

**ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT**

**Applicant:** Sharp Corporation, Mobile Communication B.U.  
2-13-1, Hachihonmatsu-lida, Higashi-hiroshima-shi,  
Hiroshima, 739-0192, Japan

**Manufacturer:** Sharp Corporation  
1 Takumi-cho, Sakai-ku, Sakai City, Osaka 590-8522, Japan

**Product Name:** Smart phone

**Report Number:** ER/2019/C0150

**FCC ID:** APYHRO00282

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

**Issue Date:** Feb. 13, 2020

**Date of Test:** Dec. 23, 2019 ~ Jan. 17, 2020

**Date of EUT Received:** Dec. 23, 2019

**We hereby certify that:**

The above equipment was tested by SGS Taiwan Ltd. Electronics & Communication Laboratory. 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 report relate only to the tested sample identified in this report.

**Approved By:** \_\_\_\_\_

*Vito Pei*  
**Vito Pei/ Sr. Engineer**



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## Revision History

Report Number	Revision	Description	Issue Date	Remark
ER/2019/C0150	Rev.00	Original.	Feb. 13, 2020	Revised By: Susan Lin

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## 1. GENERAL PRODUCT INFORMATION

### 1.1. Product Description

Product Name:	Smart phone
Hardware Version:	DVT
Software Version:	N/A
Power Supply:	3.85V from Rechargeable Li-ion Battery
Antenna Designation:	Inverted-F Antenna, Gain: -5.9dBi (GSM/GPRS 850, WCDMA B5, LTE B5), -3.9dBi (GSM/GPRS 1900, WCDMA B2, LTE B2), -6.0dBi (WCDMA B4, LTE B4), -1.4dBi (LTE B7) -10.6dBi (LTE B12, LTE B17), -6.9dBi (LTE B13) -0.8dBi (LTE B38, LTE B41)
IMEI:	004401117126629 / 004401117127106 / 004401117127304 004401117126579 / 004401117126967 / 004401117127510

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## 1.2. GSM / WCDMA / LTE: Cellular Phone Standards Frequency Range

Operating Frequency (MHz)		
GSM/GPRS 850	824.2	- 848.8
GSM/GPRS 1900	1850.2	- 1909.8

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	BW (MHz)	Operation Frequency (MHz)
2	1.4	1850.7 - 1909.3
	3	1851.5 - 1908.5
	5	1852.5 - 1907.5
	10	1855.0 - 1905.0
	15	1857.5 - 1902.5
	20	1860.0 - 1900.0
4	1.4	1710.7 - 1754.3
	3	1711.5 - 1753.5
	5	1712.5 - 1752.5
	10	1715.0 - 1780.0
	15	1717.5 - 1747.5
	20	1720.0 - 1745.0
5	1.4	824.7 - 848.3
	3	825.5 - 847.5
	5	826.5 - 846.5
	10	829.0 - 844.0
7	5	2502.5 - 2567.5
	10	2505.0 - 2565.0
	15	2507.5 - 2562.5
	20	2510.0 - 2560.0

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12	1.4	699.7	-	715.3
	3	700.5	-	714.5
	5	701.5	-	713.5
	10	704.0	-	711.0
13	5	779.5	-	784.5
	10	782		
17	5	706.5	-	713.5
	10	709.0	-	711.0
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. Type of Emission & Max ERP/EIRP Power Measurement Result:

	ERP / EIRP (dBm)		W	Type of Emission
GPRS 850	26.58	ERP	0.455	247KGXW
GPRS 1900	25.11	EIRP	0.324	243KGXW

	ERP / EIRP (dBm)		W	Type of Emission
WCDMA Band II	18.52	EIRP	0.071	4M14F9W
HSDPA Band II	17.57	EIRP	0.057	4M15F9W
HSUPA Band II	17.48	EIRP	0.056	4M15F9W
WCDMA Band IV	16.28	EIRP	0.042	4M14F9W
HSDPA Band IV	15.30	EIRP	0.034	4M14F9W
HSUPA Band IV	15.29	EIRP	0.034	4M15F9W
WCDMA Band V	17.93	ERP	0.062	4M15F9W
HSDPA Band V	16.77	ERP	0.048	4M15F9W
HSUPA Band V	16.88	ERP	0.049	4M15F9W

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LTE Band	BW	Modulation	ERP / EIRP (dBm)		(W)	Type of Emission
2	1.4	QPSK	18.14	EIRP	0.065	1M10G7D
		16QAM	17.60	EIRP	0.058	1M10D7W
		64QAM	16.73	EIRP	0.047	1M10D7W
2	3	QPSK	18.15	EIRP	0.065	2M70G7D
		16QAM	17.63	EIRP	0.058	2M70D7W
		64QAM	16.78	EIRP	0.048	2M71D7W
2	5	QPSK	18.22	EIRP	0.066	4M50G7D
		16QAM	17.61	EIRP	0.058	4M50D7W
		64QAM	16.73	EIRP	0.047	4M51D7W
2	10	QPSK	18.18	EIRP	0.066	9M00G7D
		16QAM	17.70	EIRP	0.059	8M96D7W
		64QAM	16.88	EIRP	0.049	8M98D7W
2	15	QPSK	18.39	EIRP	0.069	13M5G7D
		16QAM	17.97	EIRP	<b>0.063</b>	13M5D7W
		64QAM	17.13	EIRP	<b>0.052</b>	13M5D7W
2	20	QPSK	18.43	EIRP	<b>0.070</b>	18M2G7D
		16QAM	17.83	EIRP	0.061	18M0D7W
		64QAM	17.03	EIRP	0.050	18M0D7W

LTE Band	BW	Modulation	ERP / EIRP (dBm)		(W)	Type of Emission
5	1.4	QPSK	14.57	ERP	0.029	1M10G7D
		16QAM	14.07	ERP	0.026	1M10D7W
		64QAM	13.52	ERP	0.022	1M10D7W
5	3	QPSK	14.48	ERP	0.028	2M70G7D
		16QAM	14.03	ERP	0.025	2M70D7W
		64QAM	13.50	ERP	0.022	2M71D7W
5	5	QPSK	14.64	ERP	0.029	4M50G7D
		16QAM	14.20	ERP	<b>0.026</b>	4M51D7W
		64QAM	13.65	ERP	<b>0.023</b>	4M51D7W
5	10	QPSK	14.70	ERP	<b>0.030</b>	9M00G7D
		16QAM	14.15	ERP	0.026	8M96D7W
		64QAM	13.60	ERP	0.023	8M97D7W

LTE Band	BW	Modulation	ERP / EIRP (dBm)		(W)	Type of Emission
4	1.4	QPSK	15.92	EIRP	0.039	1M09G7D
		16QAM	15.37	EIRP	0.034	1M10D7W
		64QAM	14.51	EIRP	0.028	1M10D7W
4	3	QPSK	15.96	EIRP	0.039	2M70G7D
		16QAM	15.47	EIRP	0.035	2M70D7W
		64QAM	14.63	EIRP	0.029	2M71D7W
4	5	QPSK	16.03	EIRP	0.040	4M51G7D
		16QAM	15.40	EIRP	0.035	4M51D7W
		64QAM	14.51	EIRP	0.028	4M51D7W
4	10	QPSK	16.10	EIRP	0.041	9M00G7D
		16QAM	15.59	EIRP	0.036	8M96D7W
		64QAM	14.69	EIRP	0.029	8M98D7W
4	15	QPSK	16.23	EIRP	0.042	13M5G7D
		16QAM	15.74	EIRP	<b>0.037</b>	13M5D7W
		64QAM	14.88	EIRP	<b>0.031</b>	13M5D7W
4	20	QPSK	16.27	EIRP	<b>0.042</b>	17M9G7D
		16QAM	15.71	EIRP	0.037	17M9D7W
		64QAM	14.81	EIRP	0.030	17M9D7W

LTE Band	BW	Modulation	ERP / EIRP (dBm)		(W)	Type of Emission
7	5	QPSK	21.62	EIRP	0.145	4M50G7D
		16QAM	21.17	EIRP	0.131	4M50D7W
		64QAM	20.26	EIRP	0.106	4M51D7W
7	10	QPSK	21.51	EIRP	0.142	9M00G7D
		16QAM	21.17	EIRP	0.131	8M96D7W
		64QAM	20.24	EIRP	0.106	8M98D7W
7	15	QPSK	21.81	EIRP	0.152	13M5G7D
		16QAM	21.37	EIRP	0.137	13M5D7W
		64QAM	20.48	EIRP	0.112	13M5D7W
7	20	QPSK	21.84	EIRP	<b>0.153</b>	17M9G7D
		16QAM	21.38	EIRP	<b>0.137</b>	18M0D7W
		64QAM	20.50	EIRP	<b>0.112</b>	17M9D7W

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12	1.4	QPSK	9.69	ERP	0.009	1M10G7D
		16QAM	9.22	ERP	0.008	1M10D7W
		64QAM	8.58	ERP	0.007	1M10D7W
12	3	QPSK	9.78	ERP	0.010	2M70G7D
		16QAM	9.41	ERP	<b>0.009</b>	2M70D7W
		64QAM	8.69	ERP	0.007	2M70D7W
12	5	QPSK	9.82	ERP	0.010	4M50G7D
		16QAM	9.35	ERP	0.009	4M51D7W
		64QAM	8.71	ERP	<b>0.007</b>	4M51D7W
12	10	QPSK	9.92	ERP	<b>0.010</b>	9M00G7D
		16QAM	9.09	ERP	0.008	8M95D7W
		64QAM	8.45	ERP	0.007	8M97D7W

LTE Band	BW	Modulation	ERP / EIRP (dBm)		(W)	Type of Emission
38	5	QPSK	22.12	EIRP	0.163	4M51G7D
		16QAM	21.52	EIRP	0.142	4M51D7W
		64QAM	20.80	EIRP	0.120	4M51D7W
38	10	QPSK	22.15	EIRP	0.164	9M00G7D
		16QAM	21.89	EIRP	<b>0.155</b>	8M96D7W
		64QAM	21.07	EIRP	<b>0.128</b>	8M97D7W
38	15	QPSK	22.25	EIRP	0.168	13M4G7D
		16QAM	21.65	EIRP	0.146	13M5D7W
		64QAM	20.91	EIRP	0.123	13M4D7W
38	20	QPSK	22.30	EIRP	<b>0.170</b>	17M9G7D
		16QAM	21.64	EIRP	0.146	17M9D7W
		64QAM	20.86	EIRP	0.122	17M9D7W

LTE Band	BW	Modulation	ERP / EIRP (dBm)		(W)	Type of Emission
13	5	QPSK	13.65	ERP	<b>0.023</b>	4M50G7D
		16QAM	13.07	ERP	<b>0.020</b>	4M51D7W
		64QAM	12.43	ERP	<b>0.017</b>	4M51D7W
13	10	QPSK	13.49	ERP	0.022	8M94G7D
		16QAM	12.95	ERP	0.020	8M95D7W
		64QAM	12.20	ERP	0.017	8M96D7W

LTE Band	BW	Modulation	ERP / EIRP (dBm)		(W)	Type of Emission
41	5	QPSK	22.67	EIRP	0.185	4M51G7D
		16QAM	22.09	EIRP	0.162	4M51D7W
		64QAM	21.34	EIRP	0.136	4M51D7W
41	10	QPSK	22.71	EIRP	0.187	8M99G7D
		16QAM	22.13	EIRP	0.163	8M97D7W
		64QAM	21.32	EIRP	0.136	8M97D7W
41	15	QPSK	22.76	EIRP	0.189	13M5G7D
		16QAM	22.18	EIRP	0.165	13M5D7W
		64QAM	21.34	EIRP	0.136	13M5D7W
41	20	QPSK	22.81	EIRP	<b>0.191</b>	17M9G7D
		16QAM	22.23	EIRP	<b>0.167</b>	17M9D7W
		64QAM	21.49	EIRP	<b>0.141</b>	17M9D7W

LTE Band	BW	Modulation	ERP / EIRP (dBm)		(W)	Type of Emission
17	5	QPSK	9.86	ERP	0.010	4M50G7D
		16QAM	9.47	ERP	<b>0.009</b>	4M51D7W
		64QAM	8.82	ERP	<b>0.008</b>	4M52D7W
17	10	QPSK	9.93	ERP	<b>0.010</b>	9M01G7D
		16QAM	9.18	ERP	0.008	8M95D7W
		64QAM	8.50	ERP	0.007	8M98D7W

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#### 1.4. Test Methodology of Applied Standards

FCC 47 CFR Part 2, 22, 24, 27.

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.

TS 151 010-1 is used to set, and measure the output power.

Note: All test items have been performed and record as per the above standards.

#### 1.5. Test Facility

SGS Taiwan Ltd. Electronics & Communication Laboratory No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803 (TAF code 0513)

FCC Designation number: TW0001

#### 1.6. Special Accessories

No special accessories were used during testing.

#### 1.7. Equipment Modifications

There were 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

According to measurement procured ANSI C63.26-2015, the EUT is placed on a turn 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)

According to measurement procured ANSI C63.26-2015, The EUT is a placed on as 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.

### 2.4. Measurement Results Explanation Example

#### For all conducted test items:

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

#### Note:

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

Following shows an offset computation in physical test.

	RF cable loss (dB)	Attenuation factor(dB)	offset(dB)
Low Band (Below 1GHz)	0.5	13.9	14.4
High Band (1 GHz~2GHz)	0.7	14	14.7
High Band (Above 2 GHz)	0.8	14.2	15

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## 2.5. Final Amplifier Voltage and Current Information:

Test Mode	DC voltage (V)	DC current (mA)
GSM 850	3.85	658
GPRS 1900		631
HSUPA B2		692
WCDMA B4		641
HSUPA B5		657
LTE Band 2		680
LTE Band 4		691
LTE Band 5		684
LTE Band 7		676
LTE Band 12		697
LTE Band 13		632
LTE Band 17		663
LTE Band 38		665
LTE Band 41		688

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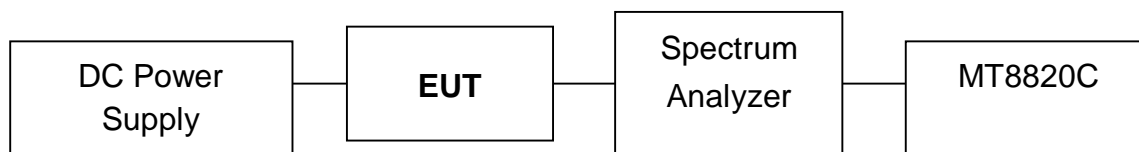
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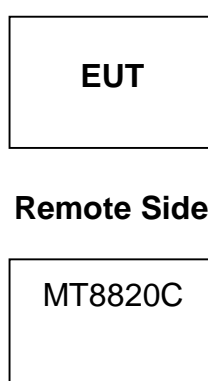
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## 2.6. Configuration of Tested System

**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 Analyzer	Anritsu	MT8820C	6200995019	N/A	N/A
2.	DC Power Supply	Agilent	E3640A	MY52410006	N/A	N/A

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### 3. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§2.1046(a)	RF Power Output	Compliant
§24.232(c) §27.50(d)(4) §22.913(a)(5) §27, 50(h)(2) §27.50(c)(10) §27.50(b)(10)	ERP/ EIRP measurement	Compliant
§2.1049(h)	99% & 26dB Occuupied Bandwidth	Compliant
§2.1051 §24.238(a) §27.53(h) §22.917(a)(b) §27.53(m) §27.53(g) §27.53(c) §27.53(g) §27.53(m)(4)	Out of Band Emissions at Antenna Terminals and Band Edge / Emission mask requirements	Compliant
§2.1053, §2.1057(a)(1) §24.238(a) §27.53(h) §22.917(a) §27.53(m)(2) §27.53(g) §27.53(c)(f)	Field Strength of Spurious Radiation	Compliant
§24.232(d) §27.50((B)	Peak to Average Ratio	Compliant
§2.1055 (1) §24.235 §27.54 §22.355	Frequency Stability	Compliant

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## 4. DESCRIPTION OF TEST MODES

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

1. The EUT has been tested under operating condition.
2. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, X(E1)Y(E2)Z(H) axis and antenna ports. The worst case was found as listed below. Following channel(s) was (were) selected for the final test as listed below:

BAND	RADIATED EMISSION
GSM/GPRS 850	H-plane
GSM/GPRS 1900	H-plane
WCDMA/HSPA Band II	H-plane
WCDMA/HSPA Band IV	H-plane
WCDMA/HSPA Band V	H-plane
LTE Band 2	H-plane
LTE Band 4	H-plane
LTE Band 5	H-plane
LTE Band 7	H-plane
LTE Band 12	H-plane
LTE Band 13	H-plane
LTE Band 17	H-plane
LTE Band 38	H-plane
LTE Band 41	H-plane

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## GSM/GPRS MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
ERP	128 to 251	128, 190, 251	GSM/GPRS 850
EIRP	512 to 810	512, 661, 810	GSM/GPRS 1900
FREQUENCY STABILITY	128 to 251 512 to 810	190 661	GPRS 850 GPRS 1900
OCCUPIED BANDWIDTH	128 to 251 512 to 810	190 661	GSM/GPRS 850 GSM/GPRS 1900
PEAK TO AVERAGE RATIO	512 to 810	512, 661, 810	GSM/GPRS 1900
BAND EDGE	128 to 251 512 to 810	128, 251 512, 810	GSM/GPRS 850 GSM/GPRS 1900
CONDCUDED EMISSION	128 to 251 512 to 810	128, 190, 251 512, 661, 810	GSM/GPRS 850 GSM/GPRS 1900
RADIATED EMISSION	128 to 251 512 to 810	128, 190, 251 512, 661, 810	GSM 850 GSM 1900

## WCDMA/HSPA MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
ERP	4132 to 4233	4132, 4183, 4233	WCDMA/HSPA Band V
EIRP	9262 to 9538 1312 to 1513	1312, 1413, 1513 9262, 9400, 9538	WCDMA/HSPA Band II WCDMA/HSPA Band IV
FREQUENCY STABILITY	4132 to 4233 1312 to 1513 9262 to 9538	4183 1413 9400	WCDMA Band II WCDMA Band IV WCDMA Band V
OCCUPIED BANDWIDTH	4132 to 4233 1312 to 1513 9262 to 9538	4132, 4183, 4233 1312, 1413, 1513 9262, 9400, 9538	WCDMA/HSPA Band II WCDMA/HSPA Band IV WCDMA/HSPA Band V
PEAK TO AVERAGE RATIO	4132 to 4233 1312 to 1513	4132, 4183, 4233 1312, 1413, 1513	WCDMA/HSPA Band II WCDMA/HSPA Band IV
BAND EDGE	4132 to 4233 1312 to 1513 9262 to 9538	4132, 4233 1312, 1513 9262, 9538	WCDMA Band II WCDMA Band IV WCDMA Band V
CONDCUDED EMISSION	4132 to 4233 1312 to 1513 9262 to 9538	4132, 4183, 4233 1312, 1413, 1513 9262, 9400, 9538	WCDMA Band II WCDMA Band IV WCDMA Band V
RADIATED EMISSION	4132 to 4233 1312 to 1513 9262 to 9538	4132, 4183, 4233 1312, 1413, 1513 9262, 9400, 9538	WCDMA Band II WCDMA Band IV WCDMA Band V

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# LTE Band 2 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
EIRP	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,5 RB Offest
	18615 to 19185	18615, 18900, 19185	3MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,14 RB Offest
	18625 to 19175	18625, 18900, 19175	5MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,24 RB Offest
	18650 to 19150	18650, 18900, 19150	10MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,49 RB Offest
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,74 RB Offest
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,99 RB Offest
FREQUENCY STABILITY	18650 to 19150	18900	10MHz	QPSK	Full RB
OCCUPIED BANDWIDTH	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK, 16QAM, 64QAM	Full RB
	18615 to 19185	18615, 18900, 19185	3MHz	QPSK, 16QAM, 64QAM	Full RB
	18625 to 19175	18625, 18900, 19175	5MHz	QPSK, 16QAM, 64QAM	Full RB
	18650 to 19150	18650, 18900, 19150	10MHz	QPSK, 16QAM, 64QAM	Full RB
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK, 16QAM, 64QAM	Full RB
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK, 16QAM, 64QAM	Full RB
PEAK TO AVER-AGE RATIO	18607 to 19193	18607, 18900, 19193	1.4MHz	64QAM	Full RB
	18615 to 19185	18615, 18900, 19185	3MHz	64QAM	Full RB
	18625 to 19175	18625, 18900, 19175	5MHz	64QAM	Full RB
	18650 to 19150	18650, 18900, 19150	10MHz	64QAM	Full RB
	18675 to 19125	18675, 18900, 19125	15MHz	64QAM	Full RB
	18700 to 19100	18700, 18900, 19100	20MHz	64QAM	Full RB
BAND EDGE	18607 to 19193	18607, 19193	1.4MHz	QPSK	1 RB/ 0,5 RB Offes Full RB
	18615 to 19185	18615, 19185	3MHz	QPSK	1 RB/ 0,14 RB Offest Full RB
	18625 to 19175	18625, 19175	5MHz	QPSK	1 RB/ 0,24 RB Offest Full RB
	18650 to 19150	18650, 19150	10MHz	QPSK	1 RB/ 0,49 RB Offest Full RB
	18675 to 19125	18675, 19125	15MHz	QPSK	1 RB/ 0,74 RB Offest Full RB
	18700 to 19100	18700, 19100	20MHz	QPSK	1 RB/ 0,99 RB Offest Full RB
CONDCUDED EMISSION	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK	1 RB, 0 RB Offest
	18615 to 19185	18615, 18900, 19185	3MHz	QPSK	1 RB, 0 RB Offest
	18625 to 19175	18625, 18900, 19175	5MHz	QPSK	1 RB, 0 RB Offest
	18650 to 19150	18650, 18900, 19150	10MHz	QPSK	1 RB, 0 RB Offest
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK	1 RB, 0 RB Offest
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK	1 RB, 0 RB Offest
RADIATED EMISSION	18700 to 19100	18700, 18900, 19100	20MHz	QPSK	1 RB, 99 RB Offest

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# LTE Band 4 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
EIRP	19957 to 19393	19957, 20175, 19393	1.4MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,5 RB Offest
	19965 to 22385	19965, 20175, 22385	3MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,14 RB Offest
	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,24 RB Offest
	20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,49 RB Offest
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,74 RB Offest
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,99 RB Offest
FREQUENCY STABILITY	20000 to 20350	20175	10MHz	QPSK	Full RB
OCCUPIED BANDWIDTH	19957 to 19393	19957, 20175, 19393	1.4MHz	QPSK, 16QAM, 64QAM	Full RB
	19965 to 22385	19965, 20175, 22385	3MHz	QPSK, 16QAM, 64QAM	Full RB
	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM, 64QAM	Full RB
	20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM, 64QAM	Full RB
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM, 64QAM	Full RB
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM, 64QAM	Full RB
PEAK TO AVER-AGE RATIO	19957 to 19393	19957, 20175, 19393	1.4MHz	64QAM	Full RB
	19965 to 22385	19965, 20175, 22385	3MHz	64QAM	Full RB
	19975 to 20375	19975, 20175, 20375	5MHz	64QAM	Full RB
	20000 to 20350	20000, 20175, 20350	10MHz	64QAM	Full RB
	20025 to 20325	20025, 20175, 20325	15MHz	64QAM	Full RB
	20050 to 20300	20050, 20175, 20300	20MHz	64QAM	Full RB
BAND EDGE	19957 to 19393	19957, 19393	1.4MHz	QPSK	1 RB/ 0,5 RB Offes Full RB
	19965 to 22385	19965, 22385	3MHz	QPSK	1 RB/ 0,14 RB Offest Full RB
	19975 to 20375	19975, 20375	5MHz	QPSK	1 RB/ 0,24 RB Offest Full RB
	20000 to 20350	20000, 20350	10MHz	QPSK	1 RB/ 0,49 RB Offest Full RB
	20025 to 20325	20025, 20325	15MHz	QPSK	1 RB/ 0,74 RB Offest Full RB
	20050 to 20300	20050, 20300	20MHz	QPSK	1 RB/ 0,99 RB Offest Full RB
CONDCUDED EMISSION	19957 to 19393	19957, 20175, 19393	1.4MHz	QPSK	1 RB, 0 RB Offest
	19965 to 22385	19965, 20175, 22385	3MHz	QPSK	1 RB, 0 RB Offest
	19975 to 20375	19975, 20175, 20375	5MHz	QPSK	1 RB, 0 RB Offest
	20000 to 20350	20000, 20175, 20350	10MHz	QPSK	1 RB, 0 RB Offest
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK	1 RB, 0 RB Offest
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK	1 RB, 0 RB Offest
RADIATED EMISSION	20050 to 20300	20050, 20175, 20300	20MHz	QPSK	1 RB, 0 RB Offest

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## LTE Band 5 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
ERP	20470 to 20643	20470, 20525, 20643	1.4MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,5 RB Offest
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,14 RB Offest
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,24 RB Offest
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,49 RB Offest
FREQUENCY STABILITY	20450 to 20600	20525	10MHz	QPSK	Full RB
OCCUPIED BANDWIDTH	20470 to 20643	20470, 20525, 20643	1.4MHz	QPSK, 16QAM, 64QAM	Full RB
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK, 16QAM, 64QAM	Full RB
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK, 16QAM, 64QAM	Full RB
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK, 16QAM, 64QAM	Full RB
PEAK TO AVERAGE RATIO	20470 to 20643	20470, 20525, 20643	1.4MHz	64QAM	Full RB
	20415 to 20635	20415, 20525, 20635	3MHz	64QAM	Full RB
	20425 to 20625	20425, 20525, 20625	5MHz	64QAM	Full RB
	20450 to 20600	20450, 20525, 20600	10MHz	64QAM	Full RB
BAND EDGE	20470 to 20643	20470, 20643	1.4MHz	QPSK	1 RB/ 0,5 RB Offes Full RB
	20415 to 20635	20415, 20635	3MHz	QPSK	1 RB/ 0,14 RB Offest Full RB
	20425 to 20625	20425, 20625	5MHz	QPSK	1 RB/ 0,24 RB Offest Full RB
	20450 to 20600	20450, 20600	10MHz	QPSK	1 RB/ 0,49 RB Offest Full RB
CONDCUDED EMISSION	20470 to 20643	20470, 20525, 20643	1.4MHz	QPSK	1 RB, 0 RB Offest
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK	1 RB, 0 RB Offest
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK	1 RB, 0 RB Offest
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK	1 RB, 0 RB Offest
RADIATED EMISSION	20425 to 20625	20450, 20525, 20600	10MHz	QPSK	1 RB, 49 RB Offest

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# LTE Band 7 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
EIRP	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,24 RB Offest
	20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,49 RB Offest
	20850 to 21375	20850, 21100, 21375	15MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,74 RB Offest
	20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,99 RB Offest
FREQUENCY STABILITY	20800 to 21400	21100	10MHz	QPSK	Full RB
OCCUPIED BANDWIDTH	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM, 64QAM	Full RB
	20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM, 64QAM	Full RB
	20850 to 21375	20850, 21100, 21375	15MHz	QPSK, 16QAM, 64QAM	Full RB
	20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM, 64QAM	Full RB
PEAK TO AVERAGE RATIO	20775 to 21425	20775, 21100, 21425	5MHz	64QAM	Full RB
	20800 to 21400	20800, 21100, 21400	10MHz	64QAM	Full RB
	20850 to 21375	20850, 21100, 21375	15MHz	64QAM	Full RB
	20850 to 21350	20850, 21100, 21350	20MHz	64QAM	Full RB
BAND EDGE	20775 to 21425	20775, 21100, 21425	5MHz	QPSK	1 RB/ 0,24 RB Offest Full RB
	20800 to 21400	20800, 21100, 21400	10MHz	QPSK	1 RB/ 0,49 RB Offest Full RB
	20850 to 21375	20850, 21100, 21375	15MHz	QPSK	1 RB/ 0,74 RB Offest Full RB
	20850 to 21350	20850, 21100, 21350	20MHz	QPSK	1 RB/ 0,99 RB Offest Full RB
CONDUCTED EMISSION	20775 to 21425	20775, 21100, 21425	5MHz	QPSK	1 RB, 0 RB Offest
	20800 to 21400	20800, 21100, 21400	10MHz	QPSK	1 RB, 0 RB Offest
	20850 to 21375	20850, 21100, 21375	15MHz	QPSK	1 RB, 0 RB Offest
	20850 to 21350	20850, 21100, 21350	20MHz	QPSK	1 RB, 0 RB Offest
RADIATED EMISSION	20850 to 21350	20850, 21100, 21350	20MHz	QPSK	1 RB, 99 RB Offest
EMISSION MASK	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,24 RB Offest 25 RB/ 0 Offset
	20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,49 RB Offest 50 RB/ 0 Offset
	20850 to 21375	20850, 21100, 21375	15MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,74 RB Offest 75 RB/ 0 Offset
	20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,99 RB Offest 100 RB/ 0 Offset

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# LTE Band 12 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
ERP	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,5 RB Offest
	23025 to 23165	23025, 23095, 23165	3MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,14 RB Offest
	23035 to 23155	23035, 23095, 23155	5MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,24 RB Offest
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,49 RB Offest
FREQUENCY STABILITY	23060 to 23130	23095	10MHz	QPSK	Full RB
OCCUPIED BANDWIDTH	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK, 16QAM, 64QAM	Full RB
	23025 to 23165	23025, 23095, 23165	3MHz	QPSK, 16QAM, 64QAM	Full RB
	23035 to 23155	23035, 23095, 23155	5MHz	QPSK, 16QAM, 64QAM	Full RB
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK, 16QAM, 64QAM	Full RB
PEAK TO AVERAGE RATIO	23017 to 23173	23017, 23095, 23173	1.4MHz	64QAM	Full RB
	23025 to 23165	23025, 23095, 23165	3MHz	64QAM	Full RB
	23035 to 23155	23035, 23095, 23155	5MHz	64QAM	Full RB
	23060 to 23130	23060, 23095, 23130	10MHz	64QAM	Full RB
BAND EDGE	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK	1 RB/ 0,5 RB Offes Full RB
	23025 to 23165	23025, 23095, 23165	3MHz	QPSK	1 RB/ 0,14 RB Offest Full RB
	23035 to 23155	23035, 23095, 23155	5MHz	QPSK	1 RB/ 0,24 RB Offest Full RB
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK	1 RB/ 0,49 RB Offest Full RB
CONDUCTED EMISSION	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK	1 RB, 0 RB Offest
	23025 to 23165	23025, 23095, 23165	3MHz	QPSK	1 RB, 0 RB Offest
	23035 to 23155	23035, 23095, 23155	5MHz	QPSK	1 RB, 0 RB Offest
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK	1 RB, 0 RB Offest
RADIATED EMISSION	23060 to 23130	23060, 23095, 23130	10MHz	QPSK	1 RB, 49 RB Offest

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### LTE Band 13 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
ERP	23205 to 23255	23205, 23230, 23255	5MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,24 RB Offest
	23230	23230	10MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,49 RB Offest
FREQUENCY STABILITY	23230	23230	10MHz	QPSK	Full RB
OCCUPIED BANDWIDTH	23205 to 23255	23205, 23230, 23255	5MHz	QPSK, 16QAM, 64QAM	Full RB
	23230	23230	10MHz	QPSK, 16QAM, 64QAM	Full RB
PEAK TO AVERAGE RATIO	23205 to 23255	23205, 23230, 23255	5MHz	64QAM	Full RB
	23230	23230	10MHz	64QAM	Full RB
BAND EDGE	23205 to 23255	23205, 23255	5MHz	QPSK	1 RB/ 0,24 RB Offest Full RB
	23230	23230	10MHz	QPSK	1 RB/ 0,49 RB Offest Full RB
CONDUCTED EMISSION	23205 to 23255	23205, 23230, 23255	5MHz	QPSK	1 RB, 0 RB Offest
	23230	23230	10MHz	QPSK	1 RB, 0 RB Offest
RADIATED EMISSION	23205 to 23255	23205, 23230, 23255	5MHz	QPSK	1 RB, 24 RB Offest

### LTE Band 17 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
ERP	23755 to 23825	23755, 23790, 23825	5MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,24 RB Offest
	23780 to 23800	23780, 23790, 23800	10MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,49 RB Offest
FREQUENCY STABILITY	23780 to 23800	23790	10MHz	QPSK	Full RB
OCCUPIED BANDWIDTH	23755 to 23825	23755, 23790, 23825	5MHz	QPSK, 16QAM, 64QAM	Full RB
	23780 to 23800	23780, 23790, 23800	10MHz	QPSK, 16QAM, 64QAM	Full RB
PEAK TO AVERAGE RATIO	23755 to 23825	23755, 23790, 23825	5MHz	64QAM	Full RB
	23780 to 23800	23780, 23790, 23800	10MHz	64QAM	Full RB
BAND EDGE	23755 to 23825	23755, 23825	5MHz	QPSK	1 RB/ 0,24 RB Offest Full RB
	23780 to 23800	23780, 23800	10MHz	QPSK	1 RB/ 0,49 RB Offest Full RB
CONDUCTED EMISSION	23755 to 23825	23755, 23790, 23825	5MHz	QPSK	1 RB, 0 RB Offest
	23780 to 23800	23780, 23790, 23800	10MHz	QPSK	1 RB, 0 RB Offest
RADIATED EMISSION	23780 to 23800	23780, 23790, 23800	10MHz	QPSK	1 RB, 49 RB Offest

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# LTE Band 38 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
EIRP	37775 to 38225	37775, 38000, 38225	5MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,24 RB Offset
	37800 to 38200	37800 , 38000, 38200	10MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,49 RB Offset
	37825 to 38175	37825 , 38000, 38175	15MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,74 RB Offset
	37850 to 38150	37850 , 38000, 38150	20MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,99 RB Offset
FREQUENCY STABILITY	37800 to 38200	37800 , 38000, 38200	10MHz	QPSK	Full RB
OCCUPIED BANDWIDTH	37775 to 38225	37775, 38000, 38225	5MHz	QPSK, 16QAM, 64QAM	Full RB
	37800 to 38200	37800 , 38000, 38200	10MHz	QPSK, 16QAM, 64QAM	Full RB
	37825 to 38175	37825 , 38000, 38175	15MHz	QPSK, 16QAM, 64QAM	Full RB
	37850 to 38150	37850 , 38000, 38150	20MHz	QPSK, 16QAM, 64QAM	Full RB
PEAK TO AVERAGE RATIO	37775 to 38225	37775, 38000, 38225	5MHz	64QAM	Full RB
	37800 to 38200	37800 , 38000, 38200	10MHz	64QAM	Full RB
	37825 to 38175	37825 , 38000, 38175	15MHz	64QAM	Full RB
	37850 to 38150	37850 , 38000, 38150	20MHz	64QAM	Full RB
BAND EDGE	37775 to 38225	37775, 38000, 38225	5MHz	QPSK	1 RB/ 0,24 RB Offset Full RB
	37800 to 38200	37800 , 38000, 38200	10MHz	QPSK	1 RB/ 0,49 RB Offset Full RB
	37825 to 38175	37825 , 38000, 38175	15MHz	QPSK	1 RB/ 0,74 RB Offset Full RB
	37850 to 38150	37850 , 38000, 38150	20MHz	QPSK	1 RB/ 0,99 RB Offset Full RB
CONDUCTED EMISSION	37775 to 38225	37775, 38000, 38225	5MHz	QPSK	1 RB, 0 RB Offset
	37800 to 38200	37800 , 38000, 38200	10MHz	QPSK	1 RB, 0 RB Offset
	37825 to 38175	37825 , 38000, 38175	15MHz	QPSK	1 RB, 0 RB Offset
	37850 to 38150	37850 , 38000, 38150	20MHz	QPSK	1 RB, 0 RB Offset
RADIATED EMISSION	37850 to 38150	37850 , 38000, 38150	20MHz	QPSK	1 RB, 0 RB Offset
EMISSION MASK	37775 to 38225	37775, 38000, 38225	5MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,24 RB Offset 25 RB/ 0 Offset
	37800 to 38200	37800 , 38000, 38200	10MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,49 RB Offset 50 RB/ 0 Offset
	37825 to 38175	37825 , 38000, 38175	15MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,74 RB Offset 75 RB/ 0 Offset
	37850 to 38150	37850 , 38000, 38150	20MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,99 RB Offset 100 RB/ 0 Offset

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# LTE Band 41 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
EIRP	39675 to 41565	39675, 40620, 41565	5MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,24 RB Offset
	39700 to 41540	39700, 40620, 41540	10MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,49 RB Offset
	39725 to 41515	39725, 40620, 41515	15MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,74 RB Offset
	39750 to 41490	39750, 40620, 41490	20MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,99 RB Offset
FREQUENCY STABILITY	39700 to 41540	39700, 40620, 41540	10MHz	QPSK,	Full RB
OCCUPIED BANDWIDTH	39675 to 41565	39675, 40620, 41565	5MHz	QPSK, 16QAM, 64QAM	Full RB
	39700 to 41540	39700, 40620, 41540	10MHz	QPSK, 16QAM, 64QAM	Full RB
	39725 to 41515	39725, 40620, 41515	15MHz	QPSK, 16QAM, 64QAM	Full RB
	39750 to 41490	39750, 40620, 41490	20MHz	QPSK, 16QAM, 64QAM	Full RB
PEAK TO AVERAGE RATIO	39675 to 41565	39675, 40620, 41565	5MHz	64QAM	Full RB
	39700 to 41540	39700, 40620, 41540	10MHz	64QAM	Full RB
	39725 to 41515	39725, 40620, 41515	15MHz	64QAM	Full RB
	39750 to 41490	39750, 40620, 41490	20MHz	64QAM	Full RB
CONDUCTED EMISSION	39675 to 41565	39675, 40620, 41565	5MHz	QPSK,	1 RB, 0 RB Offset
	39700 to 41540	39700, 40620, 41540	10MHz	QPSK,	1 RB, 0 RB Offset
	39725 to 41515	39725, 40620, 41515	15MHz	QPSK,	1 RB, 0 RB Offset
	39750 to 41490	39750, 40620, 41490	20MHz	QPSK,	1 RB, 0 RB Offset
EMISSION MASK	39675 to 41565	39675, 40620, 41565	5MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,24 RB Offset 25 RB/ 0 Offset
	39700 to 41540	39700, 40620, 41540	10MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,49 RB Offset 50 RB/ 0 Offset
	39725 to 41515	39725, 40620, 41515	15MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,74 RB Offset 75 RB/ 0 Offset
	39750 to 41490	39750, 40620, 41490	20MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,99 RB Offset 100 RB/ 0 Offset
RADIATED EMISSION	39750 to 41490	39750, 40620, 41490	20MHz	QPSK	1 RB, 99 RB Offset

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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
99% Occupied Bandwidth	+/- 5.19 Hz
Out of Band Emissions at Antenna Terminals and Band Edge	+/- 0.70 dB
Peak to Average Ratio	+/- 0.70 dB
Frequency Stability vs. Temperature	+/- 5.19 Hz
Frequency Stability vs. Voltage	+/- 5.19 Hz
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

### Note:

1. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.
2. The conformity assessment statement in this report is based solely on the test results, measurement uncertainty is excluded.

