

## SUPPLEMENTAL “UP LINK CARRIER AGGREGATION” TEST REPORT

### CLASS II PC REPORT

OF

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

**Product Name:** 7c Modular Platform

**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**



Testing Laboratory  
3702

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## 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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# 1 GENERAL PRODUCT INFORMATION

## 1.1 Product Description

General:

Product Name:	Notebook Computer
Brand Name:	<i>acer</i>
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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## 1.2 Operation Frequency Range

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

## 1.3 Antenna Designation

Operating Frequency (MHz)		Antenna Type	NB Mode		Tablet Mode	
			Main Peak Gain (dBi)	Aux Peak Gain (dBi)	Main Peak Gain (dBi)	Aux Peak Gain (dBi)
LTE-Band 7	2502.5 ~ 2567.5	PIFA	3.67	3.03	-0.30	2.30
LTE-Band 38	2572.5 ~ 2617.5		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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#### 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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## 2 SYSTEM TEST CONFIGURATION

### 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 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.

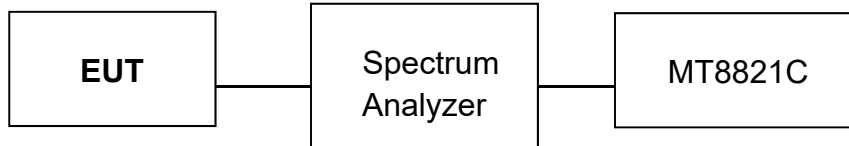
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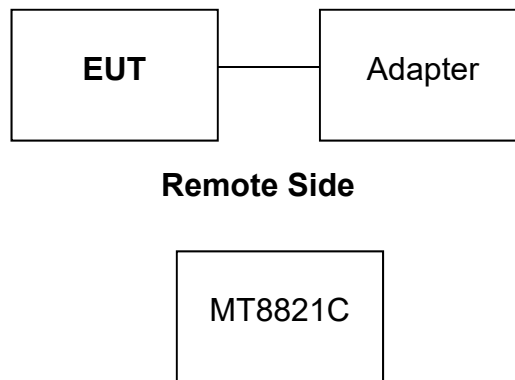
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## 2.4 Configuration of Tested System

**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**

Item	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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### 3 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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## 4 DESCRIPTION OF TEST MODES

### 4.1 The Worst-Case Test Modes and Details

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

E-UTRA Intra-Band CA configuration / Bandwidth combination set				
E-UTRA CA configuration	Component carriers in order of increasing carrier frequency		Maximum aggregated bandwidth [MHz]	Bandwidth combination set
	Channel bandwidth for carrier [MHz]	Channel bandwidth for carrier [MHz]		
CA_7C	15	15	40	0
	20	20		
	10	20	40	1
	15	15,20		
	20	10,15,20	40	2
	15	10,15		
20	15,20			
CA_38C	5,10,15,20	20		
	20	5,10,15		
CA_41C	10	20	40	0
	15	15,20		
	20	10,15,20		
	5,10	20	40	1
	15	15,20		
	20	5,10,15,20		
	10	15,20	40	2
	15	10,15,20		
	20	10,15,20		
	10	20	40	3
20	20			

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

### 4.2 The Worst-Case Test Modes and Details

- 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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#### 4.2.1 Intra-Band

For uplink Intra-Band CA, evaluation has been done for contiguous and non-contiguous channel and bandwidth, 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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## 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:

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

Measurement uncertainty (Polarization : <b>Horizontal</b> )	9kHz – 30MHz: +/- 2.87 dB
	30MHz - 167MHz: +/- 4.22dB
	167MHz -500MHz: +/- 3.44dB
	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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## 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)**

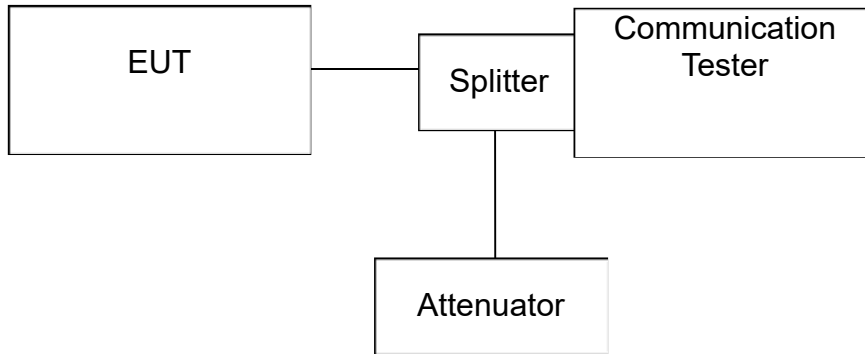
(2) Mobile and other user stations transmitting in the BRS and EBS bands are limited to 2 W EIRP.

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## 6.2 Test Set-up



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

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### 6.3 Output Power Measurement Applicable Guidance

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.

### 6.4 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  $P_T$ , typically dBW, dBm, or power spectral density (PSD)<sup>2</sup>), relative to either a dipole antenna (ERP) or an isotropic antenna (EIRP);

$P_T$  = transmitter output power, expressed in dBW, dBm, or PSD;

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

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

### 6.5 Measurement Equipment Used

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Radio Communication Analyser	Anritsu	MT8821C	6262044670	08/06/2020	08/05/2021
Radio Communication Analyser	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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## 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 than  $43 + 10 \log(P)$  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 instrumentation 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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**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	$43 + 10 \log_{10}(p)$ <sup>Note</sup>
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	$43 + 10 \log_{10}(p)$ <sup>Note</sup>
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.

