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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 F, H, L & M REQUIREMENT

OF

Sharp Corporation, Mobile Communication B.U.

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

Hiroshima 739-0192, Japan

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

Product Name: Smart Phone

Report Number: T190308W01-RP1 **FCC ID:** APYHRO00273

FCC Rule Part: 2, 22H & 24E & 27F, H, L & M

Issue Date: Apr. 12, 2019

Date of Test: Mar. 12, 2019 ~ Mar. 28, 2019

Date of EUT Received: Mar. 12, 2019

Compliance Certification Services Inc.Wugu Lab.

Issued by:

No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891,

Taiwan. (R.O.C.)

service@ccsrf.com

The test Result was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were given in ANSI C63.10: 2013 and compliance standards.

The test results of this report relate only to the tested sample (EUT) identified in this report. The test Report of full or partial shall not copy. Without written approval of Compliance Certification Services Inc. (Wugu Laboratory).

Tested By:

Kane Tseng / Engineer

Approved By:

Kevin Tsai / Deputy Manager





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Revision History

Report Number	Revision	Description	Effected Page	Issue Date	Revised By
T190308W01-RP1	Rev.00	Initial creation of document	All	Apr. 08, 2019	Violetta Tang
T190308W01-RP1	Rev.01	Update description of test mode	14	Apr. 12, 2019	Violetta Tang

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1. GENERAL PRODUCT INFORMATION

1.1. Product Description

General:

onoral.			
Product Name:	Smart Phone		
Hardware Version:	DVT		
Software Version:	N/A		
Power Supply:	3.85V from Rechargeable Li-ion Battery		
Antenna Designation:	Inverted-F Antenna, Gain: -5.4dBi (GSM/GPRS 850, WCDMA B5, LTE B5), -2.0dBi (GSM/GPRS 1900, WCDMA B2, LTE B2), -3.7dBi (WCDMA B4, LTE B4), 0.5dBi (LTE B7, LTE B38), -7.8dBi (LTE B12, LTE B17), -6.6dBi (LTE B13)		
IMEI:	004401116699923 / 004401116697935 / 004401116698016 004401116699873 / 004401116699766 / 004401116699485		

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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

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	BW			equency	LTE Band
	(MHz)		MHz		2.2 24.14
	1.4	1850.7	-	1909.3	17
	3	1851.5	-	1908.5	17
2	5	1852.5	-	1907.5	
	10	1855.0	-	1905.0	38
	15	1857.5	-	1902.5	30
	20	1860.0	-	1900.0	
	1.4	1710.7	-	1754.3	
	3	1711.5	-	1753.5	
4	5	1712.5	-	1752.5	1
4	10	1715.0	-	1780.0	1
	15	1717.5	-	1747.5	1
	20	1720.0	-	1745.0	
	1.4	824.7	-	848.3	
5	3	825.5	-	847.5	
5	5	826.5	-	846.5	
	10	829.0	-	844.0	
	5	2502.5	-	2567.5	
_	10	2505.0	-	2565.0	
7	15	2507.5	-	2562.5	
	20	2510.0	-	2560.0	
	1.4	699.7	-	715.3	
12	3	700.5	-	714.5	
	5	701.5	-	713.5	
	10	704.0	-	711.0	1
40	5	779.5	-	784.5	
13	10		782		

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

	ERP / EIRP (dBm)		(W)	Type of Emission
GSM 850	24.52	ERP	0.283	249KGXW
GPRS 850	24.49	ERP	0.281	248KGXW
GSM 1900	27.03	EIRP	0.505	251KGXW
GPRS 1900	27.01	EIRP	0.502	246KGXW

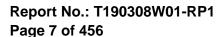
	ERP / EIRP (dBm)		(W)	Type of Emission				
WCDMA Band II	20.66	EIRP	0.116	4M16F9W				
HSDPA Band II	19.64	EIRP	0.092	4M15F9W				
HSUPA Band II	19.56	EIRP	0.090	4M16F9W				
WCDMA Band IV	18.86	EIRP	0.077	4M72F9W				
HSDPA Band IV	17.89	EIRP	0.062	4M71F9W				
HSUPA Band IV	17.89	EIRP	0.062	4M71F9W				
WCDMA Band V	15.42	ERP	0.035	4M15F9W				
HSDPA Band V	14.39	ERP	0.027	4M14F9W				
HSUPA Band V	14.35	ERP	0.027	4M13F9W				

LTE Band	BW (MHz)	Modulation	ERP / EIRP (dBm)		(W)	Type of Emission
	1.4	QPSK	20.30	EIRP	0.107	1M10G7D
	1.4	16QAM	19.29	EIRP	0.085	1M10D7W
	1.4	64QAM	18.52	EIRP	0.071	1M10D7W
	3	QPSK	20.40	EIRP	0.110	2M70G7D
	3	16QAM	19.70	EIRP	0.093	2M70D7W
	3	64QAM	19.10	EIRP	0.081	2M70D7W
	5	QPSK	20.38	EIRP	0.109	4M50G7D
	5	16QAM	19.70	EIRP	0.093	4M51D7W
2	5	64QAM	19.19	EIRP	0.083	4M50D7W
	10	QPSK	20.37	EIRP	0.109	9M01G7D
	10	16QAM	19.77	EIRP	0.095	8M97D7W
	10	64QAM	19.30	EIRP	0.085	8M98D7W
	15	QPSK	20.39	EIRP	0.109	13M5G7D
	15	16QAM	19.72	EIRP	0.094	13M5D7W
	15	64QAM	19.21	EIRP	0.083	13M5D7W
	20	QPSK	20.53	EIRP	0.113	17M9G7D
	20	16QAM	19.84	EIRP	0.096	18M0D7W
	20	64QAM	19.30	EIRP	0.085	18M0D7W

LTE	BW	Modulation	ERP / EIRP		(W)	Type of
Band	(MHz)	Modulation	(dBm)		(۷۷)	Emission
	1.4	QPSK	18.33	EIRP	0.068	1M09G7D
	1.4	16QAM	17.34	EIRP	0.054	1M10D7W
	1.4	64QAM	16.74	EIRP	0.047	1M10D7W
	3	QPSK	18.09	EIRP	0.064	2M70G7D
	3	16QAM	17.32	EIRP	0.054	2M70D7W
	3	64QAM	16.90	EIRP	0.049	2M70D7W
	5	QPSK	18.16	EIRP	0.065	4M51G7D
	5	16QAM	17.41	EIRP	0.055	4M51D7W
4	5	64QAM	16.77	EIRP	0.048	4M51D7W
4	10	QPSK	18.02	EIRP	0.063	8M97G7D
	10	16QAM	17.25	EIRP	0.053	8M97D7W
	10	64QAM	16.80	EIRP	0.048	8M97D7W
	15	QPSK	18.08	EIRP	0.064	13M5G7D
	15	16QAM	17.31	EIRP	0.054	13M5D7W
	15	64QAM	16.77	EIRP	0.048	13M5D7W
	20	QPSK	18.16	EIRP	0.065	18M0G7D
	20	16QAM	17.42	EIRP	0.055	18M0D7W
	20	64QAM	16.90	EIRP	0.049	18M0D7W

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LTE Band	BW (MHz)	Modulation		/EIRP 3m)	(W)	Type of Emission
	1.4	QPSK	14.99	ERP	0.032	1M09G7D
	1.4	16QAM	14.00	ERP	0.025	1M10D7W
	1.4	64QAM	13.27	ERP	0.021	1M10D7W
	3	QPSK	14.94	ERP	0.031	2M70G7D
	3	16QAM	14.60	ERP	0.029	2M70D7W
5	3	64QAM	13.85	ERP	0.024	2M71D7W
5	5	QPSK	14.97	ERP	0.031	4M51G7D
	5	16QAM	14.51	ERP	0.028	4M51D7W
	5	64QAM	13.86	ERP	0.024	4M51D7W
	10	QPSK	15.03	ERP	0.032	9M00G7D
	10	16QAM	14.65	ERP	0.029	9M00D7W
	10	64QAM	14.01	ERP	0.025	9M01D7W
	5	QPSK	23.05	EIRP	0.202	4M50G7D
	5	16QAM	22.47	EIRP	0.177	4M50D7W
	5	64QAM	21.95	EIRP	0.157	4M51D7W
	10	QPSK	23.08	EIRP	0.203	9M00G7D
	10	16QAM	22.46	EIRP	0.176	8M98D7W
7	10	64QAM	21.97	EIRP	0.157	8M98D7W
,	15	QPSK	23.11	EIRP	0.205	13M5G7D
	15	16QAM	22.55	EIRP	0.180	13M5D7W
	15	64QAM	21.96	EIRP	0.157	13M5D7W
	20	QPSK	23.16	EIRP	0.207	17M9G7D
	20	16QAM	22.61	EIRP	0.182	18M0D7W
	20	64QAM	22.00	EIRP	0.158	17M9D7W
	1.4	QPSK	12.67	ERP	0.018	1M10G7D
	1.4	16QAM	11.66	ERP	0.015	1M10D7W
	1.4	64QAM	11.10	ERP	0.013	1M10D7W
	3	QPSK	13.01	ERP	0.020	2M70G7D
	3	16QAM	12.33	ERP	0.017	2M71D7W
12	3	64QAM	11.89	ERP	0.015	2M70D7W
12	5	QPSK	13.00	ERP	0.020	4M50G7D
	5	16QAM	12.42	ERP	0.017	4M51D7W
	5	64QAM	11.89	ERP	0.015	4M51D7W
	10	QPSK	13.03	ERP	0.020	9M01G7D
	10	16QAM	12.44	ERP	0.018	8M98D7W
	10	64QAM	11.97	ERP	0.016	8M97D7W

LTE Band	BW (MHz)	Modulation	ERP/EIRP (dBm)		(W)	Type of Emission
	5	QPSK	13.83	ERP	0.024	4M51G7D
	5	16QAM	13.14	ERP	0.021	4M51D7W
10	5	64QAM	12.63	ERP	0.018	4M52D7W
13	10	QPSK	13.74	ERP	0.024	9M01G7D
	10	16QAM	12.77	ERP	0.019	8M97D7W
	10	64QAM	12.23	ERP	0.017	8M96D7W
	5	QPSK	12.63	ERP	0.018	4M50G7D
	5	16QAM	12.22	ERP	0.017	4M51D7W
17	5	64QAM	11.41	ERP	0.014	4M51D7W
17	10	QPSK	12.84	ERP	0.019	9M00G7D
	10	16QAM	12.09	ERP	0.016	8M98D7W
	10	64QAM	11.52	ERP	0.014	8M97D7W
	5	QPSK	23.01	EIRP	0.200	4M51G7D
	5	16QAM	22.19	EIRP	0.166	4M51D7W
	5	64QAM	22.15	EIRP	0.164	4M51D7W
	10	QPSK	23.02	EIRP	0.200	8M97G7D
	10	16QAM	22.10	EIRP	0.162	8M99D7W
38	10	64QAM	22.08	EIRP	0.161	8M99D7W
38	15	QPSK	23.03	EIRP	0.201	13M5G7D
	15	16QAM	22.17	EIRP	0.165	13M5D7W
	15	64QAM	22.05	EIRP	0.160	13M5D7W
	20	QPSK	23.06	EIRP	0.202	18M0G7D
	20	16QAM	22.22	EIRP	0.167	17M9D7W
	20	64QAM	22.17	EIRP	0.165	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 v03

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

KDB648474 D03 Wireless Chargers Battery Cover

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

Compliance Certification Services Inc. Wugu Lab. No.11, Wugong 6th Rd.,

Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.) (TAF code 1309)

FCC Designation number: TW1309

1.6. Special Accessories

No special accessories were used during testing.

1.7. Equipment Modifications

There were no modifications incorporated into the EUT.

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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		620
GSM 1900		688
HSUPA B2		695
HSDPA B4		646
HSDPA B5		675
LTE Band 2		695
LTE Band 4	3.85	693
LTE Band 5		685
LTE Band 7		699
LTE Band 12		690
LTE Band 13		697
LTE Band 17		688
LTE Band 38		690

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2.6. Configuration of Tested System

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

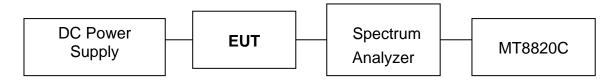


Fig. 2-2 Configuration of Tested System (Fixed Channel-Radiated)

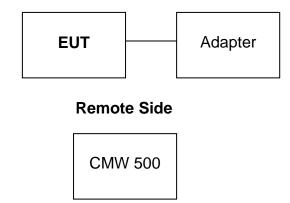


Fig. 2-3 Configuration of Tested System (Fixed Channel-Radiated, Wireless Charging Mode)

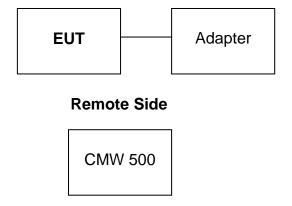


Table 2-1 Equipment Used in

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1.	Wideband Radio Communication Tester	R&S	CMW 500	116875	shielded	Un-shielded
2.	DC Power Supply	Anritsu	E3640A	KR93300208	N/A	Unshielded

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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	RADIATED EMISSION (Wireless Charging Mode)
GSM/GPRS 850	E1-plan	E2-plan
GSM/GPRS 1900	E1-plan	E2-plan
WCDMA/HSPA Band II	E1-plan	E2-plan
WCDMA/HSPA Band IV	E1-plan	E2-plan
WCDMA/HSPA Band V	E1-plan	E2-plan
LTE Band 2	E1-plan	E2-plan
LTE Band 4	E1-plan	E2-plan
LTE Band 5	E1-plan	E2-plan
LTE Band 7	E1-plan	E2-plan
LTE Band 12	E1-plan	E2-plan
LTE Band 13	E1-plan	E2-plan
LTE Band 17	E1-plan	E2-plan
LTE Bnad 38	E1-plan	E2-plan

Note: Additional emissions testing were performed per KDB 648474 D03 and reported herein and identified as WPC. Per KDB 648474 D03, spurious emissions measurement data was also investigated with the wireless charging battery cover.

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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

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

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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	
FIDD		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, 20175, 22385		QPSK, 16QAM, 64QAM	
OCCUPIED		19975, 20175, 20375	5MHz	QPSK, 16QAM, 64QAM	Full RB
BANDWIDTH		20000, 20175, 20350		QPSK, 16QAM, 64QAM	Full RB
		20025, 20175, 20325	15MHz	QPSK, 16QAM, 64QAM	Full RB
		20050, 20175, 20300	20MHz	QPSK, 16QAM, 64QAM	Full RB
		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, 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
S, HID LOOL	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
				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, 0 RB Offest

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LTE Band 5 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
	20470 to 20643	20470, 20525, 20643	1.4MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,5 RB Offest
ERP	20415 to 20635	20415, 20525, 20635	3MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,14 RB Offest
EKI	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
CONDCUDETED EMISSION	20470 to 20643	20470, 20525, 20643	1.4MHz	QPSK	1 RB, 0 RB Offest
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK	1 RB, 0 RB Offest
		20425, 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, 0 RB Offest

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LTE Band 7 MODE

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	
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, 21100, 21400		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, 21100, 21425		64QAM	Full RB
PEAK TO AVER-		20800, 21100, 21400		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
BAND 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 to 21375	20850, 21100, 21375	15MHz	QPSK	1 RB, 0 RB Offest
	20850 to 21350	20850, 21100, 21350	20MHz	QPSK	1 RB, 0 RB Offest
RADIATED EMISSION	20850 to 21350	20850, 21100, 21350	20MHz	QPSK	1 RB, 99 RB Offest
	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
LIVIIOSION 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	CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
		23017, 23095, 23173		QPSK, 16QAM, 64QAM	
ERP		23025, 23095, 23165		QPSK, 16QAM, 64QAM	
LIXE		23035, 23095, 23155		QPSK, 16QAM, 64QAM	•
	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 to 23173	23017, 23095, 23173	1.4MHz	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 to 23130	23060, 23095, 23130	10MHz	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
DAND EDGE	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 to 23165	23025, 23095, 23165	3MHz	QPSK	1 RB, 0 RB Offest
DETED EMIS-		23035, 23095, 23155		QPSK	1 RB, 0 RB Offest
SION	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

	AVAILABLE	TESTED	CHANNEL		
TEST ITEM	CHANNEL	CHANNEL	BANDWIDTH	MODULATION	MODE
ERP	23205 to 23255	23205, 23230, 23255	5MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,24 RB Offest
LIXE	23230	23230	10MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,49 RB Offest
FREQUENCY STABILITY	23230	23230	10MHz	QPSK	Full RB
OCCUPIED	23205 to 23255	23205, 23230, 23255	5MHz	QPSK, 16QAM, 64QAM	Full RB
BANDWIDTH	23230	23230	10MHz	QPSK, 16QAM, 64QAM	Full RB
PEAK TO AV-	23205 to 23255	23205, 23230, 23255	5MHz	64QAM	Full RB
ERAGE RATIO	23230	23230	10MHz	64QAM	Full RB
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, 24 RB Offest

LTF Band 17 MODE

LIE Dallu II IV					
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
LIVI	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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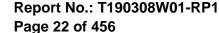


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LTE Band 38 MODE

TECT ITEM	AVAILABLE	TESTED	CHANNEL	MODUL ATION	MODE
TEST ITEM	CHANNEL	CHANNEL	BANDWIDTH	MODULATION	MODE
	37775 to 38225	37775, 38000, 38225	5MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,24 RB Offest
EIRP	37800 to 38200	37800 , 38000, 38200	10MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,49 RB Offest
LIKI	37825 to 38175	37825 , 38000, 38175	15MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,74 RB Offest
	37850 to 38150	37850 , 38000, 38150	20MHz	QPSK, 16QAM, 64QAM	1 RB/ 0,99 RB Offest
FREQUENCY STABILITY	37800 to 38200	37800 , 38000, 38200	10MHz	QPSK	Full RB
	37775 to 38225	37775, 38000, 38225	5MHz	QPSK, 16QAM, 64QAM	Full RB
OCCUPIED	37800 to 38200	37800 , 38000, 38200	10MHz	QPSK, 16QAM, 64QAM	Full RB
BANDWIDTH	37825 to 38175	37825 , 38000, 38175	15MHz	QPSK, 16QAM, 64QAM	Full RB
		37850 , 38000, 38150		QPSK, 16QAM, 64QAM	Full RB
	37775 to 38225	37775, 38000, 38225	5MHz	64QAM	Full RB
PEAK TO AVER-		37800 , 38000, 38200		64QAM	Full RB
AGE RATIO	37825 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
B/ ((VD 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		QPSK	1 RB, 0 RB Offest
EMISSION		37825 , 38000, 38175		QPSK	1 RB, 0 RB Offest
	37850 to 38150	37850 , 38000, 38150	20MHz	QPSK	1 RB, 0 RB Offest
RADIATED EMISSION	37800 to 38200	37800 , 38000, 38200	10MHz	QPSK	1 RB, 49 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
LIVIIOOIOIN IVIAON	37825 to 38175	37825 , 38000, 38175	15MHz	QPSK	1 RB/ 0,74 RB Offest 75 RB/ 0 Offset
	37850 to 38150	37850 , 38000, 38150	20MHz	QPSK	1 RB/ 0,99 RB Offest 100 RB/ 0 Offset

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5. MEASUREMENT UNCERTAINTY

Test Items	Uncertainty
RF Output Power	+/- 1.15 dB
99% Occupied Bandwidth	+/- 0.89%
Out of Band Emissions at Antenna Terminals and Band Edge	+/- 0.89 dB
Frequency Stability vs. Temperature	+/- 2.64 Hz
3M Semi Anechoic Chamber / 30M~200M	+/- 4.12 dB
3M Semi Anechoic Chamber / 200MHz ~ 1GHz	+/- 4.68
3M Semi Anechoic Chamber / 1GHz ~ 8GHz	+/- 5.18
3M Semi Anechoic Chamber / 8GHz ~ 18GHz	+/- 5.47
3M Semi Anechoic Chamber / 18GHz ~ 26GHz	+/- 3.81
3M Semi Anechoic Chamber / 26GHz ~ 40GHz	+/- 3.87

Note:

- 1. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.
- 2. ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report.
- 3. 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) Mobile station is limited to 7W ERP.

FCC 24.232(b) Mobile and portable stations are limited to 2 W EIRP.

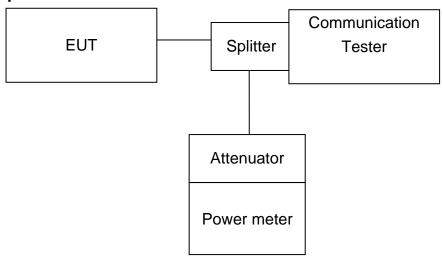
FCC 27.50(a)(3) Mobile and portable stations (hand-held devices) are limited to 250 mW/ 5MHz EIRP.

FCC 27.50(c)(10) Portable stations (hand-held devices) are limited to 3 watts ERP.

FCC 27.50(d)(4) Fixed, mobile, and portable (hand-held) stations are limited to 1W EIRP.

FCC 27, 50(h)(2) Mobile and other user stations. Mobile stations are limited to 2 W EIRP

6.2. Test Set-up



Note: Measurement setup for testing on Antenna connector

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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.

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP.

TEST PROCEDURE:

ANSI C63.26:2015 KDB 971168 Section 5.6

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);

PMeas = measured transmitter output power or PSD, in dBm or dBW;

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

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

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6.4. Measurement Equipment Used

EQUIPMENT TYPE	MFR MODEL NUMBER		SERIAL NUMBER	LAST CAL.	CAL DUE.
Digital Radio Communication Tester	R&S	CMU200	100535	09/17/2018	09/16/2019
DC Power Supply	Agilent	E3640A	KR93300208	08/15/2018	08/14/2019
Attenuator	Mini-Circuit	BW-S10W2+	1	02/26/2019	02/25/2020
Wideband Radio Communication Tester	R&S	CMW 500	116875	04/20/2018	04/19/2019

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6.5. 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	32.07	-5.40	24.52	26.67	38.50	-11.83
GSM 850	836.6	190	31.85	-5.40	24.30	26.45	38.50	-12.05
030	848.8	251	31.64	-5.40	24.09	26.24	38.50	-12.26
0014	1850.2	512	29.00	-2.00	24.85	27.00	33.00	-6.00
GSM 1900	1880.0	661	29.03	-2.00	24.88	27.03	33.00	-5.97
1700	1909.8	810	28.88	-2.00	24.73	26.88	33.00	-6.12
ODDC	824.2	128	32.04	-5.40	24.49	26.64	38.50	-11.86
GPRS 850	836.6	190	31.83	-5.40	24.28	26.43	38.50	-12.07
030	848.8	251	31.63	-5.40	24.08	26.23	38.50	-12.27
ODDC	1850.2	512	28.95	-2.00	24.80	26.95	33.00	-6.05
GPRS 1900	1880.0	661	29.01	-2.00	24.86	27.01	33.00	-5.99
1700	1909.8	810	28.83	-2.00	24.68	26.83	33.00	-6.17

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	32.04	29.82	27.79	26.74
GPRS 850	836.6	190	31.83	29.74	27.64	26.85
000	848.8	251	31.63	29.67	27.61	26.73
CDDC	1850.2	512	28.95	26.86	24.77	23.85
GPRS 1900	1880.0	661	29.01	26.63	24.73	23.82
1700	1909.8	810	28.83	26.57	24.68	23.72

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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	CH Conducted Antenna Avg. Power (dBm) (dBi)		ERP (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
	1852.4	9262	22.36	-2.00	18.21	20.36	33.00	-12.64
WCDMA	1880.0	9400	22.66	-2.00	18.51	20.66	33.00	-12.34
	1907.6	9538	22.52	-2.00	18.37	20.52	33.00	-12.48
	1852.4	9262	21.36	-2.00	17.21	19.36	33.00	-13.64
HSDPA	1880.0	9400	21.64	-2.00	17.49	19.64	33.00	-13.36
	1907.6	9538	21.48	-2.00	17.33	19.48	33.00	-13.52
	1852.4	9262	21.33	-2.00	17.18	19.33	33.00	-13.67
HSUPA	1880.0	9400	21.56	-2.00	17.41	19.56	33.00	-13.44
	1907.6	9538	21.45	-2.00	17.30	19.45	33.00	-13.55

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	22.50	-3.70	16.65	18.80	30.00	-11.20
WCDMA	1732.6	1413	22.56	-3.70	16.71	18.86	30.00	-11.14
	1752.6	1513	22.55	-3.70	16.70	18.85	30.00	-11.15
	1712.4	1312	21.51	-3.70	15.66	17.81	30.00	-12.19
HSDPA	1732.6	1413	21.55	-3.70	15.70	17.85	30.00	-12.15
	1752.6	1513	21.59	-3.70	15.74	17.89	30.00	-12.11
	1712.4	1312	21.47	-3.70	15.62	17.77	30.00	-12.23
HSUPA	1732.6	1413	21.54	-3.70	15.69	17.84	30.00	-12.16
	1752.6	1513	21.59	-3.70	15.74	17.89	30.00	-12.11

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WCDMA/HSUPA/HSDPA Band V Result:

EUT Mode	Freq. (MHz)	СН	Conducted Avg. Power (dBm)	Power Gain		EIRP (dBm)	Limit (dBm)	Margin (dB)
	826.4	4132	22.80	-5.40	15.25	17.40	38.50	-21.10
WCDMA	836.6	4183	22.97	-5.40	15.42	17.57	38.50	-20.93
	846.6	4233	22.92	-5.40	15.37	17.52	38.50	-20.98
	826.4	4132	21.84	-5.40	14.29	16.44	38.50	-22.06
HSDPA	836.6	4183	21.94	-5.40	14.39	16.54	38.50	-21.96
	846.6	4233	21.93	-5.40	14.38	16.53	38.50	-21.97
	826.4	4132	21.88	-5.40	14.33	16.48	38.50	-22.02
HSUPA	836.6	4183	21.90	-5.40	14.35	16.50	38.50	-22.00
	846.6	4233	21.89	-5.40	14.34	16.49	38.50	-22.01

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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	βο	βа	β _d (SF)	βс/βа	βнѕ	βес	βed	β _{ed} (SF)	β _{ed} (Code s)	CM (dB)	MPR (dB)	AG Index	E-TFCI	RMC (Kbps
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/22 5	1309/225	4	1	1.0	0.0	20	75	12.2
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67	12.2
3	15/15	9/15	64	15/9	30/15	30/15	β _{ed} 1: 47/15 β _{ed} 2: 47/15	4 4	2	2.0	1.0	15	92	12.2
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71	12.2
5	15/15 (Note 4)	15/15 (Note 4)	64	15/15 (Note 4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81	12.2

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

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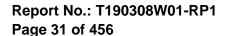
Results:

Mode	Sub test	Avg. Power (dBm) Channel						
	1031	9262.00	9400.00	9538.00				
	1	21.36	21.64	21.48				
HSDPA II	2	20.53	21.13	21.00				
пэрга іі	3	20.54	21.12	20.96				
	4	20.55	21.07	20.94				

Mode	Sub test	Avg. Power (dBm) Channel						
	1031	1312.00	1413.00	1513.00				
	1	21.51	21.55	21.59				
HSDPA IV	2	20.96	21.02	21.05				
HODPA IV	3	20.94	20.98	21.12				
	4	20.97	20.97	21.09				

Mode	Sub test	Avg. Power (dBm) Channel						
	1031	4132.00	4183.00	4233.00				
	1	21.84	21.94	21.93				
HSDPA V	2	21.34	21.42	21.38				
пэрга у	3	21.35	21.08	21.10				
	4	21.29	21.41	21.38				

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Avg. Power (dBm) Sub Mode Channel test 9262.00 9538.00 9400.00 1 21.56 21.33 21.45 2 19.31 19.58 19.43 **HSUPA II** 3 20.30 20.49 20.44

19.31

21.30

19.50

21.63

19.41

21.52

4

5

Mode	Sub test	Avg. Power (dBm) Channel						
	test	1312.00	1413.00	1513.00				
	1	21.47	21.54	21.59				
	2	19.47	19.52	19.51				
HSUPA IV	3	20.49	20.53	20.54				
	4	19.49	19.52	19.57				
	5	21.52	21.56	21.57				

	0.1	Avg. Power (dBm)							
Mode	Sub test		Channel						
	1031	Chann 4132.00 4183.0 21.88 21.90 19.81 19.87 20.78 20.86 19.82 19.92	4183.00	4233.00					
	1	21.88	21.90	21.89					
	2	19.81	19.87	19.88					
HSUPA V	3	20.78	20.86	20.89					
	4	19.82	19.92	19.88					
	5	21.80	21.92	21.88					

WCDMA/HSDPA/HSUPA band II, IV, V

The EUT output power was controlled by simulator. Set Communication Tester MT8820C function key "UE Power Control" and enter max rated power 24dBm. The EUT is going to be set to max output power to 24dBm. Then record the read (see page 15 for measurement data). The min. power was measures by a function key "minimum power" then record the read. It is -52.3dBm. The power variation can be 0.1dB step by setting.

