



TEST REPORT

Applicant: Fujian Senhaix Electronic Technology Co., Ltd

Address: No.7, Zi Hua Road, Jiangnan High-tech Industrial Zone, Licheng, Quanzhou, Fujian, China

FCC ID: 2AS7F-SPTT-100

- Product Name: MOBILE RADIO
- Model Number: SPTT-100
 - Standard(s): 47 CFR Part 22, Subpart H 47 CFR Part 24, Subpart E 47 CFR Part 27 47 CFR Part 90 ANSI C63.26-2015 KDB 971168 D01 Power Meas License Digital Systems v03r01

The above equipment has been tested and found compliant with the requirement of the relative standards by China Certification ICT Co., Ltd (Dongguan)

Report Number:	CR22050036-00A
Date Of Issue:	2022-08-23
Reviewed By:	Sun Zhong
Title:	Manager
Test Laboratory:	China Certification ICT Co., Ltd (Dongguan) No. 113, Pingkang Road, Dalang Town, Dongguan, Guangdong, China Tel: +86-769-82016888

Test Facility

The Test site used by China Certification ICT Co., Ltd (Dongguan) to collect test data is located on the No. 113, Pingkang Road, Dalang Town, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 442868, the FCC Designation No. : CN1314.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0123.

Declarations

China Certification ICT Co., Ltd (Dongguan) is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol " \blacktriangle ". Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

This report cannot be reproduced except in full, without prior written approval of the Company.

This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

This report may contain data that are not covered by the accreditation scope and shall be marked with an asterisk " \star ".

CONTENTS

TEST FACILITY	2
DECLARATIONS	2
1. GENERAL INFORMATION	5
1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	5
1.2 DESCRIPTION OF TEST CONFIGURATION	6
1.2.2 Support Equipment List and Details	7
1.2.3 Support Cable List and Details	
1.2.4 Block Diagram of Test Setup	
1.3 MEASUREMENT UNCERTAINTY	9
2. SUMMARY OF TEST RESULTS	
3. REQUIREMENTS AND TEST PROCEDURES	11
3.1 Applicable Standard For Part 22 Subpart H:	
3.1.1 RF Output Power	
3.1.2 Spurious Emissions	
3.1.3 Frequency stability3.2 Applicable Standard For Part 24 Subpart E:	
3.2.1 RF Output Power	
3.2.2 Spurious Emissions	
3.2.3 Frequency stability	12
3.3 Applicable Standard For Part 27:	13
3.3.1 RF Output Power	
3.3.2 Spurious Emissions	
3.3.3 Frequency stability3.4 Applicable Standard For Part 90:	13
3.4.1 RF Output Power	
3.4.2 Spurious Emissions	
3.4.3 Frequency stability	
3.5 Test Method:	
3.5.1 RF Output Power	
3.5.2 Occupied Bandwidth3.5.3 Spurious emissions at antenna terminals	
3.5.4 Out of band emission	
3.5.5 Frequency stability	
3.5.6 Field strength of spurious radiation	
4. Test DATA AND RESULTS	21
4.1ANTENNA PORT TEST DATA AND RESULTS FOR WCDMA BAND 2:	21
4.2ANTENNA PORT TEST DATA AND RESULTS FOR WCDMA BAND 4:	28
4.3ANTENNA PORT TEST DATA AND RESULTS FOR WCDMA BAND 5:	35
4.4ANTENNA PORT TEST DATA AND RESULTS FOR LTE BAND 2:	42
4.5ANTENNA PORT TEST DATA AND RESULTS FOR LTE BAND 4:	63
4.6ANTENNA PORT TEST DATA AND RESULTS FOR LTE BAND 5:	84

4.7ANTENNA PORT TEST DATA AND RESULTS FOR LTE BAND 12:	.100
4.8ANTENNA PORT TEST DATA AND RESULTS FOR LTE BAND 13:	.116
4.9 ANTENNA PORT TEST DATA AND RESULTS FOR LTE BAND 14:	.128
4.10 ANTENNA PORT TEST DATA AND RESULTS FOR LTE BAND 66:	.138
4.:11 ANTENNA PORT TEST DATA AND RESULTS FOR LTE BAND 71:	.159
4.16 Spurious Emissions	.176

1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

EUT Name:	MOBILE RADIO
EUT Model:	SPTT-100
Operation modes:	WCDMA(R99 (Data), HSDPA, HSUPA) FDD-LTE
Operation Bands and modes:	WCDMA: Band 2/4/5 LTE: Band 2/4/5/12/13/14/66/71
Modulation Type:	BPSK, QPSK, 16QAM
Rated Input Voltage:	DC 13.8V from Vehicle System
Serial Number:	CR22050036-RF-S1
EUT Received Date:	2022.5.26
EUT Received Status:	Good

Accessory Information:

Accessory Description	Manufacturer	Model	Parameters
GPS Antenna	Unknown	Unknown	Frequency: 1575.42MHz Voltage:3V-5V
Hand microphone	Fujian Senhaix Electronic Technology Co., Ltd	Unknown	Unknown

Antenna Information▲:

nna Type	input impedance (Ohm)	Antenna Gain /Operation Band
onopole	50	3.66 dBi(B2) 3.87 dBi(B4/B66) 0.88 dBi(B5) -0.70 dBi(B12) 0.31 dBi(B13) -0.29 dBi(B14) -1.38 dBi(B71)
		(Ohm)

1.2 Description of Test Configuration

1.2.1 EUT Operation Condition:

EUT Operation Mode:	The system was configured for testing in each operation mode.
Equipment Modifications:	No
EUT Exercise Software:	No

The maximum power was configured per 3GPP Standard for each operation modes as below setting:

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP TS34.121-1 specification.

	Mode	HSUPA	HSUPA	HSUPA	HSUPA	HSUPA		
	Subset	1	2		4	5		
	Loopback Mode			Test Mode 1				
	Rel99 RMC	12.2kbps RMC						
	HSDPA FRC	H-Set1						
	HSUPA Test		HS	SUPA Loopba	ck			
WCDMA	Power Control			Algorithm2				
General	Algorithm	11/15	<i>c</i> /1 =		2/15	1 5 / 1 5		
Settings	βc	11/15	6/15	15/15	2/15	15/15		
Settings	βd	15/15	15/15	9/15	15/15	0		
	βec	209/225	12/15	30 15	2/15	5/15		
	βc/ βd	11/15	6/15	15/9	2/15	-		
	βhs	22/15	12/15	30/15	4/15	5/15		
	CM(dB)	1.0	3.0	2.0	3.0	1.0		
	MPR(dB)	0	2	1	2	0		
	DACK			8				
	DNAK			8				
HSDPA	DCQI	8						
Specific	Ack-Nack repetition	3						
Settings	factor							
Settings	CQI Feedback 4ms							
	CQI Repetition Factor			2				
	Ahs=βhs/ βc			30/15				
	DE-DPCCH	6	8	8	5	7		
	DHARQ	0	0	0	0	0		
	AG Index	20	12	15	17	21		
	ETFCI	75	67	92	71	81		
	Associated Max UL Data Rate k ps	242.1	174.9	482.8	205.8	308.9		
HSUPA Specific Settings	Reference E_FCls	E-TFCI 11 E E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO23 E-TFCI 75 E-TFCI 75 E-TFCI PO26 E-TFCI 81 E-TFCI PO 27		E-TFCI 11 E-TFCI PO4 E-TFCI 92 E-TFCI PO 18	E-TFC E-TF E-TFC E-TF E-TFC E-TF	EI PO 4 CI 67 I PO 18 CI 71 I PO23 CI 75 I PO26		

LTE (FDD):

The following tests were conducted according to the test requirements in 3GPP TS36.101

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS36.101 specification.

UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101.

Table 6.2.3-1: Maximum	Power B	eduction ()	MPR) for	Power (Clase 3
10010 A'V'A. 1' MOVUUMU	ronoi in	caucion	101	rone.	010330

Modulation	Channel bandwidth / Transmission bandwidth (RB)					MPR (dB)	
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	1
QPSK	> 5	>4	>8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	>5	>4	>8	> 12	> 16	> 18	≤ 2

The allowed A-MPR values specified below in Table 6.2.4.-1 of 3GPP TS36.101 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network Signaling Value of "NS_01".

Network Signalling value	Requirements (sub-clause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks (N _{RS})	A-MPR (dB)	
NS_01	6.6.2.1.1	Table 5.5-1	1.4, 3, 5, 10, 15, 20	Table 5.6-1	NA	
			3	>5	≤ 1	
			5	>6	≤1	
NS_03	6.6.2.2.1	2, 4,10, 23, 25, 35, 36	10	>6	≤ 1	
			15	>8	≤1	
			20	>10	≤ 1	
NS 04	66222	41	5	>6	≤ 1	
110_04	0.0.2.2.2	-1	10, 15, 20	See Table 6.2.4-4		
NS_05	6.6.3.3.1	1	10,15,20	≥ 50	≤ 1	
NS_06	6.6.2.2.3	12, 13, 14, 17	1.4, 3, 5, 10	Table 5.6-1	n/a	
NS 07	6.6.2.2.3	13	10	Table 6.2.4-2	Table 6.2.4-2	
N3_07	6.6.3.3.2	13	10	1000 0.2.4-2	10010-0.2.4-2	
NS_08	6.6.3.3.3	19	10, 15	> 44	≤ 3	
NS_09	6.6.3.3.4	21	10, 15	> 40	s 1	
	0.0.3.3.4	21	10, 15	> 55	≤ 2	
NS_10		20	15, 20	Table 6.2.4-3	Table 6.2.4-3	
NS_11	6.6.2.2.1	23'	1.4, 3, 5, 10	Table 6.2.4-5	Table 6.2.4-5	
NS_32						
Note 1: Applies to the lower block of Band 23, i.e. a carrier placed in the 2000-2010 MHz region.						

Table 6.2.4-1: Additional Maximum Power Reduction (A-MPR)

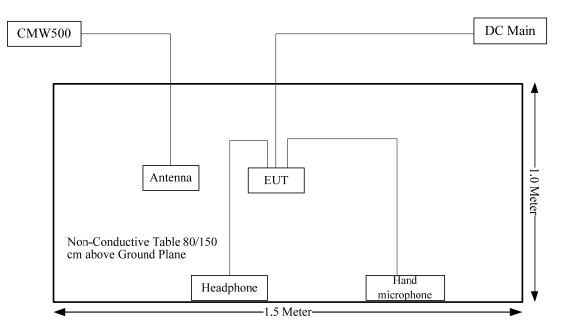
1.2.2 Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
R&S	Wideband Radio Communication Tester	CMW500	149218
Unknown	ANTENNA	Unknown	Unknown
Unknown	Headphone	Unknown	Headphone1

1.2.3 Support Cable List and Details

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	То
Hand Microphone Cable	No	No	0.8	EUT	Hand Microphone
Headphone Cable	No	No	0.8	EUT	Headphone

1.2.4 Block Diagram of Test Setup



1.3 Measurement Uncertainty

Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

Parameter	Measurement Uncertainty		
Occupied Channel Bandwidth	±5 %		
RF output power, conducted	±0.61dB		
Power Spectral Density, conducted	±0.61 dB		
Unwanted Emissions, radiated	30M~200MHz: 4.15 dB,200M~1GHz: 5.61 dB,1G~6GHz: 5.14 dB, 6G~18GHz: 5.93 dB,18G~26.5G:5.47 dB,26.5G~40G:5.63 dB		
Unwanted Emissions, conducted	$\pm 1.26 \text{ dB}$		
Temperature	$\pm 1^\circ C$		
Humidity	$\pm 5\%$		
DC and low frequency voltages	$\pm 0.4\%$		
Duty Cycle	1%		
RF Frequency	$\pm 0.082 \times 10^{-6}$		

2. SUMMARY OF TEST RESULTS

Rules	Description of Test	Result
FCC§2.1046; § 22.913 (a); § 24.232 (c); §27.50 §90.542	RF Output Power	Compliance
FCC§ 2.1047	Modulation Characteristics	Not Applicable
FCC§ 2.1049; § 22.905 § 22.917; § 24.238; §27.53 § 90.209	Occupied Bandwidth	Compliance
FCC§ 2.1051, § 22.917 (a); § 24.238 (a); § 27.53; § 90.543	Spurious Emissions at Antenna Terminal	Compliance
FCC§ 22.917 (a); § 24.238 (a); §27.53 ; §90.543	Out of band emission, Band Edge	Compliance
FCC§ 2.1055 § 22.355; § 24.235; §27.54 §90.213	Frequency stability vs. temperature Frequency stability vs. voltage	Compliance
FCC§ 2.1053 § 22.917 (a); § 24.238 (a); §27.53 §90.543	Field Strength of Spurious Radiation	Compliance

3. REQUIREMENTS AND TEST PROCEDURES

3.1 Applicable Standard For Part 22 Subpart H:

3.1.1 RF Output Power

FCC §22.913(a)

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

3.1.2 Spurious Emissions

FCC §22.917

(a) Out of band emissions. 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 $43 + 10 \log(P) dB$.

(b) Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a reference bandwidth as follows:

(1) In the spectrum below 1 GHz, instrumentation should employ a reference bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy, provided that the measured power is integrated over the full required reference bandwidth (i.e., 100 kHz or 1 percent of emission bandwidth, as specified). 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. (2) In the spectrum above 1 GHz, instrumentation should employ a reference bandwidth of 1 MHz

3.1.3 Frequency stability

FCC §22.355

Except as otherwise provided in this part, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table C-1 of this section.

Frequency range (MHz)	Base, fixed (ppm)	Mobile >3 watts (ppm)	Mobile ≤3 watts (ppm)
25 to 50	20	20	50
50 to 450	5	5	50
450 to 512	2.5	5	5
821 to 896	1.5	2.5	2.5
928 to 929	5	n/a	n/a
929 to 960	1.5	n/a	n/a
2110 to 2220	10	n/a	n/a

Table C-1 - Frequency Tolerance for Transmitters in the Public Mobile Services

3.2 Applicable Standard For Part 24 Subpart E:

3.2.1 RF Output Power

FCC §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.

3.2.2 Spurious Emissions

FCC §24.238

The rules in this section govern the spectral characteristics of emissions in the Broadband Personal Communications Service.

(a) Out of band emissions. 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 $43 + 10 \log(P) dB$.

(b) Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). 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.

