

## 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 and PART 90S REQUIREMENT

	OF
Applicant:	HP Inc. 3390 East Harmony Road Fort Collins, Colorado 80528 United States
Product Name:	Notebook Computer
Brand Name:	HP
Model No.:	HSN-I20C
Model Difference:	N/A
FCC ID:	B94HNI20CPD
Report Number:	E2/2018/70058
FCC Rule Part:	2 , 22H & 24E & 27B, C & L & 90S
Issue Date:	Aug. 10, 2018
Date of Test:	Jul. 13, 2018
Date of EUT Received:	Jul. 09, 2018

#### We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Electronics & Communication Laboratory The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.26-2015 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits.

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

Tested By:

Approved By:

Aken Huang / Enigneer

Aken Huana

tim thang

Jim Chang / Manager



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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## **Revision History**

Report Number	Revision	Description	Effected Page	Issue Date	Revised By
E2/2018/70058	Rev.00	Initial creation of docu- ment	All	Aug. 10, 2018	Elle Chang



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## 1. GENERAL PRODUCT INFORMATION

### **1.1. Product Description**

#### General:

Product Name:	Notebook	Computer			
Brand Name:	HP				
Model No.:	HSN-I200	C			
Model Difference:	N/A				
Hardware Version:	N/A				
Software Version:	N/A				
		om Rechargeable Li-polymer Battery 10 / 12 / 15 / 20Vdc from AC/DC Adapter			
	Battery:	Model No.: HSTNN-DB8M, Supplier: N/A.			
Power Supply:	Adapter:	<ol> <li>Model No.: TPN-CA06, Supplier: CHICONY POWER TECHNOLOGY (CHONG- QING) CO, LTD.</li> <li>Model No.: TPN-AA03, Supplier: Acbel Electronic (Wuhan) Co., Ltd.</li> </ol>			
IMEI:	35932408	30457857			

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## 1.2. WCDMA / LTE: Cellular Phone Standards Frequency Range

Operating Frequency (MHz)							
WCDMA / HSPA+ Band II	1852.4	-	1907.6				
WCDMA//HSPA+ Band IV	1712.4	-	1752.6				
WCDMA / HSPA+ Band V	826.4	-	846.6				

LTE Band	BW (MHz)	Operation	Frequer	ncy (MHz)	LTE Band	BW (MHz)	Operation	Freque	ency (MHz)
	1.4	1850.7	-	1909.3		1.4	1850.7	-	1914.3
	3	1851.5	-	1908.5		3	1851.5	-	1913.5
2	5	1852.5	-	1907.5	7	5	1852.5	-	1912.5
Z	10	1855.0	-	1905.0	/	10	1855.0	-	1910.0
	15	1857.5	-	1902.5		15	1857.5	-	1907.5
	20	1860.0	-	1900.0		20	1860.0	-	1905.0
	1.4 1710.7 - 1754.3	1.4	824.7	-	848.3				
	3	1711.5	-	1753.5		3	825.5	-	847.5
4	5	1712.5	-	1752.5	26	5	826.5	-	846.5
	10	1715.0	-	1780.0		10	829.0	-	844.0
	15	1717.5	-	1747.5		15	831.5	-	841.5
	20	1720.0	-	1745.0		1.4	814.7	-	823.3
	1.4	824.7	-	848.3	21 Dart00	3	815.5	-	822.5
5	3	825.5	-	847.5	26 Part90	5	816.5	-	821.5
5	5	826.5	-	846.5		10		819.0	
	10	829.0	-	844.0	30	5	2307.5	-	2312.5
	1.4	699.7	-	715.3	30	10		2310.0	
12	3	700.5	-	714.5		5	2572.5	-	2617.5
١Z	5	701.5	-	713.5	20	10	2575.0	-	2615.0
	10	704.0	-	711.0	38	15	2577.5	-	2612.5
13	5	779.5	-	784.5		20	2580.0	-	2610.0
10	10		782						
17	5	706.5	-	713.5	]				
17	10	709.0	-	711.0					

LTE Band	BW (MHz)	Operation Frequency (MHz)		LTE Band	BW (MHz)	Operation	Freque	ency (MHz)	
	5	2498.5	_	2687.5		1.4	1710.7	-	1779.3
11	10	2501.0	01.0 - 2685.0		3	1711.5	-	1778.5	
41	15	2503.5	-	2682.5	66	5	1712.5	-	1777.5
	20	2506.0	-	2680.0		10	1715.0	-	1775.0
						15	1717.5	-	1772.5
						20	1720.0	-	1770.0

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### **Antenna Designation**

Vendor	Туре	Main /	Antenna	Modulation	Frequency	Peak Antenna
Vendor	турс	Aux	Part No.		(MHz)	Gain (dBi)
				WCDMA / HSPA Band II	1852.4 ~ 1907.6	-5.17
				WCDMA / HSPA Band IV	1712.4 ~ 1752.6	-4.69
				WCDMA / HSPA Band V	826.4 ~ 846.6	-3.61
				LTE Band 2	1850 ~ 1910	-5.17
				LTE Band 4	1710 ~ 1755	-4.69
				LTE Band 5	824 ~ 849	-3.61
				LTE Band 7	2503 ~ 2560	-4.62
	Couple	Main	6036B0215701(WA-P-LTE12-02-	LTE Band 12	699 ~ 716	-5.57
	Couple	IVIAILI	008)	LTE Band 13	777 ~ 787	-5.71
				LTE Band 17	704 ~ 716	-5.57
				LTE Band 26	824 ~ 849	-3.61
				LTE Band 26	814 ~ 824	-3.61
				LTE Band 30	2305 ~ 2315	-4.11
				LTE Band 38	2573 ~ 2610	-4.57
				LTE Band 41	2496 ~ 2690	-4.57
INPAQ				LTE Band 66	1710 ~ 1780	-4.69
				WCDMA / HSPA Band II	1852.4 ~ 1907.6	-8.26
Corporation				WCDMA / HSPA Band IV	1712.4 ~ 1752.6	N/A
				WCDMA / HSPA Band V	826.4 ~ 846.6	N/A
				LTE Band 2	1850 ~ 1910	-8.26
				LTE Band 4	1710 ~ 1755	N/A
				LTE Band 5	824 ~ 849	N/A
				LTE Band 7	2503 ~ 2560	N/A
			6036B0215801(WA-P-LTE8-02-	LTE Band 12	699 ~ 716	N/A
	Couple	Aux		LTE Band 13	777 ~ 787	-5.51
			024)	LTE Band 17	704 ~ 716	N/A
				LTE Band 26	824 ~ 849	N/A
				LTE Band 26	014 004	F //
				(Part 90S)	814 ~ 824	-5.66
				LTE Band 30	2305 ~ 2315	-6.3
				LTE Band 38	2573 ~ 2610	-5.39
				LTE Band 41	2496 ~ 2690	-5
				LTE Band 66	1710 ~ 1780	N/A



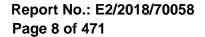
#### 1.3. Type of Emission & Max ERP/EIRP Power Measurement Result:

	ERP / EIRP (dBm)		(W)	Type of Emission
WCDMA Band II	17.83	EIRP	0.061	4M07F9W
HSDPA Band II	17.56	EIRP	0.057	4M07F9W
HSUPA Band II	17.25	EIRP	0.053	4M08F9W
WCDMA Band IV	18.04	EIRP	0.064	4M07F9W
HSDPA Band IV	17.87	EIRP	0.061	4M06F9W
HSUPA Band IV	17.62	EIRP	0.058	4M05F9W
WCDMA Band V	19.14	ERP	0.082	4M07F9W
HSDPA Band V	18.96	ERP	0.079	4M07F9W
HSUPA Band V	19.03	ERP	0.080	4M07F9W

LTE Band	BW (MHz)	Modulation	ERP / EIRP (dBm)		(W)	Type of Emission
	1.4	QPSK	17.36	EIRP	0.055	1M12G7D
	1.4	16QAM	16.51	EIRP	0.045	1M13D7W
	3	QPSK	17.32	EIRP	0.054	2M75G7D
	3	16QAM	16.62	EIRP	0.046	2M74D7W
	5	QPSK	17.37	EIRP	0.055	4M54G7D
2	5	16QAM	16.50	EIRP	0.045	4M53D7W
Z	10	QPSK	17.41	EIRP	0.055	9M10G7D
	10	16QAM	16.81	EIRP	0.048	9M07D7W
	15	QPSK	17.32	EIRP	0.054	13M5G7D
	15	16QAM	16.83	EIRP	0.048	13M6D7W
	20	QPSK	17.39	EIRP	0.055	18M1G7D
	20	16QAM	16.91	EIRP	0.049	18M1D7W

LTE Band	BW (MHz)	Modulation		P / EIRP JBm)	(W)	Type of Emission
	1.4	QPSK	17.63	EIRP	0.058	1M11G7D
	1.4	16QAM	17.04	EIRP	0.051	1M12D7W
	3	QPSK	17.58	EIRP	0.057	2M73G7D
	3	16QAM	16.87	EIRP	0.049	2M73D7W
	5	QPSK	17.66	EIRP	0.058	4M52G7D
4	5	16QAM	16.67	EIRP	0.047	4M53D7W
4	10	QPSK	17.72	EIRP	0.059	9M07G7D
	10	16QAM	16.88	EIRP	0.049	9M08D7W
	15	QPSK	17.69	EIRP	0.059	13M6G7D
	15	16QAM	16.73	EIRP	0.047	13M6D7W
	20	QPSK	17.75	EIRP	0.060	18M0G7D
	20	16QAM	16.98	EIRP	0.050	18M0D7W

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LTE Band	BW (MHz)	Modulation		/ EIRP 3m)	(W)	Type of Emission
	1.4	QPSK	17.93	ERP	0.062	1M11G7D
	1.4	16QAM	17.87	ERP	0.061	1M12D7W
	3	QPSK	17.91	ERP	0.062	2M72G7D
5	3	16QAM	17.81	ERP	0.060	2M74D7W
Э	5	QPSK	17.81	ERP	0.060	4M53G7D
	5	16QAM	17.79	ERP	0.060	4M52D7W
	10	QPSK	17.89	ERP	0.062	9M11G7D
	10	16QAM	17.06	ERP	0.051	9M10D7W
	5	QPSK	16.52	ERP	0.045	4M51G7D
13	5	16QAM	15.84	ERP	0.038	4M53D7W
13	10	QPSK	15.82	ERP	0.038	9M06G7D
	10	16QAM	15.08	ERP	0.032	9M04D7W
	5	QPSK	17.36	EIRP	0.055	4M54G7D
	5	16QAM	16.58	EIRP	0.046	4M52D7W
	10	QPSK	17.43	EIRP	0.055	9M10G7D
7	10	16QAM	16.75	EIRP	0.047	9M07D7W
/	15	QPSK	17.41	ERP	0.055	13M6G7D
	15	16QAM	16.84	ERP	0.048	13M6D7W
	20	QPSK	17.6	ERP	0.058	18M0G7D
	20	16QAM	16.86	ERP	0.049	18M1D7W

LTE Band	BW (MHz)	Modulation		P / EIRP IBm)	(W)	Type of Emission
	1.4	QPSK	16.3	ERP	0.043	1M12G7D
	1.4	16QAM	15.68	ERP	0.037	1M12D7W
	3	QPSK	16.35	ERP	0.043	2M74G7D
12	3	16QAM	15.71	ERP	0.037	2M75D7W
IZ	5	QPSK	16.51	ERP	0.045	4M54G7D
	5	16QAM	15.69	ERP	0.037	4M54D7W
	10	QPSK	16.4	ERP	0.044	9M21G7D
	10	16QAM	15.93	ERP	0.039	9M20D7W
	5	QPSK	16.29	ERP	0.043	4M56G7D
17	5	16QAM	15.55	ERP	0.036	4M55D7W
17	10	QPSK	16.37	ERP	0.043	9M11G7D
	10	16QAM	15.69	ERP	0.037	9M13D7W
	1.4	QPSK	18.31	ERP	0.068	1M12G7D
	1.4	16QAM	17.48	ERP	0.056	1M12D7W
	3	QPSK	18.07	ERP	0.064	2M71G7D
	3	16QAM	17.33	ERP	0.054	2M72D7W
26	5	QPSK	18.48	ERP	0.071	4M52G7D
20	5	16QAM	17.44	ERP	0.056	4M53D7W
	10	QPSK	18.43	ERP	0.070	9M12G7D
	10	16QAM	17.82	ERP	0.061	9M11D7W
	15	QPSK	18.38	ERP	0.069	13M6G7D
	15	16QAM	17.57	ERP	0.057	13M6D7W



LTE Band	BW (MHz)	Modulation		/ EIRP 3m)	(W)	Type of Emission
	1.4	QPSK	18.65	ERP	0.073	1M12G7D
	1.4	16QAM	18.14	ERP	0.065	1M11D7W
	3	QPSK	18.56	ERP	0.072	2M72G7D
26	3	16QAM	17.95	ERP	0.062	2M73D7W
Part90	5	QPSK	18.71	ERP	0.074	4M55G7D
	5	16QAM	17.89	ERP	0.062	4M53D7W
	10	QPSK	18.47	ERP	0.070	9M16G7D
	10	16QAM	18.11	ERP	0.065	9M12D7W

LTE Band	BW (MHz)	Modulation	ERP / EIRP (dBm)		(W)	Type of Emission
	5	QPSK	17.28	EIRP	0.053	4M54G7D
	5	16QAM	16.68	EIRP	0.047	4M52D7W
	10	QPSK	17.57	EIRP	0.057	9M09G7D
41	10	16QAM	16.03	EIRP	0.040	9M07D7W
41	15	QPSK	17.51	EIRP	0.056	13M6G7D
	15	16QAM	16.6	EIRP	0.046	13M5D7W
	20	QPSK	17.51	EIRP	0.056	18M0G7D
	20	16QAM	16.63	EIRP	0.046	18M0D7W

LTE Band	BW (MHz)	Modulation	ERP / EIRP (dBm)	(W)	Type of Emis- sion	
	5	QPSK	17.87	EIRP	0.061	4M54G7D
20	5	16QAM	16.97	EIRP	0.050	4M52D7W
30	10	QPSK	18.05	EIRP	0.064	9M04G7D
	10	16QAM	17.37	EIRP	0.055	9M03D7W

LTE Band	BW (MHz)	Modulation	ERP / EIRP (dBm)		(W)	Type of Emission
	5	QPSK	17.63	EIRP	0.058	4M54G7D
	5	16QAM	16.86	EIRP	0.049	4M52D7W
	10	QPSK	17.7	EIRP	0.059	9M06G7D
38	10	16QAM	16.88	EIRP	0.049	9M06D7W
30	15	QPSK	17.59	EIRP	0.057	13M6G7D
	15	16QAM	16.7	EIRP	0.047	13M5D7W
	20	QPSK	17.7	EIRP	0.059	18M0G7D
	20	16QAM	16.92	EIRP	0.049	18M0D7W

LTE Band	BW (MHz)	Modulation	ERP / EIRP (dBm)		(W)	Type of Emission
	1.4	QPSK	17.98	EIRP	0.063	1M12G7D
	1.4	16QAM	17.48	EIRP	0.056	1M12D7W
	3	QPSK	17.85	EIRP	0.061	2M73G7D
	3	16QAM	17.38	EIRP	0.055	2M73D7W
	5	QPSK	18.02	EIRP	0.061	4M54G7D
	5	16QAM	17.29	EIRP	0.054	4M52D7W
66	10	QPSK	18.07	EIRP	0.064	9M07G7D
00	10	16QAM	17.54	EIRP	0.057	9M05D7W
	15	QPSK	18.09	EIRP	0.064	13M5G7D
	15	16QAM	17.31	EIRP	0.054	13M5D7W
	20	QPSK	18.08	EIRP	0.064	18M0G7D
	20	16QAM	17.38	EIRP	0.055	18M0D7W



### 1.4. Test Methodology of Applied Standards

CC 47 CFR Part 2, 22, 24, 27, Part 90S.

ANSI C63.26-2015

KDB971168 D01 Power Meas license Digital System v03

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

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

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

#### 1.5. Test Facility

SGS Taiwan Ltd. Electronics & Communication Laboratory No.2, Keji 1st Rd., Guishan District, Taoyuan City, Taiwan 333 code 0513)

FCC Registration Numbers are: 735305 / TW0002

#### 1.6. Special Accessories

No special accessories were used during testing.

### **1.7. Equipment Modifications**

There were no modifications incorporated into the EUT.

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## 2. SYSTEM TEST CONFIGURATION

### 2.1. EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

### 2.2. EUT Exercise

The EUT (Transmitter) was operated in the continuous transmission mode employed with the simulator of the Base Station that fixates at test default channels to fix the Tx frequency which was for the purpose of the measurements.

### 2.3. Test Procedure

#### 2.3.1 Conducted Measurement at Antenna Port

According to measurement procured ANSI C63.26-2015, the EUT is placed on a turn table which is 0.8 m above ground plane. A low loss of RF cable was used to connect the antenna port of EUT to measurement equipment.

#### 2.3.2 Radiated Emissions (ERP/EIRP)

According to measurement procured ANSI C63.26-2015, The EUT is a placed on as turn table, for emission measurements below 1 GHz is 0.8 m above ground plane, for emission measurements above 1 GHz, the table height shall be 1.5 m. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both Horizontal and Vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna according to the requirements in Section 8 and 13.

### 2.4. Measurement Results Explanation Example

### For all conducted test items:

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

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#### Note:

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

	RF cable loss (dB)	Attenuation factor(dB)	offset(dB)
Low Band (Below 1GHz)	0.2	10	10.2
High Band (Above 1 GHz)	0.5	10	10.5

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

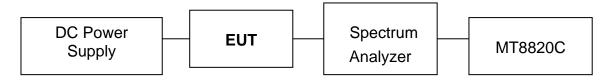
Test Mode	DC voltage (V)	DC current (mA)
WCDMA B2		0.734
WCDMA B4		0.717
WCDMA B5		0.692
LTE Band 2		0.872
LTE Band 4		0.875
LTE Band 5		0.709
LTE Band 7		0.695
LTE Band 12	7.7	0.695
LTE Band 13	1.1	0.730
LTE Band 17		0.688
LTE Band 26		0.710
LTE Band 26 (Part 90S)		0.701
LTE Band 30		0.850
LTE Band 38		0.863
LTE Band 41		0.847
LTE Band 66		0.876

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.

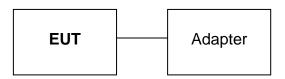


### 2.6. Configuration of Tested System

### 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	Anritsu	MT8820C	6200307563	shielded	Un-shielded

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## 3. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§2.1046(a)	RF Power Output	Compliant
§2.1046(a) §22.913(a)(5) §24.232(c) §27.50(a)(3) §27.50(c)(10) §27.50(d)(4) §90.635	ERP/ EIRP measurement	Compliant
§2.1049(h)	99% & 26dB Occuupied Bandwidth	Compliant
§2.1051 §22.917(a) §24.238(a) §27.53(g) §27.50(c)(5) §27.53(h) §27.53(m)(4)(6) §90.691	Out of Band Emissions at Antenna Ter- minals and Band Edge / Emission mask requirements	Compliant
§2.1053 §22.917(a) §24.238(a) §27.53(c)(2),(4) §27.50(c)(5) §27.53(f) §27.53(g) §27.53(h) §27.53(m)(4) §90.691(a)(1)(2)	Field Strength of Spurious 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 §90.213	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
WCDMA/HSPA Band II	E2-plan	E2-plan
WCDMA/HSPA Band V	E2-plan	E2-plan
LTE Band 2	E2-plan	E2-plan
LTE Band 4	E2-plan	E2-plan
LTE Band 5	E2-plan	E2-plan
LTE Band 12	E2-plan	E2-plan
LTE Band 13	E2-plan	E2-plan
LTE Band 17	E2-plan	E2-plan
LTE Band 25	E2-plan	E2-plan
LTE Band 26	E2-plan	E2-plan
LTE Band 26 (Part 90S)	E2-plan	E2-plan
LTE Band 30	E2-plan	E2-plan
LTE Bnad 38	E2-plan	E2-plan
LTE Band 41	E2-plan	E2-plan
LTE Band 66	E2-plan	E2-plan

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### WCDMA/HSPA MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
ERP	4132 to 4233	4132, 4183, 4233	WCDMA/HSPA Band V
EIRP	9262 to 9538	9262, 9400, 9538	WCDMA/HSPA Band II
FREQUENCY	4132 to 4233	4183	WCDMA Band II
STABILITY	9262 to 9538	9400	WCDMA Band V
OCCUPIED	4132 to 4233	4132, 4183, 4233	WCDMA/HSPA Band II
BANDWIDTH	9262 to 9538	9262, 9400, 9538	WCDMA/HSPA Band V
PEAK TO AVERAGE	4132 to 4233	4132, 4183, 4233	WCDMA/HSPA Band II
RATIO	9262 to 9538	9262, 9400, 9538	WCDMA/HSPA Band V
BAND EDGE	4132 to 4233	4132, 4233	WCDMA Band II
BAND EDGE	9262 to 9538	9262, 9538	WCDMA Band V
CONDCUDETED	4132 to 4233	4132, 4183, 4233	WCDMA Band II
EMISSION	9262 to 9538	9262, 9400, 9538	WCDMA Band V
RADIATED EMISSION	4132 to 4233	4132, 4183, 4233	WCDMA Band II
RADIATED EMISSION	9262 to 9538	9262, 9400, 9538	WCDMA Band V



#### 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
ГІЛЛ	18625 to 19175	18625, 18900, 19175	5MHz	QPSK, 16QAM	1 RB/ 0,24 RB Offest
EIRP	18650 to 19150	18650, 18900, 19150	10MHz	QPSK, 16QAM	1 RB/ 0,49 RB Offest
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK, 16QAM	1 RB/ 0,74 RB Offest
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK, 16QAM	1 RB/ 0,99 RB Offest
FREQUENCY STA- BILITY	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 BAND-	18625 to 19175	18625, 18900, 19175	5MHz	QPSK, 16QAM	Full RB
WIDTH	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 AVERAGE	18625 to 19175	18625, 18900, 19175	5MHz	16QAM	Full RB
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
	18625 to 19175	18625, 19175	5MHz	QPSK,	1 RB/ 0,24 RB Offest Full RB
BAND EDGE	18650 to 19150	18650, 19150	10MHz	QPSK,	1 RB/ 0,49 RB Offest Full RB
	18675 to 19125	18675, 19125	15MHz	QPSK,	1 RB/ 0,74 RB Offest Full RB
	18700 to 19100	18700, 19100	20MHz	QPSK,	1 RB/ 0,99 RB Offest Full RB
	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK,	1 RB, 0 RB Offest
	18615 to 19185	18615, 18900, 19185	3MHz	QPSK,	1 RB, 0 RB Offest
CONDCUDETED	18625 to 19175	18625, 18900, 19175	5MHz	QPSK,	1 RB, 0 RB Offest
EMISSION	18650 to 19150	18650, 18900, 19150	10MHz	QPSK,	1 RB, 0 RB Offest
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK,	1 RB, 0 RB Offest
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK,	1 RB, 0 RB Offest
RADIATED EMIS- SION	18625 to 19175	18625, 18900, 19175	3MHz	QPSK	1 RB, 14 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
רוסס	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	1 RB/ 0,24 RB Offest
EIRP	20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	1 RB/ 0,49 RB Offest
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	1 RB/ 0,74 RB Offest
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	1 RB/ 0,99 RB Offest
FREQUENCY STA- BILITY	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 BAND-	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM,	Full RB
WIDTH	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 AVERAGE RATIO	19975 to 20375	19975, 20175, 20375	5MHz	16QAM	Full RB
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
	19975 to 20375	19975, 20375	5MHz	QPSK,	1 RB/ 0,24 RB Offest Full RB
BAND EDGE	20000 to 20350	20000, 20350	10MHz	QPSK,	1 RB/ 0,49 RB Offest Full RB
	20025 to 20325	20025, 20325	15MHz	QPSK,	1 RB/ 0,74 RB Offest Full RB
	20050 to 20300	20050, 20300	20MHz	QPSK,	1 RB/ 0,99 RB Offest Full RB
	19957 to 19393	19957, 20175, 19393	1.4MHz	QPSK,	1 RB, 0 RB Offest
	19965 to 22385	19965, 20175, 22385	3MHz	QPSK,	1 RB, 0 RB Offest
CONDCUDETED	19975 to 20375	19975, 20175, 20375	5MHz	QPSK,	1 RB, 0 RB Offest
EMISSION	20000 to 20350	20000, 20175, 20350	10MHz	QPSK,	1 RB, 0 RB Offest
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK,	1 RB, 0 RB Offest
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK,	1 RB, 0 RB Offest
RADIATED EMIS- SION	20000 to 20350	20000, 20175, 20350	10MHz	QPSK,	1 RB, 49 RB Offest



#### LTE Band 5 MODE

TEST ITEM	AVAILABLE	TESTED	CHANNEL	MODULATION	MODE
	CHANNEL	CHANNEL	BANDWIDTH	MODULATION	WICDL
ERP	20470 to 20643	20470, 20525, 20643	1.4MHz	QPSK, 16QAM,	1 RB/ 0,5 RB Offest
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK, 16QAM,	1 RB/ 0,14 RB Offest
EKP	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 STA- BILITY	20450 to 20600	20525	10MHz	QPSK,	Full RB
	20470 to 20643	20470, 20525, 20643	1.4MHz	QPSK, 16QAM,	Full RB
OCCUPIED BAND-	20415 to 20635	20415, 20525, 20635	3MHz	QPSK, 16QAM,	Full RB
WIDTH	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 AVERAGE	20415 to 20635	20415, 20525, 20635	3MHz	16QAM	Full RB
WIDTH	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, 16QAM,           QPSK, 16QAM,           QPSK, 16QAM,           QPSK, 16QAM,           QPSK, 16QAM,           16QAM           16QAM           16QAM           16QAM           QPSK, 16QAM,           QPSK, 16QAM,           16QAM           16QAM           QPSK,           QPSK,           QPSK,           QPSK,           QPSK,           QPSK,           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 EMIS- SION	20450 to 20600	20450, 20525, 20600	1.4MHz	16QAM	1 RB, 0 RB Offest