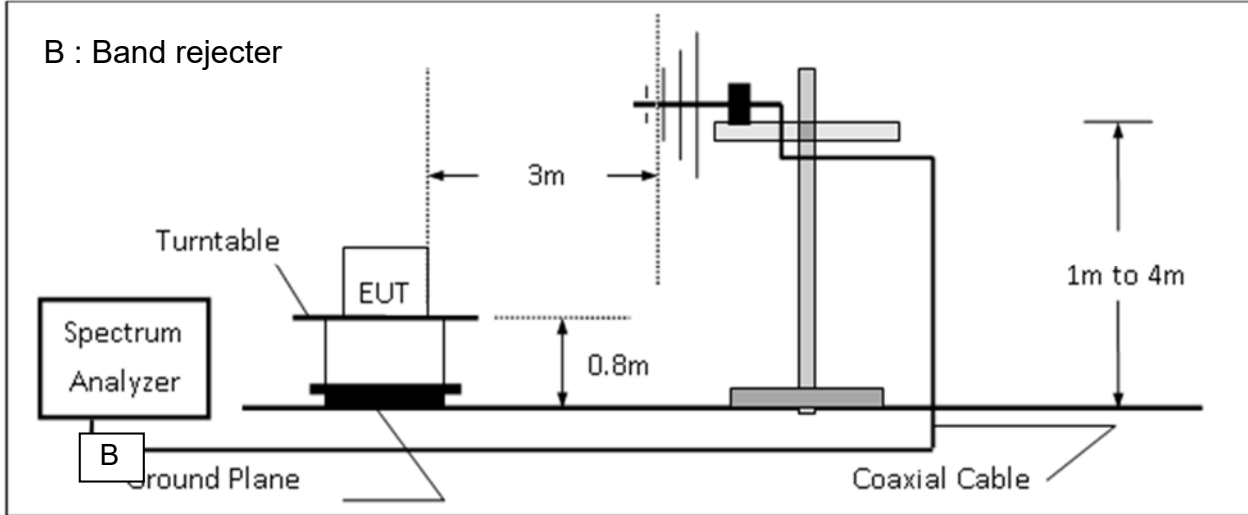
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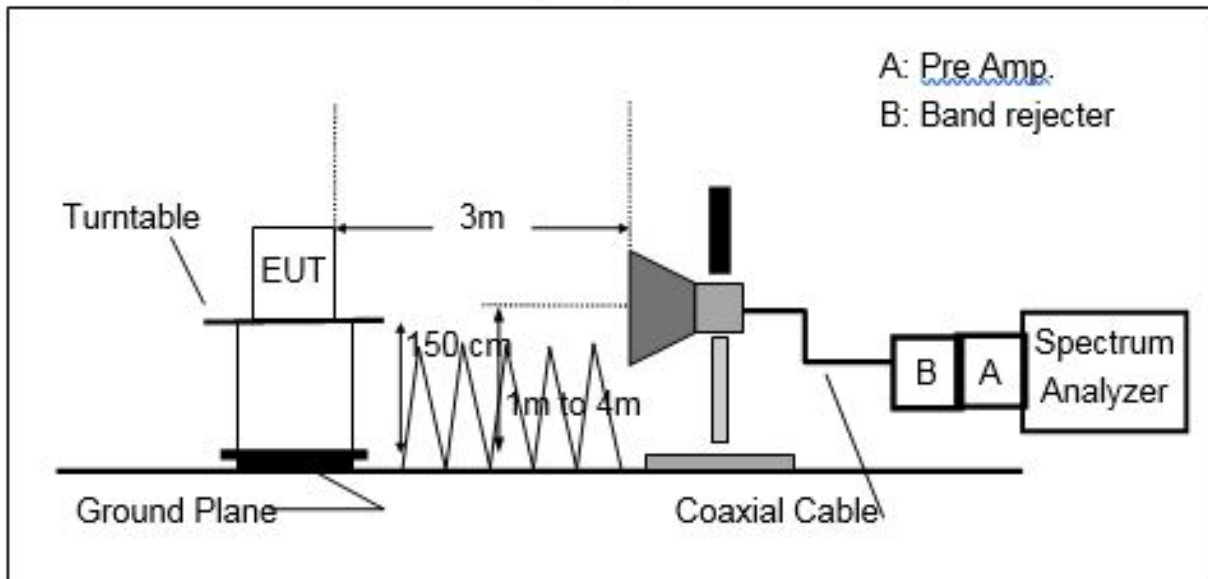
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## 7.2 EUT Setup

### Radiated Emission Test Set-Up, Frequency Below 1000MHz



### Radiated Emission Test Set-UP Frequency Over 1 GHz



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### 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.

$$ERP \text{ (dBm)} = \text{SG Level(dBm)} + \text{Antenna Gain(dBd)} + \text{Cable Loss(dB)}$$

$$EIRP \text{ (dBm)} = \text{SG Level(dBm)} + \text{Antenna Gain(dBi)} + \text{Cable Loss(dB)}$$

### 7.4 Measurement Equipment Used:

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 Communication Analyser	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

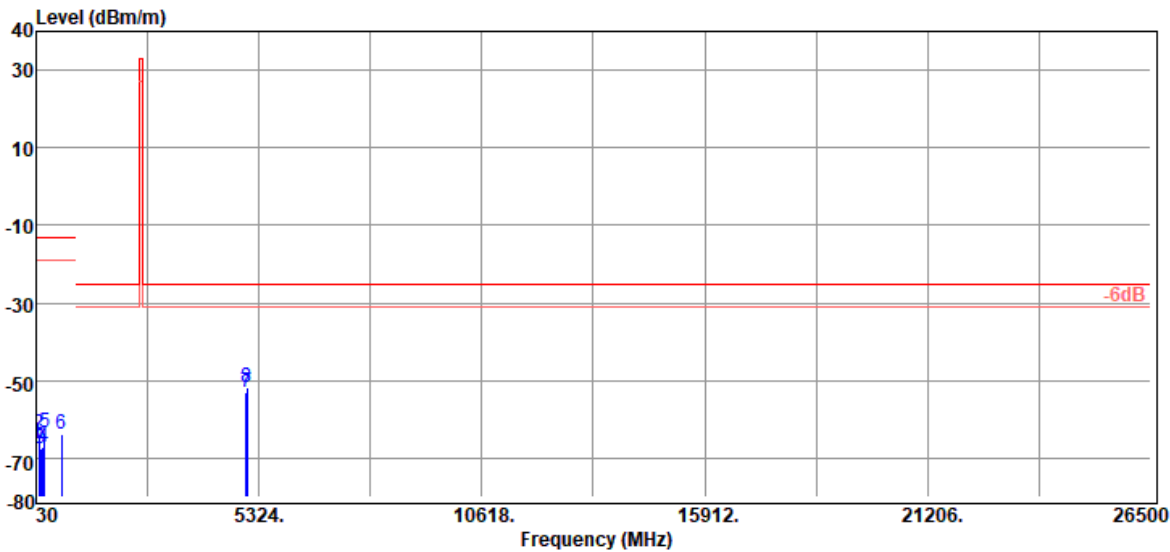
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### 7.5 Measurement Result: Radiated Spurious Emission Measurement Result: LTE Band 7C Mode

Report Number	:E2/2020/B0015	Test Site	:966 Chamber C
Operation Mode	:LTE B7C	Test Date	:2020-12-11
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. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin 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

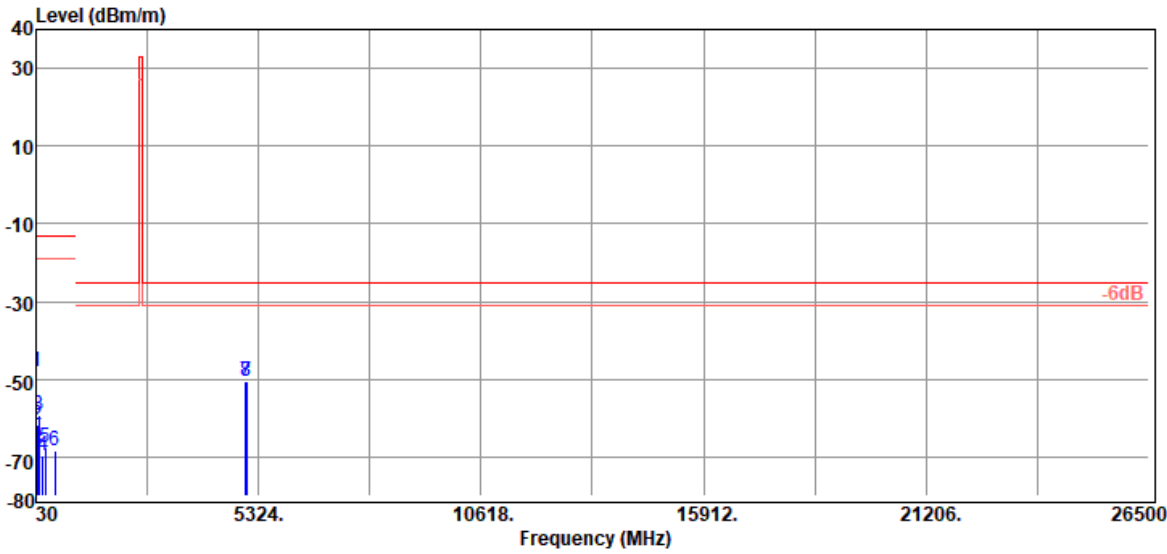
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Report Number :E2/2020/B0015  
 Operation Mode :LTE B7C  
 Test Mode :TX CH LOW  
 EUT Pol :E1 Plan  
 Test Frequency :2507.5 + 2522.5 MHz