(c) Alternative out of band emission limit. Licensees in this service may establish an alternative out of band emission limit to be used at specified band edge(s) in specified geographical areas, in lieu of that set forth in this section, pursuant to a private contractual arrangement of all affected licensees and applicants. In this event, each party to such contract shall maintain a copy of the contract in their station files and disclose it to prospective assignees or transferees and, upon request, to the FCC.

(d) Interference caused by out of band emissions. If any emission from a transmitter operating in this service results in interference to users of another radio service, the FCC may require a greater attenuation of that emission than specified in this section.

3.2.3 Frequency stability

FCC §24.235

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

3.3 Applicable Standard For Part 27:

3.3.1 RF Output Power

FCC §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 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.

(ii) Mobile and portable stations are not permitted to transmit in the 2315-2320 MHz and 2345-2350 MHz bands.

(iii) *Automatic transmit power control*. Mobile and portable stations transmitting in the 2305-2315 MHz band or in the 2350-2360 MHz band must employ automatic transmit power control when operating so the stations operate with the minimum power necessary for successful communications.

(iv) *Prohibition on external vehicle-mounted antennas*. The use of external vehicle-mounted antennas for mobile and portable stations transmitting in the 2305-2315 MHz band or the 2350-2360 MHz band is prohibited.

(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.

(c)(10) Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

(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. Fixed stations operating in the 1710-1755 MHz band are limited to a maximum antenna height of 10 meters above ground. Mobile and portable stations operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

(h) The following power limits shall apply in the BRS and EBS:

(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.

3.3.2 Spurious Emissions

FCC §27.53

(a) For operations in the 2305-2320 MHz band and the 2345-2360 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power P (with averaging performed only during periods of transmission) within the licensed band(s) of operation, in watts, by the following amounts:

(4)For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands:

(i) 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;

(ii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305 MHz, 55 + 10 log (P) dB on all frequencies between 2296 and 2300 MHz, 61 + 10 log (P) dB on all frequencies between 2292 and 2296 MHz, 67 + 10 log (P) dB on all frequencies between 2288 and 2292 MHz, and 70 + 10 log (P) dB below 2288 MHz;

(iii) By a factor of not less than $43 + 10 \log (P) dB$ on all frequencies between 2360 and 2365 MHz, and not less than $70 + 10 \log (P) dB$ above 2365 MHz.

(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.

(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.

(g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P) dB$. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

(h) AWS emission limits

(1) *General protection levels.* Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log₁₀ (P) dB.

(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. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

3.3.3 Frequency stability

FCC §27.54

The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

3.4 Applicable Standard For Part 90:

3.4.1 RF Output Power

FCC §90.542(a)

(7) Portable stations (hand-held devices) transmitting in the 758-768 MHz band and the 788-798 MHz band are limited to 3 watts ERP.

3.4.2 Spurious Emissions

FCC §90.543

(c) Out-of-band emission limit. On any frequency outside of the frequency ranges covered by the ACP tables in this section, the power of any emission must be reduced below the mean output power (P) by at least 43 + 10log (P) dB measured in a 100 kHz bandwidth for frequencies less than 1 GHz, and in a 1 MHz bandwidth for frequencies greater than 1 GHz.

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

(1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations.

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

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

(4) Compliance with the provisions of paragraphs (e)(1) and (2) 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.

(5) Compliance with the provisions of paragraph (e)(3) 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 30 kHz may be employed.

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

3.4.3 Frequency stability

FCC §90.213

2.5ppm for 2W or less output power.

3.5 Test Method:

3.5.1 RF Output Power

According to CFR Part 2.1046, ANSI C63.26-2015 Section 5.2.5.5 and KDB 971168 D01 Power Meas License Digital Systems v03r01:

The relevant equation for determining the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

ERP or EIRP = $P_{Meas} + G_T - L_C$

where:

ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively
(expressed in the same units as P _{Meas} , typically dBW or dBm);

PMeas	= measured transmitter output power or PSD, in dBm or dBW;
GT	= gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);
L _C	= signal attenuation in the connecting cable between the transmitter and antenna, in dB.

3.5.2 Occupied Bandwidth

According to CFR Part 2.1049, ANSI C63.26-2015 Section 5.4.4

The OBW is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission.

The following procedure shall be used for measuring (99%) power bandwidth:

a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products including the emission skirts (typically a span of $1.5 \times OBW$ is sufficient).

b) The nominal IF filter 3 dB bandwidth (RBW) shall be in the range of 1% to 5% of the anticipated OBW, and the VBW shall be set \ge 3 × RBW.

c) Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation. See guidance provided in 4.2.3. NOTE—Step a), step b), and step c) may require iteration to adjust within the specified tolerances.

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

e) If the instrument does not have a 99% OBW function, recover the trace data points and sum directly in linear power terms. Place the recovered amplitude data points, beginning at the lowest frequency, in a running sum until 0.5% of the total is reached. Record that frequency as the lower OBW frequency. Repeat the process until 99.5% of the total is reached and record that frequency as the upper OBW frequency. The 99% power OBW can be determined by computing the difference these two frequencies.

f) The OBW shall be reported and plot(s) of the measuring instrument display shall be provided with the test report. The frequency and amplitude axis and scale shall be clearly labeled. Tabular data can be reported in addition to the plot(s).

3.5.3 Spurious emissions at antenna terminals

According to CFR Part 2.1051, 22.917(a), 24.238(a) and/or 27.53,90, ANSI C63.26-2015 Section 5.7.4, KDB 971168 D01 Power Meas License Digital Systems v03r01:

the applicable rule part specifies the reference bandwidth for measuring unwanted emission levels (typically, 100 kHz if the authorized frequency band/block is at or below 1 GHz and 1 MHz if the authorized frequency band/block is above 1 GHz),8 effectively depicting the unwanted emission limit in terms of a power spectral density. In those cases where no reference bandwidth is explicitly specified, the values in the preceding sentence should be used.

3.5.4 Out of band emission

According to CFR Part 2.1051, 22.917(a), 24.238(a), 27.53,90, ANSI C63.26-2015 Section 5.7.3, KDB 971168 D01 Power Meas License Digital Systems v03r01:

Typically, a measurement (resolution) bandwidth smaller than the reference bandwidth is allowed for measurements within a specified frequency range at the edge of the authorized frequency block/band (e.g., within the first Y MHz outside of the authorized frequency band/block, where the value of Y is specified in the relevant rule part). Some FCC out-of-band emission rules permit the use of a narrower RBW (typically limited to a minimum RBW of 1 % of the OBW) for measuring the out-of-band emissions without a requirement to integrate the result over the full reference bandwidth. Beyond the specified frequency range in which this relaxation of the uniform reference bandwidth is permitted, it typically is also acceptable to use a narrower RBW (again limited to a minimum of 1 % of OBW) to increase accuracy, but the measurement result must subsequently be integrated over the full reference bandwidth.

3.5.5 Frequency stability

According to CFR Part 2.1055, ANSI C63.26-2015 Section 5.6, KDB 971168 D01 Power Meas License Digital Systems v03r01:

Frequency stability is a measure of the frequency drift due to temperature and supply voltage variations, with reference to the frequency measured at +20 °C and rated supply voltage.

The operating carrier frequency shall be set up in accordance with the manufacturer's published operation and instruction manual prior to the commencement of these tests. No adjustment of any frequency determining circuit element shall be made subsequent to this initial set-up. Frequency stability is tested:

a) At 10 °C intervals of temperatures between -30 °C and +50 °C at the manufacturer's rated supply voltage, and

b) At +20 °C temperature and $\pm 15\%$ supply voltage variations. If a product is specified to operate over a range of input voltage then the -15% variation is applied to the lowermost voltage and the +15% is applied to the uppermost voltage.

During the test all necessary settings, adjustments and control of the EUT have to be performed without disturbing the test environment, i.e., without opening the environmental chamber. The frequency stabilities can be maintained to a lesser temperature range provided that the transmitter is automatically inhibited from operating outside the lesser temperature range. For handheld equipment that is only capable of operating from internal batteries and the supply voltage cannot be varied, the frequency stability tests shall be performed at the nominal battery voltage and the battery end point voltage specified by the manufacturer. An external supply voltage can be used and set at the internal battery nominal voltage, and again at the battery operating end point voltage which shall be specified by the equipment manufacturer.

If an unmodulated carrier is not available, the mean frequency of a modulated carrier can be obtained by using a frequency counter with gating time set to an appropriately large multiple of bit periods (gating time depending on the required accuracy). Full details on the choice of values shall be included in the test report.

3.5.6 Field strength of spurious radiation

According to CFR Part 2.1053, 22.917(a), 24.238(a) and/or 27.53,90, ANSI C63.26-2015 Section 5.5.3:

Test setup:

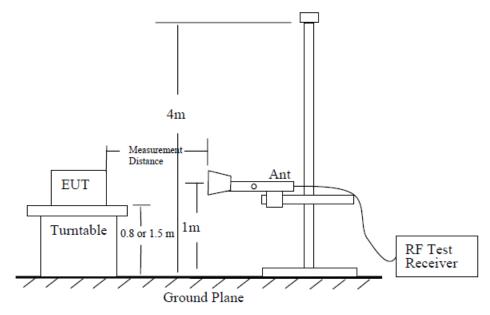
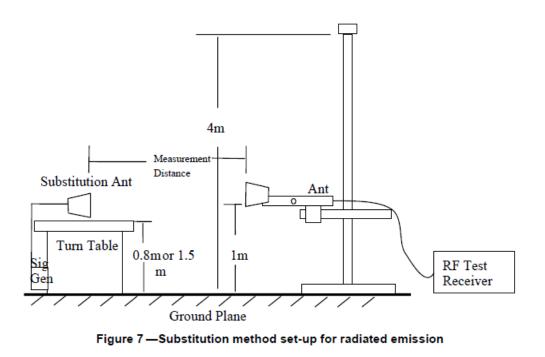


Figure 6—Test site-up for radiated ERP and/or EIRP measurements



Test Procedure:

- a) Place the EUT in the center of the turntable. The EUT shall be configured to transmit into the standard non-radiating load (for measuring radiated spurious emissions), connected with cables of minimal length unless specified otherwise. If the EUT uses an adjustable antenna, the antenna shall be positioned to the length that produces the worst case emission at the fundamental operating frequency.
- b) Each emission under consideration shall be evaluated:
 - 1) Raise and lower the measurement antenna in accordance 5.5.2, as necessary to enable detection of the maximum emission amplitude relative to measurement antenna height.
 - Rotate the EUT through 360° to determine the maximum emission level relative to the axial position.
 - 3) Return the turntable to the azimuth where the highest emission amplitude level was observed.
 - 4) Vary the measurement antenna height again through 1 m to 4 m again to find the height associated with the maximum emission amplitude.
 - 5) Record the measured emission amplitude level and frequency using the appropriate RBW.
- c) Repeat step b) for each emission frequency with the measurement antenna oriented in both the horizontal and vertical polarizations to determine the orientation that gives the maximum emissions amplitude.
- d) Set-up the substitution measurement with the reference point of the substitution antenna located as near as possible to where the center of the EUT radiating element was located during the initial EUT measurement.
- e) Maintain the previous measurement instrument settings and test set-up, with the exception that the EUT is removed and replaced by the substitution antenna.
- f) Connect a signal generator to the substitution antenna; locate the signal generator so as to minimize any potential influences on the measurement results. Set the signal generator to the frequency where emissions are detected, and set an output power level such that the radiated signal can be detected by the measurement instrument, with sufficient dynamic range relative to the noise floor.
- g) For each emission that was detected and measured in the initial test [i.e., in step b) and step c)]:
 - 1) Vary the measurement antenna height between 1 m to 4 m to maximize the received (measured) signal amplitude.
 - Adjust the signal generator output power level until the amplitude detected by the measurement instrument equals the amplitude level of the emission previously measured directly in step b) and step c).
 - 3) Record the output power level of the signal generator when equivalence is achieved in step 2).
- h) Repeat step e) through step g) with the measurement antenna oriented in the opposite polarization.
- i) Calculate the emission power in dBm referenced to a half-wave dipole using the following equation:

Pe = Ps(dBm) - cable loss (dB) + antenna gain (dBd)

where

- Pe = equivalent emission power in dBm
- Ps = source (signal generator) power in dBm

NOTE-dBd refers to the measured antenna gain in decibels relative to a half-wave dipole.

- j) Correct the antenna gain of the substitution antenna if necessary to reference the emission power to a half-wave dipole. When using measurement antennas with the gain specified in dBi, the equivalent dipole-referenced gain can be determined from: gain (dBd) = gain (dBi) - 2.15 dB. If necessary, the antenna gain can be calculated from calibrated antenna factor information
- k) Provide the complete measurement results as a part of the test report.

