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## **ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT**

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

OF

**Tablet Product Name:** 

HP **Brand Name:** 

HSN-I06C Model No.:

N/A **Model Difference:** 

FCC ID: **B94HNI06CAS** 

**Report No.:** ER/2018/60078

**Issue Date:** Jun. 22, 2018

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

**Prepared for:** HP Inc.

3390 East Harmony Road Fort Collins, Colorado 80528

**United States** 

Prepared by: SGS Taiwan Ltd.

**Electronics & Communication Laboratory** 

No.134, Wu Kung Road, New Taipei Industrial Park,

Wuku District, New Taipei City, Taiwan 24803

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## VERIFICATION OF COMPLIANCE

HP Inc. **Applicant:** 

3390 East Harmony Road Fort Collins, Colorado 80528 United

States

**Tablet Product Name:** 

HP **Brand Name:** 

HSN-I06C Model No.:

N/A **Model Difference:** 

B94HNI06CAS FCC ID:

ER/2018/60078 File Number:

Sep. 09, 2016 ~ Oct. 06, 2016 Date of test:

Sep. 09, 2016 Date of EUT Received:

## We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Electronics & Communication Laboratory The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in TIA/EIA-603-D-2010 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits.

The test results of this report relate only to the tested sample identified in this report.

Test By:	Louis Chen	Date:	Jun. 22, 2018	
	Louis Chen / Engineer			
Prepared By:	Allen Trai	Date:	Jun. 22, 2018	
	Allen Tsai / Engineer	_		
Approved By:	Jim Chang	Date:	Jun. 22, 2018	
	Jim Chang /Manager	<u> </u>		

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# **Revision History**

Report Number	Revision	Description	Issue Date
ER/2018/60078	Rev.00	Initial creation of document	Jun. 22, 2018

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## 1. GENERAL PRODUCT INFORMATION

## 1.1. Product Description

General:

Product Name:	Tablet		
Brand Name:	HP		
Model No.:	HSN-I06C		
Model difference:	N/A		
Product SW/HW version:	N/A / N/A		
Radio SW/HW version:	N/A		
Test SW Version:	N/A		
RF power setting in TEST SW:	N/A		
WWAN Module:	Model No.: T77W595, Supplier: HON HAI PRECISION IND.CO., LTD.		
	7.7Vdc from Rechargeable Li-polymer Battery or 5 V from AC/DC Adapter		
	Battery: Model No.: HSTNN-DB7Q, Supplier: DYNAPACK ELECTRONIC TECHNOLOGY (SUZHOU) CO., LTD.		
Power Supply:	<ol> <li>Model No.:TPN-CA06, Supplier: CHICONY POWER TECHNOLOGY (CHONGQING) CO.,LTD.</li> <li>Model No.:TPN-AA03, Supplier: Acbel Electronic (Wuhan) Co., Ltd.</li> <li>Model No.:TPN-DA07, Supplier:DELTA ELECTRONICS (JIANGSU) LTD.</li> <li>Model No.:TPN-LA06, Supplier:LITE-ON TECHNOLOGY (CHANGZHOU)CO.,LTD.</li> </ol>		

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### WCDMA/LTE:

	Operating Frequency		Rated Power
	WCDMA / HSPA+ Band II	MA / HSPA+ Band II 1852.4MHz – 1907.6MHz	
	WCDMA / HSPA+ Band IV	1712.4MHz – 1752.6MHz	24dBm
	WCDMA / HSPA+ Band V	826.4MHz - 846.6MHz	24dBm
	LTE-Band 2 (1.4MHz)	1850.7MHz- 1909.3MHz	23dBm
	LTE-Band 2 (3MHz)	1851.5MHz – 1908.5MHz	23dBm
	LTE-Band 2 (5MHz)	1852.5MHz – 1907.5MHz	23dBm
	LTE-Band 2 (10MHz)	1855.0MHz – 1905.0MHz	23dBm
Cellular Phone	LTE-Band 2 (15MHz)	1857.5MHz – 1902.5MHz	23dBm
Standards Fre-	LTE-Band 2 (20MHz)	1860.0MHz – 1900.0MHz	23dBm
quency Range and Power	LTE-Band 4 (1.4MHz)	1710.7MHz- 1754.3MHz	23dBm
1 OWC1	LTE-Band 4 (3MHz)	1711.5MHz – 1753.5MHz	23dBm
	LTE-Band 4 (5MHz)	1712.5MHz – 1752.5MHz	23dBm
	LTE-Band 4 (10MHz)	1715MHz – 1750MHz	23dBm
	LTE-Band 4 (15MHz)	1717.5MHz – 1747.5MHz	23dBm
	LTE-Band 4 (20MHz)	1720MHz – 1745MHz	23dBm
	LTE-Band 5 (1.4MHz)	824.7MHz – 848.3MHz	23dBm
	LTE-Band 5 (3MHz)	825.5MHz – 847.5MHz	23dBm
	LTE-Band 5 (5MHz)	826.5MHz – 846.5MHz	23dBm
	LTE-Band 5 (10MHz)	829.0MHz – 844.0MHz	23dBm

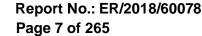
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	Operating Frequency	Rated Power	
	LTE-Band 7 (5MHz)	2502.5MHz – 2567.5MHz	23dBm
	LTE-Band 7 (10MHz)	2505.0MHz – 2565.0MHz	23dBm
Callular Dhana	LTE-Band 7 (15MHz)	2507.5MHz – 2562.5MHz	23dBm
Cellular Phone Standards Fre-	LTE-Band 7 (20MHz)	2510.0MHz – 2560MHz	23dBm
quency Range and	LTE-Band 12 (1.4MHz)	699.7MHz- 715.3MHz	23dBm
Power	LTE-Band 12 (3MHz)	700.5MHz – 714.5MHz	23dBm
	LTE-Band 12 (5MHz)	701.5MHz – 713.5MHz	23dBm
	LTE-Band 12 (10MHz)	704.0MHz – 711.0MHz	23dBm
	LTE-Band 17 (5MHz)	706.5MHz – 713.5MHz	23dBm
	LTE-Band 17 (10MHz)	709.0MHz –711.0MHz	23dBm
IMEI:	358895060487924		

### Type of Emission:

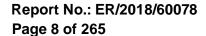
Frequency Band	Type of Emission:
WCDMA Band II	4M15F9W
HSDPA Band II	4M16F9W
HSUPA Band II	4M16F9W
WCDMA Band IV	4M16F9W
HSDPA Band IV	4M16F9W
HSUPA Band IV	4M16F9W
WCDMA Band V	4M16F9W
HSDPA Band V	4M16F9W
HSUPA Band V	4M15F9W

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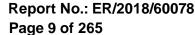
LTE Band	BW (MHz)	Modulation	Type of Emission
LTE Band 2	1.4MHz	QPSK	1M10G7D
LTE Band 2	1.4MHz	16QAM	1M11D7W
LTE Band 2	3MHz	QPSK	2M71G7D
LTE Band 2	3MHz	16QAM	2M71D7W
LTE Band 2	5MHz	QPSK	4M51G7D
LTE Band 2	5MHz	16QAM	4M51D7W
LTE Band 2	10MHz	QPSK	9M01G7D
LTE Band 2	10MHz	16QAM	8M96D7W
LTE Band 2	15MHz	QPSK	13M5G7D
LTE Band 2	15MHz	16QAM	13M4D7W
LTE Band 2	20MHz	QPSK	17M9G7D
LTE Band 2	20MHz	16QAM	17M9D7W
LTE Band 4	1.4MHz	QPSK	1M10G7D
LTE Band 4	1.4MHz	16QAM	1M10D7W
LTE Band 4	3MHz	QPSK	2M71G7D
LTE Band 4	3MHz	16QAM	2M71D7W
LTE Band 4	5MHz	QPSK	4M51G7D
LTE Band 4	5MHz	16QAM	4M50D7W
LTE Band 4	10MHz	QPSK	8M99G7D
LTE Band 4	10MHz	16QAM	8M96D7W
LTE Band 4	15MHz	QPSK	13M5G7D
LTE Band 4	15MHz	16QAM	13M5D7W
LTE Band 4	20MHz	QPSK	17M9G7D
LTE Band 4	20MHz	16QAM	17M9D7W
LTE Band 5	1.4MHz	QPSK	1M10G7D
LTE Band 5	1.4MHz	16QAM	1M10D7W
LTE Band 5	3MHz	QPSK	2M71G7D
LTE Band 5	3MHz	16QAM	2M71D7W
LTE Band 5	5MHz	QPSK	4M51G7D
LTE Band 5	5MHz	16QAM	4M50D7W
LTE Band 5	10MHz	QPSK	9M03G7D
LTE Band 5	10MHz	16QAM	9M01D7W
LTE Band 7	5MHz	QPSK	4M51G7D
LTE Band 7	5MHz	16QAM	4M51D7W
LTE Band 7	10MHz	QPSK	9M01G7D
LTE Band 7	10MHz	16QAM	8M96D7W
LTE Band 7	15MHz	QPSK	13M5G7D
LTE Band 7	15MHz	16QAM	13M5D7W
LTE Band 7	20MHz	QPSK	17M9G7D
LTE Band 7	20MHz	16QAM	17M9D7W

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LTE Band	BW (MHz)	Modulation	Type of Emission
LTE Band 12	1.4MHz	QPSK	1M11G7D
LTE Band 12	1.4MHz	16QAM	1M10D7W
LTE Band 12	3MHz	QPSK	2M72G7D
LTE Band 12	3MHz	16QAM	2M71D7W
LTE Band 12	5MHz	QPSK	4M53G7D
LTE Band 12	5MHz	16QAM	4M52D7W
LTE Band 12	10MHz	QPSK	9M06G7D
LTE Band 12	10MHz	16QAM	9M04D7W
LTE Band 17	5MHz	QPSK	4M52G7D
LTE Band 17	5MHz	16QAM	4M52D7W
LTE Band 17	10MHz	QPSK	9M00G7D
LTE Band 17	10MHz	16QAM	8M95D7W

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### Max ERP/EIRP Power Measurement Result:

	dBm		W
WCDMA Band II	26.42	EIRP	0.439
HSDPA Band II	23.91	EIRP	0.246
HSUPA Band II	23.28	EIRP	0.213
WCDMA Band IV	27.97	EIRP	0.627
HSDPA Band IV	25.65	EIRP	0.367
HSUPA Band IV	24.55	EIRP	0.285
WCDMA Band V	20.62	ERP	0.115
HSDPA Band V	19.64	ERP	0.092
HSUPA Band V	17.60	ERP	0.058
LTE-Band 2 (Bandwidth 1.4MHz) QPSK	25.45	EIRP	0.351
LTE-Band 2 (Bandwidth 1.4MHz) 16QAM	25.70	EIRP	0.372
LTE-Band 2 (Bandwidth 3MHz) QPSK	25.80	EIRP	0.380
LTE-Band 2 (Bandwidth 3MHz) 16QAM	25.95	EIRP	0.394
LTE-Band 2 (Bandwidth 5MHz) QPSK	25.81	EIRP	0.381
LTE-Band 2 (Bandwidth 5MHz) 16QAM	25.94	EIRP	0.393
LTE-Band 2 (Bandwidth 10MHz) QPSK	25.80	EIRP	0.380
LTE-Band 2 (Bandwidth 10MHz) 16QAM	26.15	EIRP	0.412
LTE-Band 2 (Bandwidth 15MHz) QPSK	25.71	EIRP	0.372
LTE-Band 2 (Bandwidth 15MHz) 16QAM	25.96	EIRP	0.394
LTE-Band 2 (Bandwidth 20MHz) QPSK	25.11	EIRP	0.324
LTE-Band 2 (Bandwidth 20MHz) 16QAM	25.37	EIRP	0.344

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	dBm		W
LTE-Band 4 (Bandwidth 1.4MHz) QPSK	24.29	EIRP	0.269
LTE-Band 4 (Bandwidth 1.4MHz) 16QAM	24.42	EIRP	0.277
LTE-Band 4 (Bandwidth 3MHz) QPSK	24.48	EIRP	0.281
LTE-Band 4 (Bandwidth 3MHz) 16QAM	24.58	EIRP	0.287
LTE-Band 4 (Bandwidth 5MHz) QPSK	24.63	EIRP	0.290
LTE-Band 4 (Bandwidth 5MHz) 16QAM	24.78	EIRP	0.301
LTE-Band 4 (Bandwidth 10MHz) QPSK	24.54	EIRP	0.284
LTE-Band 4 (Bandwidth 10MHz) 16QAM	24.75	EIRP	0.299
LTE-Band 4 (Bandwidth 15MHz) QPSK	24.74	EIRP	0.298
LTE-Band 4 (Bandwidth 15MHz) 16QAM	24.99	EIRP	0.316
LTE-Band 4 (Bandwidth 20MHz) QPSK	24.74	EIRP	0.298
LTE-Band 4 (Bandwidth 20MHz) 16QAM	25.12	EIRP	0.325
LTE-Band 5 (Bandwidth 1.4MHz) QPSK	18.87	ERP	0.077
LTE-Band 5 (Bandwidth 1.4MHz) 16QAM	18.27	ERP	0.067
LTE-Band 5 (Bandwidth 3MHz) QPSK	20.06	ERP	0.101
LTE-Band 5 (Bandwidth 3MHz) 16QAM	19.43	ERP	0.088
LTE-Band 5 (Bandwidth 5MHz) QPSK	20.33	ERP	0.108
LTE-Band 5 (Bandwidth 5MHz) 16QAM	20.58	ERP	0.114
LTE-Band 5 (Bandwidth 10MHz) QPSK	19.99	ERP	0.100
LTE-Band 5 (Bandwidth 10MHz) 16QAM	19.70	ERP	0.093
LTE-Band 7 (Bandwidth 5MHz) QPSK	23.03	EIRP	0.201
LTE-Band 7 (Bandwidth 5MHz) 16QAM	23.24	EIRP	0.211
LTE-Band 7 (Bandwidth 10MHz) QPSK	23.02	EIRP	0.200
LTE-Band 7 (Bandwidth 10MHz) 16QAM	23.28	EIRP	0.213
LTE-Band 7 (Bandwidth 15MHz) QPSK	22.54	EIRP	0.179
LTE-Band 7 (Bandwidth 15MHz) 16QAM	22.84	EIRP	0.192
LTE-Band 7 (Bandwidth 20MHz) QPSK	22.65	EIRP	0.184
LTE-Band 7 (Bandwidth 20MHz) 16QAM	22.77	EIRP	0.189

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	dBm		W
LTE-Band 12 (Bandwidth 1.4MHz) QPSK	20.74	ERP	0.119
LTE-Band 12 (Bandwidth 1.4MHz) 16QAM	20.89	ERP	0.123
LTE-Band 12 (Bandwidth 3MHz) QPSK	21.03	ERP	0.127
LTE-Band 12 (Bandwidth 3MHz) 16QAM	21.26	ERP	0.134
LTE-Band 12 (Bandwidth 5MHz) QPSK	21.17	ERP	0.131
LTE-Band 12 (Bandwidth 5MHz) 16QAM	21.36	ERP	0.137
LTE-Band 12 (Bandwidth 10MHz) QPSK	20.93	ERP	0.124
LTE-Band 12 (Bandwidth 10MHz) 16QAM	21.18	ERP	0.131
LTE-Band 17 (Bandwidth 5MHz) QPSK	20.75	ERP	0.119
LTE-Band 17 (Bandwidth 5MHz) 16QAM	21.17	ERP	0.131
LTE-Band 17 (Bandwidth 10MHz) QPSK	21.34	ERP	0.136
LTE-Band 17 (Bandwidth 10MHz) 16QAM	21.69	ERP	0.148

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## 1.2. Product Feature of Equipment Under Test

The equipment under Test (Hereafter Called: EUT) supports below functions.

	, 11	
Product Feature		
WCDMA Operating Band(s)	FDD Band II / IV / V	
WCDMA Rel. Version	Rel.99	
LTE Operating Band(s) FCC Band 2 / 4 / 5 / 7 / 12 / 17		
LTE Rel. Version Rel.10		
Bluetooth Version V4.2 dual mode		
Wi-Fi- Specification 802.11a/b/g/n/ac		
NFC Specification NFC		

Note: The above EUT information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

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## 1.3. Test Methodology of Applied Standards

FCC 47 CFR Part 2, 22, 24, 27

ANSI / TIA / EIA 603-D-2010

KDB971168 D01 Power Meas license Digital System

KDB941225 of the Output power Procedure of (SAR Measurement Procedures for 3G Devices, WCDMA / HSPA) was used for EUT and Base station setting.

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

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

## 1.4. Test Facility

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

FCC Registration Numbers are: 509634

## 1.5. Special Accessories

No special accessories were used during testing.

## 1.6. 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 TIA/EIA 603C, 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 TIA/EIA 603C, The EUT is a placed on as turn table which is 0.8 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both Horizontal and Vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna according to the requirements in Section 8 and 13.

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## 2.4. Measurement Results Explanation Example

#### For all conducted test items:

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

#### Note:

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

Following shows an offset computation example with cable loss 1 dB for low band and 1 for high band with 10 dB attenuator and 3.2 splitter.

Low Band: Offset = RF cable loss (dB)+ attenuation factor(dB) =3.6+10=13.6(dB)

High Band: Offset = RF cable loss (dB)+ attenuation factor(dB) =4+10=14(dB)

## 2.5 Final Amplifier Voltage and Current Information:

Test Mode	DC voltage (V)	DC current (mA)
WCDMA B2	7.7 Vdc	722
WCDMA B4	7.7 Vdc	691
WCDMA B5	7.7 Vdc	665
HSUPA B2	7.7 Vdc	741
HSUPA B4	7.7 Vdc	689
HSUPA B5	7.7 Vdc	654
HSDPA B2	7.7 Vdc	751
HSDPA B4	7.7 Vdc	674
HSDPA B5	7.7 Vdc	635

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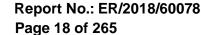


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Test Mode	DC voltage (V)	DC current (mA)
LTE Band 2_1.4M QPSK	7.7Vdc	894
LTE Band 2_1.4M 16QAM	7.7Vdc	884
LTE Band 2_3M QPSK	7.7Vdc	906
LTE Band 2_3M 16QAM	7.7Vdc	891
LTE Band 2_5M QPSK	7.7Vdc	903
LTE Band 2_5M 16QAM	7.7Vdc	891
LTE Band 2_10M QPSK	7.7Vdc	906
LTE Band 2_10M 16QAM	7.7Vdc	879
LTE Band 2_15M QPSK	7.7Vdc	923
LTE Band 2_15M 16QAM	7.7Vdc	973
LTE Band 2_20M QPSK	7.7Vdc	959
LTE Band 2_20M 16QAM	7.7Vdc	976

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Test Mode	DC voltage (V)	DC current (mA)
LTE Band 4_1.4M QPSK	7.7Vdc	906
LTE Band 4_1.4M 16QAM	7.7Vdc	926
LTE Band 4_3M QPSK	7.7Vdc	924
LTE Band 4_3M 16QAM	7.7Vdc	911
LTE Band 4_5M QPSK	7.7Vdc	935
LTE Band 4_5M 16QAM	7.7Vdc	903
LTE Band 4_10M QPSK	7.7Vdc	934
LTE Band 4_10M 16QAM	7.7Vdc	912
LTE Band 4_15M QPSK	7.7Vdc	954
LTE Band 4_15M 16QAM	7.7Vdc	973
LTE Band 4_20M QPSK	7.7Vdc	965
LTE Band 4_20M 16QAM	7.7Vdc	931

Test Mode	DC voltage (V)	DC current (mA)
LTE Band 5_1.4M QPSK	7.7Vdc	954
LTE Band 5_1.4M 16QAM	7.7Vdc	961
LTE Band 5_3M QPSK	7.7Vdc	974
LTE Band 5_3M 16QAM	7.7Vdc	987
LTE Band 5_5M QPSK	7.7Vdc	966
LTE Band 5_5M 16QAM	7.7Vdc	968
LTE Band 5_10M QPSK	7.7Vdc	954
LTE Band 5_10M 16QAM	7.7Vdc	974

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Test Mode	DC voltage (V)	DC current (mA)
LTE Band 7_5M QPSK	7.7Vdc	964
LTE Band 7_5M 16QAM	7.7Vdc	974
LTE Band 7_10M QPSK	7.7Vdc	964
LTE Band 7_10M 16QAM	7.7Vdc	951
LTE Band 7_15M QPSK	7.7Vdc	964
LTE Band 7_15M 16QAM	7.7Vdc	988
LTE Band 7_20M QPSK	7.7Vdc	974
LTE Band 7_20M 16QAM	7.7Vdc	986

Test Mode	DC voltage (V)	DC current (mA)
LTE Band 12_1.4M QPSK	7.7Vdc	954
LTE Band 12_1.4M 16QAM	7.7Vdc	974
LTE Band 12_3M QPSK	7.7Vdc	963
LTE Band 12_3M 16QAM	7.7Vdc	974
LTE Band 12_5M QPSK	7.7Vdc	965
LTE Band 12_5M 16QAM	7.7Vdc	977
LTE Band 12_10M QPSK	7.7Vdc	961
LTE Band 12_10M 16QAM	7.7Vdc	957

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Test Mode	DC voltage (V)	DC current (mA)
LTE Band 17_5M QPSK	7.7Vdc	964
LTE Band 17_5M 16QAM	7.7Vdc	955
LTE Band 17_10M QPSK	7.7Vdc	981
LTE Band 17_10M 16QAM	7.7Vdc	971

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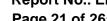
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## 2.6. Configuration of Tested System

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

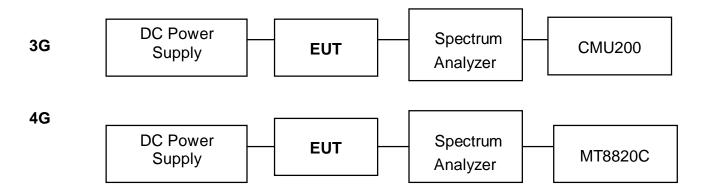


Fig. 2-2 Configuration of Tested System (Fixed Channel-Radiated)

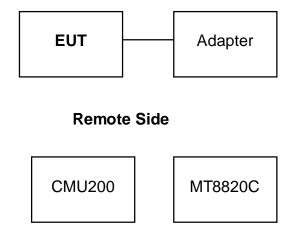


Table 2-1 Equipment Used in

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1.	Universal Radio Communication Tester	R&S	CMU200	102189	shielded	Un-shielded
2.	Universal Radio Communication Tester	Anritsu	MT8820C	6200307563	shielded	Un-shielded

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## 3. SUMMARY OF TEST RESULTS

FCC Rules	<b>Description Of Test</b>	Result
§2.1046(a)	RF Power Output	Compliant
§2.1046(a) §22.913(a)(2) §24.232(c) §27.50(c)(9) §27.50(d)(4) §27.50(h)(2)	ERP/ EIRP measure- ment	Compliant
§2.1049(h)	99% & 26dB Oc- cuupied 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(g) §27.53(h) §27.53(m)(4)	Field Strength of Spu- rious Radiation	Compliant
§24.232(d) §27.53(d) (5) §27.50(i) (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	ERP/EIRP	RADIATED EMISSION and Wireless charging Cover
WCDMA/HSPA Band II	E2-plan	E2-plan
WCDMA/HSPA Band IV	E2-plan	E2-plan
WCDMA/HSPA Band V	E2-plan	E2-plan
LTE Band 2	E2-plan	E2-plan
LTE Band 4	E2-plan	E2-plan
LTE Band 5	E2-plan	E2-plan
LTE Band 7	E1-plan	E1-plan
LTE Band 12	E2-plan	E2-plan
LTE Band 17	E2-plan	E2-plan

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## 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	9262, 9400, 9583 1312, 1413, 1513	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, 9583	WCDMA/HSPA Band II WCDMA/HSPA Band IV WCDMA/HSPA Band V
PEAK TO AVERAGE RATIO	4132 to 4233 1312 to 1513 9262 to 9538	4132, 4183, 4233 1312, 1413, 1513 9262, 9400, 9583	WCDMA/HSPA Band II WCDMA/HSPA Band IV WCDMA/HSPA Band V
BAND EDGE	4132 to 4233 1312 to 1513 9262 to 9538	4132, 4233 1312, 1513 9262, 9583	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, 9583	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, 9583	WCDMA Band II WCDMA Band IV WCDMA Band V

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### LTE Band 2 MODE

LIE Band 2 MODE									
TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE				
	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK, 16QAM	1 RB/ 0,5 RB Offest				
	18615 to 19185	18615, 18900, 19185	3MHz	QPSK, 16QAM	1 RB/ 0,14 RB Offest				
LIDD	18625 to 19175	18625, 18900, 19175	5MHz	QPSK, 16QAM	1 RB/ 0,24 RB Offest				
EIRP	18650 to 19150	18650, 18900, 19150	10MHz	QPSK, 16QAM	1 RB/ 0,49 RB Offest				
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK, 16QAM	1 RB/ 0,74 RB Offest				
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK, 16QAM	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	Full RB				
	18615 to 19185	18615, 18900, 19185	3MHz	QPSK, 16QAM	Full RB				
OCCUPIED	18625 to 19175	18625, 18900, 19175	5MHz	QPSK, 16QAM	Full RB				
BANDWIDTH	18650 to 19150	18650, 18900, 19150	10MHz	QPSK, 16QAM	Full RB				
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK, 16QAM	Full RB				
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK, 16QAM	Full RB				
	18607 to 19193	18607, 18900, 19193	1.4MHz	16QAM	Full RB				
	18615 to 19185	18615, 18900, 19185	3MHz	16QAM	Full RB				
PEAK TO AV-	18625 to 19175	18625, 18900, 19175	5MHz	16QAM	Full RB				
ERAGE RATIO	18650 to 19150	18650, 18900, 19150 10MHz 16QAM		Full RB					
	18675 to 19125	18675, 18900, 19125	15MHz	16QAM	Full RB				
	18700 to 19100	18700, 18900, 19100	20MHz	16QAM	Full RB				
	18607 to 19193	18607, 19193	1.4MHz	QPSK,	1 RB/ 0,5 RB Offes Full RB				
	18615 to 19185	18615, 19185	8615, 19185 3MHz		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				
B/ (ND EBGE	18650 to 19150	18650, 19150	10MHz	QPSK,	1 RB/ 0,49 RB Offest Full RB				
	18675 to 19125	18675, 19125	15MHz	QPSK,	1 RB/ 0,74 RB Offest Full RB				
	18700 to 19100	18700, 19100	20MHz	QPSK,	1 RB/ 0,99 RB Offest Full RB				
	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK,	1 RB, 0 RB Offest				
	18615 to 19185	18615, 18900, 19185	3MHz	QPSK,	1 RB, 0 RB Offest				
CONDCUDETED	18625 to 19175	18625, 18900, 19175	5MHz	QPSK,	1 RB, 0 RB Offest				
EMISSION	18650 to 19150	18650, 18900, 19150	10MHz	QPSK,	1 RB, 0 RB Offest				
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK,	1 RB, 0 RB Offest				
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK,	1 RB, 0 RB Offest				
RADIATED EMISSION	18675 to 19125	18675, 18900, 19125	15MHz	16QAM	1 RB, 0 RB Offest				

