

Page 1 of 38

#### SUPPLEMENTAL "UP LINK CARRIER AGGREGATION" TEST REPORT

#### **CLASS II PC REPORT**

Acer Incorporated

**Applicant:** 8F,88, Sec. 1, Hsin Tai Wu Rd. Hsichih, Taipei Hsien Tai-

wan

**Product Name:** 7c Modular Platform

acer **Brand Name:** Model No.: **QSIP7180** 

Model Difference: N/A

**Report Number:** E2/2020/B0013 FCC ID HLZQSIP7180Q

**FCC Rule Part:** 2, 22H & 24E & 27C Issue Date: December 22, 2020

Date of Test: November 12, 2020 - December 16, 2020

Date of EUT Received: November 12, 2020

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 C63.26-2015 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits.

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

Approved By:

Jay Lin / Asst. Supervisor





3702

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Page 2 of 38

Revision History						
Report Number	Revision	Description	Issue Date	Remark		
E2/2020/B0015	Rev.00	Original.	December 22, 2020	Revised By: Tiffany Kao		

#### Note:

#### 1 · Disclaimer

Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.

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**Page 3 of 38** 

## **Contents**

1	GENERAL PRODUCT INFORMATION	4
2	SYSTEM TEST CONFIGURATION	7
3	SUMMARY OF TEST RESULTS	9
4	DESCRIPTION OF TEST MODES	10
5	MEASUREMENT UNCERTAINTY	
6	MAXIMUM OUTPUT POWER	13
7	FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT	

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Page 4 of 38

#### GENERAL PRODUCT INFORMATION

## **Product Description**

General:

Product Name:	Notebook Computer
Brand Name:	acer
Model No. of Host:	N20Q4
Model Difference:	N/A
Hardware Version:	N/A
Software Version:	N/A
Model No. of WWAN/BT/WLAN Module:	QSIP7180
Class II Permissive change:	7c Modular Platform INSTALLED IN Notebook Computer
Power Supply:	7.7Vdc from Rechargeable Li-ion Battery or 5 / 9 / 12 / 15 / 20 Vdc from AC/DC Adapter

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Page 5 of 38

#### 1.2 **Operation Frequency Range**

rtango				
LTE Band	BW	Operation Frequency		
LIE Ballu	(MHz)	1)	(MHz)	
	5	2502.5	-	2567.5
7	10	2505.0	-	2565.0
<b>'</b>	15	2507.5	-	2562.5
	20	2510.0	-	2560.0
20	5	2572.5	-	2617.5
	10	2575.0	-	2615.0
38	15	2577.5	-	2612.5
	20	2580.0	-	2610.0
	5	2498.5	-	2687.5
41	10	2501.0	-	2685.0
	15	2503.5	-	2682.5
	20	2506.0	-	2680.0

#### 1.3 **Antenna Designation**

1							
	Operating Frequency (MHz)		Antenna	NB Mode		Tablet Mode	
			Type	Main Peak Gain (dBi)	Aux Peak Gain (dBi)	Main Peak Gain (dBi)	Aux Peak Gain (dBi)
	LTE-Band 7	2502.5 ~ 2567.5		3.67	3.03	-0.30	2.30
	LTE-Band 38	2572.5 ~ 2617.5	PIFA	3.67	2.24	-0.21	3.29
	LTE-Band 41	2498.5 ~ 2687.5		3.81	3.03	1.83	3.93

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Page 6 of 38

### 1.4 Test Methodology of Applied Standards

FCC 47 CFR Part 2, 22H, 24E, 27C.

ANSI C63.26-2015

KDB971168 D01 Power Meas license Digital System v03r01

## 1.5 Test Facility

SGS Taiwan Ltd. Central RF Lab (TAF code 3702) No.2, Keji 1st Rd., Guishan District, Taoyuan City, Taiwan 333 FCC Designation number: TW0028

#### 1.6 Special Accessories

No special accessories were used during testing.

#### 1.7 Equipment Modifications

There was no modifications incorporated into the EUT.

#### 1.8 Radiated Emission Test Sites for Measurements from 9 kHz to 30 MHz

Radiated emission below 30MHz is measured in a 9m\*9m\*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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Page 7 of 38

#### SYSTEM TEST CONFIGURATION

## **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.

#### **EUT Exercise** 2.2

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 hand-held 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.

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Page 8 of 38

## 2.4 Configuration of Tested System

Fig. 2-1 Configuration of Tested System (Fixed Channel-Conducted)

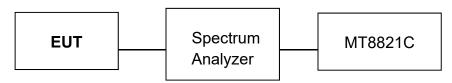


Fig. 2-2 Configuration of Tested System (Fixed Channel-Radiated)

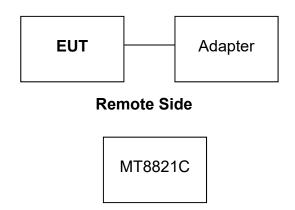


Table 2-1 Equipment Used in

I	tem	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
	1.	Radio Communication Analyer	Anritsu	MT8821C	6261786084	shielded	Un-shielded

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Page 9 of 38

## **SUMMARY OF TEST RESULTS**

FCC Rules	Description Of Test	Result
§2.1046(a)	RF Power Output	Compliant
§22.913(a)(5) §24.232(c) §27.50(c)(10) §27.50(h)(2) §27.50(d)(4)	ERP/ EIRP measurement	Compliant
§2.1053 §22.917(a) §24.238(a) §27.53(g) §27.53(h) §27.53(m)(4)	Field Strength of Spurious Radiation	Compliant

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Page 10 of 38

#### **DESCRIPTION OF TEST MODES**

#### The Worst-CaseTest Modes and Details 4.1

This device is Notebook Computer that supports with carrier aggregation (two carrier) uplink. Intra-Band contiguous specification as below:

contiguous specification as below.						
E-UTRA Intra-Band CA configuration / Bandwidth combination set						
		in order of increasing requency	Maximum	Bandwidth		
E-UTRA CA configuration	Channel bandwidth for carrier [MHz]	Channel bandwidth for carrier [MHz]	aggregated bandwidth [MHz]	combination set		
	15 20	15 20	40	0		
CA_7C	10 15 20	20 15,20 10,15,20	40	1		
	15 20	10,15 15,20	40	2		
CA_38C	5,10,15,20 20	20 5,10,15				
	10 15 20	20 15,20 10,15,20	40	0		
CA_41C	5,10 15 20	20 15,20 5,10,15,20	40	1		
_	10 15 20	15,20 10,15,20 10,15,20	40	2		
	10 20	20	40	3		

Intra-Band Test Mode	Band	Description
2	7C	CA_PCC Ant0 Band 7_ SCC Ant 0 Band 7
3	38C	CA_PCC Ant0 Band 38_ SCC Ant 0 Band 38
4	41C	CA_PCC Ant0 Band 41_ SCC Ant 0 Band 41

#### The Worst-CaseTest Modes and Details 4.2

1. Pre-Scan has been conducted to determine the worst-case mode from all possible positions of X(E1)Y(E2)Z(H) axis for radiated emission. The worst case was found as E1 plan as in normal use position.

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Page 11 of 38

#### 4.2.1 Intra-Band

For uplink Intra-Band CA, evaluation has been done for contiguous and non-contiguous channel and bandwith, configurations that generates highest output power in standalone transmission have been selected for the final test.