#### LTE Band 7 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
		20775, 21100, 21425	5MHz	QPSK 16QAM	1 RB/ 0,24 RB Offest
		20800, 21100, 21400	10MHz		1 RB/ 0,49 RB Offest
EIRP		20850, 21100, 21375	15MHz	,	1 RB/ 0,74 RB Offest
		20850, 21100, 21350	20MHz		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 BAND-	20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM	Full RB
WIDTH	20850 to 21375	20850, 21100, 21375	15MHz	QPSK, 16QAM	Full RB
	20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM	Full RB
	20775 to 21425	20775, 21100, 21425	5MHz	16QAM	Full RB
PEAK TO AVERAGE	20800 to 21400	20800, 21100, 21400	10MHz	16QAM	Full RB
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, 16QAM QPSK, 16QAM QPSK, 16QAM 16QAM 16QAM 16QAM 16QAM QPSK QPSK	1 RB/ 0,99 RB Offest Full RB
		20775, 21100, 21425	5MHz		1 RB, 0 RB Offest
CONDCUDETED		20800, 21100, 21400	10MHz	QPSK	1 RB, 0 RB Offest
EMISSION	20850 to 21375	20850, 21100, 21375	15MHz		1 RB, 0 RB Offest
	20850 to 21350	20850, 21100, 21350	20MHz	QPSK	1 RB, 0 RB Offest
RADIATED EMISSION	20800 to 21400	20800, 21100, 21400	10MHz	16QAM	1 RB, 49 RB Offest
	20775 to 21425	20775, 21100, 21425	5MHz	QPSK	1 RB/ 0,24 RB Offest 25 RB/ 0 Offset
	20800 to 21400	20800, 21100, 21400	10MHz	QPSK	1 RB/ 0,49 RB Offest 50 RB/ 0 Offset
EMISSION 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
EKP	23035 to 23155	23035, 23095, 23155	5MHz	QPSK, 16QAM,	1 RB/ 0,24 RB Offest
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK, 16QAM,	1 RB/ 0,49 RB Offest
FREQUENCY STABILITY	23060 to 23130	23095	10MHz	QPSK,	Full RB
	23017 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
CONDCU-	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK,	1 RB, 0 RB Offest
DETED EMIS-	23025 to 23165	23025, 23095, 23165	3MHz	QPSK,	1 RB, 0 RB Offest
	23035 to 23155	23035, 23095, 23155	5MHz	QPSK,	1 RB, 0 RB Offest
SION	23060 to 23130	23060, 23095, 23130	10MHz	QPSK,	1 RB, 0 RB Offest
RADIATED EMISSION	23035 to 23155	23035, 23095, 23155	5MHz	QPSK	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
LKF	23230	23230	10MHz	QPSK, 16QAM,	1 RB/ 0,49 RB Offest
FREQUENCY STA- BILITY	23230	23230	10MHz	QPSK,	Full RB
OCCUPIED BAND-	23205 to 23255	23205, 23230, 23255	5MHz	QPSK, 16QAM,	Full RB
WIDTH	23230	23230	10MHz	QPSK, 16QAM,	Full RB
PEAK TO AVERAGE	23205 to 23255	23205, 23230, 23255	5MHz	16QAM	Full RB
RATIO	23230	23230	10MHz	16QAM	Full RB
	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 EMIS- SION	23205 to 23255	23205, 23230, 23255	5MHz	16QAM	1 RB/ 0 RB Offest

#### LTE Band 17 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
ERP	23755 to 23825	23755, 23790, 23825	5MHz	QPSK, 16QAM,	1 RB/ 0,24 RB Offest
LKF	23780 to 23800	23780, 23790, 23800	10MHz	QPSK, 16QAM,	1 RB/ 0,49 RB Offest
FREQUENCY STA- BILITY	23780 to 23800	23790	10MHz	QPSK,	Full RB
OCCUPIED BAND-	23755 to 23825	23755, 23790, 23825	5MHz	QPSK, 16QAM,	Full RB
WIDTH	23780 to 23800	23780, 23790, 23800	10MHz	QPSK, 16QAM,	Full RB
PEAK TO AVERAGE	23755 to 23825	23755, 23790, 23825	5MHz	16QAM	Full RB
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
DAND 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 EMIS- SION	23755 to 23825	23755, 23790, 23825	5MHz	16QAM	1 RB/ 0 RB Offest



#### LTE Band 25 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
	26047 to 26683	26047, 26365, 26683	1.4MHz	QPSK, 16QAM,	1 RB/ 0,5 RB Offest
	26055 to 26675	26055, 26365, 26675	3MHz	QPSK, 16QAM,	1 RB/ 0,14 RB Offest
EIRP	26065 to 26665	26065, 26365, 26665	5MHz	QPSK, 16QAM,	1 RB/ 0,24 RB Offest
LIKP	26090 to 26640	26090, 26365, 26640	10MHz	QPSK, 16QAM,	1 RB/ 0,49 RB Offest
	26115 to 26615	26115, 26365, 26615	15MHz	QPSK, 16QAM,	1 RB/ 0,74 RB Offest
	26140 to 26590	26140, 26365, 26590	20MHz	QPSK, 16QAM,	1 RB/ 0,99 RB Offest
FREQUENCY STA- BILITY	18650 to 19150	18900	10MHz	QPSK,	Full RB
	26047 to 26683	26047, 26365, 26683	1.4MHz	QPSK, 16QAM,	Full RB
	26055 to 26675	26055, 26365, 26675	3MHz	QPSK, 16QAM,	Full RB
OCCUPIED BAND-	26065 to 26665	26065, 26365, 26665	5MHz	QPSK, 16QAM,	Full RB
WIDTH	26090 to 26640	26090, 26365, 26640	10MHz	QPSK, 16QAM,	Full RB
	26115 to 26615	26115, 26365, 26615	15MHz	QPSK, 16QAM,	Full RB
	26140 to 26590	26140, 26365, 26590	20MHz	QPSK, 16QAM,	Full RB
	26047 to 26683	26047, 26365, 26683	1.4MHz	16QAM	Full RB
	26055 to 26675	26055, 26365, 26675	3MHz	16QAM	Full RB
PEAK TO AVERAGE	26065 to 26665	26065, 26365, 26665	5MHz	16QAM	Full RB
RATIO	26090 to 26640	26090, 26365, 26640	10MHz	16QAM	Full RB
	26115 to 26615	26115, 26365, 26615	15MHz	16QAM	Full RB
	26140 to 26590	26140, 26365, 26590	20MHz	16QAM	Full RB
	26047 to 26683	26047, 26683	1.4MHz	QPSK,	1 RB/ 0,5 RB Offes Full RB
	26055 to 26675	26055, 26675	3MHz	QPSK,	1 RB/ 0,14 RB Offest Full RB
BAND EDGE	26065 to 26665	26065, 26665	5MHz	QPSK,	1 RB/ 0,24 RB Offest Full RB
DANDLUGL	26090 to 26640	26090, 26640	10MHz	QPSK,	1 RB/ 0,49 RB Offest Full RB
	26115 to 26615	26115, 26615	15MHz	QPSK,	1 RB/ 0,74 RB Offest Full RB
	26140 to 26590	26140, 26590	20MHz	QPSK,	1 RB/ 0,99 RB Offest Full RB
	26047 to 26683	26047, 26365, 26683	1.4MHz	QPSK,	1 RB, 0 RB Offest
	26055 to 26675	26055, 26365, 26675	3MHz	QPSK,	1 RB, 0 RB Offest
CONDCUDETED	26065 to 26665	26065, 26365, 26665	5MHz	QPSK,	1 RB, 0 RB Offest
EMISSION	26090 to 26640	26090, 26365, 26640	10MHz	QPSK,	1 RB, 0 RB Offest
	26115 to 26615	26115, 26365, 26615	15MHz	QPSK,	1 RB, 0 RB Offest
	26140 to 26590	26140, 26365, 26590	20MHz	QPSK,	1 RB, 0 RB Offest
RADIATED EMIS- SION	26090 to 26640	26090, 26365, 26640	10MHz	QPSK,	1 RB, 0 RB Offest



#### LTE Band 26 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK, 16QAM,	1 RB/ 0,5 RB Offest
		26805, 26915, 27025	3MHz	QPSK, 16QAM,	1 RB/ 0,14 RB Offest
ERP	26815 to 27015	26815, 26915, 27015	5MHz	QPSK, 16QAM,	1 RB/ 0,24 RB Offest
	26840 to 26990	26840, 26915, 26990	10MHz	QPSK, 16QAM,	1 RB/ 0,49 RB Offest
	26865 to 26965	26865, 26915, 26965	15MHz	QPSK, 16QAM,	1 RB/ 0,74 RB Offest
FREQUENCY STABILITY	26865 to 26965	26915	15MHz	QPSK,	Full RB
	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK, 16QAM,	Full RB
	26805 to 27025	26805, 26915, 27025	3MHz	QPSK, 16QAM,	Full RB
	26815 to 27015	26815, 26915, 27015	5MHz	QPSK, 16QAM,	Full RB
BANDWIDIH	26840 to 26990	26840, 26915, 26990	10MHz	QPSK, 16QAM,	Full RB
	26865 to 26965	26865, 26915, 26965	ANNEL         BANDWIDTH         MODULATION           26915, 27033         1.4MHz         QPSK, 16QAM,           26915, 27025         3MHz         QPSK, 16QAM,           26915, 27015         5MHz         QPSK, 16QAM,           26915, 27015         5MHz         QPSK, 16QAM,           26915, 26990         10MHz         QPSK, 16QAM,           26915, 26965         15MHz         QPSK, 16QAM,           26915, 27033         1.4MHz         QPSK, 16QAM,           26915, 27033         1.4MHz         QPSK, 16QAM,           26915, 27033         1.4MHz         QPSK, 16QAM,           26915, 27015         5MHz         QPSK, 16QAM,           26915, 27015         5MHz         QPSK, 16QAM,           26915, 27015         5MHz         QPSK, 16QAM,           26915, 27033         1.4MHz         QPSK, 16QAM,           26915, 27033         1.4MHz         16QAM           26915, 27015         5MHz         16QAM           26915, 27033         1.4MHz         QPSK,           26915, 27033         1.4MHz         QPSK,           26915, 27033         1.4MHz         QPSK,           26915, 27015         5MHz         QPSK,           26915, 26965 <td< td=""><td>Full RB</td></td<>	Full RB	
	26797 to 27033	26797, 26915, 27033	1.4MHz	16QAM	Full RB
	26805 to 27025	26805, 26915, 27025	3MHz	16QAM	Full RB
	26815 to 27015	26815, 26915, 27015	5MHz	16QAM	Full RB
ERAGE RATIO	26840 to 26990	26840, 26915, 26990	10MHz	16QAM	Full RB
	26865 to 26965	26865, 26915, 26965	15MHz	16QAM	Full RB
	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK,	1 RB/ 0,5 RB Offes Full RB
	26805 to 27025	26805, 26915, 27025	3MHz	QPSK,	1 RB/ 0,14 RB Offest Full RB
BAND EDGE	26815 to 27015	26815, 26915, 27015	5MHz	QPSK,	1 RB/ 0,24 RB Offest Full RB
	26840 to 26990	26840, 26915, 26990	10MHz	QPSK,	1 RB/ 0,49 RB Offest Full RB
	26865 to 26965	26865, 26915, 26965	15MHz	QPSK	1 RB/ 0,74 RB Offest
	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK,	1 RB, 0 RB Offest
	26805 to 27025	26805, 26915, 27025	3MHz	QPSK,	1 RB, 0 RB Offest
	26815 to 27015	26815, 26915, 27015	5MHz	QPSK,	1 RB, 0 RB Offest
EINISSION	26840 to 26990	26840, 26915, 26990	10MHz	QPSK,	1 RB, 0 RB Offest
OCCUPIED BANDWIDTH PEAK TO AV- ERAGE RATIO	26865 to 26965	26865, 26915, 26965	15MHz	QPSK	1 RB, 0 RB Offest
	26805 to 27025	26805, 26915, 27025	1.4MHz	QPSK,	1 RB, 0 RB Offest



### LTE Band 26 for 90S MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE		
	26697 to 26783	26697, 26740, 26783	1.4MHz	QPSK, 16QAM,	1 RB/ 0,5 RB Offest		
	26705 to 26775	26705, 26740, 26775	3MHz	QPSK, 16QAM,	1 RB/ 0,14 RB Offest		
ERP	26715 to 26765	26715, 26740, 26765	5MHz	QPSK, 16QAM,	1 RB/ 0,24 RB Offest		
	26740	26740	10MHz	QPSK, 16QAM,	1 RB/ 0,49 RB Offest		
FREQUENCY STABILITY	26697 to 26783	26740	1.4MHz	QPSK,	Full RB		
	26697 to 26783	26697, 26740, 26783	1.4MHz	QPSK, 16QAM,	Full RB		
OCCUPIED	26705 to 26775	26705, 26740, 26775	3MHz	QPSK, 16QAM,	Full RB		
BANDWIDTH	26715 to 26765	26715, 26740, 26765	5MHz	QPSK, 16QAM,	Full RB		
	26740	26740	10MHz	QPSK, 16QAM,	Full RB		
	26697 to 26783	26697, 26740, 26783	1.4MHz	16QAM	Full RB		
PEAK TO AV-	26705 to 26775	26705, 26740, 26775	3MHz	16QAM	Full RB		
ERAGE RATIO	26715 to 26765	26715, 26740, 26765	5MHz	16QAM	Full RB		
	26740	26740	10MHz	QPSK, 16QAM, QPSK, 16QAM, QPSK, 16QAM, QPSK, 16QAM, QPSK, 16QAM, QPSK, 16QAM, QPSK, 16QAM, QPSK, 16QAM, 16QAM	Full RB		
	26697 to 26783	26697, 26740, 26783	1.4MHz	QPSK,	1 RB/ 0,5 RB Offes Full RB		
	26705 to 26775	26705, 26740, 26775	3MHz	QPSK,	1 RB/ 0,14 RB Offest Full RB		
BAND EDGE	26715 to 26765	26715, 26740, 26765	5MHz	QPSK,	1 RB/ 0,24 RB Offest Full RB		
	26740	26740	10MHz	QPSK, 16QAM,           QPSK, 16QAM,           QPSK, 16QAM,           16QAM           16QAM           16QAM           QPSK,           QPSK,           QPSK,           QPSK,           QPSK,           QPSK,           QPSK,           QPSK,	1 RB/ 0,49 RB Offest Full RB		
	26697 to 26783	26697, 26740, 26783	1.4MHz	QPSK,	1 RB, 0 RB Offest		
CONDCUDETED	26705 to 26775	26705, 26740, 26775	3MHz	QPSK,	1 RB, 0 RB Offest		
EMISSION		26715, 26740, 26765	5MHz	,	1 RB, 0 RB Offest		
	26740	26740	10MHz	QPSK,	1 RB, 0 RB Offest		
RADIATED EMISSION	26740	26740	10MHz	QPSK,	1 RB, 0 RB Offest		



#### LTE Band 30 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
ERP	27685 to 27735	27685, 27710, 27735	5MHz	QPSK, 16QAM,	1 RB/ 0,24 RB Offest
EKP	27710	27710	10MHz	QPSK, 16QAM,	1 RB/ 0,49 RB Offest
FREQUENCY STA- BILITY	27710	27710	10MHz	QPSK,	Full RB
OCCUPIED BAND-	27685 to 27735	27685, 27710, 27735	5MHz	QPSK, 16QAM,	Full RB
WIDTH	27710	27710	10MHz	QPSK, 16QAM,	Full RB
PEAK TO AVERAGE	27685 to 27735	27685, 27710, 27735	5MHz	16QAM	Full RB
RATIO	27710	27710	10MHz	16QAM	Full RB
BAND EDGE	27685 to 27735	27685, 27710, 27735	5MHz	QPSK,	1 RB/ 0,24 RB Offest Full RB
DAND EDGE	27710	27710	10MHz	QPSK,	1 RB/ 0,49 RB Offest Full RB
CONDCUDETED	27685 to 27735	27685, 27710, 27735	5MHz	QPSK,	1 RB, 0 RB Offest
EMISSION	27710	27710	10MHz	QPSK,	1 RB, 0 RB Offest
RADIATED EMIS- SION	27685 to 27735	27685, 27710, 27735	10MHz	QPSK	1 RB/ 0 RB Offest



#### LTE Band 38 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
	37775 to 38225	37775, 38000, 38225	5MHz	QPSK, 16QAM	1 RB/ 0,24 RB Offest
	37800 to 38200	37800 , 38000, 38200	10MHz	QPSK, 16QAM	1 RB/ 0,49 RB Offest
EIRP	37825 to 38175	37825 , 38000, 38175	15MHz	QPSK, 16QAM	1 RB/ 0,74 RB Offest
	37850 to 38150	37850 , 38000, 38150	20MHz	QPSK, 16QAM	1 RB/ 0,99 RB Offest
FREQUENCY STABILITY	37800 to 38200	37800 , 38000, 38200	10MHz	QPSK	Full RB
	37775 to 38225	37775, 38000, 38225	5MHz	QPSK, 16QAM	Full RB
OCCUPIED BAND-		37800 , 38000, 38200	10MHz		Full RB
WIDTH	37825 to 38175	37825 , 38000, 38175	15MHz		Full RB
	37850 to 38150	37850 , 38000, 38150	20MHz		Full RB
	37775 to 38225	37775, 38000, 38225	5MHz		Full RB
PEAK TO AVER-	37800 to 38200	37800 , 38000, 38200	10MHz		Full RB
AGE RATIO	37825 to 38175	37825 , 38000, 38175	15MHz	16QAM	Full RB
	37850 to 38150	37850 , 38000, 38150	20MHz	16QAM	Full RB
	37775 to 38225	37775, 38000, 38225	5MHz	QPSK	1 RB/ 0,24 RB Offest Full RB
BAND EDGE	37800 to 38200	37800 , 38000, 38200	10MHz	QPSK	1 RB/ 0,49 RB Offest Full RB
DAND EDGE	37825 to 38175	37825 , 38000, 38175	15MHz	QPSK	1 RB/ 0,74 RB Offest Full RB
	37850 to 38150	37850 , 38000, 38150	20MHz	IHzQPSK, 16QAMMHzQPSK, 16QAMMHzQPSK, 16QAMMHzQPSK, 16QAMMHzQPSK, 16QAMMHz16QAMMHz16QAMMHz16QAMMHz16QAMMHz16QAMMHz16QAMMHz16QAMMHzQPSKMHzQPSKMHzQPSKMHzQPSKMHzQPSKMHzQPSKMHzQPSKMHzQPSKMHzQPSKMHzQPSKMHzQPSKMHzQPSKMHzQPSKMHzQPSKMHzQPSKMHzQPSKMHzQPSKMHzQPSK	1 RB/ 0,99 RB Offest Full RB
	37775 to 38225	37775, 38000, 38225	5MHz		1 RB, 0 RB Offest
CONDCUDETED	37800 to 38200	37800 , 38000, 38200	10MHz	-	1 RB, 0 RB Offest
EMISSION	37825 to 38175	37825 , 38000, 38175	15MHz		1 RB, 0 RB Offest
	37850 to 38150	37850 , 38000, 38150	20MHz	QPSK	1 RB, 0 RB Offest
RADIATED EMISSION	37775 to 38225	37775, 38000, 38225	5MHz	QPSK	1 RB, 24 RB Offest
	37775 to 38225	37775, 38000, 38225	5MHz	QPSK	1 RB/ 0,24 RB Offest 25 RB/ 0 Offset
	37800 to 38200	37800 , 38000, 38200	10MHz	QPSK	1 RB/ 0,49 RB Offest 50 RB/ 0 Offset
EMISSION MASK	37825 to 38175	37825 , 38000, 38175	15MHz	QPSK	1 RB/ 0,74 RB Offest 75 RB/ 0 Offset
	37850 to 38150	37850 , 38000, 38150	10MHz	16QAM	1 RB/ 0,99 RB Offest 100 RB/ 0 Offset



#### LTE Band 41 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
	39675 to 41565	39675, 40620, 41565	5MHz	QPSK, 16QAM,	1 RB/ 0,24 RB Offest
רוסס	39700 to 41540	39700, 40620, 41540	10MHz	QPSK, 16QAM,	1 RB/ 0,49 RB Offest
EIRP	39725 to 41515	39725, 40620, 41515	15MHz	QPSK, 16QAM,	1 RB/ 0,74 RB Offest
	39750 to 41490	39750, 40620, 41490	20MHz	QPSK, 16QAM,	1 RB/ 0,99 RB Offest
FREQUENCY STABILITY	39700 to 41540	39700, 40620, 41540	10MHz	QPSK,	Full RB
	39675 to 41565	39675, 40620, 41565	5MHz	QPSK, 16QAM,	Full RB
OCCUPIED BAND-	39700 to 41540	39700, 40620, 41540	10MHz	QPSK, 16QAM,	Full RB
WIDTH	39725 to 41515	39725, 40620, 41515	15MHz	QPSK, 16QAM,	Full RB
	39750 to 41490	39750, 40620, 41490	20MHz	QPSK, 16QAM,	Full RB
	39675 to 41565	39675, 40620, 41565	5MHz	16QAM	Full RB
PEAK TO AVERAGE	39700 to 41540	39700, 40620, 41540	10MHz	16QAM	Full RB
RATIO	39725 to 41515	39725, 40620, 41515	15MHz	16QAM	Full RB
	39750 to 41490	39750, 40620, 41490	20MHz	16QAM	Full RB
	39675 to 41565	39675, 41565	5MHz	QPSK,	1 RB/ 0,24 RB Offest Full RB
BAND EDGE	39700 to 41540	39700, 41540	10MHz	QPSK,	1 RB/ 0,49 RB Offest Full RB
BAND EDGE	39725 to 41515	39725, 41515	15MHz	QPSK,	1 RB/ 0,74 RB Offest Full RB
	39750 to 41490	39750, 41490	20MHz	QPSK,	1 RB/ 0,99 RB Offest Full RB
	39675 to 41565	39675, 40620, 41565	5MHz	QPSK,	1 RB, 0 RB Offest
CONDCUDETED EMIS-	39700 to 41540	39700, 40620, 41540	10MHz	QPSK,	1 RB, 0 RB Offest
SION	39725 to 41515	39725, 40620, 41515	15MHz	QPSK,	1 RB, 0 RB Offest
	39750 to 41490	39750, 40620, 41490	20MHz	QPSK,	1 RB, 0 RB Offest
	39675 to 41565	39675, 40620, 41565	5MHz	QPSK,	1 RB/ 0,24 RB Offest 25 RB/ 0 Offset
EMISSION MASK	39700 to 41540	39700, 40620, 41540	10MHz	QPSK,	1 RB/ 0,49 RB Offest 50 RB/ 0 Offset
	39725 to 41515	39725, 40620, 41515	15MHz	QPSK,	1 RB/ 0,74 RB Offest 75 RB/ 0 Offset
	39750 to 41490	39750, 40620, 41490	20MHz	QPSK,	1 RB/ 0,99 RB Offest 100 RB/ 0 Offset
RADIATED EMISSION	39750 to 41490	39750, 40620, 41490	20MHz	16QAM	1 RB, 99 RB Offest



#### LTE Band 66 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
	131979 to 132665	131979, 132322, 132665	1.4MHz	QPSK, 16QAM,	1 RB/ 0,5 RB Offest
	131987 to 132657	131987, 132322, 132657	3MHz	QPSK, 16QAM,	1 RB/ 0,14 RB Offest
	131997 to 132647	131997, 132322, 132647	5MHz	QPSK, 16QAM,	1 RB/ 0,24 RB Offest
EIRP	132022 to 132622	132022, 132322, 132622	10MHz	QPSK, 16QAM,	1 RB/ 0,49 RB Offest
	132047 to 132597	132047, 132322, 132597	15MHz	QPSK, 16QAM,	1 RB/ 0,74 RB Offest
	132072 to 132572	132072, 132322, 132572	20MHz	QPSK, 16QAM,	1 RB/ 0,99 RB Offest
FREQUENCY STA- BILITY	18650 to 19150	18900	10MHz	QPSK,	Full RB
	131979 to 132665	131979, 132322, 132665	1.4MHz	QPSK, 16QAM,	Full RB
	131987 to 132657	131987, 132322, 132657	3MHz	QPSK, 16QAM,	Full RB
OCCUPIED BAND-	131997 to 132647	131997, 132322, 132647	5MHz	QPSK, 16QAM,	Full RB
WIDTH	132022 to 132622	132022, 132322, 132622	10MHz	QPSK, 16QAM,	Full RB
	132047 to 132597	132047, 132322, 132597	15MHz	QPSK, 16QAM,	Full RB
	132072 to 132572	132072, 132322, 132572	20MHz	QPSK, 16QAM,	Full RB
	131979 to 132665	131979, 132322, 132665	1.4MHz	16QAM	Full RB
	131987 to 132657	131987, 132322, 132657	3MHz	16QAM	Full RB
PEAK TO AVERAGE	131997 to 132647	131997, 132322, 132647	5MHz	16QAM	Full RB
RATIO	132022 to 132622	132022, 132322, 132622	10MHz	16QAM	Full RB
	132047 to 132597	132047, 132322, 132597	15MHz	16QAM	Full RB
	132072 to 132572	132072, 132322, 132572	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
DAIND 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	18625 to 19175	18625, 18900, 19175	5MHz	QPSK,	1 RB, 0 RB Offest
EMISSION	18650 to 19150	18650, 18900, 19150	10MHz	QPSK,	1 RB, 0 RB Offest
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK,	1 RB, 0 RB Offest
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK,	1 RB, 0 RB Offest
RADIATED EMISSION	18700 to 19100	18700, 18900, 19100	20MHz	16QAM	1 RB, 99 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 : Vertical)	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
(i bialization : honzontal)	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.

