



TEST REPORT

Product Name: 4G LTE POC RADIO
FCC ID: 2BNNE-BQ-360
Trademark: BINQI, YATEGOOD, MKMXPTT
Model Number: BQ-360, BQ-320, BQ-340, BQ-350, BQ-380, G380, MK-888
Prepared For: QUANZHOU BINQI ELECTRONIC TECHNOLOGY CO.LTD
Address: No.132 Xiaguang Si, Xiamei Village, Xiamei Tow, Nan'an city, Quanzhou City, Fujian, China
Manufacturer: QUANZHOU BINQI ELECTRONIC TECHNOLOGY CO.LTD
Address: No.132 Xiaguang Si, Xiamei Village, Xiamei Tow, Nan'an city, Quanzhou City, Fujian, China
Prepared By: Shenzhen CTB Testing Technology Co., Ltd.
Address: 1&2/F., Building A, No.26, Xinhe Road, Xinqiao, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, China
Sample Received Date: May. 23, 2025
Sample tested Date: May. 23, 2025 to Jun. 21, 2025
Issue Date: Jun. 21, 2025
Report No.: CTB25052305501RF01
Test Standards: FCC Part 2, 22, 24E, 27
Test Results: PASS
Remark: This is LTE radio test report.

Compiled by:

Reviewed by:

Approved by:

Zhou Kui

Arron Liu

Bin Mei

Zhou Kui

Arron Liu

Bin Mei / Director

Note: If there is any objection to the inspection results in this report, please submit a written report to the company within 15 days from the date of receiving the report. The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen CTB Testing Technology Co., Ltd. this report can't be reproduced except in full. The tested sample(s) and the sample information are provided by the client. "*" indicates the testing items were fulfilled by subcontracted lab. "#" indicates the items are not in CNAS accreditation scope.

TABLE OF CONTENT

	Page
Test Report Declaration	
1. VERSION	3
2. TEST SUMMARY	4
3. MEASUREMENT UNCERTAINTY	5
4. PRODUCT INFORMATION AND TEST SETUP	6
4.1 Product Information	6
4.2 Test Setup Configuration	6
4.3 Support Equipment	6
4.4 Test Mode	7
4.5 Test Environment	9
5. TEST FACILITY AND TEST INSTRUMENT USED	10
5.1 Test Facility	10
5.2 Test Instrument Used	10
6. RF EXPOSURE	12
6.1 Standard Applicable	12
6.2 Test Result	12
7. RF OUTPUT POWER	13
7.1 Standard Applicable	13
7.3 Summary of Test Results/Plots	14
8. PEAK-TO-AVERAGE RATIO (PAR) OF TRANSMITTER	15
8.1 Standard Applicable	15
8.2 Test Procedure	15
8.3 Summary of Test Results	15
9. EMISSION BANDWIDTH	16
9.1 Standard Applicable	16
9.2 Test Procedure	16
9.3 Summary of Test Results/Plots	16
10. OUT OF BAND EMISSIONS AT ANTENNA TERMINAL	17
10.1 Standard Applicable	17
10.2 Test Procedure	18
10.3 Summary of Test Results/Plots	18
11. SPURIOUS RADIATED EMISSIONS	19
11.1 Standard Applicable	19
11.2 Test Procedure	20
11.3 Summary of Test Results/Plots	20
12. FREQUENCY STABILITY	36
12.1 Standard Applicable	36
12.2 Test Procedure	36
12.3 Summary of Test Results/Plots	36

(Note: N/A means not applicable)

1. VERSION

Report No.	Issue Date	Description	Approved
CTB25052305501RF01	Jun. 21, 2025	Original	Valid

2. TEST SUMMARY

The Product has been tested according to the following specifications:

Test Item	Test Requirement	Test method	Result
Conducted output power	Part 2.1046(a)	TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Effective Radiated Power of Transmitter(EIRP)	Part 22.913(a)(2)/ Part 24.232(c)/Part27.50(h)(2)/ Part27.50(d)(4)/ Part27.50(c)(10)/ Part27.50(b)(10)/ Part27.50(a)(3)	TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
peak-to-average ratio	Part 22.913(d)/Part 27.50(d) /Part 27.50(a) (1)	KDB 971168 D01v03r01	PASS
99% & 26dB Occupied Bandwidth	Part 2.1049(h)	KDB 971168 D01v03r01	PASS
Band Edge at antenna terminals	Part 2.1051/ Part 24.238(a)/Part 27.53(g) (1) Part 22.917(a)/Part 27.53(i) (4)/ Part 27.53(c) /Part 27.253(f)/Part 27.53(a) (2)	KDB 971168 D01v03r01	PASS
Spurious emissions at antenna terminals	Part 2.1051/ Part 24.238(a)/Part 27.53(g) (1) Part 22.917(a)/Part 27.53(i) (4)/ Part 27.53(c) /Part 27.253(f)/Part 27.53(a) (2)	TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Field strength of spurious radiation	Part 2.1051/ Part 24.238(a)/Part 27.53(g) (1) Part 22.917(a)/Part 27.53(i) (4)/ Part 27.53(c) /Part 27.253(f)/Part 27.53(a) (2)	TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Frequency stability	Part 2.1055/Part 27.54/ Part 22.355	TIA-603-E-2016 & KDB 971168 D01v03r01	PASS

3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Item	Uncertainty
Occupancy bandwidth	54.3kHz
Conducted output power Above 1G	0.9dB
Conducted output power below 1G	0.9dB
Power Spectral Density , Conduction	0.9dB
Conduction spurious emissions	2.0dB
Out of band emission	2.0dB
3m chamber Radiated spurious emission(30MHz-1GHz)	4.6dB
3m chamber Radiated spurious emission(1GHz-18GHz)	5.1dB
3m chamber Radiated spurious emission(18GHz-40GHz)	3.4dB
Receiver Reference Sensitivity level	1.9dB
humidity uncertainty	5.5%
Temperature uncertainty	0.63°C
frequency	1×10-7

4. PRODUCT INFORMATION AND TEST SETUP

4.1 Product Information

Model(s):	BQ-360, BQ-320, BQ-340, BQ-350, BQ-380, G380, MK-888
Model Description:	All the model are the same circuit and RF module, only the model names are different. Test sample model: BQ-360
Hardware Version:	V1.0
Software Version:	V1.0
Operation Frequency:	FDD-LTE BAND 2: 1850-1910MHz FDD-LTE BAND 4: 1710-1755MHz FDD-LTE BAND 5: 824-849MHz FDD-LTE BAND 7: 2500-2570MHz FDD-LTE BAND 66: 1710-1780MHz
Max. RF output power:	FDD-LTE BAND 2: 24.53dBm FDD-LTE BAND 4: 24.49dBm FDD-LTE BAND 5: 23.56dBm FDD-LTE BAND 7: 23.58dBm FDD-LTE BAND 66: 23.47dBm
Type of Modulation:	QPSK, 16QAM
Antenna installation:	FPC antenna
Antenna Gain:	FDD-LTE BAND 2: 0.81dBi FDD-LTE BAND 4: 0.59dBi FDD-LTE BAND 5: 0.54dBi FDD-LTE BAND 7: 0.88dBi FDD-LTE BAND 66: 0.71dBi
Ratings:	DC 5V, 1A DC 4.2V by battery

4.2 Test Setup Configuration

See test photographs attached in EUT TEST SETUP PHOTOGRAPHS for the actual connections between Product and support equipment.

