

# 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
Product Name:	Tablet
Brand Name:	HP
Model No.:	HSN-I07C
Model Difference:	N/A
FCC ID:	B94HNI07CAM
Report No.:	ER/2016/B0078
Issue Date:	Dec. 27, 2016
FCC Rule Part:	2 , 22H & 24E & 27B, C & L
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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-I07C Model No.: N/A Model Difference: B94HNI07CAM FCC ID: ER/2016/B0078 File Number: Date of test: Nov. 14, 2016 ~ Dec. 20, 2016 Date of EUT Received: Nov. 14, 2016

# 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:	Dec. 27, 2016	
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# **Revision History**

Report Number	Revision	Description	Issue Date
ER/2016/B0078	Rev.00	Initial creation of document	Dec. 27, 2016



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# **1. GENERAL PRODUCT INFORMATION**

## **1.1. Product Description**

General:

Product Name:	Tablet
Brand Name:	HP
Model No.:	HSN-I07C
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.
Keyboard:	<ol> <li>Model No.: HSN-D06K, Supplier: HP</li> <li>Model No.: HSTNN-I72K, Supplier: HP</li> </ol>
	7.7Vdc from Rechargeable Li-polymer Battery or 5 / 9 / 10 / 12 / 15 / 20 Vdc from AC/DC Adapter Model No.: HSTNN-UB7E, Supplier: SAMSUNG SDI Co., Ltd.
Power Supply:	Adapter:       1. Model No.: TPN-CA06, Supplier: CHICONY POW- ER TECHNOLOGY (CHONGQING) CO.,LTD.         2. Model No.: TPN-AA03, Supplier: Acbel Electronic (Wuhan) Co., Ltd.



#### WCDMA / LTE:

	Operating Frequency		Rated Power
	GPRS 850	824.2 MHz– 848.8 MHz	33dBm
	EDGE 850	824.2 MHz- 848.8 MHz	27dBm
	GPRS 1900	1850.2MHz – 1909.8MHz	30dBm
	EDGE 1900	1850.2MHz – 1909.8MHz	26dBm
	WCDMA / HSPA+ Band II	1852.4MHz – 1907.6MHz	24dBm
	WCDMA / HSPA+ Band IV	1712.4MHz – 1752.6MHz	24dBm
	WCDMA / HSPA+ Band V	826.4MHz - 846.6MHz	24dBm
	CDMA2000 Cellular BC0	824.7MHz – 848.31MHz	24dBm
	CDMA2000 PCS BC1	1851.25 MHz – 1908.75 MHz	24dBm
	CDMA2000 EVDO Cellular BC0	824.7MHz – 848.31MHz	24dBm
	CDMA2000 EVDO PCS BC1	1851.25 MHz – 1908.75 MHz	24dBm
Cellular Phone	LTE-Band 2 (1.4MHz)	1850.7MHz- 1909.3MHz	23dBm
Standards Fre- quency Range and	LTE-Band 2 (3MHz)	1851.5MHz – 1908.5MHz	23dBm
Power	LTE-Band 2 (5MHz)	1852.5MHz – 1907.5MHz	23dBm
	LTE-Band 2 (10MHz)	1855.0MHz – 1905.0MHz	23dBm
	LTE-Band 2 (15MHz)	1857.5MHz – 1902.5MHz	23dBm
	LTE-Band 2 (20MHz)	1860.0MHz – 1900.0MHz	23dBm
	LTE-Band 4 (1.4MHz)	1710.7MHz- 1754.3MHz	23dBm
	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



	Operating Frequency	Rated Power	
	LTE-Band 7 (5MHz)	2502.5MHz – 2567.5MHz	23dBm
	LTE-Band 7 (10MHz)	2505.0MHz – 2565.0MHz	23dBm
	LTE-Band 7 (15MHz)	2507.5MHz – 2562.5MHz	23dBm
Collular Dhana	LTE-Band 7 (20MHz)	2510.0MHz – 2560MHz	23dBm
Cellular Phone Standards Fre-	LTE-Band 12 (1.4MHz)	699.7MHz– 715.3MHz	23dBm
quency Range and	LTE-Band 12 (3MHz)	700.5MHz – 714.5MHz	23dBm
Power	LTE-Band 12 (5MHz)	701.5MHz – 713.5MHz	23dBm
	LTE-Band 12 (10MHz)	704.0MHz – 711.0MHz	23dBm
	LTE-Band 13 (5MHz)	779.5MHz - 784.5MHz	23dBm
	LTE-Band 13 (10MHz)	782.0MHz	23dBm
	LTE-Band 17 (5MHz)	706.5MHz – 713.5MHz	23dBm
	LTE-Band 17 (10MHz)	709.0MHz –711.0MHz	23dBm
IMEI:	358894061500223		

#### Type of Emission:

Frequency Band	Type of Emission:
GPRS 850	247KGXW
EDGE 850	248KG7W
GPRS 1900	246KGXW
EDGE 1900	248KG7W
CDMA 2000 Cellular (BC0)	1M27F9W
CDMA 2000 EVDO Cellular (BC0)	1M28F9W
CDMA 2000 PCS (BC1)	1M28F9W
CDMA 2000 EVDO PCS (BC1)	1M29F9W
WCDMA Band II	4M15F9W
HSDPA Band II	4M17F9W
HSUPA Band II	4M17F9W
WCDMA Band IV	4M15F9W
HSDPA Band IV	4M15F9W
HSUPA Band IV	4M15F9W
WCDMA Band V	4M16F9W
HSDPA Band V	4M16F9W
HSUPA Band V	4M17F9W



LTE Band	BW (MHz)	Modulation	Type of Emission
LTE Band 2	1.4MHz	QPSK	1M10G7D
LTE Band 2	1.4MHz	16QAM	1M10D7W
LTE Band 2	3MHz	QPSK	2M70G7D
LTE Band 2	3MHz	16QAM	2M70D7W
LTE Band 2	5MHz	QPSK	4M51G7D
LTE Band 2	5MHz	16QAM	4M50D7W
LTE Band 2	10MHz	QPSK	8M99G7D
LTE Band 2	10MHz	16QAM	8M97D7W
LTE Band 2	15MHz	QPSK	13M6G7D
LTE Band 2	15MHz	16QAM	13M5D7W
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	2M70G7D
LTE Band 4	3MHz	16QAM	2M70D7W
LTE Band 4	5MHz	QPSK	4M50G7D
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	2M70G7D
LTE Band 5	3MHz	16QAM	2M70D7W
LTE Band 5	5MHz	QPSK	4M49G7D
LTE Band 5	5MHz	16QAM	4M50D7W
LTE Band 5	10MHz	QPSK	9M01G7D
LTE Band 5	10MHz	16QAM	9M00D7W
LTE Band 7	5MHz	QPSK	4M50G7D
LTE Band 7	5MHz	16QAM	4M50D7W
LTE Band 7	10MHz	QPSK	9M02G7D
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	18M0D7W



LTE Band	BW (MHz)	Modulation	Type of Emission
LTE Band 12	1.4MHz	QPSK	1M10G7D
LTE Band 12	1.4MHz	16QAM	1M10D7W
LTE Band 12	3MHz	QPSK	2M70G7D
LTE Band 12	3MHz	16QAM	2M70D7W
LTE Band 12	5MHz	QPSK	4M51G7D
LTE Band 12	5MHz	16QAM	4M50D7W
LTE Band 12	10MHz	QPSK	9M08G7D
LTE Band 12	10MHz	16QAM	9M03D7W
LTE Band 13	5MHz	QPSK	4M51G7D
LTE Band 13	5MHz	16QAM	4M51D7W
LTE Band 13	10MHz	QPSK	8M97G7D
LTE Band 13	10MHz	16QAM	8M97D7W
LTE Band 17	5MHz	QPSK	4M50G7D
LTE Band 17	5MHz	16QAM	4M50D7W
LTE Band 17	10MHz	QPSK	8M97G7D
LTE Band 17	10MHz	16QAM	8M97D7W



#### Max ERP/EIRP Power Measurement Result:

	dBm		W
GPRS 850	26.20	ERP	0.417
EDGE 850	26.27	ERP	0.424
GPRS 1900	24.98	EIRP	0.315
EDGE 1900	24.01	EIRP	0.252
CDMA 2000 Cellular (BC0)	17.16	ERP	0.052
CDMA 2000 EVDO Cellular (BC0)	17.07	ERP	0.051
CDMA 2000 PCS (BC1)	18.92	EIRP	0.078
CDMA 2000 EVDO PCS (BC1)	18.59	EIRP	0.072
WCDMA Band II	22.82	EIRP	0.191
HSDPA Band II	21.45	EIRP	0.140
HSUPA Band II	21.05	EIRP	0.127
WCDMA Band IV	23.00	EIRP	0.200
HSDPA Band IV	21.26	EIRP	0.134
HSUPA Band IV	20.70	EIRP	0.117
WCDMA Band V	21.91	ERP	0.155
HSDPA Band V	19.84	ERP	0.096
HSUPA Band V	18.87	ERP	0.077
LTE-Band 2 (Bandwidth 1.4MHz) QPSK	20.50	EIRP	0.112
LTE-Band 2 (Bandwidth 1.4MHz) 16QAM	20.56	EIRP	0.114
LTE-Band 2 (Bandwidth 3MHz) QPSK	20.68	EIRP	0.117
LTE-Band 2 (Bandwidth 3MHz) 16QAM	20.62	EIRP	0.115
LTE-Band 2 (Bandwidth 5MHz) QPSK	20.83	EIRP	0.121
LTE-Band 2 (Bandwidth 5MHz) 16QAM	20.81	EIRP	0.121
LTE-Band 2 (Bandwidth 10MHz) QPSK	20.71	EIRP	0.118
LTE-Band 2 (Bandwidth 10MHz) 16QAM	20.79	EIRP	0.120
LTE-Band 2 (Bandwidth 15MHz) QPSK	20.42	EIRP	0.110
LTE-Band 2 (Bandwidth 15MHz) 16QAM	20.60	EIRP	0.115
LTE-Band 2 (Bandwidth 20MHz) QPSK	20.32	EIRP	0.108
LTE-Band 2 (Bandwidth 20MHz) 16QAM	20.46	EIRP	0.111



	dBm		W
LTE-Band 4 (Bandwidth 1.4MHz) QPSK	23.88	EIRP	0.244
LTE-Band 4 (Bandwidth 1.4MHz) 16QAM	24.04	EIRP	0.254
LTE-Band 4 (Bandwidth 3MHz) QPSK	24.47	EIRP	0.280
LTE-Band 4 (Bandwidth 3MHz) 16QAM	24.72	EIRP	0.296
LTE-Band 4 (Bandwidth 5MHz) QPSK	24.96	EIRP	0.313
LTE-Band 4 (Bandwidth 5MHz) 16QAM	25.01	EIRP	0.317
LTE-Band 4 (Bandwidth 10MHz) QPSK	24.95	EIRP	0.313
LTE-Band 4 (Bandwidth 10MHz) 16QAM	25.19	EIRP	0.330
LTE-Band 4 (Bandwidth 15MHz) QPSK	23.91	EIRP	0.246
LTE-Band 4 (Bandwidth 15MHz) 16QAM	24.17	EIRP	0.261
LTE-Band 4 (Bandwidth 20MHz) QPSK	23.82	EIRP	0.241
LTE-Band 4 (Bandwidth 20MHz) 16QAM	24.13	EIRP	0.259
LTE-Band 5 (Bandwidth 1.4MHz) QPSK	28.96	ERP	0.787
LTE-Band 5 (Bandwidth 1.4MHz) 16QAM	28.66	ERP	0.735
LTE-Band 5 (Bandwidth 3MHz) QPSK	29.55	ERP	0.902
LTE-Band 5 (Bandwidth 3MHz) 16QAM	29.42	ERP	0.875
LTE-Band 5 (Bandwidth 5MHz) QPSK	29.86	ERP	0.968
LTE-Band 5 (Bandwidth 5MHz) 16QAM	29.85	ERP	0.966
LTE-Band 5 (Bandwidth 10MHz) QPSK	30.31	ERP	1.074
LTE-Band 5 (Bandwidth 10MHz) 16QAM	30.20	ERP	1.047
LTE-Band 7 (Bandwidth 5MHz) QPSK	25.52	EIRP	0.356
LTE-Band 7 (Bandwidth 5MHz) 16QAM	25.69	EIRP	0.371
LTE-Band 7 (Bandwidth 10MHz) QPSK	25.71	EIRP	0.372
LTE-Band 7 (Bandwidth 10MHz) 16QAM	26.08	EIRP	0.406
LTE-Band 7 (Bandwidth 15MHz) QPSK	26.14	EIRP	0.411
LTE-Band 7 (Bandwidth 15MHz) 16QAM	26.37	EIRP	0.434
LTE-Band 7 (Bandwidth 20MHz) QPSK	26.23	EIRP	0.420
LTE-Band 7 (Bandwidth 20MHz) 16QAM	26.45	EIRP	0.442



	dBm		W
LTE-Band 12 (Bandwidth 1.4MHz) QPSK	15.55	ERP	0.036
LTE-Band 12 (Bandwidth 1.4MHz) 16QAM	15.69	ERP	0.037
LTE-Band 12 (Bandwidth 3MHz) QPSK	16.43	ERP	0.044
LTE-Band 12 (Bandwidth 3MHz) 16QAM	16.58	ERP	0.045
LTE-Band 12 (Bandwidth 5MHz) QPSK	16.62	ERP	0.046
LTE-Band 12 (Bandwidth 5MHz) 16QAM	16.81	ERP	0.048
LTE-Band 12 (Bandwidth 10MHz) QPSK	16.56	ERP	0.045
LTE-Band 12 (Bandwidth 10MHz) 16QAM	16.77	ERP	0.048
LTE-Band 13 (Bandwidth 5MHz) QPSK	19.11	ERP	0.081
LTE-Band 13 (Bandwidth 5MHz) 16QAM	19.85	ERP	0.097
LTE-Band 13 (Bandwidth 10MHz) QPSK	18.45	ERP	0.070
LTE-Band 13 (Bandwidth 10MHz) 16QAM	18.29	ERP	0.067
LTE-Band 17 (Bandwidth 5MHz) QPSK	16.65	ERP	0.046
LTE-Band 17 (Bandwidth 5MHz) 16QAM	17.07	ERP	0.051
LTE-Band 17 (Bandwidth 10MHz) QPSK	17.12	ERP	0.052
LTE-Band 17 (Bandwidth 10MHz) 16QAM	17.42	ERP	0.055



# **1.2. Product Feature of Equipment Under Test**

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

Product Feature		
GPRS / EGPRS Multi Slot Class GPRS Class 12 / Class 12		
CDMA / EVDO	BC0 / BC1	
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 / 13 / 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.



### 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.

### 2.4. Measurement Results Explanation Example

### For all conducted test items:

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

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### Note:

The spectrum analyzer offset is derived from RF cable loss and attenuator factor. Following shows an offset computation 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)

Test Mode	DC voltage (V)	DC current (mA)
GPRS 850	7.7 Vdc	536
GPRS 1900	7.7 Vdc	541
EDGE 850	7.7 Vdc	495
EDGE 1900	7.7 Vdc	521
WCDMA B2	7.7 Vdc	726
WCDMA B4	7.7 Vdc	681
WCDMA B5	7.7 Vdc	669
HSUPA B2	7.7 Vdc	751
HSUPA B4	7.7 Vdc	691
HSUPA B5	7.7 Vdc	651
HSDPA B2	7.7 Vdc	741
HSDPA B4	7.7 Vdc	667
HSDPA B5	7.7 Vdc	629

### 2.5. Final Amplifier Voltage and Current Information:

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. 除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。

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Test Mode	DC voltage (V)	DC current (mA)
CDMA BC0	7.7 Vdc	941
EVDO BC0	7.7 Vdc	889
CDMA BC1	7.7 Vdc	921
EVDO BC1	7.7 Vdc	874

Test Mode	DC voltage (V)	DC current (mA)
LTE Band 2_1.4M QPSK	7.7Vdc	892
LTE Band 2_1.4M 16QAM	7.7Vdc	889
LTE Band 2_3M QPSK	7.7Vdc	890
LTE Band 2_3M 16QAM	7.7Vdc	868
LTE Band 2_5M QPSK	7.7Vdc	898
LTE Band 2_5M 16QAM	7.7Vdc	887
LTE Band 2_10M QPSK	7.7Vdc	913
LTE Band 2_10M 16QAM	7.7Vdc	875
LTE Band 2_15M QPSK	7.7Vdc	914
LTE Band 2_15M 16QAM	7.7Vdc	970
LTE Band 2_20M QPSK	7.7Vdc	955
LTE Band 2_20M 16QAM	7.7Vdc	990



Test Mode	DC voltage (V)	DC current (mA)
LTE Band 4_1.4M QPSK	7.7Vdc	895
LTE Band 4_1.4M 16QAM	7.7Vdc	918
LTE Band 4_3M QPSK	7.7Vdc	936
LTE Band 4_3M 16QAM	7.7Vdc	920
LTE Band 4_5M QPSK	7.7Vdc	930
LTE Band 4_5M 16QAM	7.7Vdc	910
LTE Band 4_10M QPSK	7.7Vdc	931
LTE Band 4_10M 16QAM	7.7Vdc	917
LTE Band 4_15M QPSK	7.7Vdc	952
LTE Band 4_15M 16QAM	7.7Vdc	972
LTE Band 4_20M QPSK	7.7Vdc	977
LTE Band 4_20M 16QAM	7.7Vdc	919

Test Mode	DC voltage (V)	DC current (mA)
LTE Band 5_1.4M QPSK	7.7Vdc	937
LTE Band 5_1.4M 16QAM	7.7Vdc	965
LTE Band 5_3M QPSK	7.7Vdc	966
LTE Band 5_3M 16QAM	7.7Vdc	984
LTE Band 5_5M QPSK	7.7Vdc	974
LTE Band 5_5M 16QAM	7.7Vdc	973
LTE Band 5_10M QPSK	7.7Vdc	936
LTE Band 5_10M 16QAM	7.7Vdc	992



Test Mode	DC voltage (V)	DC current (mA)
LTE Band 7_5M QPSK	7.7Vdc	963
LTE Band 7_5M 16QAM	7.7Vdc	976
LTE Band 7_10M QPSK	7.7Vdc	979
LTE Band 7_10M 16QAM	7.7Vdc	959
LTE Band 7_15M QPSK	7.7Vdc	946
LTE Band 7_15M 16QAM	7.7Vdc	1001
LTE Band 7_20M QPSK	7.7Vdc	974
LTE Band 7_20M 16QAM	7.7Vdc	976

Test Mode	DC voltage (V)	DC current (mA)
LTE Band 12_1.4M QPSK	7.7Vdc	957
LTE Band 12_1.4M 16QAM	7.7Vdc	987
LTE Band 12_3M QPSK	7.7Vdc	963
LTE Band 12_3M 16QAM	7.7Vdc	973
LTE Band 12_5M QPSK	7.7Vdc	968
LTE Band 12_5M 16QAM	7.7Vdc	962
LTE Band 12_10M QPSK	7.7Vdc	971
LTE Band 12_10M 16QAM	7.7Vdc	954



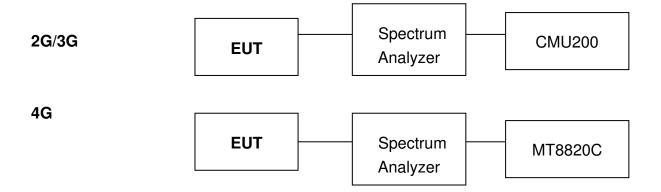
Test Mode	DC voltage (V)	DC current (mA)
LTE Band 13_5M QPSK	7.7Vdc	968
LTE Band 13_5M 16QAM	7.7Vdc	945
LTE Band 13_10M QPSK	7.7Vdc	981
LTE Band 13_10M 16QAM	7.7Vdc	969

Test Mode	DC voltage (V)	DC current (mA)
LTE Band 17_5M QPSK	7.7Vdc	962
LTE Band 17_5M 16QAM	7.7Vdc	968
LTE Band 17_10M QPSK	7.7Vdc	998
LTE Band 17_10M 16QAM	7.7Vdc	969

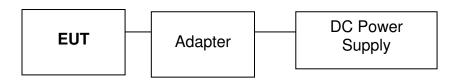


# 2.6. Configuration of Tested System

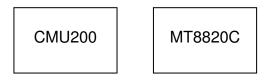
### Fig. 2-1 Configuration of Tested System (Fixed Channel-Conducted)



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



**Remote Side** 



### Table 2-1 Equipment Used in

ltem	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
3.	DC Power Supply	HP	E3640A	KR93300208	N/A	Un-shielded



### 3. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	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 Occuupied Bandwidth	Compliant
§2.1051 §22.917(a) §24.238(a) §27.53(g) §27.50(c)(5) §27.53(h) §27.53(m)(4)(6)	Out of Band Emissions at Antenna Terminals and Band Edge / Emission mask requirements	Compliant
§2.1053 §22.917(a) §24.238(a) §27.53(c)(2),(4) §27.50(c)(5) §27.53(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



# 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
GPRS/EDGE 850	E1-plan	E1-plan
GPRS/EDGE 1900	E2-plan	E2-plan
WCDMA/HSPA Band II	E2-plan	E2-plan
WCDMA/HSPA Band IV	E2-plan	E2-plan
WCDMA/HSPA Band V	E1-plan	E1-plan
CDMA 2000 Cellular (BC0) / CDMA 2000 EVDO Cellular (BC0)	E1-plan	E1-plan
CDMA 2000 PCS (BC1) / CDMA 2000 EVDO PCS (BC1)	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	E2-plan	E2-plan
LTE Band 12	E1-plan	E1-plan
LTE Band 13	E1-plan	E1-plan
LTE Band 17	E1-plan	E1-plan

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#### **GPRS/EDGE MODE**

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

#### WCDMA/HSPA MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
ERP	4132 to 4233	4132, 4183, 4233	WCDMA/HSPA Band V
EIRP	9262 to 9538 1312 to 1513	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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#### CDMA/EVDO MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
ERP	1013 to 777	1013, 384, 777	CDMA2000/ EVDO Cellular BC0
EIRP	25 to 1175	25, 600, 1175	CDMA2000/ EVDO PCS BC1
FREQUENCY	1013 to 777	384	CDMA2000/ EVDO Cellular BC0
STABILITY	25 to 1175	600	CDMA2000/ EVDO PCS BC1
OCCUPIED	1013 to 777	1013, 384, 777	CDMA2000/ EVDO Cellular BC0
BANDWIDTH	25 to 1175	25, 600, 1175	CDMA2000/ EVDO PCS BC1
PEAK TO AVERAGE	1013 to 777	1013, 384, 777	CDMA2000/ EVDO Cellular BC0
RATIO	25 to 1175	25, 600, 1175	CDMA2000/ EVDO PCS BC1
BAND EDGE	1013 to 777	1013, 777	CDMA2000/ EVDO Cellular BC0
BAND EDGE	25 to 1175	25, 1175	CDMA2000/ EVDO PCS BC1
CONDCUDETED	1013 to 777	1013, 384, 777	CDMA2000/ EVDO Cellular BC0
EMISSION	25 to 1175	25, 600, 1175	CDMA2000/ EVDO PCS BC1
RADIATED EMISSION	1013 to 777	1013, 384, 777	CDMA2000 Cellular BC0
	25 to 1175	25, 600, 1175	CDMA2000 PCS BC1