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.



## 6. MAXMUM OUTPUT POWER

### 6.1. Standard Applicable

A base station simulator was used to establish communication with the EUT. Its parameters were set to transmit the maximum power on the EUT. The measured power in the radio frequency on the transmitter output terminals.

#### **ERP/EIRP LIMIT**

According to FCC §2.1046

FCC 22.913(a) Mobile station is limited to 7W ERP.

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

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

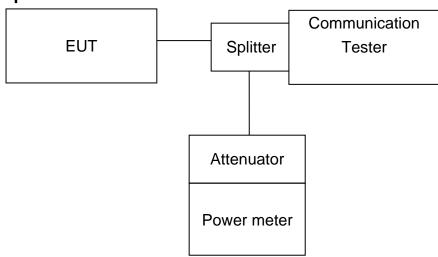
FCC 27.50(c)(10) Portable stations (hand-held devices) are limited to 3 watts ERP.

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

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

FCC 90.635(b) Mobile station is limited to 100W ERP

### 6.2. Test Set-up



### Note: Measurement setup for testing on Antenna connector

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### 6.3. Measurement Procedure

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

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

All LTE bands conducted average power is obtained from the simulator telecommunication test set.

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

### TEST PROCEDURE:

ANSI C63.26:2015 KDB 971168 Section 5.6

ERP/EIRP = PMeas + GT-LC

where: ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as PMeas, typically dBW or dBm);

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

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

LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.2 For devices utilizing multiple antennas, KDB 662911 provides guidance for determining the effective array transmit antenna gain term to be used in the above equation.

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### 6.4. Measurement Equipment Used

Con	Conducted Emission (measured at antenna port) Test Site											
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.							
Spectrum Analyzer	Agilent	N9010A	MY53400256	10/30/2017	10/29/2018							
Radio Communica- tion Analyer	Anritsu	MT8820C	6201107337	06/09/2018	06/08/2019							
DC Power Supply	Agilent	E3640A	MY53130054	09/04/2017	09/03/2018							
Attenuator	Marvelous	MVE2213-10	RF30	12/26/2017	12/25/2018							
Splitter	RF-LAMBAD	RFLT2W1G18G	RF35	12/26/2017	12/25/2018							
Spectrum Analyzer	Agilent	N9010A	MY53400256	10/30/2017	10/29/2018							
Radio Communica- tion Analyer	Anritsu	MT8820C	6201107337	06/09/2018	06/08/2019							
DC Power Supply	Agilent	E3640A	MY53130054	09/04/2017	09/03/2018							

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### 6.5. Measurement Result

### **RF Conducted Output Power**

### 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 Mode	Freq. (MHz)	СН	Conducted Avg. Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
	1852.4	9262	22.89	-5.17	17.72	33	-15.28
WCDMA	1880	9400	23	-5.17	17.83	33	-15.17
	1907.6	9538	22.61	-5.17	17.44	33	-15.56
	1852.4	9262	22.61	-5.17	17.44	33	-15.56
HSDPA	1880	9400	22.73	-5.17	17.56	33	-15.44
	1907.6	9538	22.35	-5.17	17.18	33	-15.82
	1852.4	9262	22.39	-5.17	17.22	33	-15.78
HSUPA	1880	9400	22.42	-5.17	17.25	33	-15.75
	1907.6	9538	22.13	-5.17	16.96	33	-16.04
WCDMA/H	isupa/h	SDPA B	Band IV Result:				
EUT Mode	CH Ava Power		Avg. Power	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
	1712.4	1312	22.38	-4.69	17.69	30	-12.31
WCDMA	1732.6	1413	22.49	-4.69	17.8	30	-12.2
	1752.6	1513	22.73	-4.69	18.04	30	-11.96
	1712.4	1312	22.11	-4.69	17.42	30	-12.58
HSDPA	1732.6	1413	22.21	-4.69	17.52	30	-12.48
	1752.6	1513	22.56	-4.69	17.87	30	-12.13
	1712.4	1312	21.88	-4.69	17.19	30	-12.81
HSUPA	1732.6	1413	21.91	-4.69	17.22	30	-12.78
	1752.6	1513	22.31	-4.69	17.62	30	-12.38

WCDMA/HSUPA/HSDPA Band II Result:

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#### WCDMA/HSUPA/HSDPA Band V Result:

EUT Mode	Freq. (MHz)	СН	Conducted Avg. Power (dBm)	Antenna Gain (dBi)		Limit (dBm)	Margin (dB)
	826.4	4132	22.73	-3.61	19.12	38.5	-19.38
WCDMA	836.6	4183	22.59	-3.61	18.98	38.5	-19.52
	846.6	4233	22.75	-3.61	19.14	38.5	-19.36
	826.4	4132	22.51	-3.61	18.9	38.5	-19.6
HSDPA	836.6	4183	22.57	-3.61	18.96	38.5	-19.54
	846.6	4233	22.56	-3.61	18.95	38.5	-19.55
	826.4	4132	22.21	-3.61	18.6	38.5	-19.9
HSUPA	836.6	4183	22.64	-3.61	19.03	38.5	-19.47
	846.6	4233	22.23	-3.61	18.62	38.5	-19.88



### 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	βc	βa	β <sub>d</sub> (SF)	βc/βd	βнs (Note1, Note 2)	<b>CM (dB)</b> (Note 3)	MPR (dB) (Note 3)	RMC (Kbps)
1	2/15	15/15	64	2/15	4/15	0.0	0.0	12.2
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0	12.2
3	15/15	8/15	64	15/8	30/15	1.5	0.5	12.2
4	15/15	4/15	64	15/4	30/15	1.5	0.5	12.2

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

## HSPA (HSDPA & HSUPA) Release 6 MODE

The following 5 Sub-Tests were completed according to the test requirements outlined in section 5.2A of the 3GPP TS34.121-1 V8.4.0 specification. All TX RMS power requirements for Power Class 3 were met according to table 5.2AA.5 and 5.2B.5 All UE channels and power ratio's are set according to table C11.1.3 in the 3GPP TS34.121-1 V8.4.0. RMC 12.2kps is used for this testing **HSPA SUB-TEST Setting** 

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

Sub- test	βc	βa	β <sub>d</sub> (SF)	βc/βd	βнs	β <sub>ec</sub>	β <sub>ed</sub>	β <sub>ed</sub> (SF)	β <sub>ed</sub> (Code s)	CM (dB)	MPR (dB)	AG Index	E-TFCI	RMC (Kbps )
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/22 5	1309/225	4	1	1.0	0.0	20	75	12.2
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67	12.2
3	15/15	9/15	64	15/9	30/15	30/15	β <sub>ed</sub> 1: 47/15 β <sub>ed</sub> 2: 47/15	4 4	2	2.0	1.0	15	92	12.2
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71	12.2
5	15/15 (Note 4)	15/15 (Note 4)	64	15/15 (Note 4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81	12.2

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

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### **Results:**

Mode	Sub test	Avg.	Power (o Channel		Power Class 3 Limitation (dBm)	Comments
	เธรเ	9262	9400	9538		
	1	22.85	2.98	22.58	20.3dBm – 25.7dBm	Pass
HSDPA II	2	21.83	21.97	21.57	20.3dBm – 25.7dBm	Pass
	3	21.04	21.45	21.04	19.8dBm – 25.7dBm	Pass
	4	21.07	21.24	20.79	19.8dBm – 25.7dBm	Pass
		۸	Dowor (a			
Mode	Sub test	Avg.	Power (o Channel		Power Class 3 Limitation (dBm)	Comments
	1001	1312	1413	1513	Emitation (dbm)	
	1	20.58	22.44	22.82	20.3dBm – 25.7dBm	Pass
HSDPA IV	2	21.36	21.42	21.83	20.3dBm – 25.7dBm	Pass
HODEAN	3	20.86	20.95	21.33	19.8dBm – 25.7dBm	Pass
	4	20.62	20.68	21.14	19.8dBm – 25.7dBm	Pass
Mode	Sub test	Avg.	. Power (dBm) Channel		Power Class 3 Limitation (dBm)	Comments
	1031	4132	4183	4233		
	1	22.75	22.62	22.86	20.3dBm – 25.7dBm	Pass
HSDPA V	2	21.74	22.11	21.84	20.3dBm – 25.7dBm	Pass
	3	21.23	21.62	21.31	19.8dBm – 25.7dBm	Pass

4

21.01

21.34

21.05

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19.8dBm - 25.7dBm

Pass



	Curk	Avg.	Power (c	lBm)			
Mode	Sub test		Channel		Power Class 3 Limitation (dBm)	Comments	
	1051	9262	9400	9538			
	1	22.34	22.45	22.01	18.8dBm – 25.7dBm	Pass	
	2	22.79	22.93	22.54	16.8dBm – 25.7dBm	Pass	
HSUPA II	3	21.28	21.41	20.98	17.8dBm – 25.7dBm	Pass	
	4	22.84	22.92	22.54	16.8dBm – 25.7dBm	Pass	
	5	21.88	21.96	21.53	18.8dBm – 25.7dBm	Pass	
Mode	Sub test	Avg.	Power (o Channel		Power Class 3 Limitation (dBm)	Comments	
	1001	1312	1413	1513	Elimitation (ability		
	1	21.83	21.93	22.38	20.3dBm – 25.7dBm	Pass	
	2	22.33	22.37	22.84	20.3dBm – 25.7dBm	Pass	
HSUPA IV	3	20.87	20.91	21.38	19.8dBm – 25.7dBm	Pass	
	4	22.34	22.35	22.89	19.8dBm – 25.7dBm	Pass	
	5	21.32	21.43	21.83	19.8dBm – 25.7dBm	Pass	
Mode	Sub test	Avg.	Power (o Channel		Power Class 3 Limitation (dBm)	Comments	
		4132	4183	4233			
	1	22.27	22.18	22.37	18.8dBm – 25.7dBm	Pass	
	2	22.75	22.64	22.80	16.8dBm – 25.7dBm	Pass	
HSUPA V	3	21.22	21.71	21.39	17.8dBm – 25.7dBm	Pass	
	4	22.77	22.67	22.89	16.8dBm – 25.7dBm	Pass	
	5	21.74	22.11	21.83	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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# LTE Result:

Antenna	i gain (dBi)	-5.17							
		LTE Band	12_Uplink fro	equenc	cy band	: 1850 to 197	10 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	22.35	17.18	33	-15.82
	18607	1850.7	QPSK	1	5	22.30	17.13	33	-15.87
	10007	1000.7	UF 3N	3	2	22.31	17.14	33	-15.86
				6	0	21.12	15.95	33	-17.05
				1	0	22.53	17.36	33	-15.64
	18900	1880	QPSK	1	5	22.43	17.26	33	-15.74
	10700	1000	QFSK	3	2	22.38	17.21	33	-15.79
				6	0	21.42	16.25	33	-16.75
		1909.3	QPSK	1	0	21.98	16.81	33	-16.19
10103	10102			1	5	22.01	16.84	33	-16.16
	19193			3	2	22.07	16.90	33	-16.10
1.4				6	0	21.06	15.89	33	-17.11
1.4				1	0	21.22	16.05	33	-16.95
	18607	1850.7	16QAM	1	5	21.19	16.02	33	-16.98
	10007	1030.7	TUQAIN	3	2	21.12	15.95	33	-17.05
				6	0	20.37	15.20	33	-17.80
				1	0	21.63	16.46	33	-16.54
	18900	1880	16QAM	1	5	21.68	16.51	33	-16.49
	10700	1000		3	2	21.34	16.17	33	-16.83
				6	0	20.36	15.19	33	-17.81
				1	0	21.21	16.04	33	-16.96
	19193	1909.3	160AM	1	5	21.01	15.84	33	-17.16
	17175		16QAM	3	2	20.98	15.81	33	-17.19
				6	0	20.14	14.97	33	-18.03



Antenna	Antenna gain (dBi) -5.17 LTE Band 2_Uplink frequency band : 1850 to 1910 MHz											
		LTE Band	d 2_Uplink fro	equence	cy band							
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)			
				1	0	22.40	17.23	33	-15.77			
	18615	1851.5	QPSK	1	14	22.35	17.18	33	-15.82			
	10010	1001.0	UFSK	8	4	21.23	16.06	33	-16.94			
				15	0	21.08	15.91	33	-17.09			
				1	0	22.49	17.32	33	-15.68			
	18900	1880	QPSK	1	14	22.46	17.29	33	-15.71			
	10900	1000	UF SK	8	4	21.43	16.26	33	-16.74			
				15	0	21.51	16.34	33	-16.66			
			QPSK	1	0	22.03	16.86	33	-16.14			
101	19185	1908.5		1	14	21.98	16.81	33	-16.19			
	17105	1700.5		8	4	21.05	15.88	33	-17.12			
3				15	0	21.05	15.88	33	-17.12			
5				1	0	21.60	16.43	33	-16.57			
	18615	1851.5	16QAM	1	14	21.53	16.36	33	-16.64			
	10015	1001.0		8	4	20.40	15.23	33	-17.77			
				15	0	20.28	15.11	33	-17.89			
				1	0	21.79	16.62	33	-16.38			
	18900	1880	16QAM	1	14	21.76	16.59	33	-16.41			
	10700	1000		8	4	20.49	15.32	33	-17.68			
				15	0	20.41	15.24	33	-17.76			
				1	0	21.23	16.06	33	-16.94			
	19185	1908 5	16OAM	1	14	21.14	15.97	33	-17.03			
	17103	1908.5	16QAM	8	4	20.13	14.96	33	-18.04			
				15	0	20.11	14.94	33	-18.06			



Antenna gain (dB

-5.17

#### LTE Band 2\_Uplink frequency band : 1850 to 1910 MHz Conducted EIRP EIRP BW UL Frequency RB RB Margin Modulation Average Average Limit (MHz) Size Offset (MHz) Channel (dB)(dBm) (dBm) (dBm) 0 22.28 17.11 33 -15.89 1 24 22.16 16.99 33 -16.01 1 QPSK 18625 1852.5 12 21.32 16.15 33 -16.85 6 -16.78 25 0 21.39 16.22 33 17.37 1 0 22.54 33 -15.6324 1 22.51 17.34 33 -15.66 18900 1880 **QPSK** 33 12 21.53 16.36 -16.64 6 25 0 21.51 16.34 33 -16.66 1 0 22.08 16.91 33 -16.09 24 33 1 22.07 16.90 -16.10 QPSK 19175 1907.5 12 6 21.04 15.87 33 -17.13 25 0 21.07 15.90 33 -17.10 5 1 0 21.46 16.29 33 -16.71 1 24 21.31 16.14 33 -16.86 18625 1852.5 16QAM 12 20.34 33 -17.83 15.17 6 25 0 33 -17.83 20.34 15.17 0 33 -16.54 1 21.63 16.46 1 24 21.67 16.50 33 -16.50 18900 1880 16QAM 12 6 20.37 15.20 33 -17.80 25 0 15.22 20.39 33 -17.78 0 21.38 16.21 33 -16.79 1 24 33 1 21.26 16.09 -16.91 19175 1907.5 16QAM 12 20.04 14.87 33 -18.13 6 25 0 20.10 14.93 33 -18.07

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Antenna	Antenna gain (dBi) -5.17 LTE Band 2_Uplink frequency band : 1850 to 1910 MHz											
		LTE Band	2_Uplink fr	equenc	cy band	: 1850 to 197	10 MHz					
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)			
				1	0	22.54	17.37	33	-15.63			
	18650	1855	QPSK	1	24	21.88	16.71	33	-16.29			
	10000	1000	UFSK	12	6	20.92	15.75	33	-17.25			
				25	0	20.90	15.73	33	-17.27			
				1	0	22.58	17.41	33	-15.59			
	18900	1880	QPSK	1	24	22.54	17.37	33	-15.63			
	10700	1000		12	6	21.65	16.48	33	-16.52			
				25	0	21.19	16.02	33	-16.98			
		1905	QPSK	1	0	21.70	16.53	33	-16.47			
19150	19150			1	24	21.85	16.68	33	-16.32			
	19150 1905 10			12	6	20.78	15.61	33	-17.39			
10				25	0	20.75	15.58	33	-17.42			
10				1	0	21.62	16.45	33	-16.55			
	18650	1855	16QAM	1	24	20.21	15.04	33	-17.96			
				12	6	20.01	14.84	33	-18.16			
				25	0	20.39	15.22	33	-17.78			
				1	0	21.91	16.74	33	-16.26			
	18900	1880	16QAM	1	24	21.98	16.81	33	-16.19			
				12	6	20.71	15.54	33	-17.46			
				25	0	20.52	15.35	33	-17.65			
				1	0	21.23	16.06	33	-16.94			
	19150	1905	16QAM	1	24	21.39	16.22	33	-16.78			
			16QAM	12	6	20.12	14.95	33	-18.05			
				25	0	20.16	14.99	33	-18.01			

AIIICIIIIC	LTE Band 2_Uplink frequency band : 1850 to 1910 MHz												
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)				
				1	0	22.49	17.32	33	-15.68				
	18675	1857.5	QPSK	1	74	21.17	16.00	33	-17.00				
	10075	1007.0	UF SK	36	19	21.37	16.20	33	-16.80				
				75	0	21.39	16.22	33	-16.78				
				1	0	21.09	15.92	33	-17.08				
	18900	1880	QPSK	1	74	22.47	17.30	33	-15.70				
	10700	1000	QLOK	36	19	21.66	16.49	33	-16.51				
				75	0	20.98	15.81	33	-17.19				
				1	0	21.88	16.71	33	-16.29				
19125	1902.5	QPSK	1	74	22.30	17.13	33	-15.87					
	19125	1702.3	UF 3N	36	19	21.09	15.92	33	-17.08				
15				75	0	20.61	15.44	33	-17.56				
15				1	0	21.53	16.36	33	-16.64				
	18675	1857.5	16QAM	1	74	21.23	16.06	33	-16.94				
	10075	1037.3	TUQAIN	36	19	20.47	15.30	33	-17.70				
				75	0	20.35	15.18	33	-17.82				
				1	0	21.45	16.28	33	-16.72				
	18900	1880	16QAM	1	74	22.00	16.83	33	-16.17				
	10700	1000		36	19	20.69	15.52	33	-17.48				
				75	0	20.60	15.43	33	-17.57				
				1	0	21.38	16.21	33	-16.79				
	19125	1902 5	16OAM	1	74	21.48	16.31	33	-16.69				
	1712J	19125 1902.5	16QAM	36	19	20.41	15.24	33	-17.76				
				75	0	20.29	15.12	33	-17.88				



-5.17

#### LTE Band 2\_Uplink frequency band : 1850 to 1910 MHz Conducted EIRP EIRP BW UL Frequency RB RB Margin Modulation Average Average Limit (MHz) Size Offset (MHz) Channel (dB)(dBm) (dBm) (dBm) 22.53 17.36 33 -15.64 1 0 99 22.49 17.32 33 -15.68 1 QPSK 18700 1860 50 25 21.37 16.20 33 -16.80 -16.71 100 0 21.46 16.29 33 17.04 1 0 22.21 33 -15.96 99 22.56 17.39 33 -15.61 1 **QPSK** 18900 1880 50 25 33 20.19 15.02 -17.98 100 0 21.74 16.57 33 -16.43 0 22.31 17.14 33 -15.86 1 99 33 -15.99 1 22.18 17.01 QPSK 19100 1900 50 25 21.07 15.90 33 -17.10 100 21.00 15.83 33 -17.17 0 20 1 0 21.79 16.62 33 -16.38 1 99 21.89 16.72 33 -16.28 1860 18700 16QAM 25 50 20.38 15.21 33 -17.79 100 0 20.48 15.31 33 -17.69 0 22.01 33 1 16.84 -16.16 99 1 22.08 16.91 33 -16.09 18900 1880 16QAM 50 25 20.25 15.08 33 -17.92 100 0 20.74 15.57 33 -17.43 0 21.21 16.04 33 -16.96 1 99 33 20.69 15.52 -17.48 1 19100 1900 16QAM 25 50 20.15 14.98 33 -18.02 100 0 20.35 15.18 33 -17.82

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	LTE Band 4_Uplink frequency band : 1710 to 1755 MHz											
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)			
				1	0	21.82	17.13	30	-12.87			
	19957	1710.7	QPSK	1	5	21.78	17.09	30	-12.91			
	17757	1710.7	QLOK	3	2	21.91	17.22	30	-12.78			
				6	0	20.89	16.20	30	-13.80			
				1	0	21.83	17.14	30	-12.86			
	20175	1732.5	QPSK	1	5	21.84	17.15	30	-12.85			
	20175	1752.5	QLOK	3	2	21.74	17.05	30	-12.95			
				6	0	20.86	16.17	30	-13.83			
				1	0	22.32	17.63	30	-12.37			
20303	1754.3	QPSK	1	5	22.29	17.60	30	-12.40				
	20393	1754.5	UI JK	3	2	22.32	17.63	30	-12.37			
1.4				6	0	21.34	16.65	30	-13.35			
1.4				1	0	20.90	16.21	30	-13.79			
	19957	1710.7	16QAM	1	5	21.03	16.34	30	-13.66			
	17757	1710.7	TOQAIN	3	2	21.03	16.34	30	-13.66			
				6	0	19.87	15.18	30	-14.82			
				1	0	21.02	16.33	30	-13.67			
	20175	1732.5	16QAM	1	5	21.07	16.38	30	-13.62			
	20175	1752.5	TOQAIN	3	2	20.87	16.18	30	-13.82			
				6	0	19.98	15.29	30	-14.71			
	20393			1	0	21.68	16.99	30	-13.01			
		1754.3	16OAM	1	5	21.73	17.04	30	-12.96			
		1/54.3	16QAM	3	2	21.22	16.53	30	-13.47			
				6	0	20.45	15.76	30	-14.24			



Antenna	a gain (dBi)	-4.69							
		LTE Band	d 4_Uplink fre	equence	cy band	: 1710 to 175	55 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	21.82	17.13	30	-12.87
	19965	1711.5	QPSK	1	14	21.82	17.13	30	-12.87
	19900	1711.3	UPSK	8	4	20.88	16.19	30	-13.81
				15	0	20.87	16.18	30	-13.82
				1	0	21.72	17.03	30	-12.97
	20175	1732.5	QPSK	1	14	21.71	17.02	30	-12.98
	20175	1752.5	UF SK	8	4	20.86	16.17	30	-13.83
				15	0	20.81	16.12	30	-13.88
				1	0	22.27	17.58	30	-12.42
20385	1753.5	QPSK	1	14	22.23	17.54	30	-12.46	
	20303	1755.5	QF3K	8	4	21.24	16.55	30	-13.45
3				15	0	21.27	16.58	30	-13.42
5				1	0	20.90	16.21	30	-13.79
	19965	1711.5	16QAM	1	14	21.08	16.39	30	-13.61
	17700	1711.5	100/101	8	4	19.85	15.16	30	-14.84
				15	0	19.83	15.14	30	-14.86
				1	0	20.78	16.09	30	-13.91
	20175	1732.5	16QAM	1	14	20.96	16.27	30	-13.73
	20175	1752.5	100/101	8	4	19.81	15.12	30	-14.88
				15	0	19.85	15.16	30	-14.84
				1	0	21.47	16.78	30	-13.22
	20385	1753 5	160AM	1	14	21.56	16.87	30	-13.13
20	20000	1753.5	16QAM	8	4	20.28	15.59	30	-14.41
				15	0	20.19	15.50	30	-14.50



Antenn	Antenna gain (dB -4.69 LTE Band 4_Uplink frequency band : 1710 to 1755 MHz											
		LIE Band	a 4_Uplink fre	equence	cy band							
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)			
				1	0	21.81	17.12	30	-12.88			
	19975	1712.5	QPSK	1	24	22.01	17.32	30	-12.68			
	17775	1712.5	QI SK	12	6	20.95	16.26	30	-13.74			
				25	0	20.98	16.29	30	-13.71			
				1	0	21.94	17.25	30	-12.75			
	20175	1732.5	QPSK	1	24	21.70	17.01	30	-12.99			
	20175	1752.5	QI SK	12	6	20.83	16.14	30	-13.86			
				25	0	20.88	16.19	30	-13.81			
			QPSK	1	0	22.35	17.66	30	-12.34			
20375	20275	1752.5		1	24	22.26	17.57	30	-12.43			
	20375			12	6	21.36	16.67	30	-13.33			
5				25	0	21.33	16.64	30	-13.36			
5			12 6	0	20.91	16.22	30	-13.78				
	19975	1712.5	16QAM	1	24	21.36	16.67	30	-13.33			
	17775	1712.5	TUQAIN	12	6	19.93	15.24	30	-14.76			
				25	0	19.94	15.25	30	-14.75			
				1	0	21.19	16.50	30	-13.50			
	20175	1732.5	16QAM	1	24	21.14	16.45	30	-13.55			
	20175	1752.5		12	6	19.71	15.02	30	-14.98			
				25	0	19.93	15.24	30	-14.76			
				1	0	21.31	16.62	30	-13.38			
	20375	1752	16OAM	1	24	21.32	16.63	30	-13.37			
	20373	1752.5	16QAM -	12	6	20.26	15.57	30	-14.43			
				25	0	20.26	15.57	30	-14.43			