4.3 Support Equipment

Item	Equipment	Mfr/Brand	Model/TypeNo.	SeriesNo.	Note

Notes:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

4.4 Test Mode

Test Mode List		
Test Mode	Description	Remark
TM1	FDD-LTE BAND 2	Low, Middle, High Channels
TM2	FDD-LTE BAND 4	Low, Middle, High Channels
TM3	FDD-LTE BAND 5	Low, Middle, High Channels
TM4	FDD-LTE BAND 7	Low, Middle, High Channels
TM5	FDD-LTE BAND 66	Low, Middle, High Channels

LTE BAND 2

Test Mode	Test Frequency ID	Bandwidth (MHz)	Number [UL]	Frequency of Uplink(MHz)
LTE band 2	Low Range	1.4	18607	1850.7
		3	18615	1851.5
		5	18625	1852.5
		10	18650	1855
		15	18675	1857.5
		20	18700	1860
	Mid Range	1.4/3/5/10/15/20	18900	1880
	High Range	1.4	19193	1909.3
		3	19185	1908.5
		5	19175	1907.5
		10	19150	1905
		15	19125	1902.5
		20	19100	1900

LTE BAND 4

Test Mode	Test Frequency ID	Bandwidth (MHz)	Number [UL]	Frequency of Uplink(MHz)
LTE band 4	Low Range	1.4	19957	1710.7
		3	19965	1711.5
		5	19975	1712.5
		10	20000	1715
		15	20025	1717.5
		20	20050	1720
	Mid Range	1.4/3/5/10/15/20	20175	1732.5
	High Range	1.4	20393	1754.3
		3	20385	1753.5
		5	20375	1752.5
		10	20350	1750
		15	20325	1747.5
		20	20300	1745

LTE BAND 5

Test Mode	Test Frequency ID	Bandwidth (MHz)	Number [UL]	Frequency of Uplink(MHz)
LTE band 5	Low Range	1.4	20407	824.7
		3	20415	825.5
		5	20425	826.5
		10	20450	829
	Mid Range	1.4/3/5/10	20525	836.5
	High Range	1.4	20643	848.3
		3	20635	847.5
		5	20625	846.5
		10	20600	844

LTE BAND 7

Test Mode	Test Frequency ID	Bandwidth (MHz)	Number [UL]	Frequency of Uplink(MHz)
LTE band 7	Low Range	5	20775	2502.5
		10	20800	2505
		15	20825	2507.5
		20	20850	2510
	Mid Range	5/10/15/20	21100	2535
	High Range	5	21425	2567.5
		10	21400	2565
		15	21375	2562.5
		20	21350	2560

LTE BAND 66

Test Mode	Test Frequency ID	Bandwidth (MHz)	Number [UL]	Frequency of Uplink(MHz)
LTE band 66	Low Range	1.4	66443	2110.7
		3	66451	2111.5
		5	66461	2112.5
		10	66486	2115
		15	66511	2117.5
		20	66536	2120
	Mid Range TX ¹	1.4/3/5/10/15/20	66786	2145
	Mid Range	1.4/3/5/10/15/20	66886	2155
	Paired High Range ²	1.4	67129	2179.3
		3	67121	2178.5
		5	67111	2177.5
		10	67086	2175
		15	67061	2172.5
		20	67036	2170
	High Range ³	1.4	67329	2199.3
		3	67321	2198.5
		5	67311	2197.5
		10	67286	2195
		15	67261	2192.5
		20	67236	2190

Note: EUT is UE category 1, 16QAM Modulation of 10MHz/15MHz/20MHz for all bands FULL RB size is not supported.

4.5 Test Environment

Humidity(%):	54
Atmospheric Pressure(kPa):	101
Normal Voltage(DC):	4.2V
Normal Temperature(°C)	23
Low Temperature(°C)	0
High Temperature(°C)	40

5. TEST FACILITY AND TEST INSTRUMENT USED

5.1 Test Facility

All measurement facilities used to collect the measurement data are located at 1&2F., Building A, No. 26, Xinhe Road, Xinqiao, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.

5.2 Test Instrument Used

No.	Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Calibrated until
1	Spectrum Analyzer	Agilent	N9020A	MY52090073	A.14.16	2025/6/28
2	Power Sensor	Agilent	U2021XA	MY56120032	/	2025/6/28
3	Power Sensor	Agilent	U2021XA	MY56120034	/	2025/6/28
4	Communication test set	R&S	CMW500	108058	V3.5.80	2025/6/28
5	Spectrum Analyzer	KEYSIGHT	N9020A	MY51289897	A.14.16	2025/6/28
6	Signal Generator	Agilent	N5181A	MY50140365	A.01.60	2025/6/28
7	Vector signal generator	Agilent	N5182A	MY47420195	A.01.87	2025/6/28
8	Communication test set	Agilent	E5515C	MY50102567	B.19.07 (E1962B)	2025/6/28
9	2.4 GHz Filter	Shenxiang	MSF2400-24 83.5MS-1154	20181015001	/	2025/6/30
10	5 GHz Filter	Shenxiang	MSF5150-58 50MS-1155	20181015001	/	2025/6/30
11	Filter	Xingbo	XBLBQ-DZA 120	190821-1-1	/	2025/6/30
12	BT&WI-FI Automatic test software	Microwave	MTS8310	Ver. 2.0.0.0	/	/
13	Rohde & Schwarz SFU Broadcast Test System	R&S	SFU	101017	/	2025/6/28
14	Temperature humidity chamber	Hongjing	TH-80CH	DG-15174	/	2025/6/28
15	234G Automatic test software	Microwave	MTS8200	Ver. 2.0.0.0	/	/
16	966 chamber	C.R.T.	966	/	/	2027/6/21
17	Receiver	R&S	ESPI	100362	RF_ATTEN_7 (104489/003)	2025/6/28
18	Amplifier	HP	8447E	2945A02747	/	2025/6/28
19	Amplifier	Agilent	8449B	3008A01838	/	2025/6/28
20	TRILOG Broadband Antenna	Schwarzbeck	VULB 9168	00869	/	2025/6/28
21	Double Ridged Broadband Horn Antenna	Schwarzbeck	BBHA9120D	01911	/	2025/6/28

22	EMI test software	Fala	EZ-EMC	FA-03A2 RE	/	/
23	Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-224	/	2025/6/28
24	loop antenna	ZHINAN	ZN30900A	GTS534	/	/
25	40G Horn antenna	A/H/System	SAS-574	588	/	2025/6/28
26	Amplifier	AEROFLEX	Aeroflex	097	/	2025/6/28
27	Power Meter	KEYSIGHT	N1912AP	N/A	A.05.00	2025/6/28

6. RF EXPOSURE

6.1 Standard Applicable

According to §1.1307 and §2.1091, §2.1093, the portable transmitter must comply the RF exposure requirements.