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## 6. MAXMUM 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.

#### ERP/EIRP LIMIT

According to FCC §2.1046

#### FCC 22.913(a)

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

#### FCC 24.232(c)

Mobile and portable stations are limited to 2 W EIRP.

#### FCC 27.50 (b)

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

#### FCC 27.50(c)

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

#### FCC 27.50(d)

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

#### FCC 27, 50(h)

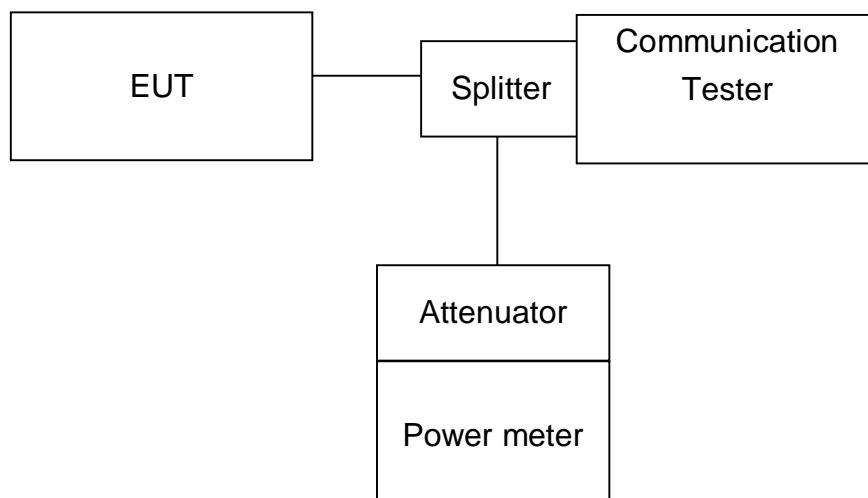
(2) Mobile and other user stations transmitting in the BRS and EBS bands are limited to 2 W EIRP.

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## 6.2. Test Set-up



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

## 6.3. Measurement Procedure

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. TS 151 010-1 is reference to conduct the test measurement of output power.

The Procedure of KDB941225 (SAR Measurement Procedures for 3G devices, (WCD-MA/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.

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

$$ERP/EIRP = P_{Meas} + GT - LC$$

Where:

- ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as  $P_{Meas}$ , typically dBW or dBm);
- $P_{Meas}$  = measured transmitter output power or PSD, in dBm or dBW;
- GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)
- LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

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

#### 6.5. Measurement Equipment Used

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Radio Communication Analyser	Anritsu	MT8820C	6200995019	04/01/2019	03/31/2020
DC Power Supply	Agilent	E3640A	MY52410006	12/10/2019	12/09/2020
Attenuator	Mini-Circuit	BW-S10W2+	2	01/02/2020	01/01/2021
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2020	01/01/2021

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## 6.6. Measurement Result

### RF Conducted Output Power

#### GSM/GPRS MODE:

EUT Mode	Freq. (MHz)	CH	Conducted Avg. Power (dBm)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
GSM 850	824.2	128	32.48	-5.90	24.43	26.58	38.50	-11.92
	836.6	190	32.29	-5.90	24.24	26.39	38.50	-12.11
	848.8	251	32.28	-5.90	24.23	26.38	38.50	-12.12
GSM 1900	1850.2	512	28.91	-3.90	22.86	25.01	33.00	-7.99
	1880.0	661	28.93	-3.90	22.88	25.03	33.00	-7.97
	1909.8	810	29.01	-3.90	22.96	25.11	33.00	-7.89
GPRS 850	824.2	128	32.48	-5.90	24.43	26.58	38.50	-11.92
	836.6	190	32.29	-5.90	24.24	26.39	38.50	-12.11
	848.8	251	32.28	-5.90	24.23	26.38	38.50	-12.12
GPRS 1900	1850.2	512	28.91	-3.90	22.86	25.01	33.00	-7.99
	1880.0	661	28.93	-3.90	22.88	25.03	33.00	-7.97
	1909.8	810	29.01	-3.90	22.96	25.11	33.00	-7.89

EUT Mode	Frequency (MHz)	CH	Average Burst Power (1DN 1UP) Class 8 (dBm)	Average Burst Power (1DN 2UP) Class 10 (dBm)	Average Burst Power (1DN 3UP) Class 12 (dBm)	Average Burst Power (1DN 4UP) Class 12 (dBm)
GPRS 850	824.2	128	32.48	30.57	28.95	28.13
	836.6	190	32.29	30.60	29.04	28.15
	848.8	251	32.28	30.45	28.88	28.05
GPRS 1900	1850.2	512	28.91	26.75	25.04	24.11
	1880.0	661	28.93	26.87	25.15	24.12
	1909.8	810	29.01	26.98	25.40	24.29

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## WCDMA/HSPA MODE:

The following tests were completed according to the test requirements outlined in section 5.2 of the 3GPP TS34.121-1 specification. The EUT supports power Class 3, which has a nominal maximum output power of 24 dBm (+1.7/-3.7). RMC 12.2kps is used for this testing.

## Results:

### WCDMA/HSUPA/HSDPA

#### Band II Result:

EUT Mode	Freq. (MHz)	CH	Conducted Avg. Power (dBm)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
WCDMA	1852.4	9262	22.37	-3.90	16.32	18.47	33.00	-14.53
	1880.0	9400	22.42	-3.90	16.37	<b>18.52</b>	33.00	-14.48
	1907.6	9538	22.33	-3.90	16.28	18.43	33.00	-14.57
HSDPA	1852.4	9262	21.38	-3.90	15.33	17.48	33.00	-15.52
	1880.0	9400	21.47	-3.90	15.42	<b>17.57</b>	33.00	-15.43
	1907.6	9538	21.35	-3.90	15.30	17.45	33.00	-15.55
HSUPA	1852.4	9262	21.34	-3.90	15.29	17.44	33.00	-15.56
	1880.0	9400	21.38	-3.90	15.33	<b>17.48</b>	33.00	-15.52
	1907.6	9538	21.34	-3.90	15.29	17.44	33.00	-15.56

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### WCDMA/HSUPA/HSDPA Band IV Result:

EUT Mode	Freq. (MHz)	CH	Conducted Avg. Power (dBm)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
WCDMA	1712.4	1312	22.27	-6.00	14.12	16.27	30.00	-13.73
	1732.6	1413	22.23	-6.00	14.08	16.23	30.00	-13.77
	1752.6	1513	22.28	-6.00	14.13	<b>16.28</b>	30.00	-13.72
HSDPA	1712.4	1312	21.27	-6.00	13.12	15.27	30.00	-14.73
	1732.6	1413	21.29	-6.00	13.14	15.29	30.00	-14.71
	1752.6	1513	21.30	-6.00	13.15	<b>15.30</b>	30.00	-14.70
HSUPA	1712.4	1312	21.27	-6.00	13.12	15.27	30.00	-14.73
	1732.6	1413	21.22	-6.00	13.07	15.22	30.00	-14.78
	1752.6	1513	21.29	-6.00	13.14	<b>15.29</b>	30.00	-14.71

### WCDMA/HSUPA/HSDPA Band V Result:

EUT Mode	Freq. (MHz)	CH	Conducted Avg. Power (dBm)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
WCDMA	826.4	4132	23.70	-5.90	15.65	17.80	38.50	-20.70
	836.6	4183	23.83	-5.90	15.78	<b>17.93</b>	38.50	-20.57
	846.6	4233	23.75	-5.90	15.70	17.85	38.50	-20.65
HSDPA	826.4	4132	22.67	-5.90	14.62	<b>16.77</b>	38.50	-21.73
	836.6	4183	22.62	-5.90	14.57	16.72	38.50	-21.78
	846.6	4233	22.66	-5.90	14.61	16.76	38.50	-21.74
HSUPA	826.4	4132	22.67	-5.90	14.62	16.77	38.50	-21.73
	836.6	4183	22.78	-5.90	14.73	<b>16.88</b>	38.50	-21.62
	846.6	4233	22.76	-5.90	14.71	16.86	38.50	-21.64

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## HSPA (HSDPA & HSUPA) Release 6 MODE:

The following 4 Sub-Tests were completed according to the test requirements outlined in section 5.2A of the 3GPP TS34.121-1 specification. All TX RMS power requirements for Power Class 3 were met according to table 5.2AA.5 and 5.2B.5 All UE channels and power ratio's are set according to table C10.1.4 & C11.1.3 in the 3GPP TS34.121-1. RMC 12.2kps is used for this testing.

## HSDPA SUB-TEST Setting

Table C.10.1.4:  $\beta$  values for transmitter characteristics tests with HS-DPCCH(FOR HSDPA)

Sub-test	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c/\beta_d$	$\beta_{HS}$ (Note 1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)	RMC (Kbps)
1	2/15	15/15	64	2/15	4/15	0.0	0.0	12.2
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0	12.2
3	15/15	8/15	64	15/8	30/15	1.5	0.5	12.2
4	15/15	4/15	64	15/4	30/15	1.5	0.5	12.2

**Note:** The recommended HSDPA MPRs are implemented as per following sub-tests.

## HSPA SUB-TEST Setting

Table C.11.1.3:  $\beta$  values for transmitter characteristics tests with HS-DPCCH and E-DCH(FOR HSUPA)

Sub-test	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c/\beta_d$	$\beta_{HS}$	$\beta_{ec}$	$\beta_{ed}$	$\beta_{ed}$ (SF)	$\beta_{ed}$ (Code s)	CM (dB)	MPR (dB)	AG Index	E-TFCI	RMC (Kbps)
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75	12.2
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67	12.2
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed1}$ : 47/15 $\beta_{ed2}$ : 47/15	4 4	2	2.0	1.0	15	92	12.2
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71	12.2
5	15/15 (Note 4)	15/15 (Note 4)	64	15/15 (Note 4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81	12.2

**Note:** The recommended HSUPA MPRs are implemented as per following sub-tests.

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## Results:

Mode	Sub test	Avg. Power (dBm)		
		Channel		
		9262.00	9400.00	9538.00
HSDPA II	1	21.38	21.47	21.35
	2	20.88	20.96	20.86
	3	20.86	20.95	20.86
	4	20.90	20.94	20.83

Mode	Sub test	Avg. Power (dBm)		
		Channel		
		1312.00	1413.00	1513.00
HSDPA IV	1	21.27	21.29	21.30
	2	20.77	20.77	20.78
	3	20.78	20.74	20.80
	4	20.76	20.73	20.77

Mode	Sub test	Avg. Power (dBm)		
		Channel		
		4132.00	4183.00	4233.00
HSDPA V	1	22.67	22.62	22.66
	2	22.20	22.25	22.18
	3	22.14	22.22	22.24
	4	22.18	22.26	22.23

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Mode	Sub test	Avg. Power (dBm)		
		Channel		
		9262.00	9400.00	9538.00
HSUPA II	1	21.34	21.38	21.34
	2	19.35	19.38	19.33
	3	20.33	20.38	20.35
	4	19.34	19.44	19.34
	5	21.35	21.41	21.30

Mode	Sub test	Avg. Power (dBm)		
		Channel		
		1312.00	1413.00	1513.00
HSUPA IV	1	21.27	21.22	21.29
	2	19.20	19.25	19.27
	3	20.20	20.19	20.23
	4	19.23	19.26	19.29
	5	21.18	21.22	21.24

Mode	Sub test	Avg. Power (dBm)		
		Channel		
		4132.00	4183.00	4233.00
HSUPA V	1	22.67	22.78	22.76
	2	20.71	20.79	20.75
	3	21.71	21.81	21.74
	4	20.70	20.78	20.77
	5	22.68	22.84	20.82

### WCDMA/HSDPA/HSUPA band II, IV, V

The EUT output power was controlled by simulator and enter max rated power 24dBm. The EUT is going to be set to max output power to 24dBm then record the read. The min. power was measures by a function key “minimum power” then record the read. It is -52.3dBm. The power variation can be 0.1dB step by setting.

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**Minimum Communications Power Measurement****PCS 1900 band**

PCL	0	1	2	3	4	5	6	7	8
Output power (dBm)	29.43	27.56	25.57	23.56	21.47	19.42	17.86	15.93	14.09

PCL	9	10	11	12	13	14	15
Output power (dBm)	12.05	10.31	8.17	6.32	4.24	2.38	0.46

Note: The EUT output power was controlled by simulator. Set Communication Tester **MT8820C** PCL as above, and get the mobile phone output power reading.

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## LTE Result:

Antenna gain (dBi) **-3.9**

LTE Band 2_Uplink frequency band : 1850 to 1910 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
1.4	18607	1850.7	QPSK	1	0	21.93	18.03	33	-14.97
				1	5	21.87	17.97	33	-15.03
				3	2	22.03	18.13	33	-14.87
				6	0	21.04	17.14	33	-15.86
	18900	1880	QPSK	1	0	21.95	18.05	33	-14.95
				1	5	22.02	18.12	33	-14.88
				3	2	22.04	<b>18.14</b>	33	-14.86
				6	0	21.10	17.20	33	-15.8
	19193	1909.3	QPSK	1	0	21.90	18.00	33	-15
				1	5	21.86	17.96	33	-15.04
				3	2	21.83	17.93	33	-15.07
				6	0	21.04	17.14	33	-15.86
	18607	1850.7	16QAM	1	0	21.11	17.21	33	-15.79
				1	5	21.44	17.54	33	-15.46
				3	2	21.14	17.24	33	-15.76
				6	0	20.09	16.19	33	-16.81
	18900	1880	16QAM	1	0	21.50	<b>17.60</b>	33	-15.4
				1	5	20.95	17.05	33	-15.95
				3	2	20.98	17.08	33	-15.92
				6	0	20.20	16.30	33	-16.7
	19193	1909.3	16QAM	1	0	20.92	17.02	33	-15.98
				1	5	21.17	17.27	33	-15.73
				3	2	21.09	17.19	33	-15.81
				6	0	20.13	16.23	33	-16.77
	18607	1850.7	64QAM	1	0	20.30	16.40	33	-16.6
				1	5	20.63	<b>16.73</b>	33	-16.27
				3	2	20.16	16.26	33	-16.74
				6	0	19.21	15.31	33	-17.69
	18900	1880	64QAM	1	0	20.57	16.67	33	-16.33
				1	5	20.13	16.23	33	-16.77
				3	2	20.03	16.13	33	-16.87
				6	0	19.30	15.40	33	-17.6
	19193	1909.3	64QAM	1	0	19.97	16.07	33	-16.93
				1	5	20.30	16.40	33	-16.6
				3	2	20.22	16.32	33	-16.68
				6	0	19.23	15.33	33	-17.67

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Antenna gain (dBi) -3.9

LTE Band 2 Uplink frequency band : 1850 to 1910 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
3	18615	1851.5	QPSK	1	0	21.95	18.05	33	-14.95
				1	14	22.05	<b>18.15</b>	33	-14.85
				8	4	21.14	17.24	33	-15.76
				15	0	21.09	17.19	33	-15.81
	18900	1880	QPSK	1	0	22.02	18.12	33	-14.88
				1	14	22.05	<b>18.15</b>	33	-14.85
				8	4	21.15	17.25	33	-15.75
				15	0	21.12	17.22	33	-15.78
	19185	1908.5	QPSK	1	0	21.90	18.00	33	-15
				1	14	21.97	18.07	33	-14.93
				8	4	21.13	17.23	33	-15.77
				15	0	21.11	17.21	33	-15.79
	18615	1851.5	16QAM	1	0	21.07	17.17	33	-15.83
				1	14	21.46	17.56	33	-15.44
				8	4	20.19	16.29	33	-16.71
				15	0	20.22	16.32	33	-16.68
	18900	1880	16QAM	1	0	20.92	17.02	33	-15.98
				1	14	21.25	17.35	33	-15.65
				8	4	20.22	16.32	33	-16.68
				15	0	20.14	16.24	33	-16.76
	19185	1908.5	16QAM	1	0	21.53	<b>17.63</b>	33	-15.37
				1	14	21.17	17.27	33	-15.73
				8	4	20.16	16.26	33	-16.74
				15	0	20.11	16.21	33	-16.79
	18615	1851.5	64QAM	1	0	20.14	16.24	33	-16.76
				1	14	20.61	16.71	33	-16.29
				8	4	19.38	15.48	33	-17.52
				15	0	19.29	15.39	33	-17.61
	18900	1880	64QAM	1	0	20.03	16.13	33	-16.87
				1	14	20.27	16.37	33	-16.63
				8	4	19.41	15.51	33	-17.49
				15	0	19.14	15.24	33	-17.76
	19185	1908.5	64QAM	1	0	20.68	<b>16.78</b>	33	-16.22
				1	14	20.20	16.30	33	-16.7
				8	4	19.28	15.38	33	-17.62
				15	0	19.13	15.23	33	-17.77

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Antenna gain (dBi) -3.9

LTE Band 2 Uplink frequency band : 1850 to 1910 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5	18625	1852.5	QPSK	1	0	22.08	18.18	33	-14.82
				1	24	22.00	18.10	33	-14.9
				12	6	21.18	17.28	33	-15.72
				25	0	21.05	17.15	33	-15.85
	18900	1880	QPSK	1	0	21.98	18.08	33	-14.92
				1	24	22.12	<b>18.22</b>	33	-14.78
				12	6	21.10	17.20	33	-15.8
				25	0	21.06	17.16	33	-15.84
	19175	1907.5	QPSK	1	0	21.88	17.98	33	-15.02
				1	24	21.92	18.02	33	-14.98
				12	6	21.09	17.19	33	-15.81
				25	0	21.01	17.11	33	-15.89
	18625	1852.5	16QAM	1	0	21.15	17.25	33	-15.75
				1	24	21.14	17.24	33	-15.76
				12	6	20.13	16.23	33	-16.77
				25	0	20.16	16.26	33	-16.74
	18900	1880	16QAM	1	0	21.06	17.16	33	-15.84
				1	24	21.51	<b>17.61</b>	33	-15.39
				12	6	20.09	16.19	33	-16.81
				25	0	20.05	16.15	33	-16.85
	19175	1907.5	16QAM	1	0	21.05	17.15	33	-15.85
				1	24	21.22	17.32	33	-15.68
				12	6	20.07	16.17	33	-16.83
				25	0	20.14	16.24	33	-16.76
	18625	1852.5	64QAM	1	0	20.28	16.38	33	-16.62
				1	24	20.14	16.24	33	-16.76
				12	6	19.21	15.31	33	-17.69
				25	0	19.28	15.38	33	-17.62
	18900	1880	64QAM	1	0	20.20	16.30	33	-16.7
				1	24	20.63	<b>16.73</b>	33	-16.27
				12	6	19.20	15.30	33	-17.7
				25	0	19.06	15.16	33	-17.84
	19175	1907.5	64QAM	1	0	20.18	16.28	33	-16.72
				1	24	20.23	16.33	33	-16.67
				12	6	19.20	15.30	33	-17.7
				25	0	19.24	15.34	33	-17.66

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Antenna gain (dBi) -3.9

LTE Band 2 Uplink frequency band : 1850 to 1910 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10	18650	1855	QPSK	1	0	22.03	18.13	33	-14.87
				1	49	22.08	<b>18.18</b>	33	-14.82
				25	12	21.17	17.27	33	-15.73
				50	0	21.29	17.39	33	-15.61
	18900	1880	QPSK	1	0	22.06	18.16	33	-14.84
				1	49	22.04	18.14	33	-14.86
				25	12	21.10	17.20	33	-15.8
				50	0	21.18	17.28	33	-15.72
	19150	1905	QPSK	1	0	22.03	18.13	33	-14.87
				1	49	22.05	18.15	33	-14.85
				25	12	21.17	17.27	33	-15.73
				50	0	21.06	17.16	33	-15.84
	18650	1855	16QAM	1	0	21.02	17.12	33	-15.88
				1	49	21.60	<b>17.70</b>	33	-15.3
				25	12	20.23	16.33	33	-16.67
				50	0	20.22	16.32	33	-16.68
	18900	1880	16QAM	1	0	21.31	17.41	33	-15.59
				1	49	21.19	17.29	33	-15.71
				25	12	20.14	16.24	33	-16.76
				50	0	20.22	16.32	33	-16.68
	19150	1905	16QAM	1	0	21.41	17.51	33	-15.49
				1	49	21.58	17.68	33	-15.32
				25	12	20.25	16.35	33	-16.65
				50	0	20.15	16.25	33	-16.75
	18650	1855	64QAM	1	0	20.04	16.14	33	-16.86
				1	49	20.78	<b>16.88</b>	33	-16.12
				25	12	19.30	15.40	33	-17.6
				50	0	19.22	15.32	33	-17.68
	18900	1880	64QAM	1	0	20.50	16.60	33	-16.4
				1	49	20.20	16.30	33	-16.7
				25	12	19.28	15.38	33	-17.62
				50	0	19.31	15.41	33	-17.59
	19150	1905	64QAM	1	0	20.50	16.60	33	-16.4
				1	49	20.65	16.75	33	-16.25
				25	12	19.41	15.51	33	-17.49
				50	0	19.23	15.33	33	-17.67

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Antenna gain (dBi) -3.9

LTE Band 2 Uplink frequency band : 1850 to 1910 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15	18675	1857.5	QPSK	1	0	22.17	18.27	33	-14.73
				1	74	22.12	18.22	33	-14.78
				36	18	21.29	17.39	33	-15.61
				75	0	21.29	17.39	33	-15.61
	18900	1880	QPSK	1	0	22.29	<b>18.39</b>	33	-14.61
				1	74	22.26	18.36	33	-14.64
				36	18	21.35	17.45	33	-15.55
				75	0	21.22	17.32	33	-15.68
	19125	1902.5	QPSK	1	0	22.25	18.35	33	-14.65
				1	74	22.25	18.35	33	-14.65
				36	18	21.28	17.38	33	-15.62
				75	0	21.34	17.44	33	-15.56
	18675	1857.5	16QAM	1	0	21.45	17.55	33	-15.45
				1	74	21.41	17.51	33	-15.49
				36	18	20.39	16.49	33	-16.51
				75	0	20.35	16.45	33	-16.55
	18900	1880	16QAM	1	0	21.34	17.44	33	-15.56
				1	74	21.87	<b>17.97</b>	33	-15.03
				36	18	20.18	16.28	33	-16.72
				75	0	20.31	16.41	33	-16.59
	19125	1902.5	16QAM	1	0	21.15	17.25	33	-15.75
				1	74	21.26	17.36	33	-15.64
				36	18	20.36	16.46	33	-16.54
				75	0	20.30	16.40	33	-16.6
	18675	1857.5	64QAM	1	0	20.55	16.65	33	-16.35
				1	74	20.53	16.63	33	-16.37
				36	18	19.54	15.64	33	-17.36
				75	0	19.46	15.56	33	-17.44
	18900	1880	64QAM	1	0	20.51	16.61	33	-16.39
				1	74	21.03	<b>17.13</b>	33	-15.87
				36	18	19.31	15.41	33	-17.59
				75	0	19.50	15.60	33	-17.4
	19125	1902.5	64QAM	1	0	20.27	16.37	33	-16.63
				1	74	20.42	16.52	33	-16.48
				36	18	19.49	15.59	33	-17.41
				75	0	19.47	15.57	33	-17.43

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Antenna gain (dBi) -3.9

LTE Band 2_Uplink frequency band : 1850 to 1910 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20	18700	1860	QPSK	1	0	22.16	18.26	33	-14.74
				1	99	22.33	<b>18.43</b>	33	-14.57
				50	25	21.30	17.40	33	-15.6
				100	0	21.42	17.52	33	-15.48
	18900	1880	QPSK	1	0	22.19	18.29	33	-14.71
				1	99	22.17	18.27	33	-14.73
				50	25	21.23	17.33	33	-15.67
				100	0	21.31	17.41	33	-15.59
	19100	1900	QPSK	1	0	22.16	18.26	33	-14.74
				1	99	22.18	18.28	33	-14.72
				50	25	21.30	17.40	33	-15.6
				100	0	21.19	17.29	33	-15.71
	18700	1860	16QAM	1	0	21.15	17.25	33	-15.75
				1	99	21.73	<b>17.83</b>	33	-15.17
				50	25	20.36	16.46	33	-16.54
				100	0	20.35	16.45	33	-16.55
	18900	1880	16QAM	1	0	21.44	17.54	33	-15.46
				1	99	21.32	17.42	33	-15.58
				50	25	20.27	16.37	33	-16.63
				100	0	20.35	16.45	33	-16.55
	19100	1900	16QAM	1	0	21.54	17.64	33	-15.36
				1	99	21.71	17.81	33	-15.19
				50	25	20.38	16.48	33	-16.52
				100	0	20.28	16.38	33	-16.62
	18700	1860	64QAM	1	0	20.25	16.35	33	-16.65
				1	99	20.93	<b>17.03</b>	33	-15.97
				50	25	19.54	15.64	33	-17.36
				100	0	19.46	15.56	33	-17.44
	18900	1880	64QAM	1	0	20.63	16.73	33	-16.27
				1	99	20.48	16.58	33	-16.42
				50	25	19.38	15.48	33	-17.52
				100	0	19.51	15.61	33	-17.39
	19100	1900	64QAM	1	0	20.66	16.76	33	-16.24
				1	99	20.88	16.98	33	-16.02
				50	25	19.49	15.59	33	-17.41
				100	0	19.46	15.56	33	-17.44

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Antenna gain (dBi) -6

LTE Band 4_Uplink frequency band : 1710 to 1755 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
1.4	19957	1710.7	QPSK	1	0	21.77	15.77	30	-14.23
				1	5	21.74	15.74	30	-14.26
				3	2	21.88	15.88	30	-14.12
				6	0	20.93	14.93	30	-15.07
	20175	1732.5	QPSK	1	0	21.84	15.84	30	-14.16
				1	5	21.83	15.83	30	-14.17
				3	2	21.89	15.89	30	-14.11
				6	0	20.87	14.87	30	-15.13
	20393	1754.3	QPSK	1	0	21.80	15.80	30	-14.2
				1	5	21.88	15.88	30	-14.12
				3	2	21.92	15.92	30	-14.08
				6	0	20.90	14.90	30	-15.1
	19957	1710.7	16QAM	1	0	21.03	15.03	30	-14.97
				1	5	21.19	15.19	30	-14.81
				3	2	20.93	14.93	30	-15.07
				6	0	19.98	13.98	30	-16.02
	20175	1732.5	16QAM	1	0	21.30	15.30	30	-14.7
				1	5	20.93	14.93	30	-15.07
				3	2	21.05	15.05	30	-14.95
				6	0	19.88	13.88	30	-16.12
	20393	1754.3	16QAM	1	0	21.01	15.01	30	-14.99
				1	5	21.37	15.37	30	-14.63
				3	2	21.02	15.02	30	-14.98
				6	0	20.07	14.07	30	-15.93
	19957	1710.7	64QAM	1	0	20.17	14.17	30	-15.83
				1	5	20.34	14.34	30	-15.66
				3	2	20.00	14.00	30	-16
				6	0	19.10	13.10	30	-16.9
	20175	1732.5	64QAM	1	0	20.46	14.46	30	-15.54
				1	5	20.06	14.06	30	-15.94
				3	2	20.13	14.13	30	-15.87
				6	0	19.01	13.01	30	-16.99
	20393	1754.3	64QAM	1	0	20.04	14.04	30	-15.96
				1	5	20.51	14.51	30	-15.49
				3	2	20.22	14.22	30	-15.78
				6	0	19.22	13.22	30	-16.78

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Antenna gain (dBi) -6

LTE Band 4_Uplink frequency band : 1710 to 1755 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
3	19965	1711.5	QPSK	1	0	21.78	15.78	30	-14.22
				1	14	21.80	15.80	30	-14.2
				8	4	20.96	14.96	30	-15.04
				15	0	20.94	14.94	30	-15.06
	20175	1732.5	QPSK	1	0	21.77	15.77	30	-14.23
				1	14	21.92	15.92	30	-14.08
				8	4	20.93	14.93	30	-15.07
				15	0	21.01	15.01	30	-14.99
	20385	1753.5	QPSK	1	0	21.96	<b>15.96</b>	30	-14.04
				1	14	21.96	<b>15.96</b>	30	-14.04
				8	4	21.05	15.05	30	-14.95
				15	0	21.01	15.01	30	-14.99
	19965	1711.5	16QAM	1	0	21.04	15.04	30	-14.96
				1	14	21.07	15.07	30	-14.93
				8	4	19.93	13.93	30	-16.07
				15	0	19.99	13.99	30	-16.01
	20175	1732.5	16QAM	1	0	21.41	15.41	30	-14.59
				1	14	21.47	<b>15.47</b>	30	-14.53
				8	4	19.93	13.93	30	-16.07
				15	0	20.05	14.05	30	-15.95
	20385	1753.5	16QAM	1	0	21.16	15.16	30	-14.84
				1	14	21.41	15.41	30	-14.59
				8	4	20.15	14.15	30	-15.85
				15	0	20.10	14.10	30	-15.9
	19965	1711.5	64QAM	1	0	20.17	14.17	30	-15.83
				1	14	20.18	14.18	30	-15.82
				8	4	19.08	13.08	30	-16.92
				15	0	19.18	13.18	30	-16.82
	20175	1732.5	64QAM	1	0	20.58	14.58	30	-15.42
				1	14	20.63	<b>14.63</b>	30	-15.37
				8	4	19.11	13.11	30	-16.89
				15	0	19.19	13.19	30	-16.81
	20385	1753.5	64QAM	1	0	20.35	14.35	30	-15.65
				1	14	20.52	14.52	30	-15.48
				8	4	19.25	13.25	30	-16.75
				15	0	19.25	13.25	30	-16.75

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Antenna gain (dBi) -6

LTE Band 4_Uplink frequency band : 1710 to 1755 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5	19975	1712.5	QPSK	1	0	21.68	15.68	30	-14.32
				1	24	22.03	<b>16.03</b>	30	-13.97
				12	6	20.98	14.98	30	-15.02
				25	0	20.95	14.95	30	-15.05
	20175	1732.5	QPSK	1	0	21.77	15.77	30	-14.23
				1	24	21.91	15.91	30	-14.09
				12	6	21.04	15.04	30	-14.96
				25	0	20.90	14.90	30	-15.1
	20375	1752.5	QPSK	1	0	21.97	15.97	30	-14.03
				1	24	21.98	15.98	30	-14.02
				12	6	21.09	15.09	30	-14.91
				25	0	21.00	15.00	30	-15
	19975	1712.5	16QAM	1	0	21.02	15.02	30	-14.98
				1	24	21.32	15.32	30	-14.68
				12	6	20.04	14.04	30	-15.96
				25	0	19.94	13.94	30	-16.06
	20175	1732.5	16QAM	1	0	21.29	15.29	30	-14.71
				1	24	21.03	15.03	30	-14.97
				12	6	19.97	13.97	30	-16.03
				25	0	20.07	14.07	30	-15.93
	20375	1752.5	16QAM	1	0	21.25	15.25	30	-14.75
				1	24	21.40	<b>15.40</b>	30	-14.6
				12	6	20.11	14.11	30	-15.89
				25	0	19.97	13.97	30	-16.03
	19975	1712.5	64QAM	1	0	20.13	14.13	30	-15.87
				1	24	20.44	14.44	30	-15.56
				12	6	19.21	13.21	30	-16.79
				25	0	19.12	13.12	30	-16.88
	20175	1732.5	64QAM	1	0	20.44	14.44	30	-15.56
				1	24	20.21	14.21	30	-15.79
				12	6	19.17	13.17	30	-16.83
				25	0	19.18	13.18	30	-16.82
	20375	1752.5	64QAM	1	0	20.36	14.36	30	-15.64
				1	24	20.51	<b>14.51</b>	30	-15.49
				12	6	19.27	13.27	30	-16.73
				25	0	19.16	13.16	30	-16.84

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Antenna gain (dBi) -6

LTE Band 4_Uplink frequency band : 1710 to 1755 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10	20000	1715	QPSK	1	0	21.69	15.69	30	-14.31
				1	49	21.75	15.75	30	-14.25
				25	12	21.00	15.00	30	-15
				50	0	21.02	15.02	30	-14.98
	20175	1732.5	QPSK	1	0	21.72	15.72	30	-14.28
				1	49	21.83	15.83	30	-14.17
				25	12	21.05	15.05	30	-14.95
				50	0	21.01	15.01	30	-14.99
	20375	1750	QPSK	1	0	22.10	<b>16.10</b>	30	-13.9
				1	49	21.91	15.91	30	-14.09
				25	12	21.04	15.04	30	-14.96
				50	0	20.94	14.94	30	-15.06
	20000	1715	16QAM	1	0	21.14	15.14	30	-14.86
				1	49	20.89	14.89	30	-15.11
				25	12	20.07	14.07	30	-15.93
				50	0	20.05	14.05	30	-15.95
	20175	1732.5	16QAM	1	0	21.17	15.17	30	-14.83
				1	49	21.05	15.05	30	-14.95
				25	12	19.92	13.92	30	-16.08
				50	0	20.08	14.08	30	-15.92
	20375	1750	16QAM	1	0	21.59	<b>15.59</b>	30	-14.41
				1	49	21.27	15.27	30	-14.73
				25	12	20.05	14.05	30	-15.95
				50	0	20.06	14.06	30	-15.94
	20000	1715	64QAM	1	0	20.31	14.31	30	-15.69
				1	49	20.08	14.08	30	-15.92
				25	12	19.24	13.24	30	-16.76
				50	0	19.17	13.17	30	-16.83
	20175	1732.5	64QAM	1	0	20.32	14.32	30	-15.68
				1	49	20.20	14.20	30	-15.8
				25	12	19.08	13.08	30	-16.92
				50	0	19.28	13.28	30	-16.72
	20375	1750	64QAM	1	0	20.69	<b>14.69</b>	30	-15.31
				1	49	20.38	14.38	30	-15.62
				25	12	19.24	13.24	30	-16.76
				50	0	19.22	13.22	30	-16.78

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Antenna gain (dBi) -6

LTE Band 4_Uplink frequency band : 1710 to 1755 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15	20025	1717.5	QPSK	1	0	22.01	16.01	30	-13.99
				1	74	22.04	16.04	30	-13.96
				36	18	21.20	15.20	30	-14.8
				75	0	21.21	15.21	30	-14.79
	20175	1732.5	QPSK	1	0	22.06	16.06	30	-13.94
				1	74	21.94	15.94	30	-14.06
				36	18	21.18	15.18	30	-14.82
				75	0	21.22	15.22	30	-14.78
	20325	1747.5	QPSK	1	0	22.23	<b>16.23</b>	30	-13.77
				1	74	22.11	16.11	30	-13.89
				36	18	21.33	15.33	30	-14.67
				75	0	21.13	15.13	30	-14.87
	20025	1717.5	16QAM	1	0	21.74	<b>15.74</b>	30	-14.26
				1	74	21.21	15.21	30	-14.79
				36	18	20.24	14.24	30	-15.76
				75	0	20.26	14.26	30	-15.74
	20175	1732.5	16QAM	1	0	21.70	15.70	30	-14.3
				1	74	21.35	15.35	30	-14.65
				36	18	20.22	14.22	30	-15.78
				75	0	20.27	14.27	30	-15.73
	20325	1747.5	16QAM	1	0	21.47	15.47	30	-14.53
				1	74	21.55	15.55	30	-14.45
				36	18	20.31	14.31	30	-15.69
				75	0	20.27	14.27	30	-15.73
	20025	1717.5	64QAM	1	0	20.88	<b>14.88</b>	30	-15.12
				1	74	20.35	14.35	30	-15.65
				36	18	19.37	13.37	30	-16.63
				75	0	19.45	13.45	30	-16.55
	20175	1732.5	64QAM	1	0	20.87	14.87	30	-15.13
				1	74	20.48	14.48	30	-15.52
				36	18	19.38	13.38	30	-16.62
				75	0	19.40	13.40	30	-16.6
	20325	1747.5	64QAM	1	0	20.65	14.65	30	-15.35
				1	74	20.66	14.66	30	-15.34
				36	18	19.44	13.44	30	-16.56
				75	0	19.45	13.45	30	-16.55

