

RF TEST REPORT

Applicant	Asiatelco Technologies Co.
FCC ID	XYO-AMA02R
Product	LTE Cellular Module
Brand	ATEL
Model	AMA-02R
Report No.	R2411A1747-R1V1
Issue Date	January 3, 2025

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 2 (2023)/ FCC CFR 47 Part 22H (2023) / FCC CFR 47 Part 24E (2023) / FCC CFR47 Part 27C (2023)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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TABLE OF CONTENT

1. Test Laboratory	5
1.1. Notes of the Test Report	5
1.2. Test Facility	5
1.3. Testing Location	5
2. General Description of Equipment Under Test	6
2.1. Applicant and Manufacturer Information	6
2.2. General Information	6
3. Applied Standards	8
4. Test Configuration	9
5. Test Case	11
5.1. RF Power Output and Effective Radiated Power	11
5.2. Occupied Bandwidth	13
5.3. Band Edge Compliance	14
5.4. Peak-to-Average Power Ratio (PAPR)	16
5.5. Frequency Stability	18
5.6. Spurious Emissions at Antenna Terminals	20
5.7. Radiated Spurious Emission	22
6. Test Result	25
6.1. RF Power Output and Effective Radiated Power	25
6.2. Occupied Bandwidth	50
6.3. Band Edge Compliance	78
6.4. Peak-to-Average Power Ratio (PAPR)	111
6.5. Frequency Stability	141
6.6. Spurious Emissions at Antenna Terminals	152
6.7. Radiated Spurious Emission	167
7. Main Test Instruments	171
ANNEX A: The EUT Appearance	172
ANNEX B: Test Setup Photos	173

Version	Revision Description	Issue Date
Rev.0	Initial issue of report.	December 18, 2024
Rev.1	Updated information.	January 3, 2025
Note: This revised report (Report No.: R2411A1747-R1V1) supersedes and replaces the previously issued report (Report No.: R2411A1747-R1). Please discard or destroy the previously issued report and dispose of it accordingly.		

Summary of Measurement Results

No.	Test Case	Clause in FCC rules	Verdict
1	RF Power Output and Effective Radiated Power	2.1046 22.913(a)(5) 24.232(c) 27.50(d)(4) 27.50(h)(2)	PASS
2	Occupied Bandwidth	2.1049	PASS
3	Band Edge Compliance	2.1051 22.917(a) 24.238(a) 27.53(h) 27.53(m)	PASS
4	Peak-to-Average Power Ratio	22.913(d) 24.232 27.50(d) KDB 971168 D01(5.7)	PASS
5	Frequency Stability	2.1055 22.355 24.235 27.54	PASS
6	Spurious Emissions at Antenna Terminals	2.1051 22.917(a) 24.238(a) 27.53(h) 27.53(m)	PASS
7	Radiated Spurious Emission	2.1053 22.917 (a) 24.238(a) 27.53(h) 27.53(m)	PASS

Date of Testing: November 22, 2024~ December 11, 2024

Date of Sample Received: November 18, 2024

Note: PASS: The EUT complies with the essential requirements in the standard.

FAIL: The EUT does not comply with the essential requirements in the standard.

All indications of Pass/Fail in this report are opinions expressed by Eurofins TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.

1. Test Laboratory

1.1. Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **Eurofins TA Technology (Shanghai) Co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2. Test Facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

Eurofins TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

A2LA (Certificate Number: 3857.01)

Eurofins TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform measurement.

1.3. Testing Location

Company: Eurofins TA Technology (Shanghai) Co., Ltd.
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2. General Description of Equipment Under Test

2.1. Applicant and Manufacturer Information

Applicant	Asiatelco Technologies Co.
Applicant address	#289 Bisheng Road, Building-8, 3F, Zhang jiang Hi-Tech Park, Pudong,Shanghai,China
Manufacturer	Asiatelco Technologies Co.
Manufacturer address	#289 Bisheng Road, Building-8, 3F, Zhang jiang Hi-Tech Park, Pudong,Shanghai,China

2.2. General Information

EUT Description				
Model	AMA-02R			
Lab internal SN	R2411A1747/S01			
Hardware Version	p2			
Software Version	V1.001.014			
Power Supply	External power supply			
Antenna Type	External Antenna			
Antenna Gain	820 MHz	3.07 dBi	1870 MHz	3.45 dBi
	830 MHz	3.53 dBi	1880 MHz	3.38 dBi
	840 MHz	3.36 dBi	1890 MHz	3.53 dBi
	850 MHz	3.36 dBi	1900 MHz	3.59 dBi
	1710 MHz	3.42 dBi	1910 MHz	3.65 dBi
	1720 MHz	3.49 dBi	2500 MHz	1.35 dBi
	1730 MHz	3.54 dBi	2510 MHz	2.07 dBi
	1740 MHz	3.69 dBi	2520 MHz	2.37 dBi
	1750 MHz	3.83 dBi	2530 MHz	2.17 dBi
	1760 MHz	3.34 dBi	2540 MHz	2.10 dBi
	1770 MHz	3.18 dBi	2550 MHz	2.30 dBi
	1780 MHz	2.95 dBi	2560 MHz	1.86 dBi
	1850 MHz	3.53 dBi	2570 MHz	2.19 dBi
	1860 MHz	3.58 dBi	/	/
Test Mode(s)	GSM 850; GSM 1900; LTE Band 2/4/5/7/66;			
Test Modulation	(GPRS)GMSK, (EGPRS) GMSK/ 8PSK; (LTE) QPSK, 16QAM;			
GPRS Multislot Class	12			
EGPRS Multislot Class	12			
LTE Category	1			
Maximum E.R.P.	GSM 850	32.88 dBm		

	GSM 1900	31.29 dBm	
	LTE Band 2	27.77 dBm	
	LTE Band 4	27.74 dBm	
	LTE Band 5	24.48 dBm	
	LTE Band 7	27.21 dBm	
	LTE Band 66	28.11 dBm	
Rated Power Supply Voltage	3.8VDC		
Operating Voltage	Minimum: 3.4VDC Maximum: 4.5VDC		
Operating Temperature	Lowest: -20°C Highest: +55°C		
Testing Temperature	Lowest: -30°C Highest: +50°C		
Operating Frequency Range(s)	Band	Tx (MHz)	Rx (MHz)
	GSM 850	824 ~ 849	869 ~ 894
	GSM 1900	1850 ~ 1910	1930 ~ 1990
	LTE Band 2	1850 ~ 1910	1930 ~ 1990
	LTE Band 4	1710 ~ 1755	2110 ~ 2155
	LTE Band 5	824 ~ 849	869 ~ 894
	LTE Band 7	2500 ~ 2570	2620 ~ 2690
	LTE Band 66	1710 ~ 1780	2110 ~ 2180
Note: 1. The EUT is sent from the applicant to Eurofins TA and the information of the EUT is declared by the applicant.			

3. Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test standards:

FCC CFR 47 Part 22H (2023)

FCC CFR 47 Part 24E (2023)

FCC CFR47 Part 27C (2023)

FCC CFR47 Part 2 (2023)

Reference standard:

ANSI C63.26-2015

KDB 971168 D01 Power Meas License Digital Systems v03r01

4. Test Configuration

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes. EUT stand-up position (Z axis), lie-down position (X, Y axis). Receiver antenna polarization (horizontal and vertical), the worst emission was found in position (Z axis, horizontal polarization for GSM Band; Y axis, vertical polarization for LTE Band) and the worst case was recorded.

All mode and data rates and positions and RB size and modulations were investigated.

Subsequently, only the worst case emissions are reported.

The following testing in GSM/ LTE is set based on the maximum RF Output Power.

Test modes are chosen to be reported as the worst case configuration below:

Test items	Modes/Modulation	
	GSM 850	GSM 1900
RF Power Output and Effective Radiated power	GPRS EGPRS	GPRS EGPRS
Occupied Bandwidth	GPRS(1Tx slot) EGPRS(1Tx slot)	GPRS(1Tx slot) EGPRS(1Tx slot)
Band Edge Compliance	GPRS(1Tx slot) EGPRS(1Tx slot)	GPRS(1Tx slot) EGPRS(1Tx slot)
Peak-to-Average Power Ratio	GPRS(1Tx slot) EGPRS(1Tx slot)	GPRS(1Tx slot) EGPRS(1Tx slot)
Frequency Stability	GPRS(1Tx slot) EGPRS(1Tx slot)	GPRS(1Tx slot) EGPRS(1Tx slot)
Spurious Emissions at Antenna Terminals	GPRS	GPRS
Radiated Spurious Emission	GPRS	GPRS

Test modes are chosen as the worst case configuration below for LTE Band:

Test items	Modes	Bandwidth (MHz)						Modulation		RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	50%	100%	L	M	H
RF Power Output and Effective Isotropic Radiated Power	LTE 2	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	LTE 4	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	LTE 5	O	O	O	O	-	-	O	O	O	O	O	O	O	O
	LTE 7	-	-	O	O	O	O	O	O	O	O	O	O	O	O
	LTE 66	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Occupied Bandwidth	LTE 2	O	O	O	O	O	O	O	O	-	-	O	O	O	O
	LTE 4	O	O	O	O	O	O	O	O	-	-	O	O	O	O
	LTE 5	O	O	O	O	-	-	O	O	-	-	O	O	O	O
	LTE 7	-	-	O	O	O	O	O	O	-	-	O	O	O	O
	LTE 66	O	O	O	O	O	O	O	O	-	-	O	O	O	O
Band Edge	LTE 2	O	O	O	O	O	O	O	O	O	-	O	O	-	O
	LTE 4	O	O	O	O	O	O	O	O	O	-	O	O	-	O

Compliance	LTE 5	O	O	O	O	-	-	O	O	O	-	O	O	-	O
	LTE 7	-	-	O	O	O	O	O	O	O	-	O	O	-	O
	LTE 66	O	O	O	O	O	O	O	O	O	-	O	O	-	O
Peak-to-Average Power Ratio	LTE 2	O	O	O	O	O	O	O	O	-	-	O	O	O	O
	LTE 4	O	O	O	O	O	O	O	O	-	-	O	O	O	O
	LTE 5	O	O	O	O	-	-	O	O	-	-	O	O	O	O
	LTE 7	-	-	O	O	O	O	O	O	-	-	O	O	O	O
	LTE 66	O	O	O	O	O	O	O	O	-	-	O	O	O	O
Frequency Stability	LTE 2	O	O	O	O	O	O	O	-	-	-	O	-	O	-
	LTE 4	O	O	O	O	O	O	O	-	-	-	O	-	O	-
	LTE 5	O	O	O	O	-	-	O	-	-	-	O	-	O	-
	LTE 7	-	-	O	O	O	O	O	-	-	-	O	-	O	-
	LTE 66	O	O	O	O	O	O	O	-	-	-	O	-	O	-
Spurious Emissions at Antenna Terminals	LTE 2	O	O	O	O	O	O	O	-	O	-	-	O	O	O
	LTE 4	O	O	O	O	O	O	O	-	O	-	-	O	O	O
	LTE 5	O	O	O	O	-	-	O	-	O	-	-	O	O	O
	LTE 7	-	-	O	O	O	O	O	-	O	-	-	O	O	O
	LTE 66	O	O	O	O	O	O	O	-	O	-	-	O	O	O
Radiated Spurious Emission	LTE 2	-	-	-	-	-	O	O	-	O	-	-	-	O	-
	LTE 4	-	-	-	O	-	-	O	-	O	-	-	-	O	-
	LTE 5	-	-	-	O	-	-	O	-	O	-	-	-	O	-
	LTE 7	-	-	-	O	-	-	O	-	O	-	-	-	O	-
	LTE 66	-	-	-	O	-	-	O	-	O	-	-	-	O	-
Note	1. The mark "O" means that this configuration is chosen for testing. 2. The mark "-" means that this configuration is not testing.														

5. Test Case

5.1. RF Power Output and Effective Radiated Power

Ambient Condition

Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

Methods of Measurement

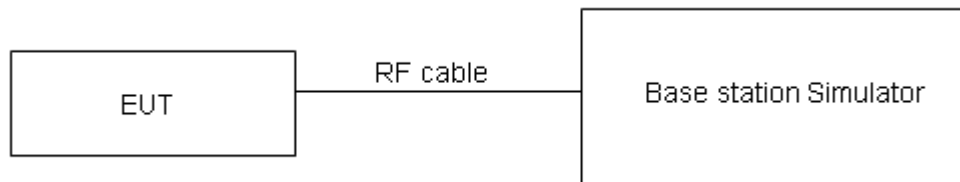
During the process of the testing, The EUT was connected to the Base Station Simulator with a known loss. The EUT is controlled by the Base Station Simulator test set to ensure max power transmission with proper modulation.

ERP can then be calculated as follows:

$EIRP \text{ (dBm)} = \text{Output Power (dBm)} + \text{Antenna Gain (dBi)}$

$EIRP \text{ (dBm)} = ERP \text{ (dBm)} + 2.15 \text{ (dB)}$.

Test Setup



Limits

No specific RF power output requirements in part 2.1046.

Rule Part 22.913(a)(5) specifies that "Mobile/portable stations are limited to 7 watts ERP".

Rule Part 24.232(c) Mobile and portable stations are limited to 2 watts EIRP.

Rule Part 24.232(e) Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.

Rule Part 27.50(d) (4) specifies that "Fixed, mobile and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP"

Rule Part 27.50(h) (2) specifies that "Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power."

Part 22.913(a)(5) Limit	$\leq 7 \text{ W}$ (38.45 dBm)
Part 24.232(c)(e) Limit	$\leq 2 \text{ W}$ (33 dBm)
Part 27.50(d)(4) Limit	$\leq 1 \text{ W}$ (30 dBm)
Part 27.50(h)(2) Limit	$\leq 2 \text{ W}$ (33 dBm)

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 0.4$ dB for RF power output, $k = 2$, $U = 1.19$ dB for ERP.

Test Results

Refer to the section 6.1 of this report for test data.

5.2. Occupied Bandwidth

Ambient Condition

Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

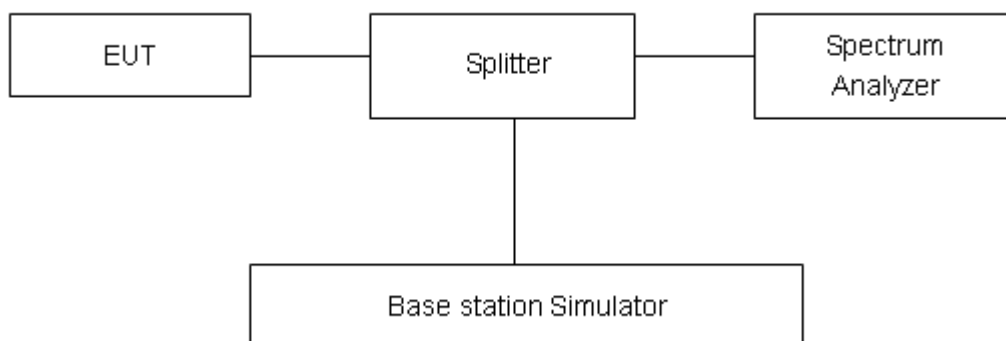
Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The occupied bandwidth is measured using spectrum analyzer.

RBW is set to $\geq 1\%$ EBW, VBW is set to 3x RBW.

99% power and -26dBc occupied bandwidths are recorded. Spectrum analyzer plots are included on the following pages.

Test Setup



Limits

No specific occupied bandwidth requirements in part 2.1049.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 624\text{Hz}$.

Test Results

Refer to the section 6.2 of this report for test data.

5.3. Band Edge Compliance

Ambient Condition

Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The band edge of the lowest and highest channels were measured.

The testing follows KDB 971168 D01 v03r01 Section 6.0

The EUT was connected to spectrum analyzer and system simulator via a power divider.

The band edges of low and high channels for the highest RF powers were measured.

For Band 7 set RBW $\geq 1\%$ EBW in the 1MHz band immediately outside and adjacent to the band edge. Beyond the 1 MHz band from the band edge, RBW=1MHz was used.

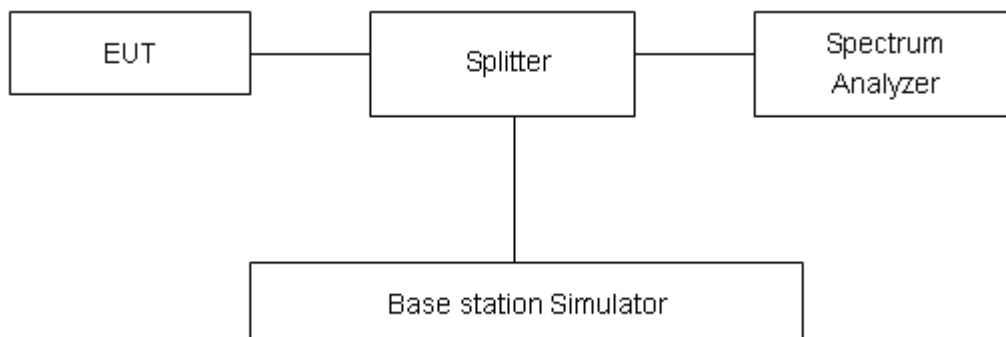
For other bands, RBW is set to $\geq 1\%$ EBW, VBW is set to 3x RBW on spectrum analyzer.

Set spectrum analyzer with RMS detector.

The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

Checked that all the results comply with the emission limit line.

Test Setup



Limits

Rule Part 22.917(a) specifies that “The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.”

Rule Part 24.238(a) specifies that “on any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB.”

Rule Part 27.53(h) specifies that “for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB”

Rule Part 27.53(m) (4) specifies that “for BRS and EBS stations. For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log(P)$ dB on all frequencies between the channel

edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(4) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

Example:

The limit line is derived from $43 + 10 \log (P)$ dB below the transmitter power P(Watts)

$$= P(W) - [43 + 10 \log (P)] \text{ (dB)}$$

$$= [30 + 10 \log (P)] \text{ (dBm)} - [43 + 10 \log (P)] \text{ (dB)} = -13 \text{ dBm}.$$

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$, $U = 0.684 \text{ dB}$.

Test Results

Refer to the section 6.3 of this report for test data.

5.4. Peak-to-Average Power Ratio (PAPR)

Ambient Condition

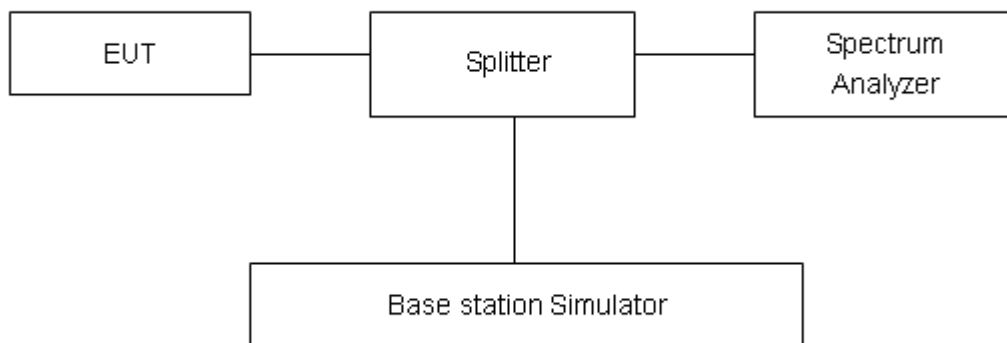
Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

Methods of Measurement

Measure the total peak power and record as P_{Pk} . And measure the total average power and record as P_{Avg} . Both the peak and average power levels must be expressed in the same logarithmic units (e.g., dBm). Determine the PAPR from:

$$PAPR (dB) = P_{Pk} (dBm) - P_{Avg} (dBm).$$

Test Setup



Limits

Rule Part 22.913(d), the peak-to-average ratio (PAR) of the transmission must not exceed 13 dB.