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Minimum Communications Power Measurement

PCS 1900 band

PCL	0	1	2	3	4	5	6	7	8
Output power (dBm)	29.51	27.52	24.89	22.89	21.12	18.96	17.25	14.98	12.91

PCL	9	10	11	12	13	14	15
Output power (dBm)	11.21	9.43	7.34	4.95	2.89	1.02	-1.33

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

WCDMA/HSDPA/HSUPA band V

The EUT output power was controlled by simulator. Set Communication Tester MT8820C function key "UE Power Control" and enter max rated power 24dBm. The EUT is going to be set to max output power to 24dBm. Then record the read (see page 15 for measurement data). The min. power was measures by a function key "minimum power" then record the read. It is -52.3dBm. The power variation can be 0.1dB step by setting.

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LTE Result:

Antenna gain (dRi)

torina	gain (dBi)	-2 LTE l	Band 2_Uplir	ık frequ	uency ba	and : 1850 to 1	910 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	22.25	20.25	33	-12.75
	18607	1850.7	QPSK	1	5	22.27	20.27	33	-12.73
	10007	1030.7	QPSK	3	2	22.22	20.22	33	-12.78
				6	0	21.29	19.29	33	-13.71
				1	0	22.21	20.21	33	-12.79
	18900 1880	1000	QPSK	1	5	22.25	20.25	33	-12.75
		1000	UPSK	3	2	22.29	20.29	33	-12.71
				6	0	21.29	19.29	33	-13.71
				1	0	22.29	20.29	33	-12.71
	19193 1909.3	1909.3	QPSK	1	5	22.28	20.28	33	-12.72
19193	1909.3	UPSK	3	2	22.30	20.30	33	-12.7	
			6	0	21.28	19.28	33	-13.72	
			1	0	21.25	19.25	33	-13.75	
	18607	1850.7	16QAM	1	5	21.26	19.26	33	-13.74
18007	1630.7	TOQAIVI	3	2	21.29	19.29	33	-13.71	
			6	0	20.47	18.47	33	-14.53	
			1	0	21.26	19.26	33	-13.74	
1.4	18900	1880	16QAM	1	5	21.27	19.27	33	-13.73
1.4	18900			3	2	21.26	19.26	33	-13.74
				6	0	20.48	18.48	33	-14.52
				1	0	21.27	19.27	33	-13.73
	10102	1909.3	1/0414	1	5	21.20	19.20	33	-13.8
	19193	1909.3	16QAM	3	2	21.26	19.26	33	-13.74
				6	0	20.51	18.51	33	-14.49
				1	0	20.48	18.48	33	-14.52
	10/07	1050.7	(40014	1	5	20.50	18.50	33	-14.5
	18607	1850.7	64QAM	3	2	20.46	18.46	33	-14.54
				6	0	19.51	17.51	33	-15.49
				1	0	20.50	18.50	33	-14.5
	10000	1000	(4000	1	5	20.47	18.47	33	-14.53
	18900	1880	64QAM	3	2	20.50	18.50	33	-14.5
				6	0	19.49	17.49	33	-15.51
				1	0	20.52	18.52	33	-14.48
	10100	1000.0	(40004	1	5	20.48	18.48	33	-14.52
	19193	1909.3	64QAM	3	2	20.45	18.45	33	-14.55
				6	0	19.43	17.43	33	-15.57

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Antenna gain (dRi)

antenna	gain (dBi)	-2	Rand 2 Unlin	nk frequ	iency h	and : 1850 to 1	910 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	22.10	20.10	33	-12.9
				1	14	21.98	19.98	33	-13.02
	18615	1851.5	QPSK	8	4	21.23	19.23	33	-13.77
				15	0	20.97	18.97	33	-14.03
				1	0	22.05	20.05	33	-12.95
	18900 1880	1000	QPSK	1	14	22.27	20.27	33	-12.73
		1000	UPSK	8	4	21.27	19.27	33	-13.73
				15	0	21.25	19.25	33	-13.75
				1	0	22.40	20.40	33	-12.6
	19185 1908.5 18615 1851.5	1008 5	QPSK	1	14	22.17	20.17	33	-12.83
		1700.5		8	4	21.27	19.27	33	-13.73
				15	0	21.26	19.26	33	-13.74
			16QAM	1	0	21.21	19.21	33	-13.79
		1051 5		1	14	21.30	19.30	33	-13.7
		1031.3		8	4	20.06	18.06	33	-14.94
				15	0	19.84	17.84	33	-15.16
			16QAM	1	0	21.09	19.09	33	-13.91
3	18900	1880		1	14	21.31	19.31	33	-13.69
3	10900	1880		8	4	20.46	18.46	33	-14.54
				15	0	20.08	18.08	33	-14.92
				1	0	21.70	19.70	33	-13.3
	19185	1908.5	160AM	1	14	21.15	19.15	33	-13.85
	19100	1900.0	16QAM	8	4	20.29	18.29	33	-14.71
				15	0	20.17	18.17	33	-14.83
				1	0	20.57	18.57	33	-14.43
	18615	1851.5	64QAM	1	14	20.73	18.73	33	-14.27
	10013	1031.3	04QAIVI	8	4	19.42	17.42	33	-15.58
				15	0	19.32	17.32	33	-15.68
				1	0	20.50	18.50	33	-14.5
	18900	1880	64QAM	1	14	20.85	18.85	33	-14.15
	10700	1000	U4QAIVI	8	4	19.71	17.71	33	-15.29
				15	0	19.39	17.39	33	-15.61
				1	0	21.10	19.10	33	-13.9
	19185	1908.5	64QAM	1	14	20.68	18.68	33	-14.32
	17100	1700.0	U4QAIVI	8	4	19.70	17.70	33	-15.3
				15	0	19.48	17.48	33	-15.52

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Antenna gain (dRi)

Antenna	gain (dBi)	-2	Rand 2 Unlir	nk fregu	iency h	and : 1850 to 1	910 MHz		
BW	UL Channel	Frequency	Modulation	RB Size	RB Offset	Conducted Average	EIRP Average	EIRP Limit	Margin
(MHz)	Channel	(MHz)		3ize	0	(dBm) 22.21	(dBm) 20.21	(dBm) 33	(dB) -12.79
				1	24	22.02	20.02	33	-12.77
	18625	1852.5	QPSK	12	6	21.10	19.10	33	-13.9
				25	0	20.91	18.91	33	-14.09
				1	0	22.08	20.08	33	-12.92
				1	24	22.11	20.11	33	-12.89
	18900	1880	QPSK	12	6	21.34	19.34	33	-13.66
				25	0	21.09	19.09	33	-13.91
				1	0	22.38	20.38	33	-12.62
	19175 1907.5	1007.5	QPSK	1	24	22.24	20.24	33	-12.76
	19175	1907.5		12	6	21.31	19.31	33	-13.69
				25	0	21.19	19.19	33	-13.81
				1	0	21.23	19.23	33	-13.77
18625	1852.5	16QAM	1	24	21.23	19.23	33	-13.77	
			12	6	20.10	18.10	33	-14.9	
			25	0	19.86	17.86	33	-15.14	
			16QAM	1	0	21.04	19.04	33	-13.96
5	18900	1880		1	24	21.31	19.31	33	-13.69
3	10900	1880		12	6	20.29	18.29	33	-14.71
				25	0	20.06	18.06	33	-14.94
				1	0	21.70	19.70	33	-13.3
	19175	1907.5	16∩ Λ Μ	1	24	21.29	19.29	33	-13.71
	17173	1707.3	16QAM	12	6	20.33	18.33	33	-14.67
				25	0	20.13	18.13	33	-14.87
				1	0	20.73	18.73	33	-14.27
	18625	1852.5	64QAM	1	24	20.71	18.71	33	-14.29
	10023	1032.5	040/1111	12	6	19.51	17.51	33	-15.49
				25	0	19.34	17.34	33	-15.66
				1	0	20.60	18.60	33	-14.4
	18900	1880	64QAM	1	24	20.76	18.76	33	-14.24
	.0700	ΙδάΩ	O TOTAL	12	6	19.81	17.81	33	-15.19
				25	0	19.39	17.39	33	-15.61
				1	0	21.19	19.19	33	-13.81
	19175	1907.5	64QAM	1	24	20.67	18.67	33	-14.33
	.,,,,	1,3,10	012/11/1	12	6	19.64	17.64	33	-15.36
				25	0	19.60	17.60	33	-15.4

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Antenna gain (dRi)

Antenna	gain (dBi)	-2 LTE l	Band 2 Uplir	ık fregu	uency ba	and : 1850 to 1	910 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	22.10	20.10	33	-12.9
	18650	1855	QPSK	1	49	21.99	19.99	33	-13.01
	10030	1000	UP3K	25	12	21.07	19.07	33	-13.93
				50	0	20.82	18.82	33	-14.18
				1	0	21.92	19.92	33	-13.08
	18900	1880	QPSK	1	49	22.18	20.18	33	-12.82
	10700	1000	UPSK	25	12	21.21	19.21	33	-13.79
				50	0	21.20	19.20	33	-13.8
				1	0	22.37	20.37	33	-12.63
	19150 1905 18650 1855	1005	QPSK	1	49	22.10	20.10	33	-12.9
		1703		25	12	21.20	19.20	33	-13.8
				50	0	21.22	19.22	33	-13.78
			16QAM	1	0	21.13	19.13	33	-13.87
		1855		1	49	21.24	19.24	33	-13.76
				25	12	20.20	18.20	33	-14.8
				50	0	19.99	17.99	33	-15.01
		1880	16QAM	1	0	21.03	19.03	33	-13.97
10	18900			1	49	21.21	19.21	33	-13.79
10	10700			25	12	20.32	18.32	33	-14.68
				50	0	20.00	18.00	33	-15
				1	0	21.77	19.77	33	-13.23
	19150	1905	16QAM	1	49	21.18	19.18	33	-13.82
	19150	1703	TOQAW	25	12	20.26	18.26	33	-14.74
				50	0	20.14	18.14	33	-14.86
				1	0	20.73	18.73	33	-14.27
	18650	1855	64QAM	1	49	20.77	18.77	33	-14.23
	10030	1033	04QAIVI	25	12	19.57	17.57	33	-15.43
				50	0	19.30	17.30	33	-15.7
				1	0	20.58	18.58	33	-14.42
	18900	1880	64QAM	1	49	20.73	18.73	33	-14.27
	10700	1000	U4QAIVI	25	12	19.66	17.66	33	-15.34
				50	0	19.43	17.43	33	-15.57
				1	0	21.30	19.30	33	-13.7
	19150	1905	64QAM	1	49	20.70	18.70	33	-14.3
	17100	1700		25	12	19.70	17.70	33	-15.3
				50	0	19.68	17.68	33	-15.32

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Antenna gain (dRi)

, ancilia	gain (dBi)	-2 LTE	Band 2_Uplir	ık frequ	iency ba	and : 1850 to 1	910 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	22.13	20.13	33	-12.87
	18675	1857.5	QPSK	1	74	22.00	20.00	33	-13
	10073	1037.3	QLSK	36	18	21.14	19.14	33	-13.86
				75	0	20.85	18.85	33	-14.15
				1	0	22.03	20.03	33	-12.97
	18900	1880	QPSK	1	74	22.26	20.26	33	-12.74
	10900	1000	QPSK	36	18	21.24	19.24	33	-13.76
				75	0	21.25	19.25	33	-13.75
				1	0	22.39	20.39	33	-12.61
	19125	1902.5	QPSK	1	74	22.17	20.17	33	-12.83
	19123	1902.5	QPSK	36	18	21.35	19.35	33	-13.65
		+		75	0	21.09	19.09	33	-13.91
				1	0	21.08	19.08	33	-13.92
	10475	10E7 E	140011	1	74	21.22	19.22	33	-13.78
	18675 1857.5	1837.3	16QAM	36	18	20.17	18.17	33	-14.83
				75	0	19.95	17.95	33	-15.05
			1/0444	1	0	21.09	19.09	33	-13.91
15	18900	1880		1	74	21.32	19.32	33	-13.68
15	18900	1880	16QAM	36	18	20.46	18.46	33	-14.54
				75	0	20.06	18.06	33	-14.94
				1	0	21.72	19.72	33	-13.28
	10105	1000 F	1/0414	1	74	21.22	19.22	33	-13.78
	19125	1902.5	16QAM	36	18	20.33	18.33	33	-14.67
				75	0	20.07	18.07	33	-14.93
				1	0	20.74	18.74	33	-14.26
	10/75	1057.5	/ 4O A N 4	1	74	20.80	18.80	33	-14.2
	18675	1857.5	64QAM	36	18	19.39	17.39	33	-15.61
				75	0	19.47	17.47	33	-15.53
				1	0	20.55	18.55	33	-14.45
	10000	1000	44000	1	74	20.81	18.81	33	-14.19
	18900	1880	64QAM	36	18	19.62	17.62	33	-15.38
				75	0	19.43	17.43	33	-15.57
				1	0	21.21	19.21	33	-13.79
	10105	1002 5	6 4 O A B 4	1	74	20.73	18.73	33	-14.27
	19125	1902.5	64QAM	36	18	19.65	17.65	33	-15.35
				75	0	19.53	17.53	33	-15.47

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Antonna gain (dRi)

Antenna	gain (dBi)	-2	Band 2 Uplin	ık fregi	jency ba	and : 1850 to 1	910 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	22.22	20.22	33	-12.78
	18700	1860	QPSK	1	99	22.02	20.02	33	-12.98
	10700	1000	QF3K	50	25	21.25	19.25	33	-13.75
				100	0	21.01	19.01	33	-13.99
				1	0	22.09	20.09	33	-12.91
	18900	1880	QPSK	1	99	22.30	20.30	33	-12.7
	10700	1000	QI 3K	50	25	21.38	19.38	33	-13.62
				100	0	21.14	19.14	33	-13.86
				1	0	22.53	20.53	33	-12.47
	19100	1900	QPSK	1	99	22.25	20.25	33	-12.75
	17100	1700	QF3K	50	25	21.38	19.38	33	-13.62
				100	0	21.26	19.26	33	-13.74
				1	0	21.23	19.23	33	-13.77
	18700 1860	16QAM	1	99	21.39	19.39	33	-13.61	
18700 1	1000		50	25	20.24	18.24	33	-14.76	
			100	0	20.00	18.00	33	-15	
				1	0	21.18	19.18	33	-13.82
20	18900	1880	16QAM	1	99	21.39	19.39	33	-13.61
20	10700	1000	TOQAW	50	25	20.46	18.46	33	-14.54
				100	0	20.18	18.18	33	-14.82
				1	0	21.84	19.84	33	-13.16
	19100	1900	16QAM	1	99	21.35	19.35	33	-13.65
	19100	1900	TOQAW	50	25	20.37	18.37	33	-14.63
				100	0	20.24	18.24	33	-14.76
				1	0	20.74	18.74	33	-14.26
	18700	1040	64QAM	1	99	20.88	18.88	33	-14.12
	16700	1860	04QAIVI	50	25	19.59	17.59	33	-15.41
				100	0	19.47	17.47	33	-15.53
				1	0	20.69	18.69	33	-14.31
	18900	1880	64QAM	1	99	20.89	18.89	33	-14.11
	10900	1000	04QAIVI	50	25	19.82	17.82	33	-15.18
				100	0	19.56	17.56	33	-15.44
				1	0	21.30	19.30	33	-13.7
	10100	1000	610011	1	99	20.81	18.81	33	-14.19
	19100	1900	64QAM	50	25	19.80	17.80	33	-15.2
				100	0	19.68	17.68	33	-15.32

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Antenna gain (dRi) -37

Antenna	gain (dBi)	-3.7 L	TE Band 4_U	plink f	requen	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	21.95	18.25	30	-11.75
	10057	1710 7	ODCK	1	5	21.99	18.29	30	-11.71
	19957	1710.7	QPSK	3	2	22.03	18.33	30	-11.67
				6	0	20.98	17.28	30	-12.72
				1	0	22.02	18.32	30	-11.68
	20175	1732.5	QPSK	1	5	21.96	18.26	30	-11.74
	20175	1/32.5	QP3K	3	2	21.96	18.26	30	-11.74
				6	0	20.99	17.29	30	-12.71
				1	0	21.97	18.27	30	-11.73
	20393	1754.3	QPSK	1	5	21.96	18.26	30	-11.74
	20393	1704.5	QF3K	3	2	22.03	18.33	30	-11.67
				6	0	20.99	17.29	30	-12.71
				1	0	20.95	17.25	30	-12.75
	19957 1710.7	16QAM	1	5	21.03	17.33	30	-12.67	
19957	1710.7		3	2	21.04	17.34	30	-12.66	
				6	0	20.40	16.70	30	-13.3
			16QAM	1	0	21.01	17.31	30	-12.69
1.4	20175	1732.5		1	5	20.97	17.27	30	-12.73
1.4	20175	1732.3	TOQAW	3	2	21.00	17.30	30	-12.7
				6	0	20.44	16.74	30	-13.26
				1	0	21.01	17.31	30	-12.69
	20393	1754.3	16QAM	1	5	21.03	17.33	30	-12.67
	20393	1704.5	TOQAW	3	2	20.96	17.26	30	-12.74
				6	0	20.40	16.70	30	-13.3
				1	0	20.38	16.68	30	-13.32
	19957	1710.7	64QAM	1	5	20.44	16.74	30	-13.26
	19937	1710.7	04QAIVI	3	2	20.37	16.67	30	-13.33
				6	0	19.60	15.90	30	-14.1
				1	0	20.41	16.71	30	-13.29
	20175 1732.5 64	64QAM	1	5	20.38	16.68	30	-13.32	
	20173	1732.5	04QAIVI	3	2	20.44	16.74	30	-13.26
				6	0	19.61	15.91	30	-14.09
	20393 1754.3 64QA		1	0	20.36	16.66	30	-13.34	
		610111	1	5	20.38	16.68	30	-13.32	
		1/04.5	64QAM	3	2	20.41	16.71	30	-13.29
			6	0	19.64	15.94	30	-14.06	



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Antenna gain (dBi)

Antenna	gain (dBi)	-3.7 L	ΓΕ Band 4_U	plink f	requenc	cy band : 1710	to 1755 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	21.67	17.97	30	-12.03
	19965	1711.5	QPSK	1	14	21.67	17.97	30	-12.03
	19900	1711.3	UPSK	8	4	21.16	17.46	30	-12.54
				15	0	21.06	17.36	30	-12.64
				1	0	21.57	17.87	30	-12.13
	20175	1732.5	QPSK	1	14	21.71	18.01	30	-11.99
	20173	1732.3	QI 3K	8	4	21.25	17.55	30	-12.45
				15	0	21.19	17.49	30	-12.51
				1	0	21.60	17.90	30	-12.1
	20385	1753.5	QPSK	1	14	21.79	18.09	30	-11.91
	20303	1733.3	QI 3K	8	4	21.11	17.41	30	-12.59
				15	0	20.91	17.21	30	-12.79
				1	0	21.02	17.32	30	-12.68
	10065	1711.5	16QAM	1	14	20.49	16.79	30	-13.21
	19965	1711.3	TOQAWI	8	4	20.18	16.48	30	-13.52
				15	0	19.98	16.28	30	-13.72
			16QAM	1	0	20.87	17.17	30	-12.83
3	20175	1732.5		1	14	20.49	16.79	30	-13.21
	20173	1732.3	TOQAW	8	4	20.29	16.59	30	-13.41
				15	0	19.96	16.26	30	-13.74
				1	0	20.77	17.07	30	-12.93
	20385	1753.5	16QAM	1	14	20.59	16.89	30	-13.11
	20303	1733.3	TOQAW	8	4	20.31	16.61	30	-13.39
				15	0	19.91	16.21	30	-13.79
				1	0	20.60	16.90	30	-13.1
	19965	1711.5	64QAM	1	14	19.82	16.12	30	-13.88
	17703	1711.5	04Q/ ((V)	8	4	19.48	15.78	30	-14.22
				15	0	19.51	15.81	30	-14.19
				1	0	20.16	16.46	30	-13.54
	20175	1732.5	64QAM	1	14	19.76	16.06	30	-13.94
	20173	1732.3	UTUAIVI	8	4	19.72	16.02	30	-13.98
				15	0	19.51	15.81	30	-14.19
				1	0	20.20	16.50	30	-13.5
	20385	1753.5	64QAM	1	14	19.86	16.16	30	-13.84
	20303	1733.3	UTQAW	8	4	19.58	15.88	30	-14.12
				15	0	19.28	15.58	30	-14.42

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Antenna gain (dRi) -37

Antenna	gain (dBi)	-3.7 L	TE Band 4 U	plink f	requenc	cy band : 1710	to 1755 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	21.72	18.02	30	-11.98
	19975	1712.5	QPSK	1	24	21.65	17.95	30	-12.05
	19975	1712.5	UPSK	12	6	21.17	17.47	30	-12.53
				25	0	21.11	17.41	30	-12.59
				1	0	21.68	17.98	30	-12.02
	20175	1732.5	QPSK	1	24	21.60	17.90	30	-12.1
	20175	1732.3	QF3K	12	6	21.12	17.42	30	-12.58
				25	0	21.17	17.47	30	-12.53
				1	0	21.66	17.96	30	-12.04
	20375	1752.5	QPSK	1	24	21.86	18.16	30	-11.84
	20373	1732.3	QF3K	12	6	21.30	17.60	30	-12.4
				25	0	21.06	17.36	30	-12.64
				1	0	21.11	17.41	30	-12.59
	19975 1712.5	16QAM	1	24	20.39	16.69	30	-13.31	
		1712.3	TOQAWI	12	6	20.26	16.56	30	-13.44
				25	0	20.02	16.32	30	-13.68
				1	0	20.86	17.16	30	-12.84
5	20175	1732.5	16QAM	1	24	20.47	16.77	30	-13.23
3	20173	1732.3	TOQAW	12	6	20.39	16.69	30	-13.31
				25	0	20.01	16.31	30	-13.69
				1	0	20.83	17.13	30	-12.87
	20375	1752.5	16QAM	1	24	20.45	16.75	30	-13.25
	20373	1732.3	TOQAW	12	6	20.32	16.62	30	-13.38
				25	0	19.93	16.23	30	-13.77
				1	0	20.47	16.77	30	-13.23
	19975	1712.5	64QAM	1	24	19.82	16.12	30	-13.88
	17773	1712.3	04QAIVI	12	6	19.46	15.76	30	-14.24
				25	0	19.53	15.83	30	-14.17
				1	0	20.13	16.43	30	-13.57
	20175 1722 5 74	64QAM	1	24	19.77	16.07	30	-13.93	
20175 1732	1732.3	04QAIVI	12	6	19.75	16.05	30	-13.95	
			25	0	19.39	15.69	30	-14.31	
				1	0	20.05	16.35	30	-13.65
	20275	17525	610011	1	24	19.87	16.17	30	-13.83
	20375 1752.5	64QAM	12	6	19.69	15.99	30	-14.01	
			25	0	19.28	15.58	30	-14.42	