Antenna gain (dB 1 60



Antenna	ntenna gain (dBi) -4.69 LTE Band 4_Uplink frequency band : 1710 to 1755 MHz											
		LTE Band	d 4_Uplink fre	equenc	cy band	: 1710 to 17	55 MHz					
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)			
				1	0	21.80	17.11	30	-12.89			
	20000	1715	QPSK	1	24	21.58	16.89	30	-13.11			
	20000	1715	UF SK	12	6	20.71	16.02	30	-13.98			
				25	0	21.09	16.40	30	-13.60			
				1	0	21.74	17.05	30	-12.95			
	20175	1732.5	QPSK	1	24	21.95	17.26	30	-12.74			
	20175	1752.5	QI SIX	12	6	20.45	15.76	30	-14.24			
				25	0	20.13	15.44	30	-14.56			
		1750	QPSK	1	0	22.34	17.65	30	-12.35			
	20375			1	24	22.41	17.72	30	-12.28			
	20070			12	6	21.47	16.78	30	-13.22			
10				25	0	21.29	16.60	30	-13.40			
-				1	0	21.22	16.53	30	-13.47			
	20000	1715	16QAM	1	24	21.30	16.61	30	-13.39			
		-		12	6	20.17	15.48	30	-14.52			
				25	0	20.10	15.41	30	-14.59			
				1	0	21.06	16.37	30	-13.63			
	20175	1732.5	16QAM	1	24	21.02	16.33	30	-13.67			
				12	6	19.93	15.24	30	-14.76			
				25	0	19.97	15.28	30	-14.72			
				1	0	20.24	15.55	30	-14.45			
	20375	1750	16QAM	1	24	21.57	16.88	30	-13.12			
				12	6	20.43	15.74	30	-14.26			
				25	0	20.43	15.74	30	-14.26			



Antenna	Antenna gain (dBi) -4.69											
		LTE Band	d 4_Uplink fro	equen	cy band	: 1710 to 17	55 MHz					
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)			
				1	0	21.51	16.82	30	-13.18			
	20025	1717.5	QPSK	1	74	21.93	17.24	30	-12.76			
	20025	C.111	UPSK	36	19	19.35	14.66	30	-15.34			
				75	0	20.10	15.41	30	-14.59			
				1	0	21.47	16.78	30	-13.22			
	20175	1732.5	QPSK	1	74	21.77	17.08	30	-12.92			
	20175	1752.5	UF SK	36	19	20.85	16.16	30	-13.84			
				75	0	20.24	15.55	30	-14.45			
		325 1747.5	QPSK	1	0	21.90	17.21	30	-12.79			
2033	20325			1	74	22.38	17.69	30	-12.31			
	20323			36	19	21.36	16.67	30	-13.33			
15				75	0	20.04	15.35	30	-14.65			
15				1	0	20.59	15.90	30	-14.10			
	20025	1717.5	16QAM	1	74	21.09	16.40	30	-13.60			
	20025	1717.5	100/101	36	19	20.16	15.47	30	-14.53			
				75	0	20.16	15.47	30	-14.53			
				1	0	20.80	16.11	30	-13.89			
	20175	1732.5	16QAM	1	74	20.71	16.02	30	-13.98			
	20175	1752.5	100/101	36	19	19.90	15.21	30	-14.79			
				75	0	19.93	15.24	30	-14.76			
				1	0	21.19	16.50	30	-13.50			
	20325	1747 5	16QAM	1	74	21.42	16.73	30	-13.27			
	20020	1747.5	16QAM	36	19	20.03	15.34	30	-14.66			
				75	0	20.39	15.70	30	-14.30			



	i gain (ubi)		d 4_Uplink fr	equenc	cy band	: 1710 to 17	55 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	22.01	17.32	30	-12.68
	20050	1720	QPSK	1	99	21.59	16.90	30	-13.10
	20030	1720	UPSK	50	25	20.46	15.77	30	-14.23
				100	0	20.77	16.08	30	-13.92
				1	0	21.77	17.08	30	-12.92
	20175	1732.5	QPSK	1	99	22.03	17.34	30	-12.66
	20175	1752.5	QI SK	50	25	20.90	16.21	30	-13.79
				100	0	20.95	16.26	30	-13.74
		1745	QPSK	1	0	21.90	17.21	30	-12.79
20300	20200			1	99	22.44	17.75	30	-12.25
	20300	1745	UF 3K	50	25	21.19	16.50	30	-13.50
20				100	0	21.46	16.77	30	-13.23
20				1	0	21.30	16.61	30	-13.39
	20050	1720	16QAM	1	99	21.19	16.50	30	-13.50
	20030	1720	TOCAIN	50	25	20.25	15.56	30	-14.44
				100	0	20.20	15.51	30	-14.49
				1	0	20.82	16.13	30	-13.87
	20175	1732.5	16QAM	1	99	21.06	16.37	30	-13.63
	20175	1752.5	TOQAIN	50	25	19.87	15.18	30	-14.82
				100	0	19.93	15.24	30	-14.76
				1	0	21.05	16.36	30	-13.64
	20300	1745	16ΟΔΜ	1	99	21.67	16.98	30	-13.02
	20300	1745	16QAM	50	25	20.24	15.55	30	-14.45
				100	0	20.40	15.71	30	-14.29

Antenna	ntenna gain (dBi) -3.61									
		LTE Bar	nd 5_Uplink f	requer	ncy ban	d : 824 to 849	9 MHz			
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)	
				1	0	21.54	17.93	38.45	-20.52	
	20407	824.7	QPSK	1	5	21.49	17.88	38.45	-20.57	
	20407	024.7	UPSK	3	2	21.53	17.92	38.45	-20.53	
				6	0	20.55	16.94	38.45	-21.51	
				1	0	21.19	17.58	38.45	-20.87	
	20525	836.5	QPSK	1	5	21.18	17.57	38.45	-20.88	
	20323	030.0	UF SK	3	2	21.05	17.44	38.45	-21.01	
				6	0	20.27	16.66	38.45	-21.79	
		848.3	QPSK	1	0	21.42	17.81	38.45	-20.64	
	20643			1	5	21.43	17.82	38.45	-20.63	
				3	2	21.35	17.74	38.45	-20.71	
1.4				6	0	20.43	16.82	38.45	-21.63	
1.4				1	0	21.43	17.82	38.45	-20.63	
	20407	824.7	16QAM	1	5	21.19	17.58	38.45	-20.87	
	20407	024.7	100/101	3	2	21.43	17.82	38.45	-20.63	
				6	0	20.25	16.64	38.45	-21.81	
				1	0	21.30	17.69	38.45	-20.76	
	20525	836.5	16QAM	1	5	21.32	17.71	38.45	-20.74	
	20020	000.0	100/101	3	2	21.06	17.45	38.45	-21.00	
				6	0	20.07	16.46	38.45	-21.99	
				1	0	21.44	17.83	38.45	-20.62	
	20643	8 848.3	16QAM	1	5	21.48	17.87	38.45	-20.58	
	20010			3	2	21.16	17.55	38.45	-20.90	
				6	0	20.07	16.46	38.45	-21.99	



	i gain (ubi)		nd 5_Uplink f	requer	ncy band	d : 824 to 849	9 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	21.52	17.91	38.45	-20.54
	20415	825.5	QPSK	1	14	21.36	17.75	38.45	-20.70
	20413	023.3	QLDK	8	4	20.45	16.84	38.45	-21.61
				15	0	20.48	16.87	38.45	-21.58
				1	0	21.22	17.61	38.45	-20.84
	20525	836.5	QPSK	1	14	21.27	17.66	38.45	-20.79
	20525	030.0	UF SK	8	4	20.30	16.69	38.45	-21.76
				15	0	20.08	16.47	38.45	-21.98
				1	0	21.31	17.70	38.45	-20.75
	20635	847.5	QPSK	1	14	21.33	17.72	38.45	-20.73
				8	4	20.42	16.81	38.45	-21.64
3				15	0	20.42	16.81	38.45	-21.64
J				1	0	21.42	17.81	38.45	-20.64
	20415	825.5	16QAM	1	14	21.32	17.71	38.45	-20.74
	20413	023.3	TUQAIN	8	4	20.09	16.48	38.45	-21.97
				15	0	19.95	16.34	38.45	-22.11
				1	0	21.31	17.70	38.45	-20.75
	20525	836.5	16QAM	1	14	21.39	17.78	38.45	-20.67
	20525	030.5		8	4	19.94	16.33	38.45	-22.12
				15	0	19.94	16.33	38.45	-22.12
				1	0	21.10	17.49	38.45	-20.96
	20635	847 5	16OAM	1	14	21.19	17.58	38.45	-20.87
	20033	847.5	16QAM	8	4	20.13	16.52	38.45	-21.93
				15	0	20.17	16.56	38.45	-21.89



Anternie	LTE Band 5_Uplink frequency band : 824 to 849 MHz											
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)			
				1	0	21.42	17.81	38.45	-20.64			
	20425	826.5	QPSK	1	24	21.27	17.66	38.45	-20.79			
	20425	020.0	UF SK	12	6	20.40	16.79	38.45	-21.66			
				25	0	20.42	16.81	38.45	-21.64			
				1	0	21.25	17.64	38.45	-20.81			
	20525	836.5	QPSK	1	24	21.33	17.72	38.45	-20.73			
	20323	030.5	QUSIC	12	6	20.28	16.67	38.45	-21.78			
				25	0	20.34	16.73	38.45	-21.72			
				1	0	21.39	17.78	38.45	-20.67			
	20625	846.5	QPSK	1	24	21.40	17.79	38.45	-20.66			
				12	6	20.39	16.78	38.45	-21.67			
5				25	0	20.36	16.75	38.45	-21.70			
5				1	0	21.38	17.77	38.45	-20.68			
	20425	826.5	16QAM	1	24	21.07	17.46	38.45	-20.99			
	20120	020.0	100/101	12	6	19.94	16.33	38.45	-22.12			
				25	0	20.01	16.40	38.45	-22.05			
				1	0	20.97	17.36	38.45	-21.09			
	20525	836.5	16QAM	1	24	21.09	17.48	38.45	-20.97			
	20525	000.0	TOQAIM	12	6	19.89	16.28	38.45	-22.17			
				25	0	19.90	16.29	38.45	-22.16			
	20625 846.5		1	0	21.23	17.62	38.45	-20.83				
		846 5	16QAM	1	24	21.40	17.79	38.45	-20.66			
		010.0	46.5 16QAM	12	6	19.89	16.28	38.45	-22.17			
				25	0	19.91	16.30	38.45	-22.15			



	i gain (ubi)		nd 5_Uplink f	requer	ncy ban	d : 824 to 849	9 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	21.47	17.86	38.45	-20.59
	20450	829	QPSK	1	49	21.30	17.69	38.45	-20.76
	20430	029	UFSK	25	12	20.35	16.74	38.45	-21.71
				50	0	20.07	16.46	38.45	-21.99
				1	0	21.23	17.62	38.45	-20.83
	20525	836.5	QPSK	1	49	20.33	16.72	38.45	-21.73
	20525	030.0	UFSK	25	12	20.34	16.73	38.45	-21.72
				50	0	20.35	16.74	38.45	-21.71
				1	0	21.50	17.89	38.45	-20.56
	20600	844	QPSK	1	49	21.46	17.85	38.45	-20.60
				25	12	20.43	16.82	38.45	-21.63
10				50	0	20.47	16.86	38.45	-21.59
10				1	0	20.56	16.95	38.45	-21.50
	20450	829	16QAM	1	49	20.54	16.93	38.45	-21.52
	20430	029	TOQAIN	25	12	20.37	16.76	38.45	-21.69
				50	0	20.09	16.48	38.45	-21.97
				1	0	20.49	16.88	38.45	-21.57
	20525	836.5	16QAM	1	49	20.67	17.06	38.45	-21.39
	20323	030.3	TUQAIN	25	12	20.14	16.53	38.45	-21.92
			50	0	20.21	16.60	38.45	-21.85	
				1	0	20.63	17.02	38.45	-21.43
	20600	844	16 <b>0</b> M	1	49	20.61	17.00	38.45	-21.45
	20000	044	16QAM	25	12	20.58	16.97	38.45	-21.48
				50	0	20.17	16.56	38.45	-21.89



-4.62

	y gain (abi)		17_Uplink fre	equenc	cy band	: 2500 to 257	70 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	21.88	17.26	33	-15.74
	20775	2502.5	QPSK	1	24	21.88	17.26	33	-15.74
	20115	2002.0	UFJK	12	6	20.95	16.33	33	-16.67
				25	0	20.98	16.36	33	-16.64
				1	0	21.92	17.30	33	-15.70
	21100	2535	QPSK	1	24	21.98	17.36	33	-15.64
	21100	2000	QLOK	12	6	21.05	16.43	33	-16.57
				25	0	21.07	16.45	33	-16.55
				1	0	21.95	17.33	33	-15.67
	21375	2567.5	QPSK	1	24	21.98	17.36	33	-15.64
	21375			12	6	21.03	16.41	33	-16.59
5				25	0	21.07	16.45	33	-16.55
5				1	0	21.10	16.48	33	-16.52
	20775	2502.5	16QAM	1	24	21.20	16.58	33	-16.42
	20115	2002.0	TOQAM	12	6	20.01	15.39	33	-17.61
				25	0	19.99	15.37	33	-17.63
				1	0	20.76	16.14	33	-16.86
	21100	2535	16QAM	1	24	21.06	16.44	33	-16.56
	21100	2000	TOQAM	12	6	20.02	15.40	33	-17.60
				25	0	20.06	15.44	33	-17.56
				1	0	20.99	16.37	33	-16.63
	21375 2567.5	16QAM	1	24	20.98	16.36	33	-16.64	
		16QAM	12	6	20.11	15.49	33	-17.51	
				25	0	20.08	15.46	33	-17.54



Antenna	a gain (dBi)	-4.62							
		LTE Band	d 7_Uplink fre	equen	cy band	: 2500 to 257	70 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	21.88	17.26	33	-15.74
	20800	2505	QPSK	1	49	22.05	17.43	33	-15.57
	20000	2000	UFSK	25	12	21.00	16.38	33	-16.62
				50	0	20.96	16.34	33	-16.66
				1	0	21.91	17.29	33	-15.71
	21100	2535	QPSK	1	49	22.03	17.41	33	-15.59
	21100	2000		25	12	21.05	16.43	33	-16.57
				50	0	21.03	16.41	33	-16.59
21350			65 QPSK	1	0	21.66	17.04	33	-15.96
	21350	2565		1	49	20.77	16.15	33	-16.85
	21000			25	12	21.05	16.43	33	-16.57
10				50	0	20.17	15.55	33	-17.45
10				1	0	21.11	16.49	33	-16.51
	20800	2505	16QAM	1	49	21.21	16.59	33	-16.41
	20000	2000	10 021 111	25	12	20.10	15.48	33	-17.52
				50	0	20.24	15.62	33	-17.38
				1	0	20.93	16.31	33	-16.69
	21100	2535	16QAM	1	49	21.29	16.67	33	-16.33
	21100	2000	10 021 111	25	12	20.10	15.48	33	-17.52
				50	0	20.16	15.54	33	-17.46
				1	0	21.20	16.58	33	-16.42
	21350	2565	16QAM	1	49	21.37	16.75	33	-16.25
				25	12	20.11	15.49	33	-17.51
				50	0	20.19	15.57	33	-17.43



Antenna	Intenna gain (dBi) -4.62 LTE Band 7_Uplink frequency band : 2500 to 2570 MHz										
		LIF Rand	a /_uplink fr	equence	sy band						
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)		
				1	0	21.83	17.21	33	-15.79		
	20825	2507.5	QPSK	1	74	21.99	17.37	33	-15.63		
	20025	2007.0	UF SK	36	19	21.07	16.45	33	-16.55		
				75	0	20.02	15.40	33	-17.60		
				1	0	21.93	17.31	33	-15.69		
	21100	2535	QPSK	1	74	20.68	16.06	33	-16.94		
	21100	2000	QLDK	36	19	21.05	16.43	33	-16.57		
				75	0	20.46	15.84	33	-17.16		
			QPSK	1	0	22.01	17.39	33	-15.61		
	21375	2562.5		1	74	22.03	17.41	33	-15.59		
				36	19	21.15	16.53	33	-16.47		
15				75	0	20.12	15.50	33	-17.50		
15				1	0	21.03	16.41	33	-16.59		
	20825	2507.5	16QAM	1	74	21.29	16.67	33	-16.33		
	20025	2007.0	TOQAIN	36	19	20.11	15.49	33	-17.51		
				75	0	20.03	15.41	33	-17.59		
				1	0	21.04	16.42	33	-16.58		
	21100	2535	16QAM	1	74	21.46	16.84	33	-16.16		
	21100	2000	TOQAIN	36	19	20.08	15.46	33	-17.54		
				75	0	20.11	15.49	33	-17.51		
				1	0	21.40	16.78	33	-16.22		
	21375	2562.5	16 <b>0</b> M	1	74	21.43	16.81	33	-16.19		
	21373	2002.0	5 16QAM	36	19	20.22	15.60	33	-17.40		
				75	0	20.17	15.55	33	-17.45		

Antenna gain (dRi) 4 62



Antenna	a gain (dBi)	-4.62							
		LTE Band	d 7_Uplink fro	equenc	cy band	: 2500 to 257	70 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	21.91	17.29	33	-15.71
	20850	2510	QPSK	1	99	22.22	17.60	33	-15.40
	20050	2510	UF 3K	50	25	19.81	15.19	33	-17.81
				100	0	21.20	16.58	33	-16.42
				1	0	22.04	17.42	33	-15.58
	21100	2535	QPSK	1	99	22.18	17.56	33	-15.44
	21100	2000	QI SK	50	25	21.09	16.47	33	-16.53
				100	0	21.22	16.60	33	-16.40
		2560	QPSK	1	0	21.63	17.01	33	-15.99
	21350			1	99	20.72	16.10	33	-16.90
	21330			50	25	21.10	16.48	33	-16.52
20				100	0	21.22	16.60	33	-16.40
20				1	0	20.74	16.12	33	-16.88
	20850	2510	16QAM	1	99	21.13	16.51	33	-16.49
	20030	2010	1002/101	50	25	20.11	15.49	33	-17.51
				100	0	20.23	15.61	33	-17.39
				1	0	20.00	15.38	33	-17.62
	21100	2535	16QAM	1	99	21.48	16.86	33	-16.14
	21100	2000	1002/101	50	25	20.21	15.59	33	-17.41
				100	0	20.21	15.59	33	-17.41
				1	0	20.81	16.19	33	-16.81
	21350 2560	2560	160AM	1	99	20.90	16.28	33	-16.72
		2000	16QAM	50	25	20.21	15.59	33	-17.41
				100	0	20.25	15.63	33	-17.37



	r gain (ubi)		d 12_Uplink	freque	ncy ban	d : 699 to 71	6 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	21.87	16.30	34.77	-18.47
	23017	699.7	QPSK	1	5	21.80	16.23	34.77	-18.54
	23017	099.7	UPSK	3	2	21.64	16.07	34.77	-18.70
				6	0	20.68	15.11	34.77	-19.66
				1	0	21.79	16.22	34.77	-18.55
	23095	707.5	QPSK	1	5	21.75	16.18	34.77	-18.59
	23073	101.5	QI SK	3	2	21.79	16.22	34.77	-18.55
	23173 715.5			6	0	20.80	15.23	34.77	-19.54
			QPSK	1	0	21.81	16.24	34.77	-18.53
		715.5		1	5	21.73	16.16	34.77	-18.61
				3	2	21.87	16.30	34.77	-18.47
11				6	0	20.88	15.31	34.77	-19.46
1.4				1	0	21.24	15.67	34.77	-19.10
	23017	699.7	16QAM	1	5	21.25	15.68	34.77	-19.09
	23017	077.7	TOCAIN	3	2	20.92	15.35	34.77	-19.42
				6	0	19.89	14.32	34.77	-20.45
				1	0	20.85	15.28	34.77	-19.49
	23095	707.5	16QAM	1	5	20.91	15.34	34.77	-19.43
	23073	101.5		3	2	20.80	15.23	34.77	-19.54
				6	0	19.92	14.35	34.77	-20.42
	23173 715.5		1	0	20.88	15.31	34.77	-19.46	
		715 5	160AM	1	5	20.47	14.90	34.77	-19.87
		110.0	16QAM -	3	2	20.98	15.41	34.77	-19.36
				6	0	20.01	14.44	34.77	-20.33



-5.57

	r guirr (ubi)	LTE Ban	d 12_Uplink	freque	ncy ban	d : 699 to 71	6 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	21.87	16.30	34.77	-18.47
	23025	700.5	QPSK	1	14	21.92	16.35	34.77	-18.42
	23023	700.5		8	4	21.01	15.44	34.77	-19.33
				15	0	20.86	15.29	34.77	-19.48
				1	0	21.74	16.17	34.77	-18.60
	23095	707.5	QPSK	1	14	21.78	16.21	34.77	-18.56
	23073	101.5	QLOK	8	4	20.79	15.22	34.77	-19.55
				15	0	20.87	15.30	34.77	-19.47
				1	0	21.81	16.24	34.77	-18.53
	23165	714.5	QPSK	1	14	21.87	16.30	34.77	-18.47
				8	4	20.89	15.32	34.77	-19.45
3				15	0	21.06	15.49	34.77	-19.28
5				1	0	21.02	15.45	34.77	-19.32
	23025	700.5	16QAM	1	14	21.15	15.58	34.77	-19.19
	23023	700.5	TUQAIN	8	4	19.83	14.26	34.77	-20.51
				15	0	19.93	14.36	34.77	-20.41
				1	0	20.85	15.28	34.77	-19.49
	23095	707.5	16QAM	1	14	20.96	15.39	34.77	-19.38
	23073	101.5	TUQAIN	8	4	19.79	14.22	34.77	-20.55
				15	0	20.06	14.49	34.77	-20.28
				1	0	21.28	15.71	34.77	-19.06
	23165	714 5	16OAM	1	14	20.53	14.96	34.77	-19.81
		714.5	16QAM	8	4	20.03	14.46	34.77	-20.31
				15	0	20.00	14.43	34.77	-20.34



Antenna	Antenna gain (dBi) -5.57									
		LTE Ban	d 12_Uplink i	freque	ncy ban	id : 699 to 71	6 MHz			
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)	
				1	0	21.91	16.34	34.77	-18.43	
	23035	701.5	QPSK	1	24	22.03	16.46	34.77	-18.31	
	23035	701.5	UF SK	12	6	21.01	15.44	34.77	-19.33	
				25	0	20.99	15.42	34.77	-19.35	
				1	0	21.79	16.22	34.77	-18.55	
	23095	707.5	QPSK	1	24	21.78	16.21	34.77	-18.56	
	23073	101.5	QLOK	12	6	20.82	15.25	34.77	-19.52	
				25	0	20.82	15.25	34.77	-19.52	
				1	0	22.08	16.51	34.77	-18.26	
	23155	713.5	QPSK	1	24	21.88	16.31	34.77	-18.46	
	23133			12	6	20.87	15.30	34.77	-19.47	
5				25	0	20.99	15.42	34.77	-19.35	
5				1	0	21.08	15.51	34.77	-19.26	
	23035	701.5	16QAM	1	24	21.26	15.69	34.77	-19.08	
	20000	701.5	100/101	12	6	20.09	14.52	34.77	-20.25	
				25	0	19.92	14.35	34.77	-20.42	
				1	0	21.23	15.66	34.77	-19.11	
	23095	707.5	16QAM	1	24	21.10	15.53	34.77	-19.24	
	20070	101.5	100/101	12	6	19.85	14.28	34.77	-20.49	
				25	0	19.83	14.26	34.77	-20.51	
				1	0	20.83	15.26	34.77	-19.51	
	23155	713.5	16QAM	1	24	20.83	15.26	34.77	-19.51	
	20100			12	6	19.82	14.25	34.77	-20.52	
				25	0	19.82	14.25	34.77	-20.52	



	<u> </u>	LTE Ban	d 12_Uplink	freque	ncy ban	id : 699 to 71	6 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	21.70	16.13	34.77	-18.64
	23060	704	QPSK	1	49	21.83	16.26	34.77	-18.51
	23000	704	QLOK	25	12	20.96	15.39	34.77	-19.38
				50	0	19.98	14.41	34.77	-20.36
				1	0	21.78	16.21	34.77	-18.56
	23095	707.5	QPSK	1	49	20.90	15.33	34.77	-19.44
	23073	101.5		25	12	20.74	15.17	34.77	-19.60
				50	0	19.87	14.30	34.77	-20.47
				1	0	21.81	16.24	34.77	-18.53
	23130	711	QPSK	1	49	21.97	16.40	34.77	-18.37
	23130			25	12	20.94	15.37	34.77	-19.40
10				50	0	21.12	15.55	34.77	-19.22
10				1	0	21.20	15.63	34.77	-19.14
	23060	704	16QAM	1	49	21.12	15.55	34.77	-19.22
	23000	704		25	12	20.02	14.45	34.77	-20.32
				50	0	20.12	14.55	34.77	-20.22
				1	0	21.24	15.67	34.77	-19.10
	23095	707.5	16QAM	1	49	21.50	15.93	34.77	-18.84
	23073	101.5	TUQAIN	25	12	19.93	14.36	34.77	-20.41
				50	0	20.12	14.55	34.77	-20.22
				1	0	21.17	15.60	34.77	-19.17
	23130	711	16 <b>0</b> am	1	49	21.18	15.61	34.77	-19.16
		711	16QAM	25	12	20.01	14.44	34.77	-20.33
				50	0	20.24	14.67	34.77	-20.10