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Antenna gain (dBi) -6

LTE Band 4_Uplink frequency band : 1710 to 1755 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20	20050	1720	QPSK	1	0	21.95	15.95	30	-14.05
				1	99	21.99	15.99	30	-14.01
				50	25	21.27	15.27	30	-14.73
				100	0	21.13	15.13	30	-14.87
	20175	1732.5	QPSK	1	0	22.13	16.13	30	-13.87
				1	99	22.12	16.12	30	-13.88
				50	25	21.25	15.25	30	-14.75
				100	0	21.25	15.25	30	-14.75
	20300	1745	QPSK	1	0	22.27	16.27	30	-13.73
				1	99	22.13	16.13	30	-13.87
				50	25	21.12	15.12	30	-14.88
				100	0	21.26	15.26	30	-14.74
	20050	1720	16QAM	1	0	21.24	15.24	30	-14.76
				1	99	21.49	15.49	30	-14.51
				50	25	20.32	14.32	30	-15.68
				100	0	20.23	14.23	30	-15.77
	20175	1732.5	16QAM	1	0	21.51	15.51	30	-14.49
				1	99	21.27	15.27	30	-14.73
				50	25	20.20	14.20	30	-15.8
				100	0	20.30	14.30	30	-15.7
	20300	1745	16QAM	1	0	21.41	15.41	30	-14.59
				1	99	21.71	15.71	30	-14.29
				50	25	20.28	14.28	30	-15.72
				100	0	20.16	14.16	30	-15.84
	20050	1720	64QAM	1	0	20.40	14.40	30	-15.6
				1	99	20.60	14.60	30	-15.4
				50	25	19.48	13.48	30	-16.52
				100	0	19.34	13.34	30	-16.66
	20175	1732.5	64QAM	1	0	20.66	14.66	30	-15.34
				1	99	20.39	14.39	30	-15.61
				50	25	19.32	13.32	30	-16.68
				100	0	19.43	13.43	30	-16.57
	20300	1745	64QAM	1	0	20.52	14.52	30	-15.48
				1	99	20.81	14.81	30	-15.19
				50	25	19.44	13.44	30	-16.56
				100	0	19.33	13.33	30	-16.67

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Antenna gain (dBi)		-5.9								
LTE Band 5_Uplink frequency band : 824 to 849 MHz										
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
1.4	20407	824.7	QPSK	1	0	22.46	14.41	16.56	38.45	-21.89
				1	5	22.50	14.45	16.60	38.45	-21.85
				3	2	22.54	14.49	16.64	38.45	-21.81
				6	0	21.55	13.50	15.65	38.45	-22.8
	20525	836.5	QPSK	1	0	22.51	14.46	16.61	38.45	-21.84
				1	5	22.54	14.49	16.64	38.45	-21.81
				3	2	22.62	14.57	16.72	38.45	-21.73
				6	0	21.60	13.55	15.70	38.45	-22.75
	20643	848.3	QPSK	1	0	22.50	14.45	16.60	38.45	-21.85
				1	5	22.36	14.31	16.46	38.45	-21.99
				3	2	22.51	14.46	16.61	38.45	-21.84
				6	0	21.50	13.45	15.60	38.45	-22.85
	20407	824.7	16QAM	1	0	21.91	13.86	16.01	38.45	-22.44
				1	5	22.10	14.05	16.20	38.45	-22.25
				3	2	21.58	13.53	15.68	38.45	-22.77
				6	0	20.77	12.72	14.87	38.45	-23.58
	20525	836.5	16QAM	1	0	21.71	13.66	15.81	38.45	-22.64
				1	5	22.12	14.07	16.22	38.45	-22.23
				3	2	21.61	13.56	15.71	38.45	-22.74
				6	0	20.57	12.52	14.67	38.45	-23.78
	20643	848.3	16QAM	1	0	21.48	13.43	15.58	38.45	-22.87
				1	5	21.98	13.93	16.08	38.45	-22.37
				3	2	21.59	13.54	15.69	38.45	-22.76
				6	0	20.55	12.50	14.65	38.45	-23.8
	20407	824.7	64QAM	1	0	21.30	13.25	15.40	38.45	-23.05
				1	5	21.55	13.50	15.65	38.45	-22.8
				3	2	21.00	12.95	15.10	38.45	-23.35
				6	0	20.21	12.16	14.31	38.45	-24.14
	20525	836.5	64QAM	1	0	21.03	12.98	15.13	38.45	-23.32
				1	5	21.57	13.52	15.67	38.45	-22.78
				3	2	20.92	12.87	15.02	38.45	-23.43
				6	0	20.04	11.99	14.14	38.45	-24.31
	20643	848.3	64QAM	1	0	20.83	12.78	14.93	38.45	-23.52
				1	5	21.37	13.32	15.47	38.45	-22.98
				3	2	20.97	12.92	15.07	38.45	-23.38
				6	0	19.85	11.80	13.95	38.45	-24.5

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Antenna gain (dBi) -5.9

LTE Band 5_Uplink frequency band : 824 to 849 MHz										
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
3	20415	825.5	QPSK	1	0	22.35	14.30	16.45	38.45	-22
				1	14	22.46	14.41	16.56	38.45	-21.89
				8	4	21.56	13.51	15.66	38.45	-22.79
				15	0	21.48	13.43	15.58	38.45	-22.87
	20525	836.5	QPSK	1	0	22.39	14.34	16.49	38.45	-21.96
				1	14	22.53	14.48	<b>16.63</b>	38.45	-21.82
				8	4	21.59	13.54	15.69	38.45	-22.76
				15	0	21.55	13.50	15.65	38.45	-22.8
	20635	847.5	QPSK	1	0	22.48	14.43	16.58	38.45	-21.87
				1	14	22.27	14.22	16.37	38.45	-22.08
				8	4	21.57	13.52	15.67	38.45	-22.78
				15	0	21.55	13.50	15.65	38.45	-22.8
	20415	825.5	16QAM	1	0	22.04	13.99	16.14	38.45	-22.31
				1	14	22.08	14.03	<b>16.18</b>	38.45	-22.27
				8	4	20.72	12.67	14.82	38.45	-23.63
				15	0	20.61	12.56	14.71	38.45	-23.74
	20525	836.5	16QAM	1	0	21.93	13.88	16.03	38.45	-22.42
				1	14	21.82	13.77	15.92	38.45	-22.53
				8	4	20.58	12.53	14.68	38.45	-23.77
				15	0	20.59	12.54	14.69	38.45	-23.76
	20635	847.5	16QAM	1	0	21.82	13.77	15.92	38.45	-22.53
				1	14	21.56	13.51	15.66	38.45	-22.79
				8	4	20.46	12.41	14.56	38.45	-23.89
				15	0	20.55	12.50	14.65	38.45	-23.8
	20415	825.5	64QAM	1	0	21.52	13.47	15.62	38.45	-22.83
				1	14	21.55	13.50	<b>15.65</b>	38.45	-22.8
				8	4	20.05	12.00	14.15	38.45	-24.3
				15	0	20.06	12.01	14.16	38.45	-24.29
	20525	836.5	64QAM	1	0	21.40	13.35	15.50	38.45	-22.95
				1	14	21.18	13.13	15.28	38.45	-23.17
				8	4	20.04	11.99	14.14	38.45	-24.31
				15	0	19.92	11.87	14.02	38.45	-24.43
	20635	847.5	64QAM	1	0	21.17	13.12	15.27	38.45	-23.18
				1	14	20.95	12.90	15.05	38.45	-23.4
				8	4	19.79	11.74	13.89	38.45	-24.56
				15	0	19.94	11.89	14.04	38.45	-24.41

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Antenna gain (dBi) -5.9

LTE Band 5 Uplink frequency band : 824 to 849 MHz										
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5	20425	826.5	QPSK	1	0	22.57	14.52	16.67	38.45	-21.78
				1	24	22.51	14.46	16.61	38.45	-21.84
				12	6	21.66	13.61	15.76	38.45	-22.69
				25	0	21.58	13.53	15.68	38.45	-22.77
	20525	836.5	QPSK	1	0	22.64	14.59	16.74	38.45	-21.71
				1	24	22.69	14.64	<b>16.79</b>	38.45	-21.66
				12	6	21.69	13.64	15.79	38.45	-22.66
				25	0	21.62	13.57	15.72	38.45	-22.73
	20625	846.5	QPSK	1	0	22.65	14.60	16.75	38.45	-21.7
				1	24	22.60	14.55	16.70	38.45	-21.75
				12	6	21.60	13.55	15.70	38.45	-22.75
				25	0	21.50	13.45	15.60	38.45	-22.85
	20425	826.5	16QAM	1	0	22.24	14.19	16.34	38.45	-22.11
				1	24	21.65	13.60	15.75	38.45	-22.7
				12	6	20.63	12.58	14.73	38.45	-23.72
				25	0	20.66	12.61	14.76	38.45	-23.69
	20525	836.5	16QAM	1	0	22.25	14.20	<b>16.35</b>	38.45	-22.1
				1	24	22.25	14.20	<b>16.35</b>	38.45	-22.1
				12	6	20.65	12.60	14.75	38.45	-23.7
				25	0	20.74	12.69	14.84	38.45	-23.61
	20625	846.5	16QAM	1	0	21.61	13.56	15.71	38.45	-22.74
				1	24	21.78	13.73	15.88	38.45	-22.57
				12	6	20.68	12.63	14.78	38.45	-23.67
				25	0	20.63	12.58	14.73	38.45	-23.72
	20425	826.5	64QAM	1	0	21.65	13.60	15.75	38.45	-22.7
				1	24	21.01	12.96	15.11	38.45	-23.34
				12	6	19.95	11.90	14.05	38.45	-24.4
				25	0	20.01	11.96	14.11	38.45	-24.34
	20525	836.5	64QAM	1	0	21.61	13.56	15.71	38.45	-22.74
				1	24	21.70	13.65	<b>15.80</b>	38.45	-22.65
				12	6	19.97	11.92	14.07	38.45	-24.38
				25	0	20.10	12.05	14.20	38.45	-24.25
	20625	846.5	64QAM	1	0	21.04	12.99	15.14	38.45	-23.31
				1	24	21.15	13.10	15.25	38.45	-23.2
				12	6	20.16	12.11	14.26	38.45	-24.19
				25	0	20.11	12.06	14.21	38.45	-24.24

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Antenna gain (dBi) -5.9

LTE Band 5_Uplink frequency band : 824 to 849 MHz										
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10	20450	829	QPSK	1	0	22.47	14.42	16.57	38.45	-21.88
				1	49	22.58	14.53	16.68	38.45	-21.77
				25	12	21.68	13.63	15.78	38.45	-22.67
				50	0	21.60	13.55	15.70	38.45	-22.75
	20525	836.5	QPSK	1	0	22.51	14.46	16.61	38.45	-21.84
				1	49	22.75	14.70	<b>16.85</b>	38.45	-21.6
				25	12	21.71	13.66	15.81	38.45	-22.64
				50	0	21.67	13.62	15.77	38.45	-22.68
	20600	844	QPSK	1	0	22.60	14.55	16.70	38.45	-21.75
				1	49	22.39	14.34	16.49	38.45	-21.96
				25	12	21.69	13.64	15.79	38.45	-22.66
				50	0	21.66	13.61	15.76	38.45	-22.69
	20450	829	16QAM	1	0	22.16	14.11	16.26	38.45	-22.19
				1	49	22.20	14.15	<b>16.30</b>	38.45	-22.15
				25	12	20.84	12.79	14.94	38.45	-23.51
				50	0	20.73	12.68	14.83	38.45	-23.62
	20525	836.5	16QAM	1	0	22.05	14.00	16.15	38.45	-22.3
				1	49	21.94	13.89	16.04	38.45	-22.41
				25	12	20.70	12.65	14.80	38.45	-23.65
				50	0	20.71	12.66	14.81	38.45	-23.64
	20600	844	16QAM	1	0	21.94	13.89	16.04	38.45	-22.41
				1	49	21.68	13.63	15.78	38.45	-22.67
				25	12	20.58	12.53	14.68	38.45	-23.77
				50	0	20.67	12.62	14.77	38.45	-23.68
	20450	829	64QAM	1	0	21.65	13.60	<b>15.75</b>	38.45	-22.7
				1	49	21.51	13.46	15.61	38.45	-22.84
				25	12	20.32	12.27	14.42	38.45	-24.03
				50	0	20.23	12.18	14.33	38.45	-24.12
	20525	836.5	64QAM	1	0	21.39	13.34	15.49	38.45	-22.96
				1	49	21.30	13.25	15.40	38.45	-23.05
				25	12	20.14	12.09	14.24	38.45	-24.21
				50	0	20.05	12.00	14.15	38.45	-24.3
	20600	844	64QAM	1	0	21.38	13.33	15.48	38.45	-22.97
				1	49	21.17	13.12	15.27	38.45	-23.18
				25	12	19.91	11.86	14.01	38.45	-24.44
				50	0	20.12	12.07	14.22	38.45	-24.23

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Antenna gain (dBi)		-1.4							
LTE Band 7_Uplink frequency band : 2500 to 2570 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5	20775	2502.5	QPSK	1	0	22.94	21.54	33	-11.46
				1	24	23.02	21.62	33	-11.38
				12	6	22.04	20.64	33	-12.36
				25	0	22.03	20.63	33	-12.37
	21100	2535	QPSK	1	0	22.75	21.35	33	-11.65
				1	24	22.92	21.52	33	-11.48
				12	6	21.91	20.51	33	-12.49
				25	0	21.94	20.54	33	-12.46
	21375	2567.5	QPSK	1	0	22.76	21.36	33	-11.64
				1	24	23.02	21.62	33	-11.38
				12	6	22.06	20.66	33	-12.34
				25	0	22.05	20.65	33	-12.35
	20775	2502.5	16QAM	1	0	22.39	20.99	33	-12.01
				1	24	22.57	21.17	33	-11.83
				12	6	21.11	19.71	33	-13.29
				25	0	21.00	19.60	33	-13.4
	21100	2535	16QAM	1	0	21.95	20.55	33	-12.45
				1	24	22.34	20.94	33	-12.06
				12	6	20.94	19.54	33	-13.46
				25	0	21.01	19.61	33	-13.39
	21375	2567.5	16QAM	1	0	22.01	20.61	33	-12.39
				1	24	22.21	20.81	33	-12.19
				12	6	21.17	19.77	33	-13.23
				25	0	21.00	19.60	33	-13.4
	20775	2502.5	64QAM	1	0	21.55	20.15	33	-12.85
				1	24	21.66	20.26	33	-12.74
				12	6	20.29	18.89	33	-14.11
				25	0	20.16	18.76	33	-14.24
	21100	2535	64QAM	1	0	21.09	19.69	33	-13.31
				1	24	21.28	19.88	33	-13.12
				12	6	19.94	18.54	33	-14.46
				25	0	20.05	18.65	33	-14.35
	21375	2567.5	64QAM	1	0	21.17	19.77	33	-13.23
				1	24	21.29	19.89	33	-13.11
				12	6	20.35	18.95	33	-14.05
				25	0	20.01	18.61	33	-14.39

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Antenna gain (dBi) -1.4

LTE Band 7_Uplink frequency band : 2500 to 2570 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10	20800	2505	QPSK	1	0	22.88	21.48	33	-11.52
				1	49	22.90	21.50	33	-11.5
				25	12	22.06	20.66	33	-12.34
				50	0	22.10	20.70	33	-12.3
	21100	2535	QPSK	1	0	22.66	21.26	33	-11.74
				1	49	22.82	21.42	33	-11.58
				25	12	21.88	20.48	33	-12.52
				50	0	21.90	20.50	33	-12.5
	21350	2565	QPSK	1	0	22.63	21.23	33	-11.77
				1	49	22.91	<b>21.51</b>	33	-11.49
				25	12	22.05	20.65	33	-12.35
				50	0	21.97	20.57	33	-12.43
	20800	2505	16QAM	1	0	22.49	21.09	33	-11.91
				1	49	22.57	<b>21.17</b>	33	-11.83
				25	12	21.05	19.65	33	-13.35
				50	0	21.08	19.68	33	-13.32
	21100	2535	16QAM	1	0	22.06	20.66	33	-12.34
				1	49	22.17	20.77	33	-12.23
				25	12	20.88	19.48	33	-13.52
				50	0	20.98	19.58	33	-13.42
	21350	2565	16QAM	1	0	22.04	20.64	33	-12.36
				1	49	22.54	21.14	33	-11.86
				25	12	21.11	19.71	33	-13.29
				50	0	20.96	19.56	33	-13.44
	20800	2505	64QAM	1	0	21.52	20.12	33	-12.88
				1	49	21.64	<b>20.24</b>	33	-12.76
				25	12	20.07	18.67	33	-14.33
				50	0	20.25	18.85	33	-14.15
	21100	2535	64QAM	1	0	21.17	19.77	33	-13.23
				1	49	21.30	19.90	33	-13.1
				25	12	20.00	18.60	33	-14.4
				50	0	20.10	18.70	33	-14.3
	21350	2565	64QAM	1	0	21.22	19.82	33	-13.18
				1	49	21.61	20.21	33	-12.79
				25	12	20.23	18.83	33	-14.17
				50	0	19.99	18.59	33	-14.41

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Antenna gain (dBi) -1.4

LTE Band 7_Uplink frequency band : 2500 to 2570 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15	20825	2507.5	QPSK	1	0	22.97	21.57	33	-11.43
				1	74	23.21	<b>21.81</b>	33	-11.19
				36	18	22.28	20.88	33	-12.12
				75	0	22.25	20.85	33	-12.15
	21100	2535	QPSK	1	0	22.99	21.59	33	-11.41
				1	74	23.13	21.73	33	-11.27
				36	18	22.20	20.80	33	-12.2
				75	0	22.20	20.80	33	-12.2
	21375	2562.5	QPSK	1	0	22.61	21.21	33	-11.79
				1	74	22.94	21.54	33	-11.46
				36	18	21.89	20.49	33	-12.51
				75	0	21.96	20.56	33	-12.44
	20825	2507.5	16QAM	1	0	22.31	20.91	33	-12.09
				1	74	22.43	21.03	33	-11.97
				36	18	21.34	19.94	33	-13.06
				75	0	21.25	19.85	33	-13.15
	21100	2535	16QAM	1	0	22.53	21.13	33	-11.87
				1	74	22.77	<b>21.37</b>	33	-11.63
				36	18	21.20	19.80	33	-13.2
				75	0	21.04	19.64	33	-13.36
	21375	2562.5	16QAM	1	0	22.39	20.99	33	-12.01
				1	74	22.24	20.84	33	-12.16
				36	18	21.03	19.63	33	-13.37
				75	0	21.16	19.76	33	-13.24
	20825	2507.5	64QAM	1	0	21.47	20.07	33	-12.93
				1	74	21.51	20.11	33	-12.89
				36	18	20.47	19.07	33	-13.93
				75	0	20.44	19.04	33	-13.96
	21100	2535	64QAM	1	0	21.70	20.30	33	-12.7
				1	74	21.88	<b>20.48</b>	33	-12.52
				36	18	20.31	18.91	33	-14.09
				75	0	20.08	18.68	33	-14.32
	21375	2562.5	64QAM	1	0	21.51	20.11	33	-12.89
				1	74	21.42	20.02	33	-12.98
				36	18	20.23	18.83	33	-14.17
				75	0	20.33	18.93	33	-14.07

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Antenna gain (dBi) -1.4

LTE Band 7_Uplink frequency band : 2500 to 2570 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20	20850	2510	QPSK	1	0	22.96	21.56	33	-11.44
				1	99	23.17	21.77	33	-11.23
				50	25	22.34	20.94	33	-12.06
				100	0	22.33	20.93	33	-12.07
	21100	2535	QPSK	1	0	22.93	21.53	33	-11.47
				1	99	23.14	21.74	33	-11.26
				50	25	22.13	20.73	33	-12.27
				100	0	22.16	20.76	33	-12.24
	21350	2560	QPSK	1	0	22.95	21.55	33	-11.45
				1	99	23.24	<b>21.84</b>	33	-11.16
				50	25	22.25	20.85	33	-12.15
				100	0	22.25	20.85	33	-12.15
	20850	2510	16QAM	1	0	22.44	21.04	33	-11.96
				1	99	22.52	21.12	33	-11.88
				50	25	21.27	19.87	33	-13.13
				100	0	21.34	19.94	33	-13.06
	21100	2535	16QAM	1	0	22.02	20.62	33	-12.38
				1	99	22.31	20.91	33	-12.09
				50	25	21.21	19.81	33	-13.19
				100	0	21.13	19.73	33	-13.27
	21350	2560	16QAM	1	0	22.58	21.18	33	-11.82
				1	99	22.78	<b>21.38</b>	33	-11.62
				50	25	21.41	20.01	33	-12.99
				100	0	21.32	19.92	33	-13.08
	20850	2510	64QAM	1	0	21.63	20.23	33	-12.77
				1	99	21.70	20.30	33	-12.7
				50	25	20.32	18.92	33	-14.08
				100	0	20.44	19.04	33	-13.96
	21100	2535	64QAM	1	0	21.14	19.74	33	-13.26
				1	99	21.39	19.99	33	-13.01
				50	25	20.22	18.82	33	-14.18
				100	0	20.17	18.77	33	-14.23
	21350	2560	64QAM	1	0	21.73	20.33	33	-12.67
				1	99	21.90	<b>20.50</b>	33	-12.5
				50	25	20.56	19.16	33	-13.84
				100	0	20.37	18.97	33	-14.03

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Antenna gain (dBi) **-10.6**

LTE Band 12_Uplink frequency band : 699 to 716 MHz										
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
1.4	23017	699.7	QPSK	1	0	22.38	9.63	11.78	34.77	-22.99
				1	5	22.26	9.51	11.66	34.77	-23.11
				3	2	22.17	9.42	11.57	34.77	-23.2
				6	0	21.37	8.62	10.77	34.77	-24
	23095	707.5	QPSK	1	0	22.24	9.49	11.64	34.77	-23.13
				1	5	22.42	9.67	11.82	34.77	-22.95
				3	2	22.21	9.46	11.61	34.77	-23.16
				6	0	21.39	8.64	10.79	34.77	-23.98
	23173	715.5	QPSK	1	0	22.35	9.60	11.75	34.77	-23.02
				1	5	22.44	9.69	<b>11.84</b>	34.77	-22.93
				3	2	22.20	9.45	11.60	34.77	-23.17
				6	0	21.42	8.67	10.82	34.77	-23.95
	23017	699.7	16QAM	1	0	21.52	8.77	10.92	34.77	-23.85
				1	5	21.61	8.86	11.01	34.77	-23.76
				3	2	21.19	8.44	10.59	34.77	-24.18
				6	0	20.51	7.76	9.91	34.77	-24.86
	23095	707.5	16QAM	1	0	21.97	9.22	<b>11.37</b>	34.77	-23.4
				1	5	21.78	9.03	11.18	34.77	-23.59
				3	2	21.27	8.52	10.67	34.77	-24.1
				6	0	20.45	7.70	9.85	34.77	-24.92
	23173	715.5	16QAM	1	0	21.58	8.83	10.98	34.77	-23.79
				1	5	21.37	8.62	10.77	34.77	-24
				3	2	21.28	8.53	10.68	34.77	-24.09
				6	0	20.47	7.72	9.87	34.77	-24.9
	23017	699.7	64QAM	1	0	20.87	8.12	10.27	34.77	-24.5
				1	5	20.87	8.12	10.27	34.77	-24.5
				3	2	20.57	7.82	9.97	34.77	-24.8
				6	0	19.74	6.99	9.14	34.77	-25.63
	23095	707.5	64QAM	1	0	21.33	8.58	<b>10.73</b>	34.77	-24.04
				1	5	21.02	8.27	10.42	34.77	-24.35
				3	2	20.64	7.89	10.04	34.77	-24.73
				6	0	19.80	7.05	9.20	34.77	-25.57
	23173	715.5	64QAM	1	0	20.93	8.18	10.33	34.77	-24.44
				1	5	20.63	7.88	10.03	34.77	-24.74
				3	2	20.60	7.85	10.00	34.77	-24.77
				6	0	19.75	7.00	9.15	34.77	-25.62

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Antenna gain (dBi) -10.6

LTE Band 12_Uplink frequency band : 699 to 716 MHz										
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
3	23025	700.5	QPSK	1	0	22.40	9.65	11.80	34.77	-22.97
				1	14	22.42	9.67	11.82	34.77	-22.95
				8	4	21.54	8.79	10.94	34.77	-23.83
				15	0	21.52	8.77	10.92	34.77	-23.85
	23095	707.5	QPSK	1	0	22.48	9.73	11.88	34.77	-22.89
				1	14	22.52	9.77	11.92	34.77	-22.85
				8	4	21.58	8.83	10.98	34.77	-23.79
				15	0	21.58	8.83	10.98	34.77	-23.79
	23165	714.5	QPSK	1	0	22.51	9.76	11.91	34.77	-22.86
				1	14	22.53	9.78	11.93	34.77	-22.84
				8	4	21.66	8.91	11.06	34.77	-23.71
				15	0	21.53	8.78	10.93	34.77	-23.84
	23025	700.5	16QAM	1	0	21.90	9.15	11.30	34.77	-23.47
				1	14	22.04	9.29	11.44	34.77	-23.33
				8	4	20.52	7.77	9.92	34.77	-24.85
				15	0	20.67	7.92	10.07	34.77	-24.7
	23095	707.5	16QAM	1	0	21.63	8.88	11.03	34.77	-23.74
				1	14	22.16	9.41	11.56	34.77	-23.21
				8	4	20.53	7.78	9.93	34.77	-24.84
				15	0	20.55	7.80	9.95	34.77	-24.82
	23165	714.5	16QAM	1	0	21.67	8.92	11.07	34.77	-23.7
				1	14	21.44	8.69	10.84	34.77	-23.93
				8	4	20.74	7.99	10.14	34.77	-24.63
				15	0	20.63	7.88	10.03	34.77	-24.74
	23025	700.5	64QAM	1	0	21.24	8.49	10.64	34.77	-24.13
				1	14	21.44	8.69	10.84	34.77	-23.93
				8	4	19.77	7.02	9.17	34.77	-25.6
				15	0	19.91	7.16	9.31	34.77	-25.46
	23095	707.5	64QAM	1	0	20.91	8.16	10.31	34.77	-24.46
				1	14	21.39	8.64	10.79	34.77	-23.98
				8	4	19.79	7.04	9.19	34.77	-25.58
				15	0	19.84	7.09	9.24	34.77	-25.53
	23165	714.5	64QAM	1	0	21.06	8.31	10.46	34.77	-24.31
				1	14	20.80	8.05	10.20	34.77	-24.57
				8	4	20.12	7.37	9.52	34.77	-25.25
				15	0	19.88	7.13	9.28	34.77	-25.49

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Antenna gain (dBi) -10.6

LTE Band 12_Uplink frequency band : 699 to 716 MHz										
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5	23035	701.5	QPSK	1	0	22.51	9.76	11.91	34.77	-22.86
				1	24	22.39	9.64	11.79	34.77	-22.98
				12	6	21.50	8.75	10.90	34.77	-23.87
				25	0	21.50	8.75	10.90	34.77	-23.87
	23095	707.5	QPSK	1	0	22.37	9.62	11.77	34.77	-23
				1	24	22.55	9.80	11.95	34.77	-22.82
				12	6	21.54	8.79	10.94	34.77	-23.83
				25	0	21.52	8.77	10.92	34.77	-23.85
	23155	713.5	QPSK	1	0	22.48	9.73	11.88	34.77	-22.89
				1	24	22.57	9.82	11.97	34.77	-22.8
				12	6	21.53	8.78	10.93	34.77	-23.84
				25	0	21.55	8.80	10.95	34.77	-23.82
	23035	701.5	16QAM	1	0	21.65	8.90	11.05	34.77	-23.72
				1	24	21.74	8.99	11.14	34.77	-23.63
				12	6	20.52	7.77	9.92	34.77	-24.85
				25	0	20.64	7.89	10.04	34.77	-24.73
	23095	707.5	16QAM	1	0	22.10	9.35	11.50	34.77	-23.27
				1	24	21.91	9.16	11.31	34.77	-23.46
				12	6	20.60	7.85	10.00	34.77	-24.77
				25	0	20.58	7.83	9.98	34.77	-24.79
	23155	713.5	16QAM	1	0	21.71	8.96	11.11	34.77	-23.66
				1	24	21.50	8.75	10.90	34.77	-23.87
				12	6	20.61	7.86	10.01	34.77	-24.76
				25	0	20.60	7.85	10.00	34.77	-24.77
	23035	701.5	64QAM	1	0	20.96	8.21	10.36	34.77	-24.41
				1	24	20.97	8.22	10.37	34.77	-24.4
				12	6	19.90	7.15	9.30	34.77	-25.47
				25	0	19.97	7.22	9.37	34.77	-25.4
	23095	707.5	64QAM	1	0	21.46	8.71	10.86	34.77	-23.91
				1	24	21.17	8.42	10.57	34.77	-24.2
				12	6	19.97	7.22	9.37	34.77	-25.4
				25	0	19.78	7.03	9.18	34.77	-25.59
	23155	713.5	64QAM	1	0	21.06	8.31	10.46	34.77	-24.31
				1	24	20.83	8.08	10.23	34.77	-24.54
				12	6	19.87	7.12	9.27	34.77	-25.5
				25	0	19.85	7.10	9.25	34.77	-25.52

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Antenna gain (dBi) -10.6

LTE Band 12_Uplink frequency band : 699 to 716 MHz										
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10	23060	704	QPSK	1	0	22.39	9.64	11.79	34.77	-22.98
				1	49	22.58	9.83	11.98	34.77	-22.79
				25	12	21.60	8.85	11.00	34.77	-23.77
				50	0	21.61	8.86	11.01	34.77	-23.76
	23095	707.5	QPSK	1	0	22.35	9.60	11.75	34.77	-23.02
				1	49	22.67	9.92	12.07	34.77	-22.7
				25	12	21.60	8.85	11.00	34.77	-23.77
				50	0	21.55	8.80	10.95	34.77	-23.82
	23130	711	QPSK	1	0	22.45	9.70	11.85	34.77	-22.92
				1	49	22.59	9.84	11.99	34.77	-22.78
				25	12	21.62	8.87	11.02	34.77	-23.75
				50	0	21.51	8.76	10.91	34.77	-23.86
	23060	704	16QAM	1	0	21.69	8.94	11.09	34.77	-23.68
				1	49	21.60	8.85	11.00	34.77	-23.77
				25	12	20.58	7.83	9.98	34.77	-24.79
				50	0	20.67	7.92	10.07	34.77	-24.7
	23095	707.5	16QAM	1	0	21.84	9.09	11.24	34.77	-23.53
				1	49	21.70	8.95	11.10	34.77	-23.67
				25	12	20.57	7.82	9.97	34.77	-24.8
				50	0	20.64	7.89	10.04	34.77	-24.73
	23130	711	16QAM	1	0	21.50	8.75	10.90	34.77	-23.87
				1	49	21.80	9.05	11.20	34.77	-23.57
				25	12	20.58	7.83	9.98	34.77	-24.79
				50	0	20.57	7.82	9.97	34.77	-24.8
	23060	704	64QAM	1	0	21.05	8.30	10.45	34.77	-24.32
				1	49	20.96	8.21	10.36	34.77	-24.41
				25	12	19.95	7.20	9.35	34.77	-25.42
				50	0	19.88	7.13	9.28	34.77	-25.49
	23095	707.5	64QAM	1	0	21.20	8.45	10.60	34.77	-24.17
				1	49	20.98	8.23	10.38	34.77	-24.39
				25	12	19.97	7.22	9.37	34.77	-25.4
				50	0	19.93	7.18	9.33	34.77	-25.44
	23130	711	64QAM	1	0	20.73	7.98	10.13	34.77	-24.64
				1	49	21.13	8.38	10.53	34.77	-24.24
				25	12	19.90	7.15	9.30	34.77	-25.47
				50	0	19.87	7.12	9.27	34.77	-25.5

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Antenna gain (dBi) -6.9

LTE Band 13 Uplink frequency band : 777 to 787 MHz										
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5	23205	779.5	QPSK	1	0	22.40	13.35	15.50	34.77	-19.27
				1	24	22.62	13.57	15.72	34.77	-19.05
				12	6	21.75	12.70	14.85	34.77	-19.92
				25	0	21.71	12.66	14.81	34.77	-19.96
	23230	782	QPSK	1	0	22.42	13.37	15.52	34.77	-19.25
				1	24	22.70	13.65	15.80	34.77	-18.97
				12	6	21.72	12.67	14.82	34.77	-19.95
				25	0	21.67	12.62	14.77	34.77	-20
	23255	784.5	QPSK	1	0	22.47	13.42	15.57	34.77	-19.2
				1	24	22.66	13.61	15.76	34.77	-19.01
				12	6	21.78	12.73	14.88	34.77	-19.89
				25	0	21.74	12.69	14.84	34.77	-19.93
	23205	779.5	16QAM	1	0	22.12	13.07	15.22	34.77	-19.55
				1	24	21.73	12.68	14.83	34.77	-19.94
				12	6	20.76	11.71	13.86	34.77	-20.91
				25	0	20.81	11.76	13.91	34.77	-20.86
	23230	782	16QAM	1	0	21.80	12.75	14.90	34.77	-19.87
				1	24	21.92	12.87	15.02	34.77	-19.75
				12	6	20.80	11.75	13.90	34.77	-20.87
				25	0	20.68	11.63	13.78	34.77	-20.99
	23255	784.5	16QAM	1	0	21.94	12.89	15.04	34.77	-19.73
				1	24	22.03	12.98	15.13	34.77	-19.64
				12	6	20.81	11.76	13.91	34.77	-20.86
				25	0	20.77	11.72	13.87	34.77	-20.9
	23205	779.5	64QAM	1	0	21.48	12.43	14.58	34.77	-20.19
				1	24	20.96	11.91	14.06	34.77	-20.71
				12	6	20.03	10.98	13.13	34.77	-21.64
				25	0	20.09	11.04	13.19	34.77	-21.58
	23230	782	64QAM	1	0	21.19	12.14	14.29	34.77	-20.48
				1	24	21.24	12.19	14.34	34.77	-20.43
				12	6	20.13	11.08	13.23	34.77	-21.54
				25	0	20.04	10.99	13.14	34.77	-21.63
	23255	784.5	64QAM	1	0	21.29	12.24	14.39	34.77	-20.38
				1	24	21.30	12.25	14.40	34.77	-20.37
				12	6	20.07	11.02	13.17	34.77	-21.6
				25	0	20.16	11.11	13.26	34.77	-21.51

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Antenna gain (dBi) -6.9

LTE Band 13_Uplink frequency band : 777 to 787 MHz										
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10	23230	782	QPSK	1	0	22.45	13.40	15.55	34.77	-19.22
				1	49	22.54	13.49	<b>15.64</b>	34.77	-19.13
				25	12	21.76	12.71	14.86	34.77	-19.91
				50	0	21.79	12.74	14.89	34.77	-19.88
	23230	782	16QAM	1	0	22.00	12.95	<b>15.10</b>	34.77	-19.67
				1	49	21.88	12.83	14.98	34.77	-19.79
				25	12	20.72	11.67	13.82	34.77	-20.95
				50	0	20.83	11.78	13.93	34.77	-20.84
	23230	782	64QAM	1	0	21.25	12.20	<b>14.35</b>	34.77	-20.42
				1	49	21.08	12.03	14.18	34.77	-20.59
				25	12	19.94	10.89	13.04	34.77	-21.73
				50	0	20.18	11.13	13.28	34.77	-21.49

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Antenna gain (dBi) -10.6

LTE Band 17_Uplink frequency band : 704 to 716 MHz										
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5	23755	706.5	QPSK	1	0	22.40	9.65	11.80	34.77	-22.97
				1	24	22.58	9.83	11.98	34.77	-22.79
				12	6	21.56	8.81	10.96	34.77	-23.81
				25	0	21.55	8.80	10.95	34.77	-23.82
	23790	710	QPSK	1	0	22.41	9.66	11.81	34.77	-22.96
				1	24	22.61	9.86	12.01	34.77	-22.76
				12	6	21.58	8.83	10.98	34.77	-23.79
				25	0	21.55	8.80	10.95	34.77	-23.82
	23825	713.5	QPSK	1	0	22.48	9.73	11.88	34.77	-22.89
				1	24	22.60	9.85	12.00	34.77	-22.77
				12	6	21.54	8.79	10.94	34.77	-23.83
				25	0	21.64	8.89	11.04	34.77	-23.73
	23755	706.5	16QAM	1	0	21.42	8.67	10.82	34.77	-23.95
				1	24	21.64	8.89	11.04	34.77	-23.73
				12	6	20.65	7.90	10.05	34.77	-24.72
				25	0	20.58	7.83	9.98	34.77	-24.79
	23790	710	16QAM	1	0	21.98	9.23	11.38	34.77	-23.39
				1	24	22.07	9.32	11.47	34.77	-23.3
				12	6	20.64	7.89	10.04	34.77	-24.73
				25	0	20.59	7.84	9.99	34.77	-24.78
	23825	713.5	16QAM	1	0	21.56	8.81	10.96	34.77	-23.81
				1	24	22.22	9.47	11.62	34.77	-23.15
				12	6	20.63	7.88	10.03	34.77	-24.74
				25	0	20.60	7.85	10.00	34.77	-24.77
	23755	706.5	64QAM	1	0	20.73	7.98	10.13	34.77	-24.64
				1	24	20.87	8.12	10.27	34.77	-24.5
				12	6	19.88	7.13	9.28	34.77	-25.49
				25	0	19.84	7.09	9.24	34.77	-25.53
	23790	710	64QAM	1	0	21.31	8.56	10.71	34.77	-24.06
				1	24	21.43	8.68	10.83	34.77	-23.94
				12	6	20.02	7.27	9.42	34.77	-25.35
				25	0	19.90	7.15	9.30	34.77	-25.47
	23825	713.5	64QAM	1	0	20.85	8.10	10.25	34.77	-24.52
				1	24	21.57	8.82	10.97	34.77	-23.8
				12	6	19.88	7.13	9.28	34.77	-25.49
				25	0	19.89	7.14	9.29	34.77	-25.48

