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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

				•
LTE Band	BW			equency
ETE Barra	(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
7	15	2507.5	-	2562.5
	20	2510.0	-	2560.0
	1.4	699.7	-	715.3
10	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)		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
Dana	1.4	QPSK	13.29	ERP	0.021	1M10G7D
	1.4	16QAM	12.62	ERP	0.021	1M10D7W
	1.4	64QAM	11.33	ERP	0.014	1M10D7W
	3	QPSK	13.27	ERP	0.014	2M70G7D
	3	16QAM	12.73	ERP	0.021	2M70D7W
	3	64QAM	11.92	ERP	0.017	2M70D7W
5	5	QPSK	13.33	ERP	0.010	4M50G7D
	5	16QAM	12.80	ERP	0.022	4M50D7W
	5	64QAM	11.90	ERP	0.019	4M51D7W
	10	QPSK	13.45	ERP	0.013	9M03G7D
	10	16QAM	12.91	ERP	0.022	8M98D7W
	10	64QAM	12.91	ERP	0.020	9M01D7W
		QPSK	19.66			
	5		+	EIRP	0.092	4M50G7D 4M50D7W
	5 5	16QAM	19.11	EIRP	0.081	
		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
'-	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
13	5	16QAM	11.07	ERP	0.013	4M50D7W
	5	64QAM	10.58	ERP	0.011	4M51D7W
	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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2.6. Configuration of Tested System

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

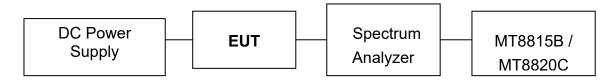


Fig. 2-2 Configuration of Tested System (Fixed Channel-Radiated)

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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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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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

			LIE BAIIU Z MODE						
TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE				
	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,5 RB Offest				
		18615, 18900, 19185	3MHz	QPSK, 16QAM, 64QAM					
FIDD	18625 to 19175	18625, 18900, 19175	5MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,24 RB Offest				
EIRP	18650 to 19150	18650, 18900, 19150	10MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,49 RB Offest				
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,74 RB Offest				
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,99 RB Offest				
FREQUENCY STABILITY	18650 to 19150	18900	10MHz	QPSK	Full RB				
	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK, 16QAM, 64QAM	Full RB				
		18615, 18900, 19185		QPSK, 16QAM, 64QAM	Full RB				
OCCUPIED		18625, 18900, 19175	5MHz	QPSK, 16QAM, 64QAM	Full RB				
BANDWIDTH		18650, 18900, 19150	10MHz	QPSK, 16QAM, 64QAM	Full RB				
		18675, 18900, 19125	15MHz	QPSK, 16QAM, 64QAM	Full RB				
		18700, 18900, 19100	20MHz	QPSK, 16QAM, 64QAM	Full RB				
		18607, 18900, 19193	1.4MHz	64QAM	Full RB				
	18615 to 19185	18615, 18900, 19185	3MHz	64QAM	Full RB				
PEAK TO AVER-		18625, 18900, 19175	5MHz	64QAM	Full RB				
AGE RATIO		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				
BANAD EBGE	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	-	20MHz	QPSK	1 RB/ 0,99 RB Offest Full RB				
		18607, 18900, 19193	1.4MHz	QPSK	1 RB, 0 RB Offest				
CONDCUDETED EMISSION		18615, 18900, 19185	3MHz	QPSK	1 RB, 0 RB Offest				
	18625 to 19175	18625, 18900, 19175	5MHz	QPSK	1 RB, 0 RB Offest				
		18650, 18900, 19150	10MHz	QPSK	1 RB, 0 RB Offest				
		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
CONDCUDETED EMISSION		19965, 20175, 22385		QPSK	1 RB, 0 RB Offest
			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

LIE Band 5 MOL		TESTED	CHANNEL		
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
LINF	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	20415 to 20635	20415, 20525, 20635	3MHz	QPSK	1 RB, 0 RB Offest
EMISSION	20425 to 20625	20425, 20525, 20625	5MHz	QPSK	1 RB, 0 RB Offest
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK	1 RB, 0 RB Offest
RADIATED EMISSION	20450 to 20600	20450, 20525, 20600	10MHz	QPSK	1 RB, 49 RB Offest



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LTE Band 7 MODE

	AVAII ABLE	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
ERP		23025, 23095, 23165		QPSK, 16QAM, 64QAM	1 RB/ 0,14 RB Offest
		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 Ballu 13 W					
TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
ERP	23205 to 23255	23205, 23230, 23255	5MHz	QPSK, 16QAM, 64QAM	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
BAND 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 BAIR 17 MODE								
TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE			
ERP	23755 to 23825	23755, 23790, 23825	5MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,24 RB Offest			
LIXE	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

LIE Band 38 MI	_				
TEST ITEM	AVAILABLE CHANNEL	TESTED 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
LIIVI	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 to 38150	37850 , 38000, 38150	20MHz	QPSK, 16QAM, 64QAM	Full RB
	37775 to 38225	37775, 38000, 38225	5MHz	64QAM	Full RB
PEAK TO AVER-		37800 , 38000, 38200	10MHz	64QAM	Full RB
AGE RATIO	37825 to 38175	37825 , 38000, 38175	15MHz	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 , 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	10MHz	QPSK	1 RB, 0 RB Offest
EMISSION	37825 to 38175	37825 , 38000, 38175	15MHz	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
LIMIOSION WASK	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

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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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
Magaziramantunaartaintu	30MHz - 167MHz: +/- 4.22dB
Measurement uncertainty (Polarization : Horizontal)	167MHz -500MHz: +/- 3.44dB
(1 clanzation : 11cm2cmai)	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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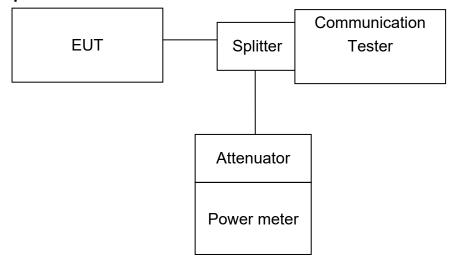
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6.2. Test Set-up



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)
CCM	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	βα	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						
		9262.00	9400.00	9538.00				
	1	21.46	21.53	21.43				
HSDPA II	2	20.93	21.04	20.90				
ПЭРГА ІІ	3	20.91	21.03	20.88				
	4	20.96	21.02	20.91				

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

	Ch	Avg. Power (dBm)						
Mode	Sub test	Channel						
	ισσι	4132.00	4183.00	4233.00				
	1	22.35	22.39	22.37				
HSDPA V	2	21.79	21.89	21.81				
I ISUPA 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						
	1001	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						
		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

Output power (dDm) 20.07 26.06 24.04 22.0 24.04 40.00 47.12 45.22			ь	5	4	3	2	1	0	PCL
Output power (dbiii) 26.67 26.66 24.91 22.9 21.01 19.06 17.13 15.23	13.34	15.23	17.13	19.08	21 UT	, , , u	24.91	26.86	28.87	Output power (dBm)

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 (dBi)

Antenna	gain (dBi)	-4.1 L	TE Band 2 U	plink fr	eguency band	d : 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
	18007	1800.7	QPSK	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
	10900	1000	QPSK	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	1707.3	QF3K	3	2	22.14	18.04	33	-14.96
	18607 1850.7 16		6	0	21.20	17.10	33	-15.9	
			1	0	21.21	17.11	33	-15.89	
		16QAM	1	5	21.16	17.06	33	-15.94	
1800	10007	1030.7	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	10900	1880		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	TOCANI	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	04QAIVI	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
	10700	1000	04QAIVI	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	UHUMINI	3	2	20.08	15.98	33	-17.02
				6	0	19.61	15.51	33	-17.49

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Antenna	gain (dBi)	-4.1	TE Dand 2 II	nlink fr	aguanay band	I . 10E0 to 1010	N/III-		
	1	L	TE Band 2_U	plink ir	equency band	: 1850 to 1910 Conducted	EIRP	EIRP	
BW	UL	Frequency	Modulation	RB	RB	Average	Average	Limit	Margin
(MHz)	Channel	(MHz)	Wodulation	Size	Offset	(dBm)	(dBm)	(dBm)	(dB)
				1	0	22.32	18.22	33	-14.78
				1	14	22.08	17.98	33	-15.02
	18615	1851.5	QPSK	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
				1	14	22.31	18.21	33	-14.79
	18900	1880	QPSK	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
				1	14	22.04	17.94	33	-15.06
	19185	1908.5	QPSK	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	
			1	14	21.31	17.44	33	-15.79	
18	18615	1851.5	16QAM	8	4	20.38	16.28	33	-16.72
				15	0	20.15	16.05	33	-16.95
		1880	16QAM	1	0	21.58	17.48	33	-15.52
				1	14	21.40	17.30	33	-15.7
3	18900			8	4	20.44	16.34	33	-16.66
				15	0	20.25	16.15	33	-16.85
				13	0	21.43	17.33	33	-15.67
				1	14	21.43	17.33	33	-15.71
	19185	1908.5	16QAM	8	4	20.35	16.25	33	-16.75
				15	0	20.30	16.20	33	-16.8
				13	0	21.03	16.93	33	-16.07
				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
				1	14	20.77	16.67	33	-16.33
	18900	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
				1	14	20.82	16.72	33	-16.28
	19185	1908.5	64QAM	8	4	19.79	15.69	33	-17.31
				15	0	19.73	15.62	33	-17.38
				ıΰ	U	17.12	10.02	აა	-17.30



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Antenna gain (dRi)

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)	
	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	
	18900	1880	QPSK	1	0	22.43	18.33	33	-14.67	
				1	24	22.30	18.20	33	-14.8	
				12	6	21.56	17.46	33	-15.54	
				25	0	21.25	17.15	33	-15.85	
		1907.5	QPSK	1	0	22.23	18.13	33	-14.87	
	19175			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	
			16QAM	1	0	21.58	17.48	33	-15.52	
	18625	1852.5		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	
5				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	
	19175	1907.5	64QAM	1	0	20.92	16.82	33	-16.18	
				1	24	20.83	16.73	33	-16.27	
				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)

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)	
	18650	1855	QPSK	1	0	22.28	18.18	33	-14.82	
				1	49	22.11	18.01	33	-14.99	
				25	12	21.52	17.42	33	-15.58	
				50	0	21.21	17.11	33	-15.89	
	18900	1880	QPSK	1	0	22.45	18.35	33	-14.65	
				1	49	22.33	18.23	33	-14.77	
				25	12	21.54	17.44	33	-15.56	
				50	0	21.27	17.17	33	-15.83	
		1905	QPSK	1	0	22.29	18.19	33	-14.81	
	10150			1	49	22.05	17.95	33	-15.05	
	19150			25	12	21.44	17.34	33	-15.66	
				50	0	21.19	17.09	33	-15.91	
			16QAM	1	0	21.48	17.38	33	-15.62	
10	18650	1855		1	49	21.30	17.20	33	-15.8	
				25	12	20.30	16.20	33	-16.8	
				50	0	20.20	16.10	33	-16.9	
	18900	1880	16QAM	1	0	21.59	17.49	33	-15.51	
				1	49	21.40	17.30	33	-15.7	
				25	12	20.51	16.41	33	-16.59	
				50	0	20.26	16.16	33	-16.84	
	19150	1905	16QAM	1	0	21.47	17.37	33	-15.63	
				1	49	21.32	17.22	33	-15.78	
				25	12	20.35	16.25	33	-16.75	
				50	0	20.23	16.13	33	-16.87	
	18650	1855	64QAM	1	0	21.05	16.95	33	-16.05	
				1	49	20.68	16.58	33	-16.42	
				25	12	19.80	15.70	33	-17.3	
				50	0	19.55	15.45	33	-17.55	
	18900	1880	64QAM	1	0	21.02	16.92	33	-16.08	
				1	49	20.81	16.71	33	-16.29	
				25	12	19.98	15.88	33	-17.12	
				50	0	19.60	15.50	33	-17.5	
	19150	1905	64QAM	1	0	20.95	16.85	33	-16.15	
				1	49	20.83	16.73	33	-16.27	
				25	12	19.76	15.66	33	-17.34	
				50	0	19.71	15.61	33	-17.39	

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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
	10475	1857.5	16QAM	1	74	21.36	17.26	33	-15.74
	18675	1837.3	TOQAIVI	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 (dRi)

Antonia	gain (dBi)	-4.1	TE Band 2 U	plink fr	eguency band	d: 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
	16700	1000	QPSK	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
	10900	1000	QPSK	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	UPSK	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	1860	16QAM	1	99	21.46	17.36	33	-15.64
	18700 18	1800	TOQAIVI	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	18900	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	1860	64QAM	1	99	20.86	16.76	33	-16.24
	16700	1000	04QAIVI	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
	18900	1880	64QAM	1	99	20.92	16.82	33	-16.18
	10900	ΙΟὄ	04QAIVI	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
	19100	1900	4 1 O 1 N 1	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

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 (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
	19957 1710.7			1	0	21.18	17.58	30	-12.42
		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
				1	0	21.26	17.66	30	-12.34
1.4	20175	1732.5	16QAM	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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Antenna	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	21.68	18.08	30	-11.92
	19965	1711.5	QPSK	1	14	21.39	17.79	30	-12.21
	17703	1711.5	QLOK	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
	20173	1732.3	QI SIX	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
	20303	1733.3	QLOK	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	1711 5	16QAM	1	14	20.58	16.98	30	-13.02
	19900	1711.5		8	4	20.35	16.75	30	-13.25
				15	0	20.09	16.49	30	-13.51
				1	0	20.86	17.26	30	-12.74
3	20175	1732.5	16QAM	1	14	21.10	17.50	30	-12.5
J	20175	1732.3	TOQAW	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
	20385	1753.5	16QAM	1	14	20.85	17.25	30	-12.75
	20303	1700.0	TOQAW	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
	19965	1711.5	64QAM	1	14	19.98	16.38	30	-13.62
	17700	1711.3	U4QAIVI	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
	20175	1732.5	64QAM	1	14	20.55	16.95	30	-13.05
	20173	1732.3	U4QAWI	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
	20385	1753.5	64QAM	1	14	20.26	16.66	30	-13.34
1	20303	1703.5	04QAIVI	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 L	TE Band 4 U	lplink 1	freauenc	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	21.71	18.11	30	-11.89
	19975	1712.5	QPSK	1	24	21.33	17.73	30	-12.27
	19975	1712.3	UPSK	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	1732.5	QPSK	1	24	21.57	17.97	30	-12.03
	20173	1732.3	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	1752.5	QPSK	1	24	21.62	18.02	30	-11.98
	20373	1/32.3	UPSK	12	6	21.40	17.80	30	-12.2
				25	0	21.26	17.66	30	-12.34
				1	0	20.91	17.31	30	-12.69
	19975	1712.5	16QAM	1	24	20.55	16.95	30	-13.05
	19973	1712.5		12	6	20.39	16.79	30	-13.21
				25	0	20.08	16.48	30	-13.52
				1	0	20.78	17.18	30	-12.82
5	20175	1732.5	16QAM	1	24	21.06	17.46	30	-12.54
3	20175	1/32.3	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
	20375	1/32.3	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
	10075	1710 5	64QAM	1	24	20.02	16.42	30	-13.58
	19975	1712.5	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	1722 E	440011	1	24	20.50	16.90	30	-13.1
	20175	1732.5	64QAM	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
	20275	1750 5	440011	1	24	20.34	16.74	30	-13.26
	20375	1752.5	64QAM	12	6	19.88	16.28	30	-13.72
				25	0	19.67	16.07	30	-13.93



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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
20000 1			1	0	20.96	17.36	30	-12.64	
	20000	1715	16QAM	1	49	20.53	16.93	30	-13.07
	20000	1715	ToQAIVI	25	12	20.33	16.73	30	-13.27
				50	0	20.04	16.44	30	-13.56
				1	0	20.84	17.24	30	-12.76
10	20175	1700 F	1/0004	1	49	21.04	17.44	30	-12.56
10	20175	1732.5	16QAM	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	(40 0 0 0	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 Dand 4 11	امانمادا	rogues	w hand . 1710	to 1755 MIL-		
		L	TE Band 4_U	piink 1	requenc	cy band : 1710 Conducted	EIRP	EIRP	
BW	UL	Frequency	Modulation	RB	RB	Average	Average	Limit	Margin
(MHz)	Channel	(MHz)	Modulation	Size	Offset	(dBm)	(dBm)	(dBm)	(dB)
				1	0	21.74	18.14	30	-11.86
				1	74	21.39	17.79	30	-12.21
	20025	1717.5	QPSK	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
	00475	4700 5	0001	1	74	21.59	17.99	30	-12.01
	20175	1732.5	QPSK	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
	20225	1747 5	ODCK	1	74	21.62	18.02	30	-11.98
	20325	1747.5	QPSK	36	18	21.35	17.75	30	-12.25
				75	0	21.24	17.64	30	-12.36
				1	0	20.94	17.34	30	-12.66
	20025	1717 [1/0414	1	74	20.60	17.00	30	-13
	20025	1717.5	16QAM	36	18	20.34	16.74	30	-13.26
				75	0	20.10	16.50	30	-13.5
				1	0	20.87	17.27	30	-12.73
15	20175	1732.5	16QAM	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	16QAM	1	74	20.86	17.26	30	-12.74
	20323	1747.3	TOQAW	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	1717.5	64QAM	1	74	19.98	16.38	30	-13.62
	20023	1717.3	UTQAW	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	1732.5	64QAM	1	74	20.56	16.96	30	-13.04
	20173	1732.3	UTQAW	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
	20325	1747.5	64QAM	1	74	20.28	16.68	30	-13.32
	20323	1/T/.J	UTQAW	36	18	19.88	16.28	30	-13.72
				75	0	19.71	16.11	30	-13.89

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Antenna	gain (dBi)	-3.6 L	TE Band 4 U	lplink f	reauenc	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
	20050 1720		1	0	21.10	17.50	30	-12.5	
		1720	16QAM	1	99	20.72	17.12	30	-12.88
2	20030	1720		50	25	20.53	16.93	30	-13.07
				100	0	20.23	16.63	30	-13.37
				1	0	20.98	17.38	30	-12.62
20	20175	1732.5	16QAM	1	99	21.23	17.63	30	-12.37
20	20175	1732.3	TOQAW	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
	20200	1745	16QAM	1	99	20.99	17.39	30	-12.61
	20300	1745	ToQAIVI	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	(4 O A N 4	1	99	20.13	16.53	30	-13.47
	20050	1720	64QAM	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
	00175	1722 F	4 A O A B A	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
	20200	1745	440011	1	99	20.45	16.85	30	-13.15
	20300	1745	64QAM	50	25	20.04	16.44	30	-13.56
				100	0	19.83	16.23	30	-13.77



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Antenna	gain (dBi)	-7.7	TE D	al E . Lle-l	link from	bond . 024 t-	040 MH-			
			LIE Ban	a 5_Up	link frequency	band : 824 to		FIDD	FIDD	
BW	UL	Frequency	Modulation	RB	RB	Conducted	ERP	EIRP	EIRP	Margin
(MHz)	Channel	(MHz)	Modulation	Size	Offset	Average (dBm)	Average (dBm)	Average (dBm)	Limit (dBm)	(dB)
				1	0	23.04	13.19	15.34	38.45	-23.11
				1	5	23.09	13.14	15.39	38.45	-23.11
	20407	824.7	QPSK	3	2	22.83	12.98	15.13	38.45	-23.32
				6	0	21.93	12.78	14.23	38.45	-24.22
				1	0	23.03	13.18	15.33	38.45	-23.12
				1	5	23.09	13.10	15.39	38.45	-23.12
	20525	836.5	QPSK	3	2	22.82	12.97	15.12	38.45	-23.33
				6	0	21.95	12.77	14.25	38.45	-24.2
				1	0	23.12	13.27	15.42	38.45	-23.03
				1	5	23.14	13.29	15.44	38.45	-23.01
	20643	848.3	QPSK	3	2	22.81	12.96	15.11	38.45	-23.34
				6	0	22.07	12.70	14.37	38.45	-24.08
				1	0	22.08	12.23	14.38	38.45	-24.00
				1	5	21.91	12.23	14.30	38.45	-24.07
	20407	824.7	16QAM	3	2	22.04	12.19	14.21	38.45	-24.24
				6	0	20.95	11.10	13.25	38.45	-24.11
				1	0	22.21	12.36	14.51	38.45	-23.94
				1	5	22.21	12.30	14.34	38.45	-23.74
1.4	20525	836.5	16QAM	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	-24.74
				1	5	21.97	12.44	14.37	38.45	-24.18
	20643	848.3	16QAM	3	2	22.34	12.12	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	-23.23
				1	5	20.95	11.10	13.25	38.45	-24.77
	20407	824.7	64QAM	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
				1	5	20.92	11.07	13.22	38.45	-25.23
	20525	836.5	64QAM	3	2	20.92	11.14	13.29	38.45	-25.25
				6	0	19.97	10.12	12.27	38.45	-26.18
				1	0	21.17	11.32	13.47	38.45	-24.98
				1	5	20.99	11.14	13.47	38.45	-24.76
	20643	848.3	64QAM	3	2	20.99	11.14	13.22	38.45	-25.10
									1	•
				6	0	19.81	9.96	12.11	38.45	-26.34

