47 CFR part 27.53(g), for operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log(P)$ dB. The limit of emissions is equal to -13 dBm.

For LTE Band 13:

According to FCC 47 CFR part 27.53(c)(2), for on any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log(P)$ dB. The limit of emissions is equal to -13 dBm.

For operations in the 775-788 MHz, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz (EIRP). The limit of emissions is equal to -40 dBm.

For LTE Band 4, LTE Band 66:

According to FCC 47 CFR part 27.53(h), for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log(P)$ dB. The limit of emission is equal to -13 dBm.

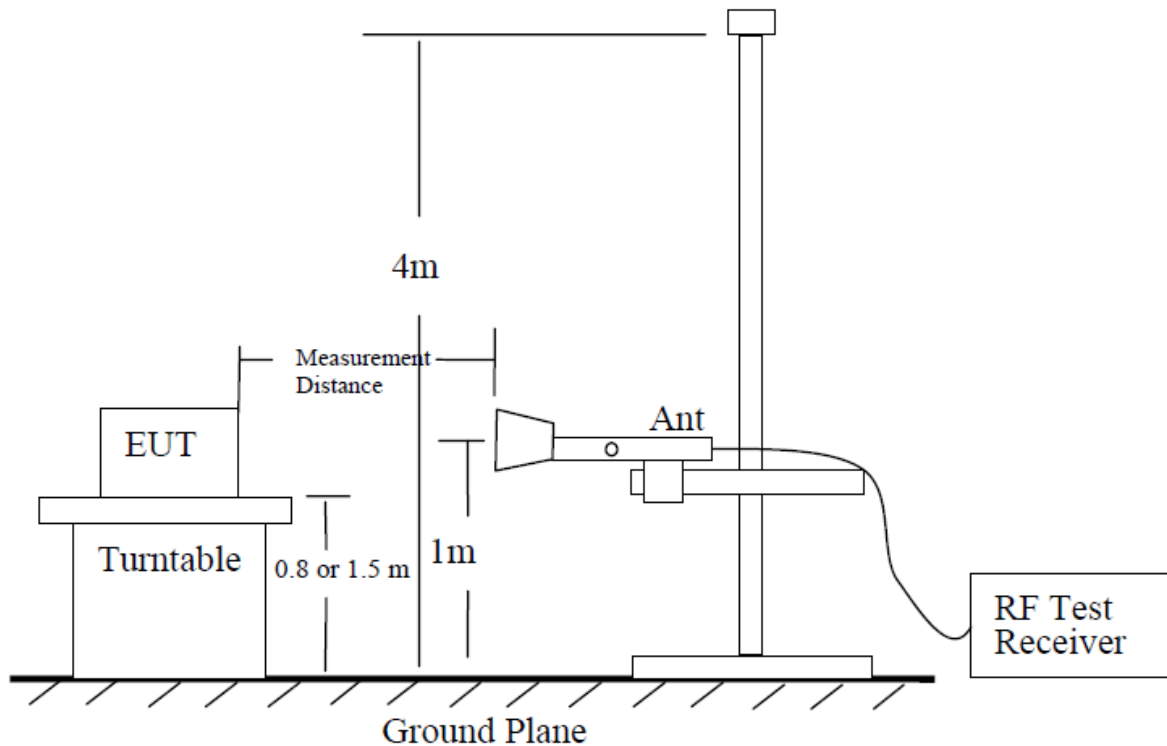
7.1.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.1.4 Test Configuration

According to the ANSI C63.26: 2015 test method, The Receiver or Spectrum was scanned from 9 KHz to the 10th harmonic of the highest frequency generated within the equipment, which is the transmitted carrier that can be as high as 1910 MHz. The resolution bandwidth is set as outlined in Part 24.238, Part 22.917, Part 27.53. The spectrum is scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and high channels of LTE Band.

TEST CONFIGURATION



7.1.5 Test Procedure

The EUT is configured by emulator to set data modulation and maximum power using WWAN technology.

For 30MHz to 1GHz

1. In the semi-anechoic chamber, EUT placed on the 0.8 m (below or equal 1 GHz) height of turn table. rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1 m to 4 m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
2. The height of antenna is varied from one meter to four meters above the around to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
3. Perform a field strength measurement and record the worse read value, is the field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor and then mathematically convert the measured field strength level to EIRP/ERP level.
4. Following C63.26 section 5.5 and 5.2.7

Note: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz/3 MHz. The emission levels were against the limit of frequency range 9 kHz ~ 30 MHz: The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

Above 1GHz

1. In the semi-anechoic chamber, EUT placed on the 1.5 m height of turn table, rotated the table around 360degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1 m to 4 m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
2. The height of antenna 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.
3. Perform a field strength measurement and record the worse read value, is the field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor and then mathematically convert the measured field strength level to EIRP/ERP level.
4. Following C63.26 section 5.5 and 5.2.7.

Note: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz/3 MHz.

7.1.6 Test Results

EUT:	Ooma AirDial2	Model No.:	OOMA AIRDIAL2
Temperature:	20 °C	Relative Humidity:	48%

■ Radiated Spurious Emission

Number	Frequency (MHz)	RBW (kHz)	VBW (kHz)	Emission Level (dBm)	Limit (dBm)	Difference (dB)	Distance (m)	Polarization	Status
LTE Band 2 20M QPSK(1,0) L CH									
1	1277.037	1000	3000	-60.52	-13	-47.52	3	Horizontal	Pass
2	1851.651	1000	3000	-44.48	-13	-31.48	3	Horizontal	Pass
3	3702.559	1000	3000	-33.59	-13	-20.59	3	Horizontal	Pass
4	5553.634	1000	3000	-43.75	-13	-30.75	3	Horizontal	Pass
5	7404.914	1000	3000	-34.70	-13	-21.70	3	Horizontal	Pass
6	11106.695	1000	3000	-34.63	-13	-21.63	3	Horizontal	Pass
1	1332.528	1000	3000	-60.04	-13	-47.04	3	Vertical	Pass
2	1851.423	1000	3000	-45.91	-13	-32.91	3	Vertical	Pass
3	2500.662	1000	3000	-53.35	-13	-40.35	3	Vertical	Pass
4	3702.392	1000	3000	-41.37	-13	-28.37	3	Vertical	Pass
5	7404.840	1000	3000	-33.82	-13	-20.82	3	Vertical	Pass
6	11106.659	1000	3000	-36.50	-13	-23.50	3	Vertical	Pass
LTE Band 2 20M QPSK(1,0) M CH									
1	1332.424	1000	3000	-61.95	-13	-48.95	3	Vertical	Pass
2	1871.534	1000	3000	-39.50	-13	-26.50	3	Vertical	Pass
3	2500.939	1000	3000	-52.86	-13	-39.86	3	Vertical	Pass
4	3742.864	1000	3000	-47.94	-13	-34.94	3	Vertical	Pass
5	7485.214	1000	3000	-44.61	-13	-31.61	3	Vertical	Pass
6	16059.623	1000	3000	-39.36	-13	-26.36	3	Vertical	Pass
1	1100.726	1000	3000	-60.51	-13	-47.51	3	Horizontal	Pass
2	1871.837	1000	3000	-39.98	-13	-26.98	3	Horizontal	Pass
3	1967.626	1000	3000	-49.84	-13	-36.84	3	Horizontal	Pass
4	3742.345	1000	3000	-37.75	-13	-24.75	3	Horizontal	Pass
5	7485.229	1000	3000	-43.88	-13	-30.88	3	Horizontal	Pass
6	17906.639	1000	3000	-31.69	-13	-18.69	3	Horizontal	Pass

Number	Frequency (MHz)	RBW (kHz)	VBW (kHz)	Emission Level (dBm)	Limit (dBm)	Difference (dB)	Distance (m)	Polarization	Status
LTE Band 2 20M QPSK(1,0) H CH									
1	1332.856	1000	3000	-61.16	-13	-48.16	3	Horizontal	Pass
2	1891.951	1000	3000	-37.74	-13	-24.74	3	Horizontal	Pass
3	1974.397	1000	3000	-49.41	-13	-36.41	3	Horizontal	Pass
4	3782.242	1000	3000	-45.20	-13	-32.20	3	Horizontal	Pass
5	7565.107	1000	3000	-43.06	-13	-30.06	3	Horizontal	Pass
6	17989.757	1000	3000	-32.30	-13	-19.30	3	Horizontal	Pass
1	1332.292	1000	3000	-59.55	-13	-46.55	3	Vertical	Pass
2	1892.073	1000	3000	-40.32	-13	-27.32	3	Vertical	Pass
3	1981.918	1000	3000	-46.53	-13	-33.53	3	Vertical	Pass
4	3782.804	1000	3000	-50.68	-13	-37.68	3	Vertical	Pass
5	10977.559	1000	3000	-43.33	-13	-30.33	3	Vertical	Pass
6	17981.967	1000	3000	-31.51	-13	-18.51	3	Vertical	Pass

Remark:

- Above 1G: Emission Level (dBm) = Read Level (dBuV) + Cable Loss (dB) + Antenna Factor (dB/m) - Pre-amplifier(dB) - 95.2;
Below 1G: Emission Level (dBm) = Read Level (dBuV) + Cable Loss (dB) + Antenna Factor (dB/m) - Pre-amplifier(dB) - 95.2 - 2.15.
- Difference (Over Limit) = Emission Level(dBm) - Limit(dBm)

