TEST REPORT

Product Name:	Sharing Charging Cabinet
FCC ID:	2AZ77-T4
Trademark:	速绿
Model Number:	T4
Prepared For:	Hainan Palm Energy Media Co., Ltd
Address:	4F, Building B08, B Zone of Hainan Ecological Software Park of High-tech Industry Demonstration Zone, Old Town, Chengmai Country, Hainan, China
Manufacturer:	Shenzhen Huangzunnianhua Electric Co., Ltd
Address:	7F, 337 Changfeng Rd. , Changzhen Community, Yutang Street, Guangming District, Shenzhen, China
Prepared By:	Shenzhen CTB Testing Technology Co., Ltd.
Address:	Floor 1&2, Building A, No. 26 of Xinhe Road, Xinqiao Street, Baoan District, Shenzhen China
Sample Received Date:	May. 12, 2021
Sample tested Date:	May. 12, 2021 to May. 24, 2021
Issue Date:	May. 24, 2021
Report No.:	CTB210520023RFX
Test Standards	FCC Part 2, 27
Test Results	PASS
Remark:	This is LTE radio test report.

Compiled by:	Reviewed by:	Approved by:
Arron Liu	Bin Mei	Rita Xiao / Director

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(Note: N/A means not applicable)

1. VERSION

Report No.	Issue Date	Description	Approved
CTB2101520023RFX	May. 24, 2021	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 D01v02r02	PASS
Effective Radiated Power of Transmitter(EIRP)	Part 27.50 (a) (3)/Part27.50(h)(2)	TIA-603-E-2016 & KDB 971168 D01v02r02	PASS
peak-to-average ratio	Part 27.50(d)	KDB 971168 D01v02r02	PASS
99% & 26dB Occupied Bandwidth	Part 2.1049(h)	KDB 971168 D01v02r02	PASS
Band Edge at antenna terminals	Part 2.1051/ Part 27.53 (a) (4)/Part 27.53(m) (4)	KDB 971168 D01v02r02	PASS
Spurious emissions at antenna terminals	Part 2.1051/ Part 27.53 (a) (4)/Part 27.53(m) (4)	TIA-603-E-2016 & KDB 971168 D01v02r02	PASS
Field strength of spurious radiation	Part 2.1053/Part 27.53(m) (4)	TIA-603-E-2016 & KDB 971168 D01v02r02	PASS
Frequency stability	Part 2.1055/Part 27.54	TIA-603-E-2016 & KDB 971168 D01v02r02	PASS

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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 camber 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℃
frequency	1×10-7

4. PRODUCT INFORMATION AND TEST SETUP

4.1 Product Information

Model(s):	T4
Model Description:	N/A
Hardware Version:	V1.0
Software Version:	V1.0
Operation Frequency:	TDD-LTE BAND 38: 2570-2620MHz TDD-LTE BAND 40a: 2305-2315MHz TDD-LTE BAND 40b: 2350-2360MHz TDD-LTE BAND 41:2557.5-2652.5MHz
Max. RF output power:	TDD -LTE BAND 38: 24.09dBm TDD -LTE BAND 40:21.80dBm TDD -LTE BAND 41:24.16dBm
Type of Modulation:	QPSK, 16QAM
Antenna installation:	Integral antenna
Antenna Gain:	FDD-LTE Band 38:1dBi FDD-LTE Band 40:1dBi FDD-LTE Band 41:1dBi
Ratings:	INPUT:100-240V~50/60Hz 2A 140W

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

No.	Device Type	Brand	Model	Series No.	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	Test Frequency	Bandwidth (MHz)	Number [UL]	Frequency of Uplink(MHz)
FDD band 38	Low Range	5	37775	2572.5
		10	37800	2575
		15	37825	2577.5
		20	37850	2580
	Mid Range	5/10/15/20	38000	2595
	High Range	5	38225	2617.5
		10	38200	2615
		15	38175	2612.5
		20	38150	2610

Test Mode	Test Frequency	Bandwidth (MHz)	Number [UL]	Frequency of Uplink(MHz)
FDD band 40a	Low Range	5	38725	2307.5
	Mid Range	5/10	38750	2310
	High Range	5	38775	2312.5

Test Mode	Test Frequency	Bandwidth (MHz)	Number [UL]	Frequency of Uplink(MHz)
FDD band 40b	Low Range	5	39175	2352.5
	Mid Range	5/10	39200	2355.0
	High Range	5	39225	2357.5

Test Mode	Test Frequency	Bandwidth (MHz)	Number [UL]	Frequency of Uplink(MHz)
FDD band 41	Low Range	5	40265	2498.5
		10	40290	2501
		15	40315	2503.5
		20	40340	2506
	Mid Range	5/10/15/20	40740	2593
	High Range	5	41215	2687.5
		10	41190	2685
		15	41165	2682.5
		20	41140	2680

4.5 Test Environment

Humidity(%):	55
Atmospheric Pressure(kPa):	101.1
Normal Voltage(AC):	230
Normal Temperature(℃)	25
Low Temperature(℃)	0
High Temperature(℃)	40

5. TEST FACILITY AND TEST INSTRUMENT USED

5.1 Test Facility

All measurement facilities used to collect the measurement data are located at Floor 1&2, Building A, No. 26 of Xinhe Road, Xinqiao Street, Baoan District, Shenzhen 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

