

# **ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT**



Applicant: Manufacturer:	Quanta Computer Inc. No. 188, Wenhua 2nd Road, Guishan District, Taoyuan City 33377, Taiwan Quanta Computer Inc. No. 188, Wenhua 2nd Road, Guishan District, Taoyuan City
Dreduct Name	33377, Taiwan
Product Name:	Clover Flex Pocket
Brand Name:	Clover
Model No.:	C407
Model Difference:	N/A
Report Number:	TERF2405001307E2
FCC ID	HFS-C407
IC:	1787B-C407
Date of EUT Received:	May 7, 2024
Date of Test:	May 7, 2024~May 29, 2024
Issue Date:	June 18, 2024

Jay Lin

Approved By

### We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Central RF Lab The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI ANSI C63.26-2015 and the energy emitted by the sample EUT comply with FCC rule part 2, 22H & 24E & 27 C and ISED RSS-Gen, 130, 132, 133, 139.

The results of this report relate only to the sample identified in this report.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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Revision History							
Report Number	Revision	Description	Issue Date	Revised By	Remark		
TERF2405001307E2	00	Original.	June 18, 2024	Karen Huang			

Note:

1 . The remark "\*" indicates modification of the report upon requests from certification body.

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### **GENERAL PRODUCT INFORMATION** 1

#### 1.1 **Product Description**

Product Name:	Clover Flex Pocket
Brand Name:	Clover
Model No.:	C407
Model Difference:	N/A
Hardware Version:	N/A
Firmware Version:	N/A
EUT Series No.:	C047UG41450106
Power Supply:	3.8Vdc with rechargeable Li-ion polymer battery
Test Software (Name/Version)	default(Link Call Box)

### 1.2 **Operation Frequency Range**

LTE Band 2					
BW (MHz)	Operation	Freque	ency (MHz)		
1.4	1850.7	-	1909.3		
3	1851.5	-	1908.5		
5	1852.5	-	1907.5		
10	1855.0	-	1905.0		
15	1857.5	-	1902.5		
20	1860.0	-	1900.0		
	LTE Bar	nd 4			
BW (MHz)	Operation	Freque	ency (MHz)		
1.4	1710.7	-	1754.3		
3	1711.5	-	1753.5		
5	1712.5	-	1752.5		
10	1715.0	-	1750.0		
15	1717.5	-	1747.5		
20	1720.0	-	1745.0		

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LTE Band 5						
BW (MHz)	Operation	Freque	ency (MHz)			
1.4	824.7	-	848.3			
3	825.5	-	847.5			
5	826.5	-	846.5			
10	829.0	-	844.0			
	LTE Ban	d 12				
BW (MHz)	Operation	Freque	ency (MHz)			
1.4	699.7	-	715.3			
3	700.5	-	714.5			
5	701.5	-	713.5			
10	704.0	-	711.0			
LTE Band 13						
	LTE Ban	d 13				
BW (MHz)	-		ency (MHz)			
BW (MHz) 5	-		ency (MHz) 784.5			
. ,	Operation		,			
5	Operation 779.5	Freque	,			
5	Operation 779.5 782.0 <b>LTE Ban</b>	Freque - d 66	,			
5 10	Operation 779.5 782.0 <b>LTE Ban</b>	Freque - d 66	784.5			
5 10 BW (MHz) 1.4 3	Operation 779.5 782.0 <b>LTE Ban</b> Operation	Freque - d 66	784.5 ency (MHz)			
5 10 BW (MHz) 1.4	Operation 779.5 782.0 <b>LTE Ban</b> Operation 1710.7	Freque - d 66	784.5 ency (MHz) 1779.3			
5 10 BW (MHz) 1.4 3	Operation 779.5 782.0 <b>LTE Ban</b> Operation 1710.7 1711.5	Freque - d 66	784.5 ency (MHz) 1779.3 1778.5			
5 10 BW (MHz) 1.4 3 5	Operation 779.5 782.0 <b>LTE Ban</b> Operation 1710.7 1711.5 1712.5	Freque - d 66	784.5 ency (MHz) 1779.3 1778.5 1777.5			

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#### 1.3 **Antenna Designation**

Antenna Type	Antenna Model No.	Main / Aux
PIFA	PIFA DQ60ALF0007	
Note: Transmission	frequencies in this test report are only available by the abo	ove antenna(s).

Modulation	Frequency (MHz)			Peak Antenna Gain (dBi)
				Main
LTE-Band 2	1850	2	1910	2
LTE-Band 4	1710	~	1755	1.49
LTE-Band 5	824	~	849	2.3
LTE-Band 12	699	~	716	0.68
LTE-Band 13	777	~	787	2.3
LTE-Band 66	1710	~	1780	1.49

Note: Antenna information is provided by the applicant.

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#### Type of Emission & Max ERP/EIRP Power Measurement Result: 1.4

LTE		<b>F</b>		Ma du latia a	ERP /	EIRP	040
Band	BW	Frequency		Modulation	(dBr	/	(W)
2	1.4	1850.7	1909.3	QPSK	22.72	EIRP	0.187
		1000.1	1000.0	16QAM	21.71	EIRP	0.148
2	3	1851.5	1908.5	QPSK	22.75	EIRP	0.188
_				16QAM	21.62	EIRP	0.145
2	5	1852.5	1907.5	QPSK	22.76	EIRP	0.189
	-			16QAM	21.73	EIRP	0.149
2	10	1855.0	1905.0	QPSK	22.74	EIRP	0.188
				16QAM	21.74	EIRP	0.149
2	15	1857.5	1902.5	QPSK	22.71	EIRP	0.187
				16QAM	21.66	EIRP	0.147
2	20	1860.0	1900.0	QPSK	22.83	EIRP	0.192
				16QAM	21.66	EIRP	0.147
LTE	BW	Frequ	ency	Modulation	ERP / I		(W)
Band			,	0.001/	(dBr	· /	. ,
4	1.4	1710.7	1754.3	QPSK	22.48	EIRP	0.177
				16QAM	21.48	EIRP	0.141
4	3	1711.5	1753.5	QPSK	22.47	EIRP	0.177
				16QAM	21.41	EIRP	0.138
4	5	1712.5	1752.5	QPSK	22.46	EIRP	0.176
				16QAM	21.40	EIRP	0.138
4	10	1715.0	1750.0	QPSK 1004M	22.47	EIRP	0.177
				16QAM	21.38	EIRP	0.137
4	15	1717.5	1747.5	QPSK 16QAM	22.41 21.51	EIRP EIRP	0.174 <b>0.142</b>
				QPSK	22.57	EIRP	0.142
4	20	1720.0	1745.0	16QAM	21.48	EIRP	0.141
LTE				TUQAN	ERP / 1		0.141
Band	BW	Frequ	iency	Modulation	(dBr		(W)
				QPSK	22.82	ERP	0.191
5	1.4	824.7	848.3	16QAM	21.93	ERP	0.156
_				QPSK	22.76	ERP	0.189
5	3	825.5	847.5	16QAM	21.91	ERP	0.155
_	-	000 5	0.40 5	QPSK	22.91	ERP	0.195
5	5	826.5	846.5	16QAM	21.89	ERP	0.155
-	40	000.0	044.0	QPSK	22.95	ERP	0.197
5	10	829.0	844.0	16QAM	21.86	ERP	0.153
LTE		<b>F</b>			ERP /	EIRP	0.4.0
Band	BW	Frequ	lency	Modulation	(dBr	n)	(W)
12	1.4	699.7	715.3	QPSK	21.39	ERP	0.138
12	1.4	033.1	710.0	16QAM	20.41	ERP	0.110
12	3	700.5	714.5	QPSK	21.31	ERP	0.135
12	5	100.5	714.5	16QAM	20.22	ERP	0.105
12	5	701.5	713.5	QPSK	21.26	ERP	0.134
12	5	101.0	110.0	16QAM	20.32	ERP	0.108
12	10	704.0	711.0	QPSK	21.45	ERP	0.140
				16QAM	20.29	ERP	0.107

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LTE Band	BW	Frequ	ency	Modulation	ERP / I (dBr		(W)
13	5	779.5	784.5	QPSK	22.41	ERP	0.174
15	5	119.5	704.5	16QAM	21.48	ERP	0.141
13	10	782.0	782.0	QPSK	22.51	ERP	0.178
15	10	102.0	102.0	16QAM	21.37	ERP	0.137
LTE Band	BW	Frequ	iency	Modulation	ERP / I (dBr		(W)
66	1.4	1710.7	1779.3	QPSK	21.79	EIRP	0.151
00	1.4	1710.7	1779.5	16QAM	20.80	EIRP	0.120
66	3	1711.5	1778.5	QPSK	21.83	EIRP	0.152
00	2	1711.5	1770.5	16QAM	20.85	EIRP	0.122
66	5	1712.5	1777.5	QPSK	21.76	EIRP	0.150
00	5	1712.5	1777.5	16QAM	20.82	EIRP	0.121
66	10	1715.0	1775.0	QPSK	21.82	EIRP	0.152
00	10	17 13.0	1113.0	16QAM	20.73	EIRP	0.118
66	15	1717.5	1772.5	QPSK	21.79	EIRP	0.151
00	13	1717.5	1112.5	16QAM	20.80	EIRP	0.120
66	20	1720.0	1770.0	QPSK	21.90	EIRP	0.155
00	20	1720.0	1770.0	16QAM	20.74	EIRP	0.119

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#### 1.5 Test Methodology of Applied Standards

FCC 47 CFR Part 2, 22H, 24E, 27C. ISED RSS-GEN Issue 5 April. 2018 ISED RSS-130 Issue 2 Feb. 2019,

ISED RSS-132 Issue 4 Jan. 2023

ISED RSS-133 Issue 6, Amendment 1 Jan. 18, 2018,

ISED RSS-139 Issue 4 Amendment Oct. 2022

ANSI C63.26-2015 KDB971168 D01 Power Meas license Digital System v03r01 KDB412172 D01 Determining ERP and EIRP v01r01

#### 1.6 **Test Facility**

Laboratory	Test Site Address	Test Site Name	FCC Designa- tion number	IC CAB identifier
		SAC 1		
		SAC 2		
	Ē	SAC 3		
	No. 124 Mu Kung Dood, Now Toingi	Conduction 1		
	No.134, Wu Kung Road, New Taipei	Conducted 1	TW0027	
	Industrial Park, Wuku District, New Taipei City, Taiwan.	Conducted 2	100027	TW3702
	Taiper City, Taiwan.	Conducted 3		
		Conducted 4	-	
		Conducted 5		
SGS Taiwan Ltd.		Conducted 6		
Central RF Lab.	No.2, Keji 1st Rd., Guishan District,	Conduction C	TW0028	
(TAF code 3702)		SAC C		
		SAC D		
		SAC G		
		Conducted A		
		Conducted B		
	Taoyuan City, Taiwan 333	Conducted C		
		Conducted D		
		Conducted E	]	
		Conducted F	1	
		Conducted G		l

tion of this re where measurements occurred in specific test site and address.

#### 1.7 **Special Accessories**

No special accessories were used during testing.

#### **Equipment Modifications** 1.8

There was no modifications incorporated into the EUT.

