TEST REPORT

Product Name:	Intelligent Machine
FCC ID:	2BHRI-HTDAC101
Trademark:	N/A
Model Number:	HTDAC101, HTDAC070, HTDAC080, HTDAC104, HTDAC121, HTDAC133, HTDAC150, HTDAC156, HTDAC170, HTDAC185, HTDAC190, HTDAC215, HTDAC236, HTDAC270, HTDAC320
Prepared For:	HTDISPLAY(LANGFANG) ELEC&TECH CO.,LTD
Address:	Building 20, Anda Avenue 111, Anci High-tech Industrial Park, Anci District, 065000, Langfang City, Hebei Province, China
Manufacturer:	HTDISPLAY(LANGFANG) ELEC&TECH CO.,LTD
Address:	Building 20, Anda Avenue 111, Anci High-tech Industrial Park, Anci District, 065000, Langfang City, Hebei Province, 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:	Jun. 06, 2024
Sample tested Date:	Jun. 06, 2024 to Jul. 04, 2024
Issue Date:	Jul. 04, 2024
Report No.:	CTB240704018RFX
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.

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(Note: N/A means not applicable)

1. VERSION

Report No.	Issue Date	Description	Approved
CTB240704018RFX	Jul. 04, 2024	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	N/A
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

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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):	HTDAC101, HTDAC070, HTDAC080, HTDAC104, HTDAC121, HTDAC133, HTDAC150, HTDAC156, HTDAC170, HTDAC185, HTDAC190, HTDAC215, HTDAC236, HTDAC270, HTDAC320
Model Description:	All the model are the same circuit and RF module, only different for model name.Test sample model: HTDAC101
Hardware Version:	LSZN 1.0
Software Version:	1.1.22
Operation Frequency:	TDD-LTE BAND 38: 2570-2620MHz TDD-LTE BAND 40a: 2305-2315MHz TDD-LTE BAND 40b: 2350-2360MHz TDD-LTE BAND 41:2496-2690 MHz
Max. RF output power:	TDD-LTE BAND 38: 21.73dBm TDD-LTE BAND 40a: 22.41dBm TDD-LTE BAND 40b: 21.75dBm TDD-LTE BAND 41: 21.16dBm
Type of Modulation:	QPSK, 16QAM
Antenna installation:	External antenna
Antenna Gain:	TDD-LTE BAND 38: 0.87dBi TDD-LTE BAND 40a: 1.18dBi TDD-LTE BAND 40b: 1.77dBi TDD-LTE BAND 41: 1.41dBi
Ratings:	DC 12V

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
1	Keyboard	DELL	KB216t	N/A	N/A
2	Mouse	DELL	MS116c	N/A	N/A
3	Monitor	DELL	SE2218HV	N/A	N/A
4	DC power	LONGWEI	TPR-12002D	N/A	N/A
5	Laptop	DELL	Vostro 5490	N/A	N/A

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	TDD-LTE BAND 38	Low, Middle, High Channels
TM2	TDD-LTE BAND 40a	Low, Middle, High Channels
TM3	TDD-LTE BAND 40b	Low, Middle, High Channels
TM4	TDD-LTE BAND 41	Low, Middle, High Channels

LTE BAND 38

Test Mode	Test Frequency ID	Bandwidth (MHz)	EARFCN	Frequency (UL and DL) (MHz)
TDD band 38 TX/RX 2570– 2620 MHz	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

LTE BAND 40 a

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

LTE BAND 40 b

Test Mode	Test Frequency ID	Bandwidth (MHz)	Number [UL]	Frequency of Uplink(MHz)
LTE band 40b	Low Range	5	39175	2352.5
	Mid Range	5/10	39200	2355
	High Range	5	39200	2357.5

LTE BAND 41

Test Mode	Test Frequency ID	Bandwidth (MHz)	EARFCN	Frequency of Uplink(MHz)
TDD band 41 TX/RX 2495– 2690 MHz	Low Range	5	39675	2498.5
		10	39700	2501
		15	39725	2503.5
		20	39750	2506
	Mid Range	5/10/15/20	40620	2593
	High Range	5	41656	2687.5
		10	41540	2685
		15	41515	2682.5
		20	41490	2680