6.2 Test Result

This product complied with the requirement of the RF exposure, please see the RF Exposure report.

7. RF OUTPUT POWER

7.1 Standard Applicable

According to §22.913(a)(2), the ERP of mobile and portable stations transmitters and auxiliary test transmitters must not exceed 7 Watts.

According to §24.232(c), mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

According to §27.50(d)(4), 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.

According to §27.50(c)(10), portable stations (hand-held devices) in the 698-746 MHz band are limited to 3 watts ERP.

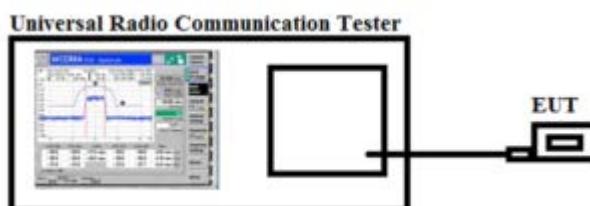
According to §27.50(h)(2), Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

According to §27.50(b)(10), Portable stations (hand-held devices) transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts ERP.

According to §27.50(a)(3), For mobile and portable stations transmitting in the 2305-2315 MHz band or the 2350-2360 MHz band, the average EIRP must not exceed 50 milliwatts within any 1 megahertz of authorized bandwidth, *except that* for mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth.

7.2 Test Procedure

Conducted output power test method:



Radiated power test method:

1. The setup of EUT is according with per ANSI/TIA Standard 603E and ANSI C63.26 measurement procedure.
2. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.
3. The frequency range up to tenth harmonic of the fundamental frequency was investigated.
4. Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

7.3 Summary of Test Results/Plots

Please refer to Appendix 1: Conducted output power

Test result: Pass

8. PEAK-TO-AVERAGE RATIO (PAR) OF TRANSMITTER

8.1 Standard Applicable

According to §22.913(d),

Power measurement. Measurement of the ERP of Cellular base transmitters and repeaters must be made using an average power measurement technique. The peak-to-average ratio (PAR) of the transmission must not exceed 13 dB.

According to §24.232(d), power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (e) of this section. In both instances, equipment employed must be authorized in accordance with the provisions of §24.51, in measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

According to §27.50(d), 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.

According to §27.50(a) (1), For base and fixed stations transmitting in the 2305-2315 MHz band or the 2350-2360 MHz band, 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.

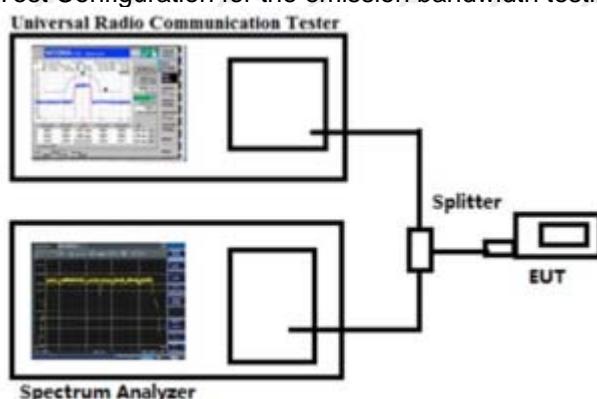
corresponding to the highest PAPR expected during periods of continuous transmission.

8.2 Test Procedure

According with KDB 971168

1. The signal analyzer's CCDF measurement profile is enabled
2. Frequency = carrier center frequency
3. Measurement BW > Emission bandwidth of signal
4. The signal analyzer was set to collect one million samples to generate the CCDF curve
5. The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms. For burst transmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power

Test Configuration for the emission bandwidth testing:



8.3 Summary of Test Results

Please refer to Appendix 3: Peak-to-Average Ratio

Test result: Pass

9. EMISSION BANDWIDTH

9.1 Standard Applicable

According to §22.917(b), the emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

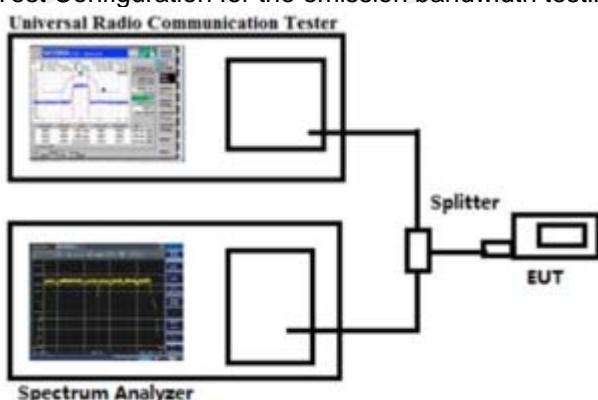
According to §24.238(b), the emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

According to §27.53, the emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

9.2 Test Procedure

According to §22.917(b), the emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

Test Configuration for the emission bandwidth testing:



9.3 Summary of Test Results/Plots

Please refer to Appendix 4: 26dB Bandwidth and Occupied Bandwidth

Test result: Pass

10. OUT OF BAND EMISSIONS AT ANTENNA TERMINAL

10.1 Standard Applicable

According to §22.917(a), the power of any emissions 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.

According to §24.238(a), 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.

According to §27.53 (c) For operations in the 746-758 MHz band and the 776-788 MHz band, 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 any frequency outside the 746-758 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;

(2) 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;

(3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $76 + 10 \log(P)$ dB in a 6.25 kHz band segment, for base and fixed stations;

(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;

(5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed;

(6) Compliance with the provisions of paragraphs (c)(3) and (c)(4) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

According to §27.53 (f) For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions 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 the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

According to §27.53(h), the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB.

According to §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.

According to §27.53(m)(4), for mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log(P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log(P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log(P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log(P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log(P)$ dB at or below 2490.5 MHz.