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Antenna gain (dRi)

Antenna	gain (dBi)	-3.7 L	TE Band 4 U	plink f	requen	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	21.72	18.02	30	-11.98
	20000	1715	QPSK	1	49	21.62	17.92	30	-12.08
	20000	1713	UPSK	25	12	21.13	17.43	30	-12.57
				50	0	21.11	17.41	30	-12.59
				1	0	21.65	17.95	30	-12.05
	20175	1732.5	QPSK	1	49	21.67	17.97	30	-12.03
	20175	1732.3	QF3K	25	12	21.22	17.52	30	-12.48
				50	0	21.02	17.32	30	-12.68
				1	0	21.55	17.85	30	-12.15
	20375	1750	QPSK	1	49	21.72	18.02	30	-11.98
	20373	1730	UPSK	25	12	21.17	17.47	30	-12.53
				50	0	20.97	17.27	30	-12.73
			16QAM	1	0	20.95	17.25	30	-12.75
	20000	1715		1	49	20.48	16.78	30	-13.22
	20000 1715	TOQAW	25	12	20.15	16.45	30	-13.55	
				50	0	20.05	16.35	30	-13.65
				1	0	20.76	17.06	30	-12.94
10	20175	1732.5	16QAM	1	49	20.50	16.80	30	-13.2
10	20175	1732.3	TOQAW	25	12	20.26	16.56	30	-13.44
				50	0	20.01	16.31	30	-13.69
				1	0	20.67	16.97	30	-13.03
	20375	1750	16QAM	1	49	20.59	16.89	30	-13.11
	20373	1730	TOQAW	25	12	20.27	16.57	30	-13.43
				50	0	20.09	16.39	30	-13.61
				1	0	20.50	16.80	30	-13.2
	20000	1715	64QAM	1	49	19.83	16.13	30	-13.87
	20000	1713	04QAIVI	25	12	19.42	15.72	30	-14.28
				50	0	19.56	15.86	30	-14.14
				1	0	20.17	16.47	30	-13.53
	20175	20175 1732.5 64QAN	64QAM	1	49	19.81	16.11	30	-13.89
	20173	1732.5	04QAIVI	25	12	19.69	15.99	30	-14.01
				50	0	19.49	15.79	30	-14.21
				1	0	20.21	16.51	30	-13.49
	20275	1750	640AM	1	49	19.91	16.21	30	-13.79
	20375 1750	64QAM	25	12	19.71	16.01	30	-13.99	
				50	0	19.35	15.65	30	-14.35

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Antenna gain (dBi)

Antenna	gain (ubi)	-3.7 L	ΓΕ Band 4 U	plink 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	21.78	18.08	30	-11.92
	20025	1717.5	QPSK	1	74	21.59	17.89	30	-12.11
	20023	1717.3	UPSK	36	18	21.23	17.53	30	-12.47
				75	0	21.08	17.38	30	-12.62
				1	0	21.62	17.92	30	-12.08
	20175	1732.5	QPSK	1	74	21.59	17.89	30	-12.11
	20173	1732.3	QI SK	36	18	21.28	17.58	30	-12.42
				75	0	21.04	17.34	30	-12.66
				1	0	21.52	17.82	30	-12.18
	20325	1747.5	QPSK	1	74	21.75	18.05	30	-11.95
	20323	1747.5	QI SIX	36	18	21.22	17.52	30	-12.48
				75	0	21.05	17.35	30	-12.65
				1	0	21.01	17.31	30	-12.69
	20025	1717.5	16QAM	1	74	20.45	16.75	30	-13.25
	20025 1717.5	10071111	36	18	20.17	16.47	30	-13.53	
				75	0	19.99	16.29	30	-13.71
				1	0	20.74	17.04	30	-12.96
15	20175	1732.5	16QAM	1	74	20.48	16.78	30	-13.22
15	20173	1732.3	100/1111	36	18	20.35	16.65	30	-13.35
				75	0	20.09	16.39	30	-13.61
				1	0	20.72	17.02	30	-12.98
	20325	1747.5	16QAM	1	74	20.47	16.77	30	-13.23
	20323	1747.5	100/1111	36	18	20.29	16.59	30	-13.41
				75	0	19.91	16.21	30	-13.79
				1	0	20.47	16.77	30	-13.23
	20025	1717.5	64QAM	1	74	19.89	16.19	30	-13.81
	20023	1717.5	010/11/1	36	18	19.42	15.72	30	-14.28
				75	0	19.56	15.86	30	-14.14
				1	0	20.13	16.43	30	-13.57
	20175	1732.5	64QAM	1	74	19.93	16.23	30	-13.77
	20170	1702.0	O I CI (IVI	36	18	19.84	16.14	30	-13.86
				75	0	19.53	15.83	30	-14.17
				1	0	20.10	16.40	30	-13.6
	20325	1747.5	64QAM	1	74	19.87	16.17	30	-13.83
	20020	17 17.0	0 1 Q/ ((V)	36	18	19.73	16.03	30	-13.97
				75	0	19.34	15.64	30	-14.36

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Antenna	gain (dBi)	-3.7	FF Rand / II	nlink f	raduano	cy band : 1710	to 1755 MHz		
		L	L Dallu 4_U	hiiik I	requent	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	21.81	18.11	30	-11.89
				1	99	21.78	18.08	30	-11.92
	20050	1720	QPSK	50	25	21.28	17.58	30	-12.42
				100	0	21.19	17.49	30	-12.51
				1	0	21.75	18.05	30	-11.95
				1	99	21.73	18.03	30	-11.97
	20175	1732.5	QPSK	50	25	21.32	17.62	30	-12.38
				100	0	21.20	17.50	30	-12.5
				1	0	21.71	18.01	30	-11.99
				1	99	21.86	18.16	30	-11.84
	20300	1745	QPSK	50	25	21.30	17.60	30	-12.4
				100	0	21.10	17.40	30	-12.6
				1	0	21.12	17.42	30	-12.58
	00050	4700	1 (0 1 1 1	1	99	20.54	16.84	30	-13.16
	20050 1720	1/20	16QAM	50	25	20.27	16.57	30	-13.43
				100	0	20.12	16.42	30	-13.58
			1/0414	1	0	20.91	17.21	30	-12.79
20	20175	1700 F		1	99	20.55	16.85	30	-13.15
20	20175	1732.5	16QAM	50	25	20.44	16.74	30	-13.26
				100	0	20.14	16.44	30	-13.56
				1	0	20.84	17.14	30	-12.86
	20300	1745	16QAM	1	99	20.62	16.92	30	-13.08
	20300	1740	TOQAW	50	25	20.36	16.66	30	-13.34
				100	0	20.10	16.40	30	-13.6
				1	0	20.60	16.90	30	-13.1
	20050	1720	64QAM	1	99	19.97	16.27	30	-13.73
	20000	1720	04QAIVI	50	25	19.61	15.91	30	-14.09
				100	0	19.57	15.87	30	-14.13
				1	0	20.25	16.55	30	-13.45
	20175	1732.5	64QAM	1	99	19.95	16.25	30	-13.75
	20173	1732.3	04QAIVI	50	25	19.85	16.15	30	-13.85
				100	0	19.53	15.83	30	-14.17
				1	0	20.22	16.52	30	-13.48
	20300	1745	64QAM	1	99	19.99	16.29	30	-13.71
	20300	1740	UHUMIVI	50	25	19.73	16.03	30	-13.97
				100	0	19.41	15.71	30	-14.29



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L 1 Antonna gain (dDi)

Antenna	yallı (ubi)	-5.4	LTE Band 5	Uplink	(fregue	ncy band : 824	to 849 MHz			
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	22.54	14.99	17.14	38.45	-21.31
	20407	824.7	QPSK	1	5	22.46	14.91	17.06	38.45	-21.39
	20407	024.7	QF3K	3	2	22.52	14.97	17.12	38.45	-21.33
				6	0	21.49	13.94	16.09	38.45	-22.36
				1	0	22.49	14.94	17.09	38.45	-21.36
	20525	836.5	QPSK	1	5	22.49	14.94	17.09	38.45	-21.36
	20020	030.3	QF3K	3	2	22.51	14.96	17.11	38.45	-21.34
				6	0	21.51	13.96	16.11	38.45	-22.34
				1	0	22.52	14.97	17.12	38.45	-21.33
	20643	848.3	QPSK	1	5	22.53	14.98	17.13	38.45	-21.32
	20043	040.5	QI SIX	3	2	22.51	14.96	17.11	38.45	-21.34
				6	0	21.49	13.94	16.09	38.45	-22.36
				1	0	21.52	13.97	16.12	38.45	-22.33
	20407	824.7	16QAM	1	5	21.53	13.98	16.13	38.45	-22.32
	20407	024.7	TOQAW	3	2	21.45	13.90	16.05	38.45	-22.4
				6	0	20.47	12.92	15.07	38.45	-23.38
			16QAM	1	0	21.47	13.92	16.07	38.45	-22.38
1.4	20525	836.5		1	5	21.46	13.91	16.06	38.45	-22.39
1.4	20323	030.3	TOCAM	3	2	21.47	13.92	16.07	38.45	-22.38
				6	0	20.46	12.91	15.06	38.45	-23.39
				1	0	21.48	13.93	16.08	38.45	-22.37
	20643	848.3	16QAM	1	5	21.47	13.92	16.07	38.45	-22.38
	20043	040.3	TOQAM	3	2	21.55	14.00	16.15	38.45	-22.3
				6	0	20.54	12.99	15.14	38.45	-23.31
				1	0	20.81	13.26	15.41	38.45	-23.04
	20407	824.7	64QAM	1	5	20.82	13.27	15.42	38.45	-23.03
	20407	024.7	04QAIVI	3	2	20.67	13.12	15.27	38.45	-23.18
				6	0	19.74	12.19	14.34	38.45	-24.11
				1	0	20.76	13.21	15.36	38.45	-23.09
	20525	027.5	6 A O A B A	1	5	20.72	13.17	15.32	38.45	-23.13
	20525	836.5	64QAM	3	2	20.72	13.17	15.32	38.45	-23.13
				6	0	19.70	12.15	14.30	38.45	-24.15
				1	0	20.74	13.19	15.34	38.45	-23.11
	207.42	040.0	(4000	1	5	20.75	13.20	15.35	38.45	-23.1
	20643	848.3	64QAM	3	2	20.75	13.20	15.35	38.45	-23.1
				6	0	19.77	12.22	14.37	38.45	-24.08

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Antenna gain (dRi)

Antenna	gain (dBi)	-5.4	LTE Band 5	Uplink	c freque	ncy band : 824	to 849 MHz			
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	22.48	14.93	17.08	38.45	-21.37
	20415	825.5	QPSK	1	14	22.40	14.85	17.00	38.45	-21.45
	20413	023.3	QPSK	8	4	21.32	13.77	15.92	38.45	-22.53
				15	0	21.17	13.62	15.77	38.45	-22.68
				1	0	22.49	14.94	17.09	38.45	-21.36
	20525	836.5	QPSK	1	14	22.26	14.71	16.86	38.45	-21.59
	20323	030.3	QFSK	8	4	21.50	13.95	16.10	38.45	-22.35
				15	0	21.31	13.76	15.91	38.45	-22.54
				1	0	22.20	14.65	16.80	38.45	-21.65
	20635	847.5	QPSK	1	14	22.21	14.66	16.81	38.45	-21.64
	20033	047.3	QFSK	8	4	21.57	14.02	16.17	38.45	-22.28
		+		15	0	21.21	13.66	15.81	38.45	-22.64
				1	0	21.23	13.68	15.83	38.45	-22.62
	20415 825.5	16QAM	1	14	22.15	14.60	16.75	38.45	-21.7	
	20413	023.3	TOQAW	8	4	20.25	12.70	14.85	38.45	-23.6
				15	0	20.29	12.74	14.89	38.45	-23.56
			16QAM	1	0	21.22	13.67	15.82	38.45	-22.63
3	20525	836.5		1	14	21.71	14.16	16.31	38.45	-22.14
J	20020	030.3	TOQAW	8	4	20.38	12.83	14.98	38.45	-23.47
				15	0	20.34	12.79	14.94	38.45	-23.51
				1	0	21.60	14.05	16.20	38.45	-22.25
	20635	847.5	16QAM	1	14	21.89	14.34	16.49	38.45	-21.96
	20033	047.5	TOQAW	8	4	20.47	12.92	15.07	38.45	-23.38
				15	0	20.30	12.75	14.90	38.45	-23.55
				1	0	20.64	13.09	15.24	38.45	-23.21
	20415	825.5	64QAM	1	14	21.40	13.85	16.00	38.45	-22.45
	20413	023.3	04QAIVI	8	4	19.62	12.07	14.22	38.45	-24.23
				15	0	19.62	12.07	14.22	38.45	-24.23
				1	0	20.62	13.07	15.22	38.45	-23.23
	20525 836.5 64Q.	64QAM	1	14	21.10	13.55	15.70	38.45	-22.75	
		U4QAIVI	8	4	19.91	12.36	14.51	38.45	-23.94	
			15	0	19.72	12.17	14.32	38.45	-24.13	
				1	0	20.93	13.38	15.53	38.45	-22.92
	20635 847.5	64QAM	1	14	21.37	13.82	15.97	38.45	-22.48	
		UHUAIVI	8	4	19.77	12.22	14.37	38.45	-24.08	
		-	15	0	19.74	12.19	14.34	38.45	-24.11	

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Antenna gain (dRi)

Antenna	gain (dBi)	-5.4	LTE Band 5	_Uplink	c freque	ncy band : 824	to 849 MHz			
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	22.51	14.96	17.11	38.45	-21.34
	20425	007.5	ODCI	1	24	22.52	14.97	17.12	38.45	-21.33
	20425	826.5	QPSK	12	6	21.40	13.85	16.00	38.45	-22.45
				25	0	21.21	13.66	15.81	38.45	-22.64
				1	0	22.34	14.79	16.94	38.45	-21.51
	20525	836.5	QPSK	1	24	22.38	14.83	16.98	38.45	-21.47
	20020	030.3	QF3K	12	6	21.46	13.91	16.06	38.45	-22.39
				25	0	21.19	13.64	15.79	38.45	-22.66
				1	0	22.20	14.65	16.80	38.45	-21.65
	20625	846.5	QPSK	1	24	22.23	14.68	16.83	38.45	-21.62
	20023 040.3	040.5	QF3K	12	6	21.50	13.95	16.10	38.45	-22.35
				25	0	21.23	13.68	15.83	38.45	-22.62
				1	0	21.31	13.76	15.91	38.45	-22.54
	20425	826.5	16QAM	1	24	22.06	14.51	16.66	38.45	-21.79
	20425	620.5	ToQAIVI	12	6	20.39	12.84	14.99	38.45	-23.46
				25	0	20.14	12.59	14.74	38.45	-23.71
			16QAM	1	0	21.24	13.69	15.84	38.45	-22.61
5	20525	836.5		1	24	21.76	14.21	16.36	38.45	-22.09
3	20020	030.3	TOQAW	12	6	20.35	12.80	14.95	38.45	-23.5
				25	0	20.25	12.70	14.85	38.45	-23.6
				1	0	21.57	14.02	16.17	38.45	-22.28
	20625	846.5	16QAM	1	24	21.99	14.44	16.59	38.45	-21.86
	20025	040.5	TOQAW	12	6	20.36	12.81	14.96	38.45	-23.49
				25	0	20.33	12.78	14.93	38.45	-23.52
				1	0	20.71	13.16	15.31	38.45	-23.14
	20425	826.5	64QAM	1	24	21.40	13.85	16.00	38.45	-22.45
	20425	020.5	04QAIVI	12	6	19.61	12.06	14.21	38.45	-24.24
				25	0	19.73	12.18	14.33	38.45	-24.12
				1	0	20.58	13.03	15.18	38.45	-23.27
	20525	836.5	64QAM	1	24	21.06	13.51	15.66	38.45	-22.79
	20020	030.3	U4QAIVI	12	6	19.95	12.40	14.55	38.45	-23.9
				25	0	19.69	12.14	14.29	38.45	-24.16
				1	0	20.95	13.40	15.55	38.45	-22.9
	20425	846.5	(4000	1	24	21.41	13.86	16.01	38.45	-22.44
	20625	040.3	64QAM	12	6	19.71	12.16	14.31	38.45	-24.14
				25	0	19.66	12.11	14.26	38.45	-24.19

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)	-5.4	LTED 15				11-040 141			
			LIE Band 5	_Uplink	(freque	ncy band : 824		FIDE	EIRS	
BW	UL	Frequency	NA - d. 1 11	RB	RB	Conducted	ERP	EIRP	EIRP	Margin
(MHz)	Channel	(MHz)	Modulation	Size	Offset	Average	Average	Average	Limit	(dB)
· ,		` '		1	0	(dBm)	(dBm)	(dBm)	(dBm)	
				1	0	22.58	15.03	17.18	38.45	-21.27
	20450	829	QPSK	1	49	22.56	15.01	17.16	38.45	-21.29
				25	12	21.48	13.93	16.08	38.45	-22.37
				50	0	21.34	13.79	15.94	38.45	-22.51
				1	0 49	22.51	14.96	17.11 17.00	38.45	-21.34
	20525	836.5	QPSK	1		22.40	14.85		38.45	-21.45
				25	12	21.51 21.35	13.96	16.11 15.95	38.45	-22.34
				50	0		13.80		38.45	-22.5
				1	0 49	22.37 22.36	14.82 14.81	16.97 16.96	38.45	-21.48 -21.49
	20600	844	QPSK	25	12	22.30			38.45	-21.49
				50	0	21.03	14.08	16.23 16.01	38.45 38.45	-22.22
				5U 1	0	21.41	13.86 13.85	16.00	38.45	-22.44
				1	49	22.20	14.65	16.80	38.45	-22.45
	20450	829	16QAM	25	12	20.44	12.89	15.04	38.45	-21.03
				50	0	20.44	12.69	14.91	38.45	-23.54
				1	0	20.31	13.84	15.99	38.45	-23.34
				1	49	21.80	14.25	16.40	38.45	-22.40
10	20525	836.5	16QAM	25	12	20.55	13.00	15.15	38.45	-23.3
				50	0	20.33	12.83	14.98	38.45	-23.47
				1	0	21.66	14.11	16.26	38.45	-23.47
				1	49	22.06	14.51	16.66	38.45	-21.79
	20600	844	16QAM	25	12	20.54	12.99	15.14	38.45	-23.31
				50	0	20.37	12.77	14.97	38.45	-23.48
				1	0	20.72	13.17	15.32	38.45	-23.13
				1	49	21.56	14.01	16.16	38.45	-22.29
	20450	829	64QAM	25	12	19.80	12.25	14.40	38.45	-24.05
				50	0	19.79	12.24	14.39	38.45	-24.06
				1	0	20.73	13.18	15.33	38.45	-23.12
				1	49	21.22	13.67	15.82	38.45	-22.63
	20525	836.5	64QAM	25	12	20.04	12.49	14.64	38.45	-23.81
				50	0	19.81	12.26	14.41	38.45	-24.04
				1	0	21.10	13.55	15.70	38.45	-22.75
		_		1	49	21.45	13.90	16.05	38.45	-22.4
	20600	844	64QAM	25	12	19.88	12.33	14.48	38.45	-23.97
				50	0	19.77	12.22	14.37	38.45	-24.08
<u> </u>	<u> </u>	I		50	Ü	17.11	14.44	17.07	50.75	27.00

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Antenna gain (dBi)

7	yairi (ubi)	0.5 L	TE Band 7_U	plink f	requen	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	22.43	22.93	33.00	-10.07
	20775	2502.5	ODCK	1	24	22.44	22.94	33.00	-10.06
	20775	2502.5	QPSK	12	6	21.35	21.85	33.00	-11.15
				25	0	21.34	21.84	33.00	-11.16
				1	0	22.15	22.65	33.00	-10.35
	21100	2535	QPSK	1	24	22.55	23.05	33.00	-9.95
	21100	2030	UPSK	12	6	21.56	22.06	33.00	-10.94
				25	0	21.17	21.67	33.00	-11.33
				1	0	22.48	22.98	33.00	-10.02
	21375	2567.5	QPSK	1	24	22.51	23.01	33.00	-9.99
	21373	2307.3	2, 510	12	6	21.30	21.80	33.00	-11.2
				25	0	21.24	21.74	33.00	-11.26
				1	0	21.97	22.47	33.00	-10.53
	20775	2502.5	16QAM	1	24	21.91	22.41	33.00	-10.59
	20113	20775 2502.5		12	6	20.54	21.04	33.00	-11.96
			25	0	20.36	20.86	33.00	-12.14	
				1	0	21.63	22.13	33.00	-10.87
5	21100	2535	16QAM	1	24	21.45	21.95	33.00	-11.05
	21100	2000	10071111	12	6	20.40	20.90	33.00	-12.1
				25	0	20.22	20.72	33.00	-12.28
				1	0	21.50	22.00	33.00	-11
	21375	2567.5	16QAM	1	24	21.86	22.36	33.00	-10.64
	21070	200710	10 27 1111	12	6	20.39	20.89	33.00	-12.11
				25	0	20.35	20.85	33.00	-12.15
				1	0	21.29	21.79	33.00	-11.21
	20775	2502.5	64QAM	1	24	21.45	21.95	33.00	-11.05
	20770	2002.0	0 1 C 2	12	6	20.04	20.54	33.00	-12.46
				25	0	19.78	20.28	33.00	-12.72
				1	0	21.17	21.67	33.00	-11.33
	21100	2535	64QAM	1	24	21.05	21.55	33.00	-11.45
				12	6	19.86	20.36	33.00	-12.64
				25	0	19.58	20.08	33.00	-12.92
				1	0	20.92	21.42	33.00	-11.58
	21375	2567.5	64QAM	1	24	21.30	21.80	33.00	-11.2
				12	6	19.88	20.38	33.00	-12.62
				25	0	19.60	20.10	33.00	-12.9

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0.5 Antenna gain (dBi)

Antenna	gain (ubi)	U.5	ΓΕ Band 7_U	plink f	requen	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	22.28	22.78	33.00	-10.22
	00000	0505	00011	1	49	22.54	23.04	33.00	-9.96
	20800	2505	QPSK	25	12	21.47	21.97	33.00	-11.03
				50	0	21.36	21.86	33.00	-11.14
				1	0	22.28	22.78	33.00	-10.22
	21100	2525	ODCK	1	49	22.57	23.07	33.00	-9.93
	21100	2535	QPSK	25	12	21.59	22.09	33.00	-10.91
				50	0	21.39	21.89	33.00	-11.11
				1	0	22.33	22.83	33.00	-10.17
	21350	2565	QPSK	1	49	22.58	23.08	33.00	-9.92
	21330	2505	16QAM	25	12	21.43	21.93	33.00	-11.07
				50	0	21.25	21.75	33.00	-11.25
				1	0	21.96	22.46	33.00	-10.54
	20000	2505		1	49	21.85	22.35	33.00	-10.65
	20000	20800 2505		25	12	20.61	21.11	33.00	-11.89
				50	0	20.36	20.86	33.00	-12.14
				1	0	21.70	22.20	33.00	-10.8
10	21100	2535	16QAM	1	49	21.56	22.06	33.00	-10.94
10	21100	2000	TOQAW	25	12	20.40	20.90	33.00	-12.1
				50	0	20.13	20.63	33.00	-12.37
				1	0	21.60	22.10	33.00	-10.9
	21350	2565	16QAM	1	49	21.74	22.24	33.00	-10.76
	21330	2505	TOQAW	25	12	20.36	20.86	33.00	-12.14
				50	0	20.38	20.88	33.00	-12.12
				1	0	21.44	21.94	33.00	-11.06
	20800	2505	64QAM	1	49	21.47	21.97	33.00	-11.03
	20000	2303	04QAIVI	25	12	20.00	20.50	33.00	-12.5
				50	0	19.63	20.13	33.00	-12.87
				1	0	21.08	21.58	33.00	-11.42
	21100	2535	64QAM	1	49	20.93	21.43	33.00	-11.57
	21100	21100 2535 64	UTUAIVI	25	12	19.83	20.33	33.00	-12.67
				50	0	19.67	20.17	33.00	-12.83
				1	0	20.90	21.40	33.00	-11.6
	21350	1350 2565 64QAN	64QAM	1	49	21.30	21.80	33.00	-11.2
	21000	2000	O I Q/ (IVI	25	12	19.98	20.48	33.00	-12.52
				50	0	19.68	20.18	33.00	-12.82

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Antenna gain (dRi)