4.5 Test Environment

Humidity(%):	54
Atmospheric Pressure(kPa):	101
Normal Voltage(DC):	12V
Normal Temperature(℃)	23
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 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	2024.07.05
2	Power Sensor	Agilent	U2021XA	MY56120032	/	2024.07.05
3	Power Sensor	Agilent	U2021XA	MY56120034	/	2024.07.05
4	Communication test set	R&S	CMW500	108058	V3.5.80	2024.07.05
5	Spectrum Analyzer	KEYSIGHT	N9020A	MY51289897	A.14.16	2024.07.05
6	Signal Generator	Agilent	N5181A	MY50140365	A.01.60	2024.07.05
7	Vector signal generator	Agilent	N5182A	MY47420195	A.01.87	2024.07.05
8	Communication test set	Agilent	E5515C	MY50102567	B.19.07 （E1962B ）	2024.07.06
9	2.4 GHz Filter	Shenxiang	MSF2400-2483.5MS-1154	20181015001	/	2024.07.05
10	5 GHz Filter	Shenxiang	MSF5150-5850MS-1155	20181015001	/	2024.07.06
11	Filter	Xingbo	XBLBQ-DZA 120	190821-1-1	/	2024.07.06
12	BT&WI-FI Automatic test software	Micowave	MTS8000	Ver. 2.0.0.0	/	/
13	Rohde & Schwarz SFU Broadcast Test System	R&S	SFU	101017	/	2024.10.30
14	Temperature humidity chamber	Hongjing	TH-80CH	DG-15174	/	2024.07.05
15	234G Automatic test software	Micowave	MTS8200	Ver. 2.0.0.0	/	/
16	966 chamber	C.R.T.	966	/	/	2024.08.11
17	Receiver	R&S	ESPI	100362	RF_ATTEN_7 （104489/003）	2024.07.05
18	Amplifier	HP	8447E	2945A02747	/	2024.07.05
19	Amplifier	Agilent	8449B	3008A01838	/	2024.07.05
20	TRILOG Broadband Antenna	Schwarzbeck	VULB 9168	00869	/	2024.07.08
21	Double Ridged Broadband Horn Antenna	Schwarzbeck	BBHA9120D	01911	/	2024.07.08

22	EMI test software	Fala	EZ-EMC	FA-03A2 RE	/	/
23	Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-224	/	2024.07.08
24	loop antenna	ZHINAN	ZN30900A	GTS534	/	/
25	40G Horn antenna	A/H/System	SAS-574	588	/	2024.10.30
26	Amplifier	AEROFLEX	Aeroflex	097	/	2024.07.05

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.

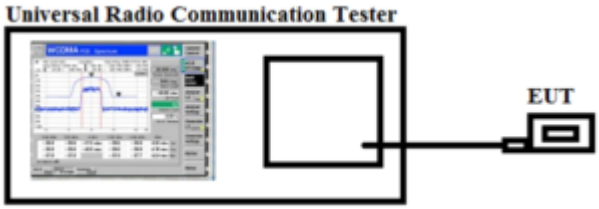
According to §27.50(h)(2), Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

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

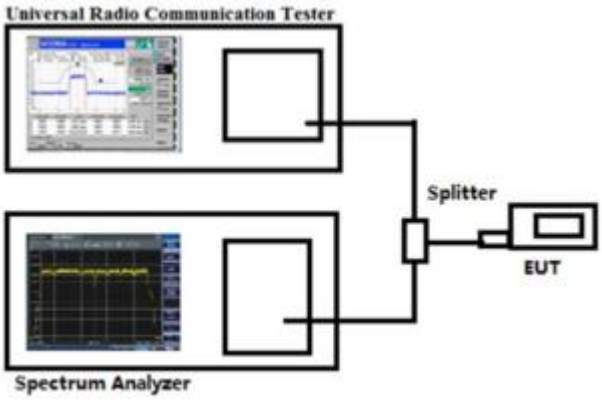
8.1 Standard Applicable

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.

