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ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

HP Inc. Applicant:

1501 Page Mill Road, Palo Alto CA 94304 USA

Product Name: Notebook Computer

HP **Brand Name:**

Model No.: HSN-I41C-4

Model Difference: N/A

Report Number: ER/2020/80160 **FCC ID** B94HNI41C4TKR

FCC Rule Part: 2, 22H & 24E & 27C & 90S

Issue Date: Oct. 28, 2020

Date of Test: Aug. 31, 2020 ~ Sep. 21, 2020

Date of EUT Received: Aug. 31, 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:

Jim Chang / Manager





3702

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	Remark					
ER/2020/80160	Rev.00	Original.	Oct. 28, 2020	Revised By: Violetta Tang					

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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SCS Triven Litt. **No.4.24 **No.4



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GENERAL PRODUCT INFORMATION

Product Description

General:

	1				
Product Name:	Notebook	Notebook Computer			
Brand Name:	HP				
Model No.:	HSN-I41C	-4			
Model Difference:	N/A				
Hardware Version:	N/A	N/A			
Software Version:	N/A				
WWAN Module:	Model No.	: T99W175, Supplier: HON LIN Technology Co., Ltd.			
		from Rechargeable Li-ion Battery om AC/DC Adapter			
Power Supply:	Battery:	Model No.: HSTNN-LB8Q, Supplier: HP			
	Adapter: Model No.: TPN-DA16, Supplier: DELTA				
IMEI:	WNC: 356	081110011236 / HB: 356081110009362			

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1.2 **Operation Frequency Range**

Operating Frequency (MHz)							
WCDMA / HSPA+ Band II	1852.4 - 1907.6						
WCDMA / HSPA+ Band IV	1712.4 - 1752.6						
WCDMA / HSPA+ Band V	826.4 - 846.6						

	LTE Band	2			LTE Band	1 4	
BW (MHz)	Operation Fi	equ	iency (MHz)	BW (MHz)	Operation F	requ	iency (MHz)
1.4	1850.7	-	1909.3	1.4	1710.7	-	1754.3
3	1851.5	-	1908.5	3	1711.5	-	1753.5
5	1852.5	-	1907.5	5	1712.5	-	1752.5
10	1855.0	-	1905.0	10	1715.0	-	1750.0
15	1857.5	-	1902.5	15	1717.5	-	1747.5
20	1860.0	-	1900.0	20	1720.0	-	1745.0
	LTE Band	5			LTE Band	17	
BW (MHz)	Operation Fi	equ	iency (MHz)	BW (MHz)	Operation F	requ	uency (MHz)
1.4	824.7	-	848.3	5	2502.5	-	2567.5
3	825.5	-	847.5	10	2505.0	-	2565.0
5	826.5	-	846.5	15	2507.5	-	2562.5
10	829.0	-	844.0	20	2510.0	-	2560.0
	LTE Band	12					
BW (MHz)	Operation Fi	equ	iency (MHz)				
1.4	699.7	-	715.3		LTE Band	13	
3	700.5	-	714.5	BW (MHz)	Operation F	requ	uency (MHz)
5	701.5	-	713.5	5	779.5	-	784.5
10	704.0	-	711.0	10		782.)
LTE Band 14					LTE Band	17	
BW (MHz) Operation Frequency (MHz)				BW (MHz)	Operation F	requ	iency (MHz)
5	790.5	-	795.5	5	706.5	-	713.5
10	7	93.0)	10	709.0	-	711.0

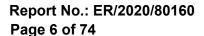
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	LTE Band	25]			
BW (MHz)	Operation F	requ	iency (MHz)		LTE Band	26	
1.4	1850.7	-	1914.3	BW (MHz)	Operation F	requ	uency (MHz)
3	1851.5	-	1913.5	1.4	824.7	-	848.3
5	1852.5	-	1912.5	3	825.5	-	847.5
10	1855.0	-	1910.0	5	826.5	-	846.5
15	1857.5	-	1907.5	10	829.0	-	844.0
20	1860.0	-	1905.0	15	831.5	-	841.5
	LTE Band 26 F	Part	90				
BW (MHz)	Operation F	requ	iency (MHz)				
1.4	814.7	-	823.3		LTE Band	30	
3	815.5	-	822.5	BW (MHz)	Operation F	requ	uency (MHz)
5	816.5	-	821.5	5	2307.5	-	2312.5
10	}	319.()	10	2	2310.	.0
	LTE Band	38			LTE Band	41	•
BW (MHz)	Operation F	iency (MHz)	BW (MHz)	Operation F	requ	uency (MHz)	
5	2572.5	-	2617.5	5	2498.5	-	2687.5
10	2575.0	-	2615.0	10	2501.0	-	2685.0
15	2577.5	-	2612.5	15	2503.5	-	2682.5
20	2580.0	-	2610.0	20	2506.0	-	2680.0

LTE Band 66									
BW (MHz)	Operation F	requ	uency (MHz)						
1.4	1710.7	-	1779.3						
3	1711.5	-	1778.5						
5	1712.5	-	1777.5						
10	1715.0	-	1775.0						
15	1717.5	-	1772.5						
20	1720.0	-	1770.0						

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1.3 **Antenna Designation**

Vendor	Туре	TX1 / TX2	Antenna	Modulation	, ,	Frequency	
	, , ,		Part No.		(MHz)		Gain (dBi)
				WCDMA / HSPA Band II	1850 ~	1910	0.64
				WCDMA / HSPA Band IV	1710 ~	1755	0.07
				WCDMA / HSPA Band V	824 ~	849	-2.2
				LTE Band 2 or 5G NR n2	1850 ~	1910	0.64
				LTE Band 4	1710 ~	1755	0.07
				LTE Band 5 or 5G NR n5	824 ~	849	-2.2
		TX1	6036B0257001 (AUP6Y-100031)	LTE Band 7	2500 ~ 2	2570	2.1
				LTE Band 12 or 5G NR n12	699 ~	716	-0.8
AWAN	PIFA			LTE Band 13	777 ~	787	-1.33
AVVAIV	PIFA			LTE Band 14	788 ~	798	-1.5
				LTE Band 17	704 ~	716	-0.8
				LTE Band 25	1850 ~	1915	0.64
				LTE Band 26	824 ~	849	-2.2
				LTE Band 26 Part 90S	814 ~	824	-2.71
				LTE Band 30	2305 ~ :	2315	2.15
				LTE Band 38	2570 ~ :	2620	-3.82
				LTE Band 41 (HPUE)	2496 ~ :	2690	-1.05
				LTE Band 66 or 5G NR n66	1710 ~	1780	0.07

Vendor	Туре	TX1 / TX2	Antenna Part No.	Modulation	Frequency (MHz)	Peak Antenna Gain (dBi)
				WCDMA / HSPA Band II	1850 ~ 19	0.68
				WCDMA / HSPA Band IV	1710 ~ 1	755 -1.29
				WCDMA / HSPA Band V	824 ~ 8	49 -0.4
				LTE Band 2 or 5G NR n2	1850 ~ 19	0.68
				LTE Band 4	1710 ~ 1	755 -1.29
				LTE Band 5 or 5G NR n5	824 ~ 8	49 -0.4
				LTE Band 7	2500 ~ 2	570 1.54
				LTE Band 12 or 5G NR n12	699 ~ 7	16 -2.28
HONG-BO	PIFA	TX1	6036B0257501 (260-27371)	LTE Band 13	777 ~ 7	87 0.07
HONG-BO	FILA		0030B0237301 (200-27371)	LTE Band 14	788 ~ 7	98 0.06
				LTE Band 17	704 ~ 7	16 -2.28
				LTE Band 25	1850 ~ 19	0.68
				LTE Band 26	824 ~ 8	49 -0.4
				LTE Band 26 Part 90S	814 ~ 8	24 -0.4
				LTE Band 30	2305 ~ 23	-0.39
				LTE Band 38	2570 ~ 20	520 1.54
				LTE Band 41 (HPUE)	2496 ~ 20	590 1.54
				LTE Band 66 or 5G NR n66	1710 ~ 1	/80 -1.29

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Vendor	Туре	TX1 / TX2	Antenna Part No.	Modulation	Freque (MF	,	Peak Antenna Gain (dBi)
				WCDMA / HSPA Band II	1850 ~	1910	0.94
				WCDMA / HSPA Band IV	1710 ~	1755	0.26
				WCDMA / HSPA Band V	824 ~	849	-0.22
				LTE Band 2 or 5G NR n2	1850 ~	1910	0.94
				LTE Band 4	1710 ~	1755	0.26
				LTE Band 5 or 5G NR n5	824 ~	849	-0.22
				LTE Band 7	2500 ~	2570	0.29
				LTE Band 12 or 5G NR n12	699 ~	716	-3.14
WNC	PIFA	TX1	6036B0255101 (81EABB15.G41)	LTE Band 13	777 ~	787	-0.02
				LTE Band 14	788 ~	798	3.18
				LTE Band 17	704 ~	716	-3.14
				LTE Band 25	1850 ~	1915	0.94
				LTE Band 26	824 ~	849	-0.22
				LTE Band 26 Part 90S	814 ~	824	-0.18
				LTE Band 30	2305 ~	2315	1.68
				LTE Band 38	2570 ~	2620	-0.41
				LTE Band 41 (HPUE)	2496 ~	2690	0.29
				LTE Band 66 or 5G NR n66	1710 ~	1780	0.26

	Vendor	Туре	TX1 / TX2	Antenna Part No.	Modulation	Frequency (MHz)	Peak Antenna Gain (dBi)
				6036B0281201 (AUP6Y-100073)	WCDMA / HSPA Band II	1850 ~ 1910	-0.33
	AWAN	PIFA	TX2		LTE Band 2 or 5G NR n2	1850 ~ 1910	-0.33
	AWAN PIFA	FILA TAZ	0030B0201201 (A0F01-100073)	LTE Band 7 or 5G NR n7	2500 ~ 2570	0.75	
					LTE Band 66 or 5G NR n66	1710 ~ 1780	-3.85

Vendor	Туре	TX1 / TX2	Antenna Part No.	Modulation	Frequency (MHz)	Peak Antenna Gain (dBi)
		PIFA TX2	(2 6036B0278401 (260-27440)	WCDMA / HSPA Band II	1850 ~ 1910	0.44
HONG-BO	PIFA			LTE Band 2 or 5G NR n2	1850 ~ 1910	0.44
HUNG-BU PIFA	TITA TAZ	.2 003000270401 (200-27440)	LTE Band 7 or 5G NR n7	2500 ~ 2570	-5.06	
				LTE Band 66 or 5G NR n66	1710 ~ 1780	0.07

Vendor	Туре	TX1 / TX2	Antenna Part No.	Modulation	Frequency (MHz)	Peak Antenna Gain (dBi)
			WCDMA / HSPA Band II	1850 ~ 1910	-1.21	
WNC	DIEV	PIFA TX2	6036B0277601 (81EABD15.G07)	LTE Band 2 or 5G NR n2	1850 ~ 1910	-1.21
WINC	FILA			LTE Band 7 or 5G NR n7	2500 ~ 2570	-3.39
				LTE Band 66 or 5G NR n66	1710 ~ 1780	-0.14

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Test Methodology of Applied Standards

FCC 47 CFR Part 2, 22H, 24E, 27C, Part 90

ANSI C63.26-2015

KDB971168 D01 Power Meas license Digital System v03r01

KDB941225 D01 SAR test for 3G devices v03r01 (SAR Measurement Procedures for 3G Devices, WCDMA / HSPA) was used for EUT and Base station setting.

KDB412172 D01 Determining ERP and EIRP v01r01

1.5 **Test Facility**

SGS Taiwan Ltd. Central RF Lab (TAF code 3702)

No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803 FCC Designation number: TW0027

1.6 Special Accessories

No special accessories were used during testing.

Equipment Modifications

There was no modifications incorporated into the EUT.

Radiated Emission Test Sites For Measurements From 9 kHz To 30 MHz 1.8

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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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 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 according to the requirements in Section 8 and 13.

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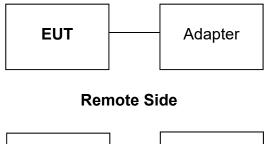
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2.4 Configuration of Tested System

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



MT8820C M1

MT8821C

Table 2-1 Equipment Used in

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1.	Radio Communication Analyzer	Anritsu	MT8820C	6201465317	shielded	Un-shielded
2.	Radio Communication Analyzer	Anritsu	MT8821C	6261786084	shielded	Un-shielded

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SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§2.1053		
§22.917(a)		
§24.238(a)		
§27.53(a)	Field Strength	
§27.53(c)(f)	of	Compliant
§27.53(g)	Spurious Radiation	
§27.53(h)	-	
§27.53(m)(4)		
§90.691(a)(1)(2)		

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DESCRIPTION OF TEST MODES

The Worst Test Modes and Channel Details

- 1. The EUT has been tested under operating condition.
- 2. The field strength of radiation emission was measured as NB Plane for Transmitter for channel Low, Mid and High.