Rule Part 24.232(d), in measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB.

Rule Part 27.50(d)(5) Equipment employed must be authorized in accordance with the provisions of 24.51. Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (d)(6) of this section. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 0.4$ dB.

Test Results

Refer to the section 6.4 of this report for test data.

5.5. Frequency Stability

Ambient Condition

Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

Method of Measurement

Frequency Stability (Temperature Variation)

The temperature inside the climate chamber is varied from -30°C to +50°C in 10°C step size,

(1) With all power removed, the temperature was decreased to 0°C and permitted to stabilize for three hours.

(2) Measure the carrier frequency with the test equipment in a “call mode”. These measurements should be made within 1 minute of powering up the mobile station, to prevent significant self warming.

(3) Repeat the above measurements at 10°C increments from -30°C to +50°C. Allow at least 1.5 hours at each temperature, un-powered, before making measurements.

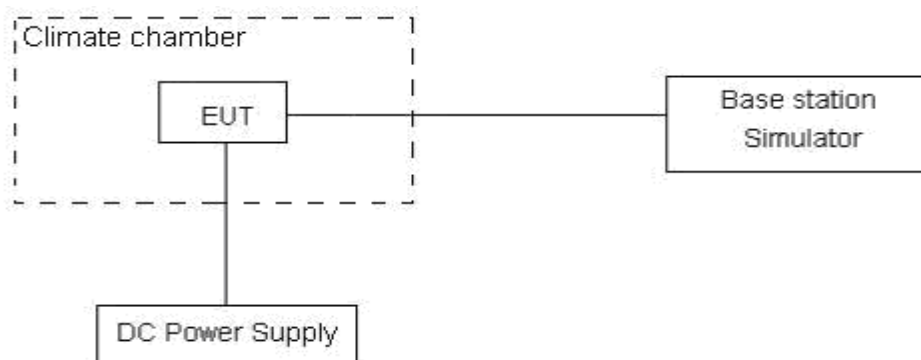
Frequency Stability (Voltage Variation)

The frequency stability shall be measured with variation of primary supply voltage as follows:

Primary Supply Voltage: The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

This transceiver is specified to operate with an input voltage of between 3.4 V and 4.5 V, with a nominal voltage of 3.8V.

Test Setup



Limits

For Rule Part 22.355, the frequency stability of the carrier shall be accurate to within 2.5 ppm of the received frequency for mobile stations.

For Rule Part 24, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

For Rule Part 27, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor $k = 3$, $U = 0.01\text{ppm}$.

Test Results

Refer to the section 6.5 of this report for test data.

5.6. Spurious Emissions at Antenna Terminals

Ambient Condition

Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The measurement is carried out using a spectrum analyzer. The spectrum analyzer scans from 9kHz to the 10th harmonic of the carrier.

The peak detector is used.

RBW is set to 1 kHz (0.009MHz~ 0.15 MHz),

RBW is set to 10 kHz (0.15 MHz~ 30 MHz)

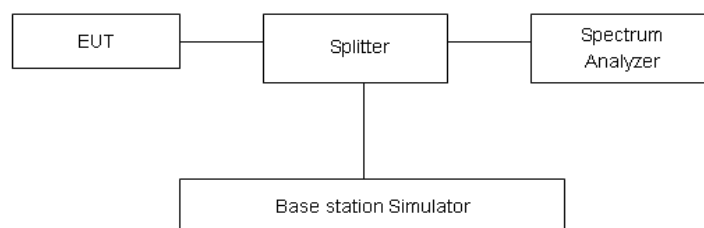
RBW is set to 100 kHz (30MHz~1000 MHz)

RBW is set to 1000 kHz (above 1000MHz)

Sweep is set to AUTO.

The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test Setup



Limits

Rule Part 22.917(a) specifies that “The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.”

Rule Part 24.238(a) specifies that “on any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10} (P)$ dB.”

Rule Part 27.53(h) specifies that “for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10} (P)$ dB..”

Rule Part 27.53(m) $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(4) of this section.

Part 22.917(a) Limit	-13 dBm
Part 24.238(a) Limit	-13 dBm
Part 27.53(h)/(g) Limit	-13 dBm
Part 27.53(m) Limit	-25 dBm

Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

Frequency	Uncertainty
9kHz-1GHz	0.684 dB
1GHz-26.5GHz	1.407 dB

Test Results

Refer to the section 6.6 of this report for test data.

5.7. Radiated Spurious Emission

Ambient Condition

Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

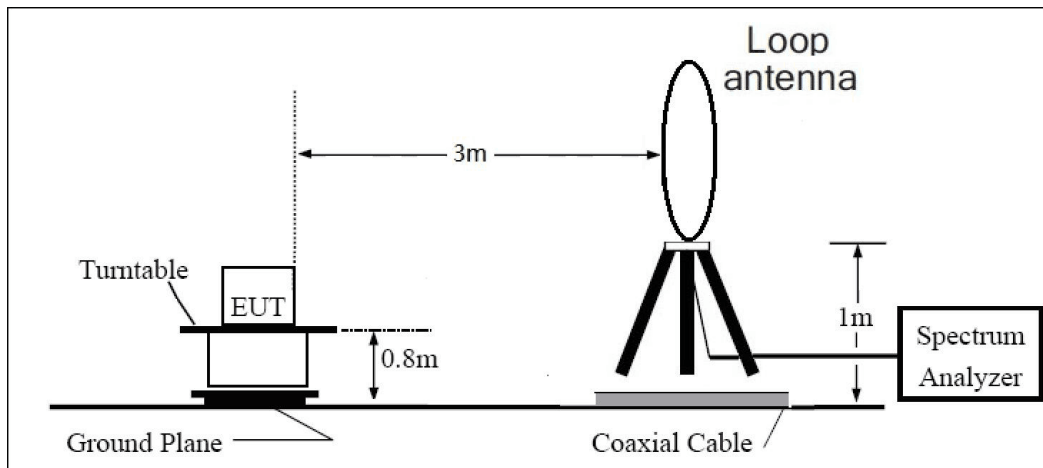
Method of Measurement

1. The testing follows FCC KDB 971168 v03r01 Section 5.8 and ANSI C63.26-2015.
2. Below 1GHz: The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H). Above 1GHz: (Note: the FCC's permission to use 1.5m as an alternative per TCBC Conf call of Dec. 2, 2014.) The EUT is placed on a turntable 1.5 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).
3. A loop antenna, A log-periodic antenna or horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
4. The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum RBW=100kHz, VBW=300kHz, and the maximum value of the receiver should be recorded as (Pr).
5. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
6. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (Pcl) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAG) should be recorded after test.
7. The measurement results are obtained as described below:
Power (EIRP) = PMea - PAG - Pcl + Ga
The measurement results are amend as described below:
Power (EIRP) = PMea - Pcl + Ga
8. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dB) and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP-2.15dB.

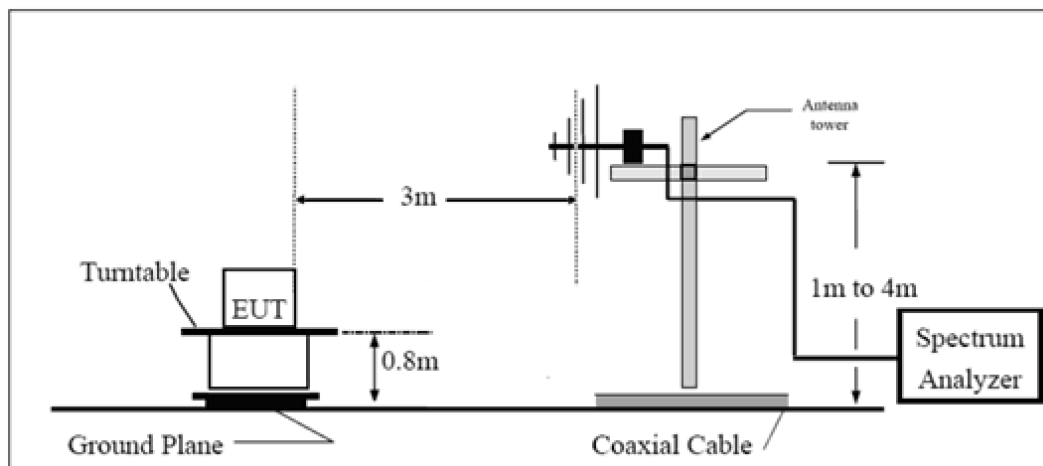
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test Setup

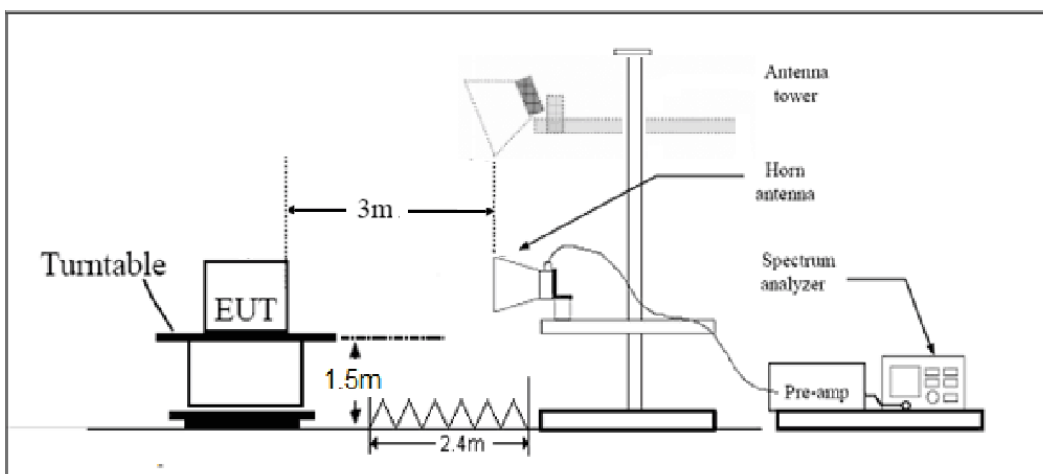
9KHz~ 30MHz



30MHz~ 1GHz



Above 1GHz



Note: Area side: 2.4mX3.6m

Limits

Rule Part 22.917(a) specifies that “The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ Db.”

Rule Part 24.238(a) specifies that “on any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10} (P)$ dB.”

Rule Part 27.53(h) specifies that “for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10} (P)$ dB.”

Rule Part 27.53(m) $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(4) of this section.

Part 22.917(a) Limit	-13 dBm
Part 24.238(a) Limit	-13 dBm
Part 27.53 (h)/(g) Limit	-13 dBm
Part 27.53(m) Limit	-25 dBm

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$, $U = 3.55$ Db.

Test Results

Refer to the section 6.7 of this report for test data.

6. Test Result

6.1. RF Power Output and Effective Radiated Power

GSM 850		Maximum Output Power (dBm)			ERP (dBm)		
		Channel 128	Channel 190	Channel 251	Channel 128	Channel 190	Channel 251
		824.2 (MHz)	836.6 (MHz)	848.8 (MHz)	824.2 (MHz)	836.6 (MHz)	848.8 (MHz)
GPRS (GMSK)	1Txslot	31.44	31.50	31.20	32.82	32.88	32.58
	2Txslots	31.43	31.20	31.21	32.81	32.58	32.59
	3Txslots	30.07	30.17	29.94	31.45	31.55	31.32
	4Txslots	28.40	28.47	28.20	29.78	29.85	29.58
EGPRS (8PSK)	1Txslot	24.76	24.85	24.95	26.14	26.23	26.33
	2Txslots	23.15	23.14	23.24	24.53	24.52	24.62
	3Txslots	21.01	20.92	21.03	22.39	22.30	22.41
	4Txslots	18.78	18.65	18.79	20.16	20.03	20.17

GSM 1900		Maximum Output Power (dBm)			EIRP (dBm)		
		Channel 512	Channel 661	Channel 810	Channel 512	Channel 661	Channel 810
		1850 (MHz)	1880 (MHz)	1909.8 (MHz)	1850 (MHz)	1880 (MHz)	1909.8 (MHz)
GPRS (GMSK)	1Txslot	27.54	27.64	27.35	31.19	31.29	31.00
	2Txslots	27.58	27.64	27.35	31.23	31.29	31.00
	3Txslots	26.37	26.51	26.27	30.02	30.16	29.92
	4Txslots	24.50	24.66	24.46	28.15	28.31	28.11
EGPRS (8PSK)	1Txslot	23.87	23.92	24.25	27.52	27.57	27.90
	2Txslots	22.26	22.17	22.58	25.91	25.82	26.23
	3Txslots	20.01	19.86	20.49	23.66	23.51	24.14
	4Txslots	17.51	17.62	18.20	21.16	21.27	21.85

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	EIRP (dBm)
LTE Band2	1.4	18607	1	#0	QPSK	23.77	27.42
LTE Band2	1.4	18607	1	#Mid	QPSK	23.83	27.48
LTE Band2	1.4	18607	1	#Max	QPSK	23.75	27.40
LTE Band2	1.4	18607	3	#0	QPSK	23.74	27.39
LTE Band2	1.4	18607	3	#Mid	QPSK	23.74	27.39
LTE Band2	1.4	18607	3	#Max	QPSK	23.69	27.34
LTE Band2	1.4	18607	6	#0	QPSK	22.57	26.22
LTE Band2	1.4	18900	1	#0	QPSK	23.48	27.13
LTE Band2	1.4	18900	1	#Mid	QPSK	23.55	27.20
LTE Band2	1.4	18900	1	#Max	QPSK	23.55	27.20
LTE Band2	1.4	18900	3	#0	QPSK	23.52	27.17
LTE Band2	1.4	18900	3	#Mid	QPSK	23.52	27.17
LTE Band2	1.4	18900	3	#Max	QPSK	23.52	27.17
LTE Band2	1.4	18900	6	#0	QPSK	22.52	26.17
LTE Band2	1.4	19193	1	#0	QPSK	23.10	26.75
LTE Band2	1.4	19193	1	#Mid	QPSK	22.89	26.54
LTE Band2	1.4	19193	1	#Max	QPSK	22.68	26.33
LTE Band2	1.4	19193	3	#0	QPSK	22.94	26.59
LTE Band2	1.4	19193	3	#Mid	QPSK	22.93	26.58
LTE Band2	1.4	19193	3	#Max	QPSK	22.71	26.36
LTE Band2	1.4	19193	6	#0	QPSK	21.80	25.45
LTE Band2	3	18615	1	#0	QPSK	23.71	27.36
LTE Band2	3	18615	1	#Mid	QPSK	23.75	27.40
LTE Band2	3	18615	1	#Max	QPSK	23.54	27.19
LTE Band2	3	18615	8	#0	QPSK	22.62	26.27
LTE Band2	3	18615	8	#Mid	QPSK	22.63	26.28
LTE Band2	3	18615	8	#Max	QPSK	22.57	26.22
LTE Band2	3	18615	15	#0	QPSK	22.61	26.26
LTE Band2	3	18900	1	#0	QPSK	23.46	27.11
LTE Band2	3	18900	1	#Mid	QPSK	23.57	27.22
LTE Band2	3	18900	1	#Max	QPSK	23.52	27.17
LTE Band2	3	18900	8	#0	QPSK	22.42	26.07
LTE Band2	3	18900	8	#Mid	QPSK	22.43	26.08
LTE Band2	3	18900	8	#Max	QPSK	22.59	26.24
LTE Band2	3	18900	15	#0	QPSK	22.48	26.13
LTE Band2	3	19185	1	#0	QPSK	23.63	27.28
LTE Band2	3	19185	1	#Mid	QPSK	23.16	26.81
LTE Band2	3	19185	1	#Max	QPSK	22.63	26.28
LTE Band2	3	19185	8	#0	QPSK	22.35	26.00
LTE Band2	3	19185	8	#Mid	QPSK	22.37	26.02

LTE Band2	3	19185	8	#Max	QPSK	21.90	25.55
LTE Band2	3	19185	15	#0	QPSK	22.08	25.73
LTE Band2	5	18625	1	#0	QPSK	24.02	27.67
LTE Band2	5	18625	1	#Mid	QPSK	23.77	27.42
LTE Band2	5	18625	1	#Max	QPSK	23.72	27.37
LTE Band2	5	18625	12	#0	QPSK	22.65	26.30
LTE Band2	5	18625	12	#Mid	QPSK	22.67	26.32
LTE Band2	5	18625	12	#Max	QPSK	22.46	26.11
LTE Band2	5	18625	25	#0	QPSK	22.54	26.19
LTE Band2	5	18900	1	#0	QPSK	23.69	27.34
LTE Band2	5	18900	1	#Mid	QPSK	23.67	27.32
LTE Band2	5	18900	1	#Max	QPSK	23.84	27.49
LTE Band2	5	18900	12	#0	QPSK	22.49	26.14
LTE Band2	5	18900	12	#Mid	QPSK	22.49	26.14
LTE Band2	5	18900	12	#Max	QPSK	22.65	26.30
LTE Band2	5	18900	25	#0	QPSK	22.49	26.14
LTE Band2	5	19175	1	#0	QPSK	24.12	27.77
LTE Band2	5	19175	1	#Mid	QPSK	23.52	27.17
LTE Band2	5	19175	1	#Max	QPSK	22.88	26.53
LTE Band2	5	19175	12	#0	QPSK	22.68	26.33
LTE Band2	5	19175	12	#Mid	QPSK	22.71	26.36
LTE Band2	5	19175	12	#Max	QPSK	22.06	25.71
LTE Band2	5	19175	25	#0	QPSK	22.40	26.05
LTE Band2	10	18650	1	#0	QPSK	23.99	27.64
LTE Band2	10	18650	1	#Mid	QPSK	23.57	27.22
LTE Band2	10	18650	1	#Max	QPSK	23.66	27.31
LTE Band2	10	18650	25	#0	QPSK	22.33	25.98
LTE Band2	10	18650	25	#Mid	QPSK	22.37	26.02
LTE Band2	10	18650	25	#Max	QPSK	22.05	25.70
LTE Band2	10	18650	50	#0	QPSK	22.19	25.84
LTE Band2	10	18900	1	#0	QPSK	23.65	27.30
LTE Band2	10	18900	1	#Mid	QPSK	23.58	27.23
LTE Band2	10	18900	1	#Max	QPSK	23.71	27.36
LTE Band2	10	18900	25	#0	QPSK	22.36	26.01
LTE Band2	10	18900	25	#Mid	QPSK	22.36	26.01
LTE Band2	10	18900	25	#Max	QPSK	22.39	26.04
LTE Band2	10	18900	50	#0	QPSK	22.24	25.89
LTE Band2	10	19150	1	#0	QPSK	23.65	27.30
LTE Band2	10	19150	1	#Mid	QPSK	23.97	27.62
LTE Band2	10	19150	1	#Max	QPSK	23.09	26.74
LTE Band2	10	19150	25	#0	QPSK	22.56	26.21
LTE Band2	10	19150	25	#Mid	QPSK	22.59	26.24
LTE Band2	10	19150	25	#Max	QPSK	22.33	25.98

