







MEASUREMENT REPORT (C2PC for FCC)

FCC ID : WIYSLM500QA
Applicant : CASTLES TECHNOLOGY CO., LTD.
Application Type : Certification
Product : Smart module
Model No. : SLM500
Brand Name : 
FCC Classification : PCS Licensed Transmitter (PCB)
FCC Rule Part(s) : Part2, Part22 Subpart H, Part24 Subpart E,
Part27, Part90
Test Procedure(s) : ANSI C63.26-2015
Received Date : October 24, 2023
Test Date : November 08~24, 2023

Tested By : 
(Wen Lee)
Reviewed By : 
(Paddy Chen)
Approved By : 
(Chenz Ker)



The test results only relate to the tested sample.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in §2.947. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Taiwan) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date	Note
2310TW8705-U9	1.0	Original Report	2024-01-15	

Note:

1. This time, add Host ((Product Name: POS Terminal, Model No.: S1L2) and new antennas have been added, which have a higher gain compared to the original antennas., so the FCC C2PC (Conducted Output Power, Spurious Emission) is executed.
2. FCC Original Report Grant Date: 02/15/2022, FCC ID: WIYSLM500QA.

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§2.1033 General Information

Applicant	CASTLES TECHNOLOGY CO., LTD.
Applicant Address	6F, NO. 207-5, SEC. 3, BEIXIN RD., XINDIAN DISTRICT, NEW TAIPEI CITY 231632, TAIWAN (R. O. C.)
Manufacturer	CASTLES TECHNOLOGY CO., LTD.
Manufacturer Address	6F, NO. 207-5, SEC. 3, BEIXIN RD., XINDIAN DISTRICT, NEW TAIPEI CITY 231632, TAIWAN (R. O. C.)
Test Site	MRT Technology (Taiwan) Co., Ltd
Test Site Address	No. 38, Fuxing Second Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C)
MRT FCC Registration No.	291082
MRT IC Registration No.	21723
Test Device Serial No.	#1-1 <input type="checkbox"/> Production <input checked="" type="checkbox"/> Pre-Production <input type="checkbox"/> Engineering

Test Facility / Accreditations

Measurements were performed at MRT Laboratory located in Fuxing Rd., Taoyuan, Taiwan (R.O.C)

- MRT facility is a FCC registered (Reg. No. 291082) test facility with the site description report on file and is designated by the FCC as an Accredited Test Firm.
- MRT facility is an IC registered (MRT Reg. No. 21723) test laboratory with the site description on file at Industry Canada.
- MRT Lab is accredited to ISO 17025 by the Taiwan Accreditation Foundation (TAF Cert. No. 3261) in EMC, Telecommunications and Radio testing for FCC (Designation Number: TW3261), Industry Canada, EU and TELEC Rules.

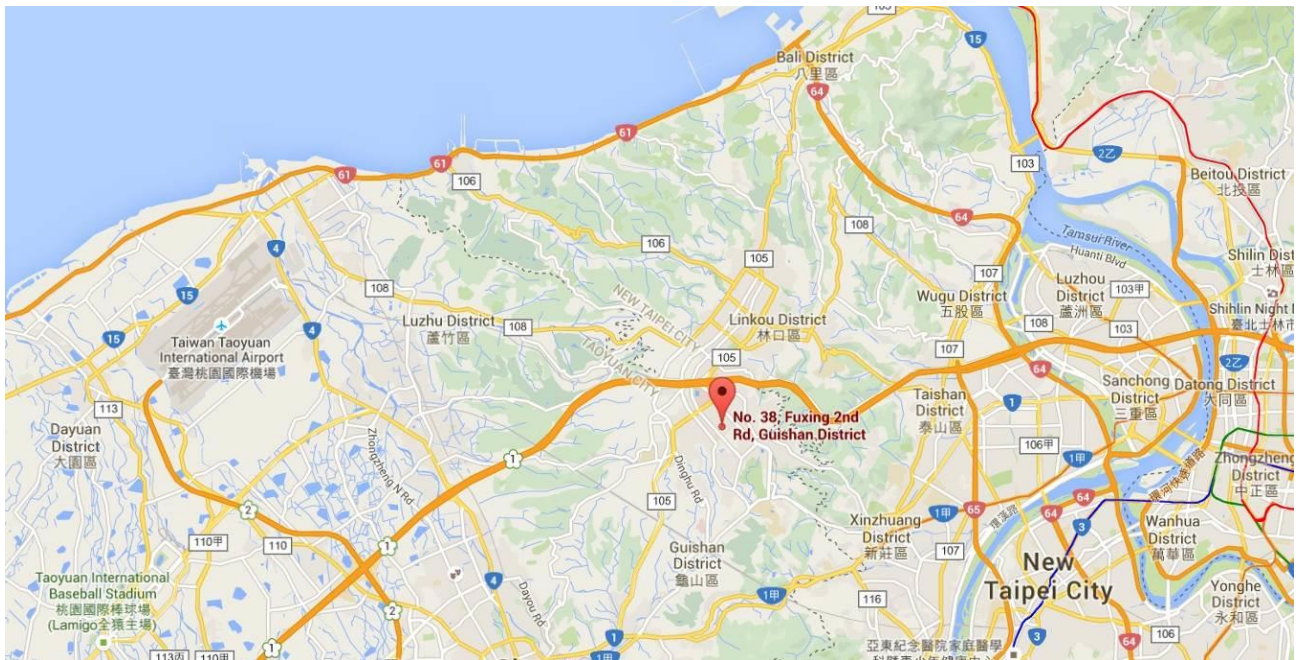
1. INTRODUCTION

1.1. Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Industry Canada Certification and Engineering Bureau.


1.2. MRT Test Location

The map below shows the location of the MRT LABORATORY, its proximity to the Taoyuan City. These measurement tests were conducted at the MRT Technology (Taiwan) Co., Ltd. Facility located at No.38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 33377, Taiwan (R.O.C).



2. PRODUCT INFORMATION

2.1. Feature of Equipment under Test

Product Name	Smart module
Model No.	SLM500
Brand Name	
Supports Radios Spec.	<p>WLAN: 2.4G: 802.11b/g/n-20/n-40 5G: 802.11a/n-20/n-40, Band 1,2,3,4</p> <p>WPAN: Bluetooth Dual Mode: V4.2 NFC 13.56MHz</p> <p>WWAN: 2G: GPRS 850 / EGPRS 850 / GPRS 1900 / EGPRS 1900 3G: Band 2, 4, 5 4G: Band 2, 4, 5, 7, 12, 13, 17, 25, 26, 66</p>
4G Operation Band (s)	Band 2, 4, 5, 7, 12, 13, 17, 25, 26, 66
Frequency Range	Band2: 1850MHz–1910MHz Band4: 1710MHz–1755MHz Band5: 824MHz–849MHz Band7: 2500MHz–2570MHz Band12: 699MHz–716MHz Band13: 777MHz–787MHz Band17: 704MHz–716MHz Band25: 1850MHz–1915MHz Band26: 814MHz–849MHz Band66: 1710MHz–1780MHz
Accessory	
Power Adapter	MFR: Shenzhen ABP Technology Co.,Ltd. Model No: AD0181-1201000UC Input: AC 100-240V~50-60Hz,0.5A Max Output: DC 12.0V, 1.0A 12.0w Cable Out: Non-shielding, 1.5m

2.2. Equipment Description

Antenna Type	PIFA
Antenna M/N	RFA-LTE-JP782-70B-95, RFA-LTE-AP781-70-53
Antenna Gain	Band 2: 2.92dBi, Band 4: 2.92dBi, Band 5: -0.58dBi, Band 7: 2.92dBi, Band 12: 0dBi, Band 13: 0dBi, Band 17: 0dBi, Band 25: 2.92dBi, Band 26: -0.58dBi. Band 66: 2.92dBi
Type of Modulation	QPSK, 16QAM, 64QAM

Note: The test report has showed the worst test mode.

2.3. Device Capabilities

This device contains the following capabilities:

LTE Band 2, 4, 5, 7, 12, 13, 17, 25, 26, 66

2.4. Test Configuration

The **Smart module** was tested per the guidance of ANSI/TIA-603-D-2010 and KDB 971168 D01v02r02. See section 3.0 of this report for a description of the radiated and antenna port conducted emissions tests.

2.5. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and no modifications were made during testing.

3. DESCRIPTION OF TEST

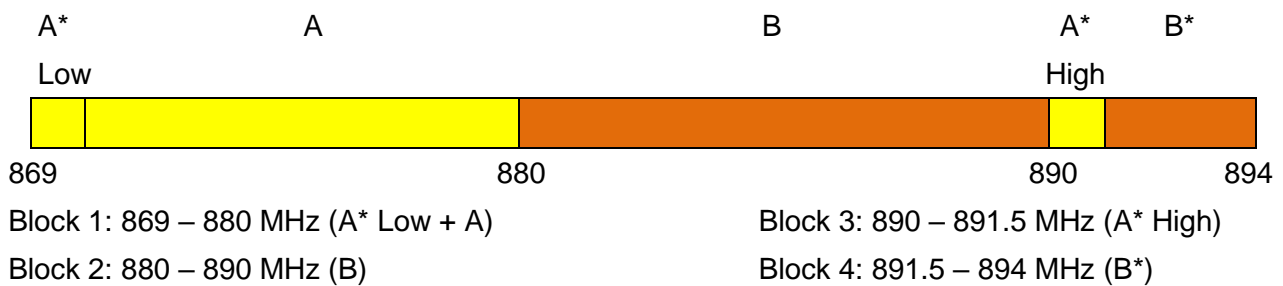
3.1. Evaluation Procedure

The measurement procedures described in the “Land Mobile FM or PM – Communications Equipment – Measurements and Performance Standards” (ANSI/TIA-603-D-2010) and “Procedures for Compliance Measurement of the Fundamental Emission Power of Licensed Wideband (> 1 MHz) Digital Transmission Systems” (KDB 971168) were used in the measurement of the **Smart module**

Deviation from measurement procedure.....None

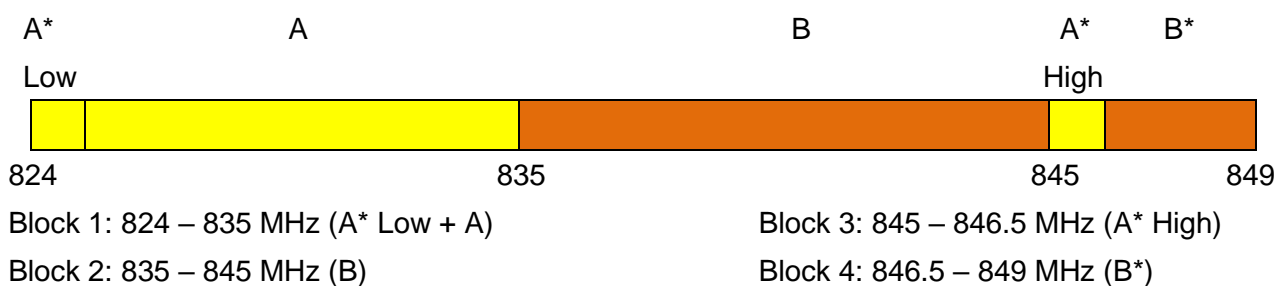
3.2. Cellular – Base Frequency Blocks

\$22.905



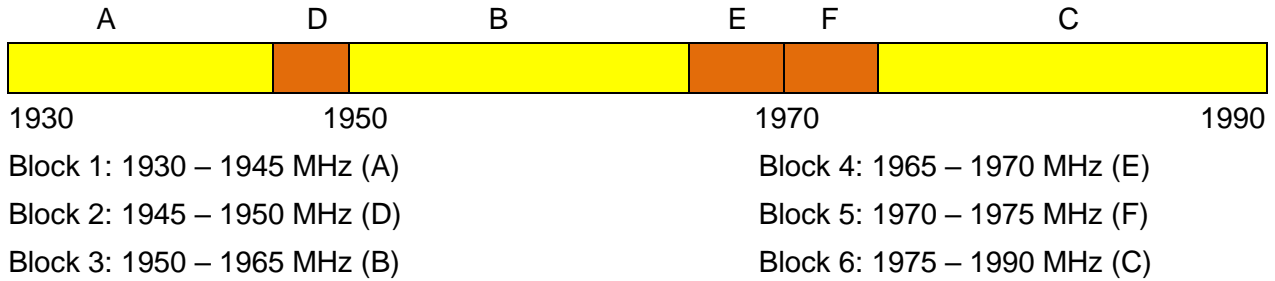
3.3. Cellular – Mobile Frequency Blocks

\$22.905



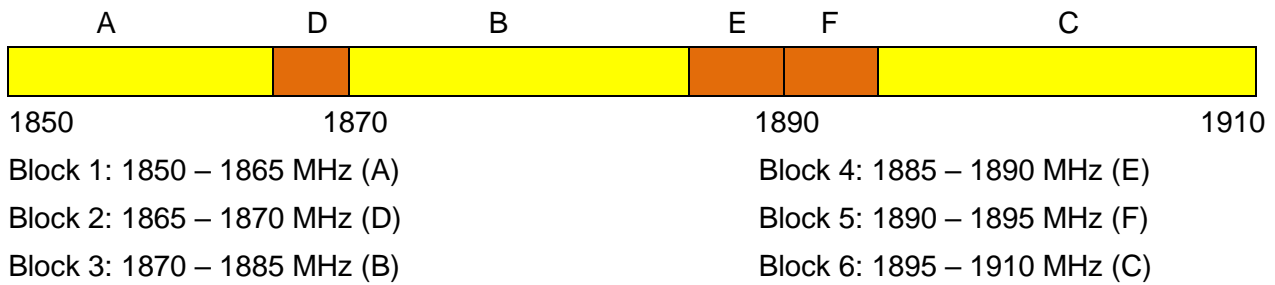
3.4. PCS – Base Frequency Blocks

§24.229



3.5. PCS – Mobile Frequency Blocks

§24.229



3.6. Occupied Bandwidth

§2.1049

The occupied bandwidth, that 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 radiated by a given emission shall be measured. The spectrum analyzers' "occupied bandwidth" measurement function was used to record the occupied bandwidth in accordance with KDB 971168.

3.7. Spurious and Harmonic Emissions at Antenna Terminal

§2.1051 §22.917(a) §24.238(a)

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. 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 $43 + 10 \log(P)$ dB. Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater for Part 22. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.

3.8. Power and Radiated Spurious Emissions

§2.1053 §22.913(a.2) §22.917(a) §24.232(c) §24.238(a)

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurement and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. For measurements above 1GHz absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1GHz, the absorbers are removed. A MF Model 210SS turntable is used for radiated measurement. It is a continuously rotatable, remote-controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. A 80cm high PVC support structure is placed on top of the turntable.

The equipment under test was transmitting while connected to its integral antenna and is placed on a wooden turntable 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height is adjusted between 1 and 4 meter height, the turntable is rotated through 360 degrees, and the EUT is manipulated through all orthogonal planes representative of its typical use to achieve the highest reading on the receive spectrum analyzer. Radiated power levels are also investigated with the receive antenna horizontally and vertically polarized. The maximized power level is recorded using the spectrum analyzer "Channel Power" function with the integration band set to the emissions' occupied bandwidth, a RMS detector, RBW = 100kHz, VBW = 300kHz, and a 1 second sweep time over a minimum of 10 sweeps, per the guidelines of KDB 971168.

Per the guidance of ANSI/TIA-603-D-2010, a half-wave dipole is then substituted in place of the EUT. For emissions above 1GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator with the level of the signal generator being adjusted to obtain the same receive spectrum analyzer level previously recorded from the spurious emission from the EUT. The power of the emission is calculated using the following formula:

$$P_d \text{ [dBm]} = P_g \text{ [dBm]} - \text{cable loss [dB]} + \text{antenna gain [dBd/dBi]}$$

Where, P_d is the dipole equivalent power, P_g is the generator output into the substitution antenna, and the antenna gain is the gain of the substitute antenna used relative to either a half-wave dipole (dBd) or an isotropic source (dBi). The substitute level is equal to $P_g \text{ [dBm]} - \text{cable loss [dB]}$.

The calculated P_d levels are then compared to the absolute spurious emission limit of -13dBm which is equivalent to the required minimum attenuation of $43 + 10 \cdot \log_{10}(\text{Power [Watts]})$ specified in 22.917(a).