#### LTE 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
EIRP	18625 to 19175	18625, 18900, 19175	5MHz	QPSK, 16QAM	1 RB/ 0,24 RB Offest
EINF	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	3MHz	QPSK,	1 RB/ 0,14 RB Offest Full RB
BAND EDGE	18625 to 19175	18625, 19175	5MHz	QPSK,	1 RB/ 0,24 RB Offest Full RB
DAND EDGE	18650 to 19150	18650, 19150	10MHz	QPSK,	1 RB/ 0,49 RB Offest Full RB
	18675 to 19125	18675, 19125	15MHz	QPSK,	1 RB/ 0,74 RB Offest Full RB
	18700 to 19100	18700, 19100	20MHz	QPSK,	1 RB/ 0,99 RB Offest Full RB
	18607 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 EMISSION	18625 to 19175	18625, 18900, 19175	5MHz	QPSK,	1 RB, 0 RB Offest
	18650 to 19150	18650, 18900, 19150	10MHz	QPSK,	1 RB, 0 RB Offest
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK,	1 RB, 0 RB Offest
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK,	1 RB, 0 RB Offest
RADIATED EMISSION	18625 to 19175	18625, 18900, 19175	5MHz	QPSK	1 RB, 0 RB Offest



#### LTE Band 4 MODE

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
EIRP	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	1 RB/ 0,24 RB Offest
EIRF	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	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
Drind Ebal	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 EMISSION	19975 to 20375	19975, 20175, 20375	5MHz	QPSK,	1 RB, 0 RB Offest
	20000 to 20350	20000, 20175, 20350	10MHz	QPSK,	1 RB, 0 RB Offest
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK,	1 RB, 0 RB Offest
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK,	1 RB, 0 RB Offest
RADIATED EMISSION	20000 to 20350	20000, 20175, 20350	10MHz	16QAM,	1 RB, 49 RB Offest



#### LTE Band 5 MODE

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



#### LTE Band 7 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM	1 RB/ 0,24 RB Offest
EIRP	20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM	1 RB/ 0,49 RB Offest
EINF	20850 to 21375	20850, 21100, 21375	15MHz	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 to 21425	20775, 21100, 21425	5MHz	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, 21100, 21400	10MHz	QPSK,	1 RB, 0 RB Offest
EMISSION		20850, 21100, 21375	15MHz	QPSK,	1 RB, 0 RB Offest
	20850 to 21350	20850, 21100, 21350	20MHz	QPSK,	1 RB, 0 RB Offest
RADIATED EMISSION	20850 to 21350	20850, 21100, 21350	20MHz	16QAM	1 RB, 0 RB Offest
EMISSION	20775 to 21425	20775, 21100, 21425	5MHz	QPSK,	1 RB/ 0,24 RB Offest 25 RB/ 0 Offset
	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



#### LTE Band 12 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK, 16QAM	1 RB/ 0,5 RB Offest
ERP	23025 to 23165	23025, 23095, 23165	3MHz	QPSK, 16QAM	1 RB/ 0,14 RB Offest
		23035, 23095, 23155		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 to 23173	23017, 23095, 23173	1.4MHz	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
	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
CONDCUDETED EMISSION	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK,	1 RB, 0 RB Offest
	23025 to 23165	23025, 23095, 23165	3MHz	QPSK,	1 RB, 0 RB Offest
		23035, 23095, 23155		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, 24 RB Offest



#### LTE Band 13 MODE

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

#### LTE Band 17 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
ERP		23755, 23790, 23825		QPSK, 16QAM	1 RB/ 0,24 RB Offest
<b></b>	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, 49 RB Offest



### 5. MEASUREMENT UNCERTAINTY

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

Radiated Spurious Emission:

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

	9kHz – 30MHz: +/- 2.87 dB	
	30MHz - 167MHz: +/- 4.22dB	
Measurement uncertainty (Polarization : <b>Horizontal</b> )	167MHz -500MHz: +/- 3.44dB	
	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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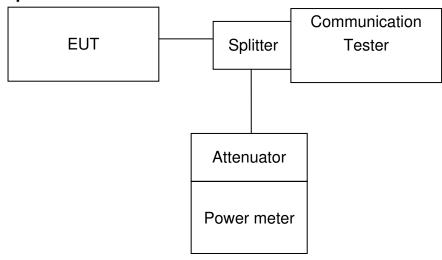


# 6. RF CONDUCTED OUTPUT POWER MEASUREMENT

### 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,

(WCDMA/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

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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### 6.4. 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	12/15/2016	12/14/2017	
Power Sensor	Anritsu	MA2411B	917032	12/15/2016	12/14/2017	
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	HUBER+SUHNE R	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	11/21/2016	11/20/2017	
Temperature Chamber	TERCHY	MHG-120LF	911009	05/17/2016	05/16/2017	
Radio Communication Analyzer	Anritsu	MT8820C	6200995019	09/24/2016	09/23/2017	
Radio Communication Analyzer	R&S	CMU200	102189	02/11/2016	02/10/2017	

### 6.5. Measurement Result

### **RF Conducted Output Power**



EUT Mode	Frequency (MHz)	СН	Average Burst Power (1DN 1UP) Class 8 (dBm)	Average Burst Power (1DN 2UP) Class 10 (dBm)	Average Burst Power (1DN 3UP) Class 10 (dBm)	Average Burst Power (1DN 4UP) Class 12 (dBm)
	824.2	128	32.52	32.44	29.32	27.43
GPRS 850	836.6	190	32.57	32.50	29.70	27.43
	848.8	251	32.57	32.49	29.49	27.44
	1850.2	512	29.80	29.40	27.06	25.12
GPRS 1880.0	1880.0	661	29.86	29.32	27.01	24.95
1000	1909.8	810	30.23	29.72	27.19	25.07
	824.2	128	26.83	26.49	26.47	24.49
EDGE 850	836.6	190	26.80	26.48	26.44	24.48
000	848.8	251	26.78	26.49	26.49	24.45
EDGE	1850.2	512	26.25	25.49	25.46	23.49
	1880.0	661	26.11	25.48	25.45	23.46
	1909.8	810	26.24	25.47	25.42	23.48



#### 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 Mo	de	WCDMA Band II	HSDPA Band II	HSUPA Band II
Frequency	СН	Avg. Power	Avg. Power	Avg. Power
(MHz)		(dBm)	(dBm)	(dBm)
1852.4	9262	23.34	22.32	21.89
1880.0	9400	23.35	22.40	21.91
1907.6	9538	23.57	22.54	22.17

EUT Mod	de	WCDMA Band IV	HSDPA Band IV	HSUPA Band IV
Frequency	СН	Avg. Power	Avg. Power	Avg. Power
(MHz)		(dBm)	(dBm)	(dBm)
1712.4	1312	23.36	22.65	22.26
1732.6	1412	23.43	22.39	22.01
1752.6	1513	23.27	22.73	22.27

EUT Mo	de	WCDMA Band V	HSDPA Band V	HSUPA Band V
Frequency	СН	Avg. Power	Avg. Power	Avg. Power
(MHz)		(dBm)	(dBm)	(dBm)
826.4	4132	23.17	22.06	21.47
836.6	4183	23.15	22.15	21.64
846.6	4233	23.20	22.29	21.76



### CDMA2000/EVDO MODE

Mode	Freq. (MHz)	СН	Avg. Power (dBm)	Mode	Freq. (MHz)	СН	Avg. Power (dBm)
CDMA	824.7	1013	24.40	CDMA	1851.25	25	24.80
2000 Cellular	836.52	384	24.60	2000 PCS	1880	600	24.90
BC0	848.31	777	24.60	BC1	1908.75	1175	24.90

Mode	Freq. (MHz)	СН	Avg. Power (dBm)
CDMA	824.7	1013	24.10
2000 EVDO	836.5	384	24.30
Cellular BC0	848.3	777	24.20

Mode	Freq. (MHz)	СН	Avg. Power (dBm)
CDMA	1851.25	25	24.50
2000 EVDO	1880	600	24.60
PCS BC1	1908.75	1175	24.50

Cable loss CDMA2000 Cell BC0: Cable loss CDMA PCS BC1:

13.6 dB 14 dB



### LTE Result:

### LTE Band 2

	LTE Band 2_Uplink frequency band : 1850 to 1910 MHz											
				C	onducted j	power(dB	m)					
	RB	RB		QPSK			16QAM					
	Size	Offset	Channel	Channel	Channel	Channel	Channel	Channel				
(11112)	Size	Unset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)				
			18607	18900	19193	18607	18900	19193				
	1	0	23.15	23.12	23.10	21.91	21.89	22.01				
1.4	1	5	23.21	23.08	23.08	21.68	21.94	22.07				
1.4	3	2	23.14	22.98	23.02	21.66	21.76	21.87				
	6	0	22.07	22.02	22.11	20.95	20.86	20.92				

	LTE Band 2_Uplink frequency band : 1850 to 1910 MHz										
				lm)	)						
	RB	RB		QPSK			16QAM				
	Size	Offset	Channe	Channe	Channe	Channe	Channe	Channe			
(MHz)	Size	Unset	I (Low)	I (Mid)	I (High)	I (Low)	I (Mid)	I (High)			
			18615	18900	19185	18615	18900	19185			
	1	0	23.26	23.08	23.13	21.93	21.53	21.88			
3	1	14	23.22	23.23	23.20	21.91	21.75	21.88			
3	8	4	22.02	21.93	22.02	21.05	20.98	20.86			
	15	0	22.13	21.95	21.96	21.05	20.86	21.00			

	LTE Band 2_Uplink frequency band : 1850 to 1910 MHz											
				Сс	onducted	power(dB	m)					
BW (MHz)	RB Size	RB		QPSK			16QAM					
		Offset	Channel	Channel	Channel	Channel	Channel	Channel				
		Unser	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)				
			18625	18900	19175	18625	18900	19175				
	1	0	23.29	23.07	23.25	21.89	21.85	22.09				
5	1	24	23.30	23.28	23.31	21.83	22.02	21.77				
J	12	6	22.10	22.07	22.09	21.08	20.97	21.04				
	25	0	22.14	22.00	22.03	21.15	21.03	21.09				

	LTE Band 2_Uplink frequency band : 1850 to 1910 MHz												
			Conducted power(dBm)					1)					
BW (MHz)	RB	RB		QPSK			16QAM						
	Size	Offset	Channe	Channe	Channe	Channe	Channe	Channe					
	SIZE		I (Low)	I (Mid)	I (High)	I (Low)	I (Mid)	I (High)					
			18650	18900	19150	18650	18900	19150					
	1	0	23.27	23.14	23.22	21.86	21.49	22.04					
10	1	49	23.27	23.31	23.26	21.88	21.91	22.00					
10	25	12	22.04	22.13	22.17	20.99	21.07	21.05					
	50	0	22.12	22.10	22.18	21.15	21.04	21.06					

	LTE	Band	2_Uplink t	frequency	y band : 1	850 to 19	)10 MHz			LTE B	and 2_U	plink fred	luency b	and : 18	50 to 191	0 MHz	
				Сс	onducted	power(dB	m)						Co	onducted	power(dB	m)	
B\W	BW RB RB (MHz) Size Offset	BB	R QPSK			16QAM		BW	RB	RB	QPSK			16QAM			
		Channel	Channel	Channel	Channel	Channel	Channel	(MHz)	Size	Offset	Channe	Channe	Channe	Channe	Channe	Channe	
(11112)		Unset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(11112)	SIZE	Unset	I (Low)	I (Mid)	I (High)	I (Low)	I (Mid)	I (High)
			18675	18900	19125	18675	18900	19125				18700	18900	19100	18700	18900	19100
	1	0	23.32	23.06	23.23	21.47	21.56	21.88		1	0	23.32	23.28	23.18	22.08	22.04	22.16
15	1	74	23.19	23.39	23.32	21.87	21.94	22.27	20	1	99	23.15	23.17	23.24	21.80	21.98	21.95
13	36	19	22.10	22.14	22.19	21.05	21.05	21.07	20	50	25	22.26	22.28	22.27	21.16	21.08	21.16
	75	0	22.17	22.11	22.19	21.01	21.10	21.13		100	0	22.29	22.24	22.27	21.11	21.15	21.24



### LTE Band 4

	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				
(11112)	Size	Unser	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)				
			19957	20175	20393	19957	20175	20393				
	1	0	23.29	23.36	23.25	21.73	22.15	21.90				
1.4	1	5	23.31	23.23	23.23	21.95	21.79	22.15				
1.4	3	2	23.19	23.23	23.11	21.97	22.23	22.07				
	6	0	22.16	22.26	22.25	21.15	21.11	21.09				

LTE Band 4_Uplink frequency band : 1710 to 1755 MHz											
				Co	onducted	d power(dBm)					
BW (MHz)	RB Size	RB	QPSK				16QAM				
		Offset	Channel	Channel	Channel	Channel	Channel	Channel			
		Uliset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)			
			19975	20175	20375	19975	20175	20375			
	1	0	23.26	23.20	23.32	22.08	21.57	22.11			
5	1	24	23.37	23.21	23.10	21.84	21.99	21.71			
5	12	6	22.31	22.22	22.28	21.32	21.29	21.30			
	25	0	22.35	22.27	22.20	21.26	21.29	21.24			

	LTE Band 4_Uplink frequency band : 1710 to 1755 MHz											
				С	onducted	power(dB	m)	Channel (High) 20385 21.92				
BW (MHz)	RB	RB		QPSK			16QAM					
	Size	Offset	Channel	Channel	Channel	Channel	Channel	Channel				
		Oliset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)				
			19965	20175	20385	19965	20175	20385				
	1	0	23.21	23.38	23.35	22.08	22.20	21.92				
3	1	14	23.37	23.27	23.16	22.08	21.73	22.25				
3	8	4	22.31	22.24	22.11	21.15	21.19	21.09				
	15	0	22.15	22.13	22.18	21.10	21.20	20.91				

	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				
		Unset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)				
			20000	20175	20350	20000	20175	20350				
	1	0	23.19	23.38	23.10	21.71	22.13	22.12				
10	1	49	23.43	23.38	23.24	21.66	22.24	22.24				
10	25	12	22.18	22.26	22.22	21.22	21.27	21.23				
	50	0	22.34	22.40	22.34	21.32	21.32	21.27				

	LTE Band 4_Uplink frequency band : 1710 to 1755 MHz													
				С	onducted	power(dB	m)							
BW (MHz)	RB Size	RB Offset		QPSK			16QAM							
			Channel	Channel	Channel	Channel	Channel	Channel						
			(Low)	(Mid)	(High)	(Low)	(Mid)	(High)						
			20025	20175	20325	20025	20175	20325						
	1	0	23.33	23.49	23.36	21.48	21.99	22.07						
15	1	74	23.44	23.26	23.20	22.27	22.17	22.16						
15	36	19	22.31	22.36	22.29	21.27	21.26	21.29						
	75	0	22.50	22.38	22.31	21.43	21.35	21.32						

	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					
	SIZE	Unser	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)					
			20050	20175	20300	20050	20175	20300					
	1	0	22.96	23.27	23.37	22.11	22.30	22.08					
20	1	99	23.27	23.36	22.85	22.19	21.88	21.76					
20	50	25	22.43	22.39	22.42	21.22	21.36	21.35					
	100	0	22.15	22.35	22.35	21.49	21.37	21.32					



### LTE Band 5

	LTE Band 5_Uplink frequency band : 824 to 849 MHz											
				Conducted power(dBm)								
BW	RB	RB		QPSK			16QAM					
(MHz)	Size	Offset	Channel	Channel	Channel	Channel	Channel	Channel				
(IVI⊓Z)	5120	Unset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)				
			20407	20525	20643	20407	20525	20643				
	1	0	22.64	22.59	22.77	21.39	21.23	21.26				
1.4	1	5	22.46	22.31	22.43	21.35	21.41	21.37				
1.4	3	2	22.54	22.33	22.43	21.51	21.31	21.56				
	6	0	21.63	21.34	21.71	20.44	20.36	20.49				

	LTE Band 5_Uplink frequency band : 824 to 849 MHz												
			Conducted power(dBm)										
BW (MHz)	RB	RB		QPSK			16QAM						
	Size	Offset	Channel	Channel	Channel	Channel	Channel	Channel					
	Size	Unset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)					
			20415	20525	20635	20415	20525	20635					
	1	0	22.55	22.37	22.71	21.10	21.33	21.42					
3	1	14	22.60	22.58	22.48	21.17	21.48	21.46					
J	8	4	21.53	21.42	21.70	20.54	20.53	20.74					
	15	0	21.57	21.52	21.56	20.52	20.47	20.68					

	LTE Band 5_Uplink frequency band : 824 to 849 MHz											
			Conducted power(dBm)									
BW (MHz)	RB	RB		QPSK			16QAM					
	Size	Offset	Channel	Channel	Channel	Channel	Channel	Channel				
	Size	Unset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)				
			20425	20525	20625	20425	20525	20625				
	1	0	22.61	22.49	22.62	20.54	21.18	21.50				
5	1	24	22.46	22.71	22.90	21.46	21.21	21.57				
5	12	6	21.58	21.32	21.63	20.47	20.60	20.42				
	25	0	21.64	21.54	21.68	20.42	20.44	20.62				

	LTE Band 5_Uplink frequency band : 824 to 849 MHz												
			Conducted power(dBm)										
BW	RB Size	RB		QPSK		16QAM							
(MHz)		Offset	Channel	Channel	Channel	Channel	Channel	Channel					
			(Low)	(Mid)	(High)	(Low)	(Mid)	(High)					
			20450	20525	20600	20450	20525	20600					
	1	0	22.51	22.53	22.65	21.41	21.37	21.44					
10	1	49	22.56	22.58	22.83	21.31	20.97	21.70					
10	25	12	21.63	21.51	21.67	20.56	20.36	20.62					
	50	0	21.63	21.50	21.75	20.57	20.60	20.36					

### LTE Band 7

	LTE	Band	7_Uplink	frequency	y band : 2	2500 to 25	70 MHz			
				C	onducted	power(dB	m)			
BW (MHz)	RB Size	RB		QPSK		16QAM				
		Offset	Channel	Channel	Channel	Channel	Channel	Channel		(
		Unset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)		(
			20775	21100	21425	20775	21100	21425		
	1	0	22.95	23.13	23.26	21.52	22.22	22.09		
5	1	24	23.23	23.25	23.31	21.99	22.18	22.01		
5	12	6	22.08	22.36	22.13	21.05	21.36	21.12		
	25	0	22.11	22.44	22.17	21.12	21.40	21.21		

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				
(11112)	0120	Unser	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)				
			20800	21100	21400	20800	21100	21400				
	1	0	22.41	23.36	23.34	21.40	21.99	22.01				
10	1	49	23.12	23.52	23.22	21.79	22.44	21.97				
10	25	12	22.12	22.47	22.23	21.09	21.37	21.13				
	50	0	22.08	22.47	22.24	21.06	21.37	21.19				

	LTE Band 7_Uplink frequency band : 2500 to 2570 MHz												
			Conducted power(dBm)										
BW (MHz)	RB	RB		QPSK			16QAM						
	Size	Offset	Channel	Channel	Channel	Channel	Channel	Channel					
(11112)	SIZE	Unset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)					
			20825	21100	21375	20825	21100	21375					
	1	0	22.19	23.20	23.38	21.24	22.17	22.24					
15	1	74	23.27	23.59	23.21	21.97	22.00	21.92					
15	36	19	22.01	22.42	22.28	20.94	21.33	21.17					
	75	0	22.08	22.38	22.25	21.02	21.36	21.22					

	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				
(1011-12	-)	SIZE	Unser	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)				
				20850	21100	21350	20850	21100	21350				
		1	0	22.98	23.56	23.15	21.69	22.29	22.20				
20		1	99	23.32	23.62	23.23	22.14	21.97	22.10				
20	50	25	22.12	22.30	22.34	21.09	21.38	21.20					
		100	0	22.12	22.43	22.34	21.09	21.38	21.25				



### LTE Band 12

	LTE Band 12_Uplink frequency band : 699 to 716 MHz											
				Conducted power(dBm)								
BW (MHz)	RB Size	RB		QPSK			16QAM					
		Offset	Channel	Channel	Channel	Channel	Channel	Channel				
		Unset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)				
			23017	23095	23173	23017	23095	23173				
	1	0	22.62	22.77	22.74	21.51	21.48	21.38				
1.4	1	5	22.64	22.65	22.31	21.35	21.37	21.42				
1.4	3	2	22.56	22.65	22.66	21.48	21.63	21.62				
	6	0	21.53	21.57	21.71	20.64	20.45	20.63				

	LTE Band 12_Uplink frequency band : 699 to 716 MHz												
			Conducted power(dBm)										
BW (MHz)	RB	RB		QPSK			16QAM						
	Size	Offset	Channel	Channel	Channel	Channel	Channel	Channel					
		Unser	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)					
			23025	23095	23165	23025	23095	23165					
	1	0	22.62	22.94	22.78	21.12	21.75	20.99					
3	1	14	22.62	22.61	22.73	21.59	21.52	21.40					
J	8	4	21.63	21.70	21.50	20.71	20.65	20.60					
	15	0	21.68	21.62	21.67	20.26	20.59	20.67					

	LTE Band 12_Uplink frequency band : 699 to 716 MHz													
				Conducted power(dBm)										
BW	RB	RB		QPSK			16QAM							
(MHz)	Size	Offset	Channel	Channel	Channel	Channel	Channel	Channel						
	Size	Unset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)						
			23035	23095	23155	23035	23095	23155						
	1	0	22.64	22.79	22.51	21.11	21.67	21.38						
5	1	24	22.80	22.87	22.87	21.41	21.41	21.61						
5	12	6	21.74	21.68	21.56	20.75	20.74	20.77						
	25	0	21.61	21.77	21.68	20.64	20.68	20.51						

	LTE Band 12_Uplink frequency band : 699 to 716 MHz													
			Conducted power(dBm)											
BW	RB	RB		QPSK			16QAM							
(MHz)	Size	Offset	Channel	Channel	Channel	Channel	Channel	Channel						
(IVIFIZ)	Size		(Low)	(Mid)	(High)	(Low)	(Mid)	(High)						
			23060	23095	23130	23060	23095	23130						
	1	0	22.75	22.73	22.60	21.47	21.54	21.50						
10	1	49	22.72	22.77	22.80	21.52	21.66	21.62						
10	25	12	21.80	21.79	21.78	20.82	20.82	20.56						
	50	0	21.83	21.39	21.81	20.64	20.69	20.66						

## LTE Band 13

	LTI	E Band	13_Uplin	k frequen	cy band	: 777 to 7	87 MHz			
				C	onducted	power(dB	m)			
BW RB	RB	RB		QPSK			16 QAM	BW		
(MHz)	Size	Offset	Channel	Channel	Channel	Channel	Channel	Channel	(MHz)	
	SIZE	Unset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)		
			23205	23230	23255	23205	23230	23255		
	1	0	22.58	22.72	22.85	21.23	21.41	21.63		
5	1	24	23.00	22.82	22.91	21.48	21.33	21.77	10	
5	12	6	21.71	21.64	21.70	20.68	20.60	20.75	10	
	25	0	21.57	21.78	21.78	20.67	20.62	20.69		

	LI	FE Band 1	3_Uplink frequency band : 7	777 to 787 MHz							
			Conducted power(dBm)								
BW	RB	RB	QPSK	16 QAM							
(MHz)	Size	Offset	Channel	Channel							
(1011 12)	SIZE	Oliset	(Mid)	(Mid)							
			23230	23230							
	1	0	23.58	21.52							
10	1	49	22.78	21.60							
10	25	12	21.68	20.78							
	50	0	21.86	20.76							