#### Radiated Emission

#### CA 7C

Parameter	Test Condition	Test Condition
Test Channel	Low; Mid; High	Low ; Mid ;High
Channel Bandwidth	15 MHz	15 MHz
Modulation	QPSK	QPSK
RB	Full RB	Full RB

#### **CA 38C**

Parameter	Test Condition	Test Condition
Test Channel	Low; Mid; High	Low ; Mid ;High
Channel Bandwidth	20 MHz	20 MHz
Modulation	QPSK	QPSK
RB	Full RB	Full RB

#### CA 41C

Parameter	Test Condition	Test Condition
Test Channel	Low; Mid; High	Low ; Mid ;High
Channel Bandwidth	20 MHz	20 MHz
Modulation	QPSK	QPSK
RB	Full RB	Full RB

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Page 12 of 38

#### 5 MEASUREMENT UNCERTAINTY

Test Items	Uncertainty
RF Power Output	+/- 1.10 dB
ERP/ EIRP measurement	Vertical Polarization = +/- 4.74dB Horizontal Polarization =+/- 4.62dB
Temperature	+/- 0.65 °C
Humidity	+/- 4.6 %
DC / AC Power Source	DC= +/- 0.13%, AC=+/- 0.2%

Radiated Spurious Emission:

	9kHz – 30MHz: +/- 2.87 dB
Management in a substant.	30MHz - 180MHz: +/- 3.37dB
Measurement uncertainty (Polarization : <b>Vertical</b> )	180MHz -417MHz: +/- 3.19dB
(i dianzation : Vertical)	0.417GHz-1GHz: +/- 3.19dB
	1GHz - 18GHz: +/- 4.04dB
	18GHz - 40GHz: +/- 4.04dB

	9kHz – 30MHz: +/- 2.87 dB
Macauramantunaartaintu	30MHz - 167MHz: +/- 4.22dB
Measurement uncertainty (Polarization : <b>Horizontal</b> )	167MHz -500MHz: +/- 3.44dB
(1 olarization : Horizontal)	0.5GHz-1GHz: +/- 3.39dB
	1GHz - 18GHz: +/- 4.08dB
	18GHz - 40GHz: +/- 4.08dB

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

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Page 13 of 38

#### 6 MAXIMUM OUTPUT POWER

#### 6.1 Standard Applicable

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.

#### 6.1.1 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(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.

### FCC 27, 50(h)

(2) Mobile and other user stations transmitting in the BRS and EBS bands are limited to 2 W EIRP.

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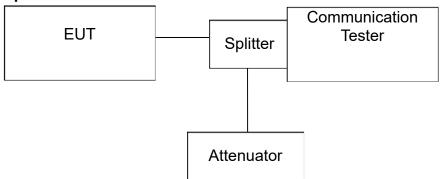
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Page 14 of 38

#### 6.2 **Test Set-up**



**Note:** Measurement setup for testing on Antenna connector

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Page 15 of 38

#### 6.3 **Output Power Measurement Applicable Guideance**

The transmitter output was connected to a calibrated attenuator, the other end of which was connected to a power meter. Transmitter output was read off the power meter in dBm. The power output at the transmitter antenna port was determined by adding the value of the attenuator to the power meter reading.

The Procedure of KDB941225 (SAR Measurement Procedures for 3G devices, (WCDMA/HSPA) was used for EUT and Base station setting. RMC 12.2kps is used for this testing, and 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.

## 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 = 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);

 $P_{T}$  = transmitter output power, expressed in dBW, dBm, or PSD;

 $G_{\tau}$  = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

L<sub>C</sub> = signal attenuation in the connecting cable between the transmitter and antenna. in dB.

6.5 **Measurement Equipment Used** 

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Radio Communication Analyer	Anritsu	MT8821C	6262044670	08/06/2020	08/05/2021
Radio Communication Analyer	Anritsu	MT8820C	6201465316	06/18/2020	06/17/2021
I Pex4 Cables	Woken	00100A1H646027	RF501	06/01/2020	05/31/2021

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21.80

21.67

21.96

21.71

21.92

25.34 25.63

25.38

25.59

-7.66 -7.37

-7.62

33 33

33

33

13.91

13.83

14.20

13.82

13.91

Page 16 of 38

# 6.6 LTE Measurement Results: 6.6.1 Intra-Band

QPSK

QPSK

QPSK

QPSK

QPSK

High

20

15

15

20

21251

21277

21225

21179

21201

2550.1

2547.5

2542.9

2545.1

Full

Full

Full

Full

3.67 First Band Antenna gain (dBi) Second Ban Band Range Band width Frequency RB Band Band width Channel RB PCC scc Total EIRP Limit (dBm) QPSK 20805 2505.5 Full QPSK 20949 2519.9 Full 21.09 14.05 21.69 QPSK 20850 2510 Full 20994 2524.4 Full 13.84 21.72 25.39 33 -7.61 QPSK 15 20825 2507.5 Full QPSK 10 20945 2519.5 Full 21.04 13.81 21.66 25.33 33 -7.67 Low 25.59 QPSK 20825 2507.5 Full QPSK 20975 2522.5 14.06 21.92 15 15 21.10 QPSK 15 20828 2507.8 Full QPSK 20999 2524.9 Full 21.03 13.80 21.78 25.45 33 -7.55 -7.49 QPSK 20 20850 2510 Full QPSK 21021 2527.1 Full 21.07 13.90 21.84 15 QPSk 20850 2510 Full QPSK 21048 2529.8 Full 21.05 13.89 21.79 25.46 -7.54 QPSK 10 21006 2525.6 QPSK 21150 2540 Full 21.11 14.21 21.74 25.41 -7.59 Full 20 QPSK 20 2530.1 Full QPSK 10 21195 2544.5 Full 21.07 13.93 21.85 25.52 33 -7.48 QPSK 21051 QPSK 10 2542.1 Full 13.97 21.71 25.38 33 -7.62 15 2530.1 Full 21171 21.09 QPSK QPSK CA 7C Mid QPSK 15 21025 2527.5 Full CA 7C Mid 15 21175 2542.5 Full 21.23 14.21 22.06 25.73 33 -7.27 25.52 QPSK 2525.3 2542.4 13.95 21.85 33 -7.48 15 21003 Full 20 21174 Full 21.16 QPSK 2527.6 Full QPSK 21197 2544.7 21.12 14.00 21.96 25.63 QPSK 20 21001 2525.1 Full QPSK 20 21199 2544.9 Full 21.25 14.03 21.95 QPSK 2545.6 Full QPSK 21350 2560 21.10 14.20 21.65 25.32 33 -7.68

QPSK

QPSK

QPSK

QPSK

QPSK

10

15

15

21395

21397

21375

21350

21372

2564.5

2562.5

2560

2562.2

Full

Full

Full

Full

21.05

21.15

21.12

21.05

		Antenna gain (dBi)	3.67																							
	First Band								Second Ba	nd			Power(dBm)			EIRP	Margin									
Band	Range	Modulation	Band width	Channel	Frequency	RB		Band	Range	Modulation	Band width	Channel	Frequency	RB	PCC	scc	Total	EIRP	Limit	(dBm)						
	Low	QPSK	15	37825	2577.5	Full		+ CA_38C	Low	QPSK	15	37975	2592.5	Full	21.19	14.23	21.94	25.61	33	-7.39						
	LOW	QPSK	20	37850	2580	Full			LOW	QPSK	20	38048	2599.8	Full	21.22	14.27	21.97	25.64	33	-7.36						
C4 200	Mid	QPSK	15	37925	2587.5	Full	, t		C4 20C	C4 20C	C4 200	C4 200	64 206	C4 200	Mid	QPSK	15	38075	2602.5	Full	21.25	14.30	22.01	25.68	33	-7.32
CA_38C	iviid	QPSK	20	37901	2585.1	Full			CA_38C MID	QPSK	20	38099	2604.9	Full	21.27	14.37	22.04	25.71	33	-7.29						
	10.1	QPSK	15	38025	2597.5	Full				QPSK	15	38175	2612.5	Full	21.21	14.25	21.99	25.66	33	-7.34						
	High	QPSK	20	37952	2590.2	Full			High	QPSK	20	38150	2610	Full	21.23	14.29	22.02	25.69	33	-7.31						