According to §27.53(a)(2), For base and fixed stations' operations in the 2305-2320 MHz band and the 2345-2360 MHz band:

(1) By a factor of not less than $43 + 10 \log(P)$ dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, and not less than

75 + 10 log (P) dB on all frequencies between 2320 and 2345 MHz;

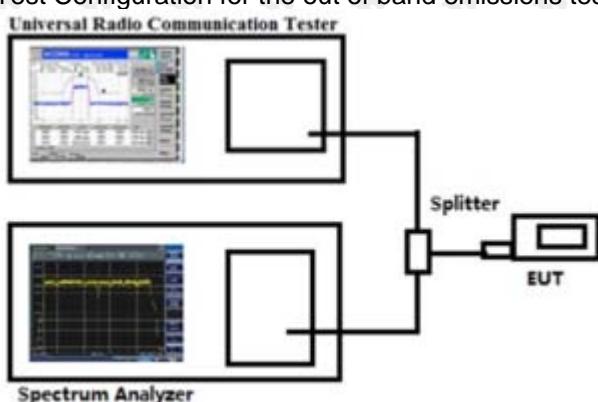
(2) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305 MHz, 70 + 10 log (P) dB on all frequencies between 2287.5 and 2300 MHz, 72 + 10 log (P) dB on all frequencies between 2285 and 2287.5 MHz, and 75 + 10 log (P) dB below 2285 MHz;

(3) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2362.5 MHz, 55 + 10 log (P) dB on all frequencies between 2362.5 and 2365 MHz, 70 + 10 log (P) dB on all frequencies between 2365 and 2367.5 MHz, 72 + 10 log (P) dB on all frequencies between 2367.5 and 2370 MHz, and 75 + 10 log (P) dB above 2370 MHz.

10.2 Test Procedure

The RF output terminal of the transmitter was connected to the input of the spectrum analyzer via a suitable attenuation. The RBW of the spectrum analyzer was set to 100kHz and 1MHz for the scan frequency from 30MHz to 1GHz and the scan frequency from 1GHz to up to 10 th harmonic.

Test Configuration for the out of band emissions testing:



10.3 Summary of Test Results/Plots

Please refer to Appendix 5 & 6: Band Edge & Conducted Spurious Emission

Test result: Pass

11. SPURIOUS RADIATED EMISSIONS

11.1 Standard Applicable

According to §22.917(a), the power of any emissions 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.

According to §24.238(a), 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.

According to §27.53 (c) For operations in the 746-758 MHz band and the 776-788 MHz band, 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:

(6) On any frequency outside the 746-758 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;

(7) 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;

(8) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $76 + 10 \log(P)$ dB in a 6.25 kHz band segment, for base and fixed stations;

(9) 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;

(10) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed;

(6) Compliance with the provisions of paragraphs (c)(3) and (c)(4) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

According to §27.53 (f) For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions 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 the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

According to §27.53(h), the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB.

According to §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.

According to §27.53(m)(4), for mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log(P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log(P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log(P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log(P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log(P)$ dB at or below 2490.5 MHz.

According to §27.53(a)(2), For base and fixed stations' operations in the 2305-2320 MHz band and the 2345-2360 MHz band:

(1) By a factor of not less than $43 + 10 \log (P)$ dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, and not less than $75 + 10 \log (P)$ dB on all frequencies between 2320 and 2345 MHz;

(2) By a factor of not less than $43 + 10 \log (P)$ dB on all frequencies between 2300 and 2305 MHz, $70 + 10 \log (P)$ dB on all frequencies between 2287.5 and 2300 MHz, $72 + 10 \log (P)$ dB on all frequencies between 2285 and 2287.5 MHz, and $75 + 10 \log (P)$ dB below 2285 MHz;

(3) By a factor of not less than $43 + 10 \log (P)$ dB on all frequencies between 2360 and 2362.5 MHz, $55 + 10 \log (P)$ dB on all frequencies between 2362.5 and 2365 MHz, $70 + 10 \log (P)$ dB on all frequencies between 2365 and 2367.5 MHz, $72 + 10 \log (P)$ dB on all frequencies between 2367.5 and 2370 MHz, and $75 + 10 \log (P)$ dB above 2370 MHz.

11.2 Test Procedure

1. The setup of EUT is according with per ANSI/TIA-603-E and ANSI C63.4-2014 measurement procedure.
2. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.
3. The frequency range up to tenth harmonic of the fundamental frequency was investigated.
4. Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious attenuation limit in dB = $43 + 10 \log 10$ (power out in Watts)

11.3 Summary of Test Results/Plots

Note: 1. this EUT was tested in 3 orthogonal positions and the worst case position data was reported.
2. All test modes (different bandwidth and different modulation) are performed, but only the worst case is recorded in this report.

Test Data:
QPSK

Band 2 18607 channel/BW1.4(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1339.92	158	343	-56.94	-13	-43.94	Pass	H
1653.64	147	119	-49.03	-13	-36.03	Pass	H
3867.86	152	331	-45.40	-13	-32.40	Pass	H
5948.39	149	97	-45.42	-13	-32.42	Pass	H
6575.84	147	216	-41.68	-13	-28.68	Pass	H
8019.17	157	156	-44.88	-13	-31.88	Pass	H
1131.58	149	291	-53.09	-13	-40.09	Pass	V
1371.43	141	46	-57.95	-13	-44.95	Pass	V
3530.92	153	104	-48.37	-13	-35.37	Pass	V
3872.05	156	302	-49.81	-13	-36.81	Pass	V
5802.15	144	178	-46.44	-13	-33.44	Pass	V
6645.26	155	112	-44.82	-13	-31.82	Pass	V
Band 2 18900 channel/BW1.4(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1386.55	150	304	-56.31	-13	-43.31	Pass	H
1778.43	146	289	-49.45	-13	-36.45	Pass	H
3964.15	150	343	-50.42	-13	-37.42	Pass	H
5824.30	146	84	-44.63	-13	-31.63	Pass	H
6549.87	149	259	-50.90	-13	-37.90	Pass	H
8060.70	151	209	-47.40	-13	-34.40	Pass	H
1140.59	149	21	-52.61	-13	-39.61	Pass	V
1357.17	148	143	-56.15	-13	-43.15	Pass	V
3676.35	147	310	-56.65	-13	-43.65	Pass	V
3943.30	148	262	-53.61	-13	-40.61	Pass	V
5844.41	150	255	-51.25	-13	-38.25	Pass	V
6599.91	150	307	-49.68	-13	-36.68	Pass	V