### LTE Band 17

	LT	E Band	17_Uplin	nk frequer	ncy band	: 704 to 7	16 MHz		LTE Band 17_Uplink frequency band : 704 to 716 MHz								
		Conducted power(dBm)										C	onducted	power(dBr	n)		
BW	BW RB RB		QPSK			16QAM		BW	RB	RB		QPSK		16QAM			
(MHz		Offset	Channel	Channel	Channel	Channel	Channel	Channel	(MHz)	Size	Offset	Channel	Channel	Channel	Channel	Channel	Channel
		Oliset	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(101112)	0120	0126 011361	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
			23755	23790	23825	23755	23790	23825				23780	23790	23800	23780	23790	23800
	1	0	22.68	22.52	22.88	21.38	21.62	21.56		1	0	22.76	22.59	22.69	21.47	21.41	21.56
5	1	24	22.88	22.75	22.39	21.48	21.50	21.57	10	1	49	22.85	22.94	22.96	21.65	21.72	21.76
5	12	6	21.69	21.67	21.70	21.01	20.75	20.75	10	25	12	21.61	21.67	21.66	20.62	20.56	20.55
	25	0	21.77	21.68	21.65	20.73	20.39	20.67		50	0	21.74	21.69	21.80	20.70	20.65	20.61



### 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:  $\beta$  values for transmitter characteristics tests with HS-DPCCH(FOR HSDPA)

Sub-test	β <sub>c</sub>	βd	β <sub>d</sub> ( <b>SF</b> )	β <sub>c</sub> /β <sub>d</sub>	βнs ( <i>Note1,</i> <i>Note 2</i> )	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	-	Power (d Channel	lBm)	Power Class 3 Lim-	Comments
		9262	9400	9538	itation (dBm)	
	1	22.49	22.29	22.40	20.3dBm – 25.7dBm	Pass
HSDPA	2	22.20	22.26	22.39	20.3dBm – 25.7dBm	Pass
(B2)	3	22.01	21.84	21.87	19.8dBm – 25.7dBm	Pass
	4	22.08	21.85	21.99	19.8dBm – 25.7dBm	Pass

Mode	Sub-test	•	Power (d Channel	lBm)	Power Class 3 Lim-	Comments
		1312	1413	1513	itation (dBm)	
	1	22.36	22.49	22.57	20.3dBm – 25.7dBm	Pass
HSDPA	2	22.53	22.25	22.58	20.3dBm – 25.7dBm	Pass
(B4)	3	21.88	22.04	22.04	19.8dBm – 25.7dBm	Pass
	4	21.95	22.05	22.16	19.8dBm – 25.7dBm	Pass

Mode	Sub-test	•	Power (d Channel	lBm)	Power Class 3 Lim-	Comments
		4132	4183	4233	itation (dBm)	
	1	21.85	22.01	22.41	20.3dBm – 25.7dBm	Pass
HSDPA	2	21.99	22.04	22.16	20.3dBm – 25.7dBm	Pass
(B5)	3	21.37	21.53	21.92	19.8dBm – 25.7dBm	Pass
	4	21.44	21.57	21.98	19.8dBm – 25.7dBm	Pass



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

Sub- test	βc	βd	β <sub>d</sub> (SF)	βc/βd	βнѕ	β <sub>ec</sub>	$\beta_{ed}$	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		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	-	Power (d Channel	lBm)	Power Class 3 Lim-	Comments
		9262	9400	9538	itation (dBm)	
	1	21.81	21.89	22.11	18.8dBm – 25.7dBm	Pass
	2	19.86	19.96	20.15	16.8dBm – 25.7dBm	Pass
HSUPA(B2)	3	20.87	20.91	21.19	17.8dBm – 25.7dBm	Pass
	4	19.99	20.01	20.19	16.8dBm – 25.7dBm	Pass
	5	21.70	21.75	22.02	18.8dBm – 25.7dBm	Pass

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Mode	Sub-test	-	Power (d Channel	lBm)	Power Class 3 Lim-	Comments
		1312	1413	1513	itation (dBm)	
	1	22.18	21.99	22.21	20.3dBm – 25.7dBm	Pass
	2	20.23	20.06	20.25	20.3dBm – 25.7dBm	Pass
HSDPA	3	21.24	21.01	21.29	19.8dBm – 25.7dBm	Pass
(B4)	4	20.36	20.11	20.29	19.8dBm – 25.7dBm	Pass
	5	22.07	21.85	22.12	19.8dBm – 25.7dBm	Pass

Mode	Sub-test	Avg. Power (dBm) Channel			Power Class 3 Lim-	Comments
		4132	4183	4233	itation (dBm)	
	1	21.43	21.57	21.68	18.8dBm – 25.7dBm	Pass
	2	19.49	19.65	19.72	16.8dBm – 25.7dBm	Pass
HSUPA(B5)	3	20.47	20.63	20.76	17.8dBm – 25.7dBm	Pass
	4	19.54	19.71	19.80	16.8dBm – 25.7dBm	Pass
	5	21.29	21.40	21.57	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.

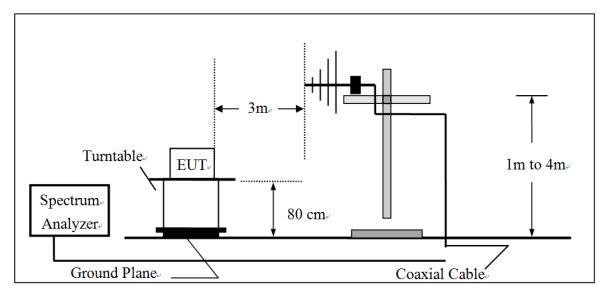
FCC 27.50(c) (9) Control stations and mobile stations are limited to 30 watts ERP.

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

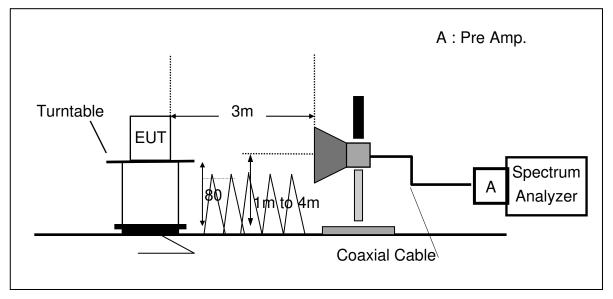


Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

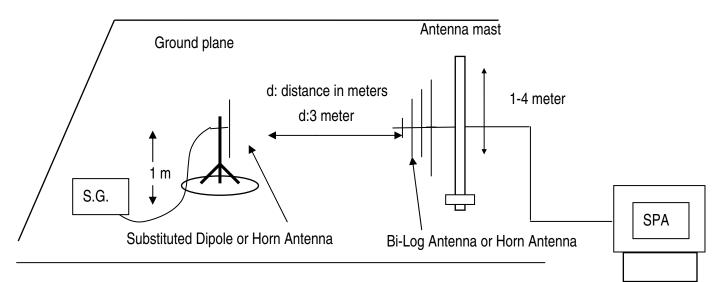
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#### Radiated Power Test Set-UP Frequency Over 1 GHz (B)



(C) 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
- 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  $\approx$  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 = 601 points, 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	09/20/2016	09/19/2017						
Bilog Antenna	SCHWAZBECK	VULB9168	378	12/19/2016	12/18/2017						
Horn Antenna	Schwarzbeck	BBHA9120D	1441	08/01/2016	07/31/2017						
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						
Horn Antenna	Schwarzbeck	BBHA9170	184	12/12/2016	12/11/2017						
Pre-Amplifier	EMC Instruments Corp.	EMC184045	980135	01/02/2016	01/01/2017						
Radio Communication Analyzer	R&S	CMU200	102189	02/11/2016	02/10/2017						
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						



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

EUT			Measurement						
Operation Fundar Band Frequ	(. <b>H</b>	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit		



	EUT			Measurement						
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output		Cable Loss	EIRP	Limit		



	EUT			Measurement						
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output		Cable Loss	ERP	Limit		



	EUT			Measurement						
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output		Cable Loss	ERP	Limit		



	EUT			Measurement						
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output		Cable Loss	EIRP	Limit		



	EUT			Measurement						
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output		Cable Loss	EIRP	Limit		



EU.	Т		Measurement						
Operation Fund Band Fre	damental equency CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit		



	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
	1950 7	18607	V	12.50	9.95	-4.46	17.98	33.01
BAND 2	1850.7	10007	Н	15.02	9.94	-4.46	20.50	33.01
BW: 1.4M	1880.0	18900	V	10.84	10.03	-4.51	16.36	33.01
QPSK	1000.0	10900	Н	12.50	10.03	-4.51	18.02	33.01
RB: 1,0	1909.3	19193	V	3.38	10.12	-4.55	8.95	33.01
	1909.5	19190	Н	5.64	10.12	-4.55	11.21	33.01
	1850.7	18607	V	12.33	9.94	-4.46	17.81	33.01
BAND 2	1830.7	10007	Н	14.86	9.94	-4.46	20.34	33.01
BW: 1.4M	1880.0	18900	V	10.68	10.03	-4.51	16.2	33.01
QPSK	1000.0	10000	Н	12.29	10.03	-4.51	17.82	33.01
RB: 1,5	1909.3	19193	V	2.01	10.12	-4.55	7.59	33.01
	1909.0	19190	Н	5.01	10.12	-4.55	10.59	33.01
	1850.7	18607	V	12.33	9.95	-4.46	17.81	33.01
BAND 2	1030.7	10007	Н	15.08	9.95	-4.46	20.56	33.01
BW: 1.4M	1880.0	18900	V	10.88	10.03	-4.51	16.40	33.01
16QAM	1000.0	10300	Н	12.53	10.03	-4.51	18.05	33.01
RB: 1,0	1909.3	19193	V	3.03	10.12	-4.55	8.61	33.01
	1303.5	10100	Н	5.67	10.12	-4.55	11.24	33.01
	1850 7	18607	V	12.30	9.94	-4.46	17.78	33.01
BAND 2	1850.7 18	10007	Н	14.99	9.94	-4.46	20.46	33.01
BW: 1.4M	BW: 1.4M	18900	V	10.74	10.03	-4.51	16.26	33.01
16QAM	1000.0	10000	Н	12.39	10.03	-4.51	17.92	33.01
RB: 1,5	1909.3	19193	V	2.21	10.12	-4.55	7.79	33.01
	1000.0	10100	Н	5.14	10.12	-4.55	10.71	33.01



	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
		10015	V	12.57	9.95	-4.46	18.05	33.01
BAND 2	1851.5	18615	Н	15.2	9.95	-4.46	20.68	33.01
BW: 3M	1880.0	18900	V	10.55	10.03	-4.50	16.07	33.01
QPSK	1000.0	10900	Н	12.62	10.03	-4.50	18.14	33.01
RB: 1,0	1908.5	19185	V	4.79	10.11	-4.55	10.36	33.01
	1906.5	19100	Н	6.27	10.11	-4.55	11.84	33.01
	1851.5	18615	V	11.96	9.94	-4.46	17.45	33.01
BAND 2	1651.5	10015	Н	14.48	9.94	-4.46	19.96	33.01
BW: 3M	1880.0	18900	V	10.12	10.03	-4.51	15.64	33.01
QPSK	1000.0	10900	Н	12.07	10.03	-4.51	17.59	33.01
RB: 1,14	1908.5	19185	V	2.82	10.12	-4.55	8.40	33.01
	1908.5	19105	Н	5.08	10.12	-4.55	10.65	33.01
	1851.5	18615	V	12.63	9.95	-4.46	18.12	33.01
BAND 2	1001.0	10013	Н	15.14	9.94	-4.46	20.62	33.01
BW: 3M	1880.0	18900	V	10.87	10.03	-4.50	16.39	33.01
16QAM	1000.0	10300	Н	12.71	10.03	-4.50	18.23	33.01
RB: 1,0	1908.5	19185	V	5.46	10.11	-4.55	11.03	33.01
	1000.0	10100	Н	6.45	10.12	-4.55	12.02	33.01
	1851.5	18615	V	12.04	9.94	-4.46	17.52	33.01
BAND 2	1001.0	10013	Н	14.59	9.94	-4.46	20.07	33.01
BW: 3M	M 1880.0	18900	V	10.25	10.03	-4.51	15.78	33.01
16QAM	1000.0	10000	Н	12.19	10.03	-4.51	17.72	33.01
RB: 1,14	1908.5	19185	V	3.72	10.12	-4.55	9.29	33.01
	1000.0	10100	Н	5.22	10.12	-4.55	10.79	33.01



	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
	1050 F	10005	V	12.46	9.95	-4.46	17.94	33.01
BAND 2	1852.5	18625	Н	15.35	9.95	-4.46	20.83	33.01
BW: 5M	1880.0	18900	V	10.90	10.02	-4.50	16.42	33.01
QPSK	1660.0	10900	Н	12.93	10.03	-4.51	18.45	33.01
RB: 1,0	1907.5	19175	V	6.38	10.11	-4.54	11.94	33.01
	1907.5	19175	Н	6.83	10.11	-4.54	12.39	33.01
	1852.5	18625	V	11.47	9.95	-4.47	16.96	33.01
BAND 2	1652.5	10020	Н	14.23	9.95	-4.47	19.71	33.01
BW: 5M	1880.0	18900	V	9.68	10.04	-4.51	15.21	33.01
QPSK	1000.0	10900	Н	11.73	10.04	-4.51	17.26	33.01
RB: 1,24	1907.5	19175	V	3.84	10.12	-4.55	9.42	33.01
	1907.5	19175	Н	5.24	10.12	-4.55	10.82	33.01
	1852.5	18625	V	12.68	9.95	-4.46	18.16	33.01
BAND 2	1652.5	10025	Н	15.33	9.95	-4.46	20.81	33.01
BW: 5M	1880.0	18900	V	10.96	10.02	-4.5	16.48	33.01
16QAM	1000.0	10900	Н	12.84	10.02	-4.5	18.36	33.01
RB: 1,0	1907.5	19175	V	6.27	10.11	-4.54	11.83	33.01
	1907.5	19175	Н	6.89	10.11	-4.54	12.46	33.01
	1852 5	18625	V	11.59	9.95	-4.47	17.07	33.01
BAND 2	1852.5 18	10023	Н	14.32	9.95	-4.47	19.80	33.01
BW: 5M	BW: 5M 1880.0	18900	V	9.99	10.04	-4.51	15.52	33.01
16QAM	1000.0	10900	Н	11.83	10.04	-4.51	17.36	33.01
RB: 1,24	1907.5	19175	V	3.26	10.12	-4.55	8.83	33.01
	1307.5	13173	Н	5.45	10.12	-4.55	11.02	33.01



	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
	1055.0	10050	V	12.37	9.95	-4.46	17.85	33.01
BAND 2	1855.0	18650	Н	15.23	9.95	-4.46	20.71	33.01
BW: 10M	1880.0	18900	V	10.70	10.02	-4.50	16.22	33.01
QPSK	1880.0	10900	Н	12.97	10.02	-4.50	18.49	33.01
RB: 1,0	1905.0	19150	V	6.40	10.09	-4.54	11.95	33.01
	1905.0	19150	Н	6.26	10.09	-4.54	11.81	33.01
	1955.0	18650	V	10.09	9.96	-4.47	15.58	33.01
	BAND 2	10000	Н	13.04	9.97	-4.47	18.53	33.01
		18900	V	9.39	10.04	-4.51	14.92	33.01
-		10900	Н	10.93	10.04	-4.51	16.46	33.01
RB: 1,49	1005.0	10150	V	3.76	10.12	-4.55	9.33	33.01
110.1,40	1905.0	19150	Н	5.05	10.12	-4.55	10.62	33.01
	1955.0	10050	V	12.13	9.95	-4.46	17.61	33.01
BAND 2	1855.0	18650	Н	15.30	9.95	-4.46	20.79	33.01
BW: 10M	1880.0	18900	V	10.64	10.02	-4.50	16.15	33.01
16QAM	1880.0	10900	Н	13.17	10.02	-4.50	18.69	33.01
RB: 1,0	1905.0	19150	V	6.37	10.09	-4.54	11.93	33.01
	1905.0	19150	Н	6.41	10.09	-4.54	11.97	33.01
	1955 0	18650	V	10.26	9.97	-4.47	15.75	33.01
BAND 2	1855.0	0000	Н	13.19	9.96	-4.47	18.68	33.01
BW: 10M 16QAM RB: 1,49	1000 0	18900	V	9.41	10.04	-4.51	14.94	33.01
	1000.0	10900	Н	11.24	10.04	-4.51	16.77	33.01
	1005.0	19150	V	3.71	10.12	-4.55	9.28	33.01
	1905.0 1	19150	Н	5.32	10.12	-4.55	10.89	33.01



	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
	1057.5	10075	V	11.79	9.95	-4.46	17.27	33.01
BAND 2	1857.5	18675	Н	14.94	9.95	-4.46	20.42	33.01
BW: 15M	1880.0	18900	V	10.28	10.01	-4.50	15.80	33.01
QPSK	1000.0	10900	Н	12.88	10.02	-4.50	18.40	33.01
RB: 1,0	1902.5	19125	V	5.37	10.08	-4.53	10.92	33.01
	1902.5	19120	Н	6.70	10.08	-4.53	12.25	33.01
	1857.5	18675	V	9.44	9.98	-4.48	14.94	33.01
BAND 2	1057.5	10075	Н	12.43	9.98	-4.48	17.93	33.01
BW: 15M QPSK	1880.0	18900	V	7.17	10.05	-4.52	12.71	33.01
	1880.0	10900	Н	9.74	10.05	-4.52	15.28	33.01
RB: 1,74	1902.5	19125	V	3.26	10.12	-4.55	8.84	33.01
	1902.5	19123	Н	3.60	10.12	-4.55	9.18	33.01
	1857.5	18675	V	12.00	9.95	-4.46	17.48	33.01
BAND 2	1037.5	10075	Н	15.12	9.95	-4.46	20.60	33.01
BW: 15M	1880.0	18900	V	10.37	10.01	-4.50	15.89	33.01
16QAM	1000.0	10300	Н	13.12	10.01	-4.50	18.63	33.01
RB: 1,0	1902.5	19125	V	5.40	10.08	-4.53	10.95	33.01
	1302.3	10120	Н	6.84	10.08	-4.53	12.39	33.01
	1857 5	18675	V	9.65	9.98	-4.48	15.15	33.01
BAND 2	1857.5	10075	Н	12.56	9.98	-4.48	18.05	33.01
BAND 2 BW: 15M 16QAM RB: 1,74	1880.0	18900	V	7.43	10.05	-4.52	12.97	33.01
	1000.0	10300	Н	10.01	10.05	-4.52	15.55	33.01
	1902.5	19125	V	3.60	10.12	-4.55	9.18	33.01
	1002.0	10120	Н	3.93	10.12	-4.55	9.51	33.01



	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
	1000.0	10700	V	12.12	9.95	-4.46	17.60	33.01
BAND 2	1860.0	18700	Н	14.83	9.95	-4.46	20.32	33.01
BW: 20M	1990.0	18900	V	9.81	10.00	-4.49	15.32	33.01
QPSK	1880.0	10900	Н	12.85	10.01	-4.50	18.37	33.01
RB: 1,0	1900.0	19100	V	6.47	10.07	-4.53	12.02	33.01
	1900.0	19100	Н	8.17	10.07	-4.52	13.71	33.01
	1860.0	18700	V	9.46	10.00	-4.49	14.97	33.01
BAND 2	1000.0	10700	Н	12.67	10.00	-4.49	18.18	33.01
BW: 20M QPSK	1880.0	18900	V	6.98	10.06	-4.52	12.52	33.01
	1880.0	10900	Н	8.78	10.06	-4.52	14.32	33.01
RB: 1,99	1900.0	19100	V	2.37	10.12	-4.55	7.94	33.01
	1900.0	19100	Н	3.24	10.12	-4.55	8.81	33.01
	1860.0	18700	V	12.30	9.95	-4.46	17.78	33.01
BAND 2	1860.0	10700	Н	14.98	9.95	-4.46	20.46	33.01
BW: 20M	1880.0	18900	V	9.98	10.01	-4.50	15.49	33.01
16QAM	1000.0	10300	Н	11.92	10.00	-4.49	17.43	33.01
RB: 1,0	1900.0	19100	V	6.63	10.07	-4.53	12.17	33.01
	1300.0	10100	Н	8.21	10.07	-4.53	13.76	33.01
	1860.0	18700	V	9.70	9.99	-4.49	15.21	33.01
BAND 2 BW: 20M 16QAM RB: 1,99	1000.0	10700	Н	12.84	9.99	-4.49	18.34	33.01
	1880.0	18900	V	7.31	10.06	-4.52	12.84	33.01
	1000.0	10000	Н	9.05	10.06	-4.52	14.59	33.01
	1900 0	19100	V	2.67	10.12	-4.55	8.24	33.01
	1900.0 1	10100	Н	3.59	10.12	-4.55	9.16	33.01



	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	10057	V	10.35	9.48	-4.31	15.52	30.00
BAND 4	1710.7	19957	Н	18.27	9.48	-4.31	23.44	30.00
BW: 1.4M/	1732.5	20175	V	12.12	9.54	-4.31	17.35	30.00
QPSK	1732.5	20175	Н	17.71	9.55	-4.31	22.94	30.00
RB: 1,0	1754.3	20393	V	13.83	9.62	-4.34	19.12	30.00
	1754.5	20393	Н	18.60	9.62	-4.34	23.88	30.00
	1710.7	19957	V	10.53	9.47	-4.31	15.70	30.00
BAND 4	1/10./	19957	Н	18.53	9.47	-4.31	23.70	30.00
BW: 1.4M QPSK	1732.5	20175	V	12.14	9.55	-4.31	17.38	30.00
	1732.5	20175	Н	17.72	9.55	-4.31	22.96	30.00
RB: 1,5	1754.3	20393	V	13.54	9.62	-4.34	18.83	30.00
	1754.5	20090	Н	18.35	9.62	-4.34	23.63	30.00
	1710.7	19957	V	10.46	9.48	-4.31	15.63	30.00
BAND 4	1710.7	19957	Н	18.36	9.48	-4.31	23.53	30.00
BW: 1.4M	1732.5	20175	V	12.10	9.55	-4.31	17.33	30.00
16QAM	1732.3	20175	Н	17.81	9.55	-4.31	23.05	30.00
RB: 1,0	1754.3	20393	V	13.95	9.62	-4.34	19.23	30.00
	1754.5	20030	Н	18.75	9.62	-4.34	24.04	30.00
	1710 7	19957	V	10.63	9.47	-4.31	15.79	30.00
BAND 4	BAND 4 1710.7	19907	Н	18.66	9.48	-4.31	23.82	30.00
BAND 4 BW: 1.4M 16QAM RB: 1,5	1732.5	20175	V	12.23	9.55	-4.31	17.47	30.00
	1702.0	20173	Н	17.79	9.56	-4.31	23.04	30.00
	1754.3	20393	V	13.81	9.62	-4.34	19.10	30.00
	1704.0	20030	Н	18.57	9.62	-4.34	23.85	30.00