High

		Antenna gain (dBi)	3.93																	
			First Band								Second Ba	nd				Power	r(dBm)		EIRP	Margin
Band	Range	Modulation	Band width	Channel	Frequency	RB		Band	Range	Modulation	Band width	Channel	Frequency	RB	PCC	SCC	Total	EIRP	Limit	(dBm)
	L	QPSK	5	39683	2499.3	Full				QPSK	20	39800	2511	Full	20.98	14.27	21.81	25.74	33	-7.26
		QPSK	20	39750	2506	Full				QPSK	5	39867	2517.7	Full	21.26	14.09	21.99	25.92	33	-7.08
		QPSK	10	39703	2501.3	Full				QPSK	15	39823	2513.3	Full	21.08	14.18	21.85	25.78	33	-7.22
		QPSK	15	39725	2503.5	Full				QPSK	10	39845	2515.5	Full	21.10	14.24	21.87	25.80	33	-7.2
	Low	QPSK	10	39705	2501.5	Full			Low	QPSK	20	39849	2515.9	Full	21.10	14.49	21.90	25.83	33	-7.17
	LOW	QPSK	20	39750	2506	Full			LOW	QPSK	10	39894	2520.4	Full	21.16	14.25	21.92	25.85	33	-7.15
		QPSK	15	39725	2503.5	Full				QPSK	15	39875	2518.5	Full	21.15	14.27	21.93	25.86	33	-7.14
		QPSK	15	39728	2503.8	Full				QPSK	20	39899	2520.9	Full	21.17	14.28	21.90	25.83	33	-7.17
		QPSK	20	39750	2506	Full				QPSK	15	39921	2523.1	Full	21.20	14.28	21.91	25.84	33	-7.16
		QPSK	20	39750	2506	Full				QPSK	20	39948	2525.8	Full	21.13	14.19	21.95	25.88	33	-7.12
		QPSK	5	40528	2583.8	Full				QPSK	20	40645	2595.5	Full	21.05	14.29	21.89	25.82	33	-7.18
		QPSK	20	40595	2590.5	Full				QPSK	5	40712	2602.2	Full	21.32	14.15	22.02	22.02	33	-10.98
		QPSK	10	40549	2585.9	Full				QPSK	15	40669	2597.9	Full	21.15	14.23	21.94	25.87	33	-7.13
		QPSK	15	40571	2588.1	Full				QPSK	10	40691	2600.1	Full	21.17	14.33	21.91	25.84	33	-7.16
	Mid	QPSK	10	40526	2583.6	Full	+	CA_41C		QPSK	20	40670	2598	Full	21.14	14.56	21.98	25.91	33	-7.09
CA_41C		QPSK	20	40571	2588.1	Full			Mid	QPSK	10	40715	2602.5	Full	21.23	14.26	21.96	25.89	33	-7.11
	l [	QPSK	15	40545	2585.5	Full				QPSK	15	40695	2600.5	Full	21.20	14.31	21.95	25.88	33	-7.12
	l [	QPSK	15	40523	2583.3	Full				QPSK	20	40694	2600.4	Full	21.19	14.34	21.98	25.91	33	-7.09
		QPSK	20	40546	2585.6	Full				QPSK	15	40717	2602.7	Full	21.21	14.32	22.01	25.94	33	-7.06
		QPSK	20	40521	2583.1	Full				QPSK	20	40719	2602.9	Full	21.15	14.25	21.99	25.92	33	-7.08
		QPSK	20	40529	2583.9	Full				QPSK	20	40712	2602.2	Full	21.09	14.21	21.94	25.87	33	-7.13
		QPSK	5	41373	2668.3	Full				QPSK	20	41490	2680	Full	20.96	14.19	21.84	25.77	33	-7.23
		QPSK	20	41440	2675	Full				QPSK	5	41557	2686.7	Full	21.28	14.09	21.94	25.87	33	-7.13
		QPSK	10	41395	2670.5	Full				QPSK	15	41515	2682.5	Full	21.10	14.18	21.86	25.79	33	-7.21
		QPSK	15	41417	2672.7	Full				QPSK	10	41537	2684.7	Full	21.14	14.32	21.91	25.84	33	-7.16
		QPSK	10	41346	2665.6	Full			re-t-	QPSK	20	41490	2680	Full	21.13	14.55	21.93	25.86	33	-7.14
	High	QPSK	20	41391	2670.1	Full			High	QPSK	10	41535	2684.5	Full	21.22	14.22	21.93	25.86	33	-7.14
	l [	QPSK	15	41365	2667.5	Full			l	QPSK	15	41515	2682.5	Full	21.19	14.31	21.95	25.88	33	-7.12
		QPSK	15	41319	2662.9	Full				QPSK	20	41490	2680	Full	21.14	14.30	21.97	25.90	33	-7.1
		QPSK	20	41341	2665.1	Full				QPSK	15	41512	2682.2	Full	21.14	14.31	21.95	25.88	33	-7.12
		QPSK	20	41292	2660.2	Full				QPSK	20	41490	2680	Full	21.11	14.17	21.91	25.84	33	-7.16

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Page 17 of 38

## 7 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

#### 7.1 Standard Applicable

According to FCC §2.1053,

FCC §22.917(a), §24.238(a), §27.53(h)

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(m) (4) (6) for LTE B7, 41

For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

Measurement procedure. Compliance with these rules is based on the use of measurement nstrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed; for mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 megahertz band is 2495-2496 MHz, in which case a resolution bandwidth of at least one percent may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 megahertz or 1 percent of emission bandwidth, as specified; or 1 megahertz or 2 percent for mobile digital stations, except in the band 2495-2496 MHz). 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. With respect to television operations, measurements must be made of the separate visual and aural operating powers at sufficiently frequent intervals to ensure compliance with the rules.

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Page 18 of 38

# Table 2 — Unwanted Emissions for Mobile, Portable and Low-Power Fixed Subscriber Equipment

Frequency (MHz)	Attenuation (dB)
<2200	$43 + 10 \log_{10}(p)$
2200 - 2288	$70 + 10 \log_{10}(p)$
2288 - 2292	$67 + 10 \log_{10}(p)$
2292 - 2296	$61 + 10 \log_{10}(p)$
2296 - 2300	$55 + 10 \log_{10}(p)$
2300 - 2305	$43 + 10 \log_{10}(p)$
2305 - 2320	$43 + 10 \log_{10}(p)^{\text{Note}}$
2320 - 2324	$55 + 10 \log_{10}(p)$
2324 - 2328	$61 + 10 \log_{10}(p)$
2328 - 2337	$67 + 10 \log_{10}(p)$
2337 - 2341	$61 + 10 \log_{10}(p)$
2341 - 2345	$55 + 10 \log_{10}(p)$
2345 - 2360	$43 + 10 \log_{10}(p)^{\text{Note}}$
2360 - 2365	$43 + 10 \log_{10}(p)$
2365 - 2395	$70 + 10 \log_{10}(p)$
>2395	$43 + 10 \log_{10}(p)$

**Note:** Measured at the edges of the highest and lowest frequency range(s) in which the equipment is designed to operate. See Section 1.2 for the permitted frequency ranges for various equipment types.