Number	Frequency (MHz)	RBW (kHz)	VBW (kHz)	Emission Level (dBm)	Limit (dBm)	Difference (dB)	Distance (m)	Polarization	Status
LTE Band 4 20M QPSK(1,0) L CH									
1	1500.268	1000	3000	-56.54	-13	-43.54	3	Vertical	Pass
2	1711.975	1000	3000	-37.54	-13	-24.54	3	Vertical	Pass
3	2125.434	1000	3000	-48.40	-13	-35.40	3	Vertical	Pass
4	3422.845	1000	3000	-51.46	-13	-38.46	3	Vertical	Pass
5	9520.067	1000	3000	-46.18	-13	-33.18	3	Vertical	Pass
6	17989.778	1000	3000	-32.10	-13	-19.10	3	Vertical	Pass
1	1312.872	1000	3000	-60.17	-13	-47.17	3	Horizontal	Pass
2	1711.862	1000	3000	-35.41	-13	-22.41	3	Horizontal	Pass
3	2121.286	1000	3000	-46.14	-13	-33.14	3	Horizontal	Pass
4	5001.087	1000	3000	-51.24	-13	-38.24	3	Horizontal	Pass
5	9992.711	1000	3000	-45.66	-13	-32.66	3	Horizontal	Pass
6	17953.954	1000	3000	-31.92	-13	-18.92	3	Horizontal	Pass
LTE Band 4 20M QPSK(1,0) M CH									
1	1223.062	1000	3000	-60.89	-13	-47.89	3	Horizontal	Pass
2	1724.488	1000	3000	-47.77	-13	-34.77	3	Horizontal	Pass
3	2127.707	1000	3000	-48.21	-13	-35.21	3	Horizontal	Pass
4	5553.594	1000	3000	-51.72	-13	-38.72	3	Horizontal	Pass
5	10795.541	1000	3000	-44.36	-13	-31.36	3	Horizontal	Pass
6	17974.643	1000	3000	-31.50	-13	-18.50	3	Horizontal	Pass
1	1500.729	1000	3000	-54.65	-13	-41.65	3	Vertical	Pass
2	1724.181	1000	3000	-49.71	-13	-36.71	3	Vertical	Pass
3	2127.175	1000	3000	-47.22	-13	-34.22	3	Vertical	Pass
4	5462.646	1000	3000	-50.96	-13	-37.96	3	Vertical	Pass
5	9441.448	1000	3000	-45.46	-13	-32.46	3	Vertical	Pass
6	17914.216	1000	3000	-31.96	-13	-18.96	3	Vertical	Pass
LTE Band 4 20M QPSK(1,0) H CH									
1	1332.787	1000	3000	-59.02	-13	-46.02	3	Vertical	Pass
2	1736.955	1000	3000	-40.88	-13	-27.88	3	Vertical	Pass
3	2140.279	1000	3000	-47.84	-13	-34.84	3	Vertical	Pass
4	5000.227	1000	3000	-49.69	-13	-36.69	3	Vertical	Pass
5	10100.532	1000	3000	-46.37	-13	-33.37	3	Vertical	Pass
6	17876.949	1000	3000	-31.76	-13	-18.76	3	Vertical	Pass
1	1736.173	1000	3000	-39.40	-13	-26.40	3	Horizontal	Pass
2	2148.238	1000	3000	-49.79	-13	-36.79	3	Horizontal	Pass
3	3833.199	1000	3000	-54.35	-13	-41.35	3	Horizontal	Pass
4	6616.496	1000	3000	-50.07	-13	-37.07	3	Horizontal	Pass
5	11886.981	1000	3000	-42.80	-13	-29.80	3	Horizontal	Pass
6	17870.326	1000	3000	-31.97	-13	-18.97	3	Horizontal	Pass

Remark:

- Above 1G: Emission Level (dBm) = Read Level (dBuV) + Cable Loss (dB) + Antenna Factor (dB/m) - Pre-amplifier(dB) - 95.2;
Below 1G: Emission Level (dBm) = Read Level (dBuV) + Cable Loss (dB) + Antenna Factor (dB/m) - Pre-amplifier(dB) - 95.2 - 2.15.
- Difference (Over Limit) = Emission Level(dBm) - Limit(dBm)

Number	Frequency (MHz)	RBW (kHz)	VBW (kHz)	Emission Level (dBm)	Limit (dBm)	Difference (dB)	Distance (m)	Polarization	Status
LTE Band 5 10M QPSK(1,0) L CH									
1	1649.428	1000	3000	-57.60	-13	-44.60	3	Horizontal	Pass
2	2461.209	1000	3000	-17.74	-13	-4.74	3	Horizontal	Pass
3	3731.124	1000	3000	-54.66	-13	-41.66	3	Horizontal	Pass
4	7311.629	1000	3000	-37.04	-13	-24.04	3	Horizontal	Pass
5	9848.532	1000	3000	-23.98	-13	-10.98	3	Horizontal	Pass
6	12300.582	1000	3000	-32.60	-13	-19.60	3	Horizontal	Pass
1	1500.697	1000	3000	-54.96	-13	-41.96	3	Vertical	Pass
2	2500.709	1000	3000	-51.54	-13	-38.54	3	Vertical	Pass
3	5000.373	1000	3000	-51.95	-13	-38.95	3	Vertical	Pass
4	7281.120	1000	3000	-48.30	-13	-35.30	3	Vertical	Pass
5	11902.237	1000	3000	-42.14	-13	-29.14	3	Vertical	Pass
6	17977.563	1000	3000	-31.60	-13	-18.60	3	Vertical	Pass
LTE Band 5 10M QPSK(1,0) M CH									
1	1665.052	1000	3000	-56.16	-13	-43.16	3	Vertical	Pass
2	2500.203	1000	3000	-54.64	-13	-41.64	3	Vertical	Pass
3	4950.280	1000	3000	-18.38	-13	-5.38	3	Vertical	Pass
4	7631.307	1000	3000	-49.09	-13	-36.09	3	Vertical	Pass
5	11822.570	1000	3000	-43.21	-13	-30.21	3	Vertical	Pass
6	17944.654	1000	3000	-32.07	-13	-19.07	3	Vertical	Pass
1	1335.179	1000	3000	-60.50	-13	-47.50	3	Horizontal	Pass
2	2104.570	1000	3000	-57.81	-13	-44.81	3	Horizontal	Pass
3	3326.900	1000	3000	-55.93	-13	-42.93	3	Horizontal	Pass
4	7360.683	1000	3000	-48.54	-13	-35.54	3	Horizontal	Pass
5	13548.580	1000	3000	-42.32	-13	-29.32	3	Horizontal	Pass
6	17918.489	1000	3000	-31.82	-13	-18.82	3	Horizontal	Pass
LTE Band 5 10M QPSK(1,0) H CH									
1	1249.945	1000	3000	-59.71	-13	-46.71	3	Horizontal	Pass
2	2094.319	1000	3000	-58.31	-13	-45.31	3	Horizontal	Pass
3	3109.738	1000	3000	-53.46	-13	-40.46	3	Horizontal	Pass
4	5001.724	1000	3000	-52.11	-13	-39.11	3	Horizontal	Pass
5	8215.153	1000	3000	-49.82	-13	-36.82	3	Horizontal	Pass
6	17969.116	1000	3000	-32.40	-13	-19.40	3	Horizontal	Pass
1	1500.812	1000	3000	-55.57	-13	-42.57	3	Vertical	Pass
2	2500.440	1000	3000	-52.69	-13	-39.69	3	Vertical	Pass
3	3822.200	1000	3000	-54.97	-13	-41.97	3	Vertical	Pass
4	6104.043	1000	3000	-51.21	-13	-38.21	3	Vertical	Pass
5	9556.854	1000	3000	-46.51	-13	-33.51	3	Vertical	Pass
6	17997.441	1000	3000	-31.48	-13	-18.48	3	Vertical	Pass

Remark:

- Above 1G: Emission Level (dBm) = Read Level (dBuV) + Cable Loss (dB) + Antenna Factor (dB/m) - Pre-amplifier(dB) - 95.2;
Below 1G: Emission Level (dBm) = Read Level (dBuV) + Cable Loss (dB) + Antenna Factor (dB/m) - Pre-amplifier(dB) - 95.2 - 2.15.
- Difference (Over Limit) = Emission Level(dBm) - Limit(dBm)