#### Radiated Emission Test Sites For Measurements From 9 kHz To 30 MHz 1.9

Radiated emission below 30MHz is measured in a 9m\*6m\*6m semi-anechoic chamber, the measurements correspond to those obtained at an open-field test site.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

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### SYSTEM TEST CONFIGURATION 2

#### 2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

#### 2.2 **EUT Exercise**

The EUT (Transmitter) was operated in the continuous transmission mode employed with the simulator of the Base Station that fixates at test default channels to fix the Tx frequency which was for the purpose of the measurements.

#### 2.3 **Test Procedure**

#### 2.3.1 **Conducted Measurement at Antenna Port**

The EUT is placed on a table which is 0.8 m above ground plane. A low loss of RF cable was used to connect the antenna port of EUT to measurement equipment.

#### 2.3.2 **Radiated Emissions (ERP/EIRP)**

The EUT is placed on a turn table, for emission measurements below 1 GHz is 0.8 m above ground plane, for emission measurements above 1 GHz, the table height shall be 1.5 m. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both Horizontal and Vertical. In order to find out the max. emission, the relative positions of this transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna.

#### 2.4 Measurement Results Explanation Example

### For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuation factor between EUT conducted port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly EUT RF output level. Note:

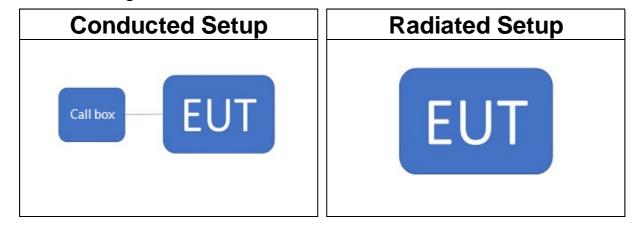
The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

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#### 2.5 **Test Configuration**



Note: Radio Communication Analyzer is placed in remote side for radiated test.

#### 2.6 Control Unit(s)

N/A

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# **3 SUMMARY OF TEST RESULTS**

FCC Rules	IC Rules	<b>Description Of Test</b>	Result
§2.1046(a)	RSS-GEN §6.12	RF Power Output	Compliant
§22.913(a)(5) §24.232(c) §27.50(b)(10) §27.50(c)(10) §27.50(d)(4)	RSS-130 §4.6 RSS-132 §5.4 RSS-133 §6.4 RSS-139 §6.5	ERP/ EIRP measure- ment	Compliant
§2.1053 §2.1057(a)(1) §22.917(a)(b) §24.238(a)(b) §27.53(h)(1)&(3) §27.53(c)(2)~(6) §27.53(f) §27.53(g) §27.53(h)	RSS-GEN §6.13 RSS-130 §4.7 RSS-132 §5.5 RSS-133 §6.5 RSS-139 §5.6	Field Strength of Spurious Radiation	Compliant

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### DESCRIPTION OF TEST MODES 4

#### 4.1 The Worst Test Modes and Channel Details

- 1. The EUT has been tested under operating condition.
- 2. Pre-Scan has been conducted to determine the worst-case scenario from all possible combinations among available modulations, data rates and antenna ports, the worst case configurations listed below for the final test.
- 3. The field strength of radiated emission was measured as the EUT positioned in different orthogonal planes (E1/E2/H) based on actual usage of the EUT to pre-scan the emissions for determining the worst case scenario.

#### 4.2 **Measurement Configuration**

-	Fest Ite	ms							Max. C	Dutput	Power					
Band	Tes	t Chan	nel		Ba	andwid	th (MH	z)			Modu	lation			RB #	
Danu	L	М	Н	1.4	3	5	10	15	20	QPSK	16QAM	64QAM	256QAM	1	Half	Full
2	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
4	V	V	V	V	v	V	V	V	V	V	V	V	V	V	V	V
5	V	V	V	V	v	V	V	-	-	V	٧	V	V	V	V	V
12	V	V	V	V	V	V	V	-	-	V	V	V	V	V	V	V
13	V	V	V	-	-	V	V	-	-	V	V	V	V	V	V	V
66	V	V	V	V	v	V	V	v	V	V	٧	V	V	V	V	V

E-UTRA Band	Test Channel	Channel Bandwidth (MHz)	Modulation	Resource Block Allocation		
		(101112)		RBs allocated	RB Offset	
4	20050,20175,20300	20	QPSK	1	0	
12	23060,23095,23130	10	QPSK	1	0	

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### **MEASUREMENT UNCERTAINTY** 5

Test Items	Und	certair	nty
Power Density	+/-	0.61	dB
RF Power Output	+/-	0.97	dB
ERP/ EIRP measurement	+/-	2.15	dB
	+/-	2.15	dB
Emission Bandwidth	+/-	1.38	Hz
Out of Band Emissions at Antenna Terminals and Band Edge	+/-	0.77	dB
Peak to Average Ratio	+/-	0.97	dB
Frequency Stability vs. Temperature	+/-	1.48	Hz
Frequency Stability vs. Voltage	+/-	1.48	Hz
Temperature	+/-	0.6	°C
Humidity	+/-	3	%
DC / AC Power Source	+/-	1	%

Radiated Spurious Emission Measurement Uncertainty					
	+/-	1.89	dB	9kHz~30MHz	
Polarization: Vertical	+/-	4.15	dB	30MHz - 1000MHz	
	+/-	3.43	dB	1GHz - 18GHz	
	+/-	3.86	dB	18GHz - 40GHz	
Polarization: Horizontal	+/-	1.89	dB	9kHz~30MHz	
	+/-	4.02	dB	30MHz - 1000MHz	
Folalization. Horizontal	+/-	3.43	dB	1GHz - 18GHz	
	+/-	3.86	dB	18GHz - 40GHz	
	+/-	2	dB	33GHz-50GHz	
	+/-	1.59	dB	50GHz-60GHz	
Radiated Spurious Emission	+/-	1.7	dB	60GHz-90GHz	
	+/-	1.64	dB	90GHz-140GHz	
	+/-	3.83	dB	140GHz-220GHz	

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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### MEASUREMENT EQUIPMENT USED 6

#### 6.1 **Conducted Measurement**

Conducted Emission Test Site: Conducted F							
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.		
Radio Communication Analyer	Anritsu	MT8820C	6201107337	07/14/2023	07/13/2024		

#### **Radiated Measurement** 6.2

Radiated Emission Test Site: SAC C						
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.	
Broadband Antenna	SCHWARZBECK	VULB 9168	9168-300	11/02/2023	11/01/2024	
Broadband Antenna	SCHWARZBECK	VULB 9168	9168-617	12/14/2023	12/13/2024	
Horn Antenna	Schwarzbeck	BBHA9170	184	12/28/2023	12/27/2024	
Horn Antenna	Schwarzbeck	BBHA9170	185	08/21/2023	08/20/2024	
Horn Antenna	Schwarzbeck	BBHA9120D	1187	01/24/2024	01/23/2025	
Horn Antenna	Schwarzbeck	BBHA9120D	1341	05/26/2023	05/25/2024	
3m Site NSA	SGS	966 chamber C	N/A	03/02/2024	03/01/2025	
Spectrum Analyzer	KEYSIGHT	N9010A	MY57120290	04/10/2024	04/09/2025	
Radio Communication Analyer	Anritsu	MT8821C	6262044732	11/16/2023	11/15/2024	
Test Software	audix	e3	E3 20923 SGS Ver.9 ( C )	N.C.R	N.C.R	
Pre-Amplifier	EMC Instruments	EMC330	980096	11/15/2023	11/14/2024	
Pre-Amplifier	EMC Instruments	EMC118A45SE	980789	11/15/2023	11/14/2024	
Pre-Amplifier	EMC Instruments	EMC18405SEE	980881	11/15/2023	11/14/2024	
Coaxial Cable	Huber+Suhner	EMC106-SM-SM- 9100	150704	11/15/2023	11/14/2024	
Coaxial Cable	Huber+Suhner	SUCOFLEX 104	MY17388/4	11/15/2023	11/14/2024	
Coaxial Cable	Huber+Suhner	RG 214/U	W22.03	11/15/2023	11/14/2024	

NOTE: N.C.R refers to Not Calibrated Required.

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### STANDARD APPLICABLE 7

#### 7.1 Maximum Output Power

A base station simulator was used to establish communication with the EUT. Its parameters were set to transmit the maximum power on the EUT. The measured power in the radio frequency on the transmitter output terminals.

#### 7.1.1 **ERP/EIRP LIMIT**

According to FCC §2.1046

### FCC 22.913(a)

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

### FCC 24.232(c)

Mobile and portable stations are limited to 2 W EIRP.

### FCC 27.50 (b)

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

### FCC 27.50(c)

(10) Portable stations (hand-held devices) are limited to 3 watts ERP.

### FCC 27.50(d)

(4) Mobile, and portable (hand-held) stations operating in the 1710-1755 MHz, 1695-1710 MHz and 1755-1780 MHz bands are limited to 1W EIRP.

### RSS-130 §4.6

The e.r.p. shall not exceed 3 watts for portable equipment and indoor fixed subscriber equipment operating in 698-756 and 777-787 MHz.

### RSS-132 §5.4

The transmitter output power shall be measured in terms of average power. The equivalent radiated power (e.r.p.) shall not exceed 7 watts for mobile equipment and 3 watts for portable equipment.

The effective isotropic radiated power (e.i.r.p.) shall not exceed the limits specified in SRSP-503 for base station equipment.

### RSS-133 §6.4

The equivalent isotropically radiated power (e.i.r.p.) for transmitters shall not exceed the limits given in SRSP-510.

According to section 5.1.2 of SRSP-510, Mobile stations and hand-held portables are limited to 2 watts maximum e.i.r.p. The equipment shall employ means to limit the power to the minimum necessary for successful communication.

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### RSS-139 §5.5

The maximum output power of the equipment shall comply with the limits specified below. In the tables, maximum power refers to the equivalent isotropically radiated power (e.i.r.p.) or total radiated power (TRP), measured in terms of average values.

The limits in this RSS are specified for the purpose of certification and may not apply to all deployment scenarios. Consult SRSP-513 and SRSP-519 for more details on the bands 2110-2180 MHz and 2180-2200 MHz respectively

Table 3: Maximum power of equipment in the band 1710-1780 MHz				
Equipment type	Maximum power			
Fixed station and base station	30 dBm e.i.r.p./channel bandwidth			
Subscriber equipment	30 dBm e.i.r.p./channel bandwidth			

Table 4: Maximum power of equipment in the band 2110-2180 MHz				
Equipment type	Maximum power			
Non-AAS fixed station and base station	65 dBm e.i.r.p./MHz			
AAS fixed station and base station	46 dBm TRP/MHz			
Subscriber equipment	30 dBm e.i.r.p./channel bandwidth			

Table 5: Maximum power of equipment in the band 2180-2200 MHz					
Equipment type	Maximum power				
Non-AAS base station	65 dBm e.i.r.p./MHz				
AAS base station	46 dBm TRP/MHz				

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#### 7.2 **Field Strength Of Spurious Radiation Measurement**

According to FCC §2.1053,

### FCC §22.917(a), §24.238(a), §27.53(h), §90.543(e)(3)

### RSS-130 §4.7, RSS-132 §5.5, RSS-133 §6.5.1, RSS-139 §5.6, RSS-199 §4.5

Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

### FCC §27.53(g)

Compliance for operations in the 600 MHz, 698-746 MHz, 746-758 MHz and the 776-788 MHz band with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

- (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;

### FCC §27.53(h)(1)

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

### RSS-130 §4.7.1

Compliance for operations in the 617-652 MHz, 663-698 MHz, 698-756 MHz and the 777-787 MHz band, the unwanted emissions in any 100 kHz bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (dBW), by at least 43 + 10 log10 p (watts), dB. However, in the 100 kHz band immediately outside of the equipment's frequency block range, a resolution bandwidth of 30 kHz may be employed.