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Antenna gain (dBi) -10.6

LTE Band 17_Uplink frequency band : 704 to 716 MHz										
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10	23780	709	QPSK	1	0	22.46	9.71	11.86	34.77	-22.91
				1	49	22.66	9.91	12.06	34.77	-22.71
				25	12	21.70	8.95	11.10	34.77	-23.67
				50	0	21.63	8.88	11.03	34.77	-23.74
	23790	710	QPSK	1	0	22.32	9.57	11.72	34.77	-23.05
				1	49	22.68	9.93	<b>12.08</b>	34.77	-22.69
				25	12	21.52	8.77	10.92	34.77	-23.85
				50	0	21.61	8.86	11.01	34.77	-23.76
	23800	711	QPSK	1	0	22.40	9.65	11.80	34.77	-22.97
				1	49	22.54	9.79	11.94	34.77	-22.83
				25	12	21.54	8.79	10.94	34.77	-23.83
				50	0	21.52	8.77	10.92	34.77	-23.85
	23780	709	16QAM	1	0	21.62	8.87	11.02	34.77	-23.75
				1	49	21.93	9.18	<b>11.33</b>	34.77	-23.44
				25	12	20.71	7.96	10.11	34.77	-24.66
				50	0	20.66	7.91	10.06	34.77	-24.71
	23790	710	16QAM	1	0	21.51	8.76	10.91	34.77	-23.86
				1	49	21.83	9.08	11.23	34.77	-23.54
				25	12	20.59	7.84	9.99	34.77	-24.78
				50	0	20.59	7.84	9.99	34.77	-24.78
	23800	711	16QAM	1	0	21.71	8.96	11.11	34.77	-23.66
				1	49	21.81	9.06	11.21	34.77	-23.56
				25	12	20.64	7.89	10.04	34.77	-24.73
				50	0	20.61	7.86	10.01	34.77	-24.76
	23780	709	64QAM	1	0	21.00	8.25	10.40	34.77	-24.37
				1	49	21.25	8.50	<b>10.65</b>	34.77	-24.12
				25	12	19.93	7.18	9.33	34.77	-25.44
				50	0	20.02	7.27	9.42	34.77	-25.35
	23790	710	64QAM	1	0	20.75	8.00	10.15	34.77	-24.62
				1	49	21.06	8.31	10.46	34.77	-24.31
				25	12	19.95	7.20	9.35	34.77	-25.42
				50	0	19.97	7.22	9.37	34.77	-25.4
	23800	711	64QAM	1	0	21.03	8.28	10.43	34.77	-24.34
				1	49	21.11	8.36	10.51	34.77	-24.26
				25	12	19.85	7.10	9.25	34.77	-25.52
				50	0	19.82	7.07	9.22	34.77	-25.55

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Antenna gain (dBi) -0.8

**LTE Band 38\_Uplink frequency band : 2570 to 2620 MHz**

BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5	37775	2572.5	QPSK	1	0	22.87	22.07	33	-10.93
				1	24	22.82	22.02	33	-10.98
				12	6	22.14	21.34	33	-11.66
				25	0	22.10	21.30	33	-11.7
	38000	2595	QPSK	1	0	22.92	<b>22.12</b>	33	-10.88
				1	24	22.92	<b>22.12</b>	33	-10.88
				12	6	22.12	21.32	33	-11.68
				25	0	22.13	21.33	33	-11.67
	38225	2617.5	QPSK	1	0	22.91	22.11	33	-10.89
				1	24	22.84	22.04	33	-10.96
				12	6	22.08	21.28	33	-11.72
				25	0	22.04	21.24	33	-11.76
	37775	2572.5	16QAM	1	0	22.13	21.33	33	-11.67
				1	24	22.17	21.37	33	-11.63
				12	6	21.10	20.30	33	-12.7
				25	0	21.12	20.32	33	-12.68
	38000	2595	16QAM	1	0	22.32	<b>21.52</b>	33	-11.48
				1	24	22.31	21.51	33	-11.49
				12	6	21.05	20.25	33	-12.75
				25	0	21.14	20.34	33	-12.66
	38225	2617.5	16QAM	1	0	22.24	21.44	33	-11.56
				1	24	22.19	21.39	33	-11.61
				12	6	21.09	20.29	33	-12.71
				25	0	21.03	20.23	33	-12.77
	37775	2572.5	64QAM	1	0	21.37	20.57	33	-12.43
				1	24	21.33	20.53	33	-12.47
				12	6	20.27	19.47	33	-13.53
				25	0	20.27	19.47	33	-13.53
	38000	2595	64QAM	1	0	21.60	<b>20.80</b>	33	-12.2
				1	24	21.46	20.66	33	-12.34
				12	6	20.19	19.39	33	-13.61
				25	0	20.25	19.45	33	-13.55
	38225	2617.5	64QAM	1	0	21.38	20.58	33	-12.42
				1	24	21.36	20.56	33	-12.44
				12	6	20.33	19.53	33	-13.47
				25	0	20.26	19.46	33	-13.54

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Antenna gain (dBi) -0.8

LTE Band 38_Uplink frequency band : 2570 to 2620 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10	37800	2575	QPSK	1	0	22.80	22.00	33	-11
				1	49	22.93	22.13	33	-10.87
				25	12	22.11	21.31	33	-11.69
				50	0	22.04	21.24	33	-11.76
	38000	2595	QPSK	1	0	22.91	22.11	33	-10.89
				1	49	22.91	22.11	33	-10.89
				25	12	22.03	21.23	33	-11.77
				50	0	22.05	21.25	33	-11.75
	38200	2615	QPSK	1	0	22.95	<b>22.15</b>	33	-10.85
				1	49	22.87	22.07	33	-10.93
				25	12	22.09	21.29	33	-11.71
				50	0	22.02	21.22	33	-11.78
	37800	2575	16QAM	1	0	22.69	<b>21.89</b>	33	-11.11
				1	49	22.14	21.34	33	-11.66
				25	12	21.12	20.32	33	-12.68
				50	0	21.02	20.22	33	-12.78
	38000	2595	16QAM	1	0	22.27	21.47	33	-11.53
				1	49	22.15	21.35	33	-11.65
				25	12	21.16	20.36	33	-12.64
				50	0	21.15	20.35	33	-12.65
	38200	2615	16QAM	1	0	22.19	21.39	33	-11.61
				1	49	22.15	21.35	33	-11.65
				25	12	21.10	20.30	33	-12.7
				50	0	21.10	20.30	33	-12.7
	37800	2575	64QAM	1	0	21.87	<b>21.07</b>	33	-11.93
				1	49	21.32	20.52	33	-12.48
				25	12	20.31	19.51	33	-13.49
				50	0	20.24	19.44	33	-13.56
	38000	2595	64QAM	1	0	21.44	20.64	33	-12.36
				1	49	21.29	20.49	33	-12.51
				25	12	20.30	19.50	33	-13.5
				50	0	20.43	19.63	33	-13.37
	38200	2615	64QAM	1	0	21.49	20.69	33	-12.31
				1	49	21.39	20.59	33	-12.41
				25	12	20.34	19.54	33	-13.46
				50	0	20.25	19.45	33	-13.55

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Antenna gain (dBi) -0.8

LTE Band 38_Uplink frequency band : 2570 to 2620 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15	37825	2577.5	QPSK	1	0	23.00	22.20	33	-10.8
				1	74	22.95	22.15	33	-10.85
				36	19	22.27	21.47	33	-11.53
				75	0	22.23	21.43	33	-11.57
	38000	2595	QPSK	1	0	23.05	<b>22.25</b>	33	-10.75
				1	74	23.05	<b>22.25</b>	33	-10.75
				36	19	22.25	21.45	33	-11.55
				75	0	22.26	21.46	33	-11.54
	38175	2612.5	QPSK	1	0	23.04	22.24	33	-10.76
				1	74	22.97	22.17	33	-10.83
				36	19	22.21	21.41	33	-11.59
				75	0	22.17	21.37	33	-11.63
	37825	2577.5	16QAM	1	0	22.26	21.46	33	-11.54
				1	74	22.30	21.50	33	-11.5
				36	19	21.23	20.43	33	-12.57
				75	0	21.25	20.45	33	-12.55
	38000	2595	16QAM	1	0	22.45	<b>21.65</b>	33	-11.35
				1	74	22.44	21.64	33	-11.36
				36	19	21.18	20.38	33	-12.62
				75	0	21.27	20.47	33	-12.53
	38175	2612.5	16QAM	1	0	22.37	21.57	33	-11.43
				1	74	22.32	21.52	33	-11.48
				36	19	21.22	20.42	33	-12.58
				75	0	21.16	20.36	33	-12.64
	37825	2577.5	64QAM	1	0	21.56	20.76	33	-12.24
				1	74	21.57	20.77	33	-12.23
				36	19	20.39	19.59	33	-13.41
				75	0	20.45	19.65	33	-13.35
	38000	2595	64QAM	1	0	21.71	<b>20.91</b>	33	-12.09
				1	74	21.68	20.88	33	-12.12
				36	19	20.44	19.64	33	-13.36
				75	0	20.41	19.61	33	-13.39
	38175	2612.5	64QAM	1	0	21.63	20.83	33	-12.17
				1	74	21.56	20.76	33	-12.24
				36	19	20.46	19.66	33	-13.34
				75	0	20.33	19.53	33	-13.47

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Antenna gain (dBi) -0.8

LTE Band 38_Uplink frequency band : 2570 to 2620 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20	37850	2580	QPSK	1	0	23.06	22.26	33	-10.74
				1	99	23.01	22.21	33	-10.79
				50	25	22.29	21.49	33	-11.51
				100	0	22.26	21.46	33	-11.54
	38000	2595	QPSK	1	0	23.10	<b>22.30</b>	33	-10.7
				1	99	23.02	22.22	33	-10.78
				50	25	22.25	21.45	33	-11.55
				100	0	22.36	21.56	33	-11.44
	38150	2610	QPSK	1	0	23.03	22.23	33	-10.77
				1	99	22.93	22.13	33	-10.87
				50	25	22.14	21.34	33	-11.66
				100	0	22.15	21.35	33	-11.65
	37850	2580	16QAM	1	0	22.40	21.60	33	-11.4
				1	99	22.33	21.53	33	-11.47
				50	25	21.35	20.55	33	-12.45
				100	0	21.23	20.43	33	-12.57
	38000	2595	16QAM	1	0	22.43	21.63	33	-11.37
				1	99	22.39	21.59	33	-11.41
				50	25	21.32	20.52	33	-12.48
				100	0	21.22	20.42	33	-12.58
	38150	2610	16QAM	1	0	22.44	<b>21.64</b>	33	-11.36
				1	99	22.36	21.56	33	-11.44
				50	25	21.24	20.44	33	-12.56
				100	0	21.19	20.39	33	-12.61
	37850	2580	64QAM	1	0	21.53	20.73	33	-12.27
				1	99	21.59	20.79	33	-12.21
				50	25	20.55	19.75	33	-13.25
				100	0	20.52	19.72	33	-13.28
	38000	2595	64QAM	1	0	21.66	<b>20.86</b>	33	-12.14
				1	99	21.52	20.72	33	-12.28
				50	25	20.48	19.68	33	-13.32
				100	0	20.43	19.63	33	-13.37
	38150	2610	64QAM	1	0	21.58	20.78	33	-12.22
				1	99	21.59	20.79	33	-12.21
				50	25	20.44	19.64	33	-13.36
				100	0	20.41	19.61	33	-13.39

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Antenna gain (dBi) -0.8

LTE Band 41_Uplink frequency band : 2496 to 2690 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5	39675	2498.5	QPSK	1	0	23.26	22.46	33	-10.54
				1	24	23.12	22.32	33	-10.68
				12	6	22.39	21.59	33	-11.41
				25	0	22.45	21.65	33	-11.35
	40620	2593	QPSK	1	0	23.43	22.63	33	-10.37
				1	24	23.44	22.64	33	-10.36
				12	6	22.66	21.86	33	-11.14
				25	0	22.64	21.84	33	-11.16
	41565	2687.5	QPSK	1	0	23.21	22.41	33	-10.59
				1	24	23.47	<b>22.67</b>	33	-10.33
				12	6	22.79	21.99	33	-11.01
				25	0	22.61	21.81	33	-11.19
	39675	2498.5	16QAM	1	0	22.55	21.75	33	-11.25
				1	24	22.50	21.70	33	-11.3
				12	6	21.46	20.66	33	-12.34
				25	0	21.50	20.70	33	-12.3
	40620	2593	16QAM	1	0	22.89	<b>22.09</b>	33	-10.91
				1	24	22.78	21.98	33	-11.02
				12	6	21.70	20.90	33	-12.1
				25	0	21.65	20.85	33	-12.15
	41565	2687.5	16QAM	1	0	22.56	21.76	33	-11.24
				1	24	22.78	21.98	33	-11.02
				12	6	21.89	21.09	33	-11.91
				25	0	21.67	20.87	33	-12.13
	39675	2498.5	64QAM	1	0	20.65	19.85	33	-13.15
				1	24	21.60	20.80	33	-12.2
				12	6	20.70	19.90	33	-13.1
				25	0	20.79	19.99	33	-13.01
	40620	2593	64QAM	1	0	22.14	<b>21.34</b>	33	-11.66
				1	24	21.90	21.10	33	-11.9
				12	6	20.96	20.16	33	-12.84
				25	0	20.79	19.99	33	-13.01
	41565	2687.5	64QAM	1	0	21.74	20.94	33	-12.06
				1	24	21.97	21.17	33	-11.83
				12	6	21.09	20.29	33	-12.71
				25	0	20.80	20.00	33	-13

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BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10	39700	2501	QPSK	1	0	23.30	22.50	33	-10.5
				1	49	23.16	22.36	33	-10.64
				25	12	22.43	21.63	33	-11.37
				50	0	22.49	21.69	33	-11.31
	40620	2593	QPSK	1	0	23.47	22.67	33	-10.33
				1	49	23.48	22.68	33	-10.32
				25	12	22.70	21.90	33	-11.1
				50	0	22.68	21.88	33	-11.12
	41540	2685	QPSK	1	0	23.25	22.45	33	-10.55
				1	49	23.51	<b>22.71</b>	33	-10.29
				25	12	22.83	22.03	33	-10.97
				50	0	22.65	21.85	33	-11.15
	39700	2501	16QAM	1	0	22.59	21.79	33	-11.21
				1	49	22.54	21.74	33	-11.26
				25	12	21.50	20.70	33	-12.3
				50	0	21.54	20.74	33	-12.26
	40620	2593	16QAM	1	0	22.93	<b>22.13</b>	33	-10.87
				1	49	22.82	22.02	33	-10.98
				25	12	21.74	20.94	33	-12.06
				50	0	21.69	20.89	33	-12.11
	41540	2685	16QAM	1	0	22.60	21.80	33	-11.2
				1	49	22.82	22.02	33	-10.98
				25	12	21.93	21.13	33	-11.87
				50	0	21.71	20.91	33	-12.09
	39700	2501	64QAM	1	0	21.78	20.98	33	-12.02
				1	49	21.80	21.00	33	-12
				25	12	20.64	19.84	33	-13.16
				50	0	20.84	20.04	33	-12.96
	40620	2593	64QAM	1	0	22.12	<b>21.32</b>	33	-11.68
				1	49	21.93	21.13	33	-11.87
				25	12	20.87	20.07	33	-12.93
				50	0	20.84	20.04	33	-12.96
	41540	2685	64QAM	1	0	21.80	21.00	33	-12
				1	49	22.01	21.21	33	-11.79
				25	12	21.07	20.27	33	-12.73
				50	0	21.01	20.21	33	-12.79

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Antenna gain (dBi) -0.8

LTE Band 41_Uplink frequency band : 2496 to 2690 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15	39725	2503.5	QPSK	1	0	23.35	22.55	33	-10.45
				1	74	23.21	22.41	33	-10.59
				36	18	22.48	21.68	33	-11.32
				75	0	22.54	21.74	33	-11.26
	40620	2593	QPSK	1	0	23.52	22.72	33	-10.28
				1	74	23.53	22.73	33	-10.27
				36	18	22.75	21.95	33	-11.05
				75	0	22.73	21.93	33	-11.07
	41515	2682.5	QPSK	1	0	23.30	22.50	33	-10.5
				1	74	23.56	<b>22.76</b>	33	-10.24
				36	18	22.88	22.08	33	-10.92
				75	0	22.70	21.90	33	-11.1
	39725	2503.5	16QAM	1	0	22.64	21.84	33	-11.16
				1	74	22.59	21.79	33	-11.21
				36	18	21.55	20.75	33	-12.25
				75	0	21.59	20.79	33	-12.21
	40620	2593	16QAM	1	0	22.98	<b>22.18</b>	33	-10.82
				1	74	22.87	22.07	33	-10.93
				36	18	21.79	20.99	33	-12.01
				75	0	21.74	20.94	33	-12.06
	41515	2682.5	16QAM	1	0	22.65	21.85	33	-11.15
				1	74	22.87	22.07	33	-10.93
				36	18	21.98	21.18	33	-11.82
				75	0	21.76	20.96	33	-12.04
	39725	2503.5	64QAM	1	0	21.78	20.98	33	-12.02
				1	74	21.72	20.92	33	-12.08
				36	18	20.79	19.99	33	-13.01
				75	0	20.86	20.06	33	-12.94
	40620	2593	64QAM	1	0	22.13	21.33	33	-11.67
				1	74	22.14	<b>21.34</b>	33	-11.66
				36	18	20.95	20.15	33	-12.85
				75	0	20.85	20.05	33	-12.95
	41515	2682.5	64QAM	1	0	21.75	20.95	33	-12.05
				1	74	22.11	21.31	33	-11.69
				36	18	21.19	20.39	33	-12.61
				75	0	21.03	20.23	33	-12.77

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Antenna gain (dBi) -0.8

LTE Band 41_Uplink frequency band : 2496 to 2690 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20	39750	2506	QPSK	1	0	23.40	22.60	33	-10.4
				1	99	23.26	22.46	33	-10.54
				50	25	22.53	21.73	33	-11.27
				100	0	22.59	21.79	33	-11.21
	40620	2593	QPSK	1	0	23.57	22.77	33	-10.23
				1	99	23.58	22.78	33	-10.22
				50	25	22.80	22.00	33	-11
				100	0	22.78	21.98	33	-11.02
	41490	2680	QPSK	1	0	23.35	22.55	33	-10.45
				1	99	23.61	<b>22.81</b>	33	-10.19
				50	25	22.93	22.13	33	-10.87
				100	0	22.75	21.95	33	-11.05
	39750	2506	16QAM	1	0	22.69	21.89	33	-11.11
				1	99	22.64	21.84	33	-11.16
				50	25	21.60	20.80	33	-12.2
				100	0	21.64	20.84	33	-12.16
	40620	2593	16QAM	1	0	23.03	<b>22.23</b>	33	-10.77
				1	99	22.92	22.12	33	-10.88
				50	25	21.84	21.04	33	-11.96
				100	0	21.79	20.99	33	-12.01
	41490	2680	16QAM	1	0	22.70	21.90	33	-11.1
				1	99	22.92	22.12	33	-10.88
				50	25	22.03	21.23	33	-11.77
				100	0	21.81	21.01	33	-11.99
	39750	2506	64QAM	1	0	21.88	21.08	33	-11.92
				1	99	21.92	21.12	33	-11.88
				50	25	20.76	19.96	33	-13.04
				100	0	20.87	20.07	33	-12.93
	40620	2593	64QAM	1	0	22.29	<b>21.49</b>	33	-11.51
				1	99	22.03	21.23	33	-11.77
				50	25	21.06	20.26	33	-12.74
				100	0	20.94	20.14	33	-12.86
	41490	2680	64QAM	1	0	21.85	21.05	33	-11.95
				1	99	22.19	21.39	33	-11.61
				50	25	21.26	20.46	33	-12.54
				100	0	20.99	20.19	33	-12.81

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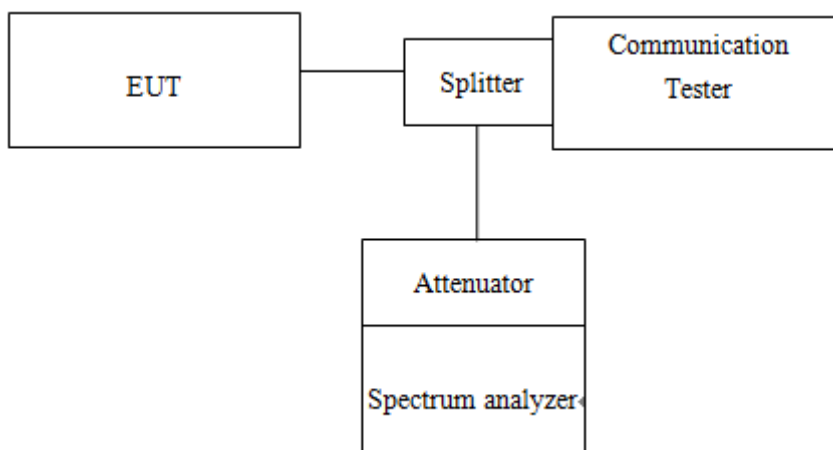
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## 7. OCCUPIED BANDWIDTH MEASUREMENT

### 7.1. Standard Applicable

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

### 7.2. Test Set-up



### 7.3. Measurement Procedure

#### **99% & 26dB Bandwidth with detector peak**

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW was set to about 1% of emission BW, VBW= 3 times RBW, -26dBc display line was placed on the screen (or 26dB bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace. Then set RBW to 99% bandwidth, RBW= 1%, VBW= 3 RBW, with span > 2 \* Signal BW, set % Power = 99%.

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#### 7.4. Measurement Equipment Used

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Radio Communication Analyser	Anritsu	MT8820C	6200995019	04/01/2019	03/31/2020
DC Power Supply	Agilent	E3640A	MY52410006	12/10/2019	12/09/2020
Temperature Chamber	TERCHY	MHG-120LF	911009	05/17/2019	05/16/2020
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY57120290	02/13/2019	02/12/2020
Attenuator	Mini-Circuit	BW-S10W2+	2	01/02/2020	01/01/2021
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2020	01/01/2021
Splitter	RF-LAMBAD	RFLT2W1G18G	11-JSPF412-018	01/02/2020	01/01/2021

#### 7.5. Measurement Result

Freq. (MHz)	CH	99% BW (MHz)		26 dB BW (MHz)	
		GSM 850	GPRS 850	GSM 850	GPRS 850
824.2	128	0.24409	0.24031	<b>0.318</b>	<b>0.319</b>
836.6	190	<b>0.24606</b>	<b>0.24717</b>	0.317	0.319
848.8	251	0.24509	0.24231	0.316	0.313

Freq. (MHz)	CH	99% BW (MHz)		26 dB BW (MHz)	
		GSM 1900	GPRS 1900	GSM 1900	GPRS 1900
1850.2	512	0.24163	0.24109	<b>0.318</b>	0.315
1880.0	661	0.24024	0.24023	0.315	0.310
1909.8	810	<b>0.24253</b>	<b>0.24260</b>	0.316	<b>0.317</b>

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Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		WCDMA II	HSDPA II	HSUPA II	WCDMA II	HSDPA II	HSUPA II
1852.40	9262	4.13420	4.14250	4.13970	4.702	<b>4.688</b>	4.666
1880.00	9400	<b>4.14410</b>	4.14080	4.13060	<b>4.709</b>	4.683	<b>4.683</b>
1907.60	9538	4.13830	<b>4.14690</b>	<b>4.15010</b>	4.705	4.684	4.668

Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		WCDMA IV	HSDPA IV	HSUPA IV	WCDMA IV	HSDPA IV	HSUPA IV
1712.40	1312	<b>4.14010</b>	4.13140	4.14200	4.697	<b>4.673</b>	4.679
1732.60	1413	4.13770	<b>4.13850</b>	<b>4.14500</b>	4.692	4.671	4.662
1752.60	1513	4.13790	4.12550	4.13290	<b>4.698</b>	4.670	<b>4.684</b>

Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		WCDMA V	HSDPA V	HSUPA V	WCDMA V	HSDPA V	HSUPA V
826.40	4132	4.13220	4.13950	4.14120	4.684	<b>4.701</b>	<b>4.683</b>
836.60	4183	<b>4.14580</b>	<b>4.15420</b>	<b>4.14780</b>	4.695	4.686	4.679
846.60	4233	4.14090	4.14350	4.12860	<b>4.701</b>	4.677	<b>4.683</b>

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LTE BAND 2 Channel bandwidth: 1.4MHz						
Freq. (MHz)	CH	99% BW (MHz)		26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM	64QAM
1850.7	18607	1.0946	<b>1.0994</b>	1.235	<b>1.248</b>	1.234
1880.0	18900	<b>1.0951</b>	1.0963	<b>1.240</b>	1.243	1.232
1909.3	19193	1.0945	1.0980	1.229	1.234	<b>1.241</b>

LTE BAND 2 Channel bandwidth: 3MHz						
Freq. (MHz)	CH	99% BW (MHz)		26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM	64QAM
1851.5	18615	2.6972	2.6998	<b>3.004</b>	<b>3.018</b>	<b>3.026</b>
1880.0	18900	<b>2.6999</b>	<b>2.7019</b>	3.002	3.005	2.994
1908.5	19185	2.6978	2.6987	3.003	3.003	2.997

LTE BAND 2 Channel bandwidth: 5MHz						
Freq. (MHz)	CH	99% BW (MHz)		26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM	64QAM
1852.5	18625	<b>4.5008</b>	<b>4.5045</b>	4.966	<b>4.956</b>	<b>4.973</b>
1880.0	18900	4.4997	4.4954	4.971	4.945	4.959
1907.5	19175	4.5004	4.5023	<b>5.002</b>	4.942	4.951

LTE BAND 2 Channel bandwidth: 10MHz						
Freq. (MHz)	CH	99% BW (MHz)		26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM	64QAM
1855.0	18650	8.9848	8.9554	9.774	9.750	<b>9.809</b>
1880.0	18900	9.0006	8.9567	9.759	9.738	9.777
1905.0	19150	<b>9.0022</b>	<b>8.9616</b>	<b>9.840</b>	<b>9.784</b>	9.792

LTE BAND 2 Channel bandwidth: 15MHz						
Freq. (MHz)	CH	99% BW (MHz)		26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM	64QAM
1857.5	18675	13.469	13.444	14.924	17.499	15.015
1880.0	18900	13.487	13.459	16.664	<b>17.930</b>	15.822
1902.5	19125	<b>13.493</b>	<b>13.483</b>	<b>17.337</b>	17.221	<b>17.290</b>

LTE BAND 2 Channel bandwidth: 20MHz						
Freq. (MHz)	CH	99% BW (MHz)		26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM	64QAM
1860.0	18700	<b>18.161</b>	17.890	19.075	19.340	19.480
1880.0	18900	17.916	17.956	19.748	<b>19.506</b>	19.563
1900.0	19100	17.929	<b>17.992</b>	<b>20.541</b>	19.433	<b>20.003</b>

LTE BAND 4 Channel bandwidth: 1.4MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
1710.7	19957	<b>1.0937</b>	<b>1.0980</b>	1.0955	1.235	<b>1.243</b>	<b>1.238</b>
1732.5	20175	1.0927	1.0943	<b>1.0969</b>	1.235	1.241	1.230
1754.3	20393	<b>1.0937</b>	1.0944	1.0959	<b>1.236</b>	1.230	1.236

LTE BAND 4 Channel bandwidth: 3MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
1711.5	19965	<b>2.7007</b>	2.6951	<b>2.7073</b>	2.985	<b>3.015</b>	2.981
1732.5	20175	2.6973	<b>2.7035</b>	2.7009	<b>3.004</b>	2.992	2.986
1753.5	20385	2.7003	2.7019	2.7006	2.998	3.002	<b>3.020</b>

LTE BAND 4 Channel bandwidth: 5MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
1712.5	19957	4.4999	4.5006	4.5098	4.964	4.953	<b>4.995</b>
1732.5	20175	<b>4.5050</b>	<b>4.5066</b>	<b>4.5139</b>	<b>4.994</b>	<b>4.973</b>	4.967
1752.5	20375	4.4945	4.5020	4.5063	4.981	4.969	4.984

LTE BAND 4 Channel bandwidth: 10MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
1715.0	20000	8.9862	8.9571	<b>8.9841</b>	<b>9.820</b>	9.770	9.772
1732.5	20175	<b>8.9999</b>	8.9605	8.9633	9.793	9.781	9.762
1750.0	20350	8.9635	<b>8.9611</b>	8.9640	9.804	<b>9.802</b>	<b>9.787</b>

LTE BAND 4 Channel bandwidth: 15MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
1717.5	20025	13.468	<b>13.483</b>	<b>13.462</b>	15.834	16.841	14.652
1732.5	20175	13.475	13.457	13.457	<b>16.968</b>	15.018	17.134
1747.5	20325	<b>13.482</b>	13.468	13.440	16.398	<b>18.016</b>	<b>18.708</b>

LTE BAND 4 Channel bandwidth: 20MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
1720.0	20050	<b>17.929</b>	17.943	17.925	19.380	<b>21.135</b>	19.454
1732.5	20175	17.914	<b>17.945</b>	<b>17.938</b>	<b>21.158</b>	19.415	<b>19.808</b>
1745.0	20300	17.895	17.919	17.911	19.410	19.448	19.339

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LTE BAND 5 Channel bandwidth: 1.4MHz						
Freq. (MHz)	CH	99% BW (MHz)		26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM	64QAM
824.7	20407	<b>1.0969</b>	1.0960	1.229	<b>1.248</b>	1.235
836.5	20525	1.0901	<b>1.0964</b>	<b>1.237</b>	1.236	<b>1.241</b>
848.3	20643	1.0948	1.0950	1.229	1.233	1.240

LTE BAND 5 Channel bandwidth: 3MHz						
Freq. (MHz)	CH	99% BW (MHz)		26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM	64QAM
825.5	20415	<b>2.7001</b>	2.6996	2.991	3.003	2.983
836.5	20525	2.6989	2.6991	<b>3.000</b>	2.993	<b>2.994</b>
847.5	20635	2.6972	<b>2.6997</b>	2.987	<b>3.006</b>	2.968

LTE BAND 5 Channel bandwidth: 5MHz						
Freq. (MHz)	CH	99% BW (MHz)		26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM	64QAM
826.5	20425	4.5012	4.5034	<b>4.976</b>	4.966	4.941
836.5	20525	4.4929	4.5003	4.967	<b>4.985</b>	4.958
846.5	20625	<b>4.5032</b>	<b>4.5067</b>	4.962	4.930	<b>4.980</b>

LTE BAND 5 Channel bandwidth: 10MHz						
Freq. (MHz)	CH	99% BW (MHz)		26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM	64QAM
829.0	20450	8.9870	<b>8.9633</b>	<b>9.821</b>	9.770	<b>9.804</b>
836.5	20525	8.9760	8.9457	9.722	9.790	9.724
844.0	20600	<b>8.9964</b>	8.9584	9.768	<b>9.821</b>	9.758

LTE BAND 7 Channel bandwidth: 5MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
2502.5	20775	4.4976	<b>4.5046</b>	4.5015	4.979	<b>4.993</b>	4.957
2535.0	21100	4.4949	4.5027	<b>4.5136</b>	<b>4.982</b>	4.975	<b>4.996</b>
2567.5	21425	<b>4.5011</b>	4.5004	4.5110	4.947	4.936	4.990

LTE BAND 7 Channel bandwidth: 10MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
2505.0	20800	8.9618	8.9551	8.9724	9.759	9.764	9.796
2535.0	21100	<b>9.0013</b>	<b>8.9605</b>	<b>8.9811</b>	<b>9.841</b>	<b>9.777</b>	<b>9.809</b>
2565.0	21400	8.9854	8.9489	8.9731	9.792	9.754	9.798

LTE BAND 7 Channel bandwidth: 15MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
2507.5	20825	13.460	13.459	13.444	14.683	14.623	17.044
2535.0	21100	13.502	13.476	13.467	14.627	15.439	14.690
2562.5	21375	13.453	13.464	13.456	14.925	14.651	14.757

LTE BAND 7 Channel bandwidth: 20MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
2510.0	20850	17.900	17.907	17.906	20.606	19.361	19.405
2535.0	21100	<b>17.931</b>	17.937	<b>17.941</b>	<b>21.870</b>	<b>19.479</b>	<b>21.631</b>
2560.0	21350	17.910	<b>17.956</b>	17.921	19.379	19.384	19.430

LTE BAND 12 Channel bandwidth: 1.4MHz						
Freq. (MHz)	CH	99% BW (MHz)		26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM	64QAM
699.7	23017	1.0933	1.0927	<b>1.240</b>	1.210	1.232
707.5	23095	1.0944	1.0966	1.240	1.238	<b>1.233</b>
715.3	23173	<b>1.0951</b>	<b>1.0971</b>	1.235	<b>1.242</b>	1.224

LTE BAND 12 Channel bandwidth: 3MHz						
Freq. (MHz)	CH	99% BW (MHz)		26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM	64QAM
700.5	23025	2.6936	<b>2.6990</b>	2.987	3.004	<b>3.003</b>
707.5	23095	2.6971	2.6952	2.995	3.000	2.990
714.5	23165	<b>2.6976</b>	2.6977	<b>3.000</b>	<b>3.012</b>	2.989

LTE BAND 12 Channel bandwidth: 5MHz						
Freq. (MHz)	CH	99% BW (MHz)		26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM	64QAM
701.5	23035	4.4994	4.5026	4.980	<b>4.987</b>	4.903
707.5	23095	<b>4.4997</b>	<b>4.5062</b>	4.976	4.966	<b>4.943</b>
713.5	23155	4.4990	4.4991	<b>5.002</b>	4.965	4.925

LTE BAND 12 Channel bandwidth: 10MHz						
Freq. (MHz)	CH	99% BW (MHz)		26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM	64QAM
704.0	23060	<b>9.0029</b>	8.9483	<b>9.836</b>	9.738	9.815
707.5	23095	9.0026	<b>8.9548</b>	9.816	9.732	<b>9.820</b>
711.0	23130	8.9981	8.9376	9.800	<b>9.767</b>	9.802

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LTE BAND 13 Channel bandwidth: 5MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
779.5	23205	4.4931	4.5009	4.5037	4.965	4.972	4.979
782.0	23230	4.4990	4.5011	4.5001	4.985	4.991	4.965
784.5	23255	<b>4.5016</b>	<b>4.5072</b>	<b>4.5102</b>	<b>4.993</b>	<b>4.994</b>	<b>4.983</b>

LTE BAND 13 Channel bandwidth: 10MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
782.0	23230	<b>8.943</b>	<b>8.950</b>	<b>8.955</b>	<b>9.721</b>	<b>9.725</b>	<b>9.782</b>

LTE BAND 17 Channel bandwidth: 5MHz						
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)	
		QPSK	16QAM	64QAM	QPSK	16QAM
706.5	23755	<b>4.5024</b>	<b>4.5063</b>	4.993	4.964	<b>4.988</b>
710.0	23790	4.4968	4.5000	<b>5.013</b>	4.940	4.951
713.5	23825	4.4957	4.4992	4.967	<b>4.979</b>	4.987

LTE BAND 17 Channel bandwidth: 10MHz						
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)	
		QPSK	16QAM	64QAM	QPSK	16QAM
709.0	23780	8.9780	<b>8.9474</b>	<b>9.785</b>	9.774	9.785
710.0	23790	8.9682	8.9463	9.751	<b>9.790</b>	9.793
711.0	23800	<b>9.0065</b>	8.9447	9.771	9.752	<b>9.812</b>

LTE BAND 38 Channel bandwidth: 5MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
2572.5	37775	4.5018	4.5051	4.5099	<b>4.973</b>	<b>4.981</b>	<b>4.947</b>
2595.0	38000	<b>4.5069</b>	4.4987	<b>4.5134</b>	4.960	4.953	4.939
2617.5	38225	4.5004	<b>4.5094</b>	4.5095	4.948	4.950	4.924

LTE BAND 38 Channel bandwidth: 10MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
2575.0	37800	<b>9.0024</b>	8.9578	8.9634	9.708	9.747	9.693
2595.0	38000	8.9660	<b>8.9631</b>	8.9604	9.678	9.717	9.696
2615.0	38200	8.9809	8.9582	<b>8.9747</b>	<b>9.778</b>	<b>9.782</b>	<b>9.782</b>