	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 5	10005	V	12.99	9.48	-4.31	18.16	30.00
BAND 4	1711.5	19965	Н	18.72	9.48	-4.31	23.89	30.00
BW: 3M	1732.5	20175	V	14.43	9.54	-4.31	19.66	30.00
QPSK	1732.5	20175	Н	18.15	9.55	-4.31	23.39	30.00
RB: 1,0	1753.5	20385	V	14.97	9.61	-4.33	20.25	30.00
	1755.5	20365	Н	19.04	9.61	-4.33	24.32	30.00
	1711.5	19965	V	13.51	9.48	-4.31	18.67	30.00
BAND 4	1711.0	19900	Н	19.30	9.48	-4.31	24.47	30.00
BW: 3M QPSK	1732.5	20175	V	14.43	9.55	-4.31	19.67	30.00
	1732.5	20175	Н	18.07	9.56	-4.31	23.33	30.00
RB: 1,14	1753.5	20385	V	14.32	9.62	-4.34	19.60	30.00
	1755.5	20305	Н	18.28	9.62	-4.34	23.57	30.00
	1711.5	19965	V	12.98	9.48	-4.31	18.15	30.00
BAND 4	1711.5	19903	Н	18.72	9.48	-4.31	23.89	30.00
BW: 3M	1732.5	20175	V	14.50	9.54	-4.31	19.74	30.00
16QAM	1732.5	20175	Н	18.19	9.55	-4.31	23.44	30.00
RB: 1,0	1753.5	20385	V	15.13	9.61	-4.33	20.42	30.00
	1700.0	20000	Н	19.01	9.61	-4.33	24.29	30.00
	1711.5	19965	V	13.52	9.48	-4.31	18.69	30.00
BAND 4 BW: 3M 16QAM RB: 1,14	1711.5	19900	Н	19.55	9.48	-4.31	24.72	30.00
	1732.5	20175	V	14.53	9.55	-4.31	19.77	30.00
	1732.5	20175	Н	18.16	9.56	-4.31	23.41	30.00
	1753.5	20385	V	14.53	9.62	-4.34	19.82	30.00
	1755.5	20000	Н	18.49	9.62	-4.34	23.78	30.00



	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 5	10075	V	14.70	9.48	-4.31	19.87	30.00
BAND 4	1712.5	19975	Н	18.78	9.48	-4.31	23.96	30.00
BW: 5M	1732.5	20175	V	14.51	9.54	-4.31	19.74	30.00
QPSK	1732.5	20175	Н	18.16	9.54	-4.31	23.39	30.00
RB: 1,0	1752.5	20375	V	15.35	9.61	-4.33	20.62	30.00
	1752.5	20375	Н	19.49	9.61	-4.33	24.77	30.00
	1712.5	19975	V	15.56	9.49	-4.31	20.74	30.00
BAND 4	1712.0	19975	Н	19.79	9.49	-4.31	24.96	30.00
BW: 5M	1732.5	20175	V	14.58	9.55	-4.31	19.82	30.00
QPSK	1732.5	20175	Н	18.04	9.56	-4.31	23.30	30.00
RB: 1,24	1750 5	20375	V	14.22	9.62	-4.34	19.51	30.00
	1752.5	20375	Н	18.56	9.62	-4.34	23.85	30.00
	1712.5	19975	V	14.75	9.48	-4.31	19.92	30.00
BAND 4	1712.5	19975	Н	18.86	9.48	-4.31	24.03	30.00
BW: 5M	1732.5	20175	V	14.59	9.54	-4.31	19.82	30.00
16QAM	1732.5	20175	Н	18.22	9.54	-4.31	23.45	30.00
RB: 1,0	1752.5	20375	V	15.45	9.61	-4.33	20.73	30.00
	1752.5	20375	Н	19.65	9.61	-4.33	24.92	30.00
	1710 5	19975	V	15.69	9.49	-4.31	20.87	30.00
BAND 4	1712.5	19973	Н	19.84	9.48	-4.31	25.01	30.00
BAND 4 BW: 5M 16QAM RB: 1,24	1732.5	20175	V	14.69	9.55	-4.31	19.94	30.00
	1732.5	20175	Н	18.14	9.56	-4.31	23.39	30.00
	1752 5	20375	V	14.41	9.62	-4.34	19.69	30.00
	1752.5	20373	Н	18.75	9.62	-4.34	24.04	30.00



	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	00000	V	14.68	9.48	-4.31	19.85	30.00
BAND 4	1715.0	20000	Н	18.73	9.48	-4.31	23.91	30.00
BW: 10M	1720 5	20175	V	14.65	9.54	-4.31	19.88	30.00
QPSK	1732.5	20175	Н	18.17	9.54	-4.31	23.40	30.00
RB: 1,0	1750.0	20350	V	15.27	9.60	-4.33	20.54	30.00
	1750.0	20350	Н	19.00	9.60	-4.33	24.28	30.00
	1715.0	20000	V	15.70	9.50	-4.31	20.89	30.00
BAND 4	200	20000	Н	19.76	9.50	-4.31	24.95	30.00
BW: 10M QPSK	1732.5	20175	V	14.80	9.56	-4.31	20.06	30.00
	1732.5	20175	Н	17.99	9.56	-4.31	23.24	30.00
RB: 1,49	1750.0	20350	V	13.76	9.62	-4.34	19.04	30.00
	1750.0	20300	Н	18.39	9.62	-4.34	23.67	30.00
	1715.0	20000	V	14.88	9.48	-4.31	20.05	30.00
BAND 4	1715.0	20000	Н	18.96	9.48	-4.31	24.13	30.00
BW: 10M	1732.5	20175	V	14.71	9.54	-4.31	19.94	30.00
16QAM	1732.5	20175	Н	18.27	9.54	-4.31	23.51	30.00
RB: 1,0	1750.0	20350	V	14.76	9.60	-4.33	20.04	30.00
	1750.0	20000	Н	19.28	9.60	-4.33	24.55	30.00
	1715.0	20000	V	15.79	9.50	-4.31	20.98	30.00
BAND 4 BW: 10M 16QAM RB: 1,49	1713.0	20000	Н	20.00	9.50	-4.31	25.19	30.00
	1732.5	20175	V	15.00	9.56	-4.31	20.26	30.00
	1702.0	20175	Н	18.17	9.56	-4.31	23.43	30.00
	1750.0	20350	V	14.08	9.62	-4.34	19.37	30.00
	1750.0 2	20000	Н	18.73	9.62	-4.34	24.01	30.00



	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	00005	V	14.66	9.47	-4.31	19.82	30.00
BAND 4	1717.5	20025	Н	18.68	9.47	-4.31	23.85	30.00
BW: 15M	1700 E	00175	V	14.72	9.53	-4.31	19.94	30.00
QPSK	1732.5	20175	Н	18.41	9.53	-4.31	23.63	30.00
RB: 1,0	1747 5	20225	V	15.11	9.58	-4.32	20.38	30.00
	1747.5	20325	Н	18.46	9.59	-4.32	23.73	30.00
	1717.5	20025	V	14.88	9.52	-4.31	20.09	30.00
BAND 4	20	20025	Н	18.70	9.52	-4.31	23.91	30.00
BW: 15M QPSK	1732.5	20175	V	14.76	9.57	-4.31	20.02	30.00
	1732.5	20175	Н	17.95	9.57	-4.31	23.21	30.00
RB: 1,74	1747.5	20325	V	14.26	9.62	-4.34	19.54	30.00
	1747.5	20325	Н	18.43	9.62	-4.34	23.72	30.00
	1717.5	20025	V	14.86	9.48	-4.31	20.03	30.00
BAND 4	1717.5	20025	Н	18.96	9.48	-4.31	24.13	30.00
BW: 15M	1732.5	20175	V	14.86	9.53	-4.31	20.08	30.00
16QAM	1732.5	20175	Н	18.61	9.53	-4.31	23.84	30.00
RB: 1,0	1747.5	20325	V	15.28	9.59	-4.32	20.55	30.00
	1747.5	20020	Н	18.60	9.59	-4.32	23.87	30.00
	1717.5	20025	V	15.22	9.52	-4.31	20.42	30.00
BAND 4 BW: 15M 16QAM RB: 1,74	1717.5	20020	Н	18.96	9.52	-4.31	24.17	30.00
	1732.5	20175	V	15.00	9.57	-4.31	20.25	30.00
	1752.5	20175	Н	18.18	9.57	-4.31	23.44	30.00
	1747.5	20325	V	14.60	9.62	-4.34	19.89	30.00
	1747.5	20020	Н	18.78	9.62	-4.34	24.07	30.00



	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
	1700.0	00050	V	14.65	9.48	-4.31	19.83	30.00
BAND 4	1720.0	20050	Н	18.60	9.48	-4.31	23.77	30.00
BW: 20M	1732.5	20175	V	15.02	9.53	-4.31	20.23	30.00
QPSK	1732.5	20175	Н	18.60	9.53	-4.31	23.82	30.00
RB: 1,0	1745.0	20300	V	14.63	9.56	-4.31	19.88	30.00
	1745.0	20300	Н	17.93	9.57	-4.31	23.19	30.00
	1720.0	20050	V	14.48	9.53	-4.31	19.71	30.00
BAND 4	1720.0 20	20050	Н	17.85	9.53	-4.31	23.07	30.00
BW: 20M	1732.5	20175	V	15.38	9.58	-4.31	20.65	30.00
QPSK	1732.5	20175	Н	18.44	9.58	-4.31	23.71	30.00
RB: 1,99	1745.0	20300	V	14.33	9.62	-4.34	19.61	30.00
	1745.0	20300	Н	18.31	9.62	-4.34	23.60	30.00
	1720.0	20050	V	14.82	9.48	-4.31	19.99	30.00
BAND 4	1720.0	20050	Н	18.89	9.48	-4.31	24.07	30.00
BW: 20M	1732.5	20175	V	15.27	9.53	-4.31	20.49	30.00
16QAM	1732.5	20175	Н	18.91	9.53	-4.31	24.13	30.00
RB: 1,0	1745.0	20300	V	14.85	9.57	-4.31	20.11	30.00
	1745.0	20300	Н	18.11	9.57	-4.31	23.37	30.00
	1720.0	20050	V	14.71	9.53	-4.31	19.94	30.00
BAND 4	1720.0 2	20030	Н	18.20	9.53	-4.31	23.42	30.00
BW: 20M 16QAM RB: 1,99	1732.5	20175	V	15.61	9.58	-4.31	20.87	30.00
	1752.5	20175	Н	18.74	9.58	-4.31	24.00	30.00
	1745.0	20300	V	14.72	9.62	-4.34	20.01	30.00
	1745.0	20000	Н	18.63	9.62	-4.34	23.91	30.00



	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
	0047	20407	V	22.84	3.30	-2.93	23.21	38.45
BAND 5	824.7	20407	Н	28.15	3.30	-2.93	28.53	38.45
BW: 1.4M	836.5	20525	V	21.24	3.29	-2.96	21.58	38.45
QPSK	030.5	20525	Н	28.01	3.29	-2.96	28.34	38.45
RB: 1,0	848.3	20643	V	20.43	3.27	-3.00	20.70	38.45
	040.3	20043	Н	28.39	3.27	-3.00	28.67	38.45
	824.7	20407	V	22.62	3.31	-2.92	23.00	38.45
BAND 5	024.7 20	20407	Н	28.22	3.30	-2.93	28.59	38.45
BW: 1.4M	836.5 2	20525	V	21.11	3.29	-2.96	21.44	38.45
QPSK		20525	Н	28.33	3.29	-2.96	28.66	38.45
RB: 1,5	848.3	20643	V	20.50	3.27	-3.00	20.77	38.45
	040.3	20043	Н	28.69	3.27	-3.00	28.96	38.45
	824.7	20407	V	23.64	3.30	-2.93	24.01	38.45
BAND 5	024.7	20407	Н	28.29	3.30	-2.93	28.66	38.45
BW: 1.4M	836.5	20525	V	21.08	3.29	-2.96	21.42	38.45
16QAM	000.0	20323	Н	27.29	3.29	-2.96	27.62	38.45
RB: 1,0	848.3	20643	V	20.67	3.27	-3.00	20.93	38.45
	040.5	20043	Н	27.93	3.27	-3.00	28.20	38.45
	824 7	20407	V	23.68	3.30	-2.93	24.05	38.45
BAND 5	BAND 5 BW: 1.4M 836 5 20	20407	Н	28.28	3.30	-2.93	28.65	38.45
BW: 1.4M		20525	V	21.63	3.29	-2.96	21.96	38.45
16QAM RB: 1,5	000.0	20020	Н	27.88	3.29	-2.96	28.21	38.45
	848.3	20643	V	21.55	3.27	-3.00	21.83	38.45
	0-0.0	20043	Н	28.36	3.27	-3.00	28.63	38.45



	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	23.04	3.30	-2.93	23.42	38.45
BAND 5	825.5	20415	Н	27.72	3.30	-2.93	28.10	38.45
BW: 3M	836.5	20525	V	21.07	3.29	-2.96	21.40	38.45
QPSK	030.3	20525	Н	27.54	3.29	-2.96	27.88	38.45
RB: 1,0	847.5	20635	V	20.43	3.28	-2.99	20.72	38.45
	047.5	20035	Н	27.77	3.28	-2.99	28.06	38.45
	825.5	20415	V	22.29	3.30	-2.93	22.67	38.45
BAND 5	020.0 2	20415	Н	28.24	3.30	-2.93	28.61	38.45
BW: 3M QPSK	836.5	20525	V	21.83	3.29	-2.96	22.16	38.45
	030.3	20525	Н	29.22	3.29	-2.96	29.55	38.45
RB: 1,14	847.5	20635	V	20.59	3.27	-3.00	20.86	38.45
	047.5	20035	Н	27.78	3.27	-3.00	28.05	38.45
	825.5	20415	V	23.81	3.30	-2.93	24.19	38.45
BAND 5	020.0	20415	Н	27.59	3.30	-2.93	27.96	38.45
BW: 3M	836.5	20525	V	21.23	3.29	-2.95	21.57	38.45
16QAM	030.3	20525	Н	26.90	3.29	-2.96	27.24	38.45
RB: 1,0	847.5	20635	V	20.81	3.28	-2.99	21.10	38.45
	047.5	20035	Н	28.14	3.28	-2.99	28.43	38.45
	925 5	20415	V	23.74	3.30	-2.93	24.12	38.45
BAND 5	825.5 BAND 5	20413	Н	27.89	3.30	-2.93	28.26	38.45
BAND 5 BW: 3M 16QAM RB: 1,14	836.5	20525	V	22.55	3.29	-2.96	22.88	38.45
	030.5	20020	Н	29.09	3.29	-2.96	29.42	38.45
	847.5	20635	V	20.91	3.27	-3.00	21.18	38.45
	047.5	20033	Н	28.09	3.27	-3.00	28.37	38.45



	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
	000 F	20425	V	25.32	3.30	-2.93	25.69	38.45
BAND 5	826.5	20425	Н	28.27	3.30	-2.93	28.64	38.45
BW: 5M	836.5	20525	V	23.00	3.29	-2.95	23.34	38.45
QPSK	030.5	20525	Н	27.06	3.29	-2.95	27.40	38.45
RB: 1,0	846.5	20625	V	24.07	3.28	-2.98	24.36	38.45
	040.5	20025	Н	29.32	3.28	-2.98	29.62	38.45
	826.5	20425	V	24.66	3.30	-2.93	25.03	38.45
BAND 5	020.5	20425	Н	28.17	3.30	-2.93	28.54	38.45
BW: 5M		20525	V	25.12	3.29	-2.97	25.44	38.45
QPSK		20323	Н	29.54	3.29	-2.97	29.86	38.45
RB: 1,24	846.5	20625	V	23.71	3.27	-3.00	23.98	38.45
	040.5	20025	Н	29.45	3.27	-3.00	29.72	38.45
	826.5	20425	V	25.31	3.30	-2.93	25.69	38.45
BAND 5	020.5	20423	Н	27.81	3.30	-2.93	28.18	38.45
BW: 5M	836.5	20525	V	22.41	3.29	-2.95	22.75	38.45
16QAM	030.5	20323	Н	26.51	3.29	-2.95	26.85	38.45
RB: 1,0	846.5	20625	V	23.62	3.28	-2.98	23.92	38.45
	040.5	20025	Н	28.75	3.28	-2.98	29.05	38.45
	826 5	20425	V	24.19	3.30	-2.93	24.56	38.45
BAND 5	5M 836 5 20525	Н	27.73	3.30	-2.93	28.10	38.45	
BW: 5M		20525	V	25.17	3.29	-2.96	25.49	38.45
16QAM RB: 1,24	000.0	20020	Н	29.53	3.29	-2.97	29.85	38.45
	846 5	20625	V	23.39	3.27	-3.00	23.67	38.45
	846.5 2	20023	Н	28.34	3.27	-3.00	28.62	38.45



EUT			Measurement					
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dBd	dB	dBm	dBm
BAND 5 BW: 10M QPSK RB: 1,0	829.0	20450	V	24.06	3.30	-2.93	24.43	38.45
			Н	27.88	3.30	-2.93	28.26	38.45
	836.5	20525	V	21.57	3.30	-2.94	21.92	38.45
			Н	26.42	3.30	-2.94	26.77	38.45
	844.0	20600	V	24.31	3.28	-2.98	24.61	38.45
			Н	29.83	3.28	-2.98	30.13	38.45
BAND 5 BW: 10M QPSK RB: 1,49	829.0	20450	V	21.58	3.29	-2.95	21.92	38.45
			Н	26.59	3.29	-2.96	26.92	38.45
	836.5	20525	V	24.77	3.28	-2.98	25.07	38.45
			Н	30.02	3.28	-2.98	30.31	38.45
	844.0	20600	V	22.94	3.27	-3.00	23.21	38.45
			Н	28.66	3.27	-3.00	28.93	38.45
BAND 5 BW: 10M 16QAM RB: 1,0	829.0	20450	V	24.11	3.30	-2.93	24.48	38.45
			Н	27.86	3.30	-2.93	28.23	38.45
	836.5	20525 -	V	21.02	3.30	-2.94	21.37	38.45
			Н	25.73	3.30	-2.94	26.08	38.45
	844.0	20600	V	24.29	3.28	-2.98	24.59	38.45
			Н	29.90	3.28	-2.98	30.20	38.45
BAND 5 BW: 10M 16QAM RB: 1,49	829.0	20450 -	V	21.08	3.29	-2.95	21.42	38.45
			Н	26.09	3.29	-2.95	26.43	38.45
	836.5	20525	V	24.78	3.28	-2.98	25.08	38.45
			Н	29.56	3.28	-2.97	29.88	38.45
	844.0	20600	V	21.90	3.27	-3.00	22.18	38.45
			Н	27.66	3.27	-3.00	27.93	38.45



	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
	0500 F	00775	V	14.61	10.90	-5.26	20.25	33.01
BAND 7	2502.5	20775	Н	19.22	10.90	-5.26	24.86	33.01
BW: 5M	2535.0	21100	V	15.56	10.94	-5.30	21.20	33.01
QPSK	2535.0	21100	Н	19.88	10.94	-5.30	25.52	33.01
RB: 1,0	2567.5	21425	V	14.60	10.98	-5.34	20.24	33.01
	2367.5	21420	Н	19.34	10.98	-5.34	24.98	33.01
	2502.5	20775	V	15.34	10.90	-5.26	20.99	33.01
BAND 7	2002.0 20	20775	Н	19.74	10.90	-5.26	25.39	33.01
BW: 5M QPSK	2535.0	21100	V	15.20	10.95	-5.31	20.84	33.01
	2000.0	21100	Н	19.68	10.95	-5.31	25.32	33.01
RB: 1,24	2567.5	21425	V	14.05	10.99	-5.34	19.70	33.01
	2307.5	21425	Н	19.23	10.99	-5.34	24.88	33.01
	2502.5	20775	V	14.44	10.90	-5.26	20.09	33.01
BAND 7	2302.5	20775	Н	19.28	10.90	-5.26	24.92	33.01
BW: 5M	2535.0	21100	V	15.73	10.94	-5.30	21.37	33.01
16QAM	2333.0	21100	Н	20.05	10.94	-5.30	25.69	33.01
RB: 1,0	2567.5	21425	V	14.68	10.98	-5.34	20.33	33.01
	2307.5	21423	Н	19.45	10.98	-5.34	25.09	33.01
	2502 5	20775	V	15.41	10.90	-5.26	21.06	33.01
BAND 7         2502.5           BW: 5M         2535.0           16QAM         2567.5	20113	Н	19.92	10.90	-5.26	25.56	33.01	
	2535 0	21100	V	15.49	10.95	-5.31	21.13	33.01
	2000.0	21100	Н	20.01	10.95	-5.31	25.65	33.01
	2567 5	21425	V	14.20	10.99	-5.34	19.85	33.01
	2307.0	21420	Н	19.38	10.99	-5.34	25.02	33.01



	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
		20800	V	14.22	10.90	-5.26	19.87	33.01
BAND 7	2505.0	20800	Н	19.08	10.90	-5.26	24.73	33.01
BW: 10M	2535.0	21100	V	15.60	10.94	-5.30	21.25	33.01
QPSK	2555.0	21100	Н	20.07	10.94	-5.30	25.71	33.01
RB: 1,0	2565.0	21400	V	14.67	10.98	-5.34	20.31	33.01
	2365.0	21400	Н	19.42	10.98	-5.34	25.06	33.01
	2505.0	20800	V	15.52	10.91	-5.26	21.17	33.01
BAND 7	2000.0 20	20800	Н	19.94	10.91	-5.26	25.59	33.01
BW: 10M QPSK	2535.0	21100	V	15.05	10.95	-5.31	20.69	33.01
	2555.0	21100	Н	19.79	10.95	-5.31	25.43	33.01
RB: 1,49	2565.0	21400	V	13.99	10.99	-5.34	19.64	33.01
	2365.0	21400	Н	19.24	10.99	-5.34	24.89	33.01
	2505.0	20800	V	14.52	10.90	-5.26	20.17	33.01
BAND 7	2505.0	20000	Н	19.30	10.90	-5.26	24.95	33.01
BW: 10M	2535.0	21100	V	15.90	10.94	-5.29	21.54	33.01
16QAM	2555.0	21100	Н	20.43	10.94	-5.29	26.08	33.01
RB: 1,0	2565.0	21400	V	14.86	10.98	-5.34	20.50	33.01
	2303.0	21400	Н	19.66	10.98	-5.34	25.29	33.01
	2505.0	20800	V	15.74	10.91	-5.26	21.39	33.01
BAND 7	2505.0 2	20000	Н	20.17	10.91	-5.26	25.82	33.01
BAND 7 BW: 10M 16QAM RB: 1,49	2535.0	21100	V	15.49	10.95	-5.31	21.13	33.01
	2535.0	21100	Н	20.15	10.95	-5.31	25.79	33.01
	2565 0	21400	V	14.27	10.99	-5.34	19.92	33.01
	2565.0 2	21400	Н	19.51	10.99	-5.34	25.15	33.01



