

# TEST REPORT

Applicant: Shenzhen Jimi IoT Co., Ltd.

> 3-4/F, Block A, Building #7, Shenzhen International Innovation Valley, Dashi 1st Road, Nanshan District,

Address:

Shenzhen, Guangdong, China

**Equipment Type:** LTE Vehicle Terminal

**Model Name:** VL110C (refer section 2.3)

**Brand Name: JimiloT** 

FCC ID: 2AMLF-VL110

47 CFR Part 2 **Test Standard:** 

(Others refer to chapter 3.1)

**Sample Arrival Date:** Sep. 18, 2024

Test Date: Sep. 18, 2024 - Oct. 15, 2024

Date of Issue: Nov. 08, 2024

#### **ISSUED BY:**

Shenzhen BALUN Technology Co., Ltd.

Tested by: Guo Jianxin Checked by: Wu Huihui Approved by: Tolan Tu

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(Testing Director)

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Tolan In



# **Revision History**

Version

Issue Date

**Revisions Content** 

Rev. 01

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Initial Issue

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# 1 GENERAL INFORMATION

# 1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road,
Address	Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100

# 1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
	☐ Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road,
	Nanshan District, Shenzhen, Guangdong Province, P. R. China
Location	☑ 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No.
	1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan
	District, Shenzhen, Guangdong Province, P. R. China
Accreditation	The laboratory is a testing organization accredited by FCC as a
Certificate	accredited testing laboratory. The designation number is CN1196.



# **2 PRODUCT INFORMATION**

# 2.1 Applicant Information

Applicant	Shenzhen Jimi IoT Co., Ltd.
Addraga	3-4/F, Block A, Building #7, Shenzhen International Innovation Valley,
Address	Dashi 1st Road, Nanshan District, Shenzhen, Guangdong, China

### 2.2 Manufacturer Information

Manufacturer	Shenzhen Jimi IoT Co., Ltd.		
Address	3-4/F, Block A, Building #7, Shenzhen International Innovation Valley,		
Address	Dashi 1st Road, Nanshan District, Shenzhen, Guangdong, China		

# 2.3 General Description for Equipment under Test (EUT)

EUT Name	LTE Vehicle Terminal		
Model Name Under Test	VL110C		
Series Model Name	VL110, C410		
Description of Model	All models are same with electrical parameters and internal circuit		
name differentiation	structure, but only differ in model name. (this information provided by		
	the applicant)		
Hardware Version	VL110_MB_V1.0		
Software Version	VL110_VL110C_WABI_LA_V1.3_241015.2128		
Dimensions (Approx.)	N/A		
Weight (Approx.)	N/A		



### 2.4 Technical Information

All Network and Wireless	2G Network GSM/GPRS/EDGE 850/1900 MHz		
connectivity for EUT	4G Network LTE FDD Band 2/4/5/7		
About the Product	The equipment is LTE Vehicle Terminal, intended for used with		
About the Product	information technology equipment.		

The following is the technical information of the EUT tested frequency bands in this report.

Operating Bands			GSM/GPRS/EGPRS 850/ 1900 MHz				
			FDD LTE Band 2/4/5/7				
			GSM/GPRS	GMSK			
N			EGPRS	8PSK			
Modulation Typ	oe		LTE	QPSK			
			LTE	16QAM	16QAM		
Multislot Class			GPRS/EGPRS: 12				
Antenna Type			PIFA Antenna	1			
			GSM/GPRS/I	EGPRS 850: -5.42 d	Bi		
			GSM/GPRS/I	EGPRS 1900: -4.27	dBi		
Antenna Gain			FDD LTE Bar	nd 2: -4.27 dBi			
Antenna Gain			FDD LTE Band 4: -2.98 dBi				
			FDD LTE Band 5: -5.42 dBi				
			FDD LTE Band 7: -2.0 dBi				
				EGPRS 850: 25.22 c	dBm		
			GSM/GPRS/EGPRS 1900: 25.26 dBm				
The Max RF O	utput Pov	wer	FDD LTE Band 2: 18.2 dBm				
(EIRP/ERP)			FDD LTE Band 4: 19.67 dBm				
			FDD LTE Band 5: 15.30 dBm				
			FDD LTE Band 7: 19.64 dBm				
Band	Power	Class	Ty Fred	uency Range	Rx Frequency Range		
Dand	GMSK	8PSK	171109	uchey range	TXT requeries range		
GSM850	4	E2	824 MF	Iz ~ 849 MHz	869 MHz ~ 894 MHz		
GSM1900	1	E2	1850 MF	lz ~ 1910 MHz	1930 MHz ~ 1990 MHz		
LTE B2 3			1850 MF	Iz ~ 1910 MHz 1930 MHz ~ 1990 MHz			
LTE B4	3		1710 MF	z ~ 1755 MHz 2110 MHz ~ 2155 MHz			
LTE B5	3		824 MH	lz ~ 849 MHz	869 MHz ~ 894 MHz		
LTE B7 3		2500 MH	Hz ~ 2570 MHz 2620 MHz ~ 2690 MHz				

Note1: The EUT information provided by the applicant, except for The Max RF Conducted Power. For more detailed band specifications and features description, please refer to the manufacturer's specifications or user's manual.



# 3 SUMMARY OF TEST RESULTS

# 3.1 Test Standards

No.	Identity	Document Title		
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters;		
·	47 OFR Part 2	General Rules and Regulations		
2	47 CFR Part 22	Collular Padiotolophono Sorvico		
	Subpart H	Cellular Radiotelephone Service		
3	47 CFR Part 24	Broadband PCS		
3	Subpart E	Bloadballd PCS		
4	47 CFR Part 27	Miscellaneous Wireless Communications Services		
5	ANSI C63.26-2015	American National Standard for Compliance Testing of		
5		Transmitters Used in Licensed Radio Services		
6	KDB 971168	Measurement Guidance for Certification of Licensed Digital		
0	D01 v03	Transmitters		



#### 3.2 Test Verdict

No.	Test Description	FCC Part No.	Test Result	Test Verdict
1	Conducted RF Output Power	2.1046	Reporting only (ANNEX A.1)	Pass
		2.1046		Pass
2	Effective (Isotropic) Radiated Power	22.913	ANNEX A.1	
		24.232		
		2.1046		
3	Peak to Average Radio	24.232(d)	ANNEX A.2	Pass
		27.50(d)		
		2.1049		
4	Occupied Bandwidth	22.917	ANNEX A.3	Pass
4		24.238	ANNEX A.5	
		27.53		
	Frequency Stability	2.1055	ANNEX A.4	Pass
5		22.355		
5		24.235		Pass
		27.54		
		2.1051	ANNEX A.5	Pass
6	Spurious Emission at	22.917		
O	Antenna Terminals	24.238		
		27.53		
	D 151	2.1051	ANNEX A.6	
7		22.917		Pass
7	Band Edge	24.238		Pass
		27.53		
		2.1053	ANNEX A.7	
0	Field Strongth of Samiana Dadiation	22.917		Pass
8	Field Strength of Spurious Radiation	24.238		
		27.53		

Note: The RF module installed in the EUT is electronically and mechanically identical to the original certified module in the test report BL-SZ2270935-501, which issued by Shenzhen BALUN Technology Co., Ltd. on Feb. 01, 2023, so just Effective (Isotropic) Radiated Power and Field Strength of Spurious Radiation were retested in this report. Other test items please refer to the report BL-SZ2270935-501, which issued by Shenzhen BALUN Technology Co., Ltd. on Feb. 01, 2023.



# 3.3 Measurement Uncertainty

Test Case	Uncertainty
Conducted RF Output Power	0.68dB
Effective (Isotropic) Radiated Power	2.50dB
Peak to Average Radio	0.015%
	1.4/3MHz: 30kHz
Occupied Bandwidth	5/10MHz: 100kHz
	15/20MHz: 300kHz
Frequency Stability	12Hz
Spurious Emission at Antenna Terminals	2.56dB
Band Edge	1.48dB
Field Strength of Spurious Radiation	4.55dB



# 4 GENERAL TEST CONFIGURATIONS

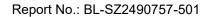
### 4.1 Test Environments

During the measurement, the environmental conditions were within the listed ranges:

Relative Humidity	20% to 75%		
Atmospheric Pressure	98 kPa to 102 kPa		
	NV (Normal Voltage)	3.8 V	
Test Voltage of the EUT	LV (Low Voltage)	3.4 V	
	HV (High Voltage)	4.2 V	
	NT (Normal Temperature)	15 °C to 35 °C	
Test Temperature of the EUT	LT (Low Temperature)	-30 °C	
	HT (High Temperature)	70 °C	

# 4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Version	Cal. Date	Cal. Due				
2/3/4/5G RF Test Sys	2/3/4/5G RF Test System									
BL410 Test Software	BALUN	BL410R	N/A	3.0.1.536	N/A	N/A				
CMUgo Test Software	R&S	CMUgo	N/A	V2.0.1	N/A	N/A				
Temperature Chamber	ОК	OK-TH- 100C	OK2022110401	N/A	2023-11-08	2024-11-07				
Wideband Radio Communication Tester	R&S	CMW 500	100854	V3.7.172	2024-04-25	2025-04-24				
Wideband Radio Communication Tester	R&S	CMW 500	120598	V3.7.172	2023-11-20	2024-11-19				
Spectrum Analyzer	R&S	FSV40	101544	2.30.SP4	2023-12-27	2024-12-26				
Spectrum Analyzer	R&S	N9020A	MY50531628	A.16.09	2024-05-08	2025-05-07				
DC Power Supply	ITECH	IT6863A	8000140207 57120000	N/A	2024-08-16	2025-08-15				
Radiated Test System	n									
Radiated Test System Test Software	BALUN	BL410-E	N/A	V22.4	N/A	N/A				
Wideband Radio Communication Tester	R&S	CMW 500	100854	V3.7.172	2024-04-25	2025-04-24				





Wideband Radio						
Communication	R&S	CMW 500	120598	V3.7.172	2023-11-20	2024-11-19
Tester						
Spectrum Analyzer	R&S	FSV40	101544	2.30.SP4	2023-12-27	2024-12-26
Test Antenna-	A-INFO	LB-	J211060273	N/A	2024-06-15	2027-06-14
Horn(18-40 GHz)	A-INFO	180400KF	J211000273	IN/A	2024-00-13	2027-00-14
Test Antenna-Bi-	Schwarzbeck	VULB	1414	N/A	2023-11-03	2026-11-02
Log(30 MHz-3 GHz)	Scriwarzbeck	9163	1414			
Test Antenna-	Schwarzbeck	BBHA	2459	N/A	2023-10-26	2026-10-25
Horn(1-18 GHz)	Scriwarzbeck	9120D	2459	IN/A	2023-10-20	2020-10-25
Anechoic Chamber	YIHENG	C8-966	N/A	N/A	2024-05-15	2027-05-11
EMI Receiver	Keysight	N9038A	MY55330121	A.20.03	2024-04-23	2025-04-22



# **4.3 Test Configurations**

Toot Made	Test Channel				
rest wode	LCH	MCH	HCH		
GSM 850	V	V	V		
GSM 1900	V	V	V		
GPRS 850	V	V	V		
GPRS 1900	V	V	V		
EGPRS 850	V	V	V		
EGPRS 1900	V	V	V		
GSM 850	V	V	V		
GSM 1900	V	V	V		
EGPRS 850	V	V	V		
EGPRS 1900	V	V	V		
	GSM 1900 GPRS 850 GPRS 1900 EGPRS 850 EGPRS 1900 GSM 850 GSM 1900 EGPRS 850	Test Mode  LCH  GSM 850  V  GSM 1900  V  GPRS 850  V  GPRS 1900  EGPRS 850  V  EGPRS 1900  V  GSM 850  V  GSM 1900  V  EGPRS 850  V  CSM 1900  V  EGPRS 850  V	Test Mode  LCH MCH  GSM 850		

To at Marka	III. Channal	LII. Channal Na	UL Frequency
Test Mode	UL Channel	UL Channel No.	(MHz)
	Low Channel	128	824.2
GSM/GPRS/EGPRS 850	Middle Channel	190	836.6
	High Channel	251	848.8
	Low Channel	512	1850.2
GSM/GPRS/EGPRS 1900	Middle Channel	661	1880.0
	High Channel	810	1909.8



LTE	Bandwidth (MHz)			Modula	tion Type	RB#			Test Channel					
Band	1.4	3	5	10	15	20	QPSK	16-QAM	1	Half	Full	LCH	MCH	HCH
	Effective (Isotropic) Radiated Power													
2	٧	٧	>	٧	٧	V	V	V	٧	٧	<b>V</b>	٧	V	٧
4	٧	٧	٧	V	V	V	V	V	V	٧	٧	V	V	V
5	٧	٧	>	٧	n	n	V	V	٧	٧	>	٧	V	٧
7	n	n	>	٧	٧	٧	V	V	٧	٧	>	٧	V	٧
	Field Strength of Spurious Radiation													
2		Worst case												
4		Worst case												
5		Worst case												
7							V	Vorst case						

Note 1: The mark "v" means that this configuration is chosen for testing.

Note 2: The mark "n" means that this bandwidth is not supported.