AHRHIII	gain (dBi)	0.5 L	ΓΕ Band 7 U	plink f	requenc	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	22.40	22.90	33.00	-10.1
	20025	2507.5	ODCK	1	74	22.61	23.11	33.00	-9.89
	20825	2507.5	QPSK	36	18	21.58	22.08	33.00	-10.92
				75	0	21.42	21.92	33.00	-11.08
				1	0	22.17	22.67	33.00	-10.33
	21100	2535	QPSK	1	74	22.61	23.11	33.00	-9.89
	21100	2030	UPSK	36	18	21.42	21.92	33.00	-11.08
				75	0	21.17	21.67	33.00	-11.33
				1	0	22.42	22.92	33.00	-10.08
	21375	2562.5	QPSK	1	74	22.48	22.98	33.00	-10.02
	21373	2302.3	UPSK	36	18	21.36	21.86	33.00	-11.14
				75	0	21.26	21.76	33.00	-11.24
				1	0	21.99	22.49	33.00	-10.51
	20025	2507.5	16QAM	1	74	22.05	22.55	33.00	-10.45
	20825 2507.5	TOQAIVI	36	18	20.59	21.09	33.00	-11.91	
			75	0	20.19	20.69	33.00	-12.31	
				1	0	21.56	22.06	33.00	-10.94
15	21100	2535	16QAM	1	74	21.55	22.05	33.00	-10.95
13	21100	2030	TOQAW	36	18	20.42	20.92	33.00	-12.08
				75	0	20.11	20.61	33.00	-12.39
				1	0	21.50	22.00	33.00	-11
	21375	2562.5	16QAM	1	74	21.77	22.27	33.00	-10.73
	21373	2302.3	TOQAW	36	18	20.34	20.84	33.00	-12.16
				75	0	20.33	20.83	33.00	-12.17
				1	0	21.45	21.95	33.00	-11.05
	20825	2507.5	64QAM	1	74	21.46	21.96	33.00	-11.04
	20023	∠307.3	04QAIVI	36	18	20.00	20.50	33.00	-12.5
				75	0	19.68	20.18	33.00	-12.82
				1	0	21.10	21.60	33.00	-11.4
	21100	2525	61000	1	74	21.00	21.50	33.00	-11.5
	21100	2535	64QAM	36	18	19.86	20.36	33.00	-12.64
				75	0	19.53	20.03	33.00	-12.97
				1	0	20.92	21.42	33.00	-11.58
	21275	25425	440011	1	74	21.25	21.75	33.00	-11.25
	21375	2562.5 64QAM	36	18	19.92	20.42	33.00	-12.58	
				75	0	19.65	20.15	33.00	-12.85

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Antenna gain (dRi)

Antenna	gain (dBi)	0.5 L i	TE Band 7 U	plink f	regueno	cy band : 2500	to 2570 MHz		
BW	UL	Frequency		RB	RB	Conducted	EIRP	EIRP	Margin
(MHz)	Channel	(MHz)	Modulation	Size	Offset	Average	Average	Limit	(dB)
, ,		` ′		1	0	(dBm)	(dBm)	(dBm)	
				1	0	22.45	22.95	33.00	-10.05
	20850	2510	QPSK	1	99	22.66	23.16	33.00	-9.84
				50	25	21.59	22.09	33.00	-10.91
				100	0	21.44	21.94	33.00	-11.06
				1	0	22.28	22.78	33.00	-10.22
	21100	2535	QPSK	1	99	22.63	23.13	33.00	-9.87
				50	25	21.63	22.13	33.00	-10.87
				100	0	21.35	21.85	33.00	-11.15
				1	0	22.54	23.04	33.00	-9.96
	21350	2560	QPSK	1	99	22.51	23.01	33.00	-9.99
				50	25	21.50	22.00	33.00	-11
				100	0	21.36	21.86	33.00	-11.14
				1	0	22.07	22.57	33.00	-10.43
	20850	2510	16QAM	1	99	22.11	22.61	33.00	-10.39
	20650 2510		50	25	20.62	21.12	33.00	-11.88	
				100	0	20.35	20.85	33.00	-12.15
				1	0	21.75	22.25	33.00	-10.75
20	21100	2535	16QAM	1	99	21.63	22.13	33.00	-10.87
				50	25	20.55	21.05	33.00	-11.95
				100	0	20.25	20.75	33.00	-12.25
				1	0	21.60	22.10	33.00	-10.9
	21350	2560	16QAM	1	99	21.90	22.40	33.00	-10.6
				50	25	20.49	20.99	33.00	-12.01
				100	0	20.33	20.83	33.00	-12.17
				1	0 99	21.50 21.49	22.00 21.99	33.00	-11 -11.01
	20850	2510	64QAM	50	25	20.16	20.66	33.00 33.00	-11.01
				100	0	19.84	20.00	33.00	-12.34
					0	21.30	20.34	33.00	-12.00 -11.2
				1	99	21.30	21.80	33.00	-11.2 -11.44
	21100	2535	64QAM	50	25	19.99	20.49	33.00	-11.44
				100	0	19.70	20.49	33.00	-12.51
				100	0	21.04	20.20	33.00	-12.8
				1	99	21.04	21.54	33.00	-11.46
	21350	2560	64QAM						-11.10
									-12.48
	21350	2 56U	64QAM	50 100	25 0	20.02 19.82	20.52 20.32	33.00 33.00	-12

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



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Antenna gain (dRi)

Antenna	gain (dBi)	-7.8	LTE Band 12	Uplin	k freaue	ency band : 69	9 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	22.57	12.62	14.77	34.77	-20
	00047	, oo =	00014	1	5	22.60	12.65	14.80	34.77	-19.97
	23017	699.7	QPSK	3	2	22.59	12.64	14.79	34.77	-19.98
				6	0	21.61	11.66	13.81	34.77	-20.96
				1	0	22.60	12.65	14.80	34.77	-19.97
	22005	707 E	QPSK	1	5	22.57	12.62	14.77	34.77	-20
	23095	707.5	QPSK	3	2	22.61	12.66	14.81	34.77	-19.96
				6	0	21.53	11.58	13.73	34.77	-21.04
				1	0	22.57	12.62	14.77	34.77	-20
	23173	715.5	QPSK	1	5	22.62	12.67	14.82	34.77	-19.95
	23173	710.0	UPSK	3	2	22.52	12.57	14.72	34.77	-20.05
				6	0	21.54	11.59	13.74	34.77	-21.03
				1	0	21.59	11.64	13.79	34.77	-20.98
	23017	699.7	16QAM	1	5	21.54	11.59	13.74	34.77	-21.03
	23017	077.7	TOQAW	3	2	21.61	11.66	13.81	34.77	-20.96
				6	0	20.55	10.60	12.75	34.77	-22.02
				1	0	21.59	11.64	13.79	34.77	-20.98
1.4	23095	707.5	16QAM	1	5	21.53	11.58	13.73	34.77	-21.04
1.4	23073	707.5	TOQAW	3	2	21.57	11.62	13.77	34.77	-21
				6	0	20.57	10.62	12.77	34.77	-22
				1	0	21.58	11.63	13.78	34.77	-20.99
	23173	715.5	16QAM	1	5	21.52	11.57	13.72	34.77	-21.05
	23173	710.0	100/1111	3	2	21.60	11.65	13.80	34.77	-20.97
				6	0	20.53	10.58	12.73	34.77	-22.04
				1	0	20.95	11.00	13.15	34.77	-21.62
	23017	699.7	64QAM	1	5	20.89	10.94	13.09	34.77	-21.68
	25017	077.1	0102/11/1	3	2	21.05	11.10	13.25	34.77	-21.52
				6	0	19.95	10.00	12.15	34.77	-22.62
				1	0	21.02	11.07	13.22	34.77	-21.55
	23095	707.5	64QAM	1	5	20.91	10.96	13.11	34.77	-21.66
	20070	, 07.0	O I QI WI	3	2	21.01	11.06	13.21	34.77	-21.56
				6	0	19.97	10.02	12.17	34.77	-22.6
				1	0	20.94	10.99	13.14	34.77	-21.63
	23173	715.5	64QAM	1	5	20.95	11.00	13.15	34.77	-21.62
	20170	, 10.0	012/11/1	3	2	21.00	11.05	13.20	34.77	-21.57
				6	0	19.90	9.95	12.10	34.77	-22.67

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Antenna gain (dRi)

Antenna	gain (dBi)	-7.8	LTE Band 12	_Uplin	k freque	ency band : 69	9 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	22.47	12.52	14.67	34.77	-20.1
	22025	700 5	ODCK	1	14	22.96	13.01	15.16	34.77	-19.61
	23025	700.5	QPSK	8	4	21.75	11.80	13.95	34.77	-20.82
				15	0	21.48	11.53	13.68	34.77	-21.09
				1	0	22.65	12.70	14.85	34.77	-19.92
	23095	707.5	QPSK	1	14	22.73	12.78	14.93	34.77	-19.84
	23093	707.5	UPSK	8	4	21.82	11.87	14.02	34.77	-20.75
				15	0	21.56	11.61	13.76	34.77	-21.01
				1	0	22.61	12.66	14.81	34.77	-19.96
	23165	714.5	QPSK	1	14	22.55	12.60	14.75	34.77	-20.02
	23103	714.5	QF3K	8	4	21.85	11.90	14.05	34.77	-20.72
				15	0	21.37	11.42	13.57	34.77	-21.2
				1	0	22.07	12.12	14.27	34.77	-20.5
	22025	700.5	16QAM	1	14	21.93	11.98	14.13	34.77	-20.64
	23025	700.5	ToQAIVI	8	4	20.71	10.76	12.91	34.77	-21.86
				15	0	20.63	10.68	12.83	34.77	-21.94
				1	0	21.83	11.88	14.03	34.77	-20.74
3	23095	707.5	16QAM	1	14	22.28	12.33	14.48	34.77	-20.29
J	23073	707.5	TOQAW	8	4	20.59	10.64	12.79	34.77	-21.98
				15	0	20.47	10.52	12.67	34.77	-22.1
				1	0	21.41	11.46	13.61	34.77	-21.16
	23165	714.5	16QAM	1	14	21.63	11.68	13.83	34.77	-20.94
	23103	714.5	TOQAW	8	4	20.73	10.78	12.93	34.77	-21.84
				15	0	20.65	10.70	12.85	34.77	-21.92
				1	0	21.64	11.69	13.84	34.77	-20.93
	23025	700.5	64QAM	1	14	21.67	11.72	13.87	34.77	-20.9
	23023	700.5	04QAIVI	8	4	20.29	10.34	12.49	34.77	-22.28
				15	0	20.26	10.31	12.46	34.77	-22.31
				1	0	21.32	11.37	13.52	34.77	-21.25
	23005	707.5	64QAM	1	14	21.84	11.89	14.04	34.77	-20.73
	23095	707.5	04QAW	8	4	20.35	10.40	12.55	34.77	-22.22
				15	0	19.99	10.04	12.19	34.77	-22.58
				1	0	21.14	11.19	13.34	34.77	-21.43
	23165	714.5	64QAM	1	14	21.23	11.28	13.43	34.77	-21.34
	23100	7 14.3	04QAIVI	8	4	20.34	10.39	12.54	34.77	-22.23
				15	0	20.17	10.22	12.37	34.77	-22.4

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Antenna gain (dRi)

	gain (dBi)		LTE Band 12	_Uplin	k freque	ency band: 69	9 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	22.44	12.49	14.64	34.77	-20.13
				1	24	22.95	13.00	15.15	34.77	-19.62
	23035	701.5	QPSK	12	6	21.80	11.85	14.00	34.77	-20.77
				25	0	21.48	11.53	13.68	34.77	-21.09
				1	0	22.59	12.64	14.79	34.77	-19.98
	22005	707.5	ODCK	1	24	22.67	12.72	14.87	34.77	-19.9
	23095	707.5	QPSK	12	6	21.68	11.73	13.88	34.77	-20.89
				25	0	21.53	11.58	13.73	34.77	-21.04
				1	0	22.46	12.51	14.66	34.77	-20.11
	23155	713.5	3.5 QPSK	1	24	22.58	12.63	14.78	34.77	-19.99
	23100	713.3	QPSK	12	6	21.82	11.87	14.02	34.77	-20.75
		 		25	0	21.55	11.60	13.75	34.77	-21.02
				1	0	22.11	12.16	14.31	34.77	-20.46
	23035 701.5	16QAM	1	24	22.00	12.05	14.20	34.77	-20.57	
23035	701.5		12	6	20.65	10.70	12.85	34.77	-21.92	
				25	0	20.57	10.62	12.77	34.77	-22
				1	0	21.86	11.91	14.06	34.77	-20.71
5	23095	707.5	16QAM	1	24	22.37	12.42	14.57	34.77	-20.2
J	23073	707.5	10071111	12	6	20.78	10.83	12.98	34.77	-21.79
				25	0	20.38	10.43	12.58	34.77	-22.19
				1	0	21.57	11.62	13.77	34.77	-21
	23155	713.5	16QAM	1	24	21.78	11.83	13.98	34.77	-20.79
	20100	7 10.0	10 27 1111	12	6	20.64	10.69	12.84	34.77	-21.93
				25	0	20.58	10.63	12.78	34.77	-21.99
				1	0	21.61	11.66	13.81	34.77	-20.96
	23035	701.5	64QAM	1	24	21.61	11.66	13.81	34.77	-20.96
	20000	701.0	0102/11/1	12	6	20.31	10.36	12.51	34.77	-22.26
				25	0	20.20	10.25	12.40	34.77	-22.37
				1	0	21.41	11.46	13.61	34.77	-21.16
	23095	707.5	64QAM	1	24	21.84	11.89	14.04	34.77	-20.73
	20070	707.0	O I QI WI	12	6	20.19	10.24	12.39	34.77	-22.38
				25	0	19.99	10.04	12.19	34.77	-22.58
				1	0	21.17	11.22	13.37	34.77	-21.4
	23155	713.5	64QAM	1	24	21.30	11.35	13.50	34.77	-21.27
	20100	, 13.3	OTOMINI	12	6	20.26	10.31	12.46	34.77	-22.31
				2.5	Λ	20.10	10.15	12.20	2477	22.47

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20.10

10.15

12.30

34.77



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Antenna	gain (dBi)	-7.8	I TF Rand 12	Unlin	k freque	ency band : 69	9 to 716 MHz			
BW	UL		ETE Dana 12	RB	RB	Conducted	ERP	EIRP	EIRP	Margin
(MHz)	Channel	Frequency (MHz)	Modulation	Size	Offset	Average	Average	Average	Limit	Margin (dB)
(111112)	Oriamion	(111112)		OILO		(dBm)	(dBm)	(dBm)	(dBm)	
				1	0	22.57	12.62	14.77	34.77	-20
	23060	704	QPSK	1	49	22.98	13.03	15.18	34.77	-19.59
				25	12	21.81	11.86	14.01	34.77	-20.76
				50	0	21.60	11.65	13.80	34.77	-20.97
				1	0	22.72	12.77	14.92	34.77	-19.85
	23095	707.5	QPSK	1	49	22.86	12.91	15.06	34.77	-19.71
	20070	70710	2. 5.1	25	12	21.86	11.91	14.06	34.77	-20.71
				50	0	21.58	11.63	13.78	34.77	-20.99
				1	0	22.62	12.67	14.82	34.77	-19.95
	23130	711	QPSK	1	49	22.72	12.77	14.92	34.77	-19.85
	20100	, , , ,	QI OIX	25	12	21.96	12.01	14.16	34.77	-20.61
				50	0	21.56	11.61	13.76	34.77	-21.01
				1	0	22.12	12.17	14.32	34.77	-20.45
	23060	704	16QAM	1	49	22.09	12.14	14.29	34.77	-20.48
	23060 704	701	100/1111	25	12	20.73	10.78	12.93	34.77	-21.84
				50	0	20.66	10.71	12.86	34.77	-21.91
				1	0	22.01	12.06	14.21	34.77	-20.56
10	23095	707.5	16QAM	1	49	22.39	12.44	14.59	34.77	-20.18
10	23073	707.5	TOQAW	25	12	20.78	10.83	12.98	34.77	-21.79
				50	0	20.57	10.62	12.77	34.77	-22
				1	0	21.61	11.66	13.81	34.77	-20.96
	23130	711	16QAM	1	49	21.80	11.85	14.00	34.77	-20.77
	23130	/ 11	100/1111	25	12	20.84	10.89	13.04	34.77	-21.73
				50	0	20.67	10.72	12.87	34.77	-21.9
				1	0	21.69	11.74	13.89	34.77	-20.88
	23060	704	64QAM	1	49	21.69	11.74	13.89	34.77	-20.88
	23000	704	04QAIVI	25	12	20.38	10.43	12.58	34.77	-22.19
				50	0	20.27	10.32	12.47	34.77	-22.3
				1	0	21.48	11.53	13.68	34.77	-21.09
	23095	707.5	64QAM	1	49	21.92	11.97	14.12	34.77	-20.65
	23073	707.5	U4QAIVI	25	12	20.38	10.43	12.58	34.77	-22.19
				50	0	20.16	10.21	12.36	34.77	-22.41
				1	0	21.17	11.22	13.37	34.77	-21.4
	23130	711	64QAM	1	49	21.32	11.37	13.52	34.77	-21.25
	23130	/ 1 1	04QAIVI	25	12	20.41	10.46	12.61	34.77	-22.16
				50	0	20.25	10.30	12.45	34.77	-22.32

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Antonna gain (dRi)

Antenna	gain (dBi)	-6.6	LTE Band	113_U	plink fre	equency band	: 777 to 787 M	Hz		
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	22.48	13.73	15.88	34.77	-18.89
	23205	779.5	QPSK	1	24	22.54	13.79	15.94	34.77	-18.83
	23203	777.5	QI SIX	12	6	21.66	12.91	15.06	34.77	-19.71
				25	0	21.62	12.87	15.02	34.77	-19.75
				1	0	22.38	13.63	15.78	34.77	-18.99
	23230	782	QPSK	1	24	22.58	13.83	15.98	34.77	-18.79
	20200	702	QIOK	12	6	21.59	12.84	14.99	34.77	-19.78
				25	0	21.50	12.75	14.90	34.77	-19.87
				1	0	22.51	13.76	15.91	34.77	-18.86
	23255	55 784.5	QPSK	1	24	22.55	13.80	15.95	34.77	-18.82
	20200		QIOK	12	6	21.74	12.99	15.14	34.77	-19.63
				25	0	21.52	12.77	14.92	34.77	-19.85
	23205 779.5	16QAM	1	0	21.88	13.13	15.28	34.77	-19.49	
			1	24	21.55	12.80	14.95	34.77	-19.82	
		777.0	TOQAW	12	6	20.63	11.88	14.03	34.77	-20.74
				25	0	20.65	11.90	14.05	34.77	-20.72
				1	0	21.86	13.11	15.26	34.77	-19.51
5	23230	782	16QAM	1	24	21.72	12.97	15.12	34.77	-19.65
Ü	20200	, 02		12	6	20.66	11.91	14.06	34.77	-20.71
				25	0	20.65	11.90	14.05	34.77	-20.72
				1	0	21.67	12.92	15.07	34.77	-19.7
	23255	784.5	16QAM	1	24	21.89	13.14	15.29	34.77	-19.48
	20200	70110	10 27 1111	12	6	20.63	11.88	14.03	34.77	-20.74
				25	0	20.55	11.80	13.95	34.77	-20.82
				1	0	21.35	12.60	14.75	34.77	-20.02
	23205	779.5	64QAM	1	24	21.07	12.32	14.47	34.77	-20.3
	20200	,,,,,	0 1 22	12	6	19.91	11.16	13.31	34.77	-21.46
				25	0	19.79	11.04	13.19	34.77	-21.58
				1	0	21.33	12.58	14.73	34.77	-20.04
	23230	782	64QAM	1	24	21.21	12.46	14.61	34.77	-20.16
	23230 782 6	J . 27 1111	12	6	19.93	11.18	13.33	34.77	-21.44	
				25	0	19.92	11.17	13.32	34.77	-21.45
				1	0	21.14	12.39	14.54	34.77	-20.23
	23255	784.5	64QAM	1	24	21.38	12.63	14.78	34.77	-19.99
	23255 784.5	J . 27 1111	12	6	19.99	11.24	13.39	34.77	-21.38	
			Ì	25	0	19.89	11.14	13.29	34.77	-21.48

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Antenna gain (dBi) -6.6

7 tintornia	LTE Band 13_Uplink frequency band : 777 to 787 MHz												
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)			
				1	0	22.49	13.74	15.89	34.77	-18.88			
	23230	700	QPSK	1	49	22.38	13.63	15.78	34.77	-18.99			
	23230	782	QF3K	25	12	21.54	12.79	14.94	34.77	-19.83			
			50	0	21.31	12.56	14.71	34.77	-20.06				
				1	0	21.51	12.76	14.91	34.77	-19.86			
10	23230	782	16QAM	1	49	21.52	12.77	14.92	34.77	-19.85			
10	23230	702	TOQAW	25	12	20.56	11.81	13.96	34.77	-20.81			
				50	0	20.30	11.55	13.70	34.77	-21.07			
				1	0	20.93	12.18	14.33	34.77	-20.44			
	22220 702	/ 40 A N A	1	49	20.98	12.23	14.38	34.77	-20.39				
	23230 78	102	64QAM –	25	12	19.98	11.23	13.38	34.77	-21.39			
				50	0	19.77	11.02	13.17	34.77	-21.6			

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Antonna gain (dRi)

, mitorinia (gain (dBi)	-7.8	LTC David 17	l Heller	le fina su co	nov bored . 70	4 to 71/ MIL-			
			LIE Band 1/	_upiin	k ireque	ncy band : 70		FIDD	LIDD	
BW	UL	Frequency	Marahalakkan	RB	RB	Conducted	ERP	EIRP	EIRP	Margin
(MHz)	Channel	(MHz)	Modulation	Size	Offset	Average	Average	Average	Limit	(dB)
		` '		-1	0	(dBm)	(dBm)	(dBm)	(dBm)	
				1	0	22.42	12.47	14.62	34.77	-20.15
	23755	706.5	QPSK	1	24	22.54	12.59	14.74	34.77	-20.03
				12	6	21.85	11.90	14.05	34.77	-20.72
				25	0	21.68	11.73	13.88	34.77	-20.89
				1	0	22.36	12.41	14.56	34.77	-20.21
	23790	710	QPSK	1	24	22.58	12.63	14.78	34.77	-19.99
				12	6	21.82	11.87	14.02	34.77	-20.75
				25	0	21.79	11.84	13.99	34.77	-20.78
				1	0	22.28	12.33	14.48	34.77	-20.29
	23825	713.5	QPSK	1	24	22.58	12.63	14.78	34.77	-19.99
	20020	7 10.0	QI OIK	12	6	21.94	11.99	14.14	34.77	-20.63
				25	0	21.71	11.76	13.91	34.77	-20.86
				1	0	21.46	11.51	13.66	34.77	-21.11
	22755	706.5	16QAM	1	24	21.94	11.99	14.14	34.77	-20.63
	23755	700.3	TOQAIVI	12	6	20.86	10.91	13.06	34.77	-21.71
				25	0	20.72	10.77	12.92	34.77	-21.85
				1	0	21.40	11.45	13.60	34.77	-21.17
5	23790	710	16QAM	1	24	22.17	12.22	14.37	34.77	-20.4
3	23/90	710	TOQAW	12	6	20.93	10.98	13.13	34.77	-21.64
				25	0	20.88	10.93	13.08	34.77	-21.69
				1	0	21.57	11.62	13.77	34.77	-21
	23825	713.5	16QAM	1	24	21.77	11.82	13.97	34.77	-20.8
	23825	/13.5	TOQAW	12	6	20.83	10.88	13.03	34.77	-21.74
				25	0	20.74	10.79	12.94	34.77	-21.83
				1	0	20.65	10.70	12.85	34.77	-21.92
	22755	707.5	6 A O A B A	1	24	21.00	11.05	13.20	34.77	-21.57
	23755	706.5	64QAM	12	6	19.98	10.03	12.18	34.77	-22.59
				25	0	19.89	9.94	12.09	34.77	-22.68
				1	0	20.48	10.53	12.68	34.77	-22.09
	22700	710	(4000	1	24	21.36	11.41	13.56	34.77	-21.21
	23790	710	64QAM	12	6	20.09	10.14	12.29	34.77	-22.48
				25	0	19.99	10.04	12.19	34.77	-22.58
				1	0	20.68	10.73	12.88	34.77	-21.89
	0000=	740 -		1	24	20.84	10.89	13.04	34.77	-21.73
	23825	713.5	64QAM	12	6	19.96	10.01	12.16	34.77	-22.61
				25	0	19.78	9.83	11.98	34.77	-22.79

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



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Antenna gain (dRi)

Antenna	gain (dBi)	-7.8	LTE Band 17	_Uplin	k freque	ncy band : 70	4 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	22.40	12.45	14.60	34.77	-20.17
	23780	709	QPSK	1	49	22.61	12.66	14.81	34.77	-19.96
	23700	709	UPSK	25	12	21.74	11.79	13.94	34.77	-20.83
				50	0	21.60	11.65	13.80	34.77	-20.97
				1	0	22.74	12.79	14.94	34.77	-19.83
	23790	710	QPSK	1	49	22.78	12.83	14.98	34.77	-19.79
	23/70	710	QF3K	25	12	21.86	11.91	14.06	34.77	-20.71
				50	0	21.63	11.68	13.83	34.77	-20.94
				1	0	22.66	12.71	14.86	34.77	-19.91
	23800	711	QPSK	1	49	22.79	12.84	14.99	34.77	-19.78
	23000	/ 11	QF3K	25	12	21.80	11.85	14.00	34.77	-20.77
				50	0	21.56	11.61	13.76	34.77	-21.01
				1	0	21.86	11.91	14.06	34.77	-20.71
	22790	709	16QAM	1	49	21.86	11.91	14.06	34.77	-20.71
	23780	707	TOQAIVI	25	12	20.78	10.83	12.98	34.77	-21.79
				50	0	20.55	10.60	12.75	34.77	-22.02
	\vdash			1	0	21.87	11.92	14.07	34.77	-20.7
10	23790	710	16QAM	1	49	21.89	11.94	14.09	34.77	-20.68
10	23/70	710	TOQAW	25	12	20.78	10.83	12.98	34.77	-21.79
				50	0	20.63	10.68	12.83	34.77	-21.94
				1	0	21.88	11.93	14.08	34.77	-20.69
	23800	711	16QAM	1	49	22.04	12.09	14.24	34.77	-20.53
	23000	/ 11	TOQAW	25	12	20.82	10.87	13.02	34.77	-21.75
				50	0	20.53	10.58	12.73	34.77	-22.04
				1	0	21.24	11.29	13.44	34.77	-21.33
	23780	709	64QAM	1	49	21.27	11.32	13.47	34.77	-21.3
	23700	707	04QAIVI	25	12	20.11	10.16	12.31	34.77	-22.46
				50	0	19.94	9.99	12.14	34.77	-22.63
				1	0	21.22	11.27	13.42	34.77	-21.35
	23790	710	64QAM	1	49	21.24	11.29	13.44	34.77	-21.33
	23170	7 10	UHUMIVI	25	12	20.15	10.20	12.35	34.77	-22.42
				50	0	19.98	10.03	12.18	34.77	-22.59
				1	0	21.23	11.28	13.43	34.77	-21.34
	23800	711	64QAM	1	49	21.47	11.52	13.67	34.77	-21.1
	23000	/ 1 1	04QAW	25	12	20.14	10.19	12.34	34.77	-22.43
				50	0	19.82	9.87	12.02	34.77	-22.75