	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
	0507.5	00005	V	14.93	10.90	-5.25	20.58	33.01
BAND 7	2507.5	20825	Н	19.49	10.91	-5.26	25.14	33.01
BW: 15M	2535.0	21100	V	15.93	10.94	-5.29	21.57	33.01
QPSK	2535.0	21100	Н	20.49	10.94	-5.29	26.14	33.01
RB: 1,0	2562.5	21375	V	14.93	10.97	-5.34	20.56	33.01
	2362.5	21375	Н	19.46	10.97	-5.34	25.09	33.01
	2507 F	20825	V	15.29	10.92	-5.27	20.94	33.01
BAND 7	2507.5 208	20625	Н	20.22	10.92	-5.27	25.87	33.01
BW: 15M QPSK	2535.0	21100	V	15.13	10.95	-5.32	20.77	33.01
	2000.0	21100	Н	19.91	10.95	-5.32	25.55	33.01
RB: 1,74	2562.5	21375	V	13.96	10.99	-5.34	19.61	33.01
	2002.0	21375	Н	19.24	10.99	-5.34	24.88	33.01
	2507.5	20825	V	15.11	10.91	-5.26	20.76	33.01
BAND 7	2507.5	20025	Н	19.78	10.90	-5.25	25.43	33.01
BW: 15M	2535.0	21100	V	16.12	10.93	-5.29	21.77	33.01
16QAM	2000.0	21100	Н	20.72	10.94	-5.29	26.37	33.01
RB: 1,0	2562.5	21375	V	15.11	10.97	-5.34	20.74	33.01
	2002.0	21375	Н	19.67	10.97	-5.34	25.30	33.01
	2507.5	20825	V	15.49	10.92	-5.27	21.14	33.01
BAND 7	2507.5 BAND 7	20023	Н	20.43	10.92	-5.27	26.08	33.01
BAND 7 BW: 15M 16QAM RB: 1,74	2535.0	21100	V	15.49	10.95	-5.32	21.13	33.01
	2000.0	21100	Н	20.27	10.95	-5.32	25.90	33.01
	2562.5	21375	V	14.27	10.99	-5.34	19.92	33.01
	2002.0	213/3	Н	19.50	10.99	-5.34	25.15	33.01



	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
	0510.0	00050	V	14.29	10.90	-5.26	19.94	33.01
BAND 7	2510.0	20850	Н	19.14	10.90	-5.26	24.79	33.01
BW: 20M	2535.0	21100	V	15.82	10.93	-5.29	21.46	33.01
QPSK	2555.0	21100	Н	20.58	10.93	-5.29	26.23	33.01
RB: 1,0	2560.0	21350	V	15.00	10.96	-5.33	20.63	33.01
	2560.0	21350	Н	19.80	10.96	-5.33	25.43	33.01
	2510.0	20850	V	15.46	10.92	-5.27	21.11	33.01
BAND 7	2010.0 20	20650	Н	20.38	10.92	-5.27	26.03	33.01
BW: 20M QPSK RB: 1,99	2535.0	21100	V	15.07	10.96	-5.32	20.70	33.01
	2555.0	21100	Н	20.00	10.96	-5.32	25.64	33.01
	2560.0	21350	V	13.93	10.99	-5.34	19.58	33.01
	2360.0	21350	Н	19.21	10.99	-5.34	24.85	33.01
	2510.0	20850	V	14.60	10.90	-5.26	20.25	33.01
BAND 7	2510.0	20650	Н	19.39	10.90	-5.26	25.04	33.01
BW: 20M	2535.0	21100	V	16.02	10.93	-5.29	21.67	33.01
16QAM	2000.0	21100	Н	20.81	10.93	-5.29	26.45	33.01
RB: 1,0	2560.0	21350	V	15.21	10.97	-5.33	20.84	33.01
	2300.0	21000	Н	20.06	10.96	-5.33	25.69	33.01
	2510.0	20850	V	15.76	10.92	-5.27	21.41	33.01
BAND 7		20050	Н	20.66	10.92	-5.27	26.31	33.01
BAND 7 BW: 20M 16QAM RB: 1,99	2535.0	21100	V	15.48	10.96	-5.32	21.11	33.01
	2000.0	21100	Н	20.36	10.95	-5.32	25.99	33.01
	2560.0	21350	V	14.29	10.99	-5.34	19.94	33.01
	2000.0	21000	Н	19.56	10.99	-5.34	25.21	33.01



	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
	coo 7	00017	V	12.71	3.08	-2.96	12.84	34.77
BAND 12	699.7	23017	Н	15.12	3.08	-2.96	15.25	34.77
BW: 1.4M	707.5	23095	V	13.21	3.08	-2.96	13.33	34.77
QPSK	707.5	23095	Н	15.43	3.08	-2.96	15.55	34.77
RB: 1,0	715.3	23173	V	12.77	3.09	-3.04	12.83	34.77
	715.5	20170	Н	14.36	3.09	-3.04	14.41	34.77
	699.7	23017	V	12.12	3.10	-3.04	12.18	34.77
BAND 12	099.7	23017	Н	14.09	3.10	-3.04	14.14	34.77
BW: 1.4M QPSK	707.5	23095	V	13.41	3.11	-3.06	13.46	34.77
	707.5	23093	Н	15.06	3.11	-3.06	15.11	34.77
RB: 1,5	715.3	23173	V	13.26	3.11	-3.06	13.31	34.77
	715.5	20170	Н	14.52	3.11	-3.06	14.57	34.77
	699.7	23017	V	12.74	3.08	-2.96	12.86	34.77
BAND 12	033.7	20017	Н	15.11	3.08	-2.96	15.23	34.77
BW: 1.4M	707.5	23095	V	13.36	3.08	-2.96	13.48	34.77
16QAM	707.5	20000	Н	15.57	3.08	-2.96	15.69	34.77
RB: 1,0	715.3	23173	V	12.76	3.09	-3.04	12.81	34.77
	713.0	20170	Н	14.74	3.09	-3.04	14.79	34.77
	699 7	23017	V	12.37	3.09	-3.04	12.42	34.77
BAND 12		20017	Н	14.29	3.10	-3.04	14.34	34.77
BW: 1.4M 16QAM RB: 1,5	707.5	23095	V	13.89	3.11	-3.06	13.94	34.77
	, , , , ,	20000	Н	15.25	3.11	-3.06	15.29	34.77
	715.3	23173	V	13.48	3.11	-3.06	13.53	34.77
	, 10.0	20170	Н	14.74	3.11	-3.07	14.78	34.77



	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	12.60	3.08	-2.99	12.69	34.77
BAND 12	700.5	23025	Н	15.06	3.08	-2.96	15.19	34.77
BW: 3M	707.5	23095	V	13.25	3.09	-3.03	13.31	34.77
QPSK	707.5	23095	Н	15.17	3.09	-3.04	15.23	34.77
RB: 1,0	714.5	23165	V	13.83	3.11	-3.06	13.88	34.77
	714.5	23100	Н	15.64	3.11	-3.07	15.68	34.77
	700.5	23025	V	14.06	3.08	-2.98	14.16	34.77
BAND 12	700.5 20	23025	Н	16.33	3.08	-2.98	16.43	34.77
BW: 3M QPSK	707.5	23095	V	12.05	3.10	-3.04	12.10	34.77
	707.5	23095	Н	13.84	3.10	-3.04	13.89	34.77
RB: 1,14	714.5	23165	V	13.05	3.11	-3.06	13.10	34.77
	714.5	23105	Н	14.71	3.11	-3.07	14.76	34.77
	700.5	23025	V	12.63	3.08	-2.98	12.73	34.77
BAND 12	700.5	23023	Н	15.11	3.08	-2.96	15.23	34.77
BW: 3M	707.5	23095	V	13.38	3.09	-3.04	13.43	34.77
16QAM	707.5	23093	Н	15.33	3.09	-3.04	15.38	34.77
RB: 1,0	714.5	23165	V	14.40	3.11	-3.06	14.45	34.77
	714.5	20100	Н	15.88	3.11	-3.07	15.93	34.77
	700 5	23025	V	14.29	3.08	-2.98	14.39	34.77
BAND 12       700.5         BW: 3M       707.5         16QAM       707.5         RB: 1,14       714.5	23023	Н	16.48	3.08	-2.98	16.58	34.77	
	707 5	23095	V	12.18	3.10	-3.04	12.23	34.77
	107.5	20090	Н	13.94	3.10	-3.04	14.00	34.77
	714 5	23165	V	13.55	3.11	-3.06	dBm         dBn           12.69         34.7           15.19         34.7           13.31         34.7           15.23         34.7           15.23         34.7           15.23         34.7           15.23         34.7           15.68         34.7           14.16         34.7           12.10         34.7           13.89         34.7           13.89         34.7           13.10         34.7           13.10         34.7           13.10         34.7           13.10         34.7           14.76         34.7           13.89         34.7           14.76         34.7           15.23         34.7           15.23         34.7           15.38         34.7           15.38         34.7           14.45         34.7           14.39         34.7           14.39         34.7           14.39         34.7           14.39         34.7           14.00         34.7           13.59         34.7	34.77
	/ 14.5	20100	Н	14.78	3.11	-3.06	14.83	34.77



	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	00005	V	12.67	3.08	-2.96	12.79	34.77
BAND 12	701.5	23035	Н	15.08	3.08	-2.96	15.20	34.77
BW: 5M	707.5	23095	V	13.76	3.09	-3.03	13.82	34.77
QPSK	707.5	23095	Н	15.72	3.09	-3.03	15.78	34.77
RB: 1,0	713.5	23155	V	12.88	3.10	-3.05	12.93	34.77
	713.5	23100	Н	14.45	3.11	-3.06	14.50	34.77
	701.5	23035	V	14.65	3.09	-3.01	14.72	34.77
BAND 12	701.5	23035	Н	16.54	3.09	-3.01	16.62	34.77
BW: 5M QPSK	707.5	23095	V	12.14	3.10	-3.05	12.19	34.77
	707.5	23095	Н	13.83	3.10	-3.05	13.88	34.77
RB: 1,24	713.5	23155	V	13.21	3.11	-3.06	13.26	34.77
	713.5	23100	Н	14.87	3.11	-3.06	14.91	34.77
	701.5	23035	V	12.76	3.08	-2.96	12.88	34.77
BAND 12	701.5	23035	Н	15.19	3.08	-2.96	15.32	34.77
BW: 5M	707.5	23095	V	14.02	3.09	-3.03	14.08	34.77
16QAM	707.5	23093	Н	16.02	3.09	-3.03	16.08	34.77
RB: 1,0	713.5	23155	V	13.05	3.10	-3.05	13.10	34.77
	710.0	20100	Н	14.66	3.11	-3.06	14.71	34.77
	701.5	23035	V	14.70	3.09	-3.01	14.77	34.77
BAND 12         701           BW: 5M         707           16QAM         707           RB: 1,24         713	701.5	20000	Н	16.74	3.09	-3.01	16.81	34.77
	707.5	23095	V	12.25	3.10	-3.05	12.30	34.77
	107.5	20090	Н	13.92	3.10	-3.05	13.98	34.77
	713.5	23155	V	13.67	3.11	-3.06	13.72	34.77
	710.0	20100	Н	15.00	3.11	-3.06	15.05	34.77



	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	00000	V	12.81	3.08	-2.96	12.93	34.77
BAND 12	704.0	23060	Н	15.19	3.08	-2.96	15.31	34.77
BW: 10M	707.5	23095	V	14.33	3.09	-3.01	14.41	34.77
QPSK	707.5	23095	Н	16.48	3.09	-3.01	16.56	34.77
RB: 1,0	711.0	23130	V	13.04	3.09	-3.04	13.10	34.77
	711.0	23130	Н	15.00	3.09	-3.04	15.05	34.77
	704.0	23060	V	12.22	3.10	-3.04	12.27	34.77
BAND 12	704.0	23060	Н	14.09	3.10	-3.04	14.15	34.77
BW: 10M QPSK	707.5	23095	V	13.23	3.10	-3.05	13.28	34.77
	707.5	23095	Н	14.92	3.11	-3.06	14.97	34.77
RB: 1,49	711.0	23130	V	13.15	3.11	-3.06	13.20	34.77
	711.0	23130	Н	14.57	3.11	-3.06	14.62	34.77
	704.0	23060	V	12.81	3.08	-2.96	12.93	34.77
BAND 12	704.0	23000	Н	15.28	3.08	-2.96	15.40	34.77
BW: 10M	707.5	23095	V	14.82	3.09	-3.01	14.90	34.77
16QAM	707.5	23095	Н	16.69	3.09	-3.00	16.77	34.77
RB: 1,0	711.0	23130	V	13.20	3.09	-3.04	13.26	34.77
	711.0	23130	Н	15.24	3.09	-3.04	15.29	34.77
	704.0	23060	V	12.43	3.10	-3.04	12.49	34.77
BAND 12	<b>BAND 12</b> 704.0	23000	Н	14.31	3.10	-3.04	14.36	34.77
BAND 12 BW: 10M 16QAM RB: 1,49	707.5	23095	V	13.49	3.10	-3.05	13.54	34.77
	707.5	23093	Н	15.07	3.10	-3.05	15.12	34.77
	711.0	23130	V	13.70	3.11	-3.06	13.75	34.77
	/11.0	23130	Н	15.08	3.11	-3.06	15.13	34.77



	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
	770 F	00005	V	11.10	3.27	-2.91	11.46	34.77
BAND 13	779.5	23205	Н	16.59	3.28	-2.91	16.95	34.77
BW: 5M	782.0	23230	V	11.52	3.27	-2.91	11.88	34.77
QPSK	782.0	23230	Н	17.04	3.29	-2.91	17.42	34.77
RB: 1,0	784.5	23255	V	11.83	3.28	-2.91	12.21	34.77
	764.5	23200	Н	18.72	3.29	-2.91	19.11	34.77
	779.5	23205	V	12.14	3.28	-2.91	12.51	34.77
BAND 13	119.0 20	23205	Н	18.49	3.29	-2.91	18.88	34.77
BW: 5M QPSK RB: 1,24	782.0	23230	V	11.58	3.29	-2.91	11.96	34.77
	762.0	23230	Н	18.47	3.30	-2.91	18.86	34.77
	784.5	23255	V	9.74	3.29	-2.91	10.12	34.77
	764.5	23200	Н	18.35	3.30	-2.91	18.74	34.77
	779.5	23205	V	11.34	3.27	-2.91	11.70	34.77
BAND 13	779.5	23205	Н	16.80	3.28	-2.91	17.17	34.77
BW: 5M	782.0	23230	V	12.04	3.27	-2.91	12.40	34.77
16QAM	782.0	23230	Н	17.47	3.29	-2.91	17.85	34.77
RB: 1,0	784.5	23255	V	12.79	3.28	-2.91	13.17	34.77
	764.5	20200	Н	19.14	3.29	-2.91	19.52	34.77
	770 5	23205	V	12.01	3.28	-2.91	12.38	34.77
BAND 13	<b>BAND 13</b> 779.5	20200	Н	18.27	3.29	-2.91	18.66	34.77
BAND 13 BW: 5M 16QAM RB: 1,24	782.0	23230	V	12.03	3.29	-2.91	12.41	34.77
	702.0	20200	Н	19.45	3.30	-2.90	19.85	34.77
	784.5	23255	V	10.18	3.30	-2.91	10.57	34.77
	704.5	20200	Н	18.10	3.30	-2.91	18.49	34.77



	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
BAND 13 BW: 10M	782.0	23230	V	11.63	3.27	-2.91	11.99	34.77
QPSK RB: 1,0		23230	Н	16.21	3.28	-2.91	16.57	34.77
BAND 13 BW: 10M	782.0	23230	V	9.6	3.29	-2.91	9.99	34.77
QPSK RB: 1,49	782.0	23230	Н	18.06	3.30	-2.91	18.45	34.77
BAND 13 BW: 10M	782.0	23230	V	11.82	3.27	-2.91	12.18	34.77
16QAM RB: 1,0	782.0	23230	Н	17.38	3.27	-2.91	17.74	34.77
BAND 13 BW: 10M	782.0	00000	V	10.06	3.29	-2.91	10.45	34.77
16QAM RB: 1,49		23230	Н	17.9	3.30	-2.91	18.29	34.77



	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	00755	V	14.25	3.09	-3.03	14.30	34.77
BAND 17	706.5	23755	Н	16.60	3.09	-3.04	16.65	34.77
BW: 5M	710.0	23790	V	12.55	3.09	-3.04	12.61	34.77
QPSK	710.0	23790	Н	15.29	3.09	-3.04	15.34	34.77
RB: 1,0	713.5	23825	V	13.04	3.10	-3.05	13.09	34.77
	/13.5	23023	Н	15.86	3.11	-3.06	15.90	34.77
	706.5	23755	V	12.28	3.1	-3.04	12.34	34.77
BAND 17	700.5 23	23700	Н	15.03	3.1	-3.04	15.09	34.77
BW: 5M QPSK	710.0	23790	V	13.57	3.1	-3.05	13.62	34.77
	710.0	23790	Н	16.53	3.11	-3.06	16.57	34.77
RB: 1,24	713.5	23825	V	13.55	3.11	-3.06	13.6	34.77
	713.5	23025	Н	16.27	3.11	-3.06	16.31	34.77
	706.5	23755	V	14.49	3.09	-3.04	14.54	34.77
BAND 17	700.5	23755	Н	17.02	3.09	-3.04	17.07	34.77
BW: 5M	710.0	23790	V	12.74	3.10	-3.04	12.79	34.77
16QAM	710.0	23790	Н	15.39	3.09	-3.04	15.44	34.77
RB: 1,0	713.5	23825	V	13.27	3.10	-3.05	13.32	34.77
	713.5	20020	Н	16.02	3.11	-3.06	16.07	34.77
	706.5	23755	V	12.42	3.10	-3.04	12.48	34.77
BAND 17 BW: 5M 16QAM RB: 1,24	700.5	23700	Н	15.16	3.10	-3.04	15.21	34.77
	710.0	23790	V	13.86	3.10	-3.05	13.91	34.77
	710.0	23/90	Н	16.63	3.11	-3.06	16.68	34.77
	713.5	23825	V	13.80	3.11	-3.06	dBm         dBm           14.30         34.77           16.65         34.77           12.61         34.77           15.34         34.77           15.34         34.77           15.90         34.77           15.90         34.77           15.90         34.77           15.90         34.77           15.91         34.77           15.92         34.77           15.93         34.77           15.94         34.77           13.62         34.77           13.62         34.77           14.54         34.77           14.54         34.77           15.44         34.77           15.44         34.77           15.44         34.77           15.44         34.77           15.44         34.77           15.21         34.77           15.21         34.77           15.21         34.77           13.91         34.77           13.85         34.77	34.77
	/ 13.5	20020	Н	16.58	3.11	-3.06	16.63	34.77



	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
	700.0	00700	V	14.19	3.09	-3.03	14.25	34.77
BAND 17	709.0	23780	Н	16.64	3.09	-3.04	16.70	34.77
BW: 10M	710.0	23790	V	13.46	3.09	-3.04	13.52	34.77
QPSK	710.0	23790	Н	16.41	3.09	-3.03	16.47	34.77
RB: 1,0	711.0	23800	V	13.18	3.09	-3.04	13.24	34.77
	711.0	23000	Н	15.77	3.09	-3.04	15.83	34.77
	709.0	23780	V	14.33	3.11	-3.06	14.38	34.77
BAND 17	709.0	23/00	Н	17.07	3.11	-3.07	17.12	34.77
BW: 10M QPSK RB: 1,49	710.0	23790	V	13.94	3.11	-3.06	13.98	34.77
	710.0	23790	Н	16.83	3.11	-3.07	16.87	34.77
	711.0	23800	V	13.53	3.11	-3.06	13.58	34.77
	711.0	23000	Н	16.10	3.11	-3.06	16.15	34.77
	709.0	23780	V	14.46	3.09	-3.04	14.52	34.77
BAND 17	709.0	23700	Н	16.90	3.09	-3.04	16.96	34.77
BW: 10M	710.0	23790	V	13.72	3.09	-3.04	13.78	34.77
16QAM	710.0	23790	Н	16.54	3.09	-3.03	16.60	34.77
RB: 1,0	711.0	23800	V	13.45	3.09	-3.04	13.51	34.77
	711.0	23000	Н	16.03	3.09	-3.04	16.08	34.77
	700.0	23780	V	14.61	3.11	-3.06	14.66	34.77
BAND 17	AND 17	23/00	Н	17.38	3.11	-3.07	17.42	34.77
BAND 17 BW: 10M 16QAM RB: 1,49	710.0	23790	V	14.43	3.11	-3.06	14.48	34.77
	/10.0	23/90	Н	17.06	3.11	-3.07	17.10	34.77
	711.0	23800	V	13.89	3.11	-3.06	13.94	34.77
	/11.0	20000	Н	16.52	3.11	-3.06	16.57	34.77

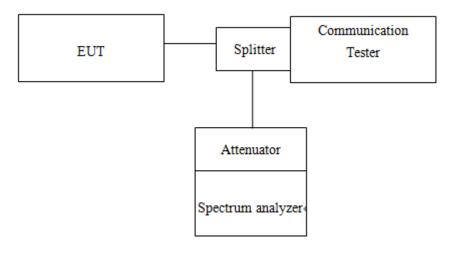


# 8. OCCUPIED BANDWIDTH MEASUREMENT

# 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  $1\% \sim 5\%$  of emission BW, VBW= 3 times RBW, -20dBc display line was placed on the screen (or 20dB bandwidth). Set RBW to 99% bandwidth, RBW=  $1\% \sim 5\%$ , VBW= 3 RBW, with span > 2 \* Signal BW, set % Power = 99%.