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Spectrum Analyzer	Agilent	N9020A	MY52090073	Sep. 28, 2020	Sep. 28, 2021
2	Power Sensor	Agilent	U2021XA	MY56120032	Sep. 28, 2020	Sep. 28, 2021
3	Power Sensor	Agilent	U2021XA	MY56120034	Sep. 28, 2020	Sep. 28, 2021
4	Communication test set	R&S	CMW500	108058	Sep. 28, 2020	Sep. 28, 2021
5	Spectrum Analyzer	R&S	FSP40	100550	Sep. 28, 2020	Sep. 28, 2021
6	Signal Generator	Agilent	N5181A	MY49060920	Sep. 28, 2020	Sep. 28, 2021
7	Signal Generator	Agilent	N5182A	MY47420195	Sep. 28, 2020	Sep. 28, 2021
8	Communication test set	Agilent	E5515C	MY50102567	Oct. 10, 2020	Oct. 10, 2021
9	band rejection filter	Shenxiang	MSF2400-2483.5MS-1154	20181015001	Sep. 28, 2020	Sep. 28, 2021
10	band rejection filter	Shenxiang	MSF5150-5850MS-1155	20181015001	Sep. 28, 2020	Sep. 28, 2021
11	band rejection filter	Xingbo	XBLBQ-DZA120	190821-1-1	Sep. 28, 2020	Sep. 28, 2021
12	BT&WI-FI Automatic test software	Micowave	MTS8310	Ver. 2.0.0.0	\	\
13	Rohde & Schwarz SFU Broadcast Test System	R&S	SFU	101017	Sep. 28, 2020	Sep. 28, 2021
14	Temperature humidity chamber	Hongjing	TH-80CH	DG-15174	Sep. 28, 2020	Sep. 28, 2021
15	234G Automatic test software	Micowave	MTS8200	Ver. 2.0.0.0	\	\
16	966 chamber	C.R.T.	966 Room	966	Nov. 9, 2019	Nov. 08, 2022
17	Receiver	R&S	ESPI	100362	Sep. 28, 2020	Sep. 28, 2021

18	Amplifier	HP	8447E	2945A02747	Sep. 28, 2020	Sep. 28, 2021
19	Amplifier	Agilent	8449B	3008A01838	Sep. 28, 2020	Sep. 28, 2021
20	TRILOG Broadband Antenna	Schwarzbeck	VULB 9168	00869	Nov. 02, 2020	Nov. 01, 2021
21	Horn Antenna	Schwarzbeck	BBHA9120D	1911	Nov. 02, 2020	Nov. 01, 2021
22	Software	Fala	EZ-EMC	FA-03A2 RE	\	\
23	3-Loop Antenna	Daze	ZN30401	17014	Sep. 28, 2020	Sep. 28, 2021
24	loop antenna	ZHINAN	ZN30900A	/	Sep. 28, 2020	Sep. 28, 2021
25	Horn antenna	A/H/System	SAS-574	588	Sep. 28, 2020	Sep. 28, 2021
26	Amplifier	AEROFLEX	/	S/N/ 097	Sep. 28, 2020	Sep. 28, 2021

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

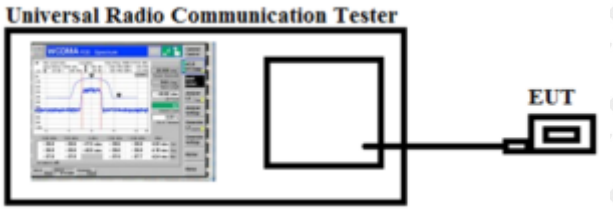
7.1 Standard Applicable

According to §27.50(H)(2), Mobile and other user stations. 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(A)(3), Mobile and portable stations. (i) 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. For mobile and portable stations using time division duplexing (TDD) technology, the duty cycle must not exceed 38 percent in the 2305-2315 MHz and 2350-2360 MHz bands. Mobile and portable stations using FDD technology are restricted to transmitting in the 2305-2315 MHz band. Power averaging shall not include intervals in which the transmitter is off.

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

Max. Radiated Power:

TDD-LTE Band 38

Channel Bandwidth: 5 MHz					
Modulation	Channel	Antenna Polar	E.i.r.p [dBm]	Limit (dBm)	Verdict
QPSK	LCH	V	20.84	<33.01	PASS
		H	20.91		
	MCH	V	20.68		PASS
		H	19.63		
	HCH	V	19.45		PASS
		H	19.46		
16QAM	LCH	V	21.43	<33.01	PASS
		H	21.70		
	MCH	V	21.54		PASS
		H	20.56		
	HCH	V	20.56		PASS
		H	20.55		
Channel Bandwidth: 10 MHz					
Modulation	Channel	Antenna Polar	E.i.r.p [dBm]	Limit (dBm)	Verdict
QPSK	LCH	V	21.60	<33.01	PASS
		H	21.80		
	MCH	V	21.45		PASS
		H	20.60		
	HCH	V	20.58		PASS
		H	20.59		
16QAM	LCH	V	20.58	<33.01	PASS
		H	20.40		
	MCH	V	20.47		PASS
		H	20.72		
	HCH	V	20.70		PASS
		H	20.57		
Channel Bandwidth: 15 MHz					