Band 2 19193 channel/BW1.4(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1344.22	146	306	-54.37	-13	-41.37	Pass	H
1767.91	155	186	-49.58	-13	-36.58	Pass	H
3805.13	146	32	-45.72	-13	-32.72	Pass	H
5822.52	147	157	-43.63	-13	-30.63	Pass	H
6477.89	150	40	-41.74	-13	-28.74	Pass	H
7990.68	150	300	-45.30	-13	-32.30	Pass	H
1199.34	152	9	-57.79	-13	-44.79	Pass	V
1355.92	150	345	-58.62	-13	-45.62	Pass	V
3506.67	151	101	-49.94	-13	-36.94	Pass	V
3971.53	153	286	-46.03	-13	-33.03	Pass	V
5871.14	145	264	-41.32	-13	-28.32	Pass	V
6567.25	149	222	-47.34	-13	-34.34	Pass	V

16QAM

Band 2 18607 channel/BW1.4(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1275.28	148	177	-56.58	-13	-43.58	Pass	H
1598.03	149	52	-46.65	-13	-33.65	Pass	H
3967.32	153	265	-46.55	-13	-33.55	Pass	H
5939.04	151	140	-42.78	-13	-29.78	Pass	H
6585.36	150	344	-46.60	-13	-33.60	Pass	H
7899.52	145	346	-39.35	-13	-26.35	Pass	H
1273.09	149	145	-50.62	-13	-37.62	Pass	V
1502.90	146	318	-53.19	-13	-40.19	Pass	V
3686.55	154	158	-53.25	-13	-40.25	Pass	V
3874.72	148	172	-52.82	-13	-39.82	Pass	V
5856.79	148	211	-47.72	-13	-34.72	Pass	V
6549.28	151	61	-48.60	-13	-35.60	Pass	V

Band 2 18900 channel/BW1.4(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1420.45	149	48	-52.75	-13	-41.45	Pass	H
1706.48	154	89	-48.51	-13	-37.85	Pass	H
3927.96	150	156	-50.10	-13	-35.2	Pass	H
5904.18	152	149	-39.55	-13	-30.39	Pass	H
6567.29	150	134	-44.24	-13	-32.24	Pass	H
8044.11	145	263	-42.83	-13	-30.22	Pass	H
1206.53	152	49	-59.28	-13	-44.9	Pass	V
1321.41	148	35	-53.01	-13	-43.63	Pass	V
3625.81	152	347	-45.82	-13	-35.94	Pass	V
3944.08	152	251	-50.66	-13	-36.01	Pass	V
5823.41	153	290	-43.71	-13	-33.75	Pass	V
6469.84	149	78	-42.92	-13	-32.41	Pass	V
Band 2 19193 channel/BW1.4(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1244.84	145	172	-56.36	-13	-43.36	Pass	H
1618.68	149	163	-49.84	-13	-36.84	Pass	H
3981.28	153	10	-41.73	-13	-28.73	Pass	H
5824.58	151	117	-45.45	-13	-32.45	Pass	H
6428.29	154	233	-41.61	-13	-28.61	Pass	H
8037.61	155	47	-42.28	-13	-29.28	Pass	H
1181.79	150	114	-53.78	-13	-40.78	Pass	V
1543.63	153	308	-60.58	-13	-47.58	Pass	V
3442.88	148	167	-47.52	-13	-34.52	Pass	V
3859.33	145	354	-51.15	-13	-38.15	Pass	V
5814.56	147	114	-51.37	-13	-38.37	Pass	V
6648.07	155	117	-42.23	-13	-29.23	Pass	V

Note:

- 1) Scan from 9kHz to 40GHz, the disturbance above 13GHz and below 1GHz are attenuated more than 20 dB below the applicable limit and not required to be reported, the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.
- 2) Tested with all kind of bandwidth, RB Size and RB Offset, Found the 1.4MHz with full RB were the worst case; and then Only the worst case is recorded in the report.

QPSK

Band 4 19957 channel/BW1.4(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1385.50	151	74	-53.98	-13	-40.98	Pass	H
1706.93	153	178	-48.29	-13	-35.29	Pass	H
3906.93	150	170	-46.07	-13	-33.07	Pass	H
5857.58	153	85	-46.49	-13	-33.49	Pass	H
6488.79	146	57	-45.07	-13	-32.07	Pass	H
8013.77	150	332	-44.41	-13	-31.41	Pass	H
1224.10	152	127	-53.75	-13	-40.75	Pass	V
1386.17	150	25	-54.43	-13	-41.43	Pass	V
3564.32	151	245	-52.51	-13	-39.51	Pass	V
3817.82	150	130	-49.21	-13	-36.21	Pass	V
5824.81	154	192	-46.10	-13	-33.10	Pass	V
6672.99	154	303	-45.52	-13	-32.52	Pass	V
Band 4 20175 channel/BW1.4(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1290.45	151	303	-53.24	-13	-40.24	Pass	H
1656.82	153	98	-51.12	-13	-38.12	Pass	H
3831.67	153	82	-44.61	-13	-31.61	Pass	H
5954.94	152	317	-43.72	-13	-30.72	Pass	H
6503.44	147	358	-44.97	-13	-31.97	Pass	H
8057.13	151	129	-42.88	-13	-29.88	Pass	H
1234.61	153	140	-54.30	-13	-41.30	Pass	V
1338.02	155	160	-56.45	-13	-43.45	Pass	V
3437.49	154	191	-51.82	-13	-38.82	Pass	V
3947.85	154	28	-49.96	-13	-36.96	Pass	V
5890.00	145	62	-45.48	-13	-32.48	Pass	V
6601.20	154	257	-42.33	-13	-29.33	Pass	V

Band 4 20393 channel/BW1.4(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1413.08	148	343	-53.33	-13	-40.33	Pass	H
1766.30	151	4	-45.34	-13	-32.34	Pass	H
3888.63	154	322	-45.68	-13	-32.68	Pass	H
5802.80	154	216	-39.10	-13	-26.10	Pass	H
6447.96	152	146	-42.79	-13	-29.79	Pass	H
8019.12	151	348	-44.66	-13	-31.66	Pass	H
1178.70	155	37	-52.86	-13	-39.86	Pass	V
1523.31	151	139	-52.64	-13	-39.64	Pass	V
3464.24	155	4	-48.04	-13	-35.04	Pass	V
3870.10	154	352	-45.02	-13	-32.02	Pass	V
5852.83	152	249	-45.35	-13	-32.35	Pass	V
6519.74	151	300	-46.99	-13	-33.99	Pass	V

16QAM

Band 4 19957 channel/BW1.4(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1330.73	149	74	-54.98	-13	-41.98	Pass	H
1712.00	149	325	-49.78	-13	-36.78	Pass	H
3831.69	153	250	-48.36	-13	-35.36	Pass	H
5945.85	152	275	-42.64	-13	-29.64	Pass	H
6471.39	150	311	-46.06	-13	-33.06	Pass	H
7919.47	154	130	-45.92	-13	-32.92	Pass	H
1250.52	148	210	-58.69	-13	-45.69	Pass	V
1537.64	146	259	-52.51	-13	-39.51	Pass	V
3583.44	149	113	-47.95	-13	-34.95	Pass	V
3877.80	150	117	-50.23	-13	-37.23	Pass	V
5758.02	151	281	-47.53	-13	-34.53	Pass	V
6514.70	152	141	-49.54	-13	-36.54	Pass	V