4. Test DATA AND RESULTS

4.1Antenna Port Test Data and Results for WCDMA Band 2:

Serial Number:	CR22050036-RF-S1	Test Date:	2022-06-10~2022-08-22
Test Site:	RF	Test Mode:	Transmitting
Tester:	Rinka Li	Test Result:	Pass

Environmental Conditions:					
Temperature: (°C)	25~27.9	Relative Humidity: (%)	68~69	ATM Pressure: (kPa)	100.1

Test Equipment List and Details:						
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date	
R&S	Spectrum Analyzer	FSV40	101474	2021-07-22	2022-07-21	
zhuoxiang	Coaxial Cable	SMA-178	211002	Each time	N/A	
Mini-Circuits	DC Block	BLK-18-S+	1554404	Each time	N/A	
R&S	Wideband Radio Communication Tester	CMW500	149218	2021-07-22	2022-07-21	
UNI-T	Multimeter	UT39A+	C210582554	2021-09-30	2022-09-29	
Weinschel	Coaxial Attenuator	53-20-34	LN751	Each time	N/A	
BACL	TEMP&HUMI Test Chamber	BTH-150	30026	2021-07-22	2022-07-21	
UNI-T	Multimeter	UT39A+	C210582554	2021-07-22	2022-07-21	
E-Microwave	Two-way Spliter	ODP-1-6	OE0120176	Each Time	N/A	

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

EUT Information@ WCDMA Band IIA:					
Antenna Gain (dBi):	3.66			Cable Loss (dB):	0
Operation Voltage(V _{DC}):					
Lowest: 10.8 Normal: 13.8 Highest: 36					

Test Frequency For Each Mode:					
Operation Modes	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)		
WCDMA	1852.4	1880	1907.6		

	Conducted A	Conducted Average Output Power(dBm)			LIDD
Test Mode	Lowest Channel	Middle Channel	Highest Channel	Maximum EIRP(dBm)	EIRP Limit(dBm)
WCDMA R99	22.33	22.28	22.35	26.01	33
HSDPA Subtest 1	22.4	22.37	22.43	26.09	33
HSDPA Subtest 2	22.49	22.44	22.44	26.15	33
HSDPA Subtest 3	22.52	22.45	22.48	26.18	33
HSDPA Subtest 4	22.52	22.46	22.55	26.21	33
HSUPA Subtest	22.6	22.52	22.62	26.28	33
HSUPA Subtest 2	22.68	22.57	22.72	26.38	33
HSUPA Subtest	22.75	22.6	22.81	26.47	33
HSUPA Subtest 4	22.81	22.65	22.82	26.48	33
HSUPA Subtest	22.83	22.65	22.83	26.49	33

Peak-to-average Ratio(PAR)					
		Peak	Peak-to-average Ratio(dB)		
	Test Mode	Lowest Channel	Middle Channel	Highest Channel	Limit (dB)
	WCDMA R99	3.28	3.01	3.22	13
	HSDPA	4.9	5.59	5.07	13
	HSUPA	6.41	6.26	7.1	13
				Result:	Pass

FCC §2.1049, §24.238:Occupied Bandwidth						
Operation	99% Occupied Bandwidth (MHz)			26 dB	Occupied Band (MHz)	lwidth
Mode	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
WCDMA R99	4.197	4.182	4.168	4.747	4.761	4.747
HSDPA	4.211	4.197	4.182	4.747	4.761	4.732
HSUPA	4.197	4.197 4.211 4.182			4.776	4.805
Note: The test plots please refer to the Plots of Occupied Bandwidth						

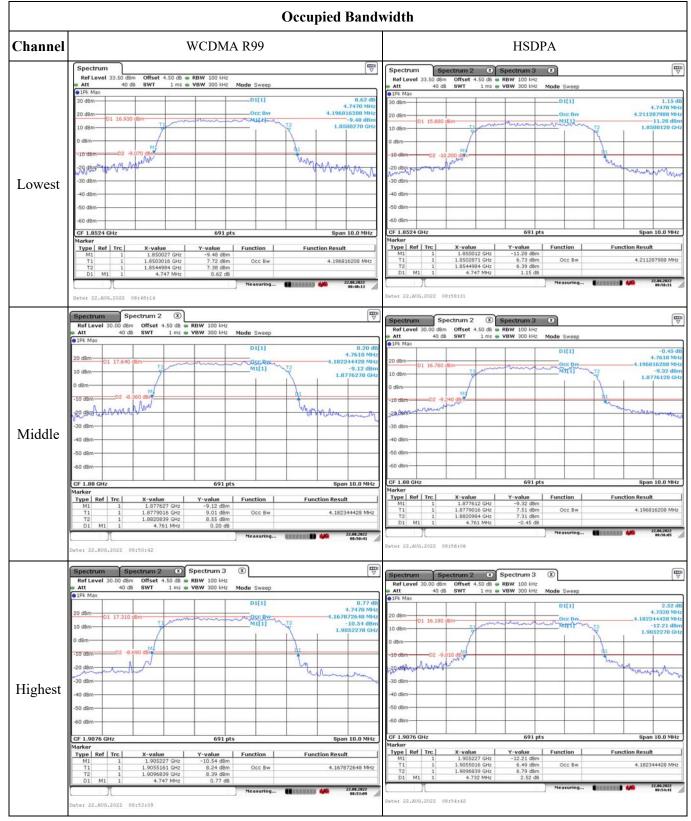
FCC §2.1051, § 24.238 (a):Spurious Emissions at Antenna Terminal

Result: Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.

FCC §2.1051, § 24.238 (a):Out of band emission, Band EdgeResult:Pass, Please refer to the test plots of Out of band emission, Band Edge.

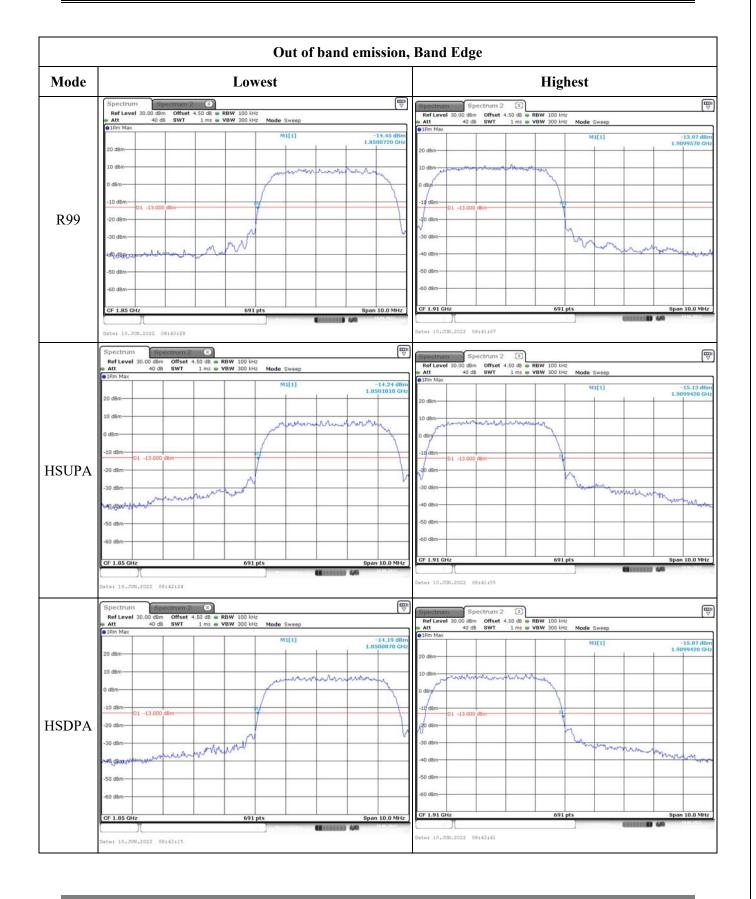
FCC §2.1055	FCC §2.1055, §24.235: Frequency Stability					
Test Modulation:	WCDMA R99	WCDMA R99		1880	MHz	
Test Item	Temperature Voltage		Frequen	cy Error	Result	
Test Itelli	(°C)	(Vdc)	(Hz)	(ppm)	Kesuit	
	-30	13.8	6	0.003	Pass	
	-20	13.8	4	0.002	Pass	
	-10	13.8	-8	-0.004	Pass	
Frequency	0	13.8	2	0.001	Pass	
Stability vs.	10	13.8	-7	-0.004	Pass	
Temperature	20	13.8	-1	-0.001	Pass	
	30	13.8	6	0.003	Pass	
	40	13.8	-3	-0.002	Pass	
	50	13.8	5	0.003	Pass	
Frequency	20	10.8	-7	-0.004	Pass	
Stability vs. Voltage	20	36	1	0.001	Pass	
				Result:	Pass	

Test Plots:



	Occupied Bandwidth	
Channel	HSUPA	
Channel Lowest	Spectrum Spectrum 2 Spectrum 3 O Ref Level 33.50 d/m Offset 4.50 d/l = RBW 100 H/2 Mode Sweep • Att 40 d/l = SWT 1 ms = VBW 300 H/2 Mode Sweep • D1/H 30 d/l = RBW 100 H/2 Mode Sweep • 0 d/l = SWT 1 ms = VBW 300 H/2 Mode Sweep • 0 d/l = RBW 00 H/2 Mode Sweep • 0 d/l = RBW 00 H/2 Mode Sweep • 0 d/l = RBW 00 H/2 Mode Sweep • 0 d/l = RBW 00 H/2 Mode Sweep • 0 d/l = RBW 00 H/2 H/2 • 0 d/l = RBW 00 H/2 00 H/2 • 0 d/l = RBW 00 H/2 00 H/2 • 0 d/l = RBW 00 H/2 00 H/2 • 0 d/l = RBW 00 H/2 00 H/2 • 0 d/l = RB/2 00 H/2 00 H/2 • 0 d/l = RB/2	-0.14 dB 4.7900 MHz 4.196016200 MHz 10.51 dBm 1.8499800 GHz 5pan 10.0 MHz Function Result 4.196816208 MHz
Middle	Add Bm Add Bm -30 dBm -30 dBm -40 dBm -30 dBm -50 dBm -30 dBm -60 dBm -30 dBm -70 dBm -30 dBm -60 dBm -30 dBm -70 dBm -30 dBm -70 dBm -30 dBm -60 dBm -30 dBm -70 dBm -30 dBm -71 dBm <td< td=""><td>0.69 dB 4.7260 MHz 4.211287988 MHz 1.8775900 GHz Mm Span 10.0 MHz Function Result 4.211287988 MHz 4.211287988 MHz</td></td<>	0.69 dB 4.7260 MHz 4.211287988 MHz 1.8775900 GHz Mm Span 10.0 MHz Function Result 4.211287988 MHz 4.211287988 MHz
Highest	Spectrum Spectrum 2 Spectrum 3 Image: Constraint of the second secon	-1.09 dB 4.0050 MHz 4.00234428 MHz -12.11 dBm 1.9051830 GHz MMAMMWWWW Span 10.0 MHz Function Result 4.182344428 MHz 918214

	Spurious Emissions at An	tenna Terminal
Channel	WCDM	IA R99
	Spectrum Spectrum C Ref Level 30.00 dBm Offset 4.50 dB = RBW 100 kHz Image: Comparison of the compari	Spectrum Spectrum C mp Ref Lavel 30.00 dbm Offset 4.50 db = RBW 1 MHz Imp Imp </th
Lowest	IPK Max M1[1] -42.70 dBm 20 dBm 606.20 MHz 606.20 MHz 10 dBm 0 0 0 -10 dBm 0 0 0 0 -10 dBm 0 0 0 0 0 -20 dBm 0 0 0 0 0 0 -30 dBm 0	
	Start 30.0 MHz 691 pts Stop 1.0 GHz Date: 10.3UM-2022 14:25:27 40	Stort 1.0 GHz 691 pts Stop 20.0 GHz Dates 10.3UN.2022 14:25:45 0 0
Middle	Spectrum Spectrum 2 Image: Constraint of the second secon	Spectrum Spectrum Example
	40 d8m 11 11	-40 dBm -50 dBm -60
	Spectrum Spectrum Comparison Ref Level 30.00 dbm Offset 4.50 db ● RBW 100 kHz 40 db 40 db 9.7 ms ● VBW 300 kHz ● IPk Max 40 db SWT 9.7 ms ● VBW 300 kHz Mode Sweep ● IPk Max M1[1] -40.16 dBm >0.05 dBm Hz 100 kHz	Ref Lavel 30.00 dbm Offset 4.50 db = RBW 1 MHz V ● Att 40 db : SWT 76 ms = VBW 3 MHz Mode Sweep ● IF% Max MI[1] -27,68 dBm 15,9440 GHz N1[1] -27,68 dBm
Highest	20 dBm 10 dBm 10 dBm -10 dB	20 dgm 15.9440 GHz 10 dgm 10 dgm 10 dgm 10 dgm -10 dgm 11.0 dgm -20 dgm 11.1000 dgm -20 dgm 11.1000 dgm -20 dgm 11.1000 dgm -20 dgm 11.1000 dgm -30 dgm 11.1000 dgm -30 dgm 11.1000 dgm -30 dgm 11.1000 dgm -50 dgm 11.1000 dgm



4.2Antenna Port Test Data and Results for WCDMA Band 4:

Serial Number:	CR22050036-RF-S1	Test Date:	2022-06-10~2022-08-22
Test Site:	RF	Test Mode:	Transmitting
Tester:	Rinka Li	Test Result:	Pass

Environmental Conditions:					
Temperature: (°C)	25~27.9	Relative Humidity: (%)	68~69	ATM Pressure: (kPa)	100.1

Test Equipme	Test Equipment List and Details:				
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101474	2021-07-22	2022-07-21
zhuoxiang	Coaxial Cable	SMA-178	211002	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554404	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	149218	2021-07-22	2022-07-21
UNI-T	Multimeter	UT39A+	C210582554	2021-09-30	2022-09-29
Weinschel	Coaxial Attenuator	53-20-34	LN751	Each time	N/A
BACL	TEMP&HUMI Test Chamber	BTH-150	30026	2021-07-22	2022-07-21
UNI-T	Multimeter	UT39A+	C210582554	2021-07-22	2022-07-21
E-Microwave	Two-way Spliter	ODP-1-6	OE0120176	Each Time	N/A
* Statement of T	raceability: China Cartification I	CT Co Itd (Dor	accuran) attacts that all	l aglibrations h	ana haan

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

EUT Information@ WCDMA Band IVA:					
Antenna Gain (dBi):	3.87			Cable Loss (dB):	0
Operation Voltage(V _{DC}):					
Lowest:	10.8	Normal:	13.6	Highest:	36

Test Frequency For Each Mode:				
Operation Modes	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)	
WCDMA	1712.4	1732.6	1752.6	

Test	Data:
------	-------

RF Output P		verage Output	Power(dBm)		
Test Mode	Lowest Channel	Middle Channel	Highest Channel	Maximum EIRP(dBm)	EIRP Limit(dBm)
WCDMA R99 Subtest 1	22.26	22.49	22.42	26.36	30
HSDPA Subtest 1	22.36	22.51	22.45	26.38	30
HSDPA Subtest 2	22.39	22.55	22.51	26.42	30
HSDPA Subtest	22.49	22.56	22.61	26.48	30
HSDPA Subtest 4	22.6	22.65	22.67	26.54	30
HSUPA Subtest	22.64	22.71	22.67	26.58	30
HSUPA Subtest 2	22.72	22.76	22.68	26.63	30
HSUPA Subtest 3	22.8	22.81	22.72	26.68	30
HSUPA Subtest 4	22.88	22.9	22.74	26.77	30
HSUPA Subtest 5	22.94	22.99	22.8	26.86	30
Note: EIRP=Co	onducted Power(dBm) - Cable los	s(dB) + Antenna	Gain(dBi)	
				Result:	Pass

Peak-to-average Ratio(PAR)					
		Peak	T · ·,		
	Test Mode	Lowest Channel	Middle Channel	Highest Channel	Limit (dB)
	WCDMA R99	3.1	3.3	3.13	13
	HSDPA	5.65	5.1	5.57	13
	HSUPA	6.9	6.55	6.81	13
				Result:	Pass

FCC §2.1049, §27.53:Occupied Bandwidth							
Opration	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)			
Mode	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel	
WCDMA R99	4.168	4.182	4.168	4.718	4.747	4.732	
HSDPA	4.226	4.182	4.211	5.253	4.718	5.051	
HSUPA	4.226						
Note: The test	olots please refer	to the Plots of O	ccupied Bandwid	dth			

FCC §2.1051, § 27.53:Spurious Emissions at Antenna Terminal

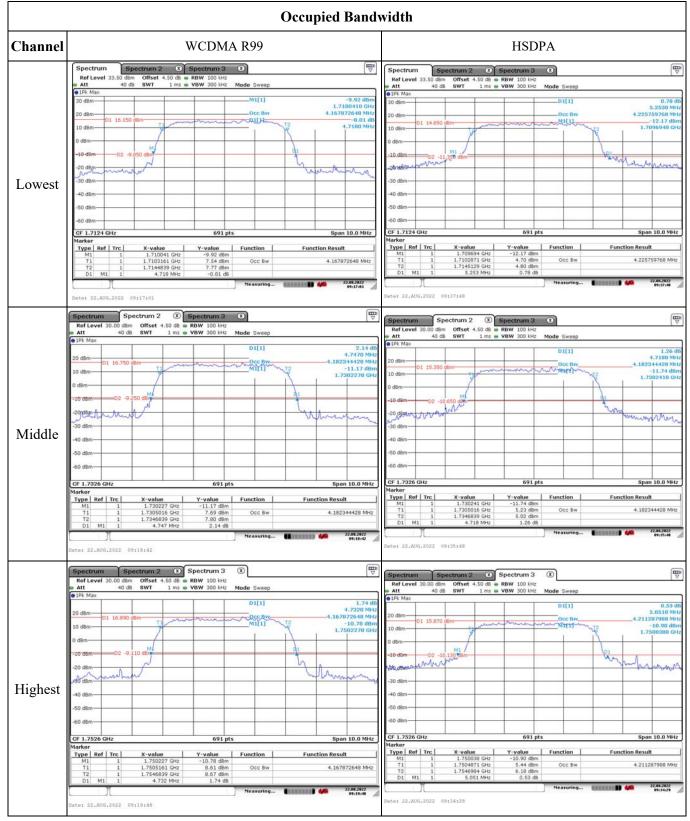
Result: Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.