Number	Frequency (MHz)	RBW (kHz)	VBW (kHz)	Emission Level (dBm)	Limit (dBm)	Difference (dB)	Distance (m)	Polarization	Status
LTE Band 12 10M QPSK(1,0) L CH									
1	1500.054	1000	3000	-56.90	-13	-43.90	3	Vertical	Pass
2	2500.786	1000	3000	-54.45	-13	-41.45	3	Vertical	Pass
3	4201.926	1000	3000	-54.93	-13	-41.93	3	Vertical	Pass
4	7174.052	1000	3000	-48.95	-13	-35.95	3	Vertical	Pass
5	12327.391	1000	3000	-41.45	-13	-28.45	3	Vertical	Pass
6	16776.127	1000	3000	-37.38	-13	-24.38	3	Vertical	Pass
1	1399.297	1000	3000	-55.44	-13	-42.44	3	Horizontal	Pass
2	2108.576	1000	3000	-58.28	-13	-45.28	3	Horizontal	Pass
3	5042.917	1000	3000	-51.72	-13	-38.72	3	Horizontal	Pass
4	7918.965	1000	3000	-48.19	-13	-35.19	3	Horizontal	Pass
5	11935.144	1000	3000	-41.61	-13	-28.61	3	Horizontal	Pass
6	16224.042	1000	3000	-39.81	-13	-26.81	3	Horizontal	Pass
LTE Band 12 10M QPSK(1,0) M CH									
1	1500.450	1000	3000	-59.84	-13	-46.84	3	Horizontal	Pass
2	2500.107	1000	3000	-54.64	-13	-41.64	3	Horizontal	Pass
3	3812.285	1000	3000	-54.95	-13	-41.95	3	Horizontal	Pass
4	6000.718	1000	3000	-49.41	-13	-36.41	3	Horizontal	Pass
5	9043.618	1000	3000	-48.71	-13	-35.71	3	Horizontal	Pass
6	15242.301	1000	3000	-38.85	-13	-25.85	3	Horizontal	Pass
1	1500.162	1000	3000	-56.99	-13	-43.99	3	Vertical	Pass
2	2500.301	1000	3000	-54.46	-13	-41.46	3	Vertical	Pass
3	4227.772	1000	3000	-54.54	-13	-41.54	3	Vertical	Pass
4	7265.293	1000	3000	-48.96	-13	-35.96	3	Vertical	Pass
5	11849.951	1000	3000	-42.30	-13	-29.30	3	Vertical	Pass
6	16590.675	1000	3000	-37.11	-13	-24.11	3	Vertical	Pass
LTE Band 12 10M QPSK(1,0) H CH									
1	1500.084	1000	3000	-57.15	-13	-44.15	3	Vertical	Pass
2	2500.556	1000	3000	-54.71	-13	-41.71	3	Vertical	Pass
3	3376.071	1000	3000	-54.84	-13	-41.84	3	Vertical	Pass
4	5551.379	1000	3000	-51.20	-13	-38.20	3	Vertical	Pass
5	9612.892	1000	3000	-46.25	-13	-33.25	3	Vertical	Pass
6	14387.542	1000	3000	-40.83	-13	-27.83	3	Vertical	Pass
1	1413.436	1000	3000	-52.05	-13	-39.05	3	Horizontal	Pass
2	2500.754	1000	3000	-56.16	-13	-43.16	3	Horizontal	Pass
3	4220.235	1000	3000	-53.43	-13	-40.43	3	Horizontal	Pass
4	6000.716	1000	3000	-49.78	-13	-36.78	3	Horizontal	Pass
5	10062.398	1000	3000	-45.86	-13	-32.86	3	Horizontal	Pass
6	15303.857	1000	3000	-39.15	-13	-26.15	3	Horizontal	Pass

Remark:

- Above 1G: Emission Level (dBm) = Read Level (dBuV) + Cable Loss (dB) + Antenna Factor (dB/m) - Pre-amplifier(dB) - 95.2;
Below 1G: Emission Level (dBm) = Read Level (dBuV) + Cable Loss (dB) + Antenna Factor (dB/m) - Pre-amplifier(dB) - 95.2 - 2.15.
- Difference (Over Limit) = Emission Level(dBm) - Limit(dBm)

Number	Frequency (MHz)	RBW (kHz)	VBW (kHz)	Emission Level (dBm)	Limit (dBm)	Difference (dB)	Distance (m)	Polarization	Status
LTE Band 13 5M QPSK(1,0) L CH									
1	1561.534	1000	3000	-50.54	-40	-10.54	3	Horizontal	Pass
2	2342.103	1000	3000	-23.95	-13	-10.95	3	Horizontal	Pass
3	3122.936	1000	3000	-45.27	-13	-32.27	3	Horizontal	Pass
4	3904.420	1000	3000	-38.01	-13	-25.01	3	Horizontal	Pass
5	6000.043	1000	3000	-48.22	-13	-35.22	3	Horizontal	Pass
6	12286.773	1000	3000	-41.35	-13	-28.35	3	Horizontal	Pass
1	1560.885	1000	3000	-46.88	-40	-6.88	3	Vertical	Pass
2	2339.609	1000	3000	-30.81	-13	-17.81	3	Vertical	Pass
3	3118.706	1000	3000	-47.99	-13	-34.99	3	Vertical	Pass
4	3903.617	1000	3000	-41.78	-13	-28.78	3	Vertical	Pass
5	6777.446	1000	3000	-49.30	-13	-36.30	3	Vertical	Pass
6	15248.523	1000	3000	-38.65	-13	-25.65	3	Vertical	Pass
LTE Band 13 5M QPSK(1,0) M CH									
1	1564.308	1000	3000	-48.32	-40	-8.32	3	Vertical	Pass
2	2346.664	1000	3000	-27.08	-13	-14.08	3	Vertical	Pass
3	3132.699	1000	3000	-47.92	-13	-34.92	3	Vertical	Pass
4	3910.315	1000	3000	-43.02	-13	-30.02	3	Vertical	Pass
5	7172.677	1000	3000	-48.76	-13	-35.76	3	Vertical	Pass
6	13284.442	1000	3000	-43.03	-13	-30.03	3	Vertical	Pass
1	1564.637	1000	3000	-50.70	-40	-10.70	3	Horizontal	Pass
2	3128.779	1000	3000	-43.77	-13	-30.77	3	Horizontal	Pass
3	2342.853	1000	3000	-23.04	-13	-10.04	3	Horizontal	Pass
4	3910.473	1000	3000	-37.26	-13	-24.26	3	Horizontal	Pass
5	6579.952	1000	3000	-49.52	-13	-36.52	3	Horizontal	Pass
6	11965.455	1000	3000	-42.61	-13	-29.61	3	Horizontal	Pass
LTE Band 13 5M QPSK(1,0) H CH									
1	1569.558	1000	3000	-49.12	-40	-9.12	3	Horizontal	Pass
2	2357.520	1000	3000	-21.76	-13	-8.76	3	Horizontal	Pass
3	3139.080	1000	3000	-43.49	-13	-30.49	3	Horizontal	Pass
4	3923.445	1000	3000	-39.25	-13	-26.25	3	Horizontal	Pass
5	7252.791	1000	3000	-48.73	-13	-35.73	3	Horizontal	Pass
6	11912.212	1000	3000	-42.44	-13	-29.44	3	Horizontal	Pass
1	1567.402	1000	3000	-48.20	-40	-8.20	3	Vertical	Pass
2	2353.552	1000	3000	-29.48	-13	-16.48	3	Vertical	Pass
3	3142.917	1000	3000	-48.58	-13	-35.58	3	Vertical	Pass
4	3923.249	1000	3000	-43.98	-13	-30.98	3	Vertical	Pass
5	5936.031	1000	3000	-50.26	-13	-37.26	3	Vertical	Pass
6	11895.626	1000	3000	-42.62	-13	-29.62	3	Vertical	Pass

Remark:

- Above 1G: Emission Level (dBm) = Read Level (dBuV) + Cable Loss (dB) + Antenna Factor (dB/m) - Pre-amplifier(dB) - 95.2;
Below 1G: Emission Level (dBm) = Read Level (dBuV) + Cable Loss (dB) + Antenna Factor (dB/m) - Pre-amplifier(dB) - 95.2 - 2.15.
- Difference (Over Limit) = Emission Level(dBm) - Limit(dBm)