3.9. Peak-Average Ratio

§24.232(d) & RSS-132(5.4)

A peak to average ratio measurement is performed at the conducted port of the EUT. The spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level.

For pulsed signals, the spectrum analyzer is set to use an internal “RF Burst” trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the “on time” of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power. For continuous signals, the trigger is set to “free run” in the CCDF measurement mode.

3.10. Frequency Stability / Temperature Variation

§2.1055 §22.355 §22.863 §22.905 §24.229 §24.235

Frequency stability testing is performed in accordance with the guidelines of ANSI/TIA-603-D-2010.

The frequency stability of the transmitter is measured by:

- a.) Temperature: The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.
- b.) 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.

Specification – For Part 22, the frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ (± 2.5 ppm) of the center frequency.

Time Period and Procedure:

1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
2. The equipment is turned on in a “standby” condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

4. TEST EQUIPMENT CALIBRATION DATE

Radiated Emissions – AC2

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Active Loop Antenna	SCHWARZBECK	FMZB 1519B	MRTTWA00002	1 year	2024/5/22
Broadband TRILOG Antenna	SCHWARZBECK	VULB 9162	MRTTWA00001	1 year	2024/10/31
Broadband Hornantenna	RFSPIN	DRH18-E	MRTTWA00087	1 year	2024/5/17
Broadband Preamplifier	EMC Instruments corporation	EMC118A45SE	MRTTWA00088	1 year	2024/5/17
Breitband Hornantenna	SCHWARZBECK	BBHA 9170	MRTTWA00004	1 year	2024/3/20
Broadband Amplifier	SCHWARZBECK	BBV 9721	MRTTWA00006	1 year	2024/3/27
EMI Test Receiver	R&S	ESR3	MRTTWA00009	1 year	2024/3/8
Signal Analyzer	R&S	FSVA3044	MRTTWA00092	1 year	2024/6/29
Antenna Cable	HUBERSUHNER	SF106	MRTTWE00034	1 year	2024/6/26
Cable	HUBERSUHNER	EMC105-NM-NM -3000	MRTTWE00035	1 year	2024/6/26

Conducted Test Equipment – SR6

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EXA Signal Analyzer	KEYSIGHT	N9010A	MRTTWA00012	1 year	2024/10/17
EXA Signal Analyzer	KEYSIGHT	N9010B	MRTTWA00074	1 year	2024/7/19
USB Wideband Power Sensor	KEYSIGHT	U2021XA	MRTTWA00015	1 year	2024/3/16
Wideband Radio Communication Taster	R&S	CMW 500	MRTTWA00084	1 year	2024/10/18

Test Software

Software	Version	Function
e3	9.160520a	EMI Test Software
EMI	V3	EMI Test Software

5. SAMPLE CALCULATIONS

GSM Emission Designator

Emission Designator = 250KGXW

GSM BW = 250 kHz

G = Phase Modulation

X = Cases not otherwise covered

W = Combination (Audio/Data)

EGPRS Emission Designator

Emission Designator = 250KG7W

GSM BW = 250 kHz

G = Phase Modulation

7 = Quantized/Digital Info

W = Combination (Audio/Data)

WCDMA / CDMA Emission Designator

Emission Designator = 1M25F9W

WCDMA BW = 1.25 MHz

F = Frequency Modulation

9 = Composite Digital Info

W = Combination (Audio/Data)

LTE Emission Designator

Emission Designator = QPSK 5M00G7D / 16QAM 5M00W7D

LTE BW = 1.4/3/5/10/15/20 MHz

QPSK G = Phase Modulation /

16QAM W= in a combination of two or more of the following modes: amplitude, angle, pulse

7 = Quantized/Digital Info

D = Data transmission, telemetry, telecommand

Spurious Radiated Emission

Example: Spurious emission at 1688.10 MHz

The receive spectrum analyzer reading at 3 meters with the EUT on the turntable was -65.0dBm . The gain of the substituted antenna is 6.5dBi . The signal generator connected to the substituted antenna terminals is adjusted to produce a reading of -65.0dBm on the spectrum analyzer. The loss of the cable between the signal generator and the terminals of the substituted antenna is 4.5 dB at 1688.1MHz . So 2 dB is added to the signal generator reading of -25dBm yielding -23dBm . The fundamental EIRP was 24.0dBm so this harmonic was $24.0\text{dBm} - (-23) = 47\text{dBc}$.

6. MEASUREMENT UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

Conducted Power Measurement
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): $\pm 0.84\text{dB}$
Radiated Emission Measurement
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): $\pm 4.22\text{dB}$

7. TEST RESULT

7.1. Summary

Product Name: POS Terminal

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
2.1049	Occupied bandwidth	N/A	Conducted	N/A	Section 7.2
2.1051 22.917(a) 24.238(a) 27.53(c) 27.52(h) 90.691	Conducted Spurious Emissions	> 43 + 10log ₁₀ (P[Watts]) at for all out-of-band emissions (Band 2,4,5,12,13,17,25,26,66)		N/A	Section 7.3
2.1051 27.53(m)		> 55 + 10log ₁₀ (P[Watts]) at for all out-of-band emissions (Band 7)			
2.1051 22.917(a) 24.238(a) 27.53(c) 27.52(h) 90.691	Band Edge	> 43 + 10log ₁₀ (P[Watts]) at for all out-of-band emissions		N/A	Section 7.4
27.53(m)		27.53(m)(4)			
2.1046	Conducted Output Power	N/A		Pass	Section 7.5
90.691	Radiated Output Power	< 100 Watts max. ERP (Band 26)		Pass	Section 7.5
22.913(a)		< 7 Watts max. ERP (Band 5)		Pass	
24.232(c) 27.50(h)		< 2 Watts max. EIRP (Band 2, 7,25)		Pass	
27.50(b)		< 3 Watts max. ERP (Band 12,13,17)		Pass	
27.50(d)		< 1 Watts max. EIRP (Band 4,66)		Pass	

2.1051 22.917(a) 24.238(a) 27.53(c) 27.52(h) 90.691	Radiated Spurious Emissions	> 43 + log ₁₀ (P[Watts]) for all out-of-band emissions (Band 2,4,5,12,13,17,25,26,66)	Radiated	Pass	Section 7.5
2.1053 27.53(m)		> 55 + 10log ₁₀ (P[Watts]) for all out-of-band emissions (Band 7)			
24.232(d) 27.50(B)	Peak-Average Ratio	<13dB	Conducted	N/A	Section 7.6
2.1055 22.355 90.213	Frequency Stability	< 2.5 ppm		N/A	Section 7.7
2.1055 24.235 27.54		Within Authorized Band			

Notes:

- 1) Determining compliance is based on the test results met the regulation limits or requirements declared by clients, and the test results don't take into account the value of measurement uncertainty.
- 2) All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst case emissions.
- 3) All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables, attenuators, and couplers.

7.2. Occupied Bandwidth

7.2.1. Test Limit

N/A

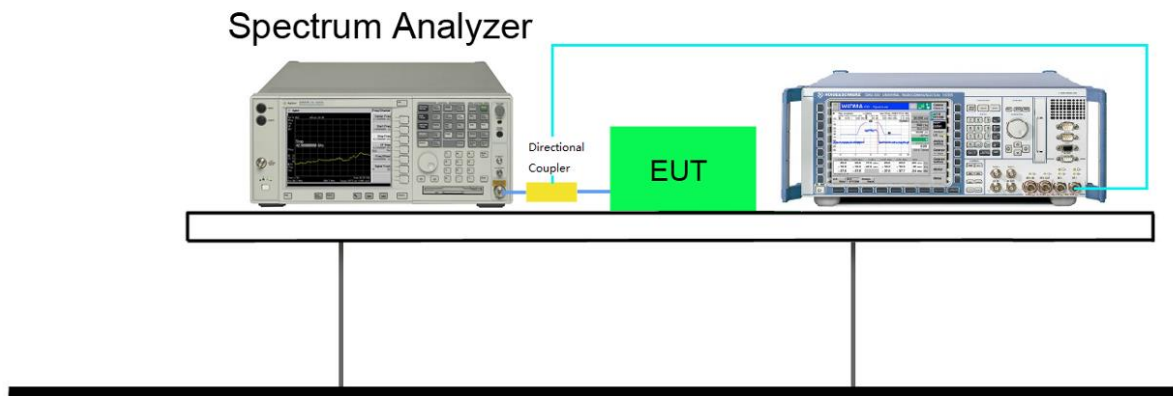
7.2.2. Test Procedure used

KDB 971168 D01v02r02 – Section 4.2 & ANSI/TIA-603-D-2010

7.2.3. Test Setting

1. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.
2. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW. (RBW = approximately 1% of the emission bandwidth).
3. Set the detection mode to peak, and the trace mode to max hold.
4. Use the 99 % power bandwidth function of the spectrum analyzer (if available) and report the measured bandwidth.

7.2.4. Test Setup



7.2.5. Test Result

Note: Reference Original Report Grant Date: 02/15/2022, FCC ID: WIYSLM500QA.

7.3. Conducted Spurious Emissions

7.3.1. Test Limit

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 $43 + 10\log_{10}(P)$ dB for Band 2,4,5,12,13,17/ $55+10\log_{10}(P)$ dB for Band7.

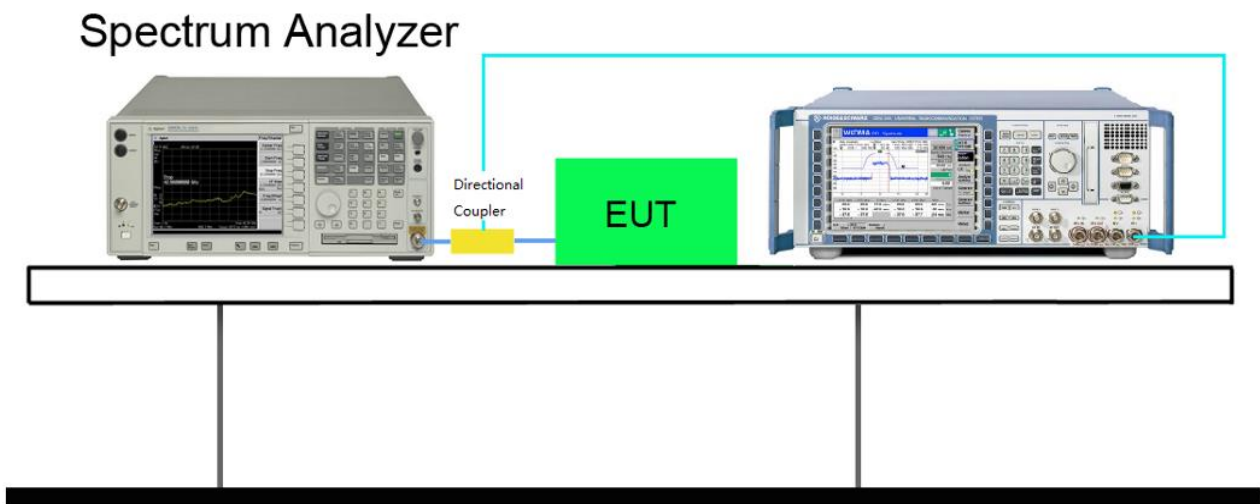
7.3.2. Test Procedure Used

KDB 971168 D01v02r02 – Section 6.0 & ANSI/TIA-603-D-2010

7.3.3. Test Setting

Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz is at or below 1GHz and 1MHz is above 1GHz, If any, up to 10th harmonic.

7.3.4. Test Setup



7.3.5. Test Result

Note: Reference Original Report Grant Date: 02/15/2022, FCC ID: WIYSLM500QA.

7.4. Band Edge at Antenna Terminal

7.4.1. Test Limit

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 for Band 2,4,5,12,13,17/ 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)(6) of this section. In addition, the attenuation factor shall not be less that $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz for Band7.

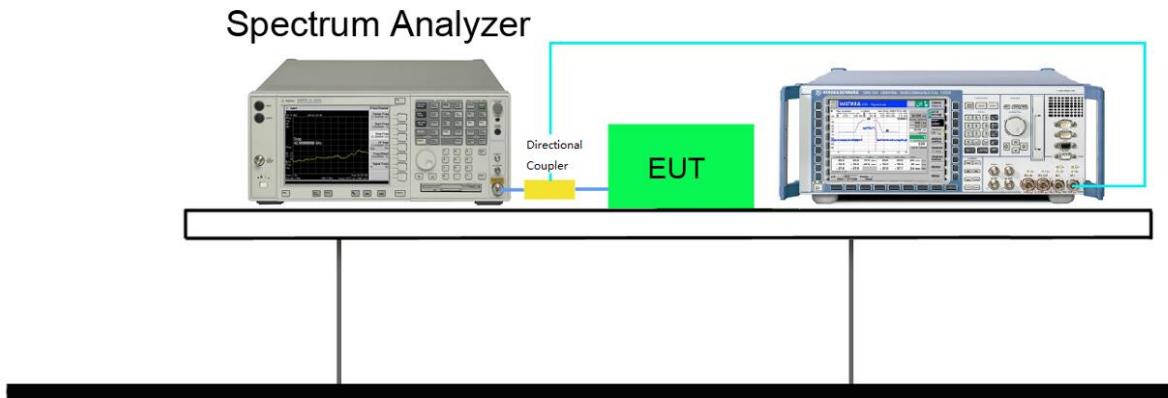
7.4.2. Test Procedure Used

KDB 971168 D01v02r02 – Section 6.0 & ANSI/TIA-603-D-2010

7.4.3. Test Setting

In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

7.4.4. Test Setup



7.4.5. Test Result

Note: Reference Original Report Grant Date: 02/15/2022, FCC ID: WIYSLM500QA.

7.5. Power and Radiated Spurious Emissions

7.5.1 Test Limit

Radiated Power

For FCC Part 22.913(a)(2):

The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

For FCC Part 24.232(c)/27.50(h):

The EIRP of mobile transmitters and auxiliary test transmitters must not exceed 2 Watts.

For FCC Part 27.50(b):

The ERP of mobile transmitters and auxiliary test transmitters must not exceed 3 Watts.

For FCC Part 27.50(d):

The ERP of mobile transmitters and auxiliary test transmitters must not exceed 1 Watts.

Radiated Spurious Emissions

For FCC Part 22.917(a)/24.238(a)/27.53(c)/27.53(f)/27.53(h):

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 $43 + 10\log_{10}(P)$ dB.

For FCC Part 27.53(m):

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 $55 + 10\log_{10}(P)$ dB.

7.5.2 Test Procedure Used

KDB 971168 D01v02r02 - Section 7.0 & ANSI/TIA-603-D-2010

7.5.3 Test Setting

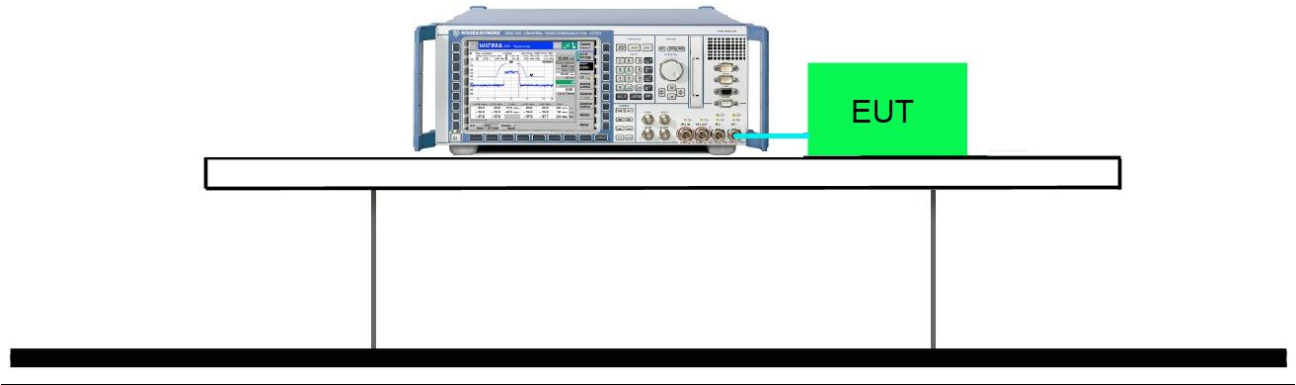
1. The EUT shall be placed at the specified height on a support, and in the position closest to normal use as declared by provider.
2. The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter
3. The output of the test antenna shall be connected to the measuring receiver.
4. The transmitter shall be switched on and the measuring receiver shall be tuned to the frequency of the transmitter under test.
5. The test antenna shall be raised and lowered through the specified range of height until a maximum signal level is detected by the measuring receiver.
6. The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
7. The test antenna shall be raised and lowered again through the specified range of height until a maximum signal level is detected by the measuring receiver.
8. The maximum signal level detected by the measuring receiver shall be noted.
9. The transmitter shall be replaced by a substitution antenna.
10. The substitution antenna shall be orientated for vertical polarization and the length of the substitution antenna shall be adjusted to correspond to the frequency of the transmitter.
11. The substitution antenna shall be connected to a calibrated signal generator.
12. If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
13. The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
14. The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuator setting of the

measuring receiver.