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Antenna gain	(dBi)	-7.7
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Antenna	LTE Band 5_Uplink frequency band : 824 to 849 MHz												
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average	ERP Average	EIRP Average	EIRP Limit	Margin (dB)			
(1711 12)	Chamic	(IVII IZ)				(dBm)	(dBm)	(dBm)	(dBm)				
				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			
				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			
				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			
				8	4	22.05	12.20	14.35	38.45	-24.1			
				15	0	21.93	12.08	14.23	38.45	-24.22			
				1	0	22.10	12.25	14.40	38.45	-24.05			
	20415	825.5	16QAM	1	14	22.13	12.28	14.43	38.45	-24.02			
	20110	020.0	10071111	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	20020	030.3	TOQAIVI	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	TOQAIVI	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	04QAIVI	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	030.3	04QAIVI	8	4	20.31	10.46	12.61	38.45	-25.84			
				15	0	20.07	10.22	12.37	38.45	-26.08			
				1	0	21.61	11.76	13.91	38.45	-24.54			
	20635	Q17 F	640011	1	14	21.51	11.66	13.81	38.45	-24.64			
	20635 847.5	64QAM	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 (dBi)	-7.7	LTED	15.11.	P. I. C	h l . 0041 .	040 1411			
			LIE Ban	a 5_Up	link frequency	band : 824 to		LIDD	LIDD	
BW	UL	Frequency	Modulation	RB	RB	Conducted	ERP	EIRP	EIRP	Margin
(MHz)	Channel	(MHz)	Modulation	Size	Offset	Average (dBm)	Average (dBm)	Average (dBm)	Limit (dBm)	(dB)
				1	0	22.95	13.10	15.25	38.45	-23.2
				1	24	23.18	13.33	15.48	38.45	-22.97
	20425	826.5	QPSK	12	6	22.07	12.22	14.37	38.45	-24.08
				25	0	21.83	11.98	14.37	38.45	-24.06
				1	0	23.15	13.30	15.45	38.45	-24.32
				1	24	23.13	13.16	15.43	38.45	-23.14
	20525	836.5	QPSK	12	6	22.17	12.32	14.47	38.45	-23.14
				25	0	22.17	12.32	14.47	38.45	-23.96
	-				0	23.00	13.15	15.30	 	-24.15
				1	24	23.00			38.45	
	20625	846.5	QPSK	1			13.14	15.29	38.45	-23.16
				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	16QAM	1	24	22.15	12.30	14.45	38.45	-24
			-	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
				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
	20020	0.000		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
	20120	020.0	01071111	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	64QAM	1	24	21.60	11.75	13.90	38.45	-24.55
	20020	030.3	U4QAIVI	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 04	014 E	640011	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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Antonno goin (dDi)

Antenna (ntenna gain (dBi) -7.7 LTE Band 5_Uplink frequency band : 824 to 849 MHz										
			LTE Ban	d 5_Up	link frequency			E:DD	E:DD		
BW	UL	Frequency	Modulation	RB	RB	Conducted	ERP	EIRP	EIRP	Margin	
(MHz)	Channel	(MHz)	Modulation	Size	Offset	Average (dBm)	Average (dBm)	Average (dBm)	Limit (dBm)	(dB)	
				1	0	23.13	13.28	15.43	38.45	-23.02	
				1	49	23.30	13.45	15.43	38.45	-23.02	
	20450	829	QPSK	25	12	22.24	12.39	14.54	38.45	-23.91	
				50	0	22.02	12.37	14.32	38.45	-24.13	
				1	0	23.27	13.42	15.57	38.45	-24.13	
				1	49	23.18	13.33	15.48	38.45	-22.97	
	20525	836.5	QPSK	25	12	22.29	12.44	14.59	38.45	-23.86	
				50	0	22.10	12.44	14.40	38.45	-24.05	
				1	0	23.15	13.30	15.45	38.45	-23	
				1	49	23.11	13.26	15.41	38.45	-23.04	
	20600	844	QPSK	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	
				1	49	22.31	12.46	14.61	38.45	-23.84	
	20450	829	16QAM	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	
	20525 836.5 16QAM	1	49	22.53	12.68	14.83	38.45	-23.62			
10		25	12	21.25	11.40	13.55	38.45	-24.9			
		20323 630.3 TOQAWI	50	0	21.04	11.19	13.34	38.45	-25.11		
			1	0	22.66	12.81	14.96	38.45	-23.49		
	20/00	0.4.4	344 16OAM	1	49	22.48	12.63	14.78	38.45	-23.67	
	20600	844	844 16QAM	25	12	21.19	11.34	13.49	38.45	-24.96	
			844 TOQAIVI	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 820 640AM	44000	1	49	21.48	11.63	13.78	38.45	-24.67		
	20450 829 64QAM 20525 836.5 64QAM	04UAIVI	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		
		1	49	21.72	11.87	14.02	38.45	-24.43			
	20020	0.00.0	04QAIVI	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	844	64QAM —	1	49	21.64	11.79	13.94	38.45	-24.51	
	20000	044	UHQAW	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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Antenna gain (dRi)

Antenna	gain (dBi)	-3.1 L	TE Band 7 U	lplink 1	freguenc	y 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	22.47	19.37	33	-13.63
	20775	2502.5	QPSK	1	24	22.76	19.66	33	-13.34
	20773	2302.3	QF3K	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	QF3K	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
	20775	2302.3	TOQAW	12	6	20.71	17.61	33	-15.39
				25	0	20.59	17.49	33	-15.51
			1/0414	1	0	21.64	18.54	33	-14.46
5	21100	2535	16QAM	1	24	22.15	19.05	33	-13.95
S	21100	2000	TOQAW	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
	21375	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 E	440414	1	24	21.46	18.36	33	-14.64
	20775	2502.5	64QAM	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	2525	64QAM	1	24	21.54	18.44	33	-14.56
	21100	2535	04UAIVI	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
	01075	25/75	(40	1	24	21.55	18.45	33	-14.55
	21375	2567.5	64QAM	12	6	20.07	16.97	33	-16.03
				25	0	19.97	16.87	33	-16.13

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Antenna	ntenna 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	22.51	19.41	33	-13.59	
	20000	2505	ODCK	1	49	22.82	19.72	33	-13.28	
	20800	2505	QPSK	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	2525	QPSK	1	49	22.58	19.48	33	-13.52	
	21100	2535	QP3K	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	
	21250	25/5	ODCK	1	49	22.67	19.57	33	-13.43	
	21350	2565	QPSK	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	
	20000	2505	1/0414	1	49	22.00	18.90	33	-14.1	
	20800	2505	16QAM	25	12	20.69	17.59	33	-15.41	
				50	0	20.57	17.47	33	-15.53	
			16QAM —	1	0	21.70	18.60	33	-14.4	
10	21100	2525	1/0414	1	49	22.18	19.08	33	-13.92	
10	21100	2535	TOQAW	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	2565	1/0414	1	49	22.13	19.03	33	-13.97	
	21350	2000	_	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	64QAM	1	49	21.38	18.28	33	-14.72	
	20800	2505	04QAIVI	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	aeae	64001	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	
	21250	25/5	(4 🔾 Δ Δ Δ	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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Antenna gain (dRi)

Antenna	gain (dBi)	-3.1 L	TE Band 7 U	lplink f	reauenc	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	22.46	19.36	33	-13.64
	20825	2507.5	QPSK	1	74	22.76	19.66	33	-13.34
	20823	2307.3	UPSK	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	2000	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
	21375	2562.5	QPSK	1	74	22.69	19.59	33	-13.41
	21373	2302.3	QF3K	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
	20825	2507.5	16QAM	1	74	22.01	18.91	33	-14.09
	20023	2307.3	TOQAW	36	18	20.69	17.59	33	-15.41
			75	0	20.57	17.47	33	-15.53	
			5 16QAM	1	0	21.65	18.55	33	-14.45
15	21100	2535	160AM	1	74	22.09	18.99	33	-14.01
13	21100	2000	TOQAW	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
	21375	2562.5	16QAM	1	74	22.12	19.02	33	-13.98
	21373	2302.3	TOQAW	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
	20825	2507.5	640AM	1	74	21.45	18.35	33	-14.65
	20023	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	2535	64QAM	1	74	21.61	18.51	33	-14.49
	21100	2000	U4QAIVI	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
	21375	2562.5	64QAM	1	74	21.52	18.42	33	-14.58
	213/3	2002.0	04QAIVI	36	18	20.10	17.00	33	-16
				75	0	19.94	16.84	33	-16.16

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/ interina y	gain (dBi)	-3.1 L	TE Band 7 _. U	lplink 1	frequenc	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	22.63	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	2555	QF3K	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	TOQAW	50	25	20.82	17.72	33	-15.28
				100	0	20.70	17.60	33	-15.4
ļ			16QAM -	1	0	21.81	18.71	33	-14.29
20	21100	2535	14000	1	99	22.29	19.19	33	-13.81
20	21100	2030	TOQAW	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	ntenna gain (dBi) -6 LTE Band 12_Uplink frequency band : 699 to 716 MHz										
			LIL Dalik			Conducted	ERP	EIRP	EIRP		
BW	UL	Frequency	Modulation	RB	RB	Average	Average	Average	Limit	Margin	
(MHz)	Channel	(MHz)	Modulation	Size	Offset	(dBm)	(dBm)	(dBm)	(dBm)	(dB)	
				1	0	22.77	14.62	16.77	34.77	-18	
	00047	, oo 7	0001	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	
	00005	707.5	0001/	1	5	22.93	14.78	16.93	34.77	-17.84	
	23095	707.5	QPSK	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	
	00170	715 5	ODCK	1	5	22.95	14.80	16.95	34.77	-17.82	
	23173	715.5	QPSK	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	TOQAW	3	2	21.86	13.71	15.86	34.77	-18.91	
			6	0	20.85	12.70	14.85	34.77	-19.92		
			5 16QAM -	1	0	21.87	13.72	15.87	34.77	-18.9	
1.4	23095	707.5	140011	1	5	21.86	13.71	15.86	34.77	-18.91	
1.4	23090	707.3	16QAM -	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	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	U4QAW	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	
	23173	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	ntenna gain (dBi) -6 LTE Band 12_Uplink frequency band : 699 to 716 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	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	TOCAM	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
			1002/11/1	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 / [64QAM	1	14	21.44	13.29	15.44	34.77	-19.33
	23100	714.5	04QAIVI	8	4	20.42	12.27	14.42	34.77	-20.35
				15	0	20.13	11.98	14.13	34.77	-20.64

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Antenna	gain (dBi)	-6	LTE Band	d 12_Up	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
	23033	701.3	QI SIX	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	QI SIX	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	701.3	TOQAW	12	6	21.03	12.88	15.03	34.77	-19.74
				25	0	20.90	12.75	14.90	34.77	-19.87
	5 23095 707.5 16QAM		1	0	22.17	14.02	16.17	34.77	-18.6	
5	23005	23095 707.5 16QAM	1	24	22.56	14.41	16.56	34.77	-18.21	
5	23073	707.3	707.5 16QAM	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	701.3	OTCAIN	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
	23073	101.5	UHUMIVI	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
	23155	713.5	64QAM	1	24	21.51	13.36	15.51	34.77	-19.26
	23100	713.3	UHQAIVI	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 (dRi)

Antenna	tenna gain (dBi) -6 LTE Band 12_Uplink frequency band : 699 to 716 MHz									
			LIE Band	12_Up	DIINK Trequency		ERP	EIRP	EIDD	
BW	UL	Frequency	Modulation	RB	RB	Conducted			EIRP Limit	Margin
(MHz)	Channel	(MHz)	iviouulatiori	Size	Offset	Average (dBm)	Average (dBm)	Average (dBm)	(dBm)	(dB)
				1	0	22.94	14.79	16.94	34.77	-17.83
				1	49	23.14	14.77	17.14	34.77	-17.63
	23060	704	QPSK	25	12	22.27	14.77	16.27	34.77	-17.03
				50	0	22.06	13.91	16.06	34.77	-18.71
				1	0	23.28	15.13	17.28	34.77	-17.49
				1	49	23.41	15.16	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
				1	49	23.35	15.20	17.35	34.77	-17.42
	23130	711	QPSK	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
				1	49	22.33	14.18	16.33	34.77	-18.44
	23060	704	16QAM	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
			16QAM -	1	49	22.72	14.57	16.72	34.77	-18.05
10	23095	707.5		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
				1	49	22.45	14.30	16.45	34.77	-18.32
	23130	711		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
	22070	704	04	1	49	21.44	13.29	15.44	34.77	-19.33
	23060	704 64QAM	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
	23005 707.5 640.4M	1	49	21.83	13.68	15.83	34.77	-18.94		
	23095	707.5	64QAM	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		
	22120	711	/ 40 A B A	1	49	21.64	13.49	15.64	34.77	-19.13
	23130	711	64QAM	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	13_U	plink fre	. ,	: 777 to 787 MI			
BW	UL	Frequency	Modulation	RB	RB	Conducted	ERP	EIRP	EIRP	Margin
(MHz)	Channel	(MHz)	Modulation	Size	Offset	Average (dBm)	Average (dBm)	Average (dBm)	Limit (dBm)	(dB)
				1	0	23.04	12.19	14.34	34.77	-20.43
				1	24	22.92	12.17	14.22	34.77	-20.45
	23205	779.5	QPSK	12	6	21.64	10.79	12.94	34.77	-20.33
				25	0	21.59	10.74	12.94	34.77	-21.88
				1	0	23.08	12.23	14.38	34.77	-20.39
				1	24	22.93	12.23	14.23	34.77	-20.54
	23230	782	QPSK	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
				1	24	22.77	11.92	14.07	34.77	-20.7
	23255	784.5	QPSK	12	6	21.73	10.88	13.03	34.77	-21.74
				25	0	21.73	10.66	12.81	34.77	-21.96
				1	0	21.92	11.07	13.22	34.77	-21.55
				1	24	21.51	10.66	12.81	34.77	-21.96
	23205 779.5 16C	16QAM	12	6	20.56	9.71	11.86	34.77	-22.91	
			25	0	20.64	9.79	11.94	34.77	-22.83	
			1	0	21.92	11.07	13.22	34.77	-21.55	
		23230 782 16QAM	1	24	21.74	10.89	13.04	34.77	-21.73	
5	23230		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
	00055	7045	4 (0 4) 4	1	24	21.86	11.01	13.16	34.77	-21.61
	23255	784.5	16QAM	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
	22205	770 5	<i>(4</i> ○ <i>4 </i> • <i>4</i> • • <i>4</i> • • • • • • • • • • • • • • • • • • •	1	24	21.03	10.18	12.33	34.77	-22.44
	23205 779.5 64QA	04UAIVI	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
	23230	102	04QAW	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	64QAM	1	24	21.43	10.58	12.73	34.77	-22.04
	23200	704.3	04QAIVI	12	6	20.05	9.20	11.35	34.77	-23.42
				25	0	19.87	9.02	11.17	34.77	-23.6

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 (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	QF3K	25	12	22.10	11.25	13.40	34.77	-21.37
				50	0	21.93	11.08	13.23	34.77	-21.54
		16OAM	1	0	22.32	11.47	13.62	34.77	-21.15	
10	23230 782		1	49	22.59	11.74	13.89	34.77	-20.88	
10	23230	782 16QAN	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 1		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	
		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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	Antenna gain	(dBi) ·	-6
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Antenna	yairi (ubi)	-6	LTE Band	d 17 Ur	olink frequenc	y band : 704 to	716 MHz			
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	22.99	14.84	16.99	34.77	-17.78
	23755	706.5	QPSK	1	24	22.99	14.84	16.99	34.77	-17.78
	23733	700.5	QF3K	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
	23790	710	QPSK	1	24	23.38	15.23	17.38	34.77	-17.39
	23170	710	QI SK	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	713.5	QPSK	1	24	23.08	14.93	17.08	34.77	-17.69
	23023	713.3	QF3K	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
	23755 706.5 T6QAW	TOQAW	12	6	21.18	13.03	15.18	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	23170	710	TOCAIVI	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	TOQAWI	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
	23700	700.3	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	640011	1	24	21.83	13.68	15.83	34.77	-18.94
	23 <i>19</i> 0	710		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	
	22025	712 5	640011	1	24	21.73	13.58	15.73	34.77	-19.04
	23825	/ 13.3	713.5 64QAM —	12	6	20.35	12.20	14.35	34.77	-20.42
				25	0	20.10	11.95	14.10	34.77	-20.67

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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Antonna gain (dRi)

Antenna	gain (dBi)	-6	LTF Rand	17 Hr	olink frequency	y band : 704 to	716 MHz			
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	23.10	14.95	17.10	34.77	-17.67
	22700	700	ODCK	1	49	23.14	14.99	17.14	34.77	-17.63
	23780	709	QPSK	25	12	22.32	14.17	16.32	34.77	-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
	23790	710	QPSK	1	49	23.49	15.34	17.49	34.77	-17.28
	23790	710	UPSK	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
	23000	/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
	23700	707		25	12	21.37	13.22	15.37	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
	23000	711	TOQAIVI	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	34.77	-19.02
	23780	709	64QAM	1	49	21.89	13.74	15.89	34.77	-18.88
	25700	707	O+Q/ (IV)	25	12	20.49	12.34	14.49	34.77	-20.28
				50	0	20.38	12.23	14.38	34.77	-20.39
				1	0	21.66	13.51	15.66	34.77	-19.11
	23790	710	640AM	1	49	21.97	13.82	15.97	34.77	-18.8
	23790 710 64QAM	25	12	20.52	12.37	14.52	34.77	-20.25		
				50	0	20.24	12.09	14.24	34.77	-20.53
				1	0	21.42	13.27	15.42	34.77	-19.35
	23800	711	640AM	1	49	21.88	13.73	15.88	34.77	-18.89
	20000	23800 711 64QAN	O I QI IIVI	25	12	20.45	12.30	14.45	34.77	-20.32
				50	0	20.26	12.11	14.26	34.77	-20.51



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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
		2572.5	16QAM	1	0	21.98	19.58	33	-13.42
	27775			1	24	22.04	19.64	33	-13.36
	37775			12	6	20.99	18.59	33	-14.41
				25	0	20.80	18.40	33	-14.6
	29000	2595	16QAM	1	0	22.16	19.76	33	-13.24
_				1	24	21.91	19.51	33	-13.49
5	38000			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 (dBi)