FCC §2.1051, § 27.53:Out of band emission, Band Edge				
Result:	Pass, Please refer to the test plots of Out of band emission, Band Edge.			

FCC §2.1055, §27.54: Frequency Stability

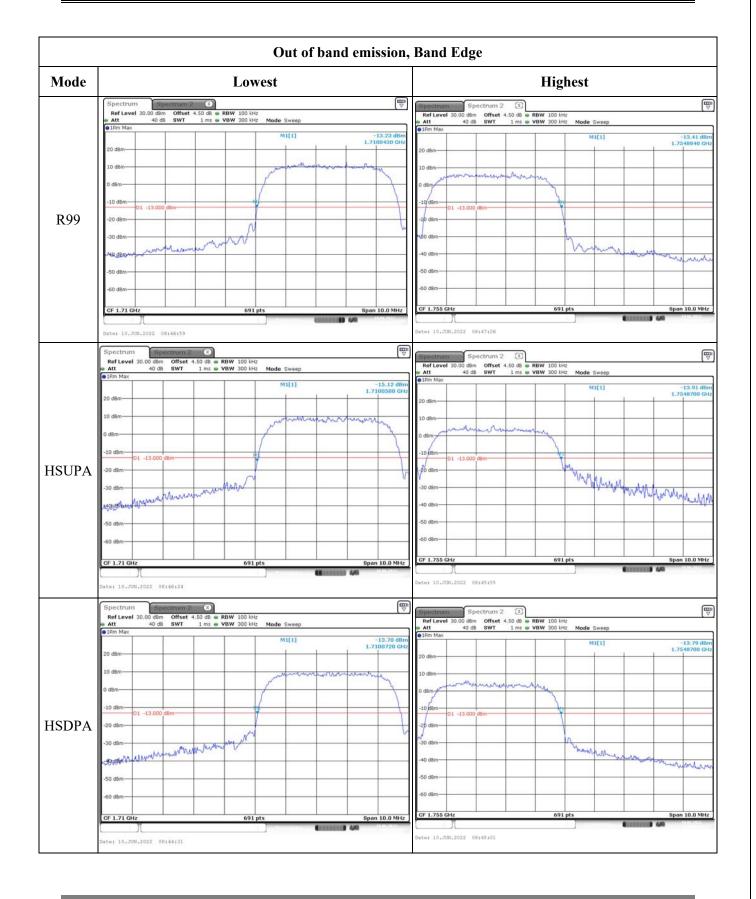
Test Mode:	WCDMA R99	Test Channel: I	Test Channel: Lowest for Lower Edge, Highest for Upper Edge				
Test Item	Temperature	Voltage		Lower Edge (MHz)		Edge z)	
	(°C)	(Vdc)	Result	Limit	Result	Limit	
	-30	13.6	1710.336	1710.00	1754.656	1755	
	-20	13.6	1710.328	1710.00	1754.655	1755	
	-10	13.6	1710.335	1710.00	1754.659	1755	
Frequency Stability vs. Temperature	0	13.6	1710.331	1710.00	1754.652	1755	
	10	13.6	1710.334	1710.00	1754.651	1755	
	20	13.6	1710.331	1710.00	1754.655	1755	
	30	13.6	1710.328	1710.00	1754.650	1755	
	40	13.6	1710.335	1710.00	1754.658	1755	
	50	13.6	1710.331	1710.00	1754.653	1755	
Frequency	20	10.8	1710.327	1710.00	1754.655	1755	
Stability vs. Voltage	20	36	1710.329	1710.00	1754.654	1755	
					Result:	Pass	

Test Plots:



	Occupied Bandwidth
Channel	HSUPA
Lowest	HSUPA
Middle	Spectrum Spectrum
Highest	Spectrum Spectrum

	Spurious Emissions at An	tenna Terminal
Channel	WCDM	IA R99
	Spectrum Spectrum C T Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz Att 40 dB SWT 9.7 ms VBW 300 kHz Mode Sweep	Spectrum Spectrum (TD) Ref Level 30.00 dbm Offset 4.50 db RBW 1 MHz att 40 db SWT 76 ms VBW 2 MHz Mode Sweep
	10 dBm	10 dBm
Lowest	01 -13.000 dBm -20 dBm -30 dBm	-20 dBm
	-40 dBm. Act a black and an and a star a star -50 dBm.	-40 dBm
	-60 dBm Start 30.0 MHz 691 pts Stop 1.0 GHz	-60 d8m Start 1.0 GHz 691 pts Stop 20.0 GHz
	Date: 10.333.2022 14:27:17	Date: 10,308,2022 14:27:29
	RefLevel 30.00 dBm Offset 4.50 dB ⊕ RBW 100 kHz ➡ Att 40 dB SWT 9.7 ms ⊕ VBW 300 kHz Mode Sweep ● JPk Max	Spectrum E TED Ref Level 30.00 dbm Offset 4.50 db = RBW 1 MHz att 40 db SWT 76 ms = VBW 3 MHz Mode Sweep # IFK Max
	20 dBm	20 dBm 19,7110 GHz
	10 d8m	10 dBm
2 61 1 11	-10 dBm 01 -13.000 dBm	-10 dBm 01 -13.000 dBm
Middle	-20 dBm	-20 per Min
	-40 dem	-40 d8m
	-60 d8m	-60 dBm Start 1.0 CHz 691 pts Stop 20.0 CHz
	Date: 10.JUN.2022 14:27:46	Date: 10.JUN.2022 14:27:57
	Spectrum Spectrum Image: Constraint of the system Image: Cons	Spectrum Spectrum 2 Training Ref Level 30.00 dBm Offset 4.50 dB m RBW 1 MHz With 2 Mode Sweep With 2 Mode Sweep
	20 d8m	
	10 dBm	10 c8m
	-10 dBm 01 -13.000 dBm	-10 dBm
Highest	-20 dBm	-20 Jam
	-40 dBm	40 dBm
	-60 d8m-	-60 d8m
	Btort 30.0 MHz 691 pts Stop 1.0 GHz Date: 10.3UN.2022 14:28:14 000000000000000000000000000000000000	Stort 1.0 GHz 691 pts Stop 20.0 GHz Date: 10,JUN.2022 14120126 440 1100120



The second secon						
Serial Number:	CR22050036-RF-S1	Test Date:	2022-06-10~2022-08-22			
Test Site:	RF	Test Mode:	Transmitting			
Tester:	Rinka Li	Test Result:	Pass			

4.3Antenna Port Test Data and Results for WCDMA Band 5:

Environmental Conditions:					
Temperature: (℃)	25~27.9	Relative Humidity: (%)	68~69	ATM Pressure: (kPa)	100.1

Test Equipment List and Details:						
Description	Model	Serial Number	Calibration Date	Calibration Due Date		
Spectrum Analyzer	FSV40	101474	2021-07-22	2022-07-21		
Coaxial Cable	SMA-178	211002	Each time	N/A		
DC Block	BLK-18-S+	1554404	Each time	N/A		
Wideband Radio Communication Tester	CMW500	149218	2021-07-22	2022-07-21		
Multimeter	UT39A+	C210582554	2021-09-30	2022-09-29		
Coaxial Attenuator	53-20-34	LN751	Each time	N/A		
TEMP&HUMI Test Chamber	BTH-150	30026	2021-07-22	2022-07-21		
Multimeter	UT39A+	C210582554	2021-07-22	2022-07-21		
Two-way Spliter	ODP-1-6	OE0120176	Each Time	N/A		
	Description Spectrum Analyzer Coaxial Cable DC Block Wideband Radio Communication Tester Multimeter Coaxial Attenuator TEMP&HUMI Test Chamber Multimeter	DescriptionModelSpectrum AnalyzerFSV40Coaxial CableSMA-178DC BlockBLK-18-S+Wideband Radio Communication TesterCMW500MultimeterUT39A+Coaxial Attenuator53-20-34TEMP&HUMI Test ChamberBTH-150MultimeterUT39A+	DescriptionModelSerial NumberSpectrum AnalyzerFSV40101474Coaxial CableSMA-178211002DC BlockBLK-18-S+1554404Wideband Radio Communication TesterCMW500149218MultimeterUT39A+C210582554Coaxial Attenuator53-20-34LN751TEMP&HUMI Test ChamberBTH-15030026MultimeterUT39A+C210582554	DescriptionModelSerial NumberCalibration DateSpectrum AnalyzerFSV401014742021-07-22Coaxial CableSMA-178211002Each timeDC BlockBLK-18-S+1554404Each timeWideband Radio Communication TesterCMW5001492182021-07-22MultimeterUT39A+C2105825542021-09-30Coaxial Attenuator53-20-34LN751Each timeTEMP&HUMI Test ChamberBTH-150300262021-07-22MultimeterUT39A+C2105825542021-07-22		

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

EUT Information@ WCDMA Band V▲:					
Antenna Gain (dBi):	0.88	Antenna Gain (dBd):	-1.27	Cable Loss (dB):	0
Operation Voltage(V _{DC}):					
Lowest:	10.8	Normal:	13.8	Highest:	36

Test Frequency For Each Mode:					
Operation Modes	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)		
WCDMA	826.4	836.6	846.6		

Test Data:								
FCC§2.1046;§ 22.913 (a) RF Output Power:								
KF Output P	Conducted Average Output Power(dBm)							
Test Mode	Lowest Channel	Middle Channel	Highest Channel	Maximum ERP(dBm)	ERP Limit(dBm)			
WCDMA R99 Subtest 1	23.23	23.19	23.22	21.96	38.45			
HSDPA Subtest 1	23.29	23.22	23.27	22.02	38.45			
HSDPA Subtest 2	23.37	23.26	23.32	22.1	38.45			
HSDPA Subtest 3	23.4	23.36	23.35	22.13	38.45			
HSDPA Subtest 4	23.5	23.36	23.37	22.23	38.45			
HSUPA Subtest	23.54	23.39	23.41	22.27	38.45			
HSUPA Subtest 2	23.6	23.45	23.49	22.33	38.45			
HSUPA Subtest	23.62	23.53	23.49	22.35	38.45			
HSUPA Subtest 4	23.69	23.62	23.53	22.42	38.45			
HSUPA Subtest 5	23.74	23.63	23.6	22.47	38.45			
Note: ERP=Conducted Power(dBm) - Cable loss(dB) + Antenna Gain(dBd)								
				Result:	Pass			

Peak-to-average Ratio(PAR)									
	Test Mode	Peak-to-average Ratio(dB)			T insid				
		Lowest Channel	Middle Channel	Highest Channel	Limit (dB)				
	WCDMA R99	2.93	2.93	2.78	13				
	HSDPA	5.39	5.54	5.04	13				
	HSUPA	6.78	6.49	6.38	13				
				Result:	Pass				

Page 36 of 187

FCC §2.1049, §22.917, §22.905:Occupied Bandwidth							
Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)			
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel	
WCDMA R99	4.168	4.168	4.168	4.747	4.718	4.732	
HSDPA	4.226	4.211	4.211	5.297	5.137	4.964	
HSUPA	SUPA 4.197 4.255 4.211 5.253 5.977 4.877						
Note: The test p	olots please refer	to the Plots of O	ccupied Bandwid	dth			

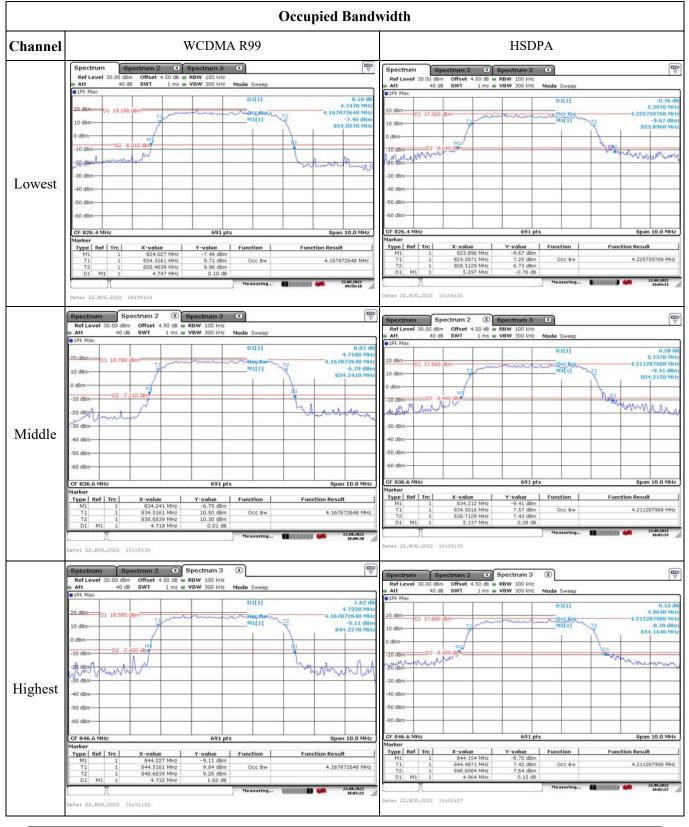
FCC §2.1051, §22.917(a):Spurious Emissions at Antenna Terminal

Result: Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.