LTE Band2	10	19150	50	#0	QPSK	22.48	26.13
LTE Band2	15	18675	1	#0	QPSK	24.05	27.70
LTE Band2	15	18675	1	#Mid	QPSK	23.45	27.10
LTE Band2	15	18675	1	#Max	QPSK	23.09	26.74
LTE Band2	15	18675	36	#0	QPSK	22.45	26.10
LTE Band2	15	18675	36	#Mid	QPSK	22.46	26.11
LTE Band2	15	18675	36	#Max	QPSK	21.97	25.62
LTE Band2	15	18675	75	#0	QPSK	22.22	25.87
LTE Band2	15	18900	1	#0	QPSK	23.50	27.15
LTE Band2	15	18900	1	#Mid	QPSK	23.61	27.26
LTE Band2	15	18900	1	#Max	QPSK	23.38	27.03
LTE Band2	15	18900	36	#0	QPSK	22.44	26.09
LTE Band2	15	18900	36	#Mid	QPSK	22.43	26.08
LTE Band2	15	18900	36	#Max	QPSK	22.52	26.17
LTE Band2	15	18900	75	#0	QPSK	22.26	25.91
LTE Band2	15	19125	1	#0	QPSK	22.97	26.62
LTE Band2	15	19125	1	#Mid	QPSK	23.94	27.59
LTE Band2	15	19125	1	#Max	QPSK	23.06	26.71
LTE Band2	15	19125	36	#0	QPSK	22.05	25.70
LTE Band2	15	19125	36	#Mid	QPSK	22.09	25.74
LTE Band2	15	19125	36	#Max	QPSK	22.69	26.34
LTE Band2	15	19125	75	#0	QPSK	22.41	26.06
LTE Band2	20	18700	1	#0	QPSK	24.00	27.65
LTE Band2	20	18700	1	#Mid	QPSK	23.33	26.98
LTE Band2	20	18700	1	#Max	QPSK	23.54	27.19
LTE Band2	20	18700	50	#0	QPSK	22.14	25.79
LTE Band2	20	18700	50	#Mid	QPSK	22.15	25.80
LTE Band2	20	18700	50	#Max	QPSK	21.86	25.51
LTE Band2	20	18700	100	#0	QPSK	22.21	25.86
LTE Band2	20	18900	1	#0	QPSK	23.70	27.35
LTE Band2	20	18900	1	#Mid	QPSK	23.66	27.31
LTE Band2	20	18900	1	#Max	QPSK	23.19	26.84
LTE Band2	20	18900	50	#0	QPSK	22.43	26.08
LTE Band2	20	18900	50	#Mid	QPSK	22.43	26.08
LTE Band2	20	18900	50	#Max	QPSK	22.29	25.94
LTE Band2	20	18900	100	#0	QPSK	22.07	25.72
LTE Band2	20	19100	1	#0	QPSK	22.94	26.59
LTE Band2	20	19100	1	#Mid	QPSK	23.39	27.04
LTE Band2	20	19100	1	#Max	QPSK	23.16	26.81
LTE Band2	20	19100	50	#0	QPSK	21.69	25.34
LTE Band2	20	19100	50	#Mid	QPSK	21.73	25.38
LTE Band2	20	19100	50	#Max	QPSK	22.63	26.28
LTE Band2	20	19100	100	#0	QPSK	22.14	25.79

LTE Band2	1.4	18607	1	#0	16QAM	23.03	26.68
LTE Band2	1.4	18607	1	#Mid	16QAM	23.12	26.77
LTE Band2	1.4	18607	1	#Max	16QAM	23.01	26.66
LTE Band2	1.4	18607	3	#0	16QAM	23.15	26.80
LTE Band2	1.4	18607	3	#Mid	16QAM	23.15	26.80
LTE Band2	1.4	18607	3	#Max	16QAM	23.16	26.81
LTE Band2	1.4	18607	6	#0	16QAM	21.96	25.61
LTE Band2	1.4	18900	1	#0	16QAM	22.85	26.50
LTE Band2	1.4	18900	1	#Mid	16QAM	22.95	26.60
LTE Band2	1.4	18900	1	#Max	16QAM	22.98	26.63
LTE Band2	1.4	18900	3	#0	16QAM	22.76	26.41
LTE Band2	1.4	18900	3	#Mid	16QAM	22.76	26.41
LTE Band2	1.4	18900	3	#Max	16QAM	22.81	26.46
LTE Band2	1.4	18900	6	#0	16QAM	21.77	25.42
LTE Band2	1.4	19193	1	#0	16QAM	22.15	25.80
LTE Band2	1.4	19193	1	#Mid	16QAM	21.91	25.56
LTE Band2	1.4	19193	1	#Max	16QAM	21.75	25.40
LTE Band2	1.4	19193	3	#0	16QAM	22.08	25.73
LTE Band2	1.4	19193	3	#Mid	16QAM	22.08	25.73
LTE Band2	1.4	19193	3	#Max	16QAM	21.84	25.49
LTE Band2	1.4	19193	6	#0	16QAM	21.06	24.71
LTE Band2	3	18615	1	#0	16QAM	23.34	26.99
LTE Band2	3	18615	1	#Mid	16QAM	23.31	26.96
LTE Band2	3	18615	1	#Max	16QAM	23.13	26.78
LTE Band2	3	18615	8	#0	16QAM	21.90	25.55
LTE Band2	3	18615	8	#Mid	16QAM	21.91	25.56
LTE Band2	3	18615	8	#Max	16QAM	21.93	25.58
LTE Band2	3	18615	15	#0	16QAM	21.88	25.53
LTE Band2	3	18900	1	#0	16QAM	22.85	26.50
LTE Band2	3	18900	1	#Mid	16QAM	22.96	26.61
LTE Band2	3	18900	1	#Max	16QAM	22.90	26.55
LTE Band2	3	18900	8	#0	16QAM	21.80	25.45
LTE Band2	3	18900	8	#Mid	16QAM	21.80	25.45
LTE Band2	3	18900	8	#Max	16QAM	21.85	25.50
LTE Band2	3	18900	15	#0	16QAM	21.66	25.31
LTE Band2	3	19185	1	#0	16QAM	22.77	26.42
LTE Band2	3	19185	1	#Mid	16QAM	22.26	25.91
LTE Band2	3	19185	1	#Max	16QAM	21.73	25.38
LTE Band2	3	19185	8	#0	16QAM	21.67	25.32
LTE Band2	3	19185	8	#Mid	16QAM	21.69	25.34
LTE Band2	3	19185	8	#Max	16QAM	21.24	24.89
LTE Band2	3	19185	15	#0	16QAM	21.49	25.14
LTE Band2	5	18625	1	#0	16QAM	23.46	27.11

LTE Band2	5	18625	1	#Mid	16QAM	23.32	26.97
LTE Band2	5	18625	1	#Max	16QAM	23.12	26.77
LTE Band2	5	18625	12	#0	16QAM	21.87	25.52
LTE Band2	5	18625	12	#Mid	16QAM	21.89	25.54
LTE Band2	5	18625	12	#Max	16QAM	21.69	25.34
LTE Band2	5	18625	25	#0	16QAM	21.83	25.48
LTE Band2	5	18900	1	#0	16QAM	23.07	26.72
LTE Band2	5	18900	1	#Mid	16QAM	23.05	26.70
LTE Band2	5	18900	1	#Max	16QAM	23.23	26.88
LTE Band2	5	18900	12	#0	16QAM	21.81	25.46
LTE Band2	5	18900	12	#Mid	16QAM	21.82	25.47
LTE Band2	5	18900	12	#Max	16QAM	21.86	25.51
LTE Band2	5	18900	25	#0	16QAM	21.71	25.36
LTE Band2	5	19175	1	#0	16QAM	23.57	27.22
LTE Band2	5	19175	1	#Mid	16QAM	22.93	26.58
LTE Band2	5	19175	1	#Max	16QAM	22.23	25.88
LTE Band2	5	19175	12	#0	16QAM	22.04	25.69
LTE Band2	5	19175	12	#Mid	16QAM	22.07	25.72
LTE Band2	5	19175	12	#Max	16QAM	21.49	25.14
LTE Band2	5	19175	25	#0	16QAM	21.74	25.39
LTE Band2	10	18650	1	#0	16QAM	23.48	27.13
LTE Band2	10	18650	1	#Mid	16QAM	23.07	26.72
LTE Band2	10	18650	1	#Max	16QAM	22.87	26.52
LTE Band2	10	18650	25	#0	16QAM	21.71	25.36
LTE Band2	10	18650	25	#Mid	16QAM	21.72	25.37
LTE Band2	10	18650	25	#Max	16QAM	21.46	25.11
LTE Band2	10	18900	1	#0	16QAM	23.00	26.65
LTE Band2	10	18900	1	#Mid	16QAM	22.92	26.57
LTE Band2	10	18900	1	#Max	16QAM	22.98	26.63
LTE Band2	10	18900	25	#0	16QAM	21.74	25.39
LTE Band2	10	18900	25	#Mid	16QAM	21.74	25.39
LTE Band2	10	18900	25	#Max	16QAM	21.80	25.45
LTE Band2	10	19150	1	#0	16QAM	22.74	26.39
LTE Band2	10	19150	1	#Mid	16QAM	23.04	26.69
LTE Band2	10	19150	1	#Max	16QAM	22.09	25.74
LTE Band2	10	19150	25	#0	16QAM	21.77	25.42
LTE Band2	10	19150	25	#Mid	16QAM	21.80	25.45
LTE Band2	10	19150	25	#Max	16QAM	21.61	25.26
LTE Band2	15	18675	1	#0	16QAM	23.47	27.12
LTE Band2	15	18675	1	#Mid	16QAM	22.82	26.47
LTE Band2	15	18675	1	#Max	16QAM	22.43	26.08
LTE Band2	15	18900	1	#0	16QAM	22.90	26.55
LTE Band2	15	18900	1	#Mid	16QAM	22.96	26.61

LTE Band2	15	18900	1	#Max	16QAM	22.71	26.36
LTE Band2	15	19125	1	#0	16QAM	22.21	25.86
LTE Band2	15	19125	1	#Mid	16QAM	23.16	26.81
LTE Band2	15	19125	1	#Max	16QAM	22.12	25.77
LTE Band2	20	18700	1	#0	16QAM	23.22	26.87
LTE Band2	20	18700	1	#Mid	16QAM	22.62	26.27
LTE Band2	20	18700	1	#Max	16QAM	22.68	26.33
LTE Band2	20	18900	1	#0	16QAM	22.57	26.22
LTE Band2	20	18900	1	#Mid	16QAM	22.67	26.32
LTE Band2	20	18900	1	#Max	16QAM	22.14	25.79
LTE Band2	20	19100	1	#0	16QAM	21.83	25.48
LTE Band2	20	19100	1	#Mid	16QAM	22.49	26.14
LTE Band2	20	19100	1	#Max	16QAM	21.94	25.59

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	EIRP (dBm)
LTE Band4	1.4	19957	1	#0	QPSK	23.05	26.88
LTE Band4	1.4	19957	1	#Mid	QPSK	23.12	26.95
LTE Band4	1.4	19957	1	#Max	QPSK	23.06	26.89
LTE Band4	1.4	19957	3	#0	QPSK	23.03	26.86
LTE Band4	1.4	19957	3	#Mid	QPSK	23.03	26.86
LTE Band4	1.4	19957	3	#Max	QPSK	23.09	26.92
LTE Band4	1.4	19957	6	#0	QPSK	22.07	25.90
LTE Band4	1.4	20175	1	#0	QPSK	23.77	27.60
LTE Band4	1.4	20175	1	#Mid	QPSK	23.82	27.65
LTE Band4	1.4	20175	1	#Max	QPSK	23.78	27.61
LTE Band4	1.4	20175	3	#0	QPSK	23.80	27.63
LTE Band4	1.4	20175	3	#Mid	QPSK	23.80	27.63
LTE Band4	1.4	20175	3	#Max	QPSK	23.77	27.60
LTE Band4	1.4	20175	6	#0	QPSK	22.87	26.70
LTE Band4	1.4	20393	1	#0	QPSK	22.83	26.66
LTE Band4	1.4	20393	1	#Mid	QPSK	22.74	26.57
LTE Band4	1.4	20393	1	#Max	QPSK	22.69	26.52
LTE Band4	1.4	20393	3	#0	QPSK	22.72	26.55
LTE Band4	1.4	20393	3	#Mid	QPSK	22.72	26.55
LTE Band4	1.4	20393	3	#Max	QPSK	22.66	26.49
LTE Band4	1.4	20393	6	#0	QPSK	21.79	25.62
LTE Band4	3	19965	1	#0	QPSK	23.04	26.87
LTE Band4	3	19965	1	#Mid	QPSK	23.01	26.84
LTE Band4	3	19965	1	#Max	QPSK	22.89	26.72
LTE Band4	3	19965	8	#0	QPSK	22.07	25.90
LTE Band4	3	19965	8	#Mid	QPSK	22.08	25.91
LTE Band4	3	19965	8	#Max	QPSK	22.06	25.89

LTE Band4	3	19965	15	#0	QPSK	22.06	25.89
LTE Band4	3	20175	1	#0	QPSK	23.65	27.48
LTE Band4	3	20175	1	#Mid	QPSK	23.80	27.63
LTE Band4	3	20175	1	#Max	QPSK	23.63	27.46
LTE Band4	3	20175	8	#0	QPSK	22.82	26.65
LTE Band4	3	20175	8	#Mid	QPSK	22.82	26.65
LTE Band4	3	20175	8	#Max	QPSK	22.86	26.69
LTE Band4	3	20175	15	#0	QPSK	22.81	26.64
LTE Band4	3	20385	1	#0	QPSK	22.87	26.70
LTE Band4	3	20385	1	#Mid	QPSK	22.81	26.64
LTE Band4	3	20385	1	#Max	QPSK	22.65	26.48
LTE Band4	3	20385	8	#0	QPSK	21.87	25.70
LTE Band4	3	20385	8	#Mid	QPSK	21.88	25.71
LTE Band4	3	20385	8	#Max	QPSK	21.84	25.67
LTE Band4	3	20385	15	#0	QPSK	21.81	25.64
LTE Band4	5	19975	1	#0	QPSK	23.23	27.06
LTE Band4	5	19975	1	#Mid	QPSK	23.09	26.92
LTE Band4	5	19975	1	#Max	QPSK	23.13	26.96
LTE Band4	5	19975	12	#0	QPSK	22.03	25.86
LTE Band4	5	19975	12	#Mid	QPSK	22.04	25.87
LTE Band4	5	19975	12	#Max	QPSK	22.06	25.89
LTE Band4	5	19975	25	#0	QPSK	22.05	25.88
LTE Band4	5	20175	1	#0	QPSK	23.76	27.59
LTE Band4	5	20175	1	#Mid	QPSK	23.86	27.69
LTE Band4	5	20175	1	#Max	QPSK	23.79	27.62
LTE Band4	5	20175	12	#0	QPSK	22.79	26.62
LTE Band4	5	20175	12	#Mid	QPSK	22.80	26.63
LTE Band4	5	20175	12	#Max	QPSK	22.77	26.60
LTE Band4	5	20175	25	#0	QPSK	22.77	26.60
LTE Band4	5	20375	1	#0	QPSK	23.05	26.88
LTE Band4	5	20375	1	#Mid	QPSK	22.83	26.66
LTE Band4	5	20375	1	#Max	QPSK	22.73	26.56
LTE Band4	5	20375	12	#0	QPSK	21.91	25.74
LTE Band4	5	20375	12	#Mid	QPSK	21.93	25.76
LTE Band4	5	20375	12	#Max	QPSK	21.78	25.61
LTE Band4	5	20375	25	#0	QPSK	21.89	25.72
LTE Band4	10	20000	1	#0	QPSK	23.17	27.00
LTE Band4	10	20000	1	#Mid	QPSK	23.04	26.87
LTE Band4	10	20000	1	#Max	QPSK	23.38	27.21
LTE Band4	10	20000	25	#0	QPSK	21.82	25.65
LTE Band4	10	20000	25	#Mid	QPSK	21.83	25.66
LTE Band4	10	20000	25	#Max	QPSK	22.02	25.85
LTE Band4	10	20000	50	#0	QPSK	21.89	25.72

LTE Band4	10	20175	1	#0	QPSK	23.54	27.37
LTE Band4	10	20175	1	#Mid	QPSK	23.74	27.57
LTE Band4	10	20175	1	#Max	QPSK	23.58	27.41
LTE Band4	10	20175	25	#0	QPSK	22.59	26.42
LTE Band4	10	20175	25	#Mid	QPSK	22.59	26.42
LTE Band4	10	20175	25	#Max	QPSK	22.55	26.38
LTE Band4	10	20175	50	#0	QPSK	22.56	26.39
LTE Band4	10	20350	1	#0	QPSK	23.34	27.17
LTE Band4	10	20350	1	#Mid	QPSK	22.98	26.81
LTE Band4	10	20350	1	#Max	QPSK	22.75	26.58
LTE Band4	10	20350	25	#0	QPSK	21.90	25.73
LTE Band4	10	20350	25	#Mid	QPSK	21.93	25.76
LTE Band4	10	20350	25	#Max	QPSK	21.65	25.48
LTE Band4	10	20350	50	#0	QPSK	21.84	25.67
LTE Band4	15	20025	1	#0	QPSK	23.11	26.94
LTE Band4	15	20025	1	#Mid	QPSK	23.24	27.07
LTE Band4	15	20025	1	#Max	QPSK	23.47	27.30
LTE Band4	15	20025	36	#0	QPSK	22.01	25.84
LTE Band4	15	20025	36	#Mid	QPSK	22.01	25.84
LTE Band4	15	20025	36	#Max	QPSK	22.47	26.30
LTE Band4	15	20025	75	#0	QPSK	22.28	26.11
LTE Band4	15	20175	1	#0	QPSK	23.50	27.33
LTE Band4	15	20175	1	#Mid	QPSK	23.79	27.62
LTE Band4	15	20175	1	#Max	QPSK	23.48	27.31
LTE Band4	15	20175	36	#0	QPSK	22.65	26.48
LTE Band4	15	20175	36	#Mid	QPSK	22.64	26.47
LTE Band4	15	20175	36	#Max	QPSK	22.63	26.46
LTE Band4	15	20175	75	#0	QPSK	22.65	26.48
LTE Band4	15	20325	1	#0	QPSK	23.56	27.39
LTE Band4	15	20325	1	#Mid	QPSK	23.19	27.02
LTE Band4	15	20325	1	#Max	QPSK	22.78	26.61
LTE Band4	15	20325	36	#0	QPSK	22.30	26.13
LTE Band4	15	20325	36	#Mid	QPSK	22.34	26.17
LTE Band4	15	20325	36	#Max	QPSK	21.94	25.77
LTE Band4	15	20325	75	#0	QPSK	22.11	25.94
LTE Band4	20	20050	1	#0	QPSK	22.99	26.82
LTE Band4	20	20050	1	#Mid	QPSK	23.45	27.28
LTE Band4	20	20050	1	#Max	QPSK	23.51	27.34
LTE Band4	20	20050	50	#0	QPSK	22.00	25.83
LTE Band4	20	20050	50	#Mid	QPSK	21.99	25.82
LTE Band4	20	20050	50	#Max	QPSK	22.48	26.31
LTE Band4	20	20050	100	#0	QPSK	22.40	26.23
LTE Band4	20	20175	1	#0	QPSK	23.50	27.33