15. The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarization.
16. The measure of the effective radiated power is the larger of the two levels recorded at the input to the substitution antenna, corrected for gain of the substitution antenna if necessary.
17. Test site anechoic chamber refer to ANSI C63.4: 2014.

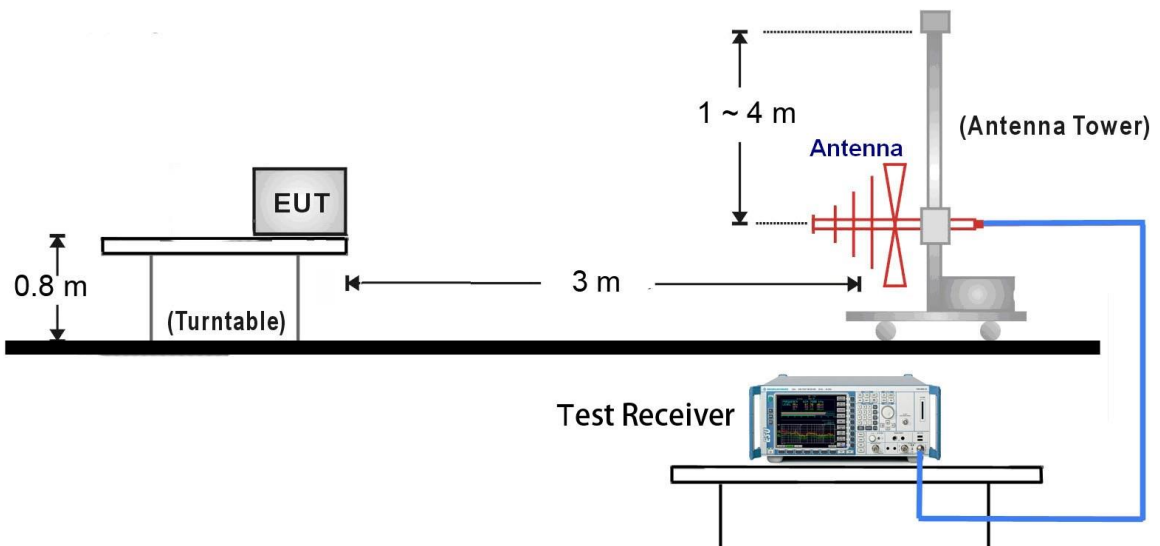
7.5.4 Test Setup

Conducted Power

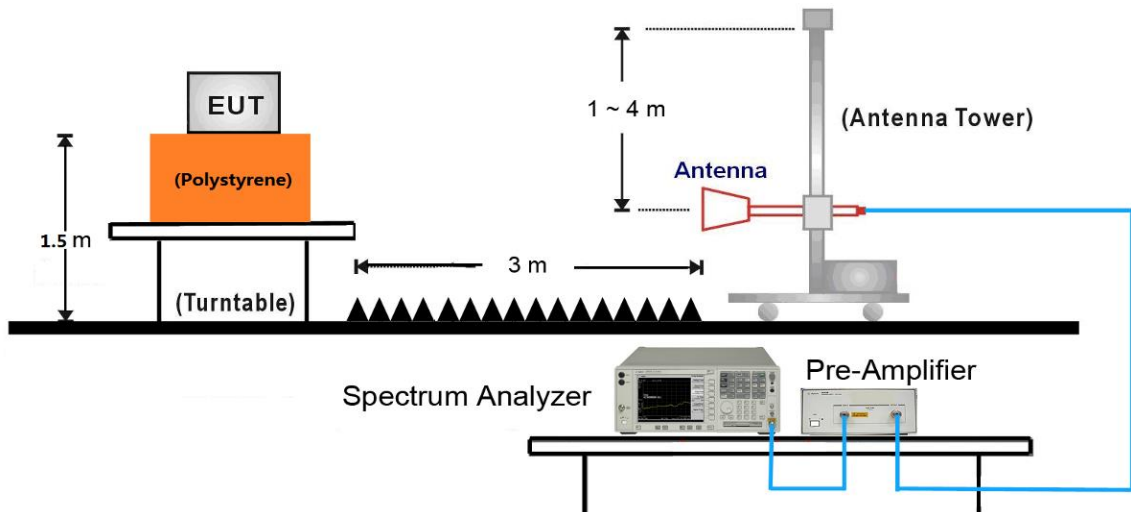


Radiated Power & Radiated Spurious Emissions

30MHz ~ 1GHz Test Setup:



1GHz ~ 10GHz Test Setup:



7.5.5 Test Result

Conducted Power

LTE Band 2		1.4MHz			3MHz			5MHz			10MHz			15MHz			20MHz			MPR
Channel	Modulation	RB	RB	Max	RB	RB	Max	RB	RB	Max	RB	RB	Max	RB	RB	Max	RB	RB	Max	
		No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	
		CH18607			CH18615			CH18625			CH18650			CH18675			CH18700			
Low	QPSK	1	#0	20.84	1	#0	20.69	1	#0	20.78	1	#0	20.65	1	#0	20.61	1	#0	20.45	0
		1	#2	20.81	1	#7	20.82	1	#12	20.85	1	#25	20.67	1	#36	20.62	1	#49	20.44	0
		1	#5	20.69	1	#14	20.79	1	#24	20.59	1	#49	20.33	1	#74	20.49	1	#99	20.10	0
		3	#0	20.78	8	#0	19.85	12	#0	19.85	25	#0	19.66	36	#0	19.65	50	#0	19.59	0-1
		3	#2	20.82	8	#4	19.87	12	#6	19.96	25	#12	19.54	36	#18	19.74	50	#24	19.71	0-1
		3	#3	20.69	8	#7	19.85	12	#13	19.78	25	#25	19.55	36	#37	19.57	50	#49	19.55	0-1
	6	#0	19.95	15	#0	19.89	25	#0	19.83	50	#0	19.66	75	#0	19.67	100	#0	19.61	0-1	
	16QAM	1	#0	20.40	1	#0	20.59	1	#0	19.83	1	#0	19.71	1	#0	20.11	1	#0	19.93	0-1
		1	#2	20.52	1	#7	20.65	1	#12	19.79	1	#25	20.19	1	#36	20.02	1	#49	19.96	0-1
		1	#5	20.46	1	#14	20.47	1	#24	19.64	1	#49	20.35	1	#74	19.65	1	#99	19.80	0-1
		3	#0	19.75	8	#0	18.88	12	#0	18.88	25	#0	18.77	36	#0	18.72	50	#0	18.66	0-2
		3	#2	19.76	8	#4	18.84	12	#6	18.76	25	#12	18.61	36	#18	18.62	50	#24	18.47	0-2
3		#3	19.72	8	#7	18.70	12	#13	18.95	25	#25	18.61	36	#37	18.44	50	#49	18.34	0-2	
Mid	QPSK	CH18900			CH18900			CH18900			CH18900			CH18900			CH18900			MPR
		1	#0	20.83	1	#0	20.83	1	#0	20.78	1	#0	20.63	1	#0	20.52	1	#0	20.36	0
		1	#2	20.85	1	#7	20.76	1	#12	20.83	1	#25	20.81	1	#36	20.70	1	#49	20.68	0
		1	#5	20.81	1	#14	20.83	1	#24	20.85	1	#49	20.84	1	#74	20.74	1	#99	20.73	0
		3	#0	20.80	8	#0	20.03	12	#0	19.72	25	#0	19.88	36	#0	19.68	50	#0	19.62	0-1
		3	#2	20.82	8	#4	19.98	12	#6	19.83	25	#12	19.70	36	#18	19.81	50	#24	19.72	0-1
	6	#0	20.07	15	#0	20.05	25	#0	19.83	50	#0	19.82	75	#0	19.79	100	#0	19.52	0-1	
	16QAM	1	#0	20.33	1	#0	20.29	1	#0	20.06	1	#0	20.29	1	#0	19.88	1	#0	19.67	0-1
		1	#2	20.50	1	#7	20.13	1	#12	20.15	1	#25	20.36	1	#36	19.88	1	#49	19.82	0-1
		1	#5	20.34	1	#14	20.36	1	#24	20.40	1	#49	20.64	1	#74	19.76	1	#99	20.01	0-1
		3	#0	20.14	8	#0	19.10	12	#0	18.70	25	#0	18.50	36	#0	18.65	50	#0	18.70	0-2
		3	#2	20.27	8	#4	18.96	12	#6	18.68	25	#12	18.59	36	#18	19.00	50	#24	18.89	0-2
3		#3	20.19	8	#7	19.17	12	#13	18.75	25	#25	18.80	36	#37	18.97	50	#49	18.74	0-2	
6	#0	19.12	15	#0	18.96	25	#0	18.70	50	#0	18.94	75	#0	18.75	100	#0	18.50	0-2		

		CH19193			CH19185			CH19175			CH19150			CH19125			CH19100			MPR	
		1	#		1	#		1	#		1	#		1	#		1	#			
High	QPSK	1	#0	20.83	1	#0	20.77	1	#0	20.83	1	#0	20.53	1	#0	20.37	1	#0	20.40	0	
		1	#2	20.79	1	#7	20.79	1	#12	20.71	1	#25	20.65	1	#36	20.63	1	#49	20.51	0	
		1	#5	20.77	1	#14	20.71	1	#24	20.82	1	#49	20.82	1	#74	20.60	1	#99	20.53	0	
		3	#0	20.76	8	#0	20.12	12	#0	19.96	25	#0	19.85	36	#0	19.64	50	#0	19.55	0-1	
		3	#2	20.82	8	#4	20.16	12	#6	20.07	25	#12	20.09	36	#18	19.62	50	#24	19.55	0-1	
		3	#3	20.80	8	#7	20.10	12	#13	19.91	25	#25	19.96	36	#37	19.75	50	#49	19.71	0-1	
		6	#0	20.28	15	#0	20.09	25	#0	19.99	50	#0	19.73	75	#0	19.73	100	#0	19.54	0-1	
		16QAM	1	#0	20.01	1	#0	20.70	1	#0	20.49	1	#0	20.20	1	#0	20.46	1	#0	20.49	0-1
			1	#2	20.14	1	#7	20.43	1	#12	20.54	1	#25	20.06	1	#36	20.56	1	#49	20.64	0-1
			1	#5	20.32	1	#14	20.44	1	#24	20.23	1	#49	20.13	1	#74	20.62	1	#99	20.71	0-1
			3	#0	20.42	8	#0	19.20	12	#0	19.05	25	#0	18.81	36	#0	18.49	50	#0	18.47	0-2
			3	#2	20.26	8	#4	19.19	12	#6	19.08	25	#12	18.93	36	#18	18.58	50	#24	18.61	0-2
			3	#3	20.34	8	#7	19.08	12	#13	19.00	25	#25	19.04	36	#37	18.79	50	#49	18.71	0-2
	6		#0	19.30	15	#0	18.97	25	#0	19.06	50	#0	18.66	75	#0	18.62	100	#0	18.61	0-2	

LTE Band 4		1.4MHz			3MHz			5MHz			10MHz			15MHz			20MHz			MPR
Channel	Modulation	RB	RB	Max	RB	RB	Max	RB	RB	Max	RB	RB	Max	RB	RB	Max	RB	RB	Max	
		No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	
		CH19957			CH19965			CH19975			CH20000			CH20025			CH20050 (1720MHz)			
Low	QPSK	1	#0	21.54	1	#0	21.55	1	#0	21.63	1	#0	21.68	1	#0	21.49	1	#0	21.64	0
		1	#2	21.48	1	#7	21.45	1	#12	21.67	1	#25	21.66	1	#36	21.21	1	#49	21.69	0
		1	#5	21.49	1	#14	21.42	1	#24	21.31	1	#49	21.51	1	#74	21.31	1	#99	21.66	0
		3	#0	21.67	8	#0	20.63	12	#0	20.71	25	#0	20.62	36	#0	20.71	50	#0	20.62	0-1
		3	#2	21.50	8	#4	20.53	12	#6	20.57	25	#12	20.50	36	#18	20.49	50	#24	20.74	0-1
		3	#3	21.69	8	#7	20.61	12	#13	20.47	25	#25	20.57	36	#37	20.51	50	#49	20.47	0-1
		6	#0	20.82	15	#0	20.48	25	#0	20.54	50	#0	20.68	75	#0	20.61	100	#0	20.55	0-1
	16QAM	1	#0	20.32	1	#0	21.29	1	#0	20.63	1	#0	21.51	1	#0	20.49	1	#0	21.14	0-1
		1	#2	20.12	1	#7	21.11	1	#12	20.46	1	#25	21.59	1	#36	20.39	1	#49	21.47	0-1
		1	#5	20.29	1	#14	21.02	1	#24	20.46	1	#49	21.33	1	#74	20.41	1	#99	21.50	0-1
		3	#0	20.66	8	#0	19.33	12	#0	19.39	25	#0	19.78	36	#0	19.58	50	#0	19.70	0-2
		3	#2	20.65	8	#4	19.48	12	#6	19.59	25	#12	19.63	36	#18	19.41	50	#24	19.65	0-2
		3	#3	20.56	8	#7	19.50	12	#13	19.43	25	#25	19.70	36	#37	19.26	50	#49	19.39	0-2
		6	#0	19.63	15	#0	19.46	25	#0	19.58	50	#0	19.90	75	#0	19.61	100	#0	19.74	0-2
Mid	QPSK	CH20175			CH20175			CH20175			CH20175			CH20175			CH20175			MPR
		1	#0	21.57	1	#0	21.68	1	#0	21.53	1	#0	21.65	1	#0	21.51	1	#0	21.56	0
		1	#2	21.68	1	#7	21.46	1	#12	21.69	1	#25	21.66	1	#36	21.40	1	#49	21.67	0
		1	#5	21.61	1	#14	21.62	1	#24	21.61	1	#49	21.69	1	#74	21.61	1	#99	21.69	0
		3	#0	21.49	8	#0	20.45	12	#0	20.35	25	#0	20.48	36	#0	20.43	50	#0	20.50	0-1
		3	#2	21.66	8	#4	20.47	12	#6	20.30	25	#12	20.61	36	#18	20.69	50	#24	20.49	0-1
		3	#3	21.53	8	#7	20.54	12	#13	20.44	25	#25	20.44	36	#37	20.56	50	#49	20.57	0-1
	6	#0	20.48	15	#0	20.48	25	#0	20.46	50	#0	20.40	75	#0	20.47	100	#0	20.44	0-1	
	16QAM	1	#0	20.40	1	#0	20.09	1	#0	20.87	1	#0	21.16	1	#0	21.64	1	#0	20.65	0-1
		1	#2	20.72	1	#7	20.55	1	#12	20.89	1	#25	21.16	1	#36	21.44	1	#49	20.88	0-1
		1	#5	20.70	1	#14	20.70	1	#24	20.64	1	#49	21.18	1	#74	21.37	1	#99	21.11	0-1
		3	#0	20.58	8	#0	19.32	12	#0	19.30	25	#0	19.52	36	#0	19.42	50	#0	19.61	0-2
		3	#2	20.63	8	#4	19.17	12	#6	19.43	25	#12	19.76	36	#18	19.25	50	#24	19.56	0-2
		3	#3	20.33	8	#7	19.30	12	#13	19.39	25	#25	19.64	36	#37	19.38	50	#49	19.69	0-2
6		#0	19.53	15	#0	19.40	25	#0	19.42	50	#0	19.55	75	#0	19.40	100	#0	19.54	0-2	