Number	Frequency (MHz)	RBW (kHz)	VBW (kHz)	Emission Level (dBm)	Limit (dBm)	Difference (dB)	Distance (m)	Polarization	Status
LTE Band 14 5M QPSK(1,0) L CH									
1	1577.645	1000	3000	-48.73	-40	-8.73	3	Vertical	Pass
2	2365.311	1000	3000	-24.74	-13	-11.74	3	Vertical	Pass
3	3153.607	1000	3000	-42.38	-13	-29.38	3	Vertical	Pass
4	3941.917	1000	3000	-40.09	-13	-27.09	3	Vertical	Pass
5	7952.457	1000	3000	-49.09	-13	-36.09	3	Vertical	Pass
6	16304.589	1000	3000	-38.20	-13	-25.20	3	Vertical	Pass
1	1577.513	1000	3000	-44.78	-40	-4.78	3	Horizontal	Pass
2	2365.833	1000	3000	-18.47	-13	-5.47	3	Horizontal	Pass
3	3154.212	1000	3000	-37.49	-13	-24.49	3	Horizontal	Pass
4	3942.908	1000	3000	-34.74	-13	-21.74	3	Horizontal	Pass
5	6702.638	1000	3000	-49.05	-13	-36.05	3	Horizontal	Pass
6	12274.789	1000	3000	-41.68	-13	-28.68	3	Horizontal	Pass
LTE Band 14 5M QPSK(1,0) M CH									
1	1581.841	1000	3000	-46.28	-40	-6.28	3	Horizontal	Pass
2	2372.864	1000	3000	-17.98	-13	-4.98	3	Horizontal	Pass
3	3164.086	1000	3000	-38.12	-13	-25.12	3	Horizontal	Pass
4	3954.671	1000	3000	-33.56	-13	-20.56	3	Horizontal	Pass
5	7462.177	1000	3000	-48.24	-13	-35.24	3	Horizontal	Pass
6	11912.233	1000	3000	-41.81	-13	-28.81	3	Horizontal	Pass
1	1582.575	1000	3000	-50.20	-40	-10.20	3	Vertical	Pass
2	2373.042	1000	3000	-25.40	-13	-12.40	3	Vertical	Pass
3	3164.445	1000	3000	-40.48	-13	-27.48	3	Vertical	Pass
4	3955.262	1000	3000	-40.77	-13	-27.77	3	Vertical	Pass
5	7583.434	1000	3000	-47.86	-13	-34.86	3	Vertical	Pass
6	11857.755	1000	3000	-42.76	-13	-29.76	3	Vertical	Pass
LTE Band 14 5M QPSK(1,0) H CH									
1	1587.213	1000	3000	-42.53	-40	-2.53	3	Vertical	Pass
2	2380.341	1000	3000	-24.85	-13	-11.85	3	Vertical	Pass
3	3173.925	1000	3000	-41.87	-13	-28.87	3	Vertical	Pass
4	3967.156	1000	3000	-41.32	-13	-28.32	3	Vertical	Pass
5	7904.575	1000	3000	-47.71	-13	-34.71	3	Vertical	Pass
6	12800.626	1000	3000	-41.86	-13	-28.86	3	Vertical	Pass
1	1587.099	1000	3000	-46.23	-40	-6.23	3	Horizontal	Pass
2	2380.266	1000	3000	-17.87	-13	-4.87	3	Horizontal	Pass
3	3174.201	1000	3000	-33.79	-13	-20.79	3	Horizontal	Pass
4	3967.163	1000	3000	-33.82	-13	-20.82	3	Horizontal	Pass
5	7928.897	1000	3000	-49.06	-13	-36.06	3	Horizontal	Pass
6	12253.296	1000	3000	-41.28	-13	-28.28	3	Horizontal	Pass

Remark:

- Above 1G: Emission Level (dBm) = Read Level (dBuV) + Cable Loss (dB) + Antenna Factor (dB/m) - Pre-amplifier(dB) - 95.2;
Below 1G: Emission Level (dBm) = Read Level (dBuV) + Cable Loss (dB) + Antenna Factor (dB/m) - Pre-amplifier(dB) - 95.2 - 2.15.
- Difference (Over Limit) = Emission Level(dBm) - Limit(dBm)

Number	Frequency (MHz)	RBW (kHz)	VBW (kHz)	Emission Level (dBm)	Limit (dBm)	Difference (dB)	Distance (m)	Polarization	Status
LTE Band 66 20M QPSK(1,0) L CH									
1	1711.960	1000	3000	-41.35	-13	-28.35	3	Vertical	Pass
2	2123.217	1000	3000	-48.33	-13	-35.33	3	Vertical	Pass
3	2501.115	1000	3000	-53.87	-13	-40.87	3	Vertical	Pass
4	4437.847	1000	3000	-53.76	-13	-40.76	3	Vertical	Pass
5	7197.518	1000	3000	-48.59	-13	-35.59	3	Vertical	Pass
6	13966.059	1000	3000	-40.36	-13	-27.36	3	Vertical	Pass
1	1711.231	1000	3000	-39.98	-13	-26.98	3	Horizontal	Pass
2	2121.554	1000	3000	-49.94	-13	-36.94	3	Horizontal	Pass
3	3200.570	1000	3000	-54.38	-13	-41.38	3	Horizontal	Pass
4	5000.551	1000	3000	-52.33	-13	-39.33	3	Horizontal	Pass
5	8443.722	1000	3000	-48.98	-13	-35.98	3	Horizontal	Pass
6	13279.862	1000	3000	-41.85	-13	-28.85	3	Horizontal	Pass
LTE Band 66 20M QPSK(1,0) M CH									
1	1736.999	1000	3000	-47.97	-13	-34.97	3	Horizontal	Pass
2	2147.429	1000	3000	-50.16	-13	-37.16	3	Horizontal	Pass
3	3586.496	1000	3000	-55.01	-13	-42.01	3	Horizontal	Pass
4	6009.303	1000	3000	-49.76	-13	-36.76	3	Horizontal	Pass
5	10622.075	1000	3000	-44.04	-13	-31.04	3	Horizontal	Pass
6	15352.098	1000	3000	-38.68	-13	-25.68	3	Horizontal	Pass
1	1736.849	1000	3000	-48.60	-13	-35.60	3	Vertical	Pass
2	2141.637	1000	3000	-49.38	-13	-36.38	3	Vertical	Pass
3	3472.948	1000	3000	-53.04	-13	-40.04	3	Vertical	Pass
4	4985.979	1000	3000	-51.60	-13	-38.60	3	Vertical	Pass
5	10081.845	1000	3000	-45.40	-13	-32.40	3	Vertical	Pass
6	16596.802	1000	3000	-37.68	-13	-24.68	3	Vertical	Pass
LTE Band 66 20M QPSK(1,0) H CH									
1	1501.051	1000	3000	-56.27	-13	-43.27	3	Vertical	Pass
2	1761.916	1000	3000	-49.13	-13	-36.13	3	Vertical	Pass
3	2167.532	1000	3000	-49.33	-13	-36.33	3	Vertical	Pass
4	5509.411	1000	3000	-50.12	-13	-37.12	3	Vertical	Pass
5	9482.391	1000	3000	-46.10	-13	-33.10	3	Vertical	Pass
6	16688.506	1000	3000	-37.50	-13	-24.50	3	Vertical	Pass
1	1762.045	1000	3000	-45.57	-13	-32.57	3	Horizontal	Pass
2	2163.293	1000	3000	-49.99	-13	-36.99	3	Horizontal	Pass
3	3191.016	1000	3000	-54.19	-13	-41.19	3	Horizontal	Pass
4	5495.694	1000	3000	-50.74	-13	-37.74	3	Horizontal	Pass
5	8299.922	1000	3000	-49.15	-13	-36.15	3	Horizontal	Pass
6	15340.869	1000	3000	-39.43	-13	-26.43	3	Horizontal	Pass

Remark:

- Above 1G: Emission Level (dBm) = Read Level (dBuV) + Cable Loss (dB) + Antenna Factor (dB/m) - Pre-amplifier(dB) - 95.2;
Below 1G: Emission Level (dBm) = Read Level (dBuV) + Cable Loss (dB) + Antenna Factor (dB/m) - Pre-amplifier(dB) - 95.2 - 2.15.
- Difference (Over Limit) = Emission Level(dBm) - Limit(dBm)

Number	Frequency (MHz)	RBW (kHz)	VBW (kHz)	Emission Level (dBm)	Limit (dBm)	Difference (dB)	Distance (m)	Polarization	Status
LTE Band 71 20M QPSK(1,0) L CH									
1	1328.281	1000	3000	-54.42	-13	-41.42	3	Horizontal	Pass
2	2103.243	1000	3000	-58.39	-13	-45.39	3	Horizontal	Pass
3	3491.468	1000	3000	-55.99	-13	-42.99	3	Horizontal	Pass
4	6087.161	1000	3000	-49.87	-13	-36.87	3	Horizontal	Pass
5	10109.124	1000	3000	-45.73	-13	-32.73	3	Horizontal	Pass
6	16209.565	1000	3000	-38.01	-13	-25.01	3	Horizontal	Pass
1	1328.909	1000	3000	-53.88	-13	-40.88	3	Vertical	Pass
2	2000.286	1000	3000	-57.28	-13	-44.28	3	Vertical	Pass
3	3060.374	1000	3000	-55.36	-13	-42.36	3	Vertical	Pass
4	5000.413	1000	3000	-51.64	-13	-38.64	3	Vertical	Pass
5	9544.288	1000	3000	-46.39	-13	-33.39	3	Vertical	Pass
6	16423.731	1000	3000	-38.18	-13	-25.18	3	Vertical	Pass
LTE Band 71 20M QPSK(1,0) M CH									
1	1343.716	1000	3000	-56.26	-13	-43.26	3	Vertical	Pass
2	2109.291	1000	3000	-57.06	-13	-44.06	3	Vertical	Pass
3	3536.112	1000	3000	-55.99	-13	-42.99	3	Vertical	Pass
4	5891.420	1000	3000	-51.65	-13	-38.65	3	Vertical	Pass
5	9616.078	1000	3000	-47.56	-13	-34.56	3	Vertical	Pass
6	15314.531	1000	3000	-38.83	-13	-25.83	3	Vertical	Pass
1	1343.662	1000	3000	-51.96	-13	-38.96	3	Horizontal	Pass
2	2457.881	1000	3000	-59.36	-13	-46.36	3	Horizontal	Pass
3	3501.564	1000	3000	-57.12	-13	-44.12	3	Horizontal	Pass
4	4997.232	1000	3000	-52.91	-13	-39.91	3	Horizontal	Pass
5	6926.517	1000	3000	-50.64	-13	-37.64	3	Horizontal	Pass
6	10951.555	1000	3000	-43.65	-13	-30.65	3	Horizontal	Pass
LTE Band 71 20M QPSK(1,0) H CH									
1	1359.089	1000	3000	-53.09	-13	-40.09	3	Horizontal	Pass
2	2130.528	1000	3000	-58.26	-13	-45.26	3	Horizontal	Pass
3	3909.791	1000	3000	-54.92	-13	-41.92	3	Horizontal	Pass
4	6000.716	1000	3000	-50.07	-13	-37.07	3	Horizontal	Pass
5	9379.904	1000	3000	-46.82	-13	-33.82	3	Horizontal	Pass
6	16669.099	1000	3000	-37.33	-13	-24.33	3	Horizontal	Pass
1	1358.944	1000	3000	-57.07	-13	-44.07	3	Vertical	Pass
2	2500.622	1000	3000	-54.01	-13	-41.01	3	Vertical	Pass
3	4309.547	1000	3000	-53.97	-13	-40.97	3	Vertical	Pass
4	6780.536	1000	3000	-48.77	-13	-35.77	3	Vertical	Pass
5	11003.364	1000	3000	-43.22	-13	-30.22	3	Vertical	Pass
6	16824.053	1000	3000	-38.17	-13	-25.17	3	Vertical	Pass