LTE Band4	20	20175	1	#Mid	QPSK	23.91	27.74
LTE Band4	20	20175	1	#Max	QPSK	23.33	27.16
LTE Band4	20	20175	50	#0	QPSK	22.58	26.41
LTE Band4	20	20175	50	#Mid	QPSK	22.59	26.42
LTE Band4	20	20175	50	#Max	QPSK	22.46	26.29
LTE Band4	20	20175	100	#0	QPSK	22.55	26.38
LTE Band4	20	20300	1	#0	QPSK	23.59	27.42
LTE Band4	20	20300	1	#Mid	QPSK	23.43	27.26
LTE Band4	20	20300	1	#Max	QPSK	22.67	26.50
LTE Band4	20	20300	50	#0	QPSK	22.18	26.01
LTE Band4	20	20300	50	#Mid	QPSK	22.21	26.04
LTE Band4	20	20300	50	#Max	QPSK	21.95	25.78
LTE Band4	20	20300	100	#0	QPSK	22.14	25.97
LTE Band4	1.4	19957	1	#0	16QAM	22.47	26.30
LTE Band4	1.4	19957	1	#Mid	16QAM	22.58	26.41
LTE Band4	1.4	19957	1	#Max	16QAM	22.50	26.33
LTE Band4	1.4	19957	3	#0	16QAM	22.62	26.45
LTE Band4	1.4	19957	3	#Mid	16QAM	22.61	26.44
LTE Band4	1.4	19957	3	#Max	16QAM	22.62	26.45
LTE Band4	1.4	19957	6	#0	16QAM	21.38	25.21
LTE Band4	1.4	20175	1	#0	16QAM	23.12	26.95
LTE Band4	1.4	20175	1	#Mid	16QAM	23.14	26.97
LTE Band4	1.4	20175	1	#Max	16QAM	23.14	26.97
LTE Band4	1.4	20175	3	#0	16QAM	23.02	26.85
LTE Band4	1.4	20175	3	#Mid	16QAM	23.02	26.85
LTE Band4	1.4	20175	3	#Max	16QAM	22.99	26.82
LTE Band4	1.4	20175	6	#0	16QAM	21.88	25.71
LTE Band4	1.4	20393	1	#0	16QAM	22.27	26.10
LTE Band4	1.4	20393	1	#Mid	16QAM	22.15	25.98
LTE Band4	1.4	20393	1	#Max	16QAM	22.20	26.03
LTE Band4	1.4	20393	3	#0	16QAM	22.25	26.08
LTE Band4	1.4	20393	3	#Mid	16QAM	22.24	26.07
LTE Band4	1.4	20393	3	#Max	16QAM	22.25	26.08
LTE Band4	1.4	20393	6	#0	16QAM	21.02	24.85
LTE Band4	3	19965	1	#0	16QAM	22.71	26.54
LTE Band4	3	19965	1	#Mid	16QAM	22.73	26.56
LTE Band4	3	19965	1	#Max	16QAM	22.58	26.41
LTE Band4	3	19965	8	#0	16QAM	21.37	25.20
LTE Band4	3	19965	8	#Mid	16QAM	21.38	25.21
LTE Band4	3	19965	8	#Max	16QAM	21.35	25.18
LTE Band4	3	19965	15	#0	16QAM	21.31	25.14
LTE Band4	3	20175	1	#0	16QAM	22.99	26.82
LTE Band4	3	20175	1	#Mid	16QAM	23.17	27.00

LTE Band4	3	20175	1	#Max	16QAM	23.05	26.88
LTE Band4	3	20175	8	#0	16QAM	21.89	25.72
LTE Band4	3	20175	8	#Mid	16QAM	21.89	25.72
LTE Band4	3	20175	8	#Max	16QAM	21.97	25.80
LTE Band4	3	20175	15	#0	16QAM	21.80	25.63
LTE Band4	3	20385	1	#0	16QAM	22.32	26.15
LTE Band4	3	20385	1	#Mid	16QAM	22.25	26.08
LTE Band4	3	20385	1	#Max	16QAM	22.13	25.96
LTE Band4	3	20385	8	#0	16QAM	21.17	25.00
LTE Band4	3	20385	8	#Mid	16QAM	21.19	25.02
LTE Band4	3	20385	8	#Max	16QAM	21.10	24.93
LTE Band4	3	20385	15	#0	16QAM	21.13	24.96
LTE Band4	5	19975	1	#0	16QAM	22.95	26.78
LTE Band4	5	19975	1	#Mid	16QAM	22.86	26.69
LTE Band4	5	19975	1	#Max	16QAM	22.80	26.63
LTE Band4	5	19975	12	#0	16QAM	21.33	25.16
LTE Band4	5	19975	12	#Mid	16QAM	21.32	25.15
LTE Band4	5	19975	12	#Max	16QAM	21.29	25.12
LTE Band4	5	19975	25	#0	16QAM	21.33	25.16
LTE Band4	5	20175	1	#0	16QAM	23.13	26.96
LTE Band4	5	20175	1	#Mid	16QAM	23.18	27.01
LTE Band4	5	20175	1	#Max	16QAM	23.21	27.04
LTE Band4	5	20175	12	#0	16QAM	21.77	25.60
LTE Band4	5	20175	12	#Mid	16QAM	21.77	25.60
LTE Band4	5	20175	12	#Max	16QAM	21.87	25.70
LTE Band4	5	20175	25	#0	16QAM	21.84	25.67
LTE Band4	5	20375	1	#0	16QAM	22.76	26.59
LTE Band4	5	20375	1	#Mid	16QAM	22.65	26.48
LTE Band4	5	20375	1	#Max	16QAM	22.52	26.35
LTE Band4	5	20375	12	#0	16QAM	21.22	25.05
LTE Band4	5	20375	12	#Mid	16QAM	21.24	25.07
LTE Band4	5	20375	12	#Max	16QAM	21.14	24.97
LTE Band4	5	20375	25	#0	16QAM	21.17	25.00
LTE Band4	10	20000	1	#0	16QAM	22.27	26.10
LTE Band4	10	20000	1	#Mid	16QAM	22.29	26.12
LTE Band4	10	20000	1	#Max	16QAM	22.48	26.31
LTE Band4	10	20000	25	#0	16QAM	21.07	24.90
LTE Band4	10	20000	25	#Mid	16QAM	21.07	24.90
LTE Band4	10	20000	25	#Max	16QAM	21.15	24.98
LTE Band4	10	20175	1	#0	16QAM	23.01	26.84
LTE Band4	10	20175	1	#Mid	16QAM	23.16	26.99
LTE Band4	10	20175	1	#Max	16QAM	23.13	26.96
LTE Band4	10	20175	25	#0	16QAM	21.58	25.41

LTE Band4	10	20175	25	#Mid	16QAM	21.57	25.40
LTE Band4	10	20175	25	#Max	16QAM	21.68	25.51
LTE Band4	10	20350	1	#0	16QAM	22.81	26.64
LTE Band4	10	20350	1	#Mid	16QAM	22.45	26.28
LTE Band4	10	20350	1	#Max	16QAM	22.25	26.08
LTE Band4	10	20350	25	#0	16QAM	21.16	24.99
LTE Band4	10	20350	25	#Mid	16QAM	21.18	25.01
LTE Band4	10	20350	25	#Max	16QAM	20.90	24.73
LTE Band4	15	20025	1	#0	16QAM	22.66	26.49
LTE Band4	15	20025	1	#Mid	16QAM	22.77	26.60
LTE Band4	15	20025	1	#Max	16QAM	23.08	26.91
LTE Band4	15	20175	1	#0	16QAM	22.91	26.74
LTE Band4	15	20175	1	#Mid	16QAM	23.21	27.04
LTE Band4	15	20175	1	#Max	16QAM	22.95	26.78
LTE Band4	15	20325	1	#0	16QAM	22.83	26.66
LTE Band4	15	20325	1	#Mid	16QAM	22.60	26.43
LTE Band4	15	20325	1	#Max	16QAM	22.19	26.02
LTE Band4	20	20050	1	#0	16QAM	22.46	26.29
LTE Band4	20	20050	1	#Mid	16QAM	22.91	26.74
LTE Band4	20	20050	1	#Max	16QAM	22.94	26.77
LTE Band4	20	20175	1	#0	16QAM	22.55	26.38
LTE Band4	20	20175	1	#Mid	16QAM	22.96	26.79
LTE Band4	20	20175	1	#Max	16QAM	22.51	26.34
LTE Band4	20	20300	1	#0	16QAM	22.63	26.46
LTE Band4	20	20300	1	#Mid	16QAM	22.47	26.30
LTE Band4	20	20300	1	#Max	16QAM	21.83	25.66

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	ERP (dBm)
LTE Band5	1.4	20407	1	#0	QPSK	22.89	24.27
LTE Band5	1.4	20407	1	#Mid	QPSK	23.00	24.38
LTE Band5	1.4	20407	1	#Max	QPSK	22.96	24.34
LTE Band5	1.4	20407	3	#0	QPSK	22.86	24.24
LTE Band5	1.4	20407	3	#Mid	QPSK	22.86	24.24
LTE Band5	1.4	20407	3	#Max	QPSK	22.89	24.27
LTE Band5	1.4	20407	6	#0	QPSK	21.86	23.24
LTE Band5	1.4	20525	1	#0	QPSK	22.69	24.07
LTE Band5	1.4	20525	1	#Mid	QPSK	22.74	24.12
LTE Band5	1.4	20525	1	#Max	QPSK	22.70	24.08
LTE Band5	1.4	20525	3	#0	QPSK	22.67	24.05
LTE Band5	1.4	20525	3	#Mid	QPSK	22.67	24.05
LTE Band5	1.4	20525	3	#Max	QPSK	22.67	24.05
LTE Band5	1.4	20525	6	#0	QPSK	21.77	23.15

LTE Band5	1.4	20643	1	#0	QPSK	22.37	23.75
LTE Band5	1.4	20643	1	#Mid	QPSK	22.29	23.67
LTE Band5	1.4	20643	1	#Max	QPSK	22.25	23.63
LTE Band5	1.4	20643	3	#0	QPSK	22.25	23.63
LTE Band5	1.4	20643	3	#Mid	QPSK	22.25	23.63
LTE Band5	1.4	20643	3	#Max	QPSK	22.22	23.60
LTE Band5	1.4	20643	6	#0	QPSK	21.07	22.45
LTE Band5	3	20415	1	#0	QPSK	22.87	24.25
LTE Band5	3	20415	1	#Mid	QPSK	22.94	24.32
LTE Band5	3	20415	1	#Max	QPSK	22.73	24.11
LTE Band5	3	20415	8	#0	QPSK	21.91	23.29
LTE Band5	3	20415	8	#Mid	QPSK	21.90	23.28
LTE Band5	3	20415	8	#Max	QPSK	21.90	23.28
LTE Band5	3	20415	15	#0	QPSK	21.89	23.27
LTE Band5	3	20525	1	#0	QPSK	22.63	24.01
LTE Band5	3	20525	1	#Mid	QPSK	22.72	24.10
LTE Band5	3	20525	1	#Max	QPSK	22.76	24.14
LTE Band5	3	20525	8	#0	QPSK	21.81	23.19
LTE Band5	3	20525	8	#Mid	QPSK	21.80	23.18
LTE Band5	3	20525	8	#Max	QPSK	21.79	23.17
LTE Band5	3	20525	15	#0	QPSK	21.74	23.12
LTE Band5	3	20635	1	#0	QPSK	22.37	23.75
LTE Band5	3	20635	1	#Mid	QPSK	22.39	23.77
LTE Band5	3	20635	1	#Max	QPSK	22.27	23.65
LTE Band5	3	20635	8	#0	QPSK	21.24	22.62
LTE Band5	3	20635	8	#Mid	QPSK	21.27	22.65
LTE Band5	3	20635	8	#Max	QPSK	21.23	22.61
LTE Band5	3	20635	15	#0	QPSK	21.24	22.62
LTE Band5	5	20425	1	#0	QPSK	23.09	24.47
LTE Band5	5	20425	1	#Mid	QPSK	22.90	24.28
LTE Band5	5	20425	1	#Max	QPSK	22.86	24.24
LTE Band5	5	20425	12	#0	QPSK	21.91	23.29
LTE Band5	5	20425	12	#Mid	QPSK	21.90	23.28
LTE Band5	5	20425	12	#Max	QPSK	21.82	23.20
LTE Band5	5	20425	25	#0	QPSK	21.85	23.23
LTE Band5	5	20525	1	#0	QPSK	22.82	24.20
LTE Band5	5	20525	1	#Mid	QPSK	22.80	24.18
LTE Band5	5	20525	1	#Max	QPSK	22.95	24.33
LTE Band5	5	20525	12	#0	QPSK	21.75	23.13
LTE Band5	5	20525	12	#Mid	QPSK	21.75	23.13
LTE Band5	5	20525	12	#Max	QPSK	21.89	23.27
LTE Band5	5	20525	25	#0	QPSK	21.72	23.10
LTE Band5	5	20625	1	#0	QPSK	22.52	23.90

LTE Band5	5	20625	1	#Mid	QPSK	22.39	23.77
LTE Band5	5	20625	1	#Max	QPSK	22.30	23.68
LTE Band5	5	20625	12	#0	QPSK	21.34	22.72
LTE Band5	5	20625	12	#Mid	QPSK	21.38	22.76
LTE Band5	5	20625	12	#Max	QPSK	21.25	22.63
LTE Band5	5	20625	25	#0	QPSK	21.35	22.73
LTE Band5	10	20450	1	#0	QPSK	23.10	24.48
LTE Band5	10	20450	1	#Mid	QPSK	22.77	24.15
LTE Band5	10	20450	1	#Max	QPSK	22.76	24.14
LTE Band5	10	20450	25	#0	QPSK	21.67	23.05
LTE Band5	10	20450	25	#Mid	QPSK	21.69	23.07
LTE Band5	10	20450	25	#Max	QPSK	21.60	22.98
LTE Band5	10	20450	50	#0	QPSK	21.67	23.05
LTE Band5	10	20525	1	#0	QPSK	22.88	24.26
LTE Band5	10	20525	1	#Mid	QPSK	22.71	24.09
LTE Band5	10	20525	1	#Max	QPSK	22.90	24.28
LTE Band5	10	20525	25	#0	QPSK	21.61	22.99
LTE Band5	10	20525	25	#Mid	QPSK	21.60	22.98
LTE Band5	10	20525	25	#Max	QPSK	21.74	23.12
LTE Band5	10	20525	50	#0	QPSK	21.53	22.91
LTE Band5	10	20600	1	#0	QPSK	23.08	24.46
LTE Band5	10	20600	1	#Mid	QPSK	22.40	23.78
LTE Band5	10	20600	1	#Max	QPSK	22.36	23.74
LTE Band5	10	20600	25	#0	QPSK	21.62	23.00
LTE Band5	10	20600	25	#Mid	QPSK	21.65	23.03
LTE Band5	10	20600	25	#Max	QPSK	21.19	22.57
LTE Band5	10	20600	50	#0	QPSK	21.29	22.67
LTE Band5	1.4	20407	1	#0	16QAM	21.99	23.37
LTE Band5	1.4	20407	1	#Mid	16QAM	22.13	23.51
LTE Band5	1.4	20407	1	#Max	16QAM	22.09	23.47
LTE Band5	1.4	20407	3	#0	16QAM	22.15	23.53
LTE Band5	1.4	20407	3	#Mid	16QAM	22.14	23.52
LTE Band5	1.4	20407	3	#Max	16QAM	22.20	23.58
LTE Band5	1.4	20407	6	#0	16QAM	21.10	22.48
LTE Band5	1.4	20525	1	#0	16QAM	22.02	23.40
LTE Band5	1.4	20525	1	#Mid	16QAM	22.08	23.46
LTE Band5	1.4	20525	1	#Max	16QAM	22.05	23.43
LTE Band5	1.4	20525	3	#0	16QAM	21.88	23.26
LTE Band5	1.4	20525	3	#Mid	16QAM	21.88	23.26
LTE Band5	1.4	20525	3	#Max	16QAM	21.90	23.28
LTE Band5	1.4	20525	6	#0	16QAM	20.83	22.21
LTE Band5	1.4	20643	1	#0	16QAM	21.28	22.66
LTE Band5	1.4	20643	1	#Mid	16QAM	21.25	22.63

LTE Band5	1.4	20643	1	#Max	16QAM	21.21	22.59
LTE Band5	1.4	20643	3	#0	16QAM	21.32	22.70
LTE Band5	1.4	20643	3	#Mid	16QAM	21.33	22.71
LTE Band5	1.4	20643	3	#Max	16QAM	21.23	22.61
LTE Band5	1.4	20643	6	#0	16QAM	20.44	21.82
LTE Band5	3	20415	1	#0	16QAM	22.23	23.61
LTE Band5	3	20415	1	#Mid	16QAM	22.29	23.67
LTE Band5	3	20415	1	#Max	16QAM	22.14	23.52
LTE Band5	3	20415	8	#0	16QAM	21.07	22.45
LTE Band5	3	20415	8	#Mid	16QAM	21.08	22.46
LTE Band5	3	20415	8	#Max	16QAM	21.07	22.45
LTE Band5	3	20415	15	#0	16QAM	21.06	22.44
LTE Band5	3	20525	1	#0	16QAM	21.88	23.26
LTE Band5	3	20525	1	#Mid	16QAM	22.02	23.40
LTE Band5	3	20525	1	#Max	16QAM	22.02	23.40
LTE Band5	3	20525	8	#0	16QAM	20.87	22.25
LTE Band5	3	20525	8	#Mid	16QAM	20.88	22.26
LTE Band5	3	20525	8	#Max	16QAM	20.96	22.34
LTE Band5	3	20525	15	#0	16QAM	20.76	22.14
LTE Band5	3	20635	1	#0	16QAM	21.41	22.79
LTE Band5	3	20635	1	#Mid	16QAM	21.29	22.67
LTE Band5	3	20635	1	#Max	16QAM	21.15	22.53
LTE Band5	3	20635	8	#0	16QAM	20.54	21.92
LTE Band5	3	20635	8	#Mid	16QAM	20.57	21.95
LTE Band5	3	20635	8	#Max	16QAM	20.45	21.83
LTE Band5	3	20635	15	#0	16QAM	20.45	21.83
LTE Band5	5	20425	1	#0	16QAM	22.38	23.76
LTE Band5	5	20425	1	#Mid	16QAM	22.34	23.72
LTE Band5	5	20425	1	#Max	16QAM	22.23	23.61
LTE Band5	5	20425	12	#0	16QAM	21.03	22.41
LTE Band5	5	20425	12	#Mid	16QAM	21.04	22.42
LTE Band5	5	20425	12	#Max	16QAM	20.96	22.34
LTE Band5	5	20425	25	#0	16QAM	20.98	22.36
LTE Band5	5	20525	1	#0	16QAM	22.15	23.53
LTE Band5	5	20525	1	#Mid	16QAM	22.11	23.49
LTE Band5	5	20525	1	#Max	16QAM	22.30	23.68
LTE Band5	5	20525	12	#0	16QAM	20.80	22.18
LTE Band5	5	20525	12	#Mid	16QAM	20.80	22.18
LTE Band5	5	20525	12	#Max	16QAM	20.97	22.35
LTE Band5	5	20525	25	#0	16QAM	20.79	22.17
LTE Band5	5	20625	1	#0	16QAM	21.89	23.27
LTE Band5	5	20625	1	#Mid	16QAM	21.72	23.10
LTE Band5	5	20625	1	#Max	16QAM	21.69	23.07