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

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# 8.4. Measurement Equipment Used

Conduc	ted Emission (m	easured at a	antenna port)	Test Site	
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
TYPE		NUMBER	NUMBER	CAL.	
Power Meter	Anritsu	ML2495A	1005007	12/15/2016	12/14/2017
Power Sensor	Anritsu	MA2411B	917032	12/15/2016	12/14/2017
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	HUBER+SUHNE R	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	11/21/2016	11/20/2017
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	09/24/2016	09/23/2017



# 8.5. Measurement Result

Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)
(10112)		GPRS 850	EDGE 850	GPRS 850	EDGE 850
824.2	128	0.247	0.24367	0.3155	0.3190
836.6	190	0.24445	0.24823	0.3150	0.3115
848.8	251	0.24669	0.24559	0.3187	0.3153

Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)
(11112)		GPRS	EDGE	GPRS	EDGE
		1900	1900	1900	1900
1850.2	512	0.24565	0.24812	0.3107	0.3800
1880.0	661	0.24586	0.24439	0.3184	0.3140
1909.8	810	0.24108	0.24234	0.3238	0.3241

Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)
(1011 12)		CDMA BC0	EVDO BC0	CDMA BC0	EVDO BC0
824.2	128	1.2703	1.2716	1.427	1.423
836.6	190	1.2697	1.2733	1.419	1.417
848.8	251	1.2649	1.2752	1.420	1.416

Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)
(11112)		CDMA BC1	EVDO BC1	CDMA BC1	EVDO BC1
1850.2	512	1.2734	1.2725	1.430	1.432
1880.0	661	1.2747	1.2764	1.423	1.427
1909.8	810	1.2835	1.2860	1.455	1.456



Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)
(11172)		WCDMA II	HSDPA II	HSUPA II	WCDMA II	HSDPA II	HSUPA II
1850.20	9262	4.1495	4.1489	4.1523	4.629	4.620	4.614
1880.00	9400	4.1463	4.1671	4.1701	4.620	4.613	4.629
1909.80	9538	4.143	4.1492	4.1559	4.623	4.626	4.619
Freq.	СН	99% BW (MHz)	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)
Freq. (MHz)	СН	BW	BW	BW	BW	BW	BW
-	<b>CH</b> 1312	BW (MHz) WCDMA	BW (MHz) HSDPA	BW (MHz) HSUPA	BW (MHz) WCDMA	BW (MHz) HSDPA	BW (MHz) HSUPA
(MHz)		BW (MHz) WCDMA IV	BW (MHz) HSDPA IV	BW (MHz) HSUPA IV	BW (MHz) WCDMA IV	BW (MHz) HSDPA IV	BW (MHz) HSUPA IV

Freq. (MHz)	СН	99% BW (MHz) WCDMA V	99% BW (MHz) HSDPA V	99% BW (MHz) HSUPA V	26 dB BW (MHz) WCDMA V	26 dB BW (MHz) HSDPA V	26 dB BW (MHz) HSUPA V
826.40	4132	4.1630	4.1572	4.1424	4.631	4.627	4.621
836.60	4183	4.1408	4.1617	4.1714	4.614	4.609	4.623
846.60	4233	4.1385	4.1397	4.1386	4.620	4.611	4.612



	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	1.0992	1.1001	1.280	1.289		
1880.0	18900	1.0991	1.0991	1.284	1.309		
1909.3	19193	1.0991	1.0991	1.281	1.292		

LTE BAND 2 Channel bandwidth: 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	4.4958	4.4959	5.000	5.000	
1880.0	18900	4.4940	4.5033	5.025	4.971	
1907.5	19175	4.5095	4.4954	5.041	4.998	

LTE BAND 2 Channel bandwidth: 15MHz							
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM		
1857.5	18675	13.450	13.452	14.61	14.63		
1880.0	18900	13.427	13.451	14.58	14.66		
1902.5	19125	13.427	13.439	14.64	14.65		

LTE BAND 2 Channel bandwidth: 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	2.7028	2.7013	2.967	2.994		
1880.0	18900	2.6995	2.6993	2.977	2.996		
1908.5	19185	2.6960	2.7030	2.973	2.980		

LTE BAND 2 Channel bandwidth: 10MHz						
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)	
		QPSK	16QAM	QPSK	16QAM	
1855.0	18650	8.9750	8.9597	9.914	9.757	
1880.0	18900	8.9949	8.9535	9.909	9.838	
1905.0	19150	8.9812	8.9709	9.834	9.826	

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	17.850	17.872	19.37	19.44			
1880.0	18900	17.865	17.885	19.34	19.35			
1900.0	19100	17.884	17.883	19.33	19.41			



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	1.0979	1.1004	1.297	1.312			
1732.5	20175	1.0963	1.0969	1.278	1.290			
1754.3	20393	1.0965	1.0980	1.269	1.278			

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	4.4941	4.4905	5.002	5.012			
1732.5	20175	4.4952	4.4919	5.014	4.976			
1752.5	20375	4.4906	4.5015	5.027	4.954			

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	13.442	13.457	14.58	14.69			
1732.5	20175	13.457	13.433	14.52	14.71			
1747.5	20325	13.490	13.459	14.60	14.66			

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	2.6957	2.7002	2.983	2.994		
1732.5	20175	2.6918	2.6948	2.967	2.980		
1753.5	20385	2.6995	2.6971	2.985	2.978		

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	8.9908	8.9648	9.768	9.784			
1732.5	20175	8.9858	8.9561	9.790	9.786			
1750.0	20350	8.9817	8.9483	9.852	9.740			

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	17.874	17.898	19.29	19.30			
1732.5	20175	17.877	17.891	19.37	19.32			
1745.0	20300	17.914	17.924	19.35	19.23			



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	1.0962	1.0971	1.290	1.290			
836.5	20525	1.0954	1.0951	1.294	1.290			
848.3	20643	1.0986	1.0984	1.307	1.281			

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	2.6949	2.7015	2.964	2.984		
836.5	20525	2.6979	2.6948	2.979	2.971		
847.5	20635	2.6988	2.7025	2.971	2.973		

LTE BAND 5 Channel bandwidth: 5MHz								
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)			
		QPSK	16QAM	QPSK	16QAM			
826.5	20425	4.4910	4.4965	4.986	5.021			
836.5	20525	4.4921	4.4935	5.007	4.973			
846.5	20625	4.4821	4.4833	4.966	4.969			

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	9.0080	8.9638	9.806	9.797			
836.5	20525	9.0091	8.9959	9.920	9.856			
844.0	20600	8.9627	8.9458	9.856	9.778			

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	4.4982	4.4872	5.000	5.024		
2535.0	21100	4.5021	4.4963	5.017	5.029		
2567.5	21425	4.4967	4.4893	5.038	5.010		

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	8.9730	8.9522	9.769	9.862		
2535.0	21100	8.9847	8.9555	9.895	9.809		
2565.0	21400	9.0184	8.9643	9.945	9.826		

LTE BAND 7 Channel bandwidth: 15MHz						
Freq. (MHz)	СН	CH 99% 99% BW BW (MHz) (MHz		26 dB BW (MHz)	26 dB BW (MHz)	
		QPSK	16QAM	QPSK	16QAM	
2507.5	20825	13.416	13.414	14.61	14.62	
2535.0	21100	13.486	13.471	14.71	14.75	
2562.5	21375	13.465	13.457	14.70	14.67	

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	17.823	17.860	19.34	19.34	
2535.0	21100	17.903	17.972	19.38	19.50	
2560.0	21350	17.889	17.915	19.38	19.19	



LTE BAND 12 Channel bandwidth: 1.4MHz							
Freq. (MHz)	· • • • • • • • • • • • • • • • • • • •	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM		
699.7	23017	1.0980	1.0954	1.277	1.302		
707.5	23095	1.0982	1.0974	1.273	1.289		
715.3	23173	1.0959	1.0990	1.274	1.299		

LTE BAND 12 Channel bandwidth: 5MHz							
Freq. (MHz)	· • • •	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)		
		QPSK	16QAM	(MHZ) QPSK	16QAM		
701.5	23035	4.5086	4.5041	5.026	5.053		
707.5	23095	4.4997	4.4973	4.968	4.995		
713.5	23155	4.5001	4.4996	5.014	4.994		

LTE BAND 13 Channel bandwidth: 5MHz							
Freq. (MHz)	СН	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)		
		QPSK	16QAM QPSK	QPSK	16QAM		
701.5	23035	4.494	4.495	5.058	5.003		
707.5	23095	4.513	4.505	5.059	5.048		
713.5	23155	4.501	4.502	4.999	4.978		

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	2.6939	2.6967	2.968	2.972		
707.5	23095	2.6948	2.6965	2.965	2.981		
714.5	23165	2.7026	2.6986	2.977	2.976		

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	9.0750	9.0290	10.009	9.912		
707.5	23095	9.0107	8.9698	9.772	9.763		
711.0	23130	8.9593	8.9354	9.756	9.744		

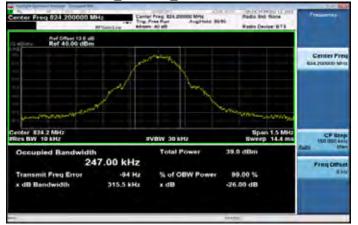
LTE BAND 13 Channel bandwidth: 10MHz						
	99%	99%	26 dB	26 dB		
Freq.	СН	BW	BW	BW	BW	
(MHz)	Сп	(MHz)	(MHz)	(MHz)	(MHz)	
		QPSK	16QAM	QPSK	16QAM	
782.0	23230	8.9693	8.9730	9.898	9.820	

LTE BAND 17 Channel bandwidth: 5MHz							
Freq. (MHz)	(CH	99% BW (MHz)	99% BW (MHz)	26 dB BW (MHz)	26 dB BW (MHz)		
		QPSK	16QAM	QPSK	16QAM		
706.5	23755	4.4979	4.5035	5.001	4.969		
710.0	23790	4.4892	4.4951	4.967	5.044		
713.5	23825	4.5018	4.5049	5.010	4.958		

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	8.9464	8.9650	9.709	9.679		
710.0	23790	8.9659	8.9196	9.804	9.783		
711.0	23780	8.9748	8.9312	9.787	9.780		



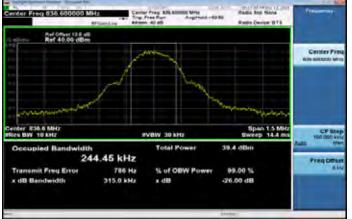
#### GPRS\_850MHz\_LowCH128-824.2



#### EDGE\_850MHz\_LowCH128-824.2



GPRS\_850MHz\_MidCH190-836.6



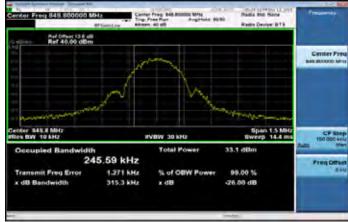
# EDGE\_850MHz\_MidCH190-836.6



#### GPRS\_850MHz\_HighCH251-848.8



# EDGE\_850MHz\_HighCH251-848.8



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#### GPRS\_1900MHz\_LowCH512-1850.2



#### EDGE\_1900MHz\_LowCH512-1850.2



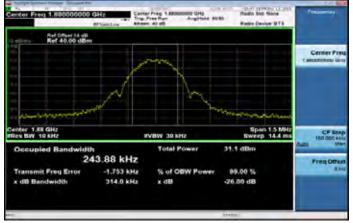
GPRS\_1900MHz\_MidCH661-1880

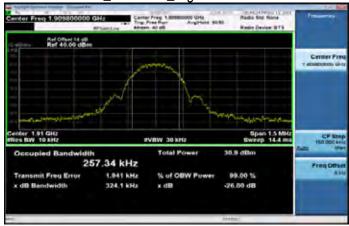


# GPRS\_1900MHz\_HighCH810-1909.8



### EDGE\_1900MHz\_MidCH661-1880





### EDGE\_1900MHz\_HighCH810-1909.8

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99.00 %

### CDMA2000\_BC0\_LowCH1013-824.7



#### ter Pres 834.700000 Mile 1824.7 Ref 30.00 dBm Center Fr 824,7 MH Span 3 M IVBW 47 kHz 1.2716 MHz 2.003 kHz

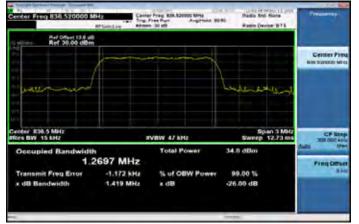
% of OBW P

1.423 MH

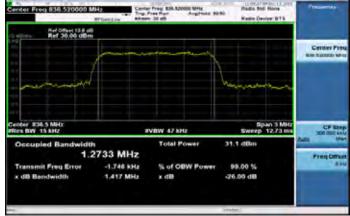
it Freq Erro

EVDO\_BC0\_LowCH1013-824.7

#### CDMA2000\_BC0\_MidCH384-836.52



# EVDO BC0 MidCH384-836.52



#### CDMA2000\_BC0\_HighCH777-848.31



# EVDO\_BC0\_HighCH777-848.31



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#### CDMA2000\_BC1\_LowCH25-1851.3



#### Ner Pres 1 881200000 GHS 1.0515 Ref 30.00 dBr Center Fre 1.851 GH Span 3 M p 12.73 IVOW 47 hHz 1.2725 MHz 48.898 kHz it Freq Erro % of OBW P 99.00 % 1,432 MH

EVDO\_BC1\_LowCH25-1851.3

# CDMA2000\_BC1\_MidCH600-1880



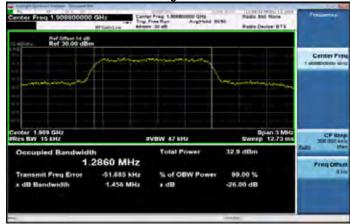
# CDMA2000\_BC1\_HighCH1175-1908.8



# EVDO\_BC1\_MidCH600-1880



# EVDO\_BC1\_HighCH1175-1908.8



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#### WCDMA\_B2\_LowCH9262-1852.4



#### HSDPA\_B2\_LowCH9262-1852.4



#### WCDMA\_B2\_MidCH9400-1880 Ref 30.00 dBn Center P 1.88 GHz W 47 KHz Span 6 M Sweep 31 IVBW 150 KH 31.8 4.1463 MHz Fren O 482 Hz it Frea Error % of OBW P 99.00 % 4.620 MHz -26.00 dB

#### HSDPA B2 MidCH9400-1880



#### WCDMA\_B2\_HighCH9538-1907.6



#### HSDPA\_B2\_HighCH9538-1907.6



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#### HSUPA\_B2\_LowCH9262-1852.4



#### WCDMA\_B4\_LowCH1312-1712.4



#### HSUPA B2 MidCH9400-1880 Ref 30.00 dBr Center P 1.88 GHz W 47 KHz Span 6 M Sweep 31 IVBW 150 kHz 29.8 4.1701 MHz Fren O 8.961 kHz it Fred Erro % of OBW I 99.00 % 4.629 MHz -26.00 dB

# WCDMA\_B4\_MidCH1413-1732.6



#### HSUPA\_B2\_HighCH9538-1907.6



# WCDMA\_B4\_HighCH1513-1752.6



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### HSDPA\_B4\_LowCH1312-1712.4



# HSUPA\_B4\_LowCH1312-1712.4



# HSDPA\_B4\_MidCH1413-1732.6



# HSUPA B4 MidCH1413-1732.6



# HSDPA\_B4\_HighCH1513-1752.6



# HSUPA\_B4\_HighCH1513-1752.6



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#### WCDMA B5 LowCH4132-826.4

enter Freq 825.400000 h	the local	Pres Edit Aboot Mine Pres Run Anglitude Bolt 1 30 08	Plattic And Name Ratio Oncion BTS	Presente
Ref 30.00 dBm		_		
			my fra	Center Pres
Center #26.4 MHz Res BW 47 kHz Occupied Bandwidti		VBW 150 kHz Total Power	Span 6 MHc Sweep 3 m 32.1 dBm	
4.* Transmit Freq Error x dB Bandwidth	1630 MHz 14.403 MHz 4.631 MHz	% of OBW Power x dB	99.00 % -26.00 dB	Freq Offset 814

#### HSDPA\_B5\_LowCH4132-826.4



#### WCDMA\_B5\_MidCH4183-836.6 Ref 30.00 dBm Center P Span 6 M Sweep 31 #36,6 MBH IVBW 150 kHz 12.2 4.1408 MHz Franc -14.608 kHz % of OBW I 99.00 % 4.614 MHz -26.00 dB

#### HSDPA\_B5\_MidCH4183-836.6



#### WCDMA\_B5\_HighCH4233-846.6



#### HSDPA\_B5\_HighCH4233-846.6



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#### HSUPA B5 LowCH4132-826.4

Center Freq 826 400000 1	Carty Carty	r Frag. E.H. 400000 Mills Frag. Run Angilfuda: 601	Madia Brd Name Radio Device DTS	Treasure
Ref 30.00 dBm				
	A			Center Pres dyn.400000 Mrc
Senter 826.4 MHz Res BW 47 kHz		VBW 150 kHz	Span 8 MHz Sweep 3 ms 30.2 dBm	CF Step st0 000 at-14
Occupied Bandwidt	FreqOffse			
Transmit Freg Error x dB Bandwidth	20.997 kHz 4.621 MHz	% of OBW Power x dB	99.00 % -26.00 dB	814
-			internal.	

#### Ref 30.00 dBm Center 836.6 MH Span 6 Mi Sweep 3 n IVBW 150 kHz 10,1 00 4.1714 MHz -1.090 kHz 99.00 % it Freq Error % of OBW Po 4.623 MHz x dB 26.00 dB

#### HSUPA\_B5\_MidCH4183-836.6

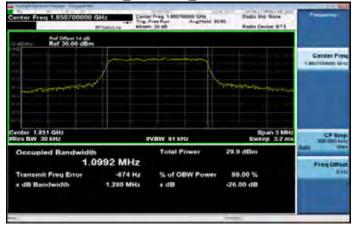
#### HSUPA\_B5\_HighCH4233-846.6



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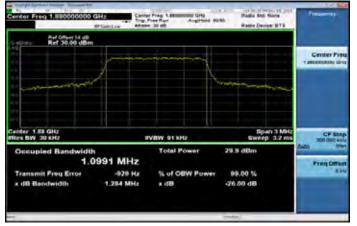
#### Band2 1.4MHz\_QPSK 6 0\_LowCH18607-1850.7



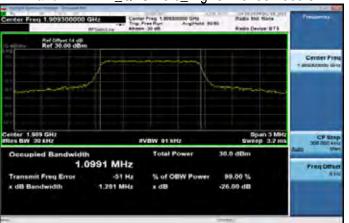
#### 1 1 5507000 Canter Prog 1.880 Ref 30.00 dBn Center Pr ... 1.851 GH IVEW OT NH 1.1001 MHz 5.789 KHz it Freq Erro % of OBW P 99.00 % 1.268 MH

Band2 1.4MHz\_16-QAM 6 0\_LowCH18607-1850.7

#### Band2 1.4MHz\_QPSK 6 0\_MidCH18900-1880



#### Band2 1.4MHz\_QPSK 6 0\_HighCH19193-1909.3



# Band2 1.4MHz\_16-QAM 6 0\_MidCH18900-1880



#### Band2 1.4MHz\_16-QAM 6 0\_HighCH19193-1909.3



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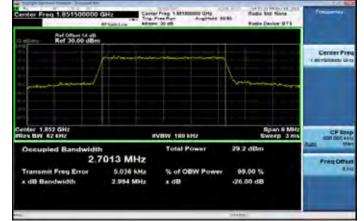
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#### Band2 3MHz\_QPSK 15 0\_LowCH18615-1851.5

enter Freq 1.85150000	Carl Trap.	Free Burr Anglituke 80 n 30 mB	Natio Device 078	
Ref 30.00 dB	m			
				Centler Pres 1 Anniacteore Gran
ender 1.852 GHz Res BW 62 6Hz		VBW 189 kHz	Span 6 MHz Sweep 3 ms	CF Strap
Occupied Bandwid		Total Power	30.1 dBm	Auto Mar
2 Transmit Freq Error x dB Bandwidth	3,100 MHz 3,100 MHz 2,967 MHz	% of OBW Power x dB	99.00 % -26.00 dB	Preg Officer 814

#### Band2 3MHz\_16-QAM 15 0\_LowCH18615-1851.5



#### Band2 3MHz\_QPSK 15 0\_MidCH18900-1880



#### Band2 3MHz\_QPSK 15 0\_HighCH19185-1908.5



#### Band2 3MHz\_16-QAM 15 0\_MidCH18900-1880



#### Band2 3MHz\_16-QAM 15 0\_HighCH19185-1908.5



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#### Band2 5MHz\_QPSK 25 0\_LowCH18625-1852.5

Ref 30.00 dBm				
				Center Prev Tananganan urg
eter 1.853 GHz es BW 100 kHz Occupied Bandwidth		VBW 300 kHz	Span 10 MHz Sweep 5 ms 30.2 dtlm	CF Strap 1 000000 Min- Auto Mar
	958 MHz			Freq Office
Transmit Preg Error c dB Bandwidth	5.191 KHz 5.000 MHz	% of OBW Power x dB	99.00 % -26.00 dB	844

#### Band2 5MHz\_16-QAM 25 0\_LowCH18625-1852.5



#### Band2 5MHz\_QPSK 25 0\_MidCH18900-1880



#### Band2 5MHz\_QPSK 25 0\_HighCH19175-1907.5



### Band2 5MHz\_16-QAM 25 0\_MidCH18900-1880



#### Band2 5MHz\_16-QAM 25 0\_HighCH19175-1907.5



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#### Band2 10MHz\_QPSK 50 0\_LowCH18650-1855

				Ref 30.00 dBm
Centler Pre- r allocations Gro				emmed
CF Bro 2 Doctor My- Auto We	Span 20 MHz Sweep 1 ms	620 kH2 tal Power		enter 1.855 GHz Res 5W 200 kH2 Occupied Bandwidth
Freq Office	99.00 %	of OBW Power	33.320 MHz	
1	26.00 dB	18	9.914 MHz	x dB Bandwidth

#### Center Preg 1.88 Ref 30.00 dBr Genter Pr 1.855 GHz an 20 M IVEW 520 HHZ 8.9597 MHz 44.904 kHz it Freq Erro % of OBW P 99.00 %

Band2 10MHz\_16-QAM 50 0\_LowCH18650-1855

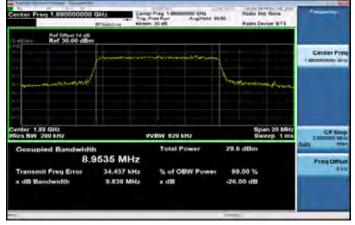
#### Band2 10MHz\_QPSK 50 0\_MidCH18900-1880



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



# Band2 10MHz\_16-QAM 50 0\_MidCH18900-1880



#### Band2 10MHz\_16-QAM 50 0\_HighCH19150-1905



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

Center Freq 1.857500000	GHZ Carto	r Frag 1.857800000 GHs Fras Rur Angirtula so 5.30 st	100 Padla Std Narie 100 Radio Decige 878	Pressente
Ref 000er 14 dB	1			
-				Center Pres 1 di Norte di G
Center 1.858 GHz Rev BW 300 kHz	<u>  </u>	VBW 910 kHz	Span 30 MH Gweep 1 m	3.000000 Mp-W
Occupied Bandwidt		Total Power	30.8 dBm	Auto Aten
13 Transmit Freq Error x dB Bandwidth	66.610 MHz 14.61 MHz	% of OBW Power x dB	99.00 % -26.00 dB	Freq Officer 8140
			status.	-

#### Band2 15MHz\_16-QAM 75 0\_LowCH18675-1857.5



#### Band2 15MHz\_QPSK 75 0\_MidCH18900-1880



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



### Band2 15MHz\_16-QAM 75 0\_MidCH18900-1880



#### Band2 15MHz\_16-QAM 75 0\_HighCH19125-1902.5



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#### Band2 20MHz\_QPSK 100 0\_LowCH18700-1860



### Canter Pres 1.80 Ref 30.00 dBr Genter Pr 1.86 GHz IVBW 1.2 MHz 17,872 MHz 51.638 kHz it Freq Erro % of OBW P 99.00 % 19.43 MH

Band2 20MHz 16-QAM 100 0 LowCH18700-1860

#### Band2 20MHz\_QPSK 100 0\_MidCH18900-1880



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



### Band2 20MHz\_16-QAM 100 0\_MidCH18900-1880



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



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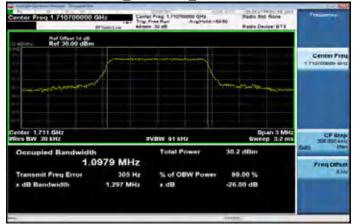
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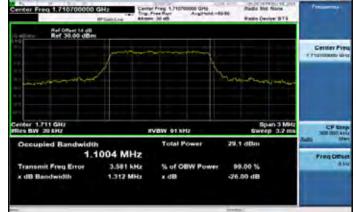
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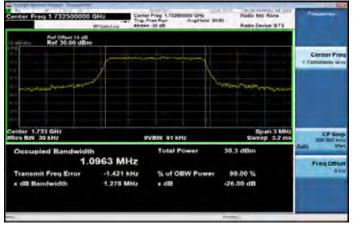
#### Band4 1.4MHz\_QPSK 6 0\_LowCH19957-1710.7



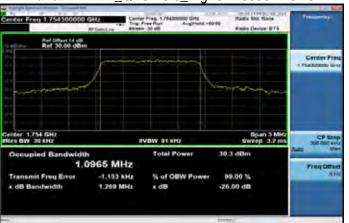
#### Band4 1.4MHz\_16-QAM 6 0\_LowCH19957-1710.7

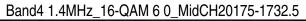


#### Band4 1.4MHz\_QPSK 6 0\_MidCH20175-1732.5



#### Band4 1.4MHz\_QPSK 6 0\_HighCH20393-1754.3







#### Band4 1.4MHz\_16-QAM 6 0\_HighCH20393-1754.3



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### Band4 3MHz\_QPSK 15 0\_LowCH19965-1711.5