Remark:

- Above 1G: Emission Level (dBm) = Read Level (dBuV) + Cable Loss (dB) + Antenna Factor (dB/m) - Pre-amplifier(dB) - 95.2;
Below 1G: Emission Level (dBm) = Read Level (dBuV) + Cable Loss (dB) + Antenna Factor (dB/m) - Pre-amplifier(dB) - 95.2 - 2.15.
- Difference (Over Limit) = Emission Level(dBm) - Limit(dBm)

7.2 EFFECTIVE RADIATED POWER AND EFFECTIVE ISOTROPIC RADIATED POWER

7.2.1 Applicable Standard

According to FCC KDB 971168 D01 v03r01 Section 5.6 and ANSI C63.26: 2015 Section 5.2.5.5

7.2.2 Conformance Limit

For LTE Band 5:

The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

For LTE Band 2:

Mobile and portable stations are limited to 2 watts EIRP.

For LTE Band 14:

Control stations and mobile stations transmitting in the 758-768 MHz band and the 788-798 MHz band are limited to 30 watts ERP.

For LTE Band 12, LTE Band 71:

Control and mobile stations in the 698-746 MHz band are limited to 30 watts ERP.

For LTE Band 13:

Control stations and mobile stations transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands and fixed stations transmitting in the 787-788 MHz and 805-806 MHz bands are limited to 30 watts ERP.

For LTE Band 4, LTE Band 66:

Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

7.2.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.2.4 Test Configuration

For E.R.P and E.I.R.P Measurements. Please refer to the section 7.1.4 in this report.

7.2.5 Test Procedure

For E.R.P and E.I.R.P Measurements. Please refer to the section 7.1.5 in this report.

7.2.6 Test Results

EUT:	Ooma AirDial2	Model No.:	OOMA AIRDIAL2
Temperature:	20 °C	Relative Humidity:	48%

Radiated Power (EIRP) for LTE Band 2								
Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	Limit (dBm)	Polarization
Band2	1.4	18607	1	0	QPSK	22.84	33.01	Vertical
		18607	1	0		23.23	33.01	Horizontal
		18900	1	0		23.15	33.01	Vertical
		18900	1	0		23.34	33.01	Horizontal
		19193	1	0		23.40	33.01	Vertical
		19193	1	0		22.92	33.01	Horizontal
		18607	1	0	16QAM	22.38	33.01	Vertical
		18607	1	0		22.02	33.01	Horizontal
		18900	1	0		22.34	33.01	Vertical
		18900	1	0		21.78	33.01	Horizontal
		19193	1	0		22.45	33.01	Vertical
		19193	1	0		22.53	33.01	Horizontal
Band2	3	18615	1	0	QPSK	22.99	33.01	Vertical
		18615	1	0		23.45	33.01	Horizontal
		18900	1	0		23.12	33.01	Vertical
		18900	1	0		22.53	33.01	Horizontal
		19185	1	0		22.23	33.01	Vertical
		19185	1	0		22.76	33.01	Horizontal
		18615	1	0	16QAM	22.17	33.01	Vertical
		18615	1	0		21.75	33.01	Horizontal
		18900	1	0		22.43	33.01	Vertical
		18900	1	0		21.33	33.01	Horizontal
		19185	1	0		20.92	33.01	Vertical
		19185	1	0		21.58	33.01	Horizontal
Band2	5	18625	1	0	QPSK	23.76	33.01	Vertical
		18625	1	0		23.54	33.01	Horizontal
		18900	1	0		23.75	33.01	Vertical
		18900	1	0		22.45	33.01	Horizontal
		19175	1	0		22.63	33.01	Vertical
		19175	1	0		21.95	33.01	Horizontal
		18625	1	0	16QAM	22.28	33.01	Vertical
		18625	1	0		21.88	33.01	Horizontal
		18900	1	0		22.11	33.01	Vertical
		18900	1	0		21.27	33.01	Horizontal
		19175	1	0		20.96	33.01	Vertical
		19175	1	0		21.60	33.01	Horizontal

Radiated Power (EIRP) for LTE Band 2								
Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	Limit (dBm)	Polarization
Band2	10	18650	1	0	QPSK	23.21	33.01	Vertical
		18650	1	0		24.02	33.01	Horizontal
		18900	1	0		23.34	33.01	Vertical
		18900	1	0		22.33	33.01	Horizontal
		19150	1	0		22.73	33.01	Vertical
		19150	1	0		22.18	33.01	Horizontal
		18650	1	0	16QAM	22.15	33.01	Vertical
		18650	1	0		22.11	33.01	Horizontal
		18900	1	0		22.65	33.01	Vertical
		18900	1	0		21.95	33.01	Horizontal
		19150	1	0		21.53	33.01	Vertical
		19150	1	0		21.06	33.01	Horizontal
Band2	15	18675	1	0	QPSK	23.26	33.01	Vertical
		18675	1	0		23.23	33.01	Horizontal
		18900	1	0		23.29	33.01	Vertical
		18900	1	0		22.53	33.01	Horizontal
		19125	1	0		22.86	33.01	Vertical
		19125	1	0		22.22	33.01	Horizontal
		18675	1	0	16QAM	22.01	33.01	Vertical
		18675	1	0		22.13	33.01	Horizontal
		18900	1	0		21.72	33.01	Vertical
		18900	1	0		21.52	33.01	Horizontal
		19125	1	0		21.39	33.01	Vertical
		19125	1	0		21.10	33.01	Horizontal
Band2	20	18700	1	0	QPSK	23.35	33.01	Vertical
		18700	1	0		24.08	33.01	Horizontal
		18900	1	0		24.03	33.01	Vertical
		18900	1	0		22.38	33.01	Horizontal
		19100	1	0		22.69	33.01	Vertical
		19100	1	0		22.17	33.01	Horizontal
		18700	1	0	16QAM	23.01	33.01	Vertical
		18700	1	0		22.22	33.01	Horizontal
		18900	1	0		22.49	33.01	Vertical
		18900	1	0		21.28	33.01	Horizontal
		19100	1	0		21.80	33.01	Vertical
		19100	1	0		21.60	33.01	Horizontal

Radiated Power (EIRP) for LTE Band 4								
Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	Limit (dBm)	Polarization
Band4	1.4	19957	1	0	QPSK	22.80	30.00	Vertical
		19957	1	0		22.82	30.00	Horizontal
		20175	1	0		23.03	30.00	Vertical
		20175	1	0		23.19	30.00	Horizontal
		20393	1	0		22.45	30.00	Vertical
		20393	1	0		22.88	30.00	Horizontal
		19957	1	0	16QAM	22.17	30.00	Vertical
		19957	1	0		22.53	30.00	Horizontal
		20175	1	0		22.49	30.00	Vertical
		20175	1	0		21.86	30.00	Horizontal
		20393	1	0		21.82	30.00	Vertical
		20393	1	0		22.27	30.00	Horizontal
Band4	3	19965	1	0	QPSK	22.44	30.00	Vertical
		19965	1	0		23.16	30.00	Horizontal
		20175	1	0		22.84	30.00	Vertical
		20175	1	0		21.61	30.00	Horizontal
		20385	1	0		22.45	30.00	Vertical
		20385	1	0		22.03	30.00	Horizontal
		19965	1	0	16QAM	22.66	30.00	Vertical
		19965	1	0		21.85	30.00	Horizontal
		20175	1	0		21.94	30.00	Vertical
		20175	1	0		20.94	30.00	Horizontal
		20385	1	0		20.86	30.00	Vertical
		20385	1	0		20.66	30.00	Horizontal
Band4	5	19975	1	0	QPSK	22.79	30.00	Vertical
		19975	1	0		23.40	30.00	Horizontal
		20175	1	0		22.76	30.00	Vertical
		20175	1	0		22.48	30.00	Horizontal
		20375	1	0		21.92	30.00	Vertical
		20375	1	0		22.22	30.00	Horizontal
		19975	1	0	16QAM	22.39	30.00	Vertical
		19975	1	0		21.55	30.00	Horizontal
		20175	1	0		21.74	30.00	Vertical
		20175	1	0		20.55	30.00	Horizontal
		20375	1	0		21.39	30.00	Vertical
		20375	1	0		21.11	30.00	Horizontal