4.2 **Measurement Configuration**

WCDMA

ITEM	Band	CH Low	CH Mid	CH High	Antenna
Radiated Emission	2	9262	9400	9538	WNC

LTE Band	Test Channel	Channel Bandwidth (MHz) Modulation		Resource Bl	Antenna	
		(1011 12)		RBs allocated RB Start		
14	L,M,H	5	QPSK	1	0	HB
14	Mid	10	QPSK	1 0		HB
26	L,M,H	5	QPSK	F	HB	
26	L,M,H	10	QPSK	F	Full	
26	L,M,H	15	QPSK	F	ull	HB
26(90)	L,M,H	15	QPSK	F	ull	HB
26(90)	Mid	15	QPSK	Full		HB
30	L,M,H	5	QPSK	1 0		HB
30	Mid	10	QPSK	1	0	HB
41	L,M,H	20	QPSK	F	ull	HB

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MEASUREMENT UNCERTAINTY

Radiated Spurious Emission:

Measurement uncertainty (Polarization : Vertical)	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

	9kHz – 30MHz: +/- 2.87 dB
Macauramantunaartaintu	30MHz - 167MHz: +/- 4.22dB
Measurement uncertainty (Polarization : Horizontal)	167MHz -500MHz: +/- 3.44dB
(1 dianzation : 110112011ai)	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 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

6.1 Standard Applicable

According to FCC §2.1053,

FCC §22.917(a), §24.238(a), §27.53(h), §90.691

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(a) for LTE B30

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

- (4) For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands:
 - (ii) By a factor of not less than 70 + 10 log (P) dB below 2288 MHz;
 - (iii) By a factor of not less than 70 + 10 log (P) dB above 2365 MHz.

FCC §27.53(c) for LTE B13

For operations in the 746–758 MHz band and the 776–788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

- (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 (-13dBm)
- (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 (f) for LTE B13

For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

FCC §27.53(c) (5) & FCC §27.53(g) for LTE B12, 13

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.

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FCC §27.53(h)(3) for LTE B4, 66

Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

FCC §27.53(m) (4) (6) for LTE B7, 38, 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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§90.691 Emission mask requirements for EA-based systems for LTE B26

- (a) Out-of-band emission requirement shall apply only to the "outer" channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:
- (1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log10(f/6.1) decibels or 50 + 10 Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.
- (2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

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

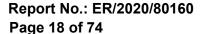
Frequency (MHz)	Attenuation (dB)
<2200	$43 + 10 \log_{10}(p)$
2200 - 2288	$70 + 10 \log_{10}(p)$
2288 - 2292	$67 + 10 \log_{10}(p)$
2292 - 2296	$61 + 10 \log_{10}(p)$
2296 - 2300	$55 + 10 \log_{10}(p)$
2300 - 2305	$43 + 10 \log_{10}(p)$
2305 - 2320	$43 + 10 \log_{10}(p)^{\text{Note}}$
2320 - 2324	$55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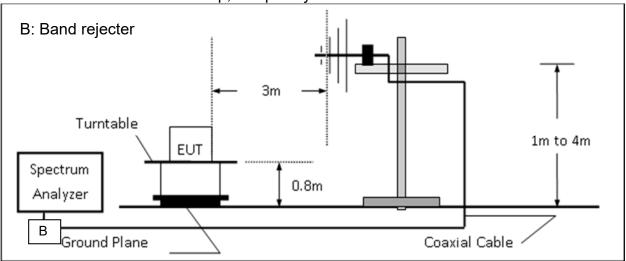
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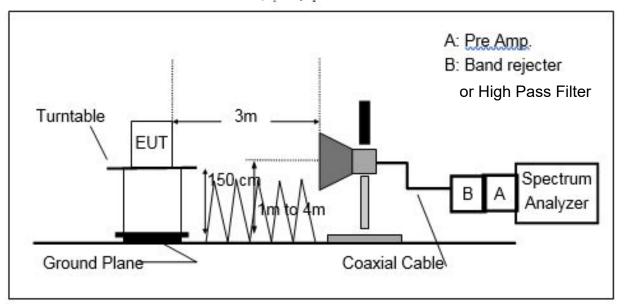


6.2 **EUT Setup**

Radiated Emission Test Set-Up, Frequency Below 1000MHz



Radiated Emission Test Set-UP Frequency Over 1 GHz



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6.3 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)

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6.4 **Measurement Equipment Used:**

ERP, EIRP MEASUREMENT EQUIPMENT List 966 Chamber								
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.			
Horn Antenna	Schwarzbeck	BBHA9170	184	12/25/2019	12/24/2020			
Horn Antenna	Schwarzbeck	BBHA9120D	D803	12/20/2019	12/19/2020			
Bi-log Antenna	TESEO	CBL 6112D	35242 & AT- N0555	01/13/2020	01/12/2021			
Spectrum Analyzer	Agilent	E4446A	MY51100003	10/23/2019	10/22/2020			
Radio Communication Analyzer	Anritsu	MT8820C	6201465317	02/18/2020	02/17/2021			
Radio Communication Analyzer	Anritsu	MT8821C	6261786084	01/18/2020	01/17/2021			
EMI Test Receiver	R&S	ESCI 7	100759	07/13/2020	07/12/2021			
Pre-Amplifier	EMC Instruments	EMC184045B	980135	01/02/2020	01/01/2021			
Pre-Amplifier	EMC Instruments	EMC051825	980152	01/02/2020	01/01/2021			
Pre-Amplifier	HP	8447D	2944A09469	01/02/2020	01/01/2021			
Filter 635-920	Micro-Tronics	WI	4	01/02/2020	01/01/2021			
Filter 800-1000	Micro-Tronics	EWT	M1	01/02/2020	01/01/2021			
Filter 1700-2000	Micro-Tronics	EWT	M3	01/02/2020	01/01/2021			
Filter 2240-2700	Micro-Tronics	WI	2	01/02/2020	01/01/2021			
Filter 3300-3800	Micro-Tronics	WI	1	01/02/2020	01/01/2021			
1GHz High Pass Filter	Micro-Tronics	HPM50108	32	01/02/2020	01/01/2021			
2GHz High Pass Filter	Micro-Tronics	HPM50110	36	01/02/2020	01/01/2021			
High Pass Filter	WI	WHKX4.0/18G- 10SS	22	01/02/2020	01/01/2021			
Coaxial Cable	Huber Suhner	succoflex 102	MY2622/2	01/02/2020	01/01/2021			
Coaxial Cable	Huber Suhner	succoflex 104A	800086/4a	01/02/2020	01/01/2021			
Coaxial Cable	Huber Suhner	EMC 104-SM- SM-2000	160123	01/02/2020	01/01/2021			

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6.5 **Measurement Result:**

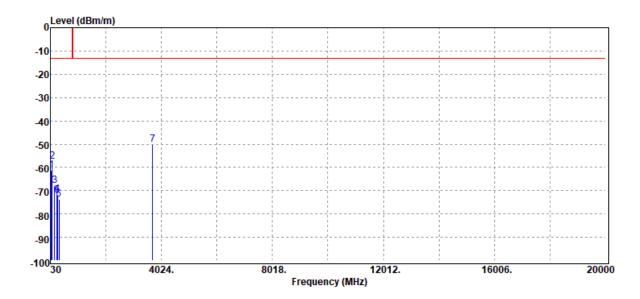
Test Site :SAC I Chamber Report Number :ER/2020/80160

Operation Mode :WCDMA B2 Test Date :2020-09-19

:Tx CH Low Test Mode Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :VERTICAL

Test Frequency :1852.4 MHz Engineer :Neo



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	['] dBm	dBi/dBd	dB	dBm	dB
59.10	-61.29	-45.38	-15.18	-0.73	-13.00	-48.29
97.90	-57.48	-50.75	-5.79	-0.94	-13.00	-44.48
180.35	-67.68	-62.28	-4.17	-1.23	-13.00	-54.68
274.44	-71.67	-68.38	-1.75	-1.54	-13.00	-58.67
287.05	-71.83	-68.42	-1.81	-1.60	-13.00	-58.83
342.34	-73.78	-70.28	-1.64	-1.86	-13.00	-60.78
3704.80	-50.17	-56.72	12.40	-5.85	-13.00	-37.17

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Test Frequency

Report No.: ER/2020/80160

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:Neo

Engineer

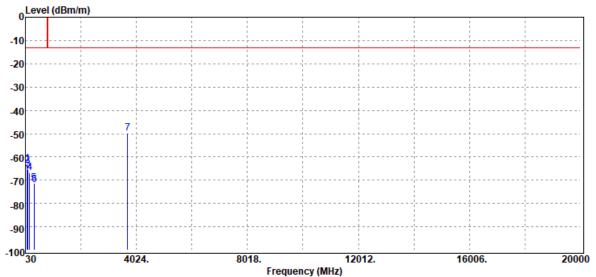
Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :WCDMA B2 **Test Date** :2020-09-19

Test Mode :Tx CH Low Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :HORIZONTAL

:1852.4 MHz



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
88.20	-62.92	-55.83	-6.20	-0.89	-13.00	-49.92
98.87	-63.73	-56.89	-5.90	-0.94	-13.00	-50.73
119.24	-65.55	-57.17	-7.32	-1.06	-13.00	-52.55
182.29	-66.69	-61.65	-3.81	-1.23	-13.00	-53.69
343.31	-71.18	-67.72	-1.61	-1.85	-13.00	-58.18
351.07	-71.90	-68.54	-1.54	-1.82	-13.00	-58.90
3704.80	-49.65	-56.20	12.40	-5.85	-13.00	-36.65

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Test Frequency

Report No.: ER/2020/80160

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:Neo

Engineer

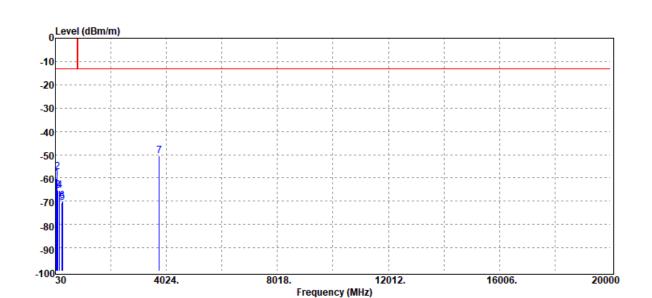
Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :WCDMA B2 **Test Date** :2020-09-19

Test Mode :Tx CH Mid Temp./Humi. :22.5/63

:1880 MHz

EUT Pol :NB Plane Antenna Pol. :VERTICAL



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
59.10	-60.11	-44.20	-15.18	-0.73	-13.00	-47.11
99.84	-57.61	-50.65	-6.01	-0.95	-13.00	-44.61
127.00	-65.53	-56.87	-7.65	-1.01	-13.00	-52.53
185.20	-65.39	-60.67	-3.47	-1.25	-13.00	-52.39
274.44	-70.60	-67.31	-1.75	-1.54	-13.00	-57.60
287.05	-69.75	-66.34	-1.81	-1.60	-13.00	-56.75
3760.00	-50.62	-57.28	12.40	-5.74	-13.00	-37.62

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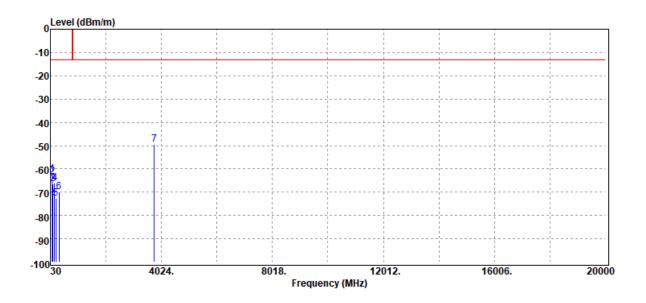
Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :WCDMA B2 **Test Date** :2020-09-19

Test Mode :Tx CH Mid Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :HORIZONTAL

Engineer **Test Frequency** :1880 MHz :Neo



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
90.14	-62.14	-55.43	-5.81	-0.90	-13.00	-49.14
100.81	-63.17	-56.02	-6.20	-0.95	-13.00	-50.17
119.24	-66.48	-58.10	-7.32	-1.06	-13.00	-53.48
182.29	-66.23	-61.19	-3.81	-1.23	-13.00	-53.23
226.91	-72.58	-69.84	-1.33	-1.41	-13.00	-59.58
347.19	-69.80	-66.40	-1.56	-1.84	-13.00	-56.80
3760.00	-49.49	-56.15	12.40	-5.74	-13.00	-36.49

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Test Frequency

Report No.: ER/2020/80160

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:Neo

Engineer

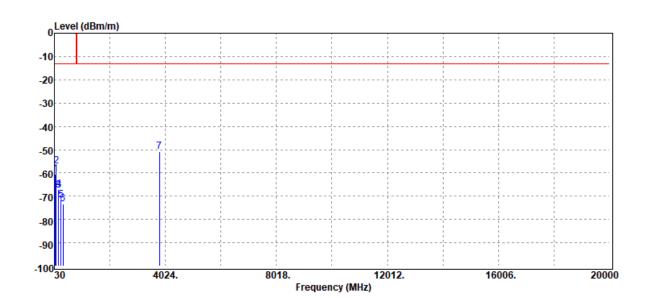
Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :WCDMA B2 **Test Date** :2020-09-19

Test Mode :Tx CH High Temp./Humi. :22.5/63

:1907.6 MHz

EUT Pol :NB Plane Antenna Pol. :VERTICAL



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
·		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
61.04	-60.72	-45.36	-14.61	-0.75	-13.00	-47.72
99.84	-57.24	-50.28	-6.01	-0.95	-13.00	-44.24
178.41	-67.31	-61.62	-4.46	-1.23	-13.00	-54.31
187.14	-67.02	-62.49	-3.27	-1.26	-13.00	-54.02
274.44	-71.75	-68.46	-1.75	-1.54	-13.00	-58.75
338.46	-73.39	-69.84	-1.71	-1.84	-13.00	-60.39
3815.20	-50.97	-57.64	12.43	-5.76	-13.00	-37.97

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:NB Plane

EUT Pol

Report No.: ER/2020/80160

:HORIZONTAL

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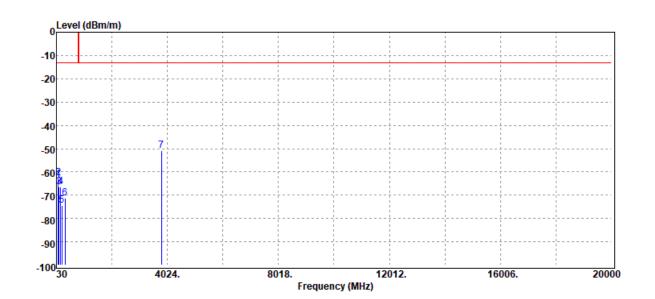
Antenna Pol.

Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :WCDMA B2 **Test Date** :2020-09-19

Test Mode :Tx CH High Temp./Humi. :22.5/63

Engineer **Test Frequency** :1907.6 MHz :Neo



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
·		Output Level	Gain	Loss		•
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
89.17	-63.35	-56.44	-6.01	-0.90	-13.00	-50.35
100.81	-62.54	-55.39	-6.20	-0.95	-13.00	-49.54
117.30	-66.42	-58.03	-7.34	-1.05	-13.00	-53.42
177.44	-66.35	-60.56	-4.55	-1.24	-13.00	-53.35
228.85	-74.33	-71.54	-1.37	-1.42	-13.00	-61.33
335.55	-71.34	-67.83	-1.72	-1.79	-13.00	-58.34
3815.20	-50.77	-57.44	12.43	-5.76	-13.00	-37.77

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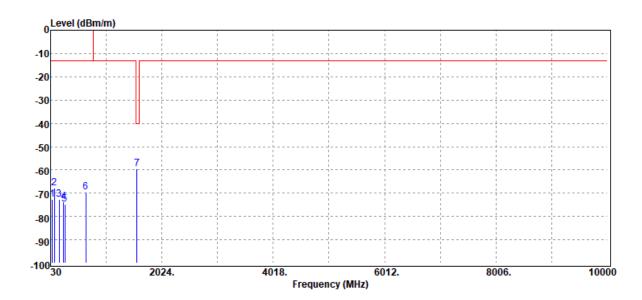
Report Number **Test Site** :SAC I Chamber :ER/2020/80160

:LTE B14 **Test Date** :2020-09-19 **Operation Mode**

Test Mode :Tx CH Low Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :VERTICAL

Test Frequency :790.5 MHz Engineer :Neo



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
61.04	-72.58	-57.22	-14.61	-0.75	-13.00	-59.58
99.84	-67.92	-60.96	-6.01	-0.95	-13.00	-54.92
187.14	-72.63	-68.10	-3.27	-1.26	-13.00	-59.63
265.71	-73.63	-70.42	-1.68	-1.53	-13.00	-60.63
287.05	-74.76	-71.35	-1.81	-1.60	-13.00	-61.76
660.50	-69.55	-65.52	-1.34	-2.69	-13.00	-56.55
1581.00	-59.56	-65.04	9.25	-3.77	-40.00	-19.56

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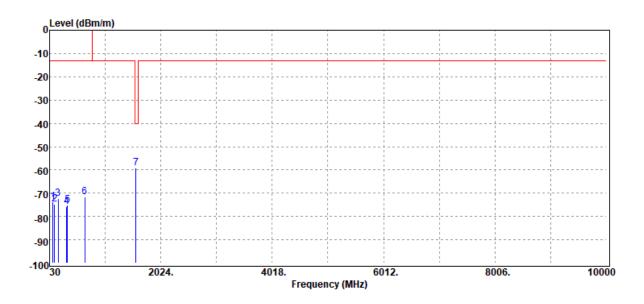
Report Number :ER/2020/80160 Test Site :SAC I Chamber

Operation Mode :LTE B14 **Test Date** :2020-09-19

Test Mode :Tx CH Low Temp./Humi. :22.5/63

EUT Pol :NB Plane :HORIZONTAL Antenna Pol.

Test Frequency :790.5 MHz Engineer :Neo



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
	ID.	Output Level	Gain	Loss	ı.	
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
90.14	-73.55	-66.84	-5.81	-0.90	-13.00	-60.55
117.30	-74.73	-66.34	-7.34	-1.05	-13.00	-61.73
183.26	-72.46	-67.48	-3.74	-1.24	-13.00	-59.46
333.61	-75.91	-72.42	-1.73	-1.76	-13.00	-62.91
352.04	-75.05	-71.70	-1.54	-1.81	-13.00	-62.05
659.53	-71.77	-67.76	-1.33	-2.68	-13.00	-58.77
1581.00	-59.30	-64.78	9.25	-3.77	-40.00	-19.30

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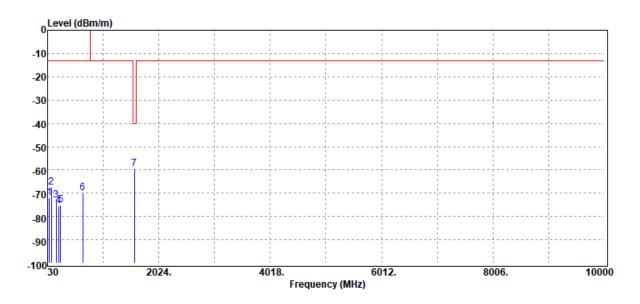
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Report Number :ER/2020/80160 Test Site :SAC I Chamber

Operation Mode :LTE B14 Test Date :2020-09-19

Test Mode :Tx CH Mid Temp./Humi. :22.5/63
EUT Pol :NB Plane Antenna Pol. :VERTICAL

Test Frequency :793 MHz Engineer :Neo



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
61.04	-72.06	-56.70	-14.61	-0.75	-13.00	-59.06
99.84	-67.39	-60.43	-6.01	-0.95	-13.00	-54.39
183.26	-73.03	-68.05	-3.74	-1.24	-13.00	-60.03
225.94	-75.60	-72.90	-1.30	-1.40	-13.00	-62.60
260.86	-74.97	-71.81	-1.63	-1.53	-13.00	-61.97
659.53	-69.85	-65.84	-1.33	-2.68	-13.00	-56.85
1586.00	-59.57	-65.08	9.29	-3.78	-40.00	-19.57

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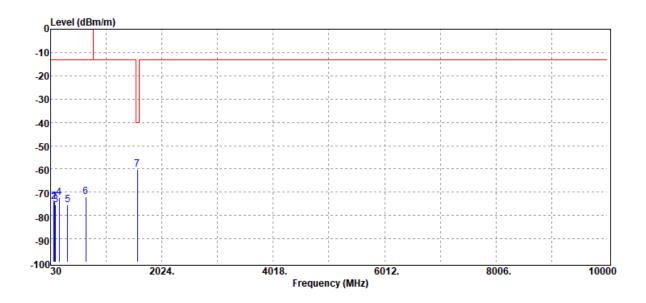
Report Number :ER/2020/80160 Test Site :SAC I Chamber

Operation Mode :LTE B14 **Test Date** :2020-09-19

Test Mode :Tx CH Mid Temp./Humi. :22.5/63

EUT Pol :NB Plane :HORIZONTAL Antenna Pol.

Test Frequency :793 MHz Engineer :Neo



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
88.20	-73.96	-66.87	-6.20	-0.89	-13.00	-60.96
97.90	-74.12	-67.39	-5.79	-0.94	-13.00	-61.12
119.24	-75.52	-67.14	-7.32	-1.06	-13.00	-62.52
183.26	-72.34	-67.36	-3.74	-1.24	-13.00	-59.34
335.55	-75.28	-71.77	-1.72	-1.79	-13.00	-62.28
659.53	-72.07	-68.06	-1.33	-2.68	-13.00	-59.07
1586.00	-60.31	-65.82	9.29	-3.78	-40.00	-20.31

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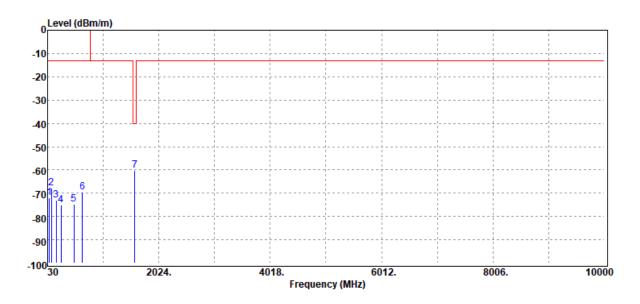
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Report Number :ER/2020/80160 Test Site :SAC I Chamber

:LTE B14 **Operation Mode Test Date** :2020-09-19

Test Mode :Tx CH High Temp./Humi. :22.5/63 **EUT Pol** :NB Plane :VERTICAL Antenna Pol.

Test Frequency :795.5 MHz Engineer :Neo



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
61.04	-72.02	-56.66	-14.61	-0.75	-13.00	-59.02
99.84	-67.70	-60.74	-6.01	-0.95	-13.00	-54.70
183.26	-72.89	-67.91	-3.74	-1.24	-13.00	-59.89
274.44	-75.06	-71.77	-1.75	-1.54	-13.00	-62.06
502.39	-74.70	-70.97	-1.45	-2.28	-13.00	-61.70
657.59	-69.70	-65.74	-1.32	-2.64	-13.00	-56.70
1591.00	-60.14	-65.69	9.33	-3.78	-40.00	-20.14

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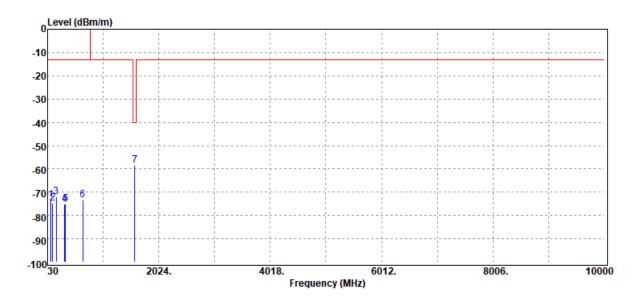
Report Number :ER/2020/80160 Test Site :SAC I Chamber

:LTE B14 **Operation Mode Test Date** :2020-09-19

Test Mode :Tx CH High Temp./Humi. :22.5/63

EUT Pol :NB Plane :HORIZONTAL Antenna Pol.