T		Channel Bandwidth		UL Frequency
Test Mode	UL Channel	(MHz)	UL Channel No.	(MHz)
		1.4	18607	1850.7
		3	18615	1851.5
	Low Bongo	5	18625	1852.5
	Low Range	10	18650	1855
		15	18675	1857.5
		20	18700	1860
LTE Band 2	Middle Range	1.4/3/5/10/15/20	18900	1880
		1.4	19193	1909.3
		3	19185	1908.5
	High Range	5	19175	1907.5
		10	19150	1905
		15	19125	1902.5
		20	19100	1900
	Low Range	1.4	19957	1710.7
		3	19965	1711.5
		5	19975	1712.5
		10	20000	1715
		15	20025	1717.5
LTE Band 4		20	20050	1720
LIE Ballu 4	Middle Range	1.4/3/5/10/15/20	20175	1732.5
		1.4	20393	1754.3
		3	20385	1753.5
	High Range	5	20375	1752.5
		10	20350	1750
		15	20325	1747.5

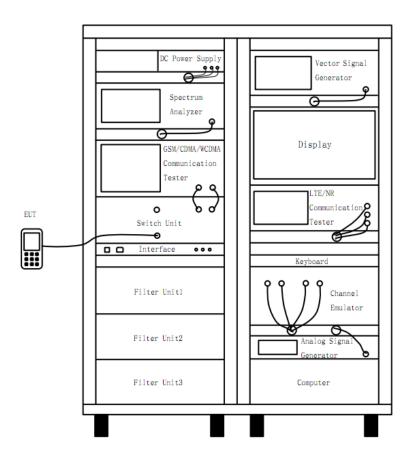


Test Mode	UL Channel	Channel Bandwidth (MHz)	UL Channel No.	UL Frequency (MHz)
		20	20300	1745
		1.4	20407	824.7
	Law Danga	3	20415	825.5
	Low Range	5	20425	826.5
		10	20450	829
LTE Band 5	Middle Range	1.4/3/5/10	20525	836.5
	High Range	1.4	20643	848.3
		3	20635	847.5
		5	20625	846.5
		10	20600	844
	Low Range	5	20775	2502.5
		10	20800	2505
		15	20825	2507.5
		20	20850	2510
LTE Band 7	Middle Range	5/10/15/20	21100	2535
		5	21425	2567.5
	High Dongs	10	21400	2565
	High Range	15	21375	2562.5
		20	21350	2560



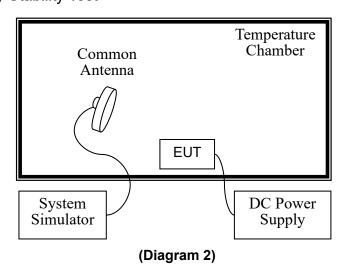
# 4.4 Test Setup

#### 4.4.1 For Antenna Port Test



(Diagram 1)

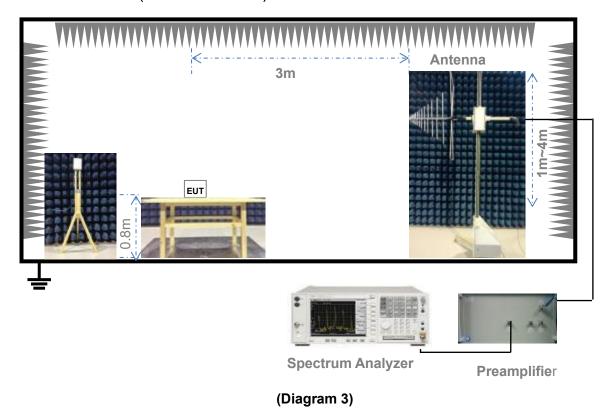
# 4.4.2 For Frequency Stability Test



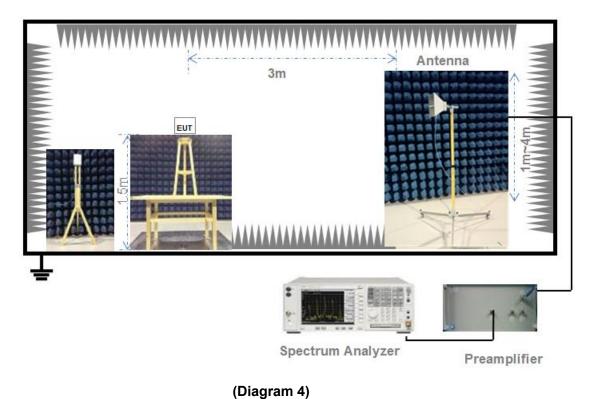
Tel: +86-755-66850100 Web: www.titcgroup.com E-mail: qc@baluntek.com Template No.: TRP-FCC (2024-06)



# 4.4.3 For Radiated Test (30 MHz ~ 1 GHz)



# 4.4.4 For Radiated Test (Above 1 GHz)





#### 5 TEST ITEMS

### 5.1 Transmitter Radiated Power (EIRP/ERP)

#### 5.1.1 Limit

FCC § 2.1046 & 22.913(a) & 24.232(c) & 27.50(a) & 27.50(b) & 27.50(c) & 27.50(d) & 27.50(h) & 27.50(j) & 27.50(k)

According to FCC section 22.913(a) (5), the Effective Radiated Power (ERP) of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

According to FCC section 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 FCC section 27.50(a) (3), for mobile and portable stations transmitting in the 2305-2315MHz band or the 2350-2360MHz 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. 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.

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

FCC section 27.50(c) (10), portable stations (hand-held devices) in the 600MHz uplink band and the 698-746MHz band, and fixed and mobile stations in the 600MHz uplink band are limited to 3 watts ERP.

FCC section 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. 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.

(7) Fixed, mobile, and portable (hand-held) stations operating in the 2000-2020 MHz band are limited to 2 watts EIRP.

And FCC section 27.50(h) (2), for 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.

FCC section 27.50(j) (3), for mobile, and portable (hand-held) stations operating in the 3700-3980 MHz band are limited to 1 watt EIRP.

FCC section 27.50(k) (3), Mobile devices are limited to 1Watt (30 dBm) EIRP in the 3450-3550 MHz band.

#### 5.1.2 Test Setup

The section 4.4.1 (Diagram 1) test setup description is used for conducted test, and the section 4.4.3 and 4.4.4 (Diagram 3, 4) test setup description is used for radiated test. The photo of test setup please refer to

TiGroup

ANNEX B.

#### 5.1.3 Test Procedure

#### **Description of the Conducted Output Power Measurement**

The EUT is coupled to the SS with attenuator through power splitter; the RF load attached to EUT antenna terminal is 500hm; the path loss as the factor is calibrated to correct the reading. A system simulator is used to establish communication with the EUT, and its parameters are set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The relevant equation for determining the conducted measured value is:

Conducted Output Power Value (dBm) = Measured Value (dBm) + Path Loss (dB)

#### where:

Conducted Output Power Value = final conducted measured value in the conducted power test, in dBm; Measured Value = measured conducted power received by spectrum analyzer or power meter, in dBm; Path Loss = signal attenuation in the connecting cable between the transmitter and spectrum analyzer or power meter, including external cable loss, in dB;

During the test, the data of Path Loss (dB) is added in the spectrum analyzer or power meter, so Measured Value (dBm) is the final values which contains the data of Path Loss (dB).

#### For example:

In the conducted output power test, when measured value for GSM850 is 24.7 dBm, and path loss is 8.5 dB, then final conducted output power value is:

Conducted Output Power Value (dBm) = 24.7 dBm + 8.5 dB = 33.2 dBm

#### **Description of the Transmitter Radiated Power Measurement**

In many cases, the RF output power limits for licensed digital transmission devices is specified in terms of effective radiated power (ERP) or equivalent isotropic radiated power (EIRP). Typically, ERP is specified when the operating frequency is less than or equal to 1 GHz and EIRP is specified when the operating frequency is greater than 1 GHz. Both are determined by adding the transmit antenna gain to the conducted RF output power with the primary difference between the two being that when determining the ERP, the transmit antenna gain is referenced to a dipole antenna (i.e., dBd) whereas when determining the EIRP, the transmit antenna gain is referenced to an isotropic antenna (dBi).

Final measurement calculation as below:



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

ERP/EIRP = P<sub>Meas</sub> + GT - LC

#### where:

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

P<sub>Meas</sub> = measured transmitter output power or PSD, in dBm or dBW;

GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

dBd (ERP)=dBi (EIRP) -2.15 dB

LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

For devices utilizing multiple antennas, KDB 662911 provides guidance for determining the effective array transmit antenna gain term to be used in the above equation.

#### For example:

In the EIRP test, when  $P_{Meas}$  value for GSM1900 is 30.2 dBm, LC is 0.6 dB, and GT is -3.4 dB, then final EIRP value is:

EIRP for GSM1900 = 30.2 dBm - 3.4 dBi - 0.6 dB = 26.2 dBm

The relevant equation for determining the ERP/EIRP from the radiated RF output power is: ERP/EIRP (dBm) = SA Read Value (dBm) + Correction Factor (dB)

#### where:

ERP/EIRP = effective or equivalent radiated power, in dBm;

SA Read Value = measured transmitter power received by EMI receiver or spectrum analyzer, in dBm; Correction Factor = total correction factor including cable loss, in dB;

During the test, the data of Correction Factor (dB) is added in the EMI receiver or spectrum analyzer, so SA Read Value (dBm) is the final values which contains the data of Correction Factor (dB).

#### For example:

In the ERP test, when SA read value for GSM850 is 21dBm, and correction factor is 8dB, then final ERP value for GSM850 is:

ERP (dBm) = 21dBm + 8dB = 29dBm

#### 5.1.4 Test Result

Please refer to ANNEX A.1.



### 5.2 Peak to Average Ratio

#### 5.2.1 Limit

FCC § 2.1046 & 24.232(d) & 27.50(d) & 27.50(j) & 27.50(k)

In addition, when the transmitter power is measured in terms of average value, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time using a signal corresponding to the highest PAPR during periods of continuous transmission.

According to FCC section 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 24.232 (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.

FCC section 24.232(e), peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, etc., so as to obtain a true peak measurement for the emission in question over the full bandwidth of the channel.

According to FCC section 27.50(d) (5) & 27.50(j) & 27.50(k), in measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13dB.

#### 5.2.2 Test Setup

The section 4.4.1 (Diagram 1) test setup description is used for this test. The photo of test setup please refer to ANNEX B.

#### 5.2.3 Test Procedure

Here the lowest, middle and highest channels are selected to perform testing to verify the peak-to-average ratio.

According to KDB 971168 D01, there is CCDF procedure for PAPR:

- a) Refer to instrument's analyzer instruction manual for details on how to use the power statistics/CCDF function;
- b) Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
- c) Set the number of counts to a value that stabilizes the measured CCDF curve;
- d) Set the measurement interval as follows:
  - 1) for continuous transmissions, set to 1 ms,



- 2) for burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize and set the measurement interval to a time that is less than or equal to the burst duration.
- e) Record the maximum PAPR level associated with a probability of 0.1%.

#### Alternate procedure for PAPR:

Use one of the procedures presented in 4.1 to measure the total peak power and record as  $P_{Pk}$ . Use one of the applicable procedures presented 4.2 to measure the total average power and record as  $P_{Avg}$ . Both the peak and average power levels must be expressed in the same logarithmic units (e.g., dBm). Determine the PAPR from:

 $PAPR (dB) = P_{Pk} (dBm) - P_{Avg} (dBm).$ 

5.2.4 Test Result

Please refer to ANNEX A.2.



### 5.3 Occupied Bandwidth

#### 5.3.1 Limit

FCC § 2.1049

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

Many of the individual rule parts specify a relative OBW in lieu of the 99% OBW. In such cases, the OBW is defined as the width of the signal between two points, one below the carrier center frequency and on above the carrier center frequency, outside of which all emissions are attenuated by at least X dB below the transmitter power, where the value of X is typically specified as 26.

#### 5.3.2 Test Setup

The section 4.4.1 (Diagram 1) test setup description is used for this test. The photo of test setup please refer to ANNEX B.

#### 5.3.3 Test Procedure

The following procedure shall be used for measuring 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 (i.e., two to five times the anticipated OBW).
- b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
- c) Set the reference level of the instrument as required to keep the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope must be at least 10log (OBW / RBW) below the reference level.
- d) NOTE—Steps a) through c) may require iteration to adjust within the specified tolerances.
- e) For -26 dB OBW, the dynamic range of the spectrum analyzer at the selected RBW shall be at least 10dB below the target "-X dB down" requirement, e.g. -26 dB OBW, the spectrum analyzer noise floor at the selected RBW shall be 36dB below the reference value.
- f) Set the detection mode to peak, and the trace mode to max hold.
- g) For 99% OBW, use the 99 % power bandwidth function of the spectrum analyzer (if available) and report the measured bandwidth.

If the instrument does not have a 99 % power bandwidth function, the trace data points are to be recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is



recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99 % power bandwidth is the difference between these two frequencies.

h) For -26 dB OBW, determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value).

Determine the "-X dB down amplitude" as equal to (reference value -X). Alternatively, this calculation can be performed by the analyzer by using the marker-delta function.

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

- i) The OBW shall be reported by providing plot(s) of the measuring instrument display. The frequency and amplitude axes and scale shall be clearly labeled. Tabular data may be reported in addition to the plot(s).
- j) Change variable modulations, coding, or channel bandwidth settings, then repeat above test procedures.

#### 5.3.4 Test Result

Please refer to ANNEX A.3.



# 5.4 Frequency Stability

#### 5.4.1 Limit

FCC § 2.1055 & 22.355 & 24.235 & 27.54

FCC § 2.1055

The frequency stability shall be measured with variation of ambient temperature as follows:

- (1) The temperature is varied from -30°C to +50°C.
- (2) Frequency measurements shall be made at the extremes of the specified temperature range and at intervals of not more than 10°C through the range.

The frequency stability shall be measured with variation of primary supply voltage as follows:

- (1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than carried battery equipment.
- (2) For hand carried, battery powered equipment, reduce primary supply voltage to the battery operating and point which shall be specified by the manufacture.
- (3) The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

#### 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.

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

Frequency range	Base, fixed (ppm)	Mobile > 3 watts	Mobile ≤ 3 watts
(MHz)	base, lixed (ppili)	(ppm)	(ppm)
25 to 50	20.0	20.0	50.0
50 to 450	5.0	5.0	50.0
450 to 512	2.5	5.0	5.0
821 to 896	1.5	2.5	2.5
928 to 929	5.0	n/a	n/a
929 to 960	1.5	n/a	n/a
2110 to 2220	10.0	n/a	n/a

#### FCC § 24.235

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



#### FCC § 27.54

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

#### 5.4.2 Test Setup

The section 4.4.2 (Diagram 2) test setup description is used for this test. The photo of test setup please refer to ANNEX B.

#### 5.4.3 Test Procedure

- 1. The EUT is placed in a temperature chamber.
- The temperature is set to 25°C and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured.
- 3. The temperature is increased by not more than 10 degrees, allowed to stabilize and soak, and then repeat the frequency error measurement.
- Repeat procedure 3 until +50°C and -30°C is reached.
- Change supply voltage, and repeat measurement until extreme voltage is reached.

#### 5.4.4 Test Result

Please refer to ANNEX A.4.



### 5.5 Spurious Emission at Antenna Terminals

#### 5.5.1 Limit

FCC § 2.1051 & 22.917(a) & 24.238(a) & 27.53(a) & 27.53(c) & 27.53(f) & 27.53(g) & 27.53(h) & 27.53(l) & 27.53(m) & 27.53(n)

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.

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.

FCC § 22.917(a) & 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. This is calculated to be -13 dBm.

FCC § 27.53(a) (4)

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

(1)By a factor of not less than: 43 + 10 log (P) dB on all frequencies between 2305 and 2320MHz and on all frequencies between 2345 and 2360MHz that are outside the licensed band(s) of operation, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324MHz and on all frequencies between 2341 and 2345MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328MHz and on all frequencies between 2337 and 2341MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337MHz.

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

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

FCC § 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.

FCC § 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.

FCC § 27.53(g)

For operations in the 600MHz band and the 698-746MHz 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 kHz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

FCC § 27.53(h) (1)

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  $43 + 10 \log_{10}(P) dB$ .

FCC § 27.53(I) (2)

For mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.



FCC § 27.53(m) (4)

For mobile digital stations (BRS and EBS stations), the attenuation factor shall be not less than:

- 40+10logP dB (-10 dBm, 100 nW) on all frequencies between the channel edge and 5 MHz from the channel edge.
- 43+10logP dB (-13 dBm, 50 nW) on all frequencies between 5 MHz and X MHz from the channel edge,
- 55+10logP dB (-25 dBm, 3 nW) on all frequencies more than X MHz from the channel edge, where X is the greater of 6 MHz or the actual emission bandwidth (26 dB).

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.

FCC § 27.53(n) (2)

For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.

#### 5.5.2 Test Setup

The section 4.4.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

#### 5.5.3 Test Procedure

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log(P) dB. Compliance with these provisions 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 blocks a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. 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.