### RSS-130 §4.7.2

In addition to the limit outlined in section 4.7.1 above, equipment operating in the frequency bands 746-756 MHz and 777-787 MHz shall also comply with the following restrictions: the power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P (dBW), by at least:

76 + 10 log10 p (watts), dB, for base and fixed equipment and 65 + 10 log10 p (watts), dB, for mobile and portable equipment

the e.i.r.p. in the band 1559-1610 MHz shall not exceed -70 dBW/MHz for wideband signal and -80 dBW for discrete emission with bandwidth less than 700 Hz.

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### RSS-132 §5.5

i. Equipment shall meet the unwanted emission limits specified below:

In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated below the transmitter output power P (dBW) by at least 43 + 10 log(p) dB.

ii. After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated below the transmitter output power P (dBW) by at least 43 + 10 log(p) dB. If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

p is the output power specified in watts.

### RSS-133 §6.5.1

Equipment shall comply with the limits in (i) and (ii) below.

- i. In the 1.0 MHz bands immediately outside and adjacent to the equipment's operating frequency block, the emission power per any 1% of the emission bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10p(watts).
- ii. After the first 1.0 MHz, the emission power in any 1 MHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10p(watts). If the measurement is performed using 1% of the emission bandwidth, power integration over 1.0 MHz is required.

### RSS-139 §5.6 for

Unwanted emissions shall be measured in terms of average values.

For all equipment, the TRP or total conducted power (sum of conducted power across all antenna connectors) of the unwanted emissions outside the frequency block or frequency block group shall not exceed the limits shown in table 6.

Table 6: Table 6: Unwanted emission limits				
Offset from the edge of the fre- quency block or frequency block	Unwanted emission limits			
group				
1 MHz	-13 dBm/(1% of OB*)			
>1 MHz	-13 dBm/MHz			
Subscriber equipment	30 dBm e.i.r.p./channel bandwidth			

\*OB is the occupied bandwidth.

In addition to complying with the above limits, equipment operating in the band 2180-2200 MHz may require additional filtering (see SRSP-519).

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#### **TEST SETUP** 8

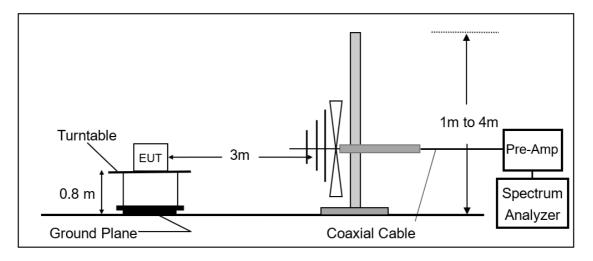
#### 8.1 Maximum Output Power



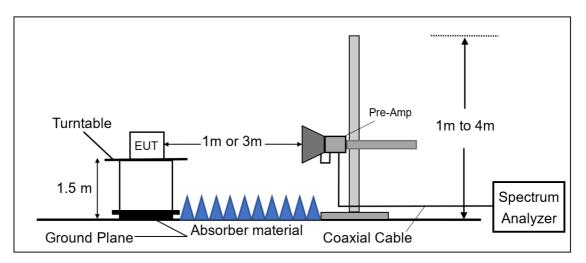
Note: Measurement setup for testing on Antenna connector

#### 8.2 **Field Strength of Spurious Radiation Measurement**

Radiated Emission Test Set-Up, Frequency From 30MHz to 1000MHz.



Radiated Emission Test Set-Up, Frequency Above 1GHz.



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## 9 TEST PROCEDURE

### 9.1 Maximum Output Power

### 9.1.1 Output Power Measurement Applicable Guideance

The transmitter output was connected to a communication tester. Transmitter output was read off the communication tester in dBm. The power output at the transmitter antenna port was determined by the communication tester reading. KDB 971168 D01 Power Meas License Digital System as the supplemental test methodology to adjust the proper setting obtaining the measurement results. All LTE bands conducted average power is obtained from the simulator telecommunication test set.

### 9.1.2 Determining ERP and/or EIRP from conducted RF output power measurements

According to KDB 412172 D01 Power Approach,

 $EIRP = P_{T} + G_{T} - L_{c},$ 

ERP= EIRP-2.15,

### Where:

ERP or EIRP	<ul> <li>effective radiated power or equivalent isotropically radiated power (expressed in the same units as PT, typically dBW, dBm, or power spectral density (PSD)2), relative to either a dipole antenna (ERP) or an isotropic antenna (EIRP);</li> </ul>
Ρτ	= transmitter output power, expressed in dBW, dBm, or PSD;
Gτ Lc	<ul> <li>gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);</li> <li>signal attenuation in the connecting cable between the transmitter and antenna, in dB.</li> </ul>

### 9.2 Field Strength of Spurious Radiation Measurement

The EUT was placed on a non-conductive; the measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

The frequency range up to tenth harmonic was investigated for each of three fundamental frequencies (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method.

The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

ERP (dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB) EIRP (dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

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# **10 MEASUREMENT RESULTS**

### 10.1 Maximum Output Power

Antenna gain (dBi)	2
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		1 75	Danal O. Undin	le fue er	anay ka	and 1 4050 to 4			
		LIE	Band 2_Uplin	k trequ	ency ba	ina : 1850 to 1	ISTU MHZ		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	20.72	22.72	33	-10.28
	18607	1850.7		1	5	20.57	22.57	33	-10.43
	10007	1000.7	QPSK	3	2	20.64	22.64	33	-10.36
				6	0	19.65	21.65	33	-11.35
				1	0	20.58	22.58	33	-10.42
1.4	18900	1880	QPSK	1	5	20.65	22.65	33	-10.35
1.4		1000	QFON	3	2	20.66	22.66	33	-10.34
				6	0	19.58	21.58	33	-11.42
			QPSK	1	0	20.68	22.68	33	-10.32
	19193	1909.3		1	5	20.61	22.61	33	-10.39
	19195	1909.5		3	2	20.60	22.60	33	-10.4
				6	0	19.65	21.65	33	-11.35
				1	0	19.65	21.65	33	-11.35
	18607	1850.7	16QAM	1	5	19.57	21.57	33	-11.43
	10007	1000.7	TUQAIN	3	2	19.61	21.61	33	-11.39
				6	0	18.74	20.74	33	-12.26
				1	0	19.51	21.51	33	-11.49
1.4	18900	1880	16QAM	1	5	19.64	21.64	33	-11.36
1.4	10000	1000		3	2	19.55	21.55	33	-11.45
				6	0	18.58	20.58	33	-12.42
				1	0	19.67	21.67	33	-11.33
	19193	1909.3	16QAM	1	5	19.58	21.58	33	-11.42
	19190	1909.3		3	2	19.71	21.71	33	-11.29
				6	0	18.71	20.71	33	-12.29

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2 Antenna gain (dBi) LTE Band 2\_Uplink frequency band : 1850 to 1910 MHz EIRP Conducted EIRP BW UL Frequency RB RB Margin Modulation Limit Average Average (MHz) Offset (MHz) Channel Size (dB)(dBm) (dBm) (dBm) 0 20.75 -10.25 1 22.75 33 14 20.66 22.66 33 -10.34 1 18615 **QPSK** 1851.5 8 4 19.65 21.65 33 -11.35 15 0 19.66 33 21.66 -11.34 0 20.64 22.64 33 -10.36 1 1 14 20.50 22.50 33 -10.5 3 18900 1880 **OPSK** 8 4 19.66 21.66 33 -11.34 0 19.50 21.50 33 -11.5 15 1 0 20.57 33 -10.43 22.57 1 14 20.56 22.56 33 -10.44 19185 1908.5 **QPSK** 8 4 19.55 21.55 33 -11.45 0 33 15 19.50 21.50 -11.5 1 0 19.61 21.61 33 -11.39 1 14 19.61 21.61 33 -11.39 18615 1851.5 16QAM 8 4 18.73 20.73 33 -12.27 15 0 18.67 20.67 33 -12.33 1 0 19.62 21.62 33 -11.38 1 14 19.61 21.61 33 -11.39 3 18900 1880 16QAM 8 4 18.56 20.56 33 -12.44 15 0 18.62 20.62 33 -12.38 1 0 19.62 21.62 33 -11.38 1 14 19.57 21.57 33 -11.43 19185 1908.5 16QAM 8 4 18.65 20.65 33 -12.35 0 15 18.66 20.66 33 -12.34

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Antenna	gain (dBi)	2							
		LTE	Band 2_Uplin	k frequ	ency ba	ind : 1850 to 1	1910 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
		1852.5		1	0	20.76	22.76	33	-10.24
	18625		QPSK	1	24	20.55	22.55	33	-10.45
	10025	1002.0	QFON	12	6	19.69	21.69	33	-11.31
				25	0	19.76	21.76	33	-11.24
				1	0	20.55	22.55	33	-10.45
5	5 18900 1880	1880	QPSK	1	24	20.65	22.65	33	-10.35
5		1000		12	6	19.50	21.50	33	-11.5
				25	0	19.57	21.57	33	-11.43
				1	0	20.69	22.69	33	-10.31
	19175	1907.5	QPSK	1	24	20.67	22.67	33	-10.33
	13175	1907.5		12	6	19.66	21.66	33	-11.34
				25	0	19.60	21.60	33	-11.4
				1	0	19.65	21.65	33	-11.35
	18625	1852.5	16QAM	1	24	19.68	21.68	33	-11.32
	10025	1002.0		12	6	18.67	20.67	33	-12.33
				25	0	18.59	20.59	33	-12.41
				1	0	19.55	21.55	33	-11.45
5	18900	1880	16QAM	1	24	19.54	21.54	33	-11.46
5	10300	1000		12	6	18.52	20.52	33	-12.48
				25	0	18.54	20.54	33	-12.46
				1	0	19.60	21.60	33	-11.4
	19175	1907.5	16QAM	1	24	19.73	21.73	33	-11.27
	19175	1907.0		12	6	18.59	20.59	33	-12.41
				25	0	18.62	20.62	33	-12.38

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Antenna	gain (dBi)	2							
		LTE	Band 2_Uplin	k frequ	ency ba	ind : 1850 to 1	1910 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	20.74	22.74	33	-10.26
	18650	1855	QPSK	1	49	20.60	22.60	33	-10.4
	10000	1055	QFON	25	12	19.64	21.64	33	-11.36
				50	0	19.60	21.60	33	-11.4
				1	0	20.53	22.53	33	-10.47
10	10 18900 1880	QPSK	1	49	20.50	22.50	33	-10.5	
10 10900	1000	QFSK	25	12	19.57	21.57	33	-11.43	
				50	0	19.51	21.51	33	-11.49
		19150 1905	QPSK	1	0	20.59	22.59	33	-10.41
	10150			1	49	20.55	22.55	33	-10.45
	13150			25	12	19.50	21.50	33	-11.5
				50	0	19.56	21.56	33	-11.44
				1	0	19.74	21.74	33	-11.26
	18650	1855	16QAM	1	49	19.74	21.74	33	-11.26
	10000	1000		25	12	18.68	20.68	33	-12.32
				50	0	18.70	20.70	33	-12.3
				1	0	19.54	21.54	33	-11.46
10	18900	1880	16QAM	1	49	19.55	21.55	33	-11.45
10	10300	1000		25	12	18.50	20.50	33	-12.5
				50	0	18.62	20.62	33	-12.38
				1	0	19.70	21.70	33	-11.3
	19150	1905	16QAM	1	49	19.63	21.63	33	-11.37
	19100	1900		25	12	18.67	20.67	33	-12.33
				50	0	18.51	20.51	33	-12.49