Modulation	Channel	Antenna Polar	E.i.r.p [dBm]	Limit (dBm)	Verdict
QPSK	LCH	V	20.56	<33.01	PASS
		H	20.60		
	MCH	V	20.55		PASS
		H	20.40		
	HCH	V	20.56		PASS
		H	20.56		
16QAM	LCH	V	20.68	<33.01	PASS
		H	20.63		
	MCH	V	20.64		PASS
		H	20.59		
	HCH	V	20.64		PASS
		H	20.41		
Channel Bandwidth: 20 MHz					
Modulation	Channel	Antenna Polar	E.i.r.p [dBm]	Limit (dBm)	Verdict
QPSK	LCH	V	20.53	<33.01	PASS
		H	20.29		
	MCH	V	20.40		PASS
		H	20.53		
	HCH	V	20.71		PASS
		H	20.49		
16QAM	LCH	V	20.16	<33.01	PASS
		H	20.41		
	MCH	V	20.00		PASS
		H	19.61		
	HCH	V	19.57		PASS
		H	19.53		

TDD-LTE Band 40A

Channel Bandwidth: 5.0 MHz					
Modulation	Channel	Antenna Polar	E.i.r.p [dBm]	Limit (dBm)	Verdict
QPSK	LCH	V	20.81	<23.98	PASS
		H	20.92		
	MCH	V	20.93		PASS
		H	20.78		
	HCH	V	20.88		PASS
		H	20.78		
16QAM	LCH	V	20.30	<23.98	PASS
		H	20.35		
	MCH	V	20.32		PASS
		H	21.85		
	HCH	V	22.08		PASS
		H	21.69		
Channel Bandwidth: 10MHz					
Modulation	Channel	Antenna Polar	E.i.r.p [dBm]	Limit (dBm)	Verdict
QPSK	LCH	V	20.90	<23.98	PASS
		H	20.86		
	MCH	V	20.27		PASS
		H	20.61		
	HCH	V	20.39		PASS
		H	19.84		
16QAM	LCH	V	19.94	<23.98	PASS
		H	19.87		
	MCH	V	20.97		PASS
		H	21.16		
	HCH	V	21.05		PASS
		H	20.01		

TDD-LTE Band 40B

Channel Bandwidth: 5.0 MHz					
Modulation	Channel	Antenna Polar	E.i.r.p [dBm]	Limit (dBm)	Verdict
QPSK	LCH	V	20.03	<23.98	PASS
		H	20.24		
	MCH	V	20.33		PASS
		H	20.16		

	HCH	V	19.69		PASS
		H	19.89		
16QAM	LCH	V	20.03	<23.98	PASS
		H	20.05		
	MCH	V	20.11		PASS
		H	19.96		
	HCH	V	19.88		PASS
		H	19.36		
Channel Bandwidth: 10MHz					
Modulation	Channel	Antenna Polar	E.i.r.p [dBm]	Limit (dBm)	Verdict
QPSK	LCH	V	20.13	<23.98	PASS
		H	20.56		
	MCH	V	20.32		PASS
		H	20.03		
	HCH	V	19.93		PASS
		H	19.83		
16QAM	LCH	V	19.87	<23.98	PASS
		H	19.82		
	MCH	V	19.63		PASS
		H	20.03		
	HCH	V	20.07		PASS
		H	20.15		

TDD-LTE Band 41

Channel Bandwidth: 5.0 MHz					
Modulation	Channel	Antenna Polar	E.i.r.p [dBm]	Limit (dBm)	Verdict
QPSK	LCH	V	20.14	<33.01	PASS
		H	20.34		
	MCH	V	20.46		PASS
		H	20.31		
	HCH	V	19.16		PASS
		H	19.19		
16QAM	LCH	V	20.55	<33.01	PASS
		H	20.64		
	MCH	V	20.46		PASS
		H	19.63		
	HCH	V	19.50		PASS
		H	19.58		

Channel Bandwidth: 10MHz					
Modulation	Channel	Antenna Polar	E.i.r.p [dBm]	Limit (dBm)	Verdict
QPSK	LCH	V	20.17	<33.01	PASS
		H	20.11		
	MCH	V	20.33		PASS
		H	20.59		
	HCH	V	20.44		PASS
		H	19.13		
16QAM	LCH	V	20.26	<33.01	PASS
		H	20.25		
	MCH	V	20.22		PASS
		H	20.19		
	HCH	V	20.45		PASS
		H	20.19		
Channel Bandwidth: 15 MHz					
Modulation	Channel	Antenna Polar	E.i.r.p [dBm]	Limit (dBm)	Verdict
QPSK	LCH	V	20.94	<33.01	PASS
		H	20.55		
	MCH	V	19.82		PASS
		H	19.61		
	HCH	V	19.71		PASS
		H	19.70		
16QAM	LCH	V	20.16	<33.01	PASS
		H	20.20		
	MCH	V	20.19		PASS
		H	20.28		
	HCH	V	20.46		PASS
		H	20.38		
Channel Bandwidth: 20 MHz					
Modulation	Channel	Antenna Polar	E.i.r.p [dBm]	Limit (dBm)	Verdict
QPSK	LCH	V	20.24	<33.01	PASS
		H	20.21		
	MCH	V	20.09		PASS
		H	20.19		
	HCH	V	20.06		PASS
		H	19.20		