Antenna gain (dBi) -5.71 LTE Band 13_Uplink frequency band : 777 to 787 MHz										
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)	
				1	0	22.14	16.43	34.77	-18.34	
	2220E	779.5	QPSK	1	24	22.14	16.43 34.77	-18.34		
	23205	119.5	QPSK	12	6	21.22	15.51	34.77	-19.26	
				25	0	21.25	15.54	34.77	-19.23	
				1	0	22.20	16.49	34.77	-18.28	
	23230	700	ODSK	1	24	22.16	16.45	34.77	-18.32	
	23230	782	QPSK	12	6	21.09	15.38	34.77	-19.39	
					15.43	34.77	-19.34			
	23255			1	0	22.08	16.37	34.77	-18.40	
		784.5	QPSK	1	24	22.23	16.52	34.77	-18.25	
		784.5	QPSK	12	6	21.10	15.39		-19.38	
5				25	0	21.13	15.42	34.77	-19.35	
5				1	0	20.88	15.17	34.77	-19.60	
	23205	779.5	16QAM	1	24	21.13	15.42	34.77	-19.35	
	23203	119.0	TOQAIN	12	6	20.74	15.03	34.77	-19.74	
				25	0	20.70	14.99	34.77	-19.78	
				1	0	21.55	15.84	34.77	-18.93	
	23230	782	16QAM	1	24	21.55	.7014.9934.77.55 <b>15.84</b> 34.77	-18.93		
	23230	102	TUQAIN	12	6	20.83	15.12	34.77	-19.65	
				25	0	20.77	15.06	34.77	-19.71	
				1	0	21.25	15.54	34.77	-19.23	
	23255	784.5	16QAM	1	24	21.47	15.76	34.77	-19.01	
	23233	704.3		12	6	20.74	15.03	34.77	-19.74	
				25	0	20.79	15.08	34.77	-19.69	



Antenna	a gain (dBi)	-5.71										
LTE Band 13_Uplink frequency band : 777 to 787 MHz												
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)			
				1	0	21.51	15.80	34.77	-18.97			
	23230	782	QPSK	1	49	21.53	15.82	34.77	-18.95			
		102	UF SK	25	12	20.55	14.84	34.77	-19.93			
10				50	0	20.63	14.92	34.77	-19.85			
10				1	0	20.79	15.08	34.77	-19.69			
	23230	782	16QAM	1	49	20.75	15.04	34.77	-19.73			
	23230	102	TOQAIVI	25	12	19.86	14.15	34.77	-20.62			
				50	0	19.92	14.21	34.77	-20.56			



LTE Band 17_Uplink frequency band : 704 to 716 MHz											
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)		
		706.5		1	0	21.86	16.29	34.77	-18.48		
	23755		QPSK	1	24	21.72	16.15	34.77	-18.62		
	23755	700.5	UFJK	12	6	20.71	15.14	34.77	-19.63		
				25	0	20.73	15.16	34.77	-19.61		
				1	0	21.60	16.03	34.77	-18.74		
	23790	710	QPSK	1	24	21.82	16.25	34.77	-18.52		
	23770	710	QI JIK	12	6	20.79	15.22	34.77	-19.55		
				25	0	20.75	15.18	34.77	-19.59		
	23825			1	0	21.76	16.19	34.77	-18.58		
		713.5	QPSK	1	24	21.67	16.10	34.77	-18.67		
		715.5	UFJK	12	6	20.75	15.18	34.77	-19.59		
5				25	0	20.86	15.29	34.77	-19.48		
5				1	0	21.12	15.55	34.77	-19.22		
	23755	706.5	16QAM	1	24	21.03	15.46	34.77	-19.31		
	23733	/06.5	ΙουΑΙΜ	12	6	19.71	14.14	34.77	-20.63		
				25	0	19.76	14.19	34.77	-20.58		
				1	0	20.86	15.29	34.77	-19.48		
	23790	710	16QAM	1	24	20.99	15.42	34.77	-19.35		
	23770	710	TUQAIN	12	6	19.82	14.25	34.77	-20.52		
				25	0	19.77	14.20	34.77	-20.57		
				1	0	20.88	15.31	34.77	-19.46		
	23825	713.5	16QAM	1	24	20.76	15.19	34.77	-19.58		
	ZJUZJ	/10.0		12	6	19.93	14.36	34.77	-20.41		
				25	0	19.83	14.26	34.77	-20.51		



-5.57

	LTE Band 17_Uplink frequency band : 704 to 716 MHz											
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)			
		709		1	0	21.94	16.37	34.77	-18.40			
	23780		QPSK	1	49	20.82	15.25	34.77	-19.52			
	23700	709	UF SK	25	12	20.93	15.36	34.77	-19.41			
				50	0	19.88	14.31	34.77	-20.46			
				1	0	21.61	16.04	34.77	-18.73			
	23790	710	QPSK	1	49	21.75	16.18	34.77	-18.59			
	23790	/10	QLOK	25	12	21.00	15.43	34.77	-19.34			
				50	0	21.01	15.44	34.77	-19.33			
	23800			1	0	21.63	16.06	34.77	-18.71			
		711	QPSK	1	49	21.79	16.22	34.77	-18.55			
		/ 1 1	QLOK	25	12	20.85	15.28	34.77	-19.49			
10				50	0	21.03	15.46	34.77	-19.31			
10				1	0	19.89	14.32	34.77	-20.45			
	23780	709	16QAM	1	49	20.85	15.28	34.77	-19.49			
	23700			25	12	19.99	14.42	34.77	-20.35			
				50	0	20.26	14.69	34.77	-20.08			
				1	0	20.91	15.34	34.77	-19.43			
	23790	710	16QAM	1	49	21.26	15.69	34.77	-19.08			
	23770	/10	TUQAIN	25	12	19.96	14.39	34.77	-20.38			
				50	0	20.09	14.52	34.77	-20.25			
				1	0	20.92	15.35	34.77	-19.42			
	23800	711	16QAM	1	49	21.08	15.51	34.77	-19.26			
	2000	/		25	12	19.95	14.38	34.77	-20.39			
				50	0	20.03	14.46	34.77	-20.31			



LTE Band 26_Uplink frequency band : 824 to 849 MHz											
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)		
				1	0	21.92	18.31	38.45	-20.14		
	26697	814.7	QPSK	1	5	21.84	18.23	38.45	-20.22		
	20097	014.7	QPSK	3	2	21.87	18.26	38.45	-20.19		
				6	0	20.91	17.30	38.45	-21.15		
				1	0	21.64	18.03	38.45	-20.42		
	26865	831.5	QPSK	1	5	21.61	18.00	38.45	-20.45		
		001.0		3	2	21.58	17.97	38.45	-20.48		
				6	0	20.67		38.45	-21.39		
	27033			1	0	21.75	18.14	38.45	-20.31		
		848.3	QPSK	1	5	21.70	18.09	9 38.45	-20.36		
		040.0		3	2	21.60	17.99		-20.46		
1.4				6	0	20.72	17.11	38.45	-21.34		
1.1				1	0	20.94	17.33	38.45	-21.12		
	26697	814.7	16QAM	1	5	20.53		38.45	-21.53		
	20077	011.7	100/101	3	2	21.09		38.45	-20.97		
				6	0	19.97	16.36	38.45	-22.09		
				1	0	20.88	17.27	38.45	-21.18		
	26865	831.5	16QAM	1	5	20.93	17.32	38.45	-21.13		
	20000	001.0	100/101	3	2	20.63	17.02	38.45	-21.43		
				6	0	19.65	16.04	38.45	-22.41		
				1	0	20.98	17.37	38.45	-21.08		
	27033	848.3	16QAM	1	5	20.97	17.36	38.45	-21.09		
	2,000	010.0		3	2	20.77	17.16	38.45	-21.29		
				6	0	19.80	16.19	38.45	-22.26		



Antenna gain (dBi) -3.61 LTE Band 26_Uplink frequency band : 824 to 849 MHz												
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)			
		815.5		1	0	21.30	17.69	38.45	-20.76			
	26705		QPSK	1	14	21.66	18.05	38.45	-20.40			
	20705	010.0	UFSK	8	4	20.44	16.83	38.45	-21.62			
				15	0	20.74	17.13	38.45	-21.32			
				1	0	21.65	18.04	38.45	-20.41			
2686	26865	831.5	QPSK	1	14	21.68	18.07	38.45	-20.38			
	20003	831.5	QLOK	8	4	20.63	17.02	38.45	-21.43			
				15	0	20.62	17.01	38.45	-21.44			
	27025			1	0	21.68	18.07	38.45	-20.38			
		847.5	QPSK	1	14	21.64	18.03	38.45	-20.42			
		047.5		8	4	20.66	17.05	38.45	-21.40			
3				15	0	20.63	17.02	38.45	-21.43			
5				1	0	20.60	16.99	38.45	-21.46			
	26705	815.5	16QAM	1	14	20.94	17.33	38.45	-21.12			
	20700	010.0	100/101	8	4	19.80	16.19	38.45	-22.26			
				15	0	19.76	16.15	38.45	-22.30			
				1	0	20.79	17.18	38.45	-21.27			
	26865	831.5	16QAM	1	14	20.87	17.26	38.45	-21.19			
	20000	00110	10 21 111	8	4	19.74	16.13	38.45	-22.32			
				15	0	19.72	16.11	38.45	-22.34			
				1	0	20.79	17.18	38.45	-21.27			
	27025	847.5	16QAM	1	14	20.88	17.27	38.45	-21.18			
	2.020	00		8	4	19.59	15.98	38.45	-22.47			
				15	0	19.80	16.19	38.45	-22.26			



Antenna	a gain (dBi)	-3.61									
LTE Band 26_Uplink frequency band : 824 to 849 MHz											
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)		
		816.5		1	0	22.09	18.48	38.45	-19.97		
	26715		QPSK	1	24	21.12	17.51	38.45	-20.94		
	20715	010.0	UFJK	12	6	20.97	17.36	38.45	-21.09		
				25	0	21.01	17.40	38.45	-21.05		
				1	0	21.72	18.11	38.45	-20.34		
	26865	831.5	QPSK	1	24	21.94	18.33	38.45	-20.12		
	20005	031.3	QLOK	12	6	20.88	17.27	38.45	-21.18		
				25	0	20.89	17.28	38.45	-21.17		
	27015			1	0	21.76	18.15	38.45	-20.30		
		846.5	QPSK	1	24	21.72	18.11	38.45	-20.34		
		040.0	QUOK	12	6	20.62	17.01	38.45	-21.44		
5				25	0	20.42	16.81	38.45	-21.64		
Ũ				1	0	21.02	17.41	38.45	-21.04		
	26715	816 5	816.5 16QAM	1	24	20.76	17.15	38.45	-21.30		
	20710	010.0		12	6	20.06	16.45	38.45	-22.00		
				25	0	20.07	16.46	38.45	-21.99		
				1	0	20.10	16.49	38.45	-21.96		
	26865	831.5	16QAM	1	24	20.51	16.90	38.45	-21.55		
	20000	00110	10 27 111	12	6	19.63	16.02	38.45	-22.43		
				25	0	19.61	16.00	38.45	-22.45		
				1	0	20.86	17.25	38.45	-21.20		
	27015	846.5	16QAM	1	24	21.05	17.44	38.45	-21.01		
				12	6	19.73	16.12	38.45	-22.33		
				25	0	19.73	16.12	38.45	-22.33		



-3.61

LTE Band 26_Uplink frequency band : 824 to 849 MHz										
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)	
				1	0	22.04	18.43	38.45	-20.02	
	26750	820	QPSK	1	49	21.87	18.26	38.45	-20.19	
	20750	020	UFSK	25	12	21.01	17.40	38.45	-21.05	
				50	0	19.92	16.31	38.45	-22.14	
				1	0	20.93	17.32	38.45	-21.13	
	26865	831.5	QPSK	1	49	21.05	17.44	38.45	-21.01	
	20000	001.0	QUSIC	25	12	19.99	16.38	38.45	-22.07	
				50	0	20.93	17.32	38.45	-21.13	
				1	0	21.96	18.35	38.45	-20.10	
	26990	844	QPSK	1	49	21.93	18.32	38.45	-20.13	
	20770	770	QI SIX	25	12	20.99	17.38	38.45	-21.07	
10				50	0	19.98	16.37	38.45	-22.08	
10				1	0	21.43	17.82	38.45	-20.63	
	26750	820	16QAM	1	49	21.04	17.43	43 38.45	-21.02	
	20700	020	TUQAINI	25	12	19.80	16.19	38.45	-22.26	
				50	0	19.96	16.35	38.45	-22.10	
				1	0	19.98	16.37	38.45	-22.08	
	26865	831.5	16QAM	1	49	20.18	16.57	38.45	-21.88	
	20000	001.0	1002/111	25	12	20.00	16.39	38.45	-22.06	
				50	0	20.04	16.43	38.45	-22.02	
				1	0	21.17	17.56	38.45	-20.89	
	26990	844	16QAM	1	49	20.21	16.60	38.45	-21.85	
	20770	011	10 2/ 11/1	25	12	20.00	16.39	38.45	-22.06	
				50	0	20.10	16.49	38.45	-21.96	



Antenna gain (dBi) -3.61 LTE Band 26_Uplink frequency band : 824 to 849 MHz												
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)			
		822.5		1	0	21.99	18.38	38.45	-20.07			
	26775		QPSK	1	74	21.89	18.28	38.45	-20.17			
	20775	022.0	UFSK	36	19	19.93	16.32	38.45	-22.13			
				75	0	20.68	17.07	38.45	-21.38			
			QPSK	1	0	21.68	18.07	38.45	-20.38			
2686	26865	831.5		1	74	21.87	18.26	38.45	-20.19			
	20805	831.5	UF SK	36	19	20.85	17.24	38.45	-21.21			
				75	0	20.80	17.19	38.45	-21.26			
	26965			1	0	21.80	18.19	38.45	-20.26			
		841.5	QPSK	1	74	21.96	18.35	38.45	-20.10			
		041.5	QLOK	36	19	19.75	16.14	38.45	-22.31			
15				75	0	21.07	17.46	38.45	-20.99			
15				1	0	21.18	1.18 <b>17.57</b>	38.45	-20.88			
	26775	822.5	16QAM	1	74	21.17	17.56	38.45	-20.89			
	20115	022.0		36	19	19.94	16.33	38.45	-22.12			
				75	0	19.70	16.09	38.45	-22.36			
				1	0	21.10	17.49	38.45	-20.96			
	26865	831.5	16QAM	1	74	20.37	16.76	38.45	-21.69			
	20005	001.0	TOQUIN	36	19	20.00	16.39	38.45	-22.06			
				75	0	19.85	16.24	38.45	-22.21			
				1	0	20.95	17.34	38.45	-21.11			
	26965	841.5	16QAM	1	74	21.14	17.53	38.45	-20.92			
	20700	011.0		36	19	20.10	16.49	38.45	-21.96			
				75	0	20.17	16.56	38.45	-21.89			



	Р	art 90S_LTE	Band 26_Up	olink fr	equency	y band : 814	to 824 MH	Z	
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	22.03	18.42	50	-31.58
	26697	814.7	QPSK	1	5	22.12	18.51	50	-31.49
	20097	014.7	UF SK	3	2	22.09	18.48	50	-31.52
				6	0	21.11	17.50	50	-32.50
				1	0	22.26	18.65	50	-31.35
	26740	819	QPSK	1	5	22.17	18.56	50	-31.44
	20740	819	UF SK	3	2	22.12	18.51	50	-31.49
				6	0	21.19	17.58	50	-32.42
	26783			1	0	22.08	18.47	50	-31.53
		823.3	QPSK	1	5	22.16	18.55	50	-31.45
		023.3	UF SK	3	2	22.26	18.65		-31.35
1.4				6	0	21.33	17.72	50	-32.28
1.4				1	0	21.32	17.71	50	-32.29
	26697	814.7	16QAM	1	5	21.42	17.81 50	-32.19	
	20077	014.7	3 10QAW	3	2	21.12	17.51	50	-32.49
				6	0	20.18	16.57	50	-33.43
				1	0	21.57	17.96	50	-32.04
	26740	819	16QAM	1	5	21.46	17.85	50	-32.15
	20740	017	TOCAIN	3	2	21.21	17.60	50	-32.40
				6	0	20.21	16.60	50	-33.40
				1	0	21.75	18.14	50	-31.86
	26783	823.3	16QAM	1	5	21.72	18.11	50	-31.89
	20703	020.0		3	2	21.23	17.62	50	-32.38
				6	0	20.29	16.68	50	-33.32



#### Antenna gain (dBi) -3.61

Tunterine	Part 90S_LTE Band 26_Uplink frequency band : 814 to 824 MHz											
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)			
				1	0	21.96	18.35	50	-31.65			
	26705	815.5	QPSK	1	14	22.12	18.51	50	-31.49			
	20703	013.3	QLOK	8	4	21.17	17.56	50	-32.44			
				15	0	21.09	17.48	50	-32.52			
				1	0	22.12	18.51	50	-31.49			
	26740	819	QPSK	1	14	22.12	18.51	50	-31.49			
	20740	017	QLOK	8	4	21.24	17.63	50	-32.37			
				15	0	21.21	17.60	50	-32.40			
		822.5	QPSK	1	0	22.12	18.51	50	-31.49			
	26775			1	14	22.17	18.56	50	-31.44			
				8	4	21.25	17.64	50	-32.36			
3				15	0	21.19	17.58	50	-32.42			
5				1	0	21.17	17.56	50	-32.44			
	26705	815.5	16QAM	1	14	21.03	17.42	50	-32.58			
	20703	015.5	TOQAIN	8	4	20.22	16.61	50	-33.39			
				15	0	20.18	16.57	50	-33.43			
				1	0	21.51	17.90	50	-32.10			
	26740	819	16QAM	1	14	21.56	17.95	50	-32.05			
	20740	017	TUQAIN	8	4	20.31	16.70	50	-33.30			
				15	0	20.24	16.63	50	-33.37			
				1	0	21.38	17.77	50	-32.23			
	26775	822.5	16OAM	1	14	21.52	17.91	50	-32.09			
	26775	822.5	16QAM -	8	4	20.32	16.71	50	-33.29			
				15	0	20.30	16.69	50	-33.31			



#### Antenna gain (dBi) -3.61

Anternie	Part 90S_LTE Band 26_Uplink frequency band : 814 to 824 MHz											
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)			
				1	0	22.02	18.41	50	-31.59			
	26715	816.5	QPSK	1	24	22.26	18.65	50	-31.35			
	20713	010.5		12	6	21.24	17.63	50	-32.37			
				25	0	21.01	17.40	50	-32.60			
				1	0	22.23	18.62	50	-31.38			
	26740	819	QPSK	1	24	22.32	18.71	50	-31.29			
	20740	017		12	6	21.32	17.71	50	-32.29			
				25	0	21.27	17.66	50	-32.34			
	26765		QPSK	1	0	22.14	18.53	50	-31.47			
		821.5		1	24	22.27	18.66	50	-31.34			
				12	6	21.15	17.54	50	-32.46			
5				25	0	21.29	17.68	50	-32.32			
5				1	0	21.10	17.49	50	-32.51			
	26715	816.5	16QAM	1	24	20.61	17.00	50	-33.00			
	20713	010.5		12	6	20.32	16.71	50	-33.29			
				25	0	20.26	16.65	50	-33.35			
				1	0	21.50	17.89	50	-32.11			
	26740	819	16QAM	1	24	21.41	17.80	50	-32.20			
	20740	017	TUQAIN	12	6	20.38	16.77	50	-33.23			
				25	0	20.28	16.67	50	-33.33			
	26765			1	0	21.13	17.52	50	-32.48			
		821 F	16OAM	1	24	21.31	17.70	50	-32.30			
		821.5	16QAM	12	6	20.24	16.63	50	-33.37			
				25	0	20.30	16.69	50	-33.31			



#### Antenna gain (dBi) -3.61

	Р	art 90S_LTE	Band 26_Up	olink fr	equency	y band : 814	to 824 MH	Z	
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	22.08	18.47	50	-31.53
26740	819	QPSK	1	49	22.30	18.69	50	-31.31	
	20740	017	UPSK	25	12	21.26	17.65	50	-32.35
10				50	0	21.30	17.69	50	-32.31
10				1	0	21.41	17.80	50	-32.20
	26740	819	16QAM	1	49	21.72	18.11	50	-31.89
267	20740	019	TUQAIN	25	12	20.42	16.81	50	-33.19
				50	0	19.97	16.36	50	-33.64



Antenna	Antenna gain (dBi) -4.11									
		LTE Band	30_Uplink fr	equen	cy band	l : 2305 to 23	15 MHz			
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)	
				1	0	21.92	17.81	24	-6.19	
	27685	2307.5	QPSK	1	24	21.82	17.71	24	-6.29	
	27080	2307.5	UPSK	12	6	20.87	16.76	24	-7.24	
				25	0	20.93	16.82	24	-7.18	
				1	0	21.79	17.68	24	-6.32	
	27710	2310	QPSK	1	24	21.80	17.69	24	-6.31	
	27710	2310	UPSK	12	6	20.91	16.80	24	-7.20	
				25	0	20.97	16.86	24	-7.14	
		2312.5	QPSK	1	0	21.98	17.87	24	-6.13	
	27735			1	24	21.98	17.87	24	-6.13	
				12	6	20.72	16.61	24	-7.39	
5				25	0	20.69	16.58	24	-7.42	
5				1	0	20.60	16.49	24	-7.51	
	27685	2307.5	16QAM	1	24	20.53	16.42	24	-7.58	
	27000	2007.0	100/101	12	6	19.87	15.76	24	-8.24	
				25	0	19.80	15.69	24	-8.31	
				1	0	21.08	16.97	24	-7.03	
	27710	2310	16QAM	1	24	21.07	16.96	24	-7.04	
	27710	2010	100/101	12	6	19.92	15.81	24	-8.19	
				25	0	19.94	15.83	24	-8.17	
ľ				1	0	20.92	16.81	24	-7.19	
	27735	2312.5	16QAM	1	24	20.92	16.81	24	-7.19	
	27735	2312.5	16QAM	12	6	19.76	15.65	24	-8.35	
				25	0	19.82	15.71	24	-8.29	



Antenna	gain (dBi)	-4.11							
		LTE Bar	nd 30_Uplink f	requen	cy band	: 2305 to 2315	5 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm/10MHz )	EIRP Average (dBm/10M Hz)	EIRP Limit (dBm/5 MHZ)	Margin (dB)
				1	0	22.16	18.05	24	-5.95
	27710	2310	QPSK	1	49	22.00	17.89	24	-6.11
	27710			25	12	21.09	16.98	24	-7.02
10				50	0	21.22	17.11	24	-6.89
10				1	0	21.48	17.37	24	-6.63
	27710 2310	2310	16QAM	1	49	21.34	17.23	24	-6.77
	27710	2310		25	12	20.07	15.96	24	-8.04
				50	0	20.18	16.07	24	-7.93

Antenna	gain (dBi)	-4.11							
		LTE Bar	nd 30_Uplink f	requen	cy band	: 2305 to 2315	5 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm/5MHz)	EIRP Average (dBm/5MH z)	EIRP Limit (dBm/5 MHZ)	Margin (dB)
				1	0	19.11	15.00	24	-9.00
	27710	2310	QPSK	1	49	18.98	14.87	24	-9.13
	27710	2310	UF SK	25	12	18.07	13.96	24	-10.04
10				50	0	18.13	14.02	24	-9.98
10				1	0	18.41	14.30	24	-9.70
	27710	2310	16QAM	1	49	18.31	14.20	24	-9.80
	27710	2310	TOCAM	25	12	17.04	12.93	24	-11.07
				50	0	17.12	13.01	24	-10.99



Antenna gain (dBi) -4.57

		LTE Band	38_Uplink fr	equen	cy band	l : 2570 to 26	20 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	22.02	17.45	33	-15.55
	37775	2572.5	QPSK	1	24	22.03	17.46	33	-15.54
	37773	2372.3		12	6	20.95	16.38	33	-16.62
				25	0	20.96	16.39	33	-16.61
				1	0	22.17	17.60	33	-15.40
	38000	2595	QPSK	1	24	22.18	17.61	33	-15.39
	30000	2373	QUUIK	12	6	21.12	16.55	33	-16.45
				25	0	21.13	16.56	33	-16.44
				1	0	22.20	17.63	33	-15.37
	38225	2617.5	QPSK	1	24	22.19	17.62	33	-15.38
	30223			12	6	21.11	16.54	33	-16.46
5				25	0	21.12	16.55	33	-16.45
5				1	0	21.32	16.75	33	-16.25
	37775	2572.5	16QAM	1	24	21.33	16.76	33	-16.24
	57775	2012.0	TOQAM	12	6	20.12	15.55	33	-17.45
				25	0	20.04	15.47	33	-17.53
				1	0	21.42	16.85	33	-16.15
	38000	2595	16QAM	1	24	21.43	16.86	33	-16.14
	30000	2373	TUQAIN	12	6	20.22	15.65	33	-17.35
				25	0	20.15	15.58	33	-17.42
	38225			1	0	21.41	16.84	33	-16.16
		2617 5	16 <b>0</b> am	1	24	21.40	16.83	33	-16.17
		2617.5	16QAM	12	6	20.26	15.69	33	-17.31
				25	0	20.22	15.65	33	-17.35