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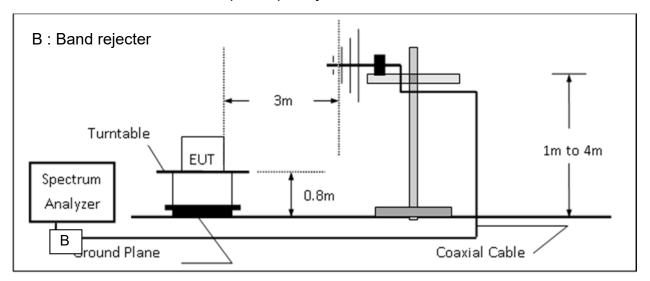


Page 19 of 38

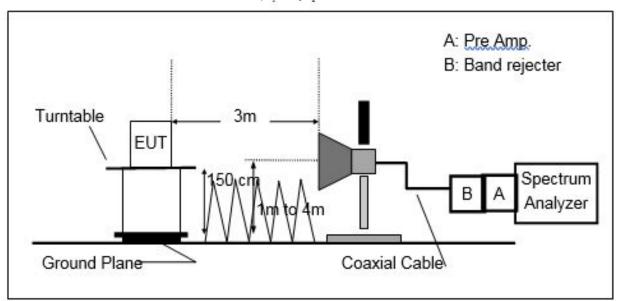


### 7.2 EUT Setup

Radiated Emission Test Set-Up, Frequency Below 1000MHz



Radiated Emission Test Set-UP Frequency Over 1 GHz



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Page 20 of 38

#### 7.3 Measurement Procedure:

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)

#### 7.4 Measurement Equipment Used:

Miedaurement Equipment Osed.										
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.					
Broadband Antenna	TESEQ	CBL 6112D	35240	09/08/2020	09/07/2021					
Horn Antenna	Schwarzbeck	BBHA9170	184	12/25/2019	12/24/2020					
Horn Antenna	Schwarzbeck	BBHA9120D	1187	01/10/2020	01/09/2021					
Loop Antenna	ETS.LINDGREN	6502	143303	04/28/2020	04/27/2021					
EMI Test Receiver	R&S	ESU 40	100363	04/29/2020	04/28/2021					
Radio Communica- tion Analyer	Anritsu	MT8821C	6261786084	01/18/2020	01/17/2021					
Pre-Amplifier	EMC Instruments	EMC330	980096	11/19/2020	11/18/2021					
Pre-Amplifier	EMC Instruments	EMC0011830	980199	11/19/2020	11/18/2021					
Pre-Amplifier	EMC Instruments	EMC184045B	980135	10/27/2020	10/26/2021					
High Pass Filter	WI	WHKX1.1/15G	RF172	11/19/2020	11/18/2021					
High Pass Filter	R&S	F13 HPF 3GHz	RF175	11/19/2020	11/18/2021					
Notch Filter	Woken	EWT-54-0037	RF177	11/19/2020	11/18/2021					
Notch Filter	Woken	EWT-54-0038	RF178	11/19/2020	11/18/2021					
Notch Filter	EWT	EWT-54-0038	RF185	11/19/2020	11/18/2021					
Coaxial Cable	Huber Suhner	EMC106-SM-SM- 9100	150704	11/19/2020	11/18/2021					
Coaxial Cable	Huber Suhner	SUCOFLEX 104	MY17413/4	11/19/2020	11/18/2021					

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Page 21 of 38

#### 7.5 **Measurement Result:**

## Radiated Spurious Emission Measurement Result: LTE Band 7C Mode

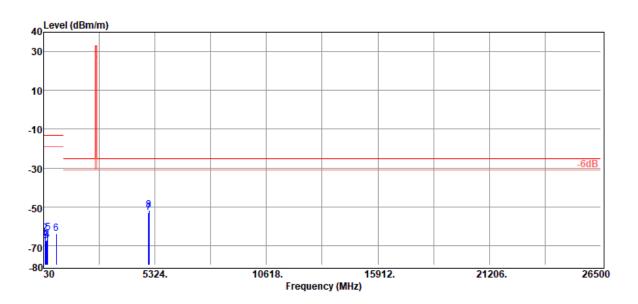
Report Number **Test Site** :966 Chamber C :E2/2020/B0015

:LTE B7C **Test Date** :2020-12-11 **Operation Mode** 

Test Mode :TX CH LOW Temp./Humi. :22.9/64

**EUT Pol** :E1 Plan Antenna Pol. :VERTICAL

**Test Frequency** :2507.5 + 2522.5 MHz Engineer :Enzo Chang



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
30.00	-66.47	-44.96	-20.90	-0.61	-13.00	-53.47
103.72	-63.61	-55.60	-6.64	-1.37	-13.00	-50.61
133.79	-67.49	-58.44	-7.39	-1.66	-13.00	-54.49
184.23	-67.02	-61.52	-3.71	-1.79	-13.00	-54.02
240.49	-63.34	-59.28	-1.83	-2.23	-13.00	-50.34
635.28	-63.90	-58.56	-1.48	-3.86	-13.00	-50.90
5015.00	-52.94	-53.97	12.47	-11.44	-25.00	-27.94
5045.00	-51.65	-52.53	12.41	-11.53	-25.00	-26.65

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Page 22 of 38

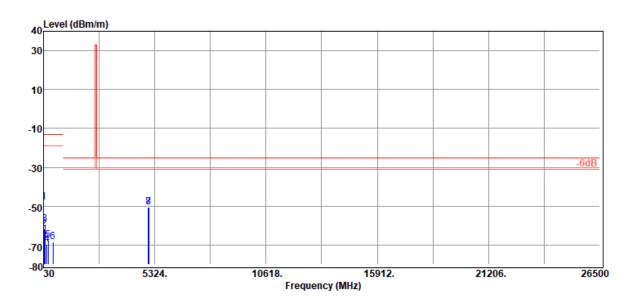
Report Number **Test Site** :966 Chamber C :E2/2020/B0015

**Operation Mode** :LTE B7C **Test Date** :2020-12-11

:TX CH LOW Test Mode Temp./Humi. :22.9/64

**EUT Pol** :E1 Plan Antenna Pol. :HORIZONTAL

**Test Frequency** :2507.5 + 2522.5 MHz Engineer :Enzo Chang



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		· ·
MHz	dBm	<sup>'</sup> dBm	dBi/dBd	dB	dBm	dB
30.00	-48.03	-26.52	-20.90	-0.61	-13.00	-35.03
53.28	-61.77	-43.95	-16.91	-0.91	-13.00	-48.77
91.11	-59.18	-52.15	-5.85	-1.18	-13.00	-46.18
184.23	-69.44	-63.94	-3.71	-1.79	-13.00	-56.44
253.10	-67.67	-63.89	-1.54	-2.24	-13.00	-54.67
482.99	-68.58	-64.19	-1.17	-3.22	-13.00	-55.58
5015.00	-50.41	-51.44	12.47	-11.44	-25.00	-25.41
5045.00	-50.48	-51.36	12.41	-11.53	-25.00	-25.48

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Page 23 of 38

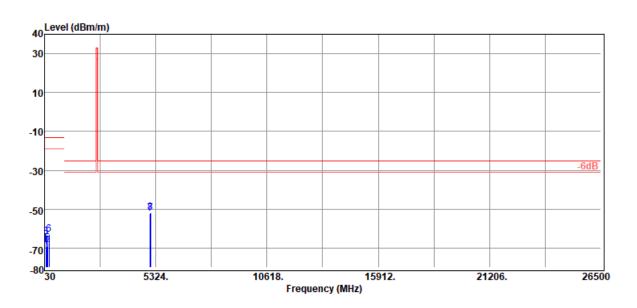
Report Number **Test Site** :966 Chamber C :E2/2020/B0015

**Operation Mode** :LTE B7C **Test Date** :2020-12-11

:TX CH MID Test Mode Temp./Humi. :22.9/64

**EUT Pol** :E1 Plan Antenna Pol. :VERTICAL

**Test Frequency** :2527.5 + 2542.5 MHz Engineer :Enzo Chang



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
·		Output Level	Gain	Loss		Ü
 MHz	dBm	<sup>'</sup> dBm	dBi/dBd	dB	dBm	dB
30.00	-68.22	-46.71	-20.90	-0.61	-13.00	-55.22
88.20	-65.81	-58.34	-6.31	-1.16	-13.00	-52.81
103.72	-64.38	-56.37	-6.64	-1.37	-13.00	-51.38
132.82	-69.03	-60.02	-7.35	-1.66	-13.00	-56.03
180.35	-67.70	-61.61	-4.35	-1.74	-13.00	-54.70
251.16	-62.84	-59.05	-1.56	-2.23	-13.00	-49.84
5055.00	-52.19	-53.04	12.40	-11.55	-25.00	-27.19
5085.00	-51.63	-52.39	12.40	-11.64	-25.00	-26.63