LTE BAND 38 Channel bandwidth: 15MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
2577.5	37825	13.433	13.469	13.423	14.548	<b>14.720</b>	14.591
2595.0	38000	<b>13.448</b>	<b>13.480</b>	13.415	<b>14.647</b>	14.560	14.594
2612.5	38175	<b>13.448</b>	13.472	<b>13.437</b>	14.531	14.578	<b>14.623</b>

LTE BAND 38 Channel bandwidth: 20MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
2580.0	37850	17.924	<b>17.929</b>	17.878	19.360	19.393	<b>19.326</b>
2595.0	38000	17.877	17.884	<b>17.894</b>	19.354	<b>19.517</b>	19.255
2610.0	38150	<b>17.927</b>	17.892	17.890	<b>19.420</b>	19.505	19.315

LTE BAND 41 Channel bandwidth: 5MHz						
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)	
		QPSK	16QAM	64QAM	QPSK	16QAM
2498.5	39675	4.5052	4.4985	4.981	<b>4.916</b>	4.872
2593.0	40620	<b>4.5066</b>	<b>4.5065</b>	<b>4.995</b>	4.915	<b>4.954</b>
2687.5	41565	4.5034	4.4902	4.956	4.890	4.916

LTE BAND 41 Channel bandwidth: 10MHz						
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)	
		QPSK	16QAM	64QAM	QPSK	16QAM
2501.0	39700	8.9687	<b>8.9724</b>	<b>9.731</b>	9.721	9.789
2593.0	40620	<b>8.9902</b>	8.9611	9.678	<b>9.748</b>	9.798
2685.0	41540	8.9730	8.9570	9.708	9.748	<b>9.843</b>

LTE BAND 41 Channel bandwidth: 15MHz						
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)	
		QPSK	16QAM	64QAM	QPSK	16QAM
2503.5	39725	13.487	13.474	14.470	14.611	14.715
2593.0	40620	<b>13.492</b>	<b>13.484</b>	14.620	<b>14.817</b>	14.547
2682.5	41515	13.449	13.461	<b>14.635</b>	14.693	<b>14.739</b>

LTE BAND 41 Channel bandwidth: 20MHz						
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)	
		QPSK	16QAM	64QAM	QPSK	16QAM
2506.0	39750	17.905	<b>17.898</b>	19.259	19.383	<b>19.548</b>
2593.0	40620	<b>17.908</b>	17.884	<b>19.370</b>	<b>19.472</b>	19.289
2680.0	41490	17.877	17.840	19.274	19.205	19.516

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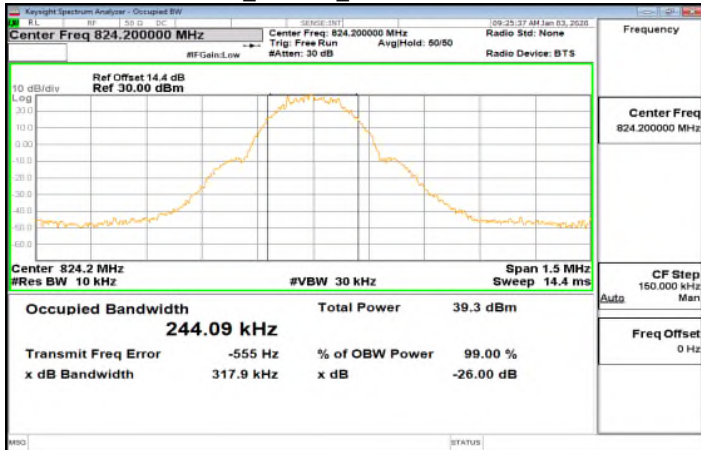
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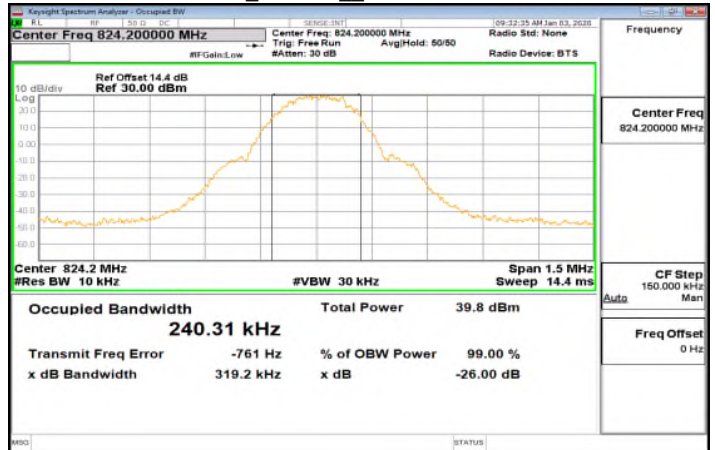
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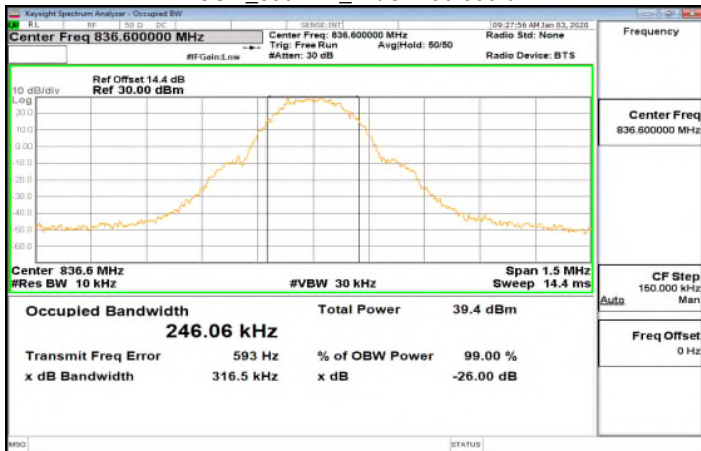
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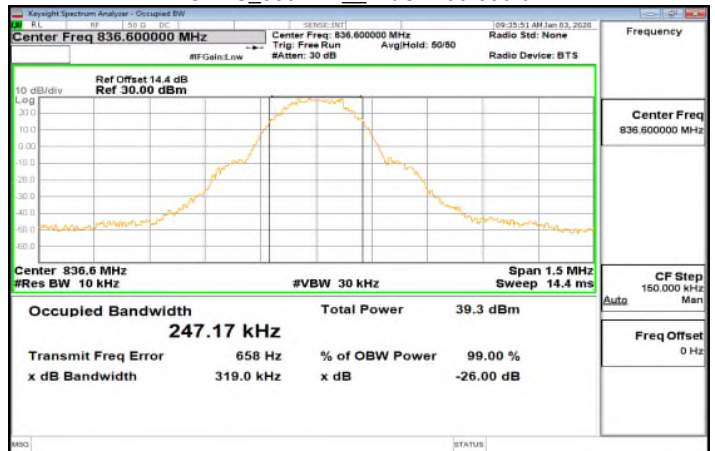
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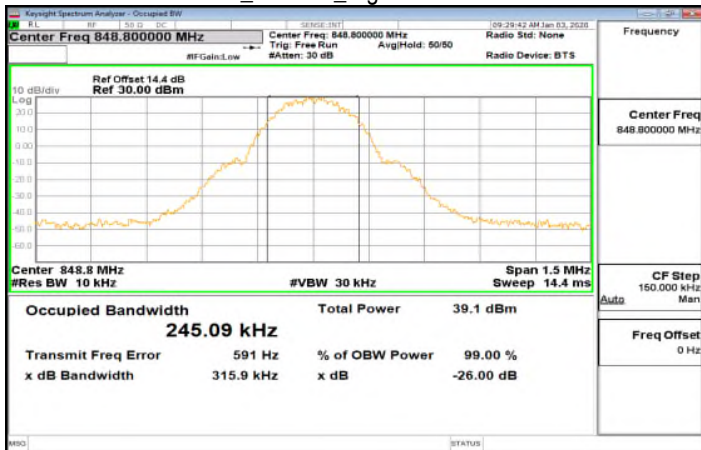
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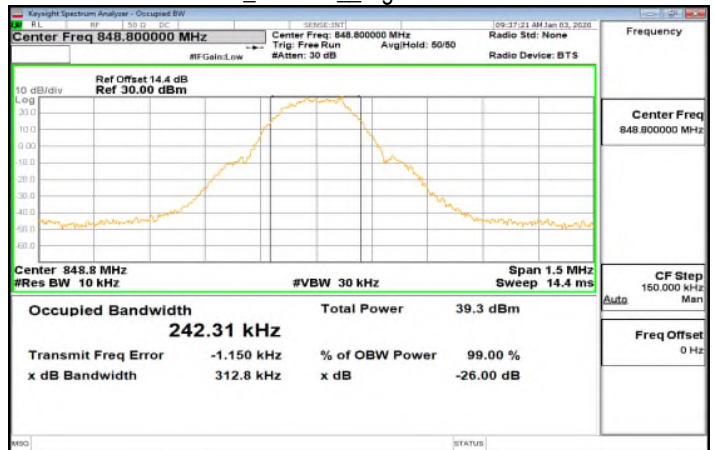
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GSM\_850MHz\_HighCH251-848.8



GPRS\_850MHz\_HighCH251-848.8



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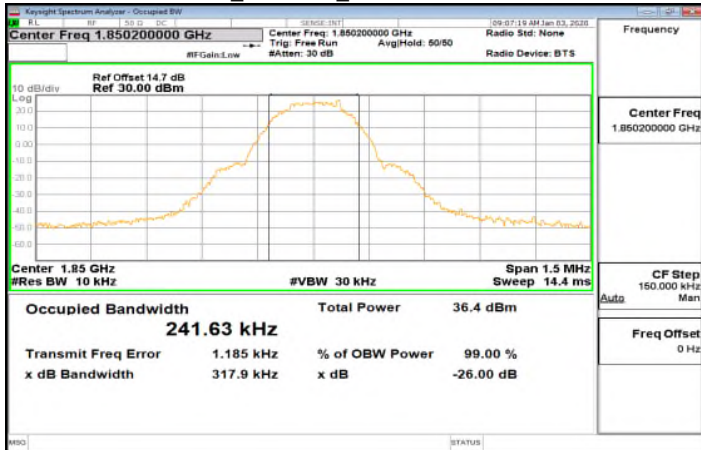
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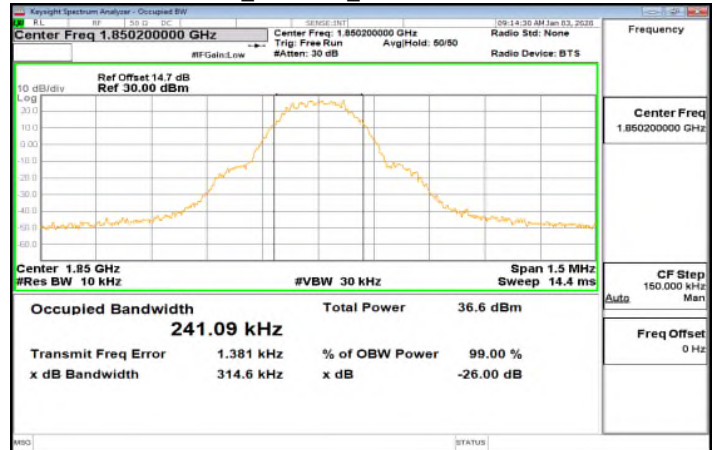
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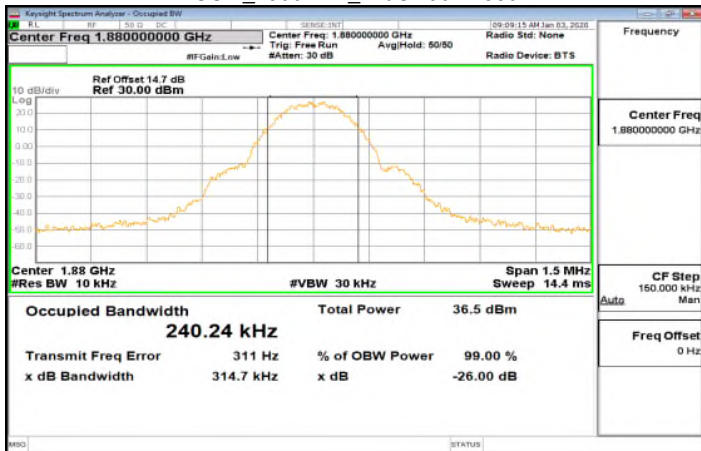
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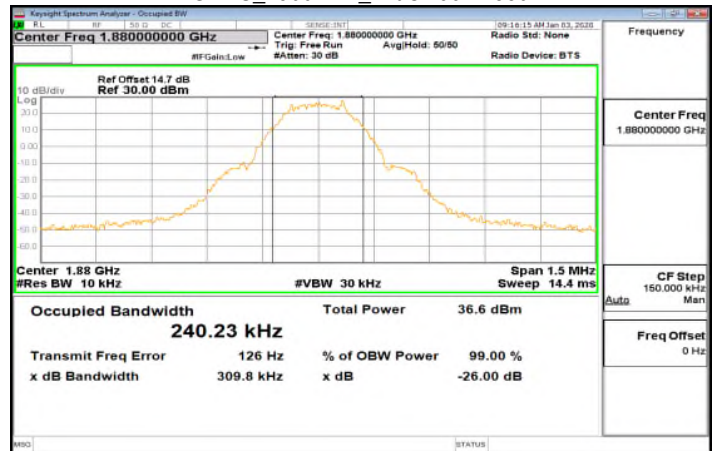
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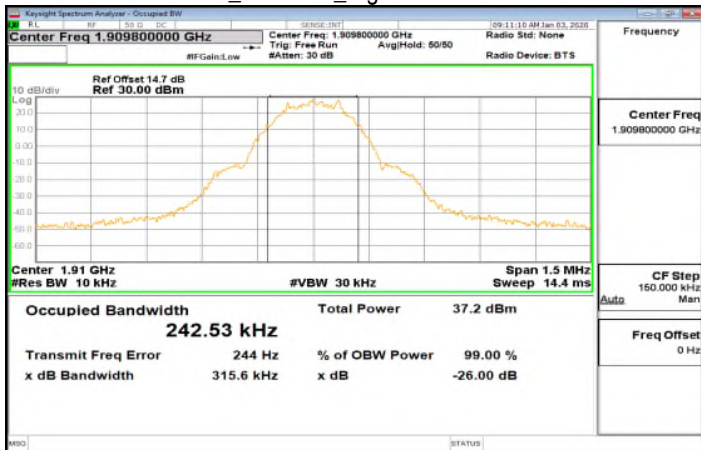
GSM\_1900MHz\_MidCH661-1880



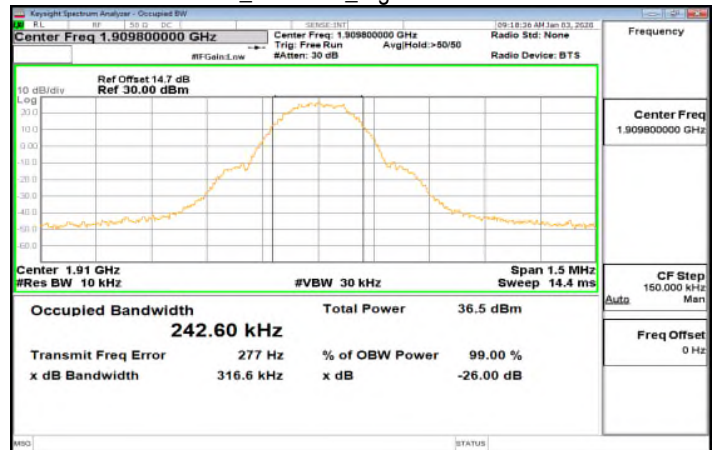
GPRS\_1900MHz\_MidCH661-1880



GSM\_1900MHz\_HighCH810-1909.8



GPRS\_1900MHz\_HighCH810-1909.8



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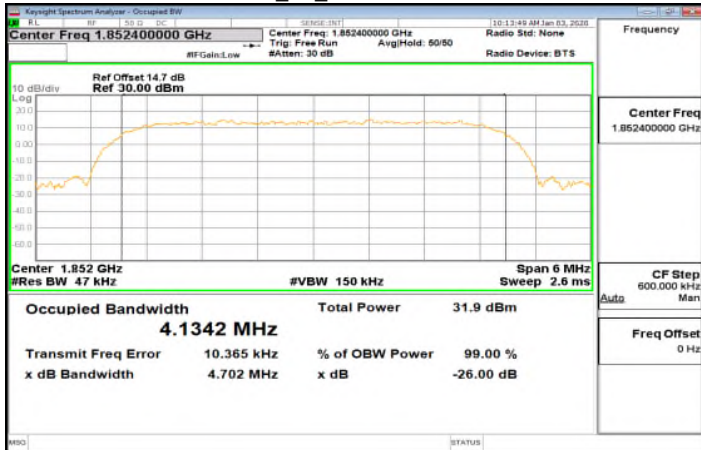
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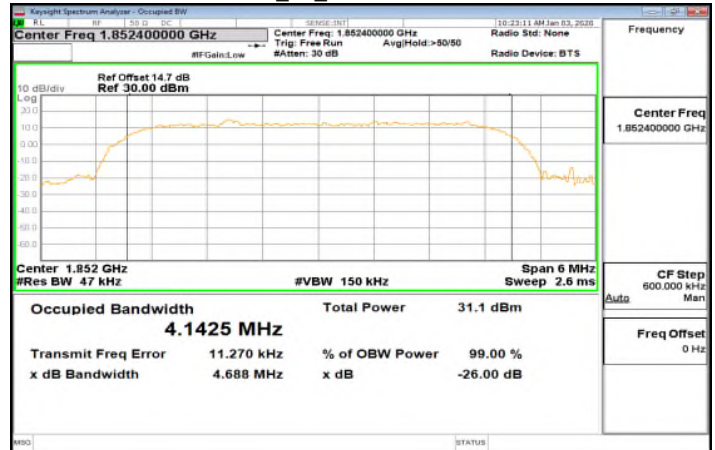
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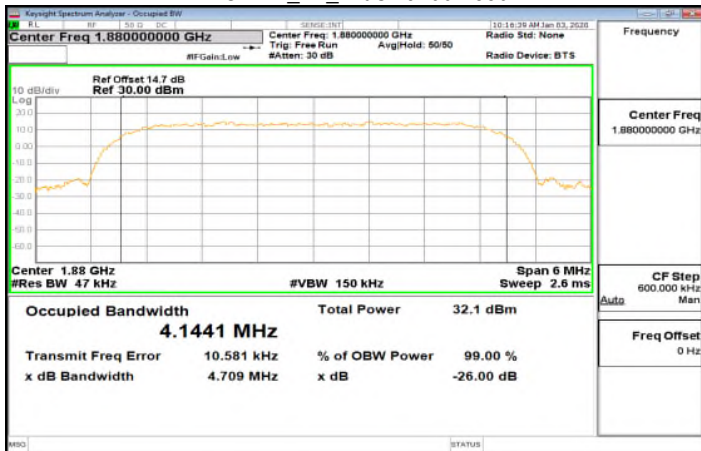
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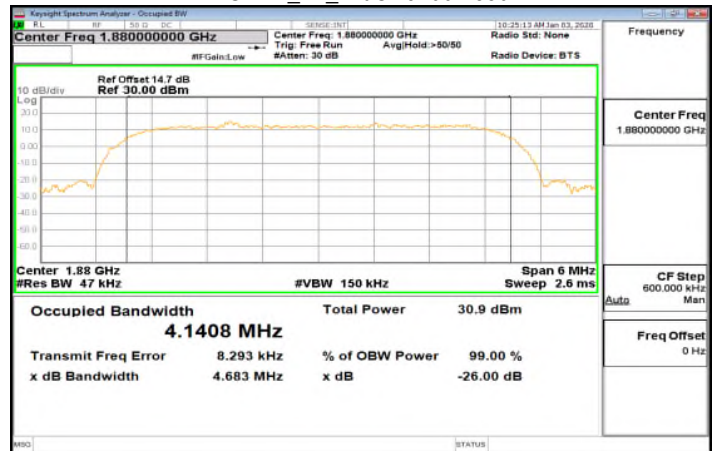
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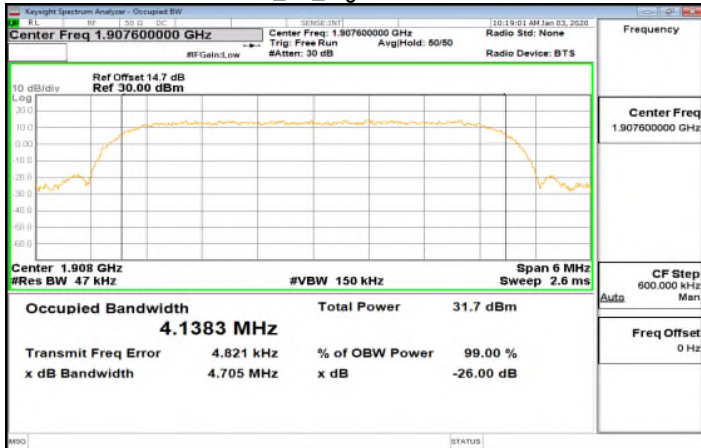
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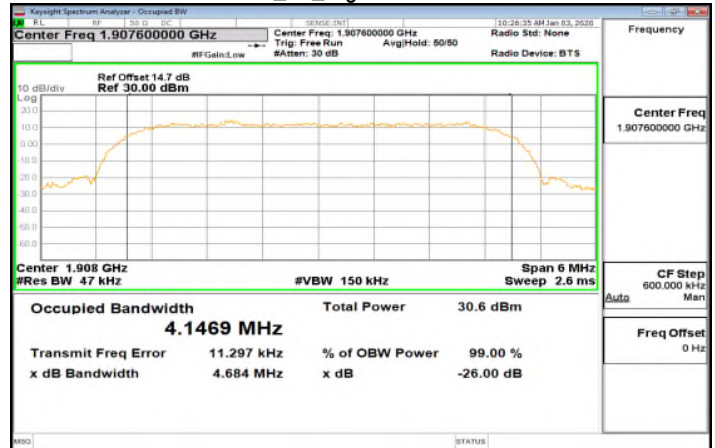
HSDPA\_B2\_MidCH9400-1880



WCDMA\_B2\_HighCH9538-1907.6



HSDPA\_B2\_HighCH9538-1907.6



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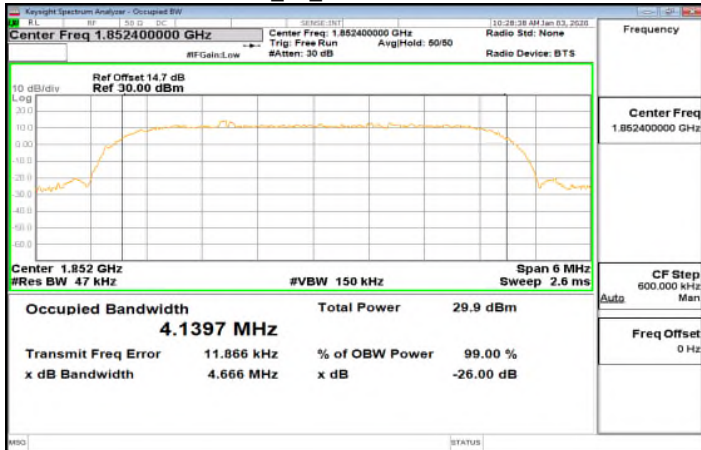
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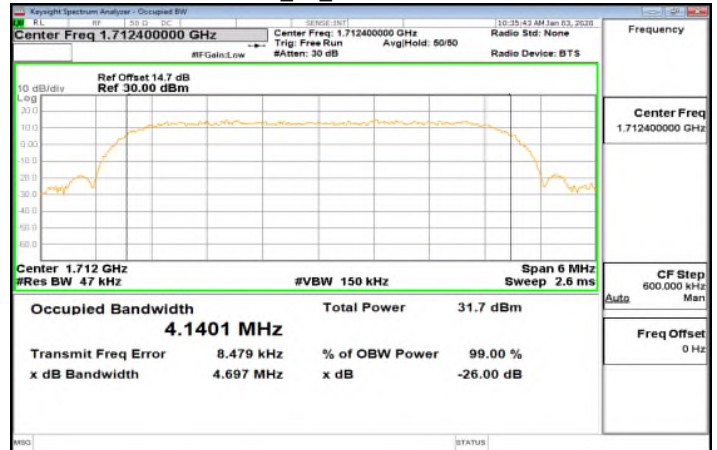
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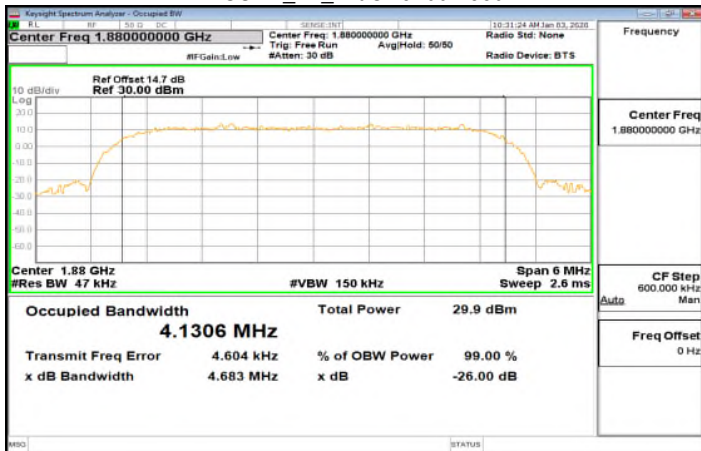
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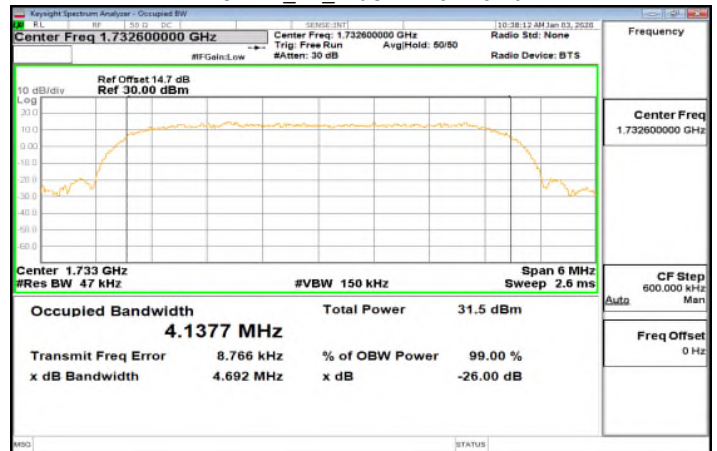
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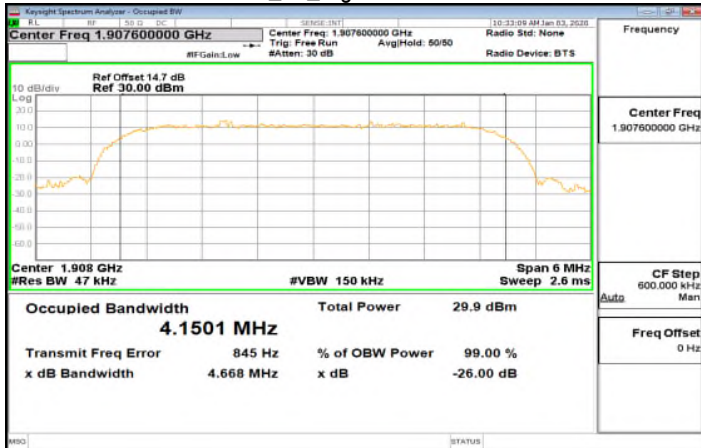
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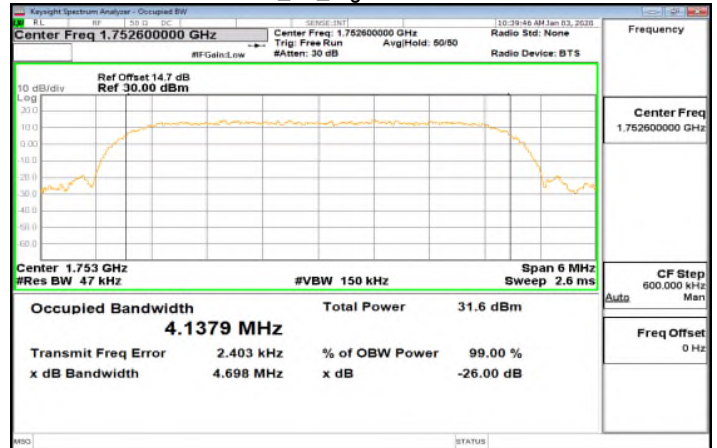
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HSUPA\_B2\_HighCH9538-1907.6



WCDMA\_B4\_HighCH1513-1752.6



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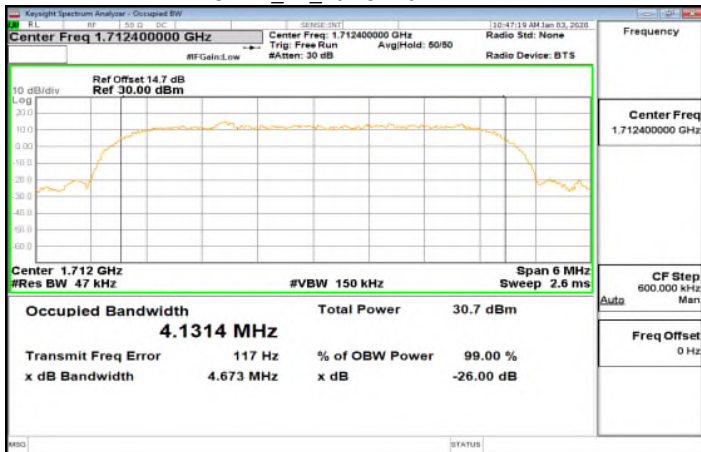
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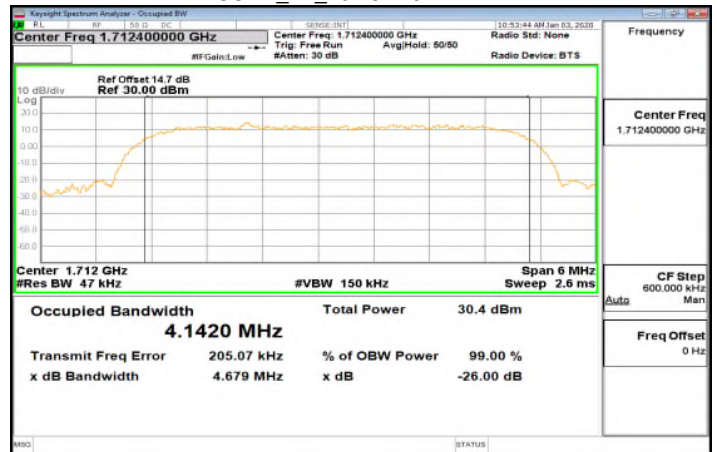
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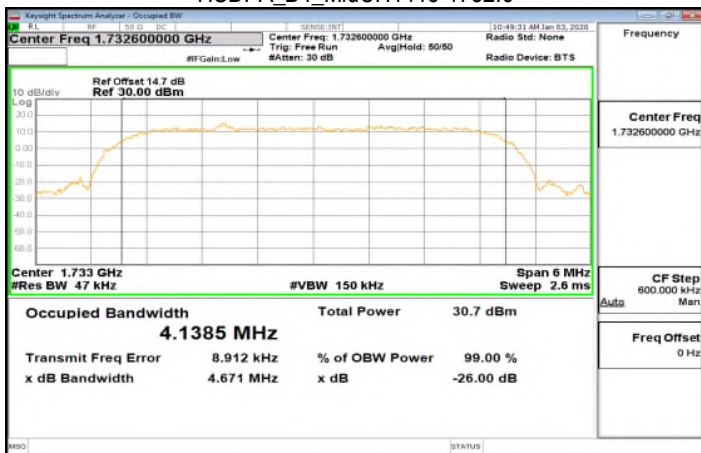
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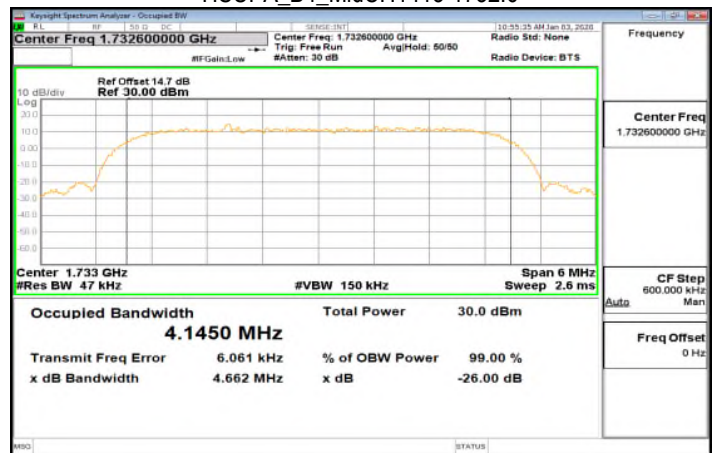
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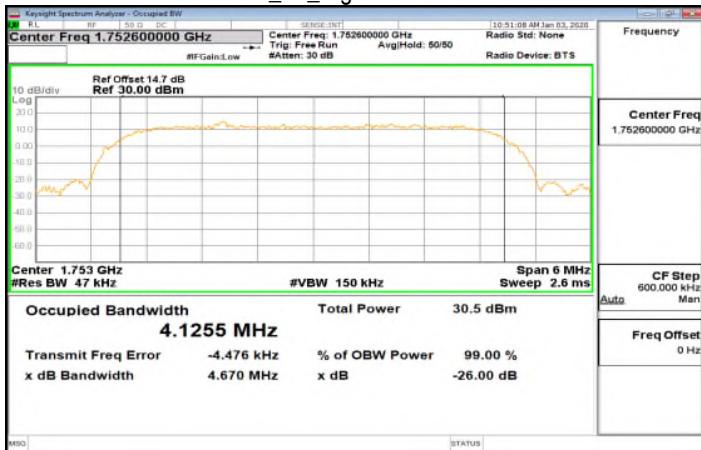
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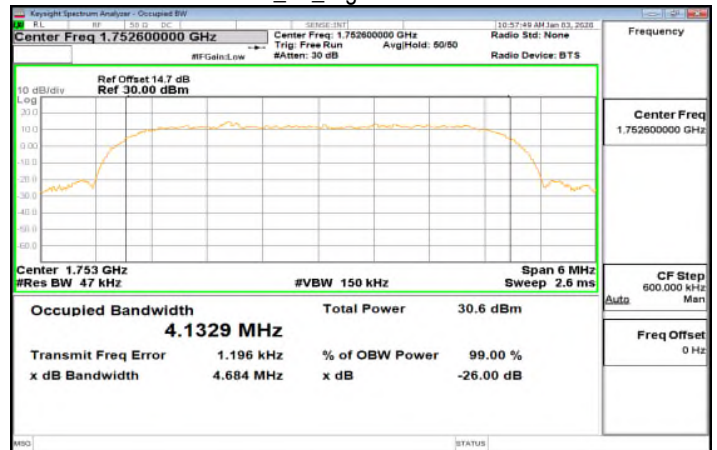
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HSDPA\_B4\_HighCH1513-1752.6