Center Freq 1.711500000	car line.	r Prag 1.711800000 UHs Free Run AngiPhile 80 n 30 etb	90 Radio Device DTS	
Ref 30.00 dBm				
				Center Fred r Fritagente Gro
winner and			Innikuninging	-
Res BW 62 KHz		VBW 189 hHz	Span 6 MH Sweep 3 mi	100 000 and
Occupied Bandwidth		Total Power	30.3 dBm	Auto Mar
2.0	6957 MHz			Freq Offset
Transmit Freq Error x dB Bandwidth	1.989 KHz 2.983 MHz	% of OBW Power x dB	99.00 % -26.00 dB	814
				a la company

#### Band4 3MHz\_16-QAM 15 0\_LowCH19965-1711.5



### Band4 3MHz\_QPSK 15 0\_MidCH20175-1732.5



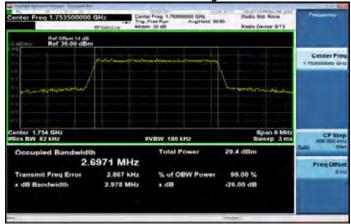
### Band4 3MHz\_QPSK 15 0\_HighCH20385-1753.5







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



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### Band4 5MHz\_QPSK 25 0\_LowCH19975-1712.5



#### Band4 5MHz\_16-QAM 25 0\_LowCH19975-1712.5



### Band4 5MHz\_QPSK 25 0\_MidCH20175-1732.5



### Band4 5MHz\_QPSK 25 0\_HighCH20375-1752.5



### Band4 5MHz\_16-QAM 25 0\_MidCH20175-1732.5



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



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### Band4 10MHz\_QPSK 50 0\_LowCH20000-1715

Ref Offset 14 dB Ref 30.00 dBm	(PSain), ra Anno	Net	Radio Device: 878	
			Linnanne	Center Pres
Senter 1,715 GHz Res BW 200 kHz Occupied Bandwidth		VBW 629 kHz	Span 20 MH; Sweep 1 ms 31.0 dBm	
	908 MHz 47.310 kHz 9.768 MHz	% of OBW Power x dB	99.00 % -26.09 dB	Freq Office 814

#### Band4 10MHz\_16-QAM 50 0\_LowCH20000-1715



### Band4 10MHz\_QPSK 50 0\_MidCH20175-1732.5



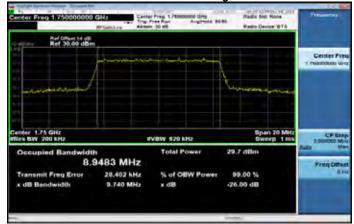
### Band4 10MHz\_QPSK 50 0\_HighCH20350-1750







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



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### Band4 15MHz QPSK 75 0 LowCH20025-1717.5

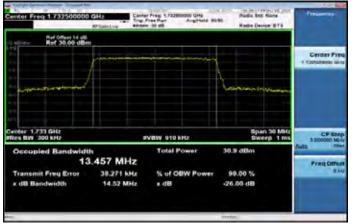
Ref Offset 14 dB	#P Saint, re #Ame	n 30 mB	Watto Device ST&	1.000
Ref 30.00 dBr				
			Lama .	Center Fred T rinkoton Gro
Res BW 300 KH2		VBW 910 kHz	Span 30 MHz Sweep 1 ms	CF Bing
Occupied Bandwidt		Total Power	30.9 dBm	Auto Atay
13	442 MHz			Freq Offset
Transmit Freq Error x dB Bandwidth	64.707 kHz 14.58 MHz	% of OBW Power x dB	99.00 % -26.00 dB	844

### er Freq 1.717500000 GHz Cantar Prog. 1.7178 Ref 30.00 dBr Center Fr

Band4 15MHz\_16-QAM 75 0\_LowCH20025-1717.5



### Band4 15MHz\_QPSK 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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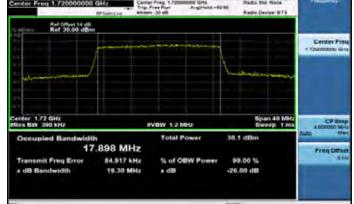
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### Band4 20MHz\_QPSK 100 0\_LowCH20050-1720

	er talet av	Free Burr - Angittake 90 n 30 mB	Radio Device 878	
Ref 30.00 dBr	n			
	Januar			Center Preu + Caundado Gra
	/		terrennon	
6er 1.72 GHz 5 BW 390 KHz		VBW 1.2 MHz	Span 40 MHz Sweep 1 ms	CF Step
ccupied Bandwidt		Total Power	30.9 dBm	Auto Mar
17	7.874 MHz			Freq Office
ransmit Freq Error dB Bandwidth	98.416 KHz 19.29 MHz	% of OBW Power x dB	99.00 % -26.00 dB	

### Band4 20MHz\_16-QAM 100 0\_LowCH20050-1720 1.72000



### Band4 20MHz\_QPSK 100 0\_MidCH20175-1732.5



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







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



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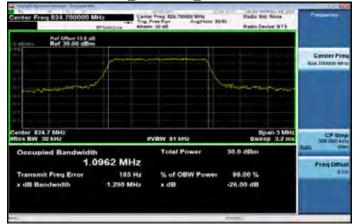
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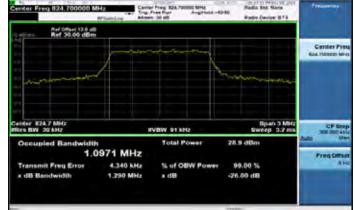
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### Band5 1.4MHz\_QPSK 6 0\_LowCH20407-824.7



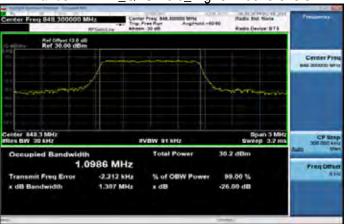
#### Band5 1.4MHz\_16-QAM 6 0\_LowCH20407-824.7



### Band5 1.4MHz\_QPSK 6 0\_MidCH20525-836.5



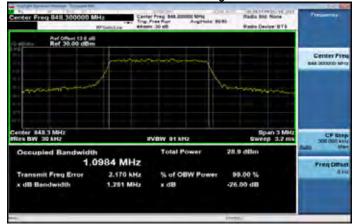
### Band5 1.4MHz\_QPSK 6 0\_HighCH20643-848.3



### Band5 1.4MHz\_16-QAM 6 0\_MidCH20525-836.5



### Band5 1.4MHz\_16-QAM 6 0\_HighCH20643-848.3



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### Band5 3MHz\_QPSK 15 0\_LowCH20415-825.5

APGainting street	n 36 ath	Radio Device: 878	
/*		Lanna and the second se	Center Pres data second since
	WBW 189 kHz	Span & MH Sweep 3 mil	MED 000 414
h	Total Power	30.2 dBm	Auto Mer
			Freq Office
7.205 KHz 2.964 MHz	% of OBW Power x dB	99.00 % -26.00 dB	-
	5949 MHz 7.205 kHz	IVBW 180 kHz Total Power 5949 MHz 7.205 kHz % of OBW Power	IVBW 160 kHz Bowep 362 dBm 5949 MHz 7.205 kHz % of OBW Power 99.00 %

# Q 825 500000 MH Ref 30.00 dBm Center Fr 825.5 MHz IVEW TRO MH2 2.7015 MHz 7.288 kHz it Freq Erro % of OBW P 99.00 %

Band5 3MHz\_16-QAM 15 0\_LowCH20415-825.5

### Band5 3MHz\_QPSK 15 0\_MidCH20525-836.5



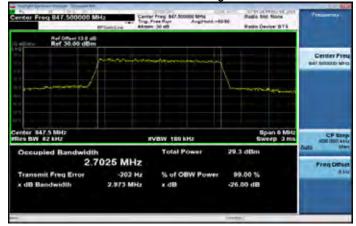
### Band5 3MHz\_QPSK 15 0\_HighCH20635-847.5



### Band5 3MHz\_16-QAM 15 0\_MidCH20525-836.5



### Band5 3MHz\_16-QAM 15 0\_HighCH20635-847.5



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### Band5 5MHz\_QPSK 25 0\_LowCH20425-826.5



### 9 826 500000 MH Cantar Prog. 825.50 Ref 30.00 dBm Center Fr an 10 M \$26.5 MHz IVBW 300 kHz 4.4965 MHz 16.161 MM it Freq Erro % of OBW P 99.00 % 5.021 MH

Band5 5MHz\_16-QAM 25 0\_LowCH20425-826.5

### Band5 5MHz\_QPSK 25 0\_MidCH20525-836.5



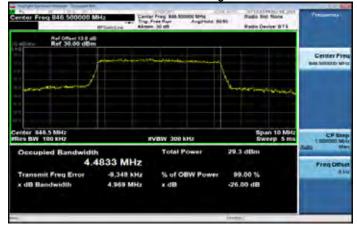
### Band5 5MHz\_QPSK 25 0\_HighCH20625-846.5



## Band5 5MHz\_16-QAM 25 0\_MidCH20525-836.5



### Band5 5MHz\_16-QAM 25 0\_HighCH20625-846.5



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### Band5 10MHz QPSK 50 0 LowCH20450-829

Center Freq 829.0000001	Window skew	r Preis 828 000000 Mine Preis Rum Angintuke 80 • 30 mil	Bi Radio Devige BT8	
Ref 30.00 dBr				
				Center Pres
mumment			hoursen	
Res BW 200 kH2		VBW 629 kHz	Span 20 MH Sweep 1 mi	2.000000 Mp-0
Occupied Bandwidt		Total Power	30.7 dBm	Auto Mar
	0080 MHz			Freq Office
Transmit Freg Error x dB Bandwidth	55.235 KHz 9.806 MHz	% of OBW Power x dB	99.00 % -26.00 dB	10
			interest	

## Q 829 000000 MH Ref 30.00 dBm Center Fr 829 MHZ Span 20 M Sweep 11 IVEW 520 hHz 8.9638 MHz 57.982 kHz it Freq Erro % of OBW P 99.00 %

Band5 10MHz\_16-QAM 50 0\_LowCH20450-829

### Band5 10MHz\_QPSK 50 0\_MidCH20525-836.5



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



# Band5 10MHz\_16-QAM 50 0\_MidCH20525-836.5



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



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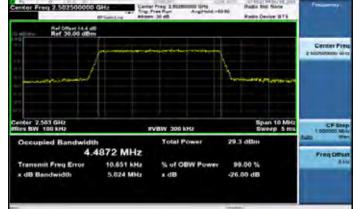
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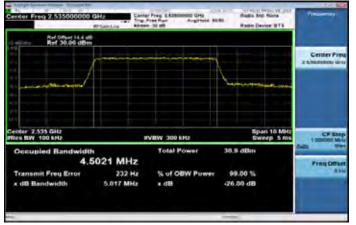
### Band7 5MHz\_QPSK 25 0\_LowCH20775-2502.5



### Band7 5MHz\_16-QAM 25 0\_LowCH20775-2502.5



### Band7 5MHz\_QPSK 25 0\_MidCH21100-2535



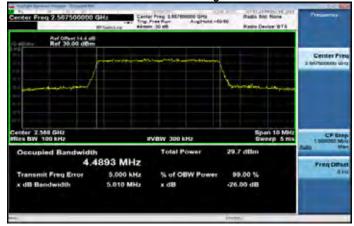
### Band7 5MHz\_QPSK 25 0\_HighCH21425-2567.5



### Band7 5MHz\_16-QAM 25 0\_MidCH21100-2535



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



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### Band7 10MHz\_QPSK 50 0\_LowCH20800-2505

Ref 30.60 dBm			himmen	Center Prov 2 Manager und
man			Jammer	
Res BW 200 KH2		VBW 629 kHz	Span 20 MH Sweep 1 m	2.000000 Mp-1
Occupied Bandwidth 8,973	0 MHz	Total Power	30.3 dBm	Auto Mer
	6.438 kHz 9.769 MHz	% of OBW Power x dB	99.00 % -26.00 dB	814

# 0 2 50500 Canter Pres 2.8 Ref 30.00 dBm Genter Pr .....

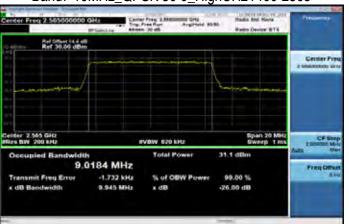
Band7 10MHz\_16-QAM 50 0\_LowCH20800-2505

#### 2.505 GH an 20 M IVEW 520 HH2 8.9522 MHz 19.811 KHz t Freq Erro % of OBW P 99.00 %

### Band7 10MHz\_QPSK 50 0\_MidCH21100-2535



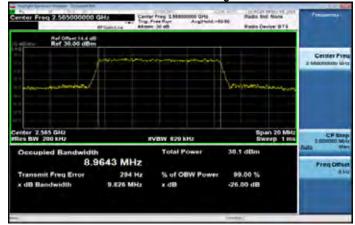
### Band7 10MHz\_QPSK 50 0\_HighCH21400-2565



# Band7 10MHz\_16-QAM 50 0\_MidCH21100-2535



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



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### Band7 15MHz QPSK 75 0 LowCH20825-2507.5

Ref Offer( 14.4 of				10-00
Ref 30.00 dBm				-
	June			Center Pres 2 Minscreen dro
mannen			Leveranno	
enter 2.508 GHz			Span 30 MH	
Res BW 300 kH2		VBW 910 kHz	Sweep 1 m	3.500000 Mp4
Occupied Bandwidt		Total Power	30.5 dBm	Auto Any
13	416 MHz			Freq Office
Transmit Freq Error x dB Bandwidth	26.180 kHz 14.61 MHz	% of OBW Power x dB	99.00 %	844

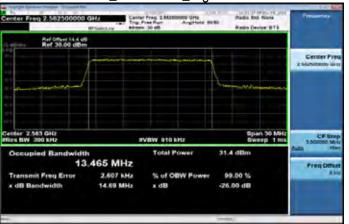
#### Band7 15MHz\_16-QAM 75 0\_LowCH20825-2507.5



### Band7 15MHz\_QPSK 75 0\_MidCH21100-2535



### Band7 15MHz\_QPSK 75 0\_HighCH21375-2562.5



# Band7 15MHz\_16-QAM 75 0\_MidCH21100-2535



### Band7 15MHz\_16-QAM 75 0\_HighCH21375-2562.5



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### Band7 20MHz\_QPSK 100 0\_LowCH20850-2510



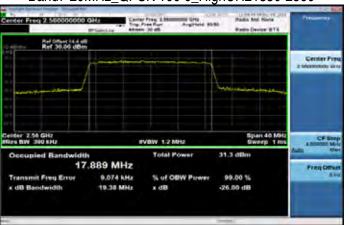
### Band7 20MHz 16-QAM 100 0 LowCH20850-2510



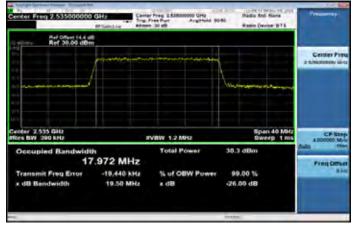
### Band7 20MHz\_QPSK 100 0\_MidCH21100-2535



### Band7 20MHz\_QPSK 100 0\_HighCH21350-2560



### Band7 20MHz\_16-QAM 100 0\_MidCH21100-2535



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



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### Band12 1.4MHz\_QPSK 6 0\_LowCH23017-699.7



# Ref 30.00 dBm Center Pr IVEW OT NH 1.0954 MHz 2.695 KHz t Freq Erro % of OBW P 99.00 %

Band12 1.4MHz\_16-QAM 6 0\_LowCH23017-699.7

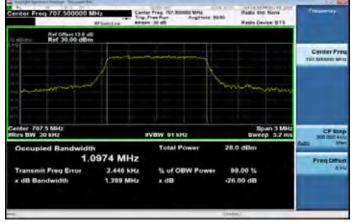
### Band12 1.4MHz\_QPSK 6 0\_MidCH23095-707.5



### Band12 1.4MHz\_QPSK 6 0\_HighCH23173-715.3



# Band12 1.4MHz\_16-QAM 6 0\_MidCH23095-707.5



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



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### Band12 3MHz\_QPSK 15 0\_LowCH23025-700.5



### 700 500000 MH Ref 30.00 dBm Center Fr 700.5 MHz IVEW 180 HHZ 2.6967 MHz -5.455 kHz it Freq Erro % of OBW P 99.00 % 2.972 MH

Band12 3MHz\_16-QAM 15 0\_LowCH23025-700.5

### Band12 3MHz\_QPSK 15 0\_MidCH23095-707.5



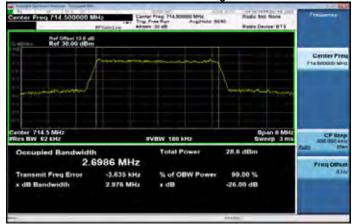
### Band12 3MHz\_QPSK 15 0\_HighCH23165-714.5



### Band12 3MHz\_16-QAM 15 0\_MidCH23095-707.5



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



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### Band12 5MHz\_QPSK 25 0\_LowCH23035-701.5



#### Band12 5MHz\_16-QAM 25 0\_LowCH23035-701.5



### Band12 5MHz\_QPSK 25 0\_MidCH23095-707.5



### Band12 5MHz\_QPSK 25 0\_HighCH23155-713.5



### Band12 5MHz\_16-QAM 25 0\_MidCH23095-707.5



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



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### Band12 10MHz\_QPSK 50 0\_LowCH23060-704

					Ref 30.00 dBm
Center Prev nist.commo las o					
CF Bray 2 000000 M-4	Span 20 MHz Sweep 1 ms	15.2	kHz Power	-	enter 794 MHz Res BW 200 sH2 Occupied Bandwidth
Preq Offset 814	.00 % 10 dB	99	DBW Power	15.791 MHz 10.01 MHz	

### Band12 10MHz\_16-QAM 50 0\_LowCH23060-704



### Band12 10MHz\_QPSK 50 0\_MidCH23095-707.5



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



## Band12 10MHz\_16-QAM 50 0\_MidCH23095-707.5



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



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### Band13 5MHz\_QPSK 25 0\_LowCH23205-779.5



### 9 779 500000 MH Canter Pres 178. Ref 30.00 dBm Center Fr 779.5 MHz veep 5 IVBW 300 kHz 4.4951 MHz 12.317 MM it Freq Erro % of OBW P 99.00 % 5.002 MH

Band13 5MHz\_16-QAM 25 0\_LowCH23205-779.5

### Band13 5MHz\_QPSK 25 0\_MidCH23230-782



## Band13 5MHz\_QPSK 25 0\_HighCH23255-784.5



# Band13 5MHz\_16-QAM 25 0\_MidCH23230-782



### Band13 5MHz\_16-QAM 25 0\_HighCH23255-784.5



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### Band13 10MHz\_QPSK 50 0\_MidCH23230-782



# Ref 30.00 dBm Center Pr veep 5 IVEW 300 kHz 4.4979 MHz 11.992 kHz it Freg Error % of OBW P 99.00 %

Band17 5MHz\_QPSK 25 0\_LowCH23755-706.5

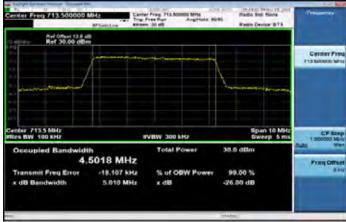
### Band13 10MHz\_16-QAM 50 0\_MidCH23230-782

Center 712 MHz Cocupied Bandwidth 8,9730 MHz	Ref 30.00 dBr	efficient, res extension			
Res BW 200 KH2 BWeep 1 ms 2 BWe				Lange -	Center Prev representation when
Occupied Bandwidth Total Power 30.3 dBm 8.9730 MHz Transmit Freq Error 21.040 M/z % of OBW Power 99.00 %			VBW 629 kHz		TIS 2 000000 Mp/u
Transmit Preg Error 21.040 kHz % of OBW Power 99.00 %			Total Power	30.3 dBm	
	Transmit Freq Error	21.040 KHz			Preg Office 814

### Band17 5MHz\_QPSK 25 0\_MidCH23790-710



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



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### Band17 5MHz\_16-QAM 25 0\_LowCH23755-706.5



# Canter Pres 108.0 Ref 30.00 dBm Center Fr Span 20 Mi Sweep 1 n IVEW 520 HHZ 8.9464 MHz 14.648 kHz it Freq Erro % of OBW P 99.00 %

Band17 10MHz\_QPSK 50 0\_LowCH23780-709

### Band17 5MHz\_16-QAM 25 0\_MidCH23790-710



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



### Band17 10MHz\_QPSK 50 0\_MidCH23790-710



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



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### Band17 10MHz\_16-QAM 50 0\_LowCH23780-709

				Ref 30.00 dBm
Center Pres mis output) and			jannian .	
	Vindaplace			and
CF 814	Span 20 MHz Sweep 1 ms	VBW 629 kHz		Res BW 200 KH2
Preg Office	29.1 dBm	Total Power	h 9650 MHz	Occupied Bandwidth 8.5
814	99.00 % -26.00 dB	% of OBW Power x dB	672 Hz 9.679 MHz	Transmit Freq Error x dB Bandwidth

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



### Band17 10MHz\_16-QAM 50 0\_MidCH23790-710

Ref Officer 13.8 ull	efficient ou administration	Free Run AngiHute 10 5 30 68	Radio Device 078	
Ref 30.00 dBm				
	pinner			Center Freq Pro attacto se co
Almannak			Mannana	
97 97				
Res BW 200 kHz		VBW 620 kHz	Span 20 MHz Sweep 1 ms	CF Step
Occupied Bandwidt	1	Total Power	29.0 dBm	Auto Mar
8.5	9196 MHz			Preq Offset
Transmit Freq Error x dB Bandwidth	2.571 KHz 9.703 MHz	% of OBW Power x dB	99.00 % -26.00 dB	814
				I management

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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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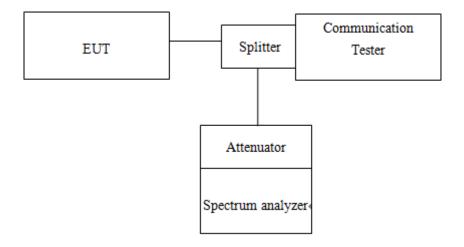


FCC §27.53(m) (4) (6)

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

# Band Edge

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

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# 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	12/15/2016	12/14/2017				
Power Sensor	Anritsu	MA2411B	917032	12/15/2016	12/14/2017				
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	HUBER+SUHNE R	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	11/21/2016	11/20/2017				
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	09/24/2016	09/23/2017				

## 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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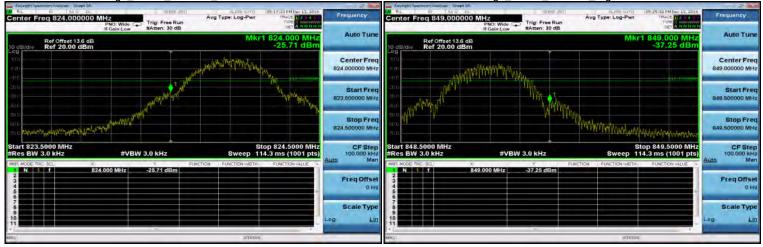


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#### Band Edge\_GPRS\_850MHz\_LowCH128-824.2