Antenna	a gain (dBi)		38_Uplink fr	equen	cy band	l : 2570 to 26	20 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	22.21	17.64	33	-15.36
	37800	2575	QPSK	1	49	22.24	17.67	33	-15.33
	37000	2070	UFJK	25	12	21.05	16.48	33	-16.52
				50	0	21.03	16.46	33	-16.54
				1	0	22.25	17.68	33	-15.32
	38000	2595	QPSK	1	49	22.27	17.70	33	-15.30
	30000	2373	QLOK	25	12	21.13	16.56	33	-16.44
				50	0	21.11	16.54	33	-16.46
	38200	2615	QPSK	1	0	22.16	17.59	33	-15.41
				1	49	22.23	17.66	33	-15.34
				25	12	21.17	16.60	33	-16.40
10				50	0	21.15	16.58	33	-16.42
10				1	0	21.20	16.63	33	-16.37
	37800	2575	16QAM	1	49	20.40	15.83	33	-17.17
	37000	2010		25	12	20.12	15.55	33	-17.45
				50	0	20.00	15.43	33	-17.57
				1	0	21.38	16.81	33	-16.19
	38000	2595	16QAM	1	49	21.29	16.72	33	-16.28
	30000	2373		25	12	20.19	15.62	33	-17.38
				50	0	20.09	15.52	33	-17.48
F				1	0	21.45	16.88	33	-16.12
	38200	2615	16QAM	1	49	21.30	16.73	33	-16.27
	50200	2615	16QAM	25	12	20.26	15.69	33	-17.31
				50	0	20.14	15.57	33	-17.43

#### Antenna gain (dBi) -4.57



Antenna	Antenna gain (dBi) -4.57									
		LTE Band	38_Uplink fr	equen	cy band	l : 2570 to 26	20 MHz			
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)	
				1	0	22.02	17.45	33	-15.55	
	37825	2577.5	QPSK	1	74	22.15	17.58	33	-15.42	
	37020	2377.3	UPSK	36	19	21.03	16.46	33	-16.54	
				75	0	20.99	16.42	33	-16.58	
				1	0	21.27	16.70	33	-16.30	
	38000	2595	QPSK	1	74	22.16	17.59	33	-15.41	
	30000	2373	QLOK	36	19	21.09	16.52	33	-16.48	
				75	0	21.05	16.48	33	-16.52	
	38175	2612.5	QPSK	1	0	21.31	16.74	33	-16.26	
				1	74	22.08	17.51	33	-15.49	
				36	19	21.15	16.58	33	-16.42	
15				75	0	21.11	16.54	33	-16.46	
10				1	0	20.26	15.69	33	-17.31	
	37825	2577.5	16QAM	1	74	21.15	16.58	33	-16.42	
	07020	207710	10 021	36	19	20.16	15.59	33	-17.41	
				75	0	20.07	15.50	33	-17.50	
				1	0	21.25	16.68	33	-16.32	
	38000	2595	16QAM	1	74	20.44	15.87	33	-17.13	
	00000	2070	10 021 111	36	19	20.28	15.71	33	-17.29	
				75	0	20.14	15.57	33	-17.43	
				1	0	21.27	16.70	33	-16.30	
	38175	2612.5	16QAM	1	74	20.42	15.85	33	-17.15	
		2612.5	16QAM	36	19	20.27	15.70	33	-17.30	
				75	0	20.14	15.57	33	-17.43	



Antenna	Antenna gain (dBi) -4.57									
		LTE Band	38_Uplink fr	equen	cy band	l : 2570 to 26	20 MHz			
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)	
				1	0	22.23	17.66	33	-15.34	
	37850	2580	QPSK	1	99	22.20	17.63	33	-15.37	
	37000	2000	UFJK	50	25	21.03	16.46	33	-16.54	
				100	0	21.04	16.47	33	-16.53	
				1	0	22.21	17.64	33	-15.36	
	38000	2595	QPSK	1	99	22.21	17.64	33	-15.36	
	30000	2373	QLDK	50	25	21.06	16.49	33	-16.51	
				100	0	21.05	16.48	33	-16.52	
		2610	QPSK	1	0	22.27	17.70	33	-15.30	
	38150			1	99	22.20	17.63	33	-15.37	
	30130			50	25	21.12	16.55	33	-16.45	
20				100	0	21.11	16.54	33	-16.46	
20				1	0	21.20	16.63	33	-16.37	
	37850	2580	16QAM	1	99	21.31	16.74	33	-16.26	
	07000	2000	10 21 111	50	25	19.99	15.42	33	-17.58	
				100	0	20.06	15.49	33	-17.51	
				1	0	21.25	16.68	33	-16.32	
	38000	2595	16QAM	1	99	20.40	15.83	33	-17.17	
		2070		50	25	20.06	15.49	33	-17.51	
				100	0	20.14	15.57	33	-17.43	
				1	0	21.49	16.92	33	-16.08	
	38150	2610	16QAM	1	99	21.45	16.88	33	-16.12	
		2610	16QAM	50	25	20.12	15.55	33	-17.45	
				100	0	20.19	15.62	33	-17.38	



Antenna gain (dBi) -4.57

Antenne	LTE Band 41_Uplink frequency band : 2496 to 2690 MHz											
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)			
				1	0	21.77	17.20	33	-15.80			
	39675	2498.5	QPSK	1	24	21.79	17.22	33	-15.78			
	37073	2470.5	QLOK	12	6	20.77	16.20	33	-16.80			
				25	0	20.81	16.24	33	-16.76			
				1	0	21.85	17.28	33	-15.72			
	40620	2593	QPSK	1	24	21.78	17.21	33	-15.79			
	40020	2075	QUUIK	12	6	20.94	16.37	33	-16.63			
				25	0	20.93	16.36	33	-16.64			
		2687.5	QPSK	1	0	21.83	17.26	33	-15.74			
	41565			1	24	21.36	16.79	33	-16.21			
				12	6	20.91	16.34	33	-16.66			
5				25	0	20.89	16.32	33	-16.68			
5				1	0	21.07	16.50	33	-16.50			
	39675	2498.5	16QAM	1	24	21.08	16.51	33	-16.49			
	37073	2170.0	1002/101	12	6	19.93	15.36	33	-17.64			
				25	0	19.84	15.27	33	-17.73			
				1	0	21.23	16.66	33	-16.34			
	40620	2593	16QAM	1	24	21.25	16.68	33	-16.32			
	40020	2075		12	6	20.04	15.47	33	-17.53			
				25	0	19.97	15.40	33	-17.60			
				1	0	21.19	16.62	33	-16.38			
	41565	2687 5	16QAM	1	24	21.24	16.67	33	-16.33			
	1000	2687.5	16QAM	12	6	20.01	15.44	33	-17.56			
				25	0	19.95	15.38	33	-17.62			

Antenna	Antenna gain (dBi) -4.57									
		LTE Band	41_Uplink fr	equen	cy band	l : 2496 to 26	90 MHz			
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)	
				1	0	21.04	16.47	33	-16.53	
	39700	2501	QPSK	1	49	21.01	16.44	33	-16.56	
	39700	2001	UFSK	25	12	19.85	15.28	33	-17.72	
				50	0	20.84	16.27	33	-16.73	
				1	0	22.14	17.57	33	-15.43	
	40620	2593	QPSK	1	49	21.40	16.83	33	-16.17	
	40020	2373		25	12	20.99	16.42	33	-16.58	
				50	0	20.97	16.40	33	-16.60	
		2685	QPSK	1	0	22.09	17.52	33	-15.48	
	41540			1	49	22.07	17.50	33	-15.50	
				25	12	20.95	16.38	33	-16.62	
10				50	0	20.94	16.37	33	-16.63	
10				1	0	20.12	15.55	33	-17.45	
	39700	2501	16QAM	1	49	20.11	15.54	33	-17.46	
	07700	2001	100/101	25	12	19.90	15.33	33	-17.67	
				50	0	19.85	15.28	33	-17.72	
				1	0	20.51	15.94	33	-17.06	
	40620	2593	16QAM	1	49	20.52	15.95	33	-17.05	
	10020	2070	100/101	25	12	20.06	15.49	33	-17.51	
				50	0	19.96	15.39	33	-17.61	
				1	0	20.58	16.01	33	-16.99	
	41540	2685	16QAM	1	49	20.60	16.03	33	-16.97	
		2685		25	12	20.04	15.47	33	-17.53	
				50	0	19.92	15.35	33	-17.65	

#### Antenna gain (dBi) -4.57

	r gain (abi)		41_Uplink fr	equen	cy band	l : 2496 to 26	90 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	20.38	15.81	33	-17.19
	39725	2503.5	QPSK	1	74	20.35	15.78	33	-17.22
	37723	2303.3	QLOK	36	19	20.83	16.26	33	-16.74
				75	0	20.87	16.30	33	-16.70
				1	0	21.29	16.72	33	-16.28
	40620	2593	QPSK	1	74	22.07	17.50	33	-15.50
	40020	2373	QUSIC	36	19	20.95	16.38	33	-16.62
				75	0	20.90	16.33	33	-16.67
	41515 2			1	0	22.08	17.51	33	-15.49
		2682.5	QPSK	1	74	20.59	16.02	33	-16.98
				36	19	20.92	16.35	33	-16.65
15				75	0	20.87	16.30	33	-16.70
15				1	0	21.06	16.49	33	-16.51
	39725	2503.5	16QAM	1	74	20.15	15.58	33	-17.42
	37723	2000.0		36	19	20.03	15.46	33	-17.54
				75	0	19.85	15.28	33	-17.72
				1	0	21.17	16.60	33	-16.40
	40620	2593	16QAM	1	74	20.43	15.86	33	-17.14
	40020	2373	TOQAM	36	19	20.09	15.52	33	-17.48
				75	0	19.94	15.37	33	-17.63
				1	0	19.70	15.13	33	-17.87
	41515	2682.5	16QAM	1	74	21.12	16.55	33	-16.45
	1010	2682.5	16QAM	36	19	20.03	15.46	33	-17.54
				75	0	19.95	15.38	33	-17.62

#### Antenna gain (dBi) -4.57

	r gain (ubi)		41_Uplink fr	equen	cy band	l : 2496 to 26	90 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	21.98	17.41	33	-15.59
	39750	2506	QPSK	1	99	22.03	17.46	33	-15.54
	37730	2300	QLOK	50	25	20.89	16.32	33	-16.68
				100	0	20.91	16.34	33	-16.66
				1	0	22.08	17.51	33	-15.49
	40620	2593	QPSK	1	99	22.02	17.45	33	-15.55
	40020	2373	QLOK	50	25	20.90	16.33	33	-16.67
				100	0	20.94	16.37	33	-16.63
		2680		1	0	20.76	16.19	33	-16.81
	41490		QPSK	1	99	20.57	16.00	33	-17.00
				50	25	20.85	16.28	33	-16.72
20				100	0	20.95	16.38	33	-16.62
20				1	0	21.09	16.52	33	-16.48
	39750	2506	16QAM	1	99	21.14	16.57	33	-16.43
	37730	2300	TOQAM	50	25	19.81	15.24	33	-17.76
				100	0	19.89	15.32	33	-17.68
				1	0	21.20	16.63	33	-16.37
	40620	2593	16QAM	1	99	20.32	15.75	33	-17.25
	40020	2373	TUQAIM	50	25	19.90	15.33	33	-17.67
				100	0	19.95	15.38	33	-17.62
				1	0	19.78	15.21	33	-17.79
	41490	2680	16QAM	1	99	19.65	15.08	33	-17.92
	41470	2000		50	25	19.83	15.26	33	-17.74
				100	0	19.90	15.33	33	-17.67

	i yairi (ubi)		66_Uplink fr	equen	cy band	l : 1710 to 17	80 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	22.07	17.38	30	-12.62
	131979	1710.7	QPSK	1	5	22.13	17.44	30	-12.56
	1317/7	1710.7	UFJK	3	2	22.05	17.36	30	-12.64
				6	0	21.04	16.35	30	-13.65
				1	0	22.48	17.79	30	-12.21
	132322	1745	QPSK	1	5	22.53	17.84	30	-12.16
	IJZJZZ	1745	QFSK	3	2	22.37	17.68	30	-12.32
				6	0	21.42	16.73	30	-13.27
	132665	1779.3	QPSK	1	0	22.67	17.98	30	-12.02
				1	5	22.64	17.95	30	-12.05
				3	2	22.45	17.76	30	-12.24
1.4				6	0	21.58	16.89	30	-13.11
1.7				1	0	20.66	15.97	30	-14.03
	131979	1710.7	16QAM	1	5	20.69	16.00	30	-14.00
	131777	1710.7	TOQAM	3	2	20.96	16.27	30	-13.73
				6	0	20.08	15.39	30	-14.61
				1	0	21.73	17.04	30	-12.96
	132322	1745	16QAM	1	5	21.69	17.00	30	-13.00
	132322 1745 16	100/101	3	2	21.29	16.60	30	-13.40	
				6	0	20.31	15.62	30	-14.38
				1	0	22.17	17.48	30	-12.52
	132665	1779.3	16QAM	1	5	21.90	17.21	30	-12.79
	102000	1779.3	10021111	3	2	21.45	16.76	30	-13.24
				6	0	20.29	15.60	30	-14.40

Antenna gain (dBi) -4.69



Antenna	a gain (dBi)		66_Uplink fr	equen	cy band	: 1710 to 17	80 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	21.27	16.58	30	-13.42
	131987	1711.5	QPSK	1	14	21.33	16.64	30	-13.36
	131907	1711.3	UPSK	8	4	20.89	16.20	30	-13.80
				15	0	21.22	16.53	30	-13.47
				1	0	22.00	17.31	30	-12.69
	132322	1745	QPSK	1	14	21.62	16.93	30	-13.07
	132322	1745	UFJK	8	4	21.37	16.68	30	-13.32
				15	0	21.39	16.70	30	-13.30
	132657	1778.5	QPSK	1	0	22.39	17.70	30	-12.30
				1	14	22.54	17.85	30	-12.15
				8	4	21.60	16.91	30	-13.09
3				15	0	21.61	16.92	30	-13.08
J				1	0	21.41	16.72	30	-13.28
	131987	1711.5	16QAM	1	14	21.49	16.80	30	-13.20
	131707	1711.5	TUQAIN	8	4	19.64	14.95	30	-15.05
				15	0	20.00	15.31	30	-14.69
				1	0	21.33	16.64	30	-13.36
	132322	1745	16QAM	1	14	21.87	17.18	30	-12.82
	132322	1745	TUQAIN	8	4	20.21	15.52	30	-14.48
				15	0	20.19	15.50	30	-14.50
				1	0	21.88	17.19	30	-12.81
	132657	1778.5	16QAM	1	14	22.07	17.38	30	-12.62
	152057	1770.5		8	4	20.37	15.68	30	-14.32
				15	0	20.32	15.63	30	-14.37

Antenna gain (dBi) -4.69



Antenna gain (dBi) -4.69 LTE Band 66_Uplink frequency band : 1710 to 1780 MHz											
		LTE Band	66_Uplink fr	equen	cy band	l : 1710 to 17	80 MHz				
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)		
				1	0	22.22	17.53	30	-12.47		
	131997	1712.5	QPSK	1	24	22.36	17.67	30	-12.33		
	131997	1712.3	UPSK	12	6	21.11	16.42	30	-13.58		
				25	0	21.34	16.65	30	-13.35		
				1	0	22.51	17.82	30	-12.18		
	132322	1745	QPSK	1	24	22.57	17.88	30	-12.12		
	132322	1745		12	6	21.30	16.61	30	-13.39		
				25	0	21.53	16.84	30	-13.16		
	132647	1777.5	QPSK	1	0	22.49	17.80	30	-12.20		
				1	24	22.71	18.02	30	-11.98		
				12	6	21.44	16.75	30	-13.25		
5				25	0	21.62	16.93	30	-13.07		
Ű				1	0	21.14	16.45	30	-13.55		
	131997	1712.5	16QAM	1	24	21.24	16.55	30	-13.45		
	101777	17 12:0	10 021 111	12	6	19.96	15.27	30	-14.73		
				25	0	20.17	15.48	30	-14.52		
				1	0	21.72	17.03	30	-12.97		
	132322	1745	16QAM	1	24	21.73	17.04	30	-12.96		
	102022	17 10	10 021 111	12	6	20.17	15.48	30	-14.52		
				25	0	20.39	15.70	30	-14.30		
				1	0	21.49	16.80	30	-13.20		
	132647	1777.5	16QAM	1	24	21.98	17.29	30	-12.71		
				12	6	20.32	15.63	30	-14.37		
				25	0	20.52	15.83	30	-14.17		



Antenna	a gain (dBi)	-4.69							
		LTE Band	66_Uplink fr	equen	cy band	l : 1710 to 17	80 MHz		
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
				1	0	22.16	17.47	30	-12.53
	132022	1715	QPSK	1	49	22.41	17.72	30	-12.28
	132022	1715	UPSK	25	12	21.34	16.65	30	-13.35
				50	0	20.31	15.62	30	-14.38
				1	0	22.25	17.56	30	-12.44
	132322	1745	QPSK	1	49	22.76	18.07	30	-11.93
	132322	1745	QLOK	25	12	21.35	16.66	30	-13.34
				50	0	21.52	16.83	30	-13.17
		1775	QPSK	1	0	22.49	17.80	30	-12.20
	132622			1	49	22.71	18.02	30	-11.98
				25	12	21.49	16.80	30	-13.20
10				50	0	21.64	16.95	30	-13.05
10				1	0	20.48	15.79	30	-14.21
	132022	1715	16QAM	1	49	21.88	17.19	30	-12.81
	102022	1710	100/101	25	12	20.24	15.55	30	-14.45
				50	0	20.40	15.71	30	-14.29
				1	0	21.55	16.86	30	-13.14
	132322	1745	16QAM	1	49	21.83	17.14	30	-12.86
	102022	1710	100/101	25	12	20.20	15.51	30	-14.49
				50	0	20.54	15.85	30	-14.15
				1	0	21.79	17.10	30	-12.90
	132622	1775	16QAM	1	49	22.23	17.54	30	-12.46
		1775		25	12	20.28	15.59	30	-14.41
				50	0	20.58	15.89	30	-14.11



Antenna gain (dBi) -4.69 LTE Band 66_Uplink frequency band : 1710 to 1780 MHz											
		LTE Band	66_Uplink fr	equen	cy band	l : 1710 to 17	80 MHz				
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)		
				1	0	22.06	17.37	30	-12.63		
	132047	1717.5	QPSK	1	74	22.24	17.55	30	-12.45		
	132047	1717.5	QLOK	36	19	21.48	16.79	30	-13.21		
				75	0	21.19	16.50	30	-13.50		
				1	0	22.37	17.68	30	-12.32		
	132322	1745	QPSK	1	74	22.78	18.09	30	-11.91		
	132322	1745	QLOK	36	19	21.46	16.77	30	-13.23		
				75	0	21.28	16.59	30	-13.41		
		1772.5	QPSK	1	0	22.49	17.80	30	-12.20		
	132597			1	74	22.62	17.93	30	-12.07		
				36	19	21.46	16.77	30	-13.23		
15				75	0	21.67	16.98	30	-13.02		
10				1	0	21.45	16.76	30	-13.24		
	132047	1717.5	16QAM	1	74	21.41	16.72	30	-13.28		
	102017	171710	10 021	36	19	20.36	15.67	30	-14.33		
				75	0	20.54	15.85	30	-14.15		
				1	0	21.61	16.92	30	-13.08		
	132322	1745	16QAM	1	74	22.00	17.31	30	-12.69		
			10 21	36	19	20.40	15.71	30	-14.29		
				75	0	20.64	15.95	30	-14.05		
				1	0	21.79	17.10	30	-12.90		
	132597	1772.5	16QAM	1	74	21.87	17.18	30	-12.82		
		1772.5		36	19	20.34	15.65	30	-14.35		
				75	0	20.64	15.95	30	-14.05		



Antenna gain (dBi) -4.69 LTE Band 66_Uplink frequency band : 1710 to 1780 MHz											
		LTE Band	66_Uplink fr	equen	cy band	l : 1710 to 17	80 MHz				
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)		
				1	0	22.21	17.52	30	-12.48		
	132072	1720	QPSK	1	99	22.37	17.68	30	-12.32		
	132072	1720	UFSK	50	25	21.49	16.80	30	-13.20		
				100	0	21.52	16.83	30	-13.17		
				1	0	22.22	17.53	30	-12.47		
	132322	1745	QPSK	1	99	22.73	18.04	30	-11.96		
	132322	1745	QLOK	50	25	21.60	16.91	30	-13.09		
				100	0	21.70	17.01	30	-12.99		
		1770	QPSK	1	0	22.77	18.08	30	-11.92		
	132572			1	99	22.75	18.06	30	-11.94		
				50	25	20.37	15.68	30	-14.32		
20				100	0	21.76	17.07	30	-12.93		
20				1	0	21.58	16.89	30	-13.11		
	132072	1720	16QAM	1	99	21.58	16.89	30	-13.11		
	102072	1720	100/101	50	25	20.42	15.73	30	-14.27		
				100	0	20.61	15.92	30	-14.08		
				1	0	20.58	15.89	30	-14.11		
	132322	1745	16QAM	1	99	21.72	17.03	30	-12.97		
	102022	1710	1002/101	50	25	20.49	15.80	30	-14.20		
				100	0	20.73	16.04	30	-13.96		
				1	0	22.07	17.38	30	-12.62		
	132572	1770	16QAM	1	99	22.07	17.38	30	-12.62		
		1770		50	25	20.23	15.54	30	-14.46		
				100	0	20.71	16.02	30	-13.98		

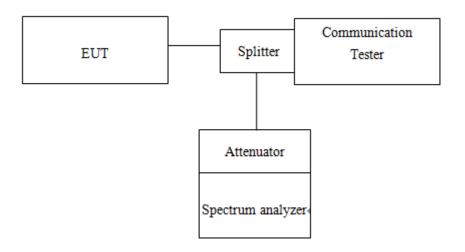


# 7. OCCUPIED BANDWIDTH MEASUREMENT

# 7.1. Standard Applicable

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

# 7.2. Test Set-up



# 7.3. Measurement Procedure

# 99% &26dB Bandwidth with detector peak

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

# 99% Bandwidth with detector sample

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

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

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# 7.4. Measurement Equipment Used

Cond	ucted Emissio	on (measured at a	antenna port) T	est Site	
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
TYPE		NUMBER	NUMBER	CAL.	
Spectrum Analyzer	Agilent	N9010A	MY53400256	10/30/2017	10/29/2018
Radio Communication Analyer	Anritsu	MT8820C	6201107337	06/09/2018	06/08/2019
DC Power Supply	Agilent	E3640A	MY53130054	09/04/2017	09/03/2018
Attenuator	Marvelous	MVE2213-10	RF30	12/26/2017	12/25/2018
Splitter	<b>RF-LAMBAD</b>	RFLT2W1G18G	RF35	12/26/2017	12/25/2018
Spectrum Analyzer	Agilent	N9010A	MY53400256	10/30/2017	10/29/2018
Radio Communication Analyer	Anritsu	MT8820C	6201107337	06/09/2018	06/08/2019
DC Power Supply	Agilent	E3640A	MY53130054	09/04/2017	09/03/2018

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# 7.5. Measurement Result

Freq.		<b>99</b> 9	% BW (MH	z)	26 dB BW (MHz)			
(MHz)	СН	WCDMA	HSDPA	HSUPA	WCDMA	HSDPA	HSUPA	
(11112)			II	II	II	I	II	
1852.40	9262	4.06200	4.05770	4.06240	4.60000	4.60570	4.60470	
1880.00	9400	4.06500	4.05740	4.07810	4.59570	4.59850	4.59090	
1907.60	9538	4.05890	4.06650	4.06410	4.60060	4.59220	4.58870	

Freq.	СН	99	% BW (MHz	<u>z)</u>	26 dB BW (MHz)			
(MHz)		WCDMA	HSDPA	HSUPA	WCDMA	HSDPA	HSUPA	
(11112)		IV	IV	IV	IV	IV	IV	
1712.40	1312	4.06640	4.06410	4.04980	4.06640	4.06410	4.04980	
1732.60	1413	4.06410	4.05280	4.05470	4.06410	4.05280	4.05470	
1752.60	1513	4.05620	4.05660	4.05200	4.05620	4.05660	4.05200	

Frog	СН	<b>99</b> 9	% BW (MH	z)	26 dB BW (MHz)			
Freq. (MHz)		WCDMA	HSDPA	HSUPA	WCDMA	HSDPA	HSUPA	
		V	V	V	V	V	V	
826.40	4132	4.05710	4.04900	4.05350	4.60280	4.59360	4.59110	
836.60	4183	4.07490	4.06710	4.06740	4.61720	4.61090	4.60760	
846.60	4233	4.03650	4.02830	4.04040	4.62290	4.60130	4.61120	

	LTE BAND 2 Channel bandwidth: 1.4MHz								
Freq.	СН	99% B\	N (MHz)	26 dB BW (MHz)					
(MHz)	CH	QPSK	16QAM	QPSK	16QAM				
1850.7	18607	1.1159	1.1295	1.3178	1.3336				
1880.0	18900	1.1202	1.1259	1.3348	1.3335				
1909.3	19193	1.1138	1.1259	1.3181	1.3386				

	LTE BAND 2 Channel bandwidth: 3MHz								
Freq.	СН	99% BV	V (MHz)	26 dB BW (MHz)					
(MHz)	CIT	QPSK	16QAM	QPSK	16QAM				
1851.5	18615	2.7282	2.7361	3.0777	3.0673				
1880.0	18900	2.7495	2.7291	3.0623	3.0728				
1908.5	19185	2.7266	2.7273	3.0714	3.0670				

	LTE BAND 2 Channel bandwidth: 5MHz								
Freq.	СН	99% BW (MHz)		26 dB BW (MHz)					
(MHz)	CH	QPSK	16QAM	QPSK	16QAM				
1852.5	18625	4.5323	4.5150	5.1200	5.0996				
1880.0	18900	4.5365	4.5200	5.0856	5.0730				
1907.5	19175	4.5436	4.5251	5.1343	5.0989				