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#### LTE Band 4 MODE

LIE Band 4 WIO		TEOTED	OLIABILE		
TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
	19957 to 19393	19957, 20175, 19393	1.4MHz	QPSK, 16QAM	1 RB/ 0,5 RB Offest
	19965 to 22385	19965, 20175, 22385	3MHz	QPSK, 16QAM	1 RB/ 0,14 RB Offest
רוסס	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	1 RB/ 0,24 RB Offest
EIRP	20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	1 RB/ 0,49 RB Offest
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	1 RB/ 0,74 RB Offest
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	1 RB/ 0,99 RB Offest
FREQUENCY STABILITY	20000 to 20350	20175	20175 10MHz QPSK,		Full RB
	19957 to 19393	19957, 20175, 19393	1.4MHz	QPSK, 16QAM	Full RB
	19965 to 22385	19965, 20175, 22385	3MHz	QPSK, 16QAM	Full RB
OCCUPIED	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	Full RB
BANDWIDTH	20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	Full RB
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	Full RB
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	Full RB
	19957 to 19393	19957, 20175, 19393	1.4MHz	16QAM	Full RB
	19965 to 22385	19965, 20175, 22385	3MHz	16QAM	Full RB
PEAK TO AV-	19975 to 20375	19975, 20175, 20375	5MHz	16QAM	Full RB
ERAGE RATIO	20000 to 20350	20000, 20175, 20350	10MHz	16QAM	Full RB
	20025 to 20325	20025, 20175, 20325	15MHz	16QAM	Full RB
	20050 to 20300	20050, 20175, 20300	20MHz	16QAM	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
B/ (ND EBGE	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 to 19393	19957, 20175, 19393	1.4MHz	QPSK,	1 RB, 0 RB Offest
	19965 to 22385	19965, 20175, 22385	3MHz	QPSK,	1 RB, 0 RB Offest
CONDCUDETED		19975, 20175, 20375	5MHz	QPSK,	1 RB, 0 RB Offest
EMISSION	20000 to 20350	20000, 20175, 20350	10MHz	QPSK,	1 RB, 0 RB Offest
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK,	1 RB, 0 RB Offest
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK,	1 RB, 0 RB Offest
RADIATED EMISSION	20050 to 20300	20050, 20175, 20300	20MHz	16QAM,	1 RB, 99 RB Offest

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### LTE Band 5 MODE

TEST ITEM	AVAILABLE CHANNEL	CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
		20470, 20525, 20643		QPSK, 16QAM	1 RB/ 0,5 RB Offest
ERP		20415, 20525, 20635		QPSK, 16QAM	1 RB/ 0,14 RB Offest
LIXI		20425, 20525, 20625		QPSK, 16QAM	1 RB/ 0,24 RB Offest
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK, 16QAM	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	Full RB
OCCUPIED	20415 to 20635	20415, 20525, 20635	3MHz	QPSK, 16QAM	Full RB
BANDWIDTH	20425 to 20625	20425, 20525, 20625	5MHz	QPSK, 16QAM	Full RB
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK, 16QAM	Full RB
	20470 to 20643	20470, 20525, 20643	1.4MHz	16QAM	Full RB
PEAK TO AV- ERAGE RATIO	20415 to 20635	20415, 20525, 20635	3MHz	16QAM	Full RB
	20425 to 20625	20425, 20525, 20625	5MHz	16QAM	Full RB
	20450 to 20600	20450, 20525, 20600	10MHz	16QAM	Full RB
	20470 to 20643	20470, 20643	1.4MHz	QPSK,	1 RB/ 0,5 RB Offes Full RB
DAND EDGE	20415 to 20635	20415, 20635	3MHz	QPSK,	1 RB/ 0,14 RB Offest Full RB
BAND EDGE	20425 to 20625	20425, 20625	5MHz	QPSK,	1 RB/ 0,24 RB Offest Full RB
	20450 to 20600	20450, 20600	10MHz	QPSK,	1 RB/ 0,49 RB Offest Full RB
	20470 to 20643	20470, 20525, 20643	1.4MHz	QPSK,	1 RB, 0 RB Offest
CONDCUDETED	20415 to 20635	20415, 20525, 20635	3MHz	QPSK,	1 RB, 0 RB Offest
EMISSION	20425 to 20625	20425, 20525, 20625	5MHz	QPSK,	1 RB, 0 RB Offest
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK,	1 RB, 0 RB Offest
RADIATED EMISSION	20425 to 20625	20425, 20525, 20625	5MHz	QPSK	1 RB, 24 RB Offest

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### LTE Band 7 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
		20775, 21100, 21425	5MHz	QPSK, 16QAM	1 RB/ 0,24 RB Offest
EIRP		20800, 21100, 21400		QPSK, 16QAM	1 RB/ 0,49 RB Offest
LIKE		20850, 21100, 21375		QPSK, 16QAM	1 RB/ 0,74 RB Offest
	20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM	1 RB/ 0,99 RB Offest
FREQUENCY STABILITY	20800 to 21400	21100	10MHz	QPSK,	Full RB
		20775, 21100, 21425		QPSK, 16QAM	Full RB
OCCUPIED		20800, 21100, 21400	10MHz	QPSK, 16QAM	Full RB
BANDWIDTH		20850, 21100, 21375	15MHz	QPSK, 16QAM	Full RB
		20850, 21100, 21350	20MHz	QPSK, 16QAM	Full RB
	20775 to 21425	20775, 21100, 21425	5MHz	16QAM	Full RB
PEAK TO AV-	20800 to 21400	20800, 21100, 21400	10MHz	16QAM	Full RB
ERAGE RATIO	20850 to 21375	20850, 21100, 21375	15MHz	16QAM	Full RB
	20850 to 21350	20850, 21100, 21350	20MHz	16QAM	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, 21100, 21425	5MHz	QPSK,	1 RB, 0 RB Offest
CONDCUDETED	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	20800 to 21400	20800, 21100, 21400	10MHz	16QAM	1 RB, 49 RB Offest
	20775 to 21425	20775, 21100, 21425	5MHz	QPSK,	1 RB/ 0,24 RB Offest 25 RB/ 0 Offset
EMISSION	20800 to 21400	20800, 21100, 21400	10MHz	QPSK,	1 RB/ 0,49 RB Offest 50 RB/ 0 Offset
MASK	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

ETE Band 12 MODE									
TEST ITEM	AVAILABLE CHANNEL	CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE				
	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK, 16QAM	1 RB/ 0,5 RB Offest				
ERP		23025, 23095, 23165		QPSK, 16QAM	1 RB/ 0,14 RB Offest				
ERP	23035 to 23155	23035, 23095, 23155	5MHz	QPSK, 16QAM	1 RB/ 0,24 RB Offest				
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK, 16QAM	1 RB/ 0,49 RB Offest				
FREQUENCY STABILITY	23060 to 23130	23095	10MHz	QPSK,	Full RB				
		23017, 23095, 23173		QPSK, 16QAM	Full RB				
OCCUPIED	23025 to 23165	23025, 23095, 23165	3MHz	QPSK, 16QAM	Full RB				
BANDWIDTH	23035 to 23155	23035, 23095, 23155	5MHz	QPSK, 16QAM	Full RB				
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK, 16QAM	Full RB				
	23017 to 23173	23017, 23095, 23173	1.4MHz	16QAM	Full RB				
PEAK TO AV-	23025 to 23165	23025, 23095, 23165	3MHz	16QAM	Full RB				
ERAGE RATIO	23035 to 23155	23035, 23095, 23155	5MHz	16QAM	Full RB				
	23060 to 23130	23060, 23095, 23130	10MHz	16QAM	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				
	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK,	1 RB, 0 RB Offest				
CONDCUDETED EMISSION	23025 to 23165	23025, 23095, 23165	3MHz	QPSK,	1 RB, 0 RB Offest				
	23035 to 23155	23035, 23095, 23155	5MHz	QPSK,	1 RB, 0 RB Offest				
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK,	1 RB, 0 RB Offest				
RADIATED EMISSION	23035 to 23155	23035, 23095, 23155	5MHz	16QAM	1 RB, 0 RB Offest				

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#### LTF Band 17 MODE

LIL BAIR IT WOOL								
TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE			
ERP		23755, 23790, 23825		QPSK, 16QAM	1 RB/ 0,24 RB Offest			
EKF	23780 to 23800	23780, 23790, 23800	10MHz	QPSK, 16QAM	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	Full RB			
BANDWIDTH	23780 to 23800	23780, 23790, 23800	10MHz	QPSK, 16QAM	Full RB			
PEAK TO AV-	23755 to 23825	23755, 23790, 23825	5MHz	16QAM	Full RB			
ERAGE RATIO	23780 to 23800	23780, 23790, 23800	10MHz	16QAM	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			
CONDCUDETED	23755 to 23825	23755, 23790, 23825	5MHz	QPSK,	1 RB, 0 RB Offest			
EMISSION	23780 to 23800	23780, 23790, 23800	10MHz	QPSK,	1 RB, 0 RB Offest			
RADIATED EMISSION	23780 to 23800	23780, 23790, 23800	10MHz	16QAM	1 RB, 0 RB Offest			

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## 5. MEASUREMENT UNCERTAINTY

Test Items	Uncertainty
RF Power Output	+/- 1.10 dB
ERP/ EIRP measurement	Vertical Polarization = +/- 4.74dB Horizontal Polarization =+/- 4.62dB
99% Occupied Bandwidth	+/- 5.19 Hz
Out of Band Emissions at Antenna Terminals and Band Edge	+/- 0.70 dB
Peak to Average Ratio	+/- 0.70 dB
Frequency Stability vs. Temperature	+/- 5.19 Hz
Frequency Stability vs. Voltage	+/- 5.19 Hz
Temperature	+/- 0.65 °C
Humidity	+/- 4.6 %
DC / AC Power Source	DC= +/- 0.13%, AC=+/- 0.2%

## Radiated Spurious Emission:

<u>-</u>			
	9kHz – 30MHz: +/- 2.87 dB		
Managemananter	30MHz - 180MHz: +/- 3.37dB		
Measurement uncertainty (Polarization : <b>Vertical</b> )	180MHz -417MHz: +/- 3.19dB		
(i dialization : Vertical)	0.417GHz-1GHz: +/- 3.19dB		
	1GHz - 18GHz: +/- 4.04dB		
	18GHz - 40GHz: +/- 4.04dB		

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

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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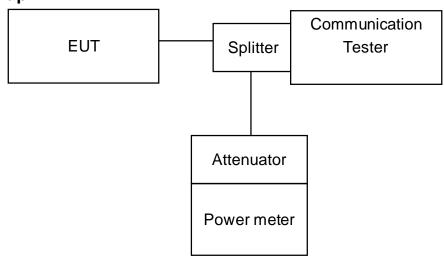
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## 6. RF CONDUCTED OUTPUT POWER MEASUREMENT

## 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.

## 6.2. Test Set-up



Note: Measurement setup for testing on Antenna connector

### 6.3. Measurement Procedure

The transmitter output was connected to a calibrated attenuator, the other end of which was connected to a power meter. Transmitter output was read off the power meter in dBm. The power output at the transmitter antenna port was determined by adding the value of the attenuator to the power meter reading. TS 151 010-1 is reference to conduct the test measurement of output power.

The Procedure of KDB941225 (SAR Measurement Procedures for 3G devices, (WCD-MA/HSPA) was used for EUT and Base station setting. RMC 12.2kps is used for this testing, and KDB 971168 D01 Power Meas License Digital System as the supplemental test methodology to adjust the proper setting obtaining the measurement results

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## 6.4. Measurement Equipment Used

Conduc	Conducted Emission (measured at antenna port) Test Site								
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.				
TYPE		NUMBER	NUMBER	CAL.					
Power Meter	Anritsu	ML2495A	1005007	12/09/2015	12/08/2016				
Power Sensor	Anritsu	MA2411B	917032	12/09/2015	12/08/2016				
EXA Spectrum Ana- lyzer	Agilent	N9030A	MY53120760	02/26/2016	02/25/2017				
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2016	01/01/2017				
Coaxial Cable	HU- BER+SUHNER	SUCOFLEX 102	23670/2	01/02/2016	01/01/2017				
Attenuator	Mini-Circuit	BW-S10W2+	2	01/02/2016	01/01/2017				
Splitter	Agilent	11636B	N/A	01/02/2016	01/01/2017				
DC Power Supply	Agilent	E3640A	MY52410006	11/05/2015	11/04/2016				
Temperature Chamber	TERCHY	MHG-120LF	911009	05/17/2016	05/16/2017				
Radio Communication Analyer	Anritsu	MT8820C	6201465317	12/10/2015	12/09/2016				
Radio Communication Analyzer	R&S	CMU200	102189	02/11/2016	02/10/2017				

### 6.5. Measurement Result

**RF Conducted Output Power** 

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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 V8.4.0 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:

EUT M	EUT Mode WCD Band		=			HSUPA Band II	
Frequency	СН	Peak Power	Avg. Power	Peak Power	Avg. Power	Peak Power	Avg. Power
(MHz)		(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
1852.4	9262	27.81	23.86	27.31	22.87	26.79	22.84
1880.0	9400	28.33	24.07	27.39	22.93	27.32	23.07
1907.6	9538	28.81	24.24	27.79	23.31	27.44	23.26

EUT M	ode	de WCDMA Band IV		HSDPA Band IV		HSUPA Band IV	
Frequency	СН	Peak Power	Avg. Power	Peak Power	Avg. Power	Peak Power	Avg. Power
(MHz)		(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
1712.4	1312	27.43	24.12	27.12	23.22	26.78	23.42
1732.6	1412	27.60	24.46	27.33	23.32	26.89	23.45
1752.6	1513	27.55	24.24	27.23	23.27	26.87	23.43

EUT M	EUT Mode		DMA id V	HSI Ban		HSUPA Band V		
Frequency		Peak Power	Avg. Power	Peak Power	Avg. Power	Peak Power	Avg. Power	
(MHz)		(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	
826.4	4132	27.26	24.16	26.55	23.12	26.22	23.05	
836.6	4183	27.61	24.26	26.84	23.17	26.40	23.33	
846.6	4233	27.65	24.37	27.16	23.22	26.73	23.48	

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### LTE Result:

#### LTE Band 2

	LTE Band 2_Uplink frequency band : 1850 to 1910 MHz											
			Conducted power(dBm)									
BW	RB			QPSK			16QAM					
(MHz)	Size		Channel	Channel	Channel	Channel	Channel	Channel				
(1011 12)	טעט		(Low)	(Mid)	(High)	(Low)	(Mid)	(High)				
			18607	18900	19193	18607	18900	19193				
	1	0	23.34	23.26	23.43	22.45	22.56	22.63				
1.4	1	5	23.44	23.29	23.47	22.18	22.33	22.43				
1.4	3	2	23.58	23.32	23.46	22.27	22.30	22.61				
	6	0	22.51	22.38	22.55	21.37	21.23	21.37				

	LTE E	Band 2_U	plink fre	quency b	and : 185	50 to 191	0 MHz			
				Conducted power(dBm)						
BW	RB	RB		QPSK			16QAM			
(MHz)	Size	Offset	Channel	Channel	Channel	Channel	Channel	Channel		
(IVII 12)	SIZE	Oliset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)		
			18615	18900	19185	18615	18900	19185		
	1	0	23.43	23.40	23.43	22.43	21.94	22.08		
3	1	14	23.52	23.30	23.37	22.29	22.44	22.17		
3	8	4	22.42	22.28	22.46	21.40	21.26	21.32		
	15	0	22.47	22.35	22.52	21.52	21.25	21.35		

	LTE	Band 2	_Uplink f	requenc	y band :	1850 to 1	910 MHz			
				Conducted power(dBm)						
BW (MHz)	RB Size			QPSK			16QAM			
			Channel	Channel	Channel	Channel	Channel	Channel		
(IVIITZ)			(Low)	(Mid)	(High)	(Low)	(Mid)	(High)		
			18625	18900	19175	18625	18900	19175		
	1	0	23.47	23.25	23.49	22.45	22.54	22.42		
5	1	24	23.06	23.38	23.50	22.03	22.53	22.21		
5	12	6	22.38	22.26	22.57	21.44	21.26	21.41		
	25	0	22.47	22.19	22.51	21.45	21.24	21.46		

	LTE E	Band 2_U	plink fre	quency b	and : 185	50 to 191	) MHz			
		RB		Conducted power(dBm)						
BW	RB			QPSK			16QAM			
(MHz)	Size	Offset	Channel	Channel	Channel	Channel	Channel	Channel		
(IVITIZ)	SIZE	Oliset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)		
			18650	18900	19150	18650	18900	19150		
	1	0	23.34	23.15	23.35	22.74	22.48	22.29		
10	1	49	23.31	23.43	23.61	22.05	22.24	22.39		
10	25	12	22.30	22.41	22.46	21.23	21.23	21.35		
	50	0	22.31	22.40	22.45	21.26	21.29	21.42		

	LTE Band 2_Uplink frequency band : 1850 to 1910 MHz											
	Ī		B RB ze Offset		Conducted power(dBm)							
	BW (MHz)	DD			QPSK			16QAM				
		Size		Channel	Channel	Channel	Channel	Channel	Channel			
(1	vii izj	SIZE		(Low)	(Mid)	(High)	(Low)	(Mid)	(High)			
				18675	18900	19125	18675	18900	19125			
		1	0	23.69	23.19	23.52	22.23	22.53	22.13			
	15	1	74	23.23	23.50	23.58	22.64	22.27	22.15			
	13	36	19	22.16	22.41	22.42	21.01	21.27	21.37			
		75	0	22.40	22.39	22.50	21.21	21.23	21.34			

	LTE E	Band 2_U	plink fre	quency b	and : 185	50 to 1910	) MHz			
				Conducted power(dBm)						
BW	RB	RB		QPSK		16QAM				
	Size		Channel	Channel	Channel	Channel	Channel	Channel		
(IVITZ)	Size		(Low)	(Mid)	(High)	(Low)	(Mid)	(High)		
			18700	18900	19100	18700	18900	19100		
	1	0	23.62	23.43	23.40	22.70	22.11	22.63		
20	1	99	23.27	23.53	23.43	22.06	22.68	22.31		
20	50	25	22.30	22.42	22.44	21.19	21.30	21.36		
	100	0	22.40	22.54	22.52	21.21	21.36	21.42		

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#### LTE Band 4

	LTE Band 4_Uplink frequency band : 1710 to 1755 MHz										
			Conducted power(dBm)								
BW (MHz)	RB Size	RB		QPSK			16QAM				
		Offset	Channel	Channel	Channel	Channel	Channel	Channel			
(IVII IZ)		oize Oliset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)			
			19957	20175	20393	19957	20175	20393			
	1	0	23.43	23.57	23.25	22.63	22.42	22.42			
1.4	1	5	23.57	23.66	23.60	22.55	22.67	22.86			
1.4	3	2	23.45	23.63	23.51	22.61	22.63	22.37			
	6	0	22.15	22.71	22.33	21.43	21.67	21.47			

	LTE Band 4_Uplink frequency band : 1710 to 1755 MHz										
		RB RB Size Offset		Conducted power(dBm)							
BW	DD			QPSK			16QAM				
			Channel	Channel	Channel	Channel	Channel	Channel			
(IVII IZ)	Size		(Low)	(Mid)	(High)	(Low)	(Mid)	(High)			
			19965	20175	20385	19965	20175	20385			
	1	0	23.54	23.63	23.44	22.06	22.29	22.32			
3	1	14	23.20	23.67	23.53	22.30	22.51	22.66			
3	8	4	22.83	22.62	22.53	21.32	21.47	21.57			
	15	0	22.78	22.68	22.48	21.27	21.60	21.74			

	LTE	Band 4	_Uplink f	requency	/ band : '	1710 to 1	755 MHz			
				Conducted power(dBm)						
BW (MHz)	RB	RB		QPSK			16QAM			
	Size	Offset	Channel	Channel	Channel	Channel	Channel	Channel		
(IVII IZ)		ze Oliset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)		
			19975	20175	20375	19975	20175	20375		
	1	0	23.62	23.58	23.43	22.35	22.72	22.74		
5	1	24	23.22	23.60	23.44	22.33	22.54	23.00		
3	12	6	22.37	22.62	22.62	21.46	21.76	21.44		
	25	0	22.30	22.62	22.58	21.88	21.58	21.51		

	LTE Band 4_Uplink frequency band : 1710 to 1755 MHz										
				Conducted power(dBm)							
BW	RB	RB		QPSK			16QAM				
(MHz)	Size	Offset	Channel	Channel	Channel	Channel	Channel	Channel			
(IVII IZ)	Size	Ze Oliset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)			
			20000	20175	20350	20000	20175	20350			
	1	0	23.26	23.76	23.56	22.40	22.91	22.54			
10	1	49	23.56	23.62	23.37	22.83	22.15	22.49			
10	25	12	22.47	22.61	22.58	21.45	21.62	21.60			
	50	0	22.53	22.77	23.00	21.53	21.67	21.61			

	LTE Band 4_Uplink frequency band : 1710 to 1755 MHz											
			Conducted power(dBm)									
BW (MHz)	RB	RB		QPSK			16QAM					
	Size	Offset	Channel	Channel	Channel	Channel	Channel	Channel				
(1011 12)		e Oliset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)				
			20025	20175	20325	20025	20175	20325				
	1	0	23.47	23.77	23.56	22.72	22.65	22.98				
15	1	74	23.52	23.57	24.00	22.64	22.58	22.56				
10	36	19	22.66	22.65	22.70	21.52	21.73	21.52				
	75	0	22.68	22.69	22.71	21.59	21.78	21.72				

LTE Band 4_Uplink frequency band : 1710 to 1755 MHz								
BW (MHz)	RB Size	RB Offset	Conducted power(dBm)					
			QPSK			16QAM		
			Channel	Channel	Channel	Channel	Channel	Channel
			(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
			20050	20175	20300	20050	20175	20300
20	1	0	23.50	23.83	23.63	22.21	22.94	22.86
	1	99	23.54	23.69	23.93	22.57	22.02	22.28
	50	25	22.74	22.77	22.71	21.70	21.79	21.62
	100	0	22.89	22.75	22.79	21.85	21.68	21.73

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# LTE Band 5

	LTE	Band	5_Uplink	frequen	cy band :	824 to 8	49 MHz	
				Co	nducted	power(dB	m)	
BW	RB	RB		QPSK			16QAM	
(MHz)	Size	Offcot	Channel	Channel	Channel	Channel	Channel	Channel
(IVII IZ)	SIZE	Oliset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
			20407	20525	20643	20407	20525	20643
	1	0	22.95	23.04	23.13	21.97	21.90	22.45
1.4	1	5	23.01	23.24	23.32	21.89	22.50	22.31
1.4	3	2	23.02	23.24	23.31	22.05	22.21	22.28
	6	0	22.14	22.25	22.30	20.96	21.17	21.17

	LTE Band 5_Uplink frequency band : 824 to 849 MHz										
			Conducted power(dBm)								
BW	RB	RB		QPSK			16QAM				
(MHz)		ize Offset	Channel	Channel	Channel	Channel	Channel	Channel			
(1011 12)	SIZE		(Low)	(Mid)	(High)	(Low)	(Mid)	(High)			
			20415	20525	20635	20415	20525	20635			
	1	0	22.94	23.05	23.31	21.40	21.66	22.10			
3	1	14	23.05	23.25	23.20	22.31	22.04	22.35			
٥	8	4	22.03	22.23	22.25	21.02	21.30	21.12			
	15	0	22.00	22.21	22.19	21.08	21.20	21.22			

	LTE Band 5_Uplink frequency band : 824 to 849 MHz										
				Co	nducted	power(dB	m)				
BW (MHz)	RB	RB		QPSK			16QAM				
	Size	Offset	Channel	Channel	Channel	Channel	Channel	QAM cannel Channel (High) 0525 20625 1.74 22.06 2.15 22.03 1.14 21.29			
(1011 12)	SIZE	Oliset	(Low)	(Mid)	(High)	(Low)	, , , , , ,	(High)			
			20425	20525	20625	20425	20525	20625			
	1	0	22.95	23.13	23.23	21.89	21.74	22.06			
5	1	24	23.00	23.22	23.19	21.82	22.15	22.03			
J	12	6	22.11	22.17	22.28	21.07	21.14	21.29			
	25	0	22.03	22.25	22.24	21.06	21.24	21.18			

	LTE Band 5_Uplink frequency band : 824 to 849 MHz										
				C	onducted	power(dBr	n)				
BW	RB	RB		QPSK			16QAM				
	Size		Channel	Channel	Channel	Channel	Channel	Channel			
(MHz)	SIZE	Offset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)			
			20450	20525	20600	20450	20525	20600			
	1	0	23.07	23.46	23.26	22.07	22.04	22.28			
10	1	49	23.12	23.20	23.18	22.00	22.49	22.44			
10	25	12	22.17	22.18	22.29	21.07	21.13	21.32			
	50	0	22.18	22.35	22.35	21.10	21.21	21.33			