16QAM	LCH	V	20.87	<33.01	PASS
		H	20.79		
	MCH	V	20.52		PASS
		H	19.88		
	HCH	V	19.66		PASS
		H	19.81		

Max. Conducted Output Power
Please refer to Appendix : 1 Conducted output power

Test result: Pass

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

8.1 Standard Applicable

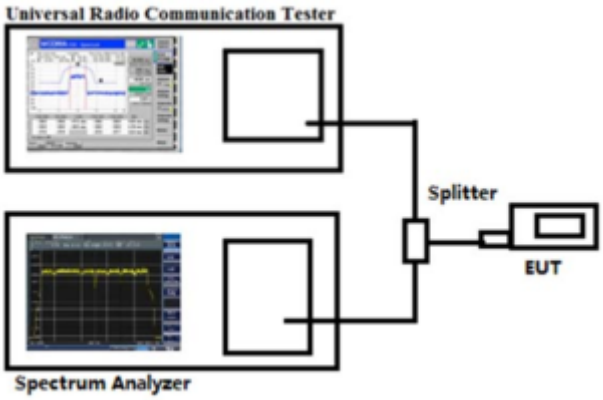
According to §24.232(d), power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (e) of this section. In both instances, equipment employed must be authorized in 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(B), 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.

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.

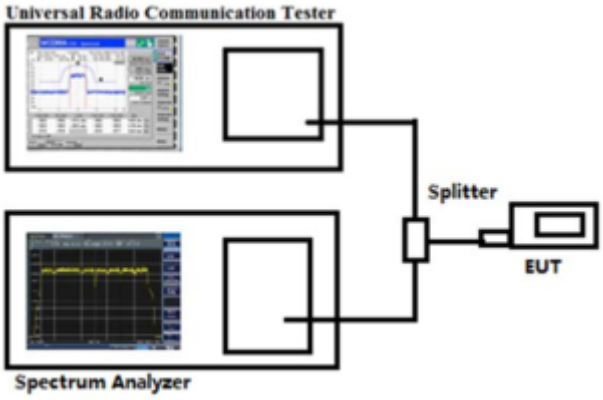
According to §24.238(b), the emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

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 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 log10 (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.

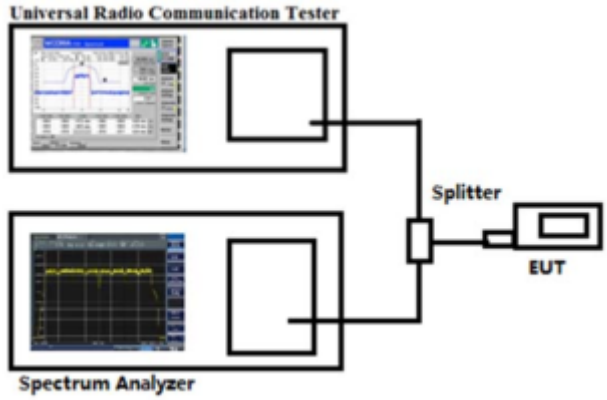
According to §27.53(m)(4), for mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, 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 that 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)(4), f For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands: 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, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337 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 Band edge & 6 Out-of-band emissions
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:

(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 log10 (P) dB.

According to § 27.53(g) 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(a)(4), f For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands: 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, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337 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.

QPSK

Band 38 37775 channel/BW 5(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1242.825	150	142	-60.51	-13.00	-35.51	Pass	H
1664.510	148	100	-51.99	-13.00	-26.99	Pass	H
3793.489	151	335	-50.29	-13.00	-25.29	Pass	H
5829.984	151	23	-47.94	-13.00	-22.94	Pass	H
6487.837	149	42	-48.03	-13.00	-23.03	Pass	H
7987.461	152	176	-46.82	-13.00	-21.82	Pass	H
1213.162	150	308	-58.47	-13.00	-33.47	Pass	V
1372.232	152	244	-58.36	-13.00	-33.36	Pass	V
3507.781	152	8	-54.25	-13.00	-29.25	Pass	V
3837.380	152	297	-50.96	-13.00	-25.96	Pass	V
5737.007	150	275	-46.50	-13.00	-21.5	Pass	V
6540.479	151	4	-49.01	-13.00	-24.01	Pass	V

Band 38 38000 channel/BW 5(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1260.747	150	158	-60.77	-25	-35.77	Pass	H
1579.946	153	320	-52.95	-25	-27.95	Pass	H
3805.355	152	130	-49.95	-25	-24.95	Pass	H
5847.537	148	59	-46.78	-25	-21.78	Pass	H
6495.263	153	158	-47.65	-25	-22.65	Pass	H
8019.626	150	234	-47.15	-25	-22.15	Pass	H
1214.194	148	30	-57.80	-25	-32.8	Pass	V
1372.369	152	47	-58.56	-25	-33.56	Pass	V
3505.945	152	309	-52.53	-25	-27.53	Pass	V
3871.903	150	282	-52.30	-25	-27.3	Pass	V
5802.199	150	357	-46.02	-25	-21.02	Pass	V
6534.315	151	2	-49.45	-25	-24.45	Pass	V