Test Site :966 Chamber C  
 Test Date :2020-12-11  
 Temp./Humi. :22.9/64  
 Antenna Pol. :HORIZONTAL  
 Engineer :Enzo Chang



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin 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

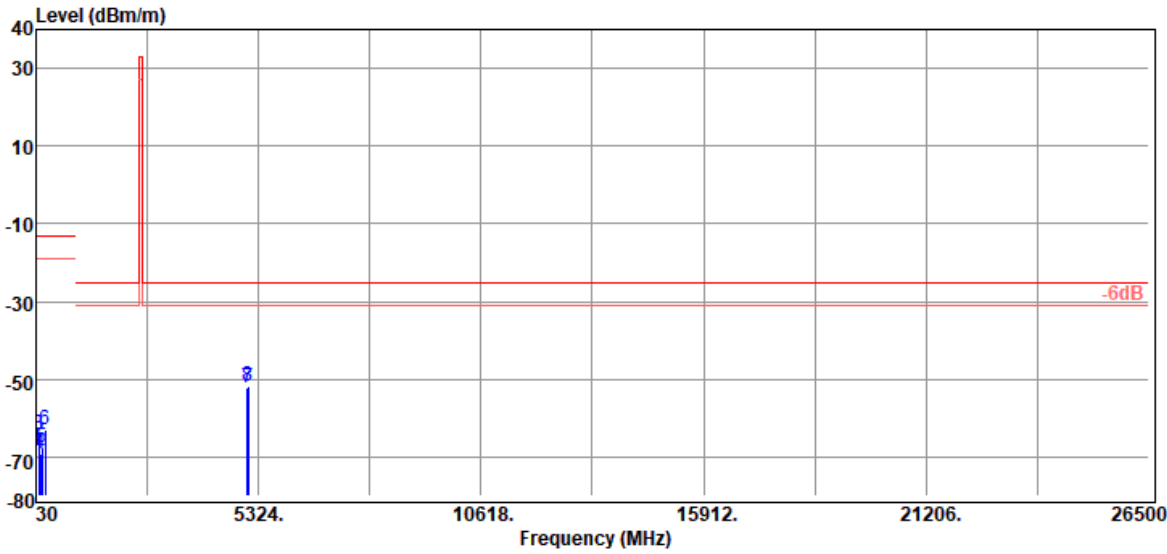
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Report Number :E2/2020/B0015  
 Operation Mode :LTE B7C  
 Test Mode :TX CH MID  
 EUT Pol :E1 Plan  
 Test Frequency :2527.5 + 2542.5 MHz

Test Site :966 Chamber C  
 Test Date :2020-12-11  
 Temp./Humi. :22.9/64  
 Antenna Pol. :VERTICAL  
 Engineer :Enzo Chang



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin 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

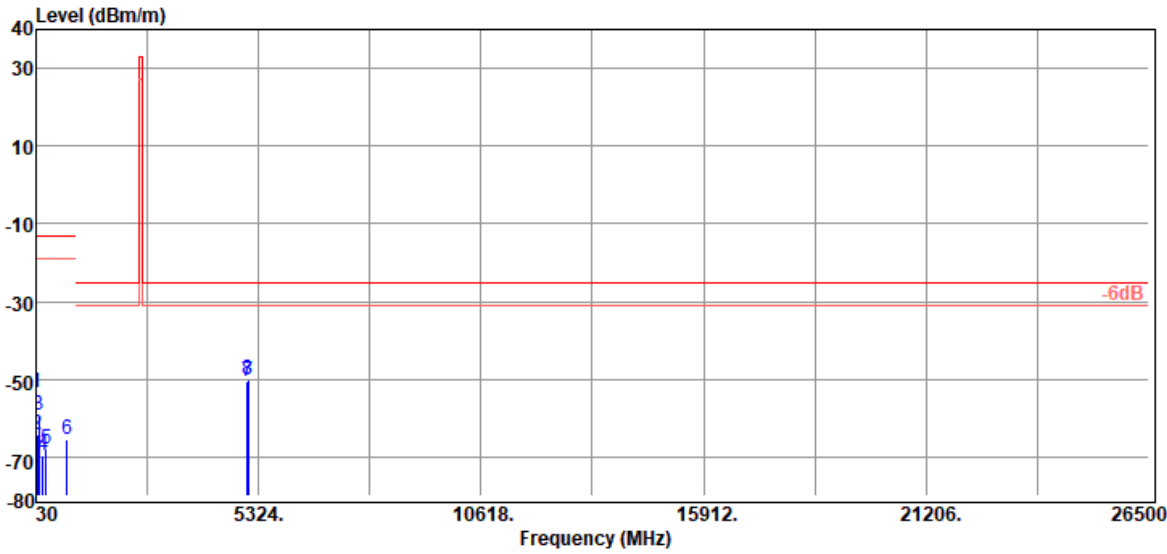
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 Test Mode :TX CH MID  
 EUT Pol :E1 Plan  
 Test Frequency :2527.5 + 2542.5 MHz

Test Site :966 Chamber C  
 Test Date :2020-12-11  
 Temp./Humi. :22.9/64  
 Antenna Pol. :HORIZONTAL  
 Engineer :Enzo Chang