- 1. The EUT is coupled to the system simulator and spectrum analyzer; the RF load attached to EUT antenna terminal is 500hm; the path loss as the factor is calibrated to correct the reading.
- 2. Base Station is used to establish communication with the EUT, and its parameters are set to force the EUT transmitting at maximum output power.



- 3. The RF output of the transmitter is connected to the input of the spectrum analyzer through sufficient attenuation.
- 4. Spurious emissions are tested with 0.001MHz RBW for frequency less than 150kHz, 0.01MHz RBW for frequency less than 30MHz, 0.1MHz RBW for frequency less than 1GHz, and 1MHz RBW for frequency above 1GHz. And sweep point number are at least 401, referring to following formula.

Sweep point number = Span/RBW

VBW=3\*RBW

Detector Mode=mean or average power

5. Record the frequencies and levels of spurious emissions.

#### 5.5.4 Test Result

Please refer to ANNEX A.5.



### 5.6 Band Edge

#### 5.6.1 Limit

FCC § 2.1051 & 22.917(a) & 24.238(a) & 27.53(a) & 27.53(c) & 27.53(g) & 27.53(h) & 27.53(l) & 27.53(m) & 27.53(n)

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.

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.

FCC § 22.917(a) & 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. This is calculated to be -13 dBm.

FCC § 27.53(a) (4)

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

(1)By a factor of not less than: 43 + 10 log (P) dB on all frequencies between 2305 and 2320MHz and on all frequencies between 2345 and 2360MHz that are outside the licensed band(s) of operation, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324MHz and on all frequencies between 2341 and 2345MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328MHz and on all frequencies between 2337 and 2341MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337MHz.

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

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

FCC § 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.

FCC § 27.53(g)

For operations in the 600MHz band and the 698-746MHz 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 kHz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

FCC § 27.53(h) (1)

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  $43 + 10 \log_{10}(P) dB$ .

FCC § 27.53(I) (2)

For mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.

FCC § 27.53(m) (4)

For mobile digital stations (BRS and EBS stations), the attenuation factor shall be not less than:

- 40+10logP dB (−10 dBm, 100 nW) on all frequencies between the channel edge and 5 MHz from the channel edge.
- 43+10logP dB (-13 dBm, 50 nW) on all frequencies between 5 MHz and X MHz from the channel edge,



• 55+10logP dB (-25 dBm, 3 nW) on all frequencies more than X MHz from the channel edge, where X is the greater of 6 MHz or the actual emission bandwidth (26 dB).

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.

FCC § 27.53(n) (2)

For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.

#### 5.6.2 Test Setup

The section 4.4.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

#### 5.6.3 Test Procedure

The EUT, which is powered by the Battery, is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50 Ohm; the path loss as the factor is calibrated to correct the reading.

- 1.The EUT is coupled to the system simulator and spectrum analyzer; the RF load attached to EUT antenna terminal is 500hm; the path loss as the factor is calibrated to correct the reading.
- 2. Base Station is used to establish communication with the EUT, and its parameters are set to force the EUT transmitting at maximum output power.
- 3. The RF output of the transmitter is connected to the input of the spectrum analyzer through sufficient attenuation.
- 4. The center of the spectrum analyzer was set to block edge frequency.
- 5. Band edge are tested with 1%\*cBW (RBW), and sweep point number referred to following formula.

Sweep point number = 2\*Span/RBW

VBW=3RBW

6. Record the frequencies and levels of spurious emissions.

For mobile and portable stations, 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. Since it was not possible to set the resolution bandwidth to 6.25 kHz with the available equipment, a bandwidth of 10 kHz was used instead to show compliance. By using a 10 kHz bandwidth on the spectrum analyzer.

 $10*\log(10 \text{ kHz} / 6.25 \text{ kHz}) = 2.04 \text{ dB}$ 



Limit Line = -35 dBm + 2.04 dB = -32.96 dBm

#### 5.6.4 Test Result

Please refer to ANNEX A.6.



# 5.7 Field Strength of Spurious Radiation

#### 5.7.1 Limit

FCC § 2.1053 & 22.917(a) & 24.238(a) & 27.53(a) & 27.53(c) & 27.53(f) & 27.53(g) & 27.53(h) & 27.53(l) & 27.53(m) & 27.53(n)

FCC § 22.917(a) & 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. This is calculated to be -13 dBm.

FCC § 27.53(a) (4)

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

(1)By a factor of not less than: 43 + 10 log (P) dB on all frequencies between 2305 and 2320MHz and on all frequencies between 2345 and 2360MHz that are outside the licensed band(s) of operation, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324MHz and on all frequencies between 2341 and 2345MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328MHz and on all frequencies between 2337 and 2341MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337MHz.

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

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

FCC § 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.

FCC § 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.

FCC § 27.53(g)

For operations in the 600MHz band and the 698-746MHz 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 kHz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

FCC § 27.53(h) (1)

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  $43 + 10 \log_{10}(P) dB$ .

FCC § 27.53(I) (2)

For mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.

FCC § 27.53(m) (4)

For mobile digital stations (BRS and EBS stations), the attenuation factor shall be not less than:

- 40+10logP dB (-10 dBm, 100 nW) on all frequencies between the channel edge and 5 MHz from the channel edge.
- 43+10logP dB (-13 dBm, 50 nW) on all frequencies between 5 MHz and X MHz from the channel edge,
- 55+10logP dB (-25 dBm, 3 nW) on all frequencies more than X MHz from the channel edge, where X is the greater of 6 MHz or the actual emission bandwidth (26 dB).

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

**Ti** Group

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.

FCC § 27.53(n) (2)

For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.

5.7.2 Test Setup

The section 4.4.3 and 4.4.4 (Diagram 3, 4) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.7.3 Test Procedure

1. On a test site, the EUT shall be placed at 80cm height on a turn table, and in the position close to

normal use as declared by the applicant.

2. The test antenna shall be oriented initially for vertical polarization located 3 m from EUT to correspond

to the fundamental frequency of the transmitter.

3. The output of the test antenna shall be connected to the measuring receiver and the peak detector is

used for the measurement.

4. During the measurement of the EUT, the resolution bandwidth was to 1 MHz and the average

bandwidth

was set to 1 MHz.

5. The transmitter shall be switched on; the measuring receiver shall be tuned to the frequency of the

transmitter under test.

6. The test antenna shall be raised and lowered through the specified range of height until the maximum

signal level is detected by the measuring receiver.

7. The transmitter shall be rotated through 360° in the horizontal plane, until the maximum signal level is

detected by the measuring receiver.

8. The test antenna shall be raised and lowered again through the specified range of height until the

maximum signal level is detected by the measuring receiver.

9. The maximum signal level detected by the measuring receiver shall be noted.

10. The EUT was replaced by half-wave dipole (824 ~ 849 MHz) or horn antenna (1 850 ~ 1 910 MHz)

connected to a signal generator.

11. In necessary, the input attenuator setting on the measuring receiver shall be adjusted in order to

increase

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the sensitivity of the measuring receiver.

12. The test antenna shall be raised and lowered through the specified range of height to ensure that the

maximum signal is received.

13. The input signal to the substitution antenna shall be adjusted to the level that produces a level

detected by the measuring received, which is equal to the level noted while the transmitter radiated

power was measured, corrected for the change of input attenuator setting of the measuring receiver.

14. The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any

change of input attenuator setting of the measuring receiver.

15. The measurement shall be repeated with the test antenna and the substitution antenna orientated for

horizontal polarization.

Final measurement calculation as below:

The relevant equation for determining the ERP/EIRP from the radiated RF output power is:

ERP/EIRP (dBm) = SA Read Value (dBm) + Correction Factor (dB)

where:

ERP/EIRP = effective or equivalent radiated power, in dBm;

SA Read Value = measured transmitter power received by EMI receiver or spectrum analyzer, in dBm;

Correction Factor = total correction factor including cable loss, in dB:

During the test, the data of Correction Factor (dB) is added in the EMI receiver or spectrum analyzer,

so SA Read Value (dBm) is the final values which contains the data of Correction Factor (dB).

For example:

In the ERP test, when SA read value for GSM850 is 21dBm, and correction factor is 8dB, then final ERP

value for GSM850 is:

ERP (dBm) = 21dBm + 8dB = 29dBm

5.7.4 Test Result

Please refer to ANNEX A.7.



# ANNEX A TEST RESULTS

# A.1 Transmitter Radiated Power (EIRP/ERP)

### **GSM Mode Test Data**

Test Band	Test Channel	Conducted Output Peak Power	Antenna Gain	Antenna Gain	ERP (dBm)	ERP (W)	Limit (W)	Verdict
		(dBm)	(dBi)	(dBd)			1 7	_
GSM	LCH	32.19	-5.42	<b>-</b> 7.57	24.62	0.290	7.00	Pass
850	MCH	32.39	-5.42	-7.57	24.82	0.303	7.00	Pass
030	HCH	32.79	-5.42	-7.57	25.22	0.333	7.00	Pass
GPRS	LCH	32.13	-5.42	-7.57	24.56	0.286	7.00	Pass
850	MCH	32.31	-5.42	-7.57	24.74	0.298	7.00	Pass
030	HCH	32.72	-5.42	-7.57	25.15	0.327	7.00	Pass
EGPRS	LCH	28.90	-5.42	-7.57	21.33	0.136	7.00	Pass
850	MCH	29.04	-5.42	-7.57	21.47	0.140	7.00	Pass
030	HCH	29.19	-5.42	-7.57	21.62	0.145	7.00	Pass

Test Band	Test Channel	Conducted Output Peak Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
GSM	LCH	29.53	-4.27	25.26	0.336	2.00	Pass
1900	MCH	29.37	-4.27	25.10	0.324	2.00	Pass
1900	HCH	29.45	-4.27	25.18	0.330	2.00	Pass
CDDC	LCH	29.52	-4.27	25.25	0.335	2.00	Pass
GPRS 1900	MCH	29.30	-4.27	25.03	0.318	2.00	Pass
1900	HCH	29.38	-4.27	25.11	0.324	2.00	Pass
ECDDS	LCH	28.50	-4.27	24.23	0.265	2.00	Pass
EGPRS 1900	MCH	28.38	-4.27	24.11	0.258	2.00	Pass
1900	HCH	28.49	-4.27	24.22	0.264	2.00	Pass

Note 1: For the GPRS and EGPRS mode, all slots were tested and just the worst data were recorded in this table.

Note 2: ERP/EIRP = PMeas + GT - LC

ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as PMeas, typically dBW or dBm);

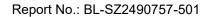
PMeas = measured transmitter output power or PSD, in dBm or dBW;

GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

ERP = EIRP – 2.15; where ERP and EIRP are expressed in consistent units.

Note 3: Set PCL to 5 for GSM/GPRS 850 (power class 4) and 0 for GSM/GPRS 1900 (power class 1). Set PCL to 8 for EGPRS850 (power class E2) and 2 for EGPRS1900 (power class E2).





# **GPRS Conducted Output Power**

				Con	ducted Out	put Peak Po	ower		
Band	Channel	1 Slot	1 Slot	2 Slots	2 Slots	3 Slots	3 Slots	4 Slots	4 Slots
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)
CDDC	LCH	32.13	1.63	31.82	1.52	30.45	1.11	28.64	0.73
GPRS 850	MCH	32.31	1.70	31.97	1.57	30.46	1.11	28.52	0.71
650	HCH	32.72	1.87	32.37	1.73	30.45	1.11	28.61	0.73
GPRS	LCH	29.52	0.90	29.20	0.83	27.48	0.56	25.32	0.34
	MCH	29.30	0.85	28.92	0.78	27.26	0.53	24.86	0.31
1900	HCH	29.38	0.87	28.93	0.78	27.29	0.54	24.91	0.31

# **EGPRS Conducted Output Power**

				Con	ducted Out	put Peak Po	ower		
Band	Channel	1 Slot	1 Slot	2 Slots	2 Slots	3 Slots	3 Slots	4 Slots	4 Slots
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	(dBm)	(W)
CODDC.	LCH	28.90	0.78	28.67	0.74	26.55	0.45	24.77	0.30
EGPRS 850	MCH	29.04	0.80	28.64	0.73	26.49	0.45	24.54	0.28
000	HCH	29.19	0.83	28.74	0.75	26.52	0.45	24.52	0.28
CODDC.	LCH	28.50	0.71	28.17	0.66	26.13	0.41	23.35	0.22
EGPRS 1900	MCH	28.38	0.69	28.02	0.63	26.14	0.41	23.11	0.20
1900	HCH	28.49	0.71	28.06	0.64	25.97	0.40	23.09	0.20



## LTE Mode Test Data

	de lest Dat	<u>.a</u>		Conducted					
Toot	Toot	Toot	Toot DD		Antenna	LIDD	LIDD	Limit	
Test BW	Test Channel	Test Mode	Test RB	Output AV Power	Gain	EIRP	EIRP	Limit	Verdict
DVV	Chame	Mode	(Size#Offset)		(dBi)	(dBm)	(W)	(W)	
				(dBm) LTE BAND2					
			RB1#0	21.53	-4.27	17.26	0.053	2.00	Pass
			RB1#3	21.53	-4.27 -4.27	17.26	0.053		
								2.00	Pass
		QPSK	RB1#5	21.5	-4.27	17.23	0.053	2.00	Pass
		QP3N	RB3#0	21.56	-4.27	17.29	0.054	2.00	Pass
	LCH		RB3#2	21.55	-4.27	17.28	0.053	2.00	Pass
			RB3#3	21.55	-4.27	17.28	0.053	2.00	Pass
			RB6#0	20.55	-4.27	16.28	0.042	2.00	Pass
			RB1#0	20.77	-4.27	16.50	0.045	2.00	Pass
			RB1#3	20.78	-4.27	16.51	0.045	2.00	Pass
		40 0 4 4	RB1#5	20.81	-4.27	16.54	0.045	2.00	Pass
		16-QAM	RB3#0	20.69	-4.27	16.42	0.044	2.00	Pass
			RB3#2	20.69	-4.27	16.42	0.044	2.00	Pass
			RB3#3	20.79	-4.27	16.52	0.045	2.00	Pass
			RB6#0	19.91	-4.27	15.64	0.037	2.00	Pass
			RB1#0	21.56	-4.27	17.29	0.054	2.00	Pass
		RB1#3	21.6	-4.27	17.33	0.054	2.00	Pass	
		ODOK	RB1#5	21.62	-4.27	17.35	0.054	2.00	Pass
1.4 MHz		QPSK	RB3#0	21.53	-4.27	17.26	0.053	2.00	Pass
			RB3#2	21.63	-4.27	17.36	0.054	2.00	Pass
			RB3#3	21.64	-4.27	17.37	0.055	2.00	Pass
	MCH		RB6#0	20.6	-4.27	16.33	0.043	2.00	Pass
			RB1#0	21.02	-4.27	16.75	0.047	2.00	Pass
			RB1#3	21.07	-4.27	16.80	0.048	2.00	Pass
			RB1#5	21.12	-4.27	16.85	0.048	2.00	Pass
		16-QAM	RB3#0	20.88	-4.27	16.28	0.042	2.00	Pass
			RB3#2	20.88	-4.27	16.28	0.042	2.00	Pass
			RB3#3	20.91	-4.27	16.31	0.043	2.00	Pass
			RB6#0	19.74	-4.27	15.14	0.033	2.00	Pass
			RB1#0	21.55	-4.27	16.95	0.050	2.00	Pass
			RB1#3	21.48	-4.27	16.88	0.049	2.00	Pass
			RB1#5	21.36	-4.27	16.76	0.047	2.00	Pass
		QPSK	RB3#0	21.52	-4.27	16.92	0.049	2.00	Pass
	HCH		RB3#2	21.48	-4.27	16.88	0.049	2.00	Pass
			RB3#3	21.44	-4.27	16.84	0.048	2.00	Pass
			RB6#0	20.51	-4.27	15.91	0.039	2.00	Pass
		16 0 4 14	RB1#0	20.65	-4.27	16.05	0.040	2.00	Pass
		16-QAM	RB1#3	20.58	-4.27	15.98	0.040	2.00	Pass