Test Frequency :795.5 MHz Engineer :Neo



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
88.20	-73.46	-66.37	-6.20	-0.89	-13.00	-60.46
118.27	-74.77	-66.41	-7.30	-1.06	-13.00	-61.77
183.26	-72.10	-67.12	-3.74	-1.24	-13.00	-59.10
337.49	-75.06	-71.53	-1.71	-1.82	-13.00	-62.06
353.01	-75.06	-71.74	-1.53	-1.79	-13.00	-62.06
659.53	-73.31	-69.30	-1.33	-2.68	-13.00	-60.31
1591.00	-58.44	-63.99	9.33	-3.78	-40.00	-18.44

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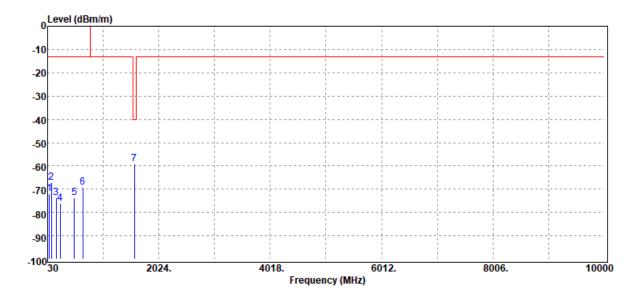
Report Number **Test Site** :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B14_10M **Test Date** :2020-09-19

Test Mode :Tx CH Mid Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :VERTICAL

Test Frequency :793 MHz Engineer :Neo



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
61.04	-71.85	-56.49	-14.61	-0.75	-13.00	-58.85
97.90	-67.24	-60.51	-5.79	-0.94	-13.00	-54.24
185.20	-73.53	-68.81	-3.47	-1.25	-13.00	-60.53
256.01	-76.00	-72.87	-1.60	-1.53	-13.00	-63.00
512.09	-73.70	-69.82	-1.54	-2.34	-13.00	-60.70
659.53	-69.36	-65.35	-1.33	-2.68	-13.00	-56.36
1586.00	-59.15	-64.66	9.29	-3.78	-40.00	-19.15

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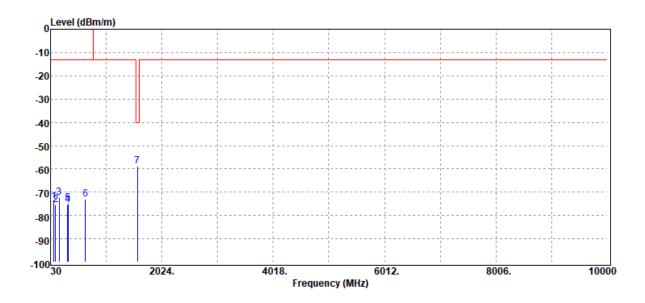
Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B14_10M **Test Date** :2020-09-19

Test Mode :Tx CH Mid Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :HORIZONTAL

:793 MHz **Test Frequency** Engineer :Neo



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
93.05	-73.99	-67.52	-5.55	-0.92	-13.00	-60.99
117.30	-75.43	-67.04	-7.34	-1.05	-13.00	-62.43
183.26	-72.45	-67.47	-3.74	-1.24	-13.00	-59.45
335.55	-75.36	-71.85	-1.72	-1.79	-13.00	-62.36
345.25	-74.91	-71.49	-1.57	-1.85	-13.00	-61.91
657.59	-72.93	-68.97	-1.32	-2.64	-13.00	-59.93
1586.00	-58.90	-64.41	9.29	-3.78	-40.00	-18.90

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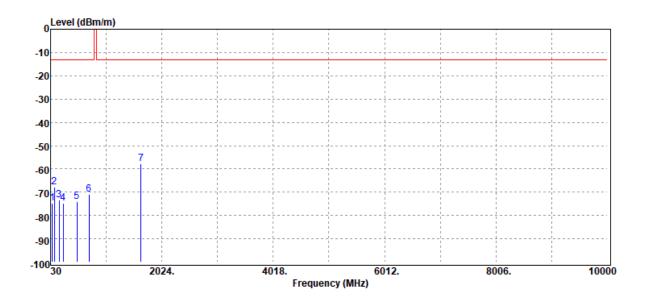
Report Number **Test Site** :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B26 Test Date :2020-09-19

Test Mode :Tx CH Low Temp./Humi. :22.5/63

EUT Pol Antenna Pol. :VERTICAL :NB Plane

Test Frequency :826.5 MHz Engineer :Neo



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
61.04	-74.88	-59.52	-14.61	-0.75	-13.00	-61.88
99.84	-67.84	-60.88	-6.01	-0.95	-13.00	-54.84
184.23	-73.48	-68.64	-3.60	-1.24	-13.00	-60.48
256.01	-74.67	-71.54	-1.60	-1.53	-13.00	-61.67
505.30	-73.96	-70.17	-1.47	-2.32	-13.00	-60.96
715.79	-70.95	-67.05	-1.32	-2.58	-13.00	-57.95
1653.00	-57.72	-63.65	9.80	-3.87	-13.00	-44.72

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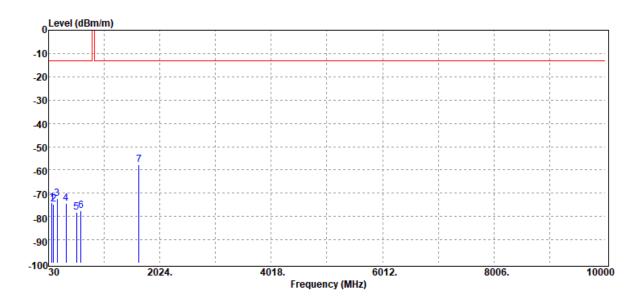
Report Number :ER/2020/80160 Test Site :SAC I Chamber

Operation Mode :LTE B26 Test Date :2020-09-19

Test Mode :Tx CH Low Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :HORIZONTAL

Test Frequency :826.5 MHz Engineer :Neo



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
93.05	-73.96	-67.49	-5.55	-0.92	-13.00	-60.96
118.27	-74.82	-66.46	-7.30	-1.06	-13.00	-61.82
182.29	-72.36	-67.32	-3.81	-1.23	-13.00	-59.36
345.25	-74.53	-71.11	-1.57	-1.85	-13.00	-61.53
534.40	-78.05	-74.82	-1.36	-1.87	-13.00	-65.05
608.12	-77.65	-73.72	-1.91	-2.02	-13.00	-64.65
1653.00	-57.66	-63.59	9.80	-3.87	-13.00	-44.66

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Test Frequency

Report No.: ER/2020/80160

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:Neo

Engineer

Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B26 **Test Date** :2020-09-19

Test Mode :Tx CH Mid Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :VERTICAL



:836.5 MHz



EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
dBm	dBm	dBi/dBd	dB	dBm	dB
-74.11	-58.75	-14.61	-0.75	-13.00	-61.11
-67.76	-61.25	-5.58	-0.93	-13.00	-54.76
-73.22	-68.24	-3.74	-1.24	-13.00	-60.22
-73.52	-70.39	-1.60	-1.53	-13.00	-60.52
-74.77	-71.36	-1.81	-1.60	-13.00	-61.77
-74.23	-70.51	-1.62	-2.10	-13.00	-61.23
-59.36	-65.26	9.80	-3.90	-13.00	-46.36
	-74.11 -67.76 -73.22 -73.52 -74.77 -74.23	Output Level dBm -74.11	Output Level Gain dBm dBi/dBd -74.11 -58.75 -14.61 -67.76 -61.25 -5.58 -73.22 -68.24 -3.74 -73.52 -70.39 -1.60 -74.77 -71.36 -1.81 -74.23 -70.51 -1.62	dBm Output Level dBm Gain dBi/dBd Loss dB -74.11 -58.75 -14.61 -0.75 -67.76 -61.25 -5.58 -0.93 -73.22 -68.24 -3.74 -1.24 -73.52 -70.39 -1.60 -1.53 -74.77 -71.36 -1.81 -1.60 -74.23 -70.51 -1.62 -2.10	Output Level dBm Gain dBi/dBd Loss dBm -74.11 -58.75 -14.61 -0.75 -13.00 -67.76 -61.25 -5.58 -0.93 -13.00 -73.22 -68.24 -3.74 -1.24 -13.00 -73.52 -70.39 -1.60 -1.53 -13.00 -74.77 -71.36 -1.81 -1.60 -13.00 -74.23 -70.51 -1.62 -2.10 -13.00

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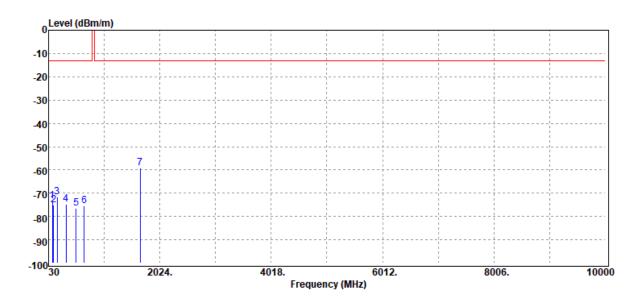
Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B26 **Test Date** :2020-09-19

Test Mode :Tx CH Mid Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :HORIZONTAL

Engineer **Test Frequency** :836.5 MHz :Neo



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
95.96	-73.24	-66.73	-5.58	-0.93	-13.00	-60.24
118.27	-75.04	-66.68	-7.30	-1.06	-13.00	-62.04
182.29	-71.74	-66.70	-3.81	-1.23	-13.00	-58.74
347.19	-74.77	-71.37	-1.56	-1.84	-13.00	-61.77
521.79	-76.51	-73.03	-1.38	-2.10	-13.00	-63.51
667.29	-75.58	-71.37	-1.43	-2.78	-13.00	-62.58
1673.00	-59.09	-64.99	9.80	-3.90	-13.00	-46.09

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Test Frequency

Report No.: ER/2020/80160

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:Neo

Engineer

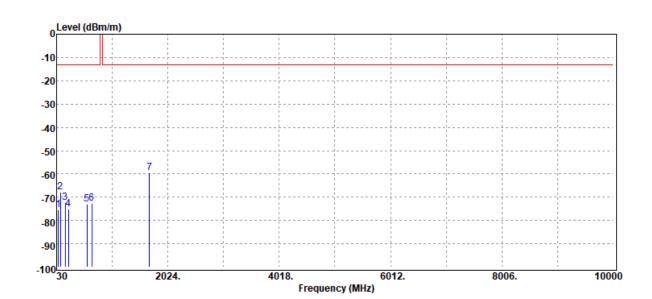
Report Number :ER/2020/80160 Test Site :SAC I Chamber

Operation Mode :LTE B26 Test Date :2020-09-19

Test Mode :Tx CH High Temp./Humi. :22.5/63

:846.5 MHz

EUT Pol :NB Plane Antenna Pol. :VERTICAL



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
·		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
59.10	-75.29	-59.38	-15.18	-0.73	-13.00	-62.29
100.81	-67.86	-60.71	-6.20	-0.95	-13.00	-54.86
185.20	-72.27	-67.55	-3.47	-1.25	-13.00	-59.27
240.49	-74.93	-71.73	-1.72	-1.48	-13.00	-61.93
573.20	-73.02	-69.15	-1.52	-2.35	-13.00	-60.02
662.44	-72.59	-68.52	-1.35	-2.72	-13.00	-59.59
1693.00	-59.52	-65.40	9.80	-3.92	-13.00	-46.52

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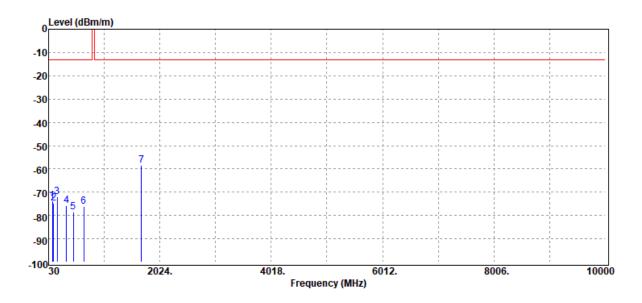
Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B26 **Test Date** :2020-09-19

Test Mode :Tx CH High Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :HORIZONTAL

Engineer **Test Frequency** :846.5 MHz :Neo



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
94.99	-73.65	-67.15	-5.57	-0.93	-13.00	-60.65
117.30	-74.91	-66.52	-7.34	-1.05	-13.00	-61.91
183.26	-72.03	-67.05	-3.74	-1.24	-13.00	-59.03
352.04	-75.81	-72.46	-1.54	-1.81	-13.00	-62.81
474.26	-78.54	-74.70	-1.79	-2.05	-13.00	-65.54
658.56	-76.25	-72.26	-1.33	-2.66	-13.00	-63.25
1693.00	-58.46	-64.34	9.80	-3.92	-13.00	-45.46

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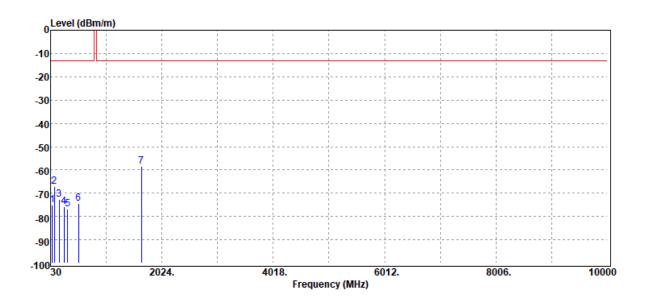
Report Number :ER/2020/80160 Test Site :SAC I Chamber

Operation Mode :LTE B26 Test Date :2020-09-19

Test Mode :Tx CH Low Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :VERTICAL

Test Frequency :829 MHz Engineer :Neo



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
59.10	-75.07	-59.16	-15.18	-0.73	-13.00	-62.07
99.84	-67.07	-60.11	-6.01	-0.95	-13.00	-54.07
182.29	-72.60	-67.56	-3.81	-1.23	-13.00	-59.60
272.50	-75.83	-72.53	-1.77	-1.53	-13.00	-62.83
333.61	-76.74	-73.25	-1.73	-1.76	-13.00	-63.74
531.49	-74.44	-71.25	-1.35	-1.84	-13.00	-61.44
1658.00	-58.45	-64.37	9.80	-3.88	-13.00	-45.45

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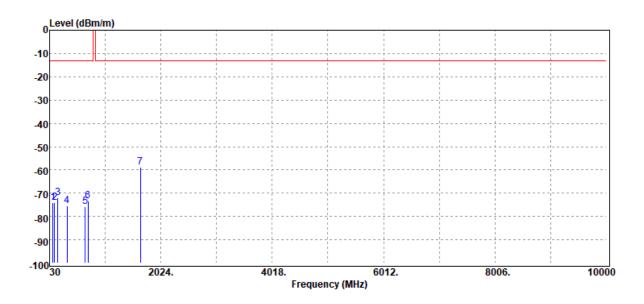
Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B26 **Test Date** :2020-09-19