LTE Band5	5	20625	12	#0	16QAM	20.63	22.01
LTE Band5	5	20625	12	#Mid	16QAM	20.68	22.06
LTE Band5	5	20625	12	#Max	16QAM	20.51	21.89
LTE Band5	5	20625	25	#0	16QAM	20.52	21.90
LTE Band5	10	20450	1	#0	16QAM	22.26	23.64
LTE Band5	10	20450	1	#Mid	16QAM	22.09	23.47
LTE Band5	10	20450	1	#Max	16QAM	22.07	23.45
LTE Band5	10	20450	25	#0	16QAM	20.83	22.21
LTE Band5	10	20450	25	#Mid	16QAM	20.85	22.23
LTE Band5	10	20450	25	#Max	16QAM	20.79	22.17
LTE Band5	10	20525	1	#0	16QAM	22.07	23.45
LTE Band5	10	20525	1	#Mid	16QAM	22.03	23.41
LTE Band5	10	20525	1	#Max	16QAM	22.08	23.46
LTE Band5	10	20525	25	#0	16QAM	20.75	22.13
LTE Band5	10	20525	25	#Mid	16QAM	20.76	22.14
LTE Band5	10	20525	25	#Max	16QAM	20.90	22.28
LTE Band5	10	20600	1	#0	16QAM	21.91	23.29
LTE Band5	10	20600	1	#Mid	16QAM	21.42	22.80
LTE Band5	10	20600	1	#Max	16QAM	21.32	22.70
LTE Band5	10	20600	25	#0	16QAM	20.75	22.13
LTE Band5	10	20600	25	#Mid	16QAM	20.79	22.17
LTE Band5	10	20600	25	#Max	16QAM	20.38	21.76

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	EIRP (dBm)
LTE Band7	5	20775	1	#0	QPSK	24.73	27.10
LTE Band7	5	20775	1	#Mid	QPSK	24.28	26.65
LTE Band7	5	20775	1	#Max	QPSK	23.74	26.11
LTE Band7	5	20775	12	#0	QPSK	23.46	25.83
LTE Band7	5	20775	12	#Mid	QPSK	23.46	25.83
LTE Band7	5	20775	12	#Max	QPSK	22.94	25.31
LTE Band7	5	20775	25	#0	QPSK	23.20	25.57
LTE Band7	5	21100	1	#0	QPSK	23.64	26.01
LTE Band7	5	21100	1	#Mid	QPSK	23.82	26.19
LTE Band7	5	21100	1	#Max	QPSK	23.72	26.09
LTE Band7	5	21100	12	#0	QPSK	22.62	24.99
LTE Band7	5	21100	12	#Mid	QPSK	22.58	24.95
LTE Band7	5	21100	12	#Max	QPSK	22.74	25.11
LTE Band7	5	21100	25	#0	QPSK	22.70	25.07
LTE Band7	5	21425	1	#0	QPSK	22.53	24.90
LTE Band7	5	21425	1	#Mid	QPSK	22.85	25.22
LTE Band7	5	21425	1	#Max	QPSK	23.36	25.73
LTE Band7	5	21425	12	#0	QPSK	21.33	23.70

LTE Band7	5	21425	12	#Mid	QPSK	21.32	23.69
LTE Band7	5	21425	12	#Max	QPSK	21.78	24.15
LTE Band7	5	21425	25	#0	QPSK	21.53	23.90
LTE Band7	10	20800	1	#0	QPSK	24.84	27.21
LTE Band7	10	20800	1	#Mid	QPSK	23.61	25.98
LTE Band7	10	20800	1	#Max	QPSK	22.04	24.41
LTE Band7	10	20800	25	#0	QPSK	23.08	25.45
LTE Band7	10	20800	25	#Mid	QPSK	23.05	25.42
LTE Band7	10	20800	25	#Max	QPSK	21.72	24.09
LTE Band7	10	20800	50	#0	QPSK	22.43	24.80
LTE Band7	10	21100	1	#0	QPSK	23.47	25.84
LTE Band7	10	21100	1	#Mid	QPSK	23.74	26.11
LTE Band7	10	21100	1	#Max	QPSK	23.43	25.80
LTE Band7	10	21100	25	#0	QPSK	22.35	24.72
LTE Band7	10	21100	25	#Mid	QPSK	22.35	24.72
LTE Band7	10	21100	25	#Max	QPSK	22.53	24.90
LTE Band7	10	21100	50	#0	QPSK	22.49	24.86
LTE Band7	10	21400	1	#0	QPSK	22.25	24.62
LTE Band7	10	21400	1	#Mid	QPSK	22.37	24.74
LTE Band7	10	21400	1	#Max	QPSK	23.28	25.65
LTE Band7	10	21400	25	#0	QPSK	20.84	23.21
LTE Band7	10	21400	25	#Mid	QPSK	20.87	23.24
LTE Band7	10	21400	25	#Max	QPSK	21.34	23.71
LTE Band7	10	21400	50	#0	QPSK	21.12	23.49
LTE Band7	15	20825	1	#0	QPSK	24.71	27.08
LTE Band7	15	20825	1	#Mid	QPSK	22.57	24.94
LTE Band7	15	20825	1	#Max	QPSK	21.68	24.05
LTE Band7	15	20825	36	#0	QPSK	22.74	25.11
LTE Band7	15	20825	36	#Mid	QPSK	22.74	25.11
LTE Band7	15	20825	36	#Max	QPSK	20.75	23.12
LTE Band7	15	20825	75	#0	QPSK	21.63	24.00
LTE Band7	15	21100	1	#0	QPSK	23.16	25.53
LTE Band7	15	21100	1	#Mid	QPSK	23.82	26.19
LTE Band7	15	21100	1	#Max	QPSK	23.20	25.57
LTE Band7	15	21100	36	#0	QPSK	22.42	24.79
LTE Band7	15	21100	36	#Mid	QPSK	22.36	24.73
LTE Band7	15	21100	36	#Max	QPSK	22.56	24.93
LTE Band7	15	21100	75	#0	QPSK	22.59	24.96
LTE Band7	15	21375	1	#0	QPSK	21.57	23.94
LTE Band7	15	21375	1	#Mid	QPSK	22.25	24.62
LTE Band7	15	21375	1	#Max	QPSK	23.29	25.66
LTE Band7	15	21375	36	#0	QPSK	20.81	23.18
LTE Band7	15	21375	36	#Mid	QPSK	20.87	23.24

LTE Band7	15	21375	36	#Max	QPSK	21.41	23.78
LTE Band7	15	21375	75	#0	QPSK	21.18	23.55
LTE Band7	20	20850	1	#0	QPSK	24.79	27.16
LTE Band7	20	20850	1	#Mid	QPSK	21.79	24.16
LTE Band7	20	20850	1	#Max	QPSK	22.20	24.57
LTE Band7	20	20850	50	#0	QPSK	22.28	24.65
LTE Band7	20	20850	50	#Mid	QPSK	22.28	24.65
LTE Band7	20	20850	50	#Max	QPSK	20.70	23.07
LTE Band7	20	20850	100	#0	QPSK	20.84	23.21
LTE Band7	20	21100	1	#0	QPSK	22.73	25.10
LTE Band7	20	21100	1	#Mid	QPSK	23.85	26.22
LTE Band7	20	21100	1	#Max	QPSK	22.89	25.26
LTE Band7	20	21100	50	#0	QPSK	22.31	24.68
LTE Band7	20	21100	50	#Mid	QPSK	22.24	24.61
LTE Band7	20	21100	50	#Max	QPSK	22.29	24.66
LTE Band7	20	21100	100	#0	QPSK	22.42	24.79
LTE Band7	20	21350	1	#0	QPSK	21.46	23.83
LTE Band7	20	21350	1	#Mid	QPSK	22.22	24.59
LTE Band7	20	21350	1	#Max	QPSK	23.11	25.48
LTE Band7	20	21350	50	#0	QPSK	20.44	22.81
LTE Band7	20	21350	50	#Mid	QPSK	20.52	22.89
LTE Band7	20	21350	50	#Max	QPSK	21.26	23.63
LTE Band7	20	21350	100	#0	QPSK	21.09	23.46
LTE Band7	5	20775	1	#0	16QAM	24.06	26.43
LTE Band7	5	20775	1	#Mid	16QAM	23.71	26.08
LTE Band7	5	20775	1	#Max	16QAM	23.31	25.68
LTE Band7	5	20775	12	#0	16QAM	22.52	24.89
LTE Band7	5	20775	12	#Mid	16QAM	22.52	24.89
LTE Band7	5	20775	12	#Max	16QAM	22.28	24.65
LTE Band7	5	20775	25	#0	16QAM	22.40	24.77
LTE Band7	5	21100	1	#0	16QAM	22.65	25.02
LTE Band7	5	21100	1	#Mid	16QAM	22.92	25.29
LTE Band7	5	21100	1	#Max	16QAM	22.99	25.36
LTE Band7	5	21100	12	#0	16QAM	21.56	23.93
LTE Band7	5	21100	12	#Mid	16QAM	21.53	23.90
LTE Band7	5	21100	12	#Max	16QAM	21.71	24.08
LTE Band7	5	21100	25	#0	16QAM	21.57	23.94
LTE Band7	5	21425	1	#0	16QAM	21.78	24.15
LTE Band7	5	21425	1	#Mid	16QAM	22.03	24.40
LTE Band7	5	21425	1	#Max	16QAM	22.40	24.77
LTE Band7	5	21425	12	#0	16QAM	20.60	22.97
LTE Band7	5	21425	12	#Mid	16QAM	20.61	22.98
LTE Band7	5	21425	12	#Max	16QAM	20.96	23.33

LTE Band7	5	21425	25	#0	16QAM	20.70	23.07
LTE Band7	10	20800	1	#0	16QAM	24.06	26.43
LTE Band7	10	20800	1	#Mid	16QAM	22.95	25.32
LTE Band7	10	20800	1	#Max	16QAM	21.47	23.84
LTE Band7	10	20800	25	#0	16QAM	22.22	24.59
LTE Band7	10	20800	25	#Mid	16QAM	22.22	24.59
LTE Band7	10	20800	25	#Max	16QAM	21.10	23.47
LTE Band7	10	21100	1	#0	16QAM	22.52	24.89
LTE Band7	10	21100	1	#Mid	16QAM	22.90	25.27
LTE Band7	10	21100	1	#Max	16QAM	22.79	25.16
LTE Band7	10	21100	25	#0	16QAM	21.50	23.87
LTE Band7	10	21100	25	#Mid	16QAM	21.46	23.83
LTE Band7	10	21100	25	#Max	16QAM	21.70	24.07
LTE Band7	10	21400	1	#0	16QAM	21.12	23.49
LTE Band7	10	21400	1	#Mid	16QAM	21.32	23.69
LTE Band7	10	21400	1	#Max	16QAM	22.00	24.37
LTE Band7	10	21400	25	#0	16QAM	20.08	22.45
LTE Band7	10	21400	25	#Mid	16QAM	20.11	22.48
LTE Band7	10	21400	25	#Max	16QAM	20.56	22.93
LTE Band7	15	20825	1	#0	16QAM	24.01	26.38
LTE Band7	15	20825	1	#Mid	16QAM	22.19	24.56
LTE Band7	15	20825	1	#Max	16QAM	21.18	23.55
LTE Band7	15	21100	1	#0	16QAM	22.13	24.50
LTE Band7	15	21100	1	#Mid	16QAM	23.00	25.37
LTE Band7	15	21100	1	#Max	16QAM	22.78	25.15
LTE Band7	15	21375	1	#0	16QAM	20.85	23.22
LTE Band7	15	21375	1	#Mid	16QAM	21.39	23.76
LTE Band7	15	21375	1	#Max	16QAM	22.17	24.54
LTE Band7	20	20850	1	#0	16QAM	23.94	26.31
LTE Band7	20	20850	1	#Mid	16QAM	21.24	23.61
LTE Band7	20	20850	1	#Max	16QAM	21.44	23.81
LTE Band7	20	21100	1	#0	16QAM	21.46	23.83
LTE Band7	20	21100	1	#Mid	16QAM	22.70	25.07
LTE Band7	20	21100	1	#Max	16QAM	22.07	24.44
LTE Band7	20	21350	1	#0	16QAM	20.62	22.99
LTE Band7	20	21350	1	#Mid	16QAM	21.18	23.55
LTE Band7	20	21350	1	#Max	16QAM	21.81	24.18

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	EIRP (dBm)
LTE Band66	1.4	131979	1	#0	QPSK	23.39	27.22
LTE Band66	1.4	131979	1	#Mid	QPSK	23.46	27.29
LTE Band66	1.4	131979	1	#Max	QPSK	23.40	27.23
LTE Band66	1.4	131979	3	#0	QPSK	23.37	27.20
LTE Band66	1.4	131979	3	#Mid	QPSK	23.37	27.20
LTE Band66	1.4	131979	3	#Max	QPSK	23.34	27.17
LTE Band66	1.4	131979	6	#0	QPSK	22.16	25.99
LTE Band66	1.4	132322	1	#0	QPSK	23.36	27.19
LTE Band66	1.4	132322	1	#Mid	QPSK	23.46	27.29
LTE Band66	1.4	132322	1	#Max	QPSK	23.37	27.20
LTE Band66	1.4	132322	3	#0	QPSK	23.34	27.17
LTE Band66	1.4	132322	3	#Mid	QPSK	23.34	27.17
LTE Band66	1.4	132322	3	#Max	QPSK	23.38	27.21
LTE Band66	1.4	132322	6	#0	QPSK	22.36	26.19
LTE Band66	1.4	132665	1	#0	QPSK	23.70	27.53
LTE Band66	1.4	132665	1	#Mid	QPSK	23.69	27.52
LTE Band66	1.4	132665	1	#Max	QPSK	23.59	27.42
LTE Band66	1.4	132665	3	#0	QPSK	23.53	27.36
LTE Band66	1.4	132665	3	#Mid	QPSK	23.52	27.35
LTE Band66	1.4	132665	3	#Max	QPSK	23.54	27.37
LTE Band66	1.4	132665	6	#0	QPSK	22.10	25.93
LTE Band66	3	131987	1	#0	QPSK	23.42	27.25
LTE Band66	3	131987	1	#Mid	QPSK	23.41	27.24
LTE Band66	3	131987	1	#Max	QPSK	23.26	27.09
LTE Band66	3	131987	8	#0	QPSK	22.21	26.04
LTE Band66	3	131987	8	#Mid	QPSK	22.20	26.03
LTE Band66	3	131987	8	#Max	QPSK	22.16	25.99
LTE Band66	3	131987	15	#0	QPSK	22.16	25.99
LTE Band66	3	132322	1	#0	QPSK	23.41	27.24
LTE Band66	3	132322	1	#Mid	QPSK	23.43	27.26
LTE Band66	3	132322	1	#Max	QPSK	23.25	27.08
LTE Band66	3	132322	8	#0	QPSK	22.43	26.26
LTE Band66	3	132322	8	#Mid	QPSK	22.44	26.27
LTE Band66	3	132322	8	#Max	QPSK	22.39	26.22
LTE Band66	3	132322	15	#0	QPSK	22.42	26.25
LTE Band66	3	132657	1	#0	QPSK	23.58	27.41
LTE Band66	3	132657	1	#Mid	QPSK	23.64	27.47
LTE Band66	3	132657	1	#Max	QPSK	23.55	27.38
LTE Band66	3	132657	8	#0	QPSK	22.10	25.93
LTE Band66	3	132657	8	#Mid	QPSK	22.13	25.96

LTE Band66	3	132657	8	#Max	QPSK	22.14	25.97
LTE Band66	3	132657	15	#0	QPSK	22.13	25.96
LTE Band66	5	131997	1	#0	QPSK	23.53	27.36
LTE Band66	5	131997	1	#Mid	QPSK	23.38	27.21
LTE Band66	5	131997	1	#Max	QPSK	23.43	27.26
LTE Band66	5	131997	12	#0	QPSK	22.15	25.98
LTE Band66	5	131997	12	#Mid	QPSK	22.16	25.99
LTE Band66	5	131997	12	#Max	QPSK	22.18	26.01
LTE Band66	5	131997	25	#0	QPSK	22.18	26.01
LTE Band66	5	132322	1	#0	QPSK	23.54	27.37
LTE Band66	5	132322	1	#Mid	QPSK	23.52	27.35
LTE Band66	5	132322	1	#Max	QPSK	23.41	27.24
LTE Band66	5	132322	12	#0	QPSK	22.40	26.23
LTE Band66	5	132322	12	#Mid	QPSK	22.42	26.25
LTE Band66	5	132322	12	#Max	QPSK	22.27	26.10
LTE Band66	5	132322	25	#0	QPSK	22.31	26.14
LTE Band66	5	132647	1	#0	QPSK	23.78	27.61
LTE Band66	5	132647	1	#Mid	QPSK	23.55	27.38
LTE Band66	5	132647	1	#Max	QPSK	23.82	27.65
LTE Band66	5	132647	12	#0	QPSK	22.00	25.83
LTE Band66	5	132647	12	#Mid	QPSK	22.04	25.87
LTE Band66	5	132647	12	#Max	QPSK	22.14	25.97
LTE Band66	5	132647	25	#0	QPSK	22.06	25.89
LTE Band66	10	132022	1	#0	QPSK	23.50	27.33
LTE Band66	10	132022	1	#Mid	QPSK	23.40	27.23
LTE Band66	10	132022	1	#Max	QPSK	23.66	27.49
LTE Band66	10	132022	25	#0	QPSK	21.93	25.76
LTE Band66	10	132022	25	#Mid	QPSK	21.97	25.80
LTE Band66	10	132022	25	#Max	QPSK	22.08	25.91
LTE Band66	10	132022	50	#0	QPSK	22.00	25.83
LTE Band66	10	132322	1	#0	QPSK	23.53	27.36
LTE Band66	10	132322	1	#Mid	QPSK	23.42	27.25
LTE Band66	10	132322	1	#Max	QPSK	23.20	27.03
LTE Band66	10	132322	25	#0	QPSK	22.17	26.00
LTE Band66	10	132322	25	#Mid	QPSK	22.21	26.04
LTE Band66	10	132322	25	#Max	QPSK	22.03	25.86
LTE Band66	10	132322	50	#0	QPSK	22.14	25.97
LTE Band66	10	132622	1	#0	QPSK	23.62	27.45
LTE Band66	10	132622	1	#Mid	QPSK	23.39	27.22
LTE Band66	10	132622	1	#Max	QPSK	24.28	28.11
LTE Band66	10	132622	25	#0	QPSK	21.67	25.50
LTE Band66	10	132622	25	#Mid	QPSK	21.71	25.54
LTE Band66	10	132622	25	#Max	QPSK	21.91	25.74