Radiated Power (EIRP) for LTE Band 4								
Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	Limit (dBm)	Polarization
Band4	10	20000	1	0	QPSK	23.43	30.00	Vertical
		20000	1	0		22.99	30.00	Horizontal
		20175	1	0		23.48	30.00	Vertical
		20175	1	0		22.52	30.00	Horizontal
		20350	1	0		22.18	30.00	Vertical
		20350	1	0		21.55	30.00	Horizontal
		20000	1	0	16QAM	22.49	30.00	Vertical
		20000	1	0		22.03	30.00	Horizontal
		20175	1	0		22.14	30.00	Vertical
		20175	1	0		21.25	30.00	Horizontal
		20350	1	0		20.92	30.00	Vertical
		20350	1	0		21.31	30.00	Horizontal
Band4	15	20025	1	0	QPSK	23.06	30.00	Vertical
		20025	1	0		23.34	30.00	Horizontal
		20175	1	0		22.78	30.00	Vertical
		20175	1	0		22.35	30.00	Horizontal
		20325	1	0		22.33	30.00	Vertical
		20325	1	0		22.34	30.00	Horizontal
		20025	1	0	16QAM	22.23	30.00	Vertical
		20025	1	0		21.83	30.00	Horizontal
		20175	1	0		21.96	30.00	Vertical
		20175	1	0		21.45	30.00	Horizontal
		20325	1	0		21.13	30.00	Vertical
		20325	1	0		20.95	30.00	Horizontal
Band4	20	20050	1	0	QPSK	22.47	30.00	Vertical
		20050	1	0		23.79	30.00	Horizontal
		20175	1	0		22.76	30.00	Vertical
		20175	1	0		22.06	30.00	Horizontal
		20300	1	0		21.86	30.00	Vertical
		20300	1	0		22.41	30.00	Horizontal
		20050	1	0	16QAM	22.21	30.00	Vertical
		20050	1	0		22.42	30.00	Horizontal
		20175	1	0		21.81	30.00	Vertical
		20175	1	0		20.82	30.00	Horizontal
		20300	1	0		21.64	30.00	Vertical
		20300	1	0		21.26	30.00	Horizontal

Radiated Power (ERP) for LTE Band 5								
Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	Limit (dBm)	Polarization
Band5	1.4	20407	1	0	QPSK	23.86	38.45	Vertical
		20407	1	0		23.99	38.45	Horizontal
		20525	1	0		23.11	38.45	Vertical
		20525	1	0		23.83	38.45	Horizontal
		20643	1	0		23.55	38.45	Vertical
		20643	1	0		23.93	38.45	Horizontal
		20407	1	0	16QAM	23.16	38.45	Vertical
		20407	1	0		22.70	38.45	Horizontal
		20525	1	0		22.43	38.45	Vertical
		20525	1	0		23.29	38.45	Horizontal
		20643	1	0		22.78	38.45	Vertical
		20643	1	0		22.82	38.45	Horizontal
Band5	3	20415	1	0	QPSK	23.91	38.45	Vertical
		20415	1	0		23.56	38.45	Horizontal
		20525	1	0		23.92	38.45	Vertical
		20525	1	0		23.22	38.45	Horizontal
		20635	1	0		23.16	38.45	Vertical
		20635	1	0		22.70	38.45	Horizontal
		20415	1	0	16QAM	22.52	38.45	Vertical
		20415	1	0		22.69	38.45	Horizontal
		20525	1	0		22.02	38.45	Vertical
		20525	1	0		21.71	38.45	Horizontal
		20635	1	0		22.07	38.45	Vertical
		20635	1	0		21.97	38.45	Horizontal
Band5	5	20425	1	0	QPSK	23.22	38.45	Vertical
		20425	1	0		23.69	38.45	Horizontal
		20525	1	0		24.09	38.45	Vertical
		20525	1	0		22.76	38.45	Horizontal
		20625	1	0		23.26	38.45	Vertical
		20625	1	0		22.75	38.45	Horizontal
		20425	1	0	16QAM	22.59	38.45	Vertical
		20425	1	0		22.45	38.45	Horizontal
		20525	1	0		21.96	38.45	Vertical
		20525	1	0		21.31	38.45	Horizontal
		20625	1	0		21.15	38.45	Vertical
		20625	1	0		21.38	38.45	Horizontal

Radiated Power (ERP) for LTE Band 5								
Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	Limit (dBm)	Polarization
Band5	10	20450	1	0	QPSK	23.68	38.45	Vertical
		20450	1	0		23.68	38.45	Horizontal
		20525	1	0		24.22	38.45	Vertical
		20525	1	0		22.41	38.45	Horizontal
		20600	1	0		22.46	38.45	Vertical
		20600	1	0		22.68	38.45	Horizontal
		20450	1	0	16QAM	22.59	38.45	Vertical
		20450	1	0		22.55	38.45	Horizontal
		20525	1	0		21.54	38.45	Vertical
		20525	1	0		21.36	38.45	Horizontal
		20600	1	0		21.84	38.45	Vertical
		20600	1	0		22.13	38.45	Horizontal

Radiated Power (ERP) for LTE Band 12								
Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	Limit (dBm)	Polarization
Band12	1.4	23017	1	0	QPSK	23.55	34.77	Vertical
		23017	1	0		23.45	34.77	Horizontal
		23095	1	0		23.35	34.77	Vertical
		23095	1	0		23.21	34.77	Horizontal
		23173	1	0		22.91	34.77	Vertical
		23173	1	0		23.29	34.77	Horizontal
		23017	1	0	16QAM	21.91	34.77	Vertical
		23017	1	0		23.04	34.77	Horizontal
		23095	1	0		21.94	34.77	Vertical
		23095	1	0		22.36	34.77	Horizontal
		23173	1	0		22.47	34.77	Vertical
		23173	1	0		22.29	34.77	Horizontal
Band12	3	23025	1	0	QPSK	23.56	34.77	Vertical
		23025	1	0		23.48	34.77	Horizontal
		23095	1	0		23.86	34.77	Vertical
		23095	1	0		22.72	34.77	Horizontal
		23165	1	0		22.53	34.77	Vertical
		23165	1	0		22.50	34.77	Horizontal
		23025	1	0	16QAM	22.03	34.77	Vertical
		23025	1	0		22.81	34.77	Horizontal
		23095	1	0		22.45	34.77	Vertical
		23095	1	0		21.00	34.77	Horizontal
		23165	1	0		21.56	34.77	Vertical
		23165	1	0		22.10	34.77	Horizontal
Band12	5	23035	1	0	QPSK	23.15	34.77	Vertical
		23035	1	0		24.05	34.77	Horizontal
		23095	1	0		23.38	34.77	Vertical
		23095	1	0		22.57	34.77	Horizontal
		23155	1	0		22.33	34.77	Vertical
		23155	1	0		22.16	34.77	Horizontal
		23035	1	0	16QAM	22.25	34.77	Vertical
		23035	1	0		22.53	34.77	Horizontal
		23095	1	0		21.55	34.77	Vertical
		23095	1	0		21.41	34.77	Horizontal
		23155	1	0		21.76	34.77	Vertical
		23155	1	0		20.71	34.77	Horizontal

Radiated Power (ERP) for LTE Band 12								
Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	Limit (dBm)	Polarization
Band12	10	23060	1	0	QPSK	23.47	34.77	Vertical
		23060	1	0		23.25	34.77	Horizontal
		23095	1	0		23.24	34.77	Vertical
		23095	1	0		22.71	34.77	Horizontal
		23130	1	0		21.96	34.77	Vertical
		23130	1	0		22.01	34.77	Horizontal
		23060	1	0	16QAM	21.70	34.77	Vertical
		23060	1	0		22.46	34.77	Horizontal
		23095	1	0		21.73	34.77	Vertical
		23095	1	0		21.77	34.77	Horizontal
		23130	1	0		21.19	34.77	Vertical
		23130	1	0		20.86	34.77	Horizontal

Radiated Power (ERP) for LTE Band 13								
Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	Limit (dBm)	Polarization
Band13	5	23205	1	0	QPSK	23.48	34.77	Vertical
		23205	1	0		23.14	34.77	Horizontal
		23230	1	0		22.92	34.77	Vertical
		23230	1	0		22.81	34.77	Horizontal
		23255	1	0		22.85	34.77	Vertical
		23255	1	0		22.66	34.77	Horizontal
		23205	1	0	16QAM	22.02	34.77	Vertical
		23205	1	0		22.44	34.77	Horizontal
		23230	1	0		22.19	34.77	Vertical
		23230	1	0		21.51	34.77	Horizontal
		23255	1	0		21.53	34.77	Vertical
		23255	1	0		20.95	34.77	Horizontal
Band13	10	23230	1	0	QPSK	22.93	34.77	Vertical
		23230	1	0		23.95	34.77	Horizontal
		23230	1	0	16QAM	23.58	34.77	Vertical
		23230	1	0		22.95	34.77	Horizontal