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Page 24 of 38

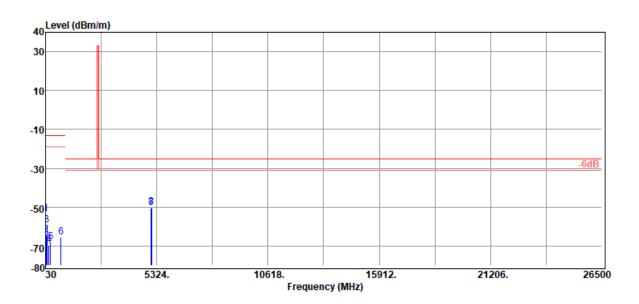
Report Number **Test Site** :966 Chamber C :E2/2020/B0015

**Operation Mode** :LTE B7C **Test Date** :2020-12-11

:TX CH MID Test Mode Temp./Humi. :22.9/64

**EUT Pol** :E1 Plan Antenna Pol. :HORIZONTAL

**Test Frequency** :2527.5 + 2542.5 MHz Engineer :Enzo Chang



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
·		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
30.00	-53.39	-31.88	-20.90	-0.61	-13.00	-40.39
53.28	-64.27	-46.45	-16.91	-0.91	-13.00	-51.27
90.14	-59.34	-52.23	-5.95	-1.16	-13.00	-46.34
184.23	-69.67	-64.17	-3.71	-1.79	-13.00	-56.67
261.83	-67.90	-64.08	-1.55	-2.27	-13.00	-54.90
761.38	-65.58	-59.60	-1.71	-4.27	-13.00	-52.58
5055.00	-50.50	-51.35	12.40	-11.55	-25.00	-25.50
5085.00	-50.30	-51.06	12.40	-11.64	-25.00	-25.30

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Page 25 of 38

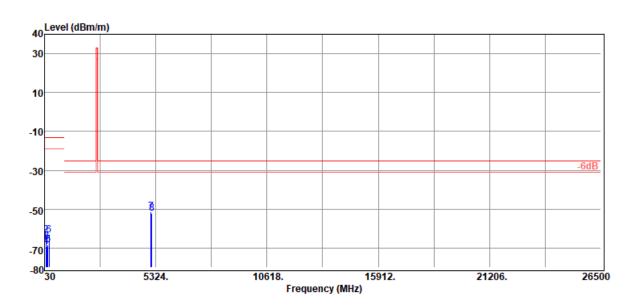
Report Number **Test Site** :966 Chamber C :E2/2020/B0015

**Operation Mode** :LTE B7C **Test Date** :2020-12-11

:TX CH HIGH Test Mode Temp./Humi. :22.9/64

**EUT Pol** :E1 Plan Antenna Pol. :VERTICAL

**Test Frequency** :2547.5 + 2562.5 MHz Engineer :Enzo Chang



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
·		Output Level	Gain	Loss		J
 MHz	dBm	<sup>'</sup> dBm	dBi/dBd	dB	dBm	dB
30.00	-66.37	-44.86	-20.90	-0.61	-13.00	-53.37
103.72	-63.24	-55.23	-6.64	-1.37	-13.00	-50.24
121.18	-66.61	-58.07	-7.07	-1.47	-13.00	-53.61
132.82	-69.00	-59.99	-7.35	-1.66	-13.00	-56.00
185.20	-68.40	-63.02	-3.57	-1.81	-13.00	-55.40
253.10	-63.46	-59.68	-1.54	-2.24	-13.00	-50.46
5095.00	-51.18	-51.91	12.40	-11.67	-25.00	-26.18
5125.00	-52.14	-52.83	12.45	-11.76	-25.00	-27.14

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Page 26 of 38

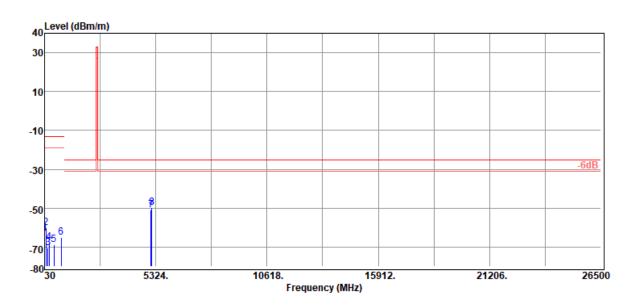
Report Number :E2/2020/B0015 Test Site :966 Chamber C

Operation Mode :LTE B7C Test Date :2020-12-11

Test Mode :TX CH HIGH Temp./Humi. :22.9/64

EUT Pol :E1 Plan Antenna Pol. :HORIZONTAL

Test Frequency :2547.5 + 2562.5 MHz Engineer :Enzo Chang



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		J
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
35.82	-62.99	-42.59	-19.64	-0.76	-13.00	-49.99
88.20	-60.20	-52.73	-6.31	-1.16	-13.00	-47.20
185.20	-70.56	-65.18	-3.57	-1.81	-13.00	-57.56
257.95	-67.56	-63.77	-1.53	-2.26	-13.00	-54.56
480.08	-68.65	-64.32	-1.22	-3.11	-13.00	-55.65
831.22	-65.14	-59.15	-1.45	-4.54	-13.00	-52.14
5095.00	-51.00	-51.73	12.40	-11.67	-25.00	-26.00
5125.00	-49.87	-50.56	12.45	-11.76	-25.00	-24.87

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Page 27 of 38

#### Radiated Spurious Emission Measurement Result: LTE Band 38C Mode

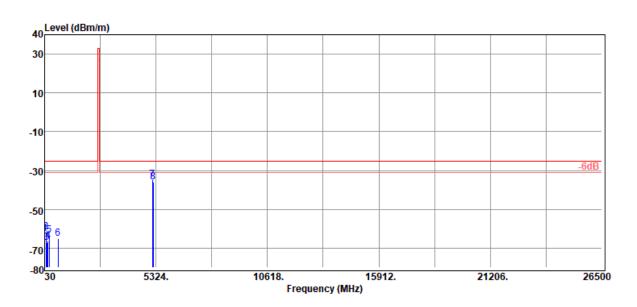
Report Number :E2/2020/B0015 Test Site :966 Chamber C

**Operation Mode** :LTE B38C **Test Date** :2020-12-10

Test Mode :TX CH LOW Temp./Humi. :23.3/59

**EUT Pol** :E1 Plan Antenna Pol. :VERTICAL

:2580 + 2599.8 MHz **Test Frequency** Engineer :Enzo Chang



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
MHz	dBm	Output Level dBm	Gain dBi/dBd	Loss dB	dBm	dB
1711 12	автт	dbiii	dDi/dDd	<u>ub</u>	QDIII	<u> </u>
30.00	-62.42	-40.91	-20.90	-0.61	-25.00	-37.42
103.72	-61.72	-53.71	-6.64	-1.37	-25.00	-36.72
133.79	-67.16	-58.11	-7.39	-1.66	-25.00	-42.16
184.23	-66.24	-60.74	-3.71	-1.79	-25.00	-41.24
246.31	-63.35	-59.41	-1.71	-2.23	-25.00	-38.35
662.44	-64.85	-59.80	-1.22	-3.83	-25.00	-39.85
5160.00	-34.64	-35.31	12.54	-11.87	-25.00	-9.64
5199.60	-36.13	-36.83	12.70	-12.00	-25.00	-11.13