				Conducted					
Test	Test	Test	Test RB	Output AV	Antenna	EIRP	EIRP	Limit	
BW	Channel	Mode	(Size#Offset)	Power	Gain	(dBm)	(W)	(W)	Verdict
DVV	Onamici	IVIOGC	(OIZC#OII3Ct)	(dBm)	(dBi)	(dDiii)	(**)	( • • )	
				TE BAND2					
			RB1#5	20.54	-4.27	15.94	0.039	2.00	Pass
			RB3#0	20.78	-4.27	16.18	0.041	2.00	Pass
			RB3#2	20.74	-4.27	16.14	0.041	2.00	Pass
			RB3#3	20.69	-4.27	16.09	0.041	2.00	Pass
			RB6#0	19.84	-4.27	15.24	0.033	2.00	Pass
			RB1#0	22.02	-4.27	17.42	0.055	2.00	Pass
			RB1#7	22.05	-4.27	17.45	0.056	2.00	Pass
			RB1#14	21.85	-4.27	17.25	0.053	2.00	Pass
		QPSK	RB8#0	20.99	-4.27	16.39	0.044	2.00	Pass
			RB8#4	20.98	-4.27	16.38	0.043	2.00	Pass
	LCH		RB8#7	20.93	-4.27	16.33	0.043	2.00	Pass
			RB15#0	20.96	-4.27	16.36	0.043	2.00	Pass
		16-QAM	RB1#0	20.87	-4.27	16.27	0.042	2.00	Pass
			RB1#7	20.95	-4.27	16.35	0.043	2.00	Pass
			RB1#14	20.88	-4.27	16.28	0.042	2.00	Pass
			RB8#0	20.13	-4.27	15.53	0.036	2.00	Pass
			RB8#4	20.17	-4.27	15.57	0.036	2.00	Pass
			RB8#7	20.13	-4.27	15.53	0.036	2.00	Pass
			RB15#0	20.04	-4.27	15.44	0.035	2.00	Pass
			RB1#0	21.83	-4.27	17.23	0.053	2.00	Pass
0 1411-			RB1#7	21.99	-4.27	17.39	0.055	2.00	Pass
3 MHz			RB1#14	21.93	-4.27	17.33	0.054	2.00	Pass
		QPSK	RB8#0	20.82	-4.27	16.22	0.042	2.00	Pass
			RB8#4	20.92	-4.27	16.32	0.043	2.00	Pass
			RB8#7	20.98	-4.27	16.38	0.043	2.00	Pass
	MCH		RB15#0	20.87	-4.27	16.27	0.042	2.00	Pass
	MCH		RB1#0	21.12	-4.27	16.52	0.045	2.00	Pass
			RB1#7	21.41	-4.27	16.81	0.048	2.00	Pass
			RB1#14	21.37	-4.27	16.77	0.048	2.00	Pass
		16-QAM	RB8#0	20.02	-4.27	15.42	0.035	2.00	Pass
			RB8#4	20.1	-4.27	15.50	0.035	2.00	Pass
			RB8#7	20.12	-4.27	15.52	0.036	2.00	Pass
			RB15#0	20	-4.27	15.40	0.035	2.00	Pass
			RB1#0	21.77	-4.27	17.17	0.052	2.00	Pass
			RB1#7	21.64	-4.27	17.04	0.051	2.00	Pass
	HCH	QPSK	RB1#14	21.16	-4.27	16.56	0.045	2.00	Pass
			RB8#0	20.68	-4.27	16.08	0.041	2.00	Pass
			RB8#4	20.63	-4.27	16.03	0.040	2.00	Pass



				Conducted					
Test	Test	Test	Test RB	Output AV	Antenna	EIRP	EIRP	Limit	
BW	Channel	Mode	(Size#Offset)	Power	Gain	(dBm)	(W)	(W)	Verdict
DVV	Onamici	IVIOGC	(OIZC#OII3Ct)	(dBm)	(dBi)	(dDiii)	(**)	( • • )	
			l	TE BAND2					
			RB8#7	20.48	-4.27	15.88	0.039	2.00	Pass
			RB15#0	20.55	-4.27	15.95	0.039	2.00	Pass
			RB1#0	20.83	-4.27	16.23	0.042	2.00	Pass
			RB1#7	20.69	-4.27	16.09	0.041	2.00	Pass
			RB1#14	20.24	-4.27	15.64	0.037	2.00	Pass
		16-QAM	RB8#0	19.83	-4.27	15.23	0.033	2.00	Pass
			RB8#4	19.8	-4.27	15.20	0.033	2.00	Pass
			RB8#7	19.64	-4.27	15.04	0.032	2.00	Pass
			RB15#0	19.67	-4.27	15.07	0.032	2.00	Pass
			RB1#0	22.31	-4.27	17.71	0.059	2.00	Pass
			RB1#13	22.29	-4.27	17.69	0.059	2.00	Pass
			RB1#24	22	-4.27	17.40	0.055	2.00	Pass
		QPSK	RB12#0	21	-4.27	16.40	0.044	2.00	Pass
			RB12#6	21.09	-4.27	16.49	0.045	2.00	Pass
			RB12#13	21	-4.27	16.40	0.044	2.00	Pass
	1.011		RB25#0	20.99	-4.27	16.39	0.044	2.00	Pass
	LCH		RB1#0	21.41	-4.27	16.81	0.048	2.00	Pass
			RB1#13	21.36	-4.27	16.76	0.047	2.00	Pass
			RB1#24	21.29	-4.27	16.69	0.047	2.00	Pass
		16-QAM	RB12#0	20.15	-4.27	15.55	0.036	2.00	Pass
			RB12#6	20.24	-4.27	15.64	0.037	2.00	Pass
			RB12#13	20.15	-4.27	15.55	0.036	2.00	Pass
E MU→			RB25#0	20.08	-4.27	15.48	0.035	2.00	Pass
5 MHz			RB1#0	21.99	-4.27	17.39	0.055	2.00	Pass
			RB1#13	22.21	-4.27	17.61	0.058	2.00	Pass
			RB1#24	22.25	-4.27	17.65	0.058	2.00	Pass
		QPSK	RB12#0	20.88	-4.27	16.28	0.042	2.00	Pass
			RB12#6	21.13	-4.27	16.53	0.045	2.00	Pass
			RB12#13	21.13	-4.27	16.53	0.045	2.00	Pass
	MCH		RB25#0	21.03	-4.27	16.43	0.044	2.00	Pass
	IVICH		RB1#0	21.48	-4.27	16.88	0.049	2.00	Pass
			RB1#13	21.71	-4.27	17.11	0.051	2.00	Pass
			RB1#24	21.77	-4.27	17.17	0.052	2.00	Pass
		16-QAM	RB12#0	20.1	-4.27	15.50	0.035	2.00	Pass
			RB12#6	20.35	-4.27	15.75	0.038	2.00	Pass
			RB12#13	20.35	-4.27	15.75	0.038	2.00	Pass
			RB25#0	20.18	-4.27	15.58	0.036	2.00	Pass
	HCH	QPSK	RB1#0	22	-4.27	17.40	0.055	2.00	Pass



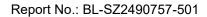
				Conducted					
Test	Test	Test	Test RB	Output AV	Antenna	EIRP	EIRP	Limit	
BW	Channel	Mode	(Size#Offset)	Power	Gain	(dBm)	(W)	(W)	Verdict
DVV	Charmer	IVIOGE	(Size#Oliset)	(dBm)	(dBi)	(dDili)	(۷۷)	(۷۷)	
			<u> </u>	TE BAND2					
			RB1#13	21.96	-4.27	17.36	0.054	2.00	Pass
			RB1#24	21.34	-4.27	16.74	0.047	2.00	Pass
			RB12#0	20.96	-4.27	16.36	0.043	2.00	Pass
			RB12#6	20.92	-4.27	16.32	0.043	2.00	Pass
			RB12#13	20.6	-4.27	16.00	0.040	2.00	Pass
			RB25#0	20.75	-4.27	16.15	0.041	2.00	Pass
			RB1#0	21.14	-4.27	16.54	0.045	2.00	Pass
			RB1#13	21.17	-4.27	16.57	0.045	2.00	Pass
			RB1#24	20.54	-4.27	15.94	0.039	2.00	Pass
		16-QAM	RB12#0	20	-4.27	15.40	0.035	2.00	Pass
			RB12#6	20.07	-4.27	15.47	0.035	2.00	Pass
			RB12#13	19.75	-4.27	15.15	0.033	2.00	Pass
			RB25#0	19.81	-4.27	15.21	0.033	2.00	Pass
			RB1#0	22.13	-4.27	17.53	0.057	2.00	Pass
			RB1#25	21.94	-4.27	17.34	0.054	2.00	Pass
			RB1#49	21.39	-4.27	16.79	0.048	2.00	Pass
		QPSK	RB25#0	20.83	-4.27	16.23	0.042	2.00	Pass
		LCH	RB25#13	20.85	-4.27	16.25	0.042	2.00	Pass
			RB25#25	20.48	-4.27	15.88	0.039	2.00	Pass
	1.04		RB50#0	20.68	-4.27	16.08	0.041	2.00	Pass
	LCH		RB1#0	21.12	-4.27	16.52	0.045	2.00	Pass
			RB1#25	20.97	-4.27	16.37	0.043	2.00	Pass
			RB1#49	20.4	-4.27	15.80	0.038	2.00	Pass
		16-QAM	RB25#0	19.88	-4.27	15.28	0.034	2.00	Pass
10 MHz			RB25#13	19.95	-4.27	15.35	0.034	2.00	Pass
10 IVII IZ			RB25#25	19.58	-4.27	14.98	0.031	2.00	Pass
			RB27#0	19.88	-4.27	15.28	0.034	2.00	Pass
			RB1#0	21.65	-4.27	17.05	0.051	2.00	Pass
			RB1#25	22.17	-4.27	17.57	0.057	2.00	Pass
			RB1#49	22.1	-4.27	17.50	0.056	2.00	Pass
		QPSK	RB25#0	20.69	-4.27	16.09	0.041	2.00	Pass
			RB25#13	21.11	-4.27	16.51	0.045	2.00	Pass
	MCH		RB25#25	21.02	-4.27	16.42	0.044	2.00	Pass
			RB50#0	20.91	-4.27	16.31	0.043	2.00	Pass
			RB1#0	21.06	-4.27	16.46	0.044	2.00	Pass
		16-QAM	RB1#25	21.57	-4.27	16.97	0.050	2.00	Pass
			RB1#49	21.59	-4.27	16.99	0.050	2.00	Pass
			RB25#0	19.81	-4.27	15.21	0.033	2.00	Pass



				Conducted					
Test	Test	Test	Test RB	Output AV	Antenna	EIRP	EIRP	Limit	
BW	Channel	Mode	(Size#Offset)	Power	Gain	(dBm)	(W)	(W)	Verdict
			,	(dBm)	(dBi)	` ′		,	
	L	L	l	TE BAND2	L	L	ı		
			RB25#13	20.18	-4.27	15.58	0.036	2.00	Pass
			RB25#25	20.14	-4.27	15.54	0.036	2.00	Pass
			RB27#0	19.87	-4.27	15.27	0.034	2.00	Pass
			RB1#0	21.43	-4.27	16.83	0.048	2.00	Pass
			RB1#25	21.9	-4.27	17.30	0.054	2.00	Pass
			RB1#49	21.24	-4.27	16.64	0.046	2.00	Pass
		QPSK	RB25#0	20.44	-4.27	15.84	0.038	2.00	Pass
			RB25#13	20.82	-4.27	16.22	0.042	2.00	Pass
			RB25#25	20.59	-4.27	15.99	0.040	2.00	Pass
	HCH		RB50#0	20.54	-4.27	15.94	0.039	2.00	Pass
	псп		RB1#0	20.56	-4.27	15.96	0.039	2.00	Pass
			RB1#25	21.06	-4.27	16.46	0.044	2.00	Pass
		16-QAM	RB1#49	20.31	-4.27	15.71	0.037	2.00	Pass
			RB25#0	19.57	-4.27	14.97	0.031	2.00	Pass
			RB25#13	19.99	-4.27	15.39	0.035	2.00	Pass
			RB25#25	19.76	-4.27	15.16	0.033	2.00	Pass
			RB27#0	19.57	-4.27	14.97	0.031	2.00	Pass
			RB1#0	22.4	-4.27	17.80	0.060	2.00	Pass
			RB1#38	21.77	-4.27	17.17	0.052	2.00	Pass
			RB1#74	21.27	-4.27	16.67	0.046	2.00	Pass
		QPSK	RB36#0	21.12	-4.27	16.52	0.045	2.00	Pass
			RB36#19	20.84	-4.27	16.24	0.042	2.00	Pass
	LCH		RB36#39	20.42	-4.27	15.82	0.038	2.00	Pass
			RB75#0	21.59	-4.27	16.99	0.050	2.00	Pass
			RB1#0	21.31	-4.27	16.71	0.047	2.00	Pass
		16-QAM	RB1#38	20.75	-4.27	16.15	0.041	2.00	Pass
15 MHz		10-QAIVI	RB1#74	20.32	-4.27	15.72	0.037	2.00	Pass
I J IVII IZ			RB27#0	20.11	-4.27	15.51	0.036	2.00	Pass
			RB1#0	21.67	-4.27	17.07	0.051	2.00	Pass
			RB1#38	22.37	-4.27	17.77	0.060	2.00	Pass
			RB1#74	22.02	-4.27	17.42	0.055	2.00	Pass
		QPSK	RB36#0	20.91	-4.27	16.31	0.043	2.00	Pass
	MCH		RB36#19	21.32	-4.27	16.72	0.047	2.00	Pass
	141011		RB36#39	21.29	-4.27	16.69	0.047	2.00	Pass
			RB75#0	22.04	-4.27	17.44	0.055	2.00	Pass
			RB1#0	21.03	-4.27	16.43	0.044	2.00	Pass
		16-QAM	RB1#38	21.83	-4.27	17.23	0.053	2.00	Pass
			RB1#74	21.42	-4.27	16.82	0.048	2.00	Pass