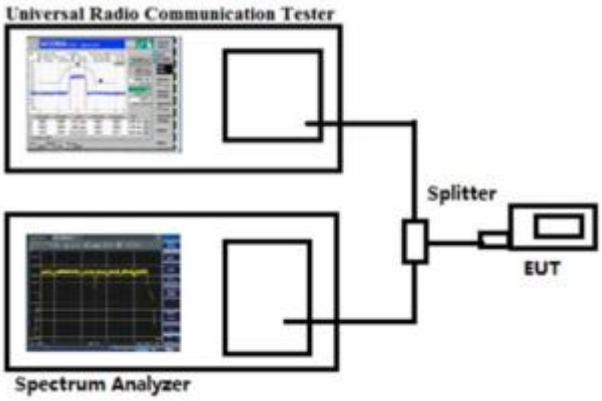
According to §24.238(b), the emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

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 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)(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;

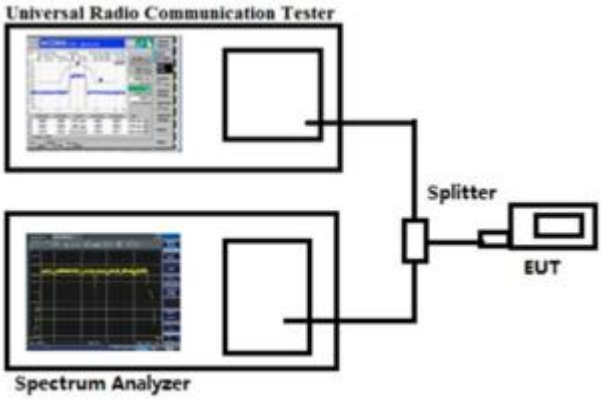
(2) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305 MHz, 70 + 10 log (P) dB on all frequencies between 2287.5 and 2300 MHz, 72 + 10 log (P) dB on all frequencies between 2285 and 2287.5 MHz, and 75 + 10 log (P) dB below 2285 MHz;

(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 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)(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-B41

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.
1272.36	149	165	-55.00	-25	-30.00	Pass	H
1768.34	146	208	-48.36	-25	-23.36	Pass	H
3875.31	146	4	-47.31	-25	-22.31	Pass	H
5981.25	150	198	-42.33	-25	-17.33	Pass	H
6602.53	146	341	-44.86	-25	-19.86	Pass	H
8167.48	150	235	-42.25	-25	-17.25	Pass	H
1165.10	146	292	-55.67	-25	-30.67	Pass	V
1384.62	150	158	-58.73	-25	-33.73	Pass	V
3616.42	149	55	-52.67	-25	-27.67	Pass	V
3773.02	150	319	-46.48	-25	-21.48	Pass	V
5839.81	146	118	-47.30	-25	-22.30	Pass	V
6655.93	150	155	-46.10	-25	-21.10	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.
1321.25	149	165	-57.21	-25	-32.21	Pass	H
1771.48	146	208	-47.62	-25	-22.62	Pass	H
3884.95	146	4	-43.18	-25	-18.18	Pass	H
5810.79	150	198	-39.46	-25	-14.46	Pass	H
6545.32	146	341	-38.82	-25	-13.82	Pass	H
8135.15	150	235	-45.07	-25	-20.07	Pass	H
1287.44	146	292	-56.30	-25	-31.30	Pass	V
1512.47	150	158	-52.96	-25	-27.96	Pass	V
3586.43	149	55	-52.20	-25	-27.20	Pass	V
3763.17	150	319	-47.77	-25	-22.77	Pass	V
5815.61	146	118	-48.21	-25	-23.21	Pass	V
6473.16	150	155	-45.08	-25	-20.08	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.
1389.22	149	165	-52.30	-25	-27.30	Pass	H
1622.86	146	208	-51.25	-25	-26.25	Pass	H
3879.47	146	4	-40.92	-25	-15.92	Pass	H
5891.00	150	198	-43.88	-25	-18.88	Pass	H
6496.36	146	341	-47.14	-25	-22.14	Pass	H
8158.30	150	235	-43.88	-25	-18.88	Pass	H
1202.06	146	292	-54.94	-25	-29.94	Pass	V
1544.98	150	158	-56.48	-25	-31.48	Pass	V