Band 38 38225 channel/BW 5(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1270.291	148	3	-58.85	-25	-33.85	Pass	H
1613.202	150	329	-51.73	-25	-26.73	Pass	H
3814.647	153	227	-52.26	-25	-27.26	Pass	H
5850.214	153	64	-48.40	-25	-23.4	Pass	H
6496.679	150	231	-47.59	-25	-22.59	Pass	H
8004.855	153	227	-48.94	-25	-23.94	Pass	H
1173.931	150	92	-60.06	-25	-35.06	Pass	V
1401.093	150	312	-58.63	-25	-33.63	Pass	V
3470.450	151	243	-52.61	-25	-27.61	Pass	V
3910.916	151	334	-49.81	-25	-24.81	Pass	V
5784.554	151	339	-48.06	-25	-23.06	Pass	V
6482.066	152	335	-50.06	-25	-25.06	Pass	V

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Band 38 37775 channel/BW 5(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1258.391	152	170	-60.27	-25	-35.27	Pass	H
1641.162	150	269	-53.59	-25	-28.59	Pass	H
3820.733	148	272	-50.78	-25	-25.78	Pass	H
5805.850	150	79	-47.47	-25	-22.47	Pass	H
6471.015	149	103	-45.85	-25	-20.85	Pass	H
7997.699	150	266	-46.24	-25	-21.24	Pass	H
1245.089	152	321	-57.44	-25	-32.44	Pass	V
1363.048	150	173	-59.13	-25	-34.13	Pass	V
3451.971	149	154	-52.74	-25	-27.74	Pass	V
3818.164	152	139	-52.57	-25	-27.57	Pass	V
5821.301	148	328	-47.70	-25	-22.7	Pass	V
6514.957	151	179	-50.08	-25	-25.08	Pass	V

Band 38 38000 channel/BW 5(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1288.932	149	355	-58.66	-25	-33.66	Pass	H
1621.184	149	70	-52.48	-25	-27.48	Pass	H
3823.855	151	166	-51.58	-25	-26.58	Pass	H
5829.359	150	53	-47.52	-25	-22.52	Pass	H
6447.951	149	223	-47.69	-25	-22.69	Pass	H
7946.524	150	106	-46.88	-25	-21.88	Pass	H
1215.380	152	206	-57.67	-25	-32.67	Pass	V
1428.360	151	217	-59.76	-25	-34.76	Pass	V
3499.883	152	122	-52.96	-25	-27.96	Pass	V
3854.579	151	341	-50.64	-25	-25.64	Pass	V
5754.563	153	331	-48.50	-25	-23.5	Pass	V
6542.138	148	331	-48.82	-25	-23.82	Pass	V

Band 38 38225 channel/BW 5(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1262.832	148	84	-59.95	-25	-34.95	Pass	H
1662.832	149	262	-52.55	-25	-27.55	Pass	H
3807.731	152	41	-50.48	-25	-25.48	Pass	H
5854.959	150	220	-46.87	-25	-21.87	Pass	H
6459.729	150	181	-47.48	-25	-22.48	Pass	H
7986.051	150	191	-47.35	-25	-22.35	Pass	H
1170.490	152	170	-57.83	-25	-32.83	Pass	V
1364.541	152	264	-60.53	-25	-35.53	Pass	V
3509.861	149	192	-52.99	-25	-27.99	Pass	V
3830.152	152	2	-52.29	-25	-27.29	Pass	V
5760.493	149	324	-48.53	-25	-23.53	Pass	V
6487.761	151	134	-48.70	-25	-23.7	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 5.0MHz with full RB were the worst case; and then Only the worst case is recorded in the report.

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Band 40A 38725 channel/BW 5(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1335.215	149	165	-54.922	-40	-14.92	Pass	H
1703.706	146	208	-49.694	-40	-9.69	Pass	H
3901.607	146	4	-45.465	-40	-5.46	Pass	H
5889.485	150	198	-43.922	-40	-3.92	Pass	H
6510.073	146	341	-42.681	-40	-2.68	Pass	H
8080.512	150	235	-45.797	-40	-5.80	Pass	H
1205.903	146	292	-53.322	-40	-13.32	Pass	V
1461.112	150	158	-57.044	-40	-17.04	Pass	V
3543.249	149	55	-53.025	-40	-13.02	Pass	V
3829.396	150	319	-47.832	-40	-7.83	Pass	V
5800.280	146	118	-48.127	-40	-8.13	Pass	V
6558.673	150	155	-48.018	-40	-8.02	Pass	V

Band 40A 38750 channel/BW 5(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1333.366	149	165	-54.069	-40	-14.07	Pass	H
1702.076	146	208	-48.406	-40	-8.41	Pass	H
3902.371	146	4	-46.966	-40	-6.97	Pass	H
5888.097	150	198	-41.900	-40	-1.90	Pass	H
6508.786	146	341	-42.303	-40	-2.30	Pass	H
8080.591	150	235	-44.220	-40	-4.22	Pass	H
1206.362	146	292	-53.920	-40	-13.92	Pass	V
1460.072	150	158	-57.607	-40	-17.61	Pass	V
3542.537	149	55	-53.168	-40	-13.17	Pass	V
3828.618	150	319	-48.580	-40	-8.58	Pass	V
5800.491	146	118	-47.503	-40	-7.50	Pass	V
6558.547	150	155	-47.045	-40	-7.04	Pass	V