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin 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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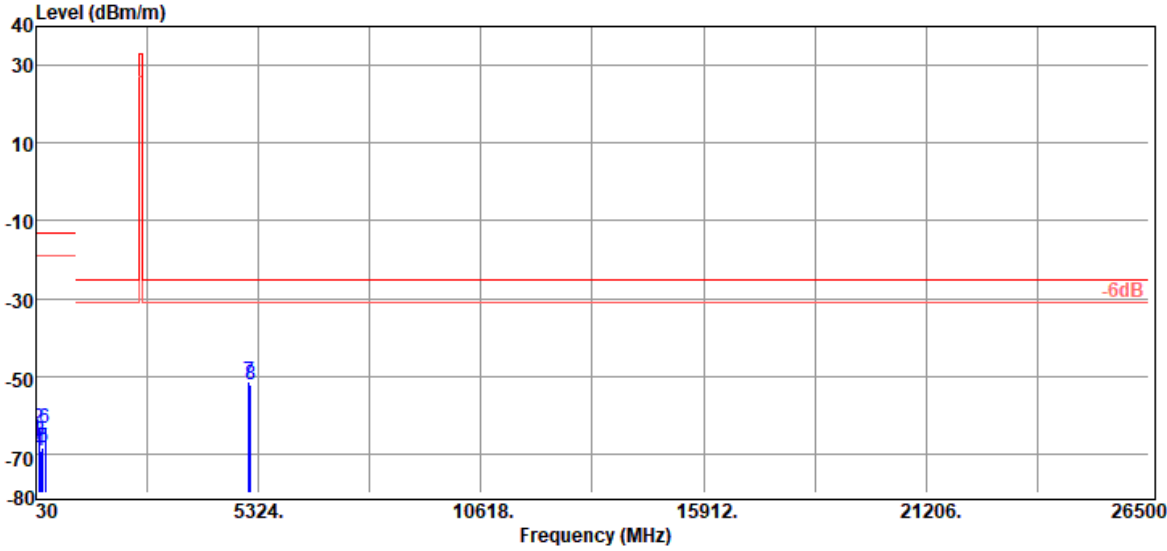
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Report Number :E2/2020/B0015  
 Operation Mode :LTE B7C  
 Test Mode :TX CH HIGH  
 EUT Pol :E1 Plan  
 Test Frequency :2547.5 + 2562.5 MHz

Test Site :966 Chamber C  
 Test Date :2020-12-11  
 Temp./Humi. :22.9/64  
 Antenna Pol. :VERTICAL  
 Engineer :Enzo Chang



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin 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

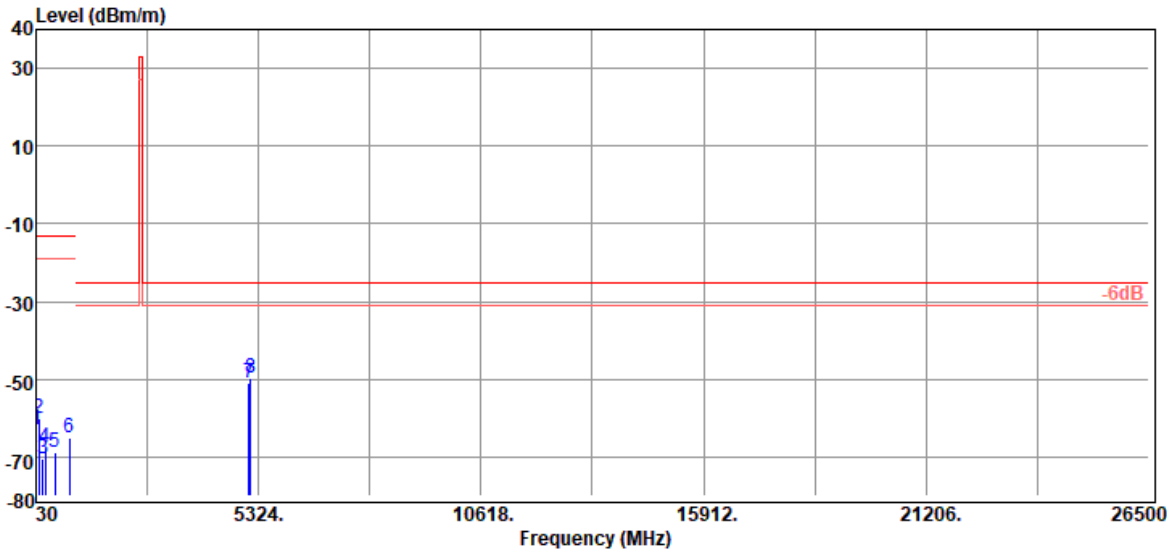
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Report Number :E2/2020/B0015  
 Operation Mode :LTE B7C  
 Test Mode :TX CH HIGH  
 EUT Pol :E1 Plan  
 Test Frequency :2547.5 + 2562.5 MHz

Test Site :966 Chamber C  
 Test Date :2020-12-11  
 Temp./Humi. :22.9/64  
 Antenna Pol. :HORIZONTAL  
 Engineer :Enzo Chang



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin 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

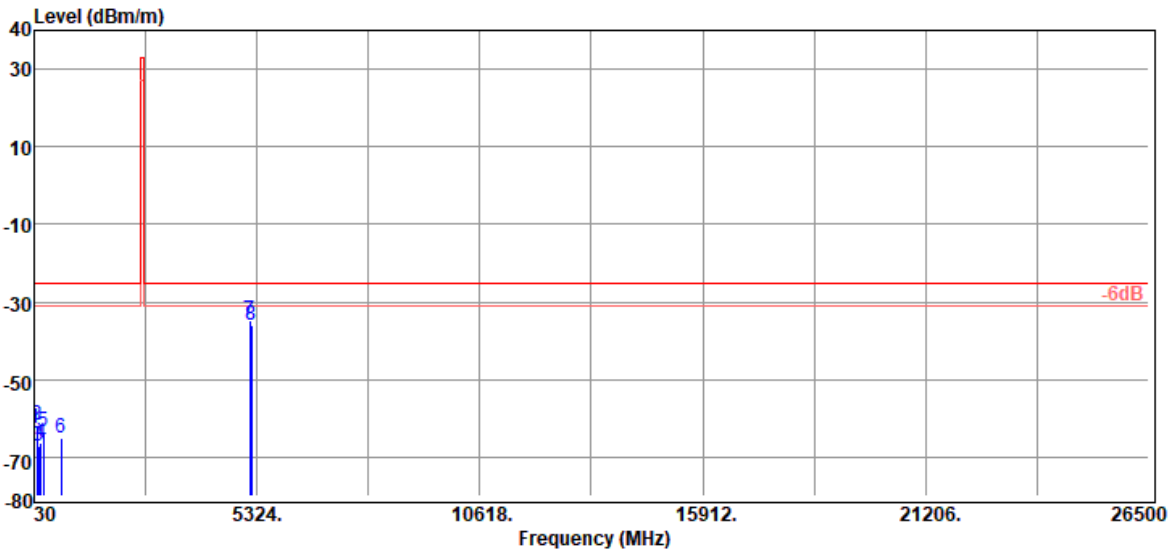
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**Radiated Spurious Emission Measurement Result: LTE Band 38C Mode**

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
Test Frequency	:2580 + 2599.8 MHz	Engineer	:Enzo Chang



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
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