Radiated Power (ERP) for LTE Band 14								
Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	Limit (dBm)	Polarization
Band14	5	23305	1	0	QPSK	22.92	34.77	Vertical
		23305	1	0		22.93	34.77	Horizontal
		23330	1	0		22.87	34.77	Vertical
		23330	1	0		22.42	34.77	Horizontal
		23355	1	0		22.22	34.77	Vertical
		23355	1	0		22.18	34.77	Horizontal
		23305	1	0	16QAM	22.15	34.77	Vertical
		23305	1	0		21.89	34.77	Horizontal
		23330	1	0		21.65	34.77	Vertical
		23330	1	0		20.46	34.77	Horizontal
		23355	1	0		21.24	34.77	Vertical
		23355	1	0		21.10	34.77	Horizontal
Band14	10	23330	1	0	QPSK	22.98	34.77	Vertical
		23330	1	0		24.08	34.77	Horizontal
		23330	1	0	16QAM	23.24	34.77	Vertical
		23330	1	0		22.48	34.77	Horizontal

Radiated Power (EIRP) for LTE Band 66								
Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	Limit (dBm)	Polarization
Band66	1.4	131979	1	0	QPSK	23.11	30.00	Vertical
		131979	1	0		22.58	30.00	Horizontal
		132322	1	0		22.19	30.00	Vertical
		132322	1	0		22.50	30.00	Horizontal
		132665	1	0		23.20	30.00	Vertical
		132665	1	0		22.79	30.00	Horizontal
		131979	1	0	16QAM	22.04	30.00	Vertical
		131979	1	0		21.73	30.00	Horizontal
		132322	1	0		21.81	30.00	Vertical
		132322	1	0		21.58	30.00	Horizontal
		132665	1	0		21.52	30.00	Vertical
		132665	1	0		21.29	30.00	Horizontal
Band66	3	131987	1	0	QPSK	22.85	30.00	Vertical
		131987	1	0		23.25	30.00	Horizontal
		132322	1	0		22.73	30.00	Vertical
		132322	1	0		21.78	30.00	Horizontal
		132657	1	0		22.02	30.00	Vertical
		132657	1	0		22.33	30.00	Horizontal
		131987	1	0	16QAM	22.08	30.00	Vertical
		131987	1	0		21.91	30.00	Horizontal
		132322	1	0		22.63	30.00	Vertical
		132322	1	0		20.72	30.00	Horizontal
		132657	1	0		20.89	30.00	Vertical
		132657	1	0		20.99	30.00	Horizontal
Band66	5	131997	1	0	QPSK	22.66	30.00	Vertical
		131997	1	0		23.10	30.00	Horizontal
		132322	1	0		22.68	30.00	Vertical
		132322	1	0		22.21	30.00	Horizontal
		132647	1	0		21.97	30.00	Vertical
		132647	1	0		21.42	30.00	Horizontal
		131997	1	0	16QAM	21.49	30.00	Vertical
		131997	1	0		22.16	30.00	Horizontal
		132322	1	0		21.25	30.00	Vertical
		132322	1	0		20.53	30.00	Horizontal
		132647	1	0		20.46	30.00	Vertical
		132647	1	0		20.69	30.00	Horizontal

Radiated Power (EIRP) for LTE Band 66								
Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	Limit (dBm)	Polarization
Band66	10	132022	1	0	QPSK	22.23	30.00	Vertical
		132022	1	0		23.65	30.00	Horizontal
		132322	1	0		23.33	30.00	Vertical
		132322	1	0		22.65	30.00	Horizontal
		132622	1	0		22.23	30.00	Vertical
		132622	1	0		22.45	30.00	Horizontal
		132022	1	0	16QAM	22.20	30.00	Vertical
		132022	1	0		22.63	30.00	Horizontal
		132322	1	0		21.63	30.00	Vertical
		132322	1	0		21.25	30.00	Horizontal
		132622	1	0		20.96	30.00	Vertical
		132622	1	0		20.84	30.00	Horizontal
Band66	15	132047	1	0	QPSK	23.09	30.00	Vertical
		132047	1	0		23.62	30.00	Horizontal
		132322	1	0		23.32	30.00	Vertical
		132322	1	0		22.10	30.00	Horizontal
		132597	1	0		21.96	30.00	Vertical
		132597	1	0		22.21	30.00	Horizontal
		132047	1	0	16QAM	22.29	30.00	Vertical
		132047	1	0		21.95	30.00	Horizontal
		132322	1	0		22.02	30.00	Vertical
		132322	1	0		21.10	30.00	Horizontal
		132597	1	0		20.85	30.00	Vertical
		132597	1	0		20.86	30.00	Horizontal
Band66	20	132072	1	0	QPSK	22.80	30.00	Vertical
		132072	1	0		23.33	30.00	Horizontal
		132322	1	0		22.53	30.00	Vertical
		132322	1	0		22.53	30.00	Horizontal
		132572	1	0		22.16	30.00	Vertical
		132572	1	0		21.66	30.00	Horizontal
		132072	1	0	16QAM	21.68	30.00	Vertical
		132072	1	0		22.73	30.00	Horizontal
		132322	1	0		21.89	30.00	Vertical
		132322	1	0		21.48	30.00	Horizontal
		132572	1	0		21.36	30.00	Vertical
		132572	1	0		21.01	30.00	Horizontal

Radiated Power (ERP) for LTE Band 71								
Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	Limit (dBm)	Polarization
Band71	5	133147	1	0	QPSK	23.35	34.77	Vertical
		133147	1	0		23.17	34.77	Horizontal
		133297	1	0		23.06	34.77	Vertical
		133297	1	0		22.48	34.77	Horizontal
		133447	1	0		22.81	34.77	Vertical
		133447	1	0		22.07	34.77	Horizontal
		133147	1	0	16QAM	22.54	34.77	Vertical
		133147	1	0		22.00	34.77	Horizontal
		133297	1	0		21.87	34.77	Vertical
		133297	1	0		20.78	34.77	Horizontal
		133447	1	0		20.98	34.77	Vertical
		133447	1	0		21.34	34.77	Horizontal
Band71	10	133172	1	0	QPSK	23.38	34.77	Vertical
		133172	1	0		23.52	34.77	Horizontal
		133297	1	0		22.99	34.77	Vertical
		133297	1	0		22.05	34.77	Horizontal
		133422	1	0		21.91	34.77	Vertical
		133422	1	0		22.38	34.77	Horizontal
		133172	1	0	16QAM	21.65	34.77	Vertical
		133172	1	0		22.68	34.77	Horizontal
		133297	1	0		21.85	34.77	Vertical
		133297	1	0		21.15	34.77	Horizontal
		133422	1	0		21.90	34.77	Vertical
		133422	1	0		21.15	34.77	Horizontal
Band71	15	133197	1	0	QPSK	23.32	34.77	Vertical
		133197	1	0		23.62	34.77	Horizontal
		133297	1	0		23.33	34.77	Vertical
		133297	1	0		22.72	34.77	Horizontal
		133397	1	0		22.58	34.77	Vertical
		133397	1	0		21.99	34.77	Horizontal
		133197	1	0	16QAM	22.28	34.77	Vertical
		133197	1	0		22.24	34.77	Horizontal
		133297	1	0		21.22	34.77	Vertical
		133297	1	0		21.37	34.77	Horizontal
		133397	1	0		21.71	34.77	Vertical
		133397	1	0		21.33	34.77	Horizontal

Radiated Power (ERP) for LTE Band 71								
Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	Limit (dBm)	Polarization
Band71	20	133222	1	0	QPSK	22.99	34.77	Vertical
		133222	1	0		23.80	34.77	Horizontal
		133297	1	0		22.64	34.77	Vertical
		133297	1	0		22.30	34.77	Horizontal
		133372	1	0		22.68	34.77	Vertical
		133372	1	0		22.34	34.77	Horizontal
		133222	1	0	16QAM	22.55	34.77	Vertical
		133222	1	0		22.95	34.77	Horizontal
		133297	1	0		21.99	34.77	Vertical
		133297	1	0		21.94	34.77	Horizontal
		133372	1	0		21.72	34.77	Vertical
		133372	1	0		20.97	34.77	Horizontal

7.3 CONDUCTED OUTPUT POWER

7.3.1 Applicable Standard

According to FCC KDB 971168 D01 v03r01 Section 5 and ANSI C63.26: 2015 Section 5.2

7.3.2 Conformance Limit

For LTE Band 5:

The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

For LTE Band 2:

Mobile and portable stations are limited to 2 watts EIRP.

For LTE Band 14:

Control stations and mobile stations transmitting in the 758-768 MHz band and the 788-798 MHz band are limited to 30 watts ERP.

For LTE Band 12, LTE Band 71:

Control and mobile stations in the 698-746 MHz band are limited to 30 watts ERP.

For LTE Band 13:

Control stations and mobile stations transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands and fixed stations transmitting in the 787-788 MHz and 805-806 MHz bands are limited to 30 watts ERP.

For LTE Band 4, LTE Band 66:

Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

7.3.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.3.4 Test Setup

Please refer to Section 6.1 of this test report.

7.3.5 Test Procedure

Connect the EUT to Universal Radio Communication Tester CMU200 or CMU500 via the antenna connector. A call is set up by the SS according to the generic call set up procedure on a channel with ARFCN in the ARFCN range, power control level set to Max power. The frequency band is set as selected frequency, The RF output of the transmitter was connected to base station simulator.

Set EUT at maximum average power by base station simulator.

Measure the lowest, middle, and highest channels of the EUT for each bandwidth and different modulation.

Measure and record the results in the test report.