FCC §2.1051, §22.917(a):Out of band emission, Band EdgeResult:Pass, Please refer to the test plots of Out of band emission, Band Edge.

FCC §2.1055, §22.355: Frequency Stability							
Test Modulation:	WCDMA R99		Test Channel:	836.6	MHz		
Test Item	Temperature	Voltage	Frequen	cy Error	Limit		
Test Item	(°C)	(Vdc)	(Hz)	(ppm)	(ppm)		
	-30	13.8	6	0.007	2.5		
	-20	13.8	-3	-0.004	2.5		
	-10	13.8	2	0.002	2.5		
Frequency	0	13.8	-5	-0.006	2.5		
Stability vs.	10	13.8	7	0.008	2.5		
Temperature	20	13.8	-1	-0.001	2.5		
	30	13.8	2	0.002	2.5		
	40	13.8	-3	-0.004	2.5		
	50	13.8	7	0.008	2.5		
Frequency	20	10.8	8	0.010	2.5		
Stability vs. Voltage	20	36	-6	-0.007	2.5		
			-	Result:	Pass		

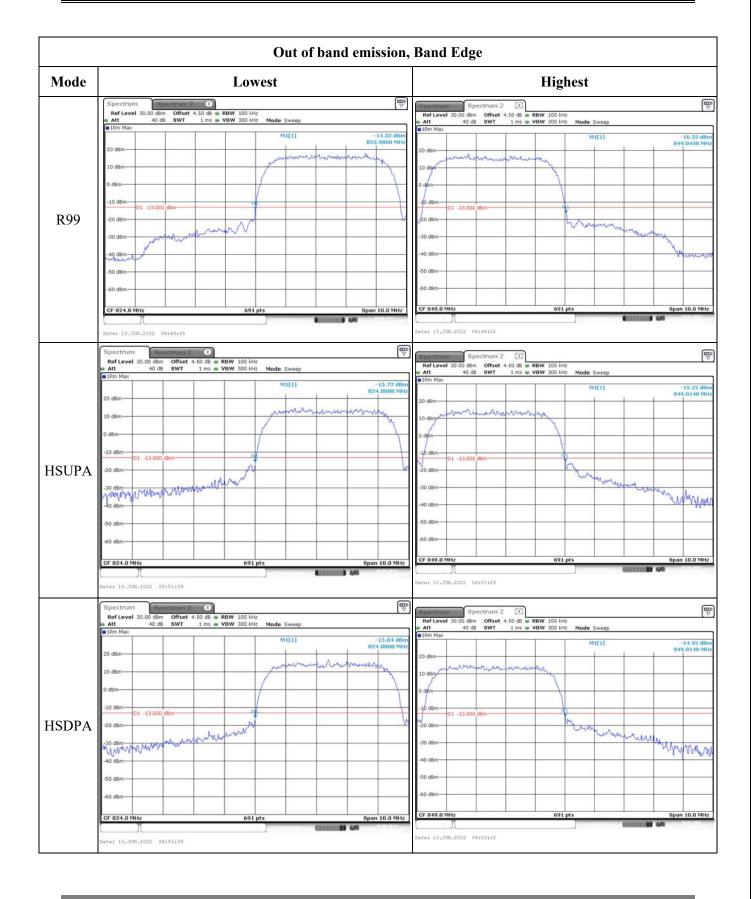
Test Plots:



	Occupied Bandwidth	
Channel	HSUPA	
Lowest	Spectrum Spectrum 2 Spectrum 3 O Ref Level 30.00 dlm Offset 4.50 dll e RBW 100 Hz 40 db SWT 1 ms e VBW 300 Hz WBW 300 Hz Mode Sweep e19k Max D1 16.000 dlm T1 Oct 100 Hz Note Sweep 0 dlm 01 16.000 dlm T1 Oct 100 Hz Note Sweep 0 dlm 01 16.000 dlm T1 Oct 100 Hz Note Sweep 0 dlm 01 16.000 dlm T1 Oct 100 Hz Note Sweep 0 dlm 02 47 120 dlm Note Sweep Note Sweep Note Sweep -30 dlm	1.07 db 5.2530 MHz 916200 MHz -10.32 dbm 23.6650 MHz
	Marker Trc X-value Y-value Function Function Res M1 1 923.665 MHz -10.32 dBm Function Function Res	22.46.208 MHz 22.46.2072 10:05141
Middle	10 dBm 10 dBm </td <td>54703329 MHz 22.88.7922 10:07:01</td>	54703329 MHz 22.88.7922 10:07:01
Highest	10 dBm T Miliji T2 0 dBm 02 8.270 dbm 10 10 10 dBm 02 8.270 dbm 10 10 10 dBm 02 8.270 dbm 10 10 -10 dBm 02 8.270 dbm 10 10 -30 dBm -30 dBm -30 10 10 -60 dBm -60 dBm -60 dBm -60 dBm -60 dBm -60 dBm -50 dBm -50 dBm -50 dBm -50 dBm -50 dBm -50 dBm -60 dBm -50 dBm -50 dBm -50 dBm -50 dBm -50 dBm -60 dBm -50 dBm -50 dBm -50 dBm -50 dBm -50 dBm -60 dBm -50 dBm -50 dBm -50 dBm -50 dBm -50 dBm -70 dBm -70 dBm -70 dBm -70 dBm -70 dBm -70 dBm	pan 10.0 MHz

Page 39 of 187

	Spurious Emissions at An	tenna Terminal
Channel	WCDM	IA R99
	Spectrum Spectrum C Ref Level 30.00 dBm Offset 4.50 dB RBW 100 kHz T att 40 db SWI 9.7 ms VBW 300 kHz Mode Sweep bitk Max VBW 200 kHz Mode Sweep VBW	Spectrum Spectrum 2 E Image: Comparison of the
Lowest	20 dBm -43.50 dBm 10 dBm 927.70 NHz 0 dBm 0 -10 dBm 0 -20 dBm 0 -30 dBm 0 -30 dBm 0 -30 dBm 0 -30 dBm 0 -40 dBm 0	20 dBm -27.01 dBm 10 dBm 17.7040 GHz 0 dBm 0 -10 dBm 0 -20 dBm -27.01 dBm -30 dBm -20 dBm -20 dBm -20 dBm -30 dBm -20 dBm -20 dBm -20 dBm
	-50 dBm -50 dBm -60 dBm -60 dBm -50	-50 dBm -60
Middle	Spectrum Column 2 Column 2 Ref Level 30.00 dbm Offset 4.50 db @ RDW 100 kHz Mode Sweep # Att 40 db SWT 9.7 ms VBW 300 kHz Mode Sweep # It 40 db SWT 9.7 ms VBW 300 kHz Mode Sweep # It 40 db SWT 9.7 ms VBW 300 kHz Mode Sweep # It 40 db SWT 9.7 ms VBW 300 kHz Mode Sweep 20 dbm 90 bl.10 MHz 90 bl.10 MHz 90 bl.10 MHz 10 dbm 91 - 13 000 dbm 90 bl.10 MHz 90 bl.10 MHz -20 dbm 91 - 13 000 dbm 90 bl.10 MHz 90 bl.10 MHz -30 dbm 91 - 13 000 dbm 90 bl.10 MHz 90 bl.10 MHz -30 dbm 91 - 13 000 dbm 91 bl.10 MHz 91 bl.10 MHz -30 dbm 91 bl.10 MHz 691 pts Stop 1.0 GHz -40 dbm 91 pts Stop 1.0 GHz 91 pts	Spectrum Spectrum Employee Ref Lovel 30.00 dim Offset 4.50 dil le RBW 1 MHz Mode Sweep Att 40 dil SWT 76 ms e VBW 3 MHz Mode Sweep 619k Max 12,27,00 dim 15,6970 GHz 20 dim 10 dim 15,6970 GHz 10 dim 10 dim 10 dim -20 dim 11 dim 10 dim -30 dim 11 dim 11 dim -30 dim 10 dim 11 dim -30 dim 10 dim 11 dim -30 dim 11 dim 11 dim -30 dim
Highest	Spectrum Spectrum Control Ref Level 3.00 dBm 0ffset 4.50 dB = RBW 100 lHz Mode Sweep 10 kMax	Spectrum



4.4Antenna Port Test Data and Results for LTE Band 2:

Serial Number:		Test Date:	2022-05-31~2022-07-12
Test Site:	RF	Test Mode:	Transmitting
Tester:	Rinka Li	Test Result:	Pass

Environmental Conditions:							
Temperature: (°C)	25.5~27.2	Relative Humidity: (%)	63~58	ATM Pressure: (kPa)	100.1~100.2		

Test Equipment List and Details:							
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date		
R&S	Spectrum Analyzer	FSV40	101474	2021-07-22	2022-07-21		
zhuoxiang	Coaxial Cable	SMA-178	211002	Each time	N/A		
Mini-Circuits	DC Block	BLK-18-S+	1554404	Each time	N/A		
R&S	Wideband Radio Communication Tester	CMW500	149218	2021-07-22	2022-07-21		
UNI-T	Multimeter	UT39A+	C210582554	2021-09-30	2022-09-29		
Weinschel	Coaxial Attenuator	53-20-34	LN751	Each time	N/A		
BACL	TEMP&HUMI Test Chamber	BTH-150	30026	2021-07-22	2022-07-21		
UNI-T	Multimeter	UT39A+	C210582554	2021-07-22	2022-07-21		
E-Microwave	Two-way Spliter	ODP-1-6	OE0120176	Each Time	N/A		

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

EUT Information@ LTE Band 2 A :						
Antenna Gain (dBi):	3.66			Cable Loss (dB):	0	
Operation Volta	Operation Voltage(VDC):					
Lowest:	10.8	Normal:	13.8	Highest:	36	

Test Frequency For Each Mode:						
Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)			
1.4MHz	1850.7	1880	1909.3			
3MHz	1851.5	1880	1908.5			
5MHz	1852.5	1880	1907.5			
10MHz	1855	1880	1905			
15MHz	1857.5	1880	1902.5			
20MHz	1860	1880	1900			

Test Data:

FCC§2.1046;	§ 24.232					
RF Output P	ů.					
Test Bandwidth	Resource	Conducted A	verage Output	Maximum	EIRP Limit	
& Modulation	Block & RB offset	Lowest Channel	Middle Channel	Highest Channel	EIRP (dBm)	(dBm)
	RB1#0	21.44	21.35	21.92		
	RB1#3	21.68	21.49	21.96		
	RB1#5	21.50	21.44	21.84	25 (2	22
1.4MHz QPSK	RB3#0	21.38	21.48	21.76	25.62	33
	RB3#3	21.40	21.40	21.76		
	RB6#0	20.49	20.60	20.85		
	RB1#0	20.50	20.41	20.95		
	RB1#3	20.53	20.69	21.09		
1 4) 41 1 (0 4) (RB1#5	20.30	20.46	20.97	24.75	22
1.4MHz 16QAM	RB3#0	20.33	20.56	20.93	24.75	33
	RB3#3	20.41	20.68	20.91		
	RB6#0	19.43	19.64	20.07		
	RB1#0	21.62	21.6	22	25.69	
	RB1#8	21.43	21.59	21.96		
and obser	RB1#14	21.53	21.66	22.03		22
3MHz QPSK	RB6#0	20.57	20.69	21		33
	RB6#9	20.6	20.7	21.01		
	RB15#0	20.59	20.83	21.04		
	RB1#0	20.53	20.76	21.05		
	RB1#8	20.37	20.49	20.96		
	RB1#14	20.47	20.8	21.17	24.83	33
3MHz 16QAM	RB6#0	19.52	19.82	20.02		
	RB6#9	19.61	19.81	20.03		
	RB15#0	19.61	19.88	20.08		
	RB1#0	21.76	21.67	22.01		
	RB1#13	21.46	21.69	21.99		
SMU- ODSK	RB1#24	21.56	21.78	22	25 (7	22
5MHz QPSK	RB15#0	20.7	20.8	21.02	25.67	33
	RB15#10	20.71	20.84	21.08		
	RB25#0	20.71	20.93	21.04		
	RB1#0	20.67	20.87	21.06		
	RB1#13	20.63	20.87	21.2		
SMU- 1COAM	RB1#24	20.67	21.08	21.34	25	22
5MHz 16QAM	RB15#0	19.74	19.93	20.16	25	33
	RB15#10	19.74	19.93	20.19		
	RB25#0	19.75	19.91	20.12	1	

China Certification ICT Co., Ltd (Dongguan)

Report No.: CR22050036-00A

					Result:	Pass
Note: EIRP=Co	nducted Power(d	Bm) - Cable los	s(dB) + Antenna	Gain(dBi)		
	RB100#0	19.97	20.07	20.21		
	RB50#50	20	20.06	20.24		
	RB50#0	19.99	20.03	20.05	27.20	55
20MHz 16QAM	RB1#99	20.93	20.74	21.22	24.98	33
	RB1#50	21.08	20.94	21.32]	
	RB1#0	21.09	20.67	20.91		
	RB100#0	20.97	21.05	21.12	1	
	RB50#50	20.91	20.98	21.21	1	
20MHz QPSK	RB50#0	20.93	21.01	21.09	25.8	33
	RB1#99	21.88	22.06	22.02		
	RB1#50	21.88	22.09	22.14	1	
	RB1#0	21.85	21.87	21.85		
	RB75#0	19.9	20.05	20.14	1	33
	RB36#39	19.9	20.09	20.28	1	
15MHz 16QAM	RB36#0	19.89	19.95	20.1	24.76	
	RB1#38 RB1#74	20.09	21.05	20.98		
	RB1#38	20.69	20.83	20.73		
	RB1#0	20.82	20.98	20.75		
	RB75#0	20.9	20.98	21.22	-	33
	RB36#39	20.87	20.94	21.02	25.74	
15MHz QPSK	RB36#0	20.87	20.94	22.08		
	RB1#38 RB1#74	21.96	21.89	22.08		
	RB1#38	21.89	21.86	21.85		
	RB1#0	22.02	21.87	21.89		
	RB23#23 RB50#0	19.89	19.99	20.23		
	RB25#25	19.83	20.04	20.02		
10MHz 16QAM	RB1#49 RB25#0	19.89	19.9	20.02	24.98	33
	RB1#23 RB1#49	20.81	21.07	21.27		
	RB1#25	20.77	20.92	21.08		
	RB30#0 RB1#0	20.79	20.99	21.00		
	RB23#23 RB50#0	20.87	20.93	21.21	-	
	RB25#0	20.82	20.9	20.98	-	
10MHz QPSK	RB1#49 RB25#0	21.84 20.82	21.89 20.9	22.21 20.98	25.88	33
	RB1#25		21.96		-	
•	RB1#0	21.98 21.87	21.87	22.22 22.22	-	