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Antenna gain (dBi) 0.5

Antenna	gain (dBi)	0.5 LT	E 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	22.37	22.87	33	-10.13
	27775	2572.5	QPSK	1	24	22.36	22.86	33	-10.14
	37775	2572.5	UPSK	12	6	21.56	22.06	33	-10.94
				25	0	21.40	21.90	33	-11.1
				1	0	22.27	22.77	33	-10.23
	38000	2595	QPSK	1	24	22.51	23.01	33	-9.99
	30000	2090	UPSK	12	6	21.64	22.14	33	-10.86
				25	0	21.29	21.79	33	-11.21
				1	0	22.51	23.01	33	-9.99
	20225	2617.5	QPSK	1	24	22.38	22.88	33	-10.12
	38225	2017.3	UPSK	12	6	21.61	22.11	33	-10.89
				25	0	21.31	21.81	33	-11.19
				1	0	21.44	21.94	33	-11.06
	27775	2572.5	1/0414	1	24	21.64	22.14	33	-10.86
	37775	2572.5	16QAM	12	6	20.52	21.02	33	-11.98
				25	0	20.29	20.79	33	-12.21
				1	0	21.50	22.00	33	-11
_	20000	٦٢٥٢	1/0014	1	24	21.69	22.19	33	-10.81
5	38000	2595	16QAM	12	6	20.45	20.95	33	-12.05
				25	0	20.38	20.88	33	-12.12
				1	0	21.61	22.11	33	-10.89
	20225	0/17 5	1/0014	1	24	21.50	22.00	33	-11
	38225	2617.5	16QAM	12	6	20.51	21.01	33	-11.99
				25	0	20.42	20.92	33	-12.08
				1	0	21.27	21.77	33	-11.23
	07775	2572.5	/ 40 A N 4	1	24	21.65	22.15	33	-10.85
	37775	2572.5	64QAM	12	6	20.46	20.96	33	-12.04
				25	0	20.44	20.94	33	-12.06
				1	0	21.48	21.98	33	-11.02
	20000	0505	(40004	1	24	21.48	21.98	33	-11.02
	38000	2595	64QAM	12	6	20.48	20.98	33	-12.02
				25	0	20.36	20.86	33	-12.14
				1	0	21.54	22.04	33	-10.96
	20005	0/47.5	/ 40 0 0 0	1	24	21.47	21.97	33	-11.03
	38225	2617.5	64QAM	12	6	20.48	20.98	33	-12.02
				25	0	20.28	20.78	33	-12.22

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Antenna gain (dBi) 0.5

Antenna	gain (dBi)	0.5 LT	E 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	22.40	22.90	33	-10.1
	37800	2575	QPSK	1	49	22.45	22.95	33	-10.05
	37000	2575	QF3K	25	12	21.61	22.11	33	-10.89
				50	0	21.33	21.83	33	-11.17
				1	0	22.31	22.81	33	-10.19
	38000	2595	QPSK	1	49	22.52	23.02	33	-9.98
	30000	2575	QF3K	25	12	21.48	21.98	33	-11.02
				50	0	21.33	21.83	33	-11.17
				1	0	22.41	22.91	33	-10.09
	38200	2615	QPSK	1	49	22.32	22.82	33	-10.18
	30200	2013	QF3K	25	12	21.73	22.23	33	-10.77
				50	0	21.28	21.78	33	-11.22
				1	0	21.47	21.97	33	-11.03
	37800	2575	16QAM	1	49	21.48	21.98	33	-11.02
	3/000	2070	TOQAW	25	12	20.56	21.06	33	-11.94
				50	0	20.30	20.80	33	-12.2
				1	0	21.40	21.90	33	-11.1
10	38000	2595	16QAM	1	49	21.60	22.10	33	-10.9
10	30000	2090	TOQAW	25	12	20.61	21.11	33	-11.89
				50	0	20.33	20.83	33	-12.17
				1	0	21.60	22.10	33	-10.9
	38200	2615	16QAM	1	49	21.56	22.06	33	-10.94
	30200	2013	TOQAW	25	12	20.56	21.06	33	-11.94
				50	0	20.44	20.94	33	-12.06
				1	0	21.36	21.86	33	-11.14
	37800	2575	64QAM	1	49	21.58	22.08	33	-10.92
	37000	2575	04QAIVI	25	12	20.37	20.87	33	-12.13
				50	0	20.41	20.91	33	-12.09
				1	0	21.41	21.91	33	-11.09
	38000	2595	64QAM	1	49	21.53	22.03	33	-10.97
	30000	2070	04QAIVI	25	12	20.52	21.02	33	-11.98
				50	0	20.33	20.83	33	-12.17
				1	0	21.49	21.99	33	-11.01
	38200	2615	64QAM	1	49	21.45	21.95	33	-11.05
	30200	2010	04QAW	25	12	20.41	20.91	33	-12.09
				50	0	20.38	20.88	33	-12.12

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Antenna	gain (dBi)	0.5 LT	E 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	22.25	22.75	33	-10.25
	37825	2577.5	QPSK	1	74	22.48	22.98	33	-10.02
	37023	2311.3	QI 3K	36	19	21.65	22.15	33	-10.85
				75	0	21.28	21.78	33	-11.22
				1	0	22.36	22.86	33	-10.14
	38000	2595	QPSK	1	74	22.49	22.99	33	-10.01
	30000	2373	QI SIX	36	19	21.58	22.08	33	-10.92
				75	0	21.43	21.93	33	-11.07
				1	0	22.53	23.03	33	-9.97
	38175	2612.5	QPSK	1	74	22.41	22.91	33	-10.09
	30173	2012.5	QF3K	36	19	21.70	22.20	33	-10.8
				75	0	21.34	21.84	33	-11.16
				1	0	21.56	22.06	33	-10.94
	37825	2577.5	16QAM	1	74	21.55	22.05	33	-10.95
	37825	2377.3	TOQAW	36	19	20.53	21.03	33	-11.97
				75	0	20.28	20.78	33	-12.22
				1	0	21.48	21.98	33	-11.02
15	20000	2505	1/000	1	74	21.67	22.17	33	-10.83
15	38000	2595	16QAM	36	19	20.44	20.94	33	-12.06
				75	0	20.25	20.75	33	-12.25
				1	0	21.51	22.01	33	-10.99
	20175	2/12 5	1/000	1	74	21.48	21.98	33	-11.02
	38175	2612.5	16QAM	36	19	20.57	21.07	33	-11.93
				75	0	20.41	20.91	33	-12.09
				1	0	21.25	21.75	33	-11.25
	27025	2577 5	/ 4 C A N 4	1	74	21.50	22.00	33	-11
	37825	2577.5	64QAM	36	19	20.45	20.95	33	-12.05
				75	0	20.47	20.97	33	-12.03
				1	0	21.52	22.02	33	-10.98
	20000	2505	/ 40 ^ ^ 4	1	74	21.55	22.05	33	-10.95
	38000	2595	64QAM	36	19	20.54	21.04	33	-11.96
				75	0	20.29	20.79	33	-12.21
				1	0	21.43	21.93	33	-11.07
	20475	0/40 5	(40004	1	74	21.48	21.98	33	-11.02
	38175	2612.5	64QAM	36	19	20.44	20.94	33	-12.06
				75	0	20.38	20.88	33	-12.12

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Antenna	gain (dBi)	0.5 LT	E 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	22.44	22.94	33	-10.06
	37850	2580	QPSK	1	99	22.52	23.02	33	-9.98
	37030	2300	QI SIX	50	25	21.67	22.17	33	-10.83
				100	0	21.43	21.93	33	-11.07
				1	0	22.42	22.92	33	-10.08
	38000	2595	QPSK	1	99	22.56	23.06	33	-9.94
	30000	2373	QI SIX	50	25	21.65	22.15	33	-10.85
				100	0	21.46	21.96	33	-11.04
				1	0	22.53	23.03	33	-9.97
	38150	2610	QPSK	1	99	22.42	22.92	33	-10.08
	30130	2010	QI SIX	50	25	21.79	22.29	33	-10.71
				100	0	21.46	21.96	33	-11.04
				1	0	21.58	22.08	33	-10.92
	37850	2580	16QAM	1	99	21.66	22.16	33	-10.84
	37630	2300	TOQAW	50	25	20.67	21.17	33	-11.83
				100	0	20.41	20.91	33	-12.09
				1	0	21.59	22.09	33	-10.91
20	38000	2595	16QAM	1	99	21.72	22.22	33	-10.78
20	38000	2090	TOQAW	50	25	20.63	21.13	33	-11.87
				100	0	20.44	20.94	33	-12.06
				1	0	21.68	22.18	33	-10.82
	20150	2/10	1/0414	1	99	21.67	22.17	33	-10.83
	38150	2610	16QAM	50	25	20.70	21.20	33	-11.8
				100	0	20.45	20.95	33	-12.05
				1	0	21.42	21.92	33	-11.08
	27050	2500	/ 4 O A N A	1	99	21.67	22.17	33	-10.83
	37850	2580	64QAM	50	25	20.53	21.03	33	-11.97
				100	0	20.48	20.98	33	-12.02
				1	0	21.57	22.07	33	-10.93
	20000	SEOF	4 A O A B A	1	99	21.60	22.10	33	-10.9
	38000	2595	64QAM	50	25	20.63	21.13	33	-11.87
				100	0	20.48	20.98	33	-12.02
				1	0	21.62	22.12	33	-10.88
	20150	0/10	/ A O A B A	1	99	21.61	22.11	33	-10.89
	38150	2610	64QAM	50	25	20.50	21.00	33	-12
				100	0	20.47	20.97	33	-12.03

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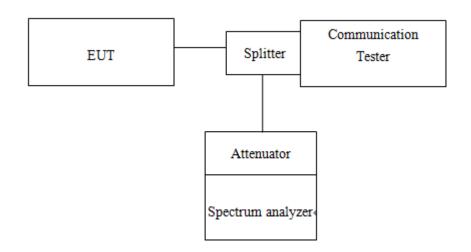
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7. OCCUPIED BANDWIDTH MEASUREMENT

7.1. Standard Applicable

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

7.2. Test Set-up



7.3. Measurement Procedure

99% &26dB Bandwidth with detector peak

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

99% Bandwidth with detector sample

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW was set to about $1\% \sim 5\%$ of emission BW, VBW= 3 times RBW, -20dBc display line was placed on the screen (or 20dB bandwidth). Set RBW to 99% bandwidth, RBW= $1\% \sim 5\%$, VBW= 3 RBW, with span > 2 * Signal BW, set % Power = 99%.

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7.4. Measurement Equipment Used

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EXA Spectrum Analyzer	Agilent	N9010A	MY53400256	11/21/2018	11/20/2019
Digital Radio Communication Tester	R&S	CMU200	100535	09/17/2018	09/16/2019
DC Power Supply	Agilent	E3640A	KR93300208	08/15/2018	08/14/2019
Attenuator	Mini-Circuit	BW-S10W2+	1	02/26/2019	02/25/2020
DC Block	Mini-Circuits	BLK-18-S+	31129(1)	02/26/2019	02/25/2020
Splitter	RF-LAMBAD	RFLT2W1G18G	11-JSPD022-013	02/26/2019	02/25/2020
Coaxial Cables	Woken	00100A1F1A185C	RF12	02/26/2019	02/25/2020
Wideband Radio Communication Tester	R&S	CMW 500	116875	04/20/2018	04/19/2019

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7.5. Measurement Result

Ī	Eroa		99% BV	V (MHz)	26 dB B	W (MHz)	
	Freq. (MHz)	СН	GSM	GPRS	GPRS	GPRS	
	(IVII IZ)		850	850	850	850	
	824.2	128	0.24070	0.24450	0.302	0.310	
	836.6	190	0.24930	0.24804	0.312	0.317	
ĺ	848.8	251	0.24480	0.24299	0.317	0.317	

_	roa		99% BV	V (MHz)	26 dB B	W (MHz)	
'\	req. /IHz)	СН	GSM	GPRS	GSM	GPRS	
(IV	/II 1Z <i>)</i>		1900	1900	1900	1900	
18	50.2	512	0.24428	0.24566	0.312	0.312	
18	0.08	661	0.24437	0.24480	0.319	0.314	
19	09.8	810	0.25077	0.23912	0.306	0.301	

Freq.		999	% BW (MH	z)	26 dB BW (MHz)			
(MHz)	СН	WCDMA	HSDPA	HSUPA	WCDMA	HSDPA	HSUPA	
(IVII IZ)		II	II	II	II	II	II	
1852.40	9262	4.12660	4.14980	4.14440	4.670	4.705	4.658	
1880.00	9400	4.15150	4.14300	4.15660	4.691	4.717	4.725	
1907.60	9538	4.16240	4.15050	4.14830	4.691	4.703	4.708	

Freq.		999	% BW (MH	z)	26 c	IB BW (MI	Hz)
(MHz)	СН	WCDMA	HSDPA	HSUPA	WCDMA	HSDPA	HSUPA
(IVII IZ)		IV	IV	IV	IV	IV	IV
1712.40	1312	4.71500	4.68600	4.66800	4.143	4.150	4.136
1732.60	1413	4.70100	4.70000	4.68800	4.143	4.138	4.135
1752.60	1513	4.68400	4.70700	4.70500	4.150	4.133	4.146

Freq.		999	% BW (MH	z)	26 dB BW (MHz)			
(MHz)	CH	WCDMA	HSDPA	HSUPA	WCDMA	HSDPA	HSUPA	
(IVII IZ)		V	V	V	V	V	V	
826.40	4132	4.14270	4.12560	4.13330	4.669	4.674	4.652	
836.60	4183	4.12650	4.13790	4.13080	4.675	4.681	4.676	
846.60	4233	4.14550	4.11420	4.13290	4.646	4.665	4.697	

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	LTE BAND 2 Channel bandwidth: 1.4MHz											
Freq.	СН	99% BW (MHz) 26 dB BW (MHz)										
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM					
1850.7	18607	1.0898	1.0929	1.0949	1.235	1.233	1.235					
1880.0	18900	1.0954	1.0962	1.0970	1.236	1.234	1.230					
1909.3	19193	1.0930	1.0968	1.0967	1.234	1.231	1.227					

	LTE BAND 2 Channel bandwidth: 3MHz											
Freq.	СН	99% BW (MHz) 26 dB BW (MHz)										
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM					
1851.5	18615	2.7001	2.7048	2.6960	2.995	3.009	3.009					
1880.0	18900	2.7013	2.7007	2.7016	3.004	3.014	3.011					
1908.5	19185	2.7016	2.6998	2.7043	3.001	3.021	3.005					

	LTE BAND 2 Channel bandwidth: 5MHz										
Freq.	СН	99	% BW (MI	Hz)	26 dB BW (MHz)						
(MHz)	CH	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
1852.5	18625	4.4985	4.5040	4.5028	4.982	4.965	4.970				
1880.0	18900	4.4985	4.5035	4.5041	4.978	4.951	4.973				
1907.5	19175	4.5004	4.5056	4.4979	4.973	4.946	4.952				

	LTE BAND 2 Channel bandwidth: 10MHz										
Freq.	СН	99% BW (MHz)			26 dB BW (MHz)						
(MHz)	CII	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
1855.0	18650	8.9981	8.9735	8.9659	9.860	9.760	9.801				
1880.0	18900	8.9994	8.9642	8.9769	9.859	9.704	9.717				
1905.0	19150	9.0067	8.9716	8.9665	9.825	9.797	9.771				

	LTE BAND 2 Channel bandwidth: 15MHz										
Freq.	СН	99	% BW (MI	Hz)	26 dB BW (MHz)						
(MHz)	CH	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
1857.5	18675	13.491	13.476	13.461	14.677	14.720	14.599				
1880.0	18900	13.495	13.459	13.462	14.681	14.744	14.710				
1902.5	19125	13.483	13.470	13.482	14.728	14.659	14.717				

		LTE BAN	D 2 Chanr	nel bandwi	dth: 20MH	Z		
Freq.	СН	99	99% BW (MHz)			26 dB BW (MHz)		
(MHz)	CII	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	
1860.0	18700	17.934	17.953	17.966	19.317	19.471	19.452	
1880.0	18900	17.936	17.979	17.959	19.420	19.535	19.517	
1900.0	19100	17.945	17.978	17.968	19.385	19.464	19.464	

	LTE BAND 4 Channel bandwidth: 1.4MHz											
Freq.	СН	99% BW (MHz)			26 dB BW (MHz)							
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM					
1710.7	1710.7 19957	1.0926	1.0957	1.0961	1.230	1.242	1.228					
1732.5	20175	1.0939	1.0930	1.0965	1.232	1.232	1.235					
1754.3	20393	1.0923	1.0943	1.0962	1.240	1.241	1.244					

	LTE BAND 4 Channel bandwidth: 3MHz										
Freq.	СН	99% BW (MHz)			26 dB BW (MHz)						
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
1711.5	19965	2.7000	2.7028	2.6975	2.995	3.007	3.013				
1732.5	20175	2.6999	2.6990	2.6997	2.983	3.005	3.009				
1753.5	20385	2.6981	2.7003	2.7027	3.001	3.000	3.011				

	LTE BAND 4 Channel bandwidth: 5MHz											
Freq.	СН	99	% BW (MI	Hz)	26 dB BW (MHz)							
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM					
1712.5	19957	4.5072	4.5028	4.5078	4.965	4.917	4.985					
1732.5	20175	4.5006	4.5047	4.5044	4.944	4.988	4.981					
1752.5	20375	4.4960	4.5052	4.5060	4.983	4.964	4.961					

	LTE BAND 4 Channel bandwidth: 10MHz											
Freq.	СН	99	% BW (MI	Hz)	26 dB BW (MHz)							
(MHz)	CH	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM					
1715.0	20000	8.9679	8.9656	8.9618	9.731	9.770	9.819					
1732.5	20175	8.9734	8.9654	8.9741	9.762	9.748	9.722					
1750.0	20350	8.9596	8.9652	8.9679	9.820	9.726	9.792					

	LTE BAND 4 Channel bandwidth: 15MHz										
Freq. (MHz)	СН	99% BW (MHz)			26 dB BW (MHz)						
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
1717.5	20025	13.507	13.449	13.465	14.723	14.417	14.608				
1732.5	20175	13.466	13.493	13.470	14.646	14.728	14.710				
1747.5	20325	13.455	13.455	13.457	14.716	14.676	14.677				

	LTE BAND 4 Channel bandwidth: 20MHz										
Freq. (MHz)	СН	99	9% BW (MI	Hz)	26 dB BW (MHz)						
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
1720.0	20050	17.941	17.965	17.942	19.515	19.487	19.355				
1732.5	20175	17.974	17.994	18.005	19.583	19.471	19.485				
1745.0	20300	17.955	17.945	17.918	19.353	19.409	19.387				

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	LTE BAND 5 Channel bandwidth: 1.4MHz											
Freq.	СН	99	99% BW (MHz)			26 dB BW (MHz)						
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM					
824.7	20407	1.0915	1.0925	1.0925	1.229	1.242	1.241					
836.5	20525	1.0912	1.0971	1.0932	1.228	1.242	1.233					
848.3	20643	1.0869	1.0983	1.0970	1.242	1.228	1.228					

	LTE BAND 5 Channel bandwidth: 3MHz										
Freq.	СН	99	99% BW (MHz)			26 dB BW (MHz)					
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
825.5	20415	2.6964	2.6989	2.7019	3.010	2.977	2.978				
836.5	20525	2.6990	2.7001	2.7045	3.001	2.992	2.982				
847.5	20635	2.6977	2.6978	2.7060	3.010	3.007	2.996				

	LTE BAND 5 Channel bandwidth: 5MHz									
Freq.	СН	99% BW (MHz)			26 dB BW (MHz)					
(MHz)	CII	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM			
826.5	20425	4.5068	4.5067	4.4972	4.976	4.926	4.930			
836.5	20525	4.4998	4.5041	4.5073	4.981	4.948	4.948			
846.5	20625	4.5049	4.5033	4.4987	4.955	4.936	5.000			

	LTE BAND 5 Channel bandwidth: 10MHz									
Freq.	СН	99% BW (MHz)			26 dB BW (MHz)					
(MHz)	CII	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM			
829.0	20450	8.9937	8.9898	8.9913	9.540	9.752	9.765			
836.5	20525	8.9743	8.9599	8.9720	9.694	9.776	9.708			
844.0	20600	9.0035	9.0016	9.0087	9.834	9.728	9.707			
844.0	20600	9.0035	9.0016			9.728				

	LTE BAND 7 Channel bandwidth: 5MHz										
Freq.	СН	99% BW (MHz)			26 dB BW (MHz)						
(MHz)	CH	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
2502.5	20775	4.5035	4.5026	4.4990	4.967	4.915	4.971				
2535.0	21100	4.4957	4.4966	4.5038	4.930	4.926	4.951				
2567.5	21425	4.4928	4.4962	4.5134	4.991	4.927	4.982				

LTE BAND 7 Channel bandwidth: 10MHz								
Freq. (MHz)	СН	99% BW (MHz)			26 dB BW (MHz)			
(MHz)	CII	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	
2505.0	20800	8.9912	8.9734	8.9723	9.816	9.733	9.661	
2535.0	21100	8.9886	8.9627	8.9720	9.812	9.696	9.743	
2565.0	21400	9.0011	8.9831	8.9763	9.763	9.742	9.718	

	LTE BAND 7 Channel bandwidth: 15MHz									
Freq.	СН	99% BW (MHz)			26 dB BW (MHz)					
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM			
2507.5	20825	13.434	13.482	13.471	14.613	14.738	14.588			
2535.0	21100	13.457	13.443	13.443	14.694	14.512	14.596			
2562.5	21375	13.481	13.446	13.467	14.639	14.608	14.729			

	LTE BAND 7 Channel bandwidth: 20MHz										
Freq.	СН	99% BW (MHz)			26 dB BW (MHz)						
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
2510.0	20850	17.936	17.954	17.929	19.508	19.491	19.432				
2535.0	21100	17.934	17.946	17.941	19.517	19.244	19.522				
2560.0	21350	17.937	17.941	17.920	19.326	19.409	19.462				

LTE BAND 12 Channel bandwidth: 1.4MHz											
Freq.	СН	99	99% BW (MHz)			26 dB BW (MHz)					
(MHz)	CH	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
699.7	23017	1.0943	1.0921	1.0953	1.246	1.240	1.234				
707.5	23095	1.0957	1.0970	1.0906	1.228	1.244	1.222				
715.3	23173	1.0926	1.0948	1.0946	1.233	1.242	1.233				

	LTE BAND 12 Channel bandwidth: 3MHz										
Freq.	CH										
(MHz)		QPSK	16QAM		QPSK						
700.5	23025	2.7004	2.7028	2.6968	2.995	3.000	3.010				
707.5	23095	2.6968	2.7071	2.7015	3.015	2.990	2.960				
714.5	23165	2.6993	2.7021	2.7028	2.988	2.995	3.007				

	LTE BAND 12 Channel bandwidth: 5MHz										
Freq.	СН	99% BW (MHz)			26 dB BW (MHz)						
(MHz)		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM				
701.5	23035	4.4912	4.5133	4.5127	4.964	4.948	4.954				
707.5	23095	4.4971	4.4912	4.5058	4.923	4.903	4.923				
713.5	23155	4.5004	4.5080	4.5032	4.937	4.916	4.974				

LTE BAND 12 Channel bandwidth: 10MHz										
Freq.	СН	99	% BW (MF	łz)	26 dB BW (MHz)					
(MHz)	CH	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM			
704.0	23060	8.9779	8.9837	8.9651	9.811	9.739	9.784			
707.5	23095	9.0130	8.9680	8.9491	9.817	9.738	9.751			
711.0	23130	9.0093	8.9771	8.9743	9.785	9.772	9.702			

	LTE BAND 13 Channel bandwidth: 5MHz									
Freq. (MHz)	СН	99	% BW (MI	% BW (MHz)		26 dB BW (MHz)				
(MHz)	CH	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM			
779.5	23205	4.5117	4.4907	4.5152	4.994	4.951	4.925			
782.0	23230	4.5009	4.5139	4.5018	4.943	4.959	4.949			
784.5	23255	4.4878	4.4980	4.4954	4.946	4.930	4.875			
_										

LTE BAND 13 Channel bandwidth: 10MHz									
Γ				26 dB BW (MHz)					
511	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM			
3230	9.009	8.971	8.959	9.746	9.732	9.687			
	СН	CH 99 QPSK	OH	OH	OH 99% BW (MHz) 26 QPSK 16QAM 64QAM QPSK	00% PM (MHz) 26 dP PM (M			