HSUPA\_B4\_HighCH1513-1752.6



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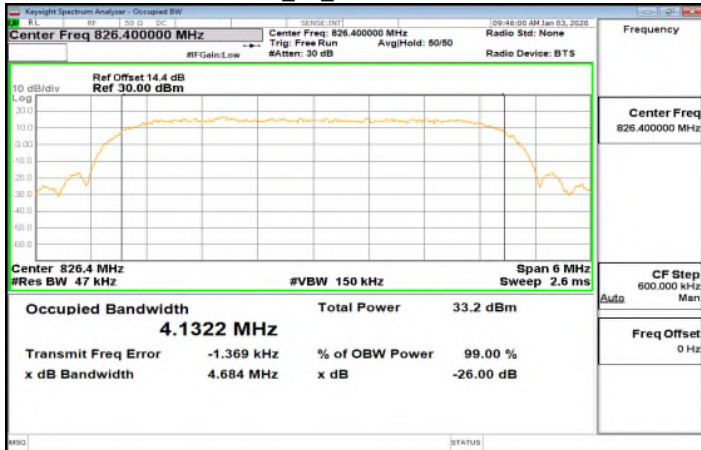
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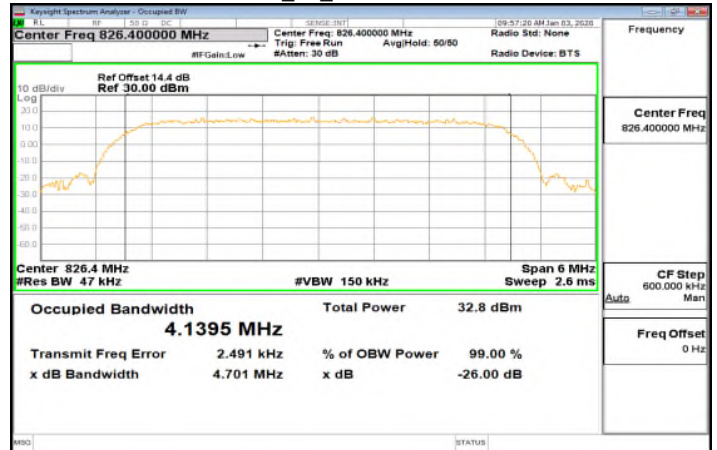
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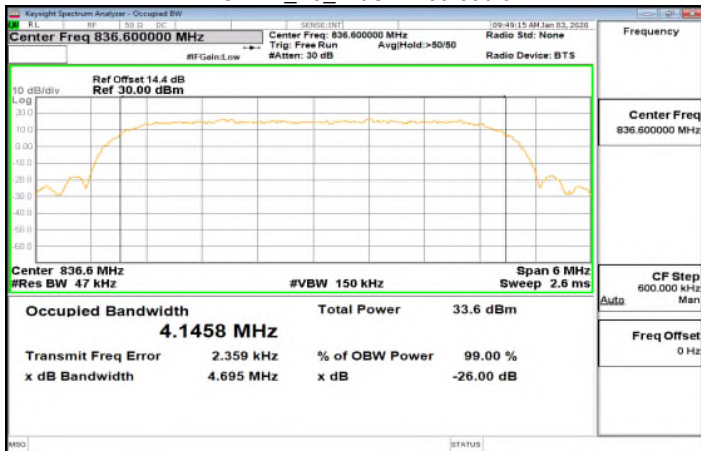
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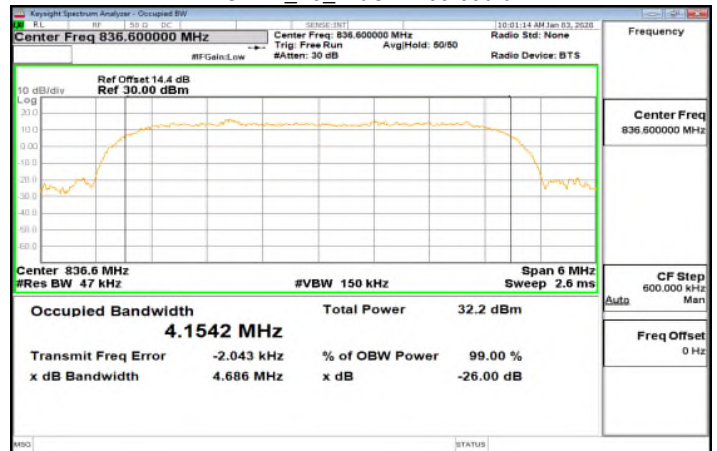
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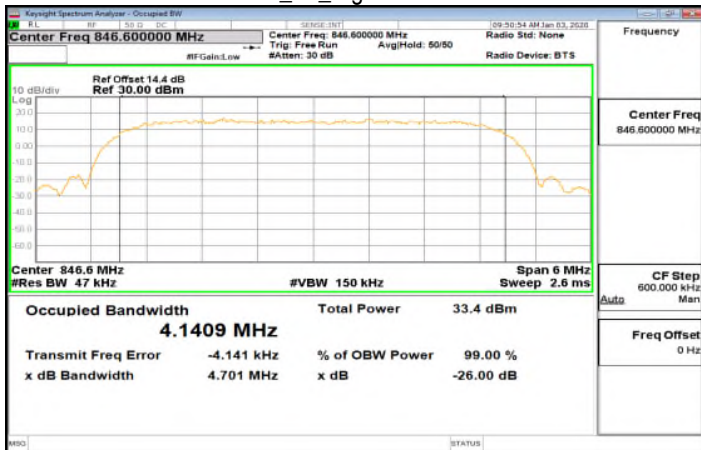
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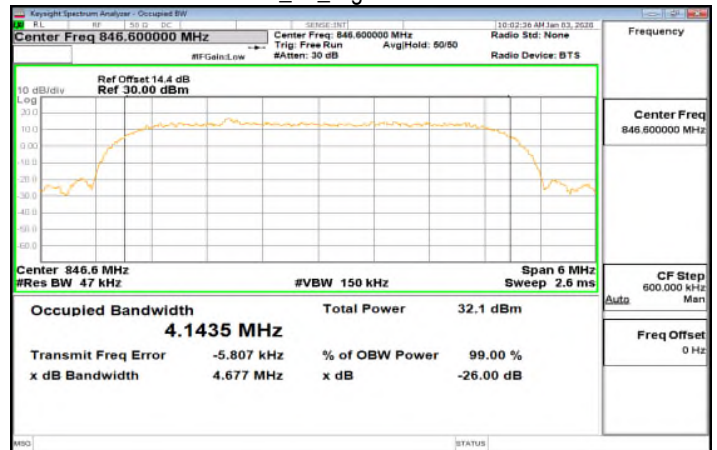
HSDPA\_B5\_MidCH4183-836.6



WCDMA\_B5\_HighCH4233-846.6



HSDPA\_B5\_HighCH4233-846.6



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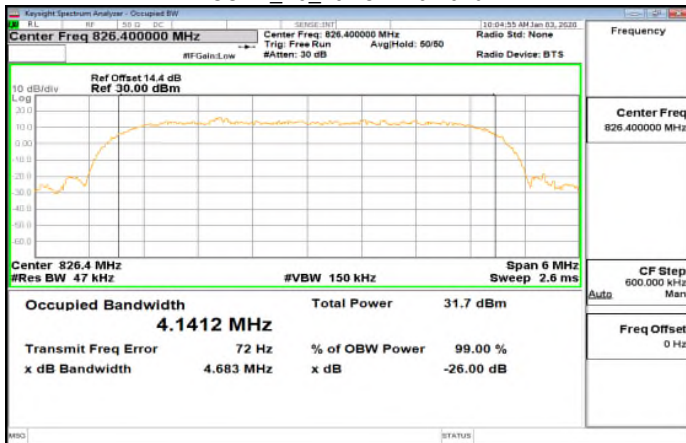
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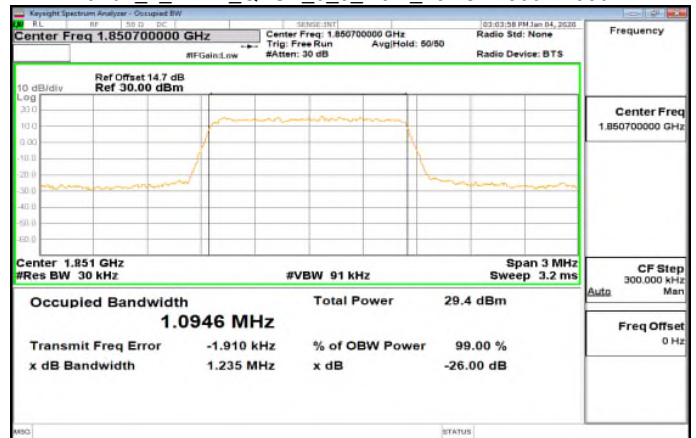
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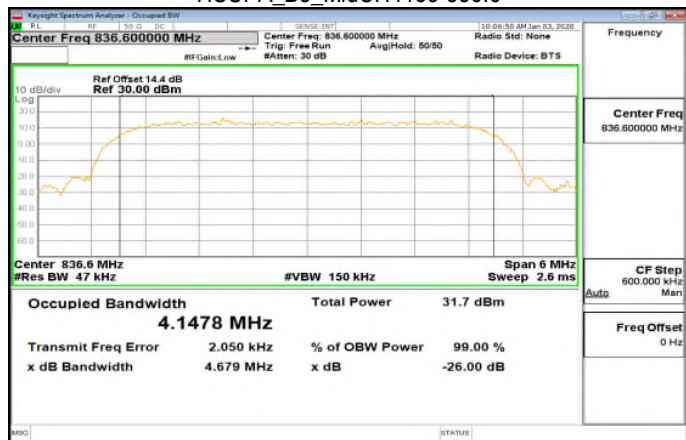
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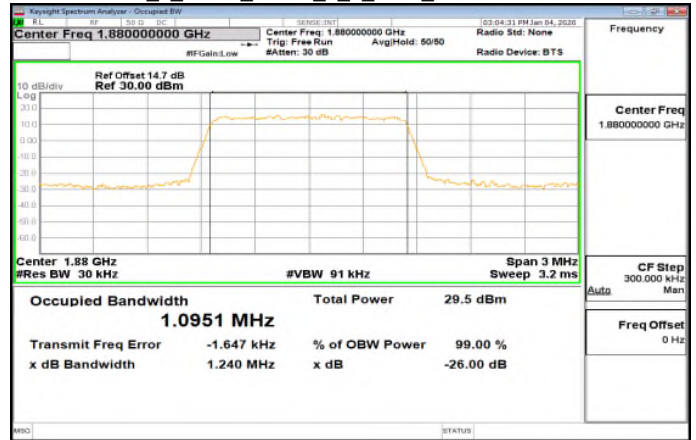
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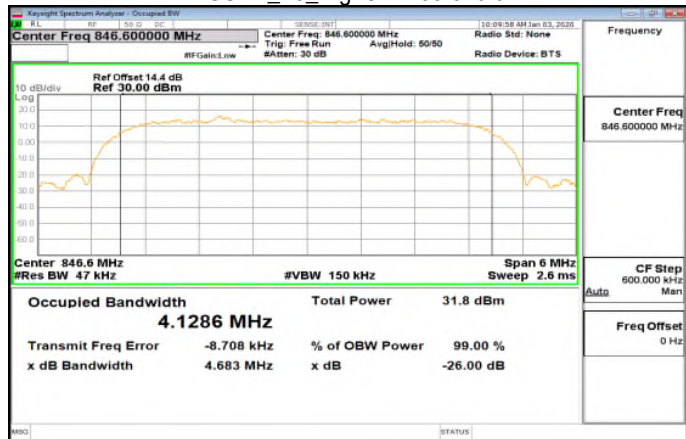
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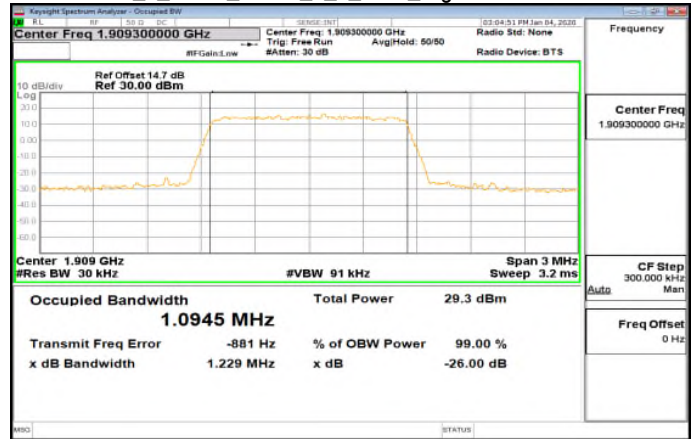
Band2\_1\_4MHz\_QPSK\_6\_0\_Main\_MidCH18900-1880



HSUPA\_B5\_HighCH4233-846.6



Band2\_1\_4MHz\_QPSK\_6\_0\_Main\_HighCH19193-1909.3



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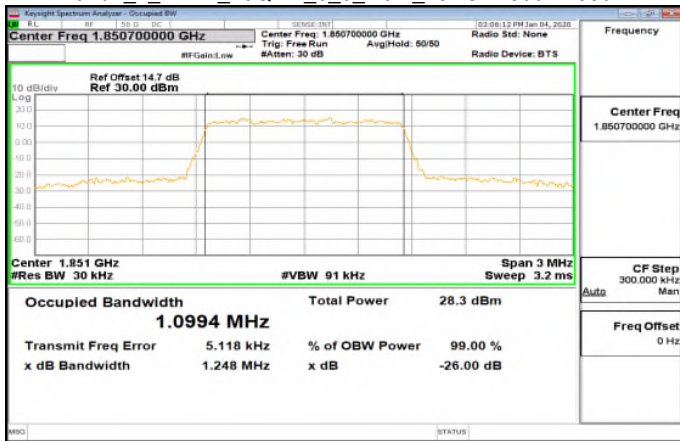
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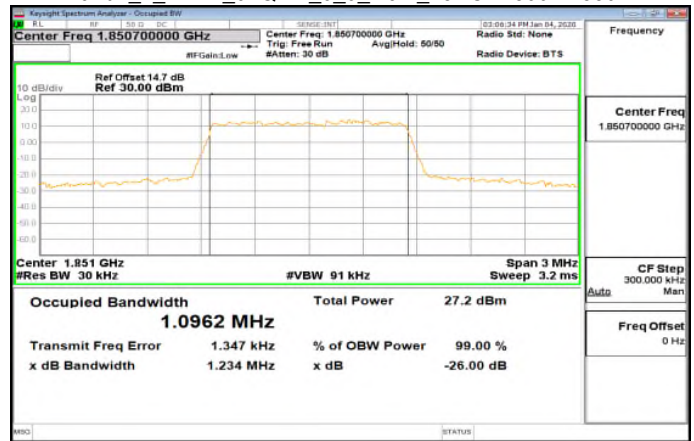
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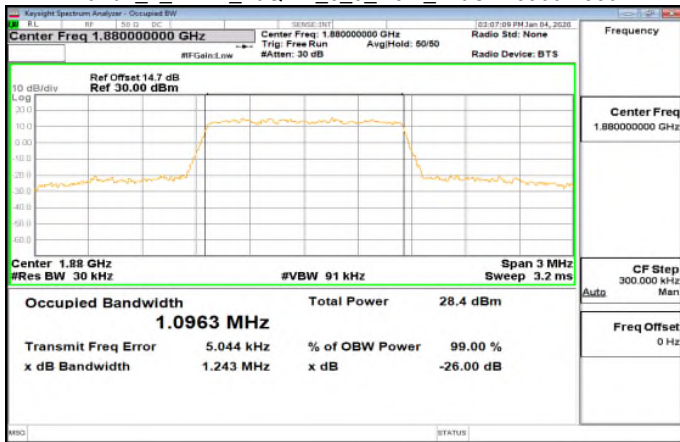
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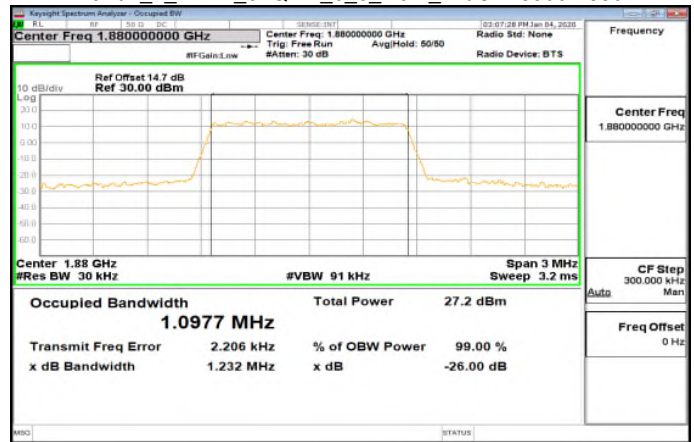
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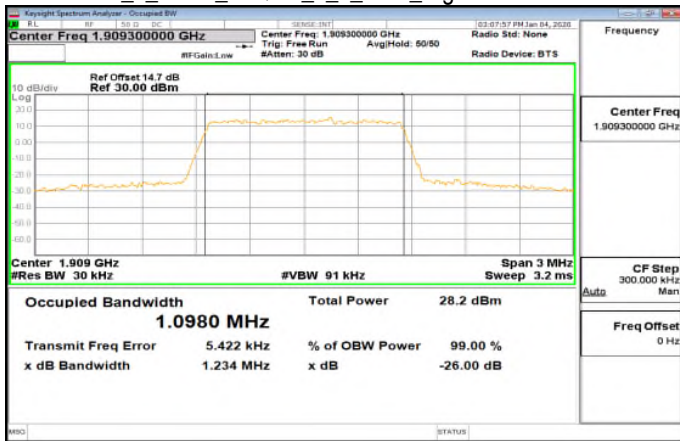
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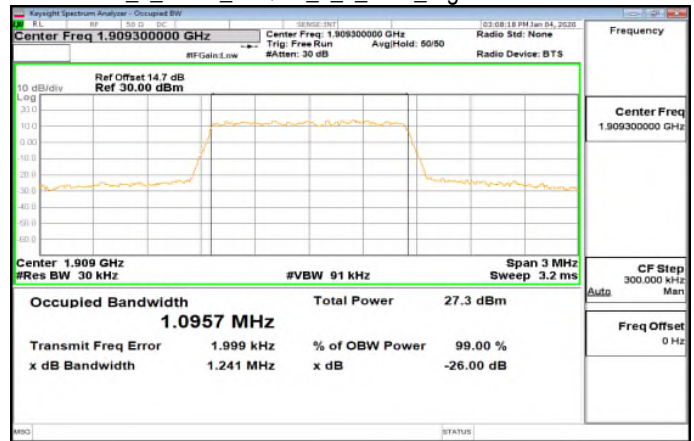
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Band2\_1\_4MHz\_16QAM\_6\_0\_Main\_HighCH19193-1909.3



Band2\_1\_4MHz\_64QAM\_6\_0\_Main\_HighCH19193-1909.3



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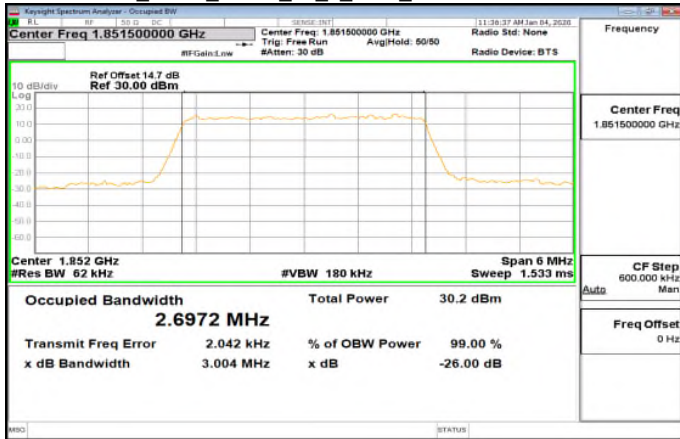
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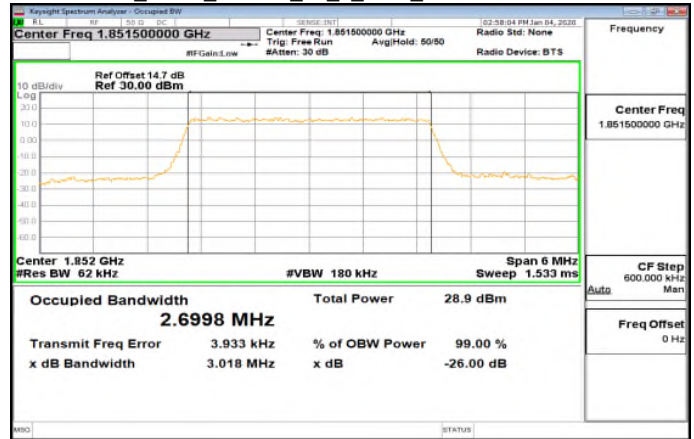
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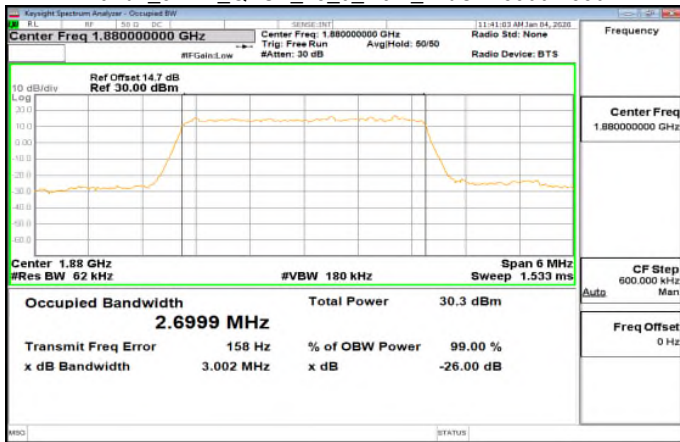
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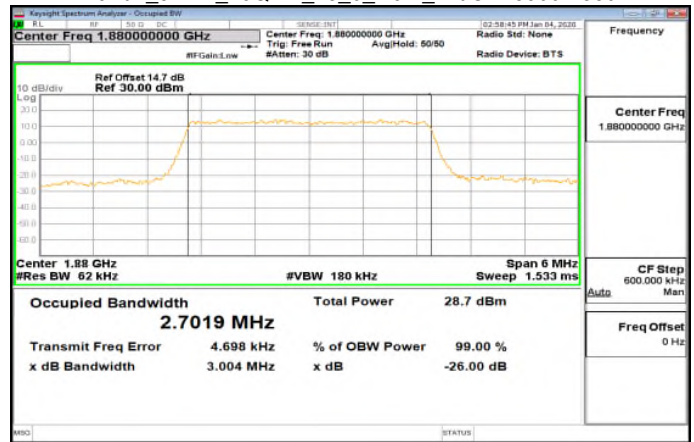
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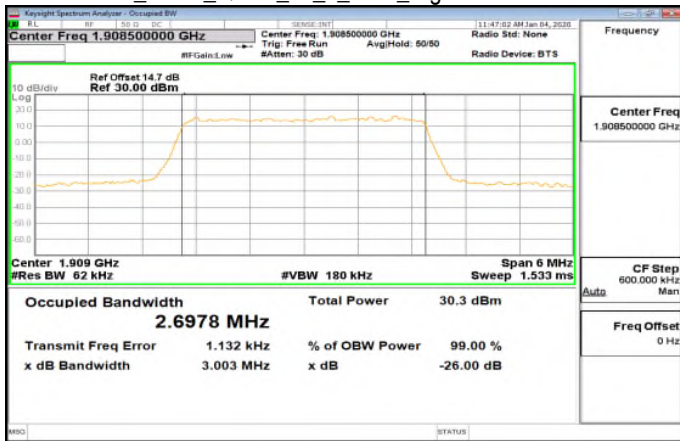
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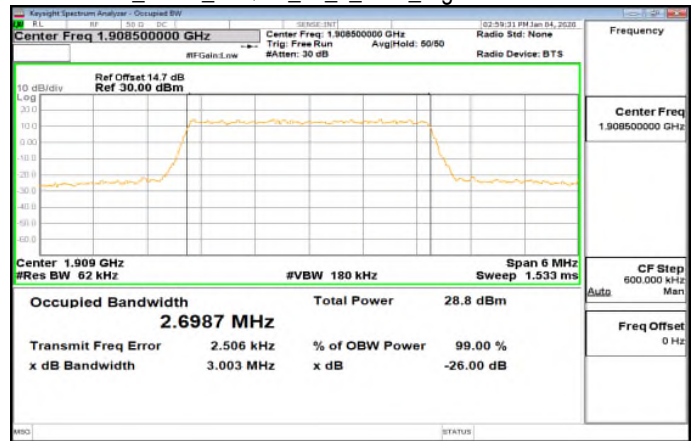
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Band2\_3MHz\_16QAM\_15\_0\_Main\_HighCH19185-1908.5



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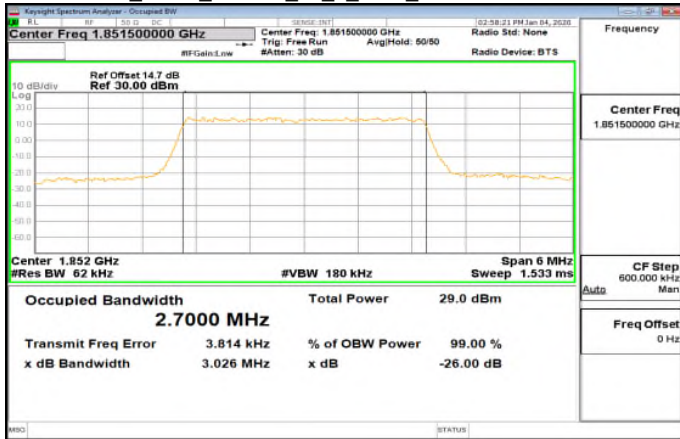
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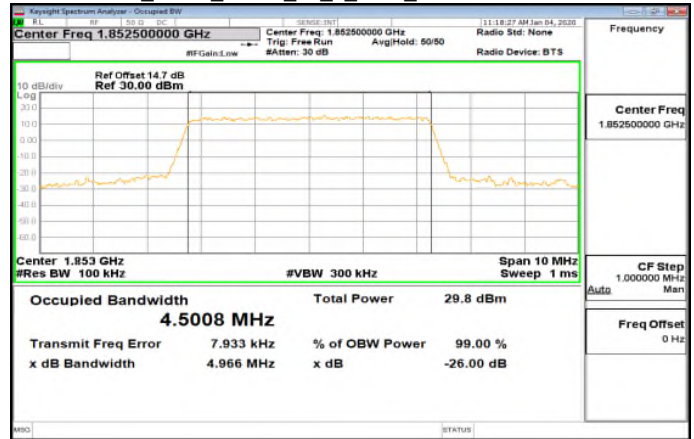
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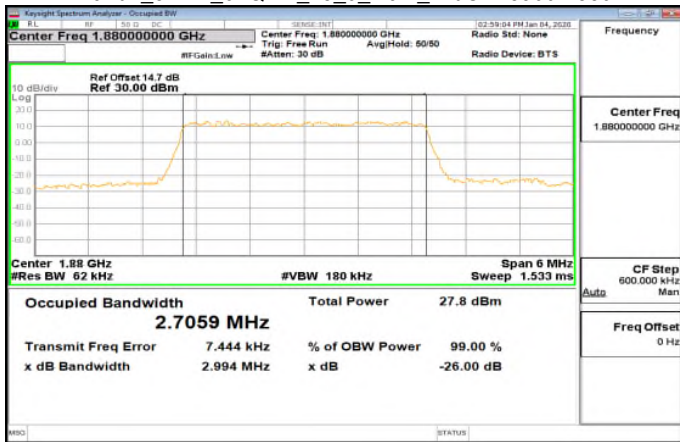
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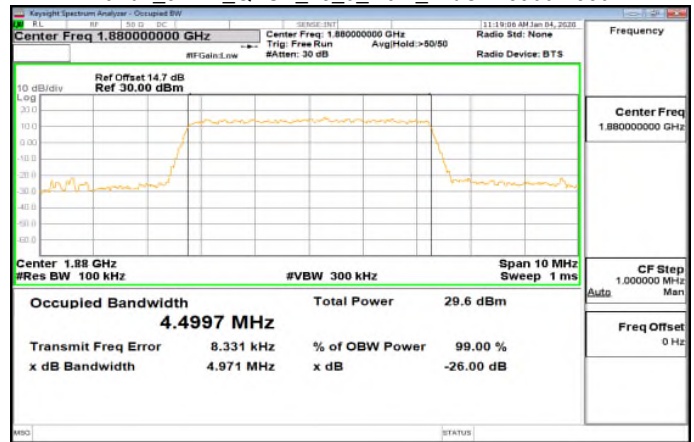
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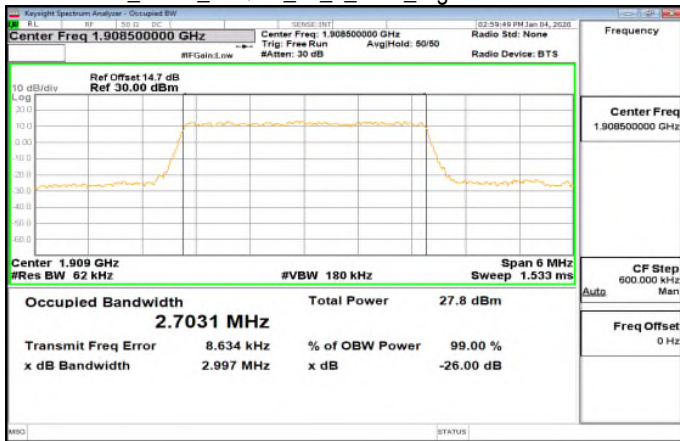
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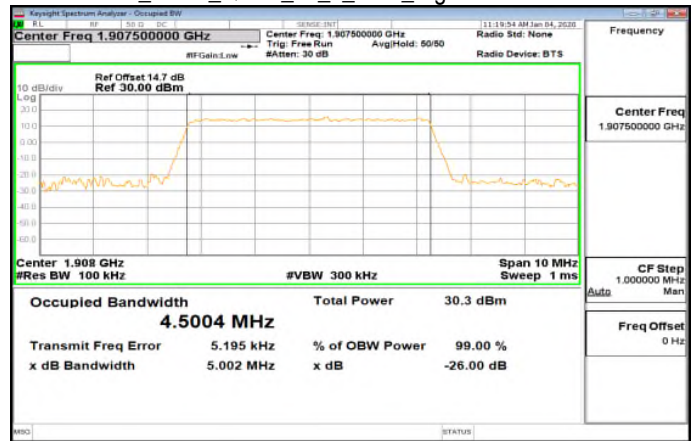
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Band2\_3MHz\_64QAM\_15\_0\_Main\_HighCH19185-1908.5



Band2\_5MHz\_QPSK\_25\_0\_Main\_HighCH19175-1907.5



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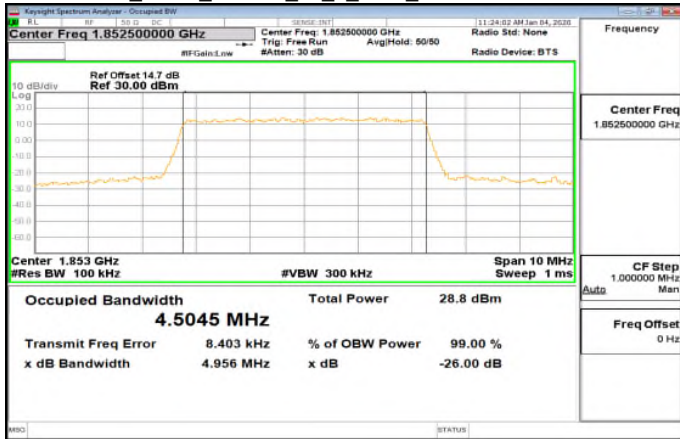
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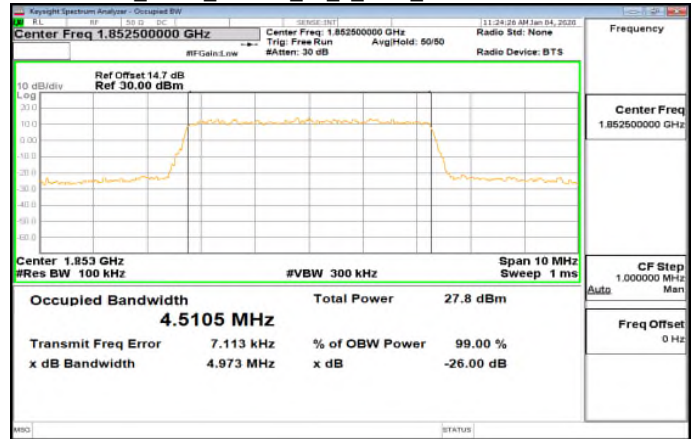
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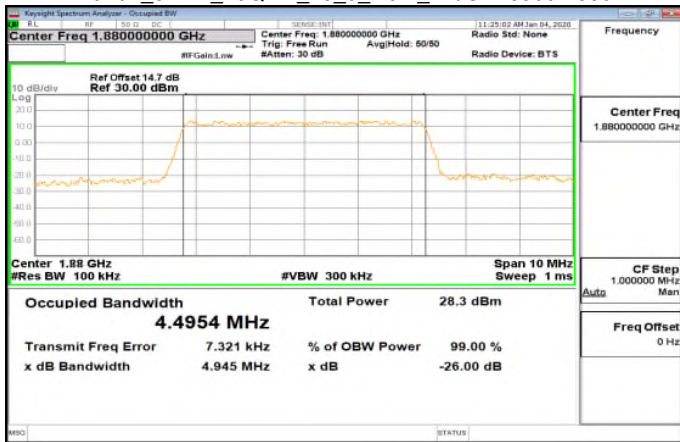
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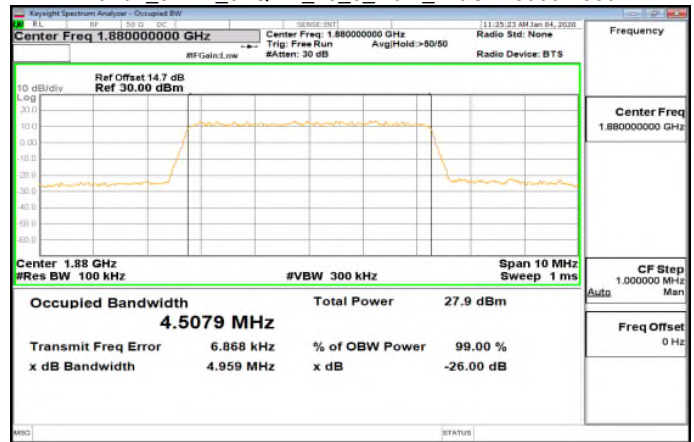
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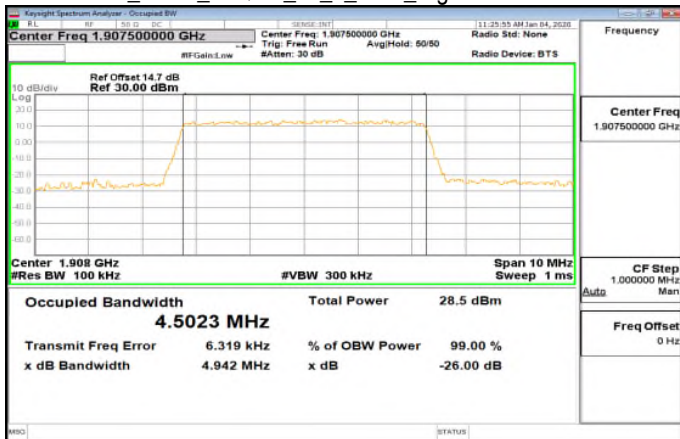
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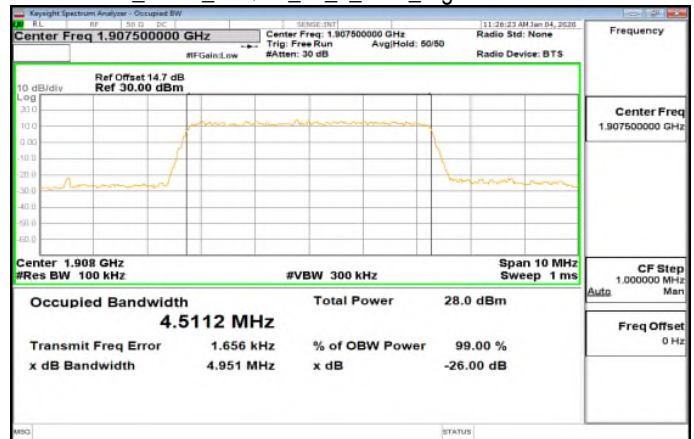
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Band2\_5MHz\_16QAM\_25\_0\_Main\_HighCH19175-1907.5