Test Mode :Tx CH Low Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :HORIZONTAL

Engineer **Test Frequency** :829 MHz :Neo



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
90.14	-74.05	-67.34	-5.81	-0.90	-13.00	-61.05
117.30	-73.97	-65.58	-7.34	-1.05	-13.00	-60.97
177.44	-72.10	-66.31	-4.55	-1.24	-13.00	-59.10
347.19	-75.32	-71.92	-1.56	-1.84	-13.00	-62.32
667.29	-75.66	-71.45	-1.43	-2.78	-13.00	-62.66
719.67	-73.29	-69.46	-1.19	-2.64	-13.00	-60.29
1658.00	-58.98	-64.90	9.80	-3.88	-13.00	-45.98

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Test Frequency

Report No.: ER/2020/80160

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:Neo

Engineer

Report Number Test Site :SAC I Chamber :ER/2020/80160

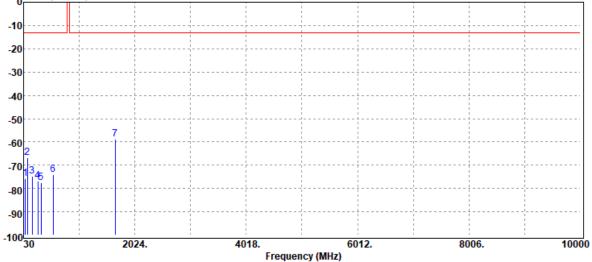
Operation Mode :LTE B26 **Test Date** :2020-09-19

Test Mode :Tx CH Mid Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :VERTICAL



:836.5 MHz



EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
dBm	dBm	dBi/dBd	dB	dBm	dB
-75.91	-60.00	-15.18	-0.73	-13.00	-62.91
-66.95	-60.22	-5.79	-0.94	-13.00	-53.95
-74.74	-70.21	-3.27	-1.26	-13.00	-61.74
-76.73	-73.31	-1.83	-1.59	-13.00	-63.73
-77.66	-74.16	-1.64	-1.86	-13.00	-64.66
-74.00	-70.35	-1.37	-2.28	-13.00	-61.00
-58.90	-64.80	9.80	-3.90	-13.00	-45.90
	-75.91 -66.95 -74.74 -76.73 -77.66 -74.00	Output Level dBm -75.91 -60.00 -66.95 -60.22 -74.74 -70.21 -76.73 -73.31 -77.66 -74.16 -74.00 -70.35	Output Level Gain dBm dBm dBi/dBd -75.91 -60.00 -15.18 -66.95 -60.22 -5.79 -74.74 -70.21 -3.27 -76.73 -73.31 -1.83 -77.66 -74.16 -1.64 -74.00 -70.35 -1.37	dBm Output Level dBm Gain dBi/dBd Loss dB -75.91 -60.00 -15.18 -0.73 -66.95 -60.22 -5.79 -0.94 -74.74 -70.21 -3.27 -1.26 -76.73 -73.31 -1.83 -1.59 -77.66 -74.16 -1.64 -1.86 -74.00 -70.35 -1.37 -2.28	dBm Output Level dBm Gain dBi/dBd Loss dBm -75.91 -60.00 -15.18 -0.73 -13.00 -66.95 -60.22 -5.79 -0.94 -13.00 -74.74 -70.21 -3.27 -1.26 -13.00 -76.73 -73.31 -1.83 -1.59 -13.00 -77.66 -74.16 -1.64 -1.86 -13.00 -74.00 -70.35 -1.37 -2.28 -13.00

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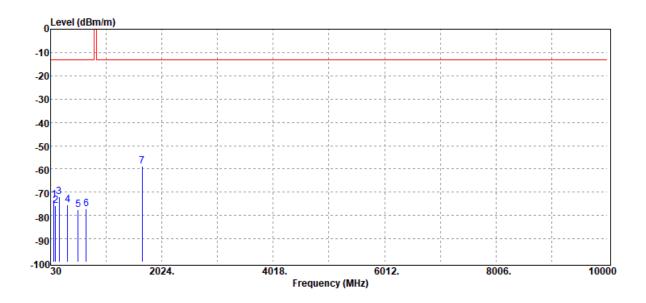
Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B26 **Test Date** :2020-09-19

Test Mode :Tx CH Mid Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :HORIZONTAL

Engineer **Test Frequency** :836.5 MHz :Neo



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
90.14	-73.47	-66.76	-5.81	-0.90	-13.00	-60.47
119.24	-75.74	-67.36	-7.32	-1.06	-13.00	-62.74
183.26	-72.06	-67.08	-3.74	-1.24	-13.00	-59.06
338.46	-75.38	-71.83	-1.71	-1.84	-13.00	-62.38
527.61	-77.37	-74.13	-1.33	-1.91	-13.00	-64.37
665.35	-77.16	-73.02	-1.38	-2.76	-13.00	-64.16
1673.00	-58.77	-64.67	9.80	-3.90	-13.00	-45.77

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EUT Pol

Report No.: ER/2020/80160

:VERTICAL

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Antenna Pol.

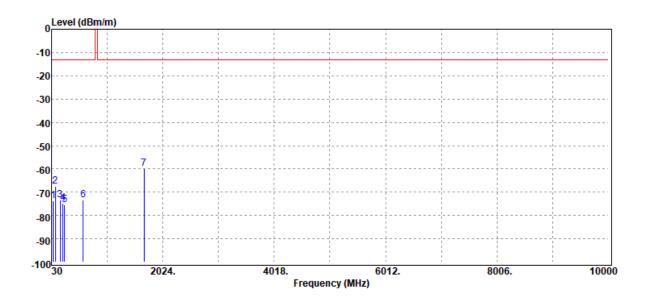
Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B26 **Test Date** :2020-09-19

Test Mode :Tx CH High Temp./Humi. :22.5/63

Engineer **Test Frequency** :844 MHz :Neo

:NB Plane



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
61.04	-73.85	-58.49	-14.61	-0.75	-13.00	-60.85
97.90	-67.51	-60.78	-5.79	-0.94	-13.00	-54.51
188.11	-73.21	-68.82	-3.13	-1.26	-13.00	-60.21
238.55	-74.80	-71.61	-1.72	-1.47	-13.00	-61.80
260.86	-75.30	-72.14	-1.63	-1.53	-13.00	-62.30
597.45	-73.38	-69.17	-1.85	-2.36	-13.00	-60.38
1688.00	-59.71	-65.59	9.80	-3.92	-13.00	-46.71

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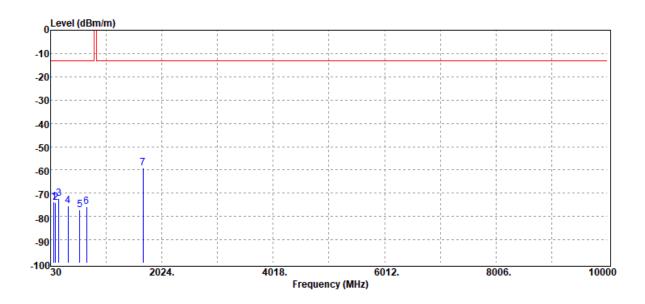
Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B26 **Test Date** :2020-09-19

Test Mode :Tx CH High Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :HORIZONTAL

Engineer **Test Frequency** :844 MHz :Neo



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
90.14	-73.63	-66.92	-5.81	-0.90	-13.00	-60.63
117.30	-74.08	-65.69	-7.34	-1.05	-13.00	-61.08
178.41	-72.43	-66.74	-4.46	-1.23	-13.00	-59.43
347.19	-75.32	-71.92	-1.56	-1.84	-13.00	-62.32
550.89	-77.18	-73.73	-1.24	-2.21	-13.00	-64.18
675.05	-75.64	-71.63	-1.44	-2.57	-13.00	-62.64
1688.00	-59.11	-64.99	9.80	-3.92	-13.00	-46.11

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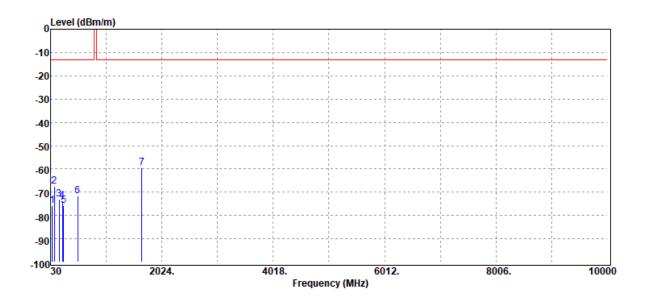
Report Number :ER/2020/80160 Test Site :SAC I Chamber

Operation Mode :LTE B26 Test Date :2020-09-19

Test Mode :Tx CH Low Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :VERTICAL

Test Frequency :831.5 MHz Engineer :Neo



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
61.04	-75.87	-60.51	-14.61	-0.75	-13.00	-62.87
97.90	-67.59	-60.86	-5.79	-0.94	-13.00	-54.59
182.29	-73.12	-68.08	-3.81	-1.23	-13.00	-60.12
240.49	-73.87	-70.67	-1.72	-1.48	-13.00	-60.87
260.86	-75.82	-72.66	-1.63	-1.53	-13.00	-62.82
516.94	-71.66	-67.97	-1.46	-2.23	-13.00	-58.66
1663.00	-59.47	-65.39	9.80	-3.88	-13.00	-46.47

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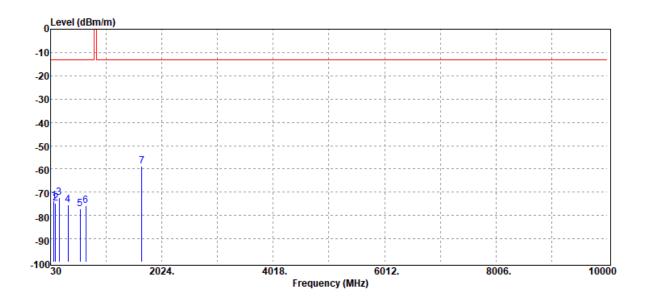
Report Number :ER/2020/80160 Test Site :SAC I Chamber

Operation Mode :LTE B26 Test Date :2020-09-19

Test Mode :Tx CH Low Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :HORIZONTAL

Test Frequency :831.5 MHz Engineer :Neo



EIRP/ERP	SG	Antenna	Cable	Limit	Margin
	Output Level	Gain	Loss		
dBm	dBm	dBi/dBd	dB	dBm	dB
-73.61	-66.90	-5.81	-0.90	-13.00	-60.61
-74.59	-66.21	-7.32	-1.06	-13.00	-61.59
-72.17	-67.19	-3.74	-1.24	-13.00	-59.17
-75.42	-71.87	-1.69	-1.86	-13.00	-62.42
-77.28	-73.62	-1.38	-2.28	-13.00	-64.28
-75.85	-71.76	-1.36	-2.73	-13.00	-62.85
-58.71	-64.63	9.80	-3.88	-13.00	-45.71
	-73.61 -74.59 -72.17 -75.42 -77.28 -75.85	Output Level dBm -73.61 -66.90 -74.59 -66.21 -72.17 -67.19 -75.42 -71.87 -77.28 -73.62 -75.85 -71.76	Output Level Gain dBm dBm dBi/dBd -73.61 -66.90 -5.81 -74.59 -66.21 -7.32 -72.17 -67.19 -3.74 -75.42 -71.87 -1.69 -77.28 -73.62 -1.38 -75.85 -71.76 -1.36	dBm Output Level dBm Gain dBi/dBd Loss dB -73.61 -66.90 -5.81 -0.90 -74.59 -66.21 -7.32 -1.06 -72.17 -67.19 -3.74 -1.24 -75.42 -71.87 -1.69 -1.86 -77.28 -73.62 -1.38 -2.28 -75.85 -71.76 -1.36 -2.73	Output Level Gain dBm Loss dBm -73.61 -66.90 -5.81 -0.90 -13.00 -74.59 -66.21 -7.32 -1.06 -13.00 -72.17 -67.19 -3.74 -1.24 -13.00 -75.42 -71.87 -1.69 -1.86 -13.00 -77.28 -73.62 -1.38 -2.28 -13.00 -75.85 -71.76 -1.36 -2.73 -13.00

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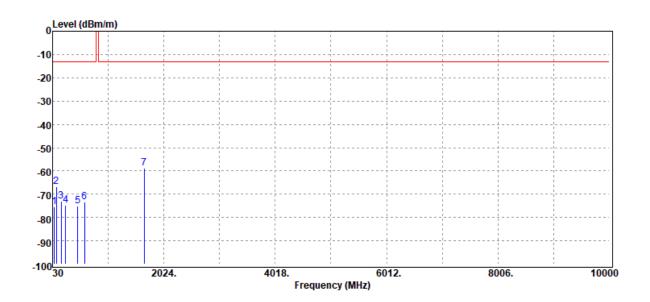
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Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B26 **Test Date** :2020-09-19

Test Mode :Tx CH Mid Temp./Humi. :22.5/63 **EUT Pol** :NB Plane Antenna Pol. :VERTICAL

Engineer **Test Frequency** :836.5 MHz :Neo



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
59.10	-75.56	-59.65	-15.18	-0.73	-13.00	-62.56
99.84	-66.89	-59.93	-6.01	-0.95	-13.00	-53.89
185.20	-73.05	-68.33	-3.47	-1.25	-13.00	-60.05
260.86	-74.63	-71.47	-1.63	-1.53	-13.00	-61.63
483.96	-75.15	-71.42	-1.63	-2.10	-13.00	-62.15
604.24	-73.29	-69.26	-1.89	-2.14	-13.00	-60.29
1673.00	-58.81	-64.71	9.80	-3.90	-13.00	-45.81

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EUT Pol

Report No.: ER/2020/80160

:HORIZONTAL

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Antenna Pol.