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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LTE BAND 17 Channel bandwidth: 5MHz									
Freq.	СН	99	99% BW (MHz)		26 dB BW (MHz)				
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM		
706.5	23755	4.5005	4.5110	4.5107	4.914	4.973	4.951		
710.0	23790	4.4995	4.4998	4.5025	4.926	4.941	4.949		
713.5	23825	4.5010	4.5118	4.5089	5.001	4.954	4.942		

LTE BAND 17 Channel bandwidth: 10MHz									
Freq.	СН	99	99% BW (MHz)			26 dB BW (MHz)			
(MHz)	CII	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM		
709.0	23780	8.9939	8.9483	8.9533	9.748	9.741	9.720		
710.0	23790	8.9956	8.9833	8.9450	9.813	9.741	9.732		
711.0	23800	8.9910	8.9713	8.9715	9.752	9.743	9.729		

LTE BAND 38 Channel bandwidth: 5MHz								
Freq.	СН	99	99% BW (MHz)			26 dB BW (MHz)		
(MHz)	СП	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	
2572.5	37775	4.5058	4.5101	4.4963	4.952	4.950	4.913	
2595.0	38000	4.5050	4.4942	4.5102	5.125	4.901	4.867	
2617.5	38225	4.5063	4.4830	4.4998	4.966	4.893	4.924	

LTE BAND 38 Channel bandwidth: 10MHz								
Freq.	СН	99	99% BW (MHz)		26 dB BW (MHz)			
(MHz)	CH	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	
2575.0	37800	8.9685	8.9885	8.9801	9.691	9.644	9.679	
2595.0	38000	8.9695	8.9733	8.9611	9.607	9.639	9.692	
2615.0	38200	8.9574	8.9366	8.9866	9.656	9.658	9.678	

LTE BAND 38 Channel bandwidth: 15MHz								
Freq. (MHz)	СН	99	99% BW (MHz)		26 dB BW (MHz)			
(MHz)	Сп	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	
2577.5	37825	13.490	13.465	13.432	14.399	14.723	14.612	
2595.0	38000	13.435	13.488	13.418	14.485	14.525	14.516	
2612.5	38175	13.488	13.464	13.472	14.496	14.588	14.578	

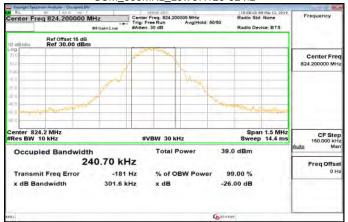
LTE BAND 38 Channel bandwidth: 20MHz									
Freq 00% RW (MHz) 26 dR RW (MHz)									
(MHz)	СН	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM		
2580.0	37850	17.935	17.899	17.872	19.197	19.232	19.185		
2595.0	38000	17.909	17.933	17.930	19.275	19.292	19.406		
2610.0	38150	17.975	17.878	17.924	19.273	19.328	19.315		

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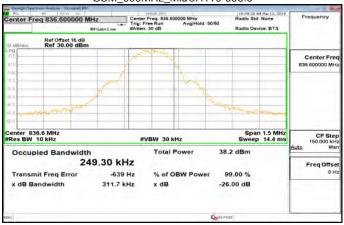
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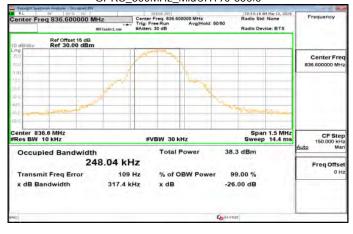
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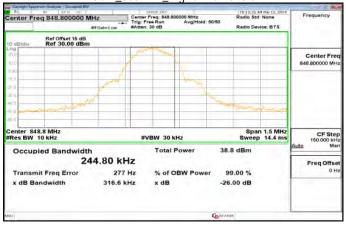
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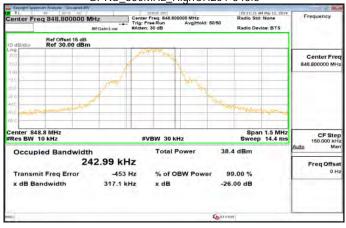
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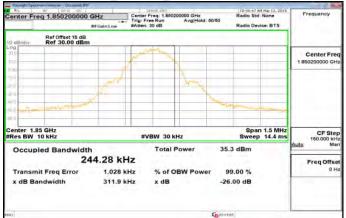
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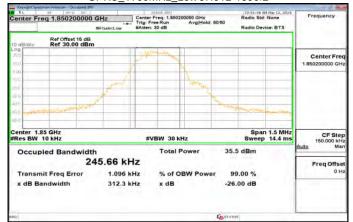


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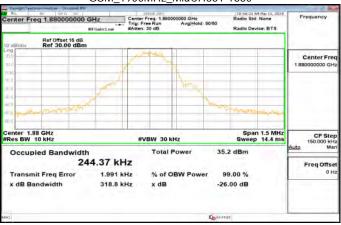
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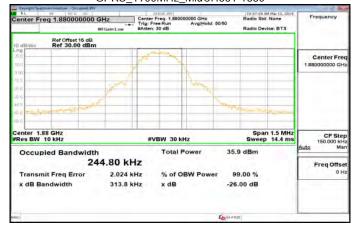
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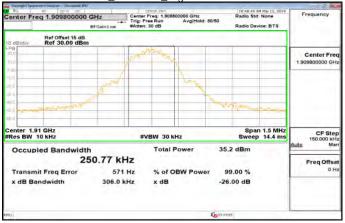
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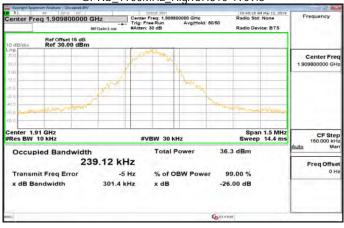
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GSM_1900MHz_HighCH810-1909.8



GPRS_1900MHz_HighCH810-1909.8



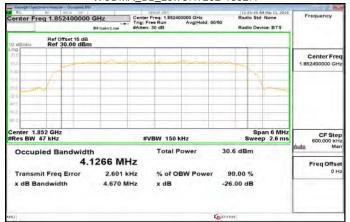
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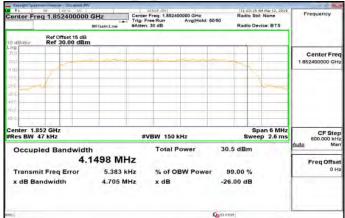


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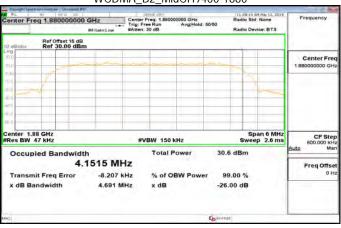
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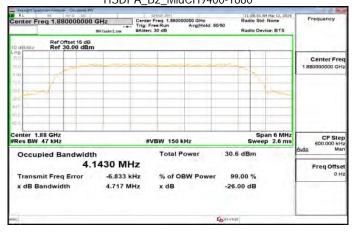
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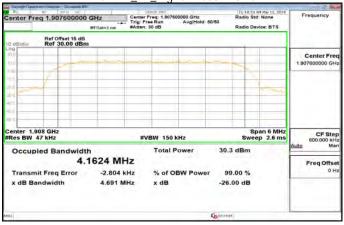
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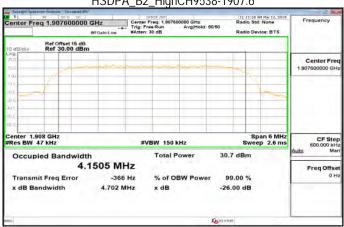
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HSDPA_B2_HighCH9538-1907.6

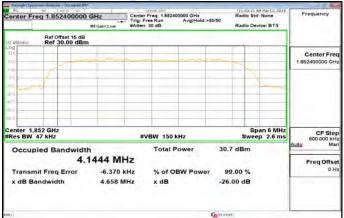


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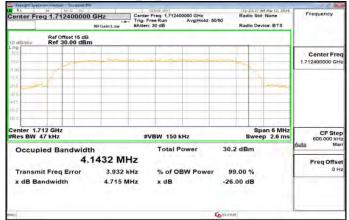


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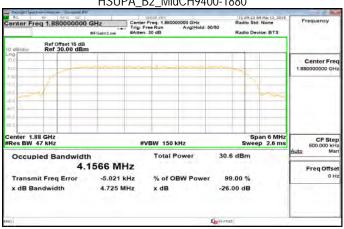
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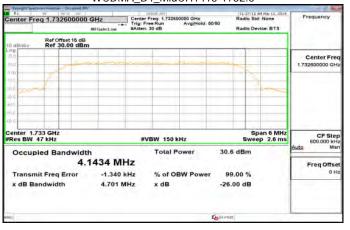
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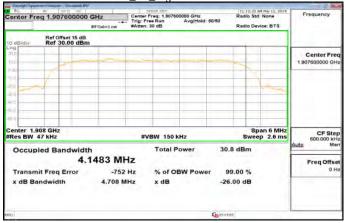
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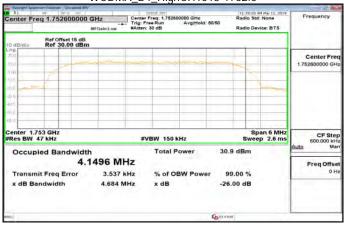
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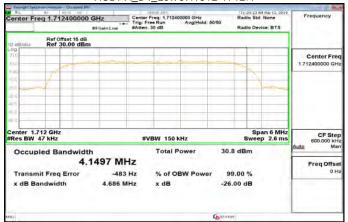


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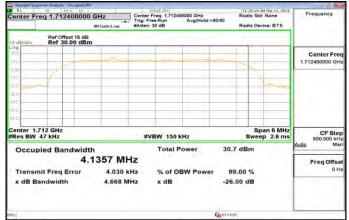


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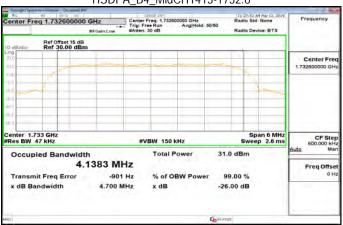
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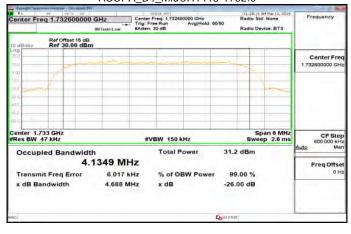
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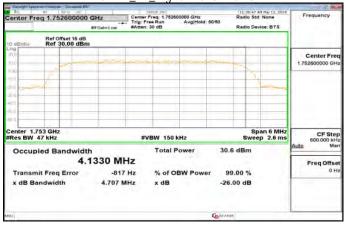
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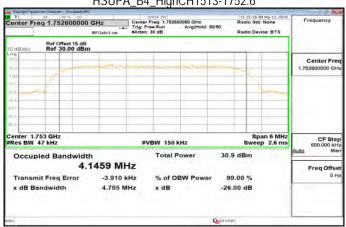
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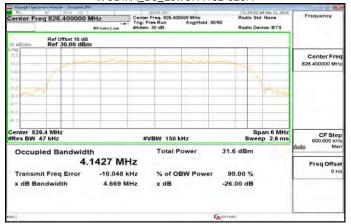
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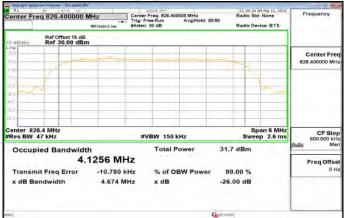


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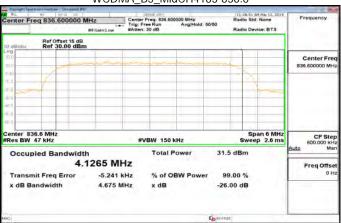
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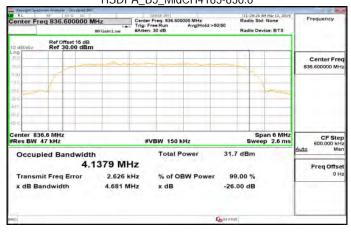
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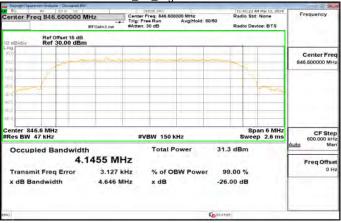
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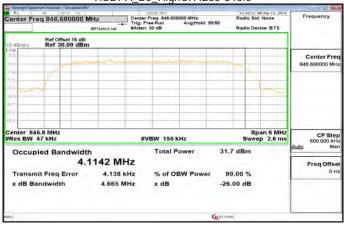
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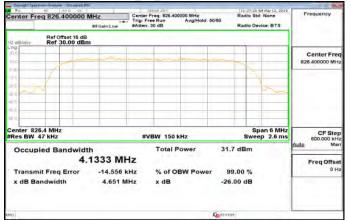
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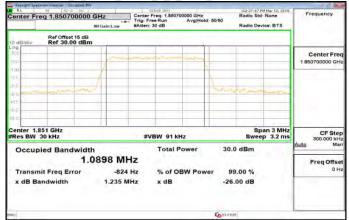


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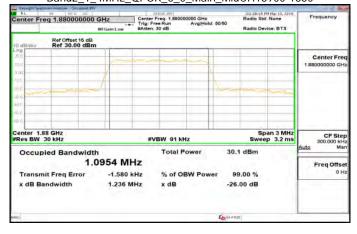
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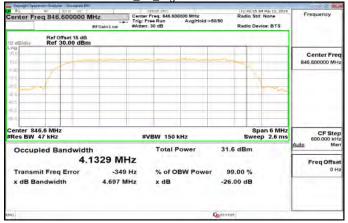
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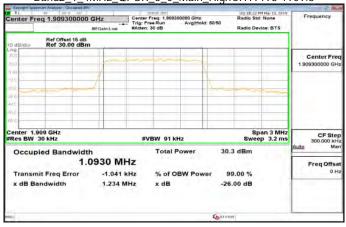
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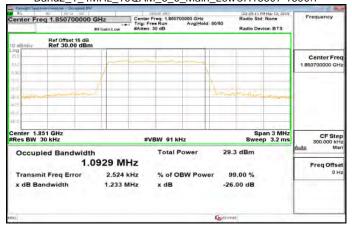


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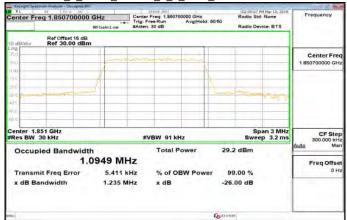


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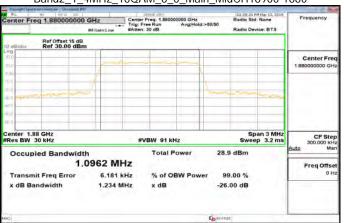
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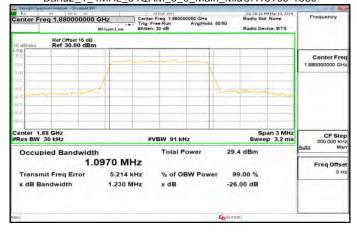
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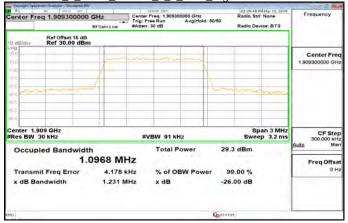
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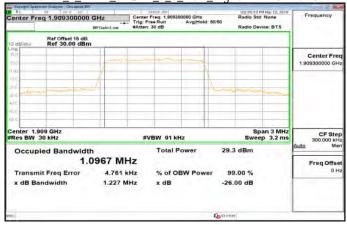
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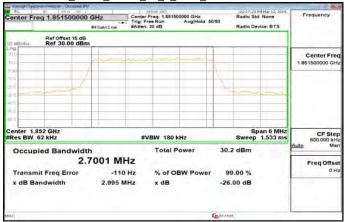
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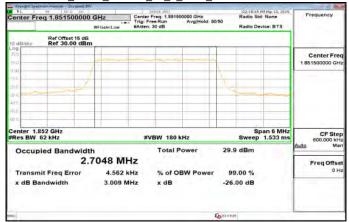


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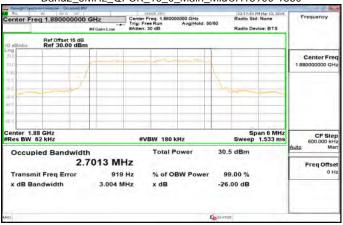
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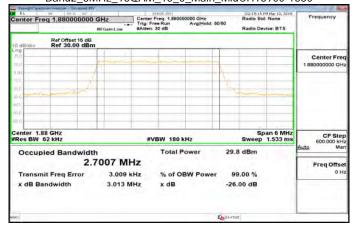
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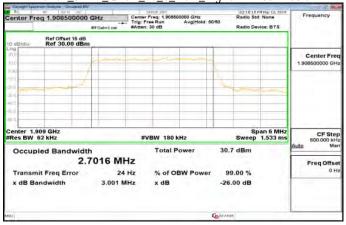
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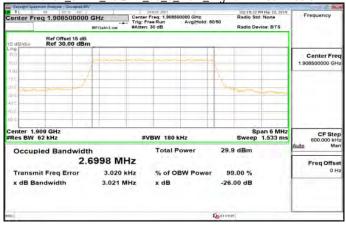
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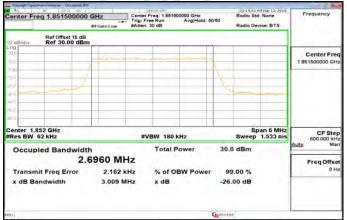
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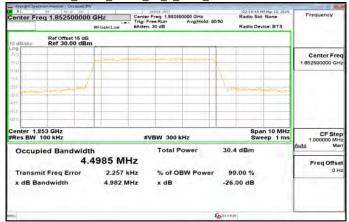


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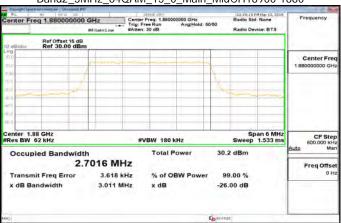
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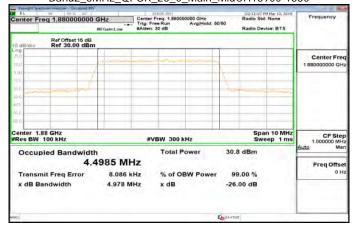
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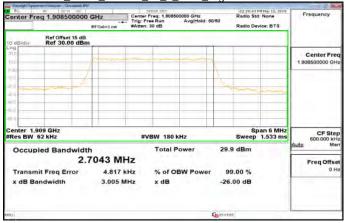
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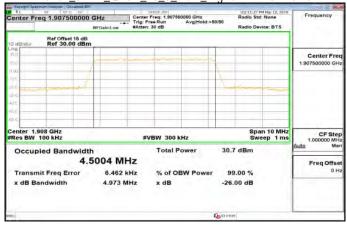
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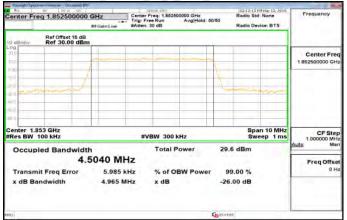
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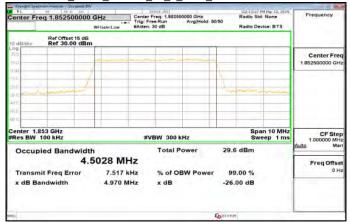


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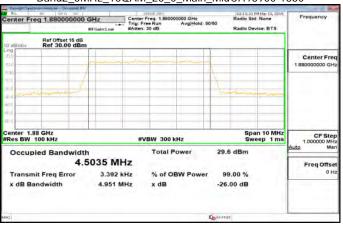
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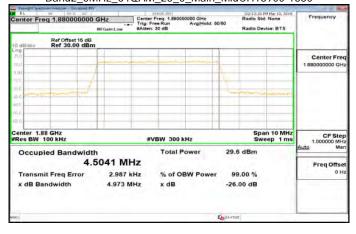
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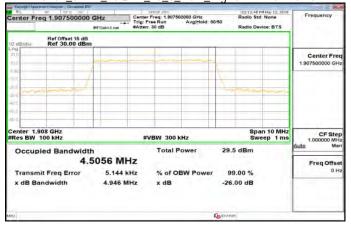
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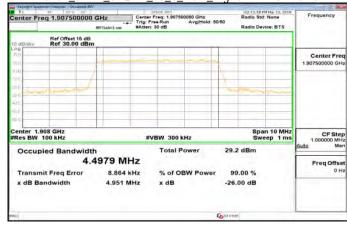
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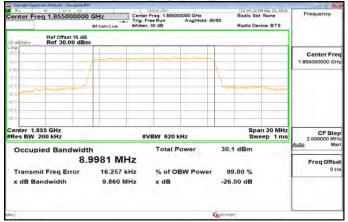
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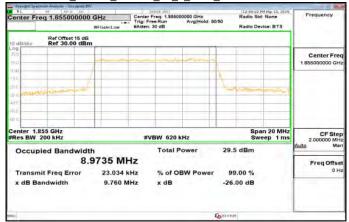


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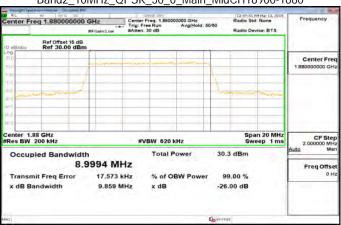
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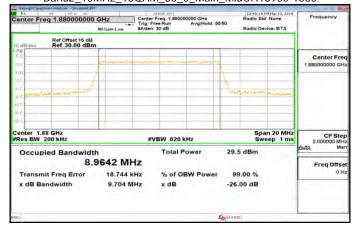
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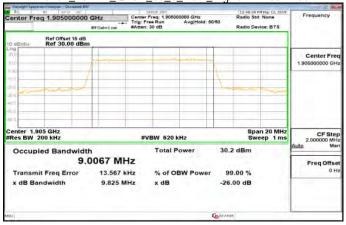
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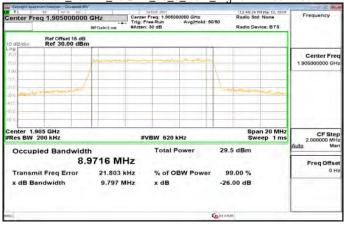
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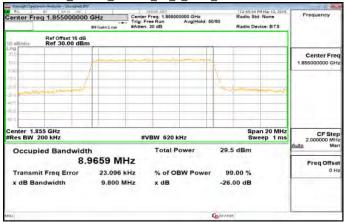
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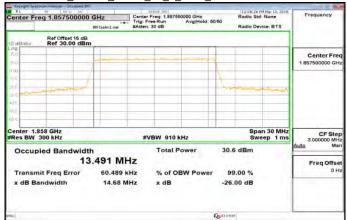


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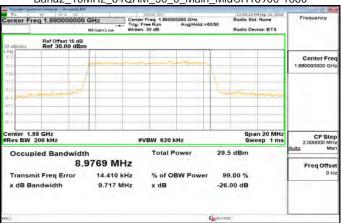
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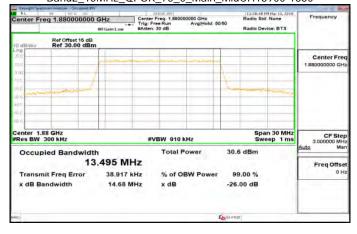
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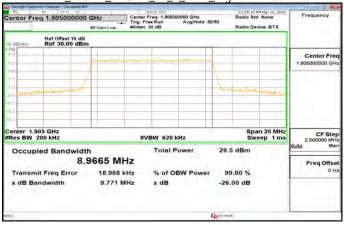
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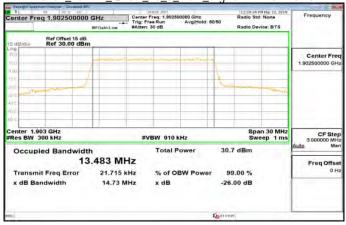
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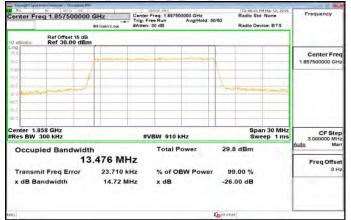


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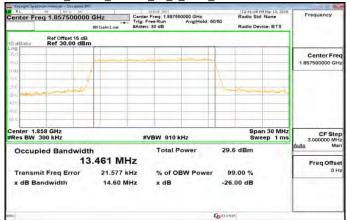


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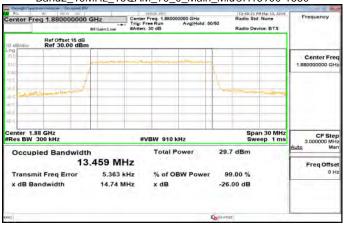
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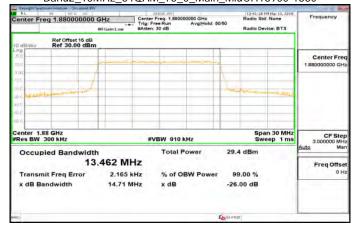
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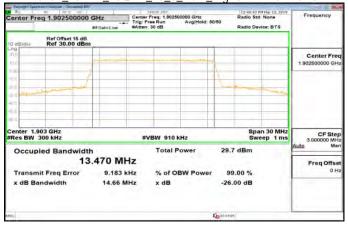
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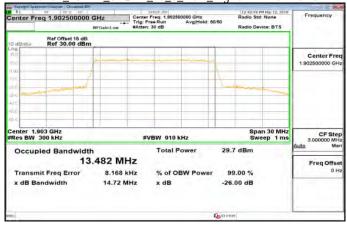
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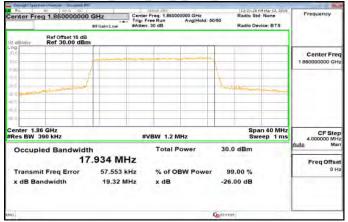
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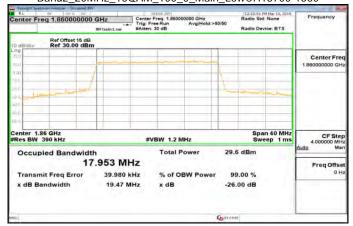