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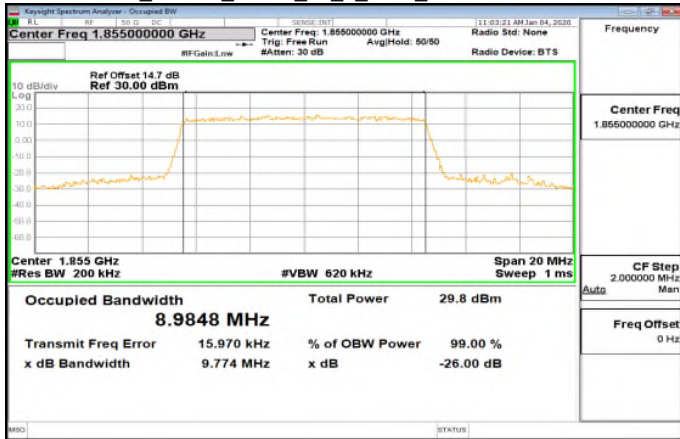
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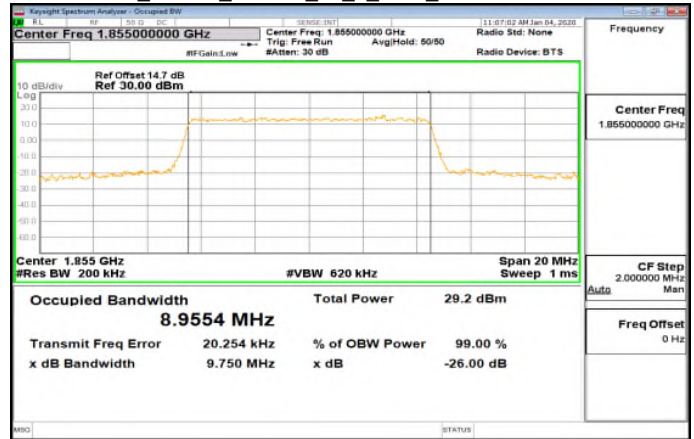
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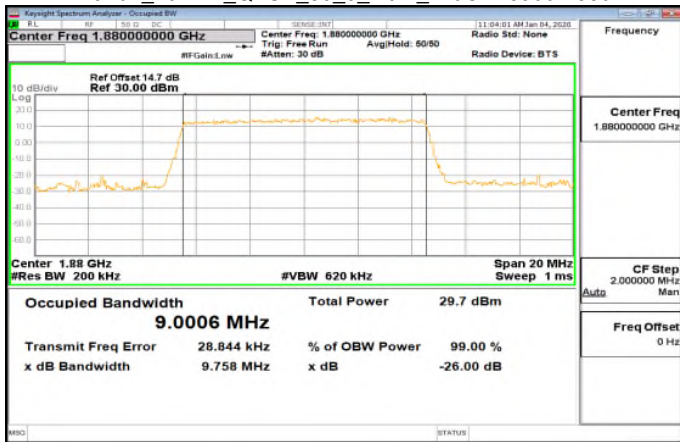
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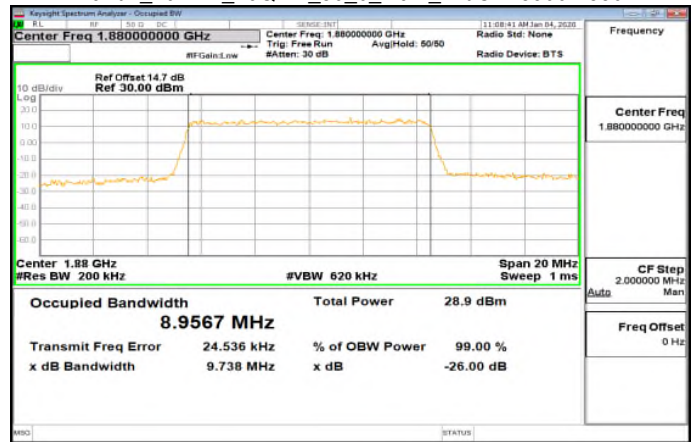
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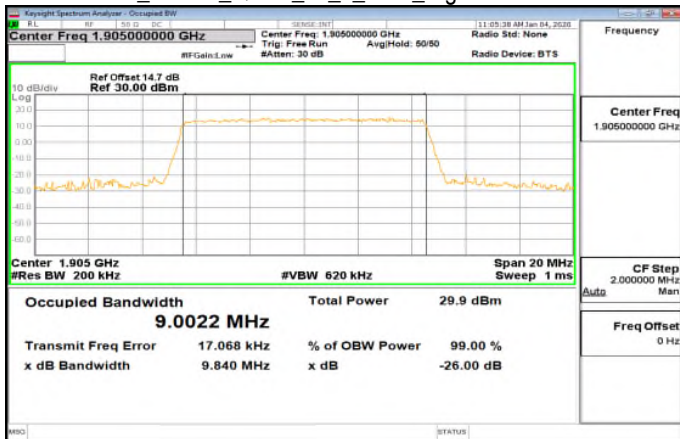
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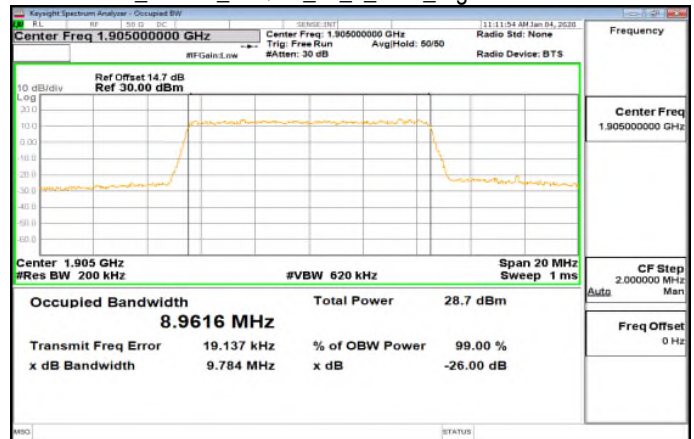
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Band2\_10MHz\_QPSK\_50\_0\_Main\_HighCH19150-1905



Band2\_10MHz\_16QAM\_50\_0\_Main\_HighCH19150-1905



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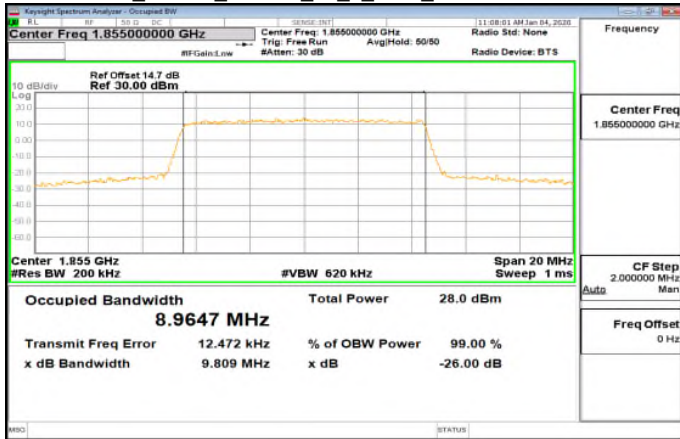
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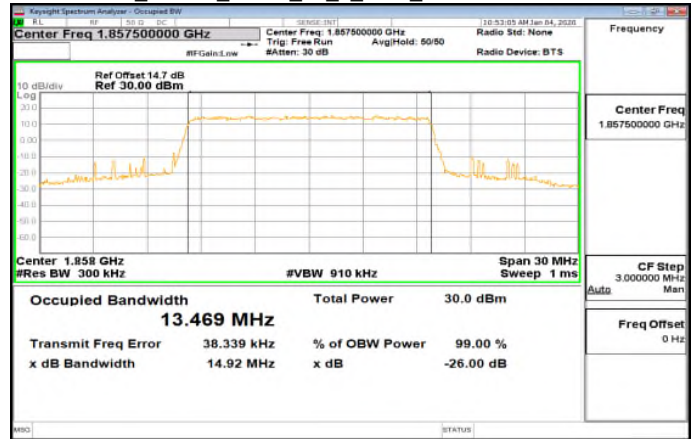
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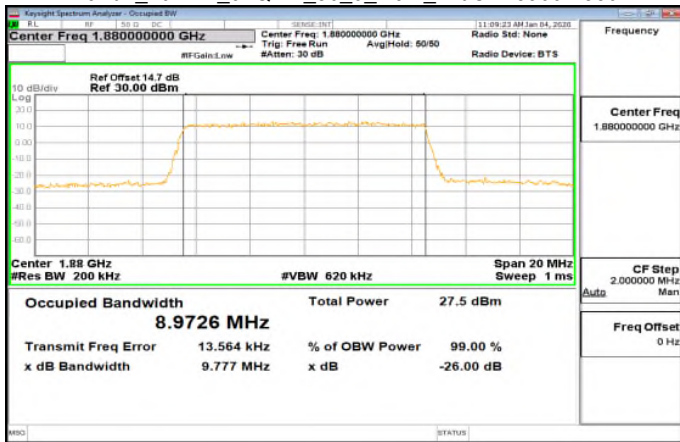
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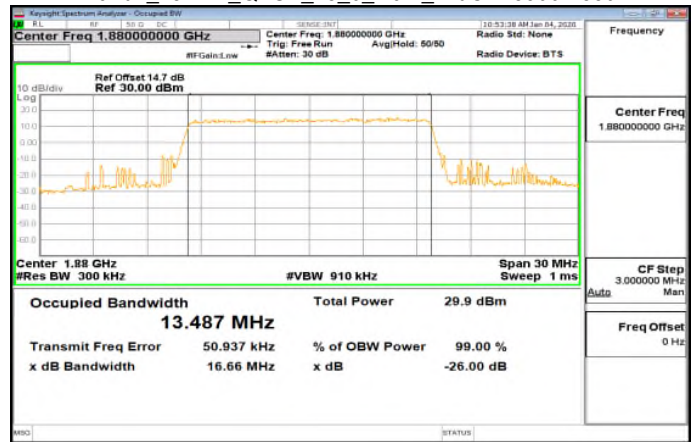
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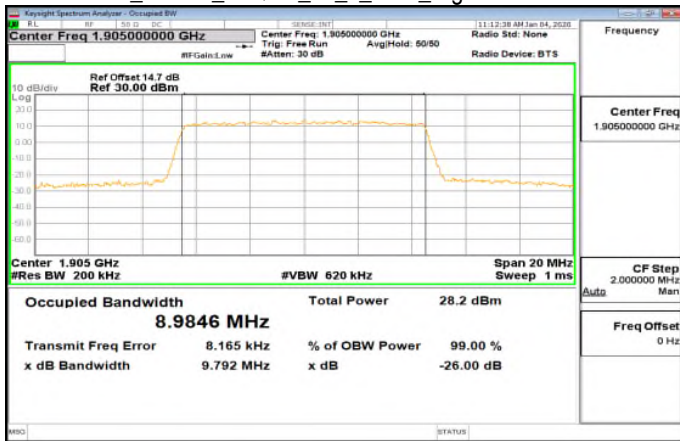
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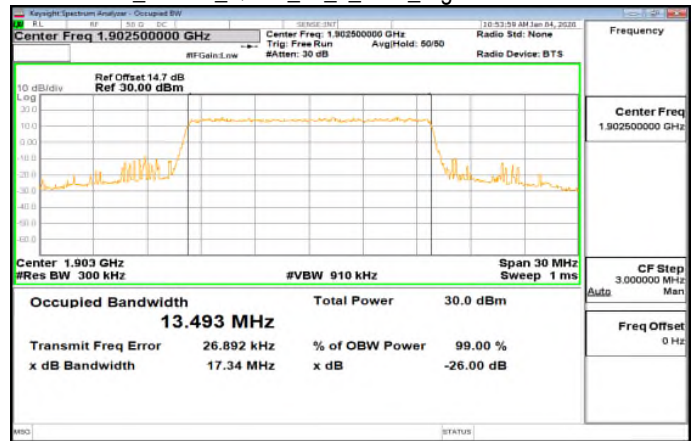
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Band2\_10MHz\_64QAM\_50\_0\_Main\_HighCH19150-1905



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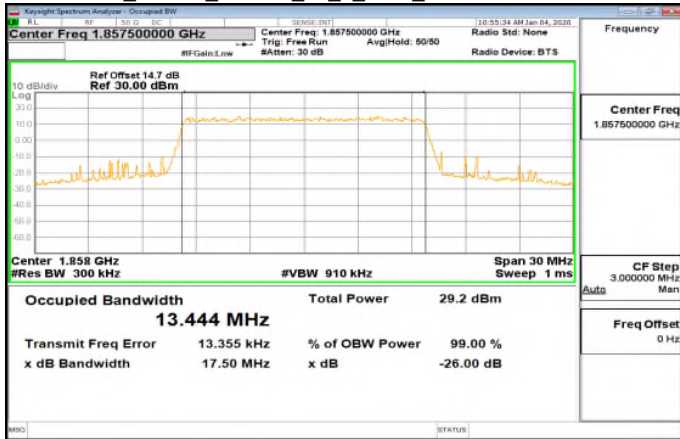
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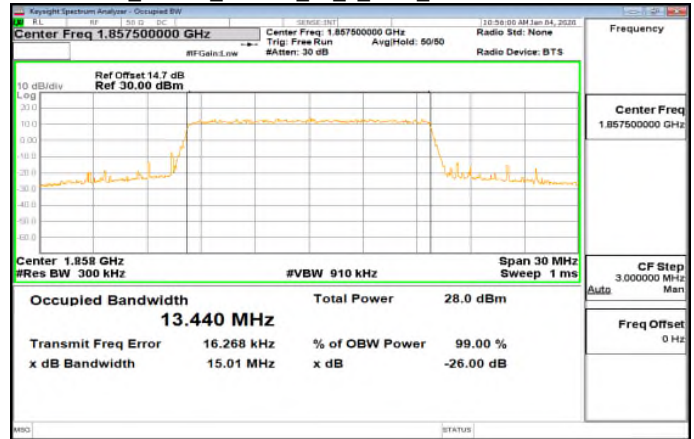
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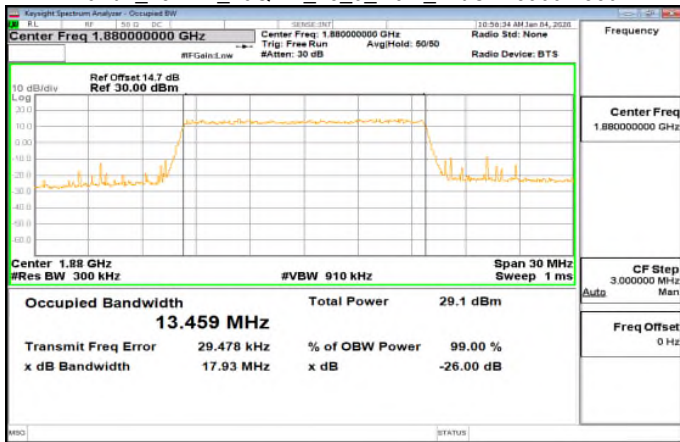
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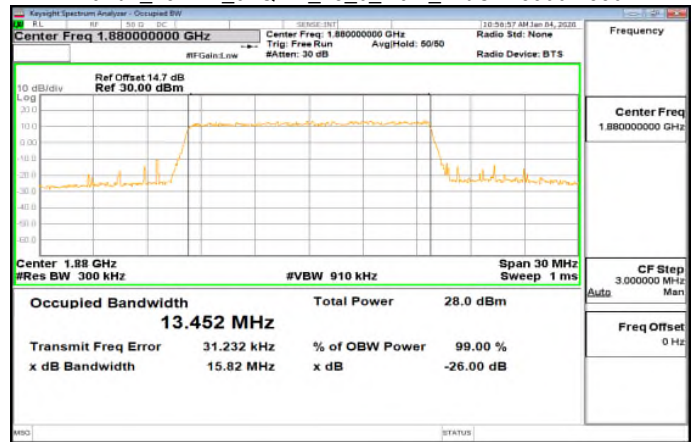
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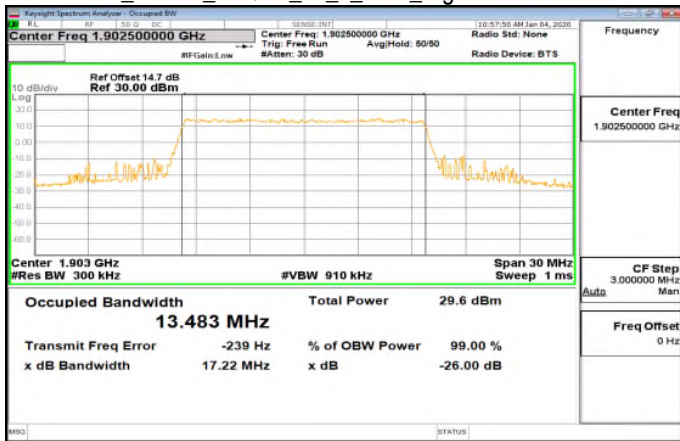
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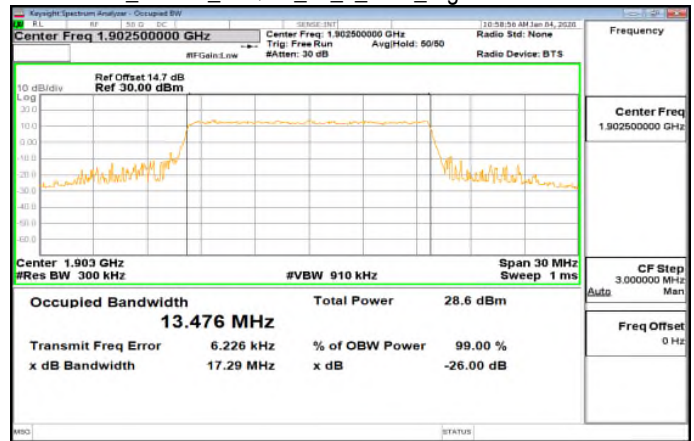
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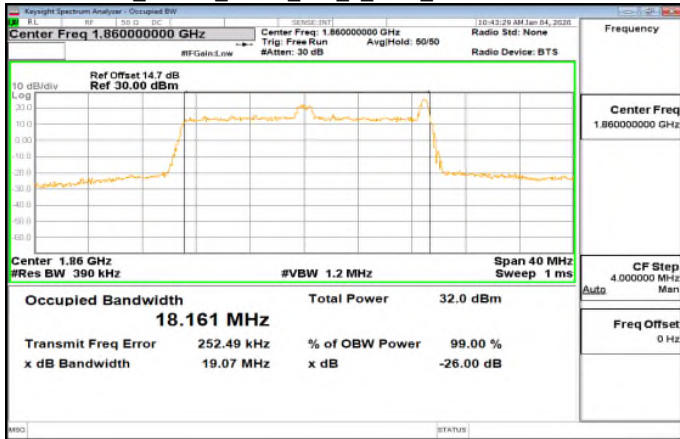
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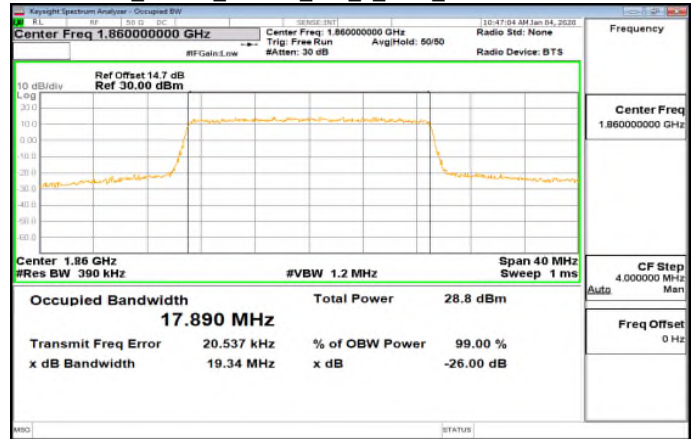
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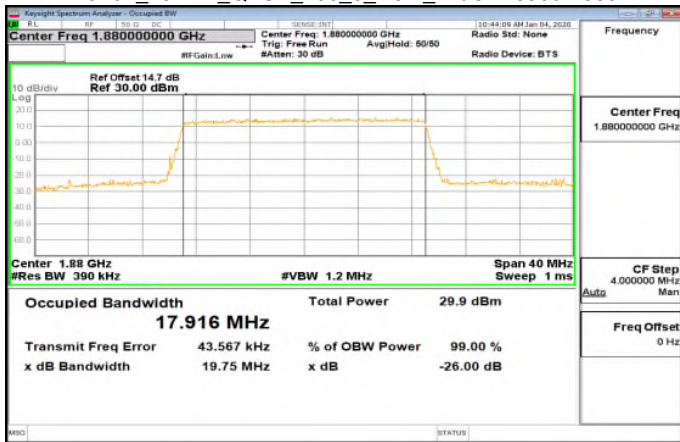
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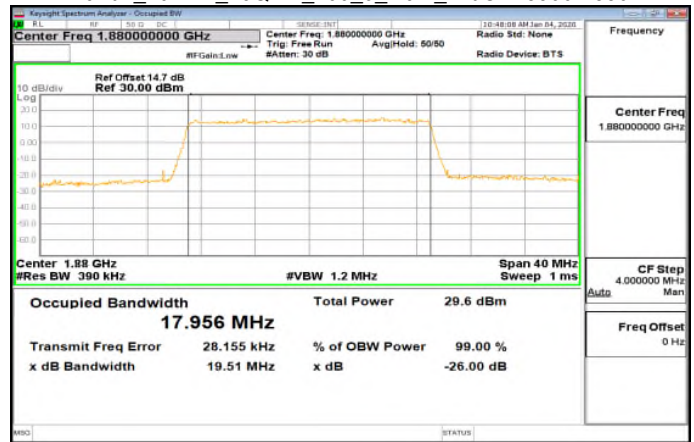
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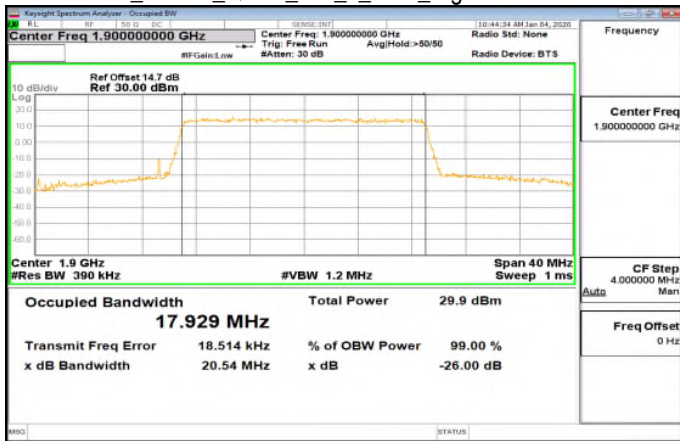
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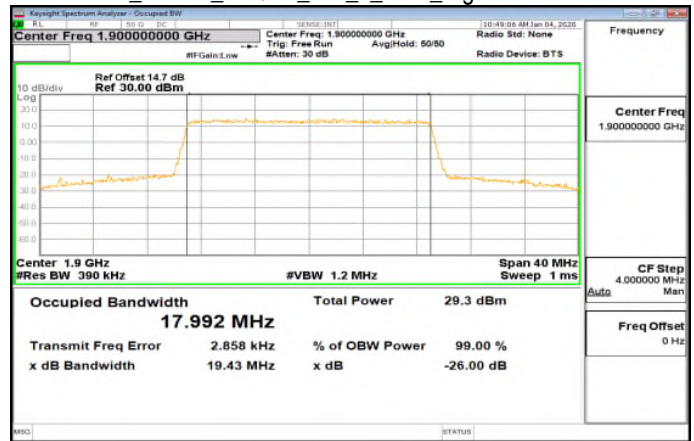
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Band2\_20MHz\_QPSK\_100\_0\_Main\_HighCH19100-1900



Band2\_20MHz\_16QAM\_100\_0\_Main\_HighCH19100-1900



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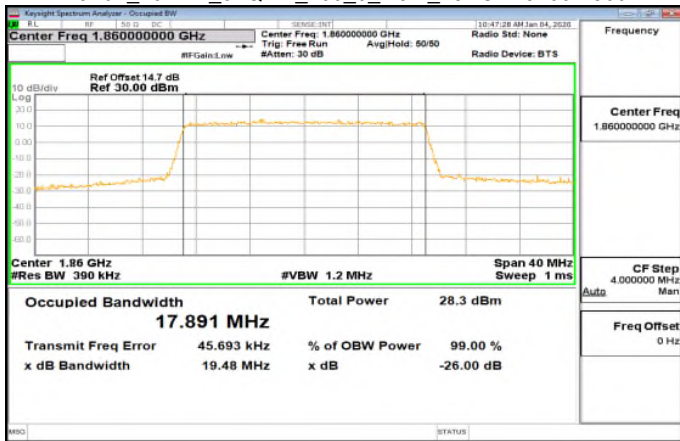
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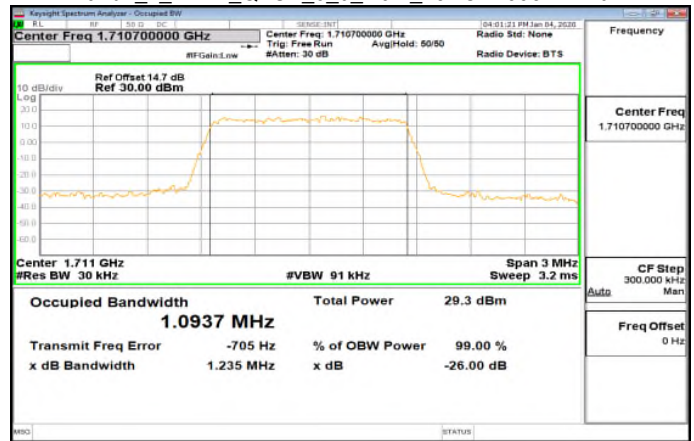
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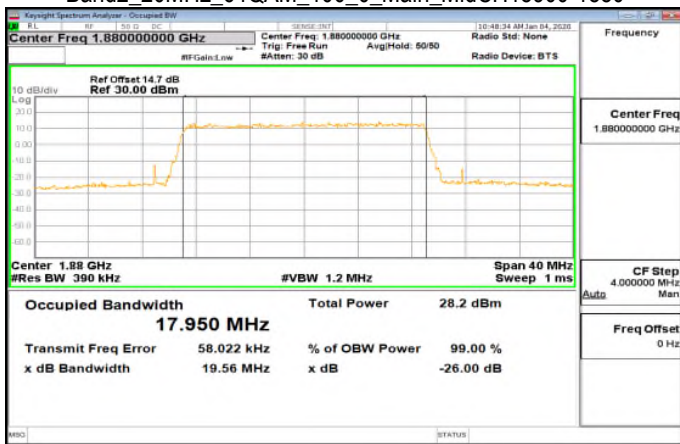
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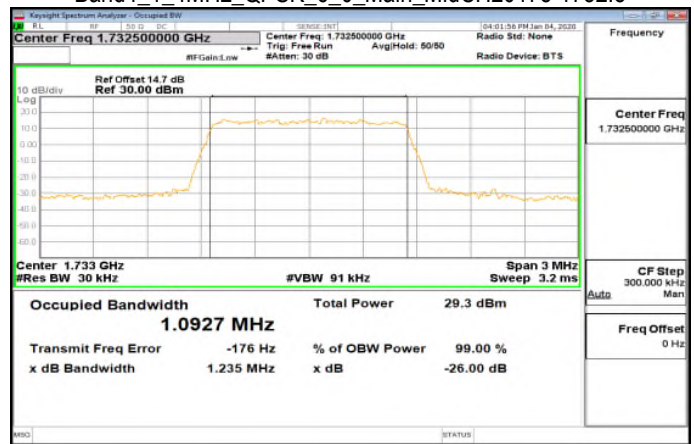
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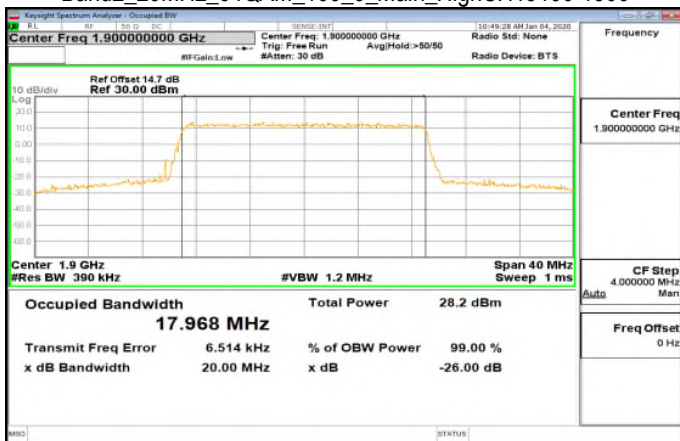
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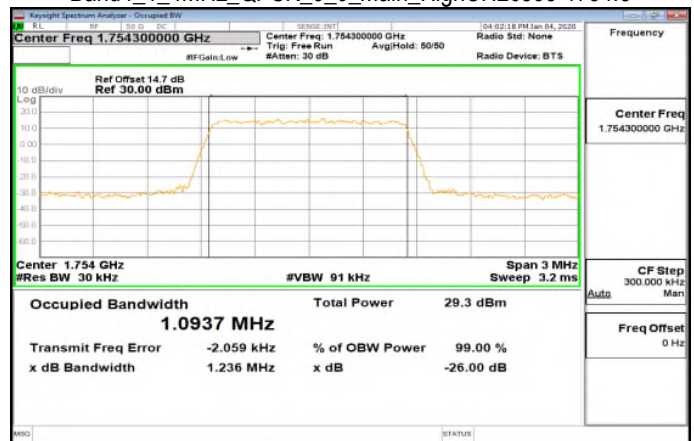
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Band2\_20MHz\_64QAM\_100\_0\_Main\_HighCH19100-1900



Band4\_1\_4MHz\_QPSK\_6\_0\_Main\_HighCH20393-1754.3



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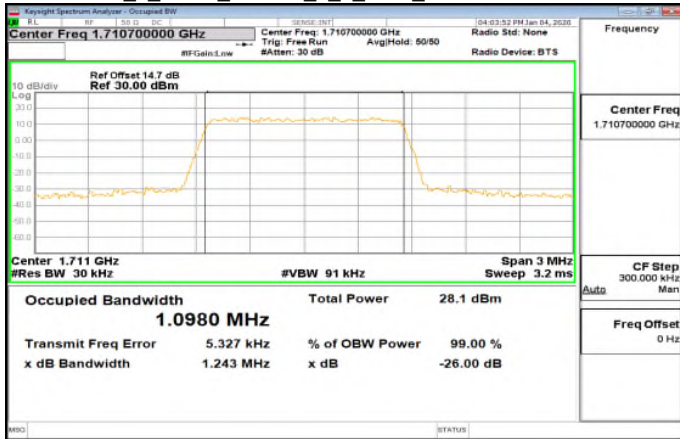
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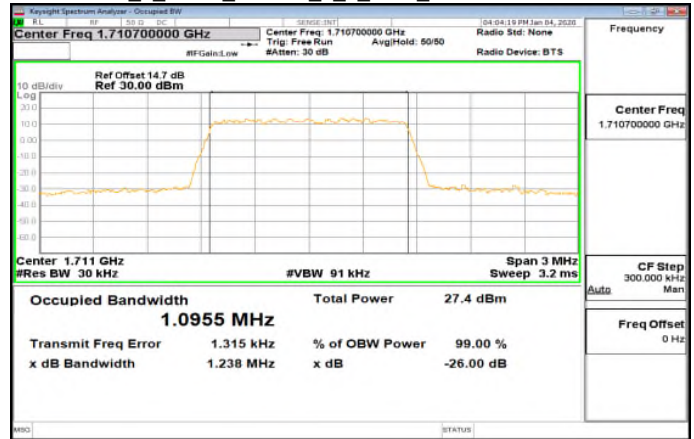
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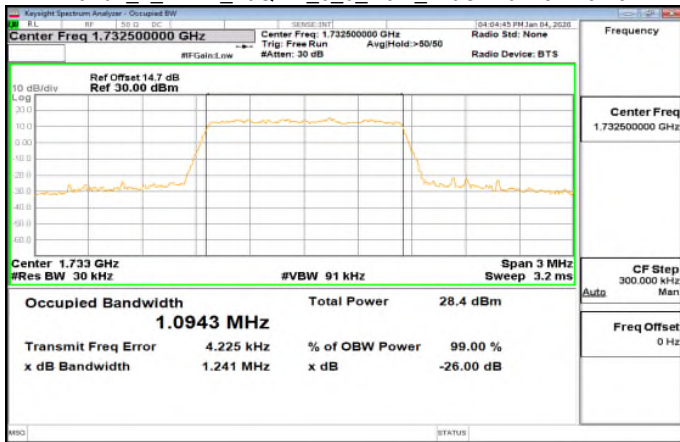
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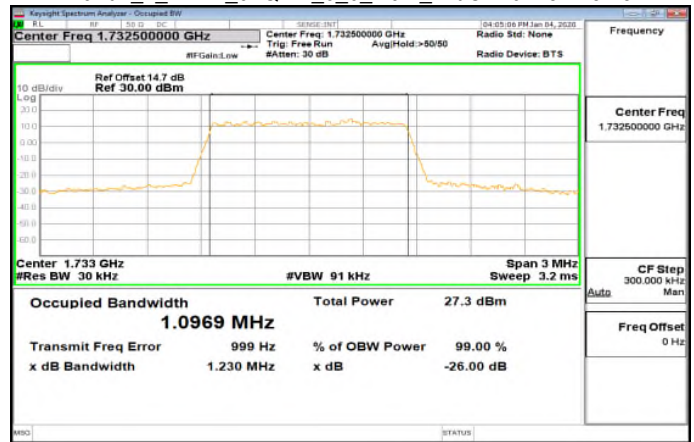
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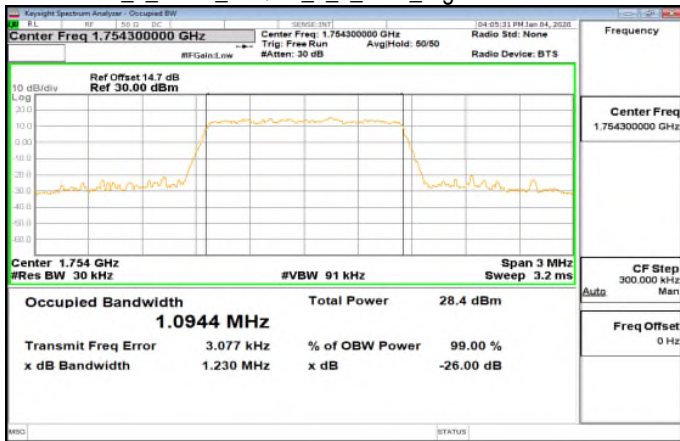
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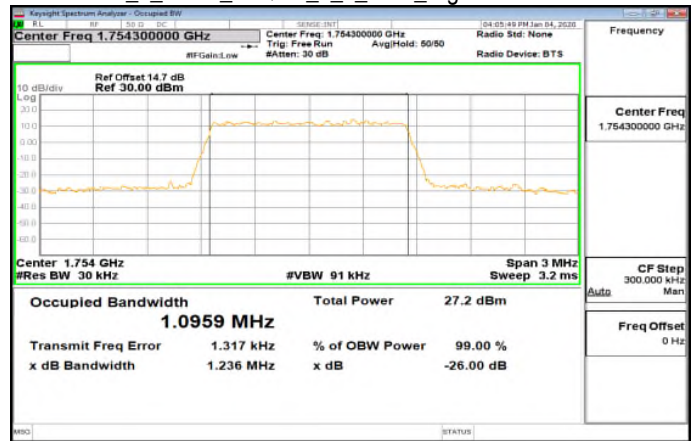
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Band4\_1\_4MHz\_64QAM\_6\_0\_Main\_HighCH20393-1754.3