		CH20393			CH20385			CH20375			CH20350			CH20325			CH20300			MPR
		1	#		1	#		1	#		1	#		1	#		1	#		
High	QPSK	1	#0	21.52	1	#0	21.34	1	#0	21.56	1	#0	21.61	1	#0	21.67	1	#0	21.62	0
		1	#2	21.44	1	#7	21.50	1	#12	21.37	1	#25	21.68	1	#36	21.66	1	#49	21.57	0
		1	#5	21.54	1	#14	21.50	1	#24	21.18	1	#49	21.69	1	#74	21.44	1	#99	21.65	0
		3	#0	21.53	8	#0	20.36	12	#0	20.54	25	#0	20.57	36	#0	20.63	50	#0	20.66	0-1
		3	#2	21.40	8	#4	20.43	12	#6	20.46	25	#12	20.37	36	#18	20.42	50	#24	20.72	0-1
		3	#3	21.45	8	#7	20.41	12	#13	20.58	25	#25	20.43	36	#37	20.59	50	#49	20.56	0-1
		6	#0	20.49	15	#0	20.41	25	#0	20.55	50	#0	20.58	75	#0	20.64	100	#0	20.70	0-1
	16QAM	1	#0	20.28	1	#0	20.88	1	#0	20.64	1	#0	21.05	1	#0	21.05	1	#0	21.58	0-1
		1	#2	20.20	1	#7	20.62	1	#12	20.94	1	#25	21.46	1	#36	20.75	1	#49	21.65	0-1
		1	#5	20.31	1	#14	20.48	1	#24	21.23	1	#49	21.58	1	#74	20.74	1	#99	21.50	0-1
		3	#0	20.40	8	#0	19.43	12	#0	19.42	25	#0	19.73	36	#0	19.78	50	#0	19.91	0-2
		3	#2	20.68	8	#4	19.70	12	#6	19.27	25	#12	19.58	36	#18	19.40	50	#24	19.61	0-2
		3	#3	20.67	8	#7	19.65	12	#13	19.47	25	#25	19.50	36	#37	19.41	50	#49	19.58	0-2
6		#0	19.33	15	#0	19.41	25	#0	19.63	50	#0	19.63	75	#0	19.70	100	#0	19.73	0-2	

LTE Band 5		1.4MHz			3MHz			5MHz			10MHz			MPR
Channel	Modulation	RB	RB	Max	RB	RB	Max	RB	RB	Max	RB	RB	Max	
		No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	
		CH20407			CH20415			CH20425			CH20450			
Low	QPSK	1	#0	21.76	1	#0	21.63	1	#0	21.73	1	#0	21.72	0
		1	#2	21.97	1	#7	21.78	1	#12	21.81	1	#25	21.77	0
		1	#5	21.86	1	#14	21.88	1	#24	21.82	1	#49	22.01	0
		3	#0	22.05	8	#0	20.91	12	#0	20.90	25	#0	20.96	0-1
		3	#2	22.19	8	#4	21.02	12	#6	21.06	25	#12	21.00	0-1
		3	#3	22.06	8	#7	20.86	12	#13	20.95	25	#25	21.09	0-1
	16QAM	6	#0	20.89	15	#0	20.83	25	#0	20.89	50	#0	20.96	0-1
		1	#0	21.50	1	#0	21.73	1	#0	21.61	1	#0	20.73	0-1
		1	#2	21.38	1	#7	21.65	1	#12	21.70	1	#25	20.97	0-1
		1	#5	21.21	1	#14	21.45	1	#24	22.01	1	#49	21.12	0-1
		3	#0	20.49	8	#0	19.73	12	#0	19.84	25	#0	19.95	0-2
		3	#2	20.52	8	#4	19.95	12	#6	20.06	25	#12	19.92	0-2
		3	#3	20.55	8	#7	20.06	12	#13	20.02	25	#25	20.09	0-2
		6	#0	19.51	15	#0	20.02	25	#0	20.03	50	#0	20.18	0-2
Mid	QPSK	CH20525			CH20525			CH20525			CH20525			MPR
		1	#0	22.17	1	#0	22.09	1	#0	22.15	1	#0	21.93	0
		1	#2	22.12	1	#7	22.08	1	#12	22.26	1	#25	22.30	0
		1	#5	22.26	1	#14	22.28	1	#24	22.10	1	#49	22.32	0
		3	#0	22.09	8	#0	21.12	12	#0	21.00	25	#0	21.11	0-1
		3	#2	22.12	8	#4	20.98	12	#6	21.25	25	#12	21.00	0-1
		3	#3	22.00	8	#7	21.03	12	#13	21.11	25	#25	21.24	0-1
	6	#0	21.11	15	#0	21.09	25	#0	21.08	50	#0	21.10	0-1	
	16QAM	1	#0	21.42	1	#0	21.47	1	#0	21.10	1	#0	21.72	0-1
		1	#2	21.37	1	#7	21.69	1	#12	21.02	1	#25	21.81	0-1
		1	#5	21.11	1	#14	21.59	1	#24	21.32	1	#49	22.02	0-1
		3	#0	20.78	8	#0	20.09	12	#0	20.39	25	#0	19.99	0-2
		3	#2	21.16	8	#4	20.08	12	#6	20.40	25	#12	20.24	0-2
		3	#3	21.14	8	#7	20.00	12	#13	20.08	25	#25	20.22	0-2
6		#0	20.15	15	#0	20.01	25	#0	20.27	50	#0	20.34	0-2	

		CH20643			CH20635			CH20625			CH20600			MPR
High	QPSK	1	#0	22.29	1	#0	22.45	1	#0	22.40	1	#0	22.10	0
		1	#2	22.44	1	#7	22.59	1	#12	22.38	1	#25	22.16	0
		1	#5	22.63	1	#14	22.51	1	#24	22.21	1	#49	22.61	0
		3	#0	22.59	8	#0	21.49	12	#0	21.57	25	#0	21.33	0-1
		3	#2	22.69	8	#4	21.35	12	#6	21.62	25	#12	21.51	0-1
		3	#3	22.51	8	#7	21.47	12	#13	21.58	25	#25	21.50	0-1
		6	#0	21.66	15	#0	21.59	25	#0	21.50	50	#0	21.31	0-1
	16QAM	1	#0	21.39	1	#0	22.20	1	#0	22.13	1	#0	21.36	0-1
		1	#2	21.57	1	#7	22.06	1	#12	22.27	1	#25	21.41	0-1
		1	#5	21.79	1	#14	22.10	1	#24	22.21	1	#49	21.68	0-1
		3	#0	21.55	8	#0	20.67	12	#0	20.08	25	#0	20.27	0-2
		3	#2	21.41	8	#4	20.68	12	#6	20.16	25	#12	20.21	0-2
		3	#3	21.45	8	#7	20.92	12	#13	20.52	25	#25	20.45	0-2
		6	#0	20.23	15	#0	20.71	25	#0	20.58	50	#0	20.36	0-2

LTE Band 7		5MHz			10MHz			15MHz			20MHz			MPR
Channel	Modulation	RB No.	RB Offset	Max Power	RB No.	RB Offset	Max Power	RB No.	RB Offset	Max Power	RB No.	RB Offset	Max Power	
		CH20775			CH20800			CH20825			CH20850			
Low	QPSK	1	#0	20.74	1	#0	20.76	1	#0	20.80	1	#0	20.83	
		1	#12	20.54	1	#25	20.66	1	#36	20.85	1	#49	20.85	0
		1	#24	20.67	1	#49	20.81	1	#74	20.52	1	#99	20.62	0
		12	#0	20.16	25	#0	20.32	36	#0	20.31	50	#0	20.38	0-1
		12	#6	20.05	25	#12	20.32	36	#18	20.42	50	#24	20.17	0-1
		12	#13	20.25	25	#25	20.27	36	#37	20.27	50	#49	20.14	0-1
		25	#0	20.28	50	#0	20.21	75	#0	20.16	100	#0	20.33	0-1
	16QAM	1	#0	20.44	1	#0	20.49	1	#0	20.38	1	#0	20.73	0-1
		1	#12	20.24	1	#25	20.12	1	#36	20.19	1	#49	20.75	0-1
		1	#24	20.19	1	#49	20.12	1	#74	20.30	1	#99	20.68	0-1
		12	#0	19.48	25	#0	19.03	36	#0	19.32	50	#0	19.37	0-2
		12	#6	19.32	25	#12	19.16	36	#18	19.09	50	#24	19.40	0-2
		12	#13	19.20	25	#25	19.25	36	#37	19.23	50	#49	19.33	0-2
		25	#0	19.37	50	#0	19.53	75	#0	19.42	100	#0	19.35	0-2
Mid	QPSK	CH21100			CH21100			CH21100			CH21100			MPR
		1	#0	20.85	1	#0	20.83	1	#0	20.83	1	#0	20.82	0
		1	#12	20.83	1	#25	20.80	1	#36	20.78	1	#49	20.77	0
		1	#24	20.79	1	#49	20.76	1	#74	20.54	1	#99	20.61	0
		12	#0	20.12	25	#0	20.16	36	#0	20.11	50	#0	20.17	0-1
		12	#6	20.01	25	#12	20.07	36	#18	20.13	50	#24	19.91	0-1
		12	#13	19.98	25	#25	20.08	36	#37	20.08	50	#49	19.98	0-1
	25	#0	20.06	50	#0	20.14	75	#0	20.14	100	#0	20.19	0-1	
	16QAM	1	#0	20.43	1	#0	20.26	1	#0	20.68	1	#0	20.13	0-1
		1	#12	20.58	1	#25	20.23	1	#36	20.62	1	#49	20.23	0-1
		1	#24	20.44	1	#49	20.25	1	#74	20.52	1	#99	20.05	0-1
		12	#0	19.04	25	#0	18.83	36	#0	19.05	50	#0	19.17	0-2
		12	#6	18.93	25	#12	18.76	36	#18	18.98	50	#24	19.08	0-2
		12	#13	19.13	25	#25	18.80	36	#37	18.89	50	#49	18.86	0-2
25		#0	19.06	50	#0	19.10	75	#0	19.07	100	#0	19.06	0-2	

		CH21425			CH21400			CH21375			CH21350			MPR
High	QPSK	1	#0	20.84	1	#0	20.82	1	#0	20.83	1	#0	20.80	0
		1	#12	20.80	1	#25	20.77	1	#36	20.83	1	#49	20.83	0
		1	#24	20.78	1	#49	20.76	1	#74	20.69	1	#99	20.77	0
		12	#0	20.08	25	#0	20.16	36	#0	20.25	50	#0	20.26	0-1
		12	#6	20.28	25	#12	20.12	36	#18	20.32	50	#24	20.11	0-1
		12	#13	20.14	25	#25	20.09	36	#37	20.25	50	#49	20.12	0-1
		25	#0	20.21	50	#0	20.16	75	#0	20.16	100	#0	20.09	0-1
	16QAM	1	#0	19.97	1	#0	20.37	1	#0	20.34	1	#0	20.84	0-1
		1	#12	20.00	1	#25	20.16	1	#36	20.23	1	#49	20.60	0-1
		1	#24	19.87	1	#49	19.93	1	#74	19.90	1	#99	20.60	0-1
		12	#0	19.34	25	#0	19.18	36	#0	19.28	50	#0	19.14	0-2
		12	#6	19.18	25	#12	18.96	36	#18	19.09	50	#24	19.14	0-2
		12	#13	18.88	25	#25	18.93	36	#37	19.19	50	#49	19.13	0-2
		25	#0	19.07	50	#0	19.13	75	#0	19.04	100	#0	19.00	0-2

LTE Band 12		1.4MHz			3MHz			5MHz			10MHz			MPR
Channel	Modulation	RB	RB	Max	RB	RB	Max	RB	RB	Max	RB	RB	Max	
		No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	
		CH23017			CH23025			CH23035			CH23060			
Low	QPSK	1	#0	22.04	1	#0	21.69	1	#0	21.65	1	#0	21.85	0
		1	#2	21.89	1	#7	21.76	1	#12	21.90	1	#25	21.72	0
		1	#5	22.11	1	#14	22.04	1	#24	21.87	1	#49	21.89	0
		3	#0	21.97	8	#0	20.92	12	#0	20.84	25	#0	20.73	0-1
		3	#2	22.00	8	#4	20.98	12	#6	20.83	25	#12	20.70	0-1
		3	#3	22.06	8	#7	20.94	12	#13	20.90	25	#25	20.84	0-1
		6	#0	20.97	15	#0	20.81	25	#0	20.86	50	#0	20.77	0-1
	16QAM	1	#0	21.17	1	#0	21.29	1	#0	21.24	1	#0	21.75	0-1
		1	#2	21.27	1	#7	21.35	1	#12	21.29	1	#25	21.61	0-1
		1	#5	21.14	1	#14	21.24	1	#24	21.64	1	#49	21.17	0-1
		3	#0	20.55	8	#0	19.76	12	#0	19.77	25	#0	19.88	0-2
		3	#2	20.61	8	#4	19.62	12	#6	19.95	25	#12	19.84	0-2
		3	#3	20.88	8	#7	19.81	12	#13	19.94	25	#25	19.87	0-2
		6	#0	19.53	15	#0	19.81	25	#0	19.78	50	#0	19.90	0-2
Mid	QPSK	CH23095			CH23095			CH23095			CH23095			MPR
		1	#0	21.90	1	#0	22.18	1	#0	22.10	1	#0	22.01	0
		1	#2	21.82	1	#7	21.89	1	#12	21.97	1	#25	22.09	0
		1	#5	22.03	1	#14	21.97	1	#24	21.88	1	#49	21.95	0
		3	#0	21.98	8	#0	20.98	12	#0	20.88	25	#0	20.96	0-1
		3	#2	21.84	8	#4	20.95	12	#6	21.05	25	#12	20.87	0-1
		3	#3	21.99	8	#7	20.92	12	#13	20.84	25	#25	20.83	0-1
	6	#0	20.89	15	#0	21.01	25	#0	20.83	50	#0	20.87	0-1	
	16QAM	1	#0	20.97	1	#0	21.31	1	#0	21.24	1	#0	21.32	0-1
		1	#2	21.01	1	#7	21.45	1	#12	21.21	1	#25	21.37	0-1
		1	#5	21.39	1	#14	21.31	1	#24	21.23	1	#49	21.37	0-1
		3	#0	20.71	8	#0	19.79	12	#0	19.88	25	#0	19.98	0-2
		3	#2	20.90	8	#4	20.07	12	#6	19.54	25	#12	19.93	0-2
		3	#3	20.94	8	#7	19.98	12	#13	19.57	25	#25	19.69	0-2
6		#0	19.61	15	#0	20.14	25	#0	19.89	50	#0	19.88	0-2	

		CH23173			CH23165			CH23155			CH23130			MPR
High	QPSK	1	#0	21.76	1	#0	21.96	1	#0	21.97	1	#0	21.89	0
		1	#2	21.66	1	#7	22.03	1	#12	21.83	1	#25	21.98	0
		1	#5	21.68	1	#14	21.93	1	#24	21.82	1	#49	21.90	0
		3	#0	21.98	8	#0	20.90	12	#0	20.88	25	#0	20.91	0-1
		3	#2	21.92	8	#4	21.01	12	#6	20.74	25	#12	20.91	0-1
		3	#3	21.90	8	#7	20.97	12	#13	20.87	25	#25	20.89	0-1
		6	#0	21.00	15	#0	20.93	25	#0	20.85	50	#0	20.90	0-1
	16QAM	1	#0	20.64	1	#0	21.38	1	#0	21.69	1	#0	21.73	0-1
		1	#2	20.69	1	#7	21.42	1	#12	21.73	1	#25	21.40	0-1
		1	#5	20.55	1	#14	21.29	1	#24	21.46	1	#49	21.34	0-1
		3	#0	20.68	8	#0	19.89	12	#0	19.83	25	#0	19.94	0-2
		3	#2	20.96	8	#4	19.76	12	#6	19.95	25	#12	19.84	0-2
		3	#3	20.92	8	#7	20.02	12	#13	19.76	25	#25	20.05	0-2
		6	#0	19.88	15	#0	20.03	25	#0	19.81	50	#0	19.94	0-2