#### Band Edge\_EDGE\_850MHz\_HighCH251-848.8

Band Edge\_GPRS\_1900MHz\_LowCH512-1850.2



#### Band Edge\_GPRS\_850MHz\_HighCH251-848.8

#### Avg Type: L 00 GHz er Freg 849.00 000 MHz Trig: Free Run Trig: Free Run Auto Tu 9.000 M 31.74 dE Ref Offset 13.6 dB Ref 20.00 dBm Ref Offset 14 dB Ref 20.00 dBn Center Fr Center Fre Start Fre Start Fre Stop Fr Stop Fr Stop 849.5000 Mi 114.3 ms (1001 m Stop 1.8505000 G 1.8495000 GHz BW 3.0 kHz t 848.5000 MH CF Step CF #VRW 30 kH VBW 30 kH Freq Offs Freq Offs OH Scale Typ Scale Typ

#### Band Edge\_EDGE\_850MHz\_LowCH128-824.2

### Band Edge\_GPRS\_1900MHz\_HighCH810-1909.8



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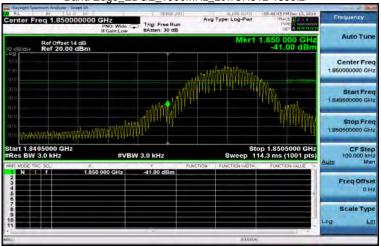
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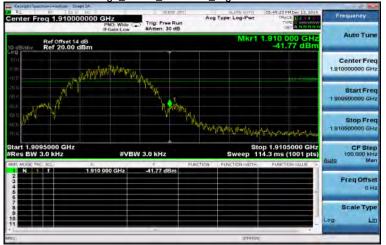
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Band Edge\_EDGE\_1900MHz\_LowCH512-1850.2



Band Edge\_EDGE\_1900MHz\_HighCH810-1909.8



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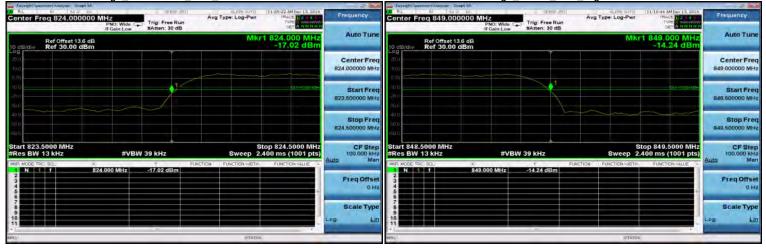
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#### Band Edge\_CDMA2000\_BC0\_LowCH1013-824.7

Band Edge\_EVDO\_BC0\_HighCH777-848.31



#### Band Edge\_CDMA2000\_BC0\_HighCH777-848.31

#### Band Edge\_CDMA2000\_BC1\_LowCH25-1851.3 Avg Type: Los 000 MHz 00 GHz eg 849.0 Trig: Free Run Trig: Free Run Auto Tu Auto Tu Ref Offset 13.6 dB Ref 30.00 dBm Ref Offset 14 dB Ref 30.00 dBn Center Fre Center Fre Start Fre Start Fre Stop Fre Stop Fre Stop 849,5000 Mi Stop 1.851500 GF 7.133 ms (1001 pt rt 848.5000 MHz 1.848500 GHz CF Step CFS #VBW 39 kH Freq Offs Freq Offs 0 1 Scale Typ Scale Typ L 11

#### Band Edge\_EVDO\_BC0\_LowCH1013-824.7

#### Band Edge\_CDMA2000\_BC1\_HighCH1175-1908.8



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Band Edge\_EVDO\_BC1\_LowCH25-1851.3

KeynethtSpectrem Analyzer - Sivept SA RL RF   50 0 DC Center Freq 1.850000000	0 GHz PNO: Wide () IFGain(Low	Trig: Free Run #Atten: 30 dB	Aug Type: Log-Pwr	11:40:08 AM Dwe 11, 2010 TRACE 0, 2, 3, 4, 5, 7 TYPE DET A FINITURY	Frequency
Ref Offset 14 dB			Mkr1	1.850 000 GHz -29.07 dBm	Auto Tune
20.4					Center Fred 1 85000000 GH
0.00) (0.0) (0.0) (0.0)		1		Cit +South	Start Free 1 848500000 GH
40 D 50 D					Stop Free 1.851500000 GH
Start 1.848500 GHz Res BW 13 kHz	#VBW		Sweep 7	top 1.851500 GHz 133 ms (1001 pts)	CF Step 300,000 kHz Auto Mar
1 N 1 T 1.8 2 3 4 5	50 000 GHz	-29.07 dBm			Freq Offse 0 H
6 7 8 9 10					Scale Type
80		-	STATUS	-	

Band Edge\_EVDO\_BC1\_HighCH1175-1908.8

RL N Sh G DC		TWL DON'DS	ALTON ALTO	11:41:10 AM Dec 11, 2010	Frequency
nter Freg 1.91000000	PNO: Wide	Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr		
Ref Offset 14 dB			Mkr1	1.910 000 GHz -25.49 dBm	Auto Tuni
	24				Center Free 1.910000000 GH
	form	1		Dét-Hoisteate	Start Fre 1 908500000 GH
				and a second and a s	Stop Fre 1.911500000 GH
Int 1.908500 GHz 25 BW 13 kHz MODE TRC SQL X			Sweep 7	top 1.911500 GHz 133 ms (1001 pts) FUNCTION VALLE	CF Ster 300,000 kH Auto Ma
	0 000 GHz	-25.49 dBm			Freq Offse 0 H
					Scale Typ
					Log L

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#### Band Edge\_WCDMA\_B2\_LowCH9262-1852.4

#### Band Edge\_HSDPA\_B2\_HighCH9538-1907.6

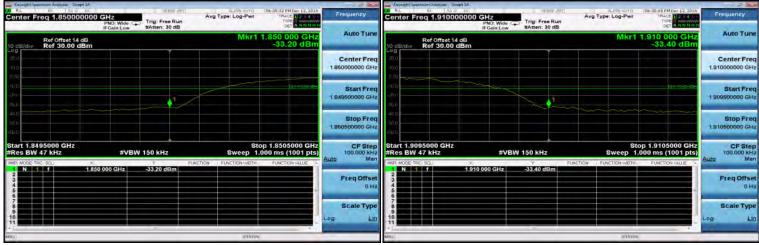
🚔 Keynight Spectrum Analyzer - Skept SA			Avaight Spectreen Analyzer - Strept SA			and from the second
Center Freq 1.850000000 GHz PNO: Wide Fosini.Low #Atten: 30 dB	Avg Type: Log-Pwr TR405 TR405 TR405	and the second se	Center Freq 1.910000000 GHz PNO IFGS	Wide C Trig: Free Run in:Low #Atten: 30 dB	TYPE	Fraquency
Ref Offset 14 dB 10 dB/div Ref 30.00 dBm	Auto Tune	Ref Offset 14 dB Mkr1 1.910 000 GH 10 dB/div Ref 30.00 dBm -33.69 dB				
20.0		Center Freq 1 850000000 GHz				Center Fred 1.910000000 GHz
2000	Li i algo da	Start Freq 1 84950000 GHz				Start Freq 1 909500000 GHz
		Stop Freq 1 850500000 GHz				Stop Freq 1910500000 GHz
Start 1.8495000 GHz #Res BW 47 kHz #VBW 150 kHz MRR MODE TRC SCL x y	Stop 1.8505000 GHz Sweep 1.000 ms (1001 pts) FUNCTION FUNCTION WIDTH, FUNCTION VALUE +	CF Step 100.000 kHz Auto Man	Start 1.9095000 GHz #Res BW 47 kHz		Stop 1.91050 Sweep 1.000 ms (10 Inction Function width, Function	001 pts) 100.000 kHz
1 N 1 f 1.850 000 GHz -32.54 dBm . 2 3 4 4		Freq Offset 0 Hz	1 N 1 f 1.910 000 ( 2 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	GHz -33.69 dBm		Freq Offset 0 Hz
0 7 8 9 10 11		Scale Type	7 8 9 9 10 11			Scale Type
(centre)	STATUS		CRIM		státus	

#### Band Edge\_WCDMA\_B2\_HighCH9538-1907.6

#### Band Edge\_HSUPA\_B2\_LowCH9262-1852.4 Avg Type: L Avg Type er Freg 1.910 000 GHz 00 GHz Trig: Free Run Trig: Free Run Auto Tu Ref Offset 14 dB Ref 30.00 dBn Ref Offset 14 dB Ref 30.00 dBn Center Fr Center Fre Start Fre Start Fre Stop Fre Stop Fr Stop 1.9105000 GH Stop 1.8505000 GH es BW 47 kHz 1.8495000 GHz BW 47 kHz CFS CFS #VBW 150 kH #VBW 150 kH Freq Offs Freq Offs 0 1 Scale Typ Scale Typ

#### Band Edge\_HSDPA\_B2\_LowCH9262-1852.4

#### Band Edge\_HSUPA\_B2\_HighCH9538-1907.6



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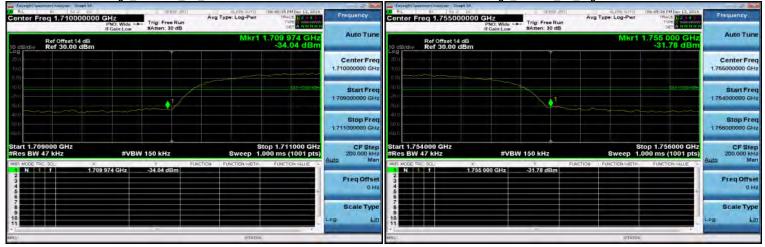
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#### Band Edge\_WCDMA\_B4\_LowCH1312-1712.4

#### Band Edge\_HSDPA\_B4\_HighCH1513-1752.6

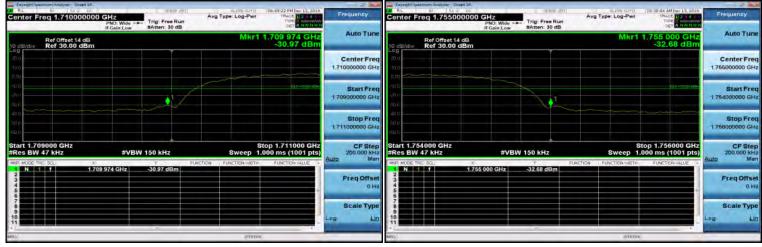


#### Band Edge\_WCDMA\_B4\_HighCH1513-1752.6

#### Band Edge\_HSUPA\_B4\_LowCH1312-1712.4 er Freg 1.7550 000 GHz 00 GHz Trig: Free Run er Freg 1,710 Trig: Free Run Auto Tu Auto Tu Ref Offset 14 dB Ref 30.00 dBn Ref Offset 14 dB Ref 30.00 dBn Center Fr Center Fre Start Fre Start Fre Stop Fr Stop Fre 1.72 171 Stop 1.756000 GH Stop 1.711000 GH rt 1.754000 GHz 1.709000 GHz BW 47 kHz CFS CFS #VBW 150 kH #VBW 150 kH Freq Offs Freq Offs 0 1 Scale Typ Scale Typ

#### Band Edge\_HSDPA\_B4\_LowCH1312-1712.4

### Band Edge\_HSUPA\_B4\_HighCH1513-1752.6



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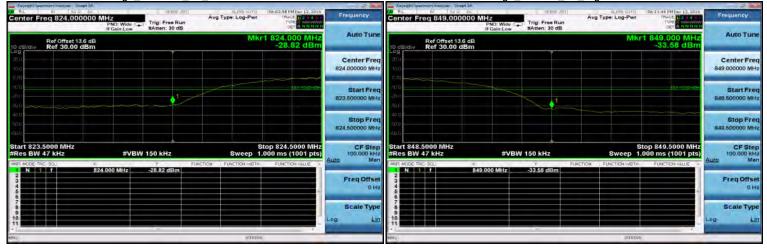
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### Report No.: ER/2016/B0078 Page 140 of 341

#### Band Edge\_WCDMA\_B5\_LowCH4132-826.4

Band Edge\_HSDPA\_B5\_HighCH4233-846.6

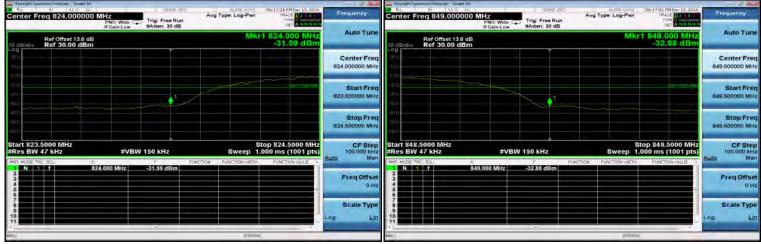


#### Band Edge\_WCDMA\_B5\_HighCH4233-846.6

#### Band Edge\_HSUPA\_B5\_LowCH4132-826.4 Avg Type Avg Type: L er Fred 849.00 00 MHz Trig: Free Run 0 MHz Trig: Free Run Auto Tu Auto Tu Ref Offset 13.6 dB Ref 30.00 dBm Ref Offset 13.6 dB Ref 30.00 dBm Center Fre Center Fre Start Fre Start Fre Stop Fre Stop Fre Stop 849,5000 Mi 1.000 ms (1001 pt Stop 824.5000 M CF Step rt 848.5000 MHz 823.5000 MHz BW 47 kHz CFS #VBW 150 kH #VBW 150 kH Freq Offs Freq Offse 0 1 Scale Typ Scale Typ L 11

#### Band Edge\_HSDPA\_B5\_LowCH4132-826.4

#### Band Edge\_HSUPA\_B5\_HighCH4233-846.6



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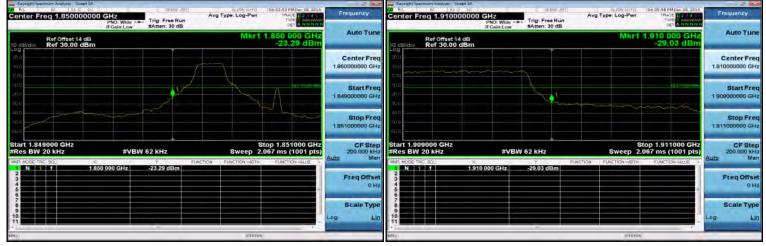
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#### Band Edge\_Band2 1.4MHz\_QPSK 1 0\_LowCH18607-1850.7

#### 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 1.4MHz\_QPSK 6 0\_LowCH18607-1850.7

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



#### 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

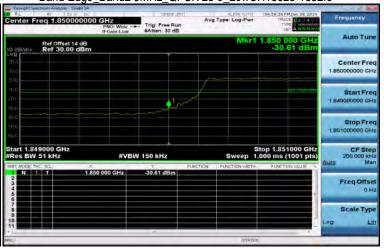


#### Band Edge\_Band2 3MHz\_QPSK 15 0\_HighCH19185-1908.5

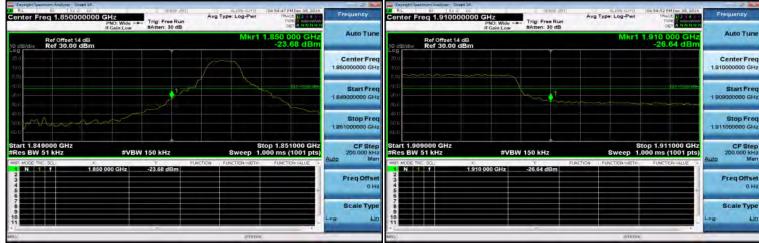


#### Band Edge\_Band2 5MHz\_QPSK 1 0\_LowCH18625-1852.5

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



#### Band Edge\_Band2 5MHz\_QPSK 25 0\_HighCH19175-1907.5



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

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

Keyeght Spacesen Analyze - Sleept SA			RL RI Shi G DC			Con all
Center Freq 1.850000000 GHz PNO: Wide IFGainLow #Atten: 30 dB	Avg Type: Log-Pwr	Frequency	Center Freg 1.910000000 GHz	Mide Trig: Free Run Low #Atten: 30 dB	Avg Type: Log-Pwr TRect T 2 1	Frequency
Ref Offset 14 dB	Auto Tune					
20.0		Center Freq 1 85000000 GHz	200			Center Free 1.91000000 GH
200	and and a share and a share a	Start Freq 1 849000000 GHz	00/ 300 300	www.		Start Fre 1 90900000 GH
4012 1012 American Maria Manager All		Stop Freq 1.851000000 GHz	40 0 50 0 - 60 0			Stop Fre 1.911000000 GH
	Stop 1.851000 GHz Sweep 1.000 ms (1001 pts)	CF Step 200,000 kHz Auto Man	MKR MODE TRC SCL X		Stop 1.911000 G Sweep 1.000 ms (1001 p	Hz CF Ste 200,000 kH Auto Ma
1 N 1 f 1.850 000 GHz -35.05 dBm 2 4 5		Freq Offset 0 Hz	1 N 1 f 1.910 000 G	Hz -27.94 dBm		Freq Offse
0 7 8 9 10 11		Scale Type	7 8 9 10 11			Scale Type
(cen	etátus		* 80%3		STATUS	

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



#### Band Edge\_Band2 10MHz\_QPSK 50 0\_LowCH18650-1855

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



Band Edge\_Band2 15MHz\_QPSK 1 74\_HighCH19125-1902.5

#### nter Freg 1.850000000 GHz enter Freg 1,910000000 GHz rig: Free Ru rig: Free Ru Auto Tu Auto Tu Ref Offset 14 dB Ref 30.00 dBn Ref Offset 14 dB Ref 30.00 dBn Center Fre Center Fre 1.9100 DO GH Start Fre Start Fre Stop Fre Stop Fre 1.911 1.8490 Stop 1.911000 GH Stop 1.851000 G CF Ste CFSte Freq Offs Freq Offs 01 Scale Type Scale Type

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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

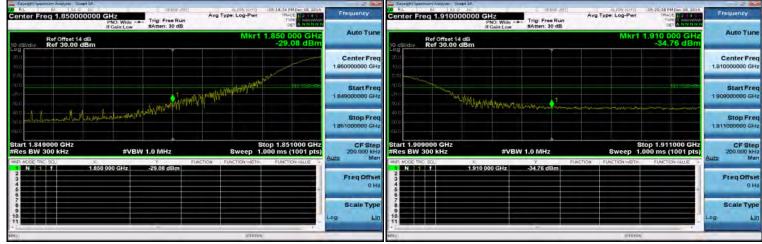


#### Band Edge\_Band2 20MHz\_QPSK 1 0\_LowCH18700-1860

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



#### Band Edge\_Band2 20MHz\_QPSK 100 0\_HighCH19100-1900



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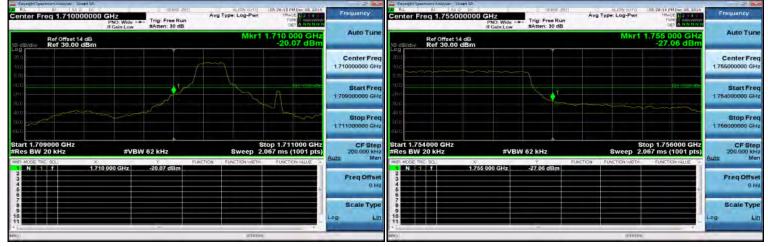
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#### Band Edge\_Band4 1.4MHz\_QPSK 1 0\_LowCH19957-1710.7

#### 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 1.4MHz\_QPSK 6 0\_LowCH19957-1710.7

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



#### Band Edge\_Band4 3MHz\_QPSK 1 14\_HighCH20385-1753.5



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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 1 0\_LowCH19975-1712.5

### Band Edge\_Band4 5MHz\_QPSK 25 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 10MHz\_QPSK 50 0\_LowCH20000-1715

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



#### Band Edge\_Band4 15MHz\_QPSK 1 74\_HighCH20325-1747.5



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

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

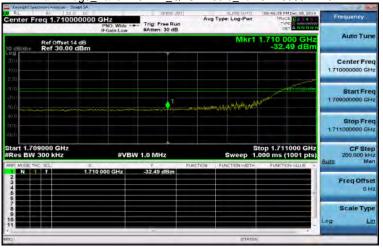


#### Band Edge\_Band4 15MHz\_QPSK 75 0\_HighCH20325-1747.5



#### Band Edge\_Band4 20MHz\_QPSK 1 0\_LowCH20050-1720

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



### Band Edge\_Band4 20MHz\_QPSK 100 0\_HighCH20300-1745



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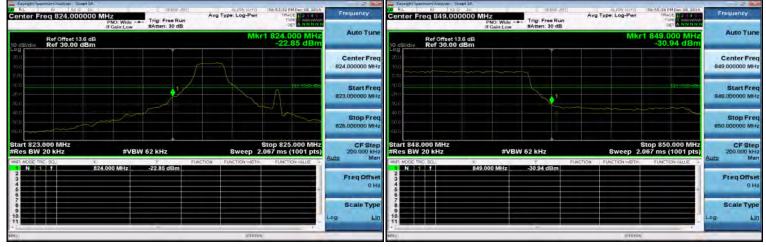
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#### Band Edge\_Band5 1.4MHz\_QPSK 1 0\_LowCH20407-824.7

#### 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 1.4MHz\_QPSK 6 0\_LowCH20407-824.7

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



#### 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

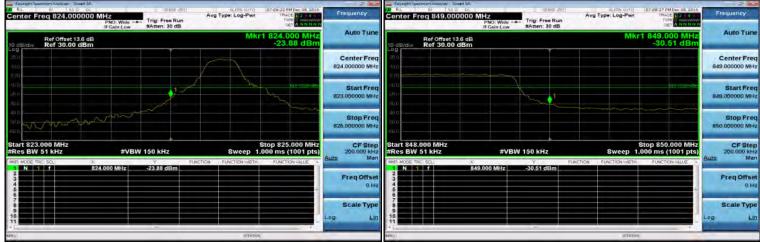


#### Band Edge\_Band5 5MHz\_QPSK 1 0\_LowCH20425-826.5

### Band Edge\_Band5 5MHz\_QPSK 25 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

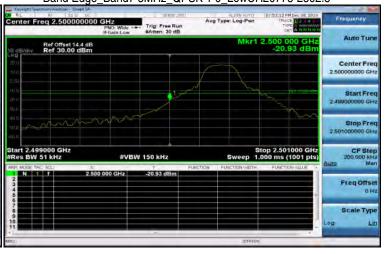


#### Band Edge\_Band5 10MHz\_QPSK 1 49\_HighCH20600-844



#### Band Edge\_Band5 10MHz\_QPSK 50 0\_LowCH20450-829

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



Band Edge\_Band7 5MHz\_QPSK 1 24\_HighCH21425-2567.5

#### nter Freg 824,000000 MHz enter Freg 2,570000000 GHz Trig: Free Ru Trig: Free Run Auto Tun Auto Tun Ref Offset 13.6 dB Ref 30.00 dBm Ref Offset 14.4 dE Ref 30.00 dBm 8.31 d Center Fre Center Fre 824 000000 M 2 5700 O GH Start Fre Start Fre 823 00 Stop Fre Stop Fre 2.57 Stop 2.571000 GH Stop 825.000 P CF Ste CF Ste 823.000 MH VBW 150 kH Freq Offs Freq Offs 01 Scale Type Scale Type 1.1

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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 1 0\_LowCH20800-2505

#### Band Edge\_Band7 10MHz\_QPSK 50 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 15MHz\_QPSK 75 0\_LowCH20825-2507.5

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



# Band Edge\_Band7 20MHz\_QPSK 1 99\_HighCH21350-2560



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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