Peak-to-average Ratio(PAR)							
Test	Resource	Peak-					
Bandwidth & Modulation	Block & RB offset	Lowest Channel	Middle Channel	Highest Channel	Limit (dB)		
20MHz	RB1#0	4.81	4.41	4.17	13		
QPSK	RB100#0	5.16	4.87	4.84	13		
20MHz	RB1#0	6.03	5.54	4.81	13		
16QAM	RB100#0	6.2	5.83	5.83	13		
				Result:	Pass		

FCC §2.1049,	, §24.238:Occu	ipied Bandwid	th					
Operation	99%	Occupied Band (MHz)	width	26 dB Occupied Bandwidth (MHz)				
Mode	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel		
1.4MHz QPSK	1.102	1.102	1.102	1.308	1.344	1.32		
1.4MHz 16QAM	1.102	1.108	1.102	1.296	1.32	1.314		
3MHz QPSK	2.695	2.695	2.707	2.952	2.964	2.964		
3MHz 16QAM	2.695	2.683	2.707	2.976	2.964	2.964		
5MHz QPSK	4.531	4.511	4.511	5.02	5.04	5.02		
5MHz 16QAM	4.511	4.511	4.511	5.04	5.06	5.04		
10MHz QPSK	8.942	8.942	8.942	9.72	9.8	9.8		
10MHz 16QAM	8.942	8.942	8.942	9.72	9.84	9.72		
15MHz QPSK	13.533	13.473	13.473	14.88	14.88	14.76		
15MHz 16QAM	13.533	13.533	13.413	14.88	14.82	14.82		
20MHz QPSK	17.964	17.884	17.884	19.52	19.36	19.28		
20MHz 16QAM	17.964	17.884	17.884	19.44	19.52	19.44		
Note: The test p	olots please refer	to the Plots of O	ccupied Bandwid	dth				

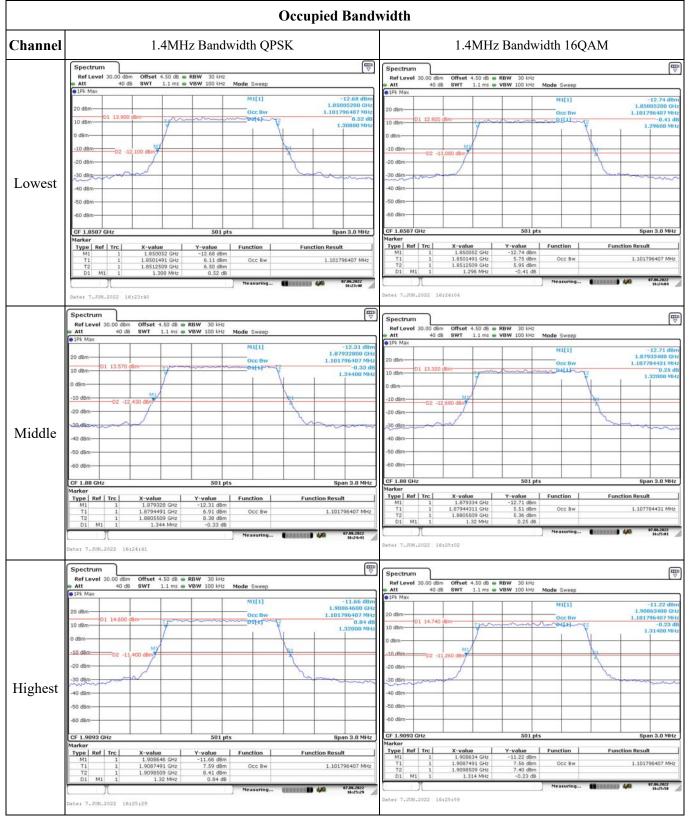
FCC §2.1051	, § 24.238 (a):Spurious Emissions at Antenna Terminal
Result:	Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.

FCC §2.1051	, § 24.238 (a):Out of band emission, Band Edge
Result:	Pass, Please refer to the test plots of Out of band emission, Band Edge.

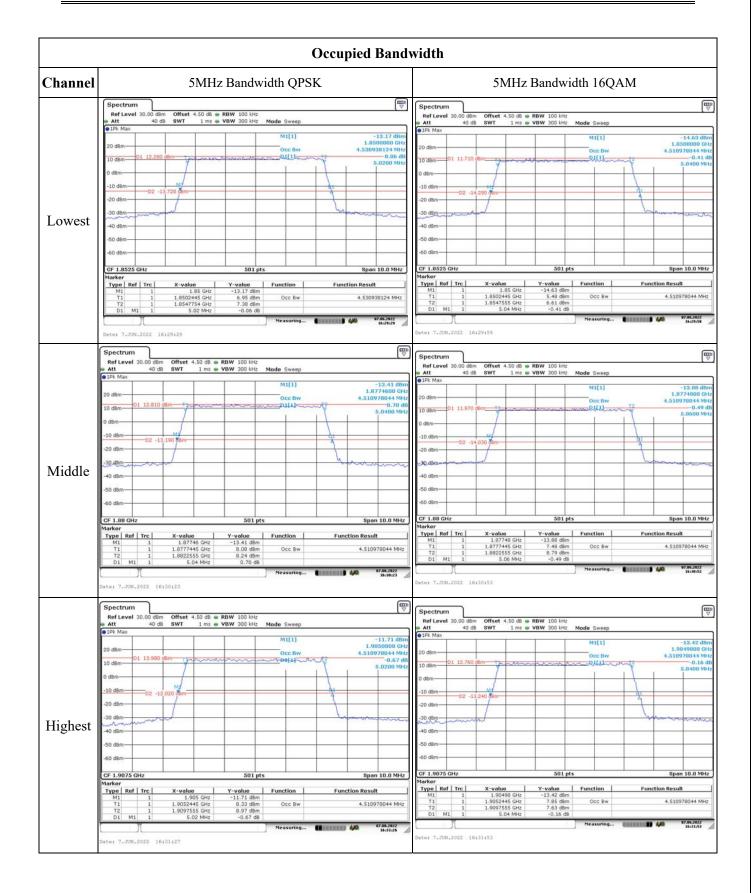
FCC §2.1055	, §24.235: Freq	uency Stabili	ty		
Test Mode:	20 MHz	2 QPSK	Test Channel:	1880	MHz
Test Item	Temperature	Voltage	cy Error	Result	
Test Item	(°C)	-	(Hz)	(ppm)	Kesult
	-30	13.8	-4.19	-0.002	Pass
Test Item Frequency Stability vs. Temperature Frequency Stability vs. Voltage	-20 13.8		-8.44	-0.004	Pass
	-10	13.8	8.1	0.004	Pass
	0	13.8	-6.92	-0.004	Pass
	10	13.8	5.32	0.003	Pass
	20	20 13.8		-0.003	Pass
	30	13.8	8	0.004	Pass
	40	20 MHz QPSK Test Cha nperature (°C) Voltage (VDC) Fr (Hz) -30 13.8 -4.19 -20 13.8 -4.19 -20 13.8 -8.44 -10 13.8 -8.44 -10 13.8 -6.92 10 13.8 -6.92 30 13.8 5.32 20 13.8 5.32 30 13.8 8 40 13.8 5.31 50 13.8 8.11 20 10.8 9.92	5.31	0.003	Pass
Stability vs. Temperature Frequency	50	13.8	8.11	0.004	Pass
Frequency	20	10.8	9.92	0.005	Pass
	20	36	-6.12	-0.003	Pass
				Result:	Pass

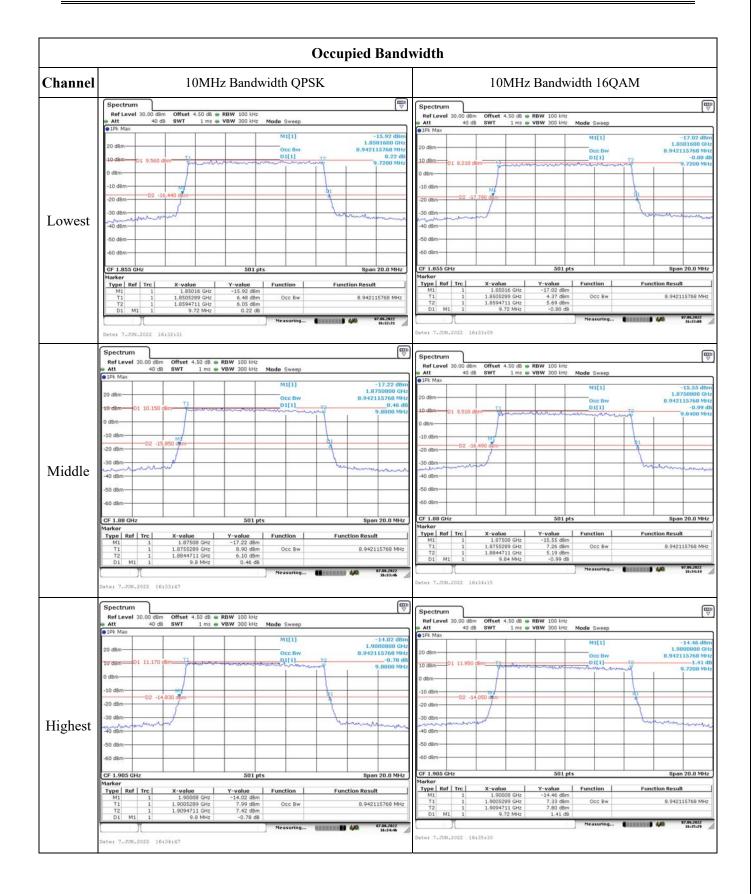
Test Mode:	20 MHz	16QAM	Test Channel:	1880	MHz
Test Item	Temperature	Voltage	Frequen	cy Error	Result
Test Item	(°C)	(VDC)	(Hz)	(ppm)	Kesun
	-30	13.8	-4.03	-0.002	Pass
	-20	13.8	7.2	0.004	Pass
	-10	13.8	7.75	0.004	Pass
Frequency	0	13.8	-6.73	-0.004	Pass
Stability vs.	10	13.8	-7.06	-0.004	Pass
Temperature	20	13.8	-9.27	-0.005	Pass
Temperature	30	13.8	7.37	0.004	Pass
	40	13.8	7.42	0.004	Pass
	50	13.8	-9.28	-0.005	Pass
Frequency	20	10.8	-5.76	-0.003	Pass
Stability vs. Voltage	20	36	-8.1	-0.004	Pass
				Result:	Pass

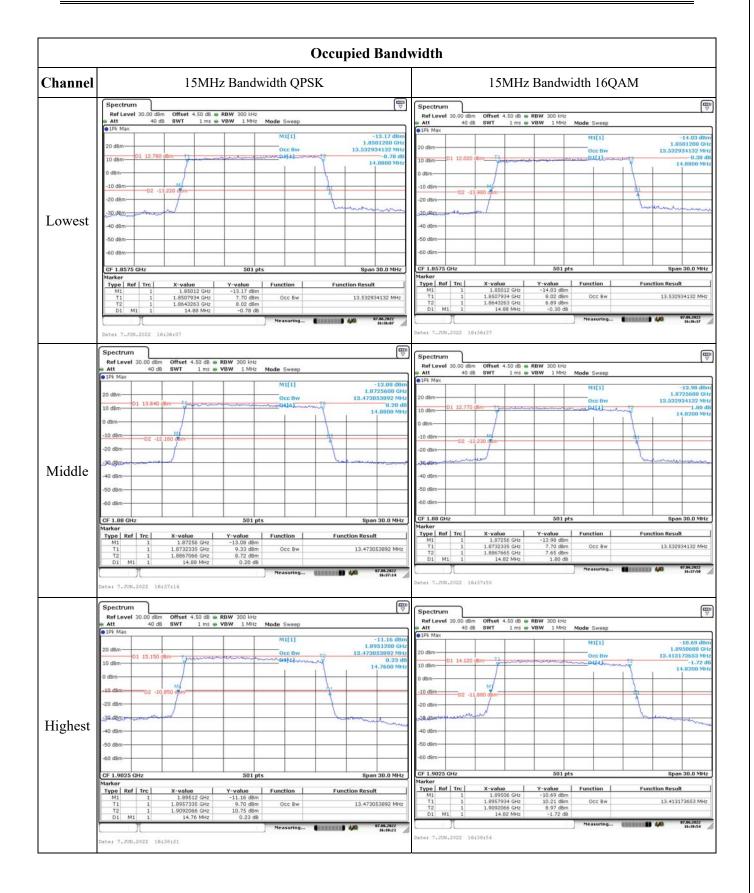
Test Plots:

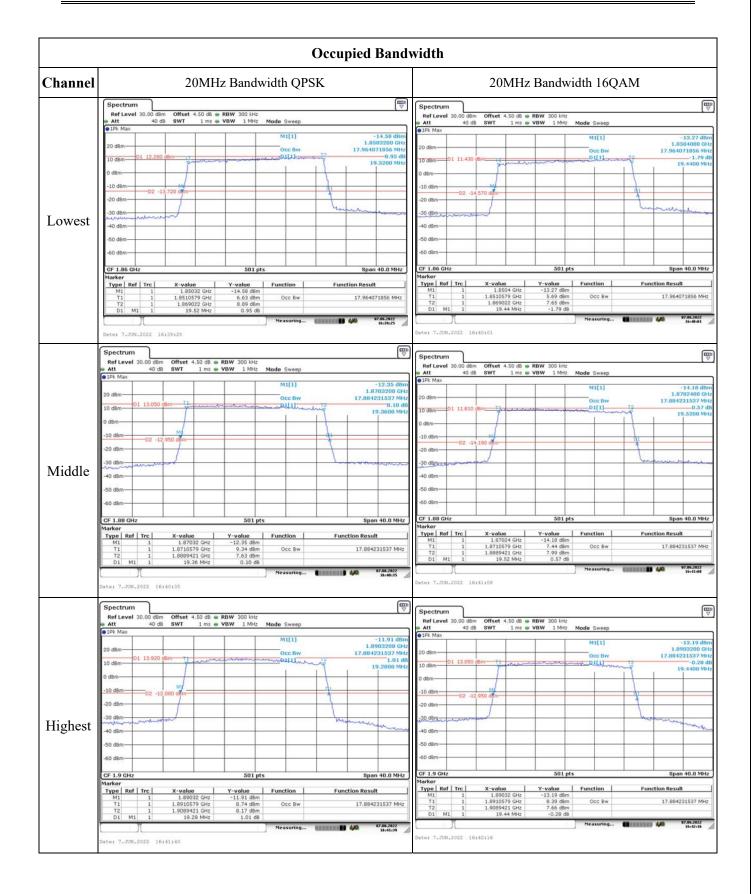


	Occupied Bandy	width
Channel	3MHz Bandwidth QPSK	3MHz Bandwidth 16QAM
	Spectrum Image: Constraint of the second seco	Spectrum Ref Level 30.00 dBm Offset 4.50 dB • RBW 30 iHz Att 40 dB SWT 1.1 ms • VBW 100 HHz Mode Sweep
Lowest	0 IPk Max -10.19 dbm 20 dbm MI[1] -10.19 dbm 10 dbm 01.0040 dbm 11.0020 dbm 10 dbm 01.10.40 dbm 0.15 db 0 dbm 0.15 db 0.15 db -10 dbm 0.15 db 0.15 db -20 dbm 0.2 -15.960 dbm 1 -30 dbm 0.2 -15.960 dbm 1 -40 dbm 0.15 db 1 -50 dbm 0.15 db 501 pts Span 6.0 MHz Marker 1 Type [Ref Trc X-value Function Function Result Til 1.850187 GHz 5.01 pts Span 6.0 MHz Marker -1.10 dbm Ccc Bw 2.694610778 MHz Til 1.850187 GHz 6.92 dbm Occ Bw 2.694610778 MHz D1 M1 2.952 Mark 0.15 db Neasuring Weissid Date: 17.JUN.2022 1	e19k Max
Middle	Spectrum Trip Ref Level 30.00 dBm Offset 4.50 dB @ RBW 30 5Hz Att 40 dB SWT 1.1 ms @ VBW 100 5Hz Mode Sweep #IPk Max -15.77 dBm -15.77 dBm -15.77 dBm 20 dBm 0 cc Bw 2.694610778 MHz 0.17 dB 10 dBm 01 10.450 dBm 71 0.17 dB 0 dBm 02 -15.550 dBm 0.17 dB 0.17 dB -10 dBm mt 01 -10.450 dBm 2.96440 MHz -10 dBm mt 01 -10.450 dBm 2.96440 MHz -10 dBm mt 01 -10.450 dBm 2.96440 MHz -10 dBm mt 01 0.17 dB -10 -10 dBm mt 01 0.17 dB -10 -10 dBm mt 01 0.17 dB -10 -10 dBm mt -10 -10 -10 -10 dBm mt -10 -10 -10 -10 dBm mt -10 -10 -10 -10 dBm <td>Spectrum Miliji </td>	Spectrum Miliji
Highest	Spectrum The sector of sect 4:50 dB @ RBW 30 kHz Att 40 dB SWT 1.1 ms VBW 100 kHz Mode Sweep 1Pk Max -14.80 dBm -14.80 dBm -14.80 dBm -14.80 dBm 20 dBm -11 -0cc Bw 2.706586826 MHz 0.72 dB 0 dBm -01 -0.72 dB 0.72 dB 0.72 dB 0 dBm -02 -14.90 dBm -0.72 dB 0.72 dB -10 dBm -02 -14.90 dBm -0.72 dB 0.72 dB -0 dBm -02 -14.90 dBm -0.72 dB 0.72 dB -0 dBm -02 -14.90 dBm -0.72 dB 0.72 dB -0 dBm -02 -14.90 dBm -0.72 dB 0.72 dB -0 dBm -02 -14.90 dBm -0.72 dB 0.72 dB -0 dBm -02 -14.90 dBm -0.72 dB 0.72 dB -0 dBm -02 -14.98 dBm -0.90 dBm -0.90 dBm -60 dBm -00 dBm -0.90 dBm -0.90 dBm -0.90 dBm -0.90 dBm	Spectrum Milij -15.48 di e JPk Mak -15.48 di -15.48 di 20 dBm -15.48 di -15.48 di 20 dBm -10.02 dis -10.02 dis 0 dBm -10.900 dis -10.02 dis -10 dBm -10.900 dis -10.02 dis -10 dBm -10.02 dis -10.02 dis -20 dBm -02 -16.100 dis -10.02 dis -30 dBm -10.02 dis -10.02 dis -50 dBm -10 dis -10.02 dis -10 dis -10 dis -10.02 dis -10 dis -10.02 d









	Spurious Emissions at An	tenna Terminal							
Channel	1.4MHz Band	lwidth QPSK							
	Spectrum The second sec	Spectrum 🕎							
	Att 30 dB SWT 9.7 ms WBW 300 kHz Mode Auto Sweep	Att 30 dB SWT 76 ms WBW 3 MHz Mode Auto Sweep							
	Spectrum Image: 10.0 model to 10								
	Innel I.4MEz Bandwicht OPSK Image: Status	0 dBm							
		-10 d8m01 -13.000 d8m							
		-20 d8m							
Lowest	-40 dBm-	-30 gBm							
		40 dam and the second of the s							
		-50 dBm							
	-70 dBm-	-60 dam-							
	-80 d8m-	-70 dam							
	Start 30.0 MHz 501 pts Stop 1.0 GHz	Start 1.0 GHz 501 pts 8top 20.0 GHz							
	Measuring 1145-2022								
		Spectrum							
	Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Auto Sweep	Att 30 dB SWT 76 ms e VBW 3 MHz Mode Auto Sweep							
	834.50 MHz								
		10 dem							
Middle	D1 -13.000 d8m	0 dBm							
	-20 d8m	-10 dBm 01 -13.000 dBm							
	-30 d8m	-20 d8m							
	-40 d8m-	-30 dBm							
	the second s	40 dam ment which we want when the want of the show which we want the state of the show when the show							
		-50 d8m							
Middle	-70 dām	-60 dam-							
	-80 d8m	-70 dam							
	Start 30.0 MHz 501 pts Stop 1.0 GHz								
		1948-62 //							
		Spectrum							
	Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Auto Sweep IPk Max	Att 30 dB SWT 76 ms VBW 3 MHz Mode Auto Sweep							
	911.90 MHz	M1[1] -37.42 dBm 15.9610 GHz							
		10 dfm-							
	Immed I.4ML2 Bandwith QPSK Immed Immediate Immediate Immediate Immediate Immediate Immediate Immediate Immediate Immediate Immediate Immediate Immediate Immediate Immediate Immediate Immediat Immediate Immediate <td></td>								
		D1 -13.000 dBm							
Channel I.4MHz Bantvidtu QPSK Lowest	-20 dBm								
	-40 d8m	-30 c3m							
	-50 dBm								
	-60 d8m	-50 d8m							
	-70 d8m	-60 d8m							
	-80 d8m	-70 dam							
Highest	Start 30.0 MHz 501 pts Stop 1.0 GHz								
	Measuring 11.85.2822								
	Date: 31.NAY.2022 19:09:15								

	Spurious Emissions at An	tenna Terminal						
Channel	3MHz Bandy	vidth QPSK						
	Spectrum (11) Ref Level 10.00 dBm Offset 4.50 dB ● RBW 100 kHz (21) Att 30 dB SWT 9.7 ms ● VBW 300 kHz (21)	Spectrum mm Ref Level 20.00 dBm Offset 4.50 dB ■ RBW 1 MHz wtt 20 dB SWT 76 ms wtt 20 dB						
	(Pik Max (M1[1] -51.99 dBm	e IPk Max						
	0 dBm	M1[1] -37.15 dBm 10 dbm - 19.7530 GHz						
	-10 d8m	0 dbn						
	D1 -13.000 dam							
	-20 dBm-	-10 dam 01 -13.000 dam						
	-30 dBm-	-20 dBm						
Lowest	-40 dBm-	-30 dBm						
	-50 dBm	10 com man and and a share a s						
	-60 dBm	-50 d8m						
	-70 dBm-	-60 dam						
	-80 dBm	-70 dam-						
Lowest Middle		Start 1.0 GHz 501 pts Stop 20.0 GHz						
	Start 30.0 MHz Stop 1.0 GHz Measuring Measuring	Measuring 1125.2022						
	Date: 31.MAY.2022 19:10:11	Date: 31.MAV.2022 19:10:30						
	Spectrum 🕎	Spectrum 🕎						
Middle	RefLevel 10.00 d8m Offset 4.50 d8 ⊕ RBW 100 kHz ■ Att 30 d8 SWT 9.7 ms ● VBW 300 kHz Mode Auto Sweep ● JPK Max	Ref Level 20.00 dBm Offset 4.50 dB RBW 1 MHz Att 30 dB SWT 76 ms WBW 3 3 MHz Mode Auto Sweep						
	• IPK Max MI[1] -52.84 dBm 995.20 MHz	19k Max N1[1] -37.55 dBm						
	0 dBm	10 dem 17.4400 GHz						
	-10 d8m-	0 dBm						
	-20 dBm	-10 cBm						
	-30 dBm	-20 gem						
	-40 d8m.	-30 d8m-						
		MI						
	so dam	were were and a subject of the second of the						
	-60 d8m	-50 d8m-						
Middle	-70 dBm	-60 dam-						
	-80 d8m	-70 d8m						
	Start 30.0 MHz 501 pts Stop 1.0 GHz	Start 1.0 GHz 501 pts Stop 20.0 GHz						
	Measuring 11.852822	Measuring 1167.822 19:11:20						
	Date: 31.MAY.2022 19:11:02							
	Spectrum [TI3] Ref Level 10.00 dBm Offset 4.50 dB ← RBW 100 kHz	Spectrum 🕎						
	Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Auto Sweep	Ref Level 20.00 dBm Offset 4.50 dB RBW 1 MHz Att 30 dB SWT 76 ms WBW 3 MHz Mode Auto Sweep						
Lowest	M1[1] -50,80 dBm 910.00 MHz	●1 ⁵ k Max 1 ⁵ k Max 16,4160 GHz						
	0 dBm	10 dsm						
	-10 dBm-	0 dBn						
	-20 dBm-	-10 cBm-01 -13.000 dBm						
	-30 dBm	-20 c3m						
Middle Highest	-40 d8m-	-30 c3m						
C	-50 d8m 711	40 com moundary war and war war war and the war and						
	about the the presence and the second the second the second and the second the second the second the second the	-50 dBm						
		-60 d8m						
	-70 dBm	-00 dam						
	-60 d8m							
	Stort 30.0 MHz 501 pts Stop 1.0 GHz	Stort 1.0 GHz Stop 20.0 GHz Measuring 1155.7822						
	Neasuring 1155.722	Date: 31.MWY.2022 19:12:31						
	MENNE SELEVELENE ATTILLUI							

	Spurious Emissions at An	tenna Terminal
Channel	5MHz Bandy	vidth QPSK
	Spectrum (□) Ref Level 10.00 dBm Offset 4.50 dB ● RBW 100 kHz Att 30 dB SWT 9.7 ms ● VBW 300 kHz	Spectrum mms Ref Level 20.00 dBm Offset 4.50 dB ● RBW 1 MHz w Att 30 dB SWT 76 ms VBW 3 MHz
		19k Max 10 dkm 10 dkm
	-10 dBm 01 -13.000 dBm	0 dBm
Lowest	-30 d8m	
	40 dBm	-50 dBm
	-80 dBm	-70 dBm
	Image: Control of the starting in the s	Measuring Measuring Measuring
	Spectrum mm Ref Level 10.00 dBm Offset 4.50 dB ⊕ RBW 100 kHz Att 30 dB SWT 9.7 ms ⊕ VBW 300 kHz Mode Auto Sweep ●1Pk Max 4	Spectrum Image: Constraint of the second seco
	0 dBm	10 dtm
Middle	-10 dBm 01 -13.000 dBm	0 dBh -10 clm. 01 -13.000 dBm
	-30 dBm-	-20 cbm
	-50 dbm -70 dbm -70 dbm	40 dm
	-80 d8m-	-70 dBm
	Stort 30.0 MHz S01 pts Stop 1.0 GHz Dater 31.0 MAY_2022 19:14:01 Measuring 4/0 21:5:327 16:14:00	Measuring Measuring Mater 31.8002 (%) 118.802 (\%) 118.802 (\%) 118.802 (\%
	Spectrum mm Ref Level 10.00 dBm Offset 4.50 dB @ RBW 100 kHz Att 30 dB SWT 9.7 ms @ VBW 300 kHz Mode Auto Sweep	Spectrum Image: Constraint of the constrain
	(1) (4)	4 1712 - 3.4 mil
	-10 dBm 01 -13.000 dBm	0 dBn
Highest	-30 dBm	-20 c3m
	-50 dBm	40 cm
	-70 dBm	-60 dBm-
	Start 30.0 MHz Stop 1.0 GHz Date: 31.MAY,2022 19:14:52	Start 1.0 GHz S01 pts Stag 20.0 GHz Measuring Measuring Measuring Measuring Dates 31.MAY.2022 19:15:124 Measuring Measuring

