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ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 22 SUBPART H, PART 24 SUBPART E and PART 27 SUBPART B, C, F, G & H REQUIREMENT

OF

Sharp Corporation, Mobile Communication B.U.

Applicant: 2-13-1, Hachihonmatsu-lida, Higashi-hiroshima-shi,

Hiroshima 739-0192, Japan

Sharp Corporation Manufacturer:

1 Takumi-cho, Sakai-ku, Sakai City, Osaka 590-8522, Japan

Product Name: Smart Phone **Report Number:** ER/2019/A0103 FCC ID: APYHRO00280

FCC Rule Part: 2, 22H & 24E & 27B, C, F, G & H

Issue Date: Nov. 28, 2019

Date of Test: Oct. 22, 2019 ~ Nov. 25, 2019

Oct. 22, 2019 Date of EUT Received:

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:

Jav Lin / Asst. Supervisor





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Revision History						
Revision	Description	Issue Date	Remark			
Rev.00	Original.	Nov. 28, 2019	Revised By: Karen Huang			

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1. GENERAL PRODUCT INFORMATION

1.1. Product Description

General:

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: -7.7dBi (GSM/GPRS 850, WCDMA B5, LTE B5), -4.1dBi (GSM/GPRS 1900, WCDMA B2, LTE B2), -3.6dBi (WCDMA B4, LTE B4), -3.1dBi (LTE B7), -6dBi (LTE B12, LTE B17), -8.7dBi (LTE B13), -2.4dBi (LTE B38)
IMEI:	004401116960192 / 004401116960390 / 004401116960747 004401116959582 / 004401116958105 / 004401116959806

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Operation Frequency

(MHz)

-

713.5

711.0

2617.5

2615.0

2612.5

2610.0

706.5

709.0

2572.5

2575.0

2577.5

2580.0

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BW

(MHz)

5

10

5 10

15

20

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

17

38

	D) 47			
LTE Band	BW	•		equency
	(MHz)		MHz	
	1.4	1850.7	-	1909.3
	3	1851.5	-	1908.5
2	5	1852.5	-	1907.5
۷	10	1855.0	-	1905.0
	15	1857.5	-	1902.5
	20	1860.0	-	1900.0
	1.4	1710.7	-	1754.3
	3	1711.5	-	1753.5
4	5	1712.5	-	1752.5
4	10	1715.0	-	1780.0
	15	1717.5	-	1747.5
	20	1720.0	-	1745.0
	1.4	824.7	-	848.3
5	3	825.5	-	847.5
3	5	826.5	-	846.5
	10	829.0	-	844.0
	5	2502.5	-	2567.5
7	10	2505.0	-	2565.0
/	15	2507.5	-	2562.5
	20	2510.0	-	2560.0
	1.4	699.7	-	715.3
12	3	700.5	-	714.5
12	5	701.5	-	713.5
	10	704.0	-	711.0
13	5	779.5	-	784.5
13 	10		782	

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1.3. Type of Emission & Max ERP/EIRP Power Measurement Result:

	ERP / EI	RP (dBm)	(W)	Type of Emission
GSM 850	22.83	ERP	0.192	244KGXW
GPRS 850	22.80	ERP	0.191	247KGXW
GSM 1900	25.31	EIRP	0.340	242KGXW
GPRS 1900	25.25	EIRP	0.335	245KGXW

	ERP / EIRP (dBm)		(W)	Type of Emission
WCDMA Band II	18.40	EIRP	0.069	4M15F9W
HSDPA Band II	17.43	EIRP	0.055	4M15F9W
HSUPA Band II	17.41	EIRP	0.055	4M15F9W
WCDMA Band IV	18.96	EIRP	0.079	4M15F9W
HSDPA Band IV	17.92	EIRP	0.062	4M15F9W
HSUPA Band IV	17.99	EIRP	0.063	4M15F9W
WCDMA Band V	13.54	ERP	0.023	4M13F9W
HSDPA Band V	12.54	ERP	0.018	4M14F9W
HSUPA Band V	12.50	ERP	0.018	4M14F9W

LTE Band	BW (MHz)	Modulation		/ EIRP Bm)	(W)	Type of Emission
	1.4	QPSK	18.39	EIRP	0.069	1M09G7D
	1.4	16QAM	17.20	EIRP	0.052	1M10D7W
	1.4	64QAM	16.33	EIRP	0.043	1M10D7W
	3	QPSK	18.39	EIRP	0.069	2M70G7D
	3	16QAM	17.48	EIRP	0.056	2M70D7W
	3	64QAM	16.93	EIRP	0.049	2M70D7W
	5	QPSK	18.33	EIRP	0.068	4M50G7D
	5	16QAM	17.48	EIRP	0.056	4M51D7W
2	5	64QAM	16.95	EIRP	0.050	4M52D7W
	10	QPSK	18.35	EIRP	0.068	9M02G7D
	10	16QAM	17.49	EIRP	0.056	8M97D7W
	10	64QAM	16.95	EIRP	0.050	8M99D7W
	15	QPSK	18.34	EIRP	0.068	13M5G7D
	15	16QAM	17.46	EIRP	0.056	13M5D7W
	15	64QAM	16.95	EIRP	0.050	13M5D7W
	20	QPSK	18.59	EIRP	0.072	18M0G7D
	20	16QAM	17.61	EIRP	0.058	18M0D7W
	20	64QAM	17.08	EIRP	0.051	18M0D7W

LTE Band	BW (MHz)	Modulation	ERP / EIRP (dBm)		(W)	Type of Emission
	1.4	QPSK	18.17	EIRP	0.066	1M10G7D
	1.4	16QAM	17.66	EIRP	0.058	1M10D7W
	1.4	64QAM	16.83	EIRP	0.048	1M10D7W
	3	QPSK	18.22	EIRP	0.066	2M70G7D
	3	16QAM	17.55	EIRP	0.057	2M70D7W
	3	64QAM	16.95	EIRP	0.050	2M70D7W
	5	QPSK	18.18	EIRP	0.066	4M50G7D
	5	16QAM	17.46	EIRP	0.056	4M51D7W
4	5	64QAM	16.92	EIRP	0.049	4M51D7W
4	10	QPSK	18.24	EIRP	0.067	9M01G7D
	10	16QAM	17.50	EIRP	0.056	8M97D7W
	10	64QAM	16.92	EIRP	0.049	9M00D7W
	15	QPSK	18.20	EIRP	0.066	13M5G7D
	15	16QAM	17.55	EIRP	0.057	13M5D7W
	15	64QAM	16.96	EIRP	0.050	13M5D7W
	20	QPSK	18.37	EIRP	0.069	18M0G7D
	20	16QAM	17.65	EIRP	0.058	18M0D7W
	20	64QAM	17.07	EIRP	0.051	18M0D7W

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LTE Band	BW (MHz)	Modulation		/EIRP 3m)	(W)	Type of Emission
	1.4	QPSK	13.29	ERP	0.021	1M10G7D
	1.4	16QAM	12.62	ERP	0.018	1M10D7W
	1.4	64QAM	11.33	ERP	0.014	1M10D7W
	3	QPSK	13.27	ERP	0.021	2M70G7D
	3	16QAM	12.73	ERP	0.019	2M70D7W
5	3	64QAM	11.92	ERP	0.016	2M70D7W
5	5	QPSK	13.33	ERP	0.022	4M50G7D
	5	16QAM	12.80	ERP	0.019	4M50D7W
	5	64QAM	11.90	ERP	0.015	4M51D7W
	10	QPSK	13.45	ERP	0.022	9M03G7D
	10	16QAM	12.91	ERP	0.020	8M98D7W
	10	64QAM	12.06	ERP	0.016	9M01D7W
	5	QPSK	19.66	EIRP	0.092	4M50G7D
	5	16QAM	19.11	EIRP	0.081	4M50D7W
	5	64QAM	18.53	EIRP	0.071	4M51D7W
	10	QPSK	19.72	EIRP	0.094	9M01G7D
	10	16QAM	19.08	EIRP	0.081	8M96D7W
7	10	64QAM	18.59	EIRP	0.072	8M99D7W
,	15	QPSK	19.66	EIRP	0.092	13M5G7D
	15	16QAM	19.11	EIRP	0.081	13M5D7W
	15	64QAM	18.57	EIRP	0.072	13M5D7W
	20	QPSK	19.82	EIRP	0.096	17M9G7D
	20	16QAM	19.23	EIRP	0.084	18M0D7W
	20	64QAM	18.73	EIRP	0.075	18M0D7W
	1.4	QPSK	14.81	ERP	0.030	1M12G7D
	1.4	16QAM	13.78	ERP	0.024	1M11D7W
	1.4	64QAM	13.20	ERP	0.021	1M10D7W
	3	QPSK	15.14	ERP	0.033	2M69G7D
	3	16QAM	14.45	ERP	0.028	2M68D7W
12	3	64QAM	13.50	ERP	0.022	2M69D7W
12	5	QPSK	15.15	ERP	0.033	4M50G7D
	5	16QAM	14.41	ERP	0.028	4M51D7W
	5	64QAM	13.53	ERP	0.023	4M51D7W
	10	QPSK	15.26	ERP	0.034	9M02G7D
	10	16QAM	14.57	ERP	0.029	8M96D7W
	10	64QAM	13.68	ERP	0.023	8M99D7W

LTE Band	BW (MHz)	Modulation		/ EIRP Bm)	(W)	Type of Emission
	5	QPSK	12.23	ERP	0.017	4M50G7D
	5	16QAM	11.07	ERP	0.013	4M50D7W
13	5	64QAM	10.58	ERP	0.011	4M51D7W
13	10	QPSK	12.22	ERP	0.017	9M02G7D
	10	16QAM	11.74	ERP	0.015	8M96D7W
	10	64QAM	10.92	ERP	0.012	8M99D7W
	5	QPSK	15.23	ERP	0.033	4M50G7D
	5	16QAM	14.60	ERP	0.029	4M48D7W
17	5	64QAM	13.68	ERP	0.023	4M48D7W
17	10	QPSK	15.34	ERP	0.034	8M98G7D
	10	16QAM	14.72	ERP	0.030	8M93D7W
	10	64QAM	13.82	ERP	0.024	8M89D7W
	5	QPSK	20.55	EIRP	0.114	4M51G7D
	5	16QAM	19.79	EIRP	0.095	4M51D7W
	5	64QAM	19.28	EIRP	0.085	4M51D7W
	10	QPSK	20.56	EIRP	0.114	8M98G7D
	10	16QAM	19.77	EIRP	0.095	8M97D7W
38	10	64QAM	19.30	EIRP	0.085	8M98D7W
30	15	QPSK	20.54	EIRP	0.113	13M5G7D
	15	16QAM	19.80	EIRP	0.095	13M5D7W
	15	64QAM	19.26	EIRP	0.084	13M5D7W
	20	QPSK	20.67	EIRP	0.117	18M0G7D
	20	16QAM	19.96	EIRP	0.099	17M9D7W
	20	64QAM	19.42	EIRP	0.087	17M9D7W

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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.

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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)	0.2	14.8	15
High Band (Above 1 GHz)	0.5	14.5	15

2.5. Final Amplifier Voltage and Current Information:

Test Mode	DC voltage (V)	DC current (mA)
GSM 850		388
GSM 1900		373
HSUPA B2		337
HSDPA B4		323
HSDPA B5		314
LTE Band 2		1449
LTE Band 4	3.85	1443
LTE Band 5		1438
LTE Band 7		1434
LTE Band 12		1438
LTE Band 13		1444
LTE Band 17		1427
LTE Band 38		1447

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Onless otherwise stated the results shown in this east report terei only of the sample(s) lested and such as a few forms and the sample(s) lested and such as the sample(s) lested and such as the sample (s) les document is unlawful and offenders may be prosecuted to the fullest extent of the law



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2.6. Configuration of Tested System

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

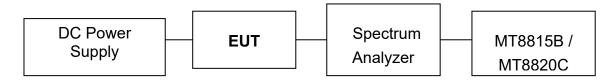


Fig. 2-2 Configuration of Tested System (Fixed Channel-Radiated)

EUT Remote Side

> MT8815B / MT8820C

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.	Radio Communication Analyzer	Anritsu	MT8815B	6200711454	N/A	N/A
3.	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
§2.1046(a) §22.913(a)(5) §24.232(c) §27.50(a)(3) §27.50(c)(10) §27.50(d)(4)	ERP/ EIRP measurement	Compliant
§2.1049(h)	99% & 26dB Occuupied Bandwidth	Compliant
§2.1051 §22.917(a) §24.238(a) §27.53(g) §27.50(c)(5) §27.53(h) §27.53(m)(4)(6)	Out of Band Emissions at Antenna Terminals and Band Edge / Emission mask requirements	Compliant
§2.1053 §22.917(a) §24.238(a) §27.53(c)(2),(4) §27.50(c)(5) §27.53(f) §27.53(g) §27.53(h) §27.53(m)(4)	Field Strength of Spurious Radiation	Compliant
§24.232(d) §27.50((B)	Peak to Average Ratio	Compliant
§2.1055(a)(1) §22.355 §24.235 §27.54	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-plan
GSM/GPRS 1900	H-plan
WCDMA/HSPA Band II	H-plan
WCDMA/HSPA Band IV	H-plan
WCDMA/HSPA Band V	H-plan
LTE Band 2	H-plan
LTE Band 4	H-plan
LTE Band 5	H-plan
LTE Band 7	H-plan
LTE Band 12	H-plan
LTE Band 13	H-plan
LTE Band 17	H-plan
LTE Bnad 38	H-plan

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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	190	GPRS 850
	512 to 810	661	GPRS 1900
OCCUPIED BANDWIDTH	128 to 251	190	GSM/GPRS 850
	512 to 810	661	GSM/GPRS 1900
PEAK TO AVERAGE RATIO	512 to 810	512, 661, 810	GSM/GPRS 1900
BAND EDGE	128 to 251	128, 251	GSM/GPRS 850
	512 to 810	512, 810	GSM/GPRS 1900
CONDCUDETED EMISSION	128 to 251	128, 190, 251	GSM/GPRS 850
	512 to 810	512, 661, 810	GSM/GPRS 1900
RADIATED EMISSION	128 to 251	128, 190, 251	GSM 850
	512 to 810	512, 661, 810	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
CONDCUDETED 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

LIL Dana Z W	AVAILABLE	TESTED	CHANNEL		
TEST ITEM	CHANNEL	CHANNEL	BANDWIDTH	MODULATION	MODE
		18607, 18900, 19193	1.4MHz	QPSK, 16QAM, 64QAM	
		18615, 18900, 19185	3MHz	QPSK, 16QAM, 64QAM	
EIRP		18625, 18900, 19175	5MHz	QPSK, 16QAM, 64QAM	·
LIIXI		18650, 18900, 19150	10MHz	QPSK, 16QAM, 64QAM	
		18675, 18900, 19125	15MHz	QPSK, 16QAM, 64QAM	
	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
	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
OCCUPIED		18625, 18900, 19175	5MHz	QPSK, 16QAM, 64QAM	Full RB
BANDWIDTH	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
	18607 to 19193	18607, 18900, 19193	1.4MHz	64QAM	Full RB
	18615 to 19185	18615, 18900, 19185	3MHz	64QAM	Full RB
PEAK TO AVER-	18625 to 19175	18625, 18900, 19175	5MHz	64QAM	Full RB
AGE RATIO	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
	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
BAND EDGE	18625 to 19175	18625, 19175	5MHz	QPSK	1 RB/ 0,24 RB Offest Full RB
BAND EDGE	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
		18607, 18900, 19193	1.4MHz	QPSK	1 RB, 0 RB Offest
CONDCUDETED		18615, 18900, 19185	3MHz	QPSK	1 RB, 0 RB Offest
	18625 to 19175	18625, 18900, 19175	5MHz	QPSK	1 RB, 0 RB Offest
EMISSION		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, 0 RB Offest



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LTE Band 4 MODE

TEST ITEM	AVAILABLE CHANNEL		CHANNEL BANDWIDTH	MODULATION	MODE
	19957 to 19393	19957, 20175, 19393	1.4MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,5 RB Offest
		19965, 20175, 22385	3MHz	QPSK, 16QAM, 64QAM	
		19975, 20175, 20375	5MHz	QPSK, 16QAM, 64QAM	-
EIRP		20000, 20175, 20350	10MHz	QPSK, 16QAM, 64QAM	-
		20025, 20175, 20325	15MHz	QPSK, 16QAM, 64QAM	
		20050, 20175, 20300	20MHz	QPSK, 16QAM, 64QAM	
FREQUENCY STABILITY	20000 to 20350	20175	10MHz	QPSK	Full RB
	19957 to 19393	19957, 20175, 19393	1.4MHz	QPSK, 16QAM, 64QAM	Full RB
	19965 to 22385	19965, 20175, 22385	3MHz	QPSK, 16QAM, 64QAM	
OCCUPIED		19975, 20175, 20375	5MHz	QPSK, 16QAM, 64QAM	
BANDWIDTH		20000, 20175, 20350	10MHz	QPSK, 16QAM, 64QAM	Full RB
		20025, 20175, 20325	15MHz	QPSK, 16QAM, 64QAM	
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM, 64QAM	Full RB
	19957 to 19393	19957, 20175, 19393	1.4MHz	64QAM	Full RB
		19965, 20175, 22385	3MHz	64QAM	Full RB
PEAK TO AVER-	19975 to 20375	19975, 20175, 20375	5MHz	64QAM	Full RB
AGE RATIO		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
	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
BAND EDGE	19975 to 20375	19975, 20375	5MHz	QPSK	1 RB/ 0,24 RB Offest Full RB
D, 1110 LDOL	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
		19957, 20175, 19393		QPSK	1 RB, 0 RB Offest
		19965, 20175, 22385		QPSK	1 RB, 0 RB Offest
CONDCUDETED EMISSION		19975, 20175, 20375	5MHz	QPSK	1 RB, 0 RB Offest
		20000, 20175, 20350	10MHz	QPSK	1 RB, 0 RB Offest
		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	19957 to 19393	19957, 20175, 19393	1.4MHz	QPSK	1 RB, 50 RB Offest



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LTE Band 5 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
	20470 to 20643	20470, 20525, 20643	1.4MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,5 RB Offest
ERP	20415 to 20635	20415, 20525, 20635	3MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,14 RB Offest
LINE	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
	20470 to 20643	20470, 20525, 20643	1.4MHz	QPSK, 16QAM, 64QAM	Full RB
OCCUPIED	20415 to 20635	20415, 20525, 20635	3MHz	QPSK, 16QAM, 64QAM	Full RB
BANDWIDTH	20425 to 20625	20425, 20525, 20625	5MHz	QPSK, 16QAM, 64QAM	Full RB
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK, 16QAM, 64QAM	Full RB
	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
BAND EDGE	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
	20470 to 20643	20470, 20525, 20643	1.4MHz	QPSK	1 RB, 0 RB Offest
CONDCUDETED EMISSION	20415 to 20635	20415, 20525, 20635	3MHz	QPSK	1 RB, 0 RB Offest
		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	20450 to 20600	20450, 20525, 20600	10MHz	QPSK	1 RB, 49 RB Offest



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LTE Band 7 MODE

	AVAII ABLE	TESTED	CHANNE		
TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,24 RB Offest
EIRP	20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,49 RB Offest
EIRP	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
	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM, 64QAM	Full RB
OCCUPIED	20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM, 64QAM	Full RB
BANDWIDTH	20850 to 21375	20850, 21100, 21375	15MHz	QPSK, 16QAM, 64QAM	Full RB
	20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM, 64QAM	Full RB
	20775 to 21425	20775, 21100, 21425	5MHz	64QAM	Full RB
PEAK TO AVER-	20800 to 21400	20800, 21100, 21400	10MHz	64QAM	Full RB
AGE RATIO		20850, 21100, 21375		64QAM	Full RB
	20850 to 21350	20850, 21100, 21350	20MHz	64QAM	Full RB
	20775 to 21425	20775, 21100, 21425	5MHz	QPSK	1 RB/ 0,24 RB Offest Full RB
DAND EDGE	20800 to 21400	20800, 21100, 21400	10MHz	QPSK	1 RB/ 0,49 RB Offest Full RB
BAND EDGE	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
	20775 to 21425	20775, 21100, 21425	5MHz	QPSK	1 RB, 0 RB Offest
CONDUCTED	20800 to 21400	20800, 21100, 21400	10MHz	QPSK	1 RB, 0 RB Offest
EMISSION		20850, 21100, 21375		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
	20775 to 21425	20775, 21100, 21425	5MHz	QPSK	1 RB/ 0,24 RB Offest 25 RB/ 0 Offset
EMISSION MASK	20800 to 21400	20800, 21100, 21400	10MHz	QPSK	1 RB/ 0,49 RB Offest 50 RB/ 0 Offset
LIVIIOGION WASK	20850 to 21375	20850, 21100, 21375	15MHz	QPSK	1 RB/ 0,74 RB Offest 75 RB/ 0 Offset
	20850 to 21350	20850, 21100, 21350	20MHz	QPSK	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
	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,5 RB Offest
EDD		23025, 23095, 23165		QPSK, 16QAM, 64QAM	1 RB/ 0,14 RB Offest
ERP		23035, 23095, 23155		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
		23017, 23095, 23173		QPSK, 16QAM, 64QAM	Full RB
OCCUPIED	23025 to 23165	23025, 23095, 23165	3MHz	QPSK, 16QAM, 64QAM	Full RB
BANDWIDTH	23035 to 23155	23035, 23095, 23155	5MHz	QPSK, 16QAM, 64QAM	Full RB
		23060, 23095, 23130		QPSK, 16QAM, 64QAM	Full RB
	23017 to 23173	23017, 23095, 23173	1.4MHz	64QAM	Full RB
PEAK TO AV-	23025 to 23165	23025, 23095, 23165	3MHz	64QAM	Full RB
ERAGE RATIO	23035 to 23155	23035, 23095, 23155	5MHz	64QAM	Full RB
	23060 to 23130	23060, 23095, 23130	10MHz	64QAM	Full RB
	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
BAND EDGE	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
CONDCU-	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK	1 RB, 0 RB Offest
		23025, 23095, 23165		QPSK	1 RB, 0 RB Offest
DETED EMIS- SION	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

LIL Dalla 13 W	-				
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
LIXE	23230	23230	10MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,49 RB Offest
FREQUENCY STABILITY	23230	23230	10MHz	QPSK	Full RB
OCCUPIED	23205 to 23255	23205, 23230, 23255	5MHz	QPSK, 16QAM, 64QAM	Full RB
BANDWIDTH	23230	23230	10MHz	QPSK, 16QAM, 64QAM	Full RB
PEAK TO AV-	23205 to 23255	23205, 23230, 23255	5MHz	64QAM	Full RB
ERAGE RATIO	23230	23230	10MHz	64QAM	Full RB
DANID EDGE	23205 to 23255	23205, 23255	5MHz	QPSK	1 RB/ 0,24 RB Offest Full RB
BAND EDGE	23230	23230	10MHz	QPSK	1 RB/ 0,49 RB Offest Full RB
CONDCU-	23205 to 23255	23205, 23230, 23255	5MHz	QPSK	1 RB, 0 RB Offest
DETED EMIS- SION	23230	23230	10MHz	QPSK	1 RB, 0 RB Offest
RADIATED EMISSION	23205 to 23255	23205, 23230, 23255	5MHz	QPSK	1 RB, 25 RB Offest

LTF Band 17 MODE

LIE Ballu II IV	<u> </u>				
TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
ERP	23755 to 23825	23755, 23790, 23825	5MHz	QPSK, 16QAM, 64QAM	Offest
LINE	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	23755 to 23825	23755, 23790, 23825	5MHz	QPSK, 16QAM, 64QAM	Full RB
BANDWIDTH	23780 to 23800	23780, 23790, 23800	10MHz	QPSK, 16QAM, 64QAM	Full RB
PEAK TO AV-	23755 to 23825	23755, 23790, 23825	5MHz	64QAM	Full RB
ERAGE RATIO	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
BAND EDGE	23780 to 23800	23780, 23800	10MHz	QPSK	1 RB/ 0,49 RB Offest Full RB
CONDCU-	23755 to 23825	23755, 23790, 23825	5MHz	QPSK	1 RB, 0 RB Offest
DETED EMIS- SION	23780 to 23800	23780, 23790, 23800	10MHz	QPSK	1 RB, 0 RB Offest
RADIATED EMISSION	23780 to 23800	23780, 23800	10MHz	QPSK	1 RB, 49 RB Offest

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LTE Band 38 MODE

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

	9kHz – 30MHz: +/- 2.87 dB
Management up autainte	30MHz - 180MHz: +/- 3.37dB
Measurement uncertainty (Polarization : Vertical)	180MHz -417MHz: +/- 3.19dB
(1 SidilZdion : Voltical)	0.417GHz-1GHz: +/- 3.19dB
	1GHz - 18GHz: +/- 4.04dB
	18GHz - 40GHz: +/- 4.04dB

	9kHz – 30MHz: +/- 2.87 dB
Magaziramantunaantaintu	30MHz - 167MHz: +/- 4.22dB
Measurement uncertainty (Polarization : Horizontal)	167MHz -500MHz: +/- 3.44dB
(1 clarization : 11chizontal)	0.5GHz-1GHz: +/- 3.39dB
	1GHz - 18GHz: +/- 4.08dB
	18GHz - 40GHz: +/- 4.08dB

- 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 (a)

(3) for mobile and portable stations compliant with 3GPP LTE standards transmitting in the 2305-2315 MHz band or the 2350-2360 MHz band are limited to 250 mW/ 5MHz EIRP but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth.

FCC 27.50(c)

- (9) Control and mobile stations in the 698-746 MHz band are limited to 30 watts ERP.
- (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.
- (7) Mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band are limited to 2 watts EIRP.

FCC 27, 50(h)

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

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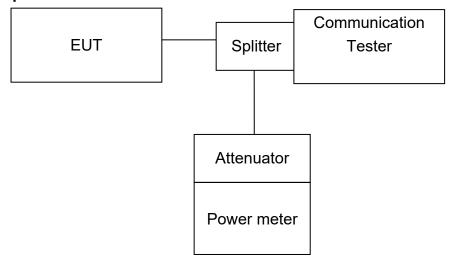
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6.2. Test Set-up



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 = PMeas + GT-LC

Where:

ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the

same units as PMeas, typically dBW or dBm);

= measured transmitter output power or PSD, in dBm or dBW; **PMeas** = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP) GT

LC = signal attenuation in the connecting cable between the transmitter and

antenna, in dB.2

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.
DC Power Supply	Agilent	E3640A	MY52410006	12/04/2018	12/03/2019
Radio Communica- tion Analyzer	Anritsu	MT8815B	6200711454	04/01/2019	03/31/2020
Radio Communica- tion Analyzer	Anritsu	MT8820C	6200995019	04/01/2019	03/31/2020

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6.6. Measurement Result **RF Conducted Output Power GSM/GPRS/EDGE MODE:**

GSM/GPRS/EDGE (GMSK; 8-PSK) Result:

EUT Mode	Freq. (MHz)	СН	Conducted Avg. Power (dBm)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
COM	824.2	128	32.46	-7.70	22.61	24.76	38.50	-13.74
GSM 850	836.6	190	32.68	-7.70	22.83	24.98	38.50	-13.52
030	848.8	251	32.51	-7.70	22.66	24.81	38.50	-13.69
0014	1850.2	512	29.40	-4.10	23.15	25.30	33.00	-7.70
GSM 1900	1880.0	661	29.32	-4.10	23.07	25.22	33.00	-7.78
1700	1909.8	810	29.41	-4.10	23.16	25.31	33.00	-7.69
CDDC	824.2	128	32.43	-7.70	22.58	24.73	38.50	-13.77
GPRS 850	836.6	190	32.65	-7.70	22.80	24.95	38.50	-13.55
030	848.8	251	32.48	-7.70	22.63	24.78	38.50	-13.72
CDDC	1850.2	512	29.33	-4.10	23.08	25.23	33.00	-7.77
GPRS 1900	1880.0	661	29.31	-4.10	23.06	25.21	33.00	-7.79
1700	1909.8	810	29.35	-4.10	23.10	25.25	33.00	-7.75

EUT Mode	Frequency (MHz)	СН	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)
CDDC	824.2	128	32.43	30.89	28.77	27.89
GPRS 850	836.6	190	32.65	30.75	28.92	27.88
000	848.8	251	32.48	30.58	28.76	27.68
CDDC	1850.2	512	29.33	27.53	25.85	24.65
GPRS 1900	1880.0	661	29.31	27.61	25.94	24.79
1700	1909.8	810	29.35	27.51	25.83	24.69

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WCDMA 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)	СН	Conducted Avg. Power (dBm)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
	1852.4	9262	22.42	-4.10	16.17	18.32	33.00	-14.68
WCDMA	1880.0	9400	22.50	-4.10	16.25	18.40	33.00	-14.60
	1907.6	9538	22.43	-4.10	16.18	18.33	33.00	-14.67
	1852.4	9262	21.46	-4.10	15.21	17.36	33.00	-15.64
HSDPA	1880.0	9400	21.53	-4.10	15.28	17.43	33.00	-15.57
	1907.6	9538	21.43	-4.10	15.18	17.33	33.00	-15.67
	1852.4	9262	21.36	-4.10	15.11	17.26	33.00	-15.74
HSUPA	1880.0	9400	21.51	-4.10	15.26	17.41	33.00	-15.59
	1907.6	9538	21.42	-4.10	15.17	17.32	33.00	-15.68

WCDMA/HSUPA/HSDPA Band IV Result:

EUT Mode	Freq. (MHz)	СН	Conducted Avg. Power (dBm)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
	1712.4	1312	22.46	-3.60	16.71	18.86	30.00	-11.14
WCDMA	1732.6	1413	22.43	-3.60	16.68	18.83	30.00	-11.17
	1752.6	1513	22.56	-3.60	16.81	18.96	30.00	-11.04
	1712.4	1312	21.41	-3.60	15.66	17.81	30.00	-12.19
HSDPA	1732.6	1413	21.42	-3.60	15.67	17.82	30.00	-12.18
	1752.6	1513	21.52	-3.60	15.77	17.92	30.00	-12.08
	1712.4	1312	21.42	-3.60	15.67	17.82	30.00	-12.18
HSUPA	1732.6	1413	21.45	-3.60	15.70	17.85	30.00	-12.15
	1752.6	1513	21.59	-3.60	15.84	17.99	30.00	-12.01

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WCDMA/HSUPA/HSDPA Band V Result:

EUT Mode	Freq. (MHz)	СН	Conducted Avg. Power (dBm)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
	826.4	4132	23.32	-7.70	13.47	15.62	38.50	-22.88
WCDMA	836.6	4183	23.39	-7.70	13.54	15.69	38.50	-22.81
	846.6	4233	23.34	-7.70	13.49	15.64	38.50	-22.86
	826.4	4132	22.35	-7.70	12.50	14.65	38.50	-23.85
HSDPA	836.6	4183	22.39	-7.70	12.54	14.69	38.50	-23.81
	846.6	4233	22.37	-7.70	12.52	14.67	38.50	-23.83
	826.4	4132	22.28	-7.70	12.43	14.58	38.50	-23.92
HSUPA	836.6	4183	22.35	-7.70	12.50	14.65	38.50	-23.85
	846.6	4233	22.33	-7.70	12.48	14.63	38.50	-23.87

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HSDPA 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: β values for transmitter characteristics tests with HS-DPCCH(FOR HSDPA)

Sub-test	βς	β _d	β _d (SF)	β_c/β_d	β _{HS} (Note1, 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 (HSDPA & HSUPA) Release 6 MODE

The following 5 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 C11.1.3 in the 3GPP TS34.121-1. RMC 12.2kps is used for this testing

HSPA SUB-TEST Setting

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

Sub- test	βε	βa	β _d (SF)	βс/βа	βнѕ	βес	βed	β _{ed} (SF)	β _{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	209/22 5	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	β _{ed} 1: 47/15 β _{ed} 2: 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					
	1031	9262.00	9400.00	9538.00			
	1	21.46	21.53	21.43			
HSDPA II	2	20.93	21.04	20.90			
HOUFAII	3	20.91	21.03	20.88			
	4	20.96	21.02	20.91			

Mode	Sub test	Avg. Power (dBm) Channel						
	1031	1312.00	1413.00	1513.00				
	1	21.41	21.42	21.52				
HSDPA IV	2	20.87	20.91	21.09				
HISDEAN	3	20.89	20.89	21.08				
	4	20.88	20.84	21.07				

	Ch	Avg. Power (dBm)						
Mode	Sub test	Channel						
	.001	4132.00	4183.00	4233.00				
	1	22.35	22.39	22.37				
HSDPA V	2	21.79	21.89	21.81				
IISUPA V	3	21.76	21.81	21.80				
	4	21.82	21.81	21.75				



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Mode	Sub test	Avg. Power (dBm) Channel						
	ισσι	9262.00	9400.00	9538.00				
	1	21.36	21.51	21.42				
	2	19.45	19.52	19.50				
HSUPA II	3	20.35	20.53	20.38				
	4	19.49	19.51	19.41				
	5	21.52	21.65	21.39				

Mode	Sub test	Avg. Power (dBm) Channel					
	1031	1312.00	1413.00	1513.00			
	1	21.42	21.45	21.59			
	2	19.45	19.43	19.08			
HSUPA IV	3	20.45	20.47	20.38			
	4	19.45	19.46	19.54			
	5	21.43	21.55	21.07			

	Cls	Avg. Power (dBm)							
Mode	Sub test		Channel						
	1031	4132.00	4183.00	4233.00					
	1	22.28	22.35	22.33					
	2	20.36	20.35	20.33					
HSUPA V	3	21.37	21.43	21.34					
	4	20.31	20.34	20.36					
	5	22.34	22.39	22.37					

WCDMA/HSDPA/HSUPA band II, IV, V

The EUT output power was controlled by simulator. Set Communication Tester MT8820C function key "UE Power Control" and enter max rated power 24dBm. The EUT is going to be set to max output power to 24dBm. Then record the read (see page 15 for measurement data). 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)	28.87	26.86	24.91	22.9	21.01	19.08	17.13	15.23	13.34

PCL	9	10	11	12	13	14	15
Output power (dBm)	11.31	9.23	7.46	5.63	3.64	1.89	-0.06

Note: The EUT output power was controlled by simulator. Set Communication Tester CMU 200 PCL as above, and get the mobile phone output power reading.