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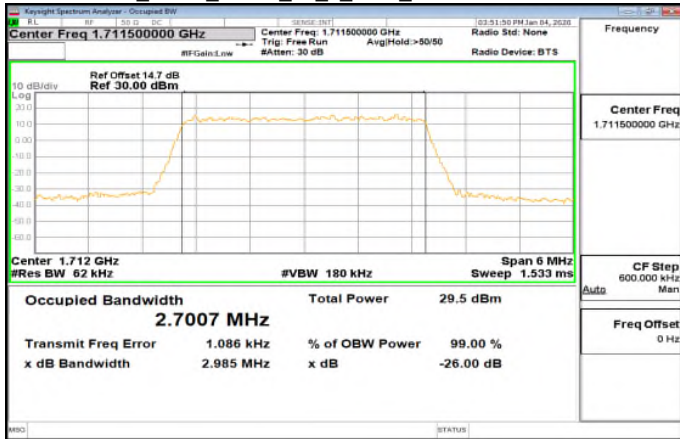
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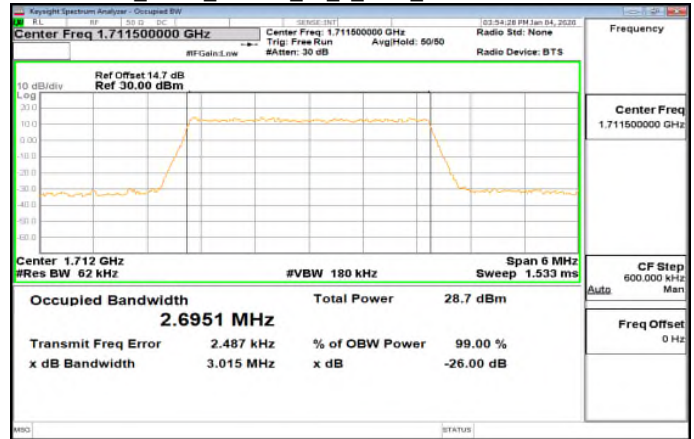
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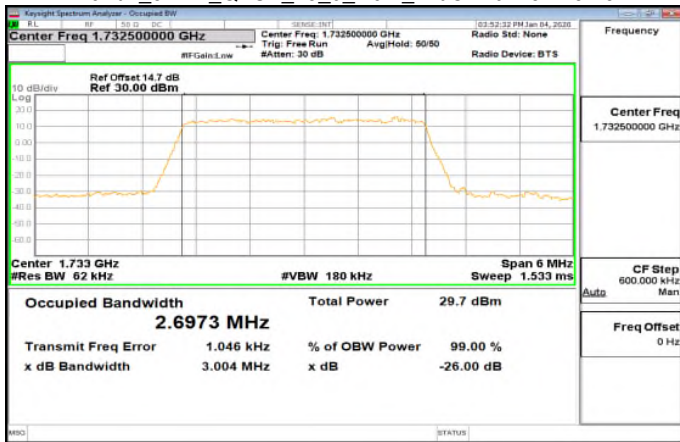
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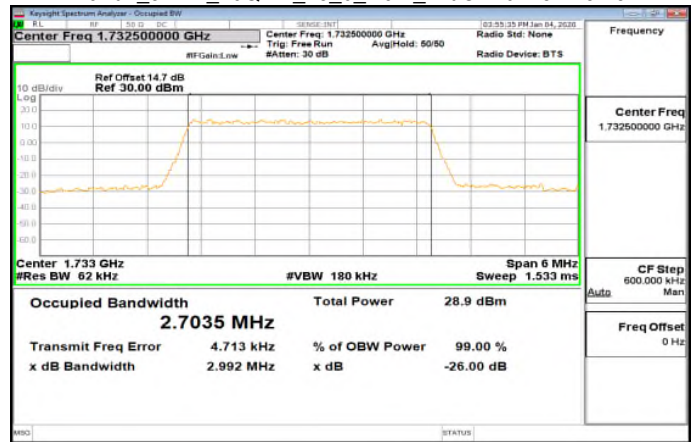
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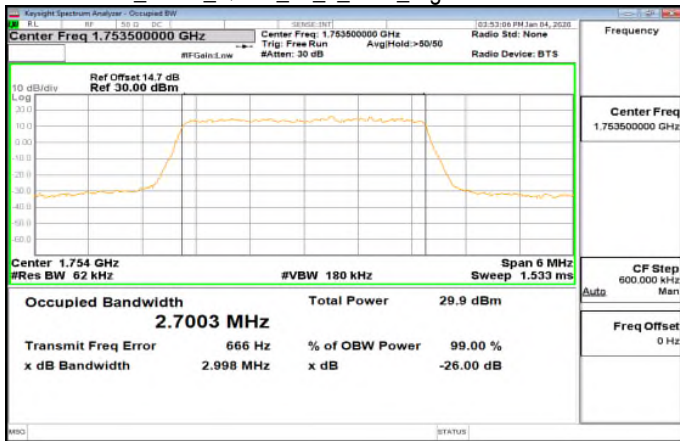
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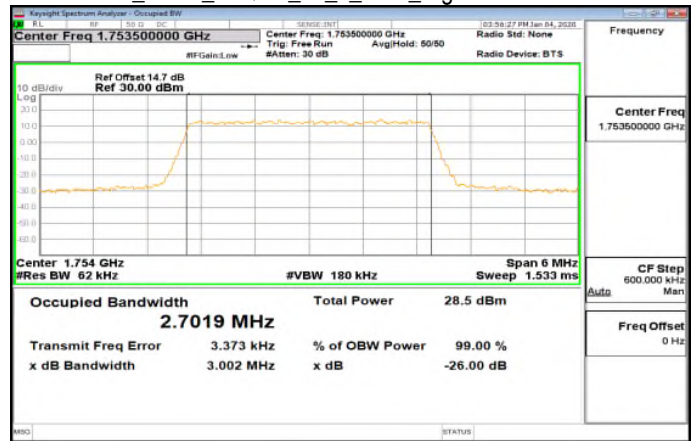
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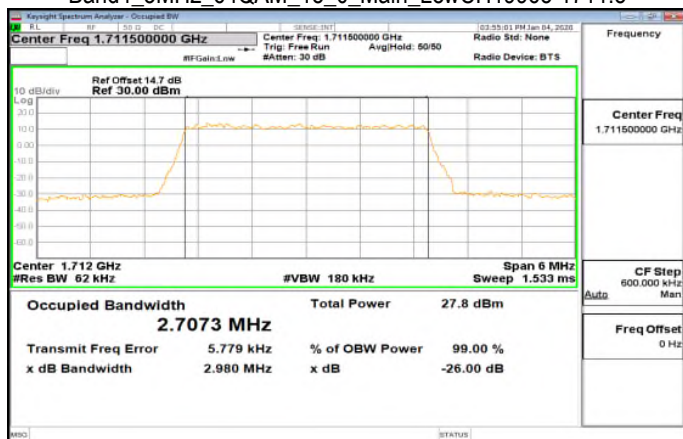
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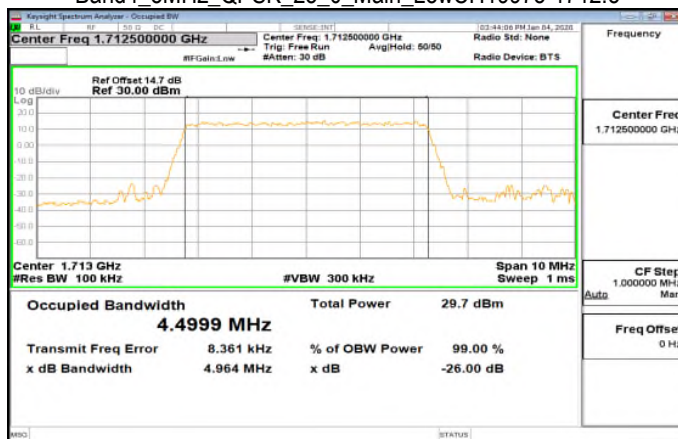
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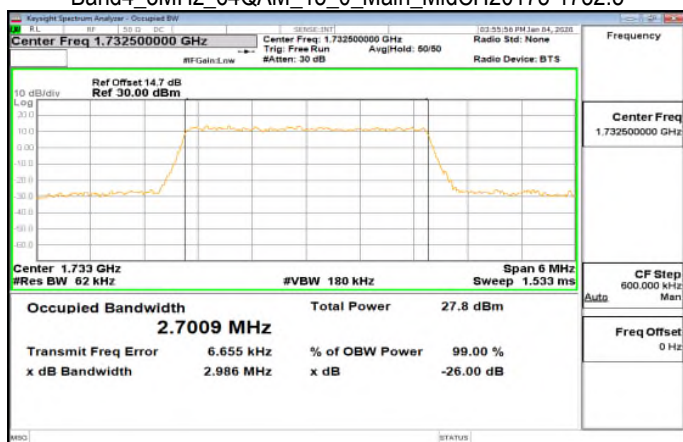
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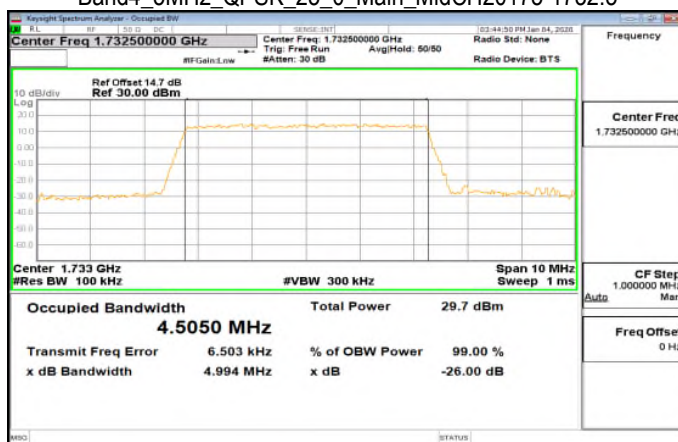
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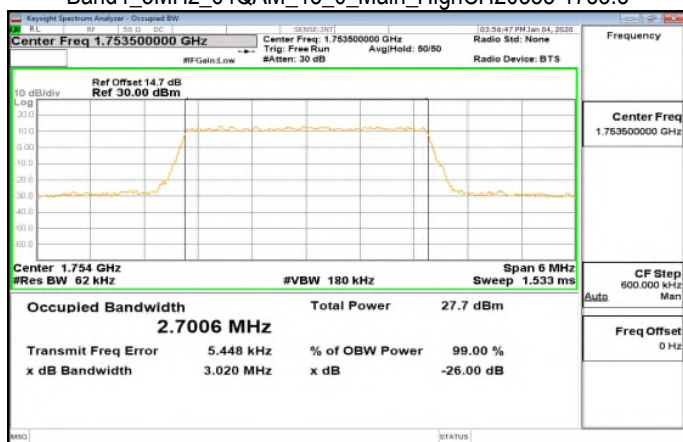
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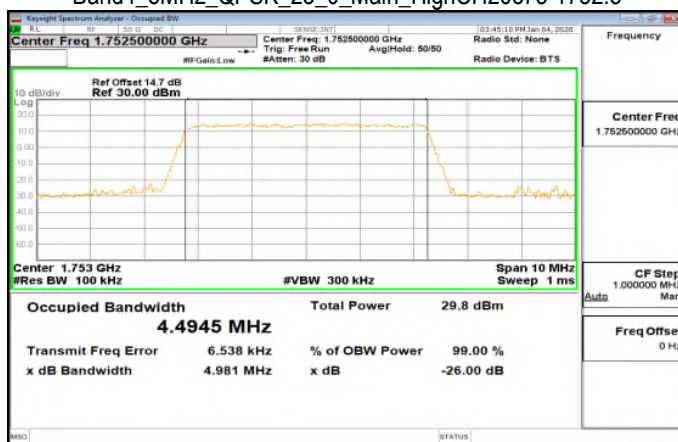
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Band4\_5MHz\_QPSK\_25\_0\_Main\_HighCH20375-1752.5



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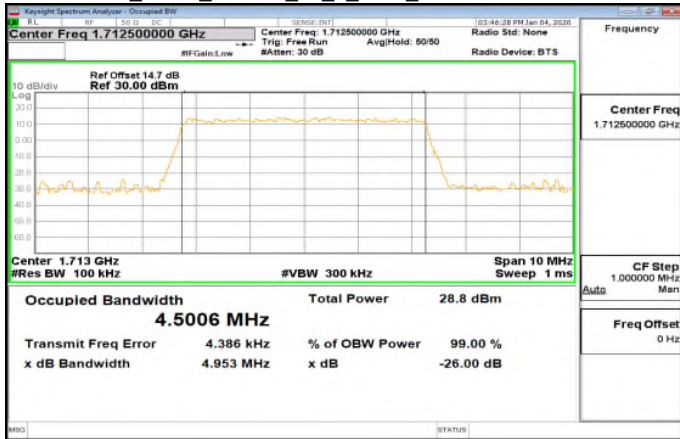
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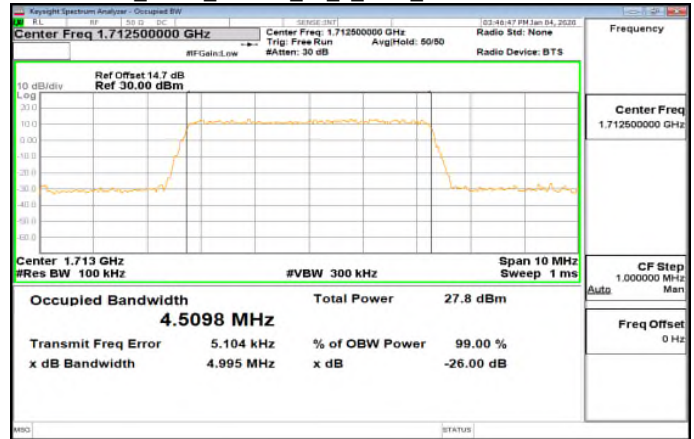
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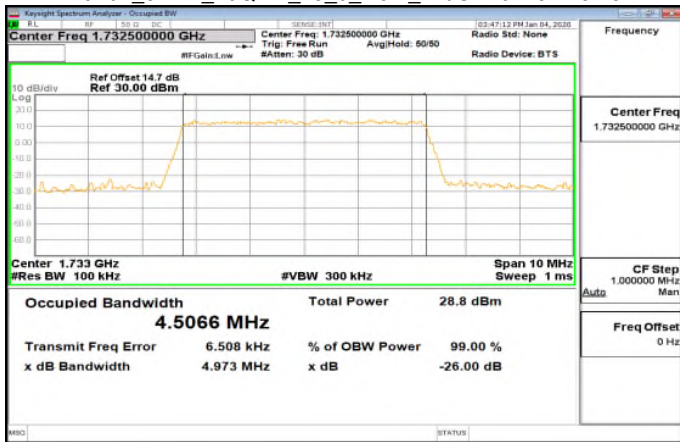
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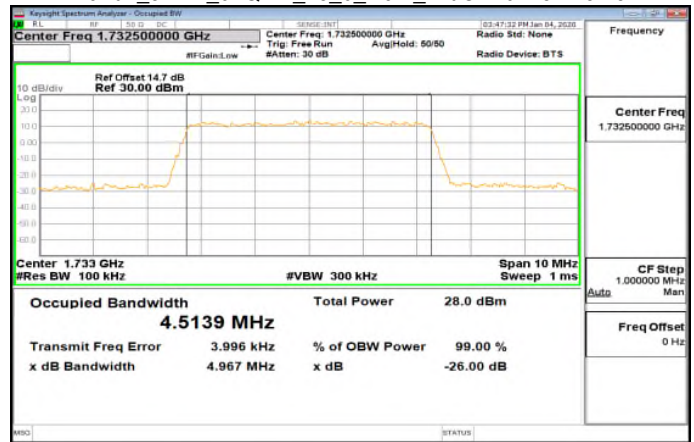
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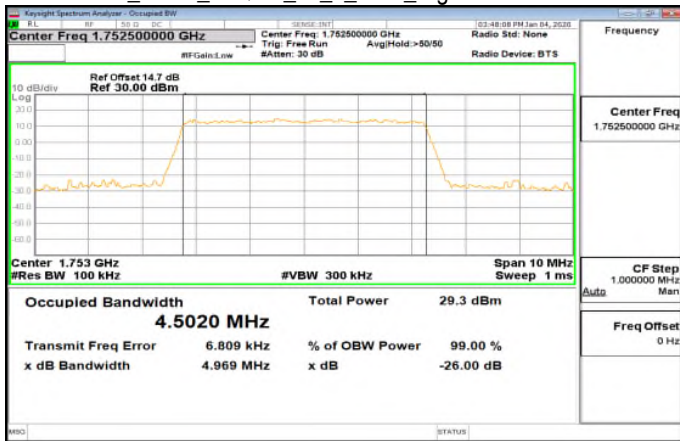
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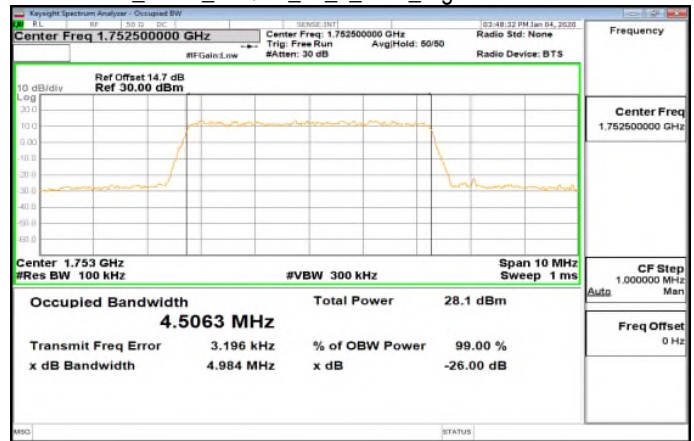
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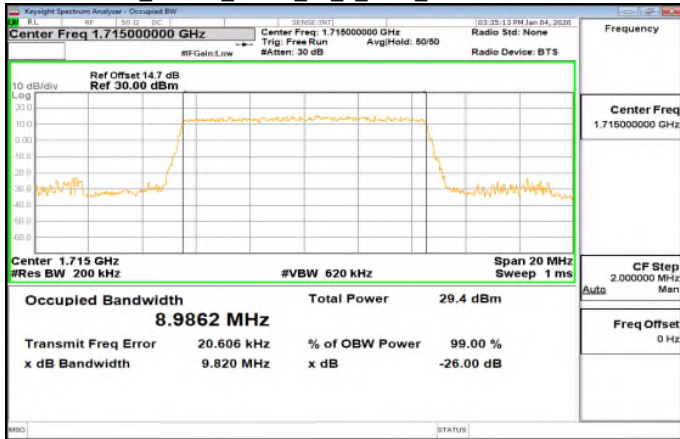
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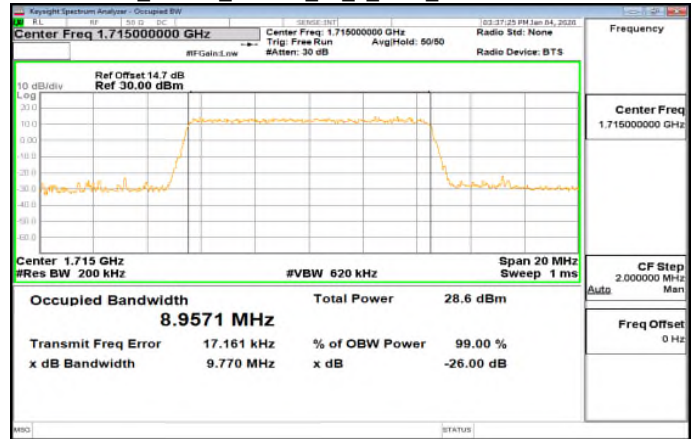
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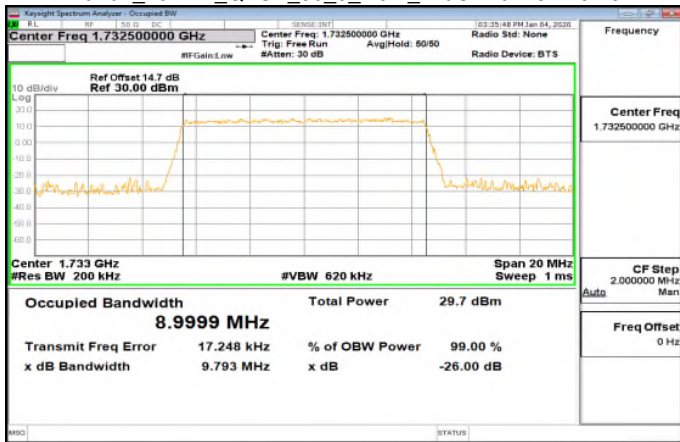
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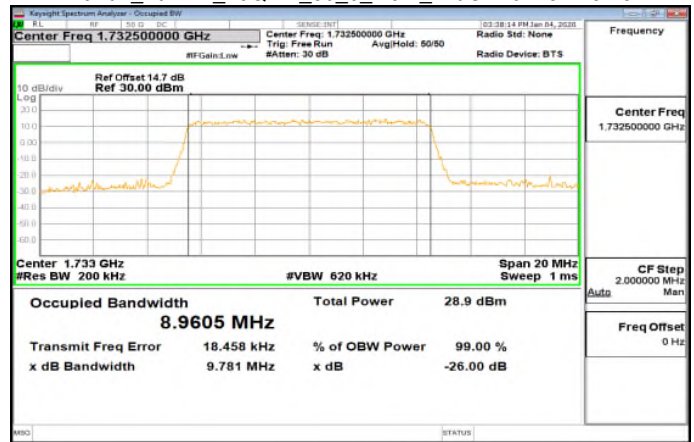
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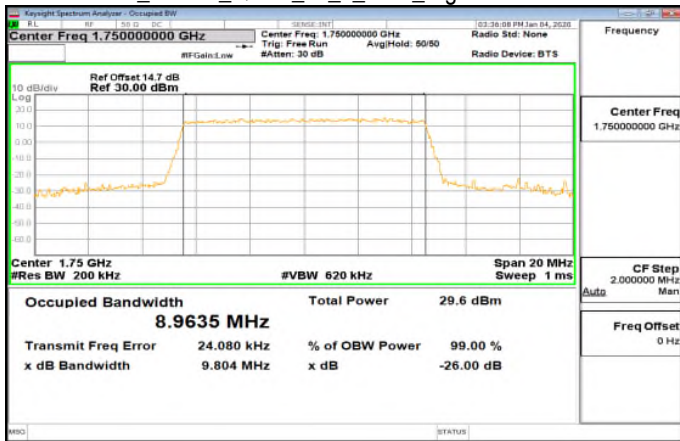
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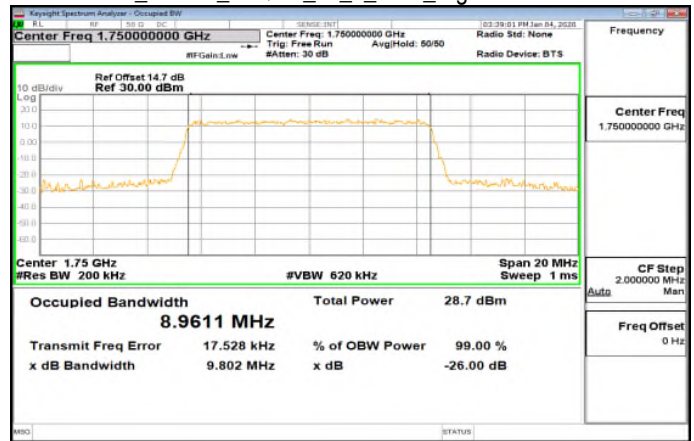
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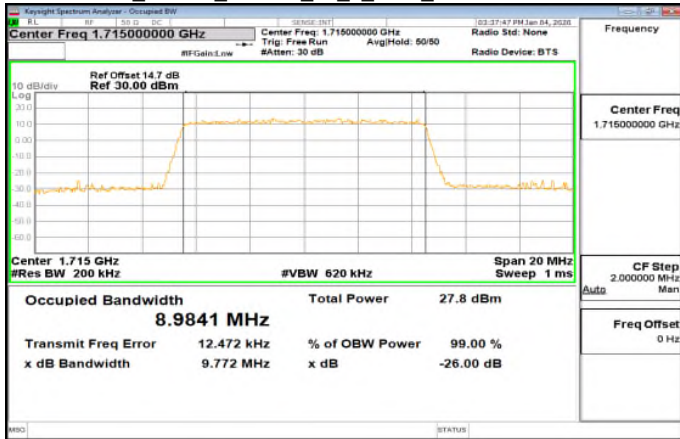
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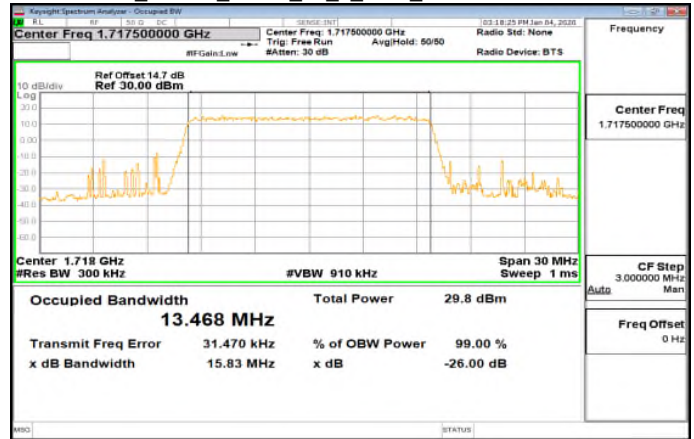
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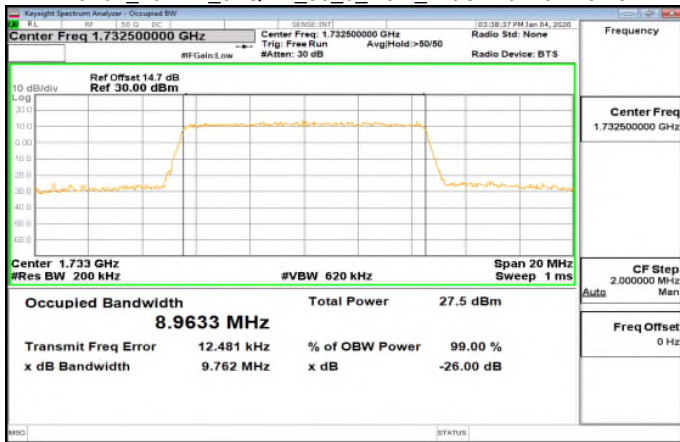
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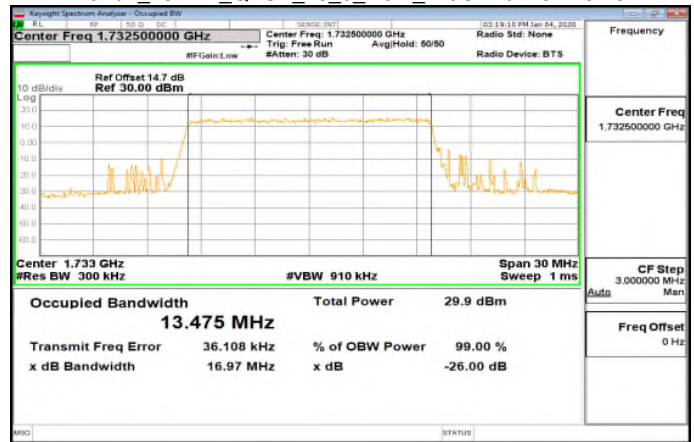
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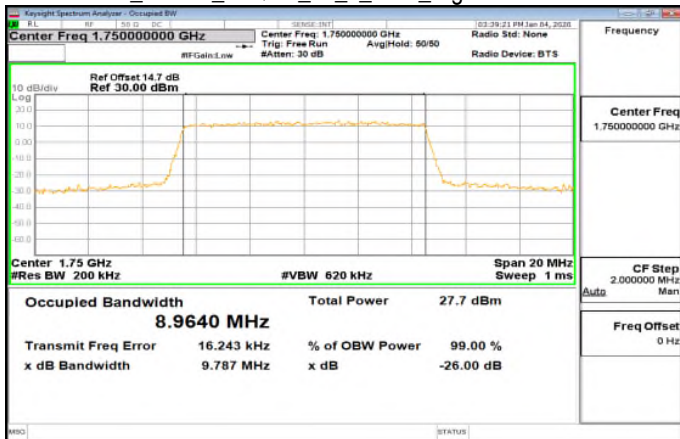
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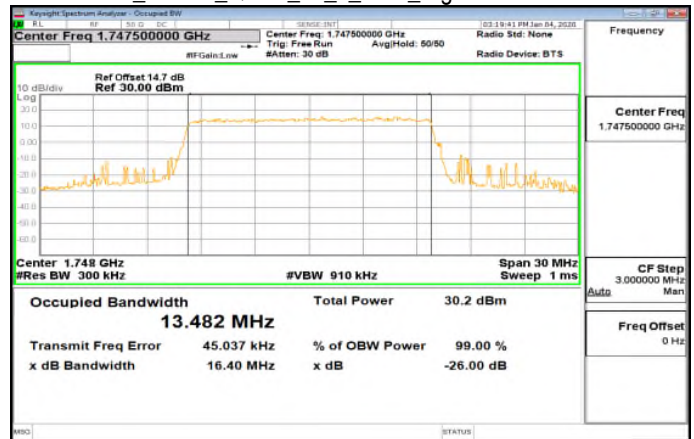
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Band4\_10MHz\_64QAM\_50\_0\_Main\_HighCH20350-1750



Band4\_15MHz\_QPSK\_75\_0\_Main\_HighCH20325-1747.5



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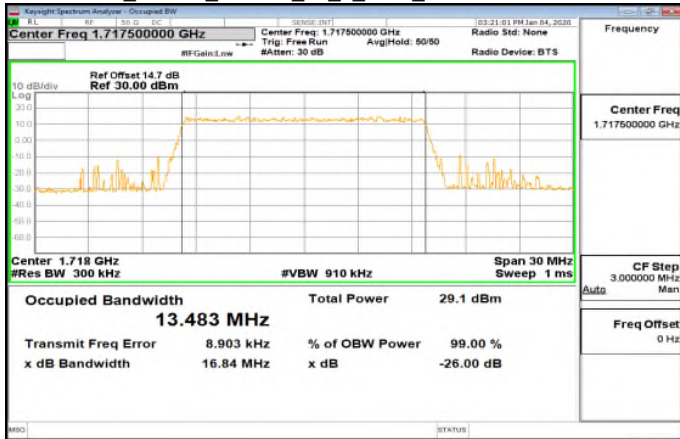
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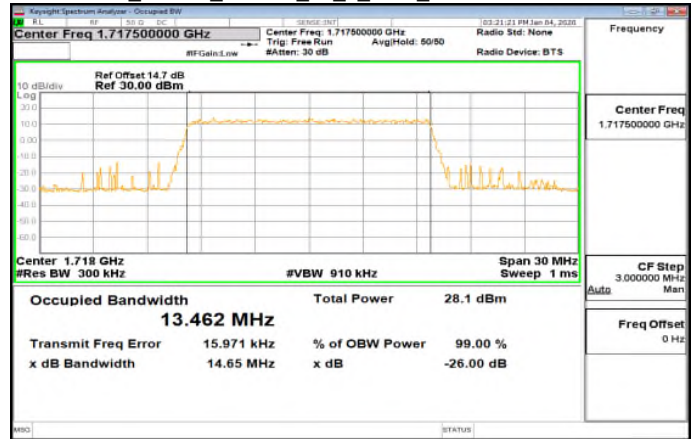
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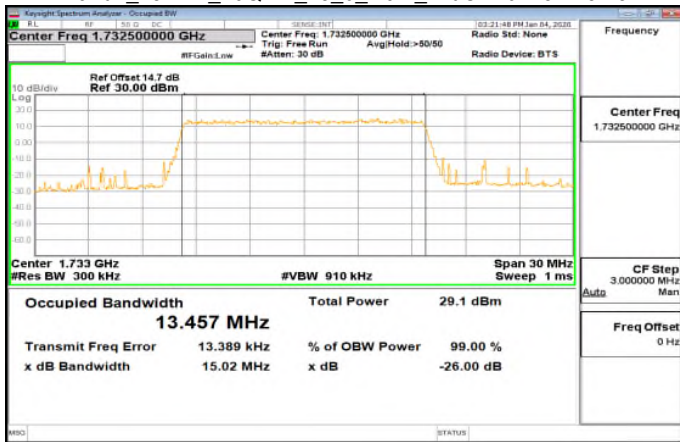
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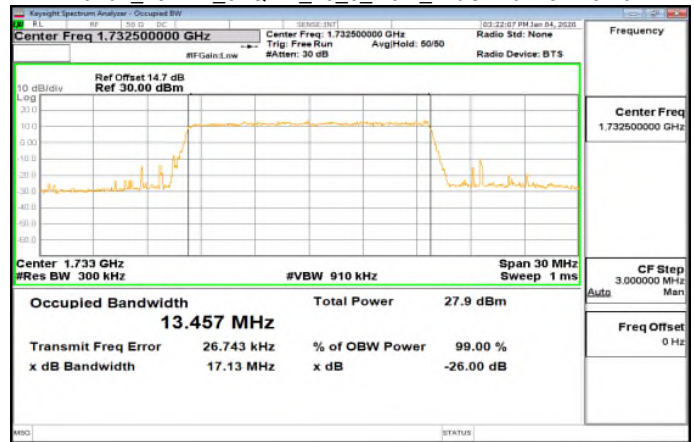
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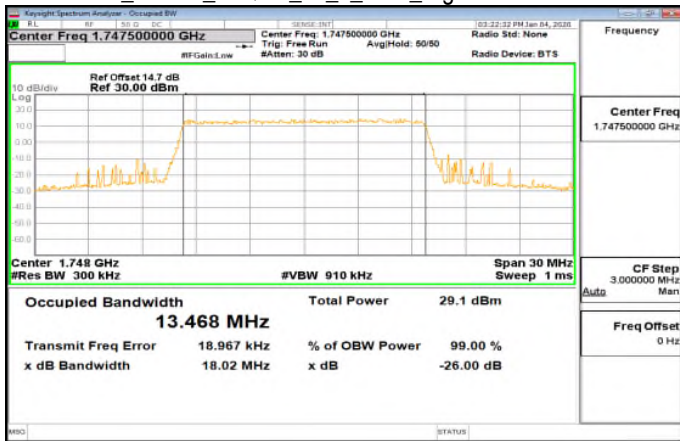
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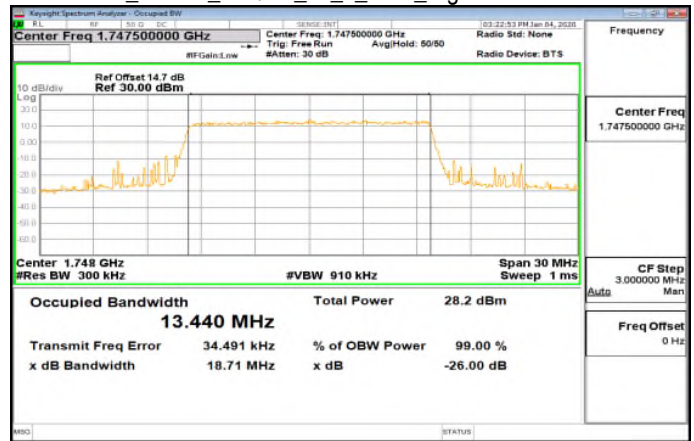
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Band4\_15MHz\_16QAM\_75\_0\_Main\_HighCH20325-1747.5



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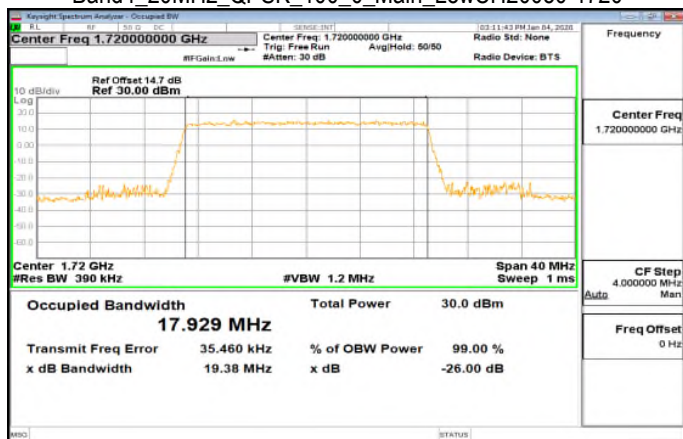
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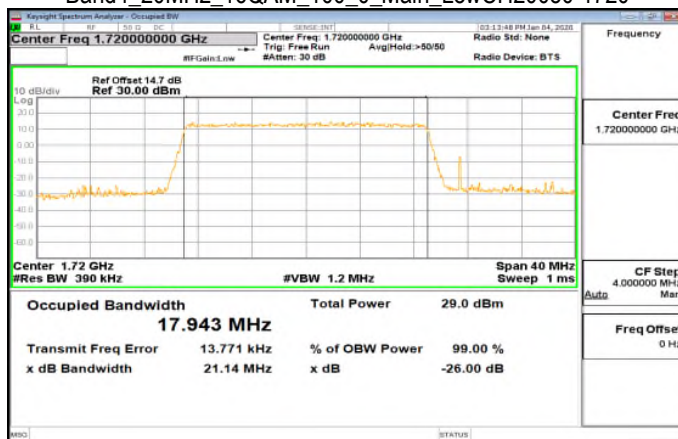
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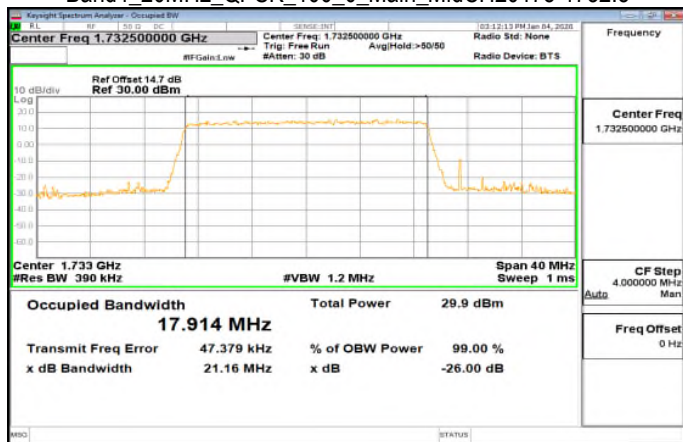
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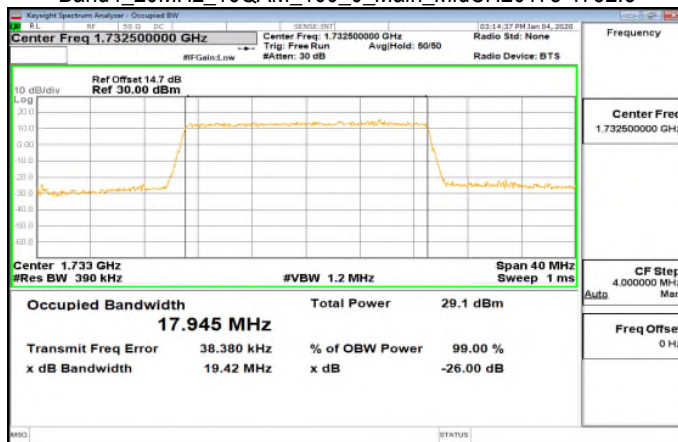
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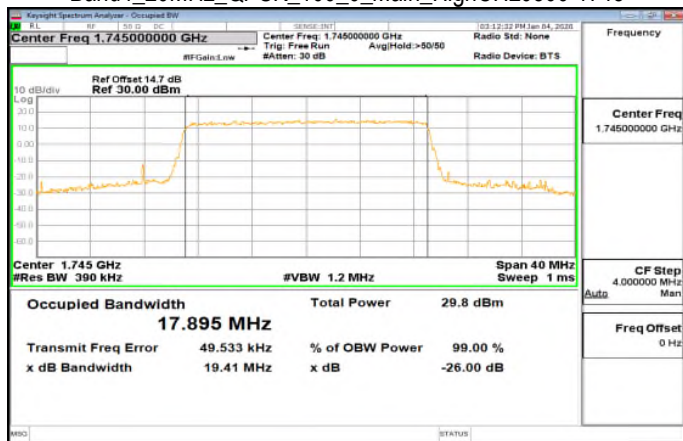
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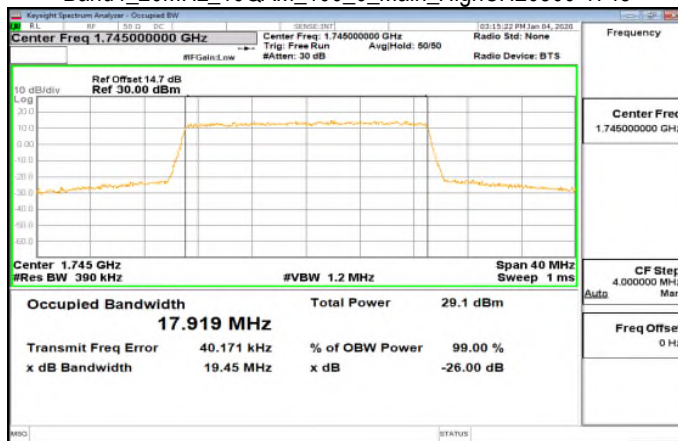
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Band4\_20MHz\_QPSK\_100\_0\_Main\_HighCH20300-1745



Band4\_20MHz\_16QAM\_100\_0\_Main\_HighCH20300-1745



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