				Conducted					
Test	Test	Test	Test RB	Output AV	Antenna	EIRP	EIRP	Limit	
BW	Channel	Mode	(Size#Offset)	Power	Gain	(dBm)	(W)	(W)	Verdict
DVV	Chamilei	IVIOGE	(Size#Oliset)	(dBm)	(dBi)	(dDill)	( ( V )	( • • )	
			<u> </u>	TE BAND2					
			RB27#0	19.82	-4.27	15.22	0.033	2.00	Pass
			RB1#0	21.2	-4.27	16.60	0.046	2.00	Pass
			RB1#38	21.85	-4.27	17.25	0.053	2.00	Pass
			RB1#74	21.26	-4.27	16.66	0.046	2.00	Pass
		QPSK	RB36#0	20.39	-4.27	15.79	0.038	2.00	Pass
			RB36#19	20.78	-4.27	16.18	0.041	2.00	Pass
	НСН		RB36#39	20.85	-4.27	16.25	0.042	2.00	Pass
			RB75#0	21.33	-4.27	16.73	0.047	2.00	Pass
			RB1#0	20.68	-4.27	16.08	0.041	2.00	Pass
		40.0444	RB1#38	21.38	-4.27	16.78	0.048	2.00	Pass
		16-QAM	RB1#74	20.79	-4.27	16.19	0.042	2.00	Pass
			RB27#0	19.23	-4.27	14.63	0.029	2.00	Pass
			RB1#0	22.3	-4.27	17.70	0.059	2.00	Pass
		QPSK	RB1#50	21.51	-4.27	16.91	0.049	2.00	Pass
			RB1#99	21.16	-4.27	16.56	0.045	2.00	Pass
			RB50#0	20.84	-4.27	16.24	0.042	2.00	Pass
			RB50#25	20.43	-4.27	15.83	0.038	2.00	Pass
	LCH		RB50#50	20.14	-4.27	15.54	0.036	2.00	Pass
			RB100#0	21.34	-4.27	16.74	0.047	2.00	Pass
		16-QAM	RB1#0	21.78	-4.27	17.18	0.052	2.00	Pass
			RB1#50	21	-4.27	16.40	0.044	2.00	Pass
		10-QAIVI	RB1#99	20.72	-4.27	16.12	0.041	2.00	Pass
			RB27#0	19.94	-4.27	15.34	0.034	2.00	Pass
			RB1#0	21.38	-4.27	16.78	0.048	2.00	Pass
20 MHz			RB1#50	22.47	-4.27	17.87	0.061	2.00	Pass
			RB1#99	21.51	-4.27	16.91	0.049	2.00	Pass
		QPSK	RB50#0	20.76	-4.27	16.16	0.041	2.00	Pass
			RB50#25	21.31	-4.27	16.71	0.047	2.00	Pass
	MCH		RB50#50	21.05	-4.27	16.45	0.044	2.00	Pass
			RB100#0	21.69	-4.27	17.09	0.051	2.00	Pass
			RB1#0	20.92	-4.27	16.32	0.043	2.00	Pass
		16-QAM	RB1#50	21.98	-4.27	17.38	0.055	2.00	Pass
		10 00 1111	RB1#99	21.03	-4.27	16.43	0.044	2.00	Pass
			RB27#0	19.44	-4.27	14.84	0.030	2.00	Pass
			RB1#0	21.17	-4.27	16.57	0.045	2.00	Pass
	НСН	OPSK	RB1#50	21.57	-4.27	16.97	0.050	2.00	Pass
		QPSK —	RB1#99	21.09	-4.27	16.49	0.045	2.00	Pass
			RB50#0	20.06	-4.27	15.46	0.035	2.00	Pass





Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
			ı	LTE BAND2					
			RB50#25	20.67	-4.27	16.07	0.040	2.00	Pass
			RB50#50	20.69	-4.27	16.09	0.041	2.00	Pass
			RB100#0	21.06	-4.27	16.46	0.044	2.00	Pass
			RB1#0	20.58	-4.27	15.98	0.040	2.00	Pass
		16-QAM	RB1#50	21.05	-4.27	16.45	0.044	2.00	Pass
	TO-QAIVI	RB1#99	20.58	-4.27	15.98	0.040	2.00	Pass	
			RB27#0	18.94	-4.27	14.34	0.027	2.00	Pass



				Conducted					
Test	Test	Test	Test RB	Output AV	Antenna	EIRP	EIRP	Limit	
BW	Channel	Mode	(Size#Offset)	Power	Gain	(dBm)	(W)	(W)	Verdict
DVV	Onamici	IVIOGC	(OIZC#OIISCI)	(dBm)	(dBi)	(dDill)	(**)	(**)	
			<u> </u>	TE BAND4					
			RB1#0	22.08	-2.98	19.10	0.081	1.00	Pass
			RB1#3	22.03	-2.98	19.05	0.080	1.00	Pass
			RB1#5	22.09	-2.98	19.11	0.081	1.00	Pass
		QPSK	RB3#0	22.03	-2.98	19.05	0.080	1.00	Pass
		Q. Six	RB3#2	22.07	-2.98	19.09	0.081	1.00	Pass
			RB3#3	22.05	-2.98	19.07	0.081	1.00	Pass
			RB6#0	21.02	-2.98	18.04	0.064	1.00	Pass
	LCH		RB1#0	21.22	-2.98	18.24	0.067	1.00	Pass
			RB1#3	21.23	-2.98	18.25	0.067	1.00	Pass
			RB1#5	21.24	-2.98	18.26	0.067	1.00	Pass
		16-QAM	RB3#0	21.14	-2.98	18.16	0.065	1.00	Pass
		10-QAW	RB3#2	21.18	-2.98	18.20	0.066	1.00	Pass
			RB3#3	21.2	-2.98	18.22	0.066	1.00	Pass
			RB6#0	20.33	-2.98	17.35	0.054	1.00	Pass
			RB1#0	20.83	-2.98	17.85	0.061	1.00	Pass
			RB1#3	20.82	-2.98	17.84	0.061	1.00	Pass
			RB1#5	20.8	-2.98	17.82	0.061	1.00	Pass
		QPSK	RB3#0	20.78	-2.98	17.80	0.060	1.00	Pass
1.4 MHz			RB3#2	20.79	-2.98	17.81	0.060	1.00	Pass
			RB3#3	20.76	-2.98	17.78	0.060	1.00	Pass
	MOLL		RB6#0	19.86	-2.98	16.88	0.049	1.00	Pass
	MCH		RB1#0	20.22	-2.98	17.24	0.053	1.00	Pass
			RB1#3	20.28	-2.98	17.30	0.054	1.00	Pass
			RB1#5	20.29	-2.98	17.31	0.054	1.00	Pass
		16-QAM	RB3#0	20.11	-2.98	17.13	0.052	1.00	Pass
			RB3#2	20.11	-2.98	17.13	0.052	1.00	Pass
			RB3#3	20.11	-2.98	17.13	0.052	1.00	Pass
			RB6#0	18.83	-2.98	15.85	0.038	1.00	Pass
			RB1#0	22.51	-2.98	19.53	0.090	1.00	Pass
			RB1#3	22.48	-2.98	19.50	0.089	1.00	Pass
			RB1#5	22.34	-2.98	19.36	0.086	1.00	Pass
		QPSK	RB3#0	22.5	-2.98	19.52	0.090	1.00	Pass
	HCH		RB3#2	22.47	-2.98	19.49	0.089	1.00	Pass
			RB3#3	22.46	-2.98	19.48	0.089	1.00	Pass
			RB6#0	21.49	-2.98	18.51	0.071	1.00	Pass
		16 0 14	RB1#0	21.6	-2.98	18.62	0.073	1.00	Pass
		16-QAM	RB1#3	21.57	-2.98	18.59	0.072	1.00	Pass



				Conducted					
Test	Test	Test	Test RB	Output AV	Antenna	EIRP	EIRP	Limit	
BW	Channel	Mode	(Size#Offset)	Power	Gain	(dBm)	(W)	(W)	Verdict
DVV	Charmer	Mode	(Size#Oliset)	(dBm)	(dBi)	(ubiii)	(۷۷)	(۷۷)	
			<u> </u>	TE BAND4					
			RB1#5	21.54	-2.98	18.56	0.072	1.00	Pass
			RB3#0	21.73	-2.98	18.75	0.075	1.00	Pass
			RB3#2	21.72	-2.98	18.74	0.075	1.00	Pass
			RB3#3	21.7	-2.98	18.72	0.074	1.00	Pass
			RB6#0	20.8	-2.98	17.82	0.061	1.00	Pass
			RB1#0	21.91	-2.98	18.93	0.078	1.00	Pass
			RB1#7	21.97	-2.98	18.99	0.079	1.00	Pass
			RB1#14	21.8	-2.98	18.82	0.076	1.00	Pass
		QPSK	RB8#0	20.95	-2.98	17.97	0.063	1.00	Pass
		<b></b>	RB8#4	21.02	-2.98	18.04	0.064	1.00	Pass
			RB8#7	20.99	-2.98	18.01	0.063	1.00	Pass
			RB15#0	20.95	-2.98	17.97	0.063	1.00	Pass
	LCH		RB1#0	20.93	-2.98	17.95	0.062	1.00	Pass
		16-QAM	RB1#7	20.99	-2.98	18.01	0.063	1.00	Pass
			RB1#14	20.87	-2.98	17.89	0.062	1.00	Pass
			RB8#0	20.18	-2.98	17.20	0.052	1.00	Pass
			RB8#4	20.26	-2.98	17.28	0.053	1.00	Pass
			RB8#7	20.19	-2.98	17.21	0.053	1.00	Pass
			RB15#0	20.13	-2.98	17.15	0.052	1.00	Pass
			RB1#0	20.68	-2.98	17.70	0.059	1.00	Pass
			RB1#7	20.8	-2.98	17.82	0.061	1.00	Pass
3 MHz			RB1#14	20.7	-2.98	17.72	0.059	1.00	Pass
		QPSK	RB8#0	19.75	-2.98	16.77	0.048	1.00	Pass
			RB8#4	19.79	-2.98	16.81	0.048	1.00	Pass
			RB8#7	19.77	-2.98	16.79	0.048	1.00	Pass
	MOLL		RB15#0	19.76	-2.98	16.78	0.048	1.00	Pass
	MCH		RB1#0	20.15	-2.98	17.17	0.052	1.00	Pass
			RB1#7	20.22	-2.98	17.24	0.053	1.00	Pass
			RB1#14	20.13	-2.98	17.15	0.052	1.00	Pass
		16-QAM	RB8#0	18.97	-2.98	15.99	0.040	1.00	Pass
			RB8#4	19.05	-2.98	16.07	0.040	1.00	Pass
			RB8#7	19	-2.98	16.02	0.040	1.00	Pass
			RB15#0	18.93	-2.98	15.95	0.039	1.00	Pass
			RB1#0	22.43	-2.98	19.45	0.088	1.00	Pass
			RB1#7	22.49	-2.98	19.51	0.089	1.00	Pass
	HCH	QPSK	RB1#14	22.21	-2.98	19.23	0.084	1.00	Pass
			RB8#0	21.47	-2.98	18.49	0.071	1.00	Pass
			RB8#4	21.53	-2.98	18.55	0.072	1.00	Pass



				Conducted					
Test	Test	Test	Test RB	Output AV	Antenna	EIRP	EIRP	Limit	
BW	Channel	Mode	(Size#Offset)	Power	Gain	(dBm)	(W)	(W)	Verdict
DVV	Onamici	IVIOGC	(OIZC#OII3Ct)	(dBm)	(dBi)	(dDIII)	(**)	( • • )	
			l	TE BAND4					
			RB8#7	21.45	-2.98	18.47	0.070	1.00	Pass
			RB15#0	21.48	-2.98	18.50	0.071	1.00	Pass
			RB1#0	21.59	-2.98	18.61	0.073	1.00	Pass
			RB1#7	21.58	-2.98	18.60	0.072	1.00	Pass
			RB1#14	21.34	-2.98	18.36	0.069	1.00	Pass
		16-QAM	RB8#0	20.61	-2.98	17.63	0.058	1.00	Pass
			RB8#4	20.64	-2.98	17.66	0.058	1.00	Pass
			RB8#7	20.55	-2.98	17.57	0.057	1.00	Pass
			RB15#0	20.52	-2.98	17.54	0.057	1.00	Pass
			RB1#0	22.11	-2.98	19.13	0.082	1.00	Pass
			RB1#13	22.08	-2.98	19.10	0.081	1.00	Pass
			RB1#24	21.87	-2.98	18.89	0.077	1.00	Pass
		QPSK	RB12#0	20.99	-2.98	18.01	0.063	1.00	Pass
			RB12#6	20.99	-2.98	18.01	0.063	1.00	Pass
			RB12#13	20.85	-2.98	17.87	0.061	1.00	Pass
	1.011		RB25#0	20.89	-2.98	17.91	0.062	1.00	Pass
	LCH		RB1#0	21.27	-2.98	18.29	0.067	1.00	Pass
			RB1#13	21.26	-2.98	18.28	0.067	1.00	Pass
			RB1#24	21.1	-2.98	18.12	0.065	1.00	Pass
		16-QAM	RB12#0	20.1	-2.98	17.12	0.052	1.00	Pass
			RB12#6	20.21	-2.98	17.23	0.053	1.00	Pass
			RB12#13	20.07	-2.98	17.09	0.051	1.00	Pass
5 MHz			RB25#0	20.05	-2.98	17.07	0.051	1.00	Pass
3 IVITIZ			RB1#0	20.85	-2.98	17.87	0.061	1.00	Pass
			RB1#13	20.87	-2.98	17.89	0.062	1.00	Pass
			RB1#24	20.87	-2.98	17.89	0.062	1.00	Pass
		QPSK	RB12#0	19.73	-2.98	16.75	0.047	1.00	Pass
			RB12#6	19.83	-2.98	16.85	0.048	1.00	Pass
			RB12#13	19.72	-2.98	16.74	0.047	1.00	Pass
	MCH		RB25#0	19.75	-2.98	16.77	0.048	1.00	Pass
	IVICIT		RB1#0	20.32	-2.98	17.34	0.054	1.00	Pass
			RB1#13	20.49	-2.98	17.51	0.056	1.00	Pass
			RB1#24	20.42	-2.98	17.44	0.055	1.00	Pass
		16-QAM	RB12#0	19.01	-2.98	16.03	0.040	1.00	Pass
			RB12#6	19.12	-2.98	16.14	0.041	1.00	Pass
			RB12#13	19.11	-2.98	16.13	0.041	1.00	Pass
			RB25#0	18.96	-2.98	15.98	0.040	1.00	Pass
	HCH	QPSK	RB1#0	22.62	-2.98	19.64	0.092	1.00	Pass