LTE Band 13		5MHz			10MHz			MPR
Channel	Modulation	RB No.	RB Offset	Max Power	RB No.	RB Offset	Max Power	
		CH23205			CH23230			
Low	QPSK	1	#0	22.20	N/A			0
		1	#12	22.12				0
		1	#24	22.29				0
		12	#0	21.37				0-1
		12	#6	21.48				0-1
		12	#13	21.32				0-1
		25	#0	21.24				0-1
	16QAM	1	#0	21.05				0-1
		1	#12	21.20				0-1
		1	#24	21.56				0-1
		12	#0	20.35				0-2
		12	#6	20.49				0-2
		12	#13	20.51				0-2
		25	#0	20.49				0-2
Mid	QPSK	CH23230			CH23230			MPR
		1	#0	22.17	1	#0	22.10	0
		1	#12	22.05	1	#25	22.40	0
		1	#24	22.20	1	#49	22.36	0
		12	#0	21.27	25	#0	21.27	0-1
		12	#6	21.36	25	#12	21.09	0-1
		12	#13	21.34	25	#25	21.29	0-1
	25	#0	21.31	50	#0	21.18	0-1	
	16QAM	1	#0	22.04	1	#0	22.07	0-1
		1	#12	22.13	1	#25	22.26	0-1
		1	#24	21.87	1	#49	22.17	0-1
		12	#0	20.27	25	#0	20.13	0-2
		12	#6	20.42	25	#12	20.05	0-2
		12	#13	20.62	25	#25	20.34	0-2
25		#0	20.24	50	#0	20.11	0-2	

		CH23255			CH23230	MPR
High	QPSK	1	#0	22.21	N/A	0
		1	#12	22.42		0
		1	#24	22.32		0
		12	#0	21.31		0-1
		12	#6	21.13		0-1
		12	#13	21.34		0-1
		25	#0	21.23		0-1
	16QAM	1	#0	21.26		0-1
		1	#12	21.36		0-1
		1	#24	21.36		0-1
		12	#0	20.14		0-2
		12	#6	20.20		0-2
		12	#13	20.26		0-2
		25	#0	20.10		0-2

LTE Band 17		5MHz			10MHz			MPR
Channel	Modulation	RB No.	RB Offset	Max Power	RB No.	RB Offset	Max Power	
		CH23755			CH23780			
Low	QPSK	1	#0	21.44	1	#0	21.49	0
		1	#12	21.38	1	#25	21.35	0
		1	#24	21.08	1	#49	21.34	0
		12	#0	20.55	25	#0	20.55	0-1
		12	#6	20.66	25	#12	20.31	0-1
		12	#13	20.40	25	#25	20.43	0-1
		25	#0	20.56	50	#0	20.55	0-1
	16QAM	1	#0	20.80	1	#0	20.48	0-1
		1	#12	20.73	1	#25	20.63	0-1
		1	#24	20.76	1	#49	20.40	0-1
		12	#0	19.28	25	#0	19.44	0-2
		12	#6	19.23	25	#12	19.45	0-2
		12	#13	19.35	25	#25	19.32	0-2
		25	#0	19.57	50	#0	19.54	0-2
Mid	QPSK	CH23790			CH23790			MPR
		1	#0	21.76	1	#0	21.62	0
		1	#12	21.58	1	#25	21.62	0
		1	#24	21.72	1	#49	21.58	0
		12	#0	20.53	25	#0	20.53	0-1
		12	#6	20.63	25	#12	20.46	0-1
		12	#13	20.41	25	#25	20.46	0-1
	25	#0	20.40	50	#0	20.48	0-1	
	16QAM	1	#0	20.90	1	#0	21.13	0-1
		1	#12	20.79	1	#25	20.98	0-1
		1	#24	21.01	1	#49	21.19	0-1
		12	#0	19.37	25	#0	19.41	0-2
		12	#6	19.26	25	#12	19.29	0-2
		12	#13	19.34	25	#25	19.33	0-2
25		#0	19.46	50	#0	19.42	0-2	

		CH23825			CH23800			MPR
High	QPSK	1	#0	21.14	1	#0	21.48	0
		1	#12	21.09	1	#25	21.16	0
		1	#24	21.02	1	#49	21.15	0
		12	#0	20.51	25	#0	20.57	0-1
		12	#6	20.62	25	#12	20.72	0-1
		12	#13	20.48	25	#25	20.47	0-1
		25	#0	20.37	50	#0	20.38	0-1
	16QAM	1	#0	20.80	1	#0	20.68	0-1
		1	#12	20.82	1	#25	20.33	0-1
		1	#24	21.14	1	#49	20.28	0-1
		12	#0	19.26	25	#0	19.27	0-2
		12	#6	19.27	25	#12	19.32	0-2
		12	#13	19.06	25	#25	19.17	0-2
		25	#0	19.33	50	#0	19.32	0-2

LTE Band 25		1.4MHz			3MHz			5MHz			10MHz			15MHz			20MHz			MPR
Channel	Modulation	RB	RB	Max	RB	RB	Max	RB	RB	Max	RB	RB	Max	RB	RB	Max	RB	RB	Max	
		No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	
		CH26047			CH26055			CH26065			CH26090			CH26115			CH26140			
Low	QPSK	1	#0	20.91	1	#0	20.91	1	#0	21.06	1	#0	20.87	1	#0	20.76	1	#0	20.66	0
		1	#2	21.08	1	#7	20.98	1	#12	21.02	1	#25	20.79	1	#36	20.69	1	#49	20.58	0
		1	#5	21.03	1	#14	20.92	1	#24	20.76	1	#49	20.62	1	#74	20.81	1	#99	20.64	0
		3	#0	20.88	8	#0	19.95	12	#0	20.02	25	#0	20.00	36	#0	19.95	50	#0	19.92	0-1
		3	#2	21.10	8	#4	20.03	12	#6	20.11	25	#12	19.79	36	#18	20.11	50	#24	20.08	0-1
		3	#3	20.99	8	#7	19.91	12	#13	19.97	25	#25	19.90	36	#37	19.93	50	#49	19.85	0-1
	6	#0	20.02	15	#0	20.00	25	#0	19.96	50	#0	20.00	75	#0	19.94	100	#0	19.96	0-1	
	16QAM	1	#0	20.31	1	#0	20.55	1	#0	20.36	1	#0	20.79	1	#0	20.66	1	#0	20.24	0-1
		1	#2	20.22	1	#7	20.21	1	#12	20.04	1	#25	20.80	1	#36	20.13	1	#49	20.01	0-1
		1	#5	20.28	1	#14	20.23	1	#24	20.09	1	#49	20.91	1	#74	19.79	1	#99	20.03	0-1
		3	#0	19.86	8	#0	18.88	12	#0	18.96	25	#0	18.79	36	#0	18.97	50	#0	18.99	0-2
		3	#2	19.81	8	#4	19.07	12	#6	18.97	25	#12	18.85	36	#18	19.13	50	#24	19.09	0-2
3		#3	19.95	8	#7	19.01	12	#13	18.90	25	#25	18.75	36	#37	19.02	50	#49	18.80	0-2	
Mid	QPSK	CH26365			CH26365			CH26365			CH26365			CH26365			CH26365			MPR
		1	#0	21.31	1	#0	21.02	1	#0	21.06	1	#0	21.00	1	#0	20.85	1	#0	20.94	0
		1	#2	21.46	1	#7	21.11	1	#12	21.29	1	#25	20.92	1	#36	20.76	1	#49	21.18	0
		1	#5	21.31	1	#14	21.04	1	#24	21.21	1	#49	21.01	1	#74	20.95	1	#99	21.06	0
		3	#0	21.22	8	#0	20.20	12	#0	20.07	25	#0	20.17	36	#0	20.04	50	#0	20.08	0-1
		3	#2	21.25	8	#4	20.30	12	#6	20.02	25	#12	20.06	36	#18	20.00	50	#24	19.95	0-1
	6	#0	21.13	8	#7	20.10	12	#13	20.14	25	#25	20.19	36	#37	20.10	50	#49	20.05	0-1	
	16QAM	1	#0	20.33	15	#0	20.09	25	#0	20.02	50	#0	20.19	75	#0	20.11	100	#0	20.05	0-1
		1	#0	20.36	1	#0	20.41	1	#0	20.32	1	#0	20.56	1	#0	20.17	1	#0	20.03	0-1
		1	#2	20.10	1	#7	20.45	1	#12	20.17	1	#25	20.43	1	#36	20.34	1	#49	20.13	0-1
		1	#5	20.14	1	#14	20.64	1	#24	19.88	1	#49	20.65	1	#74	20.24	1	#99	20.26	0-1
		3	#0	20.22	8	#0	18.89	12	#0	19.00	25	#0	19.21	36	#0	19.30	50	#0	19.18	0-2
3		#2	20.10	8	#4	18.74	12	#6	19.28	25	#12	19.21	36	#18	19.43	50	#24	19.25	0-2	
3	#3	20.26	8	#7	18.80	12	#13	19.22	25	#25	19.26	36	#37	19.26	50	#49	19.27	0-2		
6	#0	19.27	15	#0	18.93	25	#0	18.96	50	#0	19.30	75	#0	19.08	100	#0	19.12	0-2		

		CH26683			CH26675			CH26665			CH26640			CH26615			CH26590			MPR
		1	#		1	#		1	#		1	#		1	#		1	#		
High	QPSK	1	#0	21.09	1	#0	21.11	1	#0	21.10	1	#0	20.95	1	#0	21.03	1	#0	20.95	0
		1	#2	21.11	1	#7	21.10	1	#12	20.99	1	#25	20.98	1	#36	21.10	1	#49	21.01	0
		1	#5	21.08	1	#14	21.14	1	#24	20.91	1	#49	20.94	1	#74	20.92	1	#99	21.22	0
		3	#0	21.18	8	#0	20.20	12	#0	20.20	25	#0	20.07	36	#0	20.16	50	#0	20.11	0-1
		3	#2	21.33	8	#4	20.39	12	#6	20.10	25	#12	19.90	36	#18	20.14	50	#24	19.97	0-1
		3	#3	21.14	8	#7	20.18	12	#13	20.16	25	#25	20.12	36	#37	20.15	50	#49	20.15	0-1
		6	#0	20.12	15	#0	20.12	25	#0	20.19	50	#0	20.18	75	#0	20.16	100	#0	20.11	0-1
	16QAM	1	#0	20.73	1	#0	20.94	1	#0	21.07	1	#0	19.97	1	#0	20.13	1	#0	20.26	0-1
		1	#2	20.76	1	#7	20.76	1	#12	20.86	1	#25	20.40	1	#36	20.12	1	#49	20.34	0-1
		1	#5	20.71	1	#14	20.45	1	#24	20.89	1	#49	21.08	1	#74	20.35	1	#99	20.74	0-1
		3	#0	19.97	8	#0	18.92	12	#0	19.17	25	#0	18.92	36	#0	19.25	50	#0	19.06	0-2
		3	#2	19.78	8	#4	18.91	12	#6	19.24	25	#12	18.95	36	#18	19.24	50	#24	18.95	0-2
		3	#3	19.83	8	#7	19.25	12	#13	19.03	25	#25	19.30	36	#37	19.23	50	#49	19.21	0-2
		6	#0	18.86	15	#0	19.04	25	#0	19.27	50	#0	19.22	75	#0	19.16	100	#0	19.12	0-2

FCC Part 90S (814MHz-824MHz)

LTE Band26		1.4MHz			3MHz			5MHz			10MHz			15MHz			MPR
Channel	Modulation	RB	RB	Max	RB	RB	Max	RB	RB	Max	RB	RB	Max	RB	RB	Max	
		No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	
		CH26697			CH26705			CH26715			N/A			N/A			
Low	QPSK	1	#0	21.99	1	#0	21.90	1	#0	22.03	N/A	N/A	N/A	N/A	N/A	N/A	0
		1	#2	22.02	1	#7	21.72	1	#12	21.86							0
		1	#5	21.89	1	#14	21.86	1	#24	21.80							0
		3	#0	22.19	8	#0	21.10	12	#0	21.10							0-1
		3	#2	22.39	8	#4	21.00	12	#6	21.21							0-1
		3	#3	22.39	8	#7	21.11	12	#13	21.07							0-1
		6	#0	21.09	15	#0	21.04	25	#0	21.11							0-1
	16QAM	1	#0	21.29	1	#0	21.87	1	#0	21.26							0-1
		1	#2	21.37	1	#7	21.81	1	#12	21.40							0-1
		1	#5	21.53	1	#14	21.84	1	#24	21.70							0-1
		3	#0	20.99	8	#0	20.11	12	#0	20.07							0-2
		3	#2	20.95	8	#4	20.19	12	#6	20.12							0-2
		3	#3	21.28	8	#7	20.44	12	#13	20.04							0-2
		6	#0	19.98	15	#0	20.24	25	#0	20.05							0-2

		CH26740			CH26740			CH26740			CH26740			CH26740			MPR
Mid	QPSK	1	#0	22.35	1	#0	22.17	1	#0	22.16	1	#0	22.05	1	#0	NA	0
		1	#2	22.57	1	#7	22.12	1	#12	22.31	1	#25	22.14	1	#36	NA	0
		1	#5	22.40	1	#14	22.12	1	#24	22.26	1	#49	22.12	1	#74	NA	0
		3	#0	22.20	8	#0	21.17	12	#0	21.04	25	#0	21.07	36	#0	NA	0-1
		3	#2	22.39	8	#4	21.18	12	#6	21.05	25	#12	21.11	36	#18	NA	0-1
		3	#3	22.24	8	#7	21.06	12	#13	20.98	25	#25	21.00	36	#37	NA	0-1
		6	#0	21.19	15	#0	21.07	25	#0	21.11	50	#0	21.13	75	#0	NA	0-1
	16QAM	1	#0	21.36	1	#0	21.29	1	#0	21.36	1	#0	21.70	1	#0	NA	0-1
		1	#2	21.19	1	#7	21.26	1	#12	21.31	1	#25	21.82	1	#36	NA	0-1
		1	#5	21.31	1	#14	21.46	1	#24	21.22	1	#49	21.75	1	#74	NA	0-1
		3	#0	21.30	8	#0	20.03	12	#0	19.89	25	#0	20.21	36	#0	NA	0-2
		3	#2	20.97	8	#4	19.86	12	#6	19.80	25	#12	19.96	36	#18	NA	0-2
		3	#3	20.95	8	#7	19.94	12	#13	19.83	25	#25	20.04	36	#37	NA	0-2
		6	#0	20.12	15	#0	20.00	25	#0	20.07	50	#0	20.04	75	#0	NA	0-2

		CH2678			CH26775			CH26765			N/A	N/A	MPR
		High	QPSK	1	#0	22.12	1	#0	22.09	1	#0	22.05	N/A
1	#2			22.32	1	#7	22.02	1	#12	21.83	0		
1	#5			22.17	1	#14	22.16	1	#24	21.92	0		
3	#0			22.30	8	#0	21.17	12	#0	21.09	0-1		
3	#2			22.42	8	#4	21.32	12	#6	20.92	0-1		
3	#3			22.24	8	#7	21.07	12	#13	21.06	0-1		
6	#0			21.23	15	#0	21.03	25	#0	21.05	0-1		
16QAM	1		#0	21.37	1	#0	21.48	1	#0	21.73	0-1		
	1		#2	21.50	1	#7	21.69	1	#12	21.83	0-1		
	1		#5	21.55	1	#14	21.63	1	#24	21.83	0-1		
	3		#0	21.00	8	#0	20.14	12	#0	20.08	0-2		
	3		#2	21.13	8	#4	20.18	12	#6	19.84	0-2		
	3		#3	20.87	8	#7	20.41	12	#13	19.75	0-2		
	6		#0	19.87	15	#0	20.13	25	#0	20.03	0-2		

FCC Part 22H (824MHz-849MHz)

LTE Band 26		1.4MHz			3MHz			5MHz			10MHz			15MHz			MPR
Channel	Modulation	RB	RB	Max	RB	RB	Max	RB	RB	Max	RB	RB	Max	RB	RB	Max	
		No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	
		CH26797			CH26805			CH26815			CH26840			CH26865			
Low	QPSK	1	#0	22.12	1	#0	22.04	1	#0	21.84	1	#0	21.97	1	#0	22.06	0
		1	#2	22.13	1	#7	22.12	1	#12	21.79	1	#25	22.16	1	#36	22.17	0
		1	#5	22.15	1	#14	22.21	1	#24	22.08	1	#49	22.49	1	#74	22.32	0
		3	#0	22.11	8	#0	21.21	12	#0	21.03	25	#0	21.04	36	#0	21.02	0-1
		3	#2	22.02	8	#4	21.03	12	#6	20.98	25	#12	21.06	36	#18	21.31	0-1
		3	#3	22.08	8	#7	21.15	12	#13	21.07	25	#25	21.13	36	#37	21.31	0-1
		6	#0	21.09	15	#0	21.12	25	#0	21.01	50	#0	21.02	75	#0	21.14	0-1
	16QAM	1	#0	21.70	1	#0	21.92	1	#0	21.29	1	#0	21.30	1	#0	21.78	0-1
		1	#2	21.83	1	#7	21.88	1	#12	21.34	1	#25	21.50	1	#36	21.71	0-1
		1	#5	21.72	1	#14	21.86	1	#24	21.54	1	#49	21.79	1	#74	21.94	0-1
		3	#0	21.02	8	#0	20.03	12	#0	20.06	25	#0	20.18	36	#0	20.39	0-2
		3	#2	21.15	8	#4	20.22	12	#6	19.97	25	#12	20.18	36	#18	20.23	0-2
		3	#3	21.05	8	#7	20.25	12	#13	20.14	25	#25	20.26	36	#37	20.39	0-2
		6	#0	19.91	15	#0	20.32	25	#0	20.15	50	#0	20.05	75	#0	20.20	0-2