LTE BAND 2 Channel bandwidth: 15MHz								
Freq.	СН	99% BW (MHz)		26 dB BW (MHz)				
(MHz)	CII	QPSK	16QAM	QPSK	16QAM			
1857.5	18675	13.528	13.544	15.450	15.762			
1880.0	18900	13.544	13.553	15.868	15.683			
1902.5	19125	13.549	13.565	15.745	15.797			

	LTE BAND 2 Channel bandwidth: 10MHz								
Freq.	СН	99% BV	V (MHz)	26 dB BW (MHz)					
(MHz)	UI	QPSK	16QAM	QPSK	16QAM				
1855.0	18650	9.0948	9.0671	10.599	10.494				
1880.0	18900	9.0912	9.0576	10.584	10.482				
1905.0	19150	9.1042	9.0714	10.609	10.541				

	LTE BAND 2 Channel bandwidth: 20MHz								
Freq.	СН	99% BV	V (MHz)	26 dB BW (MHz)					
(MHz)	CIT	QPSK	16QAM	QPSK	16QAM				
1860.0	18700	17.971	18.006	19.950	19.984				
1880.0	18900	18.057	18.057	20.171	20.153				
1900.0	19100	17.989	18.022	20.177	19.932				



		TF R	AND 4 CH	ann	nel ban	width: 1.4	ЛНz	<b></b>	I TF RAN	ID 4 Char	nel bandv	vidth: 3M	IH7	
Fre		T	00%		V (MHz		BW (MHz)	Freq.			V (MHz)	26 dB		/Hz)
(Mł		СН	QPS		16QA		16QAM	(MHz)	СН	QPSK	16QAM	QPSK		DAM
171	,	1995		_	1.116			1711.5	19965	2.7224	2.7340	3.0551		806
173		2017		_	1.112			1732.5	20175	2.7185	2.7286	3.0473		602
175		2039		_	1.111			1753.5	20385	2.7327	2.7287	3.0553		573
		LTE E				dwidth: 5M			_TE BAN		nel bandw			
Fre		СН			V (MHz		BW (MHz)	Freq.	СН		V (MHz)	26 dB		
(Mł	,		QPS	_	16QA		16QAM	(MHz)		QPSK	16QAM	QPSK		DAM
171		1995			4.526			1715.0	20000	9.0674	9.0484	10.486		.525
173		2017			4.513			1732.5	20175	9.0735	9.0834	10.544	-	.564
175	2.5	2037	4.512	27	4.503	2 5.0680	5.0759	1750.0	20350	9.0572	9.0504	10.476	10.	.498
	1	TF B	AND 4 CI	nanr	nel han	dwidth: 15N	ЛНz		TF BAN	D 4 Chan	nel bandw	idth· 201	/Hz	
Fre			99%		V (MHz		BW (MHz)	Freq.			V (MHz)	26 dB		/Hz)
(Mł		СН	QPS		16QA		, ,	(MHz)	СН	QPSK	16QAM	QPSK		2AM
171		2002		_	13.51			1720.0	20050	17.973	18.012	20.092		.869
173		2017			13.57			1732.5	20175	18.039	18.038	19.999		.130
174		2032		_	13.52			1745.0	20300	17.958	17.985	19.941		.905
	17	TF RA	ND 5 Cha	nne	el bandv	vidth: 1.4Mł	-17		I TE BA	ND 5 Cha	innel band	width 31	/Hz	
Freq.			99% B			26 dB B		Freq.		99% BV		26 dB BW (MHz)		
MHz)		СН	QPSK		50am	QPSK	16QAM	(MHz)	СН	QPSK	16QAM	QPSK		50AN
324.7		0407	1.1102		.1221	1.3245	1.3217	825.5	20415	2.7152	2.7309	3.0501		.0433
336.5		0525	1.1093		1200	1.3156	1.3305	836.5	20525	2.7217	2.7446	3.0555		.0651
348.3	_	0643	1.1121		.1158	1.3303	1.3292	847.5	20635	2.7220	2.7280	3.0531		.0710
		.TE B/				width: 5MH			LTE BA		nnel bandv			
Freq.		СН	99% B			26 dB B		Freq.	СН	99% BV	. ,		3 BW (	. ,
MHz)	)		QPSK		50am	QPSK	16QAM	(MHz)		QPSK	16QAM	QPSK		50an
326.5		0425	4.5134		.5204	5.1041	5.1031	829.0	20450	9.0304	9.0175	10.496		0.414
336.5 346.5		0525	<b>4.5259</b> 4.4999		.5186 .4970	5.1019 5.0763	5.0753 5.0334	836.5 844.0	20525 20600	<b>9.1123</b> 9.0381	<b>9.0934</b> 9.0065	<b>10.618</b>		<b>0.556</b> 0.492
540.5	Z	0025	4.4999	4.	.4970	5.0705	0.0004	044.0	20000	9.0301	9.0000	10.404		0.492
L	_TE	BANI	D 7 Char	nnel	l bandv	vidth: 5MF	lz		LTE BA	ND 7 Ch	annel bar	ndwidth	10M	Hz
q.	С		99% B\	N (N	MHz)	26 dB B	W (MHz)	Freq.	СН	99%	BW (MH	z) <mark>26</mark>	o dB B	BW (N
łz)	U		QPSK	16	60am	QPSK	16QAM	(MHz)	СП	QPS	K 16QA	MQ	PSK	160
2.5	207	775	4.5290	4.	.5177	5.1210	5.0565	2505.0	20800	9.074	8 9.064	47 10	.485	10.
5.0	211	100	4.5321	4.	.5225	5.1109	5.0757	2535.0	21100	9.104	<b>3</b> 9.062	28 10	.549	10.
7.5	214	425	4.5378	4.	.5212	5.0610	5.0811	2565.0	21400	9.094	3 <b>9.06</b> 9	91 10	.569	10.
	TE E	BAND				idth: 15M			LTE BA		annel bar			
q.	С	⊢⊢	99% B\	· ·	,		W (MHz)	Freq.	СН		BW (MH	<u> </u>	o dB B	
łz)		•••	QPSK	16	60am	QPSK	16QAM	(MHz)		QPS	K 16QA	MQ	PSK	160
7.5	208	325	13.519	13	3.604	15.595	15.891	2510.0	20850	18.04	0 18.05	53 20	.424	20.
5.0	211	100	13.568	13	3.574	15.869	15.647	2535.0	21100	) 18.03	4 17.98	32 20	.265	20.
		375	13.548	4	3.570	15.687	15.695	2560.0	21350	18.01	8 18.04	40 20		20.

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26 dB BW (MHz)

16QAM

10.421

10.658

10.331

16QAM

9.751

16QAM

10.593

10.506

10.367

16QAM

3.0450

3.0460

3.0340

16QAM

10.600

10.540

10.380

26 dB BW (MHz)

26 dB BW (MHz)

**QPSK** 

10.338

10.611

10.391

QPSK

9.806

QPSK

10.548

10.414

10.377

QPSK

3.0340

3.0370

3.0340

QPSK

10.600

10.470

10.420

26 dB BW (MHz)

26 dB BW (MHz)



	LTE BAND 12 Channel bandwidth: 1.4MHz								
Freq.	СН	99% BW (MHz)		26 dB BW (MHz)					
(MHz)	CH	QPSK	16QAM	QPSK	16QAM				
699.7	23017	1.1108	1.1058	1.3338	1.3157				
707.5	23095	1.1157	1.1153	1.3373	1.3201				
715.3	23173	1.1170	1.1118	1.3270	1.3200				

LTE BAND 12 Channel bandwidth: 3MHz							
Freq.	СН	99% BW (MHz)		26 dB BW (MHz)			
(MHz)	CH	QPSK	16QAM	QPSK	16QAM		
700.5	23025	2.7199	2.7209	3.0368	3.0635		
707.5	23095	2.7421	2.7467	3.0766	3.0884		
714.5	23165	2.7270	2.7393	3.0508	3.0482		

LTE BAND 12 Channel bandwidth: 10MHz 99% BW (MHz)

16QAM

9.0111

9.1953

8.9611

16QAM

8.943

LTE BAND 13 Channel bandwidth: 10MHz

LTE BAND 17 Channel bandwidth: 10MHz 99% BW (MHz)

16QAM

9.1250

9.0315

8.9900

16QAM

2.7098

2.7203

2.7200

16QAM

9.1137

9.0527

9.0062

LTE BAND 26 Channel bandwidth: 10MHz

99% BW (MHz)

LTE BAND 26 Channel bandwidth: 3MHz

99% BW (MHz)

99% BW (MHz)

**OPSK** 

9.0298

9.2149

9.0063

**QPSK** 

8.961

QPSK

9.1119

9.0544

8.9940

QPSK

2.7105

2.7181

2.7133

QPSK

9.1222

9.0399

9.0135

Freq.

(MHz)

704.0 707.5

711.0

Frea.

(MHz)

782.0

Freq.

(MHz)

709.0

710.0

711.0

Freq.

(MHz)

825.5

836.5

847.5

Freq.

(MHz)

829.0

836.5

844.0

CH

23060

23095

23130

CH

23230

CH

23780

23790

23800

СН

26805

26915

27025

СН

26840

26915

26990

	LTE BAND 12 Channel bandwidth: 5MHz								
Freq.	СН	99% B\	N (MHz)	26 dB BW (MHz)					
(MHz)	CH	QPSK	16QAM	QPSK	16QAM				
701.5	23035	4.4832	4.4826	5.0018	4.9788				
707.5	23095	4.5394	4.5380	5.1758	5.1372				
713.5	23155	4.4832	4.4801	5.0109	4.9920				

	LTE BAND 13 Channel bandwidth: 5MHz								
Freq.	СН	00% R\// (MHz)		26 dB BW (MHz)					
(MHz)	СП	QPSK	16QAM	QPSK	16QAM				
779.5	23205	4.4849	4.4891	4.9130	4.9530				
782.0	23230	4.5157	4.5089	5.0250	4.9860				
784.5	23255	4.4895	4.5025	4.9220	4.9480				

	LTE BAND 17 Channel bandwidth: 5MHz								
Freq.	СН	99% B\	N (MHz)	26 dB BW (MHz)					
(MHz)	UI	QPSK	16QAM	QPSK	16QAM				
706.5	23755	4.5623	4.5516	5.4475	5.1492				
710.0	23790	4.5279	4.5252	5.0755	5.0372				
713.5	23825	4.4924	4.4830	5.0340	5.0010				

LTE BAND 26 Channel bandwidth: 1.4MHz							
Freq.	СН	99% BW (MHz)		26 dB BW (MHz)			
(MHz)	СП	QPSK	16QAM	QPSK	16QAM		
824.7	26797	1.1097	1.1114	1.3190	1.3290		
836.5	26915	1.1129	1.1146	1.3230	1.3270		
848.3	27033	1.1108	1.1186	1.3220	1.3340		

LTE BAND 26 Channel bandwidth: 5MHz							
Freq.	СН	99% B\	99% BW (MHz)		BW (MHz)		
(MHz)	СП	QPSK	16QAM	QPSK	16QAM		
826.5	26815	4.5181	4.5314	5.0790	5.0390		
836.5	26915	4.5194	4.5234	5.1160	5.0520		
846.5	27015	4.5000	4.5092	5.1000	5.0430		

LTE BAND 26 Channel bandwidth: 15MHz							
Freq.	СН	99% BW (MHz)		26 dB BW (MHz)			
(MHz)	CIT	QPSK	16QAM	QPSK	16QAM		
831.5	26865	13.602	13.643	15.570	15.680		
836.5	26915	13.432	13.469	15.410	15.320		
841.5	26965	13.521	13.609	15.430	15.620		

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LTE BAND 26 for part 90S Channel bandwidth: 1.4MHz						
Freq.	СН	99% BW (MHz)		26 dB BW (MHz)		
(MHz)	CII	QPSK	16QAM	QPSK	16QAM	
814.7	26697	1.1110	1.1135	1.3210	1.3330	
819.0	26740	1.1166	1.1148	1.3300	1.3200	
823.3	26783	1.1149	1.1131	1.3300	1.3250	

LTE BAND 26 for part 90S Channel bandwidth: 5MHz						
Freq.	СН	99% BW (MH		26 dB BW (MHz)		
(MHz)	СП	QPSK	16QAM	QPSK	16QAM	
816.5	26715	4.5357	4.5234	5.1050	5.0600	
819.0	26740	4.5505	4.5229	5.1850	5.0310	
821.5	26765	4.5457	4.5273	5.1600	5.0610	

LTE BAND 26 for part 90S Channel bandwidth: 3MHz						
Freq.	СН	99% BW (MHz)		26 dB BW (MHz)		
(MHz)	CIT	QPSK	16QAM	QPSK	16QAM	
815.5	26705	2.7117	2.7167	3.0450	3.0620	
819.0	26740	2.7219	2.7187	3.0680	3.0510	
822.5	26775	2.7172	2.7253	3.0620	3.0540	

LTE BAND 26 for part 90S Channel bandwidth: 10MHz						
Freq.	СН	99% BW (MHz)		26 dB BW (MHz)		
(MHz)	СП	QPSK	16QAM	QPSK	16QAM	
819.0	26740	9.1620	9.1200	10.510	10.510	

LTE BAND 30 Channel bandwidth: 5MHz							
Freq.	СН	99% BW (MHz)		26 dB BW (MHz)			
(MHz)	СП	QPSK	16QAM	QPSK	16QAM		
2307.5	27685	4.5396	4.5143	5.0660	5.0840		
2310.0	27710	4.5162	4.5170	5.0900	5.0680		
2312.5	27735	4.5367	4.5078	5.1020	5.1040		

LTE BAND 38 Channel bandwidth: 5MHz						
Freq.	СН	99% BW (MHz)		26 dB BW (MHz)		
(MHz)	Сп	QPSK	16QAM	QPSK	16QAM	
2572.5	37775	4.5092	4.5174	5.1580	5.0860	
2595.0	38000	4.5256	4.5059	5.0730	5.0450	
2617.5	38225	4.5359	4.5082	5.0430	5.0460	

LTE BAND 38 Channel bandwidth: 15MHz							
Freq.	СН	99% BW (MHz)		26 dB BW (MHz)			
(MHz)	СП	QPSK	16QAM	QPSK	16QAM		
2577.5	37825	13.569	13.472	16.270	15.260		
2595.0	38000	13.524	13.508	15.560	15.220		
2612.5	38175	13.525	13.511	15.490	15.410		

LTE BAND 41 Channel bandwidth: 5MHz						
Freq.	СН	99% BW (MHz)		26 dB BW (MHz)		
(MHz)	Сп	QPSK	16QAM	QPSK	16QAM	
2498.5	39675	4.5289	4.5218	5.0280	5.0640	
2593.0	40620	4.5387	4.5228	5.0700	5.0550	
2687.5	41565	4.5202	4.5226	5.1130	5.0300	

LTE BAND 41 Channel bandwidth: 15MHz									
Freq.	СН	99% BW (MHz)		26 dB BW (MHz)					
(MHz)	Сп	QPSK	16QAM	QPSK	16QAM				
2503.5	39725	13.573	13.496	15.830	15.560				
2593.0	40620	13.567	13.503	15.470	15.440				
2682.5	41515	13.551	13.512	16.540	15.270				

LTE BAND 30 Channel bandwidth: 10MHz							
Freq. (MHz)	СН	99% BW (MHz)		26 dB BW (MHz)			
(MHz)	Сп	QPSK	16QAM	16QAM	QPSK		
2310.0	27710	9.0392	9.0264	10.5300	10.5000		

LTE BAND 38 Channel bandwidth: 10MHz								
Freq.	СН	99% B\	N (MHz)	26 dB B	W (MHz)			
(MHz)		QPSK	16QAM	QPSK	16QAM			
2575.0	37800	9.0153	9.0363	10.510	10.470			
2595.0	38000	9.0579	9.0592	10.540	10.540			
2615.0	38200	9.0291	9.0543	10.470	10.500			

LTE BAND 38 Channel bandwidth: 20MHz								
Freq.	СН	99% B\	N (MHz)	26 dB B	SW (MHz)			
(MHz)	CH	QPSK	16QAM	QPSK	16QAM			
2580.0	37850	18.012	17.983	19.990	19.800			
2595.0	38000	18.033	17.967	20.160	20.690			
2610.0	38150	17.995	18.003	20.020	19.560			

LTE BAND 41 Channel bandwidth: 10MHz									
Freq.	СН	99% BV	V (MHz)	26 dB	BW (MHz)				
(MHz)	СН	QPSK	16QAM	QPSK	16QAM				
2501.0	39700	9.0522	9.0601	10.590	10.530				
2593.0	40620	9.0446	9.0708	10.480	10.560				
2685.0	41540	9.0924	9.0735	10.540	10.490				

LTE BAND 41 Channel bandwidth: 20MHz								
Freq.	СН	99% BV	99% BW (MHz)		BW (MHz)			
(MHz)	СН	QPSK	16QAM	QPSK	16QAM			
2506.0	39750	18.005	18.017	20.400	21.010			
2593.0	40620	18.001	18.046	20.600	20.550			
2680.0	41490	17.980	18.020	20.260	20.630			

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LTE BAND 66 Channel bandwidth: 1.4MHz								
Freq.	СН	Freq.		N (MHz)	26 dB B	W (MHz)		
(MHz)		QPSK	16QAM	QPSK	16QAM			
1710.7	131979	1.1162	1.1138	1.3290	1.3270			
1745.0	132322	1.1084	1.1150	1.3260	1.3230			
1779.3	132665	1.1193	1.1109	1.3320	1.3290			

LTE BAND 66 Channel bandwidth: 5MHz								
Freq.	СН		N (MHz)	26 dB B	W (MHz)			
(MHz)	СП	QPSK	16QAM	QPSK	16QAM			
1712.5	131997	4.5232	4.5160	5.0770	5.0740			
1745.0	132322	4.5181	4.5196	5.1230	5.1030			
1777.5	132647	4.5414	4.5137	5.1230	5.0550			

LTE BAND 66 Channel bandwidth: 3MHz							
Freq.	СН	99% B\	N (MHz)	26 dB B	W (MHz)		
(MHz)	СП	QPSK	16QAM	QPSK	16QAM		
1711.5	131987	2.7205	2.7166	3.0510	3.0580		
1745.0	132322	2.7272	2.7245	3.0600	3.0500		
1778.5	132657	2.7309	2.7296	3.0530	3.0470		

LTE BAND 66 Channel bandwidth: 10MHz									
Freq.	СН	99% B\	N (MHz)	26 dB B	W (MHz)				
(MHz)	СН	QPSK	16QAM	QPSK	16QAM				
1715.0	132022	9.0579	9.0505	10.6000	10.5200				
1745.0	132322	9.0667	9.0347	10.5000	10.5100				
1775.0	132622	9.0665	9.0273	10.5100	10.4600				

LTE BAND 66 Channel bandwidth: 15MHz								
Freq.		99% BW (MHz)		· · · /				
(MHz)	СП	QPSK	16QAM	QPSK	16QAM			
			13.4870					
			13.5320					
1772.5	132597	13.4810	13.4560	15.5900	15.6600			

LTE BAND 66 Channel bandwidth: 20MHz								
Freq.	СН				W (MHz)			
(MHz)	СП	QPSK	16QAM	QPSK	16QAM			
1720.0	132072	17.9560	17.9720	19.9100	19.9200			
1745.0	132322	17.9390	17.9770	20.0400	20.0300			
1770.0	132572	17.9440	17.9700	19.8400	20.0400			



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### WCDMA\_B2\_LowCH9262-1852.4

			Trig: Free Run #Atten: 30 dB	00000 GHz Avg Hold:>50	Radio Std: M V50 Radio Devic		Frequency
0 dB/div	Ref Offset 13.9 d Ref 30.00 dBr	B n					
10.0		**************************************	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	£194.~194.~194			Center Fr 1.852400000 Gi
10.0 20.0 30.0	<i>Г</i>					~~~~~	
40.0 50.0 50.0							
enter 1.852 Res BW 47 k			#VBW 150	kHz		n 6 MHz 2.6 ms	CF Ste 600.000 ki
Occupied	Bandwidt	th 0620 MH:	Total f	Power	33.2 dBm	6	Auto M
Transmit F x dB Bandy	req Error	4.153 kH 4.600 MH	z OBW F	Power	99.00 % -26.00 dB		Freq Offs 01
X UB Bandy	width	4.600 MH	z X dB		-20.00 dB		



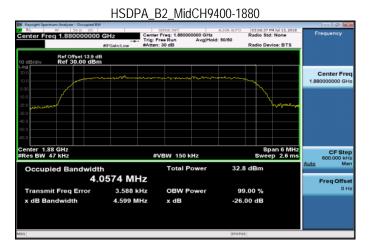
### WCDMA\_B2\_MidCH9400-1880

### WCDMA\_B2\_HighCH9538-1907.6

Occupi	ied Bandwid 4. it Freg Error	th .0589 MHz 5.412 kHz	Total Power OBW Power	33.1 dBm 99.00 %	Auto Man Freq Offset 0 Hz
Center 1.9 Res BW 4		*	VBW 150 kHz	Span 6 MH Sweep 2.6 m	600.000 kHz
10.0 20.0 30.0 40.0 50.0					
.00 20.0 10.0			and a start of the second		Center Freq 1.907600000 GHz
0 dB/div	Ref Offset 13.9 d Ref 30.00 dBi	IB	n: 30 dB	Radio Device: BTS	Í

#### HSDPA\_B2\_LowCH9262-1852.4





### HSDPA\_B2\_HighCH9538-1907.6

Keysight Spectrum Analyzer - Occupied BW				
RL RF 50 Ω DC     Center Freq 1.907600000	Trig	sense:int  ter Freq: 1.907600000 GHz : Free Run Avg Hold ten: 30 dB	ALIGN AUTO 03:07:50 PM Jul 13, 2018 Radio Std: None 4: 50/50 Radio Device: BTS	Frequency
Ref Offset 13.9 df 10 dB/div Ref 30.00 dBn				
20.0	and a second second second	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	m	Center Freq 1.907600000 GHz
-10.0			www	
-30.0				
Center 1.908 GHz			Span 6 MH	
#Res BW 47 kHz		#VBW 150 kHz	Sweep 2.6 m	600.000 kHz
Occupied Bandwidt 4.	<sup>h</sup> 0665 MHz	Total Power	32.6 dBm	Auto Man Freg Offset
Transmit Freq Error	7.577 kHz	OBW Power	99.00 %	0 Hz
x dB Bandwidth	4.592 MHz	x dB	-26.00 dB	
MBG			STATUS	

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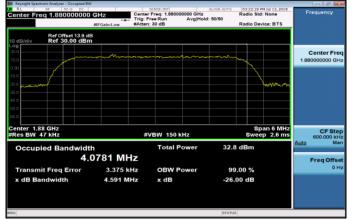
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### HSUPA\_B2\_LowCH9262-1852.4

RL   10   50 Ω DC Center Freq 1.85240000	Trig: 1	sense:int r Freq: 1.852400000 GHz Free Run Avg Hold n: 30 dB	ALIGN AUTO 03:20:20 PM Jul 1 Radio Std: Non E>50/50 Radio Device: E	Frequency
Ref Offset 13.9 ( 0 dB/div Ref 30.00 dB	iB m			
•99 200 100 0.00	an a track and the second descent	ana a shara a fa a shara a a a a a a a a a a a a a a a a a a		Center Fred 1.852400000 GH2
20.0			- m	Munte
40.0				
Center 1.852 GHz Res BW 47 kHz		VBW 150 kHz	Span 6 Sweep 2	
Occupied Bandwid		Total Power	32.8 dBm	Auto Mar
Transmit Freq Error	3.932 kHz	OBW Power	99.00 %	Freq Offse 0 H
x dB Bandwidth	4.605 MHz	x dB	-26.00 dB	



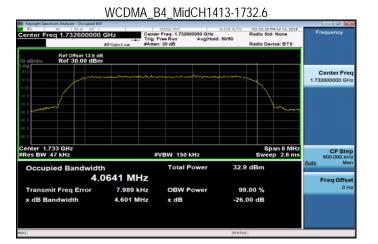
HSUPA\_B2\_MidCH9400-1880

### HSUPA B2 HighCH9538-1907.6

RL	trum Analyzer - Occupied BW IV 50 Ω DC eq 1.907600000	GHz Cente	sense:int r Freq: 1.907600000 GHz Free Run Avg Hok n: 30 dB	Rac d: 50/50	:23:40 PM3ul 13, 2018 dio Std: None dio Device: BTS	Frequency
10 dB/div	Ref Offset 13.9 dE Ref 30.00 dBm					
Log 20.0 10.0 -10.0 -20.0 -20.0 -40.0 -60.0						Center Freq 1.907600000 GHz
Center 1.9 #Res BW	47 kHz		VBW 150 kHz		Span 6 MHz Sweep 2.6 ms	CF Step 600.000 kHz Auto Man
Occup	ied Bandwidt	h 0641 MHz	Total Power	32.6 dE	lm	
	+.۱ nit Freq Error andwidth	6.247 kHz 4.589 MHz	OBW Power x dB	99.00 -26.00 d		Freq Offset 0 Hz
490				STATUS		

### WCDMA\_B4\_LowCH1312-1712.4





### WCDMA B4 HighCH1513-1752.6

Keysight Spectrum Analyzer - Occupied					
Center Freq 1.75260000		SENSE:INT Center Freq: 1.752600000 Trig: Free Run Av #Atten: 30 dB	ALIGN AUTO GHz /g Hold:>50/50	C2:33:47 PH3ul 13, 201 Radio Std: None Radio Device: BTS	5 Frequency
Ref Offset 13.9 10 dB/div Ref 30.00 dB				_	
20.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	an manager and a star of the second	~~~.h.m.h.m.h.		Center Freq 1.752600000 GHz
-10.0				han	
-30.0					
Center 1.753 GHz				Span 6 MH	
#Res BW 47 kHz Occupied Bandwig		#VBW 150 kHz Total Pow	er 33.3	Sweep 2.6 m	S 600.000 kHz Auto Man
Transmit Freg Error	1.0562 MH -9.449 ki		er 99	.00 %	Freq Offset 0 Hz
x dB Bandwidth	4.608 M			00 dB	
MSG			STATUS		