# LTE Band 7

	LTE Band 7_Uplink frequency band : 2500 to 2570 MHz										
			Conducted power(dBm)								
BW	RB	RB		QPSK			16QAM	n)			
(MHz)	Size	Offset	Channel	Channel	Channel	Channel	Channel	Channel			
(1011 12)	0126	Oliset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)			
			20775	21100	21425	20775	21100	21425			
	1	0	23.22	23.29	23.18	21.87	22.35	22.25			
5	1	24	23.04	23.67	23.08	21.81	22.26	22.32			
'	12	6	22.06	22.42	22.21	21.21	21.53	21.22			
	25	0	21.99	22.49	22.20	21.17	21.48	21.24			

	LTE Band 7_Uplink frequency band : 2500 to 2570 MHz										
				Conducted power(dBm)							
BW	RB	RB		QPSK			16QAM				
(MHz)	Size	Offset	Channel	Channel	Channel	Channel	Channel	Channel			
(IVII IZ)	SIZE	Unset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)			
			20800	21100	21400	20800	21100	21400			
	1	0	23.37	23.16	23.25	22.31	22.34	22.26			
10	1	49	23.15	23.36	23.20	21.94	22.37	22.27			
10	25	12	22.09	22.47	22.27	21.17	21.47	21.31			
	50	0	22.08	22.65	22.27	21.12	21.42	21.36			

	LTE Band 7_Uplink frequency band : 2500 to 2570 MHz											
				Conducted power(dBm)								
BW (MHz)	RB	RB		QPSK			16QAM					
	Size	Officat	Channel	Channel	Channel	Channel	Channel	1) 16QAM Channel Channel (Mid) (High) 21100 21375 22.04 22.40 22.15 22.45 21.49 21.33				
	SIZE	Olloct	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)				
			20825	21100	21375	20825	21100	21375				
	1	0	23.10	23.21	23.30	21.86	22.04	22.40				
15	1	74	23.15	23.41	23.20	22.57	22.15	22.45				
10	36	19	22.20	22.45	22.31	21.08	21.49	21.33				
	75	0	22.19	22.44	22.22	21.18	21.47	21.27				

	L1	E Band 7	_Uplink fr	equency b	oand : 250	0 to 2570 l	MHz	
				C	Conducted	power(dBn	า)	
BW (MHz)	RB	RB		QPSK			16QAM	
	Size	Offset	Channel	Channel	Channel	Channel	Channel	nel Channel (High) 10 21350 2 22.12 1 22.34 2 21.34
(1011 12)	SIZE	Olisei	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
			20850	21100	21350	20850	21100	21350
	1	0	23.27	23.45	23.45	22.33	22.52	22.12
20	1	99	23.19	23.51	23.35	22.08	21.81	22.34
20	50	25	22.28	22.51	22.41	21.25	21.52	21.34
	100	0	22.25	22.49	22.31	21.27	21.47	21.39

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# LTE Band 12

	LTE	Band 1	2_Uplin	(frequen	cy band	: 699 to 7	'16 MHz		
			Conducted power(dBm)						
BW	RB	RB		QPSK			16QAM		
(MHz)	Size	Offset	Channel	Channel	Channel	Channel	Channel	Channel	
(IVII IZ)	SIZE	Oliset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	
	Size		23017	23095	23173	23017	23095	23173	
	1	0	22.88	22.83	23.11	21.71	22.14	21.67	
1.4	1	5	23.03	23.09	23.19	21.71	21.79	21.54	
1.4	3	2	23.04	23.40	23.29	22.01	22.13	22.19	
	6	0	22.05	22.16	22.25	20.95	21.01	21.20	

	LTE Band 12_Uplink frequency band : 699 to 716 MHz										
				C	Conducted	power(dBn	า)	nel Channel (High) 95 23165 1 22.35 4 <b>22.52</b>			
BW (MHz)	RB	RB		QPSK			16QAM				
	Size	Offset	Channel	Channel	Channel	Channel	Channel	Channel			
(1011 12)		ze Oliset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)			
			23025	23095	23165	23025	23095	23165			
	1	0	22.96	23.05	23.18	21.94	21.81	22.35			
3	1	14	23.05	23.13	23.20	21.62	22.24	22.52			
J	8	4	21.96	22.25	22.17	20.99	21.29	21.32			
	15	0	21.96	22.19	22.25	20.92	20.91	21.18			

	LTE Band 12_Uplink frequency band : 699 to 716 MHz											
			Conducted power(dBm)									
BW	RB	RB		QPSK			16QAM					
(MHz)		Offset	Channel	Channel	Channel	Channel	Channel	) 6QAM channel Channel (Mid) (High) 23095 23155 22.36 22.22 22.02 22.21 21.38 21.07				
(IVII IZ)	SIZE	Oliset	(Low)	(Mid)	(High)	(Low)	m) 16QAM Channel Channe (Mid) (High) 23095 23155 22.36 22.22 22.02 22.21 21.38 21.07					
	Size 1		23035	23095	23155	23035	23095	23155				
	1	0	22.89	22.95	23.20	22.20	22.36	22.22				
5	1	24	23.14	23.04	23.11	22.47	22.02	22.21				
3	12	6	22.08	22.24	22.19	21.09	21.38	21.07				
	25	0	22.00	21.93	22.21	20.70	21.34	21.14				

	LTE Band 12_Uplink frequency band: 699 to 716 MHz										
				(	Conducted	power(dBn	n)	_			
BW	RB	RB		QPSK			16QAM				
(MHz)	Size	Offset	Channel	Channel	Channel	Channel	Channel	Channel			
(IVII IZ)	SIZE	Size Offset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)			
			23060	23095	23130	23060	23095	23130			
	1	0	22.93	22.96	23.05	22.18	22.26	22.21			
10	1	49	23.31	23.19	23.12	22.12	22.10	21.84			
10	25	12	22.03	22.04	22.08	20.99	21.09	21.12			
	50	0	22.27	22.10	22.23	21.33	21.08	21.15			

# LTE Band 17

	LTE Band 17_Uplink frequency band : 704 to 716 MHz											
			Conducted power(dBm)									
BW	RB	RB		QPSK		16QAM						
(MHz)	Size	Offset	Channel	Channel	Channel	Channel	Channel	Channel				
(101112)	SIZE	Onset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)				
			23755	23790	23825	23755	23790	23825				
	1	0	22.84	23.14	23.04	22.22	22.10	21.55				
5	1	24	23.14	23.15	23.07	22.23	22.23	21.94				
J	12	6	22.07	22.08	22.13	21.20	21.13	21.19				
	25	0	22.07	22.11	22.06	21.15	21.12	21.19				

	LTE Band 17_Uplink frequency band : 704 to 716 MHz											
			Conducted power(dBm)									
BW	RB	RB		QPSK		16QAM						
(MHz)	Size	Offset	Channel	Channel	Channel	Channel	Channel	Channel				
(171112)	JIZE	Oliset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)				
			23780	23790	23800	23780	23790	23800				
	1	0	22.76	22.68	23.07	21.62	21.83	22.05				
10	1	49	23.17	23.06	23.08	22.40	21.62	22.03				
10	25	12	22.14	22.14	21.94	21.13	21.15	20.97				
	50	0	22.11	22.15	22.19	21.04	21.05	21.05				

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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 V8.4.0 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 V8.4.0. 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	βο	βa	β <sub>d</sub> ( <b>SF</b> )	βε/βα	βнs (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.

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#### Results:

Mode	Sub-test	Avg. Power (dBm) Channel			Power Class 3 Lim- itation (dBm)	Comments
		9262	9400	9538	itation (ubin)	
	1	24.03	23.96	24.10	20.3dBm - 25.7dBm	Pass
HSDPA	2	23.74	23.93	24.09	20.3dBm - 25.7dBm	Pass
(B2)	3	23.55	23.51	23.57	19.8dBm - 25.7dBm	Pass
	4	23.62	23.52	23.69	19.8dBm - 25.7dBm	Pass

Mode	Sub-test	Avg. Power (dBm) Channel			Power Class 3 Lim- itation (dBm)	Comments
		1312	1413	1513	itation (ubiii)	
	1	23.91	24.32	24.36	20.3dBm - 25.7dBm	Pass
HSDPA	2	24.05	24.35	24.11	20.3dBm - 25.7dBm	Pass
(B4)	3	23.45	23.84	23.87	19.8dBm - 25.7dBm	Pass
	4	23.50	23.88	23.93	19.8dBm - 25.7dBm	Pass

Mode	Sub-test	Avg. Power (dBm) Channel			Power Class 3 Lim-	Comments
		4132	4183	4233	itation (dBm)	
	1	23.95	24.12	24.49	20.3dBm - 25.7dBm	Pass
HSDPA	2	24.09	24.15	24.24	20.3dBm - 25.7dBm	Pass
(B5)	3	23.49	23.64	24.00	19.8dBm - 25.7dBm	Pass
	4	23.54	23.68	24.06	19.8dBm - 25.7dBm	Pass

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# 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 V8.4.0 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 V8.4.0. RMC 12.2kps is used for this testing

# **HSPA SUB-TEST Setting**

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

Sub- test	βε	βa	β <sub>d</sub> (SF)	βс/βа	βнѕ	βес	$eta_{ed}$	β <sub>ed</sub> (SF)	β <sub>ed</sub> (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 <sub>ed</sub> 1: 47/15 β <sub>ed</sub> 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.

#### Results:

Mode	Sub-test	Avg. Power (dBm) Channel			Power Class 3 Lim- itation (dBm)	Comments
		9262	9400	9538	itation (ubiii)	
	1	23.78	24.05	24.18	18.8dBm - 25.7dBm	Pass
	2	21.83	22.12	22.22	16.8dBm - 25.7dBm	Pass
HSUPA(B2)	3	22.84	23.07	23.26	17.8dBm - 25.7dBm	Pass
	4	21.96	22.17	22.26	16.8dBm - 25.7dBm	Pass
	5	23.67	23.91	24.09	18.8dBm – 25.7dBm	Pass

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Mode	Sub-test	Avg. Power (dBm) Channel			Power Class 3 Lim- itation (dBm)	Comments
		1312	1413	1513	itation (ubiii)	
	1	24.08	24.39	24.16	20.3dBm - 25.7dBm	Pass
HSDPA	2	22.14	22.47	22.20	20.3dBm - 25.7dBm	Pass
	3	23.12	23.45	23.24	19.8dBm - 25.7dBm	Pass
(B4)	4	22.19	22.53	22.28	19.8dBm - 25.7dBm	Pass
	5	23.94	24.22	24.05	19.8dBm - 25.7dBm	Pass

Mode	Sub-test	Avg. Power (dBm) Channel			Power Class 3 Lim- itation (dBm)	Comments
		4132	4183	4233	itation (dBiii)	
	1	24.12	24.19	24.29	18.8dBm - 25.7dBm	Pass
	2	22.18	22.27	22.33	16.8dBm - 25.7dBm	Pass
HSUPA(B5)	3	23.16	23.25	23.37	17.8dBm – 25.7dBm	Pass
1100171(20)	4	22.23	22.33	22.41	16.8dBm - 25.7dBm	Pass
-	5	23.98	24.02	24.18	18.8dBm – 25.7dBm	Pass

# 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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# 7. EFFECTIVE RADIATED POWER AND EQUIVALENT ISOTROPIC RADIATED POWER MEASUREMENT

# 7.1. Standard Applicable

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.

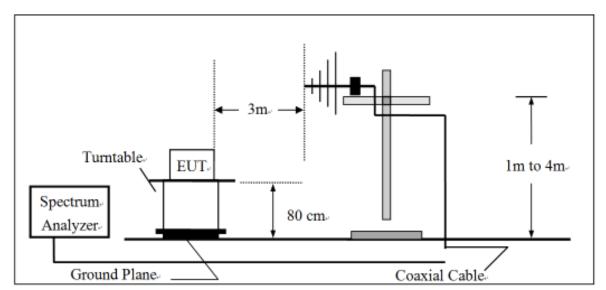
FCC 27.50(c) (9) Control stations and mobile stations are limited to 30 watts ERP.

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

#### 7.2. Test SET-UP

(A) Radiated Power Test Set-Up, Frequency Below1000MHz



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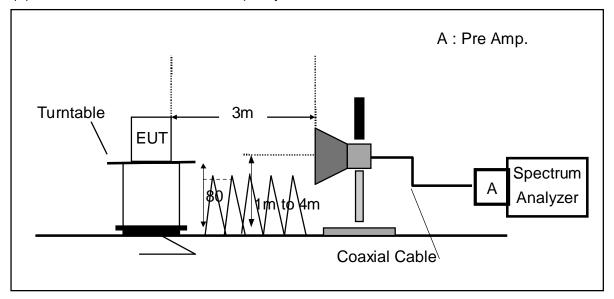
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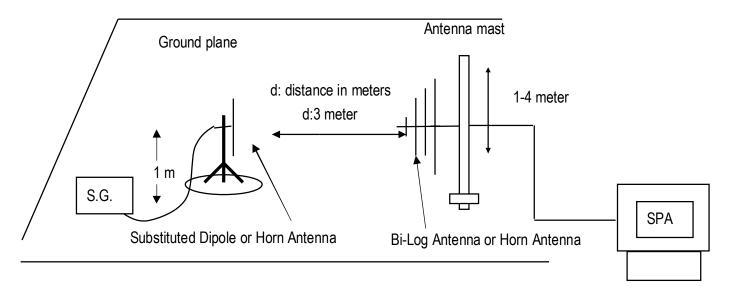


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# Radiated Power Test Set-UP Frequency Over 1 GHz



# Substituted Method Test Set-UP



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# 7.3. Measurement Procedure

- The testing follows the Measurement Procedure of FCC KDB 971168 D01
- 2. The EUT was placed on a non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer.
- 3. During the measurement, the EUT was communication with the station. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna from 4m to 1m. The reading was recorded and the field strength (E in dBuV/m) was calculated
- 4. The testing follows the Measurement Procedure of FCC KDB 971168 D01
- 5. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a tx cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step b. Record the power level of S.G.
- 6. ERP = S.G. output (dBm) + Antenna Gain (dBd) Cable Loss (dB)
- 7. ERP = S.G. output (dBm) + Antenna Gain (dBd) Cable Loss (dB)
- 8. Spectrum setting:
  - (1) Detector = Peak, marker the highest value of the detector by maximum hold, set RBW wide enough to capture the entire signal of emission, and VBW > =3xRBW.
  - (2) KDB 971168 D01 is adopted, and the procedure as lists under item 4, Measurement of the Average Power over the Fundamental Signal Bandwidth, is followed to set correspondingly for the acquisition of proper measurement data.

Set frequency = nominal signal center frequency;

Set span = 2 X occupied BW;

Set RBW ≈ 1~5% of the span, not to exceed 1 MHz

Set  $VBW = 3 \times RBW$ ;

Select average power (RMS) detector

Set sweep time and number of measurement points to achieve a minimum of 1 millisecond/pt integration time (ex. Point = 601points, then sweet time =  $601*10^{-3}$  = 6s.

Activate trace averaging routine over a minimum of 10 sweeps;

Activate marker/span pair and set span = signal or channel bandwidth;

Activate the band/interval power marker function;

Record the band power level:

Record adjusted value as the average signal power level. Then activate the occupied bandwidth measurement function.

The proper adjustment due to limitation of spectrum capability is given compensated to spectrum with conversion factor of 10\*log (TBW/RBW), where TBW is the transmission of UE exceeding the maximum BW UE can extends, and RBW is the resolution BW in UE.

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# 7.4. Measurement Equipment Used

ERP, EIRP MEASUREMENT EQUIPMENT List 966 Chamber										
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.					
EMI Test Receiver	R&S	ESCI7	100760	05/10/2016	05/09/2017					
Spectrum Analyzer	Agilent	E4446A	MY51100003	01/29/2016	01/28/2017					
Loop Antenna	ETS.LINDGREN	6502	148045	09/07/2015	09/06/2016					
Bilog Antenna	SCHWAZBECK	VULB9168	378	12/14/2015	12/13/2016					
Bi-log Antenna	SCHWAZBECK	VULB9168	300	12/12/2015	12/11/2016					
Horn Antenna	SCHWAZBECK	BBHA9120D	1441	08/10/2015	08/09/2016					
Horn Antenna	SCHWAZBECK	BBHA9170	185	07/18/2016	07/17/2017					
Pre-Amplifier	Agilent	8447D	2944A07676	01/02/2016	01/01/2017					
Pre-Amplifier	EMC Instruments Corp.	EMC0126530	980038	01/02/2016	01/01/2017					
Turn Table	HD	DT420	N/A	N.C.R	N.C.R					
Antenna Tower	ChamPro	AM-BS-4500-B	060776-ABS	N.C.R	N.C.R					
Controller	ChamPro	EM1000	60776	N.C.R	N.C.R					
Low Loss Cable	Huber Suhner	966_RX	9	01/02/2016	01/01/2017					
3m Site NSA	SGS	966 chamber	N/A	07/01/2016	06/30/2017					
Low Loss Cable	Huber Suhner	966 TX	1	01/02/2016	01/01/2017					
Radio Communication Analyzer	R&S	CMU200	102189	02/11/2016	02/10/2017					
Radio Communication Analyzer	Anritsu	MT8820C	6200995019	09/25/2015	09/24/2016					
Radio Communication Analyer	Anritsu	MT8820C	6201465317	12/10/2015	12/09/2016					
Signal Generator	Agilent	E4438C	MY45093613	07/07/2016	07/06/2017					
Filter 800-1000	Micro-Tronics	EWT	M1	01/02/2016	01/01/2017					
Filter 1800-2000	Micro-Tronics	EWT	M1	01/02/2016	01/01/2017					
1GHz High Pass Filter	Micro-Tronics	HPM50108	32	01/02/2016	01/01/2017					
2GHz High Pass Filter	Micro-Tronics	HPM50110	36	01/02/2016	01/01/2017					

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# 7.5. Measurement Result: (Peak) –using option of peak measurement

	EUT		Measurement							
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit		
	MHz		V/H	dBm	dBi	dB	dBm	dBm		
	1852.4	9262	V	14.69	9.95	-4.46	20.18	33.00		
		9202	Н	18.18	9.95	-4.46	23.66	33.00		
MCDMA BO	1000.0	0.400	V	17.61	10.04	-4.51	23.13	33.00		
WCDMA B2	1880.0	9400	Н	20.89	10.03	-4.51	26.42	33.00		
	1007.0	0520	V	14.62	10.12	-4.55	20.19	33.00		
	1907.6	9538	Н	18.92	10.12	-4.55	24.50	33.00		

	EUT				Measur	ement		Limit  dBm  33.00  33.00					
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit					
	MHz		V/H	dBm	dBi	dB	dBm	dBm					
	1852.4	9262	V	14.64	9.95	-4.46	20.12	33.00					
	1002.4	9202	Н	17.31	9.95	-4.46	22.79	33.00					
LICDDA DO	4000.0	0400	V	15.99	10.03	-4.51	21.51	33.00					
HSDPA B2	1880.0	9400	Н	18.39	10.03	-4.51	23.91	dBm 2 33.00 9 33.00 1 33.00 1 33.00					
	1907.6	9538	V	16.04	10.12	-4.55	21.61	33.00					
	1907.0	3000	Н	16.77	10.12	-4.55	22.34	33.00					

	EUT				Measur	ement		<b>Limit dBm</b> 33.00  33.00					
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit					
	MHz		V/H	dBm	dBi	dB	dBm	dBm					
	1050 /	0262	V	13.91	9.95	-4.46	19.39	33.00					
	1852.4	9262	Н	16.59	9.95	-4.46	22.07	33.00					
HSUPA B2	1880.0	9400	V	12.87	10.03	-4.51	18.39	33.00					
HSUPA 62	1000.0	9400	Н	17.68	10.03	-4.51	23.20	33.00					
	1007.6	9538	V	14.20	10.12	-4.55	19.77	33.00					
	1907.6	9030	Н	17.71	10.12	-4.55	23.28	33.00					

# Remark:

(1) The RBW, VBW of SPA for frequency RBW = 5MHz, VBW = 8MHz

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	EUT				Measure	ement		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1710 /	1212	V	16.81	9.48	-4.31	21.98	30.00
	1712.4	1312	Н	22.79	9.48	-4.31	27.97	30.00
MCDMA BA	1722.6	1.112	V	17.06	9.55	-4.31	22.30	30.00
WCDMA B4	1732.6	1413	Н	21.09	9.55	-4.31	26.33	30.00
	1752.6	1513	V	16.85	9.62	-4.34	22.14	30.00
	1732.0	1513	Н	19.95	9.62	-4.34	25.23	30.00

	EUT				Measur	ement		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	4740.4	1010	V	16.75	9.48	-4.31	21.92	30.00
	1712.4	1312	Н	20.48	9.48	-4.31	25.65	30.00
HSDPA B4	1732.6	1413	V	17.33	9.55	-4.31	22.57	30.00
HOUPA 64	1732.0	1413	Н	19.47	9.55	-4.31	24.71	30.00
	1752.6	1513	V	15.86	9.62	-4.34	21.14	30.00
	1732.0	1313	Н	18.58	9.62	-4.34	23.86	30.00

	EUT				Measur	ement		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1712.4	1312	V	15.40	9.48	-4.31	20.57	30.00
	1712.4	1312	Н	19.38	9.48	-4.31	24.55	30.00
HSUPA B4	1732.6	1413	V	15.59	9.55	-4.31	20.83	30.00
HSUPA 64	1732.0	1413	Н	19.09	9.55	-4.31	24.33	30.00
	1750.6	1510	V	15.74	9.62	-4.34	21.02	30.00
	1752.6	1513	Н	17.83	9.62	-4.33	23.11	30.00

# Remark:

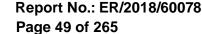
(1) The RBW, VBW of SPA for frequency RBW = 5MHz, VBW = 8MHz

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	EUT				Measur	ement		Limit  dBm  38.45					
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit					
	MHz		V/H	dBm	dBd	dB	dBm	dBm					
	826.4	4132	V	13.62	3.30	-2.93	13.99	38.45					
	020.4	4132	Н	20.25	3.30	-2.93	20.62	38.45					
MCDMA DE	926.6	4400	V	16.09	3.29	-2.97	16.40	38.45					
WCDMA B5	836.6	4183	Н	18.33	3.29	-2.96	18.66	38.45					
	0.46.6	4233	V	14.63	3.27	-3.00	14.90	38.45					
	846.6	4233	Н	17.24	3.27	-3.00	17.52	38.45					

	EUT				Measur	ement		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dBd	dB	dBm	dBm
	826.4	4132	V	13.30	3.30	-2.93	13.67	38.45
	020.4	4132	Н	19.26	3.30	-2.93	19.64	38.45
HCDDA BE	836.6	4183	V	11.78	3.29	-2.96	12.10	38.45
HSDPA B5	030.0	4103	Н	16.15	3.29	-2.96	16.48	38.45
	946.6	4000	V	13.51	3.27	-3.00	13.79	38.45
	846.6	4233	Н	17.86	3.27	-3.00	18.13	38.45

	EUT				Measur	ement		Limit  dBm  38.45  38.45  38.45					
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit					
	MHz		V/H	dBm	dBd	dB	dBm	dBm					
	826.4	4132	V	13.26	3.30	-2.93	13.64	38.45					
	020.4	4132	Н	16.52	3.30	-2.93	16.89	38.45					
HSUPA B5	836.6	4183	V	12.66	3.29	-2.96	12.99	38.45					
HSUPA BS	030.0	4103	Н	16.02	3.29	-2.96	16.34	38.45					
	946.6	4000	V	12.98	3.27	-3.00	13.25	38.45					
	846.6	4233	Н	17.32	3.27	-3.00	17.60	38.45					

#### Remark:

(1) The RBW, VBW of SPA for frequency RBW = 5MHz, VBW = 8MHz

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1850.7	18607	V	15.74	9.95	-4.46	21.22	33.01
BAND 2	1650.7	10007	Н	18.16	9.95	-4.46	23.64	33.01
BW: 1.4M	1880.0	18900	V	16.78	10.03	-4.51	22.30	33.01
QPSK	1880.0	10900	Н	19.93	10.03	-4.51	25.45	33.01
RB: 1,0	1909.3	19193	V	15.54	10.12	-4.55	21.11	33.01
	1909.5	19193	Н	17.76	10.12	-4.55	23.33	33.01
	1850.7	10607	V	15.67	9.94	-4.46	21.15	33.01
BAND 2	1650.7	18607	Н	18.08	9.94	-4.46	23.56	33.01
BW: 1.4M QPSK	1880.0	18000	V	16.58	10.03	-4.51	22.10	33.01
	1000.0	10900	Н	19.82	10.03	-4.51	25.34	33.01
RB: 1,5	1909.3	19193	V	15.15	10.12	-4.55	20.72	33.01
	1909.5	19190	Н	17.42	10.12	-4.55	22.99	33.01
	1850.7	18607	V	15.84	9.95	-4.46	21.32	33.01
BAND 2	1830.7	10007	Н	18.23	9.95	-4.46	23.72	33.01
BW: 1.4M	1880.0	18900	V	16.99	10.03	-4.51	22.51	33.01
16QAM	1000.0	10300	Н	20.17	10.03	-4.51	25.70	33.01
RB: 1,0	1909.3	19193	V	15.65	10.12	-4.55	21.23	33.01
	1909.5	19190	Н	17.88	10.12	-4.55	23.45	33.01
	1850.7	18607	V	15.81	9.94	-4.46	21.28	33.01
BAND 2 BW: 1.4M 16QAM RB: 1,5	1030.7	10007	Н	18.18	9.94	-4.46	23.66	33.01
	1880.0	18900	V	16.81	10.03	-4.51	22.34	33.01
	1000.0	10000	Н	20.03	10.03	-4.51	25.55	33.01
	1909.3	19193	V	15.01	10.12	-4.55	20.58	33.01
	1000.0	10100	Н	17.53	10.12	-4.55	23.10	33.01

#### Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1851.5	18615	V	16.28	9.95	-4.46	21.76	33.01
BAND 2	1651.5	10013	Н	18.71	9.95	-4.46	24.19	33.01
BW: 3M	1880.0	18900	V	17.21	10.03	-4.50	22.73	33.01
QPSK	1880.0	10900	Н	20.28	10.03	-4.50	25.80	33.01
RB: 1,0	1908.5	19185	V	16.49	10.11	-4.54	22.06	33.01
	1908.5	19100	Н	18.57	10.11	-4.55	24.14	33.01
	1851.5	18615	V	15.69	9.94	-4.46	21.17	33.01
BAND 2	1651.5	10013	Н	18.41	9.94	3 -4.50 <b>25.80</b> 1 -4.54 22.06 1 -4.55 24.14 -4.46 21.17 -4.46 23.89 3 -4.51 22.21 3 -4.51 <b>25.44</b> 2 -4.55 21.02 -4.46 21.72 -4.46 24.34	33.01	
BW: 3M QPSK	1880.0	18900	V	16.68	10.03	-4.51	22.21	33.01
	1000.0	10900	Н	19.91	10.03	-4.51	25.44	33.01
RB: 1,14	1908.5	19185	V	15.45	10.12	-4.55	21.02	33.01
	1908.5	19100	Н	17.64	10.12	-4.55	23.22	33.01
	1851.5	18615	V	16.24	9.95	-4.46	21.72	33.01
BAND 2	1651.5	10013	Н	18.86	9.95	-4.46	24.34	33.01
BW: 3M	1880.0	18900	V	17.20	10.02	-4.50	22.72	33.01
16QAM	1880.0	10900	Н	20.43	10.03	-4.50	25.95	33.01
RB: 1,0	1908.5	19185	V	16.62	10.11	-4.55	22.18	33.01
	1908.5	19103	Н	18.69	10.11	-4.55	24.26	33.01
	1051 5	10615	V	15.76	9.94	-4.46	21.24	33.01
BAND 2	1851.5	18615	Н	18.30	9.94	-4.46	23.78	33.01
BW: 3M 16QAM RB: 1,14	1990.0	18900	V	16.81	10.03	-4.51	22.33	33.01
	1880.0	10900	Н	20.11	10.03	-4.51	dBm         dBm           21.76         33.01           24.19         33.01           25.80         33.01           25.80         33.01           22.06         33.01           24.14         33.01           23.89         33.01           25.44         33.01           25.44         33.01           21.02         33.01           23.22         33.01           24.34         33.01           24.34         33.01           25.95         33.01           22.18         33.01           24.26         33.01           21.24         33.01           23.78         33.01	
	1908.5	19185	V	15.30	10.12	-4.55	20.88	33.01
	1906.5	19100	Н	17.52	10.12	-4.55	23.09	33.01

# Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1852.5	18625	V	15.82	9.95	-4.46	21.31	33.01
BAND 2	1652.5	10023	Н	18.63	9.95	-4.46	24.11	33.01
BW: 5M	1880.0	18900	V	17.42	10.02	-4.50	22.94	33.01
QPSK	1000.0	10900	Н	20.29	10.02	-4.50	25.81	33.01
RB: 1,0	1907.5	19175	V	17.09	10.11	-4.54	22.66	33.01
	1907.5	19173	Н	19.09	10.11	-4.54	24.66	33.01
	1852.5	18625	V	15.05	9.95	-4.46	20.54	33.01
BAND 2	1652.5	10023	Н	18.07	9.95	-4.46	23.55	33.01
BW: 5M QPSK	1880.0	18900	V	16.58	10.04	-4.51	22.10	33.01
	1000.0	10300	Н	19.75	10.04	-4.51	25.28	33.01
RB: 1,24	1907.5	19175	V	15.54	10.12	-4.55	21.12	33.01
	1907.5	19175	Н	17.75	10.12	-4.55	23.32	33.01
	1852.5	18625	V	16.01	9.95	-4.46	21.49	33.01
BAND 2	1002.0	10020	Н	18.86	9.95	-4.46	24.35	33.01
BW: 5M	1880.0	18900	V	17.53	10.02	-4.50	23.05	33.01
16QAM	1000.0	10000	Н	20.42	10.02	-4.50	25.94	33.01
RB: 1,0	1907.5	19175	V	17.20	10.11	-4.54	22.77	33.01
	1307.3	13173	Н	19.16	10.11	-4.54	24.72	33.01
	1852.5	18625	V	15.12	9.95	-4.46	20.60	33.01
BAND 2 BW: 5M 16QAM RB: 1,24	1002.0	10020	Н	18.16	9.95	-4.46	23.64	33.01
	1880.0	18900	V	16.82	10.04	-4.51	22.35	33.01
	1000.0	10000	Н	19.99	10.04	2     -4.55     21.12     33       2     -4.55     23.32     33       3     -4.46     21.49     33       5     -4.46     24.35     33       2     -4.50     23.05     33       2     -4.50     25.94     33       1     -4.54     22.77     33       1     -4.54     24.72     33       3     -4.46     20.60     33       4     -4.46     23.64     33       4     -4.51     22.35     33       4     -4.51     25.51     33       2     -4.55     21.00     33	33.01	
	1907.5	19175	V	15.42	10.12	-4.55	21.00	33.01
	1007.0	10170	Н	17.54	10.12	-4.55	23.12	33.01

#### Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1955.0	18650	V	15.63	9.95	-4.46	21.11	33.01
BAND 2	1855.0	10000	Н	18.69	9.95	-4.46	24.17	33.01
BW: 10M	1880.0	18900	V	17.47	10.01	-4.50	22.99	33.01
QPSK	1000.0	10900	Н	20.28	10.02	-4.50	25.80	33.01
RB: 1,0	1905.0	19150	V	16.86	10.09	-4.54	22.41	33.01
	1905.0	19130	Н	18.98	10.09	-4.54	24.54	33.01
	1855.0	18650	V	14.38	9.96	-4.47	19.87	33.01
DAND 2	1655.0	10000	Н	17.80	9.96	-4.47	23.29	33.01
BAND 2 BW: 10M QPSK	1880.0	18900	V	15.87	10.04	-4.51	21.40	33.01
	1000.0	10300	Н	19.24	10.04	-4.51	24.77	33.01
RB: 1,49	1905.0	19150	V	15.53	10.12	-4.55	21.10	33.01
1,10	1905.0	19130	Н	17.73	10.12	-4.55	23.30	33.01
	1855.0	18650	V	15.89	9.95	-4.46	21.37	33.01
BAND 2	1000.0	10000	Н	18.85	9.95	-4.46	24.33	33.01
BW: 10M	1880.0	18900	V	17.76	10.02	-4.50	23.28	33.01
16QAM	1000.0	10000	Н	20.64	10.01	-4.50	26.15	33.01
RB: 1,0	1905.0	19150	V	16.94	10.09	-4.54	22.50	33.01
	1303.0	13130	Н	19.29	10.09	-4.54	24.85	33.01
	1855.0	18650	V	14.42	9.97	-4.47	19.92	33.01
BAND 2 BW: 10M 16QAM RB: 1,49	1000.0	10000	Н	17.96	9.96	-4.47	23.45	33.01
	1880.0	18900	V	16.11	10.04	-4.51	21.64	33.01
	1000.0	10000	Н	19.53	10.04	dB         dBm         dBm           -4.46         21.11         33.01           -4.46         24.17         33.01           -4.50         22.99         33.01           -4.50         25.80         33.01           -4.54         22.41         33.01           -4.54         24.54         33.01           -4.47         19.87         33.01           -4.47         23.29         33.01           -4.51         21.40         33.01           -4.51         24.77         33.01           -4.55         21.10         33.01           -4.55         23.30         33.01           -4.46         21.37         33.01           -4.46         24.33         33.01           -4.50         23.28         33.01           -4.50         23.28         33.01           -4.54         22.50         33.01           -4.54         24.85         33.01           -4.47         19.92         33.01           -4.47         23.45         33.01		
	1905.0	19150	V	15.85	10.12	-4.55	21.42	33.01
	1000.0	10100	Н	18.05	10.12	-4.55	23.62	33.01

#### Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1857.5	18675	V	15.73	9.94	-4.46	21.21	33.01
BAND 2	1657.5	10073	Н	19.23	9.95	-4.46	24.71	33.01
BW: 15M	1880.0	18900	V	15.60	10.01	-4.50	21.11	33.01
QPSK	1880.0	10900	Н	20.20	10.01	-4.50	25.71	33.01
RB: 1,0	1902.5	19125	V	14.49	10.08	-4.53	20.04	33.01
	1902.5	19123	Н	18.52	10.08	-4.53	24.07	33.01
	1857.5	18675	V	14.92	9.98	-4.48	20.42	33.01
BAND 2	1657.5	10073	Н	18.36	9.98	-4.48	23.86	33.01
BW: 15M QPSK	1880.0	18900	V	13.76	10.05	-4.52	19.29	33.01
	1000.0	10300	Н	18.87	10.05	-4.52	24.41	33.01
RB: 1,74	1902.5	19125	V	14.20	10.12	-4.55	19.77	33.01
	1902.5	13123	Н	18.35	10.12	-4.55	23.93	33.01
	1857.5	18675	V	15.93	9.95	-4.46	21.41	33.01
BAND 2	1657.5	10073	Н	19.48	9.95	-4.46	24.96	33.01
BW: 15M	1880.0	18900	V	15.84	10.01	-4.50	21.35	33.01
16QAM	1000.0	10300	Н	20.45	10.01	-4.50	25.96	33.01
RB: 1,0	1902.5	19125	V	14.25	10.08	-4.53	19.80	33.01
	1902.5	19123	Н	17.96	10.08	-4.53	23.51	33.01
	1857 5	18675	V	15.10	9.98	-4.48	20.60	33.01
BAND 2	BAND 2 1857.5	10073	Н	18.52	9.98	-4.48	24.02	33.01
BW: 15M 16QAM RB: 1,74	1880.0	18900	V	14.06	10.05	-4.52	19.59	33.01
	1000.0	10300	Н	19.17	10.05	-4.52	24.71	33.01
	1902.5	19125	V	14.55	10.12	-4.55	20.12	33.01
	1502.5	10120	Н	18.70	10.12	-4.55	24.27	33.01

#### Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1860.0	18700	V	14.29	9.94	-4.46	19.77	33.01
BAND 2	1860.0	10700	Н	18.95	9.94	-4.46	24.43	33.01
BW: 20M	1880.0	18900	V	15.16	10.00	-4.49	20.68	33.01
QPSK	1880.0	10900	Н	19.60	10.00	-4.49	25.11	33.01
RB: 1,0	1900.0	19100	V	14.04	10.07	-4.52	19.58	33.01
	1900.0	13100	Н	18.15	10.07	-4.52	23.69	33.01
	1860.0	18700	<b>V</b>	14.79	9.99	-4.49	20.30	33.01
BAND 2	1800.0	10700	Н	18.93	9.99	-4.49	24.44	33.01
BW: 20M QPSK	1880.0	18900	V	13.50	10.06	-4.52	19.04	33.01
	1880.0	10900	Н	18.43	10.06	-4.52	23.96	33.01
RB: 1,99	1900.0	19100	V	14.21	10.12	-4.55	19.79	33.01
	1900.0	13100	Н	18.52	10.12	-4.55	24.09	33.01
	1860.0	18700	V	14.41	9.95	-4.47	19.90	33.01
BAND 2	1800.0	10700	Н	19.18	9.94	-4.46	24.66	33.01
BW: 20M	1880.0	18900	V	15.39	10.01	-4.50	20.90	33.01
16QAM	1880.0	10900	Н	19.85	10.01	-4.50	25.37	33.01
RB: 1,0	1900.0	19100	V	14.13	10.08	-4.53	19.68	33.01
	1300.0	13100	Н	18.35	10.08	-4.53	23.89	33.01
	1860.0	18700	V	15.10	9.99	-4.49	20.61	33.01
BAND 2	1860.0	10700	Н	19.24	9.99	-4.49	24.74	33.01
BW: 20M 16QAM RB: 1,99	1880.0	18900	V	13.84	10.06	-4.52	19.38	33.01
	1000.0	10300	Н	18.74	10.06	-4.52	24.28	33.01
	1900.0	19100	V	14.58	10.12	-4.55	20.15	33.01
	1550.0	10100	Н	18.85	10.12	-4.55	24.42	33.01

# Remark:

The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz (1)

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1710.7	19957	V	14.01	9.48	-4.31	19.18	30.00
BAND 4	1710.7	19907	Н	18.98	9.48	-4.31	24.15	30.00
BW: 1.4M/	1732.5	20175	V	14.36	9.54	-4.31	19.60	30.00
QPSK	1732.3	20173	Н	18.88	9.54	-4.31	24.11	30.00
RB: 1,0	1754.3	20393	V	13.91	9.62	-4.34	19.19	30.00
	1734.3	20393	Н	18.42	9.62	-4.34	23.70	30.00
	1710.7	19957	V	13.93	9.47	-4.31	19.10	30.00
BAND 4	1710.7	19907	Н	19.12	9.47	-4.31	24.29	30.00
BW: 1.4M QPSK	1732.5	20175	V	14.47	9.55	-4.31	19.71	30.00
	1732.5	20173	Н	19.00	9.55	-4.31	24.24	30.00
RB: 1,5	1754.3	20393	V	13.67	9.62	-4.34	18.96	30.00
	1754.5	20090	Н	18.25	9.62	-4.34	23.53	30.00
	1710.7	19957	V	14.11	9.48	-4.31	19.28	30.00
BAND 4	17 10.7	13337	Н	19.12	9.48	-4.31	24.29	30.00
BW: 1.4M	1732.5	20175	V	14.38	9.54	-4.31	19.61	30.00
16QAM	1702.0	20170	Н	18.94	9.55	-4.31	24.17	30.00
RB: 1,0	1754.3	20393	V	14.05	9.62	-4.33	19.33	30.00
	1754.5	20000	Н	18.66	9.62	-4.33	23.94	30.00
	1710 7	19957	V	14.15	9.47	-4.31	19.32	30.00
BAND 4	BAND 4 1710.7	19901	Н	19.26	9.47	-4.31	24.42	30.00
BW: 1.4M 16QAM RB: 1,5	1732.5	20175	V	14.53	9.55	-4.31	19.76	30.00
	1702.0	20170	Н	19.10	9.55	-4.31	24.34	30.00
	1754.3	20393	V	13.99	9.62	-4.34	19.28	30.00
	1754.5	20000	Н	18.58	9.62	-4.34	23.87	30.00

#### Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1711 F	19965	V	13.90	9.48	-4.31	19.07	30.00
BAND 4	1711.5	19900	Н	19.04	9.48	-4.31	24.21	30.00
BW: 3M	1732.5	20175	V	14.07	9.54	-4.31	19.30	30.00
QPSK	1732.5	20173	Н	19.00	9.54	-4.31	24.24	30.00
RB: 1,0	1753.5	20385	V	14.25	9.61	-4.33	19.53	30.00
	1755.5	20303	Н	18.76	9.61	-4.33	24.04	30.00
	1711.5	19965	V	13.80	9.48	-4.31	18.96	30.00
BAND 4	1711.5	19900	Н	19.06	9.48	-4.31	24.22	30.00
BW: 3M QPSK	1732.5	20175	V	14.20	9.55	-4.31	19.44	30.00
	1732.5	20173	Н	19.24	9.55	-4.31	24.48	30.00
RB: 1,14	1753.5	20385	V	13.91	9.62	-4.34	19.20	30.00
	1755.5	20303	Н	18.35	9.62	-4.34	23.64	30.00
	1711.5	19965	V	14.02	9.48	-4.31	19.19	30.00
BAND 4	1711.5	13303	Н	19.18	9.48	-4.31	24.35	30.00
BW: 3M	1732.5	20175	V	14.03	9.54	-4.31	19.26	30.00
16QAM	1732.5	20173	Н	19.07	9.54	-4.31	24.30	30.00
RB: 1,0	1753.5	20385	V	14.43	9.61	-4.33	19.71	30.00
	1700.0	20000	Н	19.09	9.61	-4.33	24.37	30.00
	1711 5	19965	V	13.97	9.48	-4.31	19.13	30.00
BAND 4		10000	Н	19.20	9.48	-4.31	24.37	30.00
BW: 3M 16QAM RB: 1,14	1732.5	20175	V	14.30	9.55	-4.31	19.54	30.00
	1702.0	20170	Н	19.34	9.55	-4.31	24.58	30.00
	1753.5	20385	V	14.25	9.62	-4.34	19.53	30.00
	1733.3	20000	Н	18.68	9.62	-4.34	23.97	30.00

#### Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1712.5	19975	V	14.00	9.48	-4.31	19.17	30.00
BAND 4	1712.5	19975	Н	19.16	9.48	-4.31	24.33	30.00
BW: 5M	1732.5	20175	V	13.43	9.54	-4.31	18.66	30.00
QPSK	1732.3	20173	Н	18.96	9.54	-4.31	24.19	30.00
RB: 1,0	1752.5	20375	V	13.89	9.61	-4.33	19.17	30.00
	1732.3	20373	Н	19.22	9.61	-4.33	24.50	30.00
	1712.5	19975	V	13.76	9.48	-4.31	18.93	30.00
BAND 4	1712.5	19975	Н	18.96	9.48	-4.31	24.13	30.00
BW: 5M QPSK	1732.5	20175	V	13.63	9.55	-4.31	18.88	30.00
	1732.5	20173	Н	19.38	9.55	-4.31	24.63	30.00
RB: 1,24	1752.5	20375	V	13.19	9.62	-4.34	18.47	30.00
	1732.5	20373	Н	18.54	9.62	-4.34	23.83	30.00
	1712.5	19975	V	14.14	9.48	-4.31	19.31	30.00
BAND 4	17 12.5	13373	Н	19.25	9.48	-4.31	24.42	30.00
BW: 5M	1732.5	20175	V	13.47	9.54	-4.31	18.70	30.00
16QAM	1702.0	20170	Н	19.01	9.54	-4.31	24.24	30.00
RB: 1,0	1752.5	20375	V	14.08	9.61	-4.33	19.36	30.00
	1732.5	20070	Н	19.44	9.61	-4.33	24.72	30.00
	1712 5	19975	V	13.91	9.48	-4.31	19.09	30.00
BAND 4	BAND 4 1712.5	19919	Н	19.11	9.48	-4.31	24.28	30.00
BW: 5M 16QAM RB: 1,24	1732.5	20175	V	13.79	9.55	-4.31	19.03	30.00
	1702.0	20170	Н	19.54	9.55	-4.31	24.78	30.00
	1752.5	20375	V	13.50	9.62	-4.34	18.78	30.00
	1702.0	20070	Н	18.88	9.62	-4.34	24.16	30.00

#### Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1715.0	20000	V	13.83	9.48	-4.31	19.00	30.00
BAND 4	1715.0	20000	Η	18.75	9.48	-4.31	23.92	30.00
BW: 10M	1732.5	20175	V	13.23	9.54	-4.31	18.46	30.00
QPSK	1732.5	20173	Ι	18.35	9.54	-4.31	23.58	30.00
RB: 1,0	1750.0	20350	V	12.90	9.60	-4.33	18.18	30.00
	1750.0	20330	Η	19.25	9.60	-4.33	24.53	30.00
	1715.0	20000	V	13.63	9.50	-4.31	18.82	30.00
BAND 4	1715.0	20000	Н	18.20	9.50	-4.31	23.39	30.00
BW: 10M QPSK	1732.5	20175	V	12.99	9.56	-4.31	18.24	30.00
	1732.5	20173	Ι	19.29	9.56	-4.31	24.54	30.00
RB: 1,49	1750.0	20350	V	12.53	9.62	-4.34	17.81	30.00
	1730.0	20330	Η	18.53	9.62	-4.34	23.81	30.00
	1715.0	20000	V	14.07	9.48	-4.31	19.24	30.00
BAND 4	1715.0	20000	Ι	19.00	9.48	-4.31	24.17	30.00
BW: 10M	1732.5	20175	V	13.43	9.54	-4.31	18.66	30.00
16QAM	1732.3	20173	Н	18.54	9.54	-4.31	23.78	30.00
RB: 1,0	1750.0	20350	V	13.14	9.60	-4.33	18.41	30.00
	1730.0	20330	Η	19.43	9.60	-4.33	24.71	30.00
	1715.0	20000	V	13.78	9.50	-4.31	18.97	30.00
BAND 4	17 15.0	20000	Н	18.36	9.50	-4.31	23.55	30.00
BW: 10M 16QAM RB: 1,49	1732.5	20175	V	13.17	9.56	-4.31	18.42	30.00
	1732.5	20173	Н	19.50	9.56	-4.31	24.75	30.00
	1750.0	20350	V	12.93	9.62	-4.34	18.22	30.00
	1730.0	20000	Η	18.90	9.62	-4.34	24.18	30.00

# Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1717.5	20025	V	13.87	9.48	-4.31	19.04	30.00
BAND 4	1717.5	20023	Η	18.65	9.48	-4.31	23.82	30.00
BW: 15M	1732.5	20175	V	13.35	9.53	-4.31	18.57	30.00
QPSK	1732.5	20173	Ι	18.18	9.53	-4.31	23.40	30.00
RB: 1,0	1747.5	20325	V	12.73	9.59	-4.32	18.00	30.00
	1747.5	20323	Η	19.35	9.59	-4.32	24.62	30.00
	1717.5	20025	V	13.59	9.52	-4.31	18.79	30.00
BAND 4	1717.5	20025	Н	18.16	9.52	-4.31	23.37	30.00
BW: 15M QPSK	1732.5	20175	V	12.91	9.57	-4.31	18.16	30.00
	1732.5	20175	Н	19.48	9.57	-4.31	24.74	30.00
RB: 1,74	1747.5	20325	V	12.29	9.62	-4.34	17.57	30.00
	1747.5	20323	Η	18.51	9.62	-4.34	23.79	30.00
	1717.5	20025	V	14.11	9.48	-4.31	19.28	30.00
BAND 4	1717.5	20025	Н	18.91	9.48	-4.31	24.08	30.00
BW: 15M	1732.5	20175	V	13.49	9.53	-4.31	18.72	30.00
16QAM	1732.5	20173	Ι	18.35	9.53	-4.31	23.57	30.00
RB: 1,0	1747.5	20325	V	12.96	9.59	-4.32	18.23	30.00
	1747.5	20323	Η	19.57	9.58	-4.32	24.84	30.00
	1717 5	20025	V	13.77	9.52	-4.31	18.98	30.00
BAND 4	1717.5	20025	Η	18.34	9.52	-4.31	23.55	30.00
BW: 15M 16QAM RB: 1,74	1722.5	20175	V	13.17	9.57	-4.31	18.43	30.00
	1732.5	20175	Н	19.73	9.57	-4.31	24.99	30.00
	1747.5	20325	V	12.63	9.62	-4.34	17.91	30.00
	1747.5	20323	Н	18.85	9.62	-4.34	24.13	30.00

# Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1720.0	20050	V	13.85	9.48	-4.31	19.02	30.00
BAND 4	1720.0	20030	Н	18.59	9.48	-4.31	23.76	30.00
BW: 20M	1732.5	20175	V	13.51	9.52	-4.31	18.72	30.00
QPSK	1732.5	20173	Н	18.02	9.52	-4.31	23.23	30.00
RB: 1,0	1745.0	20300	V	12.72	9.56	-4.31	17.97	30.00
	1745.0	20300	Н	19.02	9.56	-4.31	24.27	30.00
	1720.0	20050	V	13.36	9.53	-4.31	18.59	30.00
BAND 4	1720.0	20030	Н	18.50	9.53	-4.31	23.73	30.00
BW: 20M QPSK	1732.5	20175	V	12.89	9.58	-4.31	18.16	30.00
	1732.3	20173	Н	19.48	9.58	-4.31	24.74	30.00
RB: 1,99	1745.0	20300	V	12.39	9.62	-4.34	17.67	30.00
	1745.0	20300	Н	18.60	9.62	-4.33	23.89	30.00
	1720.0	20050	V	14.17	9.48	-4.31	19.35	30.00
BAND 4	1720.0	20030	Н	18.93	9.48	-4.31	24.11	30.00
BW: 20M	1732.5	20175	V	13.64	9.53	-4.31	18.86	30.00
16QAM	1732.3	20173	Н	18.22	9.53	-4.31	23.43	30.00
RB: 1,0	1745.0	20300	V	12.89	9.57	-4.31	18.16	30.00
	1743.0	20300	Н	19.28	9.56	-4.31	24.53	30.00
	1720.0	20050	V	13.64	9.53	-4.31	18.86	30.00
BAND 4	BAND 4 1720.0	20000	Н	18.77	9.53	-4.31	23.99	30.00
BW: 20M 16QAM RB: 1,99	1732.5	20175	V	13.27	9.58	-4.31	18.54	30.00
	1732.3	20173	Н	19.86	9.58	-4.31	25.12	30.00
	1745.0	20300	V	12.83	9.62	-4.33	18.12	30.00
	1745.0	20300	Н	19.05	9.62	-4.33	24.34	30.00

#### Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dBd	dB	dBm	dBm
	824.7	20407	V	13.38	3.30	-2.93	13.76	38.45
BAND 5	024.7	20407	Н	18.30	3.30	-2.93	18.68	38.45
BW: 1.4M	836.5	20525	V	13.68	3.29	-2.96	14.01	38.45
QPSK	830.3	20020	Н	18.25	3.29	-2.96	18.58	38.45
RB: 1,0	848.3	20643	V	12.73	3.27	-3.00	13.00	38.45
	040.3	20043	Н	18.02	3.27	-2.99	18.29	38.45
	824.7	20407	<b>V</b>	13.72	3.31	-2.92	14.10	38.45
BAND 5	024.7	20407	Н	18.49	3.31	-2.92	18.87	38.45
BW: 1.4M QPSK	836.5	20525	V	13.48	3.29	-2.96	13.81	38.45
	030.5	20020	Н	18.09	3.29	-2.96	18.43	38.45
RB: 1,5	848.3	20643	V	11.62	3.27	-3.00	11.89	38.45
	040.5	20043	Н	16.86	3.27	-3.00	17.13	38.45
	824.7	20407	V	12.82	3.30	-2.93	13.19	38.45
BAND 5	024.7	20407	Н	17.74	3.30	-2.93	18.11	38.45
BW: 1.4M	836.5	20525	V	13.13	3.29	-2.96	13.46	38.45
16QAM	030.5	20020	Н	17.66	3.29	-2.96	18.00	38.45
RB: 1,0	848.3	20643	V	12.21	3.27	-2.99	12.49	38.45
	040.5	20043	Н	17.53	3.27	-2.99	17.81	38.45
	824.7	20407	V	13.12	3.31	-2.92	13.50	38.45
BAND 5 BW: 1.4M 16QAM RB: 1,5	024.7	20401	Н	17.89	3.31	-2.92	18.27	38.45
	836.5	20525	V	12.27	3.29	-2.96	12.60	38.45
	000.0	20020	Н	17.50	3.29	-2.96	17.83	38.45
	848.3	20643	V	10.92	3.27	-3.00	11.20	38.45
	0-10.0	20070	Н	16.21	3.27	-3.00	16.49	38.45

#### Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dBd	dB	dBm	dBm
	825.5	20415	V	13.26	3.30	-2.93	13.64	38.45
BAND 5	625.5	20413	Н	18.22	3.30	-2.93	18.59	38.45
BW: 3M	836.5	20525	V	14.47	3.29	-2.95	14.81	38.45
QPSK	830.5	20020	Н	18.98	3.29	-2.95	19.32	38.45
RB: 1,0	847.5	20635	V	14.43	3.28	-2.99	14.72	38.45
	047.5	20033	Н	19.77	3.28	-2.99	20.06	38.45
	825.5	20415	V	14.74	3.30	-2.93	15.12	38.45
BAND 5	625.5	20413	Н	19.39	3.30	-2.93	19.77	38.45
BW: 3M QPSK	836.5	20525	V	12.42	3.29	-2.96	12.75	38.45
	830.5	20323	Н	17.07	3.29	-2.96	17.39	38.45
RB: 1,14	847.5	20635	V	11.59	3.27	-3.00	11.86	38.45
	047.5	20033	Н	16.78	3.27	-3.00	17.05	38.45
	825.5	20415	V	12.66	3.30	-2.93	13.04	38.45
BAND 5	023.3	20413	Н	17.65	3.30	-2.93	18.02	38.45
BW: 3M	836.5	20525	V	13.34	3.29	-2.95	13.68	38.45
16QAM	030.9	20020	Н	17.85	3.29	-2.95	18.19	38.45
RB: 1,0	847.5	20635	V	13.81	3.28	-2.99	14.10	38.45
	047.5	20033	Н	19.14	3.28	-2.99	19.43	38.45
	825.5	20415	V	13.56	3.30	-2.93	13.94	38.45
BAND 5		20413	Н	18.25	3.30	-2.93	18.63	38.45
BW: 3M 16QAM RB: 1,14	836.5	20525	V	11.91	3.29	-2.96	12.23	38.45
	000.0	20020	Н	16.60	3.29	-2.96	16.92	38.45
	847.5	20635	V	10.91	3.27	-3.00	11.18	38.45
	047.0	20000	Н	16.09	3.27	-3.00	16.37	38.45

#### Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dBd	dB	dBm	dBm
	826.5	20425	V	13.45	3.30	-2.93	13.82	38.45
BAND 5	620.5	20423	Н	18.25	3.30	-2.93	18.62	38.45
BW: 5M	836.5	20525	V	14.67	3.29	-2.95	15.01	38.45
QPSK	030.3	20323	Н	19.13	3.29	-2.95	19.47	38.45
RB: 1,0	846.5	20625	V	14.58	3.28	-2.98	14.87	38.45
	040.5	20020	Н	19.85	3.28	-2.98	20.14	38.45
	826.5	20425	V	15.54	3.30	-2.93	15.90	38.45
BAND 5	020.5	20423	Н	19.96	3.30	-2.93	20.33	38.45
BW: 5M QPSK	836.5	20525	V	13.06	3.29	-2.96	13.38	38.45
	000.0	20020	Н	17.83	3.29	-2.96	18.15	38.45
RB: 1,24	846.5	20625	V	12.32	3.27	-3.00	12.60	38.45
	040.0	20020	Н	17.61	3.27	-3.00	17.89	38.45
	826.5	20425	V	12.87	3.30	-2.93	13.24	38.45
BAND 5	020.0	20420	Н	17.78	3.30	-2.93	18.15	38.45
BW: 5M	836.5	20525	V	14.44	3.29	-2.95	14.78	38.45
16QAM	000.0	20020	Н	18.85	3.29	-2.95	19.19	38.45
RB: 1,0	846.5	20625	V	15.38	3.28	-2.98	15.68	38.45
	040.5	20020	Н	19.96	3.28	-2.98	20.25	38.45
	826.5	20425	V	15.60	3.30	-2.93	15.97	38.45
BAND 5		20-720	Н	20.21	3.30	-2.93	20.58	38.45
BW: 5M 16QAM RB: 1,24	836.5	20525	V	11.89	3.29	-2.96	12.21	38.45
	000.0	20020	Н	16.61	3.29	-2.96	16.93	38.45
	846.5	20625	V	11.00	3.27	-3.00	11.28	38.45
	040.0	20020	Н	16.25	3.27	-3.00	16.53	38.45

#### Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dBd	dB	dBm	dBm
	829.0	20450	V	12.67	3.30	-2.93	13.04	38.45
BAND 5	629.0	20430	Н	17.63	3.30	-2.93	18.01	38.45
BW: 10M	836.5	20525	V	15.18	3.30	-2.94	15.53	38.45
QPSK	630.5	20020	Н	19.64	3.30	-2.94	19.99	38.45
RB: 1,0	844.0	20600	V	12.23	3.29	-2.97	12.55	38.45
	044.0	20000	Н	17.14	3.28	-2.98	17.45	38.45
	829.0	20450	V	14.84	3.29	-2.95	15.18	38.45
BAND 5	629.0	20430	Н	19.34	3.29	-2.95	19.68	38.45
BW: 10M QPSK	836.5	20525	V	13.11	3.28	-2.97	13.42	38.45
	830.5	20323	Н	18.23	3.28	-2.98	18.53	38.45
RB: 1,49	844.0	20600	V	11.72	3.27	-3.00	12.00	38.45
	044.0	20000	Н	17.01	3.27	-3.00	17.29	38.45
	829.0	20450	V	12.24	3.30	-2.93	12.61	38.45
BAND 5	029.0	20430	Н	17.23	3.30	-2.93	17.60	38.45
BW: 10M	836.5	20525	V	14.85	3.30	-2.94	15.21	38.45
16QAM	030.9	20020	Н	19.35	3.30	-2.94	19.70	38.45
RB: 1,0	844.0	20600	V	11.76	3.29	-2.97	12.08	38.45
	044.0	20000	Н	16.77	3.28	-2.98	17.07	38.45
	829.0	20450	V	14.69	3.29	-2.95	15.03	38.45
BAND 5	829.0	20430	H         Pol.         Output         Gain         Los           V/H         dBm         dBd         dl           450         V         12.67         3.30         -2.9           450         H         17.63         3.30         -2.9           525         H         19.64         3.30         -2.9           600         V         12.23         3.29         -2.9           450         H         17.14         3.28         -2.9           450         H         19.34         3.29         -2.9           450         H         17.01         3.28         -2.9           450         H         17.01         3.27         -3.0           450         H         17.23         3.30         -2.9           450         H         17.23         3.30         -2.9           450         H         16.77         3.28         -2.9           450         H		-2.95	19.49	38.45	
BW: 10M 16QAM RB: 1,49	836.5	20525	V	12.03	3.28	-2.97	12.34	38.45
	030.3	20020	Н	17.02	3.28	-2.97	17.33	38.45
	844.0	20600	V	11.16	3.27	-3.00	11.43	38.45
	0-4.0	20000	Н	16.50	3.27	-3.00	16.77	38.45

#### Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	2502.5	20775	V	14.89	10.90	-5.26	20.53	33.01
BAND 7	2502.5	20113	Н	16.08	10.90	-5.25	21.72	33.01
BW: 5M	2535.0	21100	V	15.08	10.94	-5.30	20.72	33.01
QPSK	2555.0	21100	Н	15.80	10.94	-5.30	21.44	33.01
RB: 1,0	2567.5	21425	V	16.90	10.98	-5.34	22.54	33.01
	2507.5	21423	Н	16.64	10.98	-5.34	22.28	33.01
	2502.5	20775	V	16.17	10.90	-5.26	21.82	33.01
BAND 7 BW: 5M QPSK		20775	Н	17.39	10.90	-5.26	23.03	33.01
	2535.0	21100	V	14.31	10.95	-5.31	19.95	33.01
			Н	15.08	10.95	-5.31	20.72	33.01
RB: 1,24	2567.5	21425	V	16.87	10.99	-5.34	22.52	33.01
			Н	16.44	10.99	-5.34	22.09	33.01
	2502.5	20775	V	15.09	10.90	-5.25	20.74	33.01
BAND 7			Н	16.36	10.90	-5.26	22.01	33.01
BW: 5M	2535.0	21100	V	15.42	10.94	-5.30	21.06	33.01
16QAM	2000.0		Н	16.17	10.94	-5.30	21.81	33.01
RB: 1,0	2567.5	21425	V	17.00	10.98	-5.34	22.64	33.01
	2007.0	21120	Н	16.74	10.98	-5.34	22.38	33.01
	2502.5	20775	V	16.31	10.90	-5.26	21.96	33.01
BAND 7 BW: 5M 16QAM	2002.0	20110	Н	17.60	10.90	-5.26	23.24	33.01
	2535.0	21100	V	14.40	10.95	-5.31	20.04	33.01
	2000.0		Н	15.22	10.95	-5.31	20.85	33.01
RB: 1,24	2567.5	21425	V	17.08	10.99	-5.34	22.73	33.01
	2007.0	21120	Н	16.67	10.99	-5.34	22.31	33.01

#### Remark:

(1) The RBW, VBW of SPA for frequency RBW = 8MHz, VBW = 8MHz

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	EUT		Measurement						
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit	
	MHz		V/H	dBm	dBi	dB	dBm	dBm	
	2505.0	20800	V	15.20	10.90	-5.26	20.85	33.01	
BAND 7	2505.0	20000	Н	16.05	10.90	-5.26	21.70	33.01	
BW: 10M	2535.0	21100	V	16.10	10.94	-5.29	21.74	33.01	
QPSK	2555.0	21100	Н	16.58	10.94	-5.30	22.23	33.01	
RB: 1,0	2565.0	21400	V	16.67	10.98	-5.34	22.30	33.01	
	2303.0	21400	Н	16.48	10.98	-5.34	22.12	33.01	
	2505.0	20800	V	16.62	10.91	-5.26	22.27	33.01	
BAND 7			Н	17.37	10.91	-5.26	23.02	33.01	
BW: 10M	2535.0	21100	V	14.38	10.95	-5.31	20.02	33.01	
QPSK			Н	14.91	10.95	-5.31	20.55	33.01	
RB: 1,49	2565.0	21400	V	16.92	10.99	-5.34	22.57	33.01	
			Н	16.42	10.99	-5.34	22.07	33.01	
	2505.0	20800	V	15.54	10.90	-5.26	21.19	33.01	
BAND 7			Н	16.51	10.90	-5.26	22.15	33.01	
BW: 10M	2535.0	21100	V	16.33	10.94	-5.29	21.97	33.01	
16QAM	2333.0		Н	16.81	10.94	-5.29	22.45	33.01	
RB: 1,0	2565.0	21400	V	16.82	10.98	-5.34	22.46	33.01	
	2303.0	21400	Н	16.63	10.98	-5.34	22.27	33.01	
	2505.0	20800	V	16.85	10.91	-5.26	22.50	33.01	
BAND 7	2000.0	20000	Н	17.63	10.91	-5.26	23.28	33.01	
BW: 10M 16QAM	2535.0	21100	V	14.48	10.95	-5.31	20.12	33.01	
	2000.0	21100	Н	15.08	10.95	-5.31	20.72	33.01	
RB: 1,49	2565.0	21400	V	17.25	10.99	-5.34	22.90	33.01	
	2000.0	21 700	Н	16.72	10.99	-5.34	22.37	33.01	

#### Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	2507.5	20825	V	14.99	10.90	-5.26	20.64	33.01
BAND 7	2507.5	20023	Н	16.07	10.90	-5.26	21.72	33.01
BW: 15M	2535.0	21100	V	16.54	10.93	-5.29	22.18	33.01
QPSK	2555.0	21100	Н	16.90	10.93	-5.29	22.54	33.01
RB: 1,0	2562.5	21375	V	16.13	10.97	-5.34	21.76	33.01
	2302.3	21373	Н	16.09	10.97	-5.34	21.73	33.01
	2507.5	20825	V	15.95	10.92	-5.27	21.60	33.01
BAND 7			Н	16.76	10.92	-5.27	22.41	33.01
BW: 15M	2535.0	21100	V	14.37	10.95	-5.32	20.01	33.01
QPSK			Н	14.82	10.95	-5.32	20.46	33.01
RB: 1,74	2562.5	21375	V	16.89	10.99	-5.34	22.54	33.01
			Н	16.26	10.99	-5.34	21.91	33.01
	2507.5	20825	V	15.36	10.90	-5.26	21.01	33.01
BAND 7	2507.5		Н	16.40	10.90	-5.26	22.05	33.01
BW: 15M	2535.0	21100	V	16.74	10.94	-5.29	22.39	33.01
16QAM	2555.0		Н	17.11	10.93	-5.29	22.76	33.01
RB: 1,0	2562.5	21375	V	16.24	10.97	-5.34	21.87	33.01
	2302.5	213/3	Н	16.28	10.97	-5.34	21.91	33.01
	2507.5	20825	V	16.13	10.92	-5.27	21.78	33.01
BAND 7	2307.3	20020	Н	17.03	10.92	-5.27	22.68	33.01
BW: 15M 16QAM	2535.0	21100	V	14.92	10.95	-5.32	20.55	33.01
	2333.0	21100	Н	15.36	10.95	-5.32	21.00	33.01
RB: 1,74	2562.5	21375	V	17.19	10.99	-5.34	22.84	33.01
	2002.0	21010	Н	16.58	10.99	-5.34	22.23	33.01

#### Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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	EUT		Measurement						
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit	
	MHz		V/H	dBm	dBi	dB	dBm	dBm	
	2510.0	20850	V	15.21	10.90	-5.26	20.86	33.01	
BAND 7	2510.0	20000	Н	15.99	10.90	-5.26	21.64	33.01	
BW: 20M	2535.0	21100	V	16.80	10.93	-5.29	22.45	33.01	
QPSK	2555.0	21100	Н	17.00	10.93	-5.29	22.65	33.01	
RB: 1,0	2560.0	21350	V	15.61	10.96	-5.33	21.24	33.01	
	2300.0	21330	Н	15.73	10.96	-5.33	21.36	33.01	
	2510.0	20850	<b>V</b>	16.05	10.92	-5.27	21.70	33.01	
BAND 7 BW: 20M QPSK		20000	Н	16.53	10.92	-5.27	22.18	33.01	
	2535.0	21100	V	14.70	10.96	-5.32	20.34	33.01	
			Н	14.96	10.95	-5.32	20.59	33.01	
RB: 1,99	2560.0	21350	V	16.76	10.99	-5.34	22.41	33.01	
			Н	16.12	10.99	-5.34	21.76	33.01	
	2510.0	20850	V	15.41	10.90	-5.26	21.06	33.01	
BAND 7			Н	16.47	10.90	-5.26	22.11	33.01	
BW: 20M	2535.0	21100	V	16.96	10.93	-5.29	22.61	33.01	
16QAM	2000.0		Н	17.12	10.93	-5.29	22.77	33.01	
RB: 1,0	2560.0	21350	V	15.77	10.96	-5.33	21.40	33.01	
	2000.0	21000	Н	15.91	10.96	-5.33	21.54	33.01	
	2510.0	20850	V	16.30	10.92	-5.27	21.95	33.01	
BAND 7	2010.0	20000	Н	16.80	10.92	-5.27	22.45	33.01	
BW: 20M 16QAM	2535.0	21100	V	15.11	10.95	-5.32	20.75	33.01	
	2000.0		Н	15.41	10.95	-5.32	21.04	33.01	
RB: 1,99	2560.0	21350	V	17.09	10.99	-5.34	22.73	33.01	
	2000.0	21000	Н	16.48	10.99	-5.34	22.13	33.01	

#### Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dBd	dB	dBm	dBm
	600.7	22047	V	14.04	3.08	-2.96	14.16	34.77
BAND 12	699.7	23017	Н	19.50	3.08	-2.96	19.62	34.77
BW: 1.4M	707 F	22005	V	14.40	3.09	-3.04	14.46	34.77
QPSK	707.5	23095	Н	20.68	3.09	-3.04	20.74	34.77
RB: 1,0	715.3	23173	<b>V</b>	12.34	3.11	-3.06	12.39	34.77
	7 15.5	23173	Η	19.13	3.11	-3.06	19.18	34.77
	699.7	23017	<b>V</b>	14.25	3.08	-2.96	14.37	34.77
BAND 12 BW: 1.4M QPSK			Η	19.82	3.08	-2.96	19.94	34.77
	707.5	23095	V	13.56	3.09	-3.04	13.61	34.77
			Н	19.88	3.09	-3.04	19.93	34.77
RB: 1,5	715.3	23173	V	12.42	3.11	-3.06	12.47	34.77
			Н	19.32	3.11	-3.06	19.37	34.77
	699.7	23017	V	14.29	3.08	-2.96	14.41	34.77
BAND 12			Н	19.71	3.08	-2.96	19.83	34.77
BW: 1.4M	707.5	23095	V	14.54	3.09	-3.04	14.60	34.77
16QAM	707.5		Н	20.83	3.09	-3.04	20.89	34.77
RB: 1,0	715.3	23173	V	12.46	3.11	-3.06	12.51	34.77
	7 10.0	20170	Н	19.29	3.11	-3.06	19.34	34.77
	699.7	23017	V	14.37	3.08	-2.96	14.49	34.77
BAND 12	000.1	20017	Н	19.96	3.08	-2.96	20.08	34.77
BW: 1.4M 16QAM	707.5	23095	V	13.78	3.09	-3.04	13.84	34.77
	7.07.0	_0000	Н	20.12	3.09	-3.04	20.17	34.77
RB: 1,5	715.3	23173	V	12.59	3.11	-3.06	12.64	34.77
	7 10.0	20170	Н	19.51	3.11	-3.06	19.55	34.77

#### Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dBd	dB	dBm	dBm
	700.5	23025	V	14.05	3.08	-2.96	14.17	34.77
BAND 12	700.5	23023	Н	19.49	3.08	-2.96	19.61	34.77
BW: 3M	707.5	23095	V	14.78	3.09	-3.03	14.83	34.77
QPSK	707.5	23093	Н	20.97	3.09	-3.03	21.03	34.77
RB: 1,0	714.5	23165	V	11.87	3.11	-3.06	11.92	34.77
	7 14.5	23103	Н	18.54	3.11	-3.06	18.59	34.77
	700.5	23025	<b>V</b>	14.34	3.08	-2.97	14.45	34.77
BAND 12 BW: 3M QPSK			Н	20.07	3.08	-2.97	20.17	34.77
	707.5	23095	V	12.89	3.10	-3.04	12.95	34.77
			Н	19.23	3.10	-3.04	19.29	34.77
RB: 1,14	714.5	23165	V	12.40	3.11	-3.06	12.44	34.77
			Н	19.30	3.11	-3.06	19.35	34.77
	700.5	23025	V	14.19	3.08	-2.96	14.32	34.77
BAND 12			Н	19.62	3.08	-2.96	19.75	34.77
BW: 3M	707.5	23095	V	15.02	3.09	-3.03	15.08	34.77
16QAM	707.5		Н	21.20	3.09	-3.04	21.26	34.77
RB: 1,0	714.5	23165	V	11.94	3.11	-3.06	11.99	34.77
	7 14.0	20100	Н	18.58	3.11	-3.06	18.63	34.77
	700.5	23025	V	14.38	3.08	-2.97	14.49	34.77
BAND 12 BW: 3M 16QAM	7 00.0	20020	Н	20.12	3.08	-2.98	20.23	34.77
	707.5	23095	V	13.09	3.10	-3.04	13.15	34.77
	707.0	20000	Н	19.41	3.10	-3.04	19.47	34.77
RB: 1,14	714.5	23165	V	12.63	3.11	-3.06	12.67	34.77
	7 14.0	20100	Н	19.54	3.11	-3.06	19.59	34.77

#### Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dBd	dB	dBm	dBm
	701.5	23035	V	14.02	3.08	-2.96	14.14	34.77
BAND 12	701.5	23033	Н	19.51	3.08	-2.96	19.63	34.77
BW: 5M	707.5	23095	V	14.93	3.09	-3.03	14.99	34.77
QPSK	707.5	23093	Н	21.11	3.09	-3.03	21.17	34.77
RB: 1,0	713.5	23155	V	11.68	3.10	-3.05	11.73	34.77
	7 13.3	23133	Н	18.11	3.10	-3.05	18.16	34.77
	701.5	22025	V	14.76	3.09	-3.01	14.84	34.77
BAND 12 BW: 5M QPSK		23035	Н	20.72	3.09	-3.01	20.80	34.77
	707.5	23095	V	12.39	3.10	-3.04	12.44	34.77
			Н	18.76	3.10	-3.04	18.81	34.77
RB: 1,24	713.5	23155	V	12.50	3.11	-3.06	12.55	34.77
			Н	19.26	3.11	-3.06	19.31	34.77
	701.5	23035	V	14.18	3.08	-2.96	14.30	34.77
BAND 12			Н	19.68	3.08	-2.99	19.77	34.77
BW: 5M	707.5	23095	V	15.23	3.09	-3.03	15.29	34.77
16QAM	707.5		Н	21.30	3.09	-3.03	21.36	34.77
RB: 1,0	713.5	23155	V	11.79	3.10	-3.05	11.84	34.77
	7 15.5	23133	Н	18.23	3.10	-3.05	18.28	34.77
	701.5	23035	V	15.05	3.09	-3.01	15.13	34.77
BAND 12	701.0	20000	Н	20.97	3.09	-3.01	21.04	34.77
BW: 5M 16QAM	707.5	23095	V	12.55	3.10	-3.04	12.60	34.77
	707.0	20000	Н	18.93	3.10	-3.05	18.98	34.77
RB: 1,24	713.5	23155	V	12.73	3.11	-3.06	12.77	34.77
	7 10.0	20100	Н	19.54	3.11	-3.06	19.59	34.77

#### Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dBd	dB	dBm	dBm
	704.0	23060	V	14.04	3.08	-2.96	14.16	34.77
BAND 12	704.0	23000	Н	19.56	3.08	-2.96	19.68	34.77
BW: 10M	707.5	00005	V	14.58	3.09	-3.00	14.66	34.77
QPSK	707.5	23095	Н	20.50	3.09	-3.00	20.58	34.77
RB: 1,0	711.0	23130	V	14.63	3.09	-3.04	14.69	34.77
	711.0	23130	Н	20.87	3.09	-3.03	20.93	34.77
	704.0	23060	V	13.21	3.10	-3.04	13.26	34.77
BAND 12	704.0		Н	19.51	3.10	-3.04	19.56	34.77
BW: 10M	<b>QPSK</b> 707.5	23095	V	11.59	3.10	-3.05	11.64	34.77
QPSK			Н	18.15	3.10	-3.05	18.20	34.77
RB: 1,49	711.0	23130	V	12.51	3.11	-3.06	12.56	34.77
			Н	19.41	3.11	-3.06	19.46	34.77
	704.0	23060	V	14.23	3.08	-2.96	14.35	34.77
BAND 12	704.0	23000	Н	19.70	3.08	-2.96	19.83	34.77
BW: 10M	707.5	23095	V	14.68	3.08	-2.99	14.76	34.77
16QAM	707.5	23093	Н	20.56	3.09	-3.01	20.64	34.77
RB: 1,0	711.0	23130	V	14.90	3.09	-3.04	14.95	34.77
	711.0	23130	Н	21.12	3.09	-3.03	21.18	34.77
	704.0	23060	V	13.41	3.09	-3.04	13.47	34.77
BAND 12	BAND 12 BW: 10M	23000	Н	19.83	3.10	-3.04	19.88	34.77
BW: 10M		23095	V	11.79	3.10	-3.05	11.85	34.77
16QAM 707.5	707.5	23033	Н	18.33	3.10	-3.05	18.38	34.77
RB: 1,49	711.0	23130	V	12.63	3.11	-3.06	12.68	34.77
	711.0	23130	Н	19.58	3.11	-3.06	19.63	34.77

### Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dBd	dB	dBm	dBm
	706.5	23755	V	14.78	3.09	-3.04	14.84	34.77
BAND 17	700.5	23733	Н	20.69	3.09	-3.04	20.75	34.77
BW: 5M	710.0	23790	V	14.06	3.09	-3.04	14.12	34.77
QPSK	710.0	23790	Н	20.13	3.09	-3.04	20.19	34.77
RB: 1,0	713.5	23825	V	12.12	3.10	-3.05	12.17	34.77
	7 13.5	23023	Н	18.32	3.10	-3.05	18.37	34.77
	706.5	23755	V	13.46	3.10	-3.04	13.52	34.77
BAND 17	700.5	23733	Н	19.58	3.10	-3.04	19.64	34.77
BW: 5M	710.0	23790	V	12.15	3.10	-3.05	12.20	34.77
QPSK		20700	Н	18.40	3.10	-3.05	18.45	34.77
RB: 1,24	713.5	23825	V	12.92	3.11	-3.06	12.97	34.77
			Н	19.62	3.11	-3.06	19.67	34.77
	706.5	23755	V	15.12	3.09	-3.04	15.18	34.77
BAND 17	700.5	20700	Н	21.11	3.09	-3.04	21.17	34.77
BW: 5M	710.0	23790	V	14.27	3.09	-3.04	14.32	34.77
16QAM	7 10.0	20700	Н	20.38	3.09	-3.04	20.43	34.77
RB: 1,0	713.5	23825	V	12.24	3.10	-3.05	12.29	34.77
	7 10.0	20020	Н	18.46	3.10	-3.05	18.51	34.77
	706.5	23755	V	13.72	3.10	-3.04	13.77	34.77
BAND 17	7 00.0	20700	Н	19.78	3.10	-3.04	19.83	34.77
BW: 5M	710.0	710.0 23790	V	12.18	3.10	-3.05	12.23	34.77
16QAM	, 10.0		Н	18.47	3.10	-3.05	18.52	34.77
RB: 1,24	713.5	23825	V	13.08	3.11	-3.06	13.13	34.77
	7 10.0	20020	Н	19.77	3.11	-3.06	19.82	34.77

### Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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	EUT			N	leasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dBd	dB	dBm	dBm
		23780	V	14.96	3.09	-3.03	15.01	34.77
BAND 17			Н	20.92	3.09	-3.04	20.97	34.77
BW: 10M	710.0	23790	V	15.26	3.09	-3.03	15.31	34.77
QPSK	7 10.0	23790	Н	21.28	3.09	-3.03	21.34	34.77
RB: 1,0	711.0	23800	V	14.99	3.09	-3.04	15.04	34.77
	711.0	23000	Н	21.07	3.09	-3.04	21.12	34.77
	709.0	23780	V	12.51	3.11	-3.06	12.56	34.77
BAND 17	709.0	23700	Н	18.95	3.11	-3.06	19.00	34.77
BW: 10M	710.0	23790	V	12.82	3.11	-3.06	12.87	34.77
QPSK			Н	19.39	3.11	-3.06	19.44	34.77
RB: 1,49	711.0	23800	V	12.93	3.11	-3.06	12.98	34.77
			Н	19.65	3.11	-3.06	19.70	34.77
	709.0	23780	V	15.02	3.09	-3.04	15.07	34.77
BAND 17	709.0	23700	Н	21.05	3.09	-3.04	21.10	34.77
BW: 10M	710.0	23790	V	15.44	3.09	-3.03	15.50	34.77
16QAM	7 10.0	23730	Н	21.63	3.09	-3.03	21.69	34.77
RB: 1,0	711.0	23800	V	15.29	3.09	-3.03	15.34	34.77
	711.0	23000	Н	21.28	3.09	-3.04	21.33	34.77
	709.0	23780	V	12.67	3.11	-3.06	12.72	34.77
BAND 17	BAND 17 BW: 10M 16QAM 710.0 237	23700	Н	19.14	3.11	-3.06	19.19	34.77
BW: 10M		23790	V	13.06	3.11	-3.06	13.11	34.77
		23130	Н	19.69	3.11	-3.06	19.74	34.77
RB: 1,49	711.0	23800	V	13.13	3.11	-3.06	13.18	34.77
	7 11.0	23000	Н	19.86	3.11	-3.06	19.90	34.77

### Remark:

(1) The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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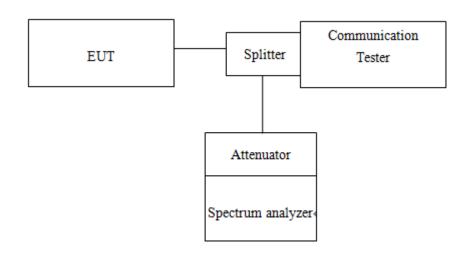
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# 8. OCCUPIED BANDWIDTH MEASUREMENT

# 8.1. 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.

# 8.2. Test Set-up



#### 8.3. 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% ~ 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% ~ 5%, VBW= 3 RBW, with span > 2 \* Signal BW, set % Power = 99%.