WCDMA/HSDPA/HSUPA band V

The EUT output power was controlled by simulator. Set Communication Tester MT8820C function key "UE Power Control" and enter max rated power 24dBm. The EUT is going to be set to max output power to 24dBm. Then record the read (see page 15 for measurement data). 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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LTE Result:

Antenna gain (dRi)

Tuitoilla	gain (dBi)	-4.1 L	TE Band 2_U	plink fr	equency band	l : 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	0	22.47	18.37	33	-14.63
	18607	1850.7	QPSK	1	5	22.24	18.14	33	-14.86
	10007	1030.7	QF3K	3	2	22.15	18.05	33	-14.95
				6	0	21.15	17.05	33	-15.95
				1	0	22.49	18.39	33	-14.61
	18900	1880	QPSK	1	5	22.03	17.93	33	-15.07
	10700	1000	QLSK	3	2	21.92	17.82	33	-15.18
				6	0	21.16	17.06	33	-15.94
				1	0	22.30	18.20	33	-14.8
	19193	1909.3	QPSK	1	5	22.32	18.22	33	-14.78
	17173	1707.5	Q1 310	3	2	22.14	18.04	33	-14.96
	18607 1850.7		6	0	21.20	17.10	33	-15.9	
		16QAM	1	0	21.21	17.11	33	-15.89	
			1	5	21.16	17.06	33	-15.94	
		1000.7	TOQAW	3	2	20.96	16.86	33	-16.14
				6	0	20.12	16.02	33	-16.98
			16QAM	1	0	21.08	16.98	33	-16.02
1.4	18900	1880		1	5	20.92	16.82	33	-16.18
1.4	10700	1000		3	2	20.97	16.87	33	-16.13
				6	0	20.12	16.02	33	-16.98
				1	0	21.30	17.20	33	-15.8
	19193	1909.3	16QAM	1	5	21.16	17.06	33	-15.94
	17173	1707.3	TOQAIVI	3	2	20.89	16.79	33	-16.21
				6	0	20.29	16.19	33	-16.81
				1	0	20.43	16.33	33	-16.67
	18607	1850.7	64QAM	1	5	20.38	16.28	33	-16.72
	10007	1030.7	OTCAIVI	3	2	20.17	16.07	33	-16.93
				6	0	19.63	15.53	33	-17.47
				1	0	20.11	16.01	33	-16.99
	18900	1880	64QAM	1	5	20.34	16.24	33	-16.76
	18900 1880	1000	64QAIVI	3	2	20.14	16.04	33	-16.96
				6	0	19.55	15.45	33	-17.55
				1	0	20.36	16.26	33	-16.74
	19193	1909.3	64QAM	1	5	20.31	16.21	33	-16.79
	17173	1707.3	OTUAIN	3	2	20.08	15.98	33	-17.02
				6	0	19.61	15.51	33	-17.49

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Antenna gain (dRi)

, unconnia	gain (dBi)	-4.1 L	TE Band 2_U	plink fr	equency 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	0	22.32	18.22	33	-14.78
	10/15	10E1 E	QPSK	1	14	22.08	17.98	33	-15.02
	18615	1851.5	UPSK	8	4	21.46	17.36	33	-15.64
				15	0	21.16	17.06	33	-15.94
				1	0	22.49	18.39	33	-14.61
	18900	1880	QPSK	1	14	22.31	18.21	33	-14.79
	10900	1000	UPSK	8	4	21.51	17.41	33	-15.59
				15	0	21.27	17.17	33	-15.83
				1	0	22.24	18.14	33	-14.86
	19185	1908.5	QPSK	1	14	22.04	17.94	33	-15.06
	19100	1908.5	UPSK	8	4	21.42	17.32	33	-15.68
				15	0	21.18	17.08	33	-15.92
		1	0	21.54	17.44	33	-15.56		
	18615 1851.5	140011	1	14	21.31	17.21	33	-15.79	
		1851.5	16QAM	8	4	20.38	16.28	33	-16.72
				15	0	20.15	16.05	33	-16.95
			16QAM	1	0	21.58	17.48	33	-15.52
3	10000	1880		1	14	21.40	17.30	33	-15.7
3	18900	1880		8	4	20.44	16.34	33	-16.66
				15	0	20.25	16.15	33	-16.85
				1	0	21.43	17.33	33	-15.67
	19185	1908.5	16QAM	1	14	21.39	17.29	33	-15.71
	19100	1908.5	TOQAW	8	4	20.35	16.25	33	-16.75
				15	0	20.30	16.20	33	-16.8
				1	0	21.03	16.93	33	-16.07
	10/15	1051 5	/ 40 A N A	1	14	20.67	16.57	33	-16.43
	18615	1851.5	64QAM	8	4	19.89	15.79	33	-17.21
				15	0	19.56	15.46	33	-17.54
				1	0	21.01	16.91	33	-16.09
	10000	1000	/ 4 O A B A	1	14	20.77	16.67	33	-16.33
18900 1880	1880	64QAM	8	4	19.90	15.80	33	-17.2	
				15	0	19.68	15.58	33	-17.42
				1	0	20.96	16.86	33	-16.14
	10105	1000 5	(4000	1	14	20.82	16.72	33	-16.28
	19185	1908.5	64QAM	8	4	19.79	15.69	33	-17.31
			15	0	19.72	15.62	33	-17.38	

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Antenna	gain (dBi)	-4.1	TE Dand 2 II	nlink fr	oguoney band	: 1850 to 1910	MUz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
	18625	1852.5	QPSK	1	0	22.25	18.15	33	-14.85
				1	24	22.05	17.95	33	-15.05
				12	6	21.53	17.43	33	-15.57
				25	0	21.15	17.05	33	-15.95
		1880	QPSK	1	0	22.43	18.33	33	-14.67
	10000			1	24	22.30	18.20	33	-14.8
	18900			12	6	21.56	17.46	33	-15.54
				25	0	21.25	17.15	33	-15.85
	19175	1907.5	QPSK	1	0	22.23	18.13	33	-14.87
				1	24	22.13	18.03	33	-14.97
				12	6	21.37	17.27	33	-15.73
				25	0	21.17	17.07	33	-15.93
		1852.5	16QAM	1	0	21.58	17.48	33	-15.52
	18625			1	24	21.31	17.21	33	-15.79
				12	6	20.37	16.27	33	-16.73
				25	0	20.17	16.07	33	-16.93
	18900	1880	16QAM	1	0	21.58	17.48	33	-15.52
5				1	24	21.34	17.24	33	-15.76
				12	6	20.44	16.34	33	-16.66
				25	0	20.22	16.12	33	-16.88
	19175	1907.5	16QAM	1	0	21.44	17.34	33	-15.66
				1	24	21.33	17.23	33	-15.77
				12	6	20.32	16.22	33	-16.78
				25	0	20.23	16.13	33	-16.87
	18625	1852.5	64QAM	1	0	21.05	16.95	33	-16.05
				1	24	20.72	16.62	33	-16.38
				12	6	19.80	15.70	33	-17.3
				25	0	19.57	15.47	33	-17.53
	18900	1880	64QAM	1	0	21.00	16.90	33	-16.1
				1	24	20.77	16.67	33	-16.33
				12	6	19.99	15.89	33	-17.11
				25	0	19.60	15.50	33	-17.5
		1907.5	64QAM	1	0	20.92	16.82	33	-16.18
	19175			1	24	20.83	16.73	33	-16.27
	171/3			12	6	19.79	15.69	33	-17.31
				25	0	19.65	15.55	33	-17.45



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Antenna gain (dRi)

		L	TE Band 2_U	plink fre	equency band	l: 1850 to 1910	MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margii (dB)
10	18650	1855	QPSK	1	0	22.28	18.18	33	-14.82
				1	49	22.11	18.01	33	-14.9
				25	12	21.52	17.42	33	-15.5
				50	0	21.21	17.11	33	-15.8
	18900	1880	QPSK	1	0	22.45	18.35	33	-14.6
				1	49	22.33	18.23	33	-14.7
				25	12	21.54	17.44	33	-15.5
				50	0	21.27	17.17	33	-15.8
	19150	1905	QPSK	1	0	22.29	18.19	33	-14.8
				1	49	22.05	17.95	33	-15.0
				25	12	21.44	17.34	33	-15.6
				50	0	21.19	17.09	33	-15.9
			16QAM	1	0	21.48	17.38	33	-15.6
	18650	1855		1	49	21.30	17.20	33	-15.
				25	12	20.30	16.20	33	-16.
				50	0	20.20	16.10	33	-16.9
	18900	1880	16QAM	1	0	21.59	17.49	33	-15.5
				1	49	21.40	17.30	33	-15.
				25	12	20.51	16.41	33	-16.5
				50	0	20.26	16.16	33	-16.8
	19150	1905	16QAM	1	0	21.47	17.37	33	-15.6
				1	49	21.32	17.22	33	-15.7
				25	12	20.35	16.25	33	-16.7
				50	0	20.23	16.13	33	-16.8
	18650	1855	64QAM	1	0	21.05	16.95	33	-16.0
				1	49	20.68	16.58	33	-16.4
				25	12	19.80	15.70	33	-17.:
				50	0	19.55	15.45	33	-17.5
	18900	1880	64QAM	1	0	21.02	16.92	33	-16.0
				1	49	20.81	16.71	33	-16.2
				25	12	19.98	15.88	33	-17.1
				50	0	19.60	15.50	33	-17.
	19150	1905	64QAM	1	0	20.95	16.85	33	-16.1
				1	49	20.83	16.73	33	-16.2
				25	12	19.76	15.66	33	-17.3
				50	0	19.71	15.61	33	-17.3

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Antenna	gain (dBi)	-4.1	TE Donal 2 II	سائسار 4س		. 10F0 to 1010	NALL-		
		L	TE Band 2_U	piink tr	equency band	: 1850 to 1910	MIHZ EIRP	EIRP	
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	Average (dBm)	Limit (dBm)	Margin (dB)
				1	0	22.24	18.14	33	-14.86
	40/75	4057.5	ODOV	1	74	22.02	17.92	33	-15.08
	18675	1857.5	QPSK	36	18	21.50	17.40	33	-15.6
				75	0	21.23	17.13	33	-15.87
				1	0	22.44	18.34	33	-14.66
	10000	1000	ODCK	1	74	22.29	18.19	33	-14.81
	18900	1880	QPSK	36	18	21.50	17.40	33	-15.6
				75	0	21.26	17.16	33	-15.84
				1	0	22.26	18.16	33	-14.84
	19125	1902.5	QPSK	1	74	22.13	18.03	33	-14.97
	19125	1902.5	QPSK	36	18	21.43	17.33	33	-15.67
				75	0	21.10	17.00	33	-16
				1	0	21.56	17.46	33	-15.54
	18675 1857.5	16QAM	1	74	21.36	17.26	33	-15.74	
		1837.3	TOQAWI	36	18	20.33	16.23	33	-16.77
				75	0	20.18	16.08	33	-16.92
			1	0	21.56	17.46	33	-15.54	
15	18900	1880	16QAM	1	74	21.39	17.29	33	-15.71
13	10900	1000	TOQAIVI	36	18	20.42	16.32	33	-16.68
				75	0	20.26	16.16	33	-16.84
				1	0	21.48	17.38	33	-15.62
	19125	1902.5	16QAM	1	74	21.38	17.28	33	-15.72
	19125	1902.3	TOQAIVI	36	18	20.41	16.31	33	-16.69
				75	0	20.22	16.12	33	-16.88
				1	0	21.03	16.93	33	-16.07
	18675	1857.5	64QAM	1	74	20.70	16.60	33	-16.4
	10073	1007.0	04QAIVI	36	18	19.86	15.76	33	-17.24
				75	0	19.61	15.51	33	-17.49
				1	0	21.05	16.95	33	-16.05
	18900	1880	64QAM	1	74	20.78	16.68	33	-16.32
	10700	1000	04QAIVI	36	18	19.91	15.81	33	-17.19
				75	0	19.63	15.53	33	-17.47
				1	0	20.91	16.81	33	-16.19
	19125	1902.5	64QAM	1	74	20.83	16.73	33	-16.27
	17120	1702.3	04QAIVI	36	18	19.75	15.65	33	-17.35
				75	0	19.67	15.57	33	-17.43

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Antenna gain (dBi) -4 1

Antenna	Antenna gain (dBi) -4.1 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	0	22.53	18.43	33	-14.57					
	18700	1860	QPSK	1	99	22.22	18.12	33	-14.88					
	10700	1000	QI SIX	50	25	21.63	17.53	33	-15.47					
				100	0	21.35	17.25	33	-15.75					
				1	0	22.69	18.59	33	-14.41					
	18900	1880	QPSK	1	99	22.48	18.38	33	-14.62					
	10700	1000	QI SIX	50	25	21.67	17.57	33	-15.43					
				100	0	21.35	17.25	33	-15.75					
				1	0	22.42	18.32	33	-14.68					
	19100	1900	QPSK	1	99	22.24	18.14	33	-14.86					
	19100	1900	QF3K	50	25	21.57	17.47	33	-15.53					
				100	0	21.30	17.20	33	-15.8					
				1	0	21.68	17.58	33	-15.42					
	10700	1040	16QAM	1	99	21.46	17.36	33	-15.64					
	18700 1860	1000	TOQAWI	50	25	20.49	16.39	33	-16.61					
				100	0	20.31	16.21	33	-16.79					
				1	0	21.71	17.61	33	-15.39					
20	18900	1880	16QAM	1	99	21.52	17.42	33	-15.58					
20	10900	1000	TOQAW	50	25	20.62	16.52	33	-16.48					
				100	0	20.36	16.26	33	-16.74					
				1	0	21.61	17.51	33	-15.49					
	19100	1900	16QAM	1	99	21.50	17.40	33	-15.6					
	19100	1900	TOQAW	50	25	20.51	16.41	33	-16.59					
				100	0	20.41	16.31	33	-16.69					
				1	0	21.18	17.08	33	-15.92					
	18700	1040	440AM	1	99	20.86	16.76	33	-16.24					
	18700	1860	64QAM	50	25	19.99	15.89	33	-17.11					
				100	0	19.74	15.64	33	-17.36					
				1	0	21.16	17.06	33	-15.94					
	10000	1000	44000	1	99	20.92	16.82	33	-16.18					
	18900	1880	64QAM	50	25	20.09	15.99	33	-17.01					
				100	0	19.80	15.70	33	-17.3					
				1	0	21.10	17.00	33	-16					
	10100	1000	4 A O A B A	1	99	21.00	16.90	33	-16.1					
	19100	1900	64QAM	50	25	19.92	15.82	33	-17.18					
				100	0	19.83	15.73	33	-17.27					

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Antenna gain (dRi)

Antenna	gain (dBi)	-3.6	TE Band 4_U	plink f	frequenc	cy 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	0	21.73	18.13	30	-11.87
	19957	1710.7	QPSK	1	5	21.38	17.78	30	-12.22
	19907	1710.7	QPSK	3	2	21.57	17.97	30	-12.03
				6	0	20.97	17.37	30	-12.63
				1	0	21.77	18.17	30	-11.83
	20175	1732.5	QPSK	1	5	21.35	17.75	30	-12.25
	20175	1732.3	UPSK	3	2	21.40	17.80	30	-12.2
				6	0	21.21	17.61	30	-12.39
				1	0	21.73	18.13	30	-11.87
	20393	1754.3	QPSK	1	5	21.70	18.10	30	-11.9
	20393	1704.5	UPSK	3	2	21.38	17.78	30	-12.22
				6	0	21.13	17.53	30	-12.47
				1	0	21.18	17.58	30	-12.42
	19957	1710.7	16QAM	1	5	21.02	17.42	30	-12.58
	19907	1710.7		3	2	20.88	17.28	30	-12.72
				6	0	20.32	16.72	30	-13.28
			16QAM	1	0	21.26	17.66	30	-12.34
1.4	20175	1732.5		1	5	21.10	17.50	30	-12.5
1.4	20175	1732.3	TOQAW	3	2	20.81	17.21	30	-12.79
				6	0	20.44	16.84	30	-13.16
				1	0	21.14	17.54	30	-12.46
	20393	1754.3	16QAM	1	5	21.21	17.61	30	-12.39
	20393	1704.5	TOQAW	3	2	20.70	17.10	30	-12.9
				6	0	20.32	16.72	30	-13.28
				1	0	20.25	16.65	30	-13.35
	19957	1710.7	440011	1	5	20.36	16.76	30	-13.24
	19907	1710.7	64QAM	3	2	20.01	16.41	30	-13.59
				6	0	19.57	15.97	30	-14.03
				1	0	20.43	16.83	30	-13.17
	20175	1732.5	61001	1	5	20.40	16.80	30	-13.2
	20175	1/32.5	64QAM	3	2	20.03	16.43	30	-13.57
				6	0	19.48	15.88	30	-14.12
				1	0	20.36	16.76	30	-13.24
ı	20202	17549	610011	1	5	20.14	16.54	30	-13.46
	20393	1754.3	64QAM	3	2	20.08	16.48	30	-13.52
				6	0	19.64	16.04	30	-13.96

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чиенна	gain (dBi)	-3.6 L	TE Band 4_U	lplink 1	requenc	cy 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	0	21.68	18.08	30	-11.92
	19965	1711.5	QPSK	1	14	21.39	17.79	30	-12.21
	19900	1711.3	QPSK	8	4	21.41	17.81	30	-12.19
				15	0	21.10	17.50	30	-12.5
				1	0	21.82	18.22	30	-11.78
	20175	1732.5	QPSK	1	14	21.58	17.98	30	-12.02
	20175	1732.3	UPSK	8	4	21.38	17.78	30	-12.22
				15	0	21.15	17.55	30	-12.45
				1	0	21.76	18.16	30	-11.84
	20385	1753.5	QPSK	1	14	21.55	17.95	30	-12.05
	20363	1/00.0	UPSK	8	4	21.41	17.81	30	-12.19
				15	0	21.26	17.66	30	-12.34
				1	0	20.98	17.38	30	-12.62
19965	1711.5	16QAM	1	14	20.58	16.98	30	-13.02	
	19900	1/11.5	TOQAWI	8	4	20.35	16.75	30	-13.25
				15	0	20.09	16.49	30	-13.51
			16QAM	1	0	20.86	17.26	30	-12.74
2	20175	1722 F		1	14	21.10	17.50	30	-12.5
3	20175	1732.5	16QAW	8	4	20.41	16.81	30	-13.19
				15	0	20.18	16.58	30	-13.42
				1	0	21.15	17.55	30	-12.45
	20205	1750 5	1/0414	1	14	20.85	17.25	30	-12.75
	20385	1753.5	16QAM	8	4	20.41	16.81	30	-13.19
				15	0	20.21	16.61	30	-13.39
				1	0	20.39	16.79	30	-13.21
	100/5	4744.5	(4 0 4 1 4	1	14	19.98	16.38	30	-13.62
	19965	1711.5	64QAM	8	4	19.81	16.21	30	-13.79
				15	0	19.55	15.95	30	-14.05
				1	0	20.32	16.72	30	-13.28
	00475	4700 5	(40.004	1	14	20.55	16.95	30	-13.05
	20175	1732.5	64QAM	8	4	19.83	16.23	30	-13.77
				15	0	19.59	15.99	30	-14.01
				1	0	20.55	16.95	30	-13.05
	20225	1750 5	(40.004	1	14	20.26	16.66	30	-13.34
	20385	5 1753.5	64QAM	8	4	19.88	16.28	30	-13.72
				15	0	19.70	16.10	30	-13.9

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Antenna	gain (dBi)	-3.6	TE Dand 4 U	امانمادا	fromier	w hand . 1710	to 1755 MII-		
		L	TE Band 4_U	piink	requend	cy band : 1710 Conducted	EIRP	EIRP	
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Average (dBm)	Average (dBm)	Limit (dBm)	Margin (dB)
				1	0	21.71	18.11	30	-11.89
				1	24	21.33	17.73	30	-12.27
	19975	1712.5	QPSK	12	6	21.43	17.83	30	-12.17
				25	0	21.13	17.53	30	-12.47
				1	0	21.78	18.18	30	-11.82
	20175	1700 5	ODCK	1	24	21.57	17.97	30	-12.03
	20175	1732.5	QPSK	12	6	21.35	17.75	30	-12.25
				25	0	21.08	17.48	30	-12.52
				1	0	21.78	18.18	30	-11.82
	20375	1750 5	QPSK	1	24	21.62	18.02	30	-11.98
	20375	1752.5	QP3K	12	6	21.40	17.80	30	-12.2
				25	0	21.26	17.66	30	-12.34
			16QAM	1	0	20.91	17.31	30	-12.69
	19975	1712.5		1	24	20.55	16.95	30	-13.05
	19975	1712.5		12	6	20.39	16.79	30	-13.21
				25	0	20.08	16.48	30	-13.52
			16QAM	1	0	20.78	17.18	30	-12.82
5	20175	1732.5		1	24	21.06	17.46	30	-12.54
3	20175	1732.3	TOQAW	12	6	20.41	16.81	30	-13.19
				25	0	20.13	16.53	30	-13.47
				1	0	21.06	17.46	30	-12.54
	20375	1752.5	16QAM	1	24	20.83	17.23	30	-12.77
	20373	1732.3	TOQAW	12	6	20.44	16.84	30	-13.16
				25	0	20.23	16.63	30	-13.37
				1	0	20.44	16.84	30	-13.16
	19975	1712.5	64QAM	1	24	20.02	16.42	30	-13.58
	17773	1712.3	04QAIVI	12	6	19.80	16.20	30	-13.8
				25	0	19.57	15.97	30	-14.03
				1	0	20.32	16.72	30	-13.28
	20175	1732.5	64QAM	1	24	20.50	16.90	30	-13.1
	20175	1732.0	UHUMIVI	12	6	19.77	16.17	30	-13.83
				25	0	19.59	15.99	30	-14.01
				1	0	20.52	16.92	30	-13.08
	20375	1752.5	64QAM	1	24	20.34	16.74	30	-13.26
	20373	1732.3	UTQAW	12	6	19.88	16.28	30	-13.72
				25	0	19.67	16.07	30	-13.93

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Antonna gain (dRi)

antenna	gain (dBi)	-3.6 L	TE Band 4 U	lplink 1	frequenc	cy 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	0	21.69	18.09	30	-11.91
	20000	1715	QPSK	1	49	21.40	17.80	30	-12.2
	20000	1713	QPSK	25	12	21.37	17.77	30	-12.23
				50	0	21.10	17.50	30	-12.5
				1	0	21.84	18.24	30	-11.76
	20175	1732.5	QPSK	1	49	21.61	18.01	30	-11.99
	20175	1732.3	QPSK	25	12	21.38	17.78	30	-12.22
				50	0	21.15	17.55	30	-12.45
				1	0	21.72	18.12	30	-11.88
	20375	1750	QPSK	1	49	21.58	17.98	30	-12.02
	20373	1750	QPSK	25	12	21.41	17.81	30	-12.19
				50	0	21.28	17.68	30	-12.32
			16QAM	1	0	20.96	17.36	30	-12.64
	20000	1715		1	49	20.53	16.93	30	-13.07
	20000	1715		25	12	20.33	16.73	30	-13.27
				50	0	20.04	16.44	30	-13.56
			16QAM	1	0	20.84	17.24	30	-12.76
10	20175	1700 F		1	49	21.04	17.44	30	-12.56
10	20175	1732.5	16QAW	25	12	20.40	16.80	30	-13.2
				50	0	20.14	16.54	30	-13.46
				1	0	21.10	17.50	30	-12.5
	20275	1750	1/0414	1	49	20.83	17.23	30	-12.77
	20375	1750	16QAM	25	12	20.46	16.86	30	-13.14
				50	0	20.19	16.59	30	-13.41
				1	0	20.43	16.83	30	-13.17
	20000	4745	(40 414	1	49	19.97	16.37	30	-13.63
	20000	1715	64QAM	25	12	19.80	16.20	30	-13.8
				50	0	19.57	15.97	30	-14.03
				1	0	20.30	16.70	30	-13.3
	20175	1700 5	(4 🔾 Δ Δ Δ	1	49	20.47	16.87	30	-13.13
	20175	1732.5	64QAM	25	12	19.74	16.14	30	-13.86
				50	0	19.58	15.98	30	-14.02
				1	0	20.52	16.92	30	-13.08
	20275	1750	/ 40 A A A	1	49	20.26	16.66	30	-13.34
	20375	1750	64QAM	25	12	19.94	16.34	30	-13.66
				50	0	19.69	16.09	30	-13.91

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Antenna	gain (dBi)	-3.6	TE Band 4 _. U	plink f	requenc	cy 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	0	21.74	18.14	30	-11.86
	20025	1717.5	QPSK	1	74	21.39	17.79	30	-12.21
	20023	1717.3	UPSK	36	18	21.35	17.75	30	-12.25
				75	0	21.11	17.51	30	-12.49
				1	0	21.80	18.20	30	-11.8
	20175	1732.5	QPSK	1	74	21.59	17.99	30	-12.01
	20175	1732.3	UPSK	36	18	21.33	17.73	30	-12.27
				75	0	21.13	17.53	30	-12.47
				1	0	21.79	18.19	30	-11.81
	20325	1747.5	QPSK	1	74	21.62	18.02	30	-11.98
	20323	1747.3	QPSK	36	18	21.35	17.75	30	-12.25
				75	0	21.24	17.64	30	-12.36
	20025 1717.5		16QAM	1	0	20.94	17.34	30	-12.66
		1717 E		1	74	20.60	17.00	30	-13
	20025	1717.5		36	18	20.34	16.74	30	-13.26
				75	0	20.10	16.50	30	-13.5
			16QAM	1	0	20.87	17.27	30	-12.73
15	20175	1732.5		1	74	21.10	17.50	30	-12.5
13	20175	1732.3	TOQAW	36	18	20.35	16.75	30	-13.25
				75	0	20.14	16.54	30	-13.46
				1	0	21.15	17.55	30	-12.45
	20325	1747.5	140011	1	74	20.86	17.26	30	-12.74
	20325	1/4/.5	16QAM	36	18	20.46	16.86	30	-13.14
				75	0	20.23	16.63	30	-13.37
				1	0	20.44	16.84	30	-13.16
	20025	1717 E	440011	1	74	19.98	16.38	30	-13.62
	20023	1717.5	64QAM	36	18	19.80	16.20	30	-13.8
				75	0	19.61	16.01	30	-13.99
				1	0	20.32	16.72	30	-13.28
	20175	1722 E	440011	1	74	20.56	16.96	30	-13.04
	20175	1732.5	64QAM	36	18	19.80	16.20	30	-13.8
				75	0	19.59	15.99	30	-14.01
				1	0	20.49	16.89	30	-13.11
İ	20225	17 <i>1</i> 7 F	440011	1	74	20.28	16.68	30	-13.32
İ	20325	1747.5	64QAM	36	18	19.88	16.28	30	-13.72
				75	0	19.71	16.11	30	-13.89

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Antenna gain (dRi) -36

Antonia	gain (dBi)	-3.6 L	TE Band 4_U	lplink f	requenc	cy 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	0	21.85	18.25	30	-11.75
	20050	1720	QPSK	1	99	21.53	17.93	30	-12.07
	20030	1720	QPSK	50	25	21.54	17.94	30	-12.06
				100	0	21.24	17.64	30	-12.36
				1	0	21.97	18.37	30	-11.63
	20175	1732.5	QPSK	1	99	21.71	18.11	30	-11.89
	20173	1732.3	QPSK	50	25	21.50	17.90	30	-12.1
				100	0	21.28	17.68	30	-12.32
				1	0	21.91	18.31	30	-11.69
	20300	1745	QPSK	1	99	21.75	18.15	30	-11.85
	20300	1743	UPSK	50	25	21.55	17.95	30	-12.05
				100	0	21.40	17.80	30	-12.2
			16QAM	1	0	21.10	17.50	30	-12.5
200	20050	1720		1	99	20.72	17.12	30	-12.88
	20030	1720		50	25	20.53	16.93	30	-13.07
				100	0	20.23	16.63	30	-13.37
		1732.5	16QAM	1	0	20.98	17.38	30	-12.62
20	20175			1	99	21.23	17.63	30	-12.37
20	20175	1732.3		50	25	20.52	16.92	30	-13.08
				100	0	20.32	16.72	30	-13.28
				1	0	21.25	17.65	30	-12.35
	20300	1745	16QAM	1	99	20.99	17.39	30	-12.61
	20300	1743	TOQAW	50	25	20.61	17.01	30	-12.99
				100	0	20.37	16.77	30	-13.23
				1	0	20.59	16.99	30	-13.01
	20050	1720	64QAM	1	99	20.13	16.53	30	-13.47
	20030	1720	04QAIVI	50	25	19.95	16.35	30	-13.65
				100	0	19.73	16.13	30	-13.87
				1	0	20.45	16.85	30	-13.15
	20175	1722 E	440011	1	99	20.67	17.07	30	-12.93
	20175	1732.5	64QAM	50	25	19.94	16.34	30	-13.66
			_	100	0	19.76	16.16	30	-13.84
				1	0	20.66	17.06	30	-12.94
	20300	1745	64000	1	99	20.45	16.85	30	-13.15
	20300	1740	64QAM	50	25	20.04	16.44	30	-13.56
				100	0	19.83	16.23	30	-13.77