Band 40A 38775 channel/BW 5(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1334.920	149	165	-56.181	-40	-16.18	Pass	H
1701.946	146	208	-49.683	-40	-9.68	Pass	H
3901.172	146	4	-46.418	-40	-6.42	Pass	H
5888.234	150	198	-43.317	-40	-3.32	Pass	H
6509.640	146	341	-42.876	-40	-2.88	Pass	H
8079.775	150	235	-45.966	-40	-5.97	Pass	H
1205.539	146	292	-54.275	-40	-14.28	Pass	V
1460.643	150	158	-58.102	-40	-18.10	Pass	V
3544.244	149	55	-50.273	-40	-10.27	Pass	V
3828.535	150	319	-48.559	-40	-8.56	Pass	V
5802.350	146	118	-48.596	-40	-8.60	Pass	V
6557.890	150	155	-48.008	-40	-8.01	Pass	V

16QAM

Band 40A 38725 channel/BW 5(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1335.391	149	165	-57.247	-40	-17.25	Pass	H
1702.697	146	208	-47.002	-40	-7.00	Pass	H
3901.079	146	4	-44.093	-40	-4.09	Pass	H
5890.470	150	198	-45.001	-40	-5.00	Pass	H
6509.797	146	341	-43.582	-40	-3.58	Pass	H
8081.139	150	235	-43.119	-40	-3.12	Pass	H
1206.086	146	292	-55.708	-40	-15.71	Pass	V
1460.944	150	158	-58.606	-40	-18.61	Pass	V
3544.588	149	55	-52.767	-40	-12.77	Pass	V
3830.350	150	319	-51.443	-40	-11.44	Pass	V
5802.696	146	118	-45.788	-40	-5.79	Pass	V
6557.075	150	155	-47.066	-40	-7.07	Pass	V

Band 40A 38750channel/BW 5(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1334.290	149	165	-53.630	-40	-13.63	Pass	H
1704.266	146	208	-46.600	-40	-6.60	Pass	H
3900.991	146	4	-44.203	-40	-4.20	Pass	H
5889.207	150	198	-42.395	-40	-2.39	Pass	H
6509.755	146	341	-41.325	-40	-1.33	Pass	H
8080.692	150	235	-44.445	-40	-4.44	Pass	H
1206.106	146	292	-56.185	-40	-16.19	Pass	V
1461.138	150	158	-58.501	-40	-18.50	Pass	V
3544.391	149	55	-50.013	-40	-10.01	Pass	V
3830.577	150	319	-50.121	-40	-10.12	Pass	V
5801.359	146	118	-45.501	-40	-5.50	Pass	V
6558.006	150	155	-45.270	-40	-5.27	Pass	V

Band 40A 38875 channel/BW 5(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1334.954	149	165	-57.158	-40	-17.16	Pass	H
1704.227	146	208	-49.255	-40	-9.26	Pass	H
3901.582	146	4	-44.220	-40	-4.22	Pass	H
5889.541	150	198	-41.323	-40	-1.32	Pass	H
6508.350	146	341	-43.311	-40	-3.31	Pass	H
8078.649	150	235	-43.342	-40	-3.34	Pass	H
1206.218	146	292	-56.198	-40	-16.20	Pass	V
1460.386	150	158	-56.151	-40	-16.15	Pass	V
3543.063	149	55	-49.381	-40	-9.38	Pass	V
3830.844	150	319	-51.021	-40	-11.02	Pass	V
5801.857	146	118	-47.507	-40	-7.51	Pass	V
6557.051	150	155	-47.382	-40	-7.38	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 5.0MHz with full RB were the worst case; and then Only the worst case is recorded in the report.

QPSK

Band 40B 39175channel/BW 5(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1334.431	149	165	-54.033	-40	-14.03	Pass	H
1703.334	146	208	-47.061	-40	-7.06	Pass	H
3900.542	146	4	-47.589	-40	-7.59	Pass	H
5888.996	150	198	-42.857	-40	-2.86	Pass	H
6510.401	146	341	-43.250	-40	-3.25	Pass	H
8081.119	150	235	-44.443	-40	-4.44	Pass	H
1205.743	146	292	-53.291	-40	-13.29	Pass	V
1461.653	150	158	-57.034	-40	-17.03	Pass	V
3543.289	149	55	-52.282	-40	-12.28	Pass	V
3828.568	150	319	-50.989	-40	-10.99	Pass	V
5801.727	146	118	-47.840	-40	-7.84	Pass	V
6557.703	150	155	-47.559	-40	-7.56	Pass	V

Band 40B 39200 channel/BW 5(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1335.522	149	165	-53.563	-40	-13.56	Pass	H
1703.775	146	208	-49.761	-40	-9.76	Pass	H
3901.458	146	4	-45.759	-40	-5.76	Pass	H
5889.902	150	198	-41.184	-40	-1.18	Pass	H
6511.021	146	341	-43.613	-40	-3.61	Pass	H
8079.192	150	235	-44.852	-40	-4.85	Pass	H
1204.407	146	292	-54.370	-40	-14.37	Pass	V
1459.257	150	158	-56.352	-40	-16.35	Pass	V
3542.142	149	55	-50.549	-40	-10.55	Pass	V
3829.836	150	319	-49.083	-40	-9.08	Pass	V
5800.534	146	118	-45.869	-40	-5.87	Pass	V
6558.103	150	155	-44.920	-40	-4.92	Pass	V