7.3.6 Test Results

EUT:	Ooma AirDial2	Model No.:	OOMA AIRDIAL2
Temperature:	20 °C	Relative Humidity:	48%

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Original Module Power (dBm)	Verified Host Power (dBm)
Band2	20	18900	1	0	QPSK	23.36	22.89
Band4	20	20050	1	0	QPSK	23.52	22.41
Band5	10	20450	1	0	QPSK	23.96	23.36
Band12	10	23060	1	0	QPSK	23.60	22.85
Band13	10	23230	1	0	QPSK	23.76	22.89
Band14	10	23330	1	0	QPSK	23.73	22.38
Band66	20	132572	1	0	QPSK	23.53	22.44
Band71	20	133322	1	0	QPSK	23.16	22.77

The maximum conducted power is verified to be the same. The conducted signal test data may be re-used. Please check FCC ID: FCC ID: XMR202008EC25AFXD (Report No.:R2203A0238-R1, R2203A0238-R2, R2203A0238-R3, R2203A0238-R4)

7.4 FREQUENCY STABILITY

7.4.1 Applicable Standard

According to FCC KDB 971168 D01 Section 9.0 and ANSI C63.26: 2015 Section 5.6

7.4.2 Conformance Limit

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ ($\pm 2.5\text{ppm}$) of the center frequency.

7.4.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.4.4 Test Setup

Please refer to Section 6.1 of this test report.

7.4.5 Test Procedure

Connect the EUT to Universal Radio Communication Tester CMU200 or CMU500 via the antenna connector. A call is set up by the SS according to the generic call set up procedure on a channel with ARFCN in the ARFCN range, power control level set to Max power. MS TXPWR_MAX_CCH is set to the maximum value supported by the Power Class of the Mobile under test.

EUT was placed at temperature chamber and connected to an external power supply.

Temperature and voltage condition shall be tested to confirm frequency stability.

For Temperature Variation

1. The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
4. With power OFF, the temperature was raised in 10°C steps up to 50°C . The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

For Voltage Variation

1. The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.
2. The EUT was placed in a temperature chamber at $25\pm 5^{\circ}\text{C}$ and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
4. The variation in frequency was measured for the worst case.

7.4.6 Test Results

EUT:	Ooma AirDial2	Model No.:	OOMA AIRDIAL2
Temperature:	N/A	Relative Humidity:	N/A
Test Mode:	N/A		

Please check FCC ID: FCC ID: XMR202008EC25AFXD (Report No.:R2203A0238-R1, R2203A0238-R2, R2203A0238-R3, R2203A0238-R4)

7.5 PEAK-TO-AVERAGE RATIO

7.5.1 Applicable Standard

According to ANSI C63.26: 2015 Section 5.2.3.4 and FCC KDB 971168 D01 Section 5.7

7.5.2 Conformance Limit

The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB. The PAPR measurements should be made using either an instrument with complementary cumulative distribution function (CCDF) capabilities to determine that PAPR will not exceed 13 dB for more than 0.1 percent of the time or other Commission approved procedure. The measurement must be performed using a signal corresponding to the highest PAPR expected during periods of continuous transmission.

7.5.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.5.4 Test Setup

Please refer to Section 6.1 of this test report.

7.5.5 Test Procedure

The EUT was connected to Spectrum Analyzer and Base Station via power divider.

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.

Set the number of counts to a value that stabilizes the measured CCDF curve.

Set the measurement interval to 1 ms.

Record the maximum PAPR level associated with a probability of 0.1%.

a) Refer to instrument's analyzer instruction manual for details on how to use the power statistics/CCDF function;

b) Set resolution/measurement bandwidth $\geq$ signal's occupied bandwidth;

c) Set the number of counts to a value that stabilizes the measured CCDF curve;

d) Set the measurement interval as follows:

1) for continuous transmissions, set to 1 ms,

2) for burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize and set the measurement interval to a time that is less than or equal to the burst duration.

e) Record the maximum PAPR level associated with a probability of 0.1%.

7.5.6 Test Results

EUT:	Ooma AirDial2	Model No.:	OOMA AIRDIAL2
Temperature:	N/A	Relative Humidity:	N/A
Test Mode:	N/A		

Please check FCC ID: FCC ID: XMR202008EC25AFXD (Report No.:R2203A0238-R1, R2203A0238-R2, R2203A0238-R3, R2203A0238-R4)

7.6 26DB BANDWIDTH AND 99% OCCUPIED BANDWIDTH

7.6.1 Applicable Standard

According to FCC KDB 971168 D01 Section 4 and ANSI C63.26: 2015 Section 5.4

7.6.2 Conformance Limit

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

7.6.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.6.4 Test Setup

Please refer to Section 6.1 of this test report.

7.6.5 Test Procedure

The testing follows FCC KDB 971168 v03r01 Section 4.

The EUT was connected to Spectrum Analyzer and Base Station via power divider.

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.

The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.

The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.

Set the detection mode to peak, and the trace mode to max hold.

Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace.

(this is the reference value)

Determine the “-26 dB down amplitude” as equal to (Reference Value – X).

Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “-X dB down amplitude” determined in step 6. If a marker is below this “-X dB down amplitude” value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.

Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

7.6.6 Test Results

EUT:	Ooma AirDial2	Model No.:	OOMA AIRDIAL2
Temperature:	N/A	Relative Humidity:	N/A
Test Mode:	N/A		

Please check FCC ID: FCC ID: XMR202008EC25AFXD (Report No.:R2203A0238-R1, R2203A0238-R2, R2203A0238-R3, R2203A0238-R4)

7.7 CONDUCTED BAND EDGE

7.7.1 Applicable Standard

According to FCC KDB 971168 D01 Section 6 and ANSI C63.26: 2015 Section 5.7.

7.7.2 Conformance Limit

For LTE Band 2, LTE Band 5:

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. The emission limit equal to -13 dBm.

For LTE Band 14:

According to FCC 47 CFR part 90.543 (e), for operations in the 758-768 MHz and the 788-798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

- (1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $65 + 10 \log(P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.
- (2) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log(P)$ dB.

According to FCC 47 CFR part 90.543 (f), for operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

For LTE Band 12, LTE Band 71:

According to FCC 47 CFR part 27.53(g), for operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log(P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater.

However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

For LTE Band 13:

According to FCC 47 CFR part 27.53(c)(2), for on any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log(P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

According to FCC 47 CFR part 27.53(c)(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $65 + 10 \log(P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.

For operations in the 775-788 MHz, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz (EIRP). The limit of emissions is equal to -40 dBm.

For LTE Band 4, LTE Band 66:

According to FCC 47 CFR part 27.53(h), for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log (P)$ dB. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

7.7.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.7.4 Test Setup

Please refer to Section 6.1 of this test report.

7.7.5 Test Procedure

The testing follows FCC KDB 971168 v03r01 Section 6.

The EUT was connected to Spectrum Analyzer and Base Station via power divider.

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

The band edges of low and high channels for the highest RF powers were measured.

The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

7.7.6 Test Results

EUT:	Ooma AirDial2	Model No.:	OOMA AIRDIAL2
Temperature:	N/A	Relative Humidity:	N/A
Test Mode:	N/A		

Please check FCC ID: FCC ID: XMR202008EC25AFXD (Report No.:R2203A0238-R1, R2203A0238-R2, R2203A0238-R3, R2203A0238-R4)

7.8 CONDUCTED SPURIOUS EMISSION AT ANTENNA TERMINAL

7.8.1 Applicable Standard

According to FCC KDB 971168 D01 Section 6 and ANSI C63.26: 2015 Section 5.7.

7.8.2 Conformance Limit

For LTE Band 2, LTE Band 5:

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. The emission limit equal to -13 dBm.

For LTE Band 14:

According to FCC 47 CFR part 90.543 (e), for operations in the 758-768 MHz and the 788-798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

(1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $65 + 10 \log(P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.

(2) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log(P)$ dB.

According to FCC 47 CFR part 90.543 (f), for operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

For LTE Band 12, LTE Band 71:

According to FCC 47 CFR part 27.53(g), for operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log(P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater.

However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

For LTE Band 13:

According to FCC 47 CFR part 27.53(c)(2), for on any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log(P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

According to FCC 47 CFR part 27.53(c)(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $65 + 10 \log(P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.

For operations in the 775-788 MHz, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz (EIRP). The limit of emissions is equal to -40 dBm.

For LTE Band 4, LTE Band 66:

According to FCC 47 CFR part 27.53(h), for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log (P)$ dB. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

7.8.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.8.4 Test Setup

Please refer to Section 6.1 of this test report.

7.8.5 Test Procedure

The testing follows FCC KDB 971168 v03r01 Section 6.

The EUT was connected to Spectrum Analyzer and Base Station via power divider.

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

The middle channel for the highest RF power within the transmitting frequency was measured.

The conducted spurious emission for the whole frequency range was taken.

The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

7.8.6 Test Results

EUT:	Ooma AirDial2	Model No.:	OOMA AIRDIAL2
Temperature:	N/A	Relative Humidity:	N/A
Test Mode:	N/A		

Please check FCC ID: FCC ID: XMR202008EC25AFXD (Report No.:R2203A0238-R1, R2203A0238-R2, R2203A0238-R3, R2203A0238-R4)

END OF REPORT