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Antonna gain (dRi)

Antenna	gain (dBi)	-7.7	LTE Ban	d 5 Up	link freguency	/ 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	0	23.04	13.19	15.34	38.45	-23.11
	20407	824.7	QPSK	1	5	23.09	13.24	15.39	38.45	-23.06
	20407	024.7	QF 3K	3	2	22.83	12.98	15.13	38.45	-23.32
				6	0	21.93	12.08	14.23	38.45	-24.22
				1	0	23.03	13.18	15.33	38.45	-23.12
	20525	836.5	QPSK	1	5	23.09	13.24	15.39	38.45	-23.06
	20020	030.3	QF 3K	3	2	22.82	12.97	15.12	38.45	-23.33
				6	0	21.95	12.10	14.25	38.45	-24.2
				1	0	23.12	13.27	15.42	38.45	-23.03
	20643	848.3	QPSK	1	5	23.14	13.29	15.44	38.45	-23.01
	20043	040.3	QF3K	3	2	22.81	12.96	15.11	38.45	-23.34
				6	0	22.07	12.22	14.37	38.45	-24.08
				1	0	22.08	12.23	14.38	38.45	-24.07
	20407	824.7	16QAM	1	5	21.91	12.06	14.21	38.45	-24.24
	20407	024.7	TOQAIVI	3	2	22.04	12.19	14.34	38.45	-24.11
				6	0	20.95	11.10	13.25	38.45	-25.2
				1	0	22.21	12.36	14.51	38.45	-23.94
1.4	20525	836.5	16QAM	1	5	22.04	12.19	14.34	38.45	-24.11
1.4	20020	030.3	TOQAIVI	3	2	22.47	12.62	14.77	38.45	-23.68
				6	0	21.21	11.36	13.51	38.45	-24.94
				1	0	22.29	12.44	14.59	38.45	-23.86
	20643	848.3	16QAM	1	5	21.97	12.12	14.27	38.45	-24.18
	20043	040.3	TOQAIVI	3	2	22.34	12.49	14.64	38.45	-23.81
				6	0	20.90	11.05	13.20	38.45	-25.25
				1	0	21.18	11.33	13.48	38.45	-24.97
	20407	824.7	64QAM	1	5	20.95	11.10	13.25	38.45	-25.2
	20407	024.7	04QAIVI	3	2	20.86	11.01	13.16	38.45	-25.29
				6	0	19.82	9.97	12.12	38.45	-26.33
				1	0	21.07	11.22	13.37	38.45	-25.08
	20525	836.5	64QAM	1	5	20.92	11.07	13.22	38.45	-25.23
	20020	030.3	04QAIVI	3	2	20.99	11.14	13.29	38.45	-25.16
				6	0	19.97	10.12	12.27	38.45	-26.18
				1	0	21.17	11.32	13.47	38.45	-24.98
	20642	040.5	64QAM	1	5	20.99	11.14	13.29	38.45	-25.16
	20643 848.3	04QAIVI	3	2	20.92	11.07	13.22	38.45	-25.23	
				6	0	19.81	9.96	12.11	38.45	-26.34



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Antenna	gain (dBi)	-7.7	LTE Ban	d 5_Up	link 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	0	23.03	13.18	15.33	38.45	-23.12
	20415	825.5	QPSK	1	14	23.12	13.27	15.42	38.45	-23.03
	20415	023.3	QF3K	8	4	22.07	12.22	14.37	38.45	-24.08
				15	0	21.91	12.06	14.21	38.45	-24.24
				1	0	23.08	13.23	15.38	38.45	-23.07
	20525	836.5	QPSK	1	14	23.08	13.23	15.38	38.45	-23.07
	20323	030.3	QI SIX	8	4	22.14	12.29	14.44	38.45	-24.01
				15	0	22.00	12.15	14.30	38.45	-24.15
				1	0	23.03	13.18	15.33	38.45	-23.12
	20635	847.5	QPSK	1	14	22.99	13.14	15.29	38.45	-23.16
	20033	047.3	QISK	8	4	22.05	12.20	14.35	38.45	-24.1
				15	0	21.93	12.08	14.23	38.45	-24.22
			16QAM	1	0	22.10	12.25	14.40	38.45	-24.05
	20415	825.5		1	14	22.13	12.28	14.43	38.45	-24.02
	20413	023.3		8	4	21.08	11.23	13.38	38.45	-25.07
				15	0	20.88	11.03	13.18	38.45	-25.27
				1	0	22.58	12.73	14.88	38.45	-23.57
3	20525	836.5	16QAM	1	14	22.38	12.53	14.68	38.45	-23.77
3	20323	030.3	TOQAW	8	4	21.06	11.21	13.36	38.45	-25.09
				15	0	20.92	11.07	13.22	38.45	-25.23
				1	0	22.52	12.67	14.82	38.45	-23.63
	20635	847.5	16QAM	1	14	22.33	12.48	14.63	38.45	-23.82
	20033	047.3	TOQAW	8	4	21.08	11.23	13.38	38.45	-25.07
				15	0	20.88	11.03	13.18	38.45	-25.27
				1	0	21.26	11.41	13.56	38.45	-24.89
	20415	825.5	64QAM	1	14	21.32	11.47	13.62	38.45	-24.83
	20413	023.3	U4QAIVI	8	4	20.20	10.35	12.50	38.45	-25.95
				15	0	19.99	10.14	12.29	38.45	-26.16
				1	0	21.77	11.92	14.07	38.45	-24.38
	20525	836.5	64QAM	1	14	21.55	11.70	13.85	38.45	-24.6
	20020	030.5	UTUAIVI	8	4	20.31	10.46	12.61	38.45	-25.84
				15	0	20.07	10.22	12.37	38.45	-26.08
	20635 847.5 64QA		1	0	21.61	11.76	13.91	38.45	-24.54	
		(4000	1	14	21.51	11.66	13.81	38.45	-24.64	
		04QAIVI	8	4	20.20	10.35	12.50	38.45	-25.95	
				15	0	20.05	10.20	12.35	38.45	-26.1

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Antenna gain (c	dBi) -7.7
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Antenna	yairi (ubi)	-7.7	LTE Ban	d 5 Up	link 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	0	22.95	13.10	15.25	38.45	-23.2
	20425	826.5	QPSK	1	24	23.18	13.33	15.48	38.45	-22.97
	20423	020.3	QF3K	12	6	22.07	12.22	14.37	38.45	-24.08
				25	0	21.83	11.98	14.13	38.45	-24.32
				1	0	23.15	13.30	15.45	38.45	-23
	20525	836.5	QPSK	1	24	23.01	13.16	15.31	38.45	-23.14
	20020	030.3	QF3K	12	6	22.17	12.32	14.47	38.45	-23.98
				25	0	22.00	12.15	14.30	38.45	-24.15
				1	0	23.00	13.15	15.30	38.45	-23.15
	20625	846.5	QPSK	1	24	22.99	13.14	15.29	38.45	-23.16
	20023	040.3	QF3K	12	6	22.08	12.23	14.38	38.45	-24.07
				25	0	21.93	12.08	14.23	38.45	-24.22
				1	0	22.08	12.23	14.38	38.45	-24.07
	20425 826.5	024 E	16QAM	1	24	22.15	12.30	14.45	38.45	-24
		020.3		12	6	21.11	11.26	13.41	38.45	-25.04
				25	0	20.80	10.95	13.10	38.45	-25.35
				1	0	22.65	12.80	14.95	38.45	-23.5
5	20525	836.5	16QAM	1	24	22.39	12.54	14.69	38.45	-23.76
o o	20020	030.3	TOQAW	12	6	21.14	11.29	13.44	38.45	-25.01
				25	0	20.94	11.09	13.24	38.45	-25.21
				1	0	22.50	12.65	14.80	38.45	-23.65
	20625	846.5	16QAM	1	24	22.30	12.45	14.60	38.45	-23.85
	20023	840.3	TOQAW	12	6	21.06	11.21	13.36	38.45	-25.09
				25	0	20.91	11.06	13.21	38.45	-25.24
				1	0	21.26	11.41	13.56	38.45	-24.89
	20425	826.5	64QAM	1	24	21.29	11.44	13.59	38.45	-24.86
	20423	020.3	04QAIVI	12	6	20.26	10.41	12.56	38.45	-25.89
				25	0	19.97	10.12	12.27	38.45	-26.18
				1	0	21.75	11.90	14.05	38.45	-24.4
	20525 836.5 6	440011	1	24	21.60	11.75	13.90	38.45	-24.55	
		64QAM	12	6	20.29	10.44	12.59	38.45	-25.86	
				25	0	20.12	10.27	12.42	38.45	-26.03
				1	0	21.65	11.80	13.95	38.45	-24.5
	20425	014 E	64000	1	24	21.48	11.63	13.78	38.45	-24.67
	20625 846.5	64QAM	12	6	20.20	10.35	12.50	38.45	-25.95	
				25	0	20.04	10.19	12.34	38.45	-26.11

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Antenna gain (dBi)	-7.7
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Antenna	Antenna gain (dBi) -7.7 LTE Band 5_Uplink frequency band : 824 to 849 MHz Conducted ERP EIRP EIRP Marris												
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset			EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)			
				1	0	23.13	13.28	15.43	38.45	-23.02			
	20450	829	QPSK	1	49	23.30	13.45	15.60	38.45	-22.85			
	20430	029	UPSK	25	12	22.24	12.39	14.54	38.45	-23.91			
				50	0	22.02	12.17	14.32	38.45	-24.13			
				1	0	23.27	13.42	15.57	38.45	-22.88			
	20525	836.5	QPSK	1	49	23.18	13.33	15.48	38.45	-22.97			
	20323	030.3	QF3K	25	12	22.29	12.44	14.59	38.45	-23.86			
				50	0	22.10	12.25	14.40	38.45	-24.05			
				1	0	23.15	13.30	15.45	38.45	-23			
	20600	844	QPSK	1	49	23.11	13.26	15.41	38.45	-23.04			
	20000	044	QF3K	25	12	22.24	12.39	14.54	38.45	-23.91			
				50	0	22.12	12.27	14.42	38.45	-24.03			
				1	0	22.25	12.40	14.55	38.45	-23.9			
	20450	829	16QAM	1	49	22.31	12.46	14.61	38.45	-23.84			
	20430	029	TOQAIVI	25	12	21.22	11.37	13.52	38.45	-24.93			
				50	0	20.99	11.14	13.29	38.45	-25.16			
				1	0	22.76	12.91	15.06	38.45	-23.39			
10	20525	836.5	16QAM	1	49	22.53	12.68	14.83	38.45	-23.62			
10	20020	030.3	TOQAIVI	25	12	21.25	11.40	13.55	38.45	-24.9			
				50	0	21.04	11.19	13.34	38.45	-25.11			
				1	0	22.66	12.81	14.96	38.45	-23.49			
	20600	844	16QAM	1	49	22.48	12.63	14.78	38.45	-23.67			
	20000	044	TOQAW	25	12	21.19	11.34	13.49	38.45	-24.96			
				50	0	21.05	11.20	13.35	38.45	-25.1			
				1	0	21.44	11.59	13.74	38.45	-24.71			
	20450	829	64QAM	1	49	21.48	11.63	13.78	38.45	-24.67			
	20430	029	04QAIVI	25	12	20.37	10.52	12.67	38.45	-25.78			
				50	0	20.15	10.30	12.45	38.45	-26			
				1	0	21.91	12.06	14.21	38.45	-24.24			
	20525	024 E	440444	1	49	21.72	11.87	14.02	38.45	-24.43			
	20525	836.5	64QAM	25	12	20.43	10.58	12.73	38.45	-25.72			
				50	0	20.23	10.38	12.53	38.45	-25.92			
				1	0	21.76	11.91	14.06	38.45	-24.39			
	20600	Q /I /I	l —	1	49	21.64	11.79	13.94	38.45	-24.51			
	20600	844		25	12	20.34	10.49	12.64	38.45	-25.81			
				50	0	20.23	10.38	12.53	38.45	-25.92			

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		_	TE Dana 7_0	ршик	requenc	y band : 2500		FIRE	
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	22.47	19.37	33	-13.63
	20775	2502.5	QPSK	1	24	22.76	19.66	33	-13.34
	20775	2302.3	UPSK	12	6	21.61	18.51	33	-14.49
				25	0	21.45	18.35	33	-14.65
				1	0	22.54	19.44	33	-13.56
	21100	2535	QPSK	1	24	22.58	19.48	33	-13.52
	21100	2000	QPSK	12	6	21.79	18.69	33	-14.31
				25	0	21.49	18.39	33	-14.61
				1	0	22.56	19.46	33	-13.54
	21375	2567.5	QPSK	1	24	22.70	19.60	33	-13.4
	21373	2307.3	UPSK	12	6	21.75	18.65	33	-14.35
				25	0	21.49	18.39	33	-14.61
				1	0	21.85	18.75	33	-14.25
	20775	2502.5	16QAM	1	24	21.98	18.88	33	-14.12
	20773	2302.3	TOQAW	12	6	20.71	17.61	33	-15.39
				25	0	20.59	17.49	33	-15.51
			16QAM	1	0	21.64	18.54	33	-14.46
5	21100	2535		1	24	22.15	19.05	33	-13.95
3	21100			12	6	20.80	17.70	33	-15.3
				25	0	20.50	17.40	33	-15.6
				1	0	22.21	19.11	33	-13.89
	21375	2567.5	16QAM	1	24	22.09	18.99	33	-14.01
	21373	2307.3	TOQAW	12	6	20.71	17.61	33	-15.39
				25	0	20.55	17.45	33	-15.55
				1	0	21.32	18.22	33	-14.78
	20775	2502.5	64QAM	1	24	21.46	18.36	33	-14.64
	20773	2302.3	04QAIVI	12	6	20.07	16.97	33	-16.03
				25	0	19.98	16.88	33	-16.12
				1	0	21.16	18.06	33	-14.94
	21100	2535	64QAM	1	24	21.54	18.44	33	-14.56
	21100	2000	U4QAIVI	12	6	20.18	17.08	33	-15.92
				25	0	19.93	16.83	33	-16.17
				1	0	21.63	18.53	33	-14.47
	21375	2567.5	640011	1	24	21.55	18.45	33	-14.55
	213/3		64QAM	12	6	20.07	16.97	33	-16.03

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25

0

19.97

16.87

33

-16.13



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Antonna gain (dRi)

Antenna	gain (dBi)	-3.1 L	TE Band 7 U	lplink 1	reaueno	cy 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)
				1	0	22.51	19.41	33	-13.59
	20800	2505	QPSK	1	49	22.82	19.72	33	-13.28
	20000	2000	QF3K	25	12	21.66	18.56	33	-14.44
				50	0	21.42	18.32	33	-14.68
				1	0	22.52	19.42	33	-13.58
	21100	2535	QPSK	1	49	22.58	19.48	33	-13.52
	21100	2000	QF3K	25	12	21.78	18.68	33	-14.32
				50	0	21.52	18.42	33	-14.58
				1	0	22.57	19.47	33	-13.53
	21350	2565	QPSK	1	49	22.67	19.57	33	-13.43
	21330	2000	UPSK	25	12	21.67	18.57	33	-14.43
				50	0	21.58	18.48	33	-14.52
				1	0	21.82	18.72	33	-14.28
	20800	2505	16QAM	1	49	22.00	18.90	33	-14.1
	20800	2000	TOQAW	25	12	20.69	17.59	33	-15.41
				50	0	20.57	17.47	33	-15.53
	21100			1	0	21.70	18.60	33	-14.4
10		2535	16QAM	1	49	22.18	19.08	33	-13.92
10				25	12	20.75	17.65	33	-15.35
				50	0	20.47	17.37	33	-15.63
				1	0	22.17	19.07	33	-13.93
	21250	25/5	1/0414	1	49	22.13	19.03	33	-13.97
	21350	2565	16QAM	25	12	20.71	17.61	33	-15.39
				50	0	20.56	17.46	33	-15.54
				1	0	21.24	18.14	33	-14.86
	20000	2505	(4000	1	49	21.38	18.28	33	-14.72
	20800	2505	64QAM	25	12	20.16	17.06	33	-15.94
				50	0	19.96	16.86	33	-16.14
				1	0	21.15	18.05	33	-14.95
	21100	2525	/ 40 A A A	1	49	21.59	18.49	33	-14.51
	21100	2535	64QAM	25	12	20.13	17.03	33	-15.97
				50	0	19.90	16.80	33	-16.2
				1	0	21.69	18.59	33	-14.41
	04050	05.45	(40.004	1	49	21.55	18.45	33	-14.55
	21350	2565	64QAM	25	12	20.11	17.01	33	-15.99
				50	0	19.98	16.88	33	-16.12

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14(806.2) 2020. 2020



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Antenna gain (dBi) -3.	3i) -3.1
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Antenna	Antenna gain (dBi) -3.1 LTE Band 7_Uplink frequency band : 2500 to 2570 MHz Conducted FIRP FIRP											
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)			
				1	0	22.46	19.36	33	-13.64			
	20025	2507.5	ODCK	1	74	22.76	19.66	33	-13.34			
	20825	2507.5	QPSK	36	18	21.64	18.54	33	-14.46			
				75	0	21.46	18.36	33	-14.64			
				1	0	22.51	19.41	33	-13.59			
	21100	2535	QPSK	1	74	22.58	19.48	33	-13.52			
	21100	2030	UPSK	36	18	21.80	18.70	33	-14.3			
				75	0	21.53	18.43	33	-14.57			
				1	0	22.62	19.52	33	-13.48			
	21275	25/25	ODCK	1	74	22.69	19.59	33	-13.41			
	21375	2562.5	QPSK	36	18	21.67	18.57	33	-14.43			
				75	0	21.50	18.40	33	-14.6			
				1	0	21.85	18.75	33	-14.25			
	20025	2507.5	1/0414	1	74	22.01	18.91	33	-14.09			
	20825	2507.5	16QAM	36	18	20.69	17.59	33	-15.41			
				75	0	20.57	17.47	33	-15.53			
	21100		16QAM	1	0	21.65	18.55	33	-14.45			
15		2535		1	74	22.09	18.99	33	-14.01			
15				36	18	20.72	17.62	33	-15.38			
				75	0	20.54	17.44	33	-15.56			
				1	0	22.21	19.11	33	-13.89			
	21275	25425	140011	1	74	22.12	19.02	33	-13.98			
	21375	2562.5	16QAM	36	18	20.69	17.59	33	-15.41			
				75	0	20.53	17.43	33	-15.57			
				1	0	21.25	18.15	33	-14.85			
	20025	2507.5	/ 4 O A N A	1	74	21.45	18.35	33	-14.65			
	20825	2507.5	64QAM	36	18	20.12	17.02	33	-15.98			
				75	0	19.96	16.86	33	-16.14			
				1	0	21.15	18.05	33	-14.95			
	21100	OE OF	64000	1	74	21.61	18.51	33	-14.49			
	21100	2535	64QAM	36	18	20.19	17.09	33	-15.91			
				75	0	19.89	16.79	33	-16.21			
				1	0	21.67	18.57	33	-14.43			
	21275	25/25	4 A O A B A	1	74	21.52	18.42	33	-14.58			
	21375	2562.5	64QAM	36	18	20.10	17.00	33	-16			
				75	0	19.94	16.84	33	-16.16			

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Antenna gain (dBi)

Antenna gain (dBi) -3.1 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)		
				1	0	22.63	19.53	33	-13.47		
ļ	20850	2510	QPSK	1	99	22.92	19.82	33	-13.18		
ļ	20030	2310	QI SIX	50	25	21.78	18.68	33	-14.32		
ļ				100	0	21.57	18.47	33	-14.53		
ļ				1	0	22.69	19.59	33	-13.41		
	21100	2535	QPSK	1	99	22.75	19.65	33	-13.35		
ļ	21100	2535	UPSK	50	25	21.90	18.80	33	-14.2		
				100	0	21.63	18.53	33	-14.47		
				1	0	22.74	19.64	33	-13.36		
	21350	2560	QPSK	1	99	22.85	19.75	33	-13.25		
	21330	2000	UPSK	50	25	21.86	18.76	33	-14.24		
ļ				100	0	21.68	18.58	33	-14.42		
ļ				1	0	22.02	18.92	33	-14.08		
	20850	2510	16QAM	1	99	22.16	19.06	33	-13.94		
	20830	2510	TOCAWI	50	25	20.82	17.72	33	-15.28		
				100	0	20.70	17.60	33	-15.4		
ļ	21100			1	0	21.81	18.71	33	-14.29		
20		2535	16QAM	1	99	22.29	19.19	33	-13.81		
20	21100			50	25	20.91	17.81	33	-15.19		
ļ				100	0	20.67	17.57	33	-15.43		
				1	0	22.33	19.23	33	-13.77		
	21350	2560	16QAM	1	99	22.24	19.14	33	-13.86		
	21330	2000	TOQAW	50	25	20.84	17.74	33	-15.26		
				100	0	20.67	17.57	33	-15.43		
				1	0	21.43	18.33	33	-14.67		
	20050	2510	/ 4 O A N A	1	99	21.58	18.48	33	-14.52		
	20850	2510	64QAM	50	25	20.26	17.16	33	-15.84		
				100	0	20.15	17.05	33	-15.95		
ļ				1	0	21.28	18.18	33	-14.82		
	21100	2525	(40004	1	99	21.73	18.63	33	-14.37		
	21100	2535	64QAM	50	25	20.32	17.22	33	-15.78		
				100	0	20.08	16.98	33	-16.02		
				1	0	21.83	18.73	33	-14.27		
 -	21250	25/2	/ 40 ^ ^ 4	1	99	21.68	18.58	33	-14.42		
	21350	2560	64QAM	50	25	20.27	17.17	33	-15.83		
				100	0	20.14	17.04	33	-15.96		

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Antenna gain (dRi)

Antenna	gain (dBi)	-6	LTF Band	112 Ur	olink frequency	y 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	0	22.77	14.62	16.77	34.77	-18
	22017	400.7	QPSK	1	5	22.81	14.66	16.81	34.77	-17.96
	23017	699.7	QPSK	3	2	22.96	14.81	16.96	34.77	-17.81
				6	0	21.98	13.83	15.98	34.77	-18.79
				1	0	22.91	14.76	16.91	34.77	-17.86
	23095	707.5	QPSK	1	5	22.93	14.78	16.93	34.77	-17.84
	23093	707.5	QF3K	3	2	22.93	14.78	16.93	34.77	-17.84
				6	0	21.82	13.67	15.82	34.77	-18.95
				1	0	22.89	14.74	16.89	34.77	-17.88
	23173	715.5	QPSK	1	5	22.95	14.80	16.95	34.77	-17.82
	23173	710.0	QF3K	3	2	22.79	14.64	16.79	34.77	-17.98
				6	0	21.78	13.63	15.78	34.77	-18.99
				1	0	21.83	13.68	15.83	34.77	-18.94
	23017	699.7	16QAM	1	5	21.82	13.67	15.82	34.77	-18.95
-	23017	099.7	10071111	3	2	21.86	13.71	15.86	34.77	-18.91
				6	0	20.85	12.70	14.85	34.77	-19.92
				1	0	21.87	13.72		34.77	-18.9
1.4	23095	707.5	16QAM	1	5	21.86	13.71	15.86	34.77	-18.91
1.4	23093	707.5	TOQAW	3	2	21.82	13.67	15.82	34.77	-18.95
				6	0	20.88	12.73	14.88	34.77	-19.89
				1	0	21.93	13.78	15.93	34.77	-18.84
	23173	715.5	16QAM	1	5	21.81	13.66	15.81	34.77	-18.96
	23173	710.0	TOQAW	3	2	21.85	13.70	15.85	34.77	-18.92
				6	0	20.81	12.66	14.81	34.77	-19.96
				1	0	21.30	13.15	15.30	34.77	-19.47
	23017	699.7	64QAM	1	5	21.16	13.01	15.16	34.77	-19.61
	23017	077.7	04QAIVI	3	2	21.35	13.20	15.35	34.77	-19.42
				6	0	20.37	12.22	14.37	34.77	-20.4
				1	0	21.25	13.10	15.25	34.77	-19.52
	23095	707.5	64QAM	1	5	21.23	13.08	15.23	34.77	-19.54
	23073	707.3	04QAIVI	3	2	21.28	13.13	15.28	34.77	-19.49
				6	0	20.32	12.17	14.32	34.77	-20.45
				1	0	21.30	13.15	15.30	34.77	-19.47
	23173	715.5	64QAM	1	5	21.29	13.14	15.29	34.77	-19.48
	231/3	710.0	U4QAW	3	2	21.26	13.11	15.26	34.77	-19.51
				6	0	20.28	12.13	14.28	34.77	-20.49



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Antenna gain (dRi)

Antenna	Antenna gain (dBi) LTE Band 12_Uplink frequency band : 699 to 716 MHz BW LII Frequency BR Conducted ERP EIRP Margin													
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset			EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)				
				1	0	22.81	14.66	16.81	34.77	-17.96				
	23025	700.5	QPSK	1	14	22.94	14.79	16.94	34.77	-17.83				
	23023	700.5	QF3K	8	4	22.16	14.01	16.16	34.77	-18.61				
				15	0	21.92	13.77	15.92	34.77	-18.85				
				1	0	23.14	14.99	17.14	34.77	-17.63				
	23095	707.5	QPSK	1	14	23.29	15.14	17.29	34.77	-17.48				
	23073	707.5	QF 3K	8	4	22.17	14.02	16.17	34.77	-18.6				
				15	0	21.91	13.76	15.91	34.77	-18.86				
				1	0	22.94	14.79	16.94	34.77	-17.83				
	23165	714.5	QPSK	1	14	23.17	15.02	17.17	34.77	-17.6				
	23103	714.5	QF 3K	8	4	22.16	14.01	16.16	34.77	-18.61				
				15	0	21.99	13.84	15.99	34.77	-18.78				
				1	0	22.31	14.16	16.31	34.77	-18.46				
	23025	700.5	16QAM	1	14	22.23	14.08	16.23	34.77	-18.54				
	23023	700.5	TOQAWI	8	4	21.05	12.90	15.05	34.77	-19.72				
				15	0	20.86	12.71	14.86	34.77	-19.91				
				1	0	22.13	13.98	16.13	34.77	-18.64				
3	23095	707.5	16QAM	1	14	22.60	14.45	16.60	34.77	-18.17				
3	23093	707.5	TOQAIVI	8	4	21.28	13.13	15.28	34.77	-19.49				
				15	0	21.00	12.85	15.00	34.77	-19.77				
				1	0	22.45	14.30	16.45	34.77	-18.32				
	23165	714.5	16QAM	1	14	22.27	14.12	16.27	34.77	-18.5				
	23100	714.5	TOQAIVI	8	4	21.20	13.05	15.20	34.77	-19.57				
				15	0	20.98	12.83	14.98	34.77	-19.79				
				1	0	21.44	13.29	15.44	34.77	-19.33				
	23025	700.5	64QAM	1	14	21.28	13.13	15.28	34.77	-19.49				
	23023	700.5	04QAIVI	8	4	20.11	11.96	14.11	34.77	-20.66				
				15	0	20.06	11.91	14.06	34.77	-20.71				
				1	0	21.30	13.15	15.30	34.77	-19.47				
	23095	707.5	64QAM	1	14	21.64	13.49	15.64	34.77	-19.13				
	23073	707.3	04QAIVI	8	4	20.33	12.18	14.33	34.77	-20.44				
				15	0	20.18	12.03	14.18	34.77	-20.59				
				1	0	21.65	13.50	15.65	34.77	-19.12				
	23165	71 / [640011	1	14	21.44	13.29	15.44	34.77	-19.33				
	23100	714.5	64QAM —	8	4	20.42	12.27	14.42	34.77	-20.35				
				15	0	20.13	11.98	14.13	34.77	-20.64				

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



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Antenna gain (dRi)

Antenna (gain (dBi)	-6	LTE Band	d 12 Ur	olink frequency	y 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	0	22.74	14.59	16.74	34.77	-18.03
	23035	701.5	QPSK	1	24	22.95	14.80	16.95	34.77	-17.82
	23030	701.3	QPSK	12	6	22.11	13.96	16.11	34.77	-18.66
				25	0	21.90	13.75	15.90	34.77	-18.87
				1	0	23.15	15.00	17.15	34.77	-17.62
	23095	707.5	QPSK	1	24	23.30	15.15	17.30	34.77	-17.47
	23073	707.3	QI SIX	12	6	22.15	14.00	16.15	34.77	-18.62
				25	0	21.90	13.75	15.90	34.77	-18.87
				1	0	22.97	14.82	16.97	34.77	-17.8
	23155	713.5	QPSK	1	24	23.20	15.05	17.20	34.77	-17.57
	23133	713.3	QF3K	12	6	22.15	14.00	16.15	34.77	-18.62
				25	0	22.04	13.89	16.04	34.77	-18.73
				1	0	22.34	14.19	16.34	34.77	-18.43
	23035	701.5	16QAM	1	24	22.19	14.04	16.19	34.77	-18.58
	23033	701.5	TOQAWI	12	6	21.03	12.88	15.03	34.77	-19.74
				25	0	20.90	12.75	14.90	34.77	-19.87
				1	0	22.17	14.02	16.17	34.77	-18.6
5	23095	707.5	16QAM	1	24	22.56	14.41	16.56	34.77	-18.21
3	23073	707.5	TOQAW	12	6	21.22	13.07	15.22	34.77	-19.55
				25	0	20.94	12.79	14.94	34.77	-19.83
				1	0	22.47	14.32	16.47	34.77	-18.3
	23155	713.5	16QAM	1	24	22.30	14.15	16.30	34.77	-18.47
	23133	713.3	TOQAW	12	6	21.20	13.05	15.20	34.77	-19.57
				25	0	20.98	12.83	14.98	34.77	-19.79
				1	0	21.51	13.36	15.51	34.77	-19.26
	23035	701.5	64QAM	1	24	21.33	13.18	15.33	34.77	-19.44
	23033	701.5	04QAIVI	12	6	20.17	12.02	14.17	34.77	-20.6
				25	0	20.06	11.91	14.06	34.77	-20.71
				1	0	21.23	13.08	15.23	34.77	-19.54
	23095	707.5	64QAM	1	24	21.68	13.53	15.68	34.77	-19.09
	23U 7 3	707.3	04QAIVI	12	6	20.39	12.24	14.39	34.77	-20.38
				25	0	20.14	11.99	14.14	34.77	-20.63
				1	0	21.62	13.47	15.62	34.77	-19.15
	72155	712 5	640011	1	24	21.51	13.36	15.51	34.77	-19.26
	23155	713.5	64QAM	12	6	20.38	12.23	14.38	34.77	-20.39
				25	0	20.12	11.97	14.12	34.77	-20.65



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Antenna gain (dBi)