LTE Band66	10	132622	50	#0	QPSK	21.80	25.63
LTE Band66	15	132047	1	#0	QPSK	23.41	27.24
LTE Band66	15	132047	1	#Mid	QPSK	23.44	27.27
LTE Band66	15	132047	1	#Max	QPSK	23.71	27.54
LTE Band66	15	132047	36	#0	QPSK	22.15	25.98
LTE Band66	15	132047	36	#Mid	QPSK	22.15	25.98
LTE Band66	15	132047	36	#Max	QPSK	22.55	26.38
LTE Band66	15	132047	75	#0	QPSK	22.37	26.20
LTE Band66	15	132322	1	#0	QPSK	23.67	27.50
LTE Band66	15	132322	1	#Mid	QPSK	23.42	27.25
LTE Band66	15	132322	1	#Max	QPSK	23.13	26.96
LTE Band66	15	132322	36	#0	QPSK	22.38	26.21
LTE Band66	15	132322	36	#Mid	QPSK	22.41	26.24
LTE Band66	15	132322	36	#Max	QPSK	22.11	25.94
LTE Band66	15	132322	75	#0	QPSK	22.23	26.06
LTE Band66	15	132597	1	#0	QPSK	22.83	26.66
LTE Band66	15	132597	1	#Mid	QPSK	23.28	27.11
LTE Band66	15	132597	1	#Max	QPSK	23.87	27.70
LTE Band66	15	132597	36	#0	QPSK	21.65	25.48
LTE Band66	15	132597	36	#Mid	QPSK	21.69	25.52
LTE Band66	15	132597	36	#Max	QPSK	22.03	25.86
LTE Band66	15	132597	75	#0	QPSK	21.87	25.70
LTE Band66	20	132072	1	#0	QPSK	23.38	27.21
LTE Band66	20	132072	1	#Mid	QPSK	23.76	27.59
LTE Band66	20	132072	1	#Max	QPSK	23.55	27.38
LTE Band66	20	132072	50	#0	QPSK	22.15	25.98
LTE Band66	20	132072	50	#Mid	QPSK	22.13	25.96
LTE Band66	20	132072	50	#Max	QPSK	22.39	26.22
LTE Band66	20	132072	100	#0	QPSK	22.49	26.32
LTE Band66	20	132322	1	#0	QPSK	23.72	27.55
LTE Band66	20	132322	1	#Mid	QPSK	23.51	27.34
LTE Band66	20	132322	1	#Max	QPSK	22.99	26.82
LTE Band66	20	132322	50	#0	QPSK	22.27	26.10
LTE Band66	20	132322	50	#Mid	QPSK	22.31	26.14
LTE Band66	20	132322	50	#Max	QPSK	21.95	25.78
LTE Band66	20	132322	100	#0	QPSK	22.11	25.94
LTE Band66	20	132572	1	#0	QPSK	22.76	26.59
LTE Band66	20	132572	1	#Mid	QPSK	23.01	26.84
LTE Band66	20	132572	1	#Max	QPSK	23.94	27.77
LTE Band66	20	132572	50	#0	QPSK	21.44	25.27
LTE Band66	20	132572	50	#Mid	QPSK	21.49	25.32
LTE Band66	20	132572	50	#Max	QPSK	21.85	25.68
LTE Band66	20	132572	100	#0	QPSK	21.78	25.61

LTE Band66	1.4	131979	1	#0	16QAM	22.37	26.20
LTE Band66	1.4	131979	1	#Mid	16QAM	22.48	26.31
LTE Band66	1.4	131979	1	#Max	16QAM	22.40	26.23
LTE Band66	1.4	131979	3	#0	16QAM	22.53	26.36
LTE Band66	1.4	131979	3	#Mid	16QAM	22.53	26.36
LTE Band66	1.4	131979	3	#Max	16QAM	22.53	26.36
LTE Band66	1.4	131979	6	#0	16QAM	21.40	25.23
LTE Band66	1.4	132322	1	#0	16QAM	22.73	26.56
LTE Band66	1.4	132322	1	#Mid	16QAM	22.76	26.59
LTE Band66	1.4	132322	1	#Max	16QAM	22.79	26.62
LTE Band66	1.4	132322	3	#0	16QAM	22.59	26.42
LTE Band66	1.4	132322	3	#Mid	16QAM	22.59	26.42
LTE Band66	1.4	132322	3	#Max	16QAM	22.66	26.49
LTE Band66	1.4	132322	6	#0	16QAM	21.53	25.36
LTE Band66	1.4	132665	1	#0	16QAM	22.43	26.26
LTE Band66	1.4	132665	1	#Mid	16QAM	22.32	26.15
LTE Band66	1.4	132665	1	#Max	16QAM	22.29	26.12
LTE Band66	1.4	132665	3	#0	16QAM	22.36	26.19
LTE Band66	1.4	132665	3	#Mid	16QAM	22.35	26.18
LTE Band66	1.4	132665	3	#Max	16QAM	22.36	26.19
LTE Band66	1.4	132665	6	#0	16QAM	21.35	25.18
LTE Band66	3	131987	1	#0	16QAM	22.71	26.54
LTE Band66	3	131987	1	#Mid	16QAM	22.67	26.50
LTE Band66	3	131987	1	#Max	16QAM	22.51	26.34
LTE Band66	3	131987	8	#0	16QAM	21.38	25.21
LTE Band66	3	131987	8	#Mid	16QAM	21.37	25.20
LTE Band66	3	131987	8	#Max	16QAM	21.33	25.16
LTE Band66	3	131987	15	#0	16QAM	21.29	25.12
LTE Band66	3	132322	1	#0	16QAM	22.73	26.56
LTE Band66	3	132322	1	#Mid	16QAM	22.75	26.58
LTE Band66	3	132322	1	#Max	16QAM	22.60	26.43
LTE Band66	3	132322	8	#0	16QAM	21.66	25.49
LTE Band66	3	132322	8	#Mid	16QAM	21.67	25.50
LTE Band66	3	132322	8	#Max	16QAM	21.63	25.46
LTE Band66	3	132322	15	#0	16QAM	21.50	25.33
LTE Band66	3	132657	1	#0	16QAM	22.33	26.16
LTE Band66	3	132657	1	#Mid	16QAM	22.38	26.21
LTE Band66	3	132657	1	#Max	16QAM	22.31	26.14
LTE Band66	3	132657	8	#0	16QAM	21.32	25.15
LTE Band66	3	132657	8	#Mid	16QAM	21.33	25.16
LTE Band66	3	132657	8	#Max	16QAM	21.36	25.19
LTE Band66	3	132657	15	#0	16QAM	21.35	25.18
LTE Band66	5	131997	1	#0	16QAM	22.81	26.64

LTE Band66	5	131997	1	#Mid	16QAM	22.69	26.52
LTE Band66	5	131997	1	#Max	16QAM	22.76	26.59
LTE Band66	5	131997	12	#0	16QAM	21.31	25.14
LTE Band66	5	131997	12	#Mid	16QAM	21.32	25.15
LTE Band66	5	131997	12	#Max	16QAM	21.31	25.14
LTE Band66	5	131997	25	#0	16QAM	21.35	25.18
LTE Band66	5	132322	1	#0	16QAM	22.86	26.69
LTE Band66	5	132322	1	#Mid	16QAM	22.88	26.71
LTE Band66	5	132322	1	#Max	16QAM	22.72	26.55
LTE Band66	5	132322	12	#0	16QAM	21.54	25.37
LTE Band66	5	132322	12	#Mid	16QAM	21.56	25.39
LTE Band66	5	132322	12	#Max	16QAM	21.53	25.36
LTE Band66	5	132322	25	#0	16QAM	21.51	25.34
LTE Band66	5	132647	1	#0	16QAM	22.66	26.49
LTE Band66	5	132647	1	#Mid	16QAM	22.62	26.45
LTE Band66	5	132647	1	#Max	16QAM	22.70	26.53
LTE Band66	5	132647	12	#0	16QAM	21.25	25.08
LTE Band66	5	132647	12	#Mid	16QAM	21.27	25.10
LTE Band66	5	132647	12	#Max	16QAM	21.36	25.19
LTE Band66	5	132647	25	#0	16QAM	21.26	25.09
LTE Band66	10	132022	1	#0	16QAM	22.73	26.56
LTE Band66	10	132022	1	#Mid	16QAM	22.57	26.40
LTE Band66	10	132022	1	#Max	16QAM	22.96	26.79
LTE Band66	10	132022	25	#0	16QAM	21.09	24.92
LTE Band66	10	132022	25	#Mid	16QAM	21.10	24.93
LTE Band66	10	132022	25	#Max	16QAM	21.31	25.14
LTE Band66	10	132322	1	#0	16QAM	22.72	26.55
LTE Band66	10	132322	1	#Mid	16QAM	22.69	26.52
LTE Band66	10	132322	1	#Max	16QAM	22.35	26.18
LTE Band66	10	132322	25	#0	16QAM	21.38	25.21
LTE Band66	10	132322	25	#Mid	16QAM	21.40	25.23
LTE Band66	10	132322	25	#Max	16QAM	21.23	25.06
LTE Band66	10	132622	1	#0	16QAM	21.94	25.77
LTE Band66	10	132622	1	#Mid	16QAM	22.07	25.90
LTE Band66	10	132622	1	#Max	16QAM	22.41	26.24
LTE Band66	10	132622	25	#0	16QAM	20.75	24.58
LTE Band66	10	132622	25	#Mid	16QAM	20.77	24.60
LTE Band66	10	132622	25	#Max	16QAM	21.04	24.87
LTE Band66	15	132047	1	#0	16QAM	22.72	26.55
LTE Band66	15	132047	1	#Mid	16QAM	22.78	26.61
LTE Band66	15	132047	1	#Max	16QAM	22.95	26.78
LTE Band66	15	132322	1	#0	16QAM	22.94	26.77
LTE Band66	15	132322	1	#Mid	16QAM	22.74	26.57

LTE Band66	15	132322	1	#Max	16QAM	22.27	26.10
LTE Band66	15	132597	1	#0	16QAM	21.98	25.81
LTE Band66	15	132597	1	#Mid	16QAM	22.18	26.01
LTE Band66	15	132597	1	#Max	16QAM	22.46	26.29
LTE Band66	20	132072	1	#0	16QAM	22.57	26.40
LTE Band66	20	132072	1	#Mid	16QAM	22.89	26.72
LTE Band66	20	132072	1	#Max	16QAM	22.66	26.49
LTE Band66	20	132322	1	#0	16QAM	22.51	26.34
LTE Band66	20	132322	1	#Mid	16QAM	22.49	26.32
LTE Band66	20	132322	1	#Max	16QAM	21.79	25.62
LTE Band66	20	132572	1	#0	16QAM	21.67	25.50
LTE Band66	20	132572	1	#Mid	16QAM	21.81	25.64
LTE Band66	20	132572	1	#Max	16QAM	22.12	25.95

6.2. Occupied Bandwidth

Mode	Channel	Frequency (MHz)	99% Power Bandwidth (MHz)	-26dBc Bandwidth (MHz)
GPRS 850 (GMSK)	128	824.2	0.242	0.310
	190	836.6	0.247	0.316
	251	848.8	0.242	0.317
EGPRS 850 (8PSK)	128	824.2	0.246	0.308
	190	836.6	0.249	0.319
	251	848.8	0.248	0.312

Mode	Channel	Frequency (MHz)	99% Power Bandwidth (MHz)	-26dBc Bandwidth (MHz)
GPRS 1900 (GMSK)	512	1850.2	0.244	0.309
	661	1880	0.248	0.320
	810	1909.8	0.247	0.312
EGPRS1900 (8PSK)	512	1850.2	0.250	0.319
	661	1880	0.245	0.316
	810	1909.8	0.250	0.312

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	99% OBW (MHz)	-26dB EBW (MHz)
LTE Band2	1.4	18607	6	#0	QPSK	1.094	1.296
LTE Band2	1.4	18900	6	#0	QPSK	1.095	1.280
LTE Band2	1.4	19193	6	#0	QPSK	1.092	1.276
LTE Band2	3	18615	15	#0	QPSK	2.696	2.964
LTE Band2	3	18900	15	#0	QPSK	2.703	2.954
LTE Band2	3	19185	15	#0	QPSK	2.693	2.951
LTE Band2	5	18625	25	#0	QPSK	4.511	4.950
LTE Band2	5	18900	25	#0	QPSK	4.508	4.926
LTE Band2	5	19175	25	#0	QPSK	4.501	4.883
LTE Band2	10	18650	50	#0	QPSK	8.994	9.639
LTE Band2	10	18900	50	#0	QPSK	8.947	9.749
LTE Band2	10	19150	50	#0	QPSK	8.939	9.623
LTE Band2	15	18675	75	#0	QPSK	13.458	14.460
LTE Band2	15	18900	75	#0	QPSK	13.400	14.288
LTE Band2	15	19125	75	#0	QPSK	13.422	14.430
LTE Band2	20	18700	100	#0	QPSK	17.975	19.085
LTE Band2	20	18900	100	#0	QPSK	17.882	18.936

LTE Band2	20	19100	100	#0	QPSK	17.920	19.086
LTE Band2	1.4	18607	6	#0	16QAM	1.091	1.264
LTE Band2	1.4	18900	6	#0	16QAM	1.099	1.280
LTE Band2	1.4	19193	6	#0	16QAM	1.099	1.261
LTE Band2	3	18615	15	#0	16QAM	2.693	2.968
LTE Band2	3	18900	15	#0	16QAM	2.695	2.952
LTE Band2	3	19185	15	#0	16QAM	2.700	2.965
LTE Band2	5	18625	25	#0	16QAM	4.509	4.839
LTE Band2	5	18900	25	#0	16QAM	4.492	4.918
LTE Band2	5	19175	25	#0	16QAM	4.516	4.907

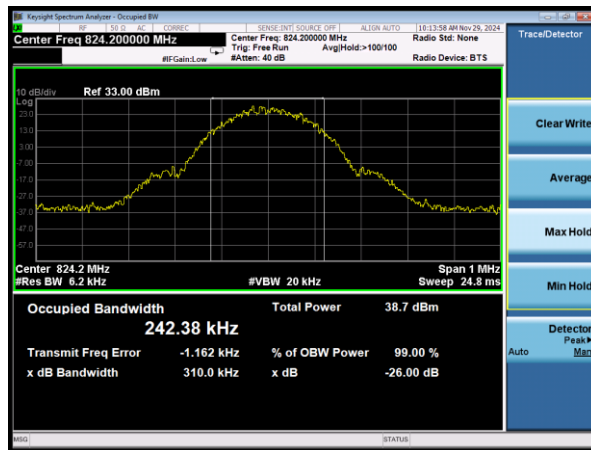
Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	99% OBW (MHz)	-26dB EBW (MHz)
LTE Band4	1.4	19957	6	#0	QPSK	1.103	1.262
LTE Band4	1.4	20175	6	#0	QPSK	1.093	1.265
LTE Band4	1.4	20393	6	#0	QPSK	1.094	1.281
LTE Band4	3	19965	15	#0	QPSK	2.693	2.958
LTE Band4	3	20175	15	#0	QPSK	2.705	2.908
LTE Band4	3	20385	15	#0	QPSK	2.708	2.955
LTE Band4	5	19975	25	#0	QPSK	4.518	4.926
LTE Band4	5	20175	25	#0	QPSK	4.506	4.974
LTE Band4	5	20375	25	#0	QPSK	4.518	4.929
LTE Band4	10	20000	50	#0	QPSK	8.968	9.725
LTE Band4	10	20175	50	#0	QPSK	8.971	9.701
LTE Band4	10	20350	50	#0	QPSK	8.944	9.659
LTE Band4	15	20025	75	#0	QPSK	13.520	14.425
LTE Band4	15	20175	75	#0	QPSK	13.411	14.300
LTE Band4	15	20325	75	#0	QPSK	13.461	14.331
LTE Band4	20	20050	100	#0	QPSK	17.912	19.106
LTE Band4	20	20175	100	#0	QPSK	17.890	18.978
LTE Band4	20	20300	100	#0	QPSK	17.854	19.185
LTE Band4	1.4	19957	6	#0	16QAM	1.095	1.268
LTE Band4	1.4	20175	6	#0	16QAM	1.099	1.263
LTE Band4	1.4	20393	6	#0	16QAM	1.097	1.261
LTE Band4	3	19965	15	#0	16QAM	2.693	2.906
LTE Band4	3	20175	15	#0	16QAM	2.695	2.932
LTE Band4	3	20385	15	#0	16QAM	2.691	2.931
LTE Band4	5	19975	25	#0	16QAM	4.519	4.887
LTE Band4	5	20175	25	#0	16QAM	4.503	4.947
LTE Band4	5	20375	25	#0	16QAM	4.517	4.935

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	99% OBW (MHz)	-26dB EBW (MHz)
LTE Band5	1.4	20407	6	#0	QPSK	1.109	1.265
LTE Band5	1.4	20525	6	#0	QPSK	1.092	1.268
LTE Band5	1.4	20643	6	#0	QPSK	1.095	1.281
LTE Band5	3	20415	15	#0	QPSK	2.696	2.921
LTE Band5	3	20525	15	#0	QPSK	2.704	2.930
LTE Band5	3	20635	15	#0	QPSK	2.692	2.957
LTE Band5	5	20425	25	#0	QPSK	4.521	4.894
LTE Band5	5	20525	25	#0	QPSK	4.519	5.002
LTE Band5	5	20625	25	#0	QPSK	4.499	4.925
LTE Band5	10	20450	50	#0	QPSK	8.974	9.717
LTE Band5	10	20525	50	#0	QPSK	8.948	9.657
LTE Band5	10	20600	50	#0	QPSK	8.950	9.666
LTE Band5	1.4	20407	6	#0	16QAM	1.089	1.270
LTE Band5	1.4	20525	6	#0	16QAM	1.094	1.288
LTE Band5	1.4	20643	6	#0	16QAM	1.096	1.244
LTE Band5	3	20415	15	#0	16QAM	2.687	2.961
LTE Band5	3	20525	15	#0	16QAM	2.692	2.931
LTE Band5	3	20635	15	#0	16QAM	2.703	2.942
LTE Band5	5	20425	25	#0	16QAM	4.501	4.965
LTE Band5	5	20525	25	#0	16QAM	4.522	4.916
LTE Band5	5	20625	25	#0	16QAM	4.503	4.933