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Page 28 of 38

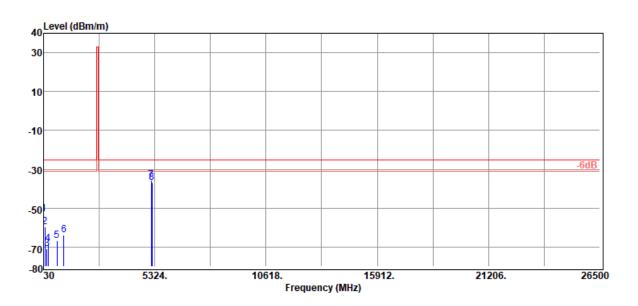
Report Number **Test Site** :966 Chamber C :E2/2020/B0015

**Operation Mode** :LTE B38C **Test Date** :2020-12-10

:TX CH LOW Test Mode Temp./Humi. :23.3/59

**EUT Pol** :E1 Plan Antenna Pol. :HORIZONTAL

**Test Frequency** :2580 + 2599.8 MHz Engineer :Enzo Chang



EIRP/ERP	SG	Antenna	Cable	Limit	Margin
	Output Level	Gain	Loss		ŭ
dBm	dBm	dBi/dBd	dB	dBm	dB
-52.93	-31.42	-20.90	-0.61	-25.00	-27.93
-59.65	-52.37	-6.12	-1.16	-25.00	-34.65
-70.92	-65.29	-3.85	-1.78	-25.00	-45.92
-68.58	-64.80	-1.52	-2.26	-25.00	-43.58
-66.79	-61.59	-1.24	-3.96	-25.00	-41.79
-63.91	-57.46	-1.52	-4.93	-25.00	-38.91
-35.71	-36.38	12.54	-11.87	-25.00	-10.71
-36.79	-37.49	12.70	-12.00	-25.00	-11.79
	-52.93 -59.65 -70.92 -68.58 -66.79 -63.91 -35.71	Output Level dBm  -52.93 -31.42 -59.65 -52.37 -70.92 -65.29 -68.58 -64.80 -66.79 -61.59 -63.91 -57.46 -35.71 -36.38	dBm         Output Level dBm         Gain dBi/dBd           -52.93         -31.42         -20.90           -59.65         -52.37         -6.12           -70.92         -65.29         -3.85           -68.58         -64.80         -1.52           -66.79         -61.59         -1.24           -63.91         -57.46         -1.52           -35.71         -36.38         12.54	dBm         Output Level dBm         Gain dBi/dBd         Loss dB           -52.93         -31.42         -20.90         -0.61           -59.65         -52.37         -6.12         -1.16           -70.92         -65.29         -3.85         -1.78           -68.58         -64.80         -1.52         -2.26           -66.79         -61.59         -1.24         -3.96           -63.91         -57.46         -1.52         -4.93           -35.71         -36.38         12.54         -11.87	dBm         Output Level dBm         Gain dBi/dBd         Loss dB           -52.93         -31.42         -20.90         -0.61         -25.00           -59.65         -52.37         -6.12         -1.16         -25.00           -70.92         -65.29         -3.85         -1.78         -25.00           -68.58         -64.80         -1.52         -2.26         -25.00           -66.79         -61.59         -1.24         -3.96         -25.00           -63.91         -57.46         -1.52         -4.93         -25.00           -35.71         -36.38         12.54         -11.87         -25.00

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Page 29 of 38

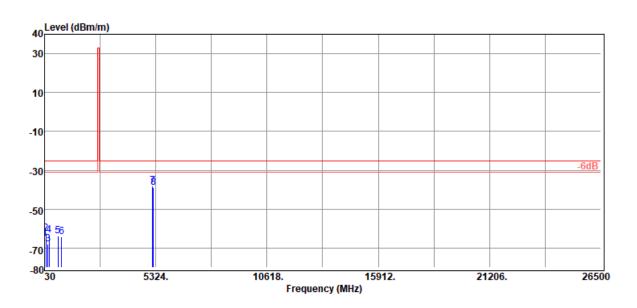
Report Number **Test Site** :966 Chamber C :E2/2020/B0015

**Operation Mode** :LTE B38C **Test Date** :2020-12-10

Test Mode :TX CH MID Temp./Humi. :23.3/59

**EUT Pol** :E1 Plan Antenna Pol. :VERTICAL

**Test Frequency** :2585.1 + 2604.9 MHz Engineer :Enzo Chang



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		Ü
MHz	dBm	<sup>'</sup> dBm	dBi/dBd	dB	dBm	dB
30.00	-64.85	-43.34	-20.90	-0.61	-25.00	-39.85
103.72	-62.75	-54.74	-6.64	-1.37	-25.00	-37.75
185.20	-67.87	-62.49	-3.57	-1.81	-25.00	-42.87
257.95	-63.34	-59.55	-1.53	-2.26	-25.00	-38.34
669.23	-63.80	-58.64	-1.21	-3.95	-25.00	-38.80
841.89	-64.37	-58.47	-1.37	-4.53	-25.00	-39.37
5170.20	-38.17	-38.85	12.58	-11.90	-25.00	-13.17
5209.80	-38.70	-39.51	12.78	-11.97	-25.00	-13.70
						_

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Page 30 of 38

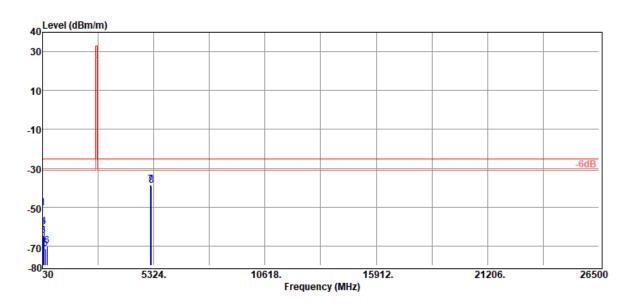
Report Number **Test Site** :966 Chamber C :E2/2020/B0015

**Operation Mode** :LTE B38C **Test Date** :2020-12-10

Test Mode :TX CH MID Temp./Humi. :23.3/59

**EUT Pol** :E1 Plan Antenna Pol. :HORIZONTAL

**Test Frequency** :2585.1 + 2604.9 MHz Engineer :Enzo Chang



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
30.00	-50.63	-29.12	-20.90	-0.61	-25.00	-25.63
41.64	-61.69	-41.91	-18.92	-0.86	-25.00	-36.69
52.31	-64.47	-46.44	-17.14	-0.89	-25.00	-39.47
91.11	-60.19	-53.16	-5.85	-1.18	-25.00	-35.19
178.41	-71.34	-64.93	-4.67	-1.74	-25.00	-46.34
253.10	-70.04	-66.26	-1.54	-2.24	-25.00	-45.04
5170.20	-38.47	-39.15	12.58	-11.90	-25.00	-13.47
5209.80	-38.73	-39.54	12.78	-11.97	-25.00	-13.73

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Page 31 of 38

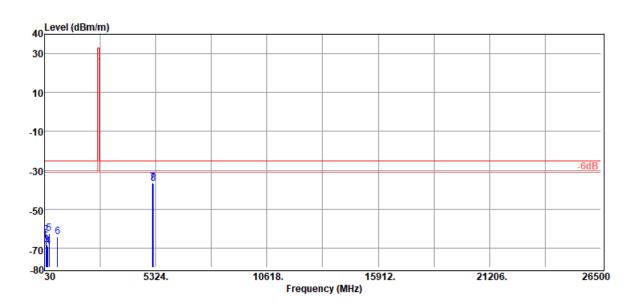
Report Number Test Site :966 Chamber C :E2/2020/B0015