Antenna	Antenna gain (dBi) LTE Band 12_Uplink frequency band : 699 to 716 MHz DR DR Conducted ERP EIRP EIRP Marsin												
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	<u> </u>		EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)			
				1	0	22.94	14.79	16.94	34.77	-17.83			
	00010	704	00014	1	49	23.14	14.99	17.14	34.77	-17.63			
	23060	704	QPSK	25	12	22.27	14.12	16.27	34.77	-18.5			
				50	0	22.06	13.91	16.06	34.77	-18.71			
				1	0	23.28	15.13	17.28	34.77	-17.49			
	22005	707 5	ODCK	1	49	23.41	15.26	17.41	34.77	-17.36			
	23095	707.5	QPSK	25	12	22.35	14.20	16.35	34.77	-18.42			
				50	0	22.08	13.93	16.08	34.77	-18.69			
				1	0	23.10	14.95	17.10	34.77	-17.67			
	22120	711	QPSK	1	49	23.35	15.20	17.35	34.77	-17.42			
	23130	/11	UPSK	25	12	22.34	14.19	16.34	34.77	-18.43			
				50	0	22.14	13.99	16.14	34.77	-18.63			
				1	0	22.45	14.30	16.45	34.77	-18.32			
	23060	704	16QAM	1	49	22.33	14.18	16.33	34.77	-18.44			
	23000	704	TOQAWI	25	12	21.18	13.03	15.18	34.77	-19.59			
				50	0	21.01	12.86	15.01	34.77	-19.76			
				1	0	22.30	14.15	16.30	34.77	-18.47			
10	23095	707.5	16QAM	1	49	22.72	14.57	16.72	34.77	-18.05			
10	23093	707.3	TOQAW	25	12	21.38	13.23	15.38	34.77	-19.39			
				50	0	21.13	12.98	15.13	34.77	-19.64			
				1	0	22.61	14.46	16.61	34.77	-18.16			
	23130	711	16QAM	1	49	22.45	14.30	16.45	34.77	-18.32			
	23130	/ 1 1	TOQAW	25	12	21.37	13.22	15.37	34.77	-19.4			
				50	0	21.13	12.98	15.13	34.77	-19.64			
				1	0	21.62	13.47	15.62	34.77	-19.15			
	23060	704	64QAM	1	49	21.44	13.29	15.44	34.77	-19.33			
	23000	704	UTQAW	25	12	20.29	12.14	14.29	34.77	-20.48			
				50	0	20.19	12.04	14.19	34.77	-20.58			
				1	0	21.42	13.27	15.42	34.77	-19.35			
	23095	707.5	64QAM	1	49	21.83	13.68	15.83	34.77	-18.94			
	20070	101.5	UTQAW	25	12	20.50	12.35	14.50	34.77	-20.27			
				50	0	20.31	12.16	14.31	34.77	-20.46			
				1	0	21.77	13.62	15.77	34.77	-19			
	23130	711	64QAM	1	49	21.64	13.49	15.64	34.77	-19.13			
	23130	, , , ,		25	12	20.54	12.39	14.54	34.77	-20.23			
				50	0	20.27	12.12	14.27	34.77	-20.5			



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Antenna	gain (dBi)	-8.7								
			LTE Band	d 13_U	lplink fre		: 777 to 787 MI			
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	0	23.04	12.19	14.34	34.77	-20.43
	23205	779.5	QPSK	1	24	22.92	12.07	14.22	34.77	-20.55
	23203	119.5	QF3K	12	6	21.64	10.79	12.94	34.77	-21.83
				25	0	21.59	10.74	12.89	34.77	-21.88
				1	0	23.08	12.23	14.38	34.77	-20.39
	23230	782	QPSK	1	24	22.93	12.08	14.23	34.77	-20.54
	23230	702	QF3K	12	6	21.57	10.72	12.87	34.77	-21.9
				25	0	21.47	10.62	12.77	34.77	-22
				1	0	22.85	12.00	14.15	34.77	-20.62
	23255	784.5	QPSK	1	24	22.77	11.92	14.07	34.77	-20.7
	23233	704.3	QI SIX	12	6	21.73	10.88	13.03	34.77	-21.74
				25	0	21.51	10.66	12.81	34.77	-21.96
				1	0	21.92	11.07	13.22	34.77	-21.55
	23205	779.5	16QAM	1	24	21.51	10.66	12.81	34.77	-21.96
	23203	777.0	TOQAIVI	12	6	20.56	9.71	11.86	34.77	-22.91
				25	0	20.64	9.79	11.94	34.77	-22.83
			782 16QAM	1	0	21.92	11.07	13.22	34.77	-21.55
5	23230	782		1	24	21.74	10.89	13.04	34.77	-21.73
	23230	702	TOQAW	12	6	20.65	9.80	11.95	34.77	-22.82
				25	0	20.71	9.86	12.01	34.77	-22.76
				1	0	21.73	10.88	13.03	34.77	-21.74
	23255	784.5	16QAM	1	24	21.86	11.01	13.16	34.77	-21.61
	20200	704.5	10071111	12	6	20.58	9.73	11.88	34.77	-22.89
				25	0	20.53	9.68	11.83	34.77	-22.94
				1	0	21.41	10.56	12.71	34.77	-22.06
	23205	779.5	64QAM	1	24	21.03	10.18	12.33	34.77	-22.44
	20200	777.5	0 1 Q/ ((V)	12	6	19.88	9.03	11.18	34.77	-23.59
				25	0	19.78	8.93	11.08	34.77	-23.69
				1	0	21.35	10.50	12.65	34.77	-22.12
	23230	782	64QAM	1	24	21.26	10.41	12.56	34.77	-22.21
	20200	702	0 1 Q/ ((V)	12	6	19.96	9.11	11.26	34.77	-23.51
				25	0	19.90	9.05	11.20	34.77	-23.57
				1	0	21.16	10.31	12.46	34.77	-22.31
	23255	784 5	_	1	24	21.43	10.58	12.73	34.77	-22.04
	20200	784.5		12	6	20.05	9.20	11.35	34.77	-23.42
				25	0	19.87	9.02	11.17	34.77	-23.6



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Antenna gain (dBi) -8.7

	, , ,		LTE Band	d 13_U	plink fre	equency band	: 777 to 787 MI	Нz		
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	0	23.07	12.22	14.37	34.77	-20.4
	23230	782	QPSK	1	49	22.91	12.06	14.21	34.77	-20.56
	23230	702	UPSK	25	12	22.10	11.25	13.40	34.77	-21.37
				50	0	21.93	11.08	13.23	34.77	-21.54
				1	0	22.32	11.47	13.62	34.77	-21.15
10	23230	782	16QAM	1	49	22.59	11.74	13.89	34.77	-20.88
10	23230	702	TOQAW	25	12	21.18	10.33	12.48	34.77	-22.29
				50	0	20.89	10.04	12.19	34.77	-22.58
				1	0	21.43	10.58	12.73	34.77	-22.04
	23230 782	640AM	1	49	21.77	10.92	13.07	34.77	-21.7	
	23230	702	64QAM	25	12	20.33	9.48	11.63	34.77	-23.14
				50	0	20.03	9.18	11.33	34.77	-23.44

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14(806.2) 2020. 2020



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Antenna gain	(dBi)	-6
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Antenna	gain (dBi)	-6	I TE Rang	117 Hr	olink frequency	y band : 704 to	716 MHz			
			LIE Dalik			Conducted	ERP	EIRP	FIRP	
BW	UL	Frequency	Modulation	RB	RB	Average	Average	Average		Margin
(MHz)	Channel	(MHz)	Moderation	Size	Offset	(dBm)	(dBm)	(dBm)		(dB)
				1	0	22.99	14.84	16.99	34.77	-17.78
	00755	7075	0001/	1	24	22.99	14.84	16.99	34.77	-17.78
	23755	706.5	QPSK	12	6	22.14	13.99	16.14	34.77	-18.63
				25	0	22.02	13.87	16.02	34.77	-18.75
				1	0	23.34	15.19	17.34	34.77	-17.43
	22700	710	ODCK	1	24	23.38	15.23	17.38	34.77	-17.39
	23790	710	QPSK	12	6	22.13	13.98	16.13	34.77	-18.64
				25	0	21.93	13.78	15.93	34.77	-18.84
				1	0	23.08	14.93	17.08	34.77	-17.69
	23825	712 F	QPSK	1	24	23.08	14.93	17.08	34.77	-17.69
	23825	713.5	UPSK	12	6	22.16	14.01	16.16	34.77	-18.61
				25	0	22.01	13.86	16.01	34.77	-18.76
				1	0	22.43	14.28	16.43	34.77	-18.34
	23755	706.5	16QAM	1	24	22.75	14.60	16.75	34.77	-18.02
	23700	700.3	TOQAIVI	12	6	21.18	13.03	15.18	(dBm) 34.77	-19.59
				25	0	21.02	12.87	15.02	34.77	-19.75
				1	0	22.33	14.18	16.33	34.77	-18.44
5	23790	710	16QAM	1	24	22.70	14.55	16.70	34.77	-18.07
3	23790	710	TOQAIVI	12	6	21.24	13.09	15.24	34.77	-19.53
				25	0	20.99	12.84	14.99	34.77	-19.78
				1	0	22.20	14.05	16.20	34.77	-18.57
	23825	713.5	16QAM	1	24	22.61	14.46	16.61	34.77	-18.16
	23023	713.3	TOQAIVI	12	6	21.19	13.04	15.19	34.77	-19.58
				25	0	20.96	12.81	14.96	34.77	-19.81
				1	0	21.57	13.42	15.57	34.77	-19.2
	23755	706.5	64QAM	1	24	21.71	13.56	15.71	34.77	-19.06
	23733	700.5	04QAIVI	12	6	20.38	12.23	14.38	34.77	-20.39
				25	0	20.27	12.12	14.27	34.77	-20.5
				1	0	21.52	13.37	15.52	34.77	-19.25
	23790	710	64QAM	1	24	21.83	13.68	15.83	34.77	-18.94
	23770	710	04QAIVI	12	6	20.37	12.22	14.37	34.77	-20.4
				25	0	20.08	11.93	14.08	34.77	-20.69
				1	0	21.27	13.12	15.27	34.77	-19.5
	23825	713.5	64QAM	1	24	21.73	13.58	15.73	34.77	-19.04
	23020	713.3	UHUMINI	12	6	20.35	12.20	14.35	34.77	-20.42
				25	0	20.10	11.95	14.10	34.77	-20.67

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Antonna gain (dRi)

Antenna	gain (dBi)	-6	LTC Dame	J 17 II.	link fra avvara	. h and . 704 to	71/ MII-			
			LIE Band	ןט_/ו ג	olink irequency	y band : 704 to Conducted	ERP	EIRP	FIDD	
BW	UL	Frequency	Modulation	RB	RB	Average	Average	Average		Margin
(MHz)	Channel	(MHz)	Modulation	Size	Offset	(dBm)	(dBm)	(dBm)		(dB)
				1	0	23.10	14.95	17.10		-17.67
				1	49	23.14	14.99	17.14		-17.63
	23780	709	QPSK	25	12	22.32	14.17	16.32		-18.45
				50	0	22.14	13.99	16.14	34.77	-18.63
				1	0	23.48	15.33	17.48	34.77	-17.29
	00700	740	ODCI	1	49	23.49	15.34	17.49	34.77	-17.28
	23790	710	QPSK	25	12	22.31	14.16	16.31	34.77	-18.46
				50	0	22.11	13.96	16.11	34.77	-18.66
				1	0	23.19	15.04	17.19	34.77	-17.58
	23800	711	QPSK	1	49	23.21	15.06	17.21	34.77	-17.56
	23800	/11	QPSK	25	12	22.27	14.12	16.27	34.77	-18.5
				50	0	22.13	13.98	16.13	34.77	-18.64
				1	0	22.62	14.47	16.62	34.77	-18.15
	23780	709	16QAM	1	49	22.87	14.72	16.87	34.77	-17.9
	23/00	709	TOQAW	25	12	21.37	13.22	15.37	(dBm) 34.77	-19.4
				50	0	21.20	13.05	15.20	34.77	-19.57
				1	0	22.52	14.37	16.52	34.77	-18.25
10	23790	710	16QAM	1	49	22.82	14.67	16.82	34.77	-17.95
10	23770	710	TOQAIVI	25	12	21.38	13.23	15.38	34.77	-19.39
				50	0	21.14	12.99	15.14	34.77	-19.63
				1	0	22.31	14.16	16.31	34.77	-18.46
	23800	711	16QAM	1	49	22.72	14.57	16.72	34.77	-18.05
	25000	, , , ,	10071111	25	12	21.30	13.15	15.30	34.77	-19.47
				50	0	21.14	12.99	15.14	34.77	-19.63
				1	0	21.75	13.60	15.75		-19.02
	23780	709	64QAM	1	49	21.89	13.74	15.89		-18.88
	20700		0 / C/	25	12	20.49	12.34	14.49		-20.28
				50	0	20.38	12.23	14.38		-20.39
				1	0	21.66	13.51	15.66		-19.11
	23790	710	64QAM	1	49	21.97	13.82	15.97	ļ	-18.8
			2 . 22	25	12	20.52	12.37	14.52	_	-20.25
				50	0	20.24	12.09	14.24		-20.53
				1	0	21.42	13.27	15.42		-19.35
	23800 711 64QAM	64QAM	1	49	21.88	13.73	15.88		-18.89	
			64QAM	25	12	20.45	12.30	14.45		-20.32
				50	0	20.26	12.11	14.26	34.77	-20.51

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Antonna gain (dRi)

Antenna	gain (dBi)	-2.4 L	ΓE Band 38_l	Jplink	freguen	cy 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)
				1	0	22.63	20.23	33	-12.77
	37775	2572.5	QPSK	1	24	22.70	20.30	33	-12.7
	3///3	2372.3	UPSK	12	6	21.99	19.59	33	-13.41
				25	0	21.82	19.42	33	-13.58
				1	0	22.95	20.55	33	-12.45
	38000	2595	QPSK	1	24	22.91	20.51	33	-12.49
	38000	2090	UPSK	12	6	22.00	19.60	33	-13.4
				25	0	21.79	19.39	33	-13.61
				1	0	22.91	20.51	33	-12.49
	38225	2617.5	QPSK	1	24	22.70	20.30	33	-12.7
	30223	2017.3	UPSK	12	6	22.03	19.63	33	-13.37
				25	0	21.84	19.44	33	-13.56
				1	0	21.98	19.58	33	-13.42
	27775	25725	14000	1	24	22.04	20.30 33 -12.7 19.63 33 -13.37 19.44 33 -13.56		
	37775	2572.5	16QAM	12	6	20.99	18.59	33	-13.37 -13.56 -13.42 -13.36 -14.41 -14.6 -13.24 -13.49 -14.32
				25	0	20.80	18.40	33	-14.6
				1	0	22.16	19.76	33	-13.24
_	20000	2505	1/044	1	24	21.91	19.51	33	-13.49
5	38000	2595	16QAM	12	6	21.08	18.68	33	-14.32
				25	0	20.85	18.45	33	-14.55
				1	0	22.19	19.79	33	-13.21
	20225	2/17 5	1/0414	1	24	22.16	19.76	33	-13.24
	38225	2617.5	16QAM	12	6	21.01	18.61	33	-14.39
				25	0	20.79	18.39	33	-14.61
				1	0	21.49	19.09	33	-13.91
	27775	2572.5	/ 4 O A N A	1	24	21.48	19.08	33	-13.92
	37775	2572.5	64QAM	12	6	20.48	18.08	33	-14.92
				25	0	20.18	17.78	33	-15.22
				1	0	21.68	19.28	33	-13.72
	20000	2525	(4000	1	24	21.39	18.99	33	-14.01
	38000	2595	64QAM	12	6	20.56	18.16	33	-14.84
				25	0	20.27	17.87	33	-15.13
				1	0	21.68	19.28	33	-13.72
	20005	0/47.5	(40.004	1	24	21.64	19.24	33	-13.76
	38225	2617.5	64QAM	12	6	20.59	18.19	33	-14.81
				25	0	20.31	17.91	33	-15.09

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Antenna gain (dRi)

Antenna	gain (dBi)	-2.4 L ī	TE Band 38 U	Jplink	freguen	cy 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)
				1	0	22.63	20.23	33	-12.77
	27000	2575	QPSK	1	49	22.73	20.33	33	-12.67
	37800	2575	QPSK	25	12	22.04	19.64	33	-13.36
				50	0	21.82	19.42	33	-13.58
				1	0	22.92	20.52	33	-12.48
	20000	2505	QPSK	1	49	22.96	20.56	33	-12.44
	38000	2595	QPSK	25	12	22.03	19.63	33	-13.37
				50	0	21.73	19.33	33	-13.67
				1	0	22.85	20.45	33	-12.55
	38200	2615	QPSK	1	49	22.71	20.31	33	-12.69
	38200	2013	UPSK	25	12	21.94	19.54	33	-13.46
				50	0	21.77	19.37	33	-13.63
				1	0	22.02	19.62	33	-13.38
	27000	.7800 2575 16QAN	140011	1	49	22.00	19.60	33	-13.4
	37800	2070	ToQAIVI	25	12	20.95	18.55	33	-14.45
				50	0	20.78	18.38	33	-14.62
				1	0	22.15	19.75	33	-13.25
10	38000	2595	16QAM	1	49	21.92	19.52	33	-13.48
10	38000	2090	TOQAW	25	12	21.09	18.69	33	-14.31
				50	0	20.86	18.46	33	-14.54
				1	0	22.17	19.77	33	-13.23
	38200	2615	16QAM	1	49	22.13	19.73	33	-13.27
	38200	2013	TOQAW	25	12	21.01	18.61	33	-14.39
				50	0	20.77	18.37	33	-14.63
				1	0	21.44	19.04	33	-13.96
	37800	2575	64QAM	1	49	21.46	19.06	33	-13.94
	37000	2070	04QAIVI	25	12	20.53	18.13	33	-14.87
				50	0	20.16	17.76	33	-15.24
				1	0	21.68	19.28	33	-13.72
	38000	2505	6 1 O A B 1	1	49	21.46	19.06	33	-13.94
	38000	2595	64QAM	25	12	20.59	18.19	33	-14.81
				50	0	20.28	17.88	33	-15.12
				1	0	21.64	19.24	33	-13.76
	20200	2/15	4 A O A B A	1	49	21.70	19.30	33	-13.7
	38200	2615	64QAM	25	12	20.57	18.17	33	-14.83
				50	0	20.32	17.92	33	-15.08

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Antenna gain (dRi)

	gain (dBi)	-2.4 L 1	ΓΕ Band 38 l	Jplink	freguen	cy 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)
				1	0	22.70	20.30	33	-12.7
	37825	2577.5	QPSK	1	74	22.71	20.31	33	-12.69
	3/623	2377.3	UPSK	36	19	22.01	19.61	33	-13.39
				75	0	21.78	19.38	33	-13.62
				1	0	22.88	20.48	33	-12.52
	38000	2595	QPSK	1	74	22.94	20.54	33	-12.46
	30000	2090	QPSK	36	19	21.97	19.57	33	-13.43
				75	0	21.74	19.34	33	-13.66
				1	0	22.90	20.50	33	-12.5
	38175	2612.5	QPSK	1	74	22.72	20.32	33	-12.68
	30173	2012.3	QPSK	36	19	21.96	19.56	33	-13.44
				75	0	21.82	19.42	33	-13.58
				1	0	22.01	19.61	33	-13.39
	37825	2577.5	16000	1	74	22.01	19.61	33	-13.39
	37023	2377.3	16QAM -	36	19	20.96	18.56	33	-14.44
				75	0	20.73	18.33	33	-14.67
				1	0	22.19	19.79	33	-13.21
15	38000	2595	16QAM	1	74	21.95	19.55	33	-13.45
15	38000	2090	ToQAIVI	36	19	21.14	18.74	33	-14.26
				75	0	20.85	18.45	33	-14.55
Ī				1	0	22.19	19.79	33	-13.21
	20175	7417 E	140011	1	74	22.20	19.80	33	-13.2
	38175	2612.5	16QAM	36	19	21.04	18.64	33	-14.36
				75	0	20.85	18.45	33	-14.55
Ī				1	0	21.49	19.09	33	-13.91
	27025	2577.5	/ 4 O A N A	1	74	21.42	19.02	33	-13.98
	37825	2577.5	64QAM	36	19	20.49	18.09	33	-14.91
				75	0	20.16	17.76	33	-15.24
				1	0	21.61	19.21	33	-13.79
	20000	2505	440011	1	74	21.43	19.03	33	-13.97
	38000	2595	64QAM	36	19	20.53	18.13	33	-14.87
				75	0	20.33	17.93	33	-15.07
ľ				1	0	21.66	19.26	33	-13.74
	20175	0410 E	440011	1	74	21.63	19.23	33	-13.77
	38175	2612.5	64QAM	36	19	20.53	18.13	33	-14.87
				75	0	20.24	17.84	33	-15.16

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Antonno goin (dDi)

Antenna	gain (dBi)	-2.4 L 1	ΓΕ Band 38 Ι	Jplink	freguen	cy 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)
				1	0	22.81	20.41	33	-12.59
	37850	2580	QPSK	1	99	22.90	20.50	33	-12.5
	37000	2500	QF3K	50	25	22.18	19.78	33	-13.22
				100	0	21.97	19.57	33	-13.43
				1	0	23.06	20.66	33	-12.34
	38000	2595	QPSK	1	99	23.07	20.67	33	-12.33
	30000	2373	QFSK	50	25	22.16	19.76	33	-13.24
				100	0	21.93	19.53	33	-13.47
				1	0	23.01	20.61	33	-12.39
	38150	2610	QPSK	1	99	22.86	20.46	33	-12.54
	30130	2010	QF3K	50	25	22.14	19.74	33	-13.26
				100	0	21.96	19.56	33	-13.44
				1	0	22.13	19.73	33	-13.27
	37850	2500	14000	1	99	22.18	19.78	33	-13.22
	37600	0 2580 16QAM	TOQAW	50	25	21.15	18.75	33	-14.25
				100	0	20.93	18.53	33	-14.47
				1	0	22.31	19.91	33	-13.09
20	20000	2505	1/0414	1	99	22.09	19.69	33	-13.31
20	38000	2595	16QAM	50	25	21.25	18.85	33	-14.15
				100	0	20.96	18.56	33	-14.44
				1	0	22.36	19.96	33	-13.04
	20150	2/10	1/0414	1	99	22.32	19.92	33	-13.08
	38150	2610	16QAM	50	25	21.19	18.79	33	-14.21
				100	0	20.96	18.56	33	-14.44
				1	0	21.60	19.20	33	-13.8
	27050	2500	/ 4O A N 4	1	99	21.61	19.21	33	-13.79
	37850	2580	64QAM	50	25	20.63	18.23	33	-14.77
				100	0	20.35	17.95	33	-15.05
				1	0	21.80	19.40	33	-13.6
	20000	2525	/ 4C	1	99	21.57	19.17	33	-13.83
	38000	2595	64QAM	50	25	20.71	18.31	33	-14.69
				100	0	20.44	18.04	33	-14.96
				1	0	21.82	19.42	33	-13.58
	20152	0/10	(40.414	1	99	21.82	19.42	33	-13.58
	38150	2610	64QAM	50	25	20.69	18.29	33	-14.71
				100	0	20.42	18.02	33	-14.98

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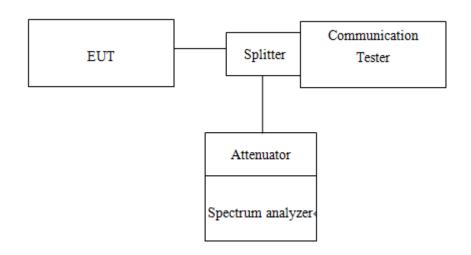
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7. OCCUPIED BANDWIDTH MEASUREMENT

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%.

99% Bandwidth with detector sample

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW was set to about $1\% \sim 5\%$ of emission BW, VBW= 3 times RBW, -20dBc display line was placed on the screen (or 20dB bandwidth). Set RBW to 99% bandwidth, RBW= $1\% \sim 5\%$, 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.
EXA Spectrum Analyzer	Agilent	N9010A	MY50420195	05/02/2019	05/01/2020
Radio Communication Analyzer	Anritsu	MT8815B	6200711454	04/01/2019	03/31/2020
Radio Communication Analyzer	Anritsu	MT8820C	6200995019	04/01/2019	03/31/2020
DC Power Supply	Agilent	E3640A	MY52410006	12/04/2018	12/03/2019
Attenuator	Mini-Circuit	BW-S10W2+	2	01/02/2019	01/01/2020
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2019	01/01/2020
Splitter	RF-LAMBAD	RFLT2W1G18G	11-JSPF412-018	01/02/2019	01/01/2020

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7.5. Measurement Result

Erog		99% BV	V (MHz)	26 dB BW (MHz)		
Freq. (MHz)	СН	GSM	GPRS	GPRS	GPRS	
(IVII IZ)		850	850	850	850	
824.2	128	0.24205	0.24453	0.321	0.315	
836.6	190	0.24416	0.24680	0.323	0.319	
848.8	251	0.24172	0.24088	0.316	0.318	

Freq.	СН	99% BV	V (MHz)	26 dB BW (MHz)		
(MHz)		GSM	GPRS	GSM	GPRS	
(IVII IZ)		1900	1900	1900	1900	
1850.2	512	0.24215	0.24045	0.316	0.311	
1880.0	661	0.24134	0.24509	0.313	0.315	
1909.8	810	0.24167	0.24133	0.318	0.314	

Freq.		99	% BW (MH	lz)	26 dB BW (MHz)			
(MHz)	СН	WCDMA II	HSDPA II	HSUPA II	WCDMA II	HSDPA II	HSUPA II	
1852.40	9262	4.14780	4.15050	4.14360	4.699	4.709	4.708	
1880.00	9400	4.14140	4.14980	4.14920	4.690	4.705	4.720	
1907.60	9538	4.14740	4.14600	4.14480	4.705	4.695	4.720	

Freq.		99% BW (MHz)			26 dB BW (MHz)		
(MHz)	CH	WCDMA	HSDPA	HSUPA	WCDMA	HSDPA	HSUPA
(IVII IZ)		IV	IV	IV	IV	IV	IV
1712.40	1312	4.14860	4.15340	4.15150	4.698	4.713	4.696
1732.60	1413	4.15000	4.14500	4.14430	4.717	4.716	4.702
1752.60	1513	4.13870	4.14940	4.14910	4.710	4.709	4.716

Freq.		99% BW (MHz)			26 dB BW (MHz)		
(MHz)	CH	WCDMA	HSDPA	HSUPA	WCDMA	HSDPA	HSUPA
(IVII IZ)		V	V	V	V	V	V
826.40	4132	4.13410	4.14150	4.13680	4.699	4.699	4.704
836.60	4183	4.12070	4.13070	4.13530	4.694	4.710	4.712
846.60	4233	4.11980	4.11750	4.12610	4.687	4.691	4.699

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	LTE BAND 2 Channel bandwidth: 1.4MHz										
Freq.	СН	99	99% BW (MHz)			26 dB BW (MHz)					
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
1850.7	18607	1.0948	1.0973	1.0973	1.236	1.242	1.245				
1880.0	18900	1.0949	1.0974	1.0957	1.239	1.240	1.234				
1909.3	19193	1.0944	1.0972	1.0953	1.235	1.241	1.240				

LTE BAND 2 Channel bandwidth: 3MHz										
Freq.	СН	99% BW (MHz)			26 dB BW (MHz)					
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM			
1851.5	18615	2.6966	2.7009	2.7014	2.985	3.017	3.001			
1880.0	18900	2.6984	2.7009	2.7038	3.002	3.014	3.001			
1908.5	19185	2.6975	2.7021	2.7034	3.000	3.019	3.000			

ĺ	LTE BAND 2 Channel bandwidth: 5MHz										
	LTE BAND 2 CHANNEI DANGWIGHT SIMPZ										
	Freq.	СН	99	9% BW (MHz)		26 dB BW (MHz)					
	(MHz)	CH	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM			
	1852.5	18625	4.5013	4.5037	4.5100	4.985	4.999	4.969			
	1880.0	18900	4.5018	4.5076	4.5009	4.990	4.967	4.979			
	1907.5	19175	4.5038	4.5050	4.5150	4.983	5.000	4.989			

	LTE BAND 2 Channel bandwidth: 10MHz									
Freq.	СН	99	% BW (MH	lz)	26 dB BW (MHz)					
(MHz)	CH	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM			
1855.0	18650	8.9906	8.9646	8.9848	9.866	9.797	9.830			
1880.0	18900	9.0096	8.9636	8.9894	9.827	9.796	9.821			
1905.0	19150	9.0221 8.9698 8.9900 9.841 9.782 9.83								

	LTE BAND 2 Channel bandwidth: 15MHz										
Freq.	СН	99% BW (MHz) 26 dB BW (lHz)				
(MHz)	CH	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
1857.5	18675	13.480	13.459	13.445	14.672	14.671	14.732				
1880.0	18900	13.485	13.462	13.457	14.643	14.744	14.721				
1902.5	19125	13.512	13.477	13.458	14.792	14.770	14.722				

	LTE BAND 2 Channel bandwidth: 20MHz										
Freq.	СН	99% BW (MHz)			26 dB BW (MHz)						
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
1860.0	18700	17.930	17.950	17.951	19.490	19.490	19.562				
1880.0	18900	17.934	17.964	17.974	19.534	19.527	19.633				
1900.0	19100	19100 17.954 17.974 17.969 19.529 19.490 19.621									

	LTE BAND 4 Channel bandwidth: 1.4MHz										
Freq.	СН	99	9% BW (MI	Hz)	26	26 dB BW (MHz)					
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
1710.7	19957	1.0951	1.0950	1.0967	1.238	1.242	1.236				
1732.5	20175	1.0944	1.0959	1.0956	1.233	1.243	1.236				
1754.3	20393	1.0938	1.0961	1.0953	1.239	1.240	1.237				

	LTE BAND 4 Channel bandwidth: 3MHz									
Freq.	СН	99% BW (MHz)			26 dB BW (MHz)					
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM			
1711.5	19965	2.6978	2.7022	2.7016	3.000	3.018	2.985			
1732.5	20175	2.7000	2.7015	2.7020	3.011	3.014	2.996			
1753.5	20385	2.6956	2.6956							

	LTE BAND 4 Channel bandwidth: 5MHz										
Freq.	СН	99	9% BW (MI	Hz)	26 dB BW (MHz)						
(MHz)	CII	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
1712.5	19957	4.5033	4.5046	4.5101	4.980	4.962	4.978				
1732.5	20175	4.4997	4.5044	4.5078	4.989	4.976	4.985				
1752.5	20375	4.5045	4.5050	4.5126	5.001	4.970	4.979				

	LTE BAND 4 Channel bandwidth: 10MHz										
Freq.	СН	99	9% BW (MI	Hz)	26 dB BW (MHz)						
(MHz)	CH	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
1715.0	20000	9.0031	8.9704	8.9992	9.824	9.739	9.830				
1732.5	20175	9.0072	8.9630	8.9868	9.857	9.798	9.856				
1750.0	20350	8.9993	8.9580	8.9902	9.822	9.773	9.835				

	LTE BAND 4 Channel bandwidth: 15MHz										
Freq.	СН	99% BW (MHz)			26 dB BW (MHz)						
(MHz)	CH	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
1717.5	20025	13.486	13.481	13.478	14.729	14.816	14.774				
1732.5	20175	13.465	13.460	13.446	14.771	14.786	14.693				
1747.5	20325	13.480	13.468	13.464	14.730	14.780	14.776				

	LTE BAND 4 Channel bandwidth: 20MHz										
Freq. (MHz)	СН	99	9% BW (MI	Hz)	26 dB BW (MHz)						
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
1720.0	20050	17.934	17.934	17.958	19.507	19.347	19.550				
1732.5	20175	17.919	17.939	17.931	19.475	19.526	19.557				
1745.0	20300	17.952	17.963	17.965	19.506	19.539	19.602				