		CH26915			CH26915			CH26915			CH26915			CH26915			MPR
Mid	QPSK	1	#0	22.37	1	#0	22.73	1	#0	22.40	1	#0	22.30	1	#0	22.20	0
		1	#2	22.25	1	#7	22.73	1	#12	22.50	1	#25	22.53	1	#36	22.52	0
		1	#5	22.48	1	#14	22.34	1	#24	22.52	1	#49	22.70	1	#74	22.66	0
		3	#0	22.43	8	#0	21.38	12	#0	21.41	25	#0	21.28	36	#0	21.24	0-1
		3	#2	22.38	8	#4	21.23	12	#6	21.19	25	#12	21.33	36	#18	21.26	0-1
		3	#3	22.32	8	#7	21.20	12	#13	21.32	25	#25	21.26	36	#37	21.35	0-1
		6	#0	21.20	15	#0	21.35	25	#0	21.41	50	#0	21.37	75	#0	21.44	0-1
	16QAM	1	#0	21.58	1	#0	21.74	1	#0	21.60	1	#0	21.35	1	#0	21.27	0-1
		1	#2	21.63	1	#7	21.50	1	#12	21.63	1	#25	21.41	1	#36	21.41	0-1
		1	#5	21.57	1	#14	21.56	1	#24	21.73	1	#49	21.63	1	#74	21.70	0-1
		3	#0	21.00	8	#0	20.26	12	#0	20.58	25	#0	20.43	36	#0	20.51	0-2
		3	#2	20.94	8	#4	20.54	12	#6	20.25	25	#12	20.31	36	#18	20.61	0-2
		3	#3	21.26	8	#7	20.49	12	#13	20.17	25	#25	20.23	36	#37	20.64	0-2
		6	#0	20.53	15	#0	20.28	25	#0	20.47	50	#0	20.49	75	#0	20.51	0-2

		CH27033			CH27025			CH27015			CH26990			CH26965			MPR
High	QPSK	1	#0	22.72	1	#0	22.68	1	#0	22.26	1	#0	22.34	1	#0	22.36	0
		1	#2	22.50	1	#7	22.61	1	#12	22.31	1	#25	22.38	1	#36	22.46	0
		1	#5	22.63	1	#14	22.60	1	#24	22.32	1	#49	22.70	1	#74	22.36	0
		3	#0	22.78	8	#0	21.78	12	#0	21.69	25	#0	21.64	36	#0	21.46	0-1
		3	#2	22.82	8	#4	21.54	12	#6	21.47	25	#12	21.77	36	#18	21.61	0-1
		3	#3	22.51	8	#7	21.54	12	#13	21.60	25	#25	21.70	36	#37	21.63	0-1
		6	#0	21.74	15	#0	21.66	25	#0	21.63	50	#0	21.53	75	#0	21.49	0-1
	16QAM	1	#0	22.19	1	#0	21.78	1	#0	21.70	1	#0	21.60	1	#0	22.12	0-1
		1	#2	22.39	1	#7	21.72	1	#12	21.73	1	#25	21.93	1	#36	22.34	0-1
		1	#5	22.21	1	#14	21.62	1	#24	21.55	1	#49	22.45	1	#74	22.60	0-1
		3	#0	21.91	8	#0	20.76	12	#0	20.70	25	#0	20.72	36	#0	20.55	0-2
		3	#2	21.70	8	#4	20.57	12	#6	20.70	25	#12	20.71	36	#18	20.77	0-2
		3	#3	21.77	8	#7	20.37	12	#13	20.53	25	#25	20.69	36	#37	20.80	0-2
		6	#0	20.80	15	#0	20.60	25	#0	20.72	50	#0	20.61	75	#0	20.60	0-2

LTE Band 66		1.4MHz			3MHz			5MHz			10MHz			15MHz			20MHz			MPR
Channel	Modulation	RB	RB	Max	RB	RB	Max	RB	RB	Max	RB	RB	Max	RB	RB	Max	RB	RB	Max	
		No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	No.	Offset	Power	
		CH131979			CH131987			CH131997			CH132022			CH132047			CH132072			
Low	QPSK	1	#0	22.00	1	#0	22.08	1	#0	21.97	1	#0	21.87	1	#0	22.08	1	#0	22.29	0
		1	#2	22.15	1	#7	21.98	1	#12	22.16	1	#25	22.02	1	#36	22.23	1	#49	22.27	0
		1	#5	22.03	1	#14	22.25	1	#24	22.04	1	#49	21.98	1	#74	22.15	1	#99	22.07	0
		3	#0	22.27	8	#0	21.29	12	#0	21.14	25	#0	21.17	36	#0	21.27	50	#0	21.25	0-1
		3	#2	22.26	8	#4	21.21	12	#6	21.26	25	#12	21.08	36	#18	21.42	50	#24	21.38	0-1
		3	#3	22.20	8	#7	21.28	12	#13	21.28	25	#25	21.12	36	#37	21.18	50	#49	21.21	0-1
		6	#0	21.33	15	#0	21.15	25	#0	21.18	50	#0	21.13	75	#0	21.27	100	#0	21.29	0-1
	16QAM	1	#0	21.39	1	#0	21.31	1	#0	21.76	1	#0	21.38	1	#0	21.66	1	#0	22.08	0-1
		1	#2	21.73	1	#7	21.37	1	#12	21.68	1	#25	21.17	1	#36	21.74	1	#49	22.16	0-1
		1	#5	21.78	1	#14	21.23	1	#24	21.90	1	#49	21.35	1	#74	21.77	1	#99	22.00	0-1
		3	#0	21.12	8	#0	20.00	12	#0	20.17	25	#0	20.27	36	#0	20.32	50	#0	20.22	0-2
		3	#2	21.26	8	#4	20.12	12	#6	19.90	25	#12	20.33	36	#18	20.04	50	#24	20.08	0-2
		3	#3	21.21	8	#7	19.90	12	#13	20.03	25	#25	20.12	36	#37	20.05	50	#49	20.31	0-2
		6	#0	20.41	15	#0	20.14	25	#0	20.11	50	#0	20.14	75	#0	20.35	100	#0	20.39	0-2

		CH132322			CH132322			CH132322			CH132322			CH132322			CH132322			MPR
Mid	QPSK	1	#0	22.25	1	#0	22.20	1	#0	22.12	1	#0	22.23	1	#0	22.15	1	#0	22.26	0
		1	#2	22.26	1	#7	22.24	1	#12	22.01	1	#25	22.30	1	#36	22.20	1	#49	22.21	0
		1	#5	22.24	1	#14	22.21	1	#24	22.12	1	#49	22.21	1	#74	22.14	1	#99	22.24	0
		3	#0	22.20	8	#0	21.35	12	#0	21.29	25	#0	21.35	36	#0	21.42	50	#0	21.41	0-1
		3	#2	22.28	8	#4	21.27	12	#6	21.05	25	#12	21.29	36	#18	21.33	50	#24	21.56	0-1
		3	#3	22.24	8	#7	21.27	12	#13	21.19	25	#25	21.31	36	#37	21.30	50	#49	21.33	0-1
		6	#0	21.31	15	#0	21.29	25	#0	21.36	50	#0	21.34	75	#0	21.37	100	#0	21.46	0-1
	16QAM	1	#0	21.38	1	#0	21.78	1	#0	21.64	1	#0	21.76	1	#0	21.81	1	#0	21.46	0-1
		1	#2	21.36	1	#7	21.86	1	#12	21.58	1	#25	21.55	1	#36	21.90	1	#49	21.52	0-1
		1	#5	21.31	1	#14	22.18	1	#24	21.59	1	#49	21.58	1	#74	21.74	1	#99	21.57	0-1
		3	#0	21.21	8	#0	20.34	12	#0	20.38	25	#0	20.39	36	#0	20.41	50	#0	20.65	0-2
		3	#2	21.32	8	#4	20.45	12	#6	20.35	25	#12	20.43	36	#18	20.35	50	#24	20.65	0-2
		3	#3	21.13	8	#7	20.37	12	#13	20.37	25	#25	20.37	36	#37	20.30	50	#49	20.46	0-2
6		#0	20.16	15	#0	20.24	25	#0	20.34	50	#0	20.55	75	#0	20.46	100	#0	20.46	0-2	

		CH132665			CH132657			CH132647			CH132622			CH132597			CH132572			MPR
High	QPSK	1	#0	22.14	1	#0	22.27	1	#0	22.06	1	#0	21.90	1	#0	22.03	1	#0	22.13	0
		1	#2	21.92	1	#7	22.19	1	#12	21.73	1	#25	22.11	1	#36	21.95	1	#49	21.99	0
		1	#5	22.10	1	#14	22.11	1	#24	21.80	1	#49	21.99	1	#74	22.13	1	#99	21.94	0
		3	#0	22.13	8	#0	21.30	12	#0	21.31	25	#0	21.22	36	#0	21.28	50	#0	21.24	0-1
		3	#2	22.01	8	#4	21.39	12	#6	21.37	25	#12	21.12	36	#18	21.32	50	#24	21.41	0-1
		3	#3	22.05	8	#7	21.16	12	#13	21.15	25	#25	21.17	36	#37	21.23	50	#49	21.22	0-1
		6	#0	21.22	15	#0	21.20	25	#0	21.25	50	#0	21.17	75	#0	21.28	100	#0	21.20	0-1
	16QAM	1	#0	21.69	1	#0	21.47	1	#0	21.45	1	#0	21.59	1	#0	21.30	1	#0	21.46	0-1
		1	#2	21.74	1	#7	21.62	1	#12	21.68	1	#25	21.75	1	#36	21.44	1	#49	21.72	0-1
		1	#5	21.69	1	#14	21.85	1	#24	21.71	1	#49	22.00	1	#74	21.82	1	#99	21.72	0-1
		3	#0	21.39	8	#0	20.34	12	#0	20.26	25	#0	20.23	36	#0	20.47	50	#0	20.32	0-2
		3	#2	21.12	8	#4	20.27	12	#6	20.22	25	#12	20.08	36	#18	20.53	50	#24	20.40	0-2
		3	#3	21.01	8	#7	20.49	12	#13	20.13	25	#25	20.11	36	#37	20.47	50	#49	20.31	0-2
6		#0	19.80	15	#0	20.16	25	#0	20.37	50	#0	20.18	75	#0	20.40	100	#0	20.26	0-2	

EIRP

LTE Band	BW	Modulation	Conducted Peak Power (dBm)	Conducted Peak Power (W)	Antenna Gain (dBi)	Maximum EIRP (W)	EIRP Limit (W)
LTE Band2	1.4M	QPSK	20.85	0.122	2.92	0.238	2
		16QAM	20.52	0.113	2.92	0.221	2
	3M	QPSK	20.83	0.121	2.92	0.237	2
		16QAM	20.70	0.117	2.92	0.230	2
	5M	QPSK	20.85	0.122	2.92	0.238	2
		16QAM	20.54	0.113	2.92	0.222	2
	10M	QPSK	20.84	0.121	2.92	0.238	2
		16QAM	20.64	0.116	2.92	0.227	2
	15M	QPSK	20.74	0.119	2.92	0.232	2
		16QAM	20.62	0.115	2.92	0.226	2
	20M	QPSK	20.73	0.118	2.92	0.232	2
		16QAM	20.71	0.118	2.92	0.231	2

LTE Band	BW	Modulation	Conducted Peak Power (dBm)	Conducted Peak Power (W)	Antenna Gain (dBi)	Maximum EIRP (W)	EIRP Limit (W)
LTE Band4	1.4M	QPSK	21.69	0.148	2.92	0.289	1
		16QAM	20.72	0.118	2.92	0.231	1
	3M	QPSK	21.68	0.147	2.92	0.288	1
		16QAM	21.29	0.135	2.92	0.264	1
	5M	QPSK	21.69	0.148	2.92	0.289	1
		16QAM	21.23	0.133	2.92	0.260	1
	10M	QPSK	21.69	0.148	2.92	0.289	1
		16QAM	21.59	0.144	2.92	0.283	1
	15M	QPSK	21.67	0.147	2.92	0.288	1
		16QAM	21.64	0.146	2.92	0.286	1
	20M	QPSK	21.69	0.148	2.92	0.289	1
		16QAM	21.65	0.146	2.92	0.286	1

LTE Band	BW	Modulation	Conducted Peak Power (dBm)	Conducted Peak Power (W)	Antenna Gain (dBi)	Maximum ERP (W)	ERP Limit (W)
LTE Band5	1.4M	QPSK	22.69	0.186	-0.58	0.099	7
		16QAM	21.79	0.151	-0.58	0.081	7
	3M	QPSK	22.59	0.182	-0.58	0.097	7
		16QAM	22.20	0.166	-0.58	0.089	7
	5M	QPSK	22.40	0.174	-0.58	0.093	7
		16QAM	22.27	0.168	-0.58	0.090	7
	10M	QPSK	22.61	0.182	-0.58	0.097	7
		16QAM	22.02	0.159	-0.58	0.085	7

Note: ERP = Conducted Power + Antenna Gain – 2.15.

LTE Band	BW	Modulation	Conducted Peak Power (dBm)	Conducted Peak Power (W)	Antenna Gain (dBi)	Maximum EIRP (W)	EIRP Limit (W)
LTE Band7	5M	QPSK	20.85	0.122	2.92	0.238	2
		16QAM	20.58	0.114	2.92	0.224	2
	10M	QPSK	20.83	0.121	2.92	0.237	2
		16QAM	20.49	0.112	2.92	0.219	2
	15M	QPSK	20.85	0.122	2.92	0.238	2
		16QAM	20.68	0.117	2.92	0.229	2
	20M	QPSK	20.85	0.122	2.92	0.238	2
		16QAM	20.84	0.121	2.92	0.238	2

LTE Band	BW	Modulation	Conducted Peak Power (dBm)	Conducted Peak Power (W)	Antenna Gain (dBi)	Maximum ERP (W)	ERP Limit (W)
LTE Band12	1.4M	QPSK	22.11	0.163	0	0.099	3
		16QAM	21.39	0.138	0	0.084	3
	3M	QPSK	22.18	0.165	0	0.101	3
		16QAM	21.45	0.140	0	0.085	3
	5M	QPSK	22.10	0.162	0	0.099	3
		16QAM	21.73	0.149	0	0.091	3
	10M	QPSK	22.09	0.162	0	0.099	3
		16QAM	21.75	0.150	0	0.091	3

Note: ERP = Conducted Power + Antenna Gain – 2.15.

LTE Band	BW	Modulation	Conducted Peak Power (dBm)	Conducted Peak Power (W)	Antenna Gain (dBi)	Maximum ERP (W)	ERP Limit (W)
LTE Band13	5M	QPSK	22.42	0.174	0	0.106	3
		16QAM	22.13	0.163	0	0.100	3
	10M	QPSK	22.40	0.174	0	0.106	3
		16QAM	22.26	0.168	0	0.102	3

Note: ERP = Conducted Power + Antenna Gain – 2.15.

LTE Band	BW	Modulation	Conducted Peak Power (dBm)	Conducted Peak Power (W)	Antenna Gain (dBi)	Maximum ERP (W)	ERP Limit (W)
LTE Band17	5M	QPSK	21.76	0.150	0	0.091	3
		16QAM	21.14	0.130	0	0.079	3
	10M	QPSK	21.62	0.145	0	0.089	3
		16QAM	21.19	0.132	0	0.080	3

Note: ERP = Conducted Power + Antenna Gain – 2.15.