Band 4 20175 channel/BW1.4(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1327.15	147	14	-55.11	-13	-42.11	Pass	H
1792.97	150	115	-55.45	-13	-42.45	Pass	H
3883.77	149	350	-47.50	-13	-34.50	Pass	H
5922.11	150	313	-44.23	-13	-31.23	Pass	H
6380.85	152	267	-48.57	-13	-35.57	Pass	H
8064.83	150	57	-42.99	-13	-29.99	Pass	H
1137.89	154	206	-53.61	-13	-40.61	Pass	V
1416.09	149	42	-60.67	-13	-47.67	Pass	V
3662.17	155	250	-55.03	-13	-42.03	Pass	V
3896.50	152	212	-54.37	-13	-41.37	Pass	V
5895.91	152	138	-54.22	-13	-41.22	Pass	V
6576.40	155	37	-45.20	-13	-32.20	Pass	V
Band 4 20393 channel/BW1.4(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1275.36	155	126	-59.64	-13	-46.64	Pass	H
1576.43	154	101	-48.16	-13	-35.16	Pass	H
3822.35	149	18	-43.06	-13	-30.06	Pass	H
5848.16	152	203	-45.13	-13	-32.13	Pass	H
6503.83	147	108	-41.82	-13	-28.82	Pass	H
7911.14	150	311	-46.28	-13	-33.28	Pass	H
1177.19	147	78	-53.96	-13	-40.96	Pass	V
1339.61	155	79	-56.64	-13	-43.64	Pass	V
3432.36	153	351	-52.56	-13	-39.56	Pass	V
3824.85	149	212	-45.38	-13	-32.38	Pass	V
5735.19	153	28	-43.05	-13	-30.05	Pass	V
6481.99	150	223	-49.02	-13	-36.02	Pass	V

Note:

3) Scan from 9kHz to 40GHz, the disturbance above 13GHz and below 1GHz are attenuated more than 20 dB below the applicable limit and not required to be reported, the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

4) Tested with all kind of bandwidth, RB Size and RB Offset, Found the 1.4MHz with full RB were the worst case; and then Only the worst case is recorded in the report.

QPSK

Band 5 20407 channel/BW1.4(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1242.97	159	342	-55.18	-13	-42.18	Pass	H
1662.96	152	358	-50.30	-13	-37.30	Pass	H
3998.84	160	197	-45.48	-13	-32.48	Pass	H
5952.37	145	170	-44.21	-13	-31.21	Pass	H
6582.74	149	181	-41.44	-13	-28.44	Pass	H
8055.84	153	119	-44.42	-13	-31.42	Pass	H
1124.85	149	316	-56.30	-13	-43.30	Pass	V
1389.51	140	15	-57.81	-13	-44.81	Pass	V
3578.57	155	250	-50.15	-13	-37.15	Pass	V
3747.84	144	187	-52.59	-13	-39.59	Pass	V
5790.33	144	165	-50.04	-13	-37.04	Pass	V
6498.58	156	342	-47.22	-13	-34.22	Pass	V
Band 5 20525 channel/BW1.4(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1347.29	150	60	-55.01	-13	-42.01	Pass	H
1813.22	146	241	-51.29	-13	-38.29	Pass	H
3964.97	150	157	-51.94	-13	-38.94	Pass	H
5918.94	146	96	-44.91	-13	-31.91	Pass	H
6458.43	149	178	-46.28	-13	-33.28	Pass	H
8065.80	151	265	-51.44	-13	-38.44	Pass	H
1317.81	149	163	-52.65	-13	-39.65	Pass	V
1459.07	148	113	-56.49	-13	-43.49	Pass	V
3623.37	147	86	-56.76	-13	-43.76	Pass	V
3830.26	148	112	-51.32	-13	-38.32	Pass	V
5835.47	150	274	-48.37	-13	-35.37	Pass	V
6539.67	150	285	-46.22	-13	-33.22	Pass	V

Band 5 20643 channel/BW1.4(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1403.44	153	275	-53.91	-13	-40.91	Pass	H
1618.00	152	104	-51.28	-13	-38.28	Pass	H
3887.06	152	98	-44.37	-13	-31.37	Pass	H
5985.40	148	177	-38.74	-13	-25.74	Pass	H
6586.03	148	166	-41.19	-13	-28.19	Pass	H
8036.19	150	356	-44.95	-13	-31.95	Pass	H
1157.74	153	4	-53.57	-13	-40.57	Pass	V
1375.42	145	231	-58.92	-13	-45.92	Pass	V
3624.53	149	181	-55.34	-13	-42.34	Pass	V
3940.62	149	71	-48.21	-13	-35.21	Pass	V
5744.99	154	248	-45.28	-13	-32.28	Pass	V
6646.45	151	9	-46.68	-13	-33.68	Pass	V

16QAM

Band 5 20407 channel/BW1.4(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1233.97	148	346	-60.18	-13	-47.18	Pass	H
1622.16	146	46	-46.68	-13	-33.68	Pass	H
3909.33	154	265	-48.82	-13	-35.82	Pass	H
5915.94	148	238	-45.36	-13	-32.36	Pass	H
6500.89	149	68	-41.28	-13	-28.28	Pass	H
7996.48	147	305	-43.88	-13	-30.88	Pass	H
1165.20	152	324	-51.41	-13	-38.41	Pass	V
1400.07	148	283	-54.83	-13	-41.83	Pass	V
3664.00	151	204	-54.09	-13	-41.09	Pass	V
3884.34	153	96	-52.11	-13	-39.11	Pass	V
5812.54	154	197	-45.49	-13	-32.49	Pass	V
6588.51	147	60	-50.69	-13	-37.69	Pass	V