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LTE BAND 5 Channel bandwidth: 1.4MHz									
Freq.	СН	99% BW (MHz)			26 dB BW (MHz)				
(MHz)	CII	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM		
824.7	20407	1.0951	1.0965	1.0956	1.236	1.244	1.237		
836.5	20525	1.0955	1.0975	1.0955	1.236	1.245	1.230		
848.3	20643	1.0932	1.0959	1.0933	1.239	1.238	1.235		

	LTE BAND 5 Channel bandwidth: 3MHz										
Freq.	СН	99	% BW (MH	lz)	26 dB BW (MHz)						
(MHz)	CII	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
825.5	20415	2.7009	2.7007	2.7003	2.999	2.999	2.985				
836.5	20525	2.6963	2.7002	2.7025	3.007	3.007	2.998				
847.5	20635	2.6964	2.6961	2.6992	2.993	3.003	2.984				

LTE BAND 5 Channel bandwidth: 5MHz								
Freq.	СН	99	9% BW (MHz)		26 dB BW (MHz)			
(MHz)	CH	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	
826.5	20425	4.5028	4.5043	4.5147	4.975	4.959	4.986	
836.5	20525	4.4996	4.5009	4.5080	4.989	4.981	4.986	
846.5	20625	4.4883	4.4978	4.5063	4.886	4.971	4.985	

	LTE BAND 5 Channel bandwidth: 10MHz									
Freq.	СН	99% BW (MHz)			26 dB BW (MHz)					
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM			
829.0	20450	9.0305	8.9758	9.0102	9.829	9.820	9.811			
836.5	20525	8.9872	8.9454	8.9807	9.846	9.773	9.844			
844.0	20600	9.0336	8.9711	9.0077	9.828	9.793	9.847			

	LTE BAND 7 Channel bandwidth: 5MHz									
Freq.	СН	99% BW (MHz)			26 dB BW (MHz)					
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM			
2502.5	20775	4.5006	4.5041	4.5137	4.987	4.992	5.001			
2535.0	21100	4.5020	4.5038	4.5095	4.978	4.987	4.990			
2567.5	21425	4.4986	4.5036	4.5143	4.985	4.980	4.974			

LTE BAND 7 Channel bandwidth: 10MHz								
Freq.	СН	99% BW (MHz)			26 dB BW (MHz)			
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	
2505.0	20800	9.0088	8.9621	8.9896	9.819	9.788	9.844	
2535.0	21100	9.0101	8.9632	8.9926	9.838	9.779	9.843	
2565.0	21400	8.9961	8.9622	8.9730	9.788	9.790	9.838	

	LTE BAND 7 Channel bandwidth: 15MHz									
Freq.	СН	99% BW (MHz)			26 dB BW (MHz)					
(MHz)	CH	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM			
2507.5	20825	13.481	13.458	13.443	14.729	14.795	14.680			
2535.0	21100	13.477	13.466	13.444	14.696	14.701	14.753			
2562.5	21375	13.492	13.465	13.453	14.667	14.848	14.707			

LTE BAND 7 Channel bandwidth: 20MHz								
Freq.	СН	99	9% BW (MI	Hz)	26 dB BW (MHz)			
(MHz)	CH	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	
2510.0	20850	17.921	17.943	17.950	19.399	19.519	19.534	
2535.0	21100	17.937	17.963	17.954	19.491	19.471	19.530	
2560.0	21350	17.927	17.968	17.970	19.495	19.499	19.493	

	LTE BAND 12 Channel bandwidth: 1.4MHz									
Freq.	СН	99% BW (MHz)			26 dB BW (MHz)					
(MHz)	CII	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM			
699.7	23017	1.0948	1.1104	1.0999	1.222	1.242	1.211			
707.5	23095	1.0904	1.0921	1.0968	1.220	1.221	1.207			
715.3	23173	1.1177	1.1106	1.0974	1.213	1.205	1.226			

	LTE BAND 12 Channel bandwidth: 3MHz									
Freq.	СН	99	% BW (MH	lz)	26 dB BW (MHz)					
(MHz)	CH	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM			
700.5	23025	2.6774	2.6759	2.6850	2.889	2.896	2.877			
707.5	23095	2.6853	2.6820	2.6903	2.921	2.915	2.881			
714.5	23165	2.6708	2.6781	2.6830	2.900	2.893	2.887			

	LTE BAND 12 Channel bandwidth: 5MHz										
Freq.	Freq. CH	99% BW (MHz)			26 dB BW (MHz)						
(MHz)	CH	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
701.5	23035	4.5012	4.5052	4.5122	5.000	4.993	4.982				
707.5	23095	4.4526	4.4869	4.4613	4.804	4.859	4.784				
713.5	23155	4.5016	4.4633	4.4591	4.958	4.786	4.793				

LTE BAND 12 Channel bandwidth: 10MHz										
Freq.	СН	99	% BW (MH	lz)	26 dB BW (MHz)					
(MHz)	CH	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM			
704.0	23060	9.0087	8.9297	8.9898	9.844	9.473	9.846			
707.5	23095	9.0191	8.9568	8.9698	9.829	9.757	9.641			
711.0	23130	9.0167	8.9233	8.9850	9.856	10.119	9.848			

	LTE BAND 13 Channel bandwidth: 5MHz										
Freq.	СН	99% BW (MHz)			26 dB BW (MHz)						
(MHz)	CII	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
779.5	23205	4.5025	4.5006	4.5058	4.992	4.874	4.974				
782.0	23230	4.4995	4.5041	4.5103	5.005	4.997	4.982				
784.5	23255	4.4980	4.4994	4.5029	4.998	4.965	4.972				

	LTE BAND 13 Channel bandwidth: 10MHz									
	Freq.	СН	99% BW (MHz)			26 dB BW (MHz)				
	(MHz)	CII	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM		
	782.0	23230	9.015	8.957	8.985	9.830	9.764	9.837		
-										

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LTE BAND 17 Channel bandwidth: 5MHz										
Freq.	СН	99% BW (MHz)			26 dB BW (MHz)					
(MHz)		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM			
706.5	23755	4.4854	4.4807	4.4693	4.857	4.804	4.817			
710.0	23790	4.4973	4.4717	4.4764	4.899	4.807	4.775			
713.5	23825	4.4742	4.4729	4.4539	4.850	4.779	4.786			

LTE BAND 17 Channel bandwidth: 10MHz										
Freq.	СН	99	99% BW (MHz)			26 dB BW (MHz)				
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM			
709.0	23780	8.9767	8.9340	8.8840	9.494	9.557	9.442			
710.0	23790	8.9546	8.8743	8.8822	9.492	9.441	9.413			
711.0	23800	8.9602	8.9222	8.8863	9.553	9.476	9.551			

LTE BAND 38 Channel bandwidth: 5MHz								
ſ	Freq. (MHz)	СН	99% BW (MHz)			26 dB BW (MHz)		
L			QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
	2572.5	37775	4.5070	4.5001	4.5081	5.152	4.960	5.119
I	2595.0	38000	4.5033	4.5053	4.5102	5.207	4.972	5.186
I	2617.5	38225	4.5067	4.5033	4.5028	4.997	4.966	4.942

	LTE BAND 38 Channel bandwidth: 10MHz										
Freq.	СН	99% BW (MHz)			26 dB BW (MHz)						
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
2575.0	37800	8.9753	8.9652	8.9786	9.798	9.782	9.811				
2595.0	38000	8.9730	8.9628	8.9827	9.769	9.735	9.844				
2615.0	38200	8.9814	8.9639	8.9847	9.741	9.820	9.858				

	LTE BAND 38 Channel bandwidth: 15MHz									
	Freq. (MHz)	СН	99% BW (MHz)			26 dB BW (MHz)				
			QPSK	16QAM	64QAM	QPSK	16QAM	64QAM		
	2577.5	37825	13.485	13.476	13.451	14.671	14.801	14.631		
	2595.0	38000	13.479	13.485	13.445	14.608	14.724	14.651		
	2612.5	38175	13.484	13.486	13.453	14.670	14.739	14.760		

LTE BAND 38 Channel bandwidth: 20MHz											
Freq.	СН	99	99% BW (MHz)			26 dB BW (MHz)					
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
2580.0	37850	17.980	17.937	17.921	19.570	19.552	19.445				
2595.0	38000	17.974	17.948	17.925	19.591	19.538	19.446				
2610.0	38150	17.978	17.913	17.916	19.596	19.526	19.467				

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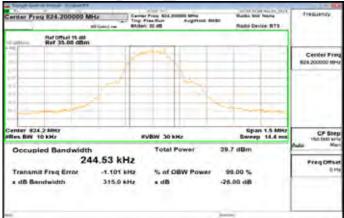


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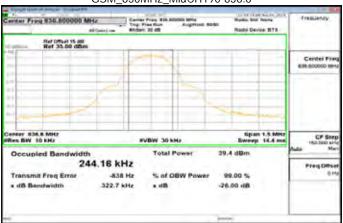
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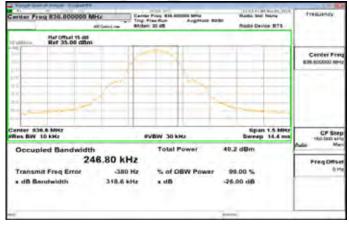
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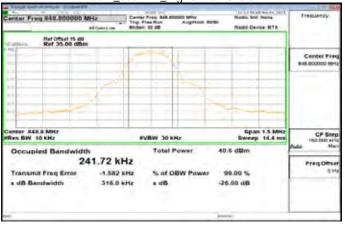
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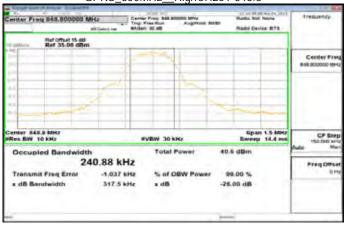
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GSM_850MHz_HighCH251-848.8



GPRS_850MHz__HighCH251-848.8



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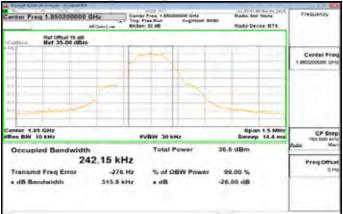
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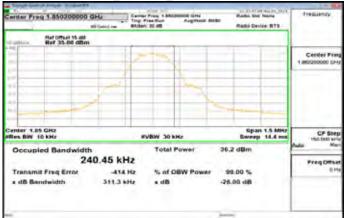


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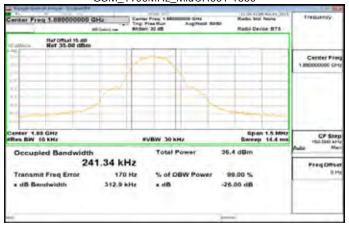
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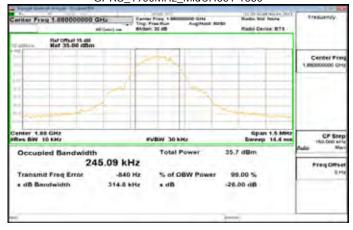
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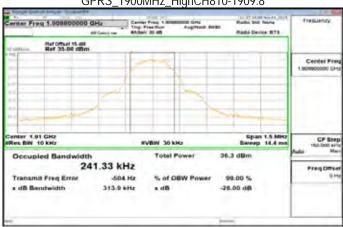
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GSM_1900MHz_HighCH810-1909.8



GPRS_1900MHz_HighCH810-1909.8



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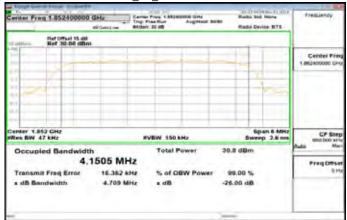


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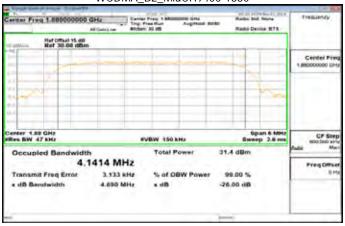
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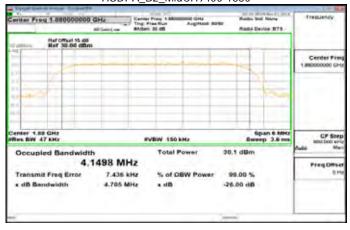
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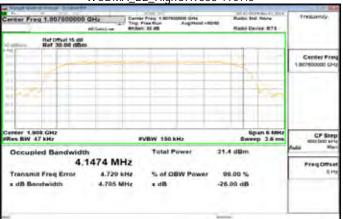
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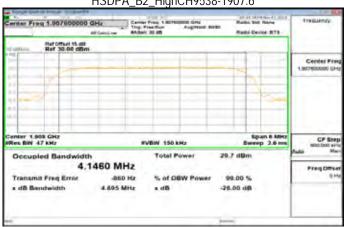
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WCDMA_B2_HighCH9538-1907.6



HSDPA_B2_HighCH9538-1907.6



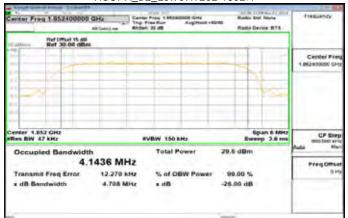
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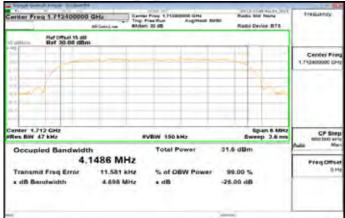


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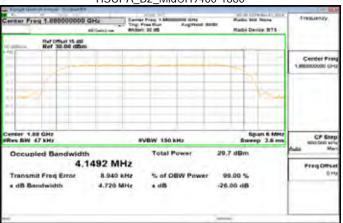
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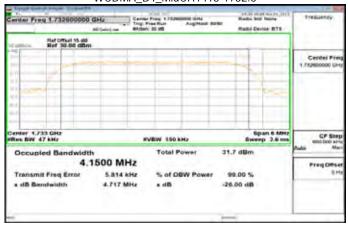
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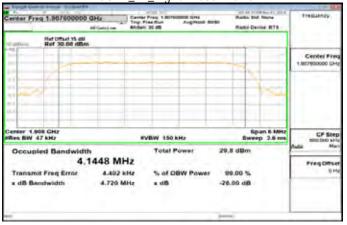
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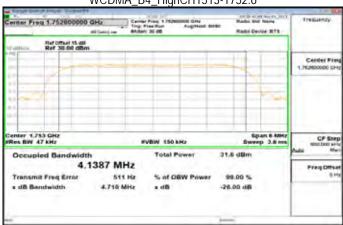
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HSUPA_B2_HighCH9538-1907.6



WCDMA_B4_HighCH1513-1752.6



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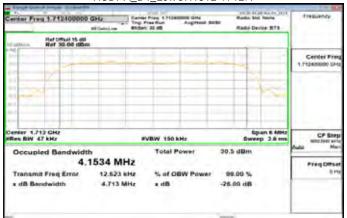
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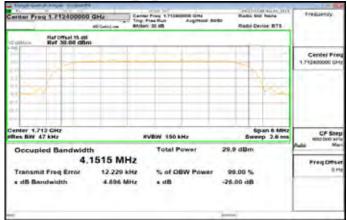


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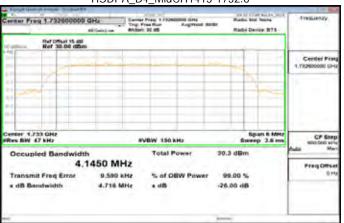
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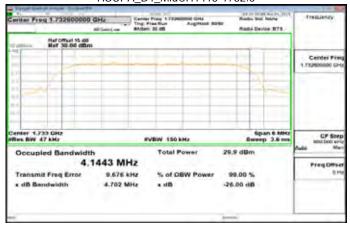
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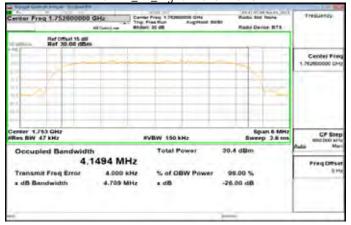
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HSUPA_B4_MidCH1413-1732.6



HSDPA_B4_HighCH1513-1752.6



HSUPA_B4_HighCH1513-1752.6



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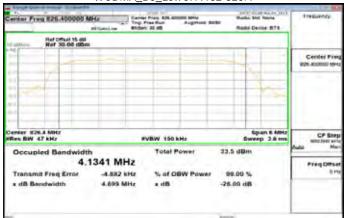
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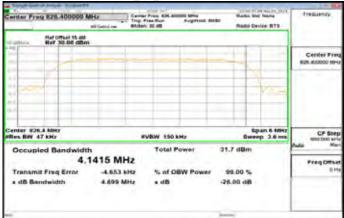


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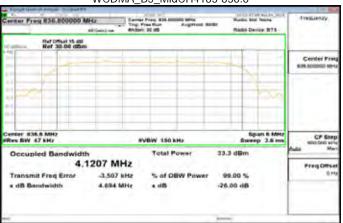
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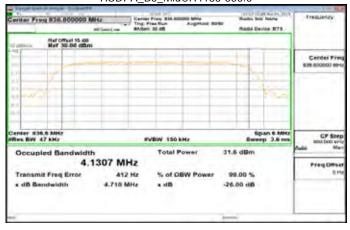
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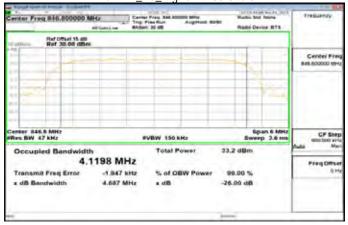
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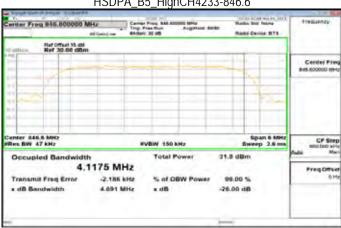
HSDPA_B5_MidCH4183-836.6



WCDMA_B5_HighCH4233-846.6



HSDPA_B5_HighCH4233-846.6



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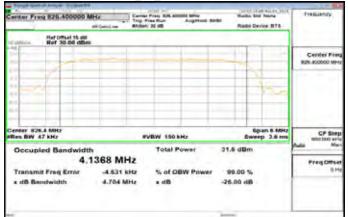
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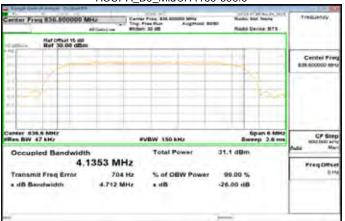
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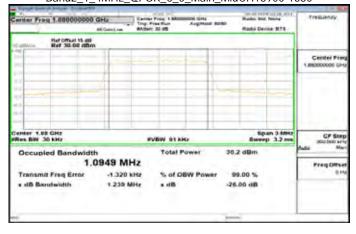
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HSUPA_B5_MidCH4183-836.6



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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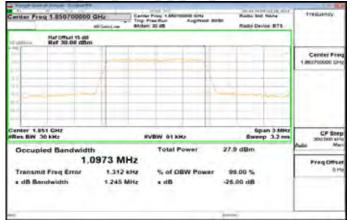


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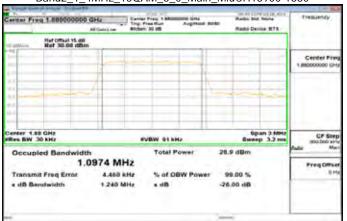
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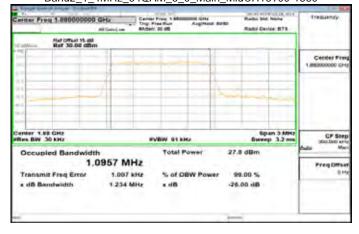
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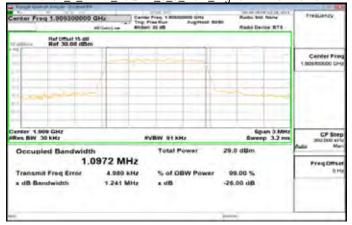
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Band2_1_4MHz_64QAM_6_0_Main_MidCH18900-1880



Band2_1_4MHz_16QAM_6_0_Main_HighCH19193-1909.3



Band2_1_4MHz_64QAM_6_0_Main_HighCH19193-1909.3



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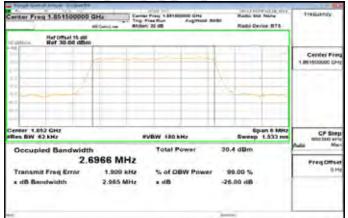
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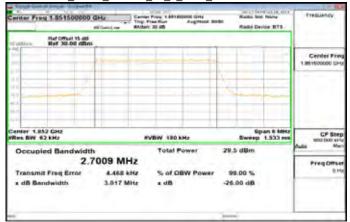


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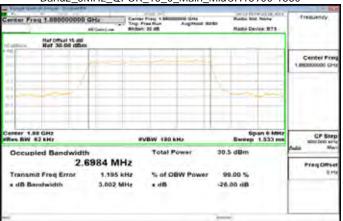
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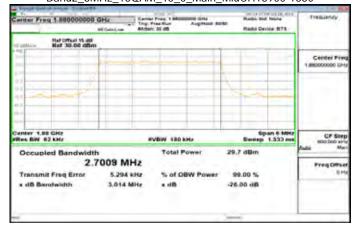
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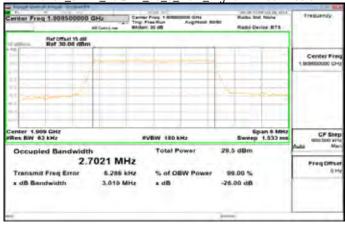
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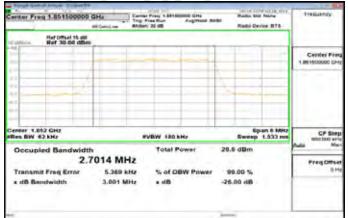
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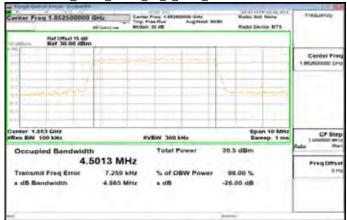


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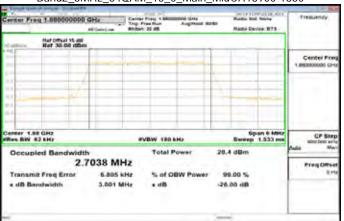
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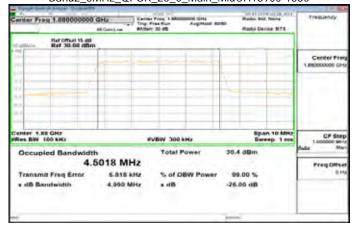
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Band2_3MHz_64QAM_15_0_Main_MidCH18900-1880



Band2_5MHz_QPSK_25_0_Main_MidCH18900-1880



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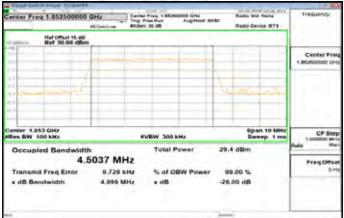
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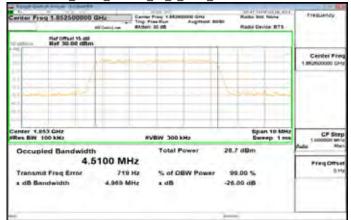


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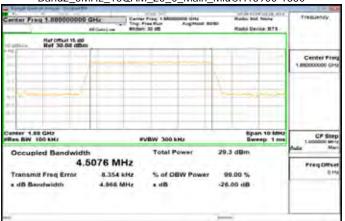
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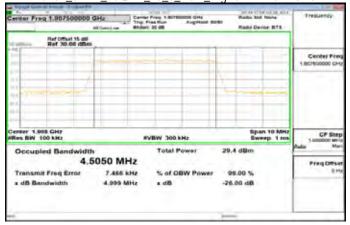
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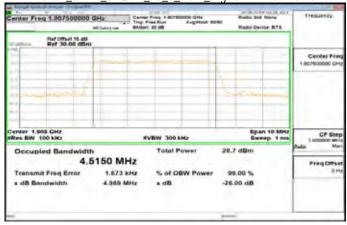
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Band2_5MHz_16QAM_25_0_Main_HighCH19175-1907.5



Band2_5MHz_64QAM_25_0_Main_HighCH19175-1907.5



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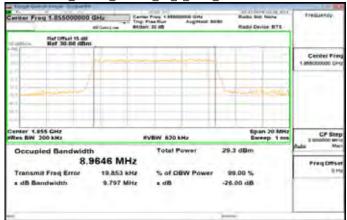


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Band2_10MHz_16QAM_50_0_Main_LowCH18650-1855



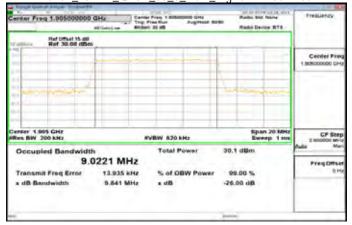
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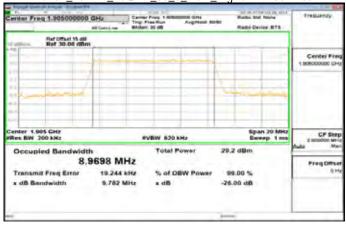
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Band2_10MHz_QPSK_50_0_Main_HighCH19150-1905



Band2_10MHz_16QAM_50_0_Main_HighCH19150-1905



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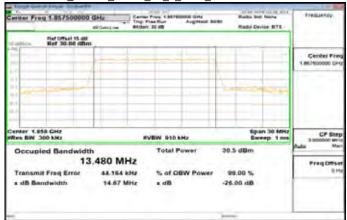


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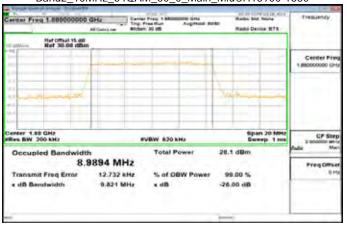
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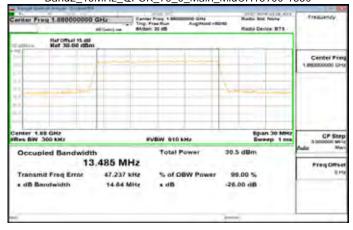
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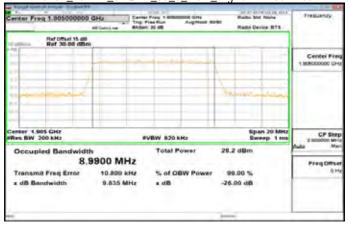
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Band2_15MHz_QPSK_75_0_Main_MidCH18900-1880



Band2_10MHz_64QAM_50_0_Main_HighCH19150-1905



Band2_15MHz_QPSK_75_0_Main_HighCH19125-1902.5



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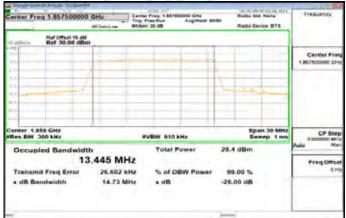


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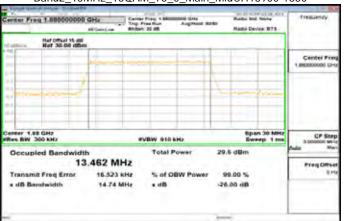
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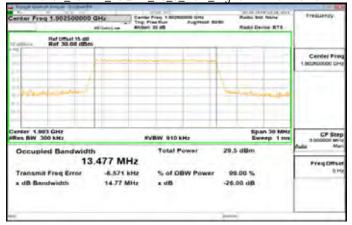
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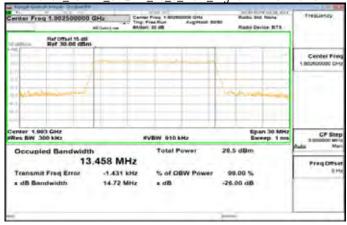
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Band2_15MHz_16QAM_75_0_Main_HighCH19125-1902.5



Band2_15MHz_64QAM_75_0_Main_HighCH19125-1902.5



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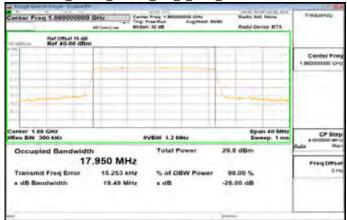


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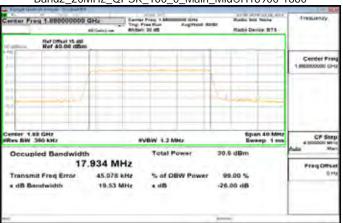
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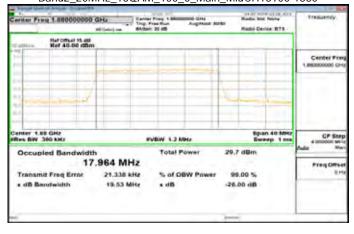
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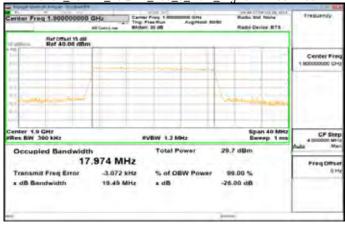
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Band2_20MHz_QPSK_100_0_Main_HighCH19100-1900



Band2_20MHz_16QAM_100_0_Main_HighCH19100-1900



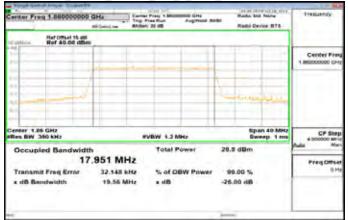
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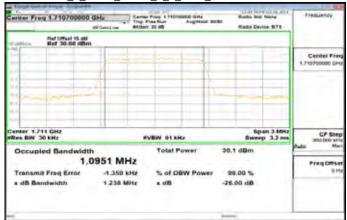


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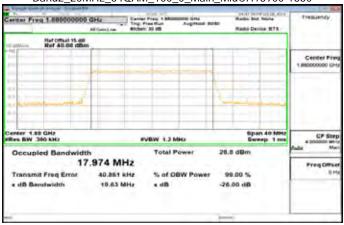
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Band4_1_4MHz_QPSK_6_0_Main_LowCH19957-1710.7



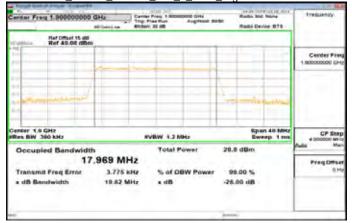
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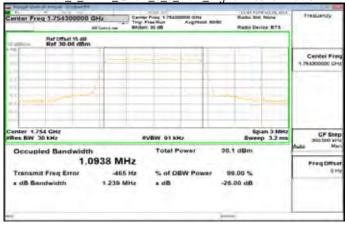
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Band2_20MHz_64QAM_100_0_Main_HighCH19100-1900



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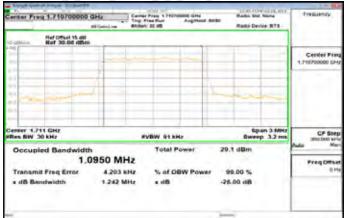
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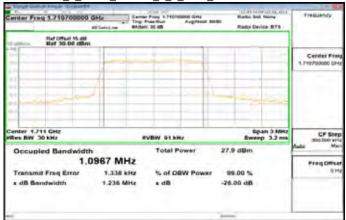


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Band4_1_4MHz_16QAM_6_0_Main_LowCH19957-1710.7