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# 8.4. Measurement Equipment Used

Conduc	ted Emission (m	neasured at a	ntenna port)	Test Site	
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
TYPE		NUMBER	NUMBER	CAL.	
Power Meter	Anritsu	ML2495A	1005007	12/09/2015	12/08/2016
Power Sensor	Anritsu	MA2411B	917032	12/09/2015	12/08/2016
EXA Spectrum Analyzer	Agilent	N9030A	MY53120760	02/26/2016	20/25/2017
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2016	01/01/2017
Coaxial Cable	HU- BER+SUHNER	SUCOFLEX 102	23670/2	01/02/2016	01/01/2017
Attenuator	Mini-Circuit	BW-S10W2+	2	01/02/2016	01/01/2017
Splitter	Agilent	11636B	N/A	01/02/2016	01/01/2017
DC Power Supply	Agilent	E3640A	MY52410006	11/05/2015	11/04/2016
Temperature Chamber	TERCHY	MHG-120LF	911009	05/17/2016	05/16/2017
Radio Communication Analyzer	R&S	CMU200	102189	02/11/2016	02/10/2017
Radio Communication Analyzer	Anritsu	MT8820C	6200995019	09/25/2015	09/24/2016
Radio Communication Analyer	Anritsu	MT8820C	6201465317	12/10/2015	12/09/2016

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## 8.5. Measurement Result

Freq. (MHz)	СН	99% BW (MHz) WCDMA	99% BW (MHz) HSDPA	99% BW (MHz) HSUPA	26 dB BW (MHz) WCDMA	26 dB BW (MHz) HSDPA	26 dB BW (MHz) HSUPA
			II	II	ll l	II	II
1850.20	9262	4.1477	4.1469	4.1391	4.623	4.616	4.626
1880.00	9400	4.1491	4.1492	4.1583	4.624	4.621	4.626
1909.80	9538	4.1483	4.1556	4.1465	4.626	4.629	4.619

Freq. (MHz)	СН	99% BW (MHz) WCDMA IV	99% BW (MHz) HSDPA IV	99% BW (MHz) HSUPA IV	26 dB BW (MHz) WCDMA IV	26 dB BW (MHz) HSDPA IV	26 dB BW (MHz) HSUPA IV
1712.40	1312	4.1510	4.1538	4.1562	4.628	4.610	4.624
1732.60	1413	4.1462	4.1514	4.1535	4.618	4.619	4.615
1752.60	1513	4.1551	4.1551	4.1598	4.629	4.617	4.631

Freq.	СН	99% BW (MHz)	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)
(1411 12)		WCDMA	HSDPA	HSUPA	WCDMA	HSDPA	HSUPA
		V	V	V	V	V	V
826.40	4132	4.1577	4.1577	4.1509	4.616	4.616	4.615
836.60	4183	4.1454	4.1626	4.1514	4.610	4.610	4.626
846.60	4233	4.1404	4.1409	4.1232	4.631	4.631	4.608

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	LTE BAND 2 Channel bandwidth: 1.4MHz								
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)				
		QPSK	16QAM	QPSK	16QAM				
1850.7	18607	1.0964	1.1046	1.292	1.316				
1880.0	18900	1.0953	1.0967	1.301	1.280				
1909.3	19193	1.0972	1.1059	1.289	1.293				

	LTE BA	ND 2 Chanı	nel bandwid	th: 3MHz	
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)
		QPSK	16QAM	QPSK	16QAM
1851.5	18615	2.7065	2.7083	2.981	3.000
1880.0	18900	2.7098	2.7047	2.981	2.992
1908.5	19185	2.7099	2.7069	2.979	2.980

	LTE BA	ND 2 Chanı	nel bandwid	dth: 5MHz	
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)
		QPSK	16QAM	QPSK	16QAM
1852.5	18625	4.5038	4.5067	4.978	4.956
1880.0	18900	4.5104	4.5126	5.036	5.032
1907.5	19175	4.5113	4.5112	4.976	5.015

	LTE BAN	ID 2 Chann	el bandwid	th: 10MHz	2
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)
		QPSK	16QAM	QPSK	16QAM
1855.0	18650	8.9895	8.9454	9.924	9.735
1880.0	18900	9.0010	8.9560	9.911	9.829
1905.0	19150	9.0068	8.9569	9.847	9.749

	LTE BAN	ID 2 Chann	el bandwid	th: 15MHz	7
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)
		QPSK	16QAM	QPSK	16QAM
1857.5	18675	13.439	13.431	14.69	14.68
1880.0	18900	13.421	13.441	14.65	14.71
1902.5	19125	13.472	13.449	14.66	14.68

LTE BAND 2 Channel bandwidth: 20MHz								
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)			
		QPSK	16QAM	QPSK	16QAM			
1860.0	18700	17.865	17.856	19.33	19.33			
1880.0	18900	17.887	17.872	19.37	19.37			
1900.0	19100	17.901	17.922	19.39	19.44			

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LTE BAND 4 Channel bandwidth: 1.4MHz								
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)			
		QPSK	16QAM	QPSK	16QAM			
1710.7	19957	1.0996	1.0998	1.295	1.314			
1732.5	20175	1.0973	1.1038	1.270	1.298			
1754.3	20393	1.1038	1.0982	1.285	1.287			

LTE BAND 4 Channel bandwidth: 3MHz								
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)			
		QPSK	16QAM	QPSK	16QAM			
1711.5	19965	2.7053	2.7053	2.995	2.998			
1732.5	20175	2.7014	2.7076	2.967	3.002			
1753.5	20385	2.7018	2.7107	3.009	2.998			

	LTE BAND 4 Channel bandwidth: 5MHz							
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)			
		QPSK	16QAM	QPSK	16QAM			
1712.5	19957	4.5052	4.4902	4.997	4.985			
1732.5	20175	4.5030	4.4959	5.003	4.984			
1752.5	20375	4.4985	4.5039	5.033	4.969			

LTE BAND 4 Channel bandwidth: 10MHz							
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM		
1715.0	20000	8.9884	8.9551	9.846	9.810		
1732.5	20175	8.9891	8.9649	9.814	9.750		
1750.0	20350	8.9901	8.9586	9.855	9.760		

LTE BAND 4 Channel bandwidth: 15MHz							
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM		
1717.5	20025	13.465	13.456	14.59	14.64		
1732.5	20175	13.469	13.434	14.50	14.53		
1747.5	20325	13.465	13.459	14.67	14.66		

LTE BAND 4 Channel bandwidth: 20MHz							
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM		
1720.0	20050	17.861	17.902	19.35	19.28		
1732.5	20175	17.860	17.854	19.30	19.26		
1745.0	20300	17.902	17.912	19.35	19.32		

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LTE BAND 5 Channel bandwidth: 1.4MHz								
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)			
		QPSK	16QAM	QPSK	16QAM			
824.7	20407	1.0980	1.1002	1.270	1.300			
836.5	20525	1.0974	1.0960	1.286	1.309			
848.3	20643	1.0974	1.1040	1.299	1.278			

LTE BAND 5 Channel bandwidth: 3MHz							
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM		
825.5	20415	2.7099	2.7059	3.004	2.985		
836.5	20525	2.7136	2.7025	2.993	2.992		
847.5	20635	2.7104	2.7080	3.010	2.995		

LTE BAND 5 Channel bandwidth: 5MHz							
Freq. (MHz)	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)			
		QPSK	16QAM	QPSK	16QAM		
826.5	20425	4.4862	4.5010	4.993	4.929		
836.5	20525	4.5058	4.4947	5.015	5.007		
846.5	20625	4.4958	4.4977	4.999	4.968		

LTE BAND 5 Channel bandwidth: 10MHz							
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM		
829.0	20450	8.9787	8.9831	9.933	10.160		
836.5	20525	9.0250	9.0080	9.904	9.852		
844.0	20600	8.9577	8.9499	9.770	9.767		

LTE BAND 7 Channel bandwidth: 5MHz							
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM		
2502.5	20775	4.5086	4.5125	5.007	5.008		
2535.0	21100	4.5097	4.5048	5.023	5.017		
2567.5	21425	4.5146	4.5048	5.013	4.965		

LTE BAND 7 Channel bandwidth: 10MHz						
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)	
		QPSK	16QAM	QPSK	16QAM	
2505.0	20800	9.0066	8.9622	9.914	9.769	
2535.0	21100	8.9863	8.9600	9.801	9.742	
2565.0	21400	8.9887	8.9806	9.915	9.863	

LTE BAND 7 Channel bandwidth: 15MHz						
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)	
		QPSK	16QAM	QPSK	16QAM	
2507.5	20825	13.430	13.447	14.67	14.61	
2535.0	21100	13.471	13.479	14.54	14.63	
2562.5	21375	13.433	13.465	14.20	14.34	

	LTE BAND 7 Channel bandwidth: 20MHz						
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM		
2510.0	20850	17.874	17.861	18.97	18.95		
2535.0	21100	17.928	17.885	18.95	18.87		
2560.0	21350	17.864	17.900	19.00	18.88		

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LTE BAND 12 Channel bandwidth: 1.4MHz							
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM		
699.7	23017	1.1083	1.0961	1.238	1.244		
707.5	23095	1.1007	1.1036	1.267	1.291		
715.3	23173	1.1031	1.1042	1.563	1.314		

LTE BAND 12 Channel bandwidth: 3MHz						
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)	
		QPSK	16QAM	QPSK	16QAM	
700.5	23025	2.7050	2.7005	2.977	2.975	
707.5	23095	2.7166	2.7036	2.985	2.988	
714.5	23165	2.7117	2.7085	3.011	2.997	

LTE BAND 12 Channel bandwidth: 5MHz						
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)	
		QPSK	16QAM	QPSK	16QAM	
701.5	23035	4.5173	4.5105	5.027	4.998	
707.5	23095	4.5073	4.5049	5.021	5.012	
713.5	23155	4.5310	4.5178	5.023	5.041	

LTE BAND 12 Channel bandwidth: 10MHz						
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)	
		QPSK	16QAM	QPSK	16QAM	
704.0	23060	9.0578	9.0390	9.962	9.904	
707.5	23095	9.0229	8.9576	9.846	9.711	
711.0	23130	8.9710	8.9476	9.783	9.868	

LTE BAND 17 Channel bandwidth: 5MHz							
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM		
706.5	23755	4.5176	4.5164	4.812	5.006		
710.0	23790	4.5022	4.4931	5.037	5.002		
713.5	23825	4.4773	4.5231	4.812	4.991		

LTE BAND 17 Channel bandwidth: 10MHz						
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)	
		QPSK	16QAM	QPSK	16QAM	
709.0	23780	9.0012	8.9443	9.781	9.756	
710.0	23790	8.9857	8.9415	9.756	9.764	
711.0	23780	8.9762	8.9504	9.869	9.802	

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# WCDMA\_B2\_LowCH9262-1852.4



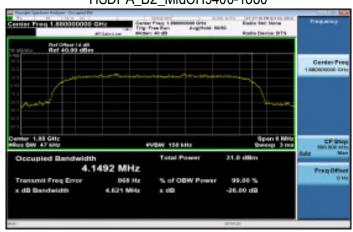
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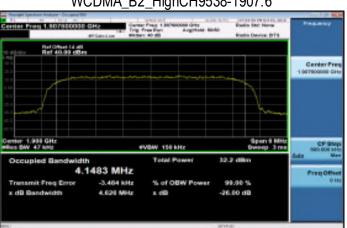
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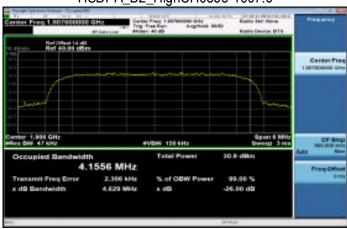
## HSDPA B2 MidCH9400-1880



# WCDMA\_B2\_HighCH9538-1907.6



## HSDPA\_B2\_HighCH9538-1907.6



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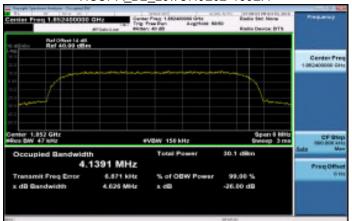
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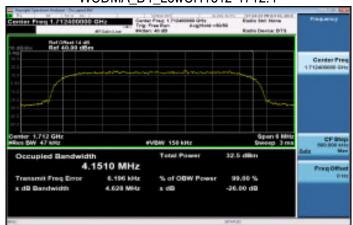


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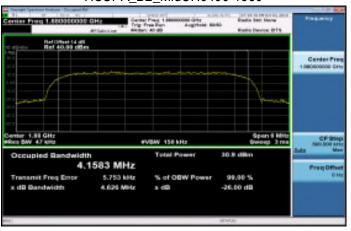
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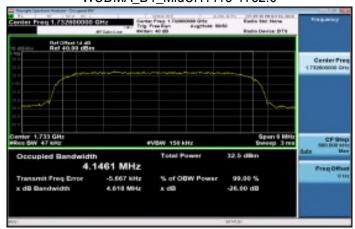
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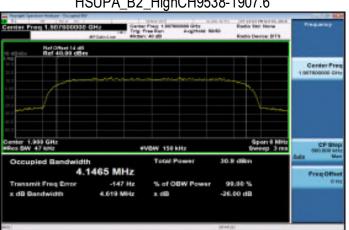
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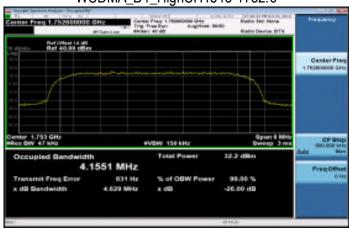
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## HSUPA\_B2\_HighCH9538-1907.6



# WCDMA\_B4\_HighCH1513-1752.6



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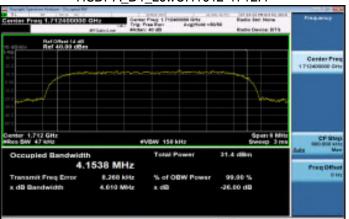
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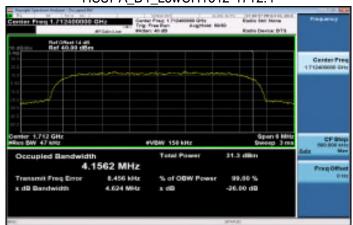


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## HSDPA B4 LowCH1312-1712.4



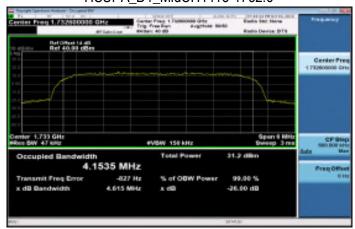
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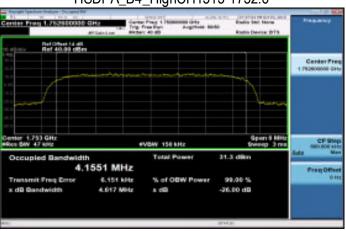
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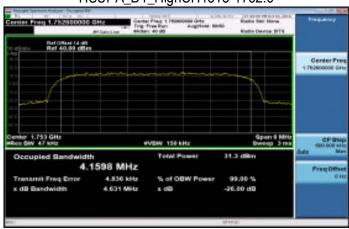
# HSUPA B4 MidCH1413-1732.6



# HSDPA\_B4\_HighCH1513-1752.6



# HSUPA\_B4\_HighCH1513-1752.6



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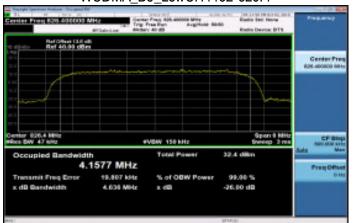
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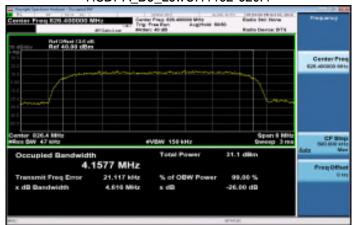


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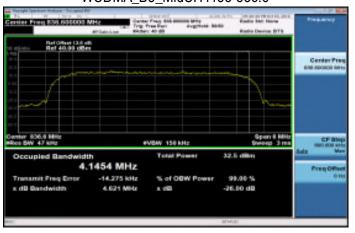
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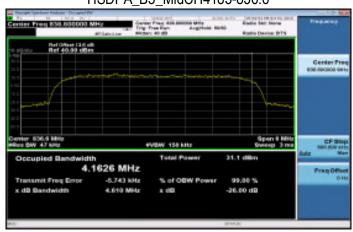
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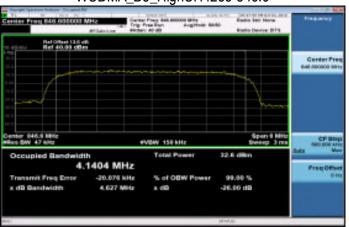
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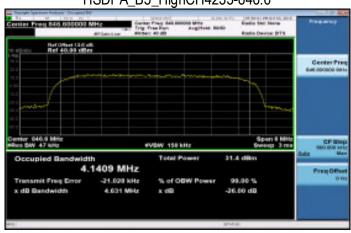
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## WCDMA\_B5\_HighCH4233-846.6



## HSDPA\_B5\_HighCH4233-846.6

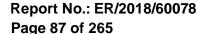


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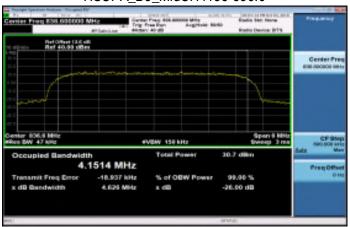




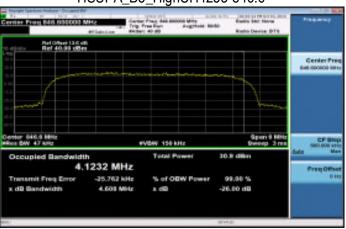
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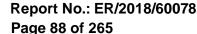
# HSUPA\_B5\_HighCH4233-846.6



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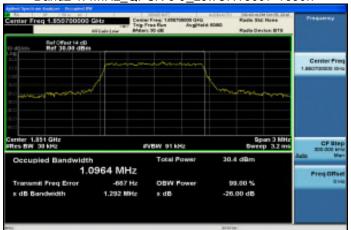
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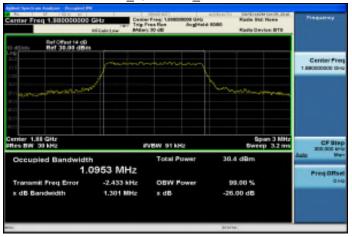
Band2 1.4MHz QPSK 6 0 LowCH18607-1850.7



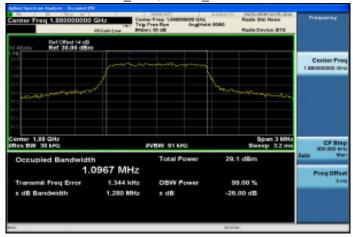
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### Band2 1.4MHz QPSK 6 0 MidCH18900-1880



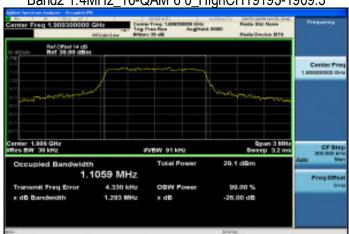
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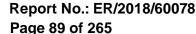
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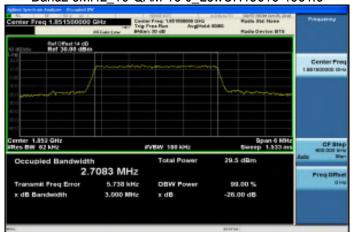




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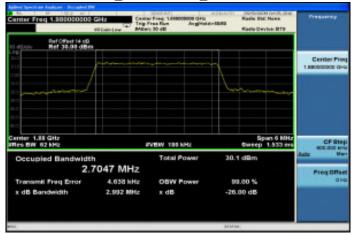
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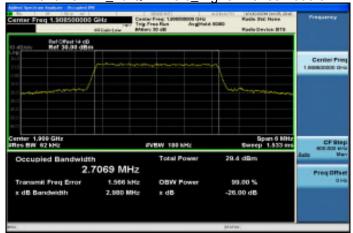
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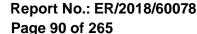


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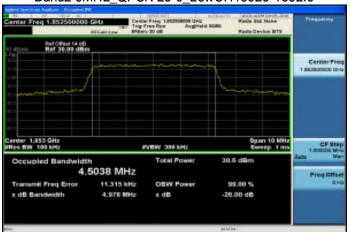
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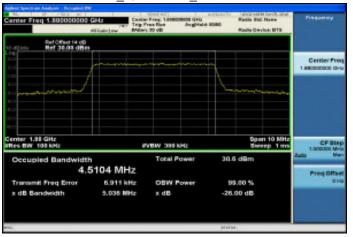
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## Band2 5MHz 16-QAM 25 0 LowCH18625-1852.5



### Band2 5MHz QPSK 25 0 MidCH18900-1880



## Band2 5MHz 16-QAM 25 0 MidCH18900-1880



## Band2 5MHz QPSK 25 0 HighCH19175-1907.5



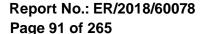
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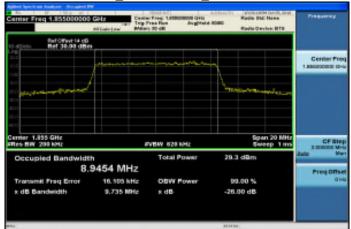




Band2 10MHz\_QPSK 50 0\_LowCH18650-1855



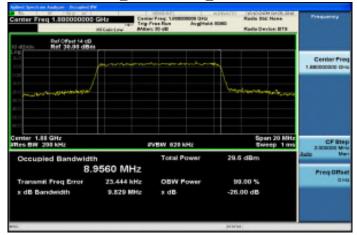
## Band2 10MHz 16-QAM 50 0 LowCH18650-1855



### Band2 10MHz QPSK 50 0 MidCH18900-1880



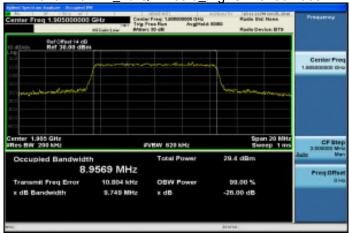
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# Band2 10MHz\_QPSK 50 0\_HighCH19150-1905



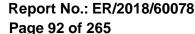
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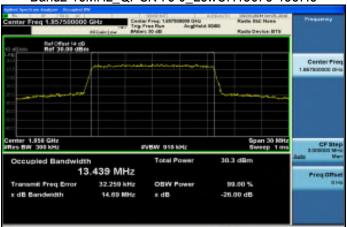
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# Band2 15MHz\_QPSK 75 0\_LowCH18675-1857.5



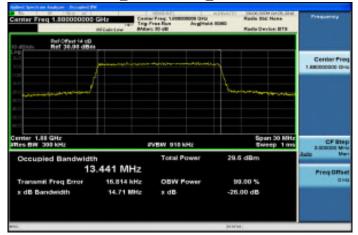
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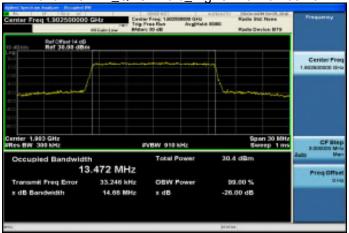
## Band2 15MHz QPSK 75 0 MidCH18900-1880