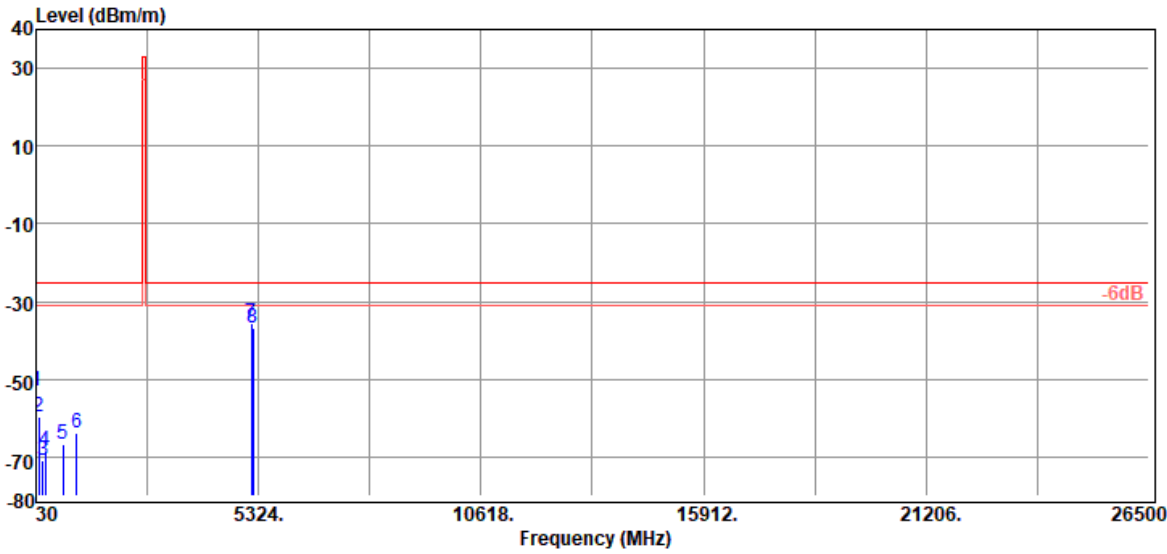
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Report Number :E2/2020/B0015  
 Operation Mode :LTE B38C  
 Test Mode :TX CH LOW  
 EUT Pol :E1 Plan  
 Test Frequency :2580 + 2599.8 MHz

Test Site :966 Chamber C  
 Test Date :2020-12-10  
 Temp./Humi. :23.3/59  
 Antenna Pol. :HORIZONTAL  
 Engineer :Enzo Chang



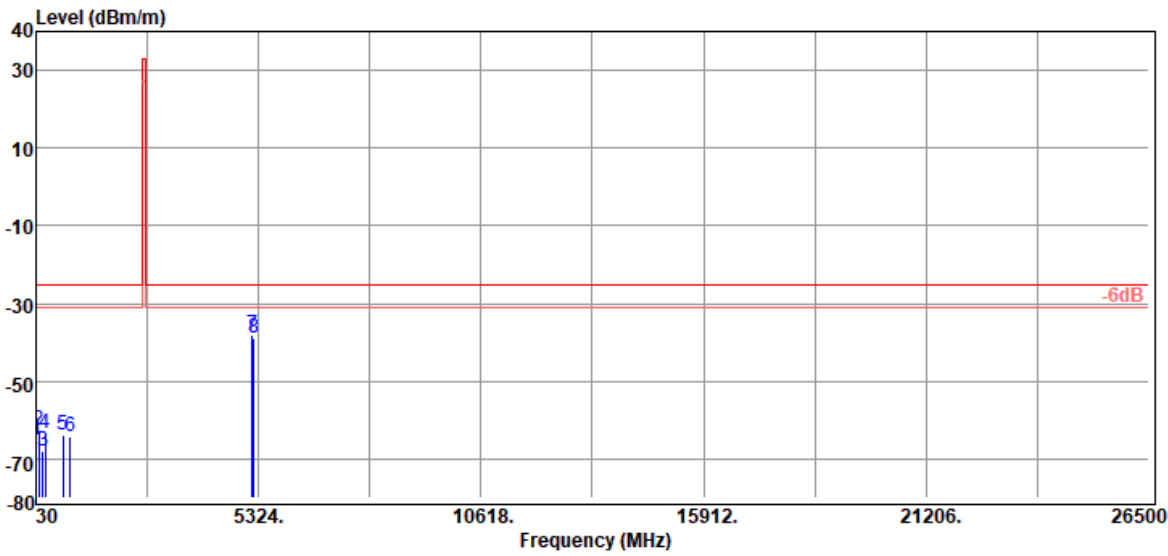
Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
30.00	-52.93	-31.42	-20.90	-0.61	-25.00	-27.93
89.17	-59.65	-52.37	-6.12	-1.16	-25.00	-34.65
183.26	-70.92	-65.29	-3.85	-1.78	-25.00	-45.92
256.98	-68.58	-64.80	-1.52	-2.26	-25.00	-43.58
674.08	-66.79	-61.59	-1.24	-3.96	-25.00	-41.79
991.27	-63.91	-57.46	-1.52	-4.93	-25.00	-38.91
5160.00	-35.71	-36.38	12.54	-11.87	-25.00	-10.71
5199.60	-36.79	-37.49	12.70	-12.00	-25.00	-11.79

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Report Number	:E2/2020/B0015	Test Site	:966 Chamber C
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. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin 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

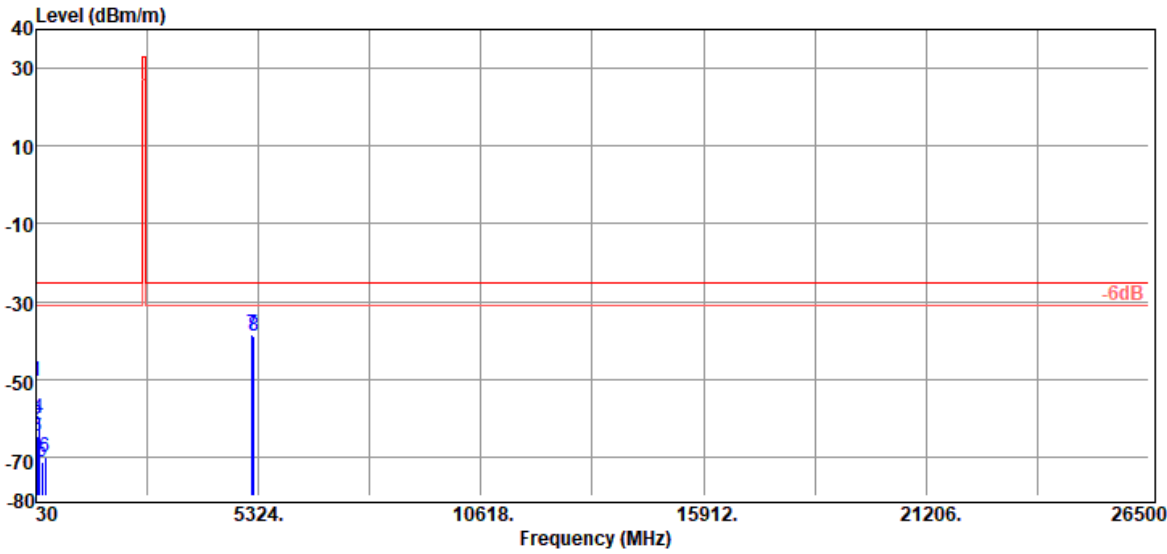
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Report Number :E2/2020/B0015  
 Operation Mode :LTE B38C  
 Test Mode :TX CH MID  
 EUT Pol :E1 Plan  
 Test Frequency :2585.1 + 2604.9 MHz