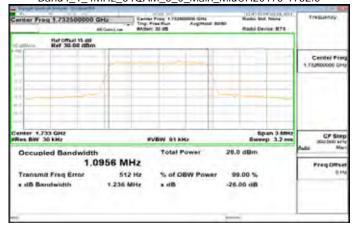
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Band4_1_4MHz_16QAM_6_0_Main_MidCH20175-1732.5



Band4_1_4MHz_64QAM_6_0_Main_MidCH20175-1732.5



Band4_1_4MHz_16QAM_6_0_Main_HighCH20393-1754.3



Band4_1_4MHz_64QAM_6_0_Main_HighCH20393-1754.3



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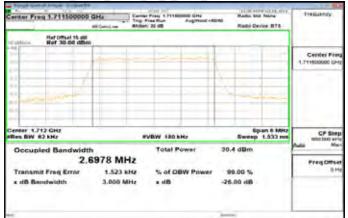
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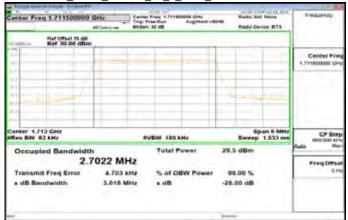


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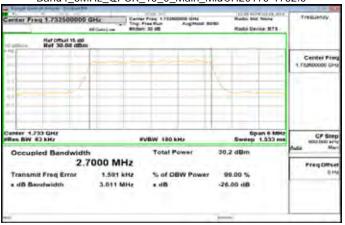
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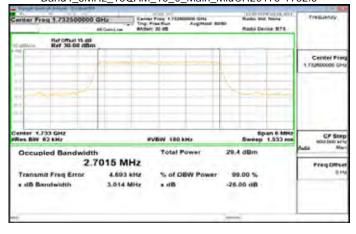
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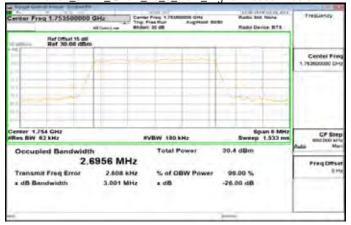
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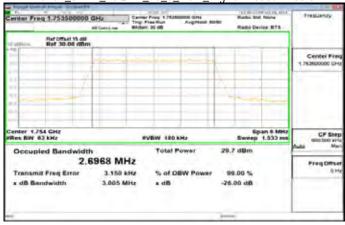
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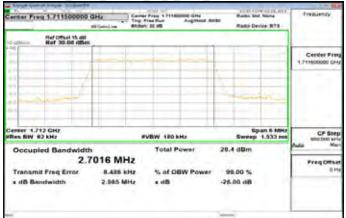
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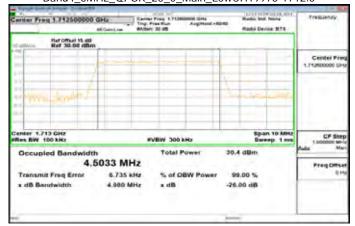


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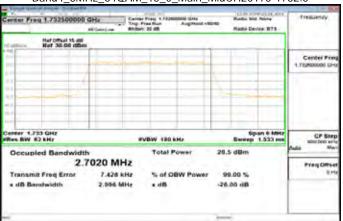
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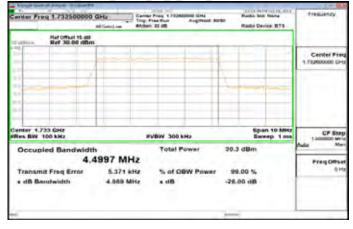
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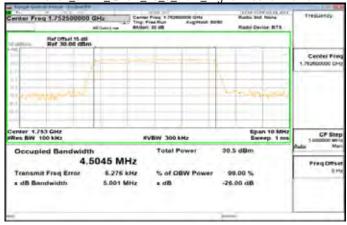
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Band4_3MHz_64QAM_15_0_Main_HighCH20385-1753.5



Band4_5MHz_QPSK_25_0_Main_HighCH20375-1752.5



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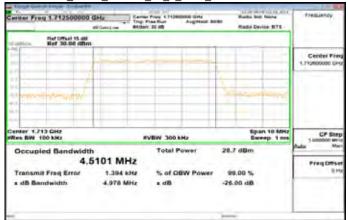


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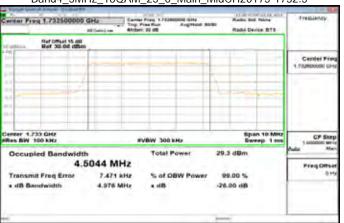
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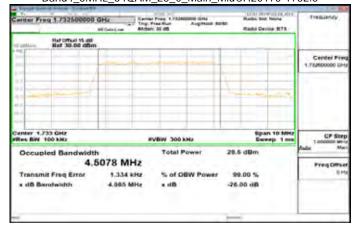
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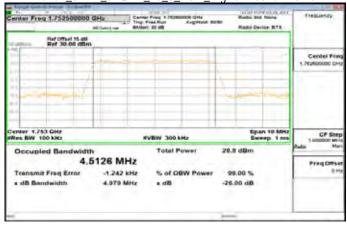
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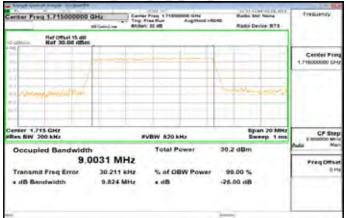
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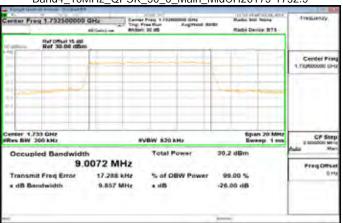
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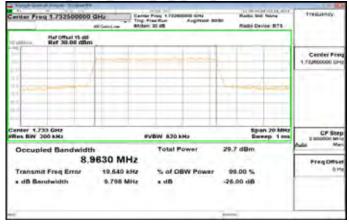
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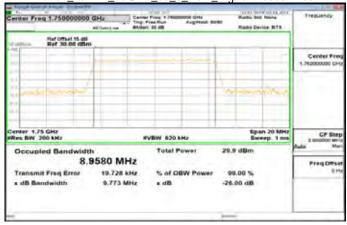
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Band4_10MHz_QPSK_50_0_Main_HighCH20350-1750



Band4_10MHz_16QAM_50_0_Main_HighCH20350-1750



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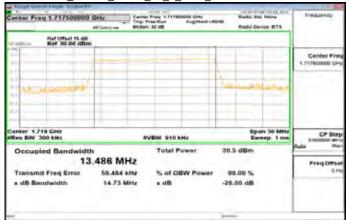


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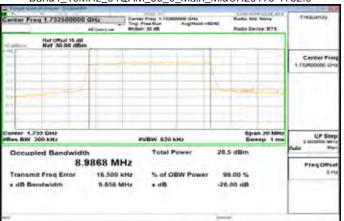
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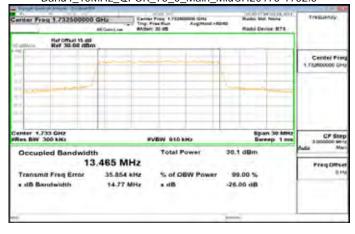
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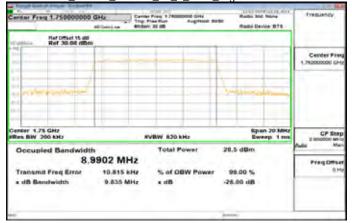
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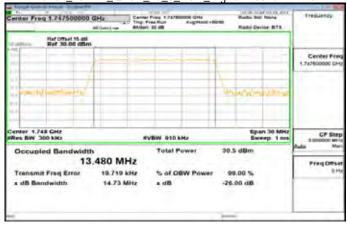
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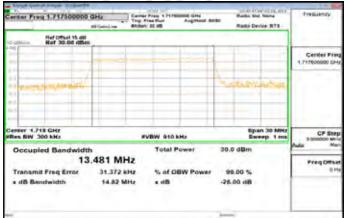
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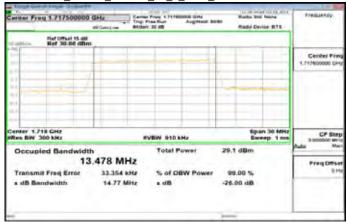


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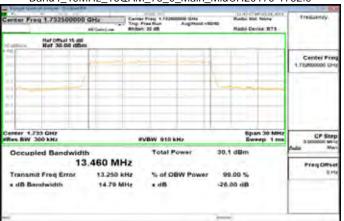
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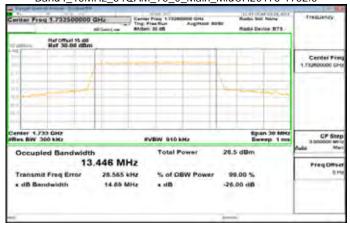
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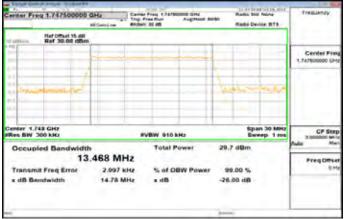
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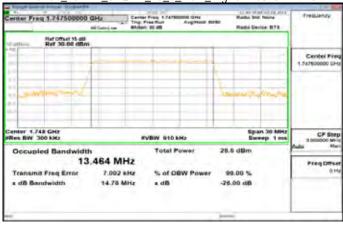
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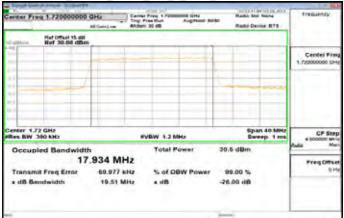
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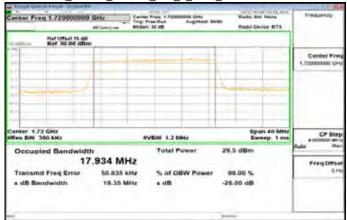


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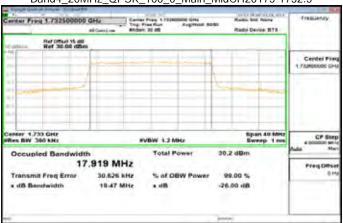
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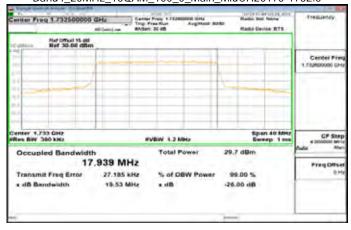
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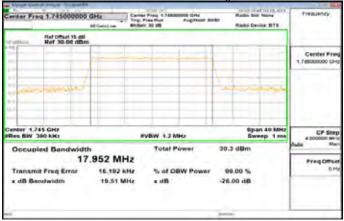
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Band4_20MHz_16QAM_100_0_Main_MidCH20175-1732.5



Band4_20MHz_QPSK_100_0_Main_HighCH20300-1745



Band4_20MHz_16QAM_100_0_Main_HighCH20300-1745



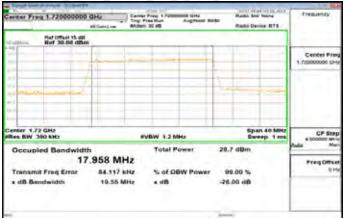
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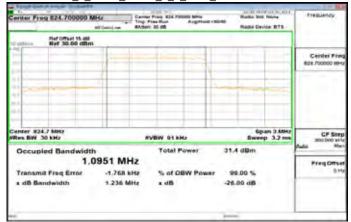


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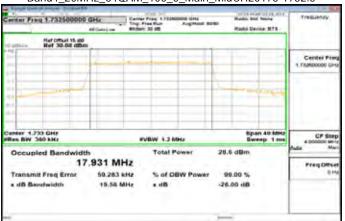
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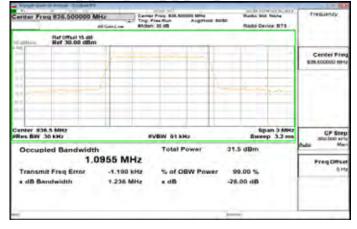
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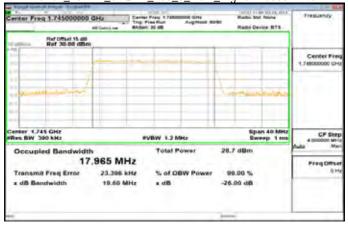
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Band5_1_4MHz_QPSK_6_0_Main_MidCH20525-836.5



Band4_20MHz_64QAM_100_0_Main_HighCH20300-1745



Band5_1_4MHz_QPSK_6_0_Main_HighCH20643-848.3



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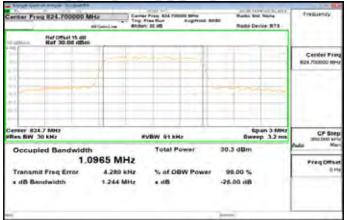
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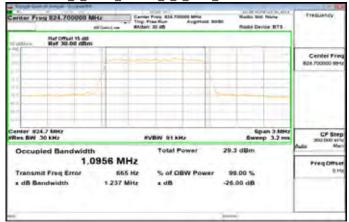


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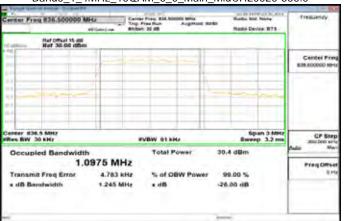
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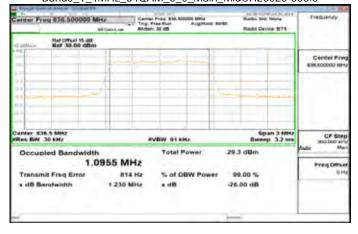
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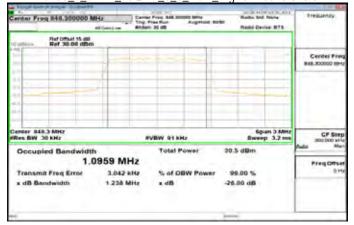
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Band5_1_4MHz_64QAM_6_0_Main_MidCH20525-836.5



Band5_1_4MHz_16QAM_6_0_Main_HighCH20643-848.3



Band5_1_4MHz_64QAM_6_0_Main_HighCH20643-848.3



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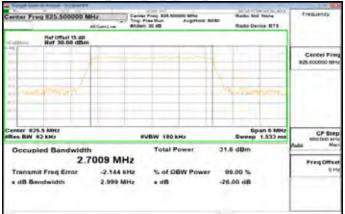
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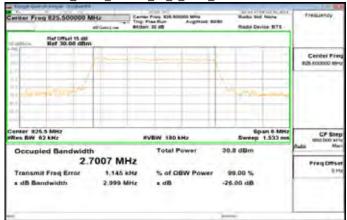


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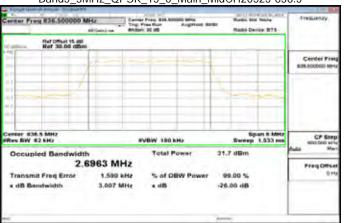
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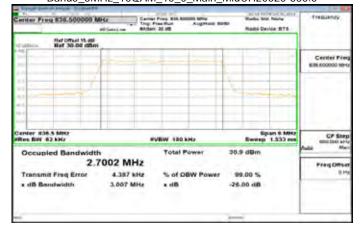
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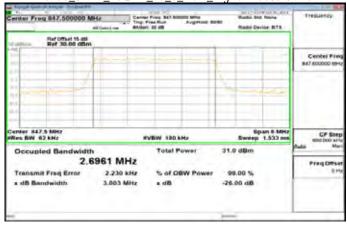
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Band5_3MHz_QPSK_15_0_Main_HighCH20635-847.5



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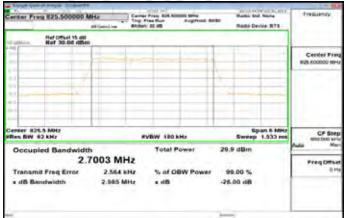
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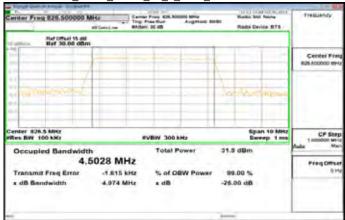


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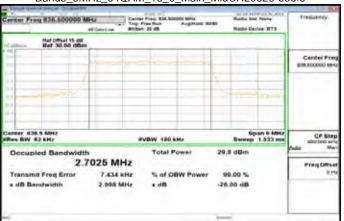
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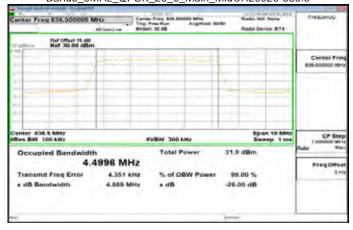
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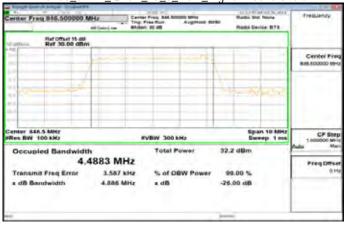
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Band5_3MHz_64QAM_15_0_Main_HighCH20635-847.5



Band5_5MHz_QPSK_25_0_Main_HighCH20625-846.5



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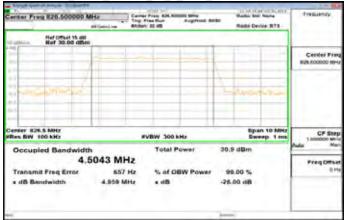
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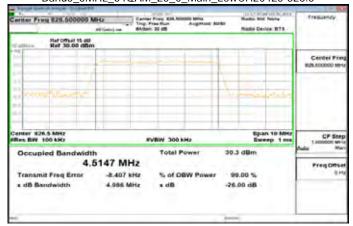


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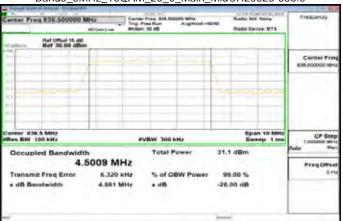
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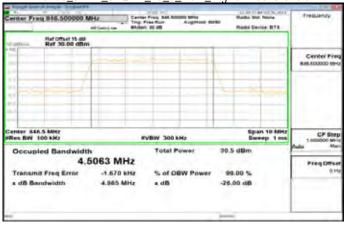
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Band5_5MHz_16QAM_25_0_Main_HighCH20625-846.5



Band5_5MHz_64QAM_25_0_Main_HighCH20625-846.5



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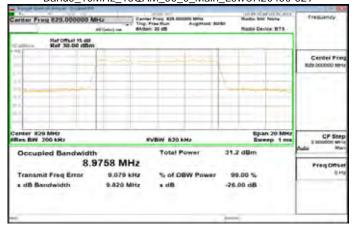


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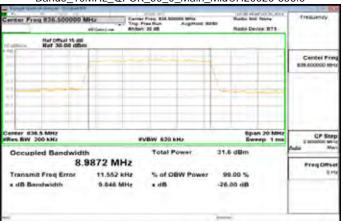
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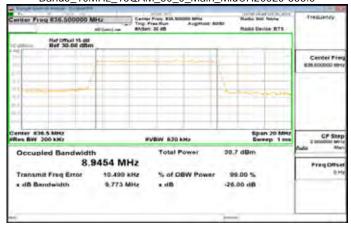
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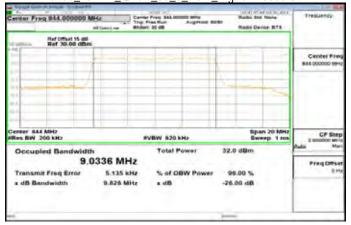
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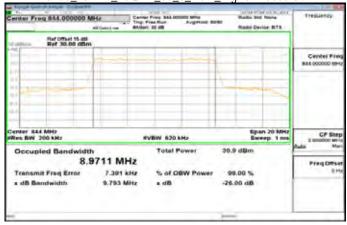
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Band5_10MHz_QPSK_50_0_Main_HighCH20600-844



Band5_10MHz_16QAM_50_0_Main_HighCH20600-844



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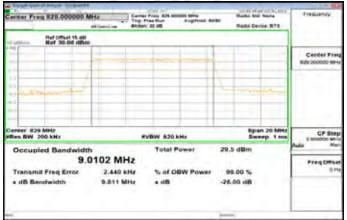
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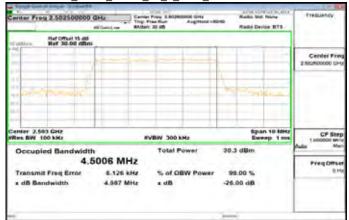


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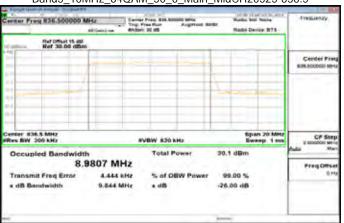
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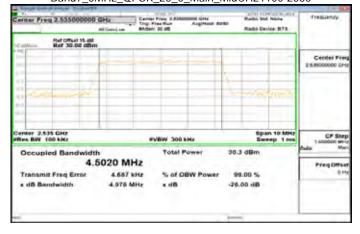
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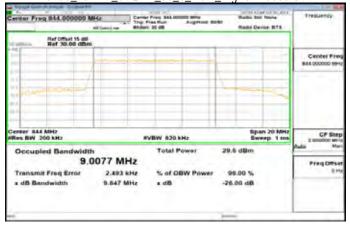
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Band7_5MHz_QPSK_25_0_Main_MidCH21100-2535



Band5_10MHz_64QAM_50_0_Main_HighCH20600-844



Band7_5MHz_QPSK_25_0_Main_HighCH21425-2567.5



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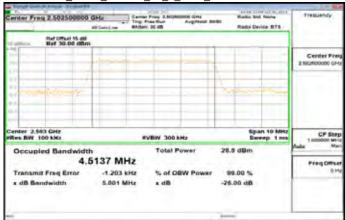


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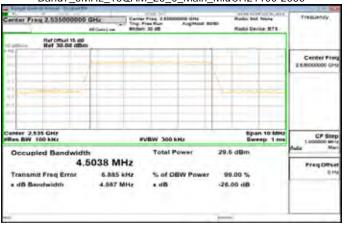
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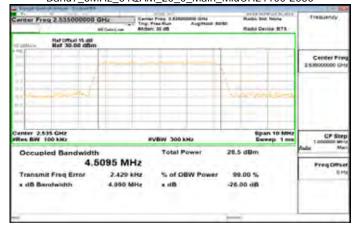
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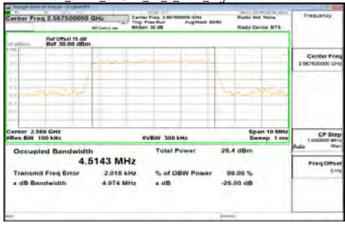
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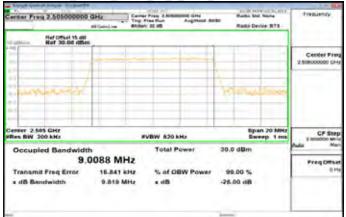
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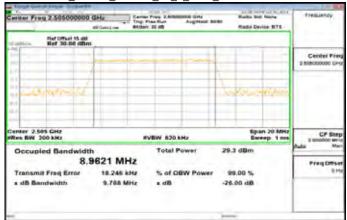


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Band7_10MHz_QPSK_50_0_Main_LowCH20800-2505



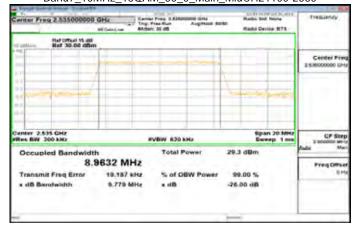
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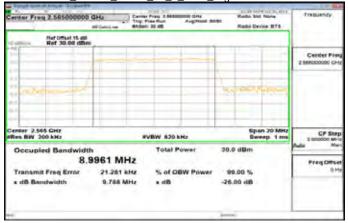
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Band7_10MHz_16QAM_50_0_Main_MidCH21100-2535



Band7_10MHz_QPSK_50_0_Main_HighCH21400-2565



Band7_10MHz_16QAM_50_0_Main_HighCH21400-2565



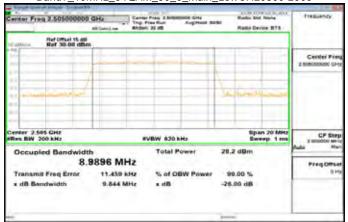
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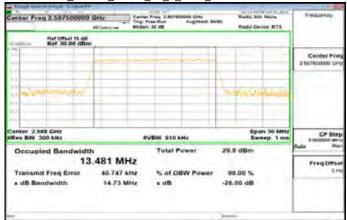


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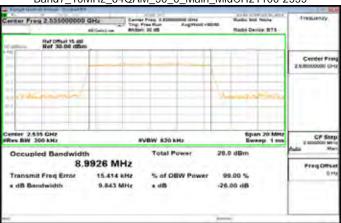
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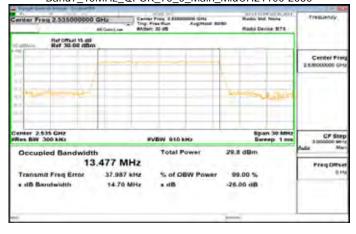
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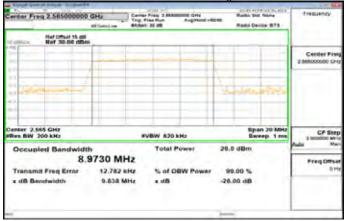
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Band7_15MHz_QPSK_75_0_Main_MidCH21100-2535



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Band7_15MHz_QPSK_75_0_Main_HighCH21375-2562.5



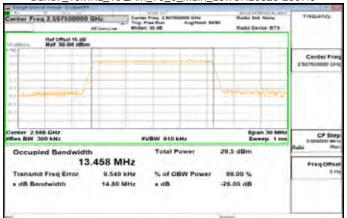
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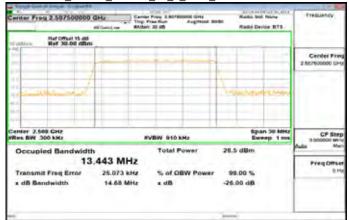


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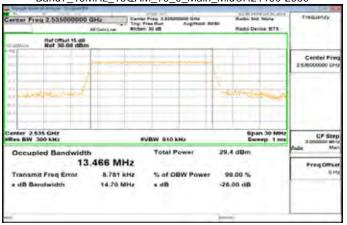
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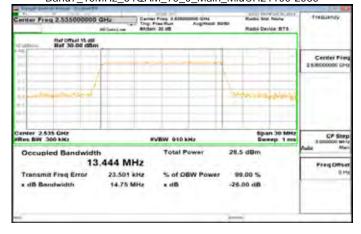
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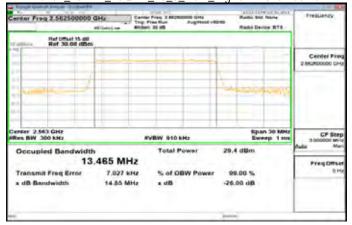
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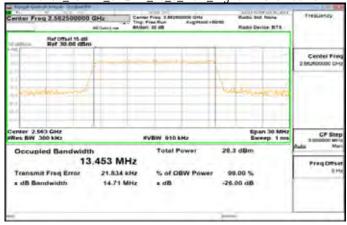
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Band7_15MHz_16QAM_75_0_Main_HighCH21375-2562.5



Band7_15MHz_64QAM_75_0_Main_HighCH21375-2562.5



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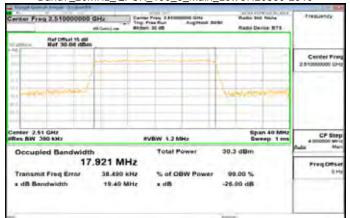
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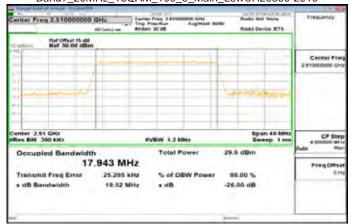


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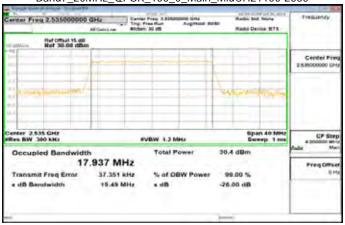
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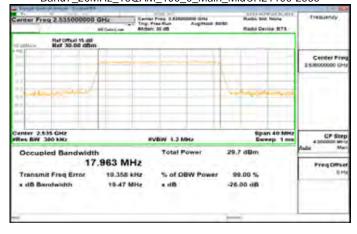
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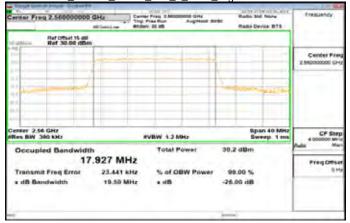
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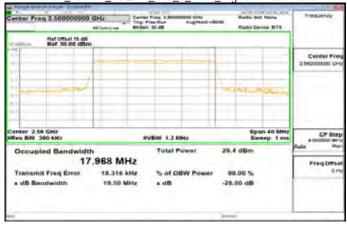
Band7_20MHz_16QAM_100_0_Main_MidCH21100-2535



Band7_20MHz_QPSK_100_0_Main_HighCH21350-2560



Band7_20MHz_16QAM_100_0_Main_HighCH21350-2560



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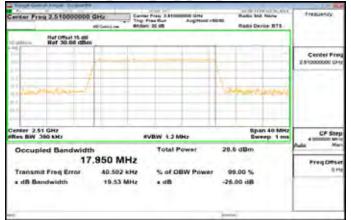
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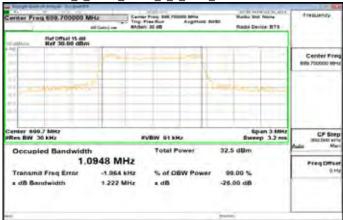


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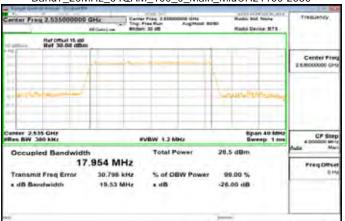
Band7_20MHz_64QAM_100_0_Main_LowCH20850-2510



Band12_1_4MHz_QPSK_6_0_Main_LowCH23017-699.7



Band7_20MHz_64QAM_100_0_Main_MidCH21100-2535



Band12_1_4MHz_QPSK_6_0_Main_MidCH23095-707.5



Band7_20MHz_64QAM_100_0_Main_HighCH21350-2560



Band12_1_4MHz_QPSK_6_0_Main_HighCH23173-715.3



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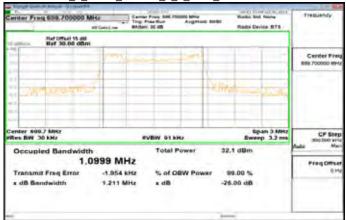


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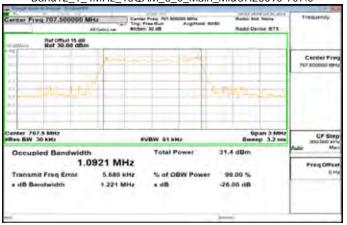
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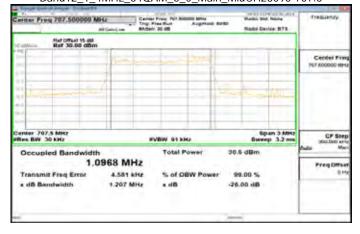
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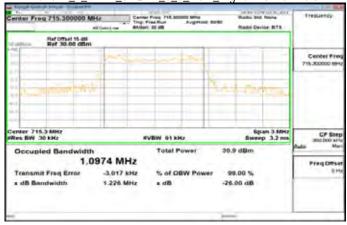
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Band12_1_4MHz_16QAM_6_0_Main_HighCH23173-715.3