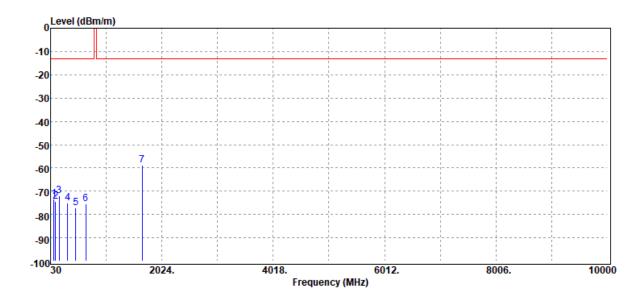
Report Number :ER/2020/80160 Test Site :SAC I Chamber

Operation Mode :LTE B26 Test Date :2020-09-19

Test Mode :Tx CH Mid Temp./Humi. :22.5/63

Test Frequency :836.5 MHz Engineer :Neo

:NB Plane



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
90.14	-73.20	-66.49	-5.81	-0.90	-13.00	-60.20
118.27	-74.51	-66.15	-7.30	-1.06	-13.00	-61.51
182.29	-71.84	-66.80	-3.81	-1.23	-13.00	-58.84
335.55	-75.19	-71.68	-1.72	-1.79	-13.00	-62.19
482.99	-77.08	-73.33	-1.65	-2.10	-13.00	-64.08
662.44	-75.44	-71.37	-1.35	-2.72	-13.00	-62.44
1673.00	-58.85	-64.75	9.80	-3.90	-13.00	-45.85

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EUT Pol

Report No.: ER/2020/80160

:VERTICAL

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Antenna Pol.

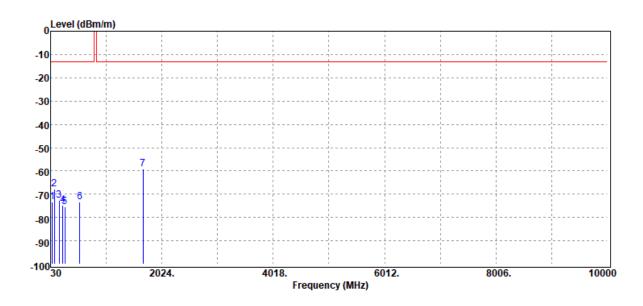
Report Number :ER/2020/80160 Test Site :SAC I Chamber

Operation Mode :LTE B26 Test Date :2020-09-19

Test Mode :Tx CH High Temp./Humi. :22.5/63

Test Frequency :841.5 MHz Engineer :Neo

:NB Plane



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
·		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
61.04	-73.31	-57.95	-14.61	-0.75	-13.00	-60.31
99.84	-67.66	-60.70	-6.01	-0.95	-13.00	-54.66
183.26	-72.49	-67.51	-3.74	-1.24	-13.00	-59.49
253.10	-74.85	-71.71	-1.62	-1.52	-13.00	-61.85
285.11	-75.34	-71.92	-1.83	-1.59	-13.00	-62.34
551.86	-73.35	-69.87	-1.26	-2.22	-13.00	-60.35
1683.00	-59.21	-65.10	9.80	-3.91	-13.00	-46.21

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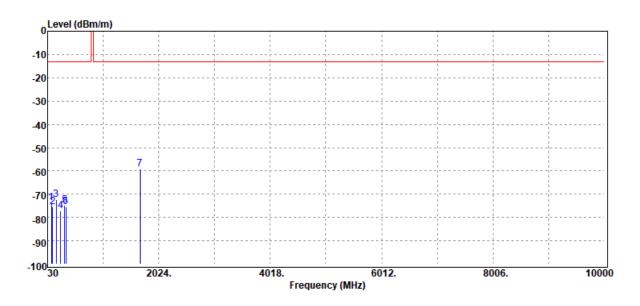
Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B26 **Test Date** :2020-09-19

Test Mode :Tx CH High Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :HORIZONTAL

Engineer **Test Frequency** :841.5 MHz :Neo



EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
dBm	dBm	dBi/dBd	dB	dBm	dB
-73.79	-67.06	-5.79	-0.94	-13.00	-60.79
-75.48	-67.09	-7.34	-1.05	-13.00	-62.48
-72.22	-67.24	-3.74	-1.24	-13.00	-59.22
-77.26	-74.05	-1.68	-1.53	-13.00	-64.26
-74.75	-71.24	-1.72	-1.79	-13.00	-61.75
-75.31	-72.02	-1.52	-1.77	-13.00	-62.31
-59.00	-64.89	9.80	-3.91	-13.00	-46.00
	-73.79 -75.48 -72.22 -77.26 -74.75 -75.31	Output Level dBm dBm -73.79 -67.06 -75.48 -67.09 -72.22 -67.24 -77.26 -74.05 -74.75 -71.24 -75.31 -72.02	Output Level Gain dBm dBm dBi/dBd -73.79 -67.06 -5.79 -75.48 -67.09 -7.34 -72.22 -67.24 -3.74 -77.26 -74.05 -1.68 -74.75 -71.24 -1.72 -75.31 -72.02 -1.52	dBm Output Level dBm Gain dBi/dBd Loss dB -73.79 -67.06 -5.79 -0.94 -75.48 -67.09 -7.34 -1.05 -72.22 -67.24 -3.74 -1.24 -77.26 -74.05 -1.68 -1.53 -74.75 -71.24 -1.72 -1.79 -75.31 -72.02 -1.52 -1.77	dBm Output Level dBm Gain dBi/dBd Loss dBm -73.79 -67.06 -5.79 -0.94 -13.00 -75.48 -67.09 -7.34 -1.05 -13.00 -72.22 -67.24 -3.74 -1.24 -13.00 -77.26 -74.05 -1.68 -1.53 -13.00 -74.75 -71.24 -1.72 -1.79 -13.00 -75.31 -72.02 -1.52 -1.77 -13.00

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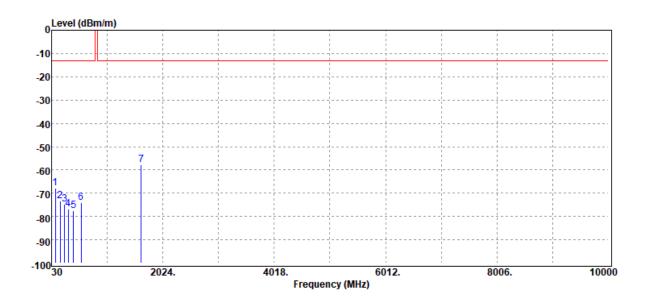
Report Number :ER/2020/80160 Test Site :SAC I Chamber

Operation Mode :LTE B26 Part90 Test Date :2020-09-19

Test Mode :Tx CH Low Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :VERTICAL

Test Frequency :816.5 MHz Engineer :Neo



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
100.81	-67.87	-60.72	-6.20	-0.95	-13.00	-54.87
182.29	-73.40	-68.36	-3.81	-1.23	-13.00	-60.40
264.74	-74.72	-71.53	-1.66	-1.53	-13.00	-61.72
328.76	-76.76	-73.35	-1.72	-1.69	-13.00	-63.76
420.91	-77.41	-73.84	-1.48	-2.09	-13.00	-64.41
558.65	-73.88	-70.25	-1.36	-2.27	-13.00	-60.88
1633.00	-57.70	-63.53	9.67	-3.84	-13.00	-44.70

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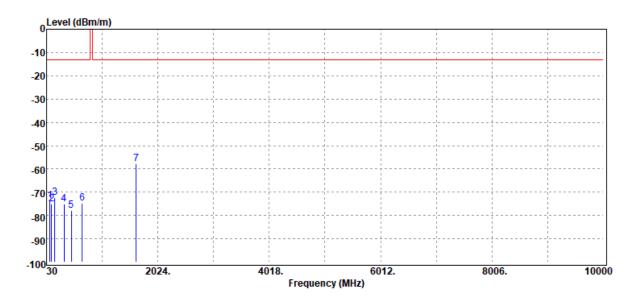
Report Number :ER/2020/80160 Test Site :SAC I Chamber

Operation Mode :LTE B26 Part90 Test Date :2020-09-19

Test Mode :Tx CH Low Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :HORIZONTAL

Test Frequency :816.5 MHz Engineer :Neo



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
90.14	-73.82	-67.11	-5.81	-0.90	-13.00	-60.82
119.24	-74.94	-66.56	-7.32	-1.06	-13.00	-61.94
180.35	-72.34	-66.94	-4.17	-1.23	-13.00	-59.34
347.19	-75.09	-71.69	-1.56	-1.84	-13.00	-62.09
473.29	-77.89	-74.05	-1.79	-2.05	-13.00	-64.89
670.20	-74.84	-70.53	-1.50	-2.81	-13.00	-61.84
1633.00	-57.79	-63.62	9.67	-3.84	-13.00	-44.79

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:819 MHz

Test Frequency

Report No.: ER/2020/80160

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:Neo

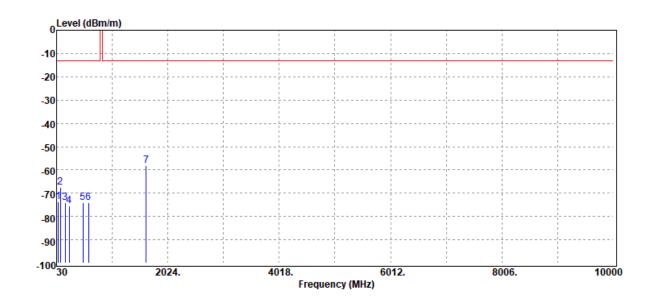
Engineer

Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B26 Part90 **Test Date** :2020-09-19

Test Mode :Tx CH Mid Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :VERTICAL



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
61.04	-73.60	-58.24	-14.61	-0.75	-13.00	-60.60
99.84	-67.57	-60.61	-6.01	-0.95	-13.00	-54.57
185.20	-73.90	-69.18	-3.47	-1.25	-13.00	-60.90
257.95	-75.29	-72.15	-1.61	-1.53	-13.00	-62.29
503.36	-74.16	-70.41	-1.46	-2.29	-13.00	-61.16
605.21	-74.09	-70.09	-1.89	-2.11	-13.00	-61.09
1638.00	-58.29	-64.15	9.71	-3.85	-13.00	-45.29

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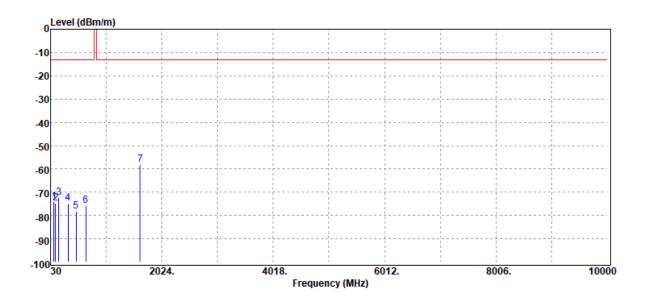
Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B26 Part90 **Test Date** :2020-09-19

Test Mode :Tx CH Mid Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :HORIZONTAL

:819 MHz **Test Frequency** Engineer :Neo



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
0.4.44		0= =0		2.24	40.00	
91.11	-74.11	-67.56	-5.64	-0.91	-13.00	-61.11
118.27	-74.86	-66.50	-7.30	-1.06	-13.00	-61.86
180.35	-72.19	-66.79	-4.17	-1.23	-13.00	-59.19
345.25	-74.84	-71.42	-1.57	-1.85	-13.00	-61.84
487.84	-78.24	-74.52	-1.62	-2.10	-13.00	-65.24
658.56	-75.95	-71.96	-1.33	-2.66	-13.00	-62.95
1638.00	-58.00	-63.86	9.71	-3.85	-13.00	-45.00

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Test Frequency

Report No.: ER/2020/80160

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:Neo

Engineer

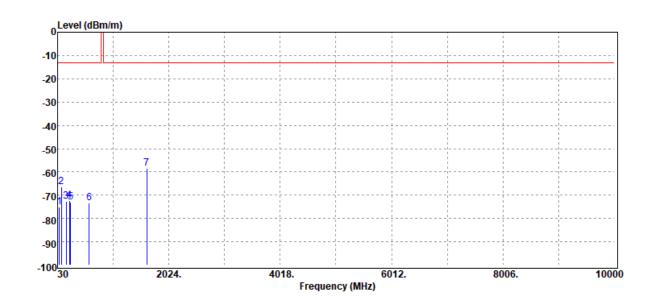
Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B26 Part90 **Test Date** :2020-09-19