**Operation Mode** :LTE B38C **Test Date** :2020-12-10

Test Mode :TX CH HIGH Temp./Humi. :23.3/59

**EUT Pol** :E1 Plan Antenna Pol. :VERTICAL

**Test Frequency** :2590.2 + 2610 MHz Engineer :Enzo Chang



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		J
MHz	dBm	<sup>'</sup> dBm	dBi/dBd	dB	dBm	dB
30.00	-66.10	-44.59	-20.90	-0.61	-25.00	-41.10
103.72	-63.39	-55.38	-6.64	-1.37	-25.00	-38.39
133.79	-68.25	-59.20	-7.39	-1.66	-25.00	-43.25
185.20	-69.25	-63.87	-3.57	-1.81	-25.00	-44.25
246.31	-62.52	-58.58	-1.71	-2.23	-25.00	-37.52
649.83	-64.12	-59.04	-1.28	-3.80	-25.00	-39.12
5180.40	-36.39	-37.07	12.62	-11.94	-25.00	-11.39
5220.00	-36.65	-37.56	12.86	-11.95	-25.00	-11.65

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Page 32 of 38

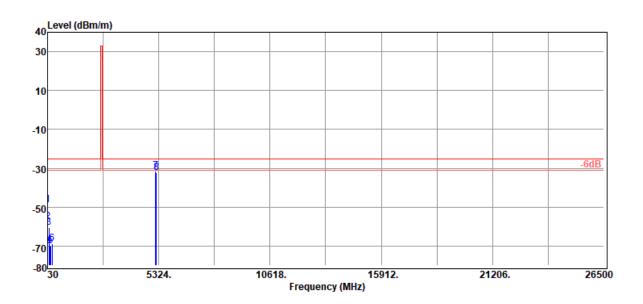
Report Number :E2/2020/B0015 Test Site :966 Chamber C

Operation Mode :LTE B38C Test Date :2020-12-10

Test Mode :TX CH HIGH Temp./Humi. :23.3/59

EUT Pol :E1 Plan Antenna Pol. :HORIZONTAL

Test Frequency :2590.2 + 2610 MHz Engineer :Enzo Chang



EIRP/ERP	SG	Antenna	Cable	Limit	Margin
	Output Level	Gain	Loss		ŭ
dBm	dBm	dBi/dBd	dB	dBm	dB
-48.79	-27.28	-20.90	-0.61	-25.00	-23.79
-57.52	-37.64	-19.02	-0.86	-25.00	-32.52
-60.43	-53.40	-5.85	-1.18	-25.00	-35.43
-69.61	-60.56	-7.39	-1.66	-25.00	-44.61
-70.19	-64.10	-4.35	-1.74	-25.00	-45.19
-68.91	-65.12	-1.55	-2.24	-25.00	-43.91
-31.44	-32.12	12.62	-11.94	-25.00	-6.44
-32.38	-33.29	12.86	-11.95	-25.00	-7.38
	-48.79 -57.52 -60.43 -69.61 -70.19 -68.91 -31.44	Output Level dBm  -48.79	dBm         Output Level dBm         Gain dBi/dBd           -48.79         -27.28         -20.90           -57.52         -37.64         -19.02           -60.43         -53.40         -5.85           -69.61         -60.56         -7.39           -70.19         -64.10         -4.35           -68.91         -65.12         -1.55           -31.44         -32.12         12.62	dBm         Output Level dBm         Gain dBi/dBd         Loss dB           -48.79         -27.28         -20.90         -0.61           -57.52         -37.64         -19.02         -0.86           -60.43         -53.40         -5.85         -1.18           -69.61         -60.56         -7.39         -1.66           -70.19         -64.10         -4.35         -1.74           -68.91         -65.12         -1.55         -2.24           -31.44         -32.12         12.62         -11.94	dBm         Output Level dBm         Gain dBi/dBd         Loss dB           -48.79         -27.28         -20.90         -0.61         -25.00           -57.52         -37.64         -19.02         -0.86         -25.00           -60.43         -53.40         -5.85         -1.18         -25.00           -69.61         -60.56         -7.39         -1.66         -25.00           -70.19         -64.10         -4.35         -1.74         -25.00           -68.91         -65.12         -1.55         -2.24         -25.00           -31.44         -32.12         12.62         -11.94         -25.00

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Page 33 of 38

### Radiated Spurious Emission Measurement Result: LTE Band 41C Mode

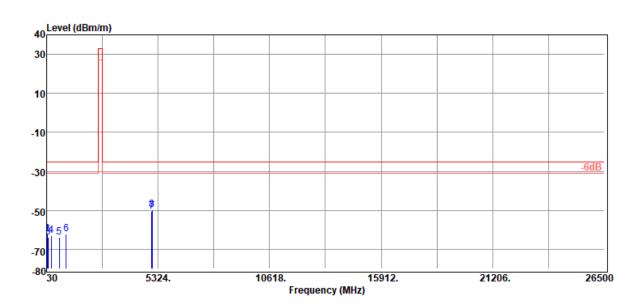
Report Number :E2/2020/B0015 Test Site :966 Chamber C

Operation Mode :LTE B41C Test Date :2020-12-10

Test Mode :TX CH LOW Temp./Humi. :23.3/59

EUT Pol :E1 Plan Antenna Pol. :VERTICAL

Test Frequency :2506 + 2517.7 MHz Engineer :Enzo Chang



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
 MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
39.70	-62.07	-42.08	-19.14	-0.85	-25.00	-37.07
52.31	-62.08	-44.05	-17.14	-0.89	-25.00	-37.08
103.72	-63.97	-55.96	-6.64	-1.37	-25.00	-38.97
247.28	-63.00	-59.09	-1.68	-2.23	-25.00	-38.00
637.22	-63.78	-58.36	-1.45	-3.97	-25.00	-38.78
966.05	-62.01	-55.10	-1.66	-5.25	-25.00	-37.01
5012.00	-50.43	-51.48	12.48	-11.43	-25.00	-25.43
5035.40	-49.53	-50.46	12.43	-11.50	-25.00	-24.53

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Page 34 of 38

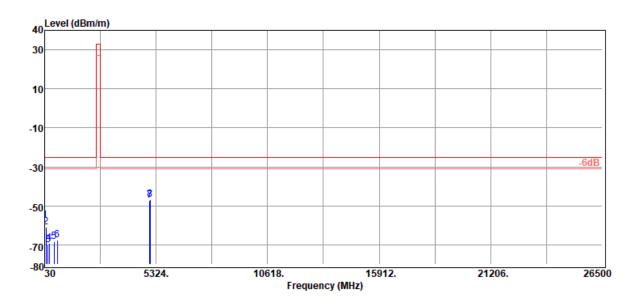
Report Number :E2/2020/B0015 Test Site :966 Chamber C

Operation Mode :LTE B41C Test Date :2020-12-10

Test Mode :TX CH LOW Temp./Humi. :23.3/59

EUT Pol :E1 Plan Antenna Pol. :HORIZONTAL

Test Frequency :2506 + 2517.7 MHz Engineer :Enzo Chang



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
41.64	-57.72	-37.94	-18.92	-0.86	-25.00	-32.72
90.14	-60.71	-53.60	-5.95	-1.16	-25.00	-35.71
184.23	-70.17	-64.67	-3.71	-1.79	-25.00	-45.17
257.95	-69.19	-65.40	-1.53	-2.26	-25.00	-44.19
488.81	-68.51	-64.01	-1.06	-3.44	-25.00	-43.51
635.28	-67.38	-62.04	-1.48	-3.86	-25.00	-42.38
5012.00	-47.23	-48.28	12.48	-11.43	-25.00	-22.23
5035.40	-46.62	-47.55	12.43	-11.50	-25.00	-21.62

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Page 35 of 38

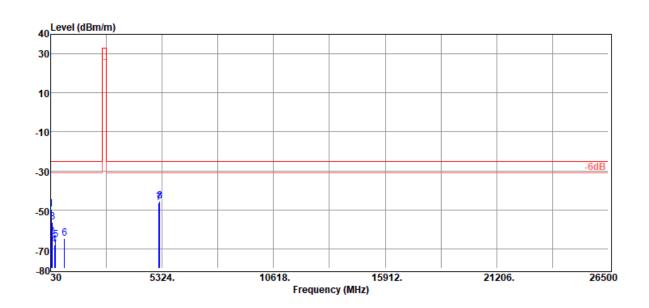
Report Number Test Site :966 Chamber C :E2/2020/B0015