Test Site :966 Chamber C  
 Test Date :2020-12-10  
 Temp./Humi. :23.3/59  
 Antenna Pol. :HORIZONTAL  
 Engineer :Enzo Chang



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin 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

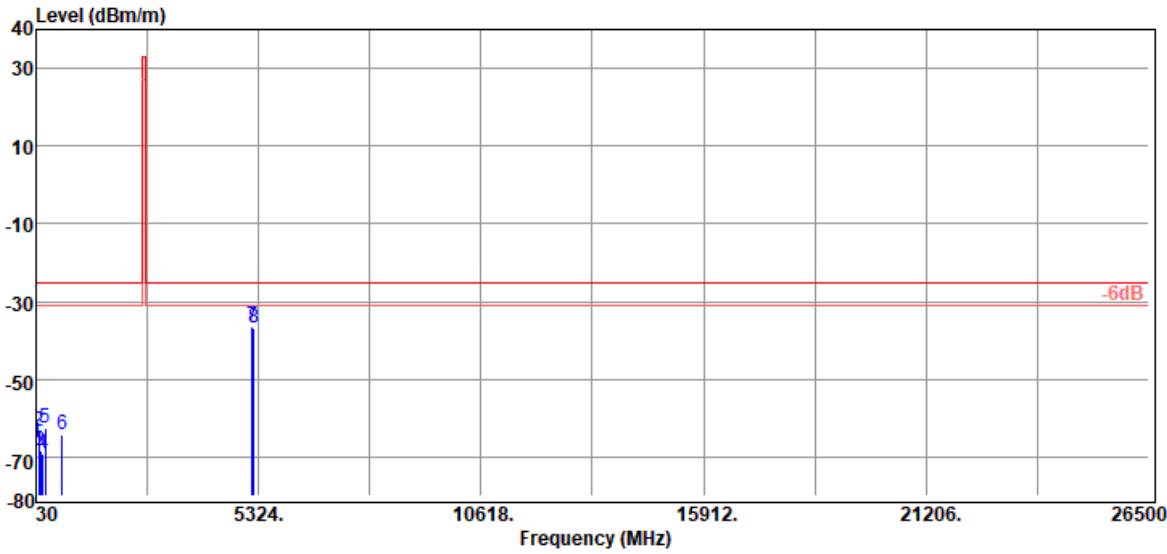
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Report Number :E2/2020/B0015  
 Operation Mode :LTE B38C  
 Test Mode :TX CH HIGH  
 EUT Pol :E1 Plan  
 Test Frequency :2590.2 + 2610 MHz

Test Site :966 Chamber C  
 Test Date :2020-12-10  
 Temp./Humi. :23.3/59  
 Antenna Pol. :VERTICAL  
 Engineer :Enzo Chang



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin 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

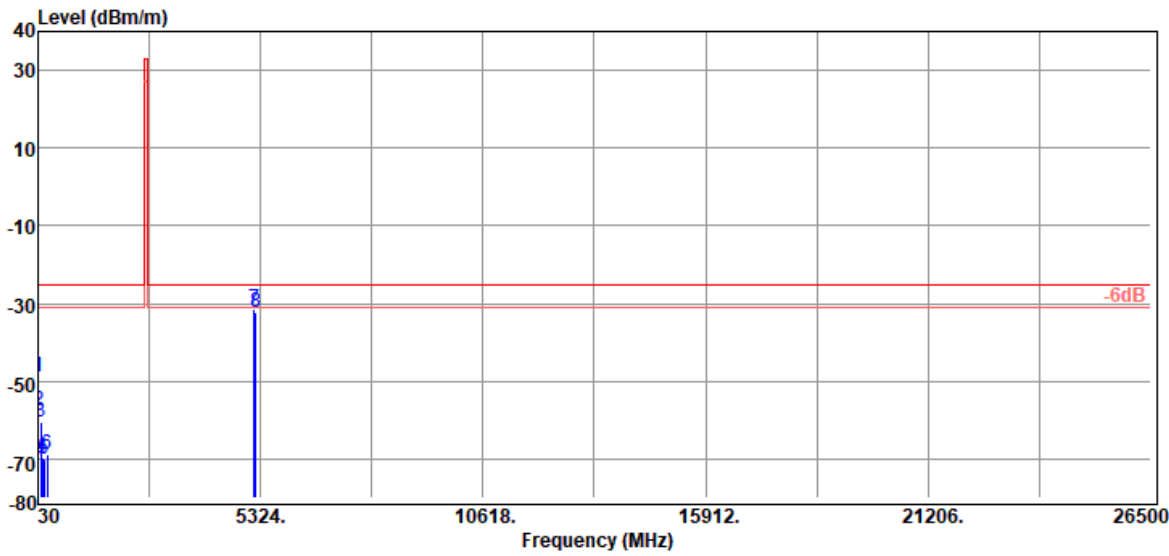
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Report Number :E2/2020/B0015  
 Operation Mode :LTE B38C  
 Test Mode :TX CH HIGH  
 EUT Pol :E1 Plan  
 Test Frequency :2590.2 + 2610 MHz

Test Site :966 Chamber C  
 Test Date :2020-12-10  
 Temp./Humi. :23.3/59  
 Antenna Pol. :HORIZONTAL  
 Engineer :Enzo Chang



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
30.00	-48.79	-27.28	-20.90	-0.61	-25.00	-23.79
40.67	-57.52	-37.64	-19.02	-0.86	-25.00	-32.52
91.11	-60.43	-53.40	-5.85	-1.18	-25.00	-35.43
133.79	-69.61	-60.56	-7.39	-1.66	-25.00	-44.61
180.35	-70.19	-64.10	-4.35	-1.74	-25.00	-45.19
252.13	-68.91	-65.12	-1.55	-2.24	-25.00	-43.91
5180.40	-31.44	-32.12	12.62	-11.94	-25.00	-6.44
5220.00	-32.38	-33.29	12.86	-11.95	-25.00	-7.38

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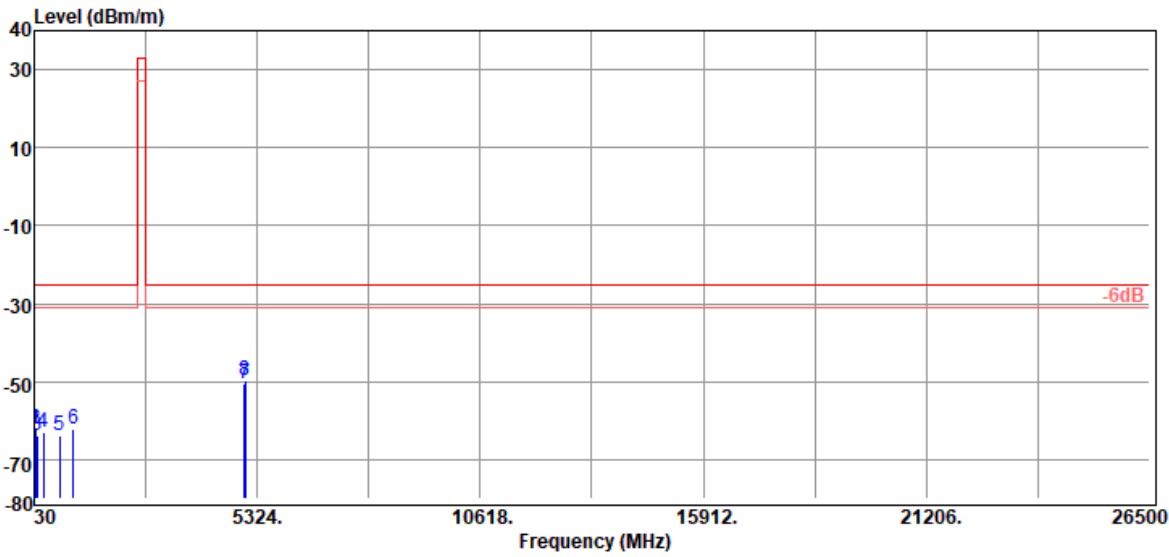
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**Radiated Spurious Emission Measurement Result: LTE Band 41C Mode**