Channel IOMHz Bandwith QPSK Spectrum Spectr	
Middle Spectrum Number 4:00 die will blotz 0 dim 0	
Lowest Still Still <t< th=""><th>[m] ▽</th></t<>	[m] ▽
Middle 0 0m <	-37,41 d8m 18,3880 GHz
Lowest Image: State Sol (State Sol (S	10,000 Unz
Lowest	
Middle 40 dm 40 dm <t< td=""><td></td></t<>	
Middle	M3
Middle -70 dbm -10 dbm	and the second second
Middle Image: Story 1.0 GHz Sto	
Middle Nessuring	
Date: 31.WXr.2022 19:15:57 Date: 31.WXr.2022 19:16:23 Spectrum	Stop 20.0 GHz
Ref Level 10:00 dBm Offset 4.50 dB @ RBW 100 kHz Ref Level 20:00 dBm Offset 4.50 dB @ RBW 10MHz @ 1Pk Max 0 dBm 0 dBm <td>19:16:22</td>	19:16:22
Att 30 db SWT 9.7 ms VBW 200 kHz Mode Auto Sweep • 10 km x • 10 dbm • 11 · 13.000 dbm • 11 · 13.000 dbm • 10 · 13.000 dbm • 10 · 13.000 dbm • 11 · 13.000 dbm • 11 · 13.000 dbm • 10 · 13.000 dbm	
Middle 0 d8m	
Middle -20 dBm -20 dBm -10 cBm -10 cBm <td< td=""><td>-37.28 dBm 19.8670 GHz</td></td<>	-37.28 dBm 19.8670 GHz
Middle -30 dBm -30 dBm <th< td=""><td></td></th<>	
Middle 40 dbm	
-50 dBm -50 dBm -60 dBm -60 dBm -50 dBm	
-50 dbm	Munner war
-70 dBm	
-90 dBm	Stop 20.0 GHz
Stort 30.0 MHz S01 pts Stop 1.0 GHz S01 pts S1 pts	3105/2010 GH2
Date: J1.KAT.2022 19:16:50	
Spectrum Train Train Train Spectrum Ref Level 10.00 dBm Offset 4.50 dB • RBW 100 kHz Ref Level 20.00 dBm Offset 4.50 dB • RBW 1 MHz Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Auto Sweep	
Att 30 dB SWT 76 ms • VBW 300 Att Sweep Att 30 dB SWT 76 ms • VBW 3 MHz Milli	-37,33 dBm 15,6580 GHz
0 dBm	13.5360 GH2
-10 dBm 01 -13.000 dBm	
-30 dBm20 cBm	
Highest -40 dbm	M3
50 dBm the second secon	MI MI MI
-60 dBm	
-90 dBm	
Start 30.0 MHz 501 pts Stop 1.0 GHz Start 1.0 GHz 501 pts Start 1.0 GHz Nessuring	Stop 20.0 GHz
Date: 31,MAY.2022 19:17:46	19:18:11

Middle Sector Higher Sector Middle Sector Sector Sector <td< th=""><th></th><th></th><th></th><th></th><th></th><th>SK</th><th>h QPS</th><th>width</th><th>5MHz Band</th><th>1</th><th></th><th></th><th></th><th>Channel</th></td<>						SK	h QPS	width	5MHz Band	1				Channel
Middle	(The second seco												Spectrum	
Middle Image: manual state		o Sweep	Mode Auto Swee				vel 20.00 dB	Ref Leve		Mode Auto Sweep			Att 30	
Bio B	-36.69 dBr	(Part)	8			1	ĸ	1Pk Max	-52.74 dBm	M1[1]	1 1	Î	1Pk Max	
Interest Image: manual manua manual manual manual manual manua manual manual manua	15.6960 GH							10 d8m	910.00 MH2				0 d8m	
Lowest Image: market and								0 dBm			_	00 d8m	-10 dBm-01 -13.0	
Lowest Image: market and						00 d8m	01 -13.00	-10 dBm-		_	-		and the second	
Middle Image: market with a second with								-20 dBm			_	-	-30 dBm	
Middle Sector		Mi						-30 c8m					-40 dBm	Lowest
Middle Image: State in the state in t	Manna	minter and the	moundance	man	Aun	- Mary	manuter	-40 dBm			_		-50 dBm	
Middle Image: model with style in the with th						-	*	-50 d8m-	al and the second and the second		mann	water	-60 dBm	
Middle Image: State in the state with iteration in the state withe state withe state with iteration in the state with iteration in					-			-60 d8m			_		-70 dBm	
Middle Sector Numme					-	-	-	-70 d8m-			_		-80 dBm	
Middle Sector Numme	Stop 20.0 GHz		pts	501 p			D GHz	Start 1.0	Stop 1.0 CHr		501		Start 20.0 Mila	
Middle Sectors Sectors Sectors Image: sectors 100 dm 100 d		uring (CERRENT)	the second se				JI.		B 4.MA 11.85.2822		501			
Middle Image: Book with the Book withe Book withe Book with the Book withe Book with the Book with the						19:19:09	MAY.2022					19:18:44	ate: 31.MAY.2022	
Middle multiple version with the late state state is a st	(The second seco							operation	\ \[\] \[RBW 100 kHz	m Offset 4.50 dB		
Middle		o Sweep	Mode Auto Swee		4.50 dB 🗰 R 76 ms 👜 V		30 d	Att	Att 30 dB SWT 9.7 ms VBW 300 kHz Mode Auto Sweep					
Middle	-37.54 dBr 17,7060 GH	[1]	M1[1]					APR HIGH	~53.29 dBm 861.60 MHz	M1[1]				
Middle								10 dēm						
Middle 90 dm 90 dm <t< td=""><td></td><td></td><td></td><td>+ +</td><td></td><td></td><td>-</td><td>0 dBm</td><td></td><td></td><td></td><td>0 dam</td><td>01 -13.00</td><td></td></t<>				+ +			-	0 dBm				0 dam	01 -13.00	
Middle						00 dBm	01 -13.00	-10 cBm					20 d8m	
Highest 40 dm 10 dm <				+ +				-20 dBm					30 dBm	
Highest Augusta	MIL ALLAN							-30 dBm					40 d8m	Middle
Highest 10 dm 13000 dm 1111 027,0000 10000 10000 10000 10000 1111 027,0000 0000 10000 10000 10000 1111 020,000 0000 05set 4.50 db 0000 10000 05set 4.50 db 0000 01111 0000 0000 01111 0000 01111 0000 01111 0000 01111 0000 01111 0000 01111 0000 0000 01111 00000 01111 00000 00000 011110000 000	manner	montonet	mutution	mount	Work	income	man	-40 08m-	money and man	un margane	merenanter	menunder	50 dBm	
Highest 0 dam <						-		-50 d8m-					60 dBm	
Highest South Stor 100.0 MHz Soil pts Stor 10.0 Hz Soil pts bate: 31.007.2022 19:19:19 Neasuring Soil pts Neasuring Neasuring </td <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td>-</td> <td>-60 d8m</td> <td></td> <td></td> <td>-</td> <td></td> <td>70 dBm</td> <td></td>					-		-	-60 d8m			-		70 dBm	
Network Stop 10 GHz Network			1 2					-70 d8m-					B0 dBm	
Image: Control of the submediance of th	Stop 20.0 GHz			501 p			0 GHz	Start 1.0		s	501 p		tart 30.0 MHz	
Spectrum Spectrum Ref Level 10.00 dBm Offset 4.50 dB e RBW 100 bHz a Att 30 dB SWT 9.7ms W WW 300 LHz Mode Auto Sweep Ref Level 20.00 dBm Offset 4.50 dB e RBW 1 MHz 30 dB SWT 76 ms W WW 304 LHz Mode Auto Sweep • FP: Max 0 dBm 01 +13.000 dBm MI[1] -52.70 dBm -10 dBm 01 +13.000 dBm 0 dB SWT 9.7ms W WW 304 LHz Mode Auto Sweep MI[1] -30 dBm -10	19:20:04	unng	Heasuring			19:20:04	.MAY, 2022	Date: 31.M	10.19.38 A	Neasuring				l
Ref Level 10.0 dBm Offset 4.50 dB # BBW 100 Hz Max Ref Level 20.00 dBm Offset 4.50 dB # BBW 100 Hz 0 dBm M1[1] S2.70 dBm 0 dBm <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>(</td><td></td><td></td><td>19119139</td><td></td><td></td></t<>									(19119139		
Highest -0 dBm									Ref Level 10.00 dBm Offset 4.50 dB RBW 100 kHz					
Highest				VBW 3 MHz	76 ms 🖷 V	dB SWT	30 d	Att	24 70 db		VBW 300 kHz	dB SWT 9.7 ms		
Highest	-37.24 dBr 17.7440 GH	[1]	M1[1]					10 dam	824.80 MHz	MILI			dBm	
Highest											-		10 dBm	
Highest												0 dBm-		
Highest 40 dem						00 d8m	01 -13.00							
-50 dBm														Highart
June June <th< td=""><td>MIL A A A A</td><td></td><td></td><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Hignest</td></th<>	MIL A A A A					-								Hignest
-70 dem	- Martin		handward	handround	more	and the second	anner	ullim	methodist	unear many	manner	morenne	even prestrem	
													70 dBm	
-80 dBm								-70 d9m-					B0 dBm	
Stort 30.0 MHz S01 pts Stop 1.0 GHz S01 pts Neasuring 100 5927 190 5927 100 5927 190 5927 Neasuring Measuring	Stop 20.0 GHz	uring .		501 p		1	0 GHz	Start 1.0	Stop 1.0 GHz		501 p		tart 30.0 MHz	

Charren		201411 1	tenna '							
Channel		20MHz Band	width	QPSK	L					C
	Spectrum Ref Level 10.00 dBm Offset 4.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz	Tada Auto Susan	Spectrum Ref Level	20.00 dBm (offset 4.50 d	8 🖝 RBW 1 MHz				V
	IPk Max	M1[1] -52.70 dBm	Att 1Pk Max	30 dB 8	WT 76 m	s 🖶 VBW 3 MHz	Mode Auto		-26	.87 dBn
	0 d8m	863.50 MHz	10 d8m						15.69	960 GH
	-10 dBm-		0 dBm							
	-20 dBm		-10 dBm							
	~30 dBm		-20 dBm	1 -13.000 dBm						
Lowest	-40 dBm-		-30 c8m							
Lowest	-50 dBm-	M	-40 dBm	Mupman	my		A.A.MA	www.	in marine	y-w
	60 dBm	en norman and and and and and and and and and a	-50 d8m		~	weinstehnt				
	-70 dBm		-60 dBm							
	-80 dBm		-70 d8m							
			Start 1.0 GH			501			Stop 20.	0.0.011-
	Start 30.0 MHz 501 pt	Stop 1.0 GHz Measuring 11.65.2022 19:21:32		1		501	Measur	ring UNIVERSI		5.2422 521:54
	Date: 31.MAY.2022 19:21:32	6 and OBBIT and DECEMPTOR PARAMETER (PARAMETER)	Date: 31.MAY	,2022 19:21	155					
	Spectrum Ref Level 10.00 d8m Offset 4.50 d8 RBW 100 kHz	(mm ⊽	opecadin							∇
	• Att 30 dB SWT 9.7 ms • VBW 300 kHz	Mode Auto Sweep	Ref Level Att 1Pk Max		WT 76 m	B B RBW 1 MHz S B VBW 3 MHz	Mode Auto	Sweep		
		M1[1] -52.32 dBm 844.10 MHz	APK Mds				M1[1	u	-36.9	.91 dBn 670 GH
	0 dBm		10 dem							
	-10 dBm D1 -13.000 dBm		0 dBm							
	-20 dBm		-10 cBm-0	1 -13.000 dBm	_	_			+	
	-30 dBm		-20 d8m			_			+	
Middle	-40 d8m		-30 dBm							6
	-50 dBm	ment have been and when and and	-40 dBm	and and and and	man	mann	harrest	winner	marin	-analyse
	-60 d8m		-50 d8m							
	-70 dBm		-60 dBm							
	-80 dBm		-70 d8m						+ +	
	Start 30.0 MHz 501 pt		Start 1.0 GH	łz		501	pts Measur	ring Calibian	Stop 20.).0 GHz 5.2022
1	Date: 31.MAY.2022 19:22:27	Measuring 19.02127	Date: 31.MAY	,2022 19:22	:56				192	22:05 /
		(m) V	1	_						_
	Spectrum Ref Level 10.00 dBm Offset 4.50 dB RBW 100 kHz Att 30 dB SWT 9.7 ms VBW 300 kHz	A	Ref Level	20.00 dBm (B 🖷 RBW 1 MHz				The second secon
	e 1Pk Max	M1[1] -53.26 dBm	 Att 1Pk Max 	30 dB 8	WT 76 m	s 🖶 VBW 3 MHz	(d)	1994		.63 dBr
	0 dBm	875.10 MHz	10 dem				M1[1	-	-37.0 15.92	230 GH
	-10 dBm		0 dBm							
	-20 dBm		-10 cBm							
	-30 dBm		-20 cBm	1 -13.000 dBm						
Highest	-40 d8m		-30 cBm							
	-50 dBm		-40 d3m	1. Alan	many		h Anote	www.www	M2 margare	-
		way and a superior and the second	-50 dBm	www.	~	mourner				
	-70 dBm		-60 d8m							
	-80 dBm		-70 d8m						\downarrow	
			Start 1.0 GH	42		501	pts		Stop 20.	0.000
	Start 30.0 MHz 501 pt	Stop 1.0 GHz	Locore 1.0 Gr	-		301	100		3L05.	

	Out of band emission,	Band Edge
Mode	Lowest	Highest
Mode QPSK 1.4MHz	Spectrum (TDP) Ref Level 30.00 dBm Offset 4.50 dB = RBW 30 kHz • Ifm Max • Ifm Max • Ifm Max • Ifm Max 20 dBm • Ifm Max 10 dBm • Ifm Max -10 dBm • Ifm Max -20 dBm • Ifm Max -30 dBm • Ifm Max -20 dBm • Ifm Max -30 dBm • Ifm Max -30 dBm • Ifm Max -50 dBm • Ifm Max -60 dBm • Ifm Max -50 dBm • Ifm Max	Spectrum Image: Constraint of the second secon
QPSK 3MHz	Messuring Messuring<	Spectal (v Ref Level 30:00 dBm Offset 4.50 dB = RBW 30 kHz e 15m Max N11ms = VBW 100 Hz 20 dBm 1.1 ms = VBW 100 Hz 10 dBm 1.9.17 dBm 10 dBm 1.9.17 dBm 10 dBm 1.9.17 dBm -20 dBm -19.17 dBm -30 dBm -13.000 dBm -30 dBm -10 dBm -30 dBm
QPSK 5MHz	Spectrum Image: Spectrum Ref Level 30.00 dBm Offset 4.50 dB @ RBW 100 kHz ● IPm Max 1 ms @ VBW 300 kHz ● IPm Max 11 ms @ VBW 300 kHz 20 dBm M1[1] 10 dBm 1.0500000 GHz 0 dBm 10 dBm -10 dBm 1.13000 dBm -10 dBm	Spectrum Ref Level 30.00 dBm Offset 4.50 dB @ RBW 100 bHz Att 40 dB @ SWT 100 ms @ VBW 300 bHz Made Sweep @ IBm Max