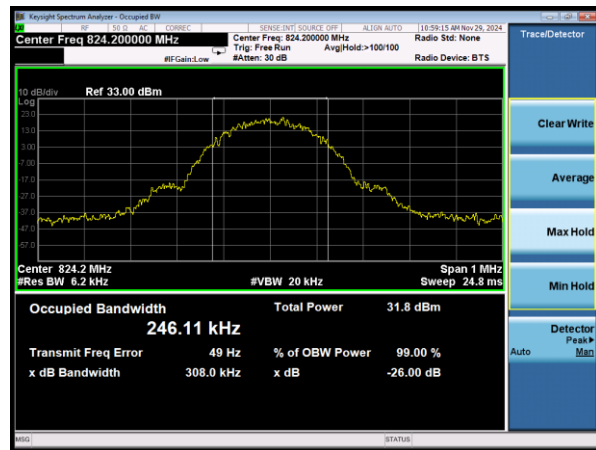
Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	99% OBW (MHz)	-26dB EBW (MHz)
LTE Band7	5	20775	25	#0	QPSK	4.499	4.917
LTE Band7	5	21100	25	#0	QPSK	4.517	4.949
LTE Band7	5	21425	25	#0	QPSK	4.500	4.917
LTE Band7	10	20800	50	#0	QPSK	8.966	9.659
LTE Band7	10	21100	50	#0	QPSK	8.948	9.681
LTE Band7	10	21400	50	#0	QPSK	8.982	9.719
LTE Band7	15	20825	75	#0	QPSK	13.442	14.415
LTE Band7	15	21100	75	#0	QPSK	13.399	14.294
LTE Band7	15	21375	75	#0	QPSK	13.449	14.393
LTE Band7	20	20850	100	#0	QPSK	17.839	19.026
LTE Band7	20	21100	100	#0	QPSK	17.852	19.019
LTE Band7	20	21350	100	#0	QPSK	17.955	19.082
LTE Band7	5	20775	25	#0	16QAM	4.498	4.880
LTE Band7	5	21100	25	#0	16QAM	4.521	4.943
LTE Band7	5	21425	25	#0	16QAM	4.528	4.938

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	99% OBW (MHz)	-26dB EBW (MHz)
LTE Band66	1.4	131979	6	#0	QPSK	1.103	1.271
LTE Band66	1.4	132322	6	#0	QPSK	1.091	1.266
LTE Band66	1.4	132665	6	#0	QPSK	1.100	1.303
LTE Band66	3	131987	15	#0	QPSK	2.709	2.946
LTE Band66	3	132322	15	#0	QPSK	2.698	2.943
LTE Band66	3	132657	15	#0	QPSK	2.685	2.960
LTE Band66	5	131997	25	#0	QPSK	4.520	4.969
LTE Band66	5	132322	25	#0	QPSK	4.524	4.932
LTE Band66	5	132647	25	#0	QPSK	4.497	4.945
LTE Band66	10	132022	50	#0	QPSK	8.976	9.684
LTE Band66	10	132322	50	#0	QPSK	8.960	9.777
LTE Band66	10	132622	50	#0	QPSK	8.973	9.797
LTE Band66	15	132047	75	#0	QPSK	13.474	14.479
LTE Band66	15	132322	75	#0	QPSK	13.438	14.394
LTE Band66	15	132597	75	#0	QPSK	13.478	14.426
LTE Band66	20	132072	100	#0	QPSK	17.891	19.120
LTE Band66	20	132322	100	#0	QPSK	17.895	19.106
LTE Band66	20	132572	100	#0	QPSK	17.946	19.176
LTE Band66	1.4	131979	6	#0	16QAM	1.096	1.262
LTE Band66	1.4	132322	6	#0	16QAM	1.095	1.282
LTE Band66	1.4	132665	6	#0	16QAM	1.095	1.246
LTE Band66	3	131987	15	#0	16QAM	2.694	2.961
LTE Band66	3	132322	15	#0	16QAM	2.701	2.938
LTE Band66	3	132657	15	#0	16QAM	2.686	2.931
LTE Band66	5	131997	25	#0	16QAM	4.500	4.899
LTE Band66	5	132322	25	#0	16QAM	4.518	4.965
LTE Band66	5	132647	25	#0	16QAM	4.510	4.935

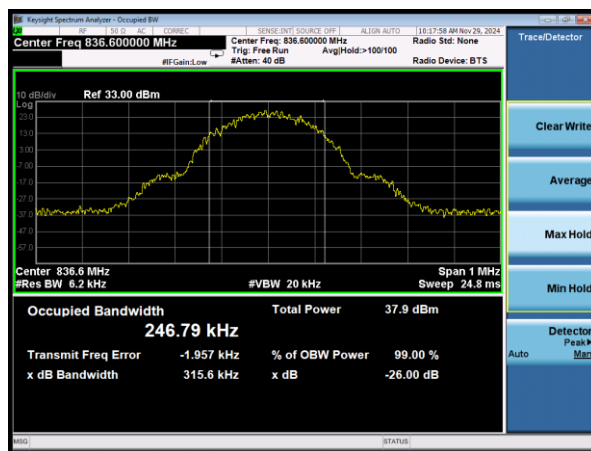
GSM 850 GPRS CH-Low



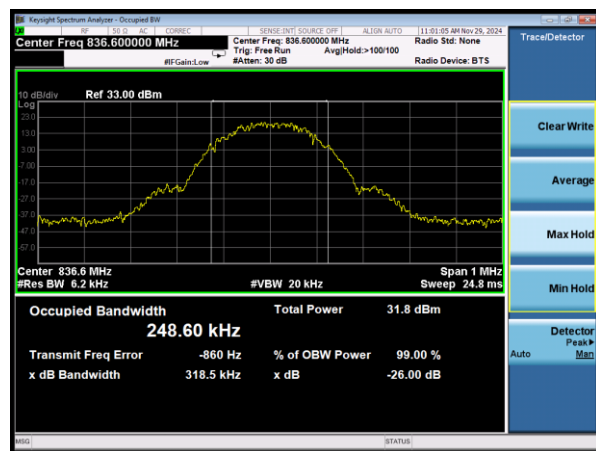
GSM 850 EGPRS CH-Low



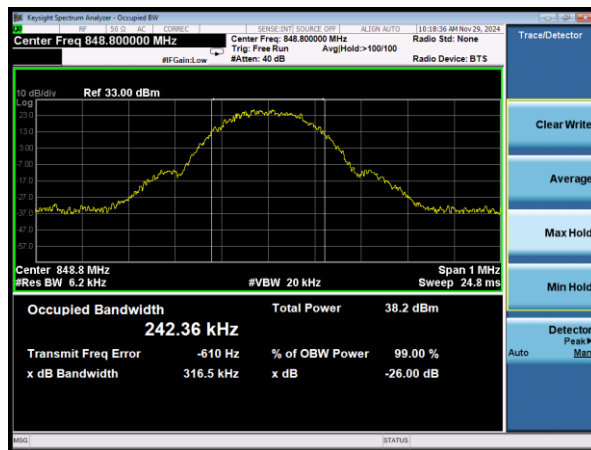
GSM 850 GPRS CH-Middle



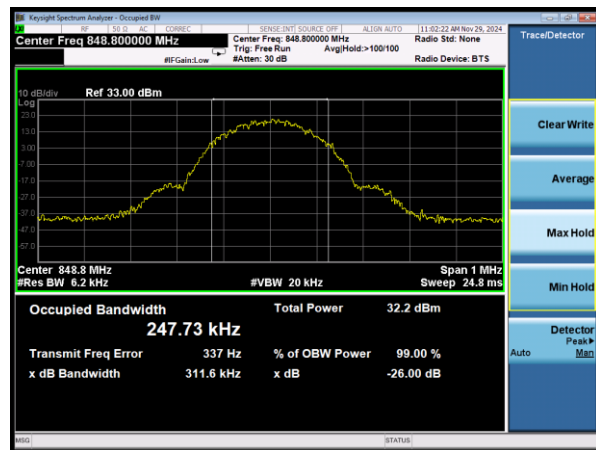
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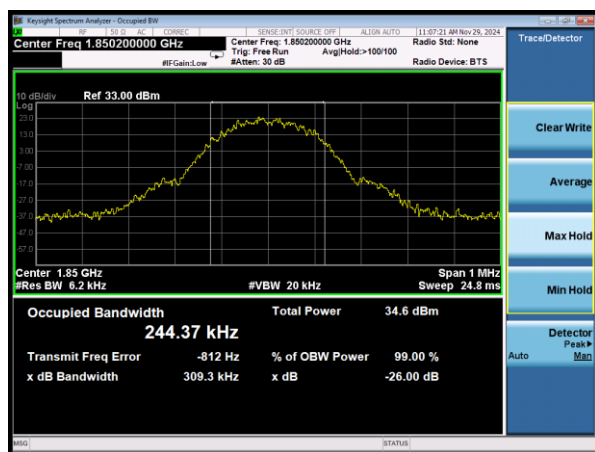
GSM 850 GPRS CH-High



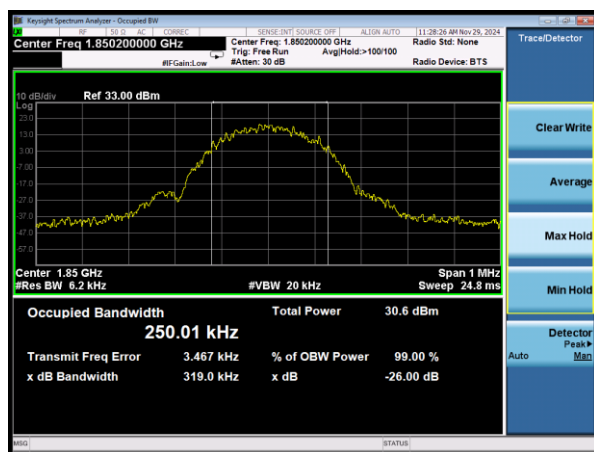
GSM 850 EGPRS CH-High



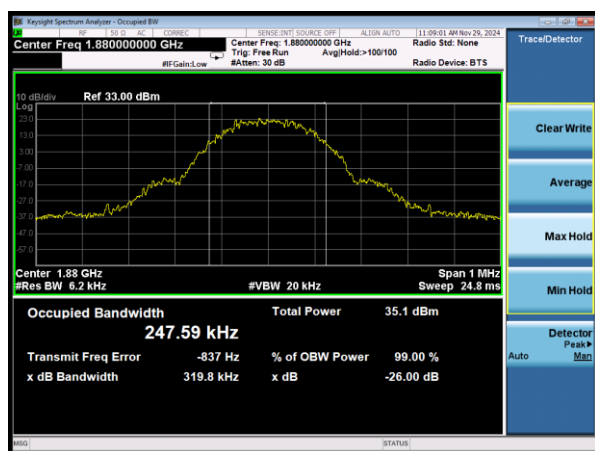
GSM 1900 GPRS CH-Low



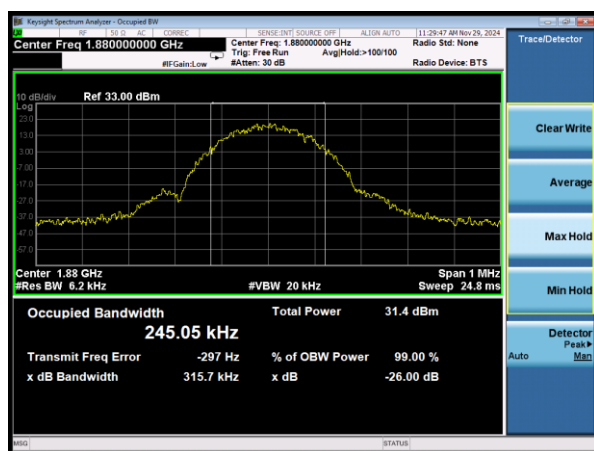
GSM 1900 EGPRS CH-Low



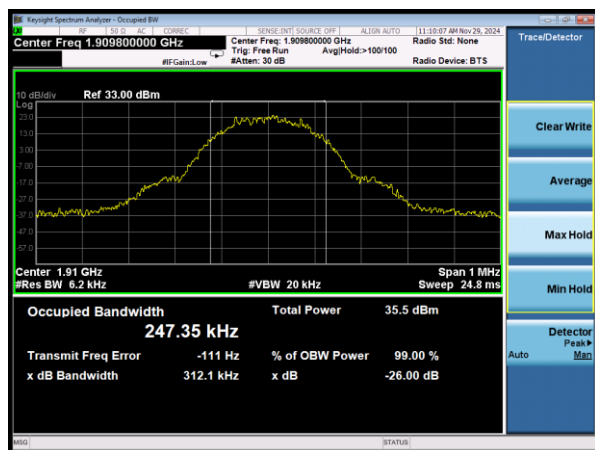
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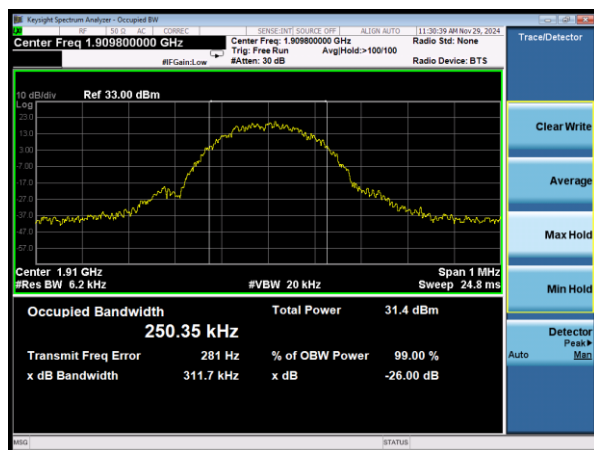
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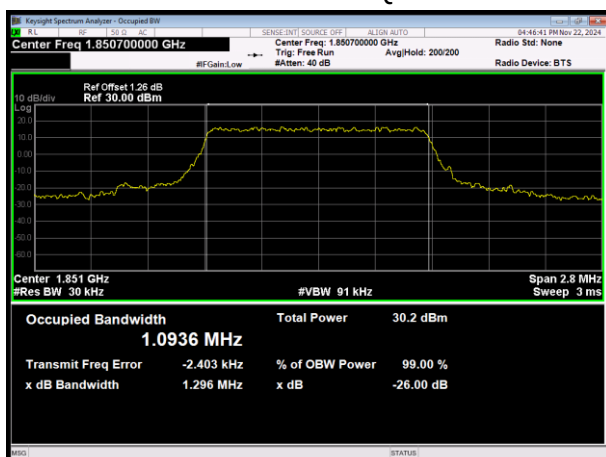
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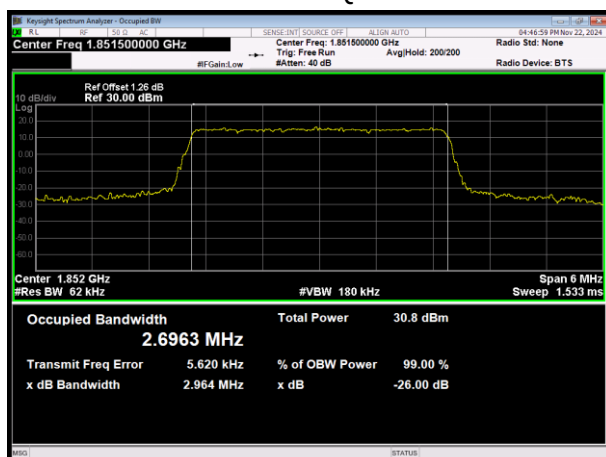
GSM 1900 EGPRS CH-High



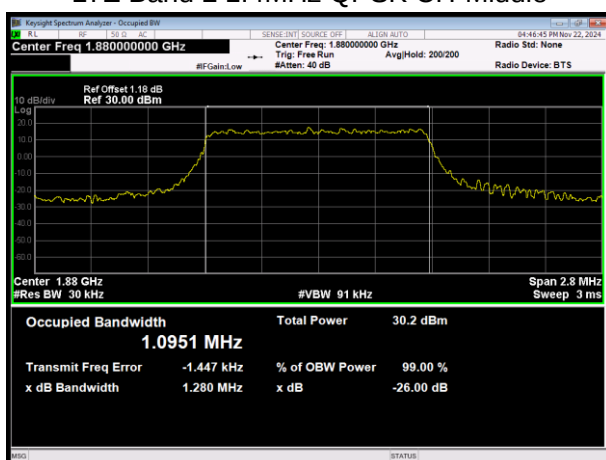
LTE Band 2 1.4MHz QPSK CH-Low



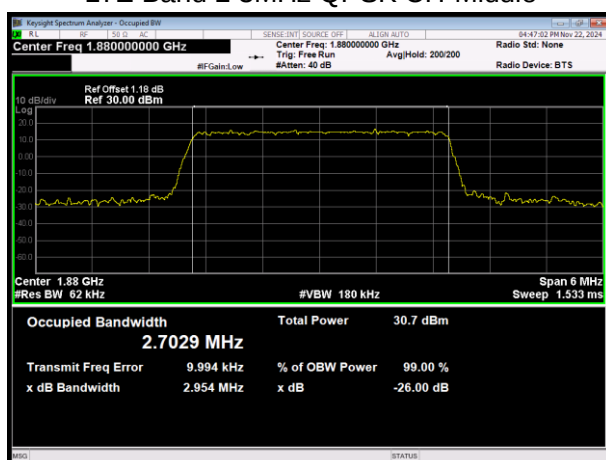
LTE Band 2 3MHz QPSK CH-Low



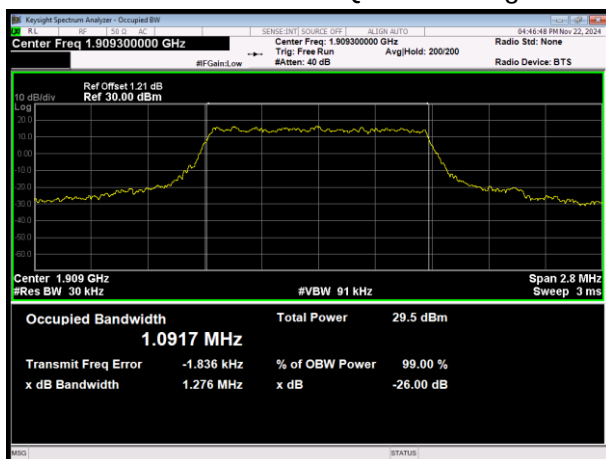
LTE Band 2 1.4MHz QPSK CH-Middle



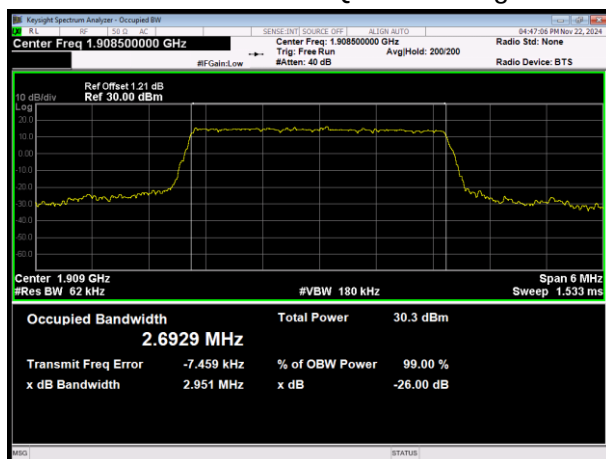
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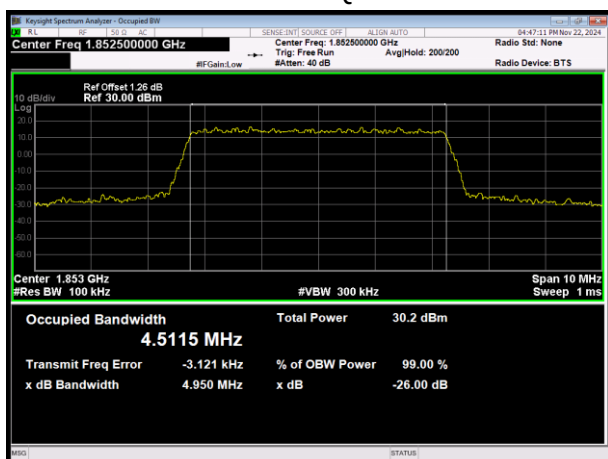
LTE Band 2 1.4MHz QPSK CH-High