Band 40B 39225 channel/BW 5(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1335.521	149	165	-53.434	-40	-13.43	Pass	H
1702.098	146	208	-46.999	-40	-7.00	Pass	H
3901.681	146	4	-44.613	-40	-4.61	Pass	H
5889.912	150	198	-44.937	-40	-4.94	Pass	H
6510.211	146	341	-42.634	-40	-2.63	Pass	H
8078.587	150	235	-45.744	-40	-5.74	Pass	H
1204.509	146	292	-56.791	-40	-16.79	Pass	V
1460.313	150	158	-57.485	-40	-17.49	Pass	V
3542.202	149	55	-51.652	-40	-11.65	Pass	V
3829.332	150	319	-48.610	-40	-8.61	Pass	V
5802.241	146	118	-45.630	-40	-5.63	Pass	V
6558.068	150	155	-46.466	-40	-6.47	Pass	V

16QAM

Band 40B 39175 channel/BW 5(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1335.768	149	165	-57.250	-40	-17.25	Pass	H
1703.873	146	208	-46.575	-40	-6.57	Pass	H
3900.929	146	4	-44.027	-40	-4.03	Pass	H
5889.779	150	198	-43.184	-40	-3.18	Pass	H
6508.712	146	341	-43.862	-40	-3.86	Pass	H
8078.344	150	235	-45.078	-40	-5.08	Pass	H
1204.734	146	292	-56.871	-40	-16.87	Pass	V
1462.016	150	158	-59.312	-40	-19.31	Pass	V
3542.243	149	55	-50.363	-40	-10.36	Pass	V
3830.876	150	319	-51.563	-40	-11.56	Pass	V
5801.378	146	118	-46.300	-40	-6.30	Pass	V
6556.092	150	155	-46.787	-40	-6.79	Pass	V

Band 40B 39200channel/BW 5(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1333.712	149	165	-53.718	-40	-13.72	Pass	H
1703.801	146	208	-47.211	-40	-7.21	Pass	H
3902.330	146	4	-46.095	-40	-6.10	Pass	H
5888.044	150	198	-44.252	-40	-4.25	Pass	H
6508.804	146	341	-42.854	-40	-2.85	Pass	H
8078.971	150	235	-43.640	-40	-3.64	Pass	H
1207.321	146	292	-53.808	-40	-13.81	Pass	V
1461.753	150	158	-56.468	-40	-16.47	Pass	V
3541.815	149	55	-51.616	-40	-11.62	Pass	V
3828.407	150	319	-50.300	-40	-10.30	Pass	V
5802.060	146	118	-46.055	-40	-6.05	Pass	V
6556.230	150	155	-47.710	-40	-7.71	Pass	V

Band 40B 39225 channel/BW 5(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1335.127	149	165	-54.993	-40	-14.99	Pass	H
1702.706	146	208	-46.475	-40	-6.48	Pass	H
3901.625	146	4	-46.575	-40	-6.57	Pass	H
5888.732	150	198	-42.153	-40	-2.15	Pass	H
6510.805	146	341	-42.348	-40	-2.35	Pass	H
8080.765	150	235	-45.826	-40	-5.83	Pass	H
1205.353	146	292	-55.375	-40	-15.37	Pass	V
1461.335	150	158	-59.058	-40	-19.06	Pass	V
3542.457	149	55	-51.437	-40	-11.44	Pass	V
3830.673	150	319	-49.955	-40	-9.96	Pass	V
5800.741	146	118	-47.774	-40	-7.77	Pass	V
6557.767	150	155	-46.517	-40	-6.52	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 5.0MHz with full RB were the worst case; and then Only the worst case is recorded in the report.

QPSK

Band 41 40265 channel/BW 5(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1332.851	149	165	-54.883	-25	-29.88	Pass	H
1702.412	146	208	-46.792	-25	-21.79	Pass	H
3900.750	146	4	-45.354	-25	-20.35	Pass	H
5888.357	150	198	-43.524	-25	-18.52	Pass	H
6508.435	146	341	-44.904	-25	-19.90	Pass	H
8078.286	150	235	-44.610	-25	-19.61	Pass	H
1205.056	146	292	-55.685	-25	-30.69	Pass	V
1462.141	150	158	-56.842	-25	-31.84	Pass	V
3541.945	149	55	-53.011	-25	-28.01	Pass	V
3829.462	150	319	-49.495	-25	-24.50	Pass	V
5800.255	146	118	-49.104	-25	-24.10	Pass	V
6556.356	150	155	-47.186	-25	-22.19	Pass	V

Band 41 40740 channel/BW 5(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1334.075	149	165	-56.299	-25	-31.30	Pass	H
1701.509	146	208	-46.529	-25	-21.53	Pass	H
3903.009	146	4	-47.050	-25	-22.05	Pass	H
5889.489	150	198	-44.037	-25	-19.04	Pass	H
6510.852	146	341	-43.094	-25	-18.09	Pass	H
8078.579	150	235	-43.549	-25	-18.55	Pass	H
1206.681	146	292	-56.306	-25	-31.31	Pass	V
1460.665	150	158	-59.679	-25	-34.68	Pass	V
3542.648	149	55	-50.358	-25	-25.36	Pass	V
3829.669	150	319	-51.007	-25	-26.01	Pass	V
5801.000	146	118	-48.910	-25	-23.91	Pass	V
6556.692	150	155	-46.018	-25	-21.02	Pass	V