LTE Band	BW	Modulation	Conducted Peak Power (dBm)	Conducted Peak Power (W)	Antenna Gain (dBi)	Maximum EIRP (W)	EIRP Limit (W)
LTE Band25	1.4M	QPSK	21.46	0.140	2.92	0.274	2
		16QAM	20.76	0.119	2.92	0.233	2
	3M	QPSK	21.14	0.130	2.92	0.255	2
		16QAM	20.94	0.124	2.92	0.243	2
	5M	QPSK	21.29	0.135	2.92	0.264	2
		16QAM	21.07	0.128	2.92	0.251	2
	10M	QPSK	21.01	0.126	2.92	0.247	2
		16QAM	21.08	0.128	2.92	0.251	2
	15M	QPSK	21.10	0.129	2.92	0.252	2
		16QAM	20.66	0.116	2.92	0.228	2
	20M	QPSK	21.22	0.132	2.92	0.259	2
		16QAM	20.74	0.119	2.92	0.232	2

LTE Band	BW	Modulation	Conducted Peak Power (dBm)	Conducted Peak Power (W)	Antenna Gain (dBi)	Maximum ERP (W)	ERP Limit (W)
LTE Band26 (Part90)	1.4M	QPSK	22.57	0.181	-0.58	0.096	7
		16QAM	21.55	0.143	-0.58	0.076	7
	3M	QPSK	22.17	0.165	-0.58	0.088	7
		16QAM	21.87	0.154	-0.58	0.082	7
	5M	QPSK	22.31	0.170	-0.58	0.091	7
		16QAM	21.83	0.153	-0.58	0.081	7
	10M	QPSK	22.14	0.164	-0.58	0.087	7
		16QAM	21.82	0.152	-0.58	0.081	7
	15M	QPSK	0.00	0.001	-0.58	0.001	7
		16QAM	0.00	0.001	-0.58	0.001	7

Note: ERP = Conducted Power + Antenna Gain – 2.15.

LTE Band	BW	Modulation	Conducted Peak Power (dBm)	Conducted Peak Power (W)	Antenna Gain (dBi)	Maximum ERP (W)	ERP Limit (W)
LTE Band26 (Part22)	1.4M	QPSK	22.82	0.191	-0.58	0.102	7
		16QAM	22.39	0.173	-0.58	0.093	7
	3M	QPSK	22.73	0.188	-0.58	0.100	7
		16QAM	21.92	0.156	-0.58	0.083	7
	5M	QPSK	22.52	0.179	-0.58	0.095	7
		16QAM	21.73	0.149	-0.58	0.080	7
	10M	QPSK	22.70	0.186	-0.58	0.099	7
		16QAM	22.45	0.176	-0.58	0.094	7
	15M	QPSK	22.66	0.185	-0.58	0.098	7
		16QAM	22.60	0.182	-0.58	0.097	7

Note: ERP = Conducted Power + Antenna Gain – 2.15.

LTE Band	BW	Modulation	Conducted Peak Power (dBm)	Conducted Peak Power (W)	Antenna Gain (dBi)	Maximum EIRP (W)	EIRP Limit (W)
LTE Band66	1.4M	QPSK	22.28	0.169	2.92	0.331	1
		16QAM	21.78	0.151	2.92	0.295	1
	3M	QPSK	22.27	0.169	2.92	0.330	1
		16QAM	22.18	0.165	2.92	0.324	1
	5M	QPSK	22.16	0.165	2.92	0.322	1
		16QAM	21.90	0.155	2.92	0.303	1
	10M	QPSK	22.30	0.170	2.92	0.333	1
		16QAM	22.00	0.158	2.92	0.310	1
	15M	QPSK	22.23	0.167	2.92	0.327	1
		16QAM	21.90	0.155	2.92	0.303	1
20M	QPSK	22.29	0.169	2.92	0.332	1	
	16QAM	22.16	0.164	2.92	0.322	1	

Radiated Spurious Emission

LTE Band2							
Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP Measure (dBm)	Limit (dBm)	Margin (dB)
Low, QPSK, CH18700 / 1860MHz, Bandwidth 20MHz							
3720.00	H	-45.13	1.36	7.95	-38.54	-13.00	-25.54
5580.00	H	-46.54	1.79	10.10	-38.23	-13.00	-25.23
7440.00	H	-57.36	1.72	11.72	-47.36	-13.00	-34.36
3720.00	V	-45.40	1.36	7.95	-38.81	-13.00	-25.81
5580.00	V	-47.84	1.79	10.10	-39.53	-13.00	-26.53
7440.00	V	-56.65	1.72	11.72	-46.65	-13.00	-33.65
Mid, QPSK, CH18900 / 1880MHz, Bandwidth 20MHz							
3760.00	H	-46.33	1.36	7.95	-39.74	-13.00	-26.74
5640.00	H	-55.49	1.79	10.10	-47.18	-13.00	-34.18
7520.00	H	-57.35	1.72	11.72	-47.35	-13.00	-34.35
3760.00	V	-48.36	1.36	7.95	-41.77	-13.00	-28.77
5640.00	V	-54.11	1.79	10.10	-45.80	-13.00	-32.80
7520.00	V	-57.89	1.72	11.72	-47.89	-13.00	-34.89
Hight, QPSK, CH19100 / 1900MHz, Bandwidth 20MHz							
3800.00	H	-46.63	1.36	7.95	-40.04	-13.00	-27.04
5700.00	H	-54.09	1.79	10.10	-45.78	-13.00	-32.78
7600.00	H	-57.78	1.72	11.72	-47.78	-13.00	-34.78
3800.00	V	-47.10	1.36	7.95	-40.51	-13.00	-27.51
5700.00	V	-51.08	1.79	10.10	-42.77	-13.00	-29.77
7600.00	V	-56.95	1.72	11.72	-46.95	-13.00	-33.95

Note:

- Spurious emissions within 30-1000MHz & Other harmonic were found more than 20dB below limit line.
- $EIRP \text{ or } ERP \text{ (dBm)} = SG \text{ Reading (dBm)} - Cable \text{ Loss (dB)} + Substitute \text{ Antenna Gain (dBi)}$

LTE Band4							
Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP Measure (dBm)	Limit (dBm)	Margin (dB)
Low, QPSK, CH20050 / 1720MHz, Bandwidth 20MHz							
3440.00	H	-47.07	1.33	7.65	-40.75	-13.00	-27.75
5160.00	H	-45.29	1.68	9.88	-37.09	-13.00	-24.09
6880.00	H	-54.94	1.81	11.15	-45.60	-13.00	-32.60
3440.00	V	-42.99	1.33	7.65	-36.67	-13.00	-23.67
5160.00	V	-49.61	1.68	9.88	-41.41	-13.00	-28.41
6880.00	V	-53.26	1.81	11.15	-43.92	-13.00	-30.92
Mid, QPSK, CH20175 / 1732.5MHz, Bandwidth 20MHz							
3465.00	H	-51.36	1.33	7.65	-45.04	-13.00	-32.04
5197.50	H	-44.49	1.68	9.88	-36.29	-13.00	-23.29
6930.00	H	-56.08	1.81	11.15	-46.74	-13.00	-33.74
3465.00	V	-48.25	1.33	7.65	-41.93	-13.00	-28.93
5197.50	V	-49.05	1.68	9.88	-40.85	-13.00	-27.85
6930.00	V	-52.44	1.81	11.15	-43.10	-13.00	-30.10
Hight, QPSK, CH20300 / 1745MHz, Bandwidth 20MHz							
3490.00	H	-48.96	1.33	7.65	-42.64	-13.00	-29.64
5235.00	H	-50.81	1.68	9.88	-42.61	-13.00	-29.61
6980.00	H	-56.19	1.81	11.15	-46.85	-13.00	-33.85
3490.00	V	-46.27	1.33	7.65	-39.95	-13.00	-26.95
5235.00	V	-51.63	1.68	9.88	-43.43	-13.00	-30.43
6980.00	V	-56.37	1.81	11.15	-47.03	-13.00	-34.03

Note:

- Spurious emissions within 30-1000MHz & Other harmonic were found more than 20dB below limit line.
- $EIRP \text{ or ERP (dBm)} = SG \text{ Reading (dBm)} - Cable \text{ Loss (dB)} + Substitute \text{ Antenna Gain (dBi)}$

LTE Band5							
Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP Measure (dBm)	Limit (dBm)	Margin (dB)
Low, QPSK, CH20450 / 829MHz, Bandwidth 10MHz							
1658.00	H	-44.98	1.05	5.02	-41.01	-13.00	-28.01
2487.00	H	-47.25	1.14	5.64	-42.75	-13.00	-29.75
3316.00	H	-60.07	1.32	7.12	-54.27	-13.00	-41.27
1658.00	V	-49.52	1.05	5.02	-45.55	-13.00	-32.55
2487.00	V	-48.41	1.14	5.64	-43.91	-13.00	-30.91
3316.00	V	-61.75	1.32	7.12	-55.95	-13.00	-42.95
Mid, QPSK, CH20525 / 836.5MHz, Bandwidth 10MHz							
1673.00	H	-44.52	1.05	5.02	-40.55	-13.00	-27.55
2509.50	H	-47.68	1.14	5.64	-43.18	-13.00	-30.18
3346.00	H	-60.25	1.32	7.12	-54.45	-13.00	-41.45
1673.00	V	-50.61	1.05	5.02	-46.64	-13.00	-33.64
2509.50	V	-44.79	1.14	5.64	-40.29	-13.00	-27.29
3346.00	V	-62.52	1.32	7.12	-56.72	-13.00	-43.72
Hight, QPSK, CH20600 / 844MHz, Bandwidth 10MHz							
1688.00	H	-48.82	1.05	5.02	-44.85	-13.00	-31.85
2532.00	H	-42.64	1.14	5.64	-38.14	-13.00	-25.14
3376.00	H	-59.06	1.32	7.12	-53.26	-13.00	-40.26
1688.00	V	-50.54	1.05	5.02	-46.57	-13.00	-33.57
2532.00	V	-47.13	1.14	5.64	-42.63	-13.00	-29.63
3376.00	V	-61.64	1.32	7.12	-55.84	-13.00	-42.84

Note:

- Spurious emissions within 30-1000MHz & Other harmonic were found more than 20dB below limit line.
- $EIRP \text{ or } ERP \text{ (dBm)} = SG \text{ Reading (dBm)} - Cable \text{ Loss (dB)} + Substitute \text{ Antenna Gain (dBi)}$

LTE Band7							
Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP Measure (dBm)	Limit (dBm)	Margin (dB)
Low, CH20850 / 2510MHz, Bandwidth 20MHz							
5020.00	H	-60.25	1.52	9.83	-51.94	-13.00	-38.94
7530.00	H	-54.91	1.78	11.79	-44.90	-13.00	-31.90
10040.00	H	-50.82	2.36	12.40	-40.78	-13.00	-27.78
5020.00	V	-56.19	1.52	9.83	-47.88	-13.00	-34.88
7530.00	V	-50.40	1.78	11.79	-40.39	-13.00	-27.39
10040.00	V	-42.38	2.36	12.40	-32.34	-13.00	-19.34
Mid, QPSK, CH21100 / 2535MHz, Bandwidth 20MHz							
5070.00	H	-58.94	1.52	9.83	-50.63	-13.00	-37.63
7605.00	H	-52.94	1.78	11.79	-42.93	-13.00	-29.93
10140.00	H	-49.48	2.36	12.40	-39.44	-13.00	-26.44
5070.00	V	-56.83	1.52	9.83	-48.52	-13.00	-35.52
7605.00	V	-54.13	1.78	11.79	-44.12	-13.00	-31.12
10140.00	V	-42.08	2.36	12.40	-32.04	-13.00	-19.04
Hight, QPSK, CH21350 / 2560MHz, Bandwidth 20MHz							
5120.00	H	-57.81	1.52	9.83	-49.50	-13.00	-36.50
7680.00	H	-49.33	1.78	11.79	-39.32	-13.00	-26.32
10240.00	H	-49.44	2.36	12.40	-39.40	-13.00	-26.40
5120.00	V	-56.96	1.52	9.83	-48.65	-13.00	-35.65
7680.00	V	-52.05	1.78	11.79	-42.04	-13.00	-29.04
10240.00	V	-42.03	2.36	12.40	-31.99	-13.00	-18.99

Note:

- Spurious emissions within 30-1000MHz & Other harmonic were found more than 20dB below limit line.
- $EIRP \text{ or } ERP \text{ (dBm)} = SG \text{ Reading (dBm)} - Cable \text{ Loss (dB)} + Substitute \text{ Antenna Gain (dBi)}$

LTE Band12							
Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP Measure (dBm)	Limit (dBm)	Margin (dB)
Low, QPSK, CH23060 / 704MHz, Bandwidth 10MHz							
1408.00	H	-54.95	1.02	4.75	-51.22	-13.00	-38.22
2112.00	H	-38.70	1.16	4.74	-35.12	-13.00	-22.12
2816.00	H	-58.15	1.27	6.44	-52.98	-13.00	-39.98
1408.00	V	-60.58	1.02	4.75	-56.85	-13.00	-43.85
2112.00	V	-45.33	1.16	4.74	-41.75	-13.00	-28.75
2816.00	V	-60.81	1.27	6.44	-55.64	-13.00	-42.64
Mid, QPSK, CH23095 / 707.5MHz, Bandwidth 10MHz							
1415.00	H	-49.04	1.02	4.75	-45.31	-13.00	-32.31
2122.50	H	-35.77	1.16	4.74	-32.19	-13.00	-19.19
2830.00	H	-54.45	1.27	6.44	-49.28	-13.00	-36.28
1415.00	V	-59.08	1.02	4.75	-55.35	-13.00	-42.35
2122.50	V	-42.39	1.16	4.74	-38.81	-13.00	-25.81
2830.00	V	-58.87	1.27	6.44	-53.70	-13.00	-40.70
Hight, QPSK, CH23130 / 711MHz, Bandwidth 10MHz							
1422.00	H	-55.11	1.02	4.75	-51.38	-13.00	-38.38
2133.00	H	-44.93	1.16	4.74	-41.35	-13.00	-28.35
2844.00	H	-53.61	1.27	6.44	-48.44	-13.00	-35.44
1422.00	V	-56.83	1.02	4.75	-53.10	-13.00	-40.10
2133.00	V	-47.11	1.16	4.74	-43.53	-13.00	-30.53
2844.00	V	-56.92	1.27	6.44	-51.75	-13.00	-38.75

Note:

- Spurious emissions within 30-1000MHz & Other harmonic were found more than 20dB below limit line.
- $EIRP \text{ or } ERP \text{ (dBm)} = SG \text{ Reading (dBm)} - Cable \text{ Loss (dB)} + Substitute \text{ Antenna Gain (dBi)}$

LTE Band13							
Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP Measure (dBm)	Limit (dBm)	Margin (dB)
Low, CH 23205 / 779.5MHz, Bandwidth 5MHz							
1559.00	H	-53.60	1.03	5.41	-49.22	-40.00	-9.22
2338.50	H	-39.76	1.14	5.29	-35.61	-13.00	-22.61
3118.00	H	-57.36	1.26	6.70	-51.92	-13.00	-38.92
1559.00	V	-62.96	1.03	5.41	-58.58	-40.00	-18.58
2338.50	V	-50.95	1.14	5.29	-46.80	-13.00	-33.80
3118.00	V	-61.99	1.26	6.70	-56.55	-13.00	-43.55
Mid, QPSK, CH23230 / 782MHz, Bandwidth 5MHz							
1564.00	H	-60.44	1.03	5.41	-56.06	-40.00	-16.06
2346.00	H	-45.35	1.14	5.29	-41.20	-13.00	-28.20
3128.00	H	-59.47	1.26	6.70	-54.03	-13.00	-41.03
1564.00	V	-62.88	1.03	5.41	-58.50	-40.00	-18.50
2346.00	V	-48.72	1.14	5.29	-44.57	-13.00	-31.57
3128.00	V	-61.29	1.26	6.70	-55.85	-13.00	-42.85
Hight, QPSK, CH 23255 / 784.5MHz, Bandwidth 5MHz							
1569.00	H	-60.67	1.03	5.41	-56.29	-40.00	-16.29
2353.50	H	-45.54	1.14	5.29	-41.39	-13.00	-28.39
3138.00	H	-59.26	1.26	6.70	-53.82	-13.00	-40.82
1569.00	V	-61.56	1.03	5.41	-57.18	-40.00	-17.18
2353.50	V	-45.30	1.14	5.29	-41.15	-13.00	-28.15
3138.00	V	-61.20	1.26	6.70	-55.76	-13.00	-42.76