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2

Antenna	gain (dBI)	2							
		LTE	Band 2_Uplin	k frequ	ency ba	ind : 1850 to 1	910 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	20.71	22.71	33	-10.29
	18675	1857.5	QPSK	1	74	20.58	22.58	33	-10.42
	10075		QFON	36	18	19.67	21.67	33	-11.33
				75	0	19.69	21.69	33	-11.31
				1	0	20.53	22.53	33	-10.47
15	18900	1880	QPSK	1	74	20.59	22.59	33	-10.41
15		1000	QPSK	36	18	19.56	21.56	33	-11.44
				75	0	19.63	21.63	33	-11.37
		19125 1902.5		1	0	20.60	22.60	33	-10.4
	10125		QPSK	1	74	20.55	22.55	33	-10.45
	13125		Gron	36	18	19.52	21.52	33	-11.48
				75	0	19.54	21.54	33	-11.46
				1	0	19.58	21.58	33	-11.42
	18675	1857.5	16QAM	1	74	19.58	21.58	33	-11.42
	10075	1007.0		36	18	18.69	20.69	33	-12.31
				75	0	18.74	20.74	33	-12.26
				1	0	19.50	21.50	33	-11.5
15	18900	1880	16QAM	1	74	19.63	21.63	33	-11.37
10	10300	1000		36	18	18.51	20.51	33	-12.49
				75	0	18.61	20.61	33	-12.39
				1	0	19.55	21.55	33	-11.45
	19125	1902.5	16OAM	1	74	19.66	21.66	33	-11.34
	13123	1302.3	16QAM -	36	18	18.66	20.66	33	-12.34
				75	0	18.62	20.62	33	-12.38

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2 Antenna gain (dBi) LTE Band 2\_Uplink frequency band : 1850 to 1910 MHz EIRP EIRP Conducted BW UL Frequency RB RB Margin Modulation Limit Average Average (MHz) Offset (MHz) Channel Size (dB)(dBm) (dBm) (dBm) 0 -10.17 1 20.83 22.83 33 1 99 20.76 22.76 33 -10.24 18700 **QPSK** 1860 50 25 19.60 21.60 33 -11.4 100 19.61 33 0 21.61 -11.39 0 20.70 22.70 33 -10.3 1 1 99 20.66 22.66 33 -10.34 20 18900 1880 **OPSK** 50 25 19.62 21.62 33 -11.38 100 19.52 21.52 33 -11.48 0 1 0 20.76 22.76 33 -10.24 1 99 20.65 22.65 33 -10.35 19100 1900 **QPSK** 50 25 19.61 21.61 33 -11.39 0 19.60 33 100 21.60 -11.4 1 0 19.61 21.61 33 -11.39 1 99 19.64 21.64 33 -11.36 18700 1860 16QAM 50 25 18.71 20.71 33 -12.29 100 0 18.68 20.68 33 -12.32 0 19.66 21.66 33 -11.34 1 1 99 19.62 21.62 33 -11.38 20 18900 1880 16QAM 50 25 18.55 20.55 33 -12.45 100 0 18.54 20.54 33 -12.46 0 1 19.56 21.56 33 -11.44 1 99 19.64 21.64 33 -11.36 19100 1900 16QAM 50 25 18.68 20.68 33 -12.32 100 0 18.53 20.53 33 -12.47

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Antenna	gain (dBi)	1.49							
		LTE	Band 4_Uplin	k frequ	ency ba	nd : 1710 to 1	755 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	20.52	22.01	30	-7.99
	19957	1710.7	QPSK	1	5	20.51	22.00	30	-8
	19907	1710.7	QFSN	3	2	20.63	22.12	30	-7.88
				6	0	19.54	21.03	30	-8.97
				1	0	20.76	22.25	30	-7.75
1 /	1.4 20175 1732.5	1732.5	QPSK	1	5	20.87	22.36	30	-7.64
1.4 20175	20175 1752.5	QPSK	3	2	20.88	22.37	30	-7.63	
				6	0	19.82	21.31	30	-8.69
		93 1754.3	QPSK	1	0	20.94	22.43	30	-7.57
	20393			1	5	20.99	22.48	30	-7.52
	20090			3	2	20.90	22.39	30	-7.61
				6	0	19.83	21.32	30	-8.68
				1	0	19.51	21.00	30	-9
	19957	1710.7	16QAM	1	5	19.60	21.09	30	-8.91
	19907	1710.7	TOQAIVI	3	2	19.50	20.99	30	-9.01
				6	0	18.57	20.06	30	-9.94
				1	0	19.81	21.30	30	-8.7
1 /	20175	1732.5	16QAM	1	5	19.91	21.40	30	-8.6
1.4	20175	1152.5		3	2	19.91	21.40	30	-8.6
				6	0	18.93	20.42	30	-9.58
				1	0	19.99	21.48	30	-8.52
	20202	1754.0	160414	1	5	19.98	21.47	30	-8.53
	20393	1754.3	16QAM	3	2	19.92	21.41	30	-8.59
				6	0	18.90	20.39	30	-9.61

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Antenna	gain (dBi)	1.49										
		LTE	Band 4_Uplin	and 4_Uplink frequency band : 1710 to 1755 MHz								
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)			
		5 1711.5		1	0	20.55	22.04	30	-7.96			
	19965		QPSK	1	14	20.54	22.03	30	-7.97			
	19900		QFON	8	4	19.52	21.01	30	-8.99			
				15	0	19.52	21.01	30	-8.99			
		5 1732.5		1	0	20.92	22.41	30	-7.59			
3	20175		QPSK	1	14	20.93	22.42	30	-7.58			
3 20175	10 1102.0	QPSK	8	4	19.76	21.25	30	-8.75				
				15	0	19.75	21.24	30	-8.76			
		1753.5	QPSK	1	0	20.98	22.47	30	-7.53			
	20385			1	14	20.87	22.36	30	-7.64			
	20303			8	4	19.88	21.37	30	-8.63			
				15	0	19.95	21.44	30	-8.56			
				1	0	19.72	21.21	30	-8.79			
	19965	1711.5	16QAM	1	14	19.51	21.00	30	-9			
	19905	1711.5	TOQAIVI	8	4	18.61	20.10	30	-9.9			
				15	0	18.55	20.04	30	-9.96			
				1	0	19.76	21.25	30	-8.75			
3	20175	1732.5	16QAM	1	14	19.92	21.41	30	-8.59			
5	20175	1752.5		8	4	18.97	20.46	30	-9.54			
				15	0	18.75	20.24	30	-9.76			
				1	0	19.86	21.35	30	-8.65			
	20385	1752 5	16QAM	1	14	19.91	21.40	30	-8.6			
	20300	1753.5	IUQAW	8	4	18.96	20.45	30	-9.55			
				15	0	18.81	20.30	30	-9.7			

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Antenna	gain (dBi)	1.49							
		LTE	Band 4_Uplin	k frequ	ency ba	nd : 1710 to 1	1755 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	20.53	22.02	30	-7.98
	19975	1712.5	QPSK	1	24	20.56	22.05	30	-7.95
	19975	1/12.5	QFON	12	6	19.56	21.05	30	-8.95
				25	0	19.61	21.10	30	-8.9
				1	0	20.97	22.46	30	-7.54
5 20175	5 1732.5	QPSK	1	24	20.78	22.27	30	-7.73	
		QFON	12	6	19.72	21.21	30	-8.79	
				25	0	19.85	21.34	30	-8.66
		5 1752.5		1	0	20.92	22.41	30	-7.59
	20375		QPSK	1	24	20.89	22.38	30	-7.62
	20070			12	6	19.87	21.36	30	-8.64
				25	0	19.92	21.41	30	-8.59
				1	0	19.60	21.09	30	-8.91
	19975	1712.5	16QAM	1	24	19.61	21.10	30	-8.9
	19975	1712.5		12	6	18.60	20.09	30	-9.91
				25	0	18.65	20.14	30	-9.86
				1	0	19.90	21.39	30	-8.61
5	20175	1732.5	16QAM	1	24	19.80	21.29	30	-8.71
5	20175	1102.0		12	6	18.79	20.28	30	-9.72
				25	0	18.85	20.34	30	-9.66
				1	0	19.90	21.39	30	-8.61
	20375	1752.5	16QAM	1	24	19.91	21.40	30	-8.6
	20070	17.52.5		12	6	18.93	20.42	30	-9.58
				25	0	18.96	20.45	30	-9.55

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Antenna	gain (dBi)	1.49							
		LTE	Band 4_Uplin	k frequ	ency ba	nd : 1710 to 1	1755 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	20.59	22.08	30	-7.92
	20000	1715	QPSK	1	49	20.59	22.08	30	-7.92
	20000	1715	QFON	25	12	19.51	21.00	30	-9
				50	0	19.57	21.06	30	-8.94
				1	0	20.81	22.30	30	-7.7
10 20175	75 1732.5	QPSK	1	49	20.97	22.46	30	-7.54	
			25	12	19.85	21.34	30	-8.66	
				50	0	19.85	21.34	30	-8.66
		1750	QPSK	1	0	20.83	22.32	30	-7.68
	20350			1	49	20.98	22.47	30	-7.53
	20000			25	12	19.88	21.37	30	-8.63
				50	0	19.86	21.35	30	-8.65
			16QAM	1	0	19.51	21.00	30	-9
	20000	1715		1	49	19.53	21.02	30	-8.98
	20000	1715		25	12	18.50	19.99	30	-10.01
				50	0	18.54	20.03	30	-9.97
				1	0	19.89	21.38	30	-8.62
10	20175	1732.5	16QAM	1	49	19.84	21.33	30	-8.67
ĨŬ	20175	1102.0		25	12	18.96	20.45	30	-9.55
				50	0	18.83	20.32	30	-9.68
				1	0	19.84	21.33	30	-8.67
	20350	1750	16QAM	1	49	19.85	21.34	30	-8.66
	20000	1150		25	12	18.92	20.41	30	-9.59
				50	0	18.83	20.32	30	-9.68

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Antenna	gain (dBi)	1.49							
		LTE	Band 4_Uplin	k frequ	ency ba	nd : 1710 to 1	1755 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	20.55	22.04	30	-7.96
	20025	1717.5	QPSK	1	74	20.61	22.10	30	-7.9
	20025	1/17.5	QFON	36	18	19.50	20.99	30	-9.01
				75	0	19.52	21.01	30	-8.99
				1	0	20.88	22.37	30	-7.63
15 20175	1732.5	QPSK	1	74	20.83	22.32	30	-7.68	
			36	18	19.97	21.46	30	-8.54	
				75	0	19.90	21.39	30	-8.61
		25 1747.5		1	0	20.92	22.41	30	-7.59
	20325		QPSK	1	74	20.79	22.28	30	-7.72
	20020			36	18	19.89	21.38	30	-8.62
				75	0	20.00	21.49	30	-8.51
				1	0	19.55	21.04	30	-8.96
	20025	1717.5	16QAM	1	74	19.55	21.04	30	-8.96
	20023	1/17.5		36	18	18.55	20.04	30	-9.96
				75	0	18.50	19.99	30	-10.01
				1	0	19.91	21.40	30	-8.6
15	20175	1732.5	16QAM	1	74	19.84	21.33	30	-8.67
10	20175	1102.0		36	18	18.78	20.27	30	-9.73
				75	0	18.98	20.47	30	-9.53
				1	0	19.85	21.34	30	-8.66
	20325	1747.5	16QAM	1	74	20.02	21.51	30	-8.49
	20020	1/4/.5		36	18	18.92	20.41	30	-9.59
				75	0	18.94	20.43	30	-9.57