Band12_1_4MHz_64QAM_6_0_Main_HighCH23173-715.3



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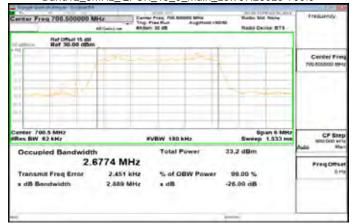
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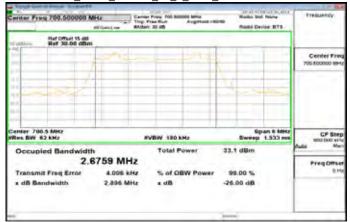


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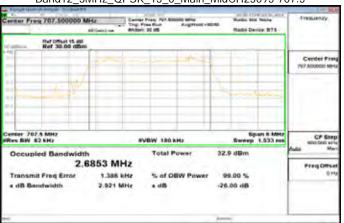
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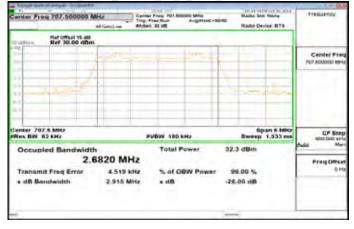
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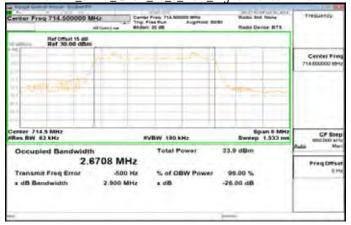
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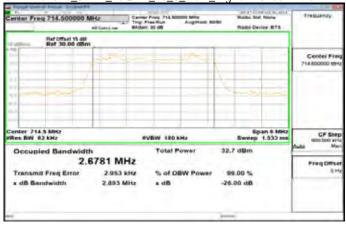
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Band12_3MHz_QPSK_15_0_Main_HighCH23165-714.5



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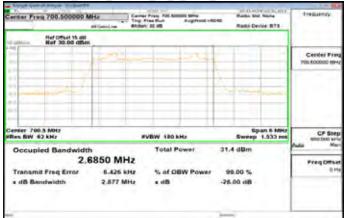
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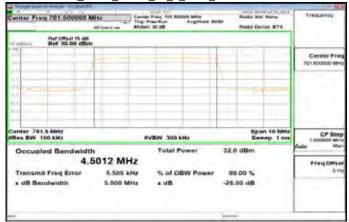


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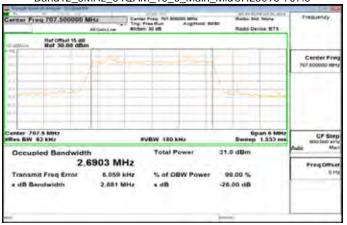
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Band12_5MHz_QPSK_25_0_Main_LowCH23035-701.5



Band12_3MHz_64QAM_15_0_Main_MidCH23095-707.5



Band12_5MHz_QPSK_25_0_Main_MidCH23095-707.5



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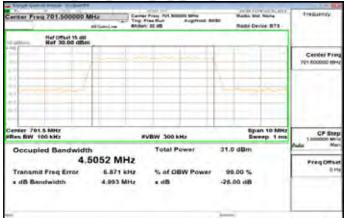
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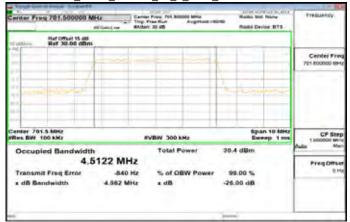


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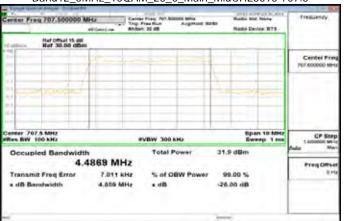
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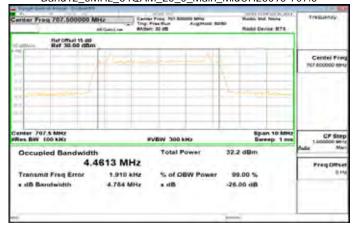
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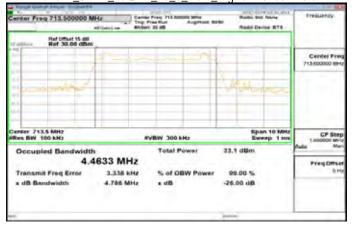
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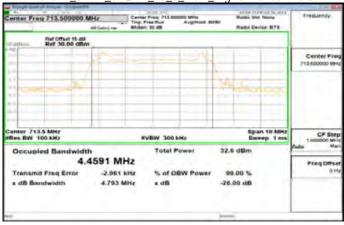
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Band12_5MHz_16QAM_25_0_Main_HighCH23155-713.5



Band12_5MHz_64QAM_25_0_Main_HighCH23155-713.5



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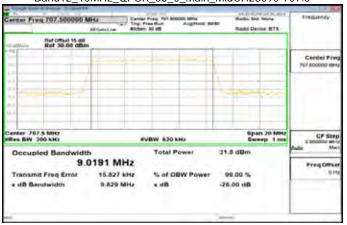
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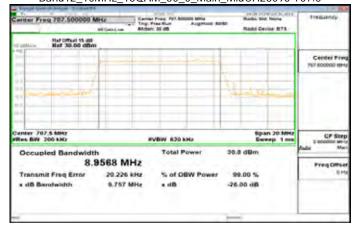
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Band12_10MHz_QPSK_50_0_Main_MidCH23095-707.5



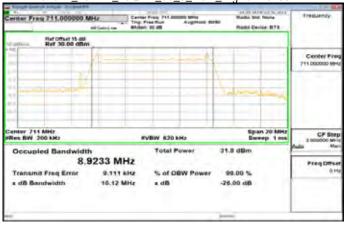
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Band12_10MHz_QPSK_50_0_Main_HighCH23130-711



Band12_10MHz_16QAM_50_0_Main_HighCH23130-711



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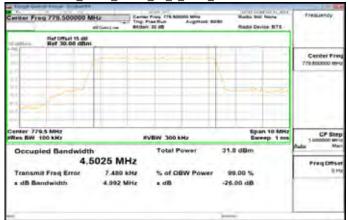


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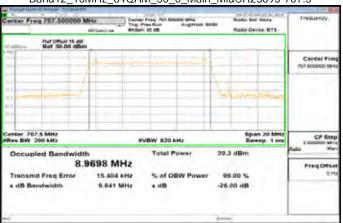
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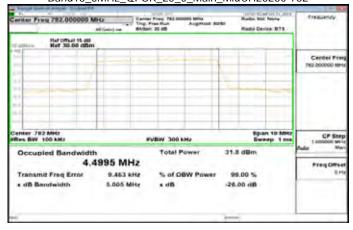
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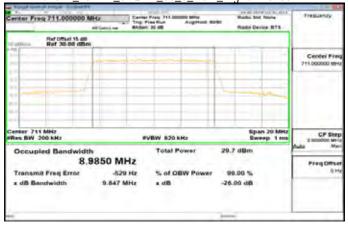
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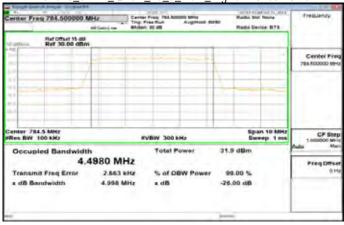
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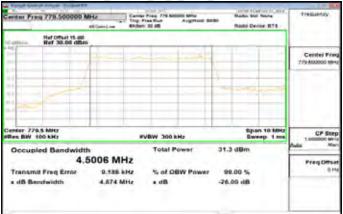
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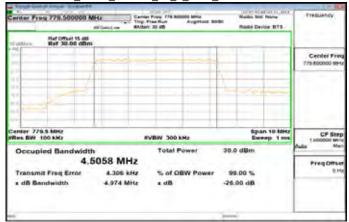


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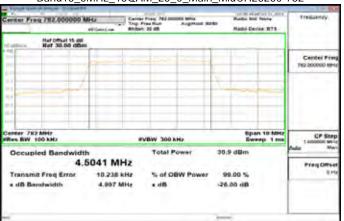
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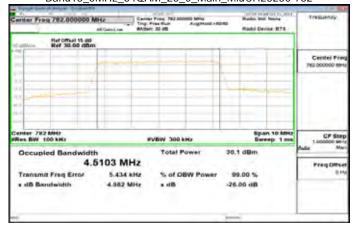
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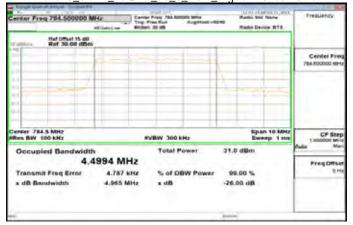
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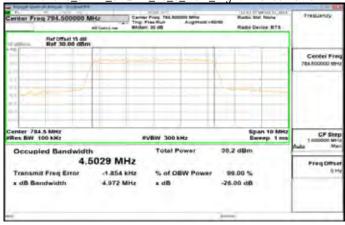
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Band13_5MHz_64QAM_25_0_Main_HighCH23255-784.5



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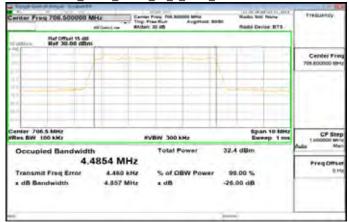


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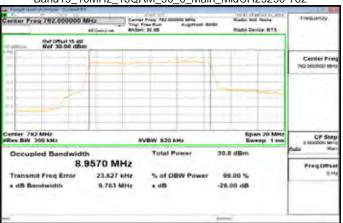
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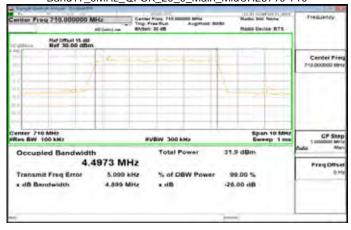
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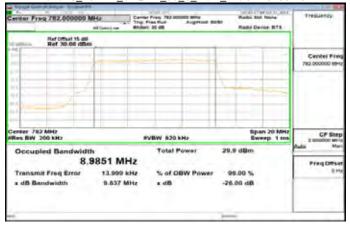
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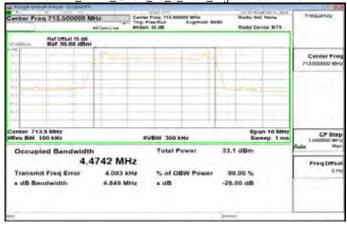
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Band13_10MHz_64QAM_50_0_Main_MidCH23230-782



Band17_5MHz_QPSK_25_0_Main_HighCH23825-713.5



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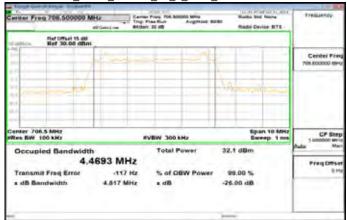


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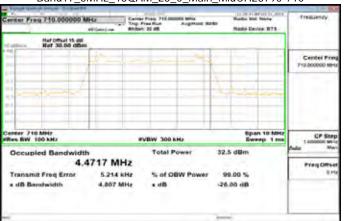
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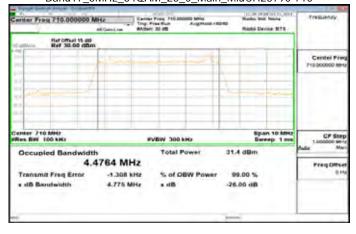
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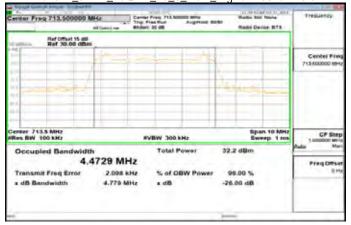
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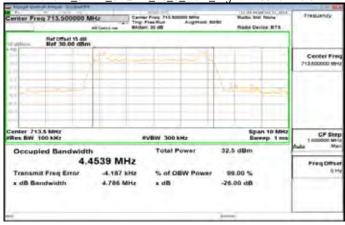
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Band17_5MHz_64QAM_25_0_Main_HighCH23825-713.5



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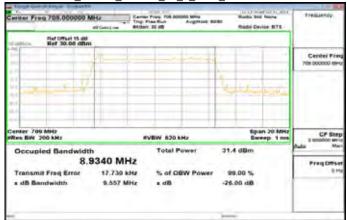


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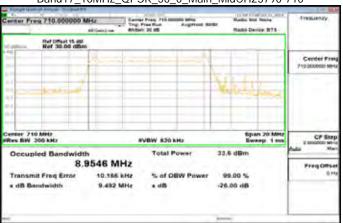
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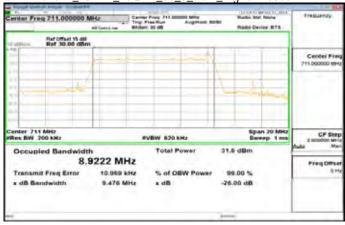
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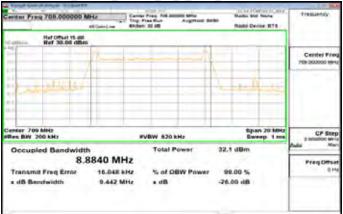
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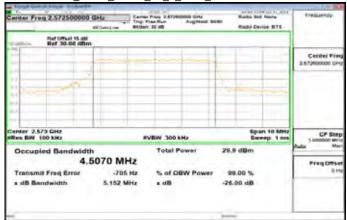


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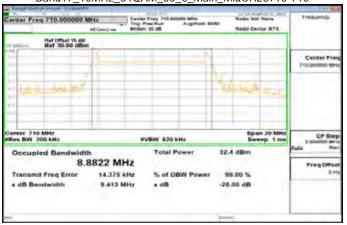
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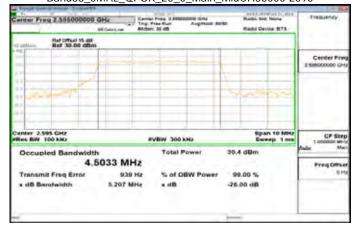
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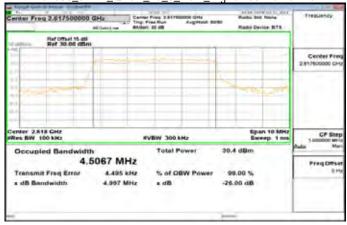
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Band17_10MHz_64QAM_50_0_Main_HighCH23800-711



Band38_5MHz_QPSK_25_0_Main_HighCH38225-2617.5



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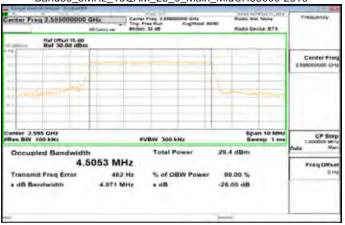
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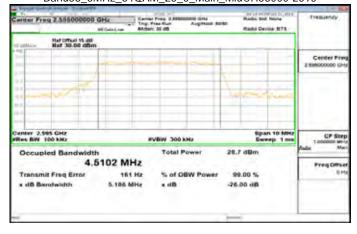
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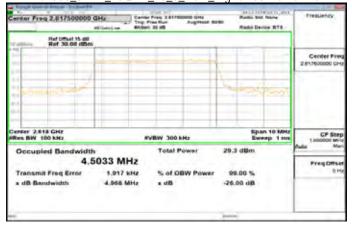
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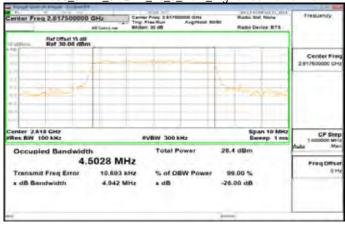
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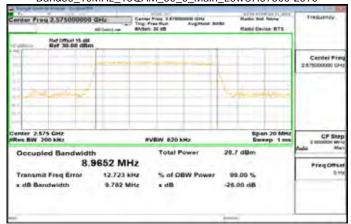


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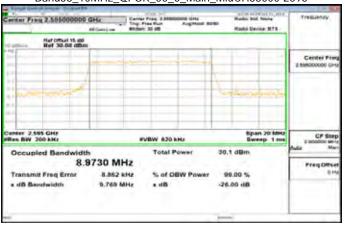
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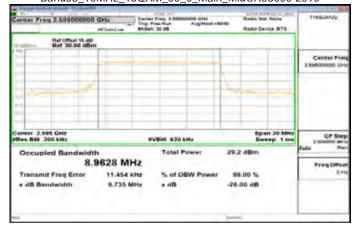
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Band38_10MHz_QPSK_50_0_Main_MidCH38000-2595



Band38_10MHz_16QAM_50_0_Main_MidCH38000-2595



Band38_10MHz_QPSK_50_0_Main_HighCH38200-2615



Band38_10MHz_16QAM_50_0_Main_HighCH38200-2615



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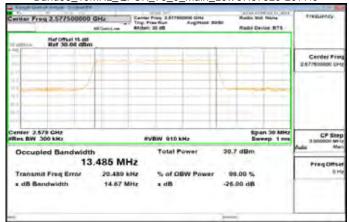


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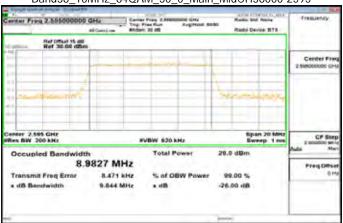
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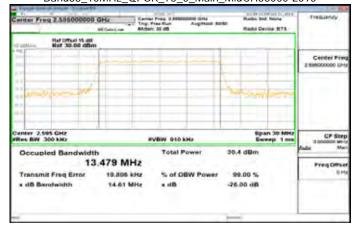
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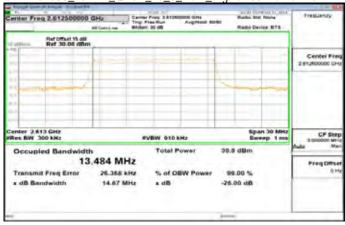
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Band38_10MHz_64QAM_50_0_Main_HighCH38200-2615



Band38_15MHz_QPSK_75_0_Main_HighCH38175-2612.5



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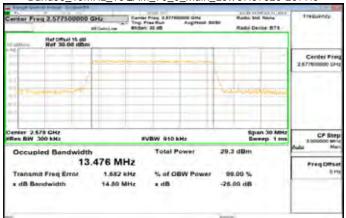
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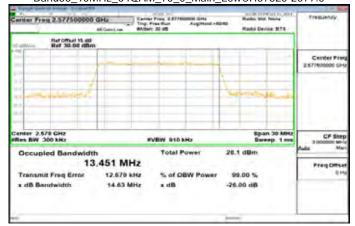


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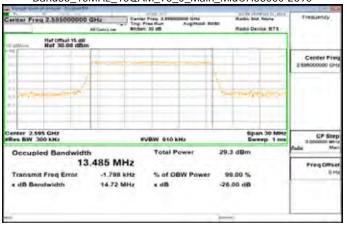
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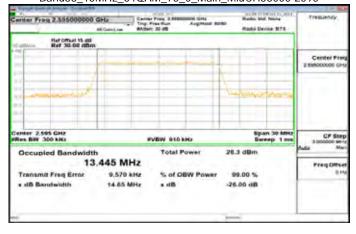
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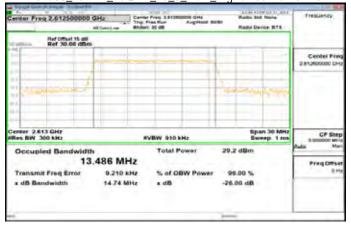
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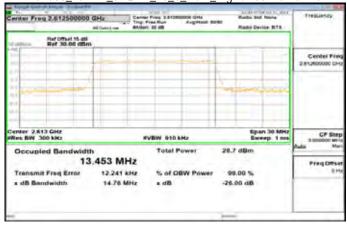
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Band38_15MHz_16QAM_75_0_Main_HighCH38175-2612.5



Band38_15MHz_64QAM_75_0_Main_HighCH38175-2612.5



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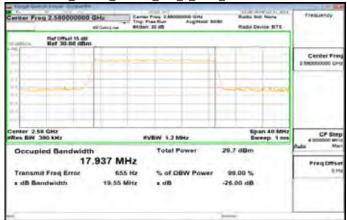


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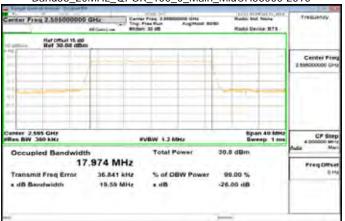
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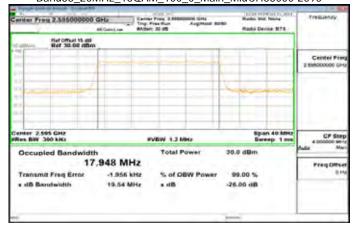
Band38_20MHz_16QAM_100_0_Main_LowCH37850-2580



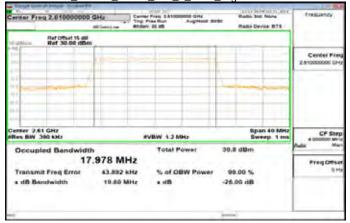
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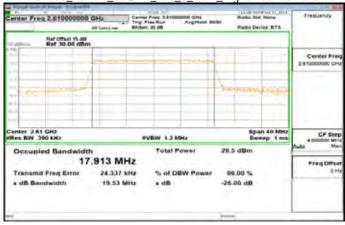
Band38_20MHz_16QAM_100_0_Main_MidCH38000-2595



Band38_20MHz_QPSK_100_0_Main_HighCH38150-2610



Band38_20MHz_16QAM_100_0_Main_HighCH38150-2610

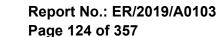


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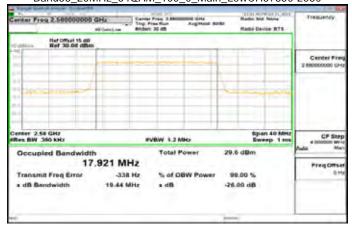
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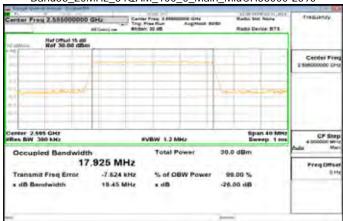




Band38_20MHz_64QAM_100_0_Main_LowCH37850-2580



Band38_20MHz_64QAM_100_0_Main_MidCH38000-2595



Band38_20MHz_64QAM_100_0_Main_HighCH38150-2610



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8. OUT OF BAND EMISSION AT ANTENNA TERMINALS

8.1. Standard Applicable

FCC §22.917(a), §24.238(a), §27.53(h),Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P) dB$.

FCC §27.53(c)

- (c) For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:
- (2) On any frequency outside the 776–788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB (-13dBm)
- (4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

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

FCC §27.53(c) (5) & FCC §27.53(g)

Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

FCC §27.53(h) (3)

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

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FCC §27.53(m) (4) (6)

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

Measurement procedure. Compliance with these rules is based on the use of measurement nstrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed; for mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 megahertz band is 2495-2496 MHz, in which case a resolution bandwidth of at least one percent may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 megahertz or 1 percent of emission bandwidth, as specified; or 1 megahertz or 2 percent for mobile digital stations, except in the band 2495-2496 MHz). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. With respect to television operations, measurements must be made of the separate visual and aural operating powers at sufficiently frequent intervals to ensure compliance with the rules.

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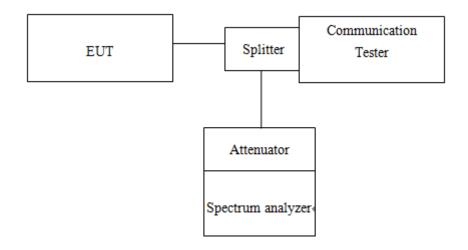
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8.2. Test SET-UP



8.3. Measurement Procedure

Conducted Emission

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation The resolution bandwidth of the spectrum analyzer was set at 1MHz, sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic.

- 1. To connect Antenna Port of EUT to Spectrum.
- 2. Set RBW = 1MHz & VBW = 1MHz on Spectrum.
- 3. Allow trace to fully stabilize
- 4. Repeat above procedures until all default test channel measured were complete.

Band Edge

- 1. To connect Antenna Port of EUT to Spectrum.
- 2. The band edge of low and high channels for the highest RF powers was measured. Setting RBW ≥ 1% EBW.
- 3. Allow trace to fully stabilize
- 4. Repeat above procedures until all default test channel measured were complete.

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8.4. Measurement Equipment Used

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EXA Spectrum Analyzer	Agilent	N9010A	MY50420195	05/02/2019	05/01/2020
Radio Communication Analyzer	Anritsu	MT8815B	6200711454	04/01/2019	03/31/2020
Radio Communication Analyzer	Anritsu	MT8820C	6200995019	04/01/2019	03/31/2020
DC Power Supply	Agilent	E3640A	MY52410006	12/04/2018	12/03/2019
Attenuator	Mini-Circuit	BW-S10W2+	2	01/02/2019	01/01/2020
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2019	01/01/2020
Splitter	RF-LAMBAD	RFLT2W1G18G	11-JSPF412-018	01/02/2019	01/01/2020

8.5. Measurement Result:

Refer to next pages.

NOTE: The occurrence of the spike on the conducted emission is the signal of the fundamental emission.

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Band Edge GSM\GSM_850MHz_LowCH128-824.2



GSM\GSM_850MHz_HighCH251-848.8



GPRS\GPRS_850MHz__LowCH128-824.2



GPRS\GPRS_850MHz__HighCH251-848.8



GSM\GSM_1900MHz_LowCH512-1850.2



GSM\GSM 1900MHz HighCH810-1909.8



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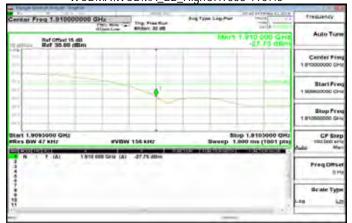


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GPRS\GPRS_1900MHz_LowCH512-1850.2



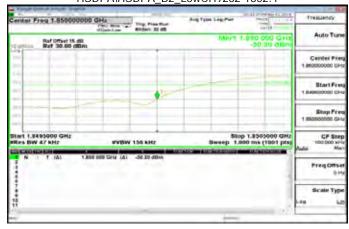
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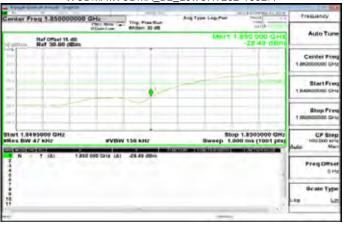
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HSDPA\HSDPA_B2_LowCH9262-1852.4



WCDMA\WCDMA B2 LowCH9262-1852.4



HSDPA\HSDPA B2 HighCH9538-1907.6



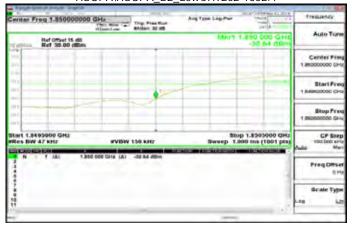
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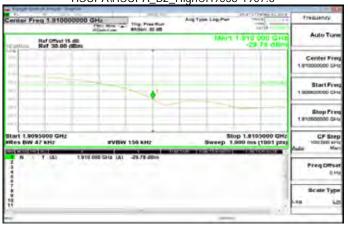
HSUPA\HSUPA B2 LowCH9262-1852.4



WCDMA\WCDMA_B4_HighCH1513-1752.6



HSUPA\HSUPA_B2_HighCH9538-1907.6



HSDPA\HSDPA B4 LowCH1312-1712.4



WCDMA\WCDMA B4 LowCH1312-1712.4



HSDPA\HSDPA_B4_HighCH1513-1752.6



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HSUPA\HSUPA B4 LowCH1312-1712.4



WCDMA\WCDMA_B5_HighCH4233-846.6



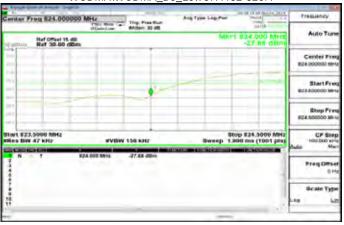
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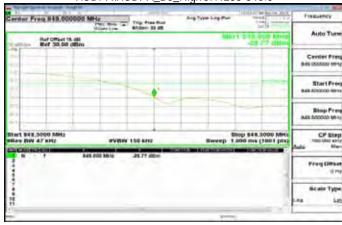
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WCDMA\WCDMA B5 LowCH4132-826.4



HSDPA\HSDPA B5 HighCH4233-846.6



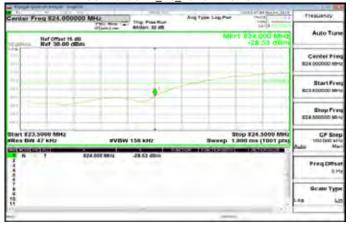
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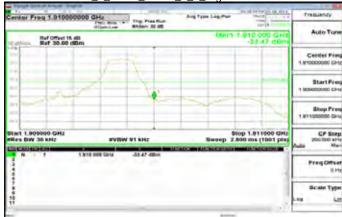


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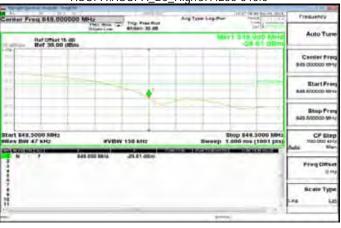
HSUPA\HSUPA B5 LowCH4132-826.4



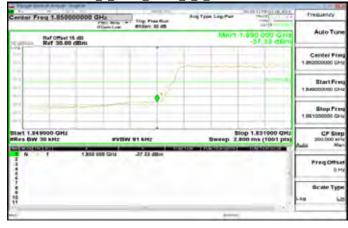
LTE\Band2_1_4MHz_QPSK_1_5_HighCH19193-1909.3



HSUPA\HSUPA_B5_HighCH4233-846.6



LTE\Band2_1_4MHz_QPSK_6_0_LowCH18607-1850.7



LTE\Band2 1 4MHz QPSK 1 0 LowCH18607-1850.7



LTE\Band2 1 4MHz QPSK 6 0 HighCH19193-1909.3



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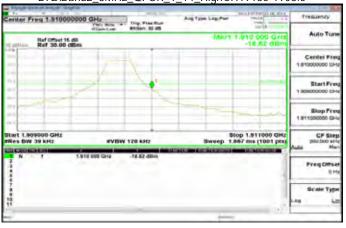


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LTE\Band2_3MHz_QPSK_1_0_LowCH18615-1851.5



LTE\Band2_3MHz_QPSK_1_14_HighCH19185-1908.5



LTE\Band2 3MHz QPSK 15 0 LowCH18615-1851.5



LTE\Band2_3MHz_QPSK_15_0_HighCH19185-1908.5



LTE\Band2_5MHz_QPSK_1_0_LowCH18625-1852.5



LTE\Band2 5MHz QPSK 1 24 HighCH19175-1907.5



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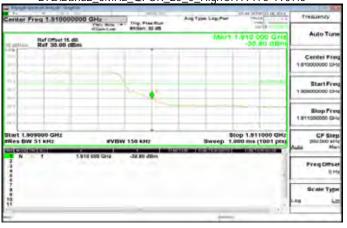