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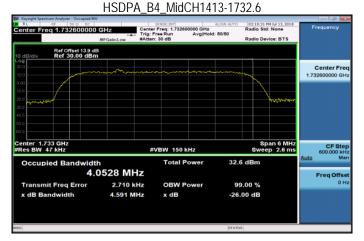
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### HSDPA\_B4\_LowCH1312-1712.4

enter Freq 1.712400000	Trig: 1	SENSE:INT r Freq: 1.712400000 GHz Free Run Avg Hold n: 30 dB	ALIGN AUTO 03:09:12 PM 3d 13, 2018 Radio Std: None : 50/50 Radio Device: BTS	Frequency
0 dB/div Ref 0ffset 13.9 d	nB m			
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	······		Center Fred 1.712400000 GH2
			Mhrin	
enter 1.712 GHz Res BW 47 kHz	#	VBW 150 kHz	Span 6 MH Sweep 2.6 m	600.000 kH
Occupied Bandwid	<sup>th</sup> .0641 MHz	Total Power	32.4 dBm	Auto Mar
Transmit Freq Error x dB Bandwidth	3.816 kHz 4.609 MHz	OBW Power x dB	99.00 % -26.00 dB	0 Ha

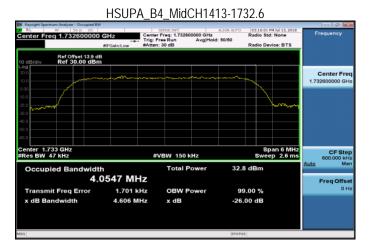


### HSDPA B4 HighCH1513-1752.6

Keysight Spectrum Analyzer - Occupied B RL RF 50 D DC Center Freq 1.75260000	GHz Cente	SENSE:3NT r Freq: 1.752600000 GHz Free Run Avg Hold h: 30 dB	ALIGN AUTO 03:11:37 PM 3ul 13, 20 Radio Std: None	Frequency
Ref Offset 13.9 c         Ref 30.00 dBi           Log	m			Center Freq 1.752600000 GHz
-10.0 -20.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0				
Center 1.753 GHz #Res BW 47 kHz		VBW 150 kHz	Span 6 Mi Sweep 2.6 n	
	0566 MHz	Total Power	33.0 dBm	Freq Offset
Transmit Freq Error x dB Bandwidth	-9.785 kHz 4.575 MHz	OBW Power x dB	99.00 % -26.00 dB	0 Hz
45G			STATUS	

### HSUPA\_B4\_LowCH1312-1712.4





### HSUPA B4 HighCH1513-1752.6

Keysight Spectrum Analyzer - Occupi		SENSE:3NT	ALIGN AUTO	03:17:54 PM Jul 13, 201	
Center Freq 1.7526000		Center Freq: 1.752600000		Radio Std: None Radio Device: BTS	Frequency
Ref Offset 13 10 dB/div Ref 30.00 d					
20.0					Center Fre 1.752600000 GH
20.0 40.0 50.0 60.0 Center 1.753 GHz				Span 6 Mł	
Res BW 47 kHz		#VBW 150 kHz		Sweep 2.6 n	15 600.000 kł
Occupied Bandw	idth 4.0520 MH	Total Powe	r 33.5	5 dBm	Auto Ma
Transmit Freq Error x dB Bandwidth	-10.707 k 4.593 M			0.00 % 00 dB	01
93			STATUS	8	

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### WCDMA B5 LowCH4132-826.4

RL	trum Analyzer - Occupied BW IV 50 Ω DC EQ 826,400000 N		SENSE:INT		ALIGN AUTO	02:54:21 F	MJul 13, 2018	-	quency
	59 020.400000 1	- <b>T</b>	rig: Free Run Atten: 30 dB	Avg Hold	: 50/50	Radio De	vice: BTS		
0 dB/div	Ref Offset 13.6 dE Ref 30.00 dBm								
00 10.0		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	. Ayudami waxaa ayaa ayaa	a ann an a		~~			enter Fre
0.0							han		
0.0									
enter 82							an 6 MHz		CF Ste
Res BW	<sup>47 kHz</sup> ied Bandwidtl		#VBW 150 F		33.1	Swee	p 2.6 ms	6 <u>Auto</u>	00.000 kH Ma
Occup		571 MHz						Fi	req Offse
	it Freq Error Indwidth	25.135 kHz 4.603 MHz		ower		9.00 % 00 dB			0 H
3					STATU				



### WCDMA\_B5\_MidCH4183-836.6

### WCDMA\_B5\_HighCH4233-846.6

Transmit Freq x dB Bandwidt	Error -13.390	KHz OBW Power	99.00 % -26.00 dB	Freq Offset 0 Hz
Occupied Ba	ndwidth 4.0365 MI	Total Power	33.3 dBm	Auto Man
Center 846.6 MHz #Res BW 47 kHz		#VBW 150 kHz	Span 6 MHz Sweep 2.6 ms	600.000 kHz
30.0 40.0 60.0				
10.0				846.600000 MHz
10 dB/div Ref Off Log	set 13.6 dB 0.00 dBm			Center Freq
Center Freq 846.0	500000 MHz #IFGain:Low	Center Freq: 846.600000 MHz Trig: Free Run Avg Hol #Atten: 30 dB	ALIGN AUTO 02:57:56 PM 3ul 13, 2018 Radio Std: None d: 50/50 Radio Device: BTS	Frequency

#### HSDPA\_B5\_LowCH4132-826.4





### HSDPA B5 HighCH4233-846.6

Keysight Spectrum Analyzer - Occupied Bit	N			
Center Freq 846.600000	Trig:	Freq: 846.600000 MHz Free Run Avg Hold n: 30 dB	ALIGN AUTO 03:03:39 PM Jul 13, 20 Radio Std: None I: 50/50 Radio Device: BTS	Frequency
Ref Offset 13.6 d 10 dB/div Ref 30.00 dBr	в			
2000		-		Center Freq 846.600000 MHz
10.0				
-20.0				
-60.0				
Center 846.6 MHz #Res BW 47 kHz	#	VBW 150 kHz	Span 6 M Sweep 2.6 r	
Occupied Bandwidt	հ 0283 MHz	Total Power	32.7 dBm	<u>Auto</u> Man
4. Transmit Freq Error	-20.012 kHz	OBW Power	99.00 %	Freq Offset 0 Hz
x dB Bandwidth	4.601 MHz	x dB	-26.00 dB	
MSG			STATUS	

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### HSUPA B5 LowCH4132-826.4

Keysight Spectrum Analyzer - Occupied BW		SENSE:INT	ALIGN AUTO	03:25:46 PM Jul 13, 2018	_	
enter Freq 826.400000 N	Trig:	r Freq: 826.400000 MHz Free Run Avg Holo n: 30 dB	1: 50/50	Radio Std: None Radio Device: BTS	Freq	uency
Ref Offset 13.6 dE 0 dB/div Ref 30.00 dBm						
20.0	na an a		n	way and the second s		nter Fred 00000 MH:
				warmen		
0.0						
enter 826.4 MHz Res BW 47 kHz	#	VBW 150 kHz		Span 6 MHz Sweep 2.6 ms		CF Step 00.000 kH
Occupied Bandwidth 4.0535 MHz		Total Power	32.6	dBm	Auto	Mar eg Offse
Transmit Freq Error x dB Bandwidth	22.267 kHz 4.591 MHz	OBW Power x dB	99. -26.0	00 % 0 dB		он



### HSUPA\_B5\_MidCH4183-836.6

### HSUPA\_B5\_HighCH4233-846.6

Transmit Freq E x dB Bandwidth		Hz OBW Power	99.00 % -26.00 dB	Freq Offset 0 Hz
Occupied Ban		Total Power	33.0 dBm	Auto Man
Center 846.6 MHz #Res BW 47 kHz		#VBW 150 kHz	Span 6 MHz Sweep 2.6 ms	600.000 kHz
30.0 40.0 60.0 60.0				
10.0 0.00 10.0 20.0				846.600000 MHz
10 dB/div Ref Offs -9g 20.0	et 13.6 dB .00 dBm	and a second and the		Center Freq
RL RF SC Center Freq 846.6	DOOOO MHz MFGain:Low	SENSE:INT Center Freq: 846.600000 MHz Trig: Free Run Avg Hol #Atten: 30 dB	ALIGN AUTO 03:28:19 PM 3ul 13, 2018 Radio Std: None Id:>50/50 Radio Device: BTS	Frequency

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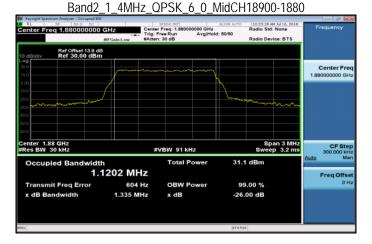
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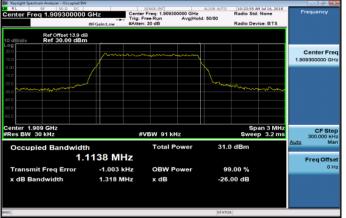
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### Band2\_1\_4MHz\_QPSK\_6\_0\_LowCH18607-1850.7



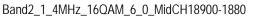


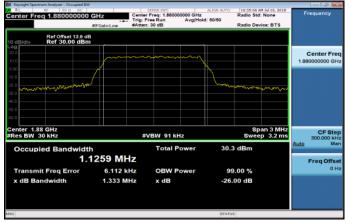
### Band2\_1\_4MHz\_QPSK\_6\_0\_HighCH19193-1909.3



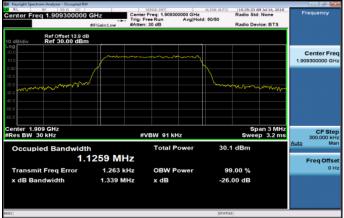
#### 1:38 AM Ju Radi Ma 000 GHz Freq 1.85070 Center Freq: 1.850 Trig: Free Run Ref Offset 13.9 dB Ref 30.00 dBm Center Free 1.851 GH an 3 MH: 5 3.2 ms CF St #VBW 91 kHz Total Pow 30.1 dBm Occupied Bandwidt 1.1295 MHz Freq Offs Transmit Freg Error 5.715 kHz OBW Power 99.00 % 1.334 MHz x dB -26.00 dB x dB B

Band2\_1\_4MHz\_16QAM\_6\_0\_LowCH18607-1850.7





### Band2\_1\_4MHz\_16QAM\_6\_0\_HighCH19193-1909.3



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### Band2\_3MHz\_QPSK\_15\_0\_LowCH18615-1851.5

Center Freq 1.851500000	Trig:	sense:int r Freq: 1.851500000 GHz Free Run Avg Hold n: 30 dB	ALIGN AUTO	10:19:30 AM Jul 16, 2018 Radio Std: None Radio Device: BTS	Frequency
Ref Offset 13.9 d 0 dB/div Ref 30.00 dB	iB m				
-og 20.0 10.0					Center Fred 1.851500000 GHz
			<u></u>		
0.0					
enter 1.852 GHz Res BW 62 kHz	_  A	VBW 180 kHz		Span 6 MHz Sweep 1.533 ms	CF Step 600.000 kHz
Occupied Bandwid	<sup>th</sup> .7282 MHz	Total Power	31.7	dBm	Auto Mar Freq Offse
Transmit Freq Error x dB Bandwidth	3.065 kHz 3.078 MHz	OBW Power x dB		.00 % 00 dB	0 H



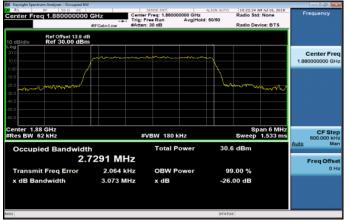
### Band2 3MHz QPSK 15 0 HighCH19185-1908.5

Keysight Spectrum Analyzer - Occupied BW					
Center Freq 1.908500000	GHz Cent	er Freq: 1.908500000 GHz Free Run Avg Hold	ALIGN AUTO	10:20:48 AM Jul 16, 2018 Radio Std: None	Frequency
	#IFGain:Low #Atte	en: 30 dB	1: 00/00	Radio Device: BTS	
Ref Offset 13.9 dl 10 dB/div Ref 30.00 dBn					
20.0		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~		Center Freq
100					1.908500000 GHz
0.0			$  \rangle$		
0.0			100	······	
0.0					
0.0					
60.0					
enter 1.909 GHz Res BW 62 kHz		#VBW 180 kHz		Span 6 MHz Sweep 1.533 ms	CF Step 600.000 kHz
Occupied Bandwidt	h	Total Power	31.6	ò dBm	Auto Man
	7266 MHz				Freq Offset
Transmit Freq Error	1.313 kHz	OBW Power	99	9.00 %	0 Hz
x dB Bandwidth	3.071 MHz	x dB	-26.	00 dB	
90			STATU	5	

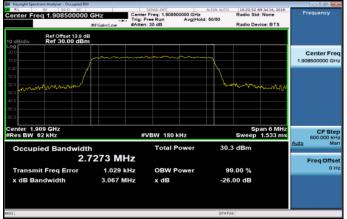
### Band2\_3MHz\_16QAM\_15\_0\_LowCH18615-1851.5



### Band2\_3MHz\_16QAM\_15\_0\_MidCH18900-1880



### Band2\_3MHz\_16QAM\_15\_0\_HighCH19185-1908.5



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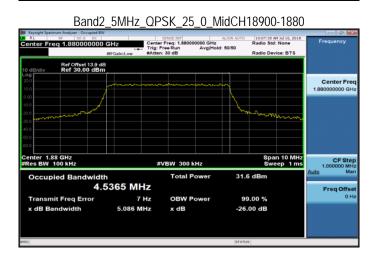
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### Band2\_5MHz\_QPSK\_25\_0\_LowCH18625-1852.5

enter Freq 1.85250000	Trig:	sense:int] er Freq: 1.852500000 GHz Free Run Avg Holo n: 30 dB	ALIGN AUTO 10:07:02 AM Jul 16, Radio Std: None 4: 50/50 Radio Device: B	Frequency
Ref Offset 13.9 / 0 dB/div Ref 30.00 dB				
•g 0.0 0.0		^		Center Free 1.852500000 GH
			Lunn	v-vr(
enter 1.853 GHz Res BW 100 kHz		¥VBW 300 kHz	Span 10 Sweep 7	MHz CF Step ms 1.000000 MH
Occupied Bandwid	.5323 MHz	Total Power	31.5 dBm	Auto Mar Freq Offse
Transmit Freq Error x dB Bandwidth	2.022 kHz 5.120 MHz	OBW Power x dB	99.00 % -26.00 dB	0 H



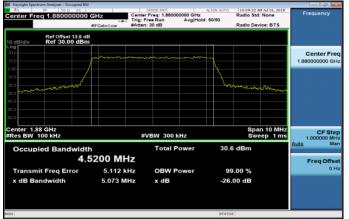
### Band2\_5MHz\_QPSK\_25\_0\_HighCH19175-1907.5

Keysight Spectrum Analyzer - Occup	ied BW	SENSE: INT	ALIGN AUTO	:03 AM Jul 16, 2018	- 2
Center Freq 1.907500	Trig:	er Freq: 1.907500000 GHz Free Run Avg Hole m: 30 dB	d:>50/50	Std: None Device: BTS	Frequency
10 dB/div Ref 0ffset 1: 10 dB/div Ref 30.00	3.9 dB dBm				
20.0		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~		Center Freq 1.907500000 GHz
0.00 -10.0 -20.0	/		mm	non	
40.0					
60.0 Center 1.908 GHz				Span 10 MHz	
#Res BW 100 kHz		ØVBW 300 kHz		Sweep 1 ms	CF Step 1.000000 MHz
Occupied Bandw	/idth 4.5436 MHz	Total Power	31.8 dBm	•	<u>Auto</u> Man
Transmit Freq Erro	r 7.043 kHz	OBW Power	99.00 %		Freq Offset 0 Hz
x dB Bandwidth	5.134 MHz	x dB	-26.00 dE	3	
19G			STATUS		

### Band2\_5MHz\_16QAM\_25\_0\_LowCH18625-1852.5



### Band2\_5MHz\_16QAM\_25\_0\_MidCH18900-1880



#### Band2\_5MHz\_16QAM\_25\_0\_HighCH19175-1907.5



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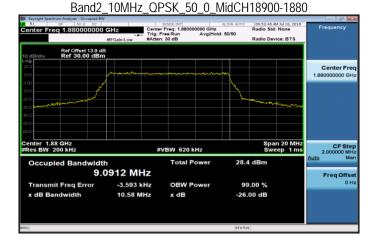
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### Band2\_10MHz\_QPSK\_50\_0\_LowCH18650-1855

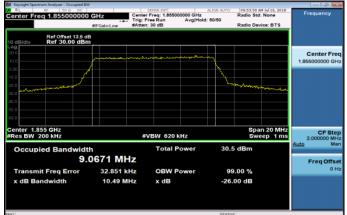




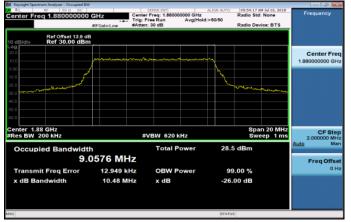
### Band2 10MHz QPSK 50 0 HighCH19150-1905

Center Freq 1.905000000 GHz Bit Galaction Bit Galaction Center Freq 1.90500000 GHz Bit Galaction Bit Galaction Bit Galaction Center Freq 1.90500000 GHz Bit Galaction Bit Galacti	Keysight Spectrum Analyzer - Occupied B	N				
10 detauly       Ref 30.00 dBm         200       200         200       200         200       200         200       200         200       200         200       200         200       200         200       200         200       200         200       200         200       200         200       200         200       200         200       200         200       200         200       200         200       200         200       200         200       200         200       200         200       200         200       200         200       200         200       2000         2000000       200         2000000       200         2000000       200         2000000       200         2000000       200         2000000       200         2000000       200         2000000       200         2000000       200         2000000	Center Freq 1.90500000	-ter Trip	: Free Run Avg Hol	d: 50/50	adio Std: None	Frequency
CF Ste Center 1,905 GHz Bres BW 200 kHz Transmit Freq Error x dB Bandwidth 10.61 MHz x dB Center 10.61 MHz 10.61	10 dB/div Ref 30.00 dBr	в n				
CF Ste 2000000 HHz Concupied Bandwidth 9.1042 MHz Transmit Freq Error x dB Bandwidth 10.61 MHz x dB	20.0	, mmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm	arman talawa and a development	~		Center Freq 1.905000000 GHz
CF Ste Parter 1.905 GHz Res BW 200 kHz Sweep 1 ms Occupied Bandwidth Total Power 28.3 dBm 9.1042 MHz Transmit Freq Error -179 Hz OBW Power 99.00 % x dB Bandwidth 10.61 MHz x dB -26.00 dB	10.0					
EXAMPLE 2006 HIZ Span 20 MHZ Senter 1.005 GHZ Syna 20 MHZ Syna 20 MHZ Res BW 200 kHZ #VBW 620 kHZ Syna 20 MHZ Occupied Bandwidth Total Power 28.3 dBm 9.1042 MHZ Transmit Freq Error -179 HZ OBW Power 99.00 % x dB Bandwidth 10.61 MHZ x dB -26.00 dB					warden and and and and and and and and and an	
Rees BW     200 kHz     \$Veep 1 ms       Occupied Bandwidth     Total Power     28.3 dBm       9.1042 MHz     ************************************						
Occupied Bandwidth Total Power 28.3 dBm 9.1042 MHz 9.1042 MHz Transmit Freq Error -179 Hz OBW Power 99.00 % x dB Bandwidth 10.61 MHz x dB -26.00 dB			#VBW 620 kHz			CF Step 2.000000 MHz
Transmit Freq Error -179 Hz OBW Power 99.00 % 0+ x dB Bandwidth 10.61 MHz x dB -26.00 dB			Total Power	28.3 d	Bm	<u>Auto</u> Man
x dB Bandwidth 10.61 MHz x dB -26.00 dB			OBW Power	99.0	0 %	Freq Offset 0 Hz
SG STATUS						

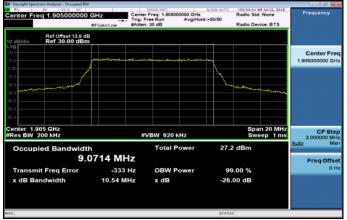
#### Band2\_10MHz\_16QAM\_50\_0\_LowCH18650-1855



Band2\_10MHz\_16QAM\_50\_0\_MidCH18900-1880



### Band2\_10MHz\_16QAM\_50\_0\_HighCH19150-1905



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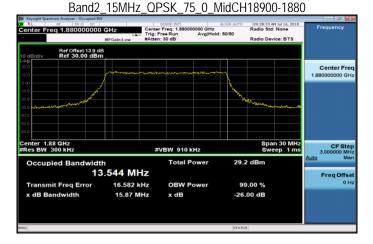
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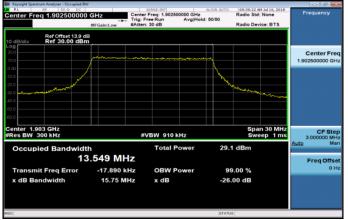
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### Band2\_15MHz\_QPSK\_75\_0\_LowCH18675-1857.5

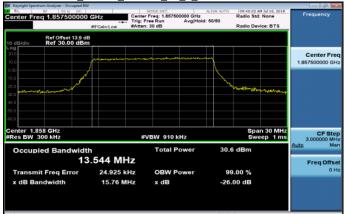




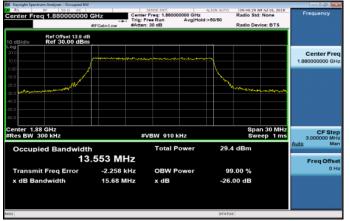
### Band2\_15MHz\_QPSK\_75\_0\_HighCH19125-1902.5



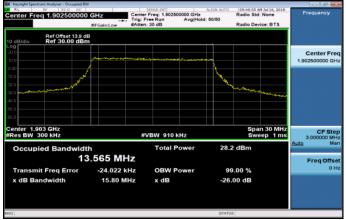
### Band2\_15MHz\_16QAM\_75\_0\_LowCH18675-1857.5



Band2\_15MHz\_16QAM\_75\_0\_MidCH18900-1880



### Band2\_15MHz\_16QAM\_75\_0\_HighCH19125-1902.5



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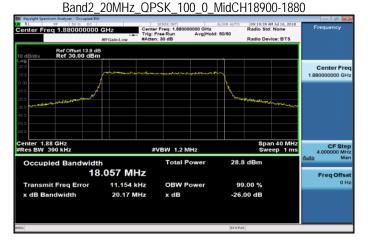
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### Band2\_20MHz\_QPSK\_100\_0\_LowCH18700-1860

cnter Freq 1.86000000			ALIGN AUTO	Radio Device: BTS	Frequency
Ref Offset 13.9 ( 0 dB/div Ref 30.00 dB	dB m				
•g	pression	ليحمد موجود والأول مرووي والحمد ومرجع			Center Freq 1.860000000 GHz
			- V	A Contraction of the local division of the l	
Center 1.86 GHz		#VBW 1.2 MHz		Span 40 MHz Sweep 1 ms	CF Ste 4.000000 MH
		Total Power	28.8	3 dBm	Auto Ma Freq Offs
Transmit Freq Error x dB Bandwidth	53.547 kHz 19.95 MHz			9.00 % 00 dB	0 H



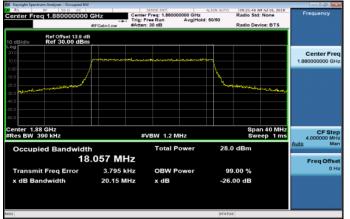
### Band2 20MHz QPSK 100 0 HighCH19100-1900

RL	trum Analyzer - Occupied BW BF   50 Ω DC   2 <b>q 1.900000000</b>	GHz Cent	sense:INT er Freq: 1.900000000 GHz Free Run Avg Hole en: 30 dB	ALIGN AUTO	09:20:11 AM Jul 16, 2018 Radio Std: None Radio Device: BTS	Frequency
10 dB/div	Ref Offset 13.9 dE Ref 30.00 dBm	3 1				
20.0 10.0			and the second sec			Center Freq 1.900000000 GHz
10.0				- Ann		
30.0 40.0 60.0						
Center 1.9 GHz #Res BW 390 kHz			#VBW 1.2 MHz		Span 40 MHz Sweep 1 ms	CF Ste 4.000000 M⊦
Occup	Occupied Bandwidth 17.989 MHz		Total Power 28		3 dBm	Auto Man Freq Offset
	it Freq Error Indwidth	8.242 kHz 20.18 MHz	OBW Power x dB		0.00 % 00 dB	0 Hz
190				STATU	5	

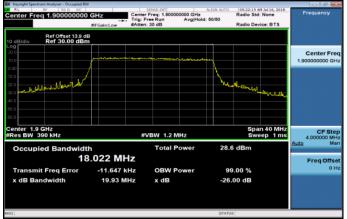
### Band2\_20MHz\_16QAM\_100\_0\_LowCH18700-1860



#### Band2\_20MHz\_16QAM\_100\_0\_MidCH18900-1880



### Band2\_20MHz\_16QAM\_100\_0\_HighCH19100-1900



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