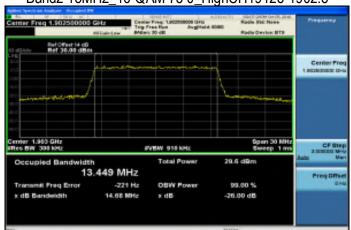
## Band2 15MHz 16-QAM 75 0 MidCH18900-1880



# Band2 15MHz\_QPSK 75 0\_HighCH19125-1902.5



### Band2 15MHz 16-QAM 75 0 HighCH19125-1902.5

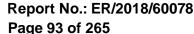


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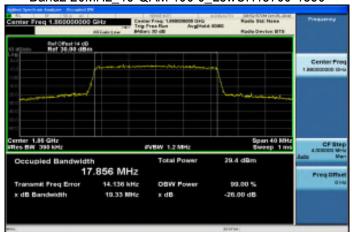




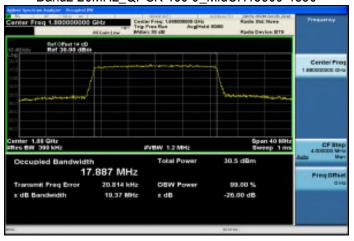
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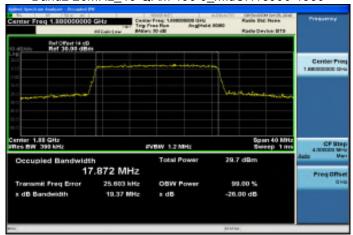
## Band2 20MHz 16-QAM 100 0 LowCH18700-1860



# Band2 20MHz QPSK 100 0 MidCH18900-1880



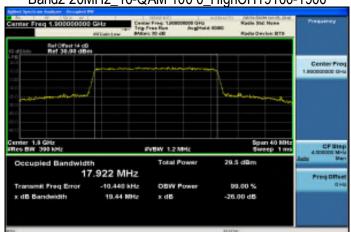
# Band2 20MHz 16-QAM 100 0 MidCH18900-1880



# Band2 20MHz\_QPSK 100 0\_HighCH19100-1900



## Band2 20MHz\_16-QAM 100 0\_HighCH19100-1900



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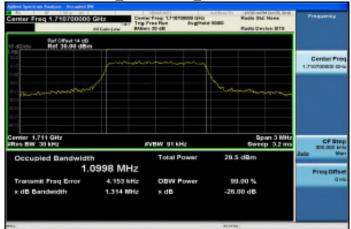
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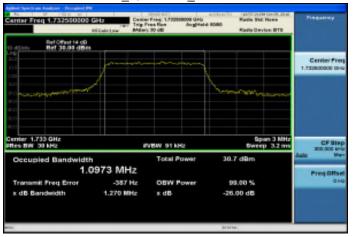
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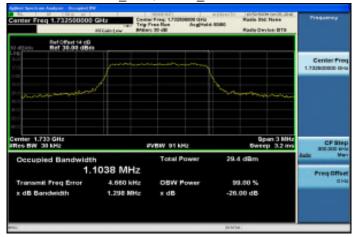
Band4 1.4MHz 16-QAM 6 0 LowCH19957-1710.7



Band4 1.4MHz QPSK 6 0 MidCH20175-1732.5



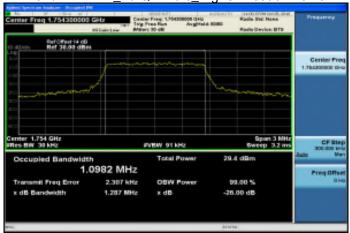
Band4 1.4MHz 16-QAM 6 0 MidCH20175-1732.5



Band4 1.4MHz QPSK 6 0 HighCH20393-1754.3



Band4 1.4MHz 16-QAM 6 0 HighCH20393-1754.3

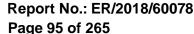


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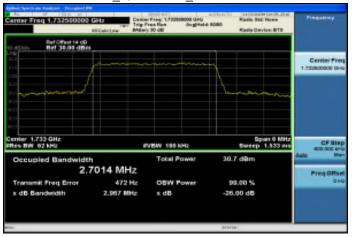
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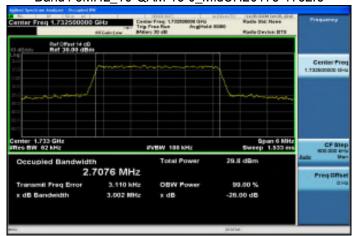
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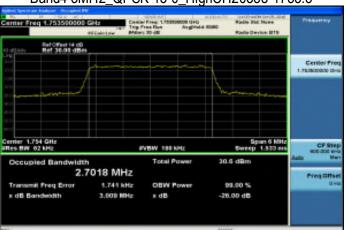
### Band4 3MHz QPSK 15 0 MidCH20175-1732.5



# Band4 3MHz 16-QAM 15 0 MidCH20175-1732.5



## Band4 3MHz QPSK 15 0 HighCH20385-1753.5



# Band4 3MHz\_16-QAM 15 0\_HighCH20385-1753.5

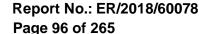


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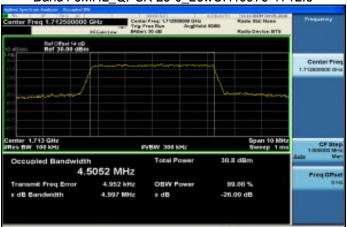
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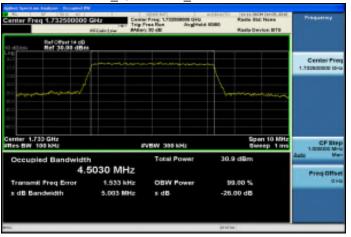
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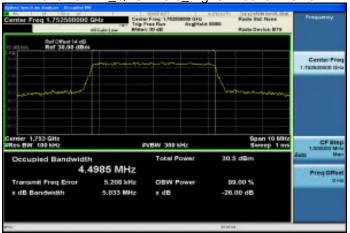
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## Band4 5MHz 16-QAM 25 0 MidCH20175-1732.5



## Band4 5MHz QPSK 25 0 HighCH20375-1752.5



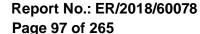
# Band4 5MHz\_16-QAM 25 0\_HighCH20375-1752.5



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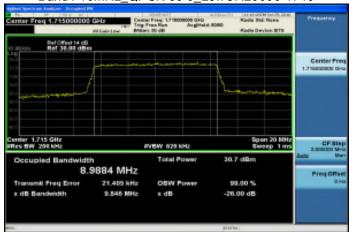
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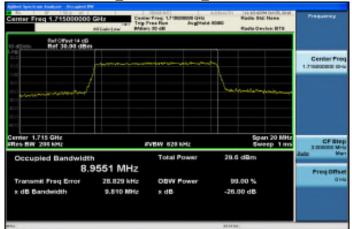




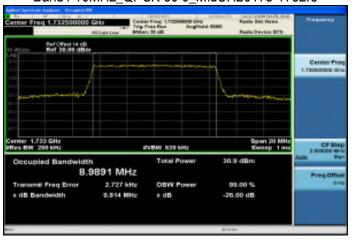
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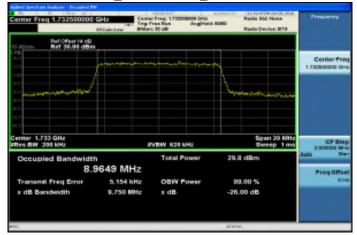
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## Band4 10MHz QPSK 50 0 MidCH20175-1732.5



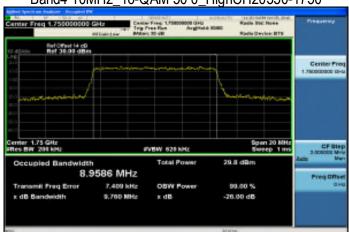
## Band4 10MHz 16-QAM 50 0 MidCH20175-1732.5



# Band4 10MHz\_QPSK 50 0\_HighCH20350-1750



## Band4 10MHz\_16-QAM 50 0\_HighCH20350-1750

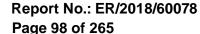


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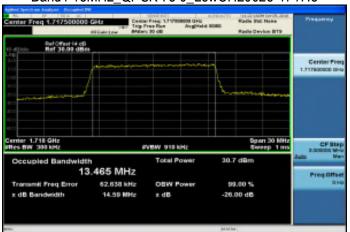
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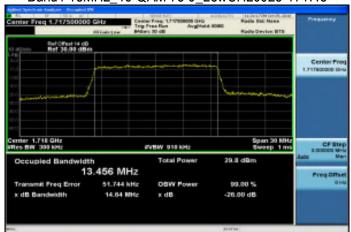




# Band4 15MHz\_QPSK 75 0\_LowCH20025-1717.5



## Band4 15MHz 16-QAM 75 0 LowCH20025-1717.5



### Band4 15MHz QPSK 75 0 MidCH20175-1732.5



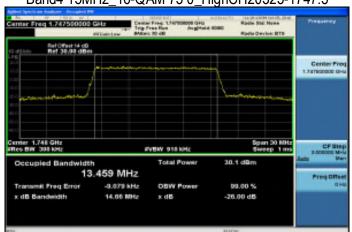
## Band4 15MHz 16-QAM 75 0 MidCH20175-1732.5



# Band4 15MHz\_QPSK 75 0\_HighCH20325-1747.5



### Band4 15MHz 16-QAM 75 0 HighCH20325-1747.5

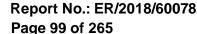


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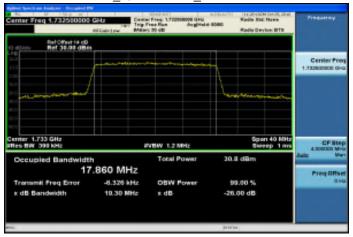
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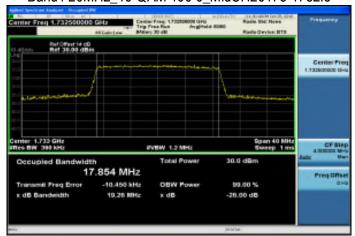
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### Band4 20MHz QPSK 100 0 MidCH20175-1732.5



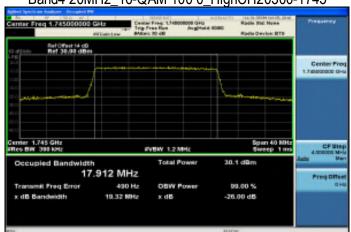
# Band4 20MHz 16-QAM 100 0 MidCH20175-1732.5



# Band4 20MHz\_QPSK 100 0\_HighCH20300-1745



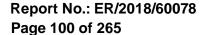
## Band4 20MHz\_16-QAM 100 0\_HighCH20300-1745



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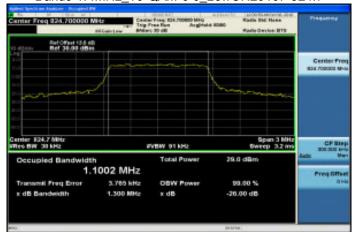




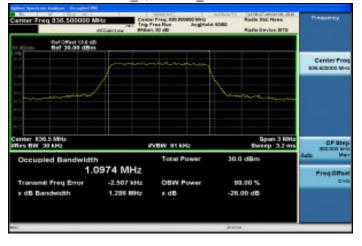
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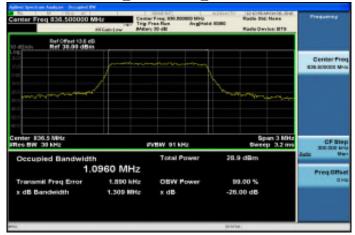
Band5 1.4MHz 16-QAM 6 0 LowCH20407-824.7



### Band5 1.4MHz QPSK 6 0 MidCH20525-836.5



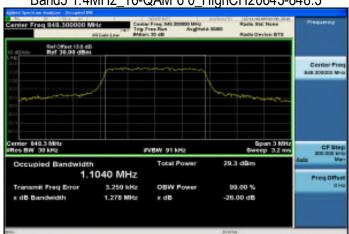
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## Band5 1.4MHz QPSK 6 0 HighCH20643-848.3



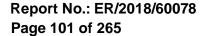
Band5 1.4MHz 16-QAM 6 0 HighCH20643-848.3



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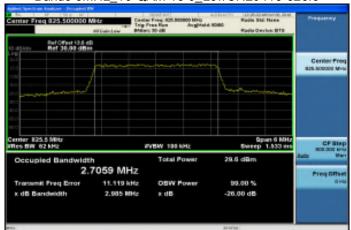




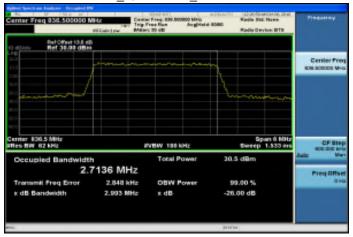
## Band5 3MHz QPSK 15 0 LowCH20415-825.5



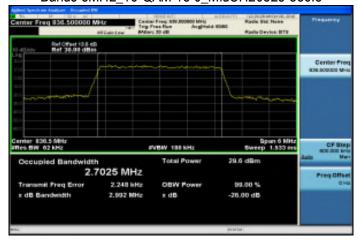
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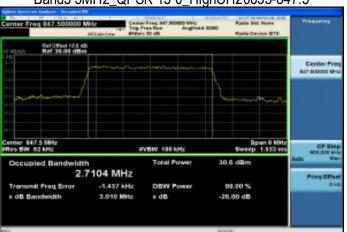
### Band5 3MHz QPSK 15 0 MidCH20525-836.5



# Band5 3MHz 16-QAM 15 0 MidCH20525-836.5



# Band5 3MHz\_QPSK 15 0\_HighCH20635-847.5



### Band5 3MHz 16-QAM 15 0 HighCH20635-847.5



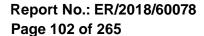
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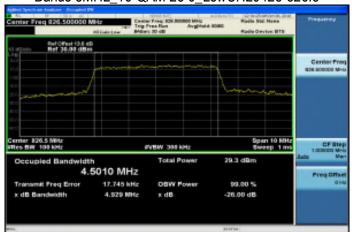




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## Band5 5MHz 16-QAM 25 0 LowCH20425-826.5



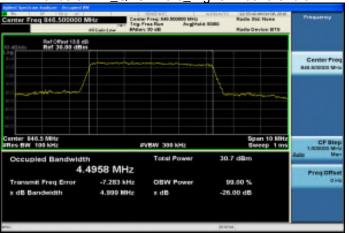
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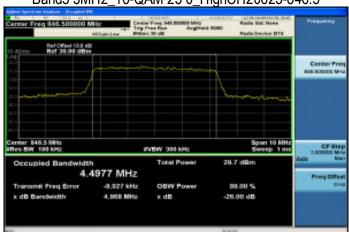
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## Band5 5MHz QPSK 25 0 HighCH20625-846.5



## Band5 5MHz 16-QAM 25 0 HighCH20625-846.5

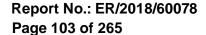


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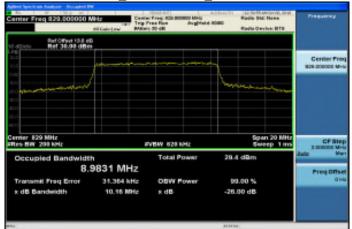




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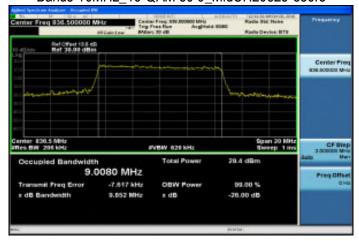
## Band5 10MHz 16-QAM 50 0 LowCH20450-829



### Band5 10MHz QPSK 50 0 MidCH20525-836.5



# Band5 10MHz 16-QAM 50 0 MidCH20525-836.5



# Band5 10MHz\_QPSK 50 0\_HighCH20600-844



## Band5 10MHz\_16-QAM 50 0\_HighCH20600-844



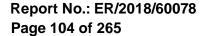
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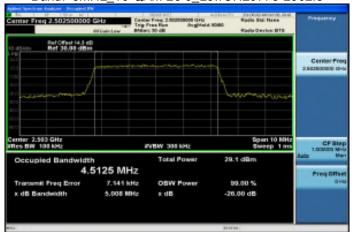




## Band7 5MHz QPSK 25 0 LowCH20775-2502.5



## Band7 5MHz 16-QAM 25 0 LowCH20775-2502.5



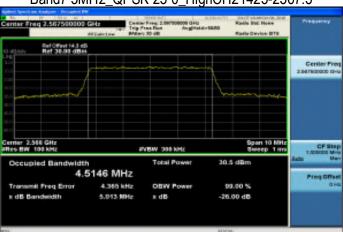
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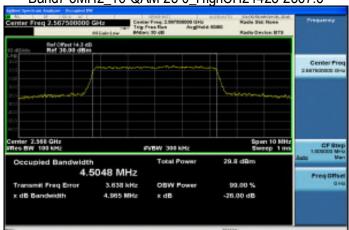
## Band7 5MHz 16-QAM 25 0 MidCH21100-2535



## Band7 5MHz QPSK 25 0 HighCH21425-2567.5



# Band7 5MHz\_16-QAM 25 0\_HighCH21425-2567.5

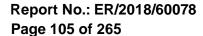


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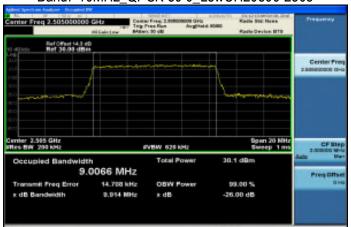
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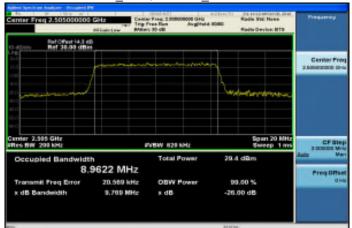




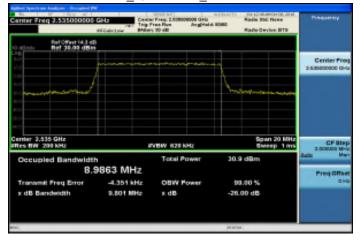
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## Band7 10MHz 16-QAM 50 0 LowCH20800-2505



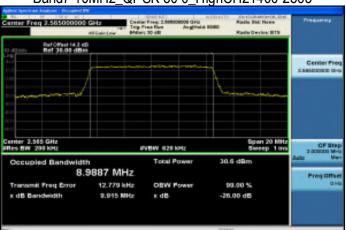
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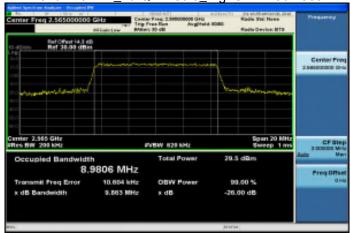
## Band7 10MHz 16-QAM 50 0 MidCH21100-2535



# Band7 10MHz\_QPSK 50 0\_HighCH21400-2565



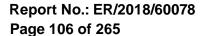
## Band7 10MHz\_16-QAM 50 0\_HighCH21400-2565



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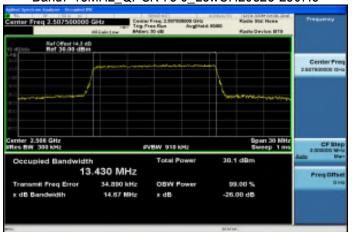
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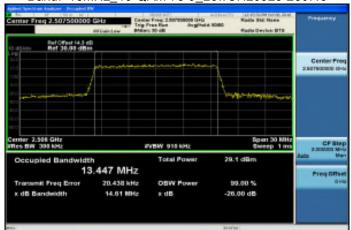




# Band7 15MHz\_QPSK 75 0\_LowCH20825-2507.5



## Band7 15MHz 16-QAM 75 0 LowCH20825-2507.5



## Band7 15MHz QPSK 75 0 MidCH21100-2535



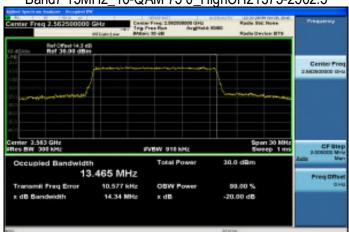
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### Band7 15MHz 16-QAM 75 0 HighCH21375-2562.5



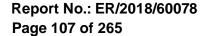
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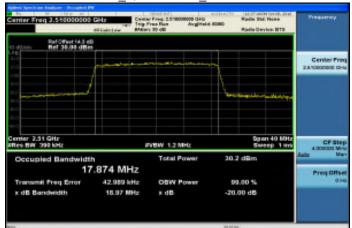
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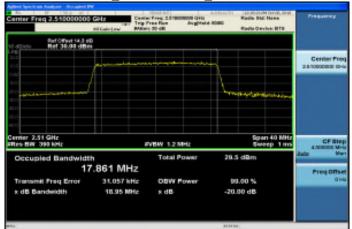




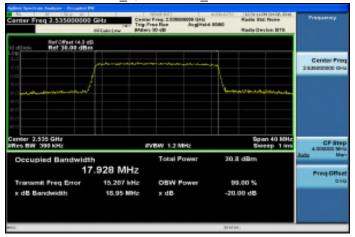
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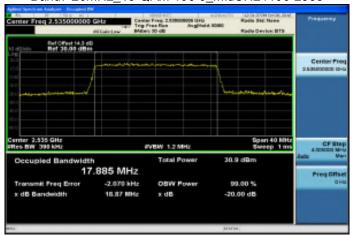
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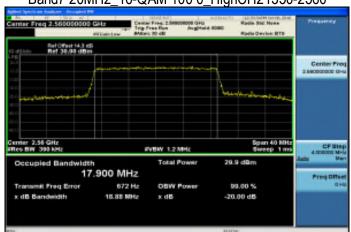
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## Band7 20MHz\_16-QAM 100 0\_HighCH21350-2560

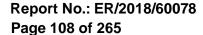


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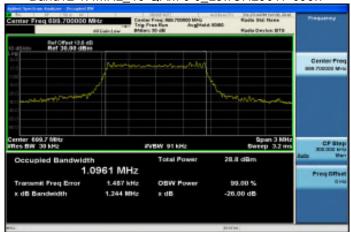




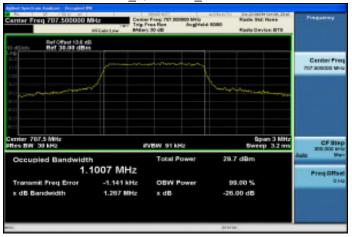
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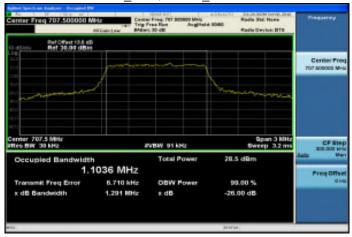
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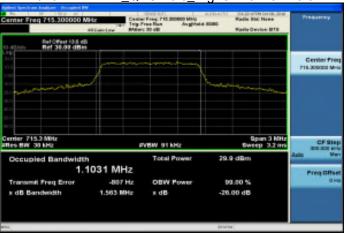
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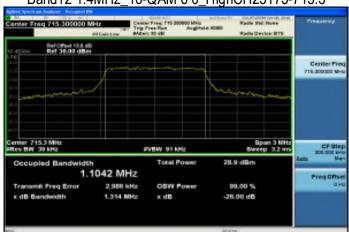
## Band12 1.4MHz 16-QAM 6 0 MidCH23095-707.5



## Band12 1.4MHz QPSK 6 0 HighCH23173-715.3



## Band12 1.4MHz\_16-QAM 6 0\_HighCH23173-715.3

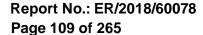


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Band12 3MHz\_QPSK 15 0\_LowCH23025-700.5



## Band12 3MHz 16-QAM 15 0 LowCH23025-700.5



#### Band12 3MHz QPSK 15 0 MidCH23095-707.5



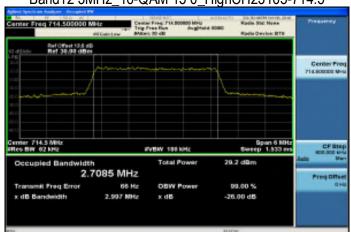
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## Band12 3MHz\_16-QAM 15 0\_HighCH23165-714.5



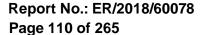
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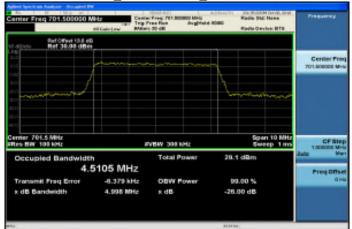




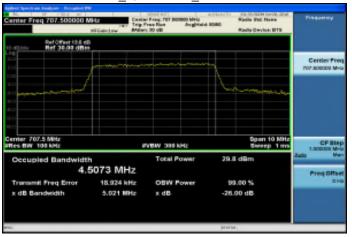
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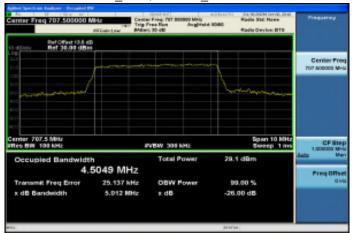
# Band12 5MHz 16-QAM 25 0 LowCH23035-701.5



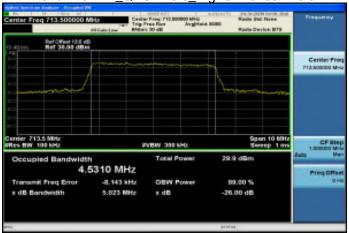
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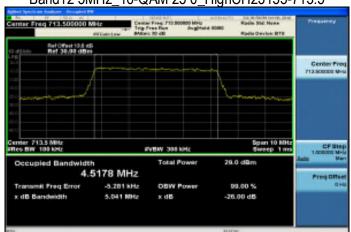
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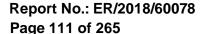


## Band12 5MHz\_16-QAM 25 0\_HighCH23155-713.5



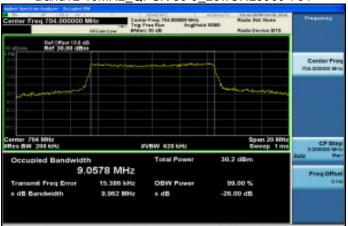
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## Band12 10MHz QPSK 50 0 LowCH23060-704



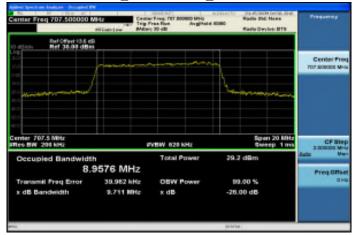
## Band12 10MHz 16-QAM 50 0 LowCH23060-704



#### Band12 10MHz QPSK 50 0 MidCH23095-707.5



#### Band12 10MHz 16-QAM 50 0 MidCH23095-707.5



# Band12 10MHz\_QPSK 50 0\_HighCH23130-711



## Band12 10MHz\_16-QAM 50 0\_HighCH23130-711



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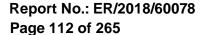
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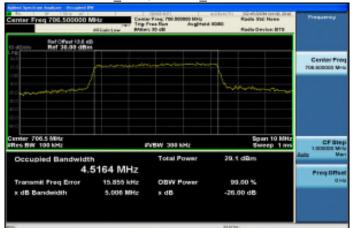




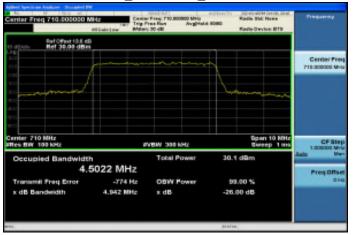
# Band17 5MHz\_QPSK 25 0\_LowCH23755-706.5



# Band17 5MHz 16-QAM 25 0 LowCH23755-706.5



#### Band17 5MHz QPSK 25 0 MidCH23790-710



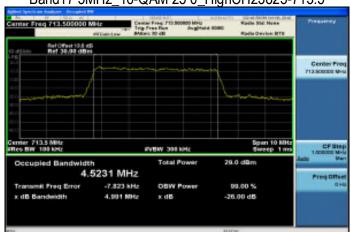
#### Band17 5MHz 16-QAM 25 0 MidCH23790-710



# Band17 5MHz\_QPSK 25 0\_HighCH23825-713.5



## Band17 5MHz\_16-QAM 25 0\_HighCH23825-713.5



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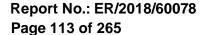
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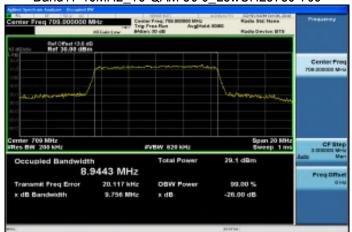




# Band17 10MHz\_QPSK 50 0\_LowCH23780-709



## Band17 10MHz 16-QAM 50 0 LowCH23780-709



#### Band17 10MHz QPSK 50 0 MidCH23790-710



#### Band17 10MHz 16-QAM 50 0 MidCH23790-710



# Band17 10MHz\_QPSK 50 0\_HighCH23800-711



## Band17 10MHz\_16-QAM 50 0\_HighCH23800-711



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# 9. OUT OF BAND EMISSION AT ANTENNA TERMINALS

# 9.1. Standard Applicable

FCC §22.917(a), §24.238(a), §27.53(g)(h), the magnitude of each spurious and harmonic emission that can be detected when the equipment is operated under the conditions specified in the instruction manual and/ or alignment procedure, shall not be less than 43 + 10 log (mean output power in watts) dBc below the mean power output outside a license's frequency block (-13dBm).