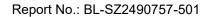
				Conducted					
Test	Test	Test	Test RB	Output AV	Antenna	EIRP	EIRP	Limit	
BW	Channel	Mode	(Size#Offset)	Power	Gain	(dBm)	(W)	(W)	Verdict
			,	(dBm)	(dBi)	,	,	( )	
			ı	TE BAND4					
			RB1#13	22.65	-2.98	19.67	0.093	1.00	Pass
			RB1#24	22.41	-2.98	19.43	0.088	1.00	Pass
			RB12#0	21.59	-2.98	18.61	0.073	1.00	Pass
			RB12#6	21.65	-2.98	18.67	0.074	1.00	Pass
			RB12#13	21.49	-2.98	18.51	0.071	1.00	Pass
			RB25#0	21.55	-2.98	18.57	0.072	1.00	Pass
			RB1#0	21.87	-2.98	18.89	0.077	1.00	Pass
			RB1#13	21.84	-2.98	18.86	0.077	1.00	Pass
			RB1#24	21.63	-2.98	18.65	0.073	1.00	Pass
		16-QAM	RB12#0	20.68	-2.98	17.70	0.059	1.00	Pass
			RB12#6	20.8	-2.98	17.82	0.061	1.00	Pass
			RB12#13	20.65	-2.98	17.67	0.058	1.00	Pass
			RB25#0	20.61	-2.98	17.63	0.058	1.00	Pass
			RB1#0	21.82	-2.98	18.84	0.077	1.00	Pass
			RB1#25	21.62	-2.98	18.64	0.073	1.00	Pass
			RB1#49	21.11	-2.98	18.13	0.065	1.00	Pass
		QPSK	RB25#0	20.63	-2.98	17.65	0.058	1.00	Pass
			RB25#13	20.67	-2.98	17.69	0.059	1.00	Pass
			RB25#25	20.34	-2.98	17.36	0.054	1.00	Pass
	LCH		RB50#0	20.48	-2.98	17.50	0.056	1.00	Pass
	LON		RB1#0	20.89	-2.98	17.91	0.062	1.00	Pass
			RB1#25	20.69	-2.98	17.71	0.059	1.00	Pass
			RB1#49	20.18	-2.98	17.20	0.052	1.00	Pass
		16-QAM	RB25#0	19.76	-2.98	16.78	0.048	1.00	Pass
10 MHz			RB25#13	19.71	-2.98	16.73	0.047	1.00	Pass
TO IVITIZ			RB25#25	19.43	-2.98	16.45	0.044	1.00	Pass
			RB27#0	19.71	-2.98	16.73	0.047	1.00	Pass
			RB1#0	20.69	-2.98	17.71	0.059	1.00	Pass
			RB1#25	20.71	-2.98	17.73	0.059	1.00	Pass
			RB1#49	20.78	-2.98	17.80	0.060	1.00	Pass
		QPSK	RB25#0	19.5	-2.98	16.52	0.045	1.00	Pass
			RB25#13	19.62	-2.98	16.64	0.046	1.00	Pass
	MCH		RB25#25	19.59	-2.98	16.61	0.046	1.00	Pass
			RB50#0	19.52	-2.98	16.54	0.045	1.00	Pass
			RB1#0	20.08	-2.98	17.10	0.051	1.00	Pass
		16-QAM	RB1#25	20.13	-2.98	17.15	0.052	1.00	Pass
		10-QAIVI	RB1#49	20.24	-2.98	17.26	0.053	1.00	Pass
			RB25#0	18.67	-2.98	15.69	0.037	1.00	Pass



				Conducted						
Test	Test	Test	Test RB	Output AV	Antenna	EIRP	EIRP	Limit		
BW	Channel	Mode	(Size#Offset)	Power	Gain	(dBm)	(W)	(W)	Verdict	
	Ondinion	Wiodo	(0.201/011001)	(dBm)	(dBi)	(45.11)	(**)	(**)		
			l	TE BAND4						
			RB25#13	18.8	-2.98	15.82	0.038	1.00	Pass	
			RB25#25	18.77	-2.98	15.79	0.038	1.00	Pass	
			RB27#0	18.69	-2.98	15.71	0.037	1.00	Pass	
			RB1#0	21.7	-2.98	18.72	0.074	1.00	Pass	
			RB1#25	22.45	-2.98	19.47	0.089	1.00	Pass	
			RB1#49	22.16	-2.98	19.18	0.083	1.00	Pass	
		QPSK	RB25#0	20.87	-2.98	17.89	0.062	1.00	Pass	
			RB25#13	21.37	-2.98	18.39	0.069	1.00	Pass	
			RB25#25	21.24	-2.98	18.26	0.067	1.00	Pass	
	НСН		RB50#0	21.19	-2.98	18.21	0.066	1.00	Pass	
			RB1#0	20.78	-2.98	17.80	0.060	1.00	Pass	
			RB1#25	21.59	-2.98	18.61	0.073	1.00	Pass	
			RB1#49	21.32	-2.98	18.34	0.068	1.00	Pass	
		16-QAM	RB25#0	20.14	-2.98	17.16	0.052	1.00	Pass	
			RB25#13	20.58	-2.98	17.60	0.058	1.00	Pass	
			RB25#25	20.46	-2.98	17.48	0.056	1.00	Pass	
			RB27#0	20.13	-2.98	17.15	0.052	1.00	Pass	
			RB1#0	21.97	-2.98	18.99	0.079	1.00	Pass	
				RB1#38	21.53	-2.98	18.55	0.072	1.00	Pass
			RB1#74	20.96	-2.98	17.98	0.063	1.00	Pass	
		QPSK	RB36#0	20.79	-2.98	17.81	0.060	1.00	Pass	
			RB36#19	20.58	-2.98	17.60	0.058	1.00	Pass	
	LCH		RB36#39	20.18	-2.98	17.20	0.052	1.00	Pass	
			RB75#0	21.17	-2.98	18.19	0.066	1.00	Pass	
			RB1#0	20.95	-2.98	17.97	0.063	1.00	Pass	
		16 0 1 1	RB1#38	20.58	-2.98	17.60	0.058	1.00	Pass	
15 MHz		16-QAM	RB1#74	20.01	-2.98	17.03	0.050	1.00	Pass	
13 IVITZ			RB27#0	19.89	-2.98	16.91	0.049	1.00	Pass	
			RB1#0	20.87	-2.98	17.89	0.062	1.00	Pass	
			RB1#38	20.81	-2.98	17.83	0.061	1.00	Pass	
			RB1#74	21.1	-2.98	18.12	0.065	1.00	Pass	
		QPSK	RB36#0	19.79	-2.98	16.81	0.048	1.00	Pass	
	MCH		RB36#19	19.9	-2.98	16.92	0.049	1.00	Pass	
	IVICH		RB36#39	19.89	-2.98	16.91	0.049	1.00	Pass	
			RB75#0	20.53	-2.98	17.55	0.057	1.00	Pass	
			RB1#0	20.3	-2.98	17.32	0.054	1.00	Pass	
		16-QAM	RB1#38	20.36	-2.98	17.38	0.055	1.00	Pass	
			RB1#74	20.64	-2.98	17.66	0.058	1.00	Pass	



				Conducted					
Test	Test	Test	Test RB	Output AV	Antenna	EIRP	EIRP	Limit	
BW	Channel	Mode	(Size#Offset)	Power	Gain	(dBm)	(W)	(W)	Verdict
DVV	Chamile	Mode	(Size#Oliset)	(dBm)	(dBi)	(dDili)	(۷۷)	(۷۷)	
			<u> </u>	TE BAND4					
			RB27#0	18.94	-2.98	15.96	0.039	1.00	Pass
			RB1#0	21.39	-2.98	18.41	0.069	1.00	Pass
			RB1#38	22.31	-2.98	19.33	0.086	1.00	Pass
			RB1#74	22.41	-2.98	19.43	0.088	1.00	Pass
		QPSK	RB36#0	20.73	-2.98	17.75	0.060	1.00	Pass
			RB36#19	21.31	-2.98	18.33	0.068	1.00	Pass
	HCH		RB36#39	21.55	-2.98	18.57	0.072	1.00	Pass
			RB75#0	22.14	-2.98	19.16	0.082	1.00	Pass
			RB1#0	21.03	-2.98	18.05	0.064	1.00	Pass
		40.0444	RB1#38	21.86	-2.98	18.88	0.077	1.00	Pass
		16-QAM	RB1#74	22	-2.98	19.02	0.080	1.00	Pass
			RB27#0	19.74	-2.98	16.76	0.047	1.00	Pass
			RB1#0	22.04	-2.98	19.06	0.081	1.00	Pass
			RB1#50	21.37	-2.98	18.39	0.069	1.00	Pass
		QPSK	RB1#99	20.79	-2.98	17.81	0.060	1.00	Pass
			RB50#0	20.69	-2.98	17.71	0.059	1.00	Pass
	LCH		RB50#25	20.45	-2.98	17.47	0.056	1.00	Pass
			RB50#50	20.03	-2.98	17.05	0.051	1.00	Pass
			RB100#0	21.33	-2.98	18.35	0.068	1.00	Pass
			RB1#0	21.54	-2.98	18.56	0.072	1.00	Pass
		16-QAM	RB1#50	20.93	-2.98	17.95	0.062	1.00	Pass
		10-QAIVI	RB1#99	20.31	-2.98	17.33	0.054	1.00	Pass
			RB27#0	19.98	-2.98	17.00	0.050	1.00	Pass
			RB1#0	21.05	-2.98	18.07	0.064	1.00	Pass
20 MHz			RB1#50	21.07	-2.98	18.09	0.064	1.00	Pass
			RB1#99	21.41	-2.98	18.43	0.070	1.00	Pass
		QPSK	RB50#0	19.88	-2.98	16.90	0.049	1.00	Pass
			RB50#25	20	-2.98	17.02	0.050	1.00	Pass
	MCH		RB50#50	20.14	-2.98	17.16	0.052	1.00	Pass
			RB100#0	21.16	-2.98	18.18	0.066	1.00	Pass
			RB1#0	20.64	-2.98	17.66	0.058	1.00	Pass
		16-QAM	RB1#50	20.62	-2.98	17.64	0.058	1.00	Pass
			RB1#99	20.99	-2.98	18.01	0.063	1.00	Pass
			RB27#0	18.91	-2.98	15.93	0.039	1.00	Pass
			RB1#0	21.17	-2.98	18.19	0.066	1.00	Pass
	HCH	QPSK —	RB1#50	22.11	-2.98	19.13	0.082	1.00	Pass
	HCH		RB1#99	22.56	-2.98	19.58	0.091	1.00	Pass
			RB50#0	20.49	-2.98	17.51	0.056	1.00	Pass





Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
			ı	LTE BAND4					
			RB50#25	21.06	-2.98	18.08	0.064	1.00	Pass
			RB50#50	21.56	-2.98	18.58	0.072	1.00	Pass
			RB100#0	21.81	-2.98	18.83	0.076	1.00	Pass
			RB1#0	20.68	-2.98	17.70	0.059	1.00	Pass
		16-QAM	RB1#50	21.62	-2.98	18.64	0.073	1.00	Pass
		10-QAM	RB1#99	22.03	-2.98	19.05	0.080	1.00	Pass
			RB27#0	19.2	-2.98	16.22	0.042	1.00	Pass



Test	Test	Test	Test RB	Conducted Output AV	Antenn	Antenn	ERP	ERP	Limit	
BW	Channel	Mode	(Size#Offs	Power	a Gain	a Gain	(dBm	(W)	(W)	Verdict
			et)	(dBm)	(dBi)	(dBd)	)		, ,	
	•	•		LTE BA	ND5	•				1
			RB1#0	22.77	-5.42	-7.57	15.20	0.033	7.00	Pass
			RB1#3	22.87	-5.42	-7.57	15.30	0.034	7.00	Pass
			RB1#5	22.87	-5.42	-7.57	15.30	0.034	7.00	Pass
		QPSK	RB3#0	22.76	-5.42	-7.57	15.19	0.033	7.00	Pass
			RB3#2	22.85	-5.42	-7.57	15.28	0.034	7.00	Pass
			RB3#3	22.82	-5.42	-7.57	15.25	0.033	7.00	Pass
	LCH		RB6#0	21.73	-5.42	-7.57	14.16	0.026	7.00	Pass
	LON		RB1#0	21.77	-5.42	-7.57	14.20	0.026	7.00	Pass
			RB1#3	21.93	-5.42	-7.57	14.36	0.027	7.00	Pass
		4.0	RB1#5	21.92	-5.42	-7.57	14.35	0.027	7.00	Pass
		16- QAM	RB3#0	21.74	-5.42	-7.57	14.17	0.026	7.00	Pass
		QAM	RB3#2	21.83	-5.42	-7.57	14.26	0.027	7.00	Pass
			RB3#3	21.83	-5.42	-7.57	14.26	0.027	7.00	Pass
			RB6#0	20.78	-5.42	-7.57	13.21	0.021	7.00	Pass
			RB1#0	22.28	-5.42	-7.57	14.71	0.030	7.00	Pass
			RB1#3	22.4	-5.42	-7.57	14.83	0.030	7.00	Pass
		QPSK	RB1#5	22.43	-5.42	-7.57	14.86	0.031	7.00	Pass
1.4			RB3#0	22.22	-5.42	-7.57	14.65	0.029	7.00	Pass
MHz			RB3#2	22.4	-5.42	-7.57	14.83	0.030	7.00	Pass
			RB3#3	22.44	-5.42	-7.57	14.87	0.031	7.00	Pass
	MCH		RB6#0	21.17	-5.42	-7.57	13.60	0.023	7.00	Pass
	IVICH		RB1#0	21.51	-5.42	-7.57	13.94	0.025	7.00	Pass
			RB1#3	21.53	-5.42	-7.57	13.96	0.025	7.00	Pass
		16-	RB1#5	21.68	-5.42	-7.57	14.11	0.026	7.00	Pass
		QAM	RB3#0	21.33	-5.42	-7.57	13.76	0.024	7.00	Pass
		QAIVI	RB3#2	21.34	-5.42	-7.57	13.77	0.024	7.00	Pass
			RB3#3	21.4	-5.42	-7.57	13.83	0.024	7.00	Pass
			RB6#0	20.08	-5.42	-7.57	12.51	0.018	7.00	Pass
			RB1#0	21.81	-5.42	-7.57	14.24	0.027	7.00	Pass
			RB1#3	21.75	-5.42	-7.57	14.18	0.026	7.00	Pass
			RB1#5	21.57	-5.42	-7.57	14.00	0.025	7.00	Pass
		QPSK	RB3#0	21.71	-5.42	-7.57	14.14	0.026	7.00	Pass
	HCH		RB3#2	21.71	-5.42	-7.57	14.14	0.026	7.00	Pass
			RB3#3	21.65	-5.42	-7.57	14.08	0.026	7.00	Pass
			RB6#0	20.48	-5.42	-7.57	12.91	0.020	7.00	Pass
		16-	RB1#0	20.67	-5.42	-7.57	13.10	0.020	7.00	Pass
		QAM	RB1#3	20.6	-5.42	-7.57	13.03	0.020	7.00	Pass