3469.44	149	55	-51.56	-25	-26.56	Pass	V
3805.09	150	319	-47.92	-25	-22.92	Pass	V
5737.83	146	118	-47.73	-25	-22.73	Pass	V
6640.65	150	155	-49.40	-25	-24.40	Pass	V
16QAM-B41							
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.
1414.48	149	165	-53.01	-25	-28.01	Pass	H
1792.23	146	208	-45.99	-25	-20.99	Pass	H
3920.83	146	4	-47.90	-25	-22.90	Pass	H
5928.01	150	198	-41.44	-25	-16.44	Pass	H
6595.66	146	341	-44.07	-25	-19.07	Pass	H
8016.78	150	235	-48.06	-25	-23.06	Pass	H
1166.26	146	292	-51.63	-25	-26.63	Pass	V
1421.89	150	158	-60.44	-25	-35.44	Pass	V
3477.26	149	55	-56.11	-25	-31.11	Pass	V
3867.78	150	319	-54.42	-25	-29.42	Pass	V
5745.52	146	118	-47.74	-25	-22.74	Pass	V
6650.31	150	155	-46.21	-25	-21.21	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.
1357.38	148	295	-54.38	-25	-29.38	Pass	H
1776.64	148	226	-45.54	-25	-20.54	Pass	H
3872.91	151	279	-42.90	-25	-17.90	Pass	H
5932.50	151	311	-38.58	-25	-13.58	Pass	H
6521.99	146	265	-41.85	-25	-16.85	Pass	H
8099.54	149	306	-40.38	-25	-15.38	Pass	H
1181.75	152	348	-51.82	-25	-26.82	Pass	V
1459.90	147	288	-60.10	-25	-35.10	Pass	V
3514.78	148	92	-53.90	-25	-28.90	Pass	V
3749.14	152	357	-48.86	-25	-23.86	Pass	V
5791.95	147	1	-49.99	-25	-24.99	Pass	V
6507.94	150	319	-47.50	-25	-22.50	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.
1284.47	149	165	-56.41	-25	-31.41	Pass	H
1650.37	146	208	-44.34	-25	-19.34	Pass	H
3884.87	146	4	-41.54	-25	-16.54	Pass	H
5850.42	150	198	-41.77	-25	-16.77	Pass	H
6516.29	146	341	-45.32	-25	-20.32	Pass	H
8040.85	150	235	-44.59	-25	-19.59	Pass	H
1221.47	146	292	-54.14	-25	-29.14	Pass	V
1380.43	150	158	-60.00	-25	-35.00	Pass	V
3467.67	149	55	-49.22	-25	-24.22	Pass	V
3739.37	150	319	-52.68	-25	-27.68	Pass	V
5844.30	146	118	-47.69	-25	-22.69	Pass	V
6535.20	150	155	-43.95	-25	-18.95	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.

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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.
1378.11	146	340	-55.73	-25	-30.73	Pass	H
1650.63	155	60	-45.08	-25	-20.08	Pass	H
3906.05	146	113	-49.61	-25	-24.61	Pass	H
5843.56	146	67	-44.58	-25	-19.58	Pass	H
6465.17	153	339	-48.02	-25	-23.02	Pass	H
7964.82	146	32	-43.24	-25	-18.24	Pass	H
1171.02	146	51	-61.77	-25	-36.77	Pass	V
1409.60	151	159	-58.27	-25	-33.27	Pass	V
3575.07	146	312	-43.48	-25	-18.48	Pass	V
3805.30	149	293	-52.74	-25	-27.74	Pass	V
5770.91	147	92	-45.53	-25	-20.53	Pass	V
6587.31	149	205	-47.15	-25	-22.15	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.
1235.49	149	115	-54.91	-25	-29.91	Pass	H
1625.95	151	35	-49.02	-25	-24.02	Pass	H
3802.23	155	24	-46.29	-25	-21.29	Pass	H
5758.16	154	279	-48.63	-25	-23.63	Pass	H
6398.11	155	124	-44.05	-25	-19.05	Pass	H
7897.24	147	226	-48.06	-25	-23.06	Pass	H
1120.89	148	136	-56.39	-25	-31.39	Pass	V
1340.09	150	101	-60.28	-25	-35.28	Pass	V
3470.67	149	220	-44.65	-25	-19.65	Pass	V
3737.59	151	314	-50.99	-25	-25.99	Pass	V
5703.46	155	160	-48.07	-25	-23.07	Pass	V
6454.17	149	284	-48.93	-25	-23.93	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.
1317.81	153	344	-52.39	-25	-27.39	Pass	H
1690.22	150	199	-49.02	-25	-24.02	Pass	H
3994.66	149	328	-49.42	-25	-24.42	Pass	H
5788.10	153	304	-42.01	-25	-17.01	Pass	H
6464.04	151	200	-41.55	-25	-16.55	Pass	H
7974.82	150	37	-44.53	-25	-19.53	Pass	H
1273.49	145	71	-58.63	-25	-33.63	Pass	V