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Antenna	gain (dBi)	1.49							
		LTE	Band 4_Uplin	k frequ	ency ba	nd : 1710 to 1	755 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	20.68	22.17	30	-7.83
	20050	1720	QPSK	1	99	20.54	22.03	30	-7.97
	20050	1720	QFON	50	25	19.54	21.03	30	-8.97
				100	0	19.60	21.09	30	-8.91
				1	0	21.02	22.51	30	-7.49
20 20175	175 1732.5	QPSK	1	99	20.83	22.32	30	-7.68	
			50	25	19.79	21.28	30	-8.72	
				100	0	19.88	21.37	30	-8.63
			QPSK	1	0	21.08	22.57	30	-7.43
	20300	1745		1	99	20.88	22.37	30	-7.63
	20300	1745		50	25	19.90	21.39	30	-8.61
				100	0	19.83	21.32	30	-8.68
				1	0	19.54	21.03	30	-8.97
	20050	1720	16QAM	1	99	19.50	20.99	30	-9.01
	20030	1720		50	25	18.60	20.09	30	-9.91
				100	0	18.51	20.00	30	-10
				1	0	19.73	21.22	30	-8.78
20	20175	1732.5	16QAM	1	99	19.91	21.40	30	-8.6
20	20175	1102.0		50	25	18.86	20.35	30	-9.65
				100	0	18.97	20.46	30	-9.54
				1	0	19.99	21.48	30	-8.52
	20300	1745	16QAM	1	99	19.98	21.47	30	-8.53
	20300	1145		50	25	18.99	20.48	30	-9.52
				100	0	19.00	20.49	30	-9.51

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2.3

LTE Band 5\_Uplink frequency band : 824 to 849 MHz Conducted EIRP ERP ERP BW UL Frequency RB RB Margin Modulation Average Average Average Limit (MHz) Channel (MHz) Size Offset (dB) (dBm) (dBm) (dBm) (dBm) 1 0 22.61 24.91 22.76 38.45 -15.69 1 5 22.53 24.83 22.68 38.45 -15.77 20407 824.7 **QPSK** 3 2 22.67 24.97 22.82 38.45 -15.63 6 0 23.92 21.62 21.77 38.45 -16.68 1 0 22.32 24.62 22.47 38.45 -15.98 1 5 22.38 24.68 22.53 38.45 -15.92 **QPSK** 1.4 20525 836.5 3 2 22.38 24.68 22.53 38.45 -15.92 6 0 21.44 23.74 21.59 38.45 -16.86 0 1 22.47 24.77 22.62 38.45 -15.83 1 5 22.51 24.81 22.66 38.45 -15.79 **QPSK** 20643 848.3 3 2 22.42 24.72 22.57 38.45 -15.88 6 0 21.42 23.72 21.57 38.45 -16.88 0 1 21.58 23.88 21.73 38.45 -16.72 1 5 21.78 24.08 21.93 -16.52 38.45 20407 824.7 16QAM 2 3 21.67 23.97 21.82 38.45 -16.63 6 0 20.75 23.05 20.90 38.45 -17.55 1 0 21.45 23.75 21.60 38.45 -16.85 1 5 21.41 23.71 21.56 38.45 -16.89 20525 16QAM 1.4 836.5 3 2 21.37 23.67 21.52 38.45 -16.93 6 -17.97 0 20.33 22.63 20.48 38.45 1 0 21.53 23.83 21.68 38.45 -16.77 1 5 21.51 23.81 21.66 38.45 -16.79 20643 848.3 16QAM 3 2 21.61 23.91 21.76 38.45 -16.69 0 6 20.43 22.73 20.58 38.45 -17.87

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2.3

LTE Band 5\_Uplink frequency band : 824 to 849 MHz Conducted EIRP ERP ERP BW UL Frequency RB RB Margin Modulation Average Average Average Limit (MHz) Channel (MHz) Size Offset (dB) (dBm) (dBm) (dBm) (dBm) 1 -15.69 0 22.61 24.91 22.76 38.45 1 14 22.58 24.88 22.73 38.45 -15.72 20415 825.5 **QPSK** 8 4 21.65 23.95 21.80 38.45 -16.65 15 0 23.93 21.78 21.63 38.45 -16.67 1 0 22.37 24.67 22.52 38.45 -15.93 1 14 22.34 24.64 22.49 38.45 -15.96 3 **QPSK** 20525 836.5 8 4 21.42 23.72 21.57 38.45 -16.88 0 15 21.51 23.81 21.66 38.45 -16.79 0 22.59 1 22.44 24.74 38.45 -15.86 1 14 22.53 24.83 22.68 38.45 -15.77 **QPSK** 20635 847.5 8 4 21.57 23.87 21.72 38.45 -16.73 15 0 21.59 23.89 21.74 38.45 -16.71 0 1 21.76 24.06 21.91 38.45 -16.54 1 14 21.61 23.91 21.76 -16.69 38.45 20415 825.5 16QAM 4 -17.58 8 23.02 20.87 38.45 20.72 15 0 20.54 22.84 20.69 38.45 -17.76 1 0 21.44 23.74 21.59 38.45 -16.86 1 14 21.50 23.80 21.65 38.45 -16.80 3 20525 16QAM 836.5 8 4 20.45 22.75 20.60 38.45 -17.85 15 0 20.32 20.47 -17.98 22.62 38.45 1 0 21.44 23.74 21.59 38.45 -16.86 1 14 21.62 23.92 21.77 38.45 -16.68 20635 16QAM 847.5 8 4 20.57 22.87 20.72 38.45 -17.73 0 15 20.53 22.83 20.68 38.45 -17.77

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2.3

LTE Band 5\_Uplink frequency band : 824 to 849 MHz Conducted EIRP ERP ERP BW UL Frequency RB RB Margin Modulation Average Average Average Limit (MHz) Channel (MHz) Size Offset (dB) (dBm) (dBm) (dBm) (dBm) 1 -15.54 0 22.76 25.06 22.91 38.45 1 24 22.59 24.89 22.74 38.45 -15.71 20425 826.5 **QPSK** 12 6 21.67 23.97 21.82 38.45 -16.63 25 0 23.92 21.62 21.77 38.45 -16.68 22.49 1 0 22.34 24.64 38.45 -15.96 1 24 22.39 24.69 22.54 38.45 -15.91 **QPSK** 5 20525 836.5 12 6 21.49 23.79 21.64 38.45 -16.81 25 0 21.41 23.71 21.56 38.45 -16.89 0 22.52 24.82 22.67 38.45 -15.78 1 1 24 22.52 24.82 22.67 38.45 -15.78 **QPSK** 20625 846.5 12 6 21.55 23.85 21.70 38.45 -16.75 25 0 21.57 23.87 21.72 38.45 -16.73 0 1 21.74 24.04 21.89 38.45 -16.56 1 24 21.64 23.94 21.79 -16.66 38.45 20425 826.5 16QAM 12 -17.67 6 22.93 38.45 20.63 20.78 25 0 20.65 22.95 20.80 38.45 -17.65 1 0 21.40 23.70 21.55 38.45 -16.90 1 24 21.42 23.72 21.57 38.45 -16.88 5 16QAM 20525 836.5 12 6 20.53 22.83 20.68 38.45 -17.77 25 -17.82 0 20.48 22.78 20.63 38.45 1 0 21.41 23.71 21.56 38.45 -16.89 1 24 21.58 23.88 21.73 38.45 -16.72 20625 16QAM 846.5 12 6 20.46 22.76 20.61 38.45 -17.84 25 0 20.55 22.85 20.70 38.45 -17.75

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2.3

LTE Band 5\_Uplink frequency band : 824 to 849 MHz Conducted EIRP ERP ERP BW UL Frequency RB RB Margin Modulation Average Average Average Limit (MHz) Channel (MHz) Size Offset (dB) (dBm) (dBm) (dBm) (dBm) -15.50 1 0 22.80 25.10 22.95 38.45 1 49 22.70 25.00 22.85 38.45 -15.60 20450 829 **QPSK** 25 12 21.59 23.89 21.74 38.45 -16.71 50 23.96 21.81 -16.64 0 21.66 38.45 1 0 22.58 24.88 22.73 38.45 -15.72 1 49 22.43 24.73 22.58 38.45 -15.87 **QPSK** 10 20525 836.5 25 12 21.35 23.65 21.50 38.45 -16.95 50 0 21.42 23.72 21.57 38.45 -16.88 0 24.96 1 22.66 22.81 38.45 -15.64 1 49 22.48 24.78 22.63 38.45 -15.82 **QPSK** 20600 844 25 12 21.50 23.80 21.65 38.45 -16.80 50 0 21.43 23.73 21.58 38.45 -16.87 0 1 21.71 24.01 21.86 38.45 -16.59 1 49 21.69 23.99 21.84 38.45 -16.61 20450 829 16QAM 25 12 20.53 22.83 20.68 38.45 -17.77 50 0 20.63 22.93 20.78 38.45 -17.67 1 0 21.50 23.80 21.65 38.45 -16.80 1 49 21.51 23.81 21.66 38.45 -16.79 10 20525 836.5 16QAM 25 12 20.45 22.75 20.60 38.45 -17.85 50 20.49 20.64 -17.81 0 22.79 38.45 1 0 21.48 23.78 21.63 38.45 -16.82 1 49 21.51 23.81 21.66 38.45 -16.79 20600 16QAM 844 25 12 20.49 22.79 20.64 38.45 -17.81 50 0 20.39 22.69 20.54 38.45 -17.91

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0.68

LTE Band 12\_Uplink frequency band : 699 to 716 MHz EIRP Conducted ERP ERP BW UL Frequency RB RB Margin Modulation Average Average Average Limit (MHz) Channel (MHz) Size Offset (dB) (dBm) (dBm) (dBm) (dBm) 1 -13.47 0 22.77 23.45 21.30 34.77 1 5 22.86 23.54 21.39 34.77 -13.38 23017 699.7 **QPSK** 3 2 22.70 23.38 21.23 34.77 -13.54 6 0 21.84 22.52 20.37 34.77 -14.401 0 21.95 22.63 20.48 34.77 -14.29 1 5 22.04 22.72 20.57 34.77 -14.20 **QPSK** 1.4 23095 707.5 3 2 21.88 22.56 20.41 34.77 -14.36 6 0 21.04 21.72 19.57 34.77 -15.20 0 23.30 1 22.62 21.15 34.77 -13.62 1 5 22.67 23.35 21.20 34.77 -13.57 **QPSK** 23173 715.3 3 2 22.64 23.32 21.17 34.77 -13.60 6 0 21.63 22.31 20.16 34.77 -14.61 0 1 21.78 22.46 20.31 34.77 -14.46 1 5 21.88 22.56 34.77 -14.36 20.41 23017 699.7 16QAM 2 -14.42 3 21.82 22.50 20.35 34.77 6 0 20.74 21.42 19.27 34.77 -15.50 1 0 21.00 21.68 19.53 34.77 -15.24 1 5 21.11 21.79 19.64 34.77 -15.13 23095 16QAM 1.4 707.5 3 2 21.04 21.72 19.57 34.77 -15.20 6 20.02 -16.22 0 20.70 18.55 34.77 1 0 21.64 22.32 20.17 34.77 -14.60 1 5 21.58 22.26 20.11 34.77 -14.66 23173 715.3 16QAM 3 2 21.75 22.43 20.28 34.77 -14.49 0 20.52 21.20 6 19.05 34.77 -15.72