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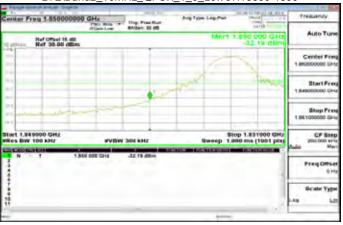
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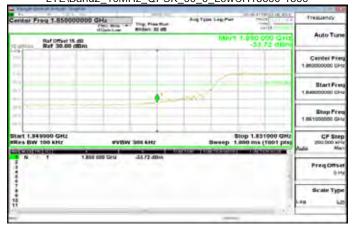
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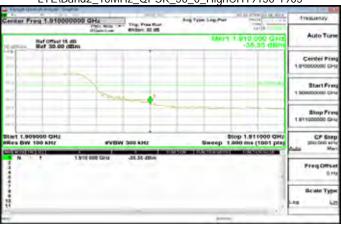
LTE\Band2_10MHz_QPSK_1_49_HighCH19150-1905



LTE\Band2_10MHz_QPSK_50_0_LowCH18650-1855



LTE\Band2 10MHz QPSK 50 0 HighCH19150-1905



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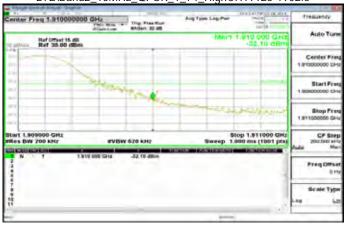


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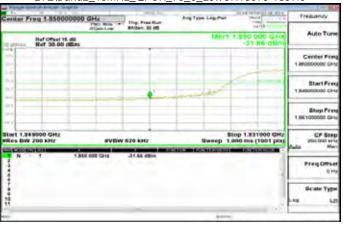
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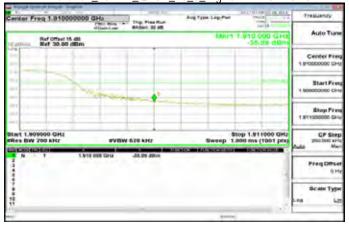
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LTE\Band2 15MHz QPSK 75 0 LowCH18675-1857.5



LTE\Band2_15MHz_QPSK_75_0_HighCH19125-1902.5



LTE\Band2_20MHz_QPSK_1_0_LowCH18700-1860



LTE\Band2 20MHz QPSK 1 99 HighCH19100-1900



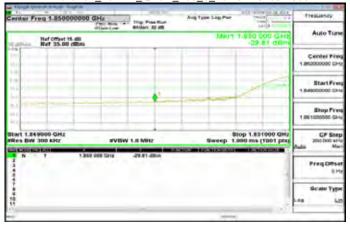
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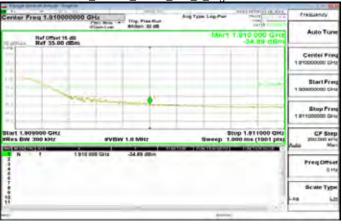


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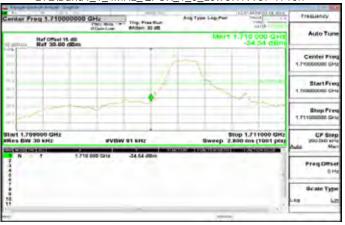
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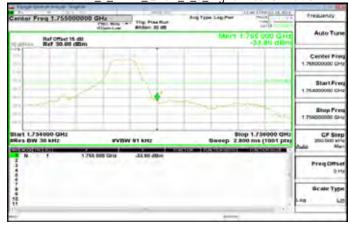
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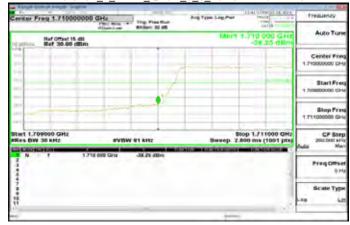
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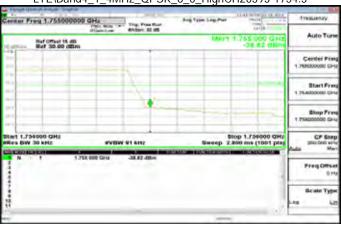
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LTE\Band4_1_4MHz_QPSK_6_0_LowCH19957-1710.7



LTE\Band4 1 4MHz QPSK 6 0 HighCH20393-1754.3



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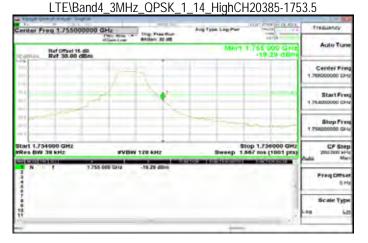
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LTE\Band4_3MHz_QPSK_1_0_LowCH19965-1711.5





LTE\Band4 3MHz QPSK 15 0 LowCH19965-1711.5



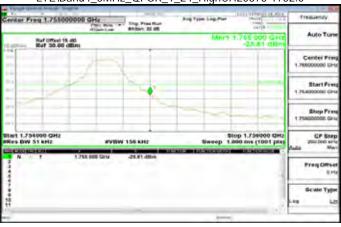
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LTE\Band4_5MHz_QPSK_1_0_LowCH19975-1712.5



LTE\Band4 5MHz QPSK 1 24 HighCH20375-1752.5



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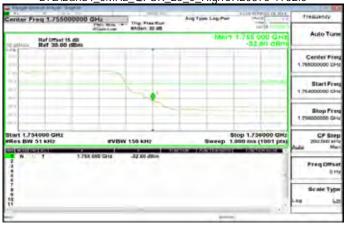


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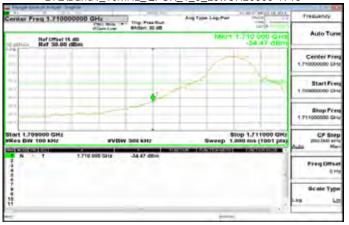
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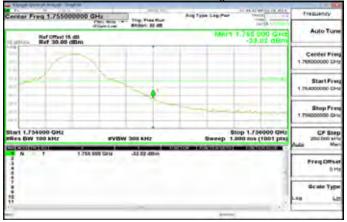
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LTE\Band4 10MHz QPSK 1 0 LowCH20000-1715



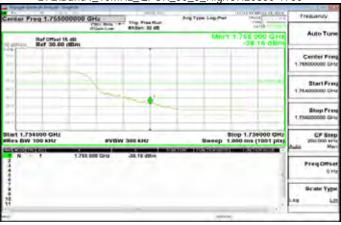
LTE\Band4_10MHz_QPSK_1_49_HighCH20350-1750



LTE\Band4_10MHz_QPSK_50_0_LowCH20000-1715



LTE\Band4 10MHz QPSK 50 0 HighCH20350-1750



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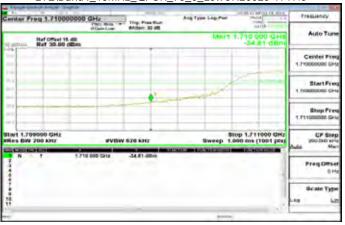
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LTE\Band4 15MHz QPSK 75 0 LowCH20025-1717.5



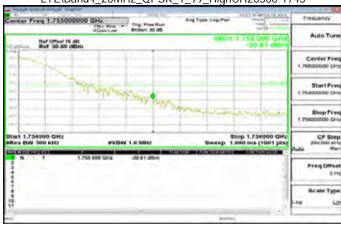
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LTE\Band4_20MHz_QPSK_1_0_LowCH20050-1720



LTE\Band4 20MHz QPSK 1 99 HighCH20300-1745



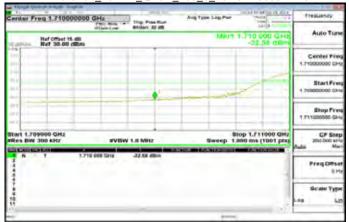
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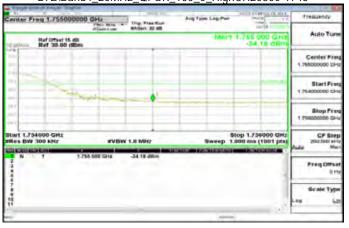


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LTE\Band4_20MHz_QPSK_100_0_LowCH20050-1720



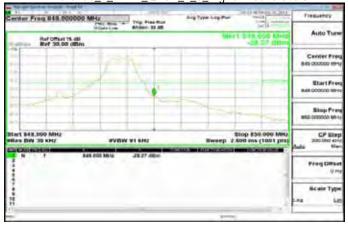
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LTE\Band5 1 4MHz QPSK 1 0 LowCH20407-824.7



LTE\Band5_1_4MHz_QPSK_1_5_HighCH20643-848.3



LTE\Band5_1_4MHz_QPSK_6_0_LowCH20407-824.7



LTE\Band5 1 4MHz QPSK 6 0 HighCH20643-848.3



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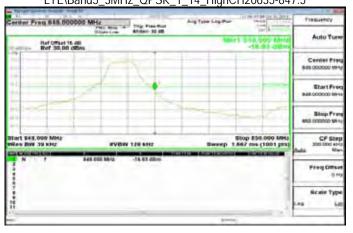


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LTE\Band5_3MHz_QPSK_1_0_LowCH20415-825.5



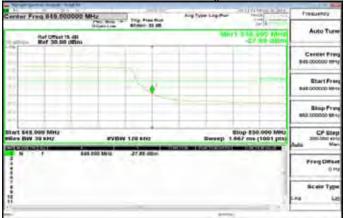
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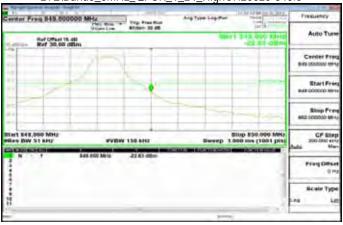
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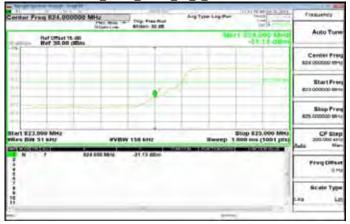
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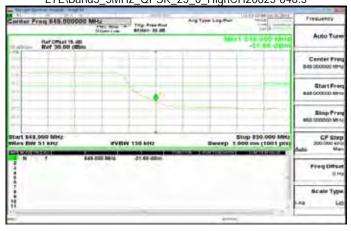


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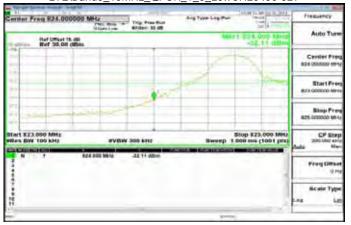
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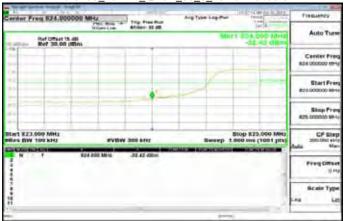
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LTE\Band5_10MHz_QPSK_1_49_HighCH20600-844



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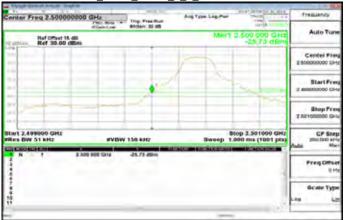
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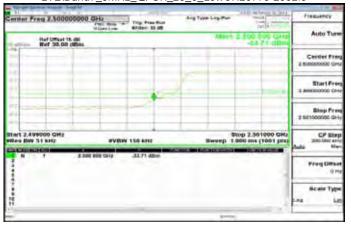
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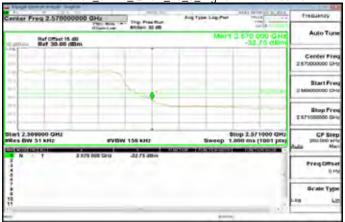
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LTE\Band7 5MHz QPSK 25 0 LowCH20775-2502.5



LTE\Band7_5MHz_QPSK_25_0_HighCH21425-2567.5



LTE\Band7_10MHz_QPSK_1_0_LowCH20800-2505



LTE\Band7 10MHz QPSK 1 49 HighCH21400-2565



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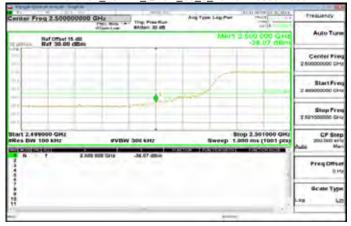
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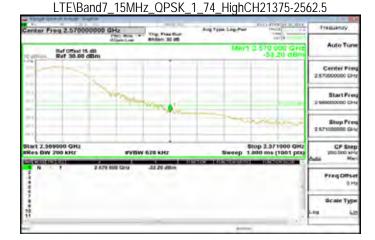
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LTE\Band7_10MHz_QPSK_50_0_LowCH20800-2505





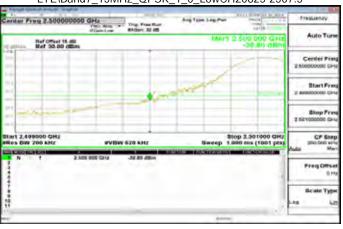
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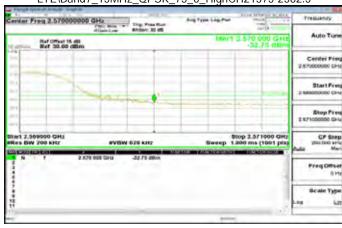
LTE\Band7_15MHz_QPSK_75_0_LowCH20825-2507.5



LTE\Band7 15MHz QPSK 1 0 LowCH20825-2507.5



LTE\Band7 15MHz QPSK 75 0 HighCH21375-2562.5



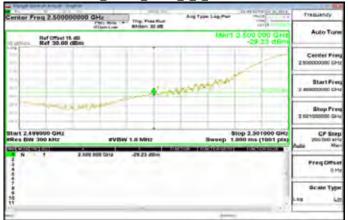
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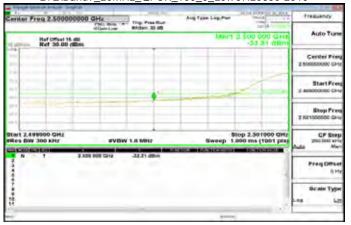
LTE\Band7_20MHz_QPSK_1_0_LowCH20850-2510



LTE\Band7_20MHz_QPSK_1_99_HighCH21350-2560



LTE\Band7 20MHz QPSK 100 0 LowCH20850-2510



LTE\Band7_20MHz_QPSK_100_0_HighCH21350-2560



LTE\Band12_1_4MHz_QPSK_1_0_LowCH23017-699.7



LTE\Band12 1 4MHz QPSK 1 5 HighCH23173-715.3



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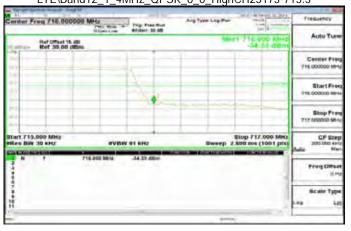


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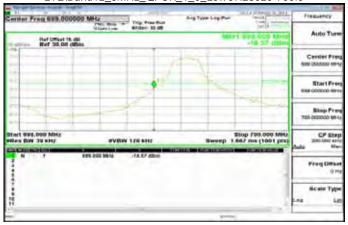
LTE\Band12_1_4MHz_QPSK_6_0_LowCH23017-699.7



LTE\Band12_1_4MHz_QPSK_6_0_HighCH23173-715.3



LTE\Band12 3MHz QPSK 1 0 LowCH23025-700.5



LTE\Band12_3MHz_QPSK_1_14_HighCH23165-714.5



LTE\Band12_3MHz_QPSK_15_0_LowCH23025-700.5



LTE\Band12 3MHz QPSK 15 0 HighCH23165-714.5



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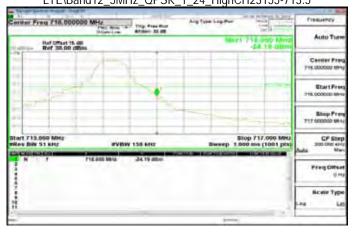


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LTE\Band12_5MHz_QPSK_1_0_LowCH23035-701.5



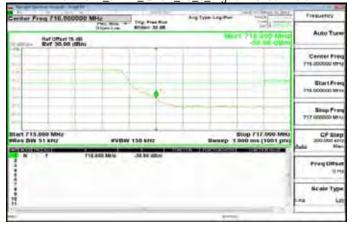
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LTE\Band12 5MHz QPSK 25 0 LowCH23035-701.5



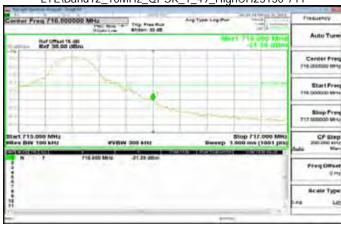
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LTE\Band12_10MHz_QPSK_1_0_LowCH23060-704



LTE\Band12 10MHz QPSK 1 49 HighCH23130-711

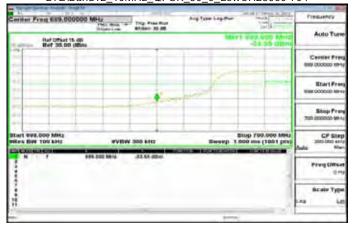


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LTE\Band12_10MHz_QPSK_50_0_LowCH23060-704



LTE\Band12_10MHz_QPSK_50_0_HighCH23130-711



LTE\Band13 5MHz QPSK 1 0 LowCH23205-779.5



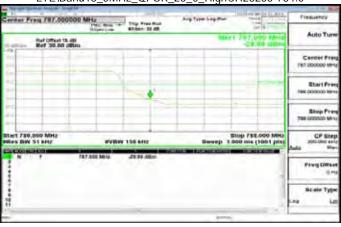
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LTE\Band13_5MHz_QPSK_25_0_LowCH23205-779.5



LTE\Band13 5MHz QPSK 25 0 HighCH23255-784.5



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LTE\Band13_10MHz_QPSK_1_0_LowCH23230-782



LTE\Band13_10MHz_QPSK_1_49_HighCH23230-782



LTE\Band13 10MHz QPSK 50 0 LowCH23230-782



LTE\Band13_10MHz_QPSK_50_0_HighCH23230-782



LTE\Band17_5MHz_QPSK_1_0_LowCH23755-706.5



LTE\Band17 5MHz QPSK 1 24 HighCH23825-713.5



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LTE\Band17_5MHz_QPSK_25_0_LowCH23755-706.5



LTE\Band17_5MHz_QPSK_25_0_HighCH23825-713.5



LTE\Band17 10MHz QPSK 1 0 LowCH23780-709



LTE\Band17_10MHz_QPSK_1_49_HighCH23800-711



LTE\Band17_10MHz_QPSK_50_0_LowCH23780-709



LTE\Band17 10MHz QPSK 50 0 HighCH23800-711



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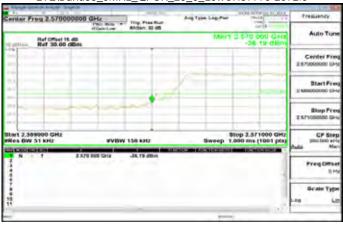
LTE\Band38_5MHz_QPSK_1_0_LowCH37775-2572.5



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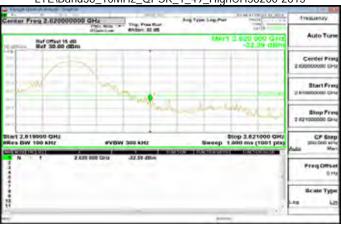
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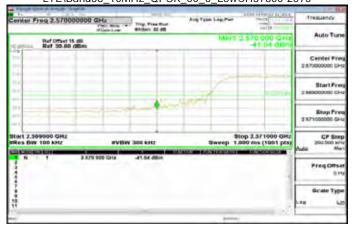
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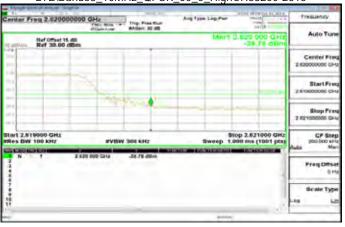


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LTE\Band38_10MHz_QPSK_50_0_LowCH37800-2575



LTE\Band38_10MHz_QPSK_50_0_HighCH38200-2615



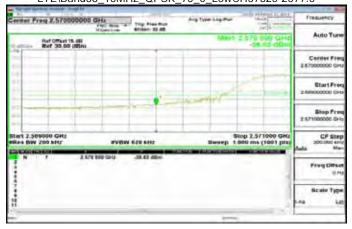
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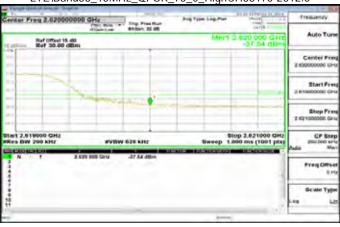
LTE\Band38_15MHz_QPSK_1_74_HighCH38175-2612.5



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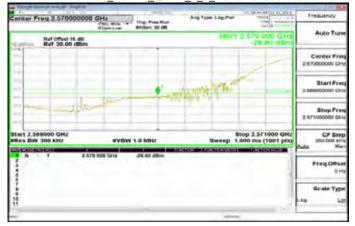
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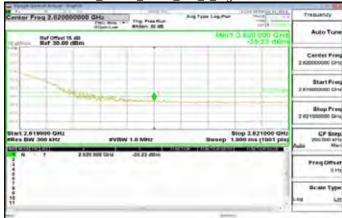


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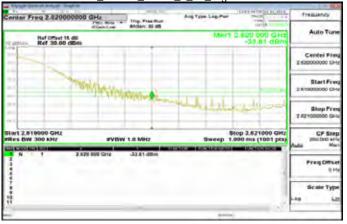
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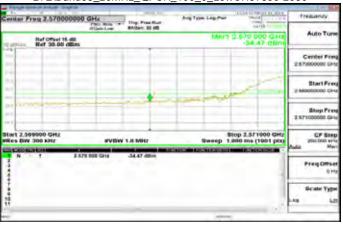
LTE\Band38_20MHz_QPSK_100_0_HighCH38150-2610



LTE\Band38_20MHz_QPSK_1_99_HighCH38150-2610



LTE\Band38 20MHz QPSK 100 0 LowCH37850-2580



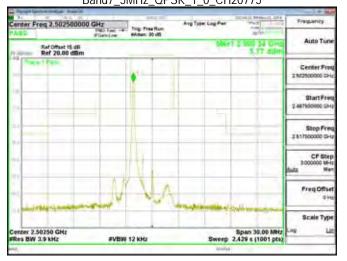
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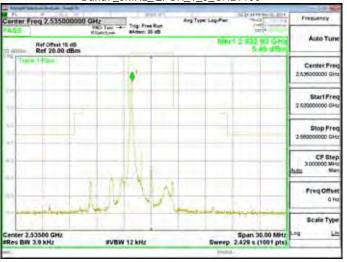
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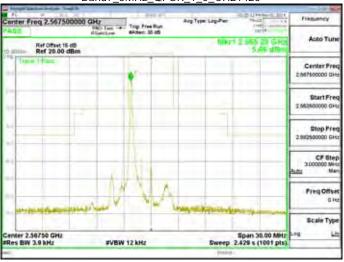
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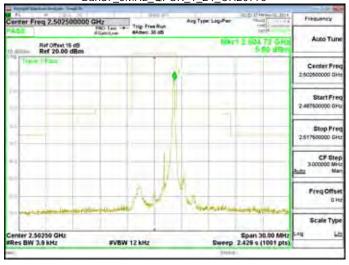
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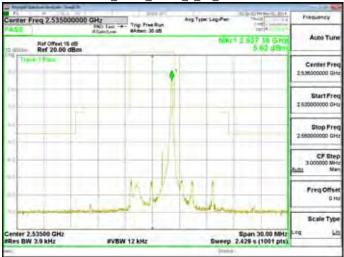
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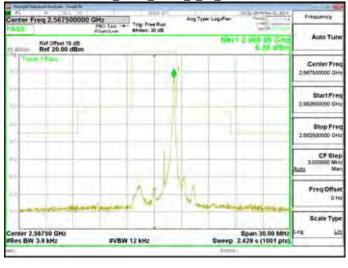
Band7_5MHz_QPSK_1_24_CH20775



Band7_5MHz_QPSK_1_24_CH21100



Band7_5MHz_QPSK_1_24_CH21425



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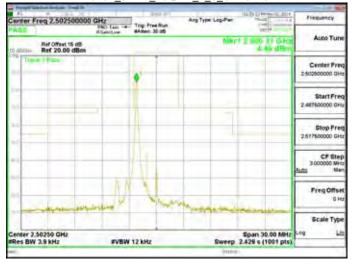
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Band7_5MHz_QPSK_25_0_CH20775



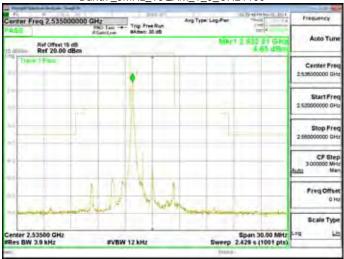
Band7 5MHz 16QAM 1 0 CH20775



Band7_5MHz_QPSK_25_0_CH21100



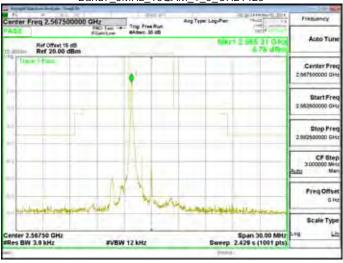
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Band7_5MHz_QPSK_25_0_CH21425



Band7_5MHz_16QAM_1_0_CH21425

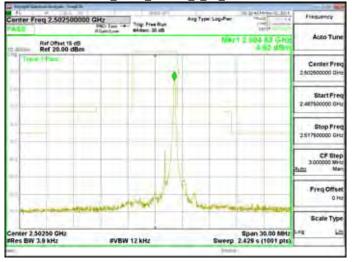


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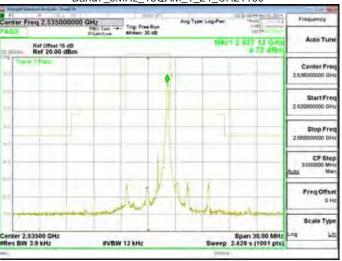
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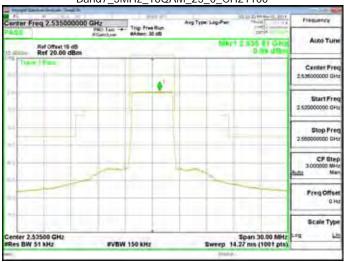
Band7 5MHz 16QAM 25 0 CH20775



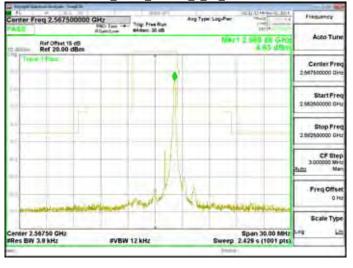
Band7_5MHz_16QAM_1_24_CH21100



Band7_5MHz_16QAM_25_0_CH21100



Band7_5MHz_16QAM_1_24_CH21425



Band7_5MHz_16QAM_25_0_CH21425

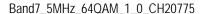


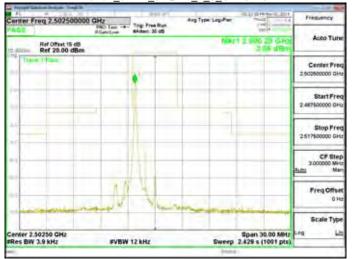
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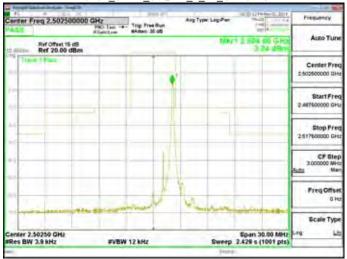
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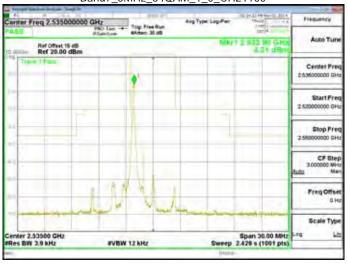




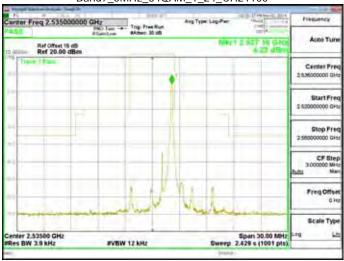
Band7 5MHz 64QAM 1 24 CH20775



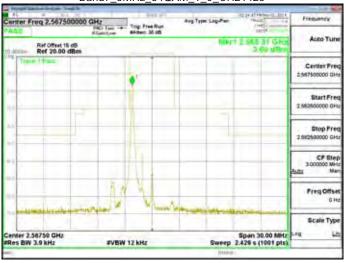
Band7_5MHz_64QAM_1_0_CH21100



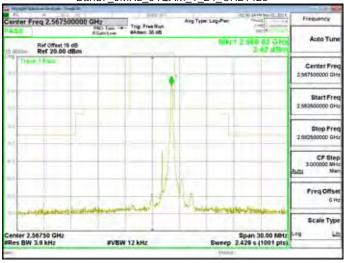
Band7_5MHz_64QAM_1_24_CH21100



Band7_5MHz_64QAM_1_0_CH21425



Band7_5MHz_64QAM_1_24_CH21425

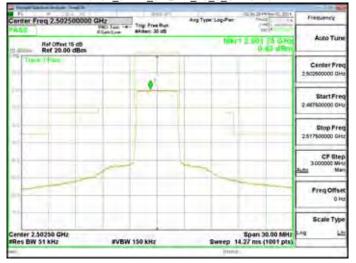


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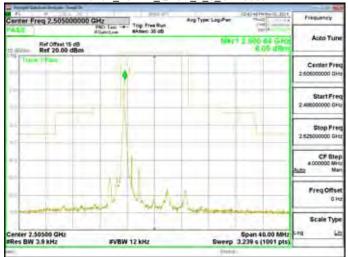


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Band7_5MHz_64QAM_25_0_CH20775



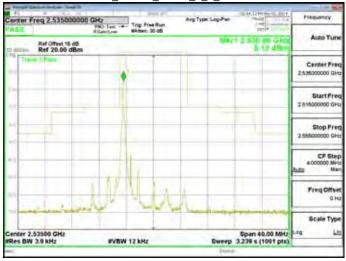
Band7_10MHz_QPSK_1_0_CH20800



Band7_5MHz_64QAM_25_0_CH21100



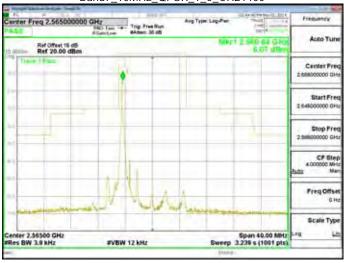
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Band7_5MHz_64QAM_25_0_CH21425



Band7_10MHz_QPSK_1_0_CH21400

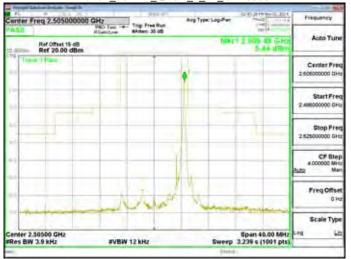


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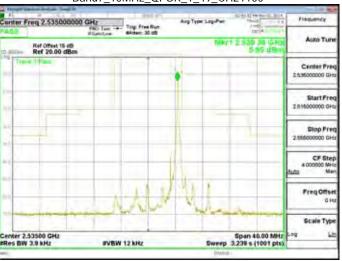
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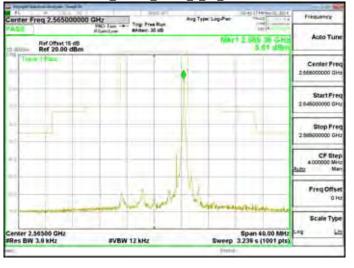
Band7_10MHz_QPSK_1_49_CH21100



Band7_10MHz_QPSK_50_0_CH21100



Band7_10MHz_QPSK_1_49_CH21400



Band7_10MHz_QPSK_50_0_CH21400



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