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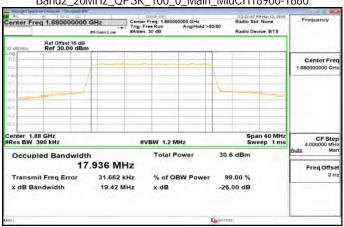
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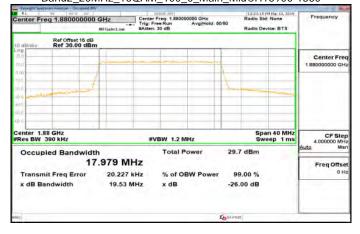
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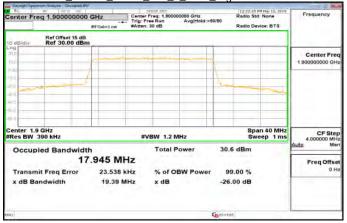
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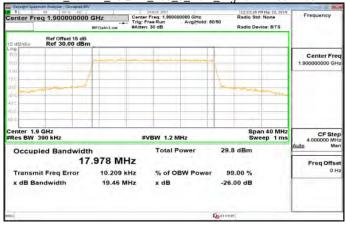
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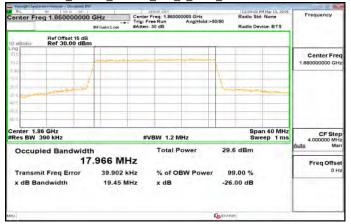
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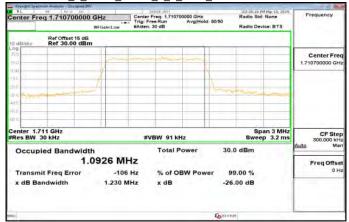


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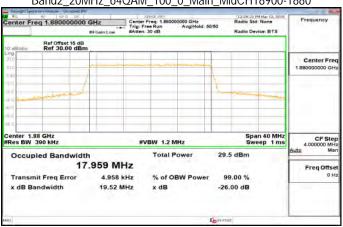
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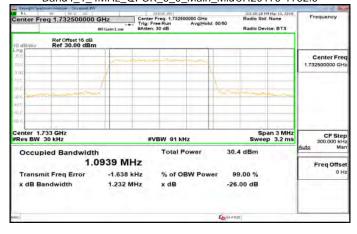
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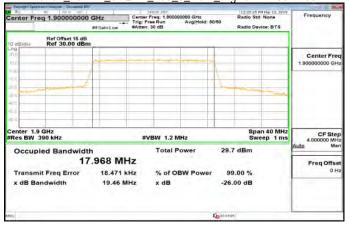
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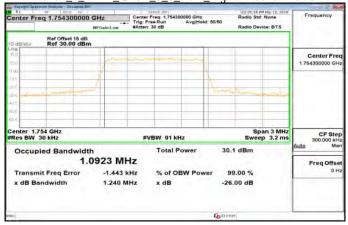
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Band2_20MHz_64QAM_100_0_Main_HighCH19100-1900



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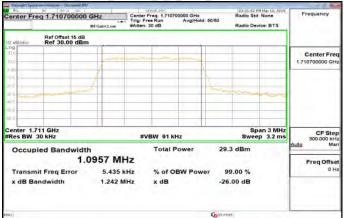
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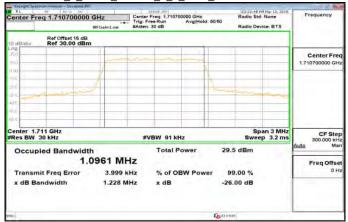


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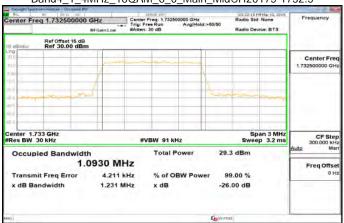
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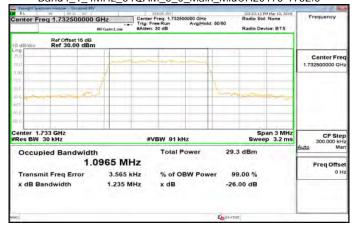
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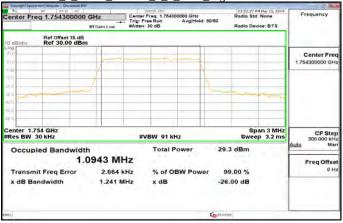
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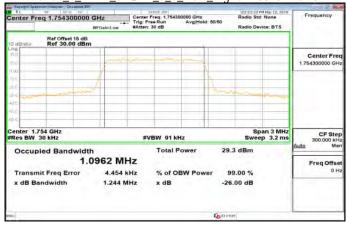
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Band4_1_4MHz_16QAM_6_0_Main_HighCH20393-1754.3



Band4_1_4MHz_64QAM_6_0_Main_HighCH20393-1754.3



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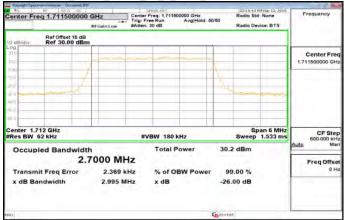
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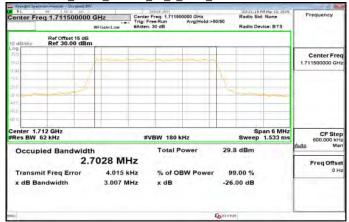


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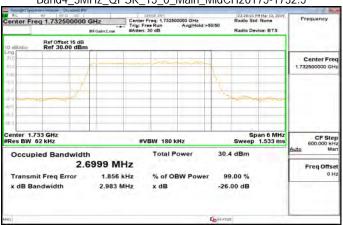
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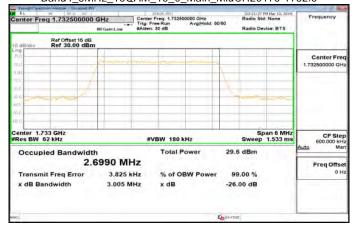
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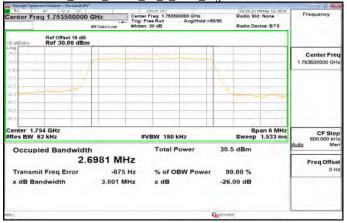
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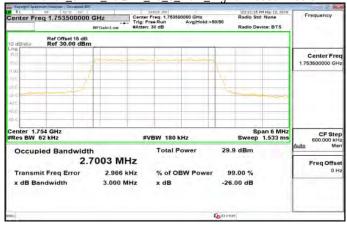
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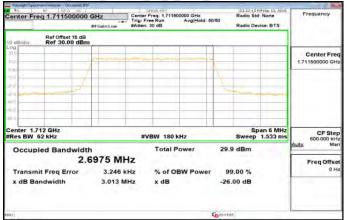
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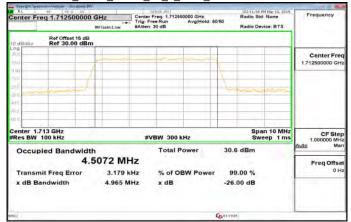


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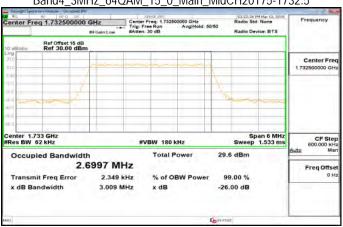
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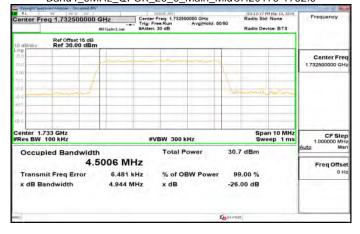
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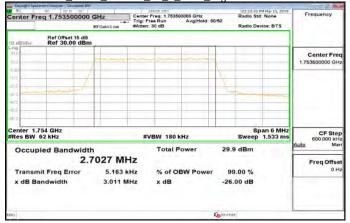
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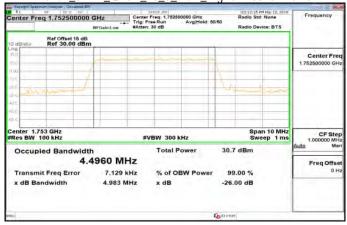
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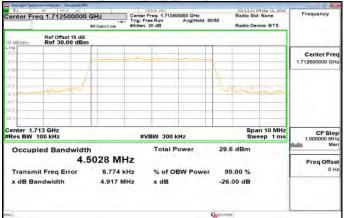
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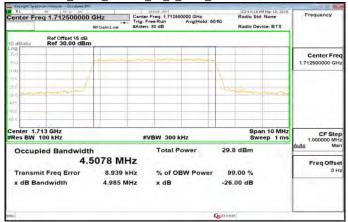


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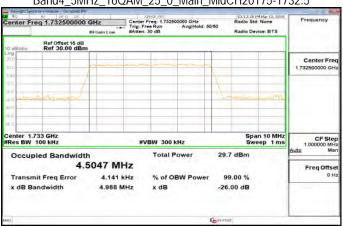
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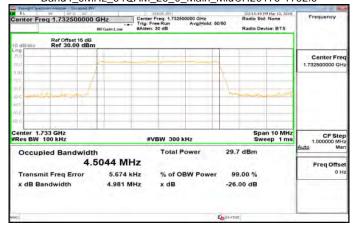
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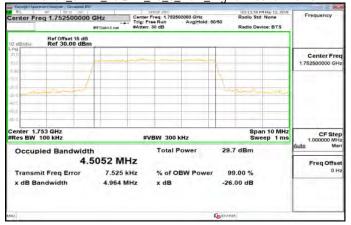
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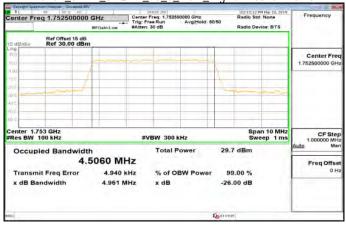
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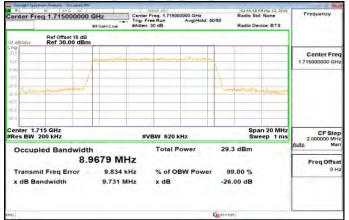
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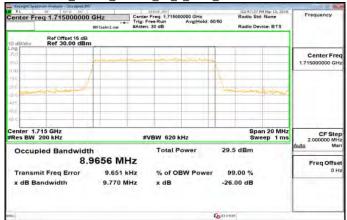


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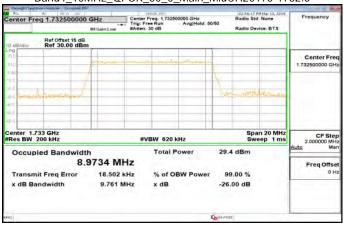
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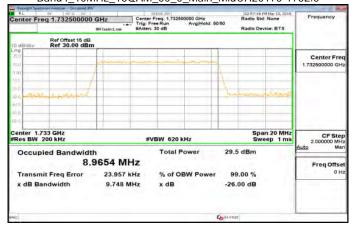
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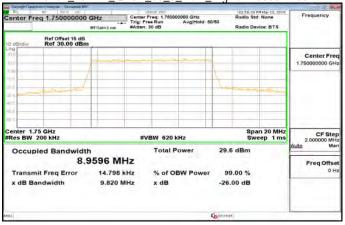
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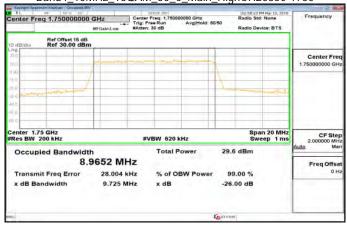
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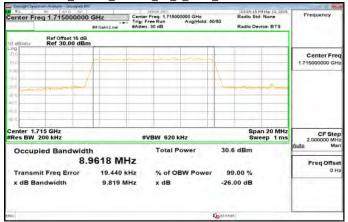
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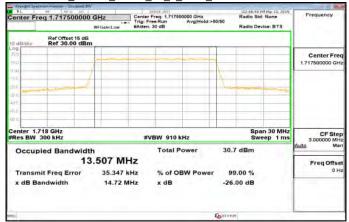


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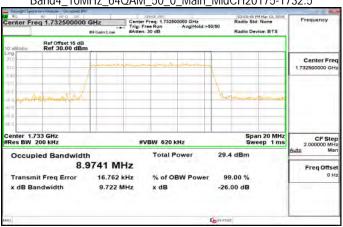
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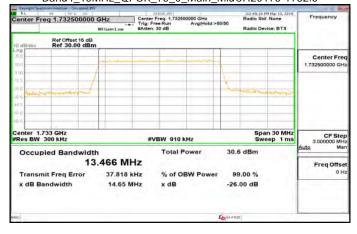
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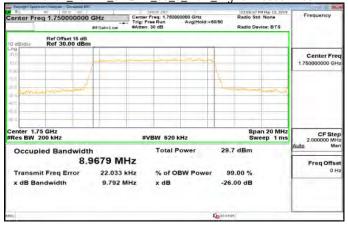
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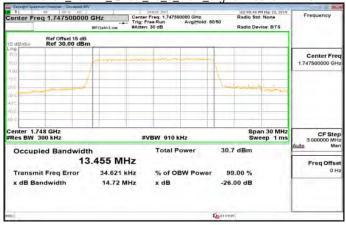
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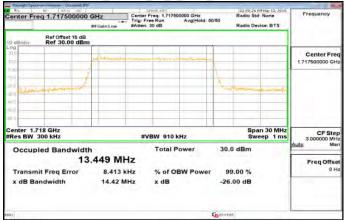
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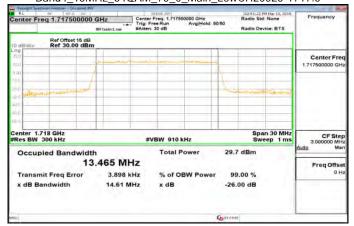


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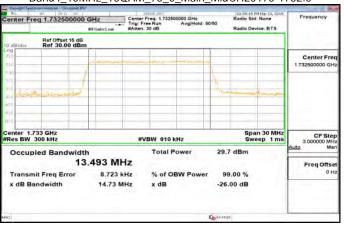
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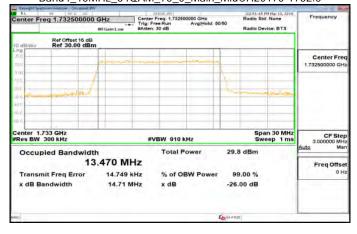
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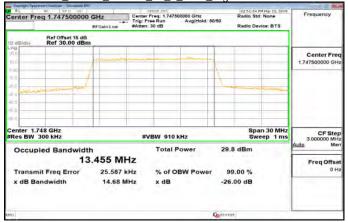
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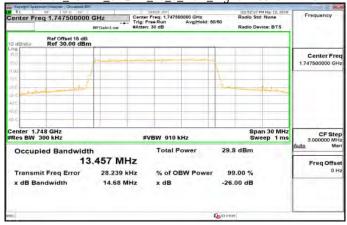
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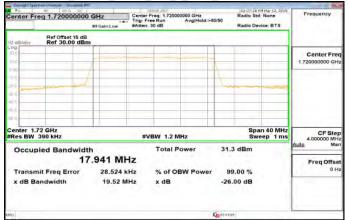
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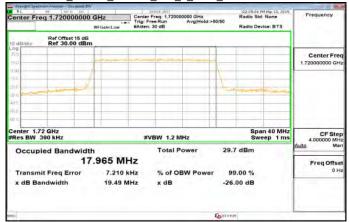


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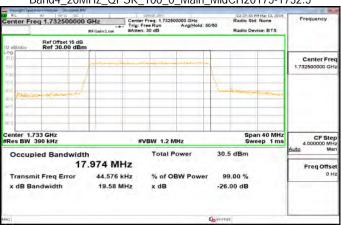
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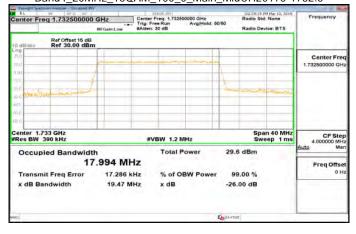
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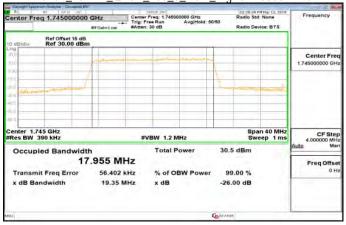
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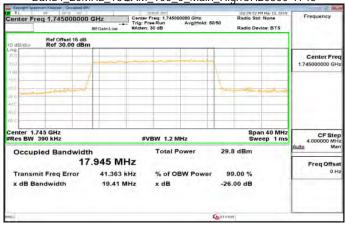
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Band4_20MHz_QPSK_100_0_Main_HighCH20300-1745



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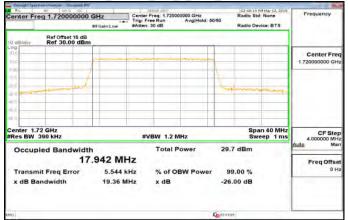
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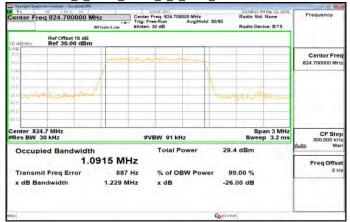


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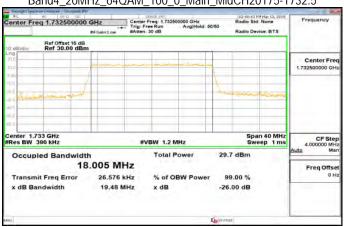
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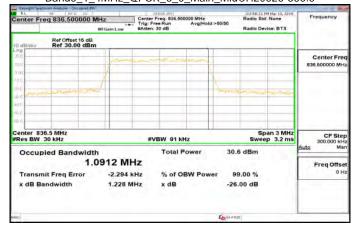
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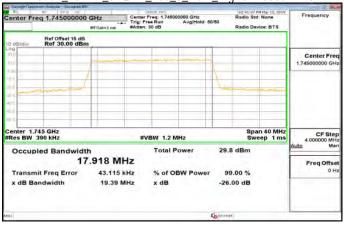
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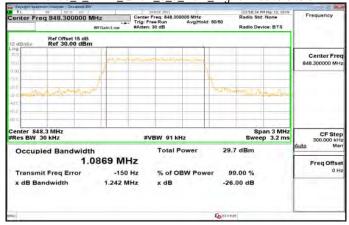
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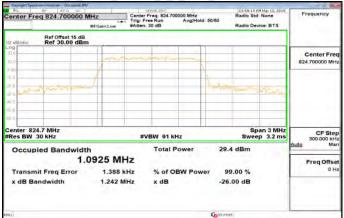
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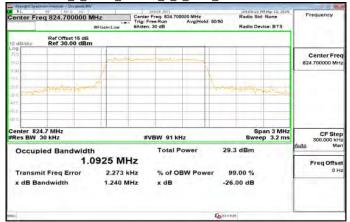


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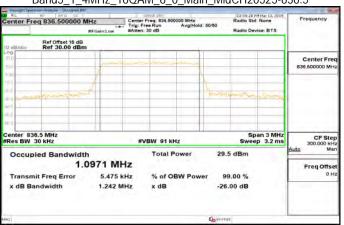
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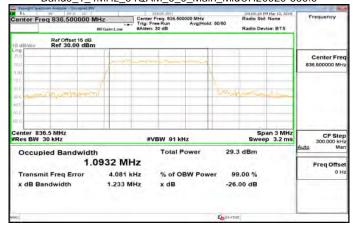
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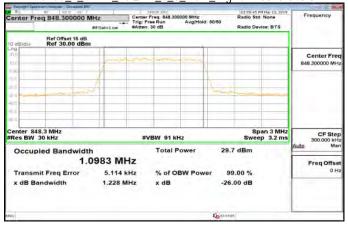
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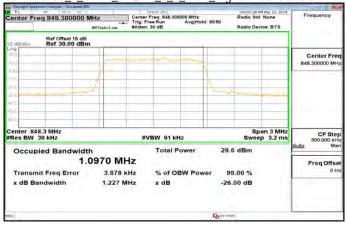
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Band5_1_4MHz_16QAM_6_0_Main_HighCH20643-848.3



Band5_1_4MHz_64QAM_6_0_Main_HighCH20643-848.3



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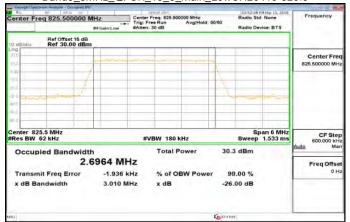
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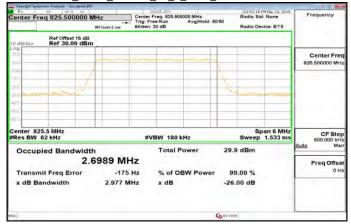


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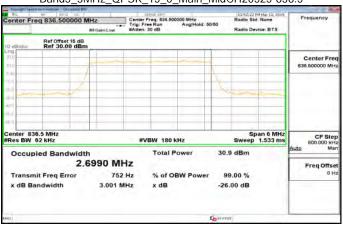
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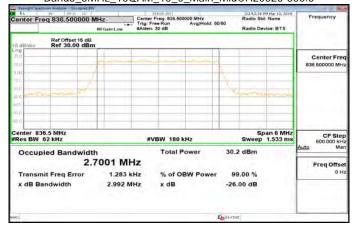
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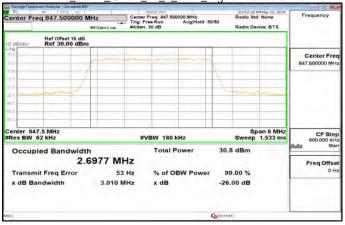
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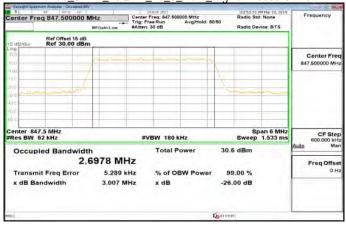
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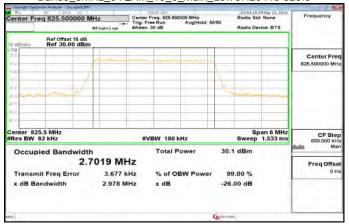
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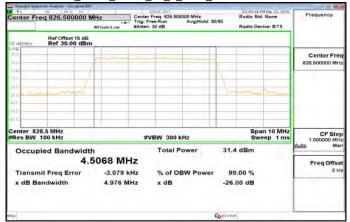


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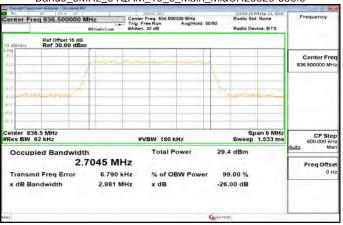
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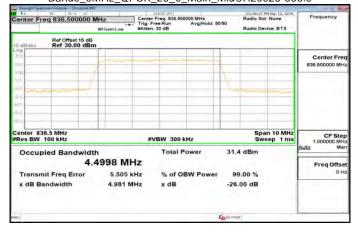
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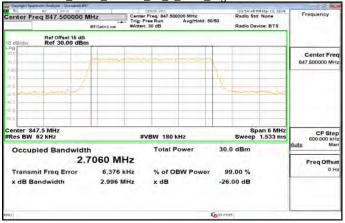
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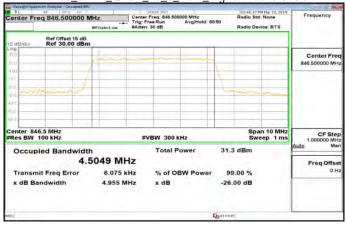
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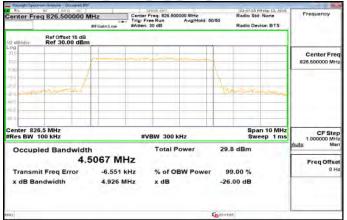


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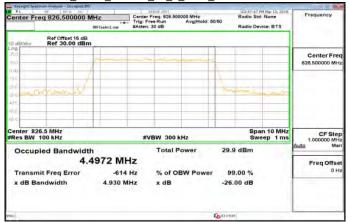


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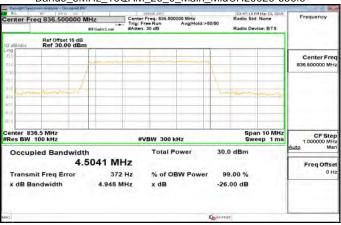
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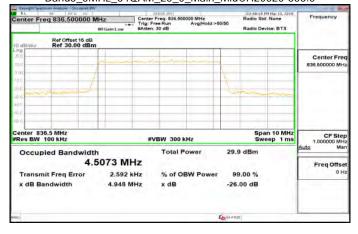
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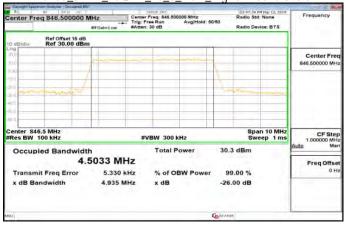
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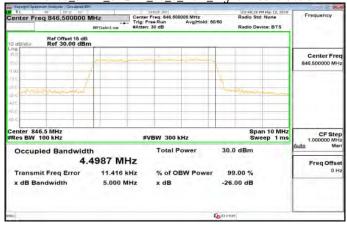
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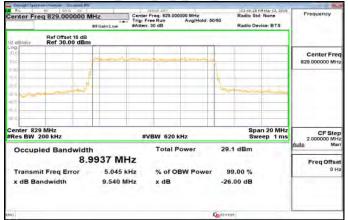
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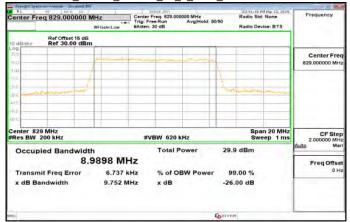