Band 41 41215 channel/BW 5(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1334.275	149	165	-54.337	-25	-29.34	Pass	H
1704.295	146	208	-50.323	-25	-25.32	Pass	H
3901.942	146	4	-45.339	-25	-20.34	Pass	H
5890.437	150	198	-41.942	-25	-16.94	Pass	H
6508.677	146	341	-41.463	-25	-16.46	Pass	H
8079.227	150	235	-43.757	-25	-18.76	Pass	H
1207.298	146	292	-56.992	-25	-31.99	Pass	V
1462.072	150	158	-57.230	-25	-32.23	Pass	V
3542.800	149	55	-52.629	-25	-27.63	Pass	V
3830.533	150	319	-48.820	-25	-23.82	Pass	V
5800.470	146	118	-47.644	-25	-22.64	Pass	V
6556.526	150	155	-45.307	-25	-20.31	Pass	V

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Band 41 40265 channel/BW 5(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1333.568	149	165	-56.790	-25	-31.79	Pass	H
1703.789	146	208	-49.117	-25	-24.12	Pass	H
3902.572	146	4	-46.536	-25	-21.54	Pass	H
5887.773	150	198	-43.244	-25	-18.24	Pass	H
6511.338	146	341	-42.733	-25	-17.73	Pass	H
8080.288	150	235	-43.705	-25	-18.71	Pass	H
1205.587	146	292	-54.113	-25	-29.11	Pass	V
1459.333	150	158	-57.763	-25	-32.76	Pass	V
3543.356	149	55	-49.625	-25	-24.62	Pass	V
3831.227	150	319	-48.660	-25	-23.66	Pass	V
5800.822	146	118	-45.981	-25	-20.98	Pass	V
6557.357	150	155	-46.226	-25	-21.23	Pass	V

Band 41 40740 channel/BW 5(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1334.142	149	165	-56.279	-25	-31.28	Pass	H
1704.215	146	208	-48.607	-25	-23.61	Pass	H
3903.061	146	4	-45.783	-25	-20.78	Pass	H
5889.357	150	198	-44.049	-25	-19.05	Pass	H
6510.006	146	341	-43.055	-25	-18.05	Pass	H
8080.457	150	235	-43.115	-25	-18.11	Pass	H
1204.879	146	292	-56.108	-25	-31.11	Pass	V
1459.517	150	158	-59.770	-25	-34.77	Pass	V
3544.517	149	55	-50.806	-25	-25.81	Pass	V
3830.233	150	319	-51.325	-25	-26.33	Pass	V
5800.553	146	118	-46.618	-25	-21.62	Pass	V
6556.922	150	155	-48.367	-25	-23.37	Pass	V

Band 41 41215 channel/BW 5(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1334.577	149	165	-55.821	-25	-30.82	Pass	H
1702.585	146	208	-48.514	-25	-23.51	Pass	H
3903.005	146	4	-46.597	-25	-21.60	Pass	H
5889.130	150	198	-41.647	-25	-16.65	Pass	H
6510.731	146	341	-43.165	-25	-18.16	Pass	H
8080.331	150	235	-42.771	-25	-17.77	Pass	H
1204.486	146	292	-53.163	-25	-28.16	Pass	V
1461.069	150	158	-57.493	-25	-32.49	Pass	V
3542.960	149	55	-51.843	-25	-26.84	Pass	V
3829.212	150	319	-49.187	-25	-24.19	Pass	V
5802.768	146	118	-49.090	-25	-24.09	Pass	V
6557.304	150	155	-44.856	-25	-19.86	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 5.0MHz 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=AC120V; Low Voltage LV=AC 108V; High Voltage HV=AC132V

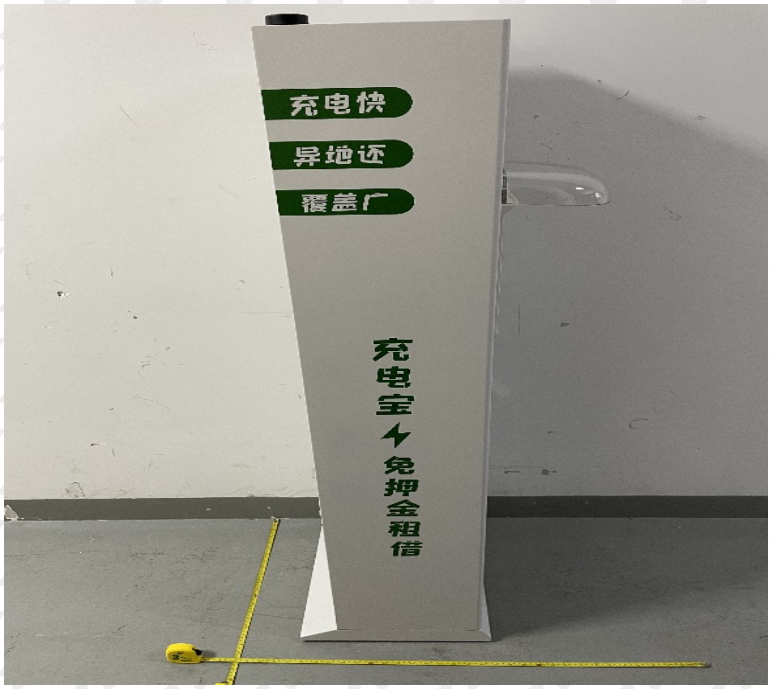
Please refer to Appendix F: Frequency Stability

Test result: Pass

13. EUT PHOTOGRAPHS

EUT Photo 1

EUT Photo 2



EUT Photo 3

EUT Photo 4

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