-2.4

Antenna	gair (dbi)	-2.4 L 1	TE Band 38_U	Jplink	frequen	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	ODCK	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	2595	QPSK	1	49	22.96	20.56	33	-12.44
	38000	2090	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
	30200	2015	QF3K	25	12	21.94	19.54	33	-13.46
				50	0	21.77	19.37	33	-13.63
	37800 2575 16		1	0	22.02	19.62	33	-13.38	
		2575	16QAM	1	49	22.00	19.60	33	-13.4
	37600			25	12	20.95	18.55	33	-14.45
				50	0	20.78	18.38	33	-14.62
	38000	2595	16QAM	1	0	22.15	19.75	33	-13.25
10				1	49	21.92	19.52	33	-13.48
10	30000			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
	30200	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	2373	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	2595	64QAM	1	49	21.46	19.06	33	-13.94
	30000	2373	U+QAIVI	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
	38200	2615	64QAM	1	49	21.70	19.30	33	-13.7
	30200	2010	UHUMINI	25	12	20.57	18.17	33	-14.83
				50	0	20.32	17.92	33	-15.08

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 (dBi)	-2.4	FF Rand 20 1	Inlink	frequen	cy band : 2570	to 2620 MHz		
		L	L Danu 30_0			Conducted	EIRP	EIRP	
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Average (dBm)	Average (dBm)	Limit (dBm)	Margin (dB)
				1	0	22.70	20.30	33	-12.7
				1	74	22.71	20.31	33	-12.69
	37825	2577.5	QPSK	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
	20000	0505	ODCK	1	74	22.94	20.54	33	-12.46
	38000	2595	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
	301/3	2012.3	UPSK	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	16QAM	1	74	22.01	19.61	33	-13.39
	37023			36	19	20.96	18.56	33	-14.44
				75	0	20.73	18.33	33	-14.67
	38000	2595	16QAM	1	0	22.19	19.79	33	-13.21
15				1	74	21.95	19.55	33	-13.45
15	30000			36	19	21.14	18.74	33	-14.26
				75	0	20.85	18.45	33	-14.55
				1	0	22.19	19.79	33	-13.21
	38175	2612.5	16QAM	1	74	22.20	19.80	33	-13.2
	30173	2012.5	10071111	36	19	21.04	18.64	33	-14.36
				75	0	20.85	18.45	33	-14.55
				1	0	21.49	19.09	33	-13.91
	37825	2577.5	64QAM	1	74	21.42	19.02	33	-13.98
	07020	2077.0	01071111	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
	38000	2595	64QAM	1	74	21.43	19.03	33	-13.97
	55555	2370	0.2/11/1	36	19	20.53	18.13	33	-14.87
				75	0	20.33	17.93	33	-15.07
				1	0	21.66	19.26	33	-13.74
	38175	2612.5	64QAM	1	74	21.63	19.23	33	-13.77
]		36	19	20.53	18.13	33	-14.87
				75	0	20.24	17.84	33	-15.16



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Antenna	gain (dBi)	-2.4	TF Rand 38 I	Inlink	freguen	cy band : 2570	to 2620 MHz		
			L Dana 30_C			Conducted	EIRP	EIRP	
BW	UL	Frequency	Modulation	RB	RB	Average	Average	Limit	Margin
(MHz)	Channel	(MHz)	Woddiation	Size	Offset	(dBm)	(dBm)	(dBm)	(dB)
				1	0	22.81	20.41	33	-12.59
	07050	0500	0.001/	1	99	22.90	20.50	33	-12.5
	37850	2580	QPSK	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
	20000	0505	ODCK	1	99	23.07	20.67	33	-12.33
	38000	2595	QPSK	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
	20150	2/10	ODCK	1	99	22.86	20.46	33	-12.54
	38150	2610	QPSK	50	25	22.14	19.74	33	-13.26
				100	0	21.96	19.56	33	-13.44
		2580	16QAM	1	0	22.13	19.73	33	-13.27
	37850			1	99	22.18	19.78	33	-13.22
	37850			50	25	21.15	18.75	33	-14.25
				100	0	20.93	18.53	33	-14.47
	20000	2595	16QAM	1	0	22.31	19.91	33	-13.09
20				1	99	22.09	19.69	33	-13.31
20	38000			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
	38150	2610	16QAM	1	99	22.32	19.92	33	-13.08
	30130	2010	TOQAW	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
	37850	2580	64QAM	1	99	21.61	19.21	33	-13.79
	37630	2000	04QAIVI	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
	38000	2595	64QAM	1	99	21.57	19.17	33	-13.83
	30000	20 7 0	04QAIVI	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
	38150	2610	64QAM	1	99	21.82	19.42	33	-13.58
	30130	2010	04QAIVI	50	25	20.69	18.29	33	-14.71
				100	0	20.42	18.02	33	-14.98



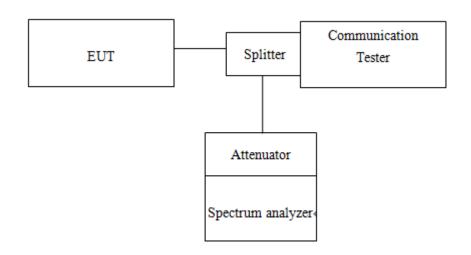
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7. OCCUPIED BANDWIDTH MEASUREMENT

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%.

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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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	СН	99% BV	V (MHz)	26 dB BW (MHz)		
Freq. (MHz)		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.		99% BV	V (MHz)	26 dB BW (MHz)		
(MHz)	СН	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	9.8 810 0.24		0.24133	0.318	0.314	

Freq.	СН	99	% BW (MH	lz)	26 dB BW (MHz)			
(MHz)		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. (MHz)	СН	99	% BW (MH	lz)	26 dB BW (MHz)			
		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	

Erog		99	% BW (MH	lz)	26 dB BW (MHz)			
Freq. (MHz)	СН	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.	req. CH 99% BW (MHz) 26 dB BW (MHz)						Hz)				
(MHz)	CH	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 (MH	lz)	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 DAND 2 CHAIIIRI DANGWIU(II: SIVIAZ										
	Freq.	СН	99% 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	99% BW (MHz) 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	1905.0 19150 9.0221 8.9698 8.9900 9.841 9.782 9.8 3									

	LTE BAND 2 Channel bandwidth: 15MHz										
Freq.	СН	99	99% BW (MHz) 26 dB BW (MHz)								
(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	19125 13.512 13.477 13.458 14.792 14.770 14.722									

	LTE BAND 2 Channel bandwidth: 20MHz										
Freq.	СН	99	% BW (M⊦	lz)	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 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 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	9% BW (MI	Hz)	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	2.6968	2.7042	3.001	3.005	2.999				

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	99% BW (MHz) 26 dB B									
(MHz)	CII	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. (MHz)	СН	99	9% BW (MI	dB BW (MHz)							
(MHz)	СП	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.	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)	CH	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								
ſ	Freq.	СН	99% BW (MHz)			26 dB BW (MHz)		
	(MHz)	СП	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
I	846.5	20625	4.4883	4.4978	4.5063	4.886	4.971	4.985

		LTE BAN	ID 5 Chanr	nel bandwic	dth: 10MH	Z		
Freq.	СН	99	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	9% BW (MI	Hz)	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 BAI	ND 7 Chan	nel bandwi	dth: 10MF	łz	
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		

Ī	LTE BAND 7 Channel bandwidth: 20MHz								
ĺ	Freq.	СН	99	99% BW (MHz)			26 dB BW (MHz)		
ı	(MHz)	CH	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	
ĺ	2510.0	20850	17.921	17.943	17.950	19.399	19.519	19.534	
I	2535.0	21100	17.937	17.963	17.954	19.491	19.471	19.530	
ĺ	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 (MHz)			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.	СН	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 BAN	D 12 Chan	nel bandwi	dth: 10MF	łz	
Freq.	СН	99% BW (MHz)			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)	<u>(</u>)	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 BAN	ID 13 Char	nnel bandw	ridth: 10M	Hz	
	Freq.	СН	99% BW (MHz)			26 dB BW (MHz)		
	(MHz)	СП	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.) CH	99% BW (MHz)			26 dB BW (MHz)					
(MHz)		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									
Freq.	СН	99% BW (MHz)			26 dB BW (MHz)				
(MHz)	CII	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM		
2572.5	37775	4.5070	4.5001	4.5081	5.152	4.960	5.119		
2595.0	38000	4.5033	4.5053	4.5102	5.207	4.972	5.186		
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.	СН	99% BW (MHz)			26 dB BW (MHz)				
(MHz)	CII	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.		99	99% BW (MHz)			26 dB BW (MHz)				
(MHz)		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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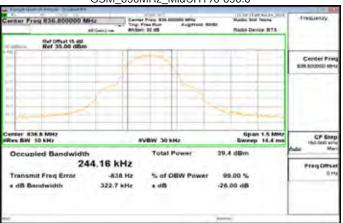
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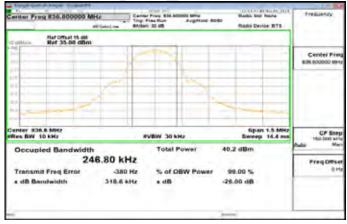
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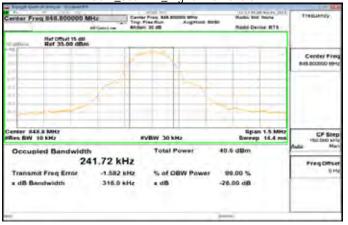
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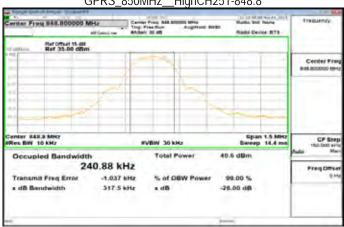
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GSM_850MHz_HighCH251-848.8



GPRS_850MHz__HighCH251-848.8



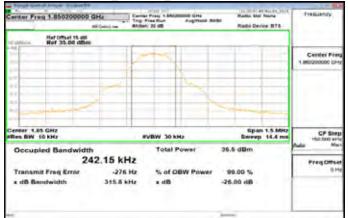
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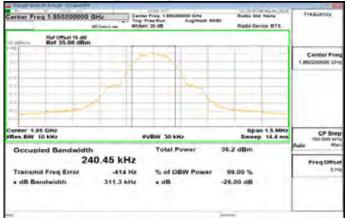


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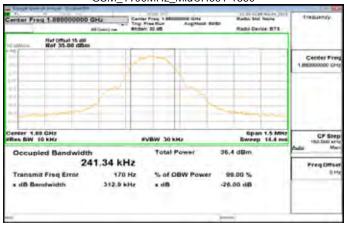
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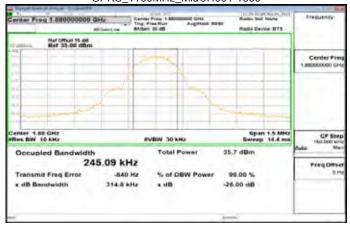
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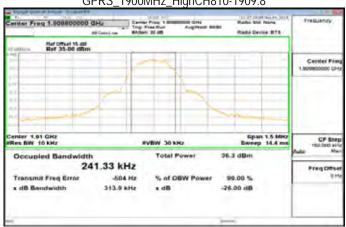
GPRS_1900MHz_MidCH661-1880



GSM_1900MHz_HighCH810-1909.8



GPRS_1900MHz_HighCH810-1909.8



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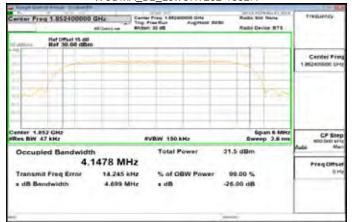
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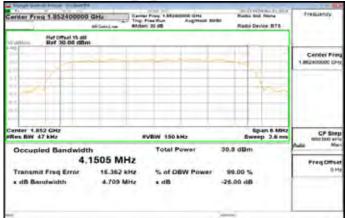


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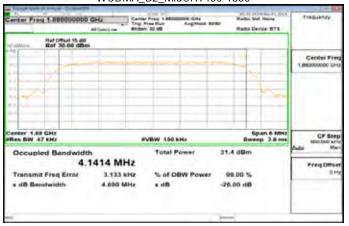
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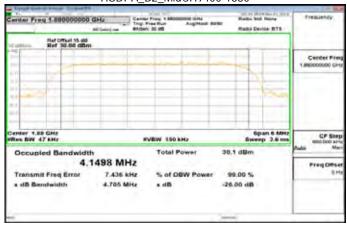
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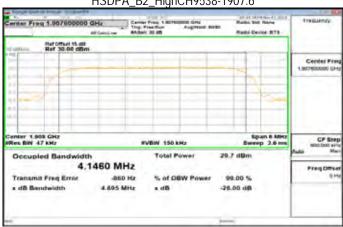
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WCDMA_B2_HighCH9538-1907.6



HSDPA_B2_HighCH9538-1907.6



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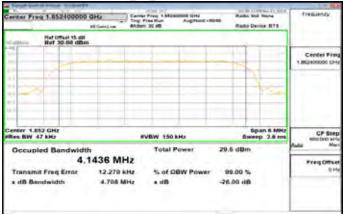
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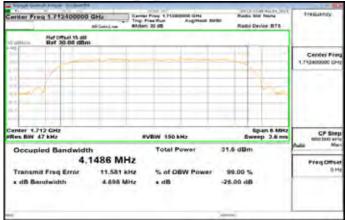


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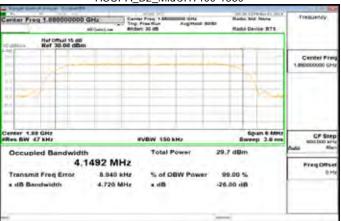
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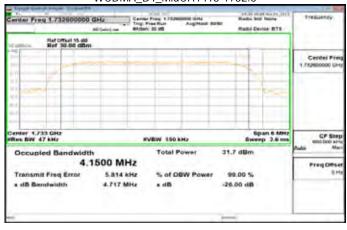
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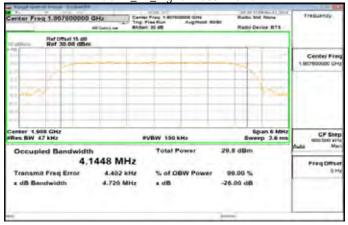
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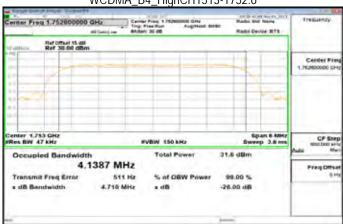
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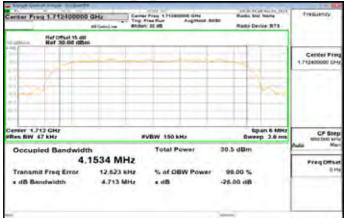
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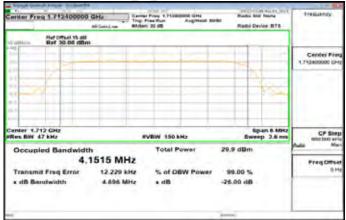


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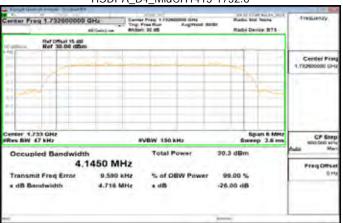
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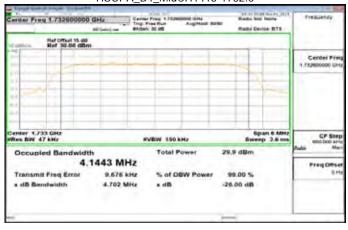
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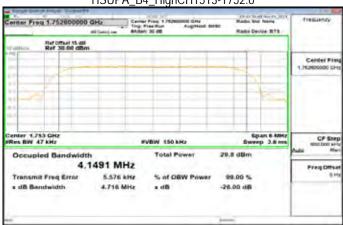
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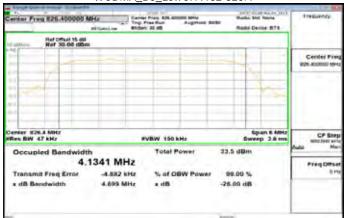
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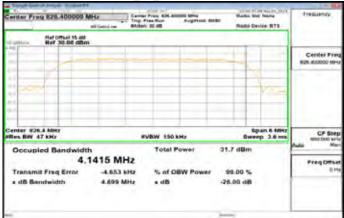


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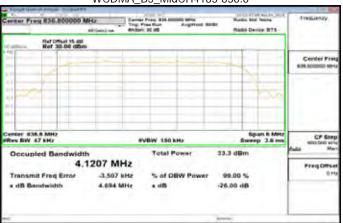
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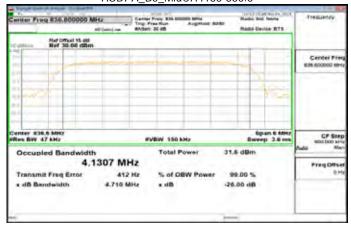
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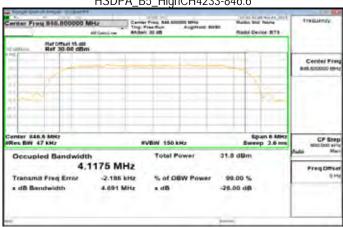
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HSDPA_B5_HighCH4233-846.6



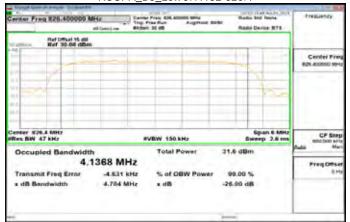
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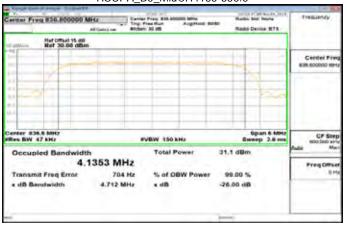
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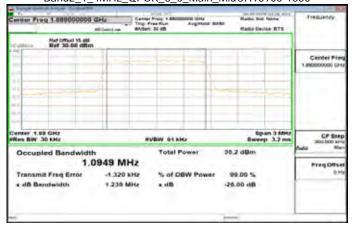
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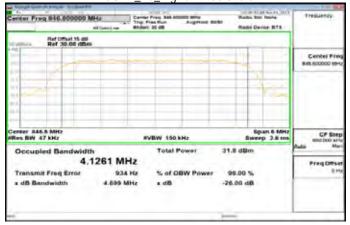
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Band2_1_4MHz_QPSK_6_0_Main_MidCH18900-1880



HSUPA_B5_HighCH4233-846.6



Band2_1_4MHz_QPSK_6_0_Main_HighCH19193-1909.3



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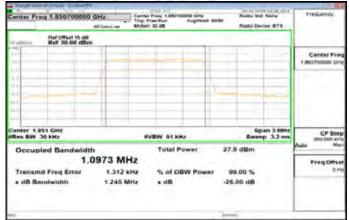


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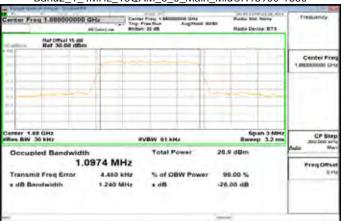
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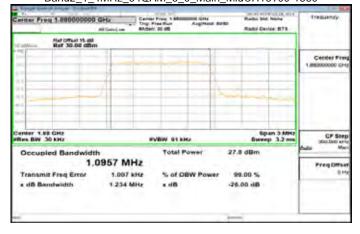
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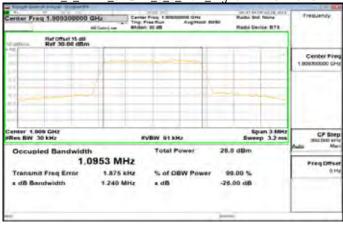
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Band2_1_4MHz_16QAM_6_0_Main_HighCH19193-1909.3



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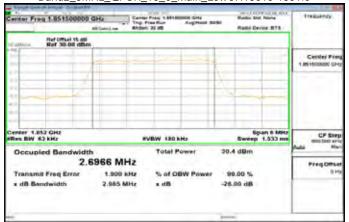
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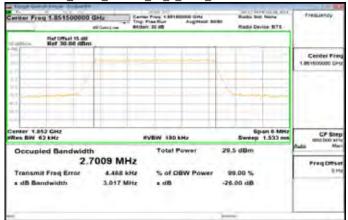