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LTE Band 12\_Uplink frequency band : 699 to 716 MHz EIRP Conducted ERP ERP BW UL Frequency RB RB Margin Modulation Average Average Average Limit (MHz) Channel (MHz) Size Offset (dB) (dBm) (dBm) (dBm) (dBm) 1 -13.46 0 22.78 23.46 21.31 34.77 1 14 22.70 23.38 21.23 34.77 -13.54 23025 700.5 **QPSK** 8 4 21.63 22.31 20.16 34.77 -14.61 15 0 22.51 20.36 21.83 34.77 -14.41 1 0 22.06 22.74 20.59 34.77 -14.18 1 14 22.04 22.72 20.57 34.77 -14.20 3 **QPSK** 23095 707.5 8 4 21.03 21.71 19.56 34.77 -15.21 0 15 20.90 21.58 19.43 34.77 -15.34 0 23.32 1 22.64 21.17 34.77 -13.60 1 14 22.65 23.33 21.18 34.77 -13.59 **QPSK** 23165 714.5 8 4 21.71 22.39 20.24 34.77 -14.53 15 0 21.56 22.24 20.09 34.77 -14.68 0 1 21.69 22.37 20.22 34.77 -14.55 1 14 21.69 22.37 34.77 -14.55 20.22 23025 700.5 16QAM 4 8 20.73 21.41 34.77 -15.51 19.26 15 0 20.82 21.50 19.35 34.77 -15.42 1 0 20.99 21.67 19.52 34.77 -15.25 1 14 21.04 21.72 19.57 34.77 -15.20 3 23095 707.5 16QAM 8 4 20.02 20.70 18.55 34.77 -16.22 15 0 -16.22 20.02 20.70 18.55 34.77 1 0 21.54 22.22 20.07 34.77 -14.70 1 14 21.64 22.32 20.17 34.77 -14.60 23165 16QAM 714.5 8 4 20.53 21.21 19.06 34.77 -15.71 0 15 20.63 21.31 19.16 34.77 -15.61

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LTE Band 12\_Uplink frequency band : 699 to 716 MHz EIRP Conducted ERP ERP BW UL Frequency RB RB Margin Modulation Average Average Average Limit (MHz) Channel (MHz) Size Offset (dB) (dBm) (dBm) (dBm) (dBm) 1 -13.52 0 22.72 23.40 21.25 34.77 1 24 22.73 23.41 21.26 34.77 -13.51 23035 701.5 **QPSK** 12 6 21.84 22.52 20.37 34.77 -14.40 25 0 21.82 22.50 20.35 -14.42 34.77 1 0 21.99 22.67 20.52 34.77 -14.25 1 24 21.95 22.63 20.48 34.77 -14.29 **QPSK** 5 23095 707.5 12 6 20.89 21.57 19.42 34.77 -15.35 25 0 20.89 21.57 19.42 34.77 -15.35 0 22.63 23.31 21.16 34.77 -13.61 1 1 24 22.53 23.21 21.06 34.77 -13.71 **QPSK** 23155 713.5 12 6 21.58 22.26 20.11 34.77 -14.66 25 0 21.60 22.28 20.13 34.77 -14.64 0 1 21.79 22.47 20.32 34.77 -14.45 1 24 21.75 22.43 20.28 34.77 -14.49 23035 701.5 16QAM 12 6 20.64 21.32 19.17 34.77 -15.60 25 0 20.73 21.41 19.26 34.77 -15.51 21.66 1 0 20.98 19.51 34.77 -15.26 1 24 20.97 21.65 19.50 34.77 -15.27 5 23095 707.5 16QAM 12 6 20.02 20.70 18.55 34.77 -16.22 25 0 20.05 20.73 18.58 34.77 -16.19 1 0 21.60 22.28 20.13 34.77 -14.64 1 24 21.66 22.34 20.19 34.77 -14.58 23155 16QAM 713.5 12 6 20.56 21.24 19.09 34.77 -15.68 25 0 20.75 21.43 19.28 34.77 -15.49

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LTE Band 12\_Uplink frequency band : 699 to 716 MHz Conducted EIRP ERP ERP BW UL Frequency RB RB Margin Modulation Average Average Average Limit (MHz) Channel (MHz) Size Offset (dB) (dBm) (dBm) (dBm) (dBm) 1 -13.32 0 22.92 23.60 21.45 34.77 1 49 22.73 23.41 21.26 34.77 -13.51 23060 704 **QPSK** 25 12 21.86 22.54 20.39 34.77 -14.38 50 0 22.51 20.36 21.83 34.77 -14.41 1 0 22.17 22.85 20.70 34.77 -14.07 1 49 21.97 22.65 20.50 34.77 -14.27 **QPSK** 10 23095 707.5 25 12 21.06 21.74 19.59 34.77 -15.18 50 0 20.98 21.66 19.51 34.77 -15.26 0 1 22.78 23.46 21.31 34.77 -13.46 1 49 22.52 23.20 21.05 34.77 -13.72 **QPSK** 23130 711 25 12 21.63 22.31 20.16 34.77 -14.61 50 0 21.51 22.19 20.04 34.77 -14.73 0 1 21.76 22.44 20.29 34.77 -14.48 1 49 21.65 22.33 20.18 34.77 -14.59 23060 704 16QAM 25 19.24 12 21.39 34.77 -15.53 20.71 50 0 20.67 21.35 19.20 34.77 -15.57 1 0 20.97 21.65 19.50 34.77 -15.27 1 49 21.06 21.74 19.59 34.77 -15.18 23095 707.5 16QAM 10 25 12 19.93 20.61 18.46 34.77 -16.31 50 20.06 0 20.74 18.59 34.77 -16.18 1 0 21.72 22.40 20.25 34.77 -14.52 1 49 21.54 22.22 20.07 34.77 -14.70 23130 16QAM 711 25 12 20.62 21.30 19.15 34.77 -15.62 50 0 20.66 21.34 19.19 34.77 -15.58

Antenna g	gain (dBi)	2.3										
	LTE Band 13_Uplink frequency band : 777 to 787 MHz											
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)		
5	23205	779.5	QPSK	1 1 12	0 24 6	22.26 22.18 21.18	24.56 24.48 23.48	<b>22.41</b> 22.33 21.33	34.77 34.77 34.77	-12.36 -12.44 -13.44		
				25 1	0 0	21.14 21.23	23.44 23.53	21.29 21.38	34.77 34.77	-13.48 -13.39		
5	23205	779.5	16QAM	1 12 25	24 6 0	21.33 20.20 20.14	23.63 22.50 22.44	<b>21.48</b> 20.35 20.29	34.77 34.77 34.77	-13.29 -14.42 -14.48		

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SGS Taiwan Ltd.



2.3

Antenna gain (dBi) LTE Band 13\_Uplink frequency band : 777 to 787 MHz EIRP ERP Conducted ERP UL BW Frequency RB RB Margin Modulation Average Average Average Limit (MHz) Channel (MHz) Size Offset (dB) (dBm) (dBm) (dBm) (dBm) 1 0 22.36 24.66 22.51 34.77 -12.26 22.20 24.50 22.35 -12.42 1 49 34.77 10 23230 782 QPSK 25 12 21.09 23.39 21.24 34.77 -13.53 50 0 23.48 21.33 34.77 -13.44 21.18 1 0 21.19 23.49 21.34 34.77 -13.43 21.22 1 49 23.52 21.37 34.77 -13.40 10 23230 782 16QAM 22.44 20.29 -14.48 25 12 20.14 34.77 50 0 20.25 22.55 20.40 34.77 -14.37

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Antenna	gain (dBi)	1.49							
		LTE I	Band 66_Upli	nk frequ	lency b	and : 1710 to	1780 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	20.30	21.79	30	-8.21
	131979	1710.7	QPSK	1	5	20.19	21.68	30	-8.32
	101919	179 1710.7		3	2	20.23	21.72	30	-8.28
				6	0	19.18	20.67	30	-9.33
	1.4 132322 1745	QPSK	1	0	20.22	21.71	30	-8.29	
1 /			1	5	20.24	21.73	30	-8.27	
1.4		1745	QFON	3	2	20.28	21.77	30	-8.23
				6	0	19.15	20.64	30	-9.36
			QPSK	1	0	20.04	21.53	30	-8.47
	132665	1779.3		1	5	20.03	21.52	30	-8.48
	132003	1119.5	QFON	3	2	20.00	21.49	30	-8.51
				6	0	19.09	20.58	30	-9.42
				1	0	19.24	20.73	30	-9.27
	131979	1710.7	16QAM	1	5	19.24	20.73	30	-9.27
	131979	1710.7	TOQAW	3	2	19.24	20.73	30	-9.27
				6	0	18.16	19.65	30	-10.35
				1	0	19.23	20.72	30	-9.28
1.4	132322	1745	16QAM	1	5	19.31	20.80	30	-9.2
1.4	IJZJZZ	1145		3	2	19.17	20.66	30	-9.34
				6	0	18.34	19.83	30	-10.17
				1	0	19.07	20.56	30	-9.44
	132665	1779.3	1604M	1	5	19.17	20.66	30	-9.34
	132003	1119.3	16QAM	3	2	19.13	20.62	30	-9.38
				6	0	18.10	19.59	30	-10.41

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Antenna	gain (dBi)	1.49							
		LTE I	Band 66_Upli	nk frequ	uency ba	and : 1710 to	1780 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	20.19	21.68	30	-8.32
	131987	37 1711.5	QPSK	1	14	20.26	21.75	30	-8.25
	131907			8	4	19.17	20.66	30	-9.34
			15	0	19.19	20.68	30	-9.32	
		QPSK	1	0	20.16	21.65	30	-8.35	
3	3 132322 1745		1	14	20.34	21.83	30	-8.17	
5 132322	1745		8	4	19.16	20.65	30	-9.35	
				15	0	19.24	20.73	30	-9.27
			QPSK	1	0	20.14	21.63	30	-8.37
	132657 1778.	1778.5		1	14	20.02	21.51	30	-8.49
	152057	1770.5	QION	8	4	19.04	20.53	30	-9.47
				15	0	19.05	20.54	30	-9.46
				1	0	19.26	20.75	30	-9.25
	131987	1711.5	16QAM	1	14	19.14	20.63	30	-9.37
	131907	1/11.5	TOQAW	8	4	18.23	19.72	30	-10.28
				15	0	18.18	19.67	30	-10.33
				1	0	19.36	20.85	30	-9.15
3	132322	1745	16QAM	1	14	19.23	20.72	30	-9.28
5	IJZJZZ	1745	TOQAIVI	8	4	18.21	19.70	30	-10.3
				15	0	18.23	19.72	30	-10.28
				1	0	19.07	20.56	30	-9.44
	132657	1778.5	1604M	1	14	19.09	20.58	30	-9.42
	152057	1770.5	16QAM	8	4	18.00	19.49	30	-10.51
				15	0	18.06	19.55	30	-10.45