				Conducted							
Test	Test	Test	Test RB	Output AV	Antenn	Antenn	ERP	ERP	Limit		
BW	Channel	Mode	(Size#Offs	Power	a Gain	a Gain	(dBm	(W)	(W)	Verdict	
DVV	Charine	Wiode	et)	(dBm)	(dBi)	(dBd)	)	( ( V )	( ( )		
				LTE BA	ND5						
			RB1#5	20.55	-5.42	-7.57	12.98	0.020	7.00	Pass	
			RB3#0	20.76	-5.42	-7.57	13.19	0.021	7.00	Pass	
			RB3#2	20.72	-5.42	-7.57	13.15	0.021	7.00	Pass	
			RB3#3	20.67	-5.42	-7.57	13.10	0.020	7.00	Pass	
			RB6#0	19.72	-5.42	-7.57	12.15	0.016	7.00	Pass	
			RB1#0	22.07	-5.42	-7.57	14.50	0.028	7.00	Pass	
			RB1#7	22.35	-5.42	-7.57	14.78	0.030	7.00	Pass	
			RB1#14	22.3	-5.42	-7.57	14.73	0.030	7.00	Pass	
		QPSK	RB8#0	21.18	-5.42	-7.57	13.61	0.023	7.00	Pass	
			RB8#4	21.29	-5.42	-7.57	13.72	0.024	7.00	Pass	
			RB8#7	21.32	-5.42	-7.57	13.75	0.024	7.00	Pass	
	1.011		RB15#0	21.28	-5.42	-7.57	13.71	0.023	7.00	Pass	
	LCH	16- QAM	RB1#0	20.95	-5.42	-7.57	13.38	0.022	7.00	Pass	
			RB1#7	21.35	-5.42	-7.57	13.78	0.024	7.00	Pass	
			RB1#14	21.19	-5.42	-7.57	13.62	0.023	7.00	Pass	
			RB8#0	20.33	-5.42	-7.57	12.76	0.019	7.00	Pass	
			RB8#4	20.48	-5.42	-7.57	12.91	0.020	7.00	Pass	
			RB8#7	20.52	-5.42	-7.57	12.95	0.020	7.00	Pass	
			RB15#0	20.32	-5.42	-7.57	12.75	0.019	7.00	Pass	
				RB1#0	21.61	-5.42	-7.57	14.04	0.025	7.00	Pass
3 MHz			RB1#7	21.99	-5.42	-7.57	14.42	0.028	7.00	Pass	
3 1011 12			RB1#14	21.91	-5.42	-7.57	14.34	0.027	7.00	Pass	
		QPSK	RB8#0	20.83	-5.42	-7.57	13.26	0.021	7.00	Pass	
			RB8#4	20.92	-5.42	-7.57	13.35	0.022	7.00	Pass	
			RB8#7	21	-5.42	-7.57	13.43	0.022	7.00	Pass	
	MCH		RB15#0	20.95	-5.42	-7.57	13.38	0.022	7.00	Pass	
	WIOTT		RB1#0	21.01	-5.42	-7.57	13.44	0.022	7.00	Pass	
			RB1#7	21.38	-5.42	-7.57	13.81	0.024	7.00	Pass	
		16-	RB1#14	21.35	-5.42	-7.57	13.78	0.024	7.00	Pass	
		QAM	RB8#0	19.93	-5.42	-7.57	12.36	0.017	7.00	Pass	
		Q,	RB8#4	20.09	-5.42	-7.57	12.52	0.018	7.00	Pass	
			RB8#7	20.08	-5.42	-7.57	12.51	0.018	7.00	Pass	
			RB15#0	19.97	-5.42	-7.57	12.40	0.017	7.00	Pass	
			RB1#0	21.68	-5.42	-7.57	14.11	0.026	7.00	Pass	
			RB1#7	21.59	-5.42	-7.57	14.02	0.025	7.00	Pass	
	HCH	QPSK	RB1#14	21.41	-5.42	-7.57	13.84	0.024	7.00	Pass	
			RB8#0	20.59	-5.42	-7.57	13.02	0.020	7.00	Pass	
			RB8#4	20.63	-5.42	-7.57	13.06	0.020	7.00	Pass	



			Test RB	Conducted	Antenn	Antenn	ERP			
Test	Test	Test	(Size#Offs	Output AV	a Gain	a Gain	(dBm	ERP	Limit	Verdict
BW	Channel	Mode	et)	Power	(dBi)	(dBd)	<b>`</b> )	(W)	(W)	
			,	(dBm)	` ′	, ,	,			
	I	1	DD0#7	LTE BA	I	T = ==	10.00		7.00	
			RB8#7	20.55	-5.42	-7.57	12.98	0.020	7.00	Pass
			RB15#0	20.6	-5.42	-7.57	13.03	0.020	7.00	Pass
			RB1#0	20.74	-5.42	-7.57	13.17	0.021	7.00	Pass
			RB1#7	20.69	-5.42	-7.57	13.12	0.021	7.00	Pass
		16-	RB1#14	20.55	-5.42	-7.57	12.98	0.020	7.00	Pass
		QAM	RB8#0	19.76	-5.42	-7.57	12.19	0.017	7.00	Pass
			RB8#4	19.71	-5.42	-7.57	12.14	0.016	7.00	Pass
			RB8#7	19.62	-5.42	-7.57	12.05	0.016	7.00	Pass
			RB15#0	19.62	-5.42	-7.57	12.05	0.016	7.00	Pass
			RB1#0	22.5	-5.42	-7.57	14.93	0.031	7.00	Pass
			RB1#13	22.67	-5.42	-7.57	15.10	0.032	7.00	Pass
			RB1#24	22.4	-5.42	-7.57	14.83	0.030	7.00	Pass
		QPSK	RB12#0	21.27	-5.42	-7.57	13.70	0.023	7.00	Pass
			RB12#6	21.46	-5.42	-7.57	13.89	0.024	7.00	Pass
			RB12#13	21.33	-5.42	-7.57	13.76	0.024	7.00	Pass
	LCH		RB25#0	21.3	-5.42	-7.57	13.73	0.024	7.00	Pass
	LOTT		RB1#0	21.44	-5.42	-7.57	13.87	0.024	7.00	Pass
		16-	RB1#13	21.72	-5.42	-7.57	14.15	0.026	7.00	Pass
			RB1#24	21.53	-5.42	-7.57	13.96	0.025	7.00	Pass
		QAM	RB12#0	20.44	-5.42	-7.57	12.87	0.019	7.00	Pass
		G/ tivi	RB12#6	20.54	-5.42	-7.57	12.97	0.020	7.00	Pass
			RB12#13	20.45	-5.42	-7.57	12.88	0.019	7.00	Pass
5 MHz			RB25#0	20.42	-5.42	-7.57	12.85	0.019	7.00	Pass
J WII IZ			RB1#0	21.93	-5.42	-7.57	14.36	0.027	7.00	Pass
			RB1#13	22.13	-5.42	-7.57	14.56	0.029	7.00	Pass
			RB1#24	22.38	-5.42	-7.57	14.81	0.030	7.00	Pass
		QPSK	RB12#0	20.74	-5.42	-7.57	13.17	0.021	7.00	Pass
			RB12#6	21.05	-5.42	-7.57	13.48	0.022	7.00	Pass
			RB12#13	21.09	-5.42	-7.57	13.52	0.022	7.00	Pass
	MCH -		RB25#0	21.03	-5.42	-7.57	13.46	0.022	7.00	Pass
			RB1#0	21.38	-5.42	-7.57	13.81	0.024	7.00	Pass
			RB1#13	21.63	-5.42	-7.57	14.06	0.025	7.00	Pass
		16	RB1#24	21.8	-5.42	-7.57	14.23	0.026	7.00	Pass
		16-	RB12#0	19.98	-5.42	-7.57	12.41	0.017	7.00	Pass
		QAM	RB12#6	20.21	-5.42	-7.57	12.64	0.018	7.00	Pass
			RB12#13	20.29	-5.42	-7.57	12.72	0.019	7.00	Pass
			RB25#0	20.11	-5.42	-7.57	12.54	0.018	7.00	Pass
	HCH	QPSK	RB1#0	21.94	-5.42	-7.57	14.37	0.027	7.00	Pass



				Conducted						
Test	Test	Test	Test RB	Output AV	Antenn	Antenn	ERP	ERP	Limit	
BW	Channel	Mode	(Size#Offs	Power	a Gain	a Gain	(dBm	(W)	(W)	Verdict
		111111111	et)	(dBm)	(dBi)	(dBd)	)	(**)	(**)	
				LTE BA	ND5					
			RB1#13	21.8	-5.42	-7.57	14.23	0.026	7.00	Pass
			RB1#24	21.64	-5.42	-7.57	14.07	0.026	7.00	Pass
			RB12#0	20.67	-5.42	-7.57	13.10	0.020	7.00	Pass
			RB12#6	20.73	-5.42	-7.57	13.16	0.021	7.00	Pass
			RB12#13	20.61	-5.42	-7.57	13.04	0.020	7.00	Pass
			RB25#0	20.65	-5.42	-7.57	13.08	0.020	7.00	Pass
			RB1#0	21.1	-5.42	-7.57	13.53	0.023	7.00	Pass
			RB1#13	21	-5.42	-7.57	13.43	0.022	7.00	Pass
		16-	RB1#24	20.8	-5.42	-7.57	13.23	0.021	7.00	Pass
		QAM	RB12#0	19.86	-5.42	-7.57	12.29	0.017	7.00	Pass
		QAIVI	RB12#6	19.87	-5.42	-7.57	12.30	0.017	7.00	Pass
			RB12#13	19.73	-5.42	-7.57	12.16	0.016	7.00	Pass
			RB25#0	19.69	-5.42	-7.57	12.12	0.016	7.00	Pass
			RB1#0	22.43	-5.42	-7.57	14.86	0.031	7.00	Pass
			RB1#25	22.27	-5.42	-7.57	14.70	0.030	7.00	Pass
			RB1#49	21.94	-5.42	-7.57	14.37	0.027	7.00	Pass
		QPSK	RB25#0	21.1	-5.42	-7.57	13.53	0.023	7.00	Pass
			RB25#13	21.18	-5.42	-7.57	13.61	0.023	7.00	Pass
			RB25#25	20.9	-5.42	-7.57	13.33	0.022	7.00	Pass
	LCH		RB50#0	21.01	-5.42	-7.57	13.44	0.022	7.00	Pass
	LOIT		RB1#0	21.3	-5.42	-7.57	13.73	0.024	7.00	Pass
			RB1#25	21.19	-5.42	-7.57	13.62	0.023	7.00	Pass
		16-	RB1#49	20.8	-5.42	-7.57	13.23	0.021	7.00	Pass
		QAM	RB25#0	20.2	-5.42	-7.57	12.63	0.018	7.00	Pass
10		G/ (IVI	RB25#13	20.23	-5.42	-7.57	12.66	0.018	7.00	Pass
MHz			RB25#25	19.91	-5.42	-7.57	12.34	0.017	7.00	Pass
			RB27#0	20.16	-5.42	-7.57	12.59	0.018	7.00	Pass
			RB1#0	22.25	-5.42	-7.57	14.68	0.029	7.00	Pass
			RB1#25	22.11	-5.42	-7.57	14.54	0.028	7.00	Pass
			RB1#49	22.2	-5.42	-7.57	14.63	0.029	7.00	Pass
		QPSK	RB25#0	20.55	-5.42	-7.57	12.98	0.020	7.00	Pass
			RB25#13	21.02	-5.42	-7.57	13.45	0.022	7.00	Pass
	MCH		RB25#25	20.93	-5.42	-7.57	13.36	0.022	7.00	Pass
			RB50#0	20.95	-5.42	-7.57	13.38	0.022	7.00	Pass
			RB1#0	21.42	-5.42	-7.57	13.85	0.024	7.00	Pass
		16-	RB1#25	21.39	-5.42	-7.57	13.82	0.024	7.00	Pass
		QAM	RB1#49	21.43	-5.42	-7.57	13.86	0.024	7.00	Pass
			RB25#0	19.69	-5.42	-7.57	12.12	0.016	7.00	Pass



Test BW	Test Channel	Test Mode	Test RB (Size#Offs et)	Conducted Output AV Power (dBm)	Antenn a Gain (dBi)	Antenn a Gain (dBd)	ERP (dBm )	ERP (W)	Limit (W)	Verdict							
				LTE BA	ND5												
			RB25#13	20.11	-5.42	-7.57	12.54	0.018	7.00	Pass							
			RB25#25	20.06	-5.42	-7.57	12.49	0.018	7.00	Pass							
			RB27#0	19.72	-5.42	-7.57	12.15	0.016	7.00	Pass							
			RB1#0	22.23	-5.42	-7.57	14.66	0.029	7.00	Pass							
			RB1#25	21.81	-5.42	-7.57	14.24	0.027	7.00	Pass							
		QPSK	RB1#49	21.71	-5.42	-7.57	14.14	0.026	7.00	Pass							
			QPSK	RB25#0	20.78	-5.42	-7.57	13.21	0.021	7.00	Pass						
			RB25#13	20.71	-5.42	-7.57	13.14	0.021	7.00	Pass							
		-							Ī	RB25#25	20.5	-5.42	-7.57	12.93	0.020	7.00	Pass
	LICH		RB50#0	20.47	-5.42	-7.57	12.90	0.019	7.00	Pass							
	HCH		RB1#0	21.08	-5.42	-7.57	13.51	0.022	7.00	Pass							
			RB1#25	20.91	-5.42	-7.57	13.34	0.022	7.00	Pass							
		40	RB1#49	20.59	-5.42	-7.57	13.02	0.020	7.00	Pass							
		16-	RB25#0	19.91	-5.42	-7.57	12.34	0.017	7.00	Pass							
		QAM	RB25#13	19.82	-5.42	-7.57	12.25	0.017	7.00	Pass							
			RB25#25	19.67	-5.42	-7.57	12.10	0.016	7.00	Pass							
			RB27#0	19.88	-5.42	-7.57	12.31	0.017	7.00	Pass							