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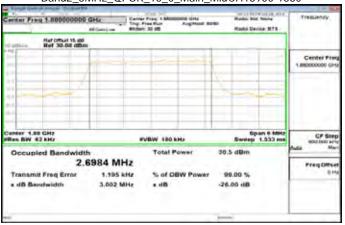
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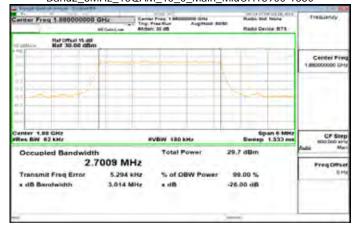
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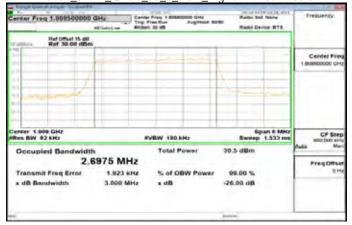
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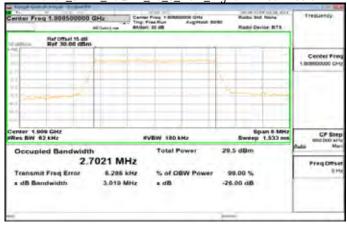
Band2_3MHz_16QAM_15_0_Main_MidCH18900-1880



Band2_3MHz_QPSK_15_0_Main_HighCH19185-1908.5



Band2_3MHz_16QAM_15_0_Main_HighCH19185-1908.5



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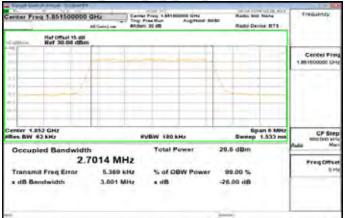
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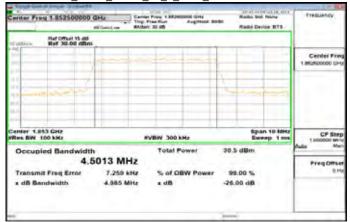


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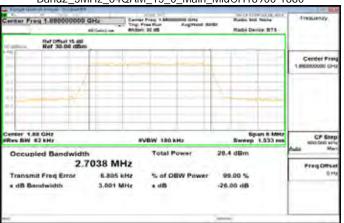
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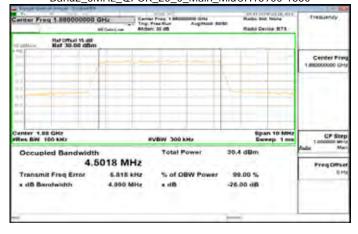
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Band2_3MHz_64QAM_15_0_Main_MidCH18900-1880



Band2_5MHz_QPSK_25_0_Main_MidCH18900-1880



Band2_3MHz_64QAM_15_0_Main_HighCH19185-1908.5



Band2_5MHz_QPSK_25_0_Main_HighCH19175-1907.5



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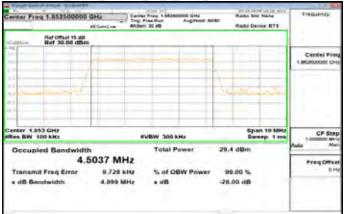
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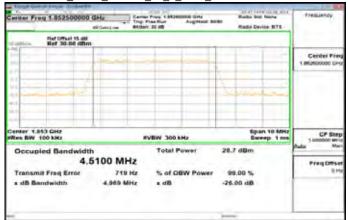


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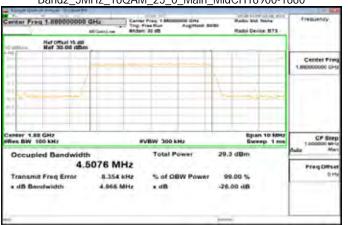
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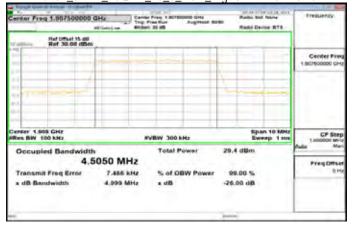
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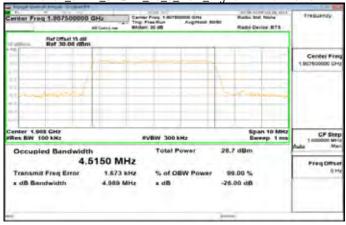
Band2_5MHz_64QAM_25_0_Main_MidCH18900-1880



Band2_5MHz_16QAM_25_0_Main_HighCH19175-1907.5



Band2_5MHz_64QAM_25_0_Main_HighCH19175-1907.5



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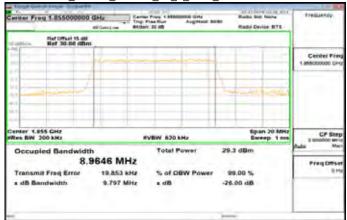


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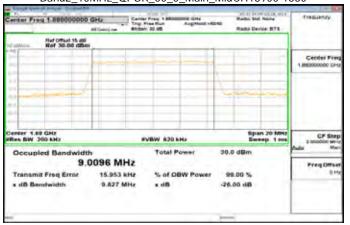
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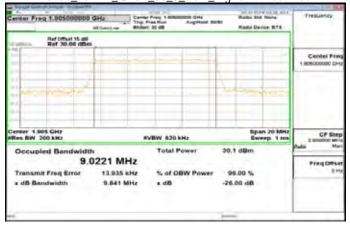
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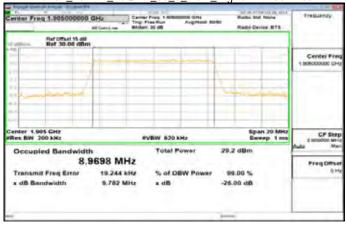
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Band2_10MHz_QPSK_50_0_Main_HighCH19150-1905



Band2_10MHz_16QAM_50_0_Main_HighCH19150-1905



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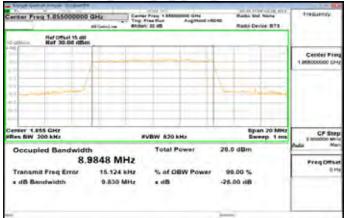
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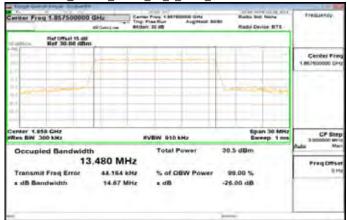


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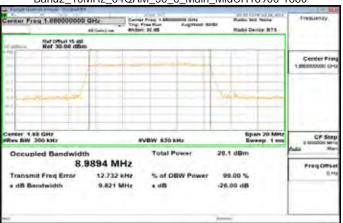
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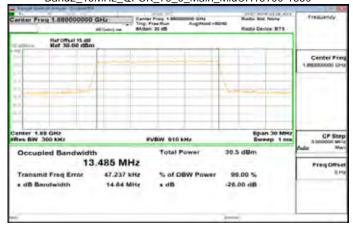
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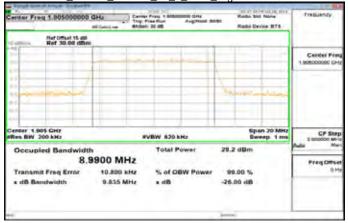
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Band2_15MHz_QPSK_75_0_Main_MidCH18900-1880



Band2_10MHz_64QAM_50_0_Main_HighCH19150-1905



Band2_15MHz_QPSK_75_0_Main_HighCH19125-1902.5



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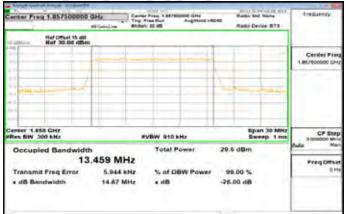
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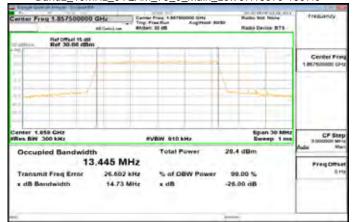


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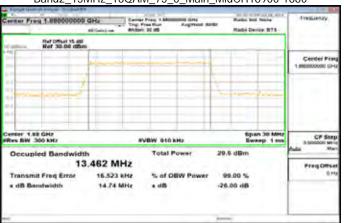
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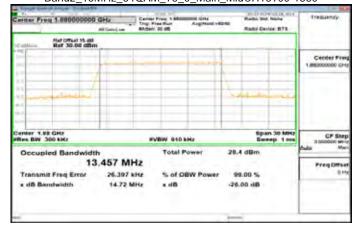
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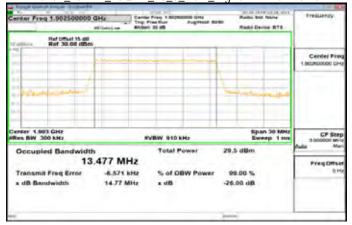
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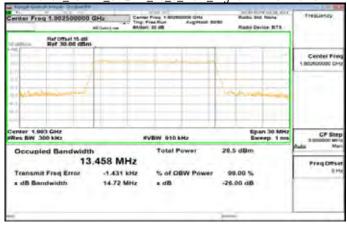
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Band2_15MHz_16QAM_75_0_Main_HighCH19125-1902.5



Band2_15MHz_64QAM_75_0_Main_HighCH19125-1902.5



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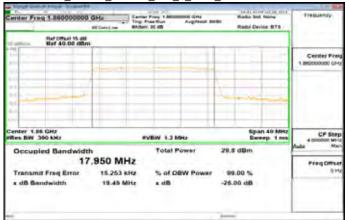


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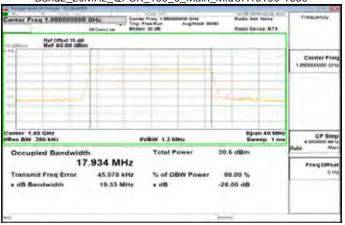
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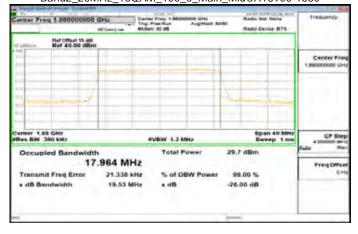
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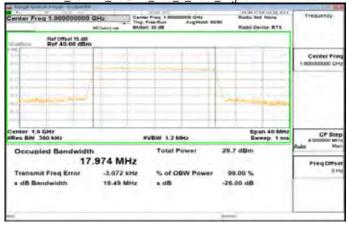
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Band2_20MHz_QPSK_100_0_Main_HighCH19100-1900



Band2_20MHz_16QAM_100_0_Main_HighCH19100-1900



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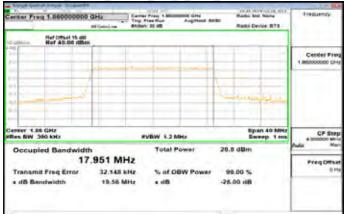
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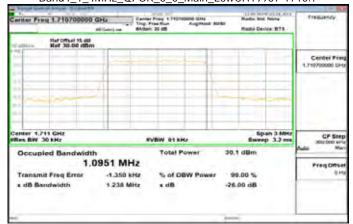


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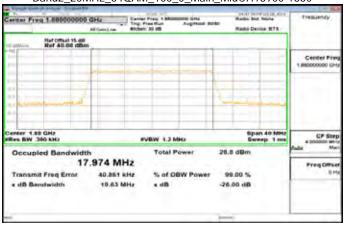
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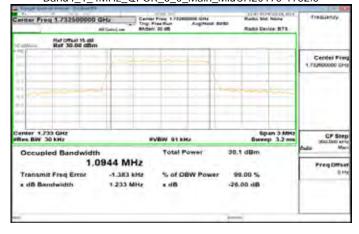
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Band2_20MHz_64QAM_100_0_Main_MidCH18900-1880



Band4_1_4MHz_QPSK_6_0_Main_MidCH20175-1732.5



Band2_20MHz_64QAM_100_0_Main_HighCH19100-1900



Band4_1_4MHz_QPSK_6_0_Main_HighCH20393-1754.3



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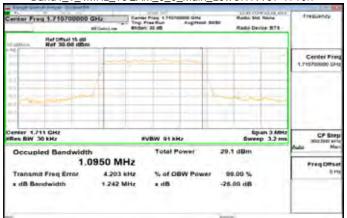
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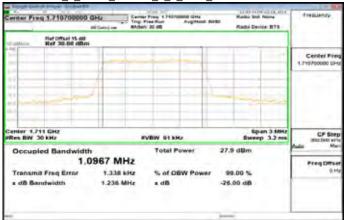


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Band4_1_4MHz_16QAM_6_0_Main_LowCH19957-1710.7



Band4_1_4MHz_64QAM_6_0_Main_LowCH19957-1710.7



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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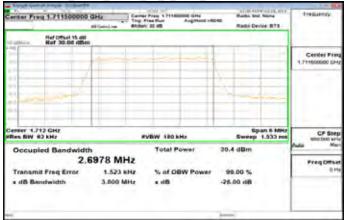
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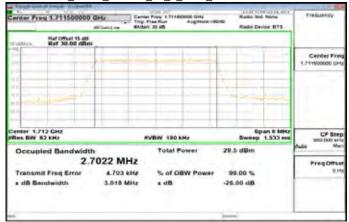


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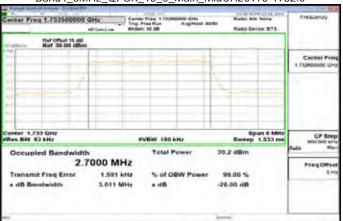
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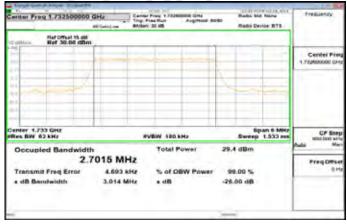
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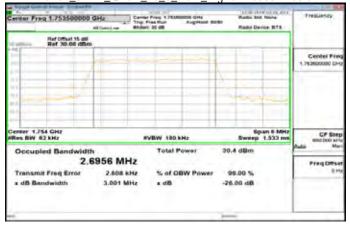
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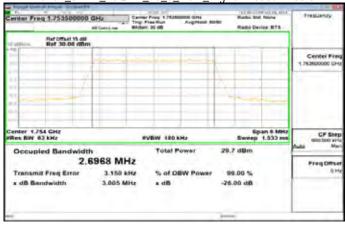
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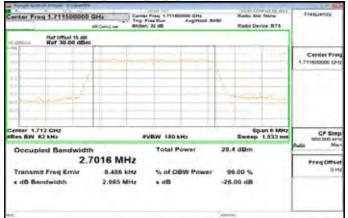
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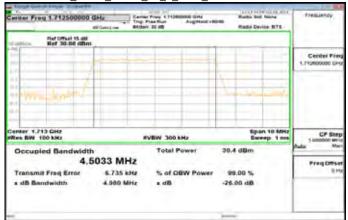


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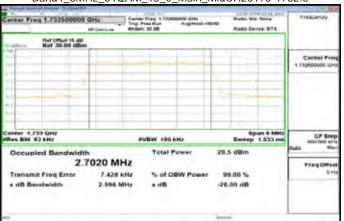
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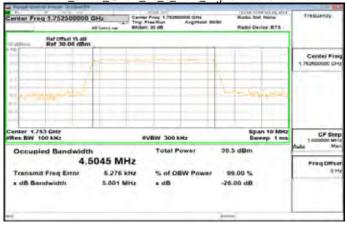
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Band4_5MHz_QPSK_25_0_Main_HighCH20375-1752.5



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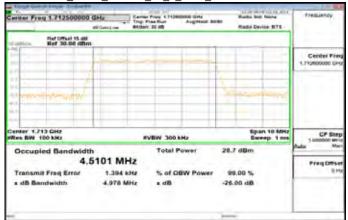


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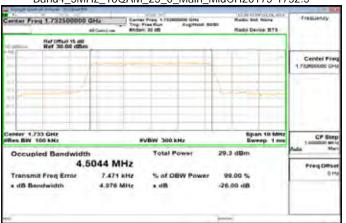
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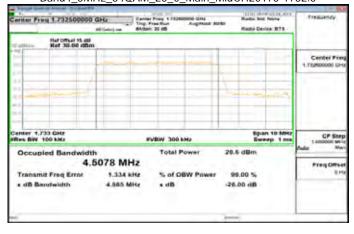
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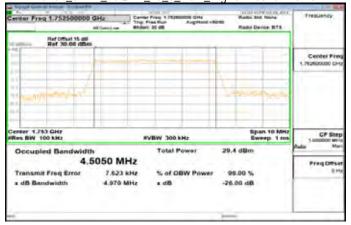
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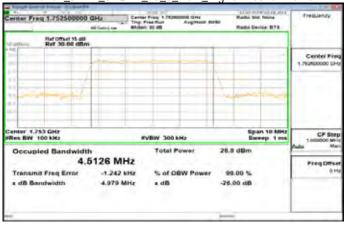
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Band4_5MHz_64QAM_25_0_Main_HighCH20375-1752.5



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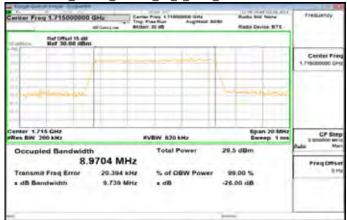


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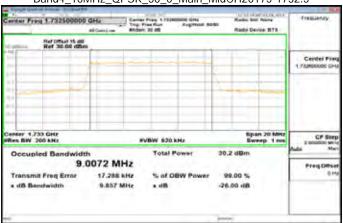
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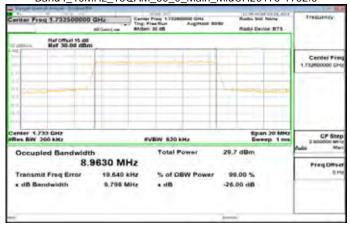
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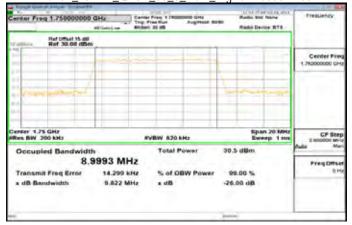
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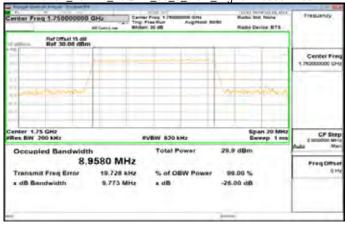
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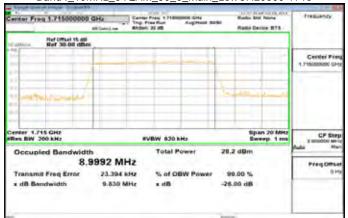
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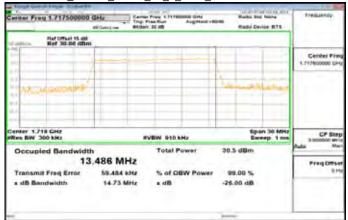


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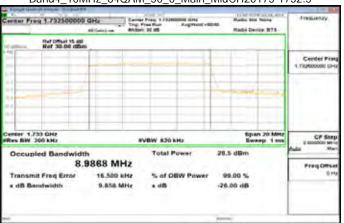
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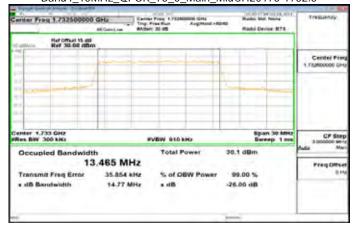
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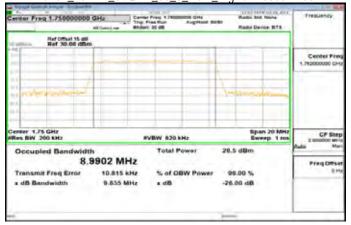
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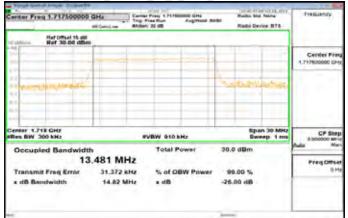
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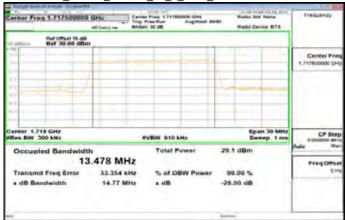