Test Mode :Tx CH High Temp./Humi. :22.5/63

:821.5 MHz

EUT Pol :NB Plane Antenna Pol. :VERTICAL



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
61.04	-75.20	-59.84	-14.61	-0.75	-13.00	-62.20
99.84	-66.38	-59.42	-6.01	-0.95	-13.00	-53.38
187.14	-72.79	-68.26	-3.27	-1.26	-13.00	-59.79
243.40	-72.32	-69.09	-1.74	-1.49	-13.00	-59.32
264.74	-73.08	-69.89	-1.66	-1.53	-13.00	-60.08
597.45	-73.24	-69.03	-1.85	-2.36	-13.00	-60.24
1625.00	-58.52	-64.29	9.60	-3.83	-13.00	-45.52

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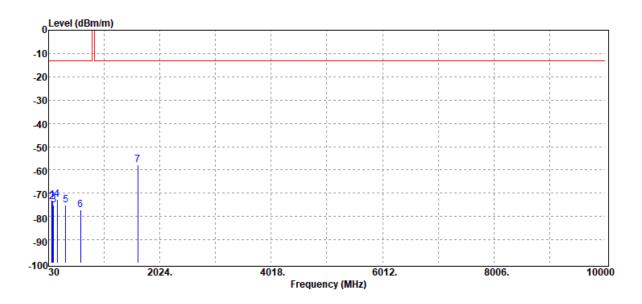
Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B26 Part90 **Test Date** :2020-09-19

Test Mode :Tx CH High Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :HORIZONTAL

Engineer **Test Frequency** :821.5 MHz :Neo



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
90.14	-73.12	-66.41	-5.81	-0.90	-13.00	-60.12
100.81	-73.57	-66.42	-6.20	-0.95	-13.00	-60.57
117.30	-75.05	-66.66	-7.34	-1.05	-13.00	-62.05
182.29	-72.77	-67.73	-3.81	-1.23	-13.00	-59.77
337.49	-75.16	-71.63	-1.71	-1.82	-13.00	-62.16
602.30	-77.01	-72.93	-1.88	-2.20	-13.00	-64.01
1625.00	-57.66	-63.43	9.60	-3.83	-13.00	-44.66

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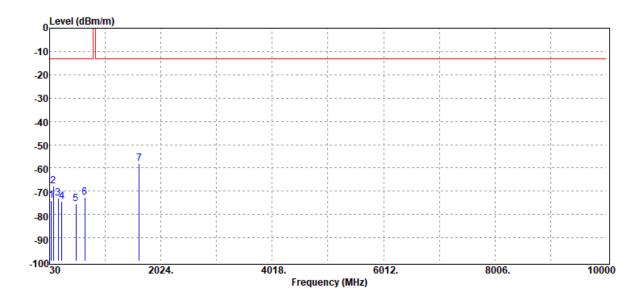
Report Number **Test Site** :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B26_10M Part90 Test Date :2020-09-19

Test Mode :Tx CH Mid Temp./Humi. :22.5/63

EUT Pol :NB Plane :VERTICAL Antenna Pol.

Test Frequency :819 MHz Engineer :Neo



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
61.04	-74.22	-58.86	-14.61	-0.75	-13.00	-61.22
97.90	-67.87	-61.14	-5.79	-0.94	-13.00	-54.87
185.20	-72.85	-68.13	-3.47	-1.25	-13.00	-59.85
253.10	-74.29	-71.15	-1.62	-1.52	-13.00	-61.29
502.39	-75.49	-71.76	-1.45	-2.28	-13.00	-62.49
658.56	-72.64	-68.65	-1.33	-2.66	-13.00	-59.64
1638.00	-58.03	-63.89	9.71	-3.85	-13.00	-45.03
1038.00	-58.03	-03.89	9.71	-3.85	-13.00	-45.03

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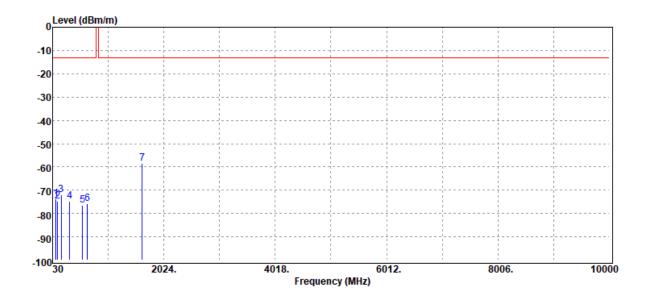
Report Number :ER/2020/80160 Test Site :SAC I Chamber

Operation Mode :LTE B26_10M Part90 Test Date :2020-09-19

Test Mode :Tx CH Mid Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :HORIZONTAL

Test Frequency :819 MHz Engineer :Neo



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
·		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
93.05	-73.56	-67.09	-5.55	-0.92	-13.00	-60.56
119.24	-74.90	-66.52	-7.32	-1.06	-13.00	-61.90
182.29	-71.99	-66.95	-3.81	-1.23	-13.00	-58.99
338.46	-74.87	-71.32	-1.71	-1.84	-13.00	-61.87
566.41	-76.42	-72.71	-1.42	-2.29	-13.00	-63.42
657.59	-75.92	-71.96	-1.32	-2.64	-13.00	-62.92
1638.00	-58.31	-64.17	9.71	-3.85	-13.00	-45.31

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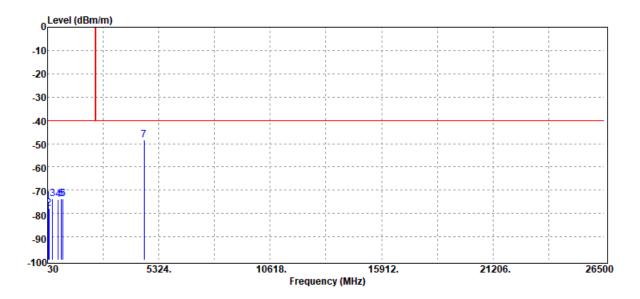
Report Number :ER/2020/80160 Test Site :SAC I Chamber

Operation Mode :LTE B30 Test Date :2020-09-19

Test Mode :Tx CH Low Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :VERTICAL

Test Frequency :2307.5 MHz Engineer :Neo



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
61.04	-74.89	-59.53	-14.61	-0.75	-40.00	-34.89
99.84	-77.98	-71.02	-6.01	-0.95	-40.00	-37.98
274.44	-73.63	-70.34	-1.75	-1.54	-40.00	-33.63
544.10	-73.89	-70.64	-1.21	-2.04	-40.00	-33.89
686.69	-73.66	-70.09	-1.43	-2.14	-40.00	-33.66
770.11	-73.77	-69.62	-1.99	-2.16	-40.00	-33.77
4615.00	-48.49	-54.50	12.67	-6.66	-40.00	-8.49

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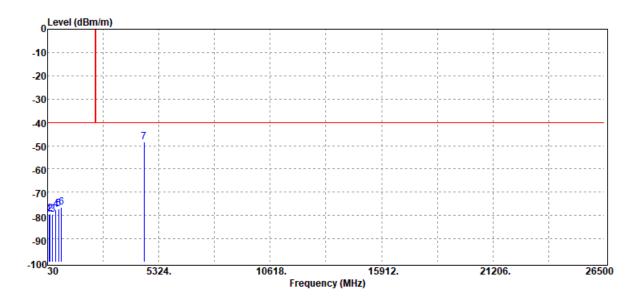
Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B30 Test Date :2020-09-19

Test Mode :Tx CH Low Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :HORIZONTAL

Engineer **Test Frequency** :2307.5 MHz :Neo



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
94.99	-79.46	-72.96	-5.57	-0.93	-40.00	-39.46
156.10	-79.21	-70.83	-7.17	-1.21	-40.00	-39.21
272.50	-79.65	-76.35	-1.77	-1.53	-40.00	-39.65
424.79	-77.62	-73.94	-1.55	-2.13	-40.00	-37.62
548.95	-77.19	-73.80	-1.22	-2.17	-40.00	-37.19
681.84	-76.59	-72.86	-1.45	-2.28	-40.00	-36.59
4615.00	-48.41	-54.42	12.67	-6.66	-40.00	-8.41

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EUT Pol

Report No.: ER/2020/80160

:VERTICAL

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Antenna Pol.

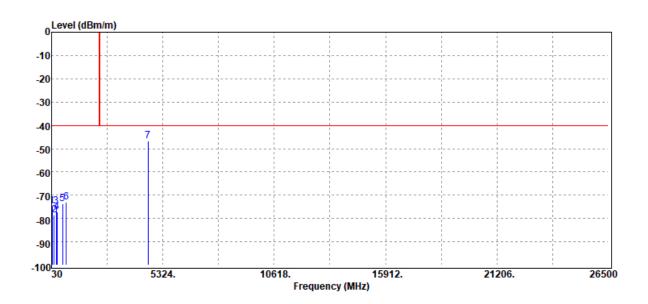
Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B30 Test Date :2020-09-19

Test Mode :Tx CH Mid Temp./Humi. :22.5/63

Engineer **Test Frequency** :2310 MHz :Neo

:NB Plane



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
61.04	-74.72	-59.36	-14.61	-0.75	-40.00	-34.72
156.10	-78.69	-70.31	-7.17	-1.21	-40.00	-38.69
253.10	-74.79	-71.65	-1.62	-1.52	-40.00	-34.79
287.05	-77.01	-73.60	-1.81	-1.60	-40.00	-37.01
553.80	-73.73	-70.19	-1.31	-2.23	-40.00	-33.73
730.34	-72.92	-68.79	-1.47	-2.66	-40.00	-32.92
4620.00	-46.85	-52.85	12.66	-6.66	-40.00	-6.85

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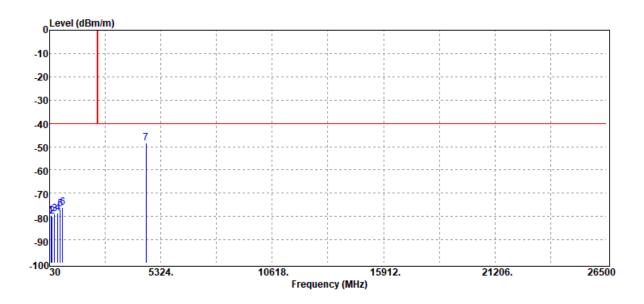
Report Number :ER/2020/80160 Test Site :SAC I Chamber

Operation Mode :LTE B30 Test Date :2020-09-19

Test Mode :Tx CH Mid Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :HORIZONTAL

Test Frequency :2310 MHz Engineer :Neo



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dDm	•	_		dDm	٩D
IVITZ	dBm	dBm	dBi/dBd	dB	dBm	dB
99.84	-79.75	-72.79	-6.01	-0.95	-40.00	-39.75
154.16	-79.91	-71.42	-7.27	-1.22	-40.00	-39.91
272.50	-78.88	-75.58	-1.77	-1.53	-40.00	-38.88
420.91	-78.52	-74.95	-1.48	-2.09	-40.00	-38.52
544.10	-76.71	-73.46	-1.21	-2.04	-40.00	-36.71
657.59	-76.13	-72.17	-1.32	-2.64	-40.00	-36.13
4620.00	-48.46	-54.46	12.66	-6.66	-40.00	-8.46

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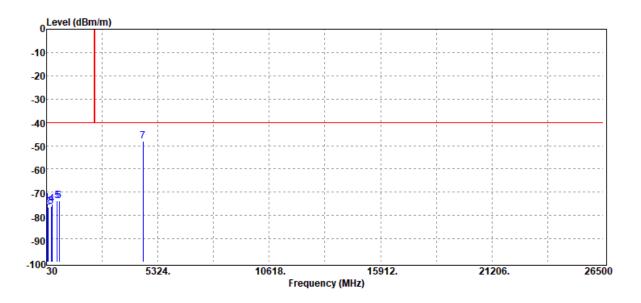
Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B30 Test Date :2020-09-19

Test Mode :Tx CH High Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :VERTICAL

Engineer **Test Frequency** :2312.5 MHz :Neo



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	['] dBm	dBi/dBd	dB	dBm	dB
62.01	-74.63	-59.49	-14.38	-0.76	-40.00	-34.63
99.84	-76.48	-69.52	-6.01	-0.95	-40.00	-36.48
253.10	-76.26	-73.12	-1.62	-1.52	-40.00	-36.26
287.05	-75.02	-71.61	-1.81	-1.60	-40.00	-35.02
542.16	-73.76	-70.53	-1.24	-1.99	-40.00	-33.76
636.25	-73.53	-69.62	-1.48	-2.43	-40.00	-33.53
4625.00	-48.06	-54.05	12.65	-6.66	-40.00	-8.06