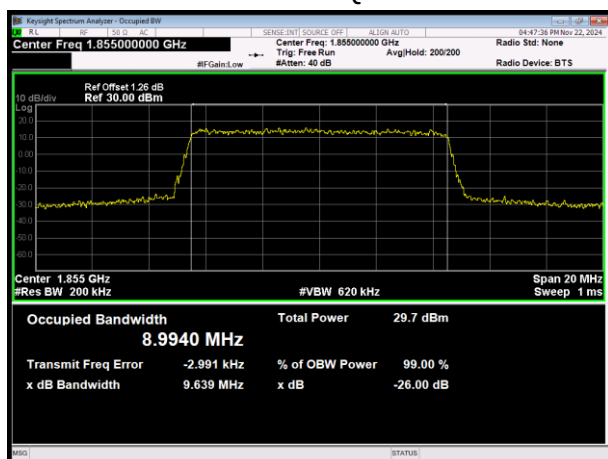
LTE Band 2 3MHz QPSK CH-High



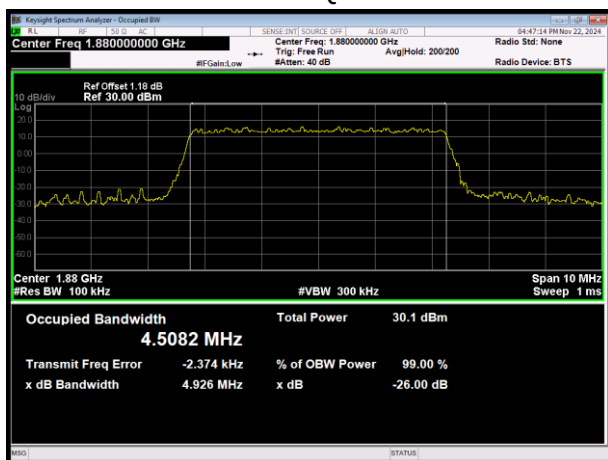
LTE Band 2 5MHz QPSK CH-Low



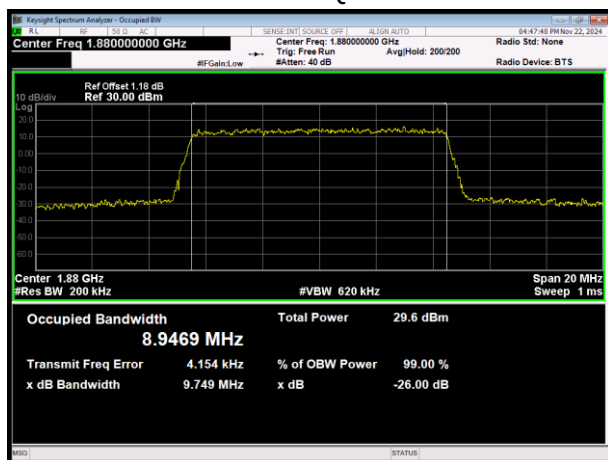
LTE Band 2 10MHz QPSK CH-Low



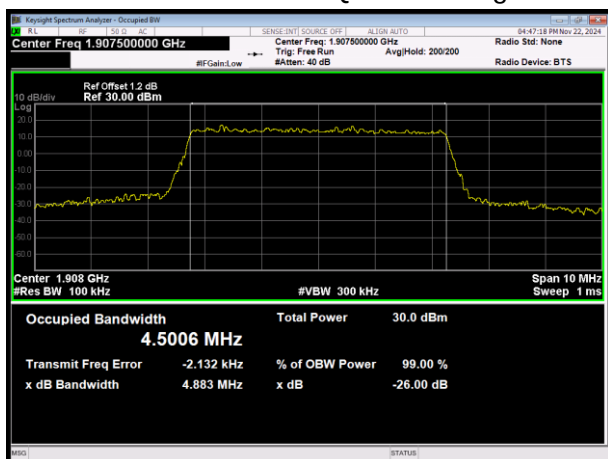
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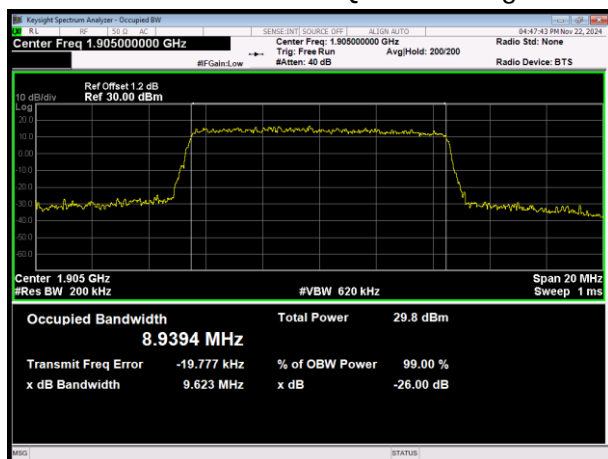
LTE Band 2 10MHz QPSK CH-Middle



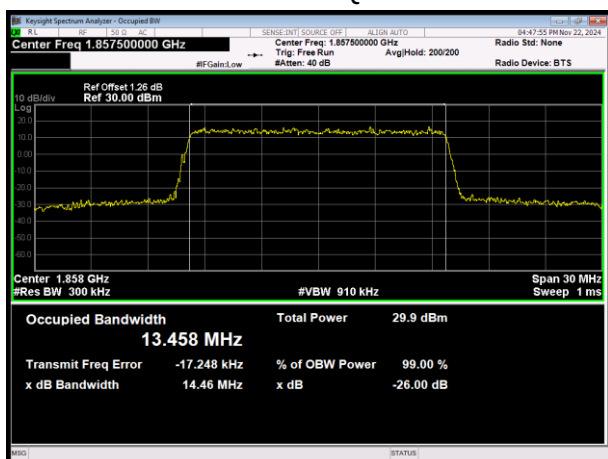
LTE Band 2 5MHz QPSK CH-High



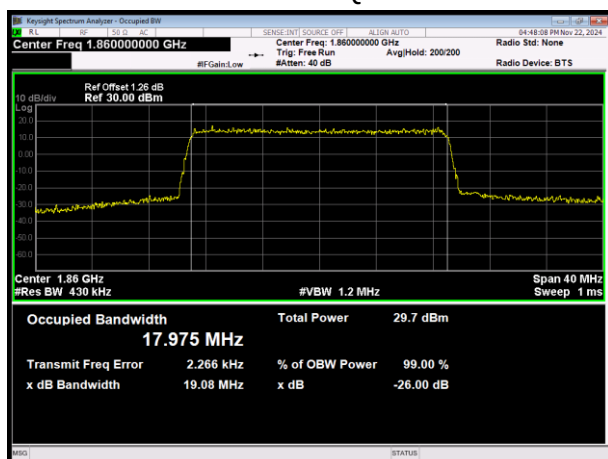
LTE Band 2 10MHz QPSK CH-High



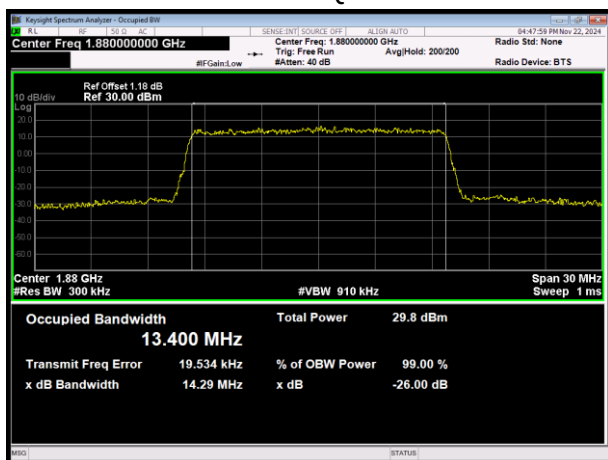
LTE Band 2 15MHz QPSK CH-Low



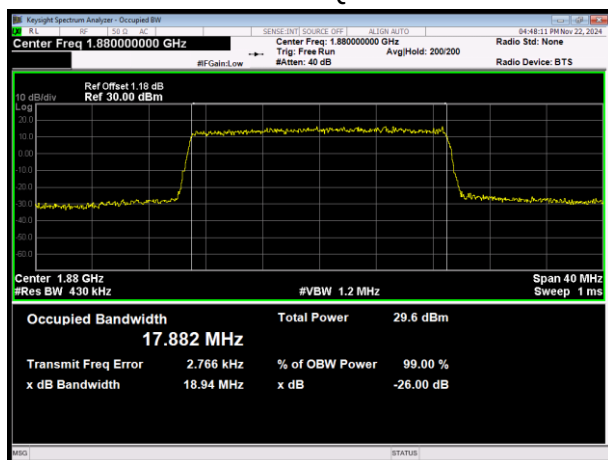
LTE Band 2 20MHz QPSK CH-Low



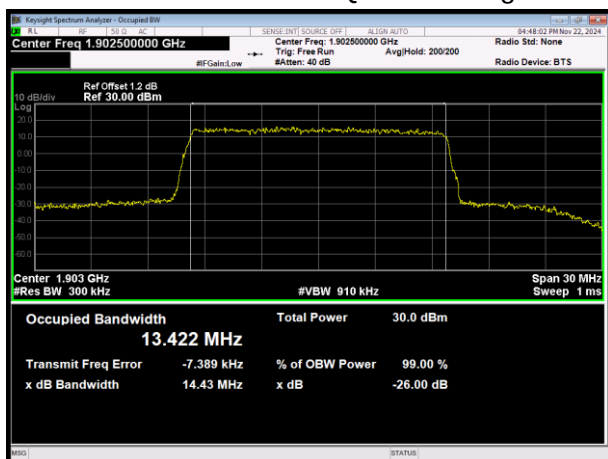
LTE Band 2 15MHz QPSK CH-Middle



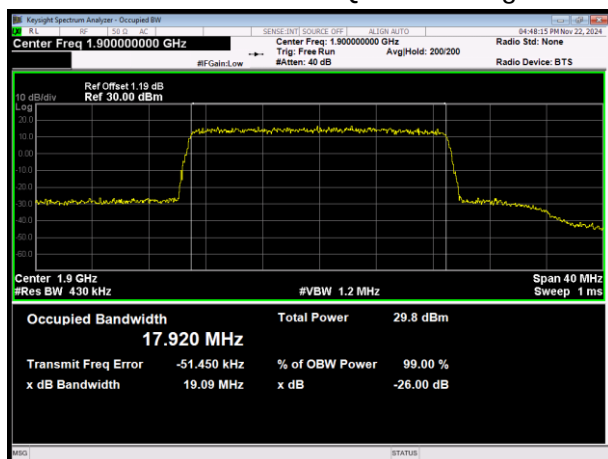
LTE Band 2 20MHz QPSK CH-Middle



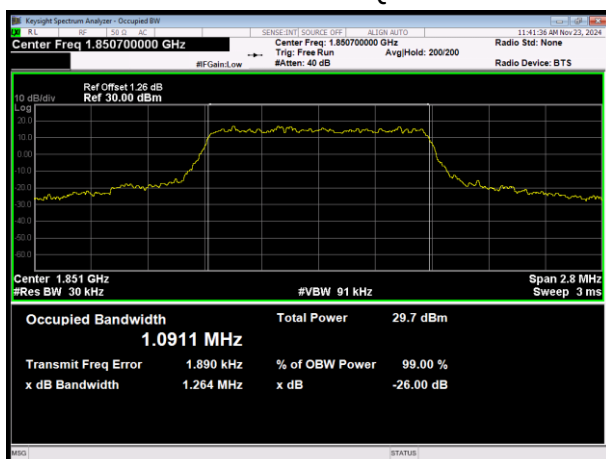
LTE Band 2 15MHz QPSK CH-High



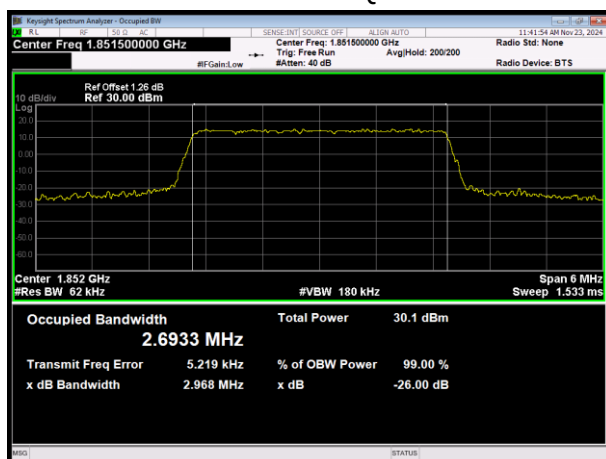
LTE Band 2 20MHz QPSK CH-High



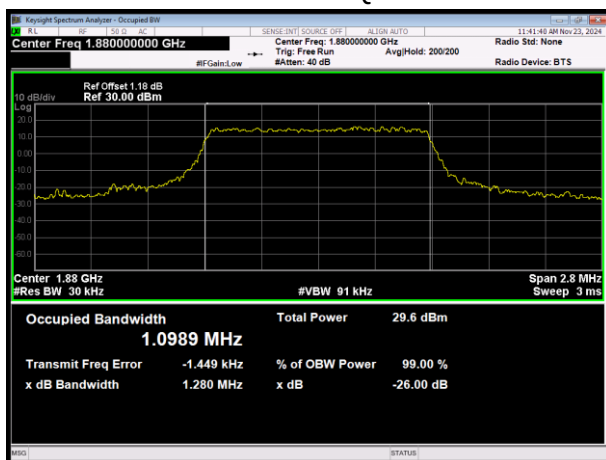
LTE Band 2 1.4MHz 16QAM CH-Low



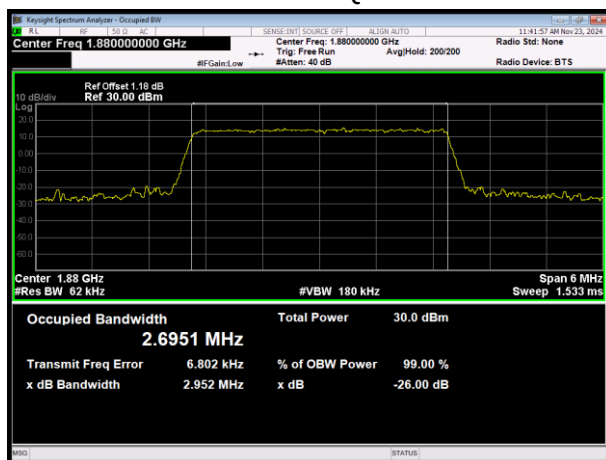
LTE Band 2 3MHz 16QAM CH-Low



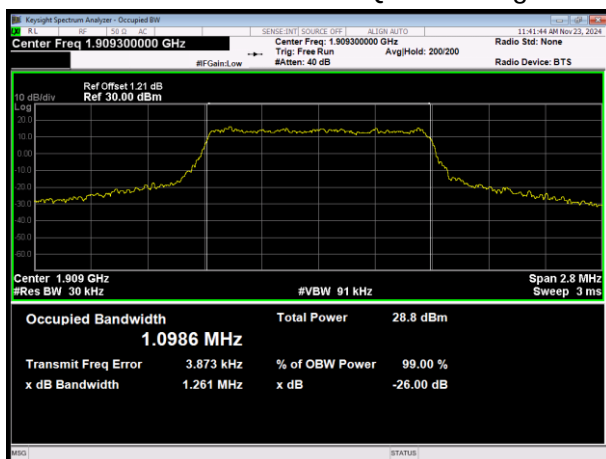
LTE Band 2 1.4MHz 16QAM CH-Middle



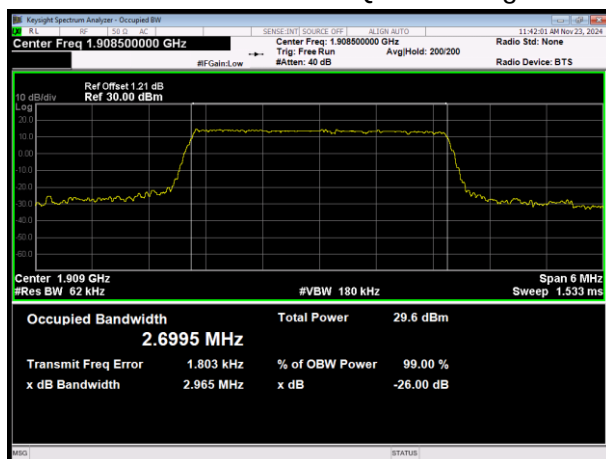
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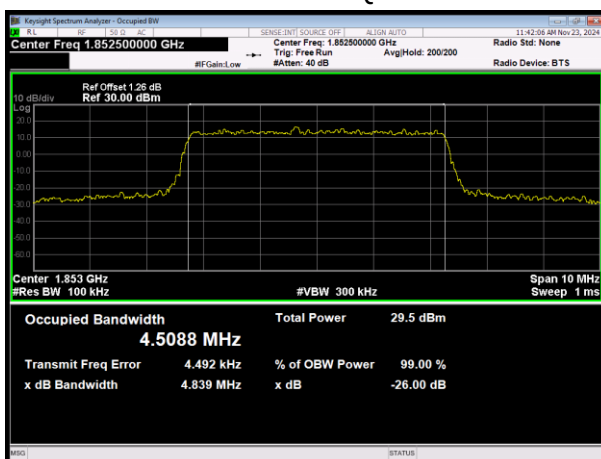
LTE Band 2 1.4MHz 16QAM CH-High



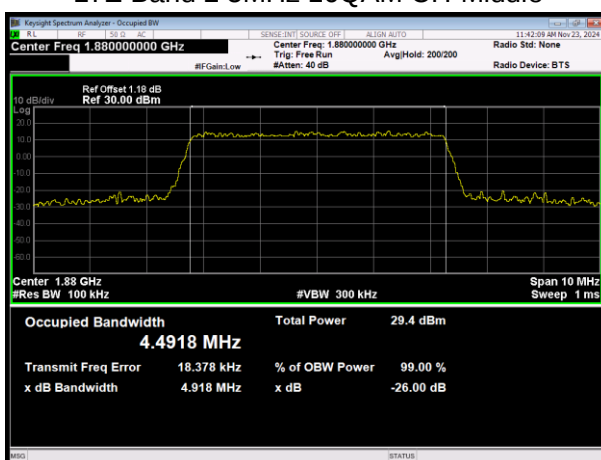
LTE Band 2 3MHz 16QAM CH-High



LTE Band 2 5MHz 16QAM CH-Low



LTE Band 2 5MHz 16QAM CH-Middle



LTE Band 2 5MHz 16QAM CH-High