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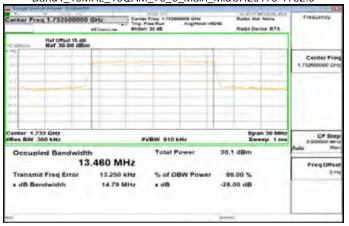
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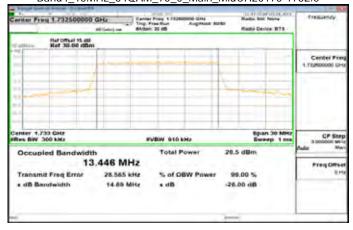
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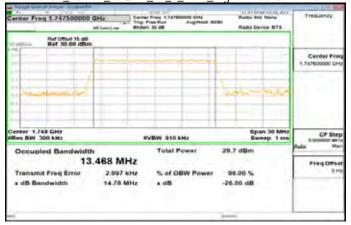
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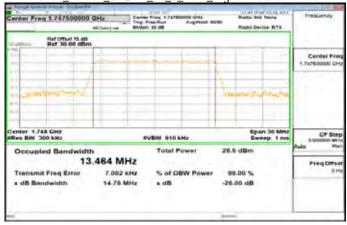
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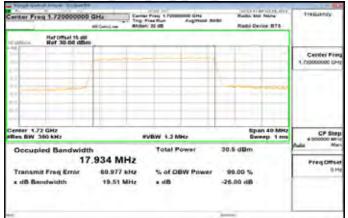
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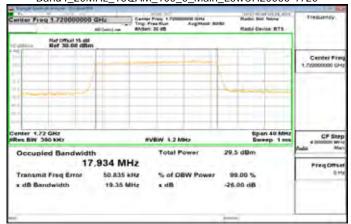


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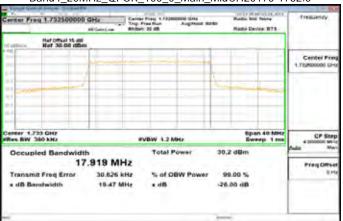
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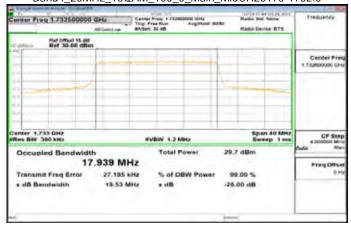
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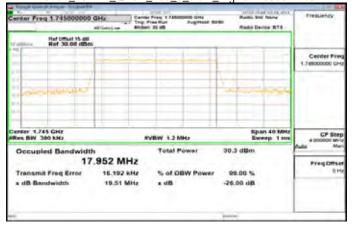
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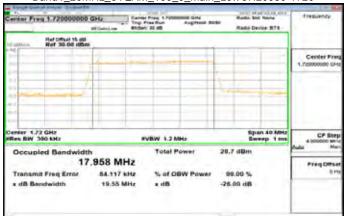
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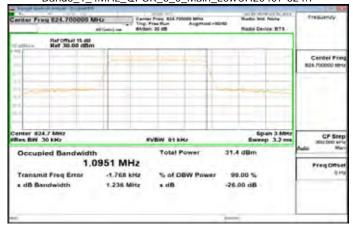


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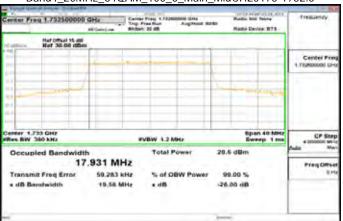
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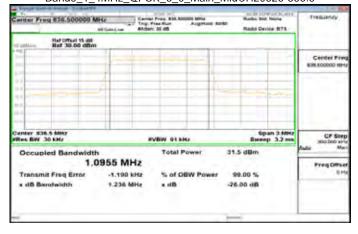
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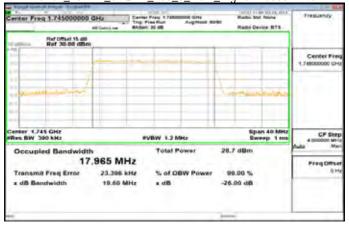
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Band5_1_4MHz_QPSK_6_0_Main_MidCH20525-836.5



Band4_20MHz_64QAM_100_0_Main_HighCH20300-1745



Band5_1_4MHz_QPSK_6_0_Main_HighCH20643-848.3



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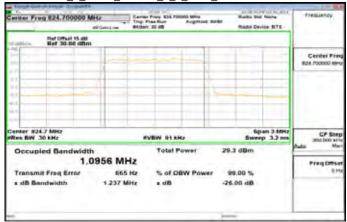


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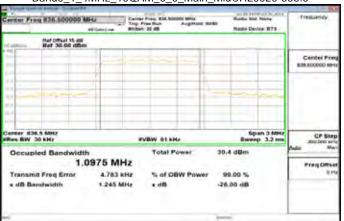
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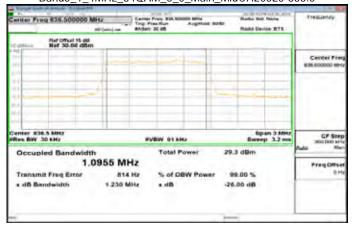
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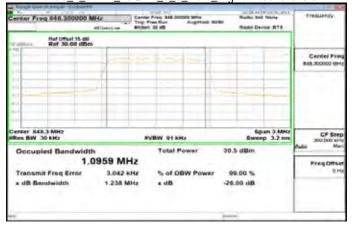
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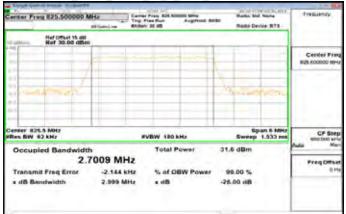
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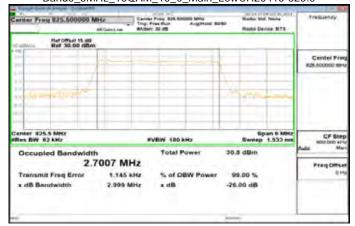


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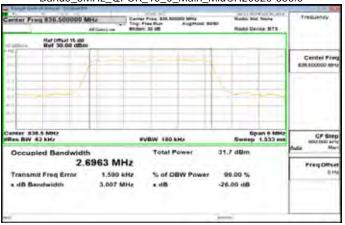
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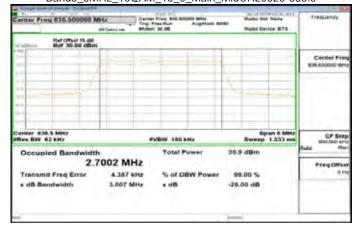
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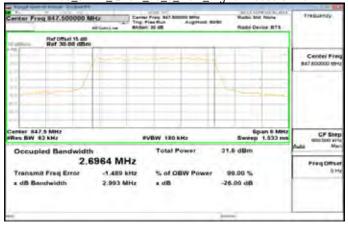
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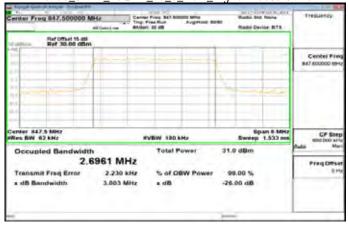
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Band5_3MHz_16QAM_15_0_Main_HighCH20635-847.5



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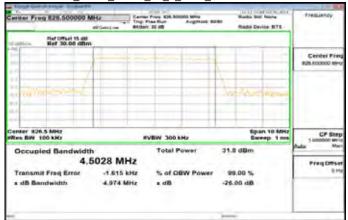


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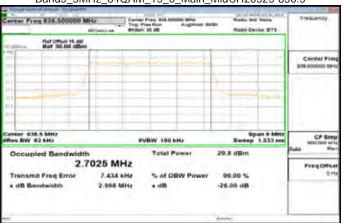
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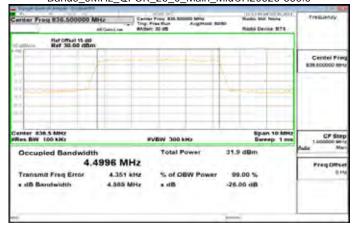
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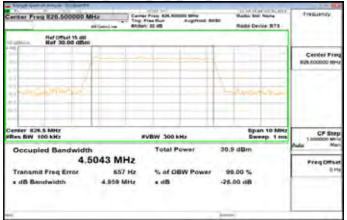
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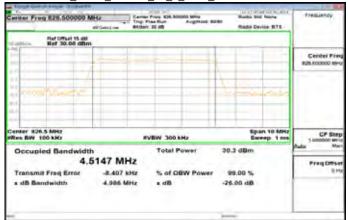


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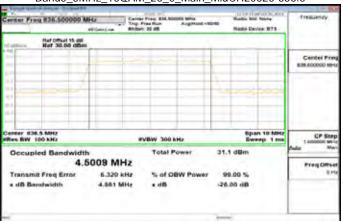
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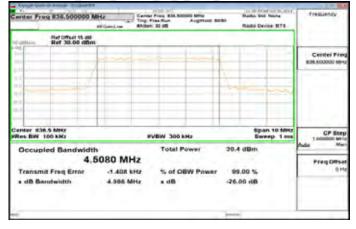
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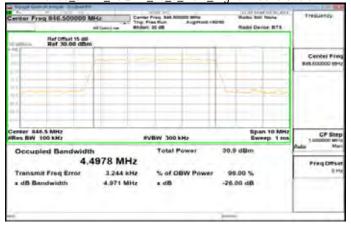
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Band5_5MHz_16QAM_25_0_Main_HighCH20625-846.5



Band5_5MHz_64QAM_25_0_Main_HighCH20625-846.5



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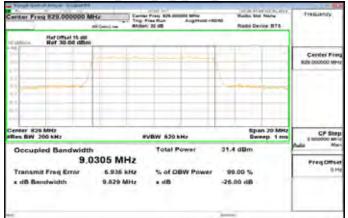
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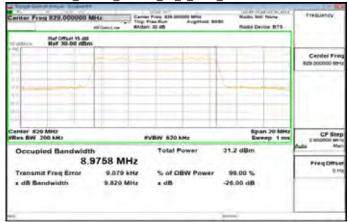


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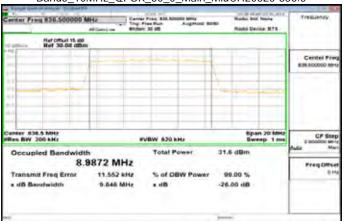
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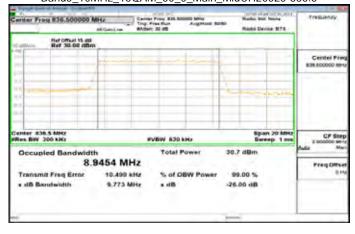
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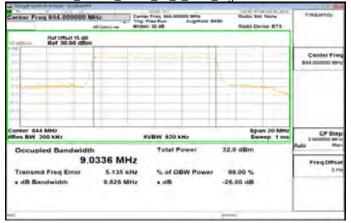
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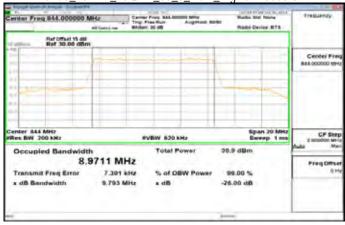
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Band5_10MHz_QPSK_50_0_Main_HighCH20600-844



Band5_10MHz_16QAM_50_0_Main_HighCH20600-844



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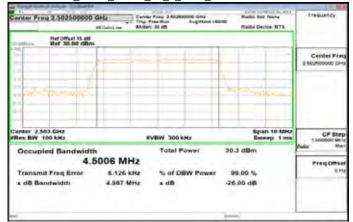


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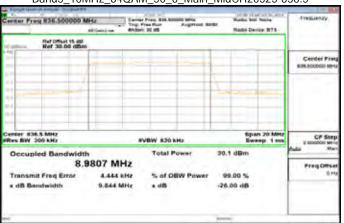
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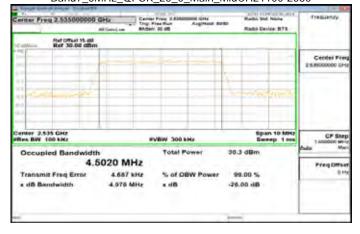
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Band5_10MHz_64QAM_50_0_Main_MidCH20525-836.5



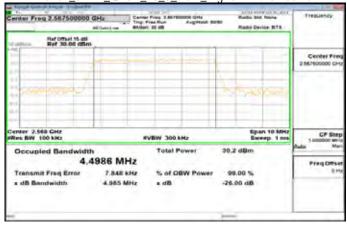
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Band5_10MHz_64QAM_50_0_Main_HighCH20600-844



Band7_5MHz_QPSK_25_0_Main_HighCH21425-2567.5



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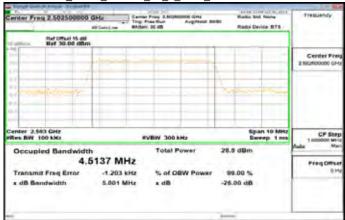


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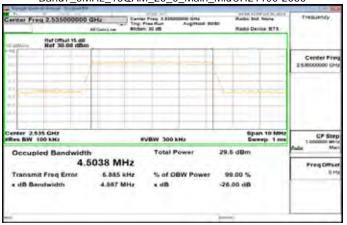
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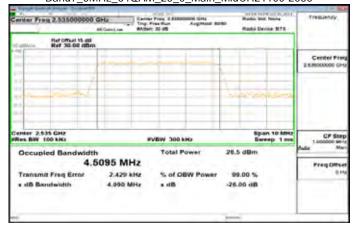
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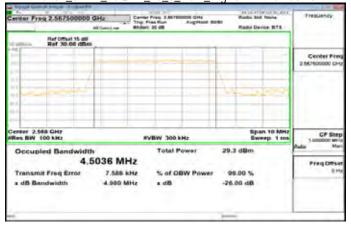
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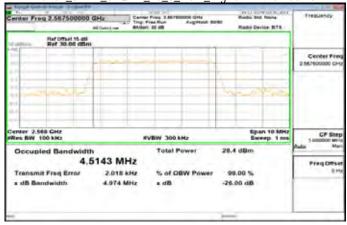
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Band7_5MHz_16QAM_25_0_Main_HighCH21425-2567.5



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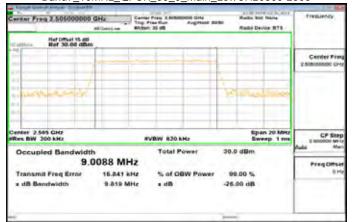
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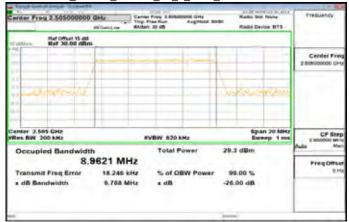


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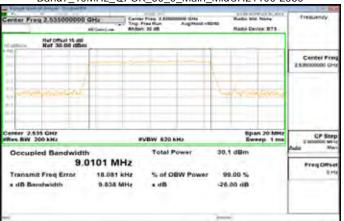
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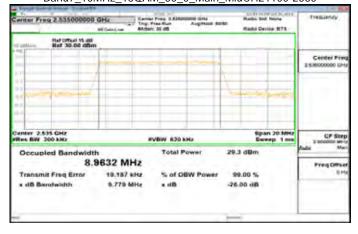
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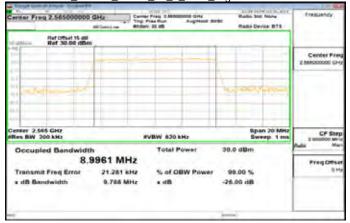
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Band7_10MHz_16QAM_50_0_Main_MidCH21100-2535



Band7_10MHz_QPSK_50_0_Main_HighCH21400-2565



Band7_10MHz_16QAM_50_0_Main_HighCH21400-2565



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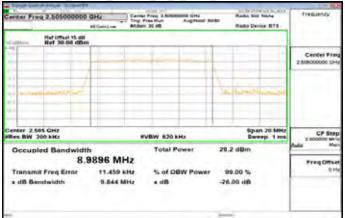
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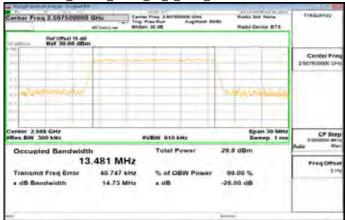


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Band7_10MHz_64QAM_50_0_Main_LowCH20800-2505



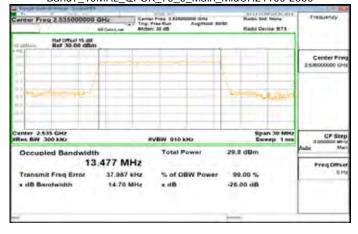
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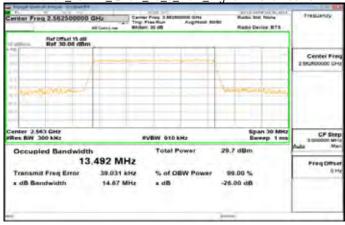
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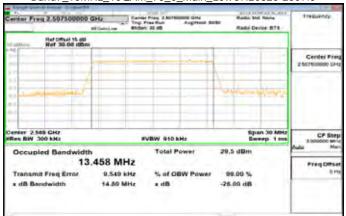
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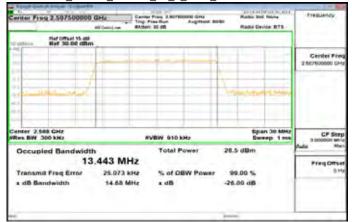


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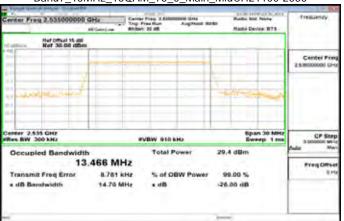
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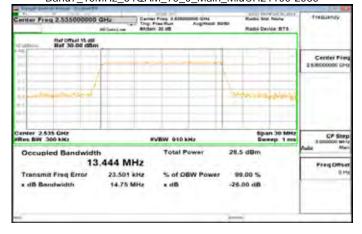
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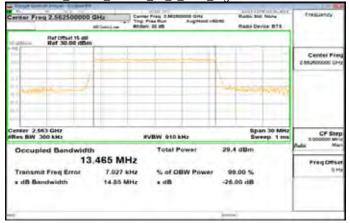
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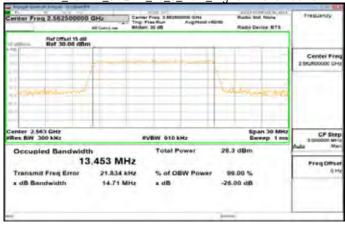
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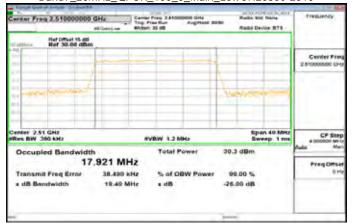
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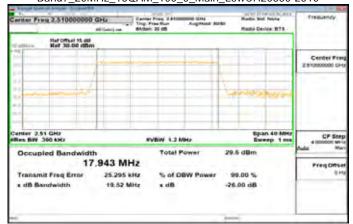


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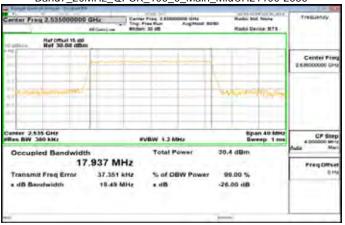
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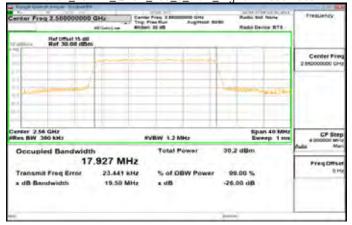
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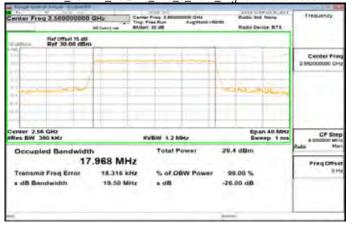
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Band7_20MHz_16QAM_100_0_Main_HighCH21350-2560