1450.89	153	182	-60.98	-25	-35.98	Pass	V
3529.53	145	237	-52.49	-25	-27.49	Pass	V
3839.58	150	1	-53.90	-25	-28.90	Pass	V
5868.46	146	113	-47.14	-25	-22.14	Pass	V
6501.96	150	88	-51.46	-25	-26.46	Pass	V
16QAM							
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.
1247.50	149	137	-54.87	-25	-29.87	Pass	H
1678.13	148	325	-49.35	-25	-24.35	Pass	H
3811.29	153	345	-50.18	-25	-25.18	Pass	H
5948.35	154	183	-50.09	-25	-25.09	Pass	H
6500.06	155	318	-45.57	-25	-20.57	Pass	H
8033.61	147	258	-45.90	-25	-20.90	Pass	H
1131.47	150	270	-62.54	-25	-37.54	Pass	V
1404.36	148	163	-54.91	-25	-29.91	Pass	V
3519.11	154	312	-45.83	-25	-20.83	Pass	V
3935.14	148	321	-47.55	-25	-22.55	Pass	V
5777.63	152	248	-44.23	-25	-19.23	Pass	V
6553.08	148	194	-49.13	-25	-24.13	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.
1282.38	151	134	-53.73	-25	-28.73	Pass	H
1790.28	151	193	-51.88	-25	-26.88	Pass	H
3947.20	153	312	-49.67	-25	-24.67	Pass	H
5851.43	153	121	-48.76	-25	-23.76	Pass	H
6432.31	153	231	-48.36	-25	-23.36	Pass	H
8042.31	148	292	-42.16	-25	-17.16	Pass	H
1291.76	153	103	-60.86	-25	-35.86	Pass	V
1529.49	146	46	-58.42	-25	-33.42	Pass	V
3566.05	145	126	-49.18	-25	-24.18	Pass	V
3936.44	148	213	-48.57	-25	-23.57	Pass	V
5851.81	150	339	-45.63	-25	-20.63	Pass	V
6615.48	148	349	-49.61	-25	-24.61	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.
1398.30	146	87	-53.72	-25	-28.72	Pass	H
1743.05	148	23	-50.64	-25	-25.64	Pass	H
3976.75	153	325	-49.63	-25	-24.63	Pass	H

5771.16	145	236	-45.08	-25	-20.08	Pass	H
6535.59	154	140	-46.72	-25	-21.72	Pass	H
7904.15	153	203	-42.16	-25	-17.16	Pass	H
1155.01	149	225	-59.16	-25	-34.16	Pass	V
1450.74	148	297	-56.44	-25	-31.44	Pass	V
3649.99	149	338	-50.90	-25	-25.90	Pass	V
3876.78	152	187	-50.47	-25	-25.47	Pass	V
5869.55	149	113	-48.55	-25	-23.55	Pass	V
6653.01	147	189	-51.68	-25	-26.68	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.

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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.
1246.83	149	29	-55.99	-40	-15.99	Pass	H
1725.26	153	332	-42.66	-40	-2.66	Pass	H
3809.48	154	5	-46.23	-40	-6.23	Pass	H
5904.46	149	336	-39.69	-40	0.31	Pass	H
6473.25	151	242	-46.84	-40	-6.84	Pass	H
8153.64	150	328	-41.07	-40	-1.07	Pass	H
1259.70	148	204	-51.10	-40	-11.10	Pass	V
1377.60	153	118	-55.80	-40	-15.80	Pass	V
3529.51	150	88	-52.60	-40	-12.60	Pass	V
3937.46	154	202	-48.05	-40	-8.05	Pass	V
5857.55	151	40	-42.92	-40	-2.92	Pass	V
6458.26	147	242	-42.96	-40	-2.96	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.
1330.49	152	273	-58.56	-40	-18.56	Pass	H
1636.90	151	66	-53.12	-40	-13.12	Pass	H
3924.37	154	69	-48.87	-40	-8.87	Pass	H
5916.00	147	62	-44.45	-40	-4.45	Pass	H
6425.14	148	259	-48.74	-40	-8.74	Pass	H
8060.34	152	77	-44.08	-40	-4.08	Pass	H
1160.11	155	273	-59.84	-40	-19.84	Pass	V
1351.81	146	194	-59.27	-40	-19.27	Pass	V
3554.98	146	307	-50.14	-40	-10.14	Pass	V
3777.09	153	291	-49.81	-40	-9.81	Pass	V
5809.16	146	234	-50.39	-40	-10.39	Pass	V
6555.90	151	48	-44.95	-40	-4.95	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.
1314.43	149	64	-55.08	-40	-15.08	Pass	H
1810.52	153	17	-48.83	-40	-8.83	Pass	H
3774.83	152	2	-50.17	-40	-10.17	Pass	H
5837.63	154	115	-45.41	-40	-5.41	Pass	H
6478.68	152	38	-44.75	-40	-4.75	Pass	H
8139.56	152	92	-46.48	-40	-6.48	Pass	H
1211.25	153	334	-60.35	-40	-20.35	Pass	V