Band 5 20525 channel/BW1.4(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1406.69	154	132	-53.39	-13	-41.45	Pass	H
1644.58	154	352	-48.48	-13	-37.85	Pass	H
3819.54	152	317	-51.10	-13	-35.2	Pass	H
5950.37	152	335	-45.94	-13	-30.39	Pass	H
6536.46	154	225	-42.84	-13	-32.24	Pass	H
8158.00	151	260	-40.61	-13	-30.22	Pass	H
1193.90	149	135	-60.10	-13	-44.9	Pass	V
1440.46	147	144	-58.61	-13	-43.63	Pass	V
3479.33	152	31	-46.99	-13	-35.94	Pass	V
3772.67	152	164	-48.31	-13	-36.01	Pass	V
5881.58	155	339	-47.17	-13	-33.75	Pass	V
6562.07	154	326	-44.32	-13	-32.41	Pass	V
Band 5 20643 channel/BW1.4(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1316.36	151	37	-53.11	-13	-40.11	Pass	H
1755.41	152	225	-52.10	-13	-39.10	Pass	H
3856.09	155	263	-43.52	-13	-30.52	Pass	H
5899.25	150	110	-42.95	-13	-29.95	Pass	H
6555.36	152	272	-42.16	-13	-29.16	Pass	H
8013.58	152	215	-44.04	-13	-31.04	Pass	H
1292.16	152	311	-56.37	-13	-43.37	Pass	V
1389.73	145	143	-56.68	-13	-43.68	Pass	V
3610.04	147	136	-49.98	-13	-36.98	Pass	V
3858.58	149	189	-48.48	-13	-35.48	Pass	V
5804.44	151	157	-47.42	-13	-34.42	Pass	V
6472.64	154	357	-42.27	-13	-29.27	Pass	V

Note:

5) Scan from 9kHz to 40GHz, the disturbance above 13GHz and below 1GHz are attenuated more than 20 dB below the applicable limit and not required to be reported, the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

6) Tested with all kind of bandwidth, RB Size and RB Offset, Found the 1.4MHz with full RB were the worst case; and then Only the worst case is recorded in the report.

QPSK

Band 7 20775 channel/BW 5(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1353.06	152	219	-59.15	-13	-46.15	Pass	H
1698.19	151	167	-45.15	-13	-32.15	Pass	H
3870.62	154	294	-51.64	-13	-38.64	Pass	H
5880.65	150	250	-44.36	-13	-31.36	Pass	H
6501.96	151	261	-47.24	-13	-34.24	Pass	H
7955.36	150	138	-39.34	-13	-26.34	Pass	H
1184.64	147	255	-53.56	-13	-40.56	Pass	V
1357.97	150	110	-54.24	-13	-41.24	Pass	V
3618.65	145	154	-50.25	-13	-37.25	Pass	V
3927.99	150	191	-48.35	-13	-35.35	Pass	V
5943.88	153	346	-47.60	-13	-34.60	Pass	V
6548.92	147	87	-51.18	-13	-38.18	Pass	V

Band 7 21100 channel/BW 5 (middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1405.18	150	358	-52.98	-13	-39.98	Pass	H
1799.03	155	306	-50.68	-13	-37.68	Pass	H
3913.75	149	64	-46.99	-13	-33.99	Pass	H
5925.43	146	288	-42.93	-13	-29.93	Pass	H
6555.49	152	86	-43.61	-13	-30.61	Pass	H
8009.62	154	175	-44.67	-13	-31.67	Pass	H
1129.13	148	329	-58.03	-13	-45.03	Pass	V
1303.65	152	348	-61.58	-13	-48.58	Pass	V
3489.95	152	10	-46.24	-13	-33.24	Pass	V
3781.46	152	269	-44.78	-13	-31.78	Pass	V
5823.81	146	164	-42.37	-13	-29.37	Pass	V
6532.60	147	230	-45.32	-13	-32.32	Pass	V

Band 7 21425 channel/BW 5 (highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1255.88	152	269	-53.15	-13	-40.15	Pass	H
1681.41	149	60	-47.73	-13	-34.73	Pass	H
3810.29	146	197	-40.29	-13	-27.29	Pass	H
5860.12	154	54	-39.91	-13	-26.91	Pass	H
6430.13	146	64	-42.59	-13	-29.59	Pass	H
8103.48	154	30	-42.61	-13	-29.61	Pass	H
1160.85	145	77	-56.93	-13	-43.93	Pass	V
1408.73	150	327	-55.53	-13	-42.53	Pass	V
3613.66	153	142	-53.10	-13	-40.10	Pass	V
3803.73	151	58	-48.82	-13	-35.82	Pass	V
5707.25	147	139	-44.68	-13	-31.68	Pass	V
6587.95	154	143	-49.84	-13	-36.84	Pass	V

16QAM

Band 7 20775 channel/BW 5 (lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1251.01	145	289	-55.83	-13	-42.83	Pass	H
1762.56	148	310	-51.24	-13	-38.24	Pass	H
3893.75	150	328	-48.41	-13	-35.41	Pass	H
5778.50	147	250	-49.12	-13	-36.12	Pass	H
6527.91	152	39	-49.25	-13	-36.25	Pass	H
7954.63	152	45	-47.85	-13	-34.85	Pass	H
1307.88	149	295	-53.77	-13	-40.77	Pass	V
1463.21	153	189	-56.44	-13	-43.44	Pass	V
3514.98	150	206	-47.55	-13	-34.55	Pass	V
3828.91	147	264	-46.99	-13	-33.99	Pass	V
5710.20	150	319	-46.34	-13	-33.34	Pass	V
6616.90	148	174	-50.88	-13	-37.88	Pass	V

Band 7 21100 channel/BW 5 (middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1230.80	149	40	-53.76	-13	-40.76	Pass	H
1763.87	148	235	-55.70	-13	-42.70	Pass	H
3779.92	153	251	-46.42	-13	-33.42	Pass	H
5934.07	151	1	-42.82	-13	-29.82	Pass	H
6548.09	147	160	-51.59	-13	-38.59	Pass	H
8054.54	153	239	-43.92	-13	-30.92	Pass	H
1323.35	151	99	-55.42	-13	-42.42	Pass	V
1350.15	147	257	-61.60	-13	-48.60	Pass	V
3626.97	151	3	-52.18	-13	-39.18	Pass	V
4007.62	146	73	-50.77	-13	-37.77	Pass	V
5857.78	146	152	-53.16	-13	-40.16	Pass	V
6501.66	147	184	-46.92	-13	-33.92	Pass	V

Band 7 21425 channel/BW 5 (highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1294.92	149	6	-58.10	-13	-45.10	Pass	H
1573.49	153	153	-54.19	-13	-41.19	Pass	H
3774.14	153	297	-47.72	-13	-34.72	Pass	H
5824.94	150	257	-39.23	-13	-26.23	Pass	H
6445.09	147	176	-46.00	-13	-33.00	Pass	H
7928.48	147	7	-45.15	-13	-32.15	Pass	H
1222.48	152	198	-54.01	-13	-41.01	Pass	V
1329.55	148	292	-51.10	-13	-38.10	Pass	V
3472.09	150	332	-53.50	-13	-40.50	Pass	V
3839.25	148	347	-47.01	-13	-34.01	Pass	V
5786.32	146	93	-46.76	-13	-33.76	Pass	V
6543.57	154	359	-44.62	-13	-31.62	Pass	V

Note:

7) Scan from 9kHz to 40GHz, the disturbance above 13GHz and below 1GHz are attenuated more than 20 dB below the applicable limit and not required to be reported, the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

8) Tested with all kind of bandwidth, RB Size and RB Offset, Found the 1.4MHz with full RB were the worst case; and then Only the worst case is recorded in the report.