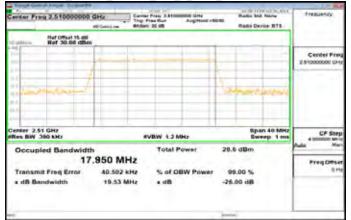
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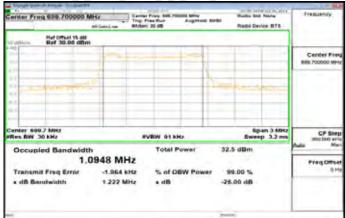


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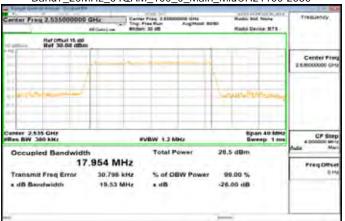
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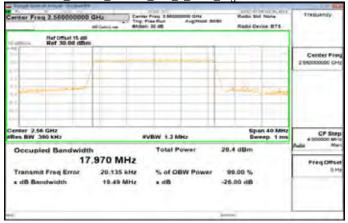
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Band12_1_4MHz_QPSK_6_0_Main_MidCH23095-707.5



Band7_20MHz_64QAM_100_0_Main_HighCH21350-2560



Band12_1_4MHz_QPSK_6_0_Main_HighCH23173-715.3



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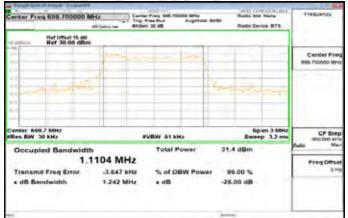
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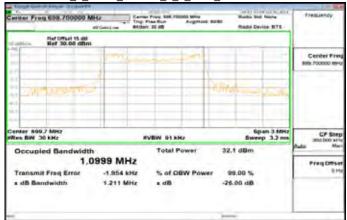


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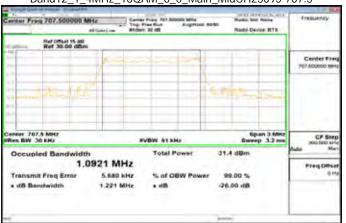
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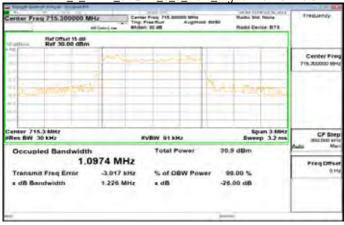
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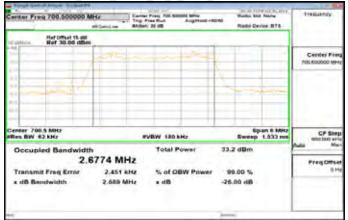
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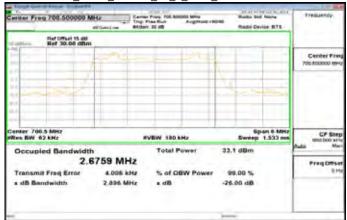


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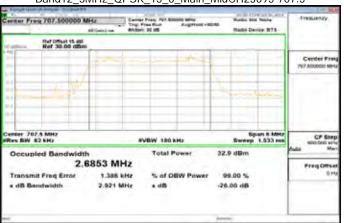
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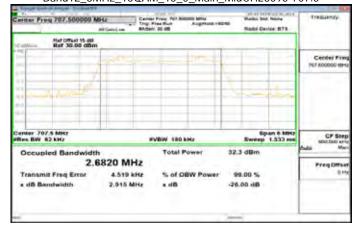
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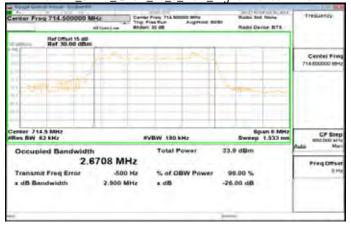
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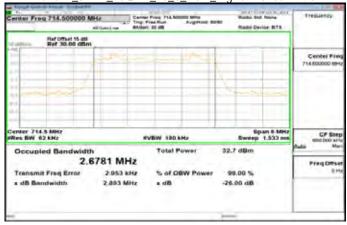
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Band12_3MHz_QPSK_15_0_Main_HighCH23165-714.5



Band12_3MHz_16QAM_15_0_Main_HighCH23165-714.5



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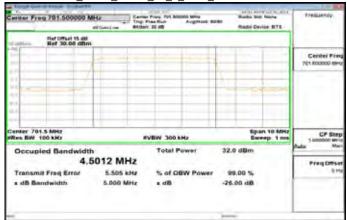


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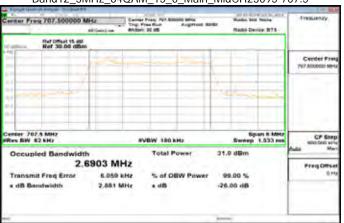
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Band12_3MHz_64QAM_15_0_Main_MidCH23095-707.5



Band12_5MHz_QPSK_25_0_Main_MidCH23095-707.5



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Band12_5MHz_QPSK_25_0_Main_HighCH23155-713.5



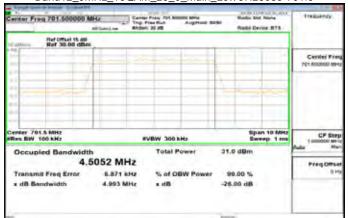
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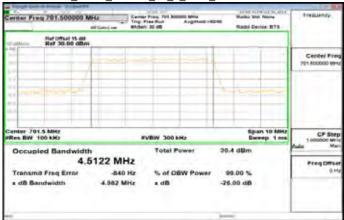


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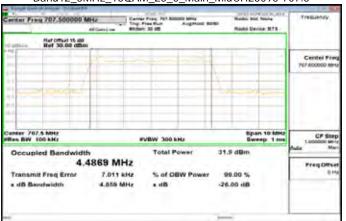
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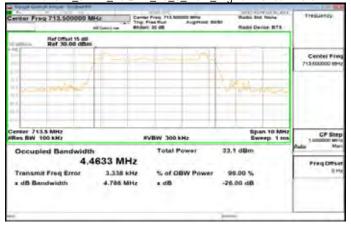
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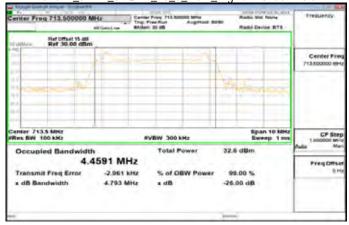
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Band12_5MHz_16QAM_25_0_Main_HighCH23155-713.5



Band12_5MHz_64QAM_25_0_Main_HighCH23155-713.5



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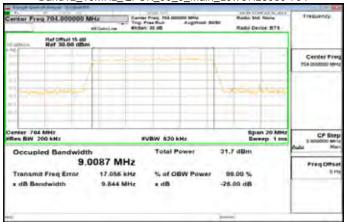
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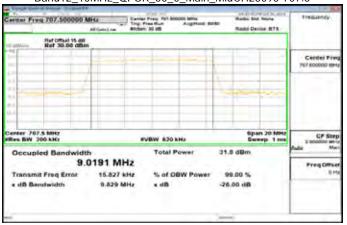
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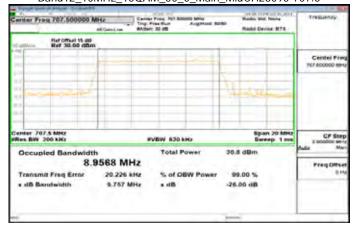
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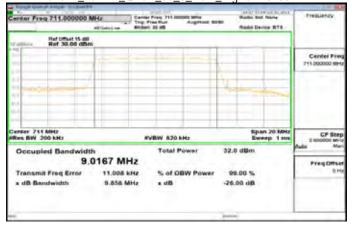
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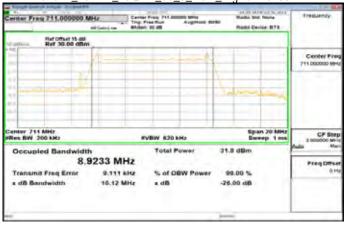
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Band12_10MHz_QPSK_50_0_Main_HighCH23130-711



Band12_10MHz_16QAM_50_0_Main_HighCH23130-711



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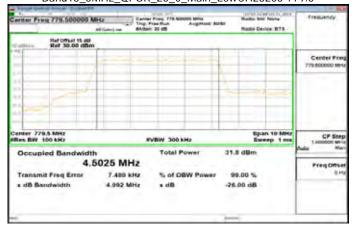


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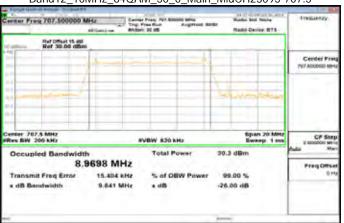
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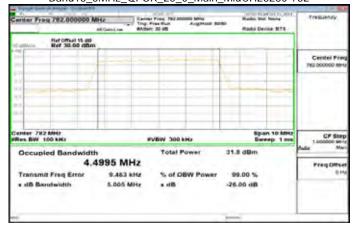
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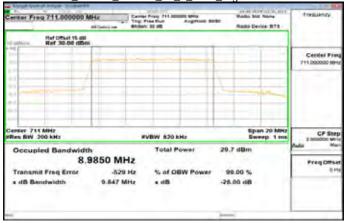
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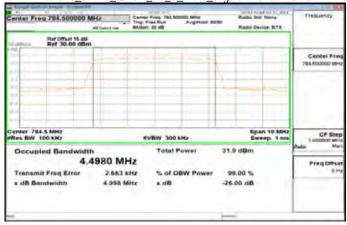
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Band12_10MHz_64QAM_50_0_Main_HighCH23130-711



Band13_5MHz_QPSK_25_0_Main_HighCH23255-784.5



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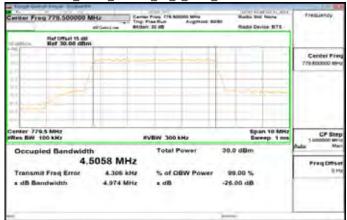


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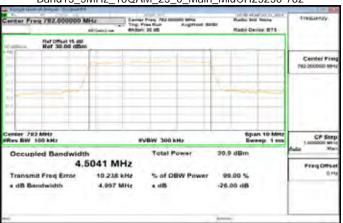
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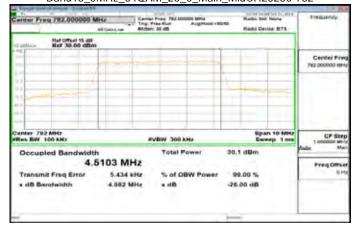
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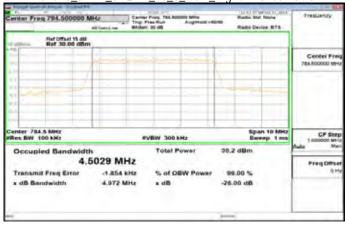
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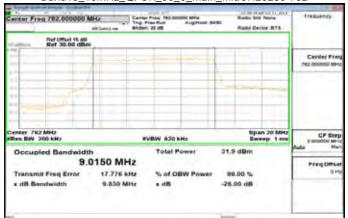
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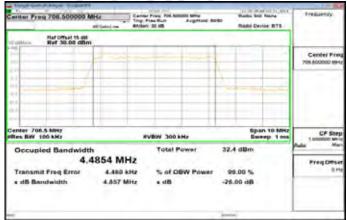


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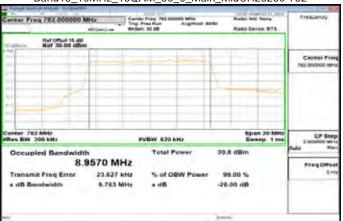
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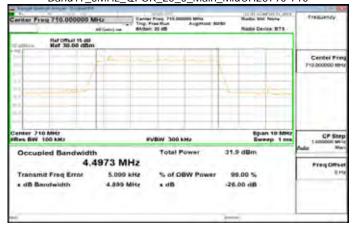
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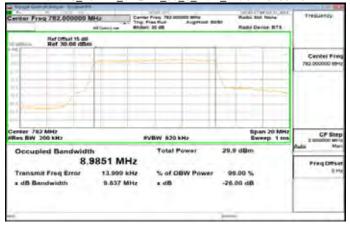
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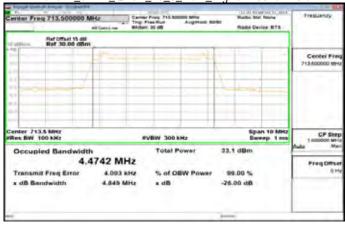
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Band13_10MHz_64QAM_50_0_Main_MidCH23230-782



Band17_5MHz_QPSK_25_0_Main_HighCH23825-713.5



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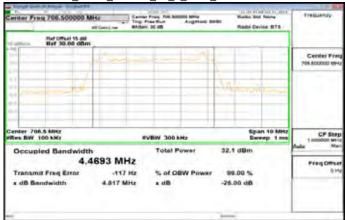


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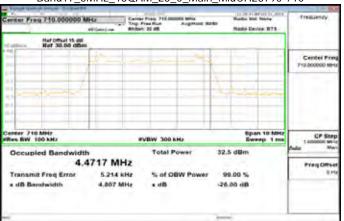
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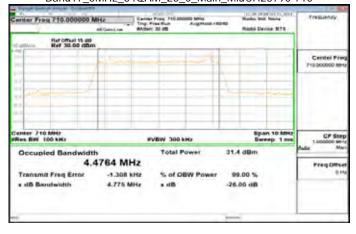
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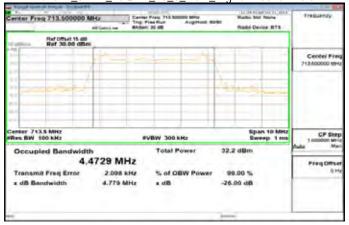
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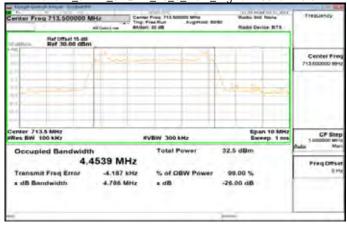
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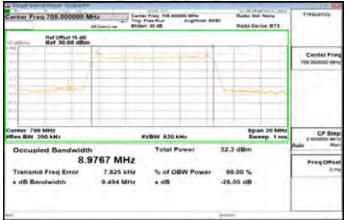
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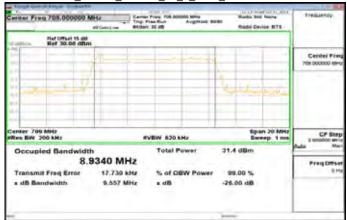


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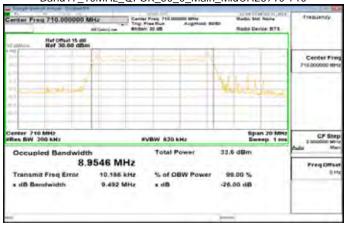
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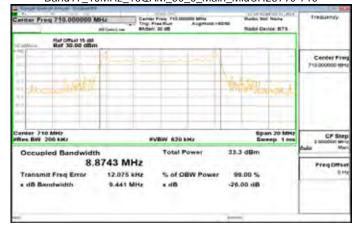
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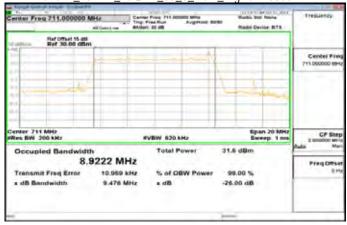
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Band17_10MHz_QPSK_50_0_Main_HighCH23800-711



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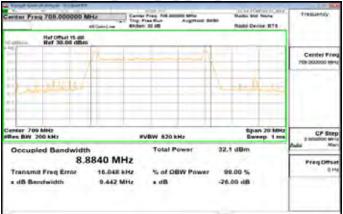
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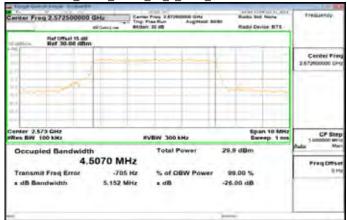


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Band17_10MHz_64QAM_50_0_Main_LowCH23780-709



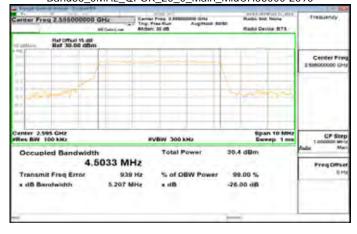
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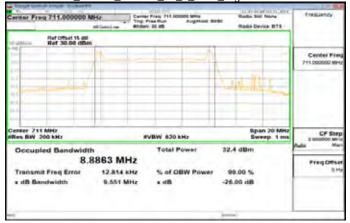
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Band38_5MHz_QPSK_25_0_Main_MidCH38000-2595



Band17_10MHz_64QAM_50_0_Main_HighCH23800-711



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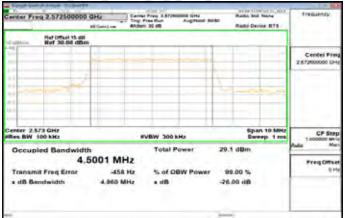
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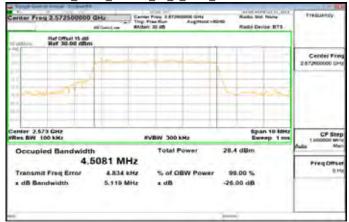


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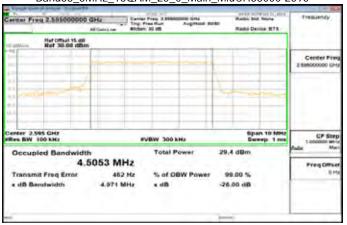
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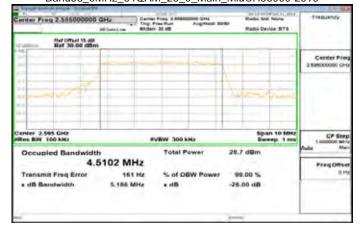
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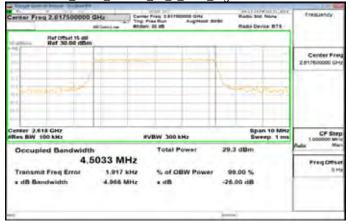
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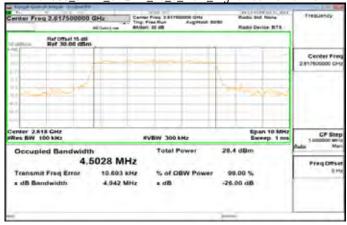
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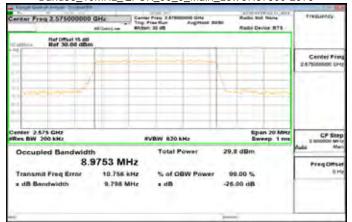
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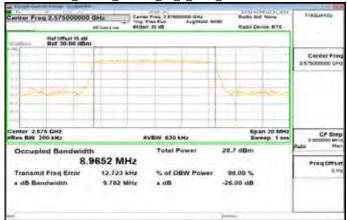


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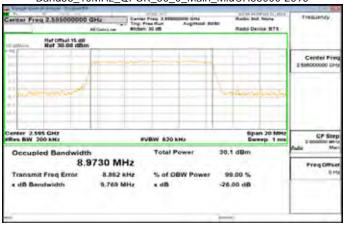
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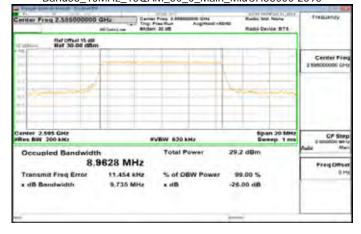
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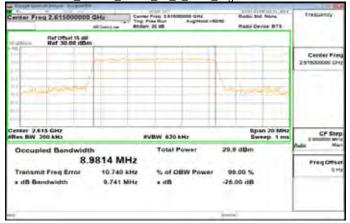
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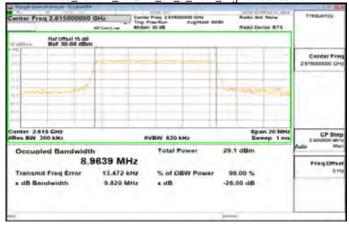
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Band38_10MHz_QPSK_50_0_Main_HighCH38200-2615