1437.82	148	331	-62.81	-40	-22.81	Pass	V
3620.76	149	100	-51.23	-40	-11.23	Pass	V
3838.01	147	291	-50.99	-40	-10.99	Pass	V
5763.28	153	120	-48.30	-40	-8.30	Pass	V
6546.61	154	6	-48.50	-40	-5.68	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.
1310.71	152	72	-54.06	-40	-14.06	Pass	H
1686.90	152	349	-49.66	-40	-9.66	Pass	H
3795.46	146	307	-49.89	-40	-9.89	Pass	H
5961.98	153	285	-46.99	-40	-6.99	Pass	H
6440.25	152	13	-47.81	-40	-7.81	Pass	H
8003.09	148	310	-43.67	-40	-3.67	Pass	H
1194.93	146	73	-58.31	-40	-18.31	Pass	V
1342.67	149	55	-58.05	-40	-18.05	Pass	V
3539.49	151	358	-52.85	-40	-12.85	Pass	V
3938.29	146	76	-50.78	-40	-10.78	Pass	V
5883.69	151	95	-47.79	-40	-7.79	Pass	V
6510.31	152.97	237.08	-46.70	-40	-6.70	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.
1415.76	147	345	-56.78	-40	-16.78	Pass	H
1636.12	153	180	-48.38	-40	-8.38	Pass	H
3785.44	154	45	-51.01	-40	-11.01	Pass	H
5920.78	147	173	-46.13	-40	-6.13	Pass	H
6412.26	149	45	-46.97	-40	-6.97	Pass	H
8153.78	151	315	-44.39	-40	-4.39	Pass	H
1208.83	152	62	-55.84	-40	-15.84	Pass	V
1344.36	146	321	-62.87	-40	-22.87	Pass	V
3523.85	152	110	-51.27	-40	-11.27	Pass	V
3888.11	147	149	-51.83	-40	-11.83	Pass	V
5893.94	151	195	-46.89	-40	-6.89	Pass	V
6481.43	149	340	-47.41	-40	-7.41	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.
1410.13	148	170	-56.73	-40	-16.73	Pass	H
1736.38	155	356	-46.99	-40	-6.99	Pass	H
3831.31	148	34	-48.93	-40	-8.93	Pass	H

5842.01	147	271	-44.92	-40	-4.92	Pass	H
6464.02	148	35	-48.07	-40	-8.07	Pass	H
8018.69	148	151	-43.20	-40	-3.20	Pass	H
1230.41	147	110	-56.16	-40	-16.16	Pass	V
1299.41	151	87	-58.46	-40	-18.46	Pass	V
3461.66	148	309	-50.97	-40	-10.97	Pass	V
3863.00	153	102	-46.52	-40	-6.52	Pass	V
5852.82	152	113	-44.44	-40	-4.44	Pass	V
6429.19	145	155	-47.18	-40	-7.18	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 40B 39175channel/BW 5(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1236.77	151	46	-52.87	-40	-12.87	Pass	H
1655.31	147	162	-49.50	-40	-9.50	Pass	H
3839.38	154	152	-50.55	-40	-10.55	Pass	H
5868.99	151	296	-41.87	-40	-1.87	Pass	H
6404.70	149	356	-45.96	-40	-5.96	Pass	H
8087.48	145	72	-47.27	-40	-7.27	Pass	H
1213.04	150	313	-57.58	-40	-17.58	Pass	V
1383.74	151	218	-61.13	-40	-21.13	Pass	V
3437.96	153	297	-47.90	-40	-7.90	Pass	V
3792.80	147	91	-48.71	-40	-8.71	Pass	V
5916.57	146	12	-47.30	-40	-7.30	Pass	V
6535.71	155	15	-46.29	-40	-6.29	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.
1260.76	151	173	-57.79	-40	-17.79	Pass	H
1809.60	146	33	-48.84	-40	-8.84	Pass	H
3798.47	154	342	-51.06	-40	-11.06	Pass	H
5957.90	145	149	-44.20	-40	-4.20	Pass	H
6535.76	153	184	-45.27	-40	-5.27	Pass	H
8037.22	151	354	-46.89	-40	-6.89	Pass	H
1105.08	154	112	-55.83	-40	-15.83	Pass	V
1412.92	155	350	-60.75	-40	-20.75	Pass	V
3621.65	153	33	-50.91	-40	-10.91	Pass	V
3805.85	152	111	-50.34	-40	-10.34	Pass	V
5835.29	154	36	-45.83	-40	-5.83	Pass	V
6580.82	151	147	-45.83	-40	-5.83	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.
1404.80	152	273	-58.57	-40	-18.57	Pass	H
1647.49	148	296	-51.05	-40	-11.05	Pass	H
3821.31	148	310	-49.52	-40	-9.52	Pass	H
5946.07	150	85	-43.80	-40	-3.80	Pass	H
6578.71	151	208	-48.51	-40	-8.51	Pass	H
8006.15	148	161	-43.41	-40	-3.41	Pass	H
1211.97	155	12	-57.58	-40	-17.58	Pass	V