**Operation Mode** :LTE B41C **Test Date** :2020-12-10

:TX CH MID Test Mode Temp./Humi. :23.3/59

**EUT Pol** :E1 Plan Antenna Pol. :VERTICAL

**Test Frequency** :2590.5 + 2602.2 MHz Engineer :Enzo Chang



EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
dBm	dBm	dBi/dBd	dB	dBm	dB
-49 88	-31 51	-17.50	-0.87	-25 00	-24.88
-63.80	-56.50	-6.01	-1.29	-25.00	-38.80
-56.36	-47.82	-7.09	-1.45	-25.00	-31.36
-67.93	-64.42	-1.35	-2.16	-25.00	-42.93
-65.26	-61.43	-1.56	-2.27	-25.00	-40.26
-64.53	-58.94	-1.41	-4.18	-25.00	-39.53
-46.52	-47.20	12.62	-11.94	-25.00	-21.52
-45.59	-46.34	12.74	-11.99	-25.00	-20.59
	-49.88 -63.80 -56.36 -67.93 -65.26 -64.53 -46.52	Output Level dBm  -49.88 -31.51 -63.80 -56.50 -56.36 -47.82 -67.93 -64.42 -65.26 -61.43 -64.53 -58.94 -46.52 -47.20	dBm         Output Level dBm         Gain dBi/dBd           -49.88         -31.51         -17.50           -63.80         -56.50         -6.01           -56.36         -47.82         -7.09           -67.93         -64.42         -1.35           -65.26         -61.43         -1.56           -64.53         -58.94         -1.41           -46.52         -47.20         12.62	dBm         Output Level dBm         Gain dBi/dBd         Loss dB           -49.88         -31.51         -17.50         -0.87           -63.80         -56.50         -6.01         -1.29           -56.36         -47.82         -7.09         -1.45           -67.93         -64.42         -1.35         -2.16           -65.26         -61.43         -1.56         -2.27           -64.53         -58.94         -1.41         -4.18           -46.52         -47.20         12.62         -11.94	dBm         Output Level dBm         Gain dBi/dBd         Loss dB           -49.88         -31.51         -17.50         -0.87         -25.00           -63.80         -56.50         -6.01         -1.29         -25.00           -56.36         -47.82         -7.09         -1.45         -25.00           -67.93         -64.42         -1.35         -2.16         -25.00           -65.26         -61.43         -1.56         -2.27         -25.00           -64.53         -58.94         -1.41         -4.18         -25.00           -46.52         -47.20         12.62         -11.94         -25.00

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Page 36 of 38

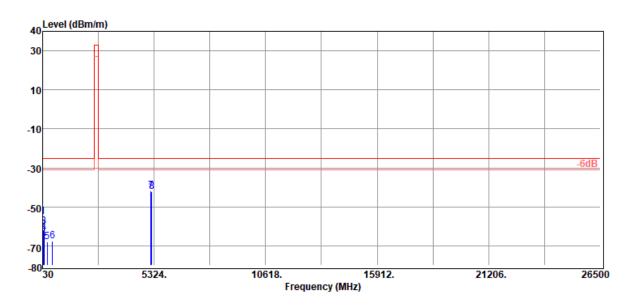
Report Number :E2/2020/B0015 Test Site :966 Chamber C

Operation Mode :LTE B41C Test Date :2020-12-10

Test Mode :TX CH MID Temp./Humi. :23.3/59

EUT Pol :E1 Plan Antenna Pol. :HORIZONTAL

Test Frequency :2590.5 + 2602.2 MHz Engineer :Enzo Chang



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
39.70	-55.20	-35.21	-19.14	-0.85	-25.00	-30.20
53.28	-61.73	-43.91	-16.91	-0.91	-25.00	-36.73
88.20	-60.06	-52.59	-6.31	-1.16	-25.00	-35.06
103.72	-63.29	-55.28	-6.64	-1.37	-25.00	-38.29
252.13	-68.05	-64.26	-1.55	-2.24	-25.00	-43.05
489.78	-67.45	-62.93	-1.04	-3.48	-25.00	-42.45
5181.00	-41.94	-42.62	12.62	-11.94	-25.00	-16.94
5204.40	-42.10	-42.85	12.74	-11.99	-25.00	-17.10

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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Page 37 of 38

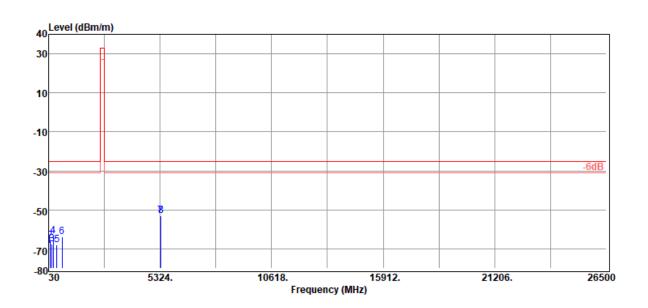
Report Number Test Site :966 Chamber C :E2/2020/B0015

**Operation Mode** :LTE B41C **Test Date** :2020-12-10

:TX CH HIGH Test Mode Temp./Humi. :23.3/59

**EUT Pol** :E1 Plan Antenna Pol. :VERTICAL

**Test Frequency** :2675 + 2686.7 MHz Engineer :Enzo Chang



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
 MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
30.00	-68.20	-46.69	-20.90	-0.61	-25.00	-43.20
88.20	-65.89	-58.42	-6.31	-1.16	-25.00	-40.89
185.20	-67.64	-62.26	-3.57	-1.81	-25.00	-42.64
252.13	-63.38	-59.59	-1.55	-2.24	-25.00	-38.38
420.91	-68.07	-63.64	-1.30	-3.13	-25.00	-43.07
662.44	-63.91	-58.86	-1.22	-3.83	-25.00	-38.91
5350.00	-53.12	-55.10	13.50	-11.52	-25.00	-28.12
5373.40	-52.85	-54.84	13.41	-11.42	-25.00	-27.85

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Page 38 of 38

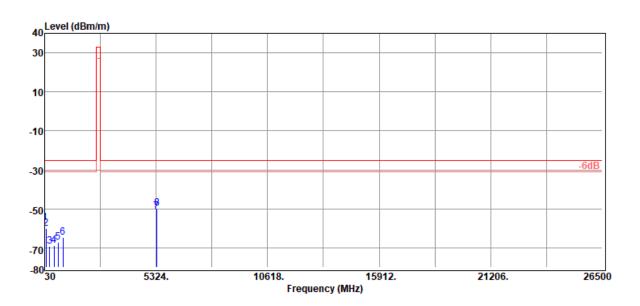
Report Number **Test Site** :966 Chamber C :E2/2020/B0015

**Operation Mode** :LTE B41C **Test Date** :2020-12-10

Test Mode :TX CH HIGH Temp./Humi. :23.3/59

**EUT Pol** :E1 Plan Antenna Pol. :HORIZONTAL

**Test Frequency** :2675 + 2686.7 MHz Engineer :Enzo Chang



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
34.85	-57.34	-36.84	-19.77	-0.73	-25.00	-32.34
89.17	-60.02	-52.74	-6.12	-1.16	-25.00	-35.02
262.80	-69.25	-65.42	-1.56	-2.27	-25.00	-44.25
481.05	-68.83	-64.48	-1.20	-3.15	-25.00	-43.83
665.35	-67.31	-62.25	-1.18	-3.88	-25.00	-42.31
908.82	-64.75	-58.55	-1.52	-4.68	-25.00	-39.75
5350.00	-51.41	-53.39	13.50	-11.52	-25.00	-26.41
5373.40	-49.69	-51.68	13.41	-11.42	-25.00	-24.69

~ End of Report ~

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