Band38_10MHz_16QAM_50_0_Main_HighCH38200-2615



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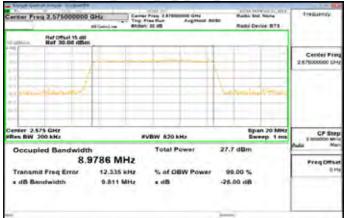
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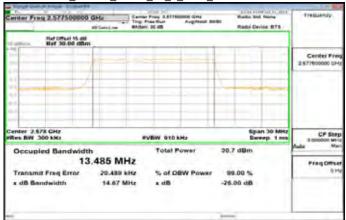


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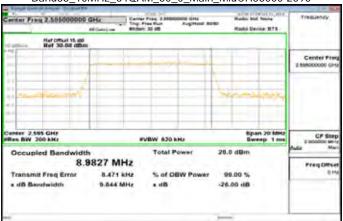
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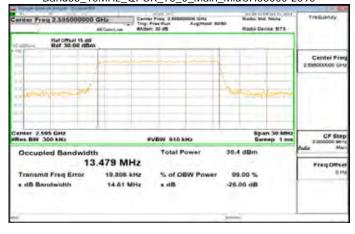
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Band38_10MHz_64QAM_50_0_Main_MidCH38000-2595



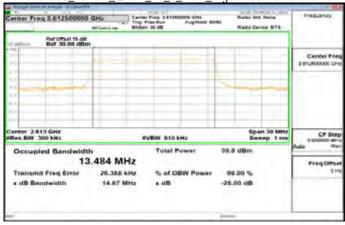
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Band38_10MHz_64QAM_50_0_Main_HighCH38200-2615



Band38_15MHz_QPSK_75_0_Main_HighCH38175-2612.5



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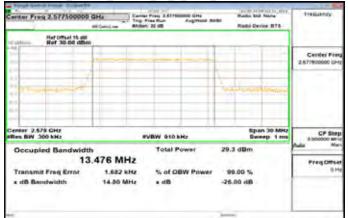
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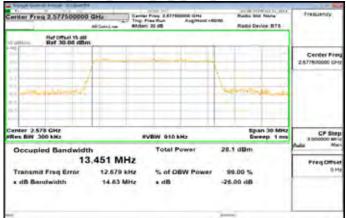


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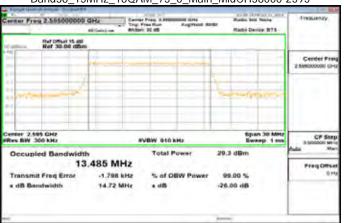
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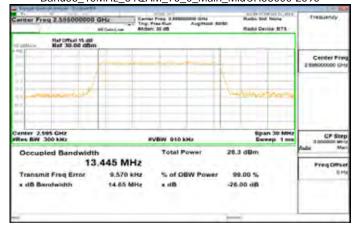
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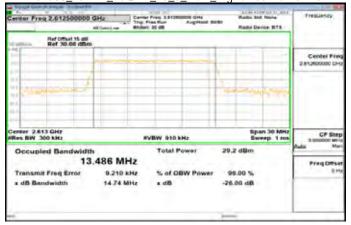
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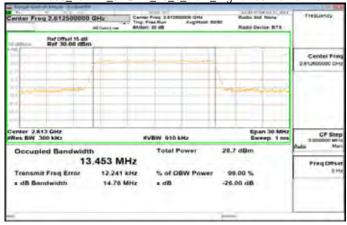
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Band38_15MHz_64QAM_75_0_Main_HighCH38175-2612.5



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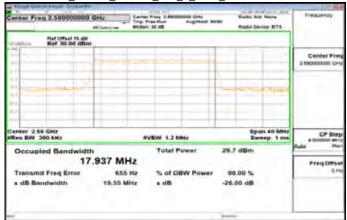


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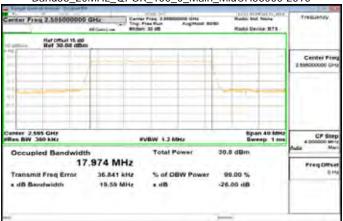
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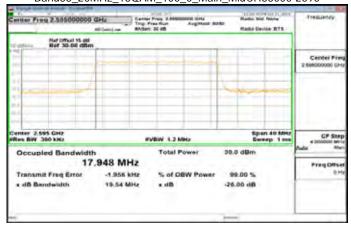
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Band38_20MHz_QPSK_100_0_Main_MidCH38000-2595



Band38_20MHz_16QAM_100_0_Main_MidCH38000-2595



Band38_20MHz_QPSK_100_0_Main_HighCH38150-2610



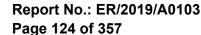
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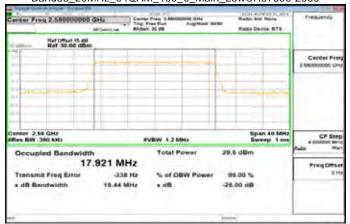
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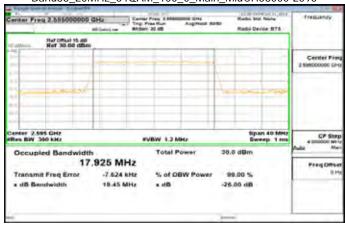




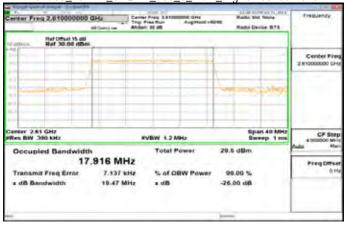
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Band38_20MHz_64QAM_100_0_Main_MidCH38000-2595



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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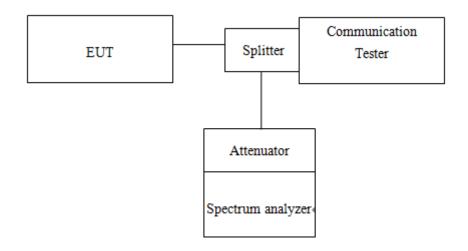
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8.2. Test SET-UP



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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GPRS\GPRS_1900MHz_LowCH512-1850.2



WCDMA\WCDMA_B2_HighCH9538-1907.6



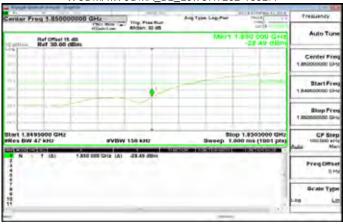
GPRS\GPRS_1900MHz_HighCH810-1909.8



HSDPA\HSDPA_B2_LowCH9262-1852.4



WCDMA\WCDMA B2 LowCH9262-1852.4



HSDPA\HSDPA B2 HighCH9538-1907.6

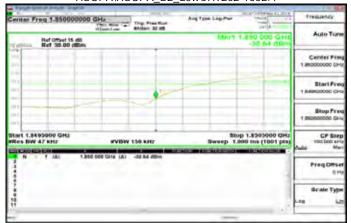


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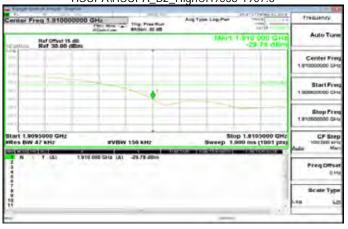
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WCDMA\WCDMA_B4_HighCH1513-1752.6



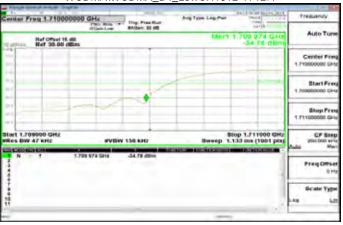
HSUPA\HSUPA_B2_HighCH9538-1907.6



HSDPA\HSDPA B4 LowCH1312-1712.4



WCDMA\WCDMA B4 LowCH1312-1712.4



HSDPA\HSDPA_B4_HighCH1513-1752.6



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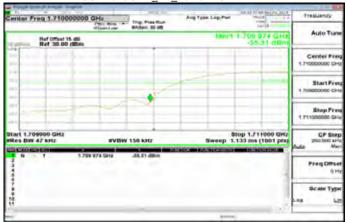
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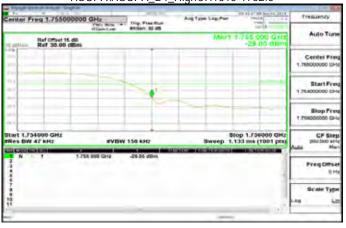
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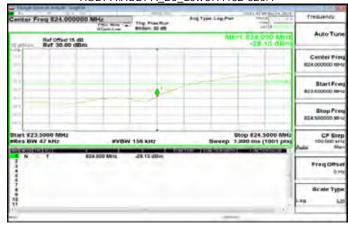
WCDMA\WCDMA_B5_HighCH4233-846.6



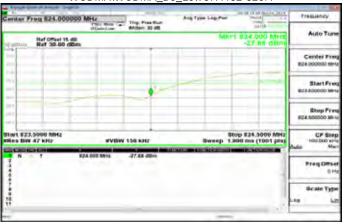
HSUPA\HSUPA_B4_HighCH1513-1752.6



HSDPA\HSDPA_B5_LowCH4132-826.4



WCDMA\WCDMA B5 LowCH4132-826.4



HSDPA\HSDPA B5 HighCH4233-846.6



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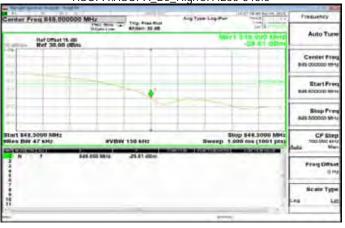


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HSUPA\HSUPA B5 LowCH4132-826.4



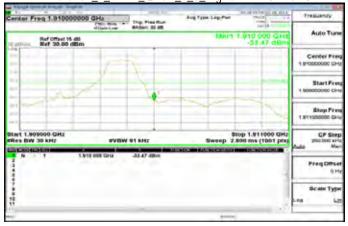
HSUPA\HSUPA_B5_HighCH4233-846.6



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



LTE\Band2_1_4MHz_QPSK_1_5_HighCH19193-1909.3



LTE\Band2_1_4MHz_QPSK_6_0_LowCH18607-1850.7



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



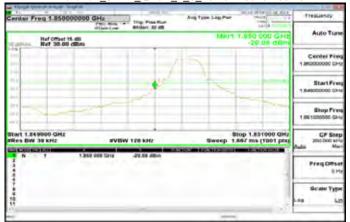
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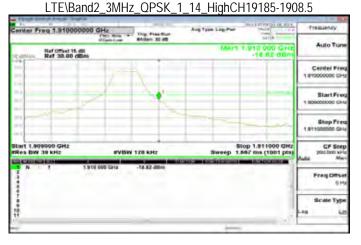
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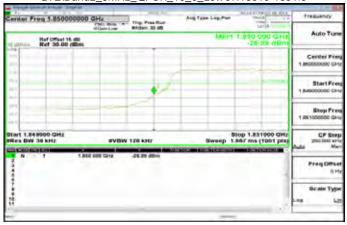
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LTE\Band2_3MHz_QPSK_1_0_LowCH18615-1851.5

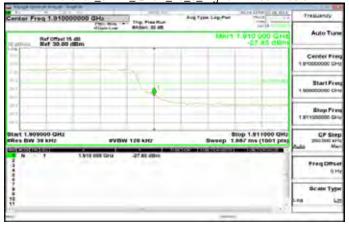




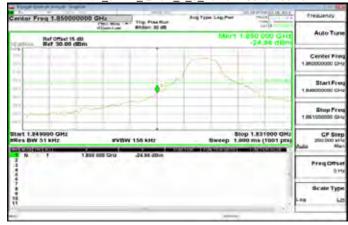
LTE\Band2 3MHz QPSK 15 0 LowCH18615-1851.5



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



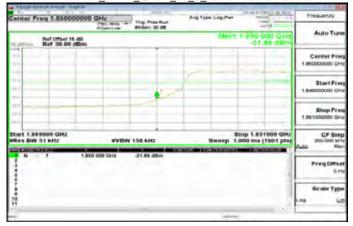
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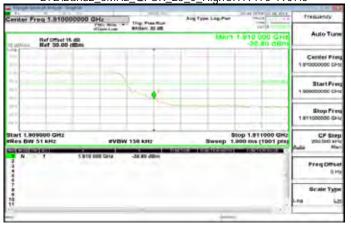


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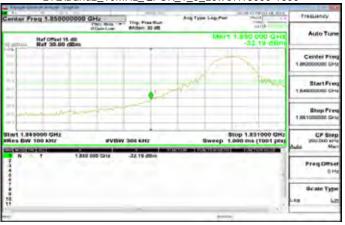
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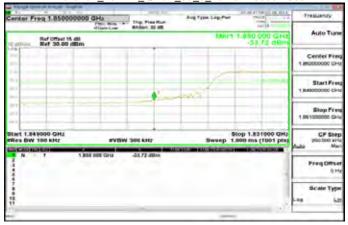
LTE\Band2 10MHz QPSK 1 0 LowCH18650-1855



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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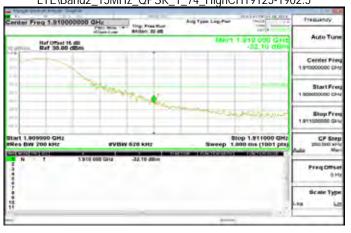


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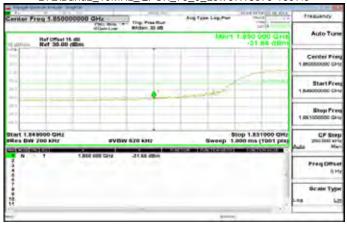
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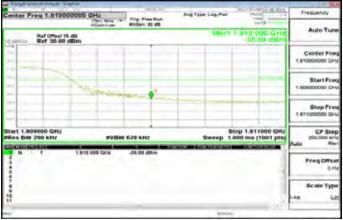
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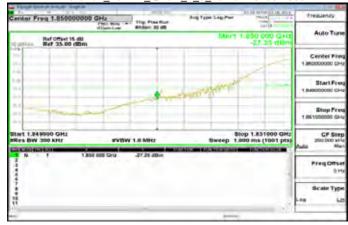
LTE\Band2 15MHz QPSK 75 0 LowCH18675-1857.5



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

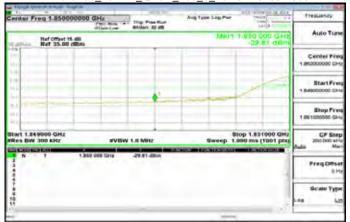


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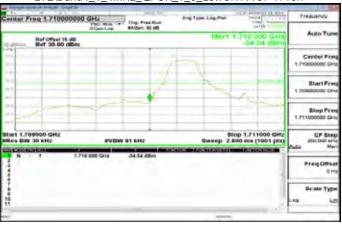
LTE\Band2_20MHz_QPSK_100_0_LowCH18700-1860



LTE\Band2_20MHz_QPSK_100_0_HighCH19100-1900



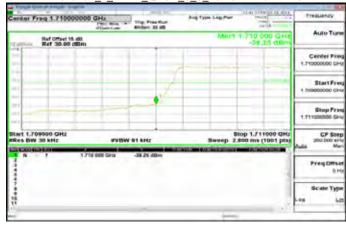
LTE\Band4 1 4MHz QPSK 1 0 LowCH19957-1710.7



LTE\Band4_1_4MHz_QPSK_1_5_HighCH20393-1754.3



LTE\Band4_1_4MHz_QPSK_6_0_LowCH19957-1710.7



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



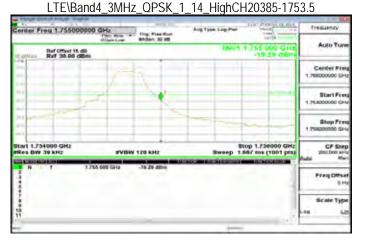
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LTE\Band4_3MHz_QPSK_1_0_LowCH19965-1711.5





LTE\Band4 3MHz QPSK 15 0 LowCH19965-1711.5



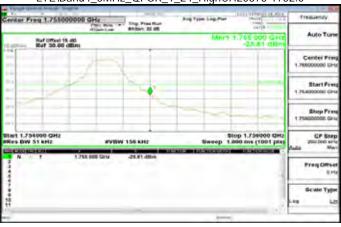
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LTE\Band4_5MHz_QPSK_1_0_LowCH19975-1712.5



LTE\Band4 5MHz QPSK 1 24 HighCH20375-1752.5



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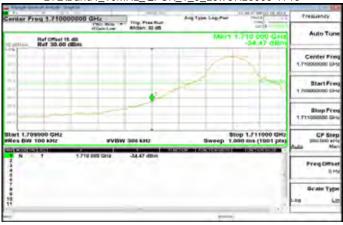
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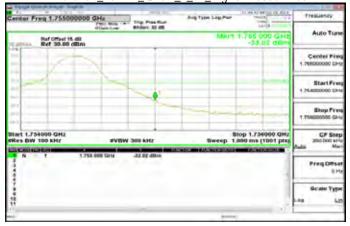
LTE\Band4_5MHz_QPSK_25_0_HighCH20375-1752.5



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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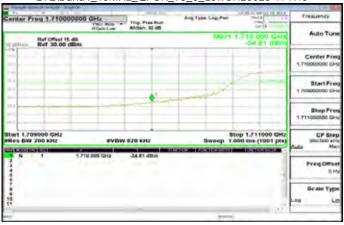
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LTE\Band4_15MHz_QPSK_1_74_HighCH20325-1747.5



LTE\Band4 15MHz QPSK 75 0 LowCH20025-1717.5



LTE\Band4_15MHz_QPSK_75_0_HighCH20325-1747.5



LTE\Band4_20MHz_QPSK_1_0_LowCH20050-1720



LTE\Band4 20MHz QPSK 1 99 HighCH20300-1745



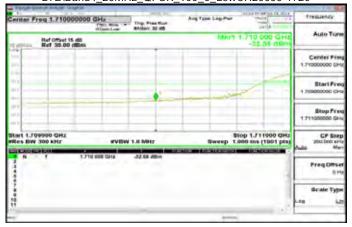
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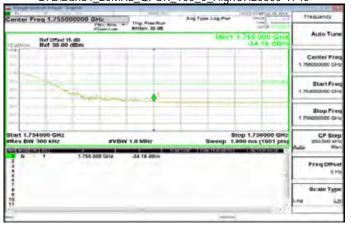


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LTE\Band4_20MHz_QPSK_100_0_LowCH20050-1720



LTE\Band4_20MHz_QPSK_100_0_HighCH20300-1745



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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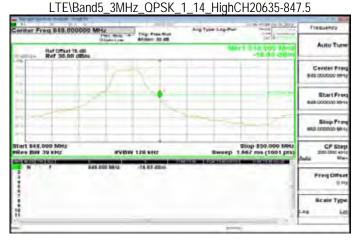


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LTE\Band5_3MHz_QPSK_1_0_LowCH20415-825.5



TELD 15 0MH 0001/ 4 44 11 1 01100/05 047 5



LTE\Band5 3MHz QPSK 15 0 LowCH20415-825.5



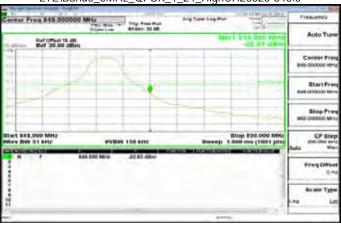
LTE\Band5_3MHz_QPSK_15_0_HighCH20635-847.5