				Conducted					
Test	Test	Test	Test RB	Output AV	Antenna	EIRP	EIRP	Limit	
BW	Channel	Mode	(Size#Offset)	Power	Gain	(dBm)	(W)	(W)	Verdict
			,	(dBm)	(dBi)	, ,	,	( )	
			ı	LTE BAND7		l			
			RB1#0	20.76	-2	18.76	0.075	2.00	Pass
			RB1#13	20.6	-2	18.60	0.072	2.00	Pass
			RB1#24	20.52	-2	18.52	0.071	2.00	Pass
		QPSK	RB12#0	19.57	-2	17.57	0.057	2.00	Pass
			RB12#6	19.61	-2	17.61	0.058	2.00	Pass
			RB12#13	19.48	-2	17.48	0.056	2.00	Pass
	LCH		RB25#0	19.51	-2	17.51	0.056	2.00	Pass
	LON		RB1#0	19.87	-2	17.87	0.061	2.00	Pass
			RB1#13	19.87	-2	17.87	0.061	2.00	Pass
			RB1#24	19.7	-2	17.70	0.059	2.00	Pass
		16-QAM	RB12#0	18.64	-2	16.64	0.046	2.00	Pass
			RB12#6	18.69	-2	16.69	0.047	2.00	Pass
			RB12#13	18.46	-2	16.46	0.044	2.00	Pass
			RB25#0	18.44	-2	16.44	0.044	2.00	Pass
			RB1#0	20.52	-2	18.52	0.071	2.00	Pass
			RB1#13	20.7	-2	18.70	0.074	2.00	Pass
			RB1#24	20.72	-2	18.72	0.074	2.00	Pass
5 MHz		QPSK	RB12#0	19.38	-2	17.38	0.055	2.00	Pass
SIVITZ			RB12#6	19.58	-2	17.58	0.057	2.00	Pass
			RB12#13	19.58	-2	17.58	0.057	2.00	Pass
	MCH		RB25#0	19.54	-2	17.54	0.057	2.00	Pass
	IVICIT		RB1#0	20.09	-2	18.09	0.064	2.00	Pass
			RB1#13	20.27	-2	18.27	0.067	2.00	Pass
			RB1#24	20.35	-2	18.35	0.068	2.00	Pass
		16-QAM	RB12#0	18.7	-2	16.70	0.047	2.00	Pass
			RB12#6	18.89	-2	16.89	0.049	2.00	Pass
			RB12#13	18.79	-2	16.79	0.048	2.00	Pass
			RB25#0	18.72	-2	16.72	0.047	2.00	Pass
			RB1#0	20.04	-2	18.04	0.064	2.00	Pass
			RB1#13	20.42	-2	18.42	0.070	2.00	Pass
			RB1#24	20.63	-2	18.63	0.073	2.00	Pass
		QPSK	RB12#0	19.13	-2	17.13	0.052	2.00	Pass
	HCH		RB12#6	19.41	-2	17.41	0.055	2.00	Pass
			RB12#13	19.46	-2	17.46	0.056	2.00	Pass
			RB25#0	19.33	-2	17.33	0.054	2.00	Pass
		16-QAM	RB1#0	19.35	-2	17.35	0.054	2.00	Pass
		10-Q/NIVI	RB1#13	19.73	-2	17.73	0.059	2.00	Pass



					1				
Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
(dBm) (dBm) LTE BAND7									
	Ī	Ī	RB1#24	19.89	-2	17.89	0.062	2.00	Pass
			RB12#0		-2 -2	16.30	0.062	2.00	
			RB12#6	18.3 18.59	-2 -2	16.59	0.043	2.00	Pass Pass
			RB12#13	18.64	-2 -2	16.64	0.046	2.00	Pass
			RB12#13	18.39	-2 -2	16.39	0.040	2.00	Pass
			RB1#0	20.44	-2 -2	18.44	0.044	2.00	Pass
			RB1#25	20.44	-2	18.27	0.070	2.00	Pass
			RB1#49	20.27	-2 -2	18.03	0.064	2.00	Pass
		QPSK	RB25#0	19.28	-2 -2	17.28	0.053	2.00	Pass
		QFSK	RB25#13	19.26	-2 -2	17.26	0.053	2.00	Pass
			RB25#13 RB25#25	19.33	-2 -2	17.33	0.054	2.00	Pass
			RB25#25 RB50#0	19.17	-2 -2	17.10	0.051	2.00	Pass
	LCH		RB1#0	19.17	-2 -2	17.17	0.052	2.00	Pass
		16-QAM	RB1#25	19.44	-2 -2	17.44	0.055	2.00	Pass
							0.050		
			RB1#49	19.03	-2 -2	17.03		2.00	Pass
			RB25#0 RB25#13	18.34 18.42	-2 -2	16.34 16.42	0.043	2.00	Pass Pass
			RB25#13 RB25#25	18.17	-2 -2	16.42	0.044	2.00	Pass
			RB25#25	18.39	-2 -2	16.17	0.041	2.00	Pass
		16-QAM	RB1#0	20.39	-2 -2	18.39	0.044	2.00	Pass
			RB1#25	20.39	-2 -2	18.80	0.009	2.00	Pass
10 MHz	MCH		RB1#49	20.81	-2 -2	18.81	0.076	2.00	Pass
			RB25#0	19.46	-2 -2	17.46	0.076	2.00	Pass
			RB25#13	19.46	-2 -2	17.46	0.060		Pass
			RB25#13	19.75	-2 -2		0.058	2.00	Pass
			RB50#0	19.59	-2 -2	17.65 17.59	0.056		Pass
			RB1#0		-2 -2			2.00	
			RB1#25	19.84	-2 -2	17.84 18.24	0.061	2.00	Pass
			RB1#49	20.24	-2 -2			2.00	Pass
						18.23	0.067	2.00	Pass
			RB25#0	18.55	-2	16.55	0.045	2.00	Pass
			RB25#13	18.84	-2	16.84	0.048	2.00	Pass
			RB25#25	18.74	-2	16.74	0.047	2.00	Pass
			RB27#0	18.61	-2	16.61	0.046	2.00	Pass
			RB1#0	19.91	-2	17.91	0.062	2.00	Pass
	НСН		RB1#25	20.17	-2	18.17	0.066	2.00	Pass
			RB1#49	20.67	-2	18.67	0.074	2.00	Pass
			RB25#0	18.82	-2	16.82	0.048	2.00	Pass
			RB25#13	19.16	-2	17.16	0.052	2.00	Pass



Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
LTE BAND7									
			RB25#25	19.35	-2	17.35	0.054	2.00	Pass
			RB50#0	19.17	-2	17.17	0.052	2.00	Pass
			RB1#0	18.95	-2	16.95	0.050	2.00	Pass
			RB1#25	19.35	-2	17.35	0.054	2.00	Pass
			RB1#49	19.82	-2	17.82	0.061	2.00	Pass
		16-QAM	RB25#0	17.96	-2	15.96	0.039	2.00	Pass
			RB25#13	18.32	-2	16.32	0.043	2.00	Pass
			RB25#25	18.46	-2	16.46	0.044	2.00	Pass
			RB27#0	18.04	-2	16.04	0.040	2.00	Pass
			RB1#0	20.87	-2	18.87	0.077	2.00	Pass
		QPSK	RB1#38	20.63	-2	18.63	0.073	2.00	Pass
			RB1#74	20.39	-2	18.39	0.069	2.00	Pass
	LCH		RB36#0	19.69	-2	17.69	0.059	2.00	Pass
			RB36#19	19.61	-2	17.61	0.058	2.00	Pass
			RB36#39	19.46	-2	17.46	0.056	2.00	Pass
			RB75#0	20.57	-2	18.57	0.072	2.00	Pass
		16-QAM	RB1#0	19.9	-2	17.90	0.062	2.00	Pass
			RB1#38	19.71	-2	17.71	0.059	2.00	Pass
			RB1#74	19.53	-2	17.53	0.057	2.00	Pass
			RB27#0	18.85	-2	16.85	0.048	2.00	Pass
	МСН	QPSK	RB1#0	20.79	-2	18.79	0.076	2.00	Pass
			RB1#38	21.29	-2	19.29	0.085	2.00	Pass
15 MHz			RB1#74	21.28	-2	19.28	0.085	2.00	Pass
10 1011 12			RB36#0	19.9	-2	17.90	0.062	2.00	Pass
			RB36#19	20.29	-2	18.29	0.067	2.00	Pass
			RB36#39	20.27	-2	18.27	0.067	2.00	Pass
			RB75#0	21.35	-2	19.35	0.086	2.00	Pass
		16-QAM	RB1#0	20.28	-2	18.28	0.067	2.00	Pass
			RB1#38	20.81	-2	18.81	0.076	2.00	Pass
			RB1#74	20.8	-2	18.80	0.076	2.00	Pass
			RB27#0	19.07	-2	17.07	0.051	2.00	Pass
	НСН	QPSK	RB1#0	20.32	-2	18.32	0.068	2.00	Pass
			RB1#38	20.44	-2	18.44	0.070	2.00	Pass
			RB1#74	21.21	-2	19.21	0.083	2.00	Pass
			RB27#0	19.36	-2	17.36	0.054	2.00	Pass
			RB36#19	19.54	-2	17.54	0.057	2.00	Pass
			RB36#39	19.82	-2	17.82	0.061	2.00	Pass
			RB75#0	20.56	-2	18.56	0.072	2.00	Pass



				Conducted					
Test	Test	Test	Test RB	Output AV	Antenna	EIRP	EIRP	Limit	
BW	Channel	Mode	(Size#Offset)	Power	Gain	(dBm)	(W)	(W)	Verdict
DVV	Onamici	IVIOGC	(OIZC#OII3Ct)	(dBm)	(dBi)	(dDiii)	(**)	(**)	
LTE BAND7									
			RB1#0	19.84	-2	17.84	0.061	2.00	Pass
			RB1#38	20.04	-2	18.04	0.064	2.00	Pass
		16-QAM	RB1#74	20.79	-2	18.79	0.076	2.00	Pass
			RB27#0	18.4	-2	16.40	0.044	2.00	Pass
			RB1#0	21.1	-2	19.10	0.081	2.00	Pass
			RB1#50	20.82	-2	18.82	0.076	2.00	Pass
			RB1#99	20.5	-2	18.50	0.071	2.00	Pass
		QPSK	RB50#0	19.77	-2	17.77	0.060	2.00	Pass
			RB50#25	19.71	-2	17.71	0.059	2.00	Pass
	LCH		RB50#50	19.45	-2	17.45	0.056	2.00	Pass
			RB100#0	20.47	-2	18.47	0.070	2.00	Pass
			RB1#0	20.67	-2	18.67	0.074	2.00	Pass
		16-QAM	RB1#50	20.46	-2	18.46	0.070	2.00	Pass
			RB1#99	20.11	-2	18.11	0.065	2.00	Pass
			RB27#0	18.91	-2	16.91	0.049	2.00	Pass
	MCH	QPSK	RB1#0	20.9	-2	18.90	0.078	2.00	Pass
			RB1#50	21.64	-2	19.64	0.092	2.00	Pass
			RB1#99	21.34	-2	19.34	0.086	2.00	Pass
			RB50#0	20.05	-2	18.05	0.064	2.00	Pass
20 MHz			RB50#25	20.45	-2	18.45	0.070	2.00	Pass
20 1011 12			RB50#50	20.44	-2	18.44	0.070	2.00	Pass
			RB100#0	21.34	-2	19.34	0.086	2.00	Pass
		16-QAM	RB1#0	20.46	-2	18.46	0.070	2.00	Pass
			RB1#50	21.19	-2	19.19	0.083	2.00	Pass
			RB1#99	20.91	-2	18.91	0.078	2.00	Pass
			RB27#0	18.96	-2	16.96	0.050	2.00	Pass
	НСН	QPSK	RB1#0	20.61	-2	18.61	0.073	2.00	Pass
			RB1#50	20.55	-2	18.55	0.072	2.00	Pass
			RB1#99	21.22	-2	19.22	0.084	2.00	Pass
			RB50#0	19.42	-2	17.42	0.055	2.00	Pass
			RB50#25	19.59	-2	17.59	0.057	2.00	Pass
			RB50#50	19.71	-2	17.71	0.059	2.00	Pass
			RB100#0	20.48	-2	18.48	0.070	2.00	Pass
		16-QAM	RB1#0	20.11	-2	18.11	0.065	2.00	Pass
			RB1#50	20.07	-2	18.07	0.064	2.00	Pass
			RB1#99	20.74	-2	18.74	0.075	2.00	Pass
			RB27#0	18.58	-2	16.58	0.045	2.00	Pass

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#### A.2 Peak to Average Ratio

Note: The Peak to Average Ratio please refer to the FCC Report No. BL-SZ2270935-501, which issued by Shenzhen BALUN Technology Co., Ltd. on Feb. 01, 2023. Section A.2 Peak to Average Ratio.

#### A.3 Occupied Bandwidth

Note: The Occupied Bandwidth please refer to the FCC Report No. BL-SZ2270935-501, which issued by Shenzhen BALUN Technology Co., Ltd. on Feb. 01, 2023. Section A.3 Occupied Bandwidth.

### Frequency Stability

Note: The Frequency Stability please refer to the FCC Report No. BL-SZ2270935-501, which issued by Shenzhen BALUN Technology Co., Ltd. on Feb. 01, 2023. Section A.4 Frequency Stability.

#### Spurious Emission at Antenna Terminals A.5

Note: The Spurious Emission at Antenna Terminals please refer to the FCC Report No. BL-SZ2270935-501, which issued by Shenzhen BALUN Technology Co., Ltd. on Feb. 01, 2023. Section A.5 Spurious **Emission at Antenna Terminals.** 

#### A.6 **Band Edge**

Note: The Band Edge please refer to the FCC Report No. BL-SZ2270935-501, which issued by Shenzhen BALUN Technology Co., Ltd. on Feb. 01, 2023. Section A.6 Band Edge.



## A.1 Field Strength of Spurious Radiation

- Note 1: All modes have been tested, and only the worst case data are shown here.
- Note 2: The frequencies of verdict which are marked by "N/A" should be ignored because they are UE carrier frequency.
- Note 3: Test plots please refer to the document "Annex No.:BL-SZ2490757-501 Data Part 1.pdf".
- Note 4: The disturbance above 26.5GHz was very low, and the above harmonics were the highest point could befound when testing, so only the worst case data displayed in this report.

## **GSM Mode Test Verdict**

Test Band	Test Channel	Verdict Note3	
	LCH	Pass	
GSM 850	MCH	Pass	
	HCH	Pass	
	LCH	Pass	
GSM 1900	MCH	Pass	
	HCH	Pass	
	LCH	Pass	
EGPRS 850	MCH	Pass	
	HCH	Pass	
	LCH	Pass	
EGPRS 1900	MCH	Pass	
	HCH	Pass	

### LTE Mode Test Verdict

Test	Test	Test	Verdict Note3	
Band	Bandwidth Channel		veruiot	
Band 2	5 MHz	MCH	Pass	
Band 4	5 MHz	HCH	Pass	
Band 5	5 MHz	LCH	Pass	
Band 7	20 MHz	MCH	Pass	



# ANNEX B TEST SETUP PHOTOS

Please refer to the document "BL-SZ2490757-AR.PDF".

# ANNEX C EUT EXTERNAL PHOTOS

Please refer to the document "BL-SZ2490757-AW.PDF".

# ANNEX D EUT INTERNAL PHOTOS

Please refer to the document "BL-SZ2490757-AI.PDF".

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# Statement

- 1. The laboratory guarantees the scientificity, accuracy and impartiality of the test, and is responsible for all the information in the report, except the information provided by the customer. The customer is responsible for the impact of the information provided on the validity of the results.
- 2. The report without China inspection body and laboratory Mandatory Approval (CMA) mark has no effect of proving to the society.
- 3. For the report with CNAS mark or A2LA mark, the items marked with "☆" are not within the accredited scope.
- 4. This report is invalid if it is altered, without the signature of the testing and approval personnel, or without the "inspection and testing dedicated stamp" or test report stamp.
- 5. The test data and results are only valid for the tested samples provided by the customer.
- 6. This report shall not be partially reproduced without the written permission of the laboratory.
- 7. Any objection shall be raised to the laboratory within 30 days after receiving the report.

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