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Antenna	gain (dBi)	1.49							
		LTE I	Band 66_Upli	nk frequ	lency b	and : 1710 to	1780 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	20.27	21.76	30	-8.24
	131997	1712.5	QPSK	1	24	20.15	21.64	30	-8.36
	131997	1/12.5		12	6	19.10	20.59	30	-9.41
			25	0	19.29	20.78	30	-9.22	
		45 QPSK	1	0	20.19	21.68	30	-8.32	
5	132322 1745		1	24	20.26	21.75	30	-8.25	
5 132322	1745		12	6	19.32	20.81	30	-9.19	
				25	0	19.15	20.64	30	-9.36
			QPSK	1	0	20.01	21.50	30	-8.5
	132647	1777.5		1	24	20.03	21.52	30	-8.48
	152047	1111.5		12	6	19.00	20.49	30	-9.51
				25	0	19.00	20.49	30	-9.51
				1	0	19.25	20.74	30	-9.26
	131997	1712.5	16QAM	1	24	19.27	20.76	30	-9.24
	131997	1/12.5	TOQAIVI	12	6	18.11	19.60	30	-10.4
				25	0	18.23	19.72	30	-10.28
				1	0	19.33	20.82	30	-9.18
5	132322	1745	16QAM	1	24	19.26	20.75	30	-9.25
5	IJZJZZ	1145		12	6	18.20	19.69	30	-10.31
				25	0	18.27	19.76	30	-10.24
				1	0	19.05	20.54	30	-9.46
	132647	1777.5	160AM	1	24	19.00	20.49	30	-9.51
	152047	1111.5	16QAM	12	6	18.04	19.53	30	-10.47
				25	0	18.00	19.49	30	-10.51

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Antenna	gain (dBi)	1.49							
		LTE I	Band 66_Upli	nk frequ	lency b	and : 1710 to	1780 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	20.26	21.75	30	-8.25
	132022	1715	QPSK	1	49	20.14	21.63	30	-8.37
	132022	1715	QFON	25	12	19.24	20.73	30	-9.27
			50	0	19.11	20.60	30	-9.4	
				1	0	20.31	21.80	30	-8.2
10	10 132322 1745	QPSK	1	49	20.33	21.82	30	-8.18	
10		1740	QFSK	25	12	19.14	20.63	30	-9.37
				50	0	19.16	20.65	30	-9.35
			QPSK	1	0	20.04	21.53	30	-8.47
	132622	1775		1	49	20.10	21.59	30	-8.41
	132022	1115	QFON	25	12	19.00	20.49	30	-9.51
				50	0	19.15	20.64	30	-9.36
				1	0	19.20	20.69	30	-9.31
	132022	1715	16QAM	1	49	19.20	20.69	30	-9.31
	132022	CI / I	IOQAIVI	25	12	18.09	19.58	30	-10.42
				50	0	18.13	19.62	30	-10.38
				1	0	19.24	20.73	30	-9.27
10	132322	1745	16QAM	1	49	19.24	20.73	30	-9.27
10	132322	1740	IOQAIVI	25	12	18.29	19.78	30	-10.22
				50	0	18.24	19.73	30	-10.27
				1	0	19.07	20.56	30	-9.44
	132622	1775	1604M	1	49	19.09	20.58	30	-9.42
	132022	1110	16QAM	25	12	18.00	19.49	30	-10.51
				50	0	18.17	19.66	30	-10.34

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Antenna	gain (dBi)	1.49							
		LTE I	Band 66_Upli	nk frequ	lency b	and : 1710 to	1780 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	20.28	21.77	30	-8.23
	132047	1717.5	QPSK	1	74	20.12	21.61	30	-8.39
	152047	1/17.5	QFON	36	18	19.18	20.67	30	-9.33
				75	0	19.13	20.62	30	-9.38
		1	0	20.30	21.79	30	-8.21		
15	15 132322 1745	QPSK	1	74	20.17	21.66	30	-8.34	
	152522	1745		36	18	19.30	20.79	30	-9.21
				75	0	19.19	20.68	30	-9.32
			QPSK	1	0	20.03	21.52	30	-8.48
	132597 1772.5	1772.5		1	74	20.11	21.60	30	-8.4
	152557	1112.5		36	18	19.07	20.56	30	-9.44
				75	0	19.01	20.50	30	-9.5
				1	0	19.17	20.66	30	-9.34
	132047	1717.5	16QAM	1	74	19.19	20.68	30	-9.32
	132047	1/1/.5		36	18	18.18	19.67	30	-10.33
				75	0	18.16	19.65	30	-10.35
				1	0	19.29	20.78	30	-9.22
15	132322	1745	16QAM	1	74	19.31	20.80	30	-9.2
10	102022	1745		36	18	18.25	19.74	30	-10.26
				75	0	18.22	19.71	30	-10.29
				1	0	19.11	20.60	30	-9.4
	132597	1772.5	16QAM	1	74	19.06	20.55	30	-9.45
	152531	1112.5	16QAM	36	18	18.02	19.51	30	-10.49
				75	0	18.09	19.58	30	-10.42

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Antenna	gain (dBi)	1.49							
		LTE I	Band 66_Uplin	nk frequ	lency b	and : 1710 to	1780 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	20.35	21.84	30	-8.16
	132072	1720	D QPSK	1	99	20.20	21.69	30	-8.31
	132072	1720		50	25	19.23	20.72	30	-9.28
				100	0	19.12	20.61	30	-9.39
	20 132322 1745	QPSK	1	0	20.41	21.90	30	-8.1	
20			1	99	20.30	21.79	30	-8.21	
20		1745	QFON	50	25	19.25	20.74	30	-9.26
				100	0	19.28	20.77	30	-9.23
			QPSK	1	0	20.22	21.71	30	-8.29
	132572	1770		1	99	20.16	21.65	30	-8.35
	152572	1110	QION	50	25	19.07	20.56	30	-9.44
				100	0	19.11	20.60	30	-9.4
				1	0	19.23	20.72	30	-9.28
	132072	1720	16QAM	1	99	19.20	20.69	30	-9.31
	132072	1720	TOQAIN	50	25	18.15	19.64	30	-10.36
				100	0	18.22	19.71	30	-10.29
				1	0	19.17	20.66	30	-9.34
20	132322	1745	16QAM	1	99	19.25	20.74	30	-9.26
20	IJZJZZ	1145		50	25	18.35	19.84	30	-10.16
				100	0	18.22	19.71	30	-10.29
				1	0	19.04	20.53	30	-9.47
	132572	1770	16OAM	1	99	19.08	20.57	30	-9.43
	152572	1770	16QAM	50	25	18.11	19.60	30	-10.4
				100	0	18.10	19.59	30	-10.41

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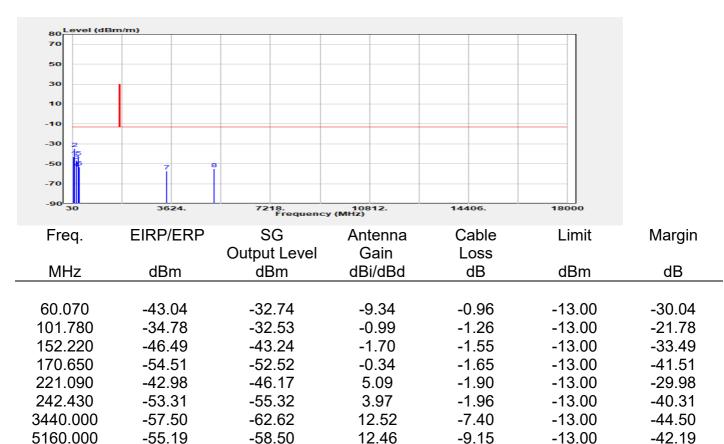
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## 10.2 Field Strength of Spurious Radiation Measurement

Report Number	:TERF2405001307E2			
Operation Mode :LTE B4				
Test Mode	:Tx			
EUT Pol	:E2 Plane			
Test Frequency	:1720 MHz			

:SAC C Test Site Test Date :2024-05-17 Temp./Humi. :24.2°C/52% Antenna Pol. :Vertical Engineer :Howard Huang



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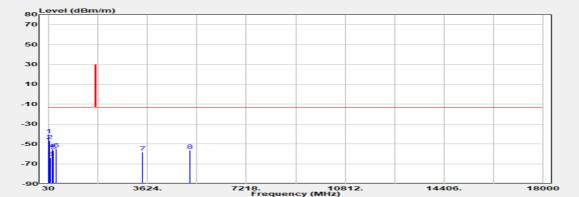
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Report Number	:TERF2405001307E2
<b>Operation Mode</b>	:LTE B4
Test Mode	:Tx
EUT Pol	:E2 Plane
Test Frequency	:1720 MHz

Test Site	:SAC C
Test Date	:2024-05-17
Temp./Humi.	:24.2°℃/52%
Antenna Pol.	:Horizontal
Engineer	:Howard Huang



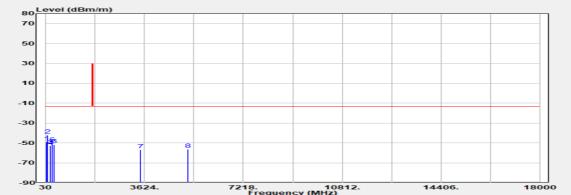
Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin			
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB			
31.940	-40.69	-26.07	-13.92	-0.70	-13.00	-27.69			
50.370	-46.79	-34.35	-11.55	-0.89	-13.00	-33.79			
92.080	-63.61	-61.84	-0.57	-1.20	-13.00	-50.61			
137.670	-55.33	-52.21	-1.64	-1.48	-13.00	-42.33			
188.110	-56.66	-57.62	2.68	-1.72	-13.00	-43.66			
285.110	-54.91	-56.76	3.98	-2.13	-13.00	-41.91			
3440.000	-58.32	-63.44	12.52	-7.40	-13.00	-45.32			
5160.000	-56.20	-59.51	12.46	-9.15	-13.00	-43.20			

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Report Number	:TERF2405001307E2
Operation Mode	:LTE B4
Test Mode	:Tx
EUT Pol	:E2 Plane
Test Frequency	:1732.5 MHz

Test Site	:SAC C
Test Date	:2024-05-17
Temp./Humi.	:24.2°℃/52%
Antenna Pol.	:Vertical
Engineer	:Howard Huang



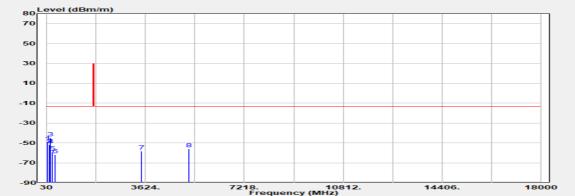
		Frequency	(MHZ)			
Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
34.850	-49.10	-34.90	-13.46	-0.74	-13.00	-36.10
69.770	-41.87	-34.52	-6.29	-1.06	-13.00	-28.87
174.530	-52.64	-51.25	0.27	-1.66	-13.00	-39.64
203.630	-53.20	-55.56	4.16	-1.80	-13.00	-40.20
261.830	-50.17	-52.30	4.17	-2.04	-13.00	-37.17
319.060	-51.77	-53.60	4.07	-2.24	-13.00	-38.77
3465.000	-56.90	-61.90	12.44	-7.44	-13.00	-43.90
5197.500	-56.56	-60.02	12.69	-9.22	-13.00	-43.56