LTE\Band5_5MHz_QPSK_1_0_LowCH20425-826.5



LTE\Band5 5MHz QPSK 1 24 HighCH20625-846.5

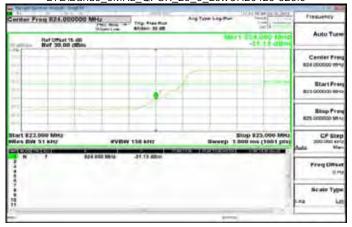


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LTE\Band5_5MHz_QPSK_25_0_LowCH20425-826.5



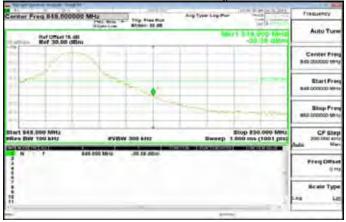
LTE\Band5_5MHz_QPSK_25_0_HighCH20625-846.5



LTE\Band5 10MHz QPSK 1 0 LowCH20450-829



LTE\Band5_10MHz_QPSK_1_49_HighCH20600-844



LTE\Band5_10MHz_QPSK_50_0_LowCH20450-829



LTE\Band5_10MHz_QPSK_50_0_HighCH20600-844

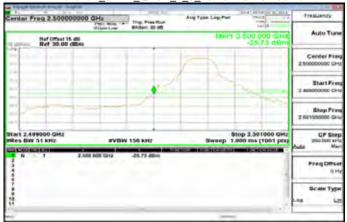


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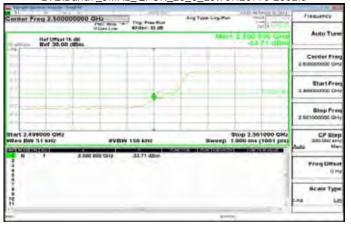
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LTE\Band7_5MHz_QPSK_1_24_HighCH21425-2567.5



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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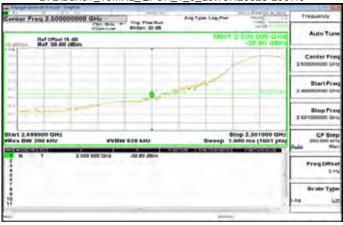
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LTE\Band7_10MHz_QPSK_50_0_HighCH21400-2565



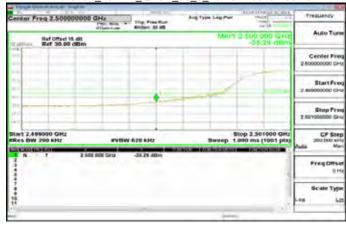
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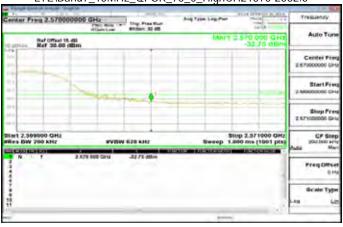
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LTE\Band7_15MHz_QPSK_75_0_LowCH20825-2507.5



LTE\Band7 15MHz QPSK 75 0 HighCH21375-2562.5



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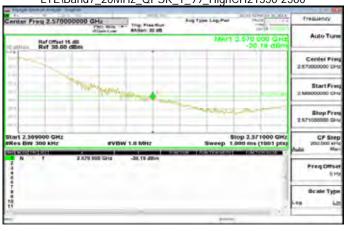


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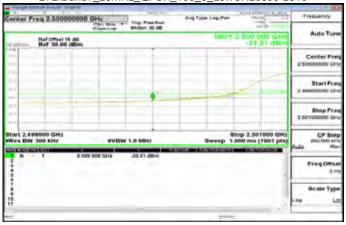
LTE\Band7_20MHz_QPSK_1_0_LowCH20850-2510



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



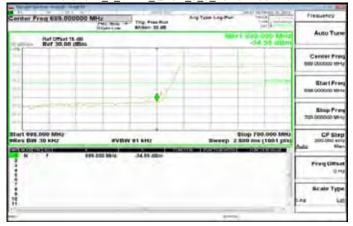
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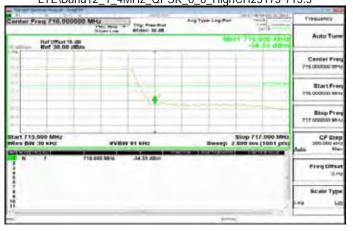


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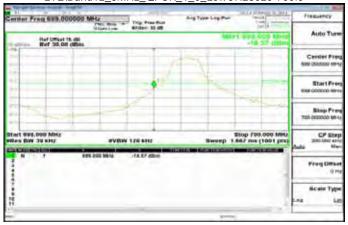
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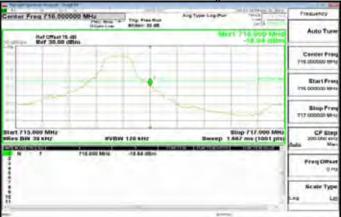
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LTE\Band12 3MHz QPSK 1 0 LowCH23025-700.5



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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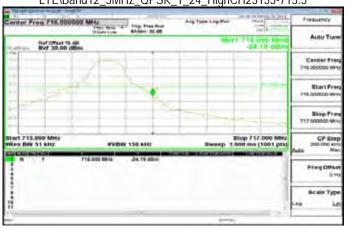


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LTE\Band12_5MHz_QPSK_1_0_LowCH23035-701.5



LTE\Band12_5MHz_QPSK_1_24_HighCH23155-713.5



LTE\Band12 5MHz QPSK 25 0 LowCH23035-701.5



LTE\Band12_5MHz_QPSK_25_0_HighCH23155-713.5



LTE\Band12_10MHz_QPSK_1_0_LowCH23060-704



LTE\Band12 10MHz QPSK 1 49 HighCH23130-711

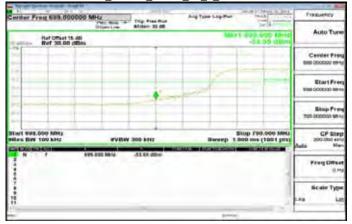


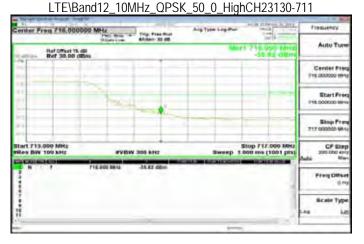
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LTE\Band12_10MHz_QPSK_50_0_LowCH23060-704

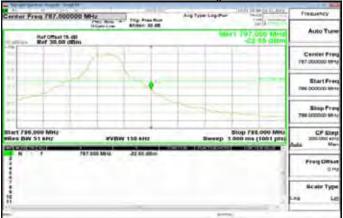




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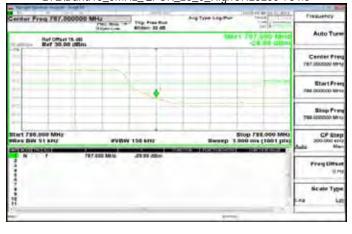
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LTE\Band13_5MHz_QPSK_25_0_LowCH23205-779.5



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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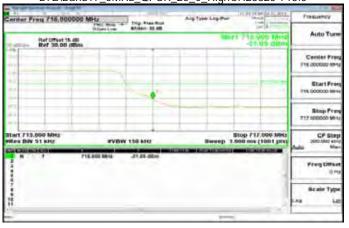


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LTE\Band17_5MHz_QPSK_25_0_LowCH23755-706.5



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



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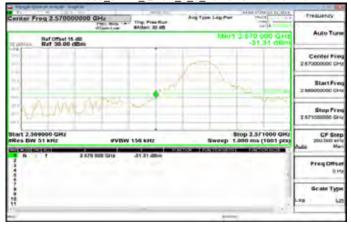


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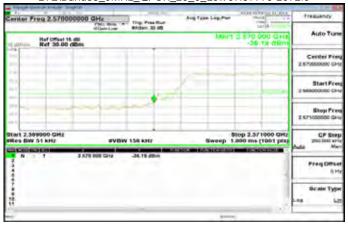
LTE\Band38_5MHz_QPSK_1_0_LowCH37775-2572.5



LTE\Dand20 FMUz ODCK 1 24 HighOH2022F 2/17 F



LTE\Band38 5MHz QPSK 25 0 LowCH37775-2572.5



LTE\Band38_5MHz_QPSK_25_0_HighCH38225-2617.5



LTE\Band38_10MHz_QPSK_1_0_LowCH37800-2575



LTE\Band38 10MHz QPSK 1 49 HighCH38200-2615



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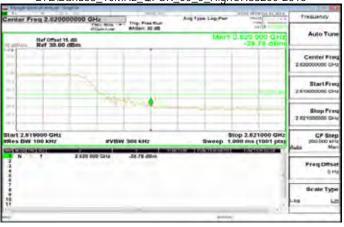


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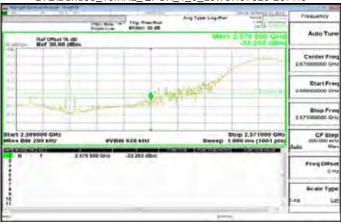
LTE\Band38_10MHz_QPSK_50_0_LowCH37800-2575



LTE\Band38_10MHz_QPSK_50_0_HighCH38200-2615



LTE\Band38 15MHz QPSK 1 0 LowCH37825-2577.5



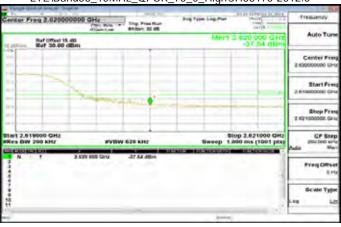
LTE\Band38_15MHz_QPSK_1_74_HighCH38175-2612.5



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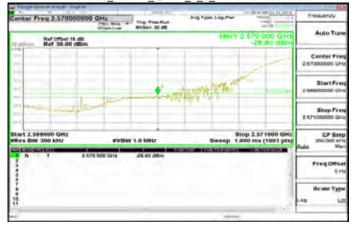


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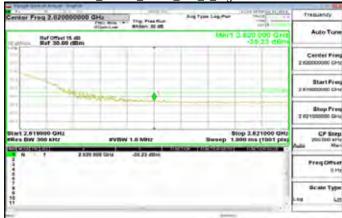


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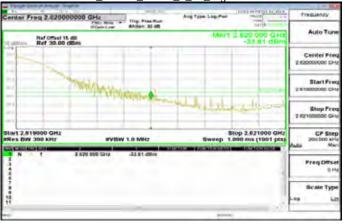
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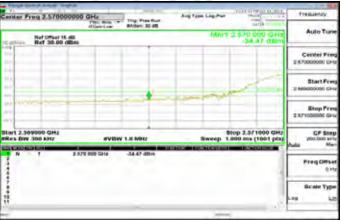
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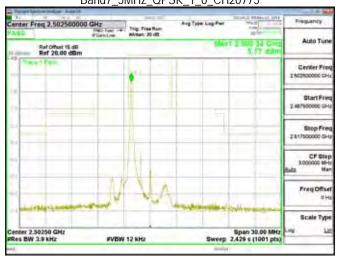


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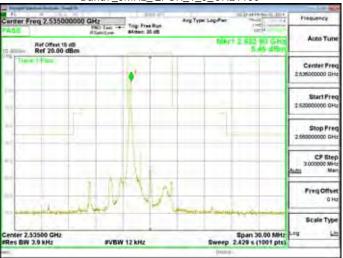


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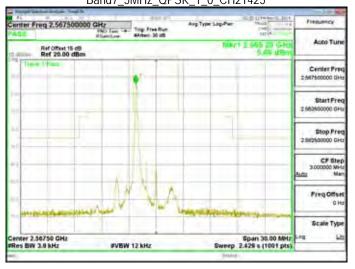
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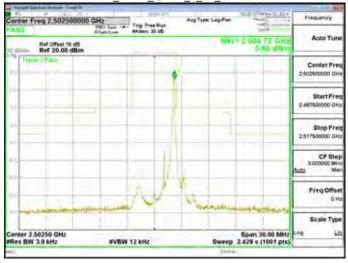
Band7_5MHz_QPSK_1_0_CH21100



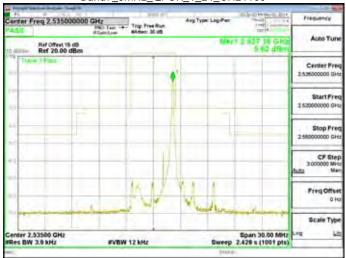
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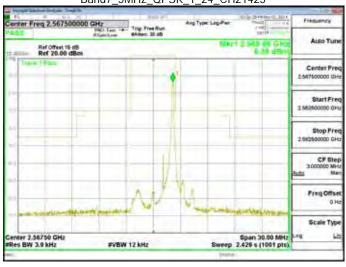
Band7_5MHz_QPSK_1_24_CH20775



Band7_5MHz_QPSK_1_24_CH21100



Band7_5MHz_QPSK_1_24_CH21425



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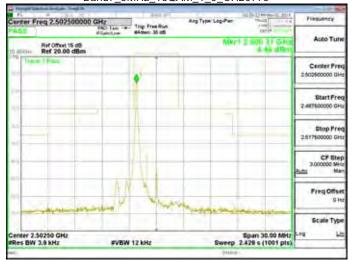
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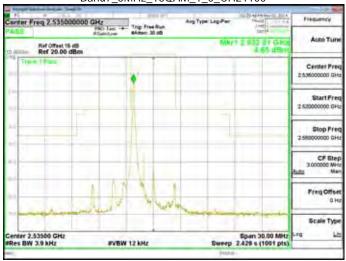
Band7 5MHz 16QAM 1 0 CH20775



Band7_5MHz_QPSK_25_0_CH21100



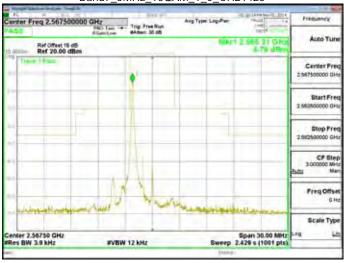
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Band7_5MHz_16QAM_1_0_CH21425

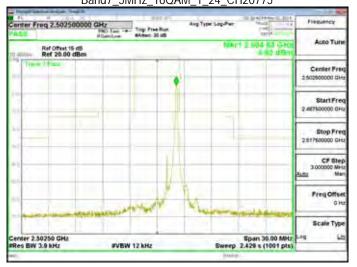


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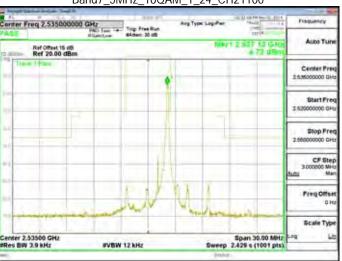
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Band7 5MHz 16QAM 25 0 CH20775



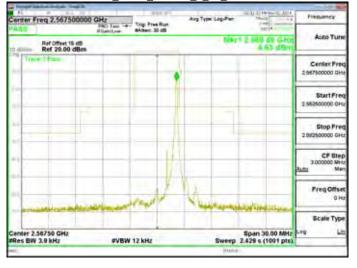
Band7_5MHz_16QAM_1_24_CH21100



Band7_5MHz_16QAM_25_0_CH21100



Band7_5MHz_16QAM_1_24_CH21425



Band7_5MHz_16QAM_25_0_CH21425

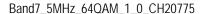


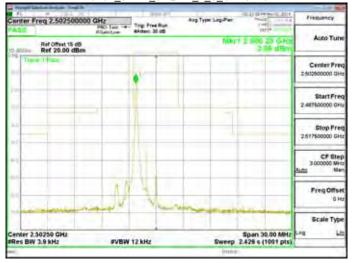
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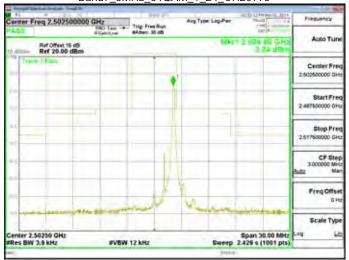
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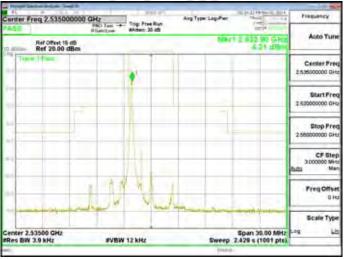




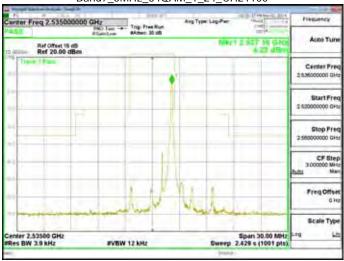
Band7 5MHz 64QAM 1 24 CH20775



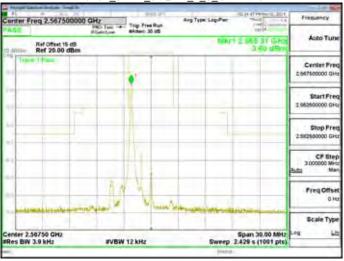
Band7_5MHz_64QAM_1_0_CH21100



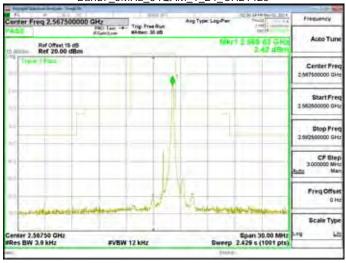
Band7_5MHz_64QAM_1_24_CH21100



Band7_5MHz_64QAM_1_0_CH21425



Band7_5MHz_64QAM_1_24_CH21425



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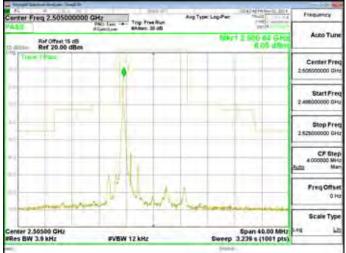
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Band7_5MHz_64QAM_25_0_CH20775



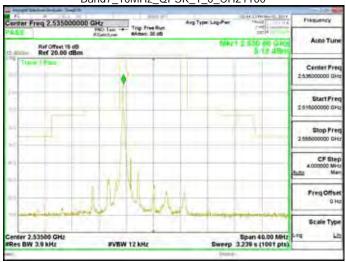




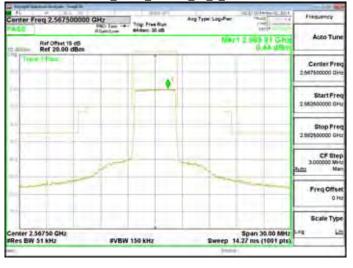
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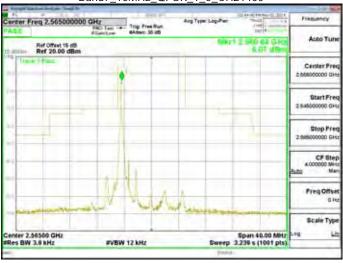
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Band7_5MHz_64QAM_25_0_CH21425



Band7_10MHz_QPSK_1_0_CH21400

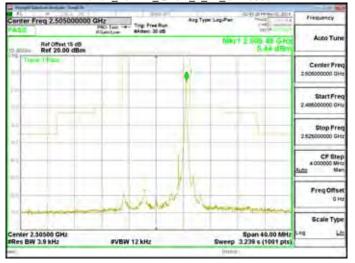


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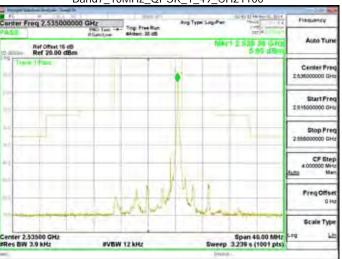
Band7_10MHz_QPSK_1_49_CH20800



Band7 10MHz QPSK 50 0 CH20800



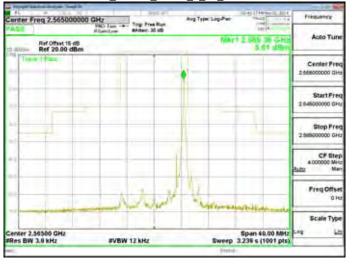
Band7_10MHz_QPSK_1_49_CH21100



Band7_10MHz_QPSK_50_0_CH21100



Band7_10MHz_QPSK_1_49_CH21400



Band7_10MHz_QPSK_50_0_CH21400



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