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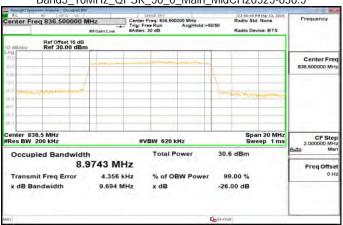
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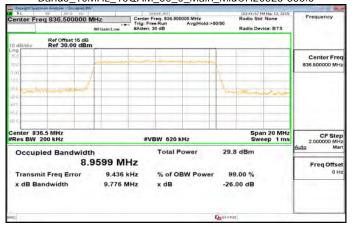
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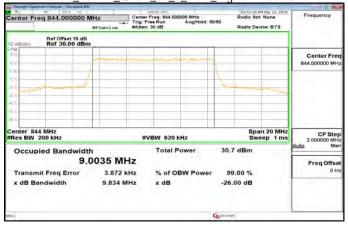
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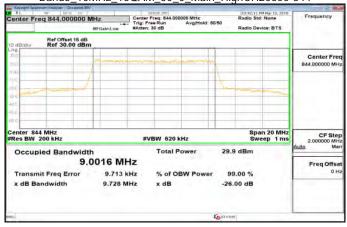
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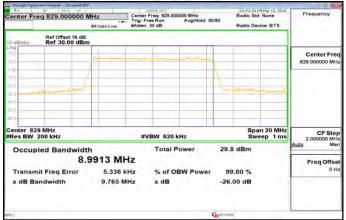


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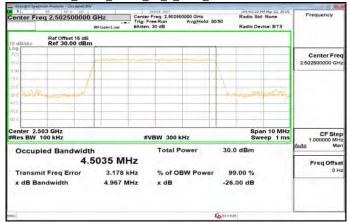


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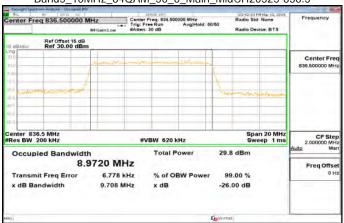
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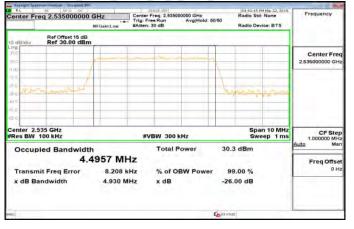
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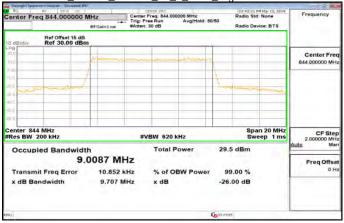
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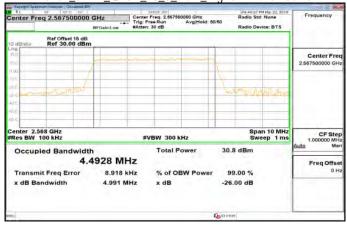
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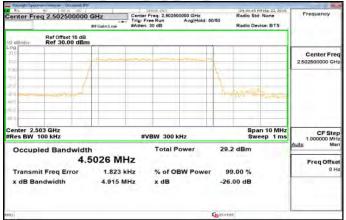


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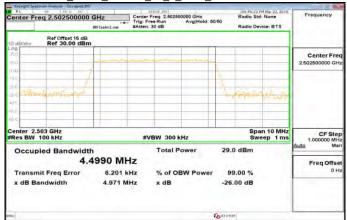


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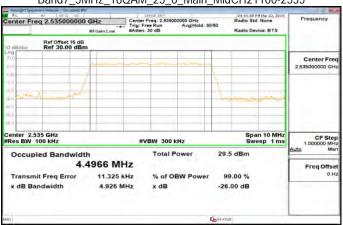
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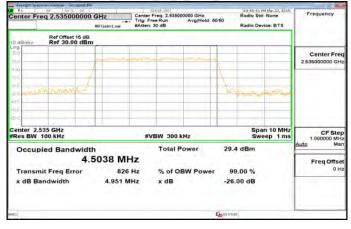
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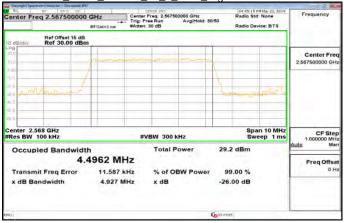
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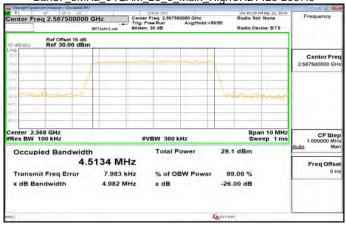
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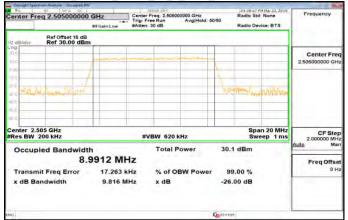
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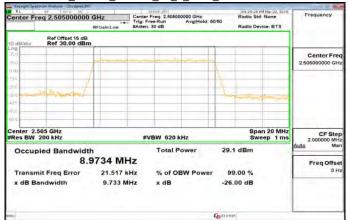


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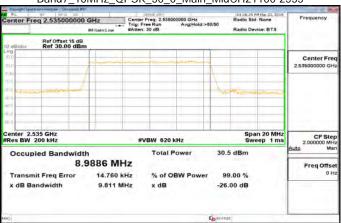
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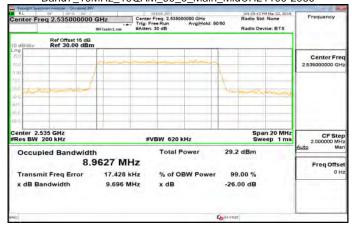
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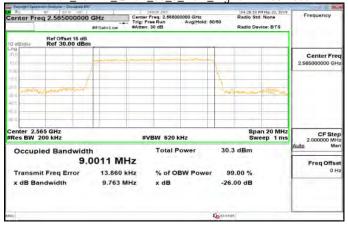
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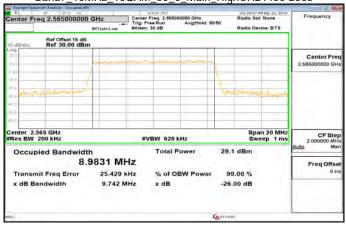
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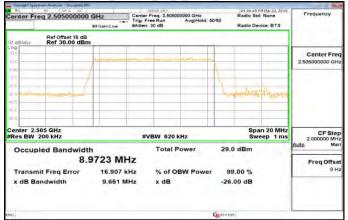


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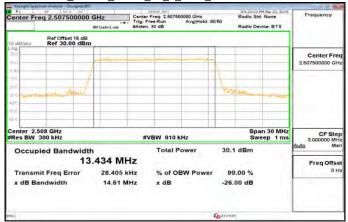


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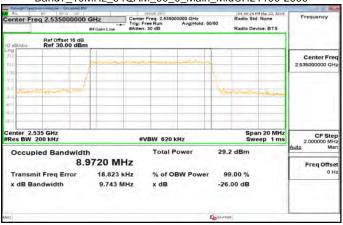
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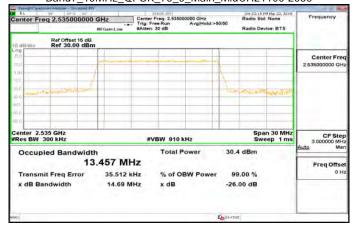
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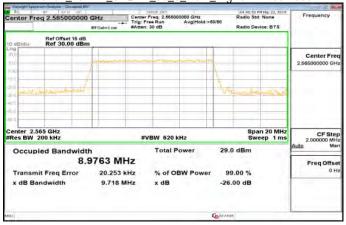
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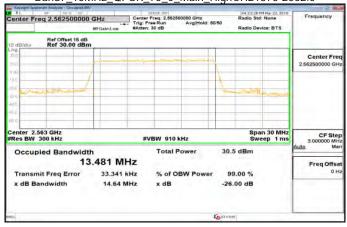
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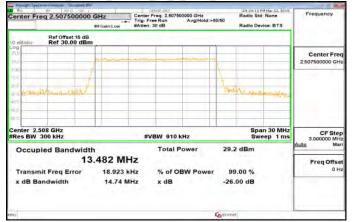


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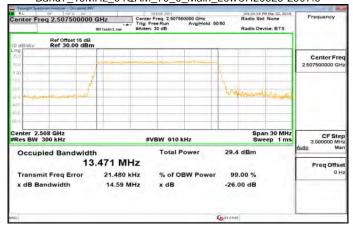


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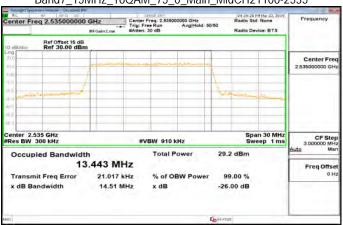
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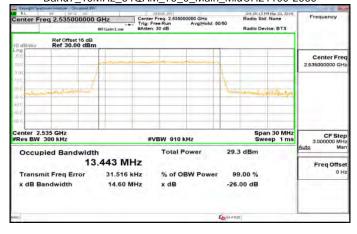
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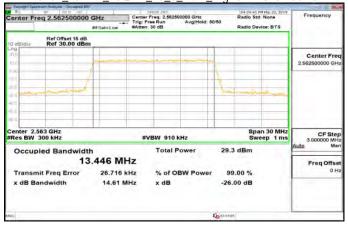
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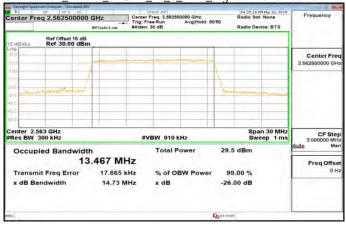
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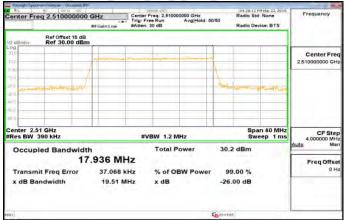
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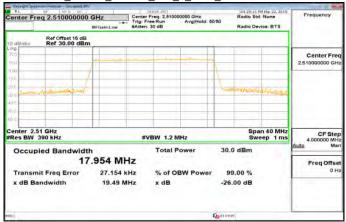


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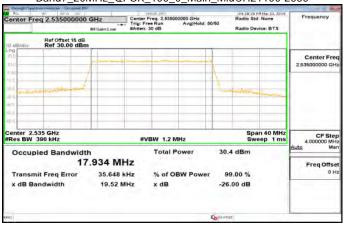
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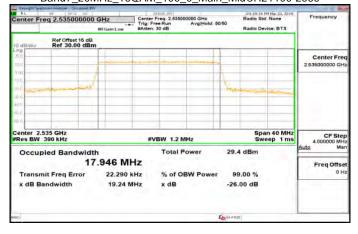
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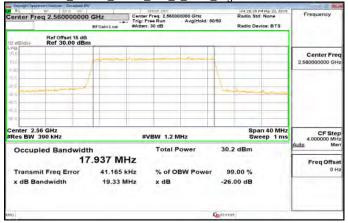
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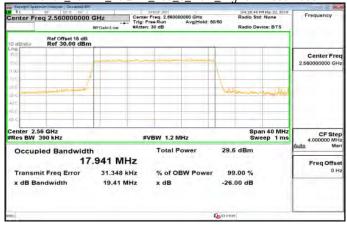
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Band7_20MHz_QPSK_100_0_Main_HighCH21350-2560



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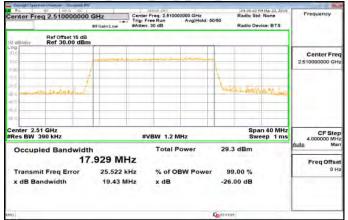
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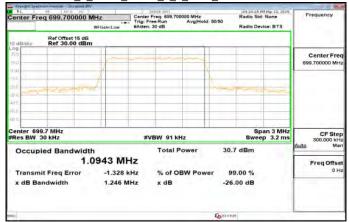


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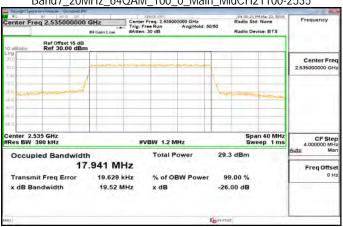
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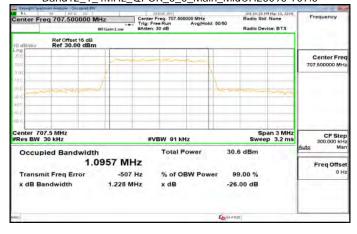
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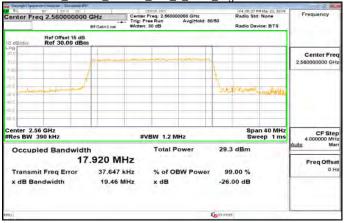
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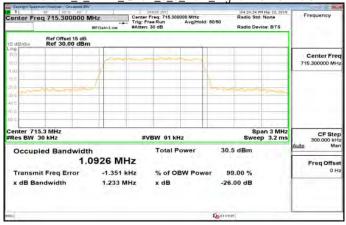
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Band7_20MHz_64QAM_100_0_Main_HighCH21350-2560



Band12_1_4MHz_QPSK_6_0_Main_HighCH23173-715.3



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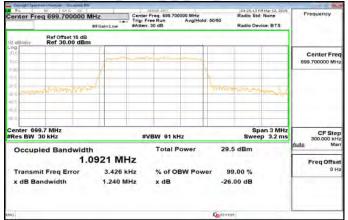
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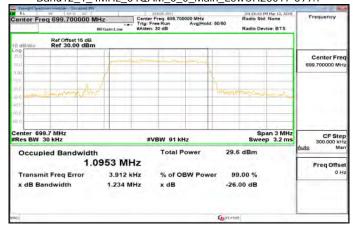


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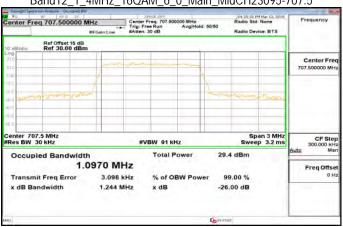
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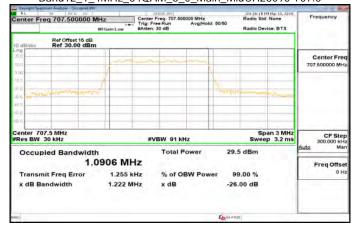
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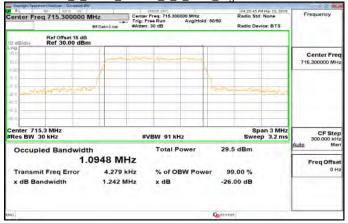
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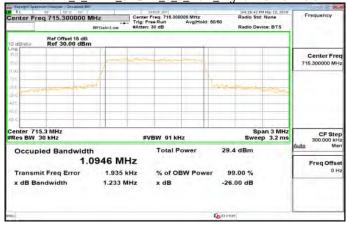
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Band12_1_4MHz_16QAM_6_0_Main_HighCH23173-715.3



Band12_1_4MHz_64QAM_6_0_Main_HighCH23173-715.3



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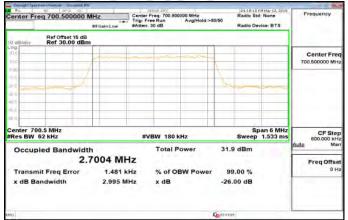
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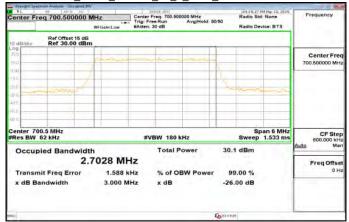


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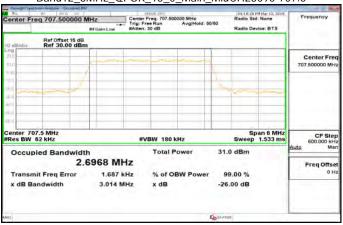
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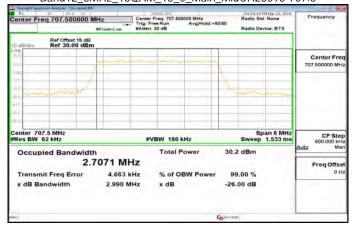
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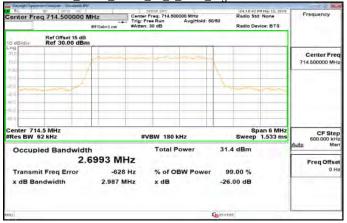
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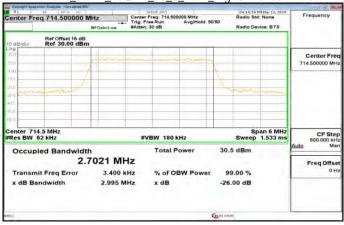
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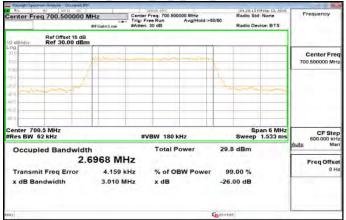
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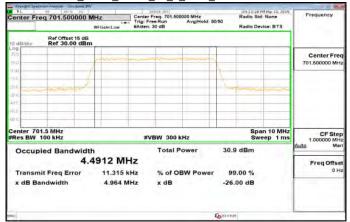


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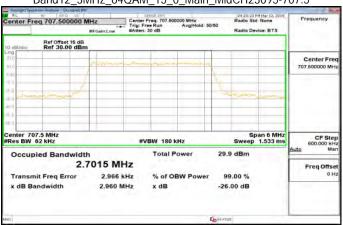
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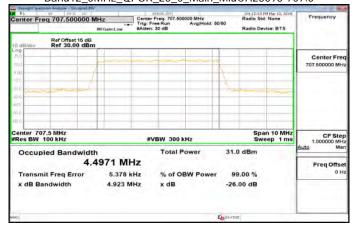
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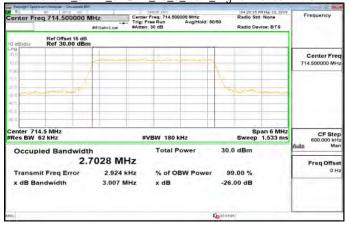
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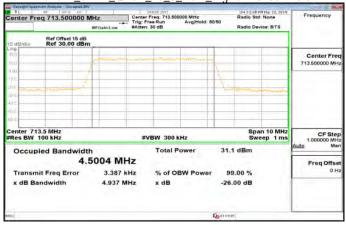
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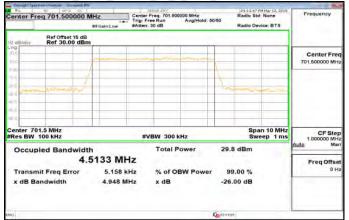
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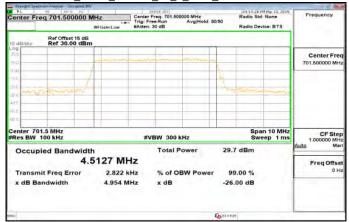


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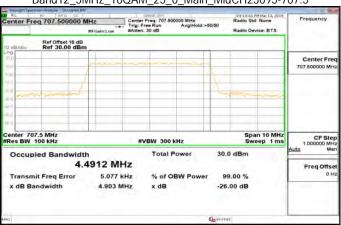
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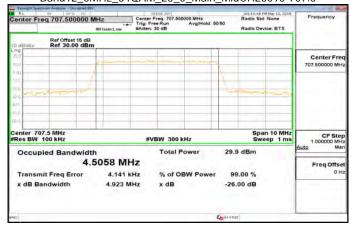
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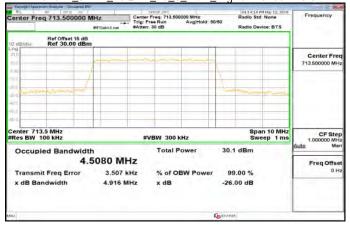
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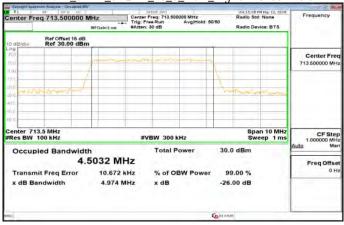
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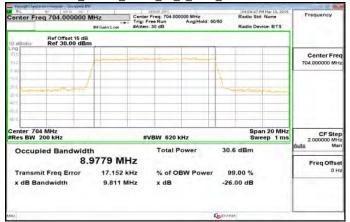
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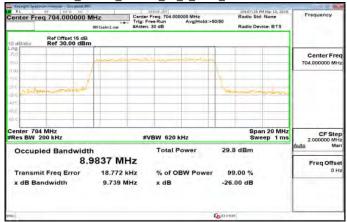


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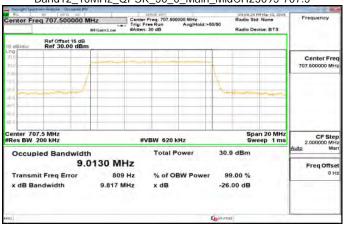
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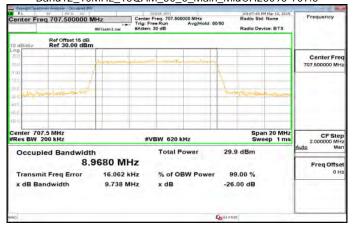
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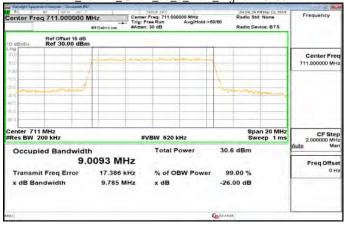
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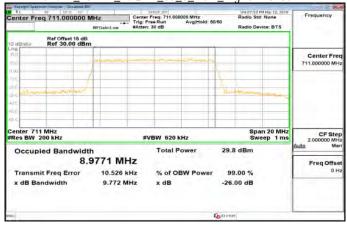
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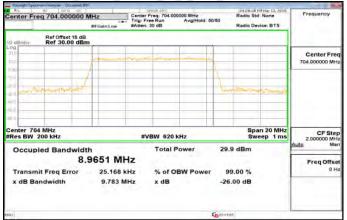
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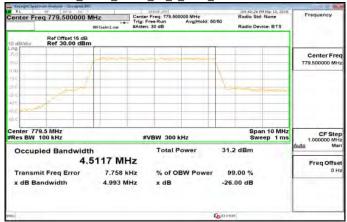


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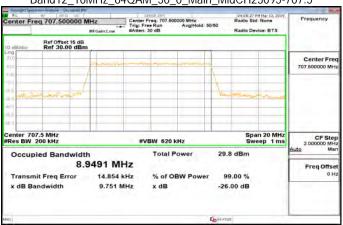
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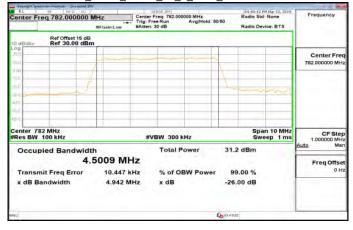
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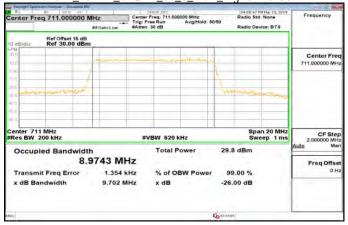
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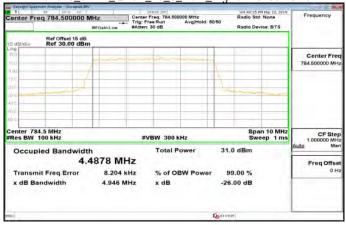
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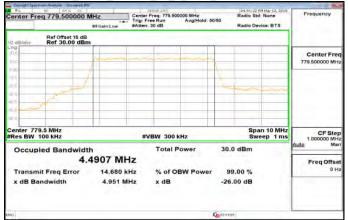
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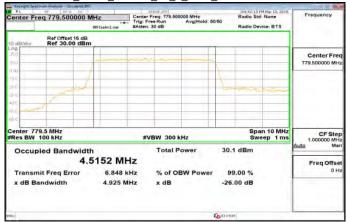


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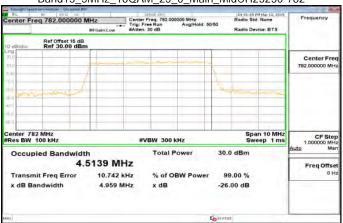
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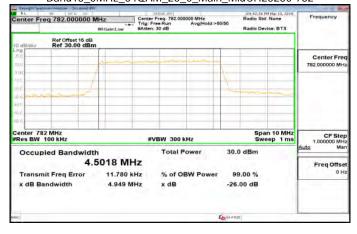
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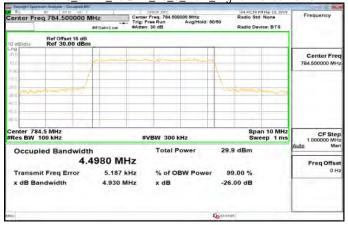
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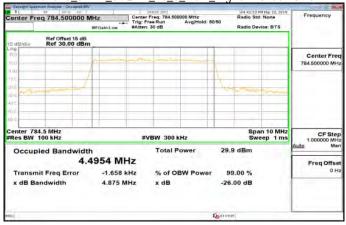
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Band13_5MHz_16QAM_25_0_Main_HighCH23255-784.5



Band13_5MHz_64QAM_25_0_Main_HighCH23255-784.5



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