Note:

- Spurious emissions within 30-1000MHz & Other harmonic were found more than 20dB below limit line.
- $EIRP \text{ or ERP (dBm)} = SG \text{ Reading (dBm)} - Cable \text{ Loss (dB)} + Substitute \text{ Antenna Gain (dBi)}$

LTE Band17							
Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP Measure (dBm)	Limit (dBm)	Margin (dB)
Low, QPSK, CH23780 / 709MHz, Bandwidth 10MHz							
1418.00	H	-51.18	1.01	4.91	-47.28	-13.00	-34.28
2127.00	H	-37.42	1.16	4.79	-33.79	-13.00	-20.79
2836.00	H	-53.64	1.27	6.47	-48.44	-13.00	-35.44
1418.00	V	-58.83	1.01	4.91	-54.93	-13.00	-41.93
2127.00	V	-45.56	1.16	4.79	-41.93	-13.00	-28.93
2836.00	V	-59.96	1.27	6.47	-54.76	-13.00	-41.76
Mid, QPSK, CH23790 / 710MHz, Bandwidth 10MHz							
1420.00	H	-52.51	1.01	4.91	-48.61	-13.00	-35.61
2130.00	H	-43.47	1.16	4.79	-39.84	-13.00	-26.84
2840.00	H	-53.28	1.27	6.47	-48.08	-13.00	-35.08
1420.00	V	-60.35	1.01	4.91	-56.45	-13.00	-43.45
2130.00	V	-44.77	1.16	4.79	-41.14	-13.00	-28.14
2840.00	V	-60.57	1.27	6.47	-55.37	-13.00	-42.37
Hight, QPSK, CH23800 / 711MHz, Bandwidth 10MHz							
1422.00	H	-52.99	1.01	4.91	-49.09	-13.00	-36.09
2133.00	H	-42.64	1.16	4.79	-39.01	-13.00	-26.01
2844.00	H	-53.69	1.27	6.47	-48.49	-13.00	-35.49
1422.00	V	-51.34	1.01	4.91	-47.44	-13.00	-34.44
2133.00	V	-48.73	1.16	4.79	-45.10	-13.00	-32.10
2844.00	V	-57.94	1.27	6.47	-52.74	-13.00	-39.74

Note:

- Spurious emissions within 30-1000MHz & Other harmonic were found more than 20dB below limit line.
- $EIRP \text{ or } ERP \text{ (dBm)} = SG \text{ Reading (dBm)} - Cable \text{ Loss (dB)} + Substitute \text{ Antenna Gain (dBi)}$

LTE Band25							
Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP Measure (dBm)	Limit (dBm)	Margin (dB)
Low, QPSK, CH26140 / 1860MHz, Bandwidth 20MHz							
3720.00	H	-45.50	1.36	7.95	-38.91	-13.00	-25.91
5580.00	H	-49.15	1.79	10.10	-40.84	-13.00	-27.84
7440.00	H	-57.79	1.72	11.72	-47.79	-13.00	-34.79
3720.00	V	-45.64	1.36	7.95	-39.05	-13.00	-26.05
5580.00	V	-48.22	1.79	10.10	-39.91	-13.00	-26.91
7440.00	V	-56.67	1.72	11.72	-46.67	-13.00	-33.67
Mid, QPSK, CH26365 / 1882.5MHz, Bandwidth 20MHz							
3765.00	H	-47.08	1.36	7.95	-40.49	-13.00	-27.49
5647.50	H	-53.35	1.79	10.10	-45.04	-13.00	-32.04
7530.00	H	-56.24	1.72	11.72	-46.24	-13.00	-33.24
3765.00	V	-48.43	1.36	7.95	-41.84	-13.00	-28.84
5647.50	V	-53.83	1.79	10.10	-45.52	-13.00	-32.52
7530.00	V	-57.78	1.72	11.72	-47.78	-13.00	-34.78
Hight, QPSK, CH26590 / 1905MHz, Bandwidth 20MHz							
3810.00	H	-46.42	1.36	7.95	-39.83	-13.00	-26.83
5715.00	H	-52.96	1.79	10.10	-44.65	-13.00	-31.65
7620.00	H	-57.47	1.72	11.72	-47.47	-13.00	-34.47
3810.00	V	-49.95	1.36	7.95	-43.36	-13.00	-30.36
5715.00	V	-52.61	1.79	10.10	-44.30	-13.00	-31.30
7620.00	V	-56.35	1.72	11.72	-46.35	-13.00	-33.35

Note:

- Spurious emissions within 30-1000MHz & Other harmonic were found more than 20dB below limit line.
- $EIRP \text{ or } ERP \text{ (dBm)} = SG \text{ Reading (dBm)} - Cable \text{ Loss (dB)} + Substitute \text{ Antenna Gain (dBi)}$

LTE Band26 (FCC Part 90S (814MHz-824MHz))							
Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP Measure (dBm)	Limit (dBm)	Margin (dB)
Low, QPSK, CH26715 / 816.5MHz, Bandwidth 10MHz							
1633.00	H	-46.70	1.05	5.02	-42.73	-13.00	-29.73
2449.50	H	-42.36	1.14	5.64	-37.86	-13.00	-24.86
3266.00	H	-59.79	1.32	7.12	-53.99	-13.00	-40.99
1633.00	V	-50.64	1.05	5.02	-46.67	-13.00	-33.67
2449.50	V	-46.91	1.14	5.64	-42.41	-13.00	-29.41
3266.00	V	-63.11	1.32	7.12	-57.31	-13.00	-44.31
Mid, QPSK, CH26740 / 819MHz, Bandwidth 10MHz							
1638.00	H	-49.35	1.05	5.02	-45.38	-13.00	-32.38
2457.00	H	-41.00	1.14	5.64	-36.50	-13.00	-23.50
3276.00	H	-61.44	1.32	7.12	-55.64	-13.00	-42.64
1638.00	V	-50.98	1.05	5.02	-47.01	-13.00	-34.01
2457.00	V	-41.67	1.14	5.64	-37.17	-13.00	-24.17
3276.00	V	-62.69	1.32	7.12	-56.89	-13.00	-43.89
Hight, QPSK, CH26765 / 821.5MHz, Bandwidth 10MHz							
1643.00	H	-51.07	1.05	5.02	-47.10	-13.00	-34.10
2464.50	H	-37.77	1.14	5.64	-33.27	-13.00	-20.27
3286.00	H	-62.32	1.32	7.12	-56.52	-13.00	-43.52
1643.00	V	-51.02	1.05	5.02	-47.05	-13.00	-34.05
2464.50	V	-41.38	1.14	5.64	-36.88	-13.00	-23.88
3286.00	V	-62.99	1.32	7.12	-57.19	-13.00	-44.19

Note:

- Spurious emissions within 30-1000MHz & Other harmonic were found more than 20dB below limit line.
- $EIRP \text{ or } ERP \text{ (dBm)} = SG \text{ Reading (dBm)} - Cable \text{ Loss (dB)} + Substitute \text{ Antenna Gain (dBi)}$

LTE Band26 (FCC Part 22H (824MHz-849MHz))							
Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP Measure (dBm)	Limit (dBm)	Margin (dB)
Low, QPSK, CH26865 / 831.5MHz, Bandwidth 15MHz							
1663.00	H	-46.68	1.05	5.02	-42.71	-13.00	-29.71
2494.50	H	-40.13	1.14	5.64	-35.63	-13.00	-22.63
3326.00	H	-60.73	1.32	7.12	-54.93	-13.00	-41.93
1663.00	V	-48.96	1.05	5.02	-44.99	-13.00	-31.99
2494.50	V	-38.00	1.14	5.64	-33.50	-13.00	-20.50
3326.00	V	-62.36	1.32	7.12	-56.56	-13.00	-43.56
Mid, QPSK, CH26915 / 836.5MHz, Bandwidth 15MHz							
1673.00	H	-47.20	1.05	5.02	-43.23	-13.00	-30.23
2509.50	H	-37.75	1.14	5.64	-33.25	-13.00	-20.25
3346.00	H	-61.43	1.32	7.12	-55.63	-13.00	-42.63
1673.00	V	-51.92	1.05	5.02	-47.95	-13.00	-34.95
2509.50	V	-42.20	1.14	5.64	-37.70	-13.00	-24.70
3346.00	V	-62.65	1.32	7.12	-56.85	-13.00	-43.85
Hight, QPSK, CH26965 / 841.5MHz, Bandwidth 15MHz							
1683.00	H	-49.47	1.05	5.02	-45.50	-13.00	-32.50
2524.50	H	-41.05	1.14	5.64	-36.55	-13.00	-23.55
3366.00	H	-60.59	1.32	7.12	-54.79	-13.00	-41.79
1683.00	V	-50.46	1.05	5.02	-46.49	-13.00	-33.49
2524.50	V	-42.94	1.14	5.64	-38.44	-13.00	-25.44
3366.00	V	-61.97	1.32	7.12	-56.17	-13.00	-43.17

Note:

- Spurious emissions within 30-1000MHz & Other harmonic were found more than 20dB below limit line.
- $EIRP \text{ or } ERP \text{ (dBm)} = SG \text{ Reading (dBm)} - Cable \text{ Loss (dB)} + Substitute \text{ Antenna Gain (dBi)}$

LTE Band66							
Frequency (MHz)	Ant. Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP Measure (dBm)	Limit (dBm)	Margin (dB)
Low, QPSK, CH132072 / 1720MHz, Bandwidth 20MHz							
3440.00	H	-47.45	1.33	7.65	-41.13	-13.00	-28.13
5160.00	H	-43.62	1.68	9.88	-35.42	-13.00	-22.42
6880.00	H	-54.53	1.81	11.15	-45.19	-13.00	-32.19
3440.00	V	-43.04	1.33	7.65	-36.72	-13.00	-23.72
5160.00	V	-47.54	1.68	9.88	-39.34	-13.00	-26.34
6880.00	V	-54.53	1.81	11.15	-45.19	-13.00	-32.19
Mid, QPSK, CH132322 / 1745MHz, Bandwidth 20MHz							
3490.00	H	-47.42	1.33	7.65	-41.10	-13.00	-28.10
5235.00	H	-46.24	1.68	9.88	-38.04	-13.00	-25.04
6980.00	H	-56.71	1.81	11.15	-47.37	-13.00	-34.37
3490.00	V	-44.88	1.33	7.65	-38.56	-13.00	-25.56
5235.00	V	-46.33	1.68	9.88	-38.13	-13.00	-25.13
6980.00	V	-55.65	1.81	11.15	-46.31	-13.00	-33.31
Hight, QPSK, CH132572 / 1770MHz, Bandwidth 20MHz							
3540.00	H	-51.91	1.33	7.65	-45.59	-13.00	-32.59
5310.00	H	-49.56	1.68	9.88	-41.36	-13.00	-28.36
7080.00	H	-55.14	1.81	11.15	-45.80	-13.00	-32.80
3540.00	V	-50.08	1.33	7.65	-43.76	-13.00	-30.76
5310.00	V	-47.63	1.68	9.88	-39.43	-13.00	-26.43
7080.00	V	-53.53	1.81	11.15	-44.19	-13.00	-31.19

Note:

- Spurious emissions within 30-1000MHz & Other harmonic were found more than 20dB below limit line.
- $EIRP \text{ or } ERP \text{ (dBm)} = SG \text{ Reading (dBm)} - Cable \text{ Loss (dB)} + Substitute \text{ Antenna Gain (dBi)}$

7.6. Peak-Average Ratio

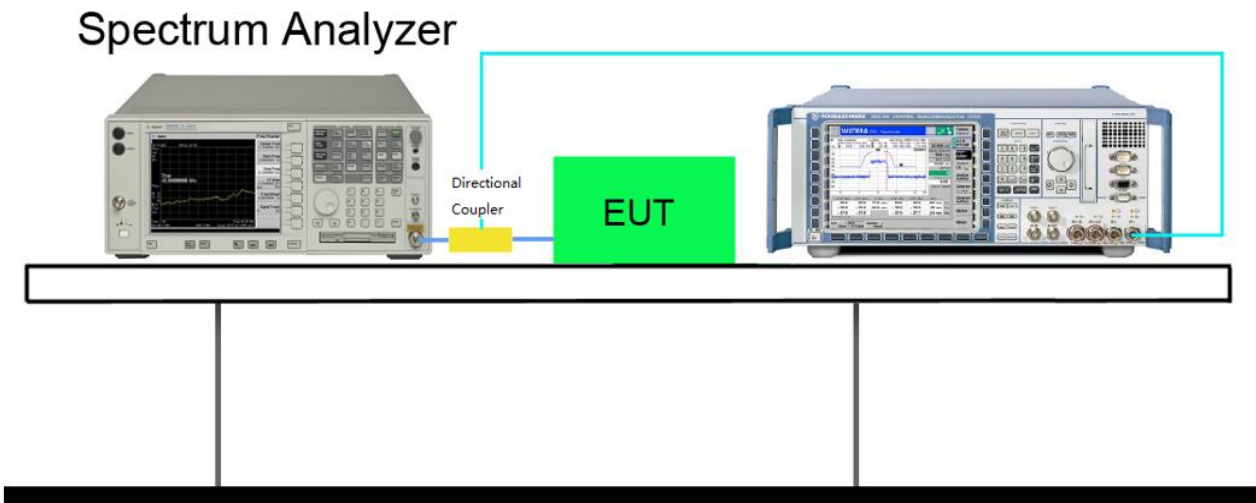
7.6.1 Test Limit

The transmitter's peak-to-average power ratio (PAPR) shall not exceed 13 dB for more than 0.1% of the time using a signal corresponding to the highest PAPR during periods of continuous transmission.

7.6.2 Test Procedure

KDB 971168 D01v02r02 - Section 5.7 & ANSI/TIA-603-D-2010

7.6.3 Test Setup



7.6.4 Test Result

Note: Reference Original Report Grant Date: 02/15/2022, FCC ID: WIYSLM500QA.

7.7. Frequency Stability Under Temperature & Voltage Variations

7.7.1 Test Limit

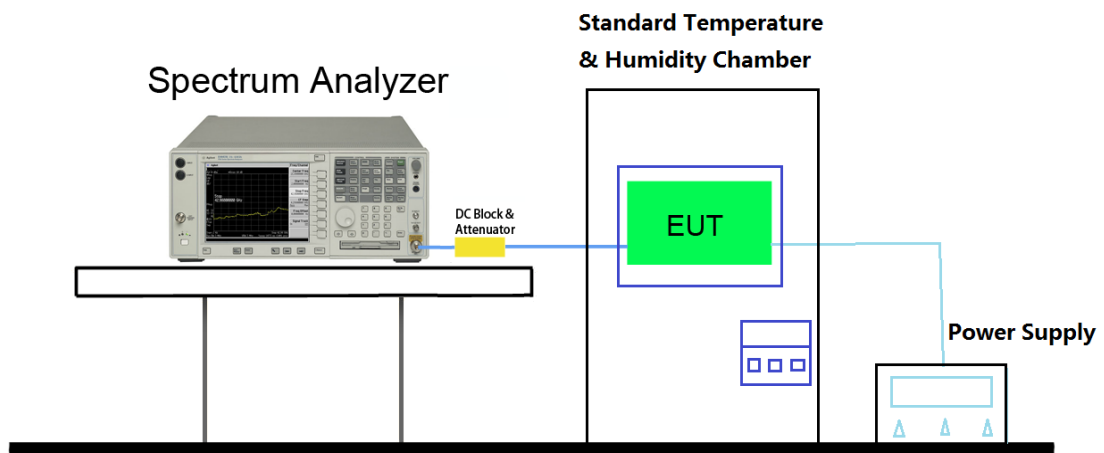
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Limit	$< \pm 2.5$ ppm
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7.7.2 Test Procedure

KDB 971168 D01v02r02 - Section 9.0 & ANSI/TIA-603-D-2010

7.7.3 Test Setup



7.7.4 Test Result

Note: Reference Original Report Grant Date: 02/15/2022, FCC ID: WIYSLM500QA.

Appendix A : Test Photograph

Refer to “2310TW8705-UT” file.

Appendix B : External Photograph

Refer to “2310TW8705-UE” file.

Appendix C : Internal Photograph

Refer to “2310TW8705-UI” file.

————— The End —————