§27.53 (m) (4) shall not be less than 55 +10log(mean output power in watt) dBc below the mean power output outside a license's frequency block (-25dBm).

FCC §27.53(c) (2) (4)

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

FCC §27.53(c) (5) & FCC §27.53(g)

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

FCC §27.53(h)

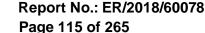
Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission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

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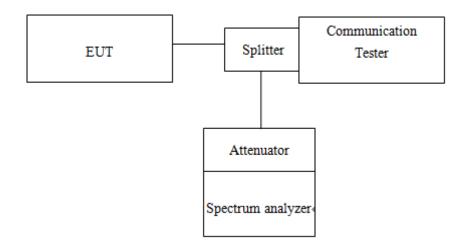


FCC §27.53(m) (4) (6)

For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in § 27.53(m)(6). In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz.

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

## 9.2. Test SET-UP



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# 9.3. Measurement Procedure

#### **Conducted Emission**

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

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

# **Band Edge**

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

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# 9.4. Measurement Equipment Used

Conducted Emission (measured at antenna port) Test Site					
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
TYPE		NUMBER	NUMBER	CAL.	
Power Meter	Anritsu	ML2495A	1005007	12/09/2015	12/08/2016
Power Sensor	Anritsu	MA2411B	917032	12/09/2015	12/08/2016
EXA Spectrum Analyzer	Agilent	N9030A	MY53120760	02/26/2016	02/25/2017
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2016	01/01/2017
Coaxial Cable	HU- BER+SUHNER	SUCOFLEX 102	23670/2	01/02/2016	01/01/2017
Attenuator	Mini-Circuit	BW-S10W2+	2	01/02/2016	01/01/2017
Splitter	Agilent	11636B	N/A	01/02/2016	01/01/2017
DC Power Supply	Agilent	E3640A	MY52410006	11/05/2015	11/04/2016
Temperature Chamber	TERCHY	MHG-120LF	911009	05/17/2016	05/16/2017
Radio Communication Analyzer	R&S	CMU200	102189	02/11/2016	02/10/2017
Radio Communication Analyzer	Anritsu	MT8820C	6200995019	09/25/2015	09/24/2016
Radio Communication Analyer	Anritsu	MT8820C	6201465317	12/10/2015	12/09/2016

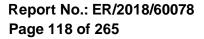
# 9.5. Measurement Result:

Refer to next pages.

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

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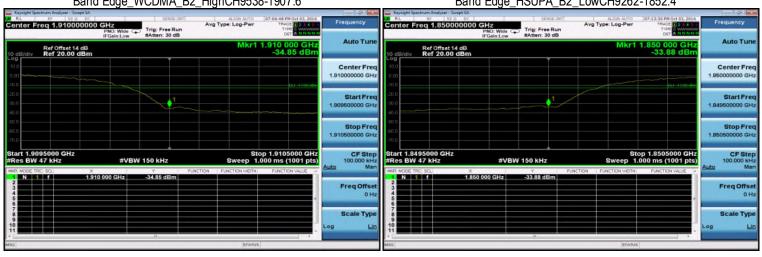
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Band Edge\_HSDPA\_B2\_HighCH9538-1907.6



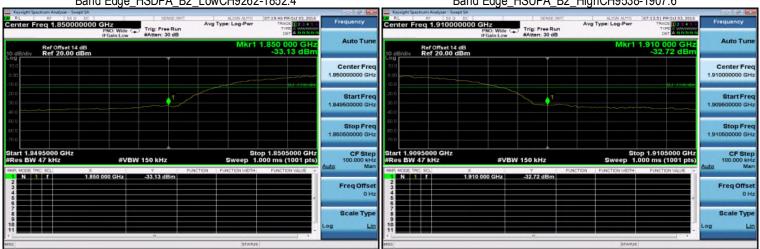
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Band Edge\_HSUPA\_B2\_LowCH9262-1852.4



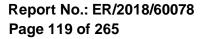
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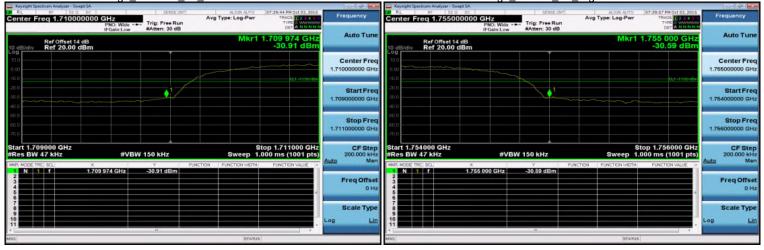
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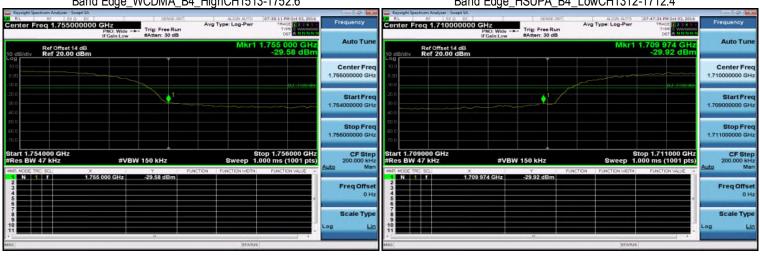
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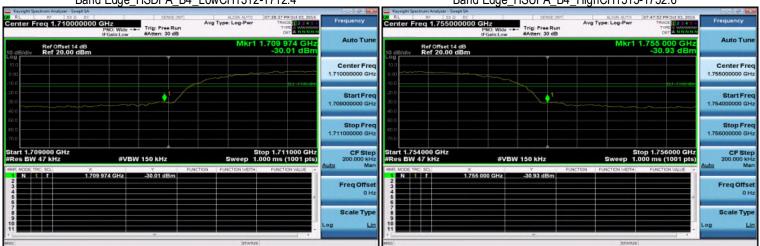
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Band Edge\_HSUPA\_B4\_LowCH1312-1712.4



Band Edge\_HSDPA\_B4\_LowCH1312-1712.4

Band Edge\_HSUPA\_B4\_HighCH1513-1752.6

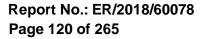


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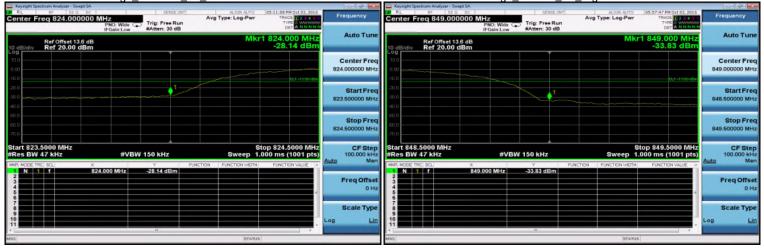
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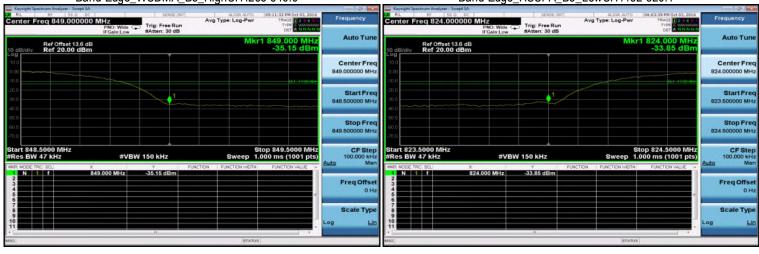
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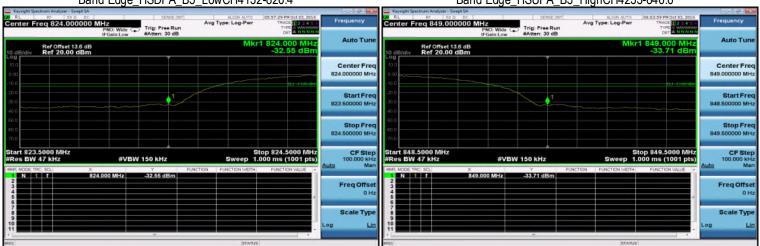
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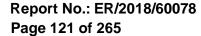
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Band Edge\_HSUPA\_B5\_HighCH4233-846.6



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Band Edge\_Band2 1.4MHz\_QPSK 1 0\_LowCH18607-1850.7

Band Edge\_Band2 1.4MHz\_QPSK 6 0\_HighCH19193-1909.3



Band Edge\_Band2 1.4MHz\_QPSK 1 5\_HighCH19193-1909.3

Band Edge\_Band2 3MHz\_QPSK 1 0\_LowCH18615-1851.5



Band Edge Band2 1.4MHz QPSK 6 0 LowCH18607-1850.7

Band Edge Band2 3MHz QPSK 1 14 HighCH19185-1908.5

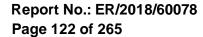


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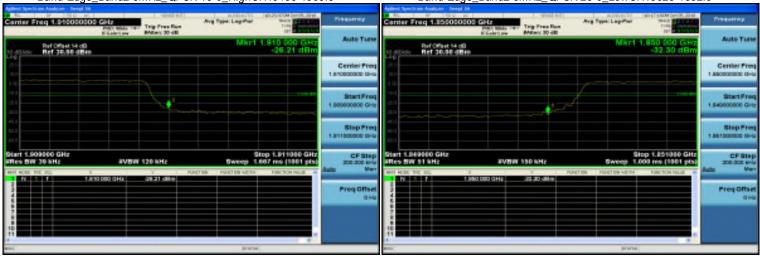
Band Edge\_Band2 3MHz\_QPSK 15 0\_LowCH18615-1851.5

Band Edge\_Band2 5MHz\_QPSK 1 24\_HighCH19175-1907.5

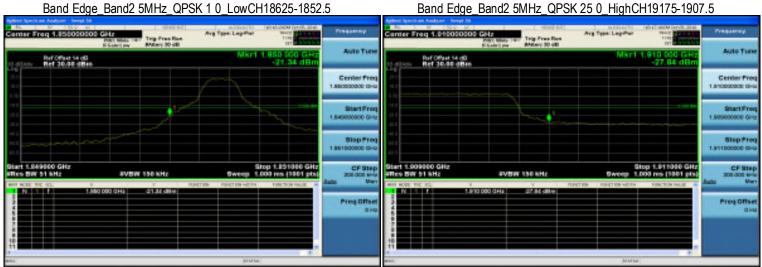


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Band Edge\_Band2 5MHz\_QPSK 25 0\_LowCH18625-1852.5



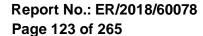
Band Edge Band2 5MHz QPSK 1 0 LowCH18625-1852.5



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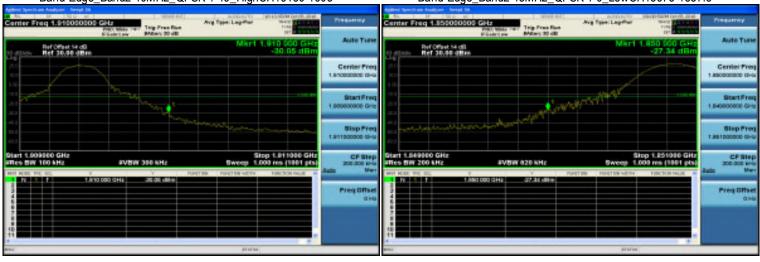
Band Edge\_Band2 10MHz\_QPSK 1 0\_LowCH18650-1855

Band Edge\_Band2 10MHz\_QPSK 50 0\_HighCH19150-1905



Band Edge\_Band2 10MHz\_QPSK 1 49\_HighCH19150-1905

Band Edge\_Band2 15MHz\_QPSK 1 0\_LowCH18675-1857.5



Band Edge Band2 10MHz QPSK 50 0 LowCH18650-1855

Band Edge Band2 15MHz QPSK 1 74 HighCH19125-1902.5

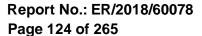


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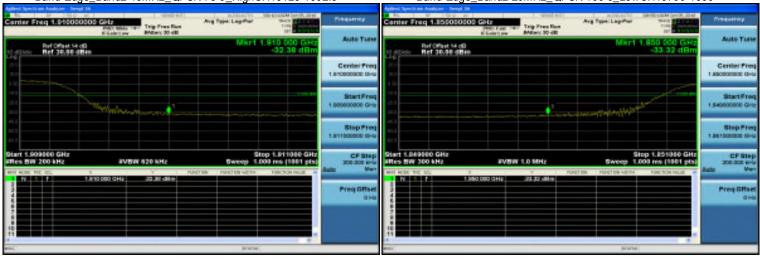
Band Edge\_Band2 15MHz\_QPSK 75 0\_LowCH18675-1857.5

Band Edge\_Band2 20MHz\_QPSK 1 99\_HighCH19100-1900



Band Edge\_Band2 15MHz\_QPSK 75 0\_HighCH19125-1902.5

Band Edge\_Band2 20MHz\_QPSK 100 0\_LowCH18700-1860



Band Edge Band2 20MHz QPSK 1 0 LowCH18700-1860

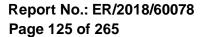




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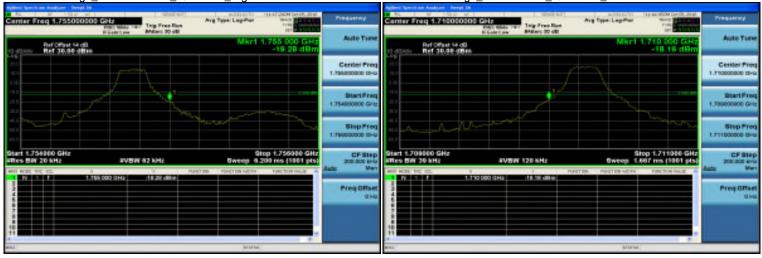
Band Edge\_Band4 1.4MHz\_QPSK 1 0\_LowCH19957-1710.7

Band Edge\_Band4 1.4MHz\_QPSK 6 0\_HighCH20393-1754.3



Band Edge\_Band4 1.4MHz\_QPSK 1 5\_HighCH20393-1754.3

Band Edge\_Band4 3MHz\_QPSK 1 0\_LowCH19965-1711.5



Band Edge Band4 1.4MHz QPSK 6 0 LowCH19957-1710.7

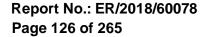




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Band Edge\_Band4 3MHz\_QPSK 15 0\_LowCH19965-1711.5

Band Edge\_Band4 5MHz\_QPSK 1 24\_HighCH20375-1752.5



Band Edge\_Band4 3MHz\_QPSK 15 0\_HighCH20385-1753.5

Band Edge\_Band4 5MHz\_QPSK 25 0\_LowCH19975-1712.5



Band Edge Band4 5MHz QPSK 1 0 LowCH19975-1712.5

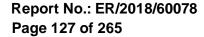
Band Edge Band4 5MHz QPSK 25 0 HighCH20375-1752.5



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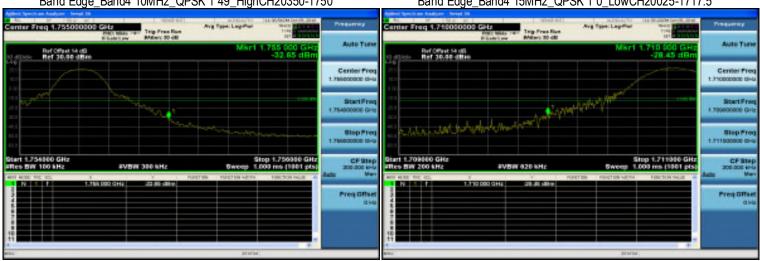
Band Edge\_Band4 10MHz\_QPSK 1 0\_LowCH20000-1715

Band Edge\_Band4 10MHz\_QPSK 50 0\_HighCH20350-1750



Band Edge\_Band4 10MHz\_QPSK 1 49\_HighCH20350-1750

Band Edge\_Band4 15MHz\_QPSK 1 0\_LowCH20025-1717.5



Band Edge Band4 10MHz QPSK 50 0 LowCH20000-1715

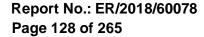




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Band Edge\_Band4 15MHz\_QPSK 75 0\_LowCH20025-1717.5

Band Edge\_Band4 20MHz\_QPSK 1 99\_HighCH20300-1745



Band Edge\_Band4 15MHz\_QPSK 75 0\_HighCH20325-1747.5

Band Edge\_Band4 20MHz\_QPSK 100 0\_LowCH20050-1720



Band Edge Band4 20MHz QPSK 1 0 LowCH20050-1720

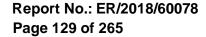




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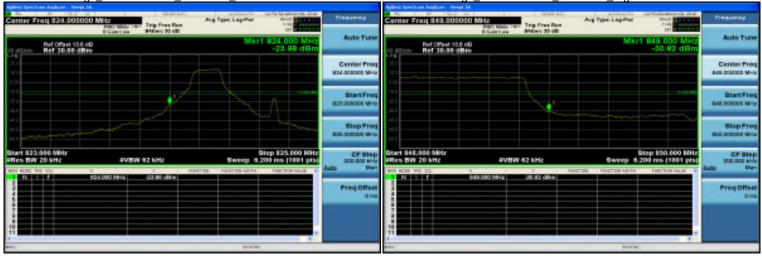
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Band Edge\_Band5 1.4MHz\_QPSK 1 0\_LowCH20407-824.7

Band Edge\_Band5 1.4MHz\_QPSK 6 0\_HighCH20643-848.3



Band Edge\_Band5 1.4MHz\_QPSK 1 5\_HighCH20643-848.3

Band Edge\_Band5 3MHz\_QPSK 1 0\_LowCH20415-825.5



Band Edge Band5 1.4MHz QPSK 6 0 LowCH20407-824.7

Band Edge Band5 3MHz QPSK 1 14 HighCH20635-847.5

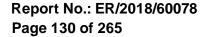


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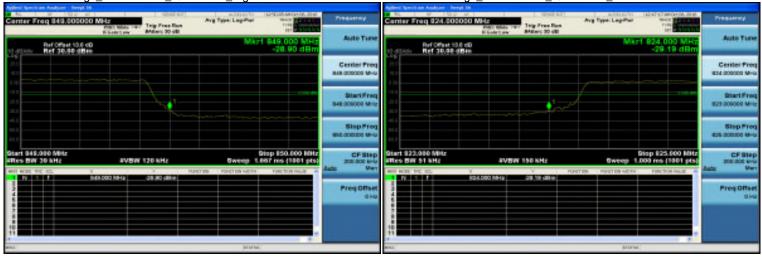
Band Edge\_Band5 3MHz\_QPSK 15 0\_LowCH20415-825.5

Band Edge\_Band5 5MHz\_QPSK 1 24\_HighCH20625-846.5



Band Edge\_Band5 3MHz\_QPSK 15 0\_HighCH20635-847.5

Band Edge\_Band5 5MHz\_QPSK 25 0\_LowCH20425-826.5



Band Edge Band5 5MHz QPSK 1 0 LowCH20425-826.5

Band Edge Band5 5MHz QPSK 25 0 HighCH20625-846.5

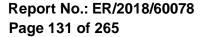


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Band Edge\_Band5 10MHz\_QPSK 1 0\_LowCH20450-829

Band Edge\_Band5 10MHz\_QPSK 50 0\_HighCH20600-844



Band Edge\_Band5 10MHz\_QPSK 1 49\_HighCH20600-844

Band Edge\_Band7 5MHz\_QPSK 1 0\_LowCH20775-2502.5



Band Edge Band5 10MHz QPSK 50 0 LowCH20450-829

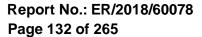
Band Edge Band7 5MHz QPSK 1 24 HighCH21425-2567.5



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Band Edge\_Band7 5MHz\_QPSK 25 0\_LowCH20775-2502.5

Band Edge\_Band7 10MHz\_QPSK 1 49\_HighCH21400-2565



Band Edge\_Band7 5MHz\_QPSK 25 0\_HighCH21425-2567.5

Band Edge\_Band7 10MHz\_QPSK 50 0\_LowCH20800-2505



Band Edge Band7 10MHz QPSK 1 0 LowCH20800-2505

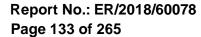
Band Edge Band7 10MHz QPSK 50 0 HighCH21400-2565



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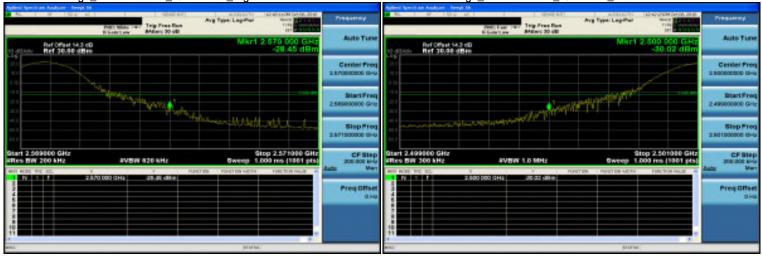
Band Edge\_Band7 15MHz\_QPSK 1 0\_LowCH20825-2507.5

Band Edge\_Band7 15MHz\_QPSK 75 0\_HighCH21375-2562.5



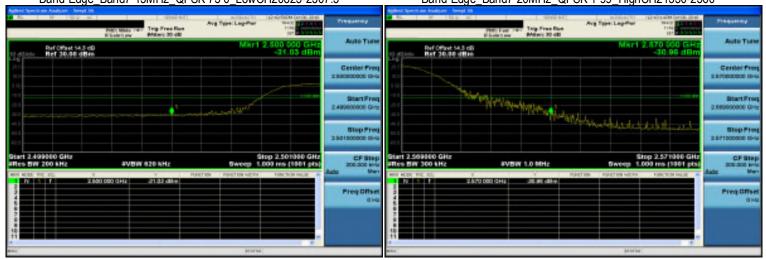
Band Edge\_Band7 15MHz\_QPSK 1 74\_HighCH21375-2562.5

Band Edge\_Band7 20MHz\_QPSK 1 0\_LowCH20850-2510



Band Edge Band7 15MHz QPSK 75 0 LowCH20825-2507.5

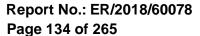
Band Edge Band7 20MHz QPSK 1 99 HighCH21350-2560



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Band Edge\_Band7 20MHz\_QPSK 100 0\_LowCH20850-2510

Band Edge\_Band12 1.4MHz\_QPSK 1 5\_HighCH23173-715.3

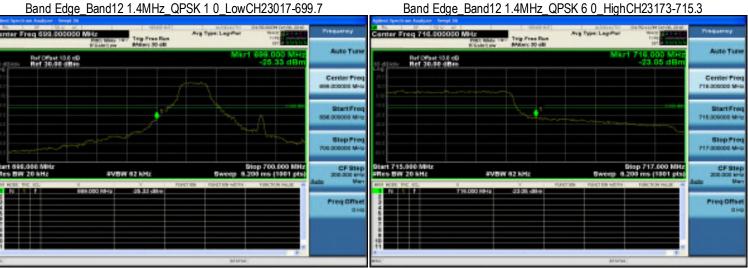


Band Edge\_Band7 20MHz\_QPSK 100 0\_HighCH21350-2560

Band Edge\_Band12 1.4MHz\_QPSK 6 0\_LowCH23017-699.7



Band Edge Band12 1.4MHz QPSK 1 0 LowCH23017-699.7



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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