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Report Number	:TERF2405001307E2
Operation Mode	:LTE B4
Test Mode	:Tx
EUT Pol	:E2 Plane
Test Frequency	:1732.5 MHz

Test Site	:SAC C
Test Date	:2024-05-17
Temp./Humi.	:24.2°℃/52%
Antenna Pol.	:Horizontal
Engineer	:Howard Huang



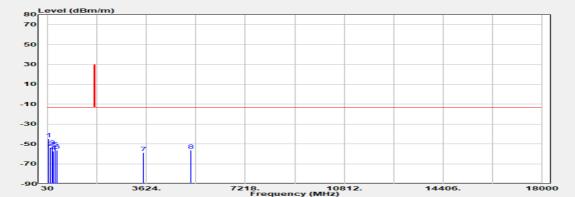
			riequency	(14112)			
	Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
_	MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
	38.730	-48.78	-34.99	-13.03	-0.76	-13.00	-35.78
	130.880	-51.63	-48.69	-1.48	-1.46	-13.00	-38.63
	139.610	-44.74	-41.49	-1.76	-1.49	-13.00	-31.74
	162.890	-51.80	-49.12	-1.07	-1.61	-13.00	-38.80
	220.120	-59.16	-62.30	5.04	-1.90	-13.00	-46.16
	311.300	-61.84	-63.71	4.09	-2.22	-13.00	-48.84
	3465.000	-58.06	-63.06	12.44	-7.44	-13.00	-45.06
	5197.500	-56.11	-59.57	12.69	-9.22	-13.00	-43.11

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ERF2405001307E2
TE B4
x
2 Plane
745 MHz

Test Site	:SAC C
Test Date	:2024-05-17
Temp./Humi.	:24.2°℃/52%
Antenna Pol.	:Vertical
Engineer	:Howard Huang



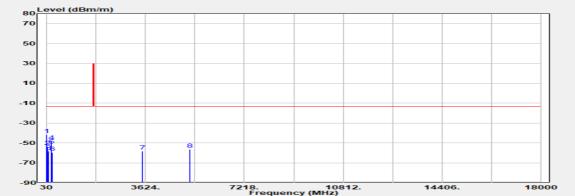
			riequency	((((12))			
	Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
_	MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
	47.460	-44.63	-31.89	-11.88	-0.86	-13.00	-31.63
	114.390	-53.70	-50.93	-1.41	-1.36	-13.00	-40.70
	182.290	-52.38	-52.28	1.62	-1.72	-13.00	-39.38
	221.090	-57.52	-60.71	5.09	-1.90	-13.00	-44.52
	304.510	-54.20	-56.16	4.17	-2.21	-13.00	-41.20
	353.010	-56.19	-58.31	4.47	-2.35	-13.00	-43.19
	3490.000	-58.55	-63.40	12.34	-7.49	-13.00	-45.55
	5235.000	-56.47	-60.21	12.98	-9.24	-13.00	-43.47

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Report Number	:TERF2405001307E2
Operation Mode	:LTE B4
Test Mode	:Tx
EUT Pol	:E2 Plane
Test Frequency	:1745 MHz

Test Site	:SAC C
Test Date	:2024-05-17
Temp./Humi.	:24.2°℃/52%
Antenna Pol.	:Horizontal
Engineer	:Howard Huang



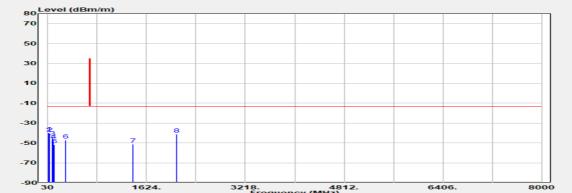
mit Margin
3m dB
-28.70
-40.73
6.00 -45.04
-34.96
-39.11
-46.82
.00 <b>-</b> 45.34
-43.28

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Report Number	:TERF2405001307E2
Operation Mode	:LTE B12
Test Mode	:Tx
EUT Pol	:E2 Plane
Test Frequency	:704 MHz

Test Site	:SAC C
Test Date	:2024-05-17
Temp./Humi.	:24.2°℃/52%
Antenna Pol.	:Vertical
Engineer	:Howard Huang



Margin
dB
-26.62
-27.03
-30.80
-34.33
-38.84
-34.05
-38.26
-28.36

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Report Number	:TERF2405001307E2
Operation Mode	:LTE B12
Test Mode	:Tx
EUT Pol	:E2 Plane
Test Frequency	:704 MHz

Test Site	:SAC C
Test Date	:2024-05-17
Temp./Humi.	:24.2°℃/52%
Antenna Pol.	:Horizontal
Engineer	:Howard Huang



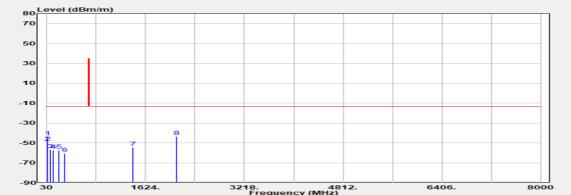
	Trequency (wriz)						
	Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
_	MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
	63.950	-58.52	-49.40	-8.11	-1.01	-13.00	-45.52
	114.390	-57.88	-55.11	-1.41	-1.36	-13.00	-44.88
	137.670	-55.21	-52.09	-1.64	-1.48	-13.00	-42.21
	144.460	-44.95	-41.49	-1.93	-1.53	-13.00	-31.95
	226.910	-59.54	-62.80	5.16	-1.90	-13.00	-46.54
	338.460	-60.05	-61.92	4.17	-2.30	-13.00	-47.05
	1408.000	-48.36	-51.39	7.70	-4.67	-13.00	-35.36
	2112.000	-39.54	-43.60	9.80	-5.74	-13.00	-26.54

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Report Number	:TERF2405001307E2
Operation Mode	:LTE B12
Test Mode	:Tx
EUT Pol	:E2 Plane
Test Frequency	:707.5 MHz

Test Site	:SAC C
Test Date	:2024-05-17
Temp./Humi.	:24.2°℃/52%
Antenna Pol.	:Vertical
Engineer	:Howard Huang



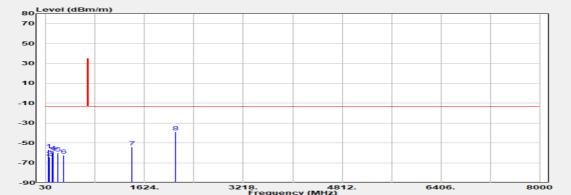
		Frequency	(MHZ)			
Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
34.850	-44.13	-29.93	-13.46	-0.74	-13.00	-31.13
44.550	-49.33	-36.22	-12.28	-0.83	-13.00	-36.33
92.080	-57.00	-55.23	-0.57	-1.20	-13.00	-44.00
131.850	-57.24	-54.45	-1.33	-1.46	-13.00	-44.24
218.180	-57.28	-60.31	4.92	-1.89	-13.00	-44.28
317.120	-60.74	-62.57	4.06	-2.23	-13.00	-47.74
1415.000	-54.72	-57.73	7.70	-4.69	-13.00	-41.72
2122.500	-43.70	-47.76	9.83	-5.76	-13.00	-30.70

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Report Number	:TERF2405001307E2
Operation Mode	:LTE B12
Test Mode	:Tx
EUT Pol	:E2 Plane
Test Frequency	:707.5 MHz

Test Site	:SAC C
Test Date	:2024-05-17
Temp./Humi.	:24.2°℃/52%
Antenna Pol.	:Horizontal
Engineer	:Howard Huang



Frequency (MHZ)							
Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin	
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB	_
67.830	-56.72	-48.69	-6.99	-1.04	-13.00	-43.72	
91.110	-64.07	-62.24	-0.63	-1.20	-13.00	-51.07	
130.880	-59.83	-56.89	-1.48	-1.46	-13.00	-46.83	
153.190	-58.88	-55.86	-1.46	-1.56	-13.00	-45.88	
225.940	-60.06	-63.41	5.24	-1.89	-13.00	-47.06	
313.240	-62.53	-64.38	4.07	-2.22	-13.00	-49.53	
1415.000	-54.08	-57.09	7.70	-4.69	-13.00	-41.08	
2122.500	-39.01	-43.07	9.83	-5.76	-13.00	-26.01	

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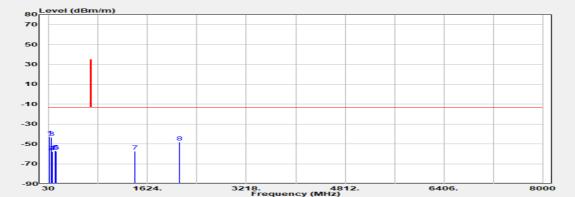
f (886-2) 2298-0488

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Report Number	:TERF2405001307E2
Operation Mode	:LTE B12
Test Mode	:Tx
EUT Pol	:E2 Plane
Test Frequency	:711 MHz

Test Site	:SAC C
Test Date	:2024-05-17
Temp./Humi.	:24.2°℃/52%
Antenna Pol.	:Vertical
Engineer	:Howard Huang



	Trequency (Mriz)					
Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
37.760	-42.59	-28.65	-13.18	-0.76	-13.00	-29.59
65.890	-57.97	-49.65	-7.29	-1.03	-13.00	-44.97
71.710	-43.34	-36.43	-5.83	-1.08	-13.00	-30.34
92.080	-57.57	-55.80	-0.57	-1.20	-13.00	-44.57
130.880	-56.70	-53.76	-1.48	-1.46	-13.00	-43.70
145.430	-57.49	-54.11	-1.85	-1.53	-13.00	-44.49
1422.000	-57.28	-60.30	7.72	-4.70	-13.00	-44.28
2133.000	-47.92	-52.00	9.87	-5.79	-13.00	-34.92

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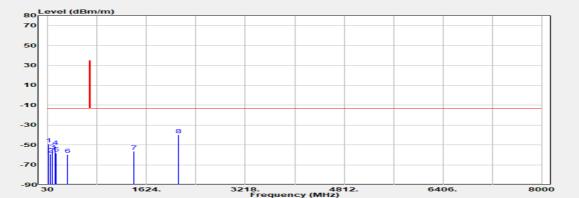
f (886-2) 2298-0488

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Report Number	:TERF2405001307E2
Operation Mode	:LTE B12
Test Mode	:Tx
EUT Pol	:E2 Plane
Test Frequency	:711 MHz

Test Site	:SAC C
Test Date	:2024-05-17
Temp./Humi.	:24.2°℃/52%
Antenna Pol.	:Horizontal
Engineer	:Howard Huang



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
34.850	-49.07	-34.87	-13.46	-0.74	-13.00	-36.07
69.770	-59.13	-51.78	-6.29	-1.06	-13.00	-46.13
95.960	-55.63	-53.65	-0.76	-1.22	-13.00	-42.63
150.280	-51.23	-47.92	-1.78	-1.53	-13.00	-38.23
159.010	-57.99	-55.11	-1.29	-1.59	-13.00	-44.99
341.370	-59.45	-61.39	4.25	-2.31	-13.00	-46.45
1422.000	-56.54	-59.56	7.72	-4.70	-13.00	-43.54
2133.000	-39.91	-43.99	9.87	-5.79	-13.00	-26.91

~ End of Report ~

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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