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. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin 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

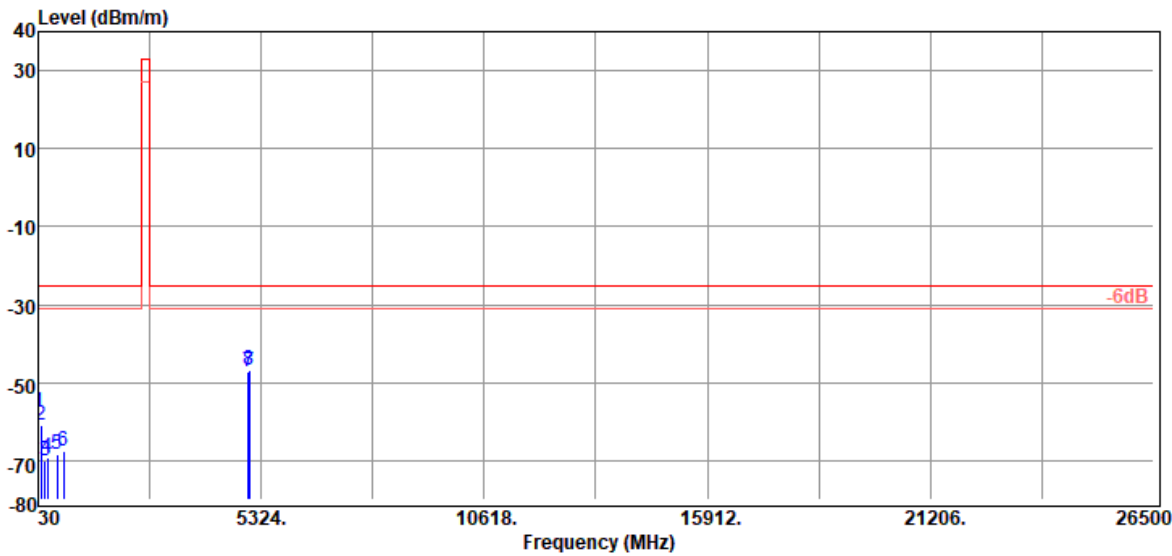
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Report Number :E2/2020/B0015  
 Operation Mode :LTE B41C  
 Test Mode :TX CH LOW  
 EUT Pol :E1 Plan  
 Test Frequency :2506 + 2517.7 MHz

Test Site :966 Chamber C  
 Test Date :2020-12-10  
 Temp./Humi. :23.3/59  
 Antenna Pol. :HORIZONTAL  
 Engineer :Enzo Chang



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin 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

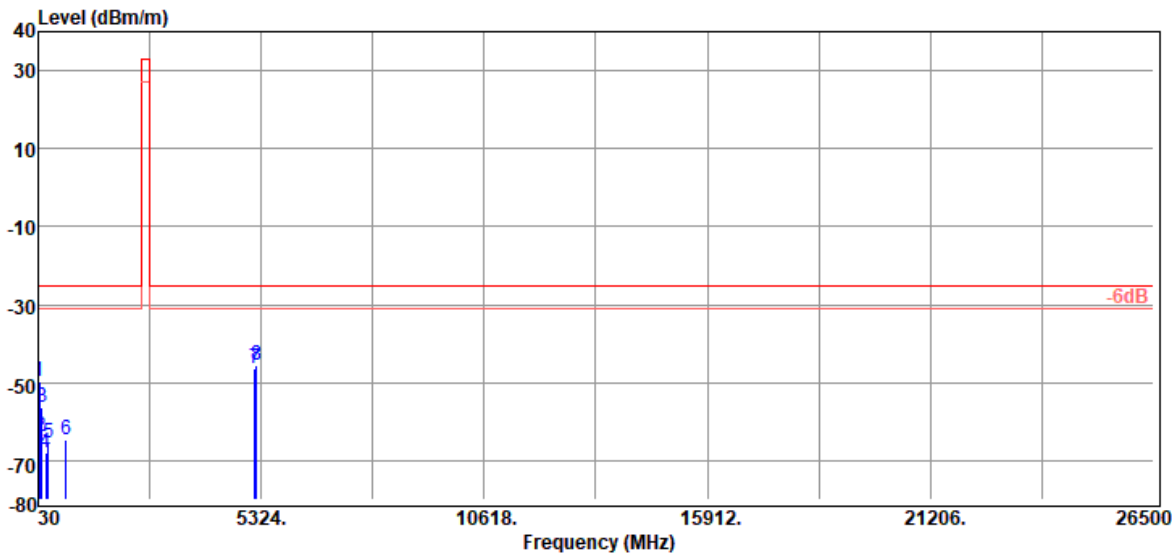
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Report Number :E2/2020/B0015  
 Operation Mode :LTE B41C  
 Test Mode :TX CH MID  
 EUT Pol :E1 Plan  
 Test Frequency :2590.5 + 2602.2 MHz

Test Site :966 Chamber C  
 Test Date :2020-12-10  
 Temp./Humi. :23.3/59  
 Antenna Pol. :VERTICAL  
 Engineer :Enzo Chang



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
50.37	-49.88	-31.51	-17.50	-0.87	-25.00	-24.88
97.90	-63.80	-56.50	-6.01	-1.29	-25.00	-38.80
111.48	-56.36	-47.82	-7.09	-1.45	-25.00	-31.36
217.21	-67.93	-64.42	-1.35	-2.16	-25.00	-42.93
262.80	-65.26	-61.43	-1.56	-2.27	-25.00	-40.26
686.69	-64.53	-58.94	-1.41	-4.18	-25.00	-39.53
5181.00	-46.52	-47.20	12.62	-11.94	-25.00	-21.52
5204.40	-45.59	-46.34	12.74	-11.99	-25.00	-20.59