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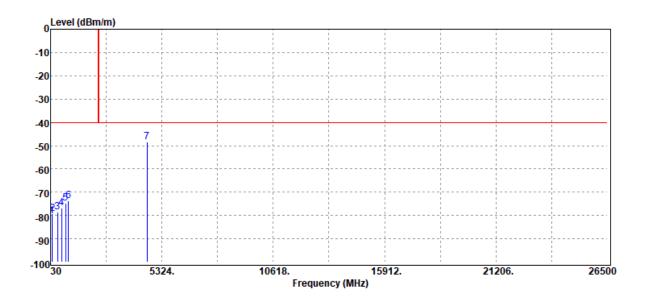
Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B30 Test Date :2020-09-19

Test Mode :Tx CH High Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :HORIZONTAL

Engineer **Test Frequency** :2312.5 MHz :Neo



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		_
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
93.05	-80.23	-73.76	-5.55	-0.92	-40.00	-40.23
124.09	-79.32	-70.83	-7.46	-1.03	-40.00	-39.32
357.86	-78.40	-75.16	-1.51	-1.73	-40.00	-38.40
565.44	-76.86	-73.17	-1.40	-2.29	-40.00	-36.86
747.80	-74.82	-70.18	-1.75	-2.89	-40.00	-34.82
890.39	-73.81	-69.41	-1.45	-2.95	-40.00	-33.81
4625.00	-48.36	-54.35	12.65	-6.66	-40.00	-8.36

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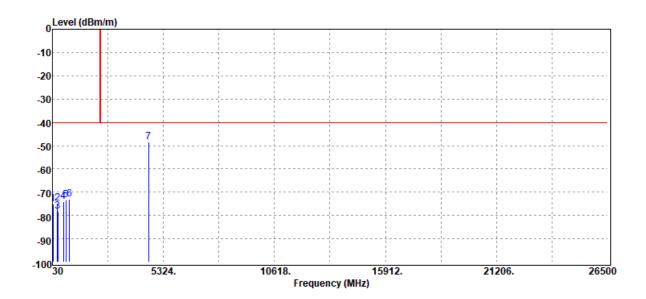
Report Number **Test Site** :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B30_10M **Test Date** :2020-09-19

Test Mode :Tx CH Mid Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :VERTICAL

Test Frequency :2310 MHz Engineer :Neo



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
62.01	-74.92	-59.78	-14.38	-0.76	-40.00	-34.92
272.50	-74.88	-71.58	-1.77	-1.53	-40.00	-34.88
285.11	-78.18	-74.76	-1.83	-1.59	-40.00	-38.18
555.74	-73.94	-70.35	-1.34	-2.25	-40.00	-33.94
679.90	-73.29	-69.47	-1.48	-2.34	-40.00	-33.29
842.86	-72.96	-68.61	-1.61	-2.74	-40.00	-32.96
4620.00	-48.61	-54.61	12.66	-6.66	-40.00	-8.61

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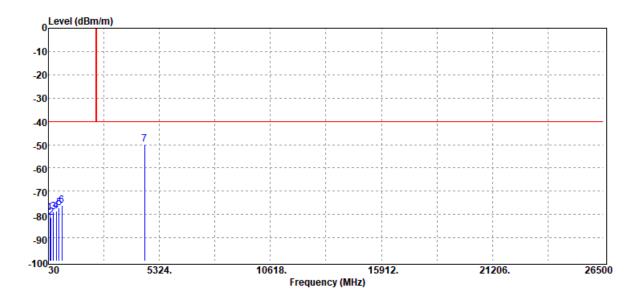
Report Number :ER/2020/80160 Test Site :SAC I Chamber

Operation Mode :LTE B30_10M Test Date :2020-09-19

Test Mode :Tx CH Mid Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :HORIZONTAL

Test Frequency :2310 MHz Engineer :Neo



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
95.96	-79.38	-72.87	-5.58	-0.93	-40.00	-39.38
151.25	-81.19	-72.54	-7.43	-1.22	-40.00	-41.19
259.89	-78.80	-75.64	-1.63	-1.53	-40.00	-38.80
411.21	-78.47	-75.18	-1.39	-1.90	-40.00	-38.47
542.16	-77.08	-73.85	-1.24	-1.99	-40.00	-37.08
663.41	-76.16	-72.07	-1.36	-2.73	-40.00	-36.16
4620.00	-49.73	-55.73	12.66	-6.66	-40.00	-9.73

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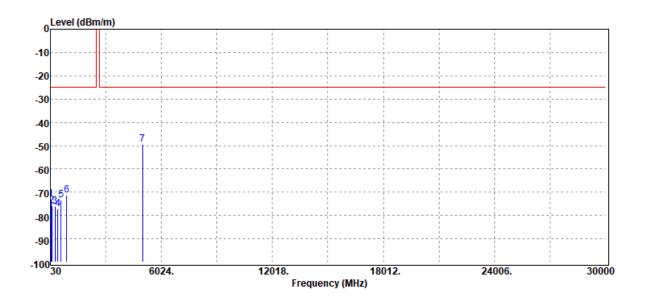
Report Number :ER/2020/80160 Test Site :SAC I Chamber

Operation Mode :LTE B41 Test Date :2020-09-19

Test Mode :Tx CH Low Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :VERTICAL

Test Frequency :2506 MHz Engineer :Neo



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
61.04	-73.17	-57.81	-14.61	-0.75	-25.00	-48.17
109.54	-75.90	-67.81	-7.09	-1.00	-25.00	-50.90
274.44	-76.06	-72.77	-1.75	-1.54	-25.00	-51.06
420.91	-77.14	-73.57	-1.48	-2.09	-25.00	-52.14
599.39	-73.52	-69.37	-1.86	-2.29	-25.00	-48.52
901.06	-71.41	-66.77	-1.65	-2.99	-25.00	-46.41
5012.00	-49.31	-55.13	12.68	-6.86	-25.00	-24.31

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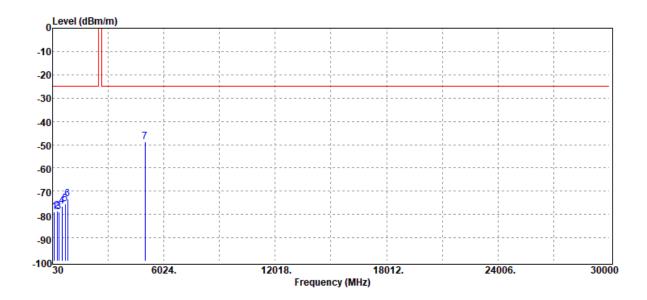
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Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B41 Test Date :2020-09-19

Test Mode :Tx CH Low Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :HORIZONTAL Engineer **Test Frequency** :2506 MHz :Neo



Freq. EIRP/ERP SG Antenna Cable Limit M Output Level Gain Loss MHz dBm dBm dBi/dBd dB dBm	largin dB
MILE GETT GETT GETT GETT GETT GETT GETT GE	<u> </u>
124.09 -78.78 -70.29 -7.46 -1.03 -25.00 -5	53.78
274.44 -78.52 -75.23 -1.75 -1.54 -25.00 -5	53.52
356.89 -78.94 -75.69 -1.51 -1.74 -25.00 -9	53.94
536.34 -76.52 -73.29 -1.34 -1.89 -25.00 -5	51.52
716.76 -75.43 -71.56 -1.28 -2.59 -25.00 -5	50.43
842.86 -73.31 -68.96 -1.61 -2.74 -25.00 -4	48.31
5012.00 -48.71 -54.53 12.68 -6.86 -25.00 -2	23.71

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Test Frequency

Report No.: ER/2020/80160

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:Neo

30000

Engineer

24006.

Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B41 Test Date :2020-09-19

Test Mode :Tx CH Mid Temp./Humi. :22.5/63

:2593 MHz

6024.

EUT Pol :NB Plane Antenna Pol. :VERTICAL



Frequency (MHz)

12018.

Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
1711 12	<u> </u>	авііі	abi/aba	<u>ub</u>	dbiii	<u> </u>
61.04	-73.61	-58.25	-14.61	-0.75	-25.00	-48.61
99.84	-78.16	-71.20	-6.01	-0.95	-25.00	-53.16
267.65	-76.03	-72.76	-1.74	-1.53	-25.00	-51.03
547.01	-74.07	-70.74	-1.21	-2.12	-25.00	-49.07
760.41	-72.57	-68.12	-1.81	-2.64	-25.00	-47.57
890.39	-71.38	-66.98	-1.45	-2.95	-25.00	-46.38
5186.00	-49.91	-55.72	12.92	-7.11	-25.00	-24.91

18012.

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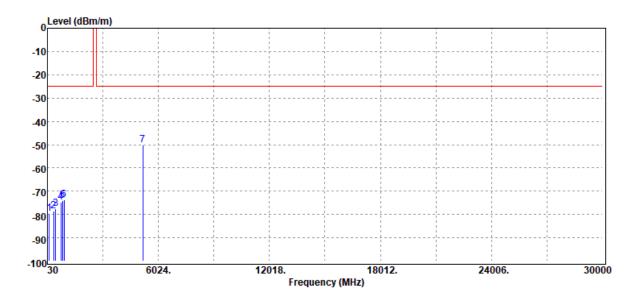
Report Number Test Site :SAC I Chamber :ER/2020/80160

Operation Mode :LTE B41 Test Date :2020-09-19

Test Mode :Tx CH Mid Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :HORIZONTAL

Engineer **Test Frequency** :2593 MHz :Neo



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
IVII IZ	аып	чын	uDi/uDu	uБ	וווטט	ub_
124.09	-79.61	-71.12	-7.46	-1.03	-25.00	-54.61
357.86	-78.42	-75.18	-1.51	-1.73	-25.00	-53.42
482.99	-77.41	-73.66	-1.65	-2.10	-25.00	-52.41
747.80	-74.77	-70.13	-1.75	-2.89	-25.00	-49.77
837.04	-74.01	-69.36	-1.73	-2.92	-25.00	-49.01
922.40	-73.86	-69.14	-1.88	-2.84	-25.00	-48.86
5186.00	-50.11	-55.92	12.92	-7.11	-25.00	-25.11

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:Neo

Report Number Test Site :SAC I Chamber :ER/2020/80160

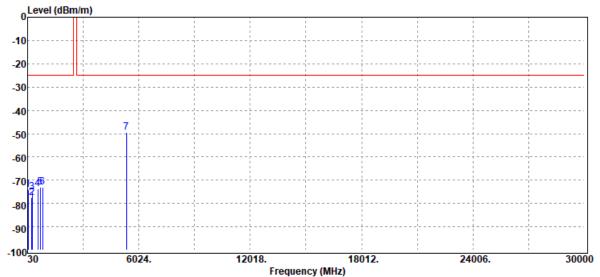
Operation Mode :LTE B41 Test Date :2020-09-19

Test Mode :Tx CH High Temp./Humi. :22.5/63

EUT Pol :NB Plane Antenna Pol. :VERTICAL

Engineer **Test Frequency**

:2680 MHz



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
61.04	-74.14	-58.78	-14.61	-0.75	-25.00	-49.14
250.19	-77.35	-74.16	-1.67	-1.52	-25.00	-52.35
272.50	-75.15	-71.85	-1.77	-1.53	-25.00	-50.15
576.11	-73.57	-69.61	-1.56	-2.40	-25.00	-48.57
709.00	-73.05	-69.18	-1.41	-2.46	-25.00	-48.05
849.65	-72.88	-68.95	-1.54	-2.39	-25.00	-47.88
5360.00	-49.37	-55.81	13.48	-7.04	-25.00	-24.37

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:NB Plane

EUT Pol

Report No.: ER/2020/80160

:HORIZONTAL

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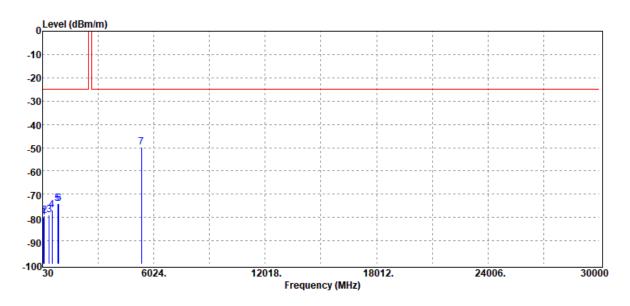
Antenna Pol.

Report Number :ER/2020/80160 Test Site :SAC I Chamber

Operation Mode :LTE B41 Test Date :2020-09-19

Test Mode :Tx CH High Temp./Humi. :22.5/63

Test Frequency :2680 MHz Engineer :Neo



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
94.99	-79.92	-73.42	-5.57	-0.93	-25.00	-54.92
124.09	-79.07	-70.58	-7.46	-1.03	-25.00	-54.07
385.99	-78.76	-75.44	-1.52	-1.80	-25.00	-53.76
541.19	-76.84	-73.62	-1.26	-1.96	-25.00	-51.84
841.89	-74.06	-69.65	-1.62	-2.79	-25.00	-49.06
909.79	-74.07	-69.32	-1.74	-3.01	-25.00	-49.07
5360.00	-49.82	-56.26	13.48	-7.04	-25.00	-24.82

~ End of Report ~

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