QPSK

Band 66 131979 channel/BW1.4(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1335.15	157	74	-57.03	-13	-44.03	Pass	H
1612.23	148	20	-47.81	-13	-34.81	Pass	H
3997.21	143	113	-48.08	-13	-35.08	Pass	H
5813.49	153	328	-45.65	-13	-32.65	Pass	H
6527.49	158	329	-43.08	-13	-30.08	Pass	H
8006.21	152	140	-41.09	-13	-28.09	Pass	H
1249.12	153	304	-52.31	-13	-39.31	Pass	V
1382.01	147	170	-59.01	-13	-46.01	Pass	V
3603.46	151	331	-51.68	-13	-38.68	Pass	V
3912.44	149	7	-50.87	-13	-37.87	Pass	V
5821.67	151	318	-49.53	-13	-36.53	Pass	V
6563.81	147	316	-46.72	-13	-33.72	Pass	V
Band 66 132322 channel/BW1.4(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1323.19	150	320	-55.51	-13	-42.51	Pass	H
1684.25	146	163	-53.27	-13	-40.27	Pass	H
3848.25	150	25	-49.10	-13	-36.10	Pass	H
5815.03	146	300	-44.61	-13	-31.61	Pass	H
6394.18	149	271	-48.10	-13	-35.10	Pass	H
7973.59	151	289	-48.36	-13	-35.36	Pass	H
1148.84	149	32	-53.14	-13	-40.14	Pass	V
1323.71	148	136	-61.52	-13	-48.52	Pass	V
3545.20	147	269	-53.44	-13	-40.44	Pass	V
3947.10	148	145	-50.34	-13	-37.34	Pass	V
5766.84	150	246	-49.85	-13	-36.85	Pass	V
6438.90	150	354	-50.03	-13	-37.03	Pass	V

Band 66 132665 channel/BW1.4(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1310.14	152	26	-58.33	-13	-45.33	Pass	H
1606.60	152	231	-50.87	-13	-37.87	Pass	H
3853.48	151	96	-43.10	-13	-30.10	Pass	H
5836.12	146	276	-38.62	-13	-25.62	Pass	H
6607.86	147	133	-44.17	-13	-31.17	Pass	H
8040.48	146	122	-43.18	-13	-30.18	Pass	H
1280.19	155	342	-55.91	-13	-42.91	Pass	V
1462.36	147	134	-57.14	-13	-44.14	Pass	V
3609.95	148	313	-54.02	-13	-41.02	Pass	V
3893.07	145	173	-46.27	-13	-33.27	Pass	V
5766.00	147	268	-41.90	-13	-28.90	Pass	V
6490.03	152	314	-50.22	-13	-37.22	Pass	V

16QAM

Band 66 131979 channel/BW1.4(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1312.84	152	257	-56.21	-13	-43.21	Pass	H
1600.60	147	161	-44.79	-13	-31.79	Pass	H
3878.96	146	273	-48.53	-13	-35.53	Pass	H
5853.12	147	29	-44.05	-13	-31.05	Pass	H
6467.05	150	246	-45.62	-13	-32.62	Pass	H
7989.33	155	103	-41.59	-13	-28.59	Pass	H
1206.59	153	66	-50.61	-13	-37.61	Pass	V
1335.57	154	323	-57.58	-13	-44.58	Pass	V
3559.98	153	115	-51.94	-13	-38.94	Pass	V
3831.84	149	5	-52.68	-13	-39.68	Pass	V
5940.32	153	285	-42.61	-13	-29.61	Pass	V
6553.30	149	61	-51.67	-13	-38.67	Pass	V

Band 66 132322 channel/BW1.4(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1373.74	152	231	-52.94	-13	-41.45	Pass	H
1683.39	152	28	-51.16	-13	-37.85	Pass	H
3818.81	153	48	-46.68	-13	-35.2	Pass	H
5843.14	150	68	-41.05	-13	-30.39	Pass	H
6566.35	151	157	-42.61	-13	-32.24	Pass	H
7960.35	147	358	-43.69	-13	-30.22	Pass	H
1273.31	147	191	-56.75	-13	-44.9	Pass	V
1325.19	153	108	-56.00	-13	-43.63	Pass	V
3483.93	148	286	-51.30	-13	-35.94	Pass	V
3778.17	155	331	-46.61	-13	-36.01	Pass	V
5774.98	151	262	-44.29	-13	-33.75	Pass	V
6564.04	147	210	-45.09	-13	-32.41	Pass	V
Band 66 132665 channel/BW1.4(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1280.02	150	102	-56.27	-13	-43.27	Pass	H
1653.79	146	110	-47.90	-13	-34.90	Pass	H
3845.41	153	302	-46.78	-13	-33.78	Pass	H
5952.37	148	30	-43.82	-13	-30.82	Pass	H
6443.93	153	298	-42.07	-13	-29.07	Pass	H
8001.45	152	205	-43.15	-13	-30.15	Pass	H
1171.67	151	96	-51.86	-13	-38.86	Pass	V
1419.08	155	223	-60.08	-13	-47.08	Pass	V
3632.79	151	209	-51.49	-13	-38.49	Pass	V
3811.21	148	159	-50.84	-13	-37.84	Pass	V
5876.03	148	275	-49.55	-13	-36.55	Pass	V
6559.34	147	195	-48.04	-13	-35.04	Pass	V

Note:

9) Scan from 9kHz to 40GHz, the disturbance above 13GHz and below 1GHz are attenuated more than 20 dB below the applicable limit and not required to be reported, the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

10) Tested with all kind of bandwidth, RB Size and RB Offset, Found the 1.4MHz with full RB were the worst case; and then Only the worst case is recorded in the report.

12. FREQUENCY STABILITY

12.1 Standard Applicable

According to §22.355, §24.235, §27.54 the limit is 2.5ppm.

12.2 Test Procedure

According to §2.1055, the following test procedure was performed.

The Frequency Stability is measured directly with a Frequency Domain Analyzer. Frequency Deviation in ppm is calculated from the measured peak to peak value.

The Carrier Frequency Stability over Power Supply Voltage and over Temperature is measured with a Frequency Domain Analyzer in histogram mode

12.3 Summary of Test Results/Plots

Note: 1. Normal Voltage NV=DC4.2V; Low Voltage LV=DC3.78V; High Voltage HV=DC4.62V

Please refer to Appendix 2: Frequency Stability

Test result: Pass

***** END OF REPORT *****