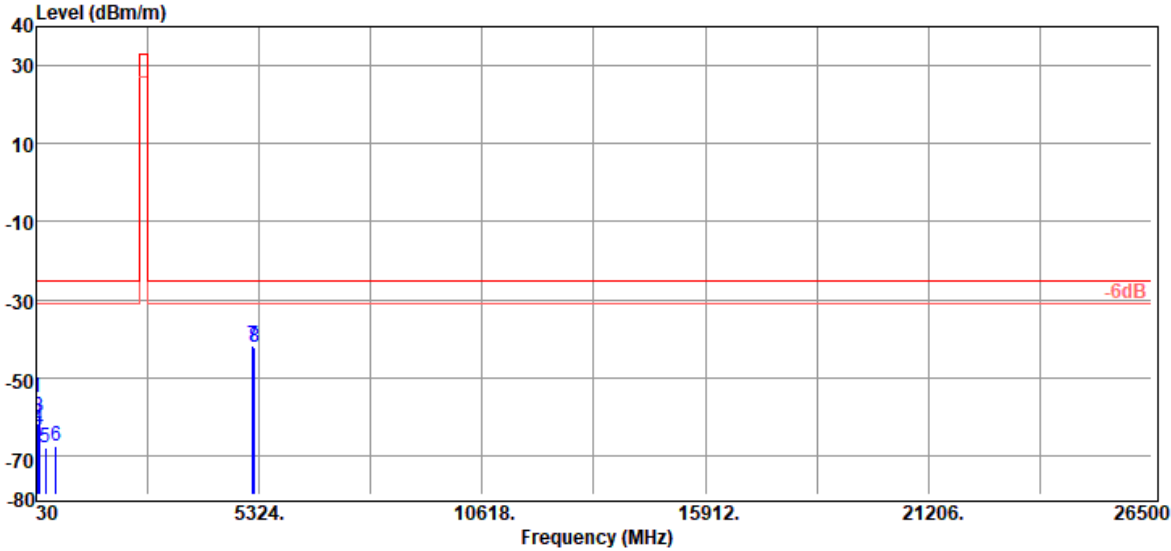
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Report Number :E2/2020/B0015  
 Operation Mode :LTE B41C  
 Test Mode :TX CH MID  
 EUT Pol :E1 Plan  
 Test Frequency :2590.5 + 2602.2 MHz

Test Site :966 Chamber C  
 Test Date :2020-12-10  
 Temp./Humi. :23.3/59  
 Antenna Pol. :HORIZONTAL  
 Engineer :Enzo Chang



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin 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

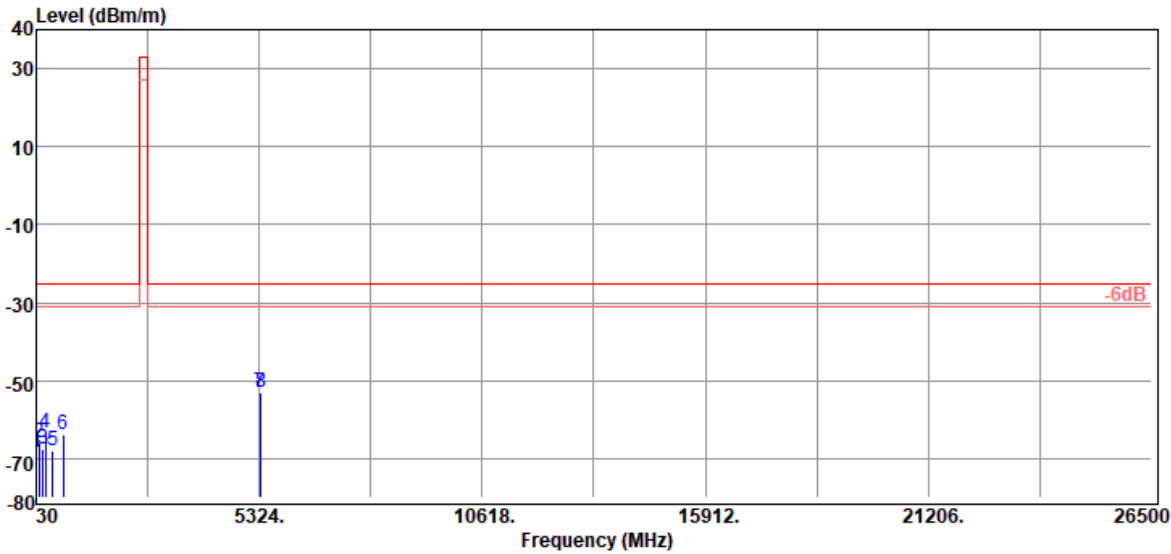
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Report Number :E2/2020/B0015  
 Operation Mode :LTE B41C  
 Test Mode :TX CH HIGH  
 EUT Pol :E1 Plan  
 Test Frequency :2675 + 2686.7 MHz

Test Site :966 Chamber C  
 Test Date :2020-12-10  
 Temp./Humi. :23.3/59  
 Antenna Pol. :VERTICAL  
 Engineer :Enzo Chang



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin 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

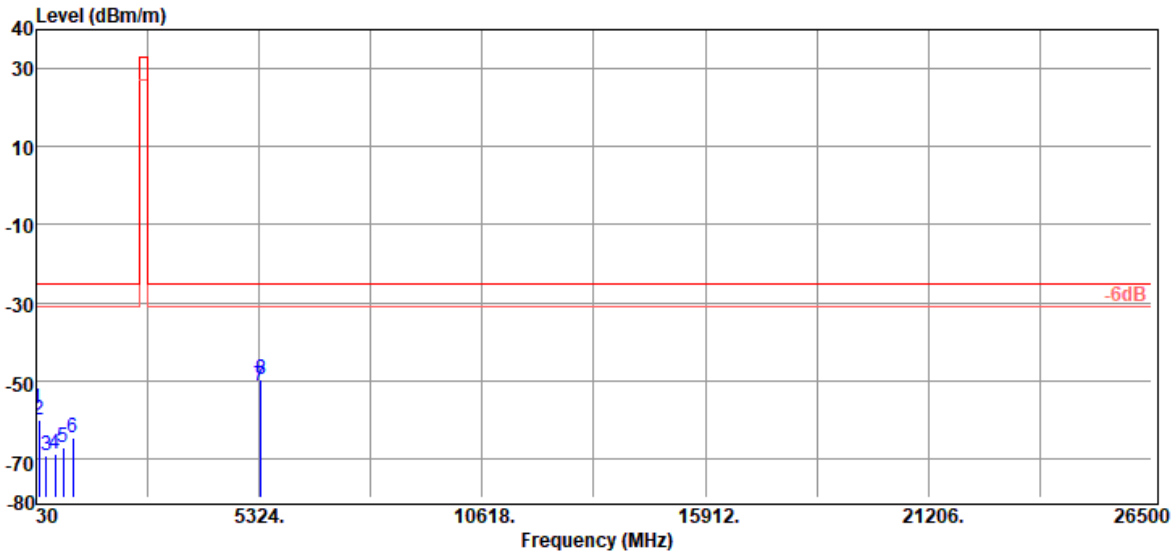
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Report Number :E2/2020/B0015  
 Operation Mode :LTE B41C  
 Test Mode :TX CH HIGH  
 EUT Pol :E1 Plan  
 Test Frequency :2675 + 2686.7 MHz

Test Site :966 Chamber C  
 Test Date :2020-12-10  
 Temp./Humi. :23.3/59  
 Antenna Pol. :HORIZONTAL  
 Engineer :Enzo Chang



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin 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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