1367.99	148	335	-59.49	-40	-19.49	Pass	V
3539.18	154	62	-52.33	-40	-12.33	Pass	V
3931.72	145	48	-49.48	-40	-9.48	Pass	V
5781.41	154	47	-48.20	-40	-8.20	Pass	V
6435.61	155	247	-43.56	-40	-3.56	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.
1239.96	145	203	-53.92	-40	-13.92	Pass	H
1712.52	146	91	-47.86	-40	-7.86	Pass	H
3778.48	152	320	-50.28	-40	-10.28	Pass	H
5916.85	146	350	-44.86	-40	-4.86	Pass	H
6604.01	153	262	-47.73	-40	-7.73	Pass	H
8045.83	148	89	-46.96	-40	-6.96	Pass	H
1124.79	150	222	-57.60	-40	-17.60	Pass	V
1408.06	146	125	-60.06	-40	-20.06	Pass	V
3493.76	151	114	-53.08	-40	-13.08	Pass	V
3928.10	147	301	-48.88	-40	-8.88	Pass	V
5749.03	146	194	-46.53	-40	-6.53	Pass	V
6463.67	146	55	-49.21	-40	-9.21	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.
1317.59	146	31	-52.92	-40	-12.92	Pass	H
1722.85	145	79	-48.70	-40	-8.70	Pass	H
3755.53	145	162	-46.92	-40	-6.92	Pass	H
5907.78	145	358	-46.79	-40	-6.79	Pass	H
6550.99	145	171	-45.25	-40	-5.25	Pass	H
8069.44	146	74	-47.13	-40	-7.13	Pass	H
1101.84	145	286	-60.44	-40	-20.44	Pass	V
1324.04	145	17	-59.28	-40	-19.28	Pass	V
3544.75	146	78	-52.12	-40	-12.12	Pass	V
3864.15	145	55	-51.24	-40	-11.24	Pass	V
5896.48	145	162	-50.94	-40	-10.94	Pass	V
6559.83	146	85	-45.83	-40	-5.83	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.
1260.72	150	275	-52.96	-40	-12.96	Pass	H
1768.24	154	130	-50.33	-40	-10.33	Pass	H
3754.74	148	325	-48.23	-40	-8.23	Pass	H

5912.79	146	299	-45.93	-40	-5.93	Pass	H
6540.57	148	297	-46.76	-40	-6.76	Pass	H
8063.35	153	36	-47.55	-40	-7.55	Pass	H
1169.33	155	23	-57.13	-40	-17.13	Pass	V
1317.22	152	340	-59.37	-40	-19.37	Pass	V
3524.51	149	270	-50.39	-40	-10.39	Pass	V
3951.91	149	155	-51.85	-40	-11.85	Pass	V
5767.44	146	3	-49.34	-40	-9.34	Pass	V
6595.77	152	268	-43.39	-40	-3.39	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.

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=DC12V; Low Voltage LV=DC10.8; High Voltage HV=DC13.2V
Please refer to Appendix 2: Frequency Stability
Test result: Pass

※※※※※ END OF REPORT ※※※※※