

FCC Test Report (ENDC: n71+Band 2/66)

Report No.: RFBFJZ-WTW-P21050403-16

FCC ID: V65C6930

Test Model: C6930

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Test Date: Jun. 26 ~ Aug. 06, 2021

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**FCC Registration /
Designation Number:** 788550 / TW0003



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Release Control Record

Issue No.	Description	Date Issued
RFBFJZ-WTW-P21050403-16	Original release	Aug. 12, 2021

1 Certificate of Conformity

Product: SmartPhone

Brand: Kyocera

Test Model: C6930

Sample Status: Engineering sample

Applicant: Kyocera Corporation c/o Kyocera International, Inc.

Test Date: Jun. 26 ~ Aug. 06, 2021

Standards: FCC Part 24, Subpart E
FCC Part 27, Subpart C, L, N

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : Pettie Chen, **Date:** Aug. 12, 2021
Pettie Chen / Senior Specialist

Approved by : Bruce Chen, **Date:** Aug. 12, 2021
Bruce Chen / Senior Engineer

2 Summary of Test Results

For 5GNR n71:

Applied Standard: FCC Part 27 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 27.50 (c)	Equivalent Radiated Power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	Pass	Meet the requirement of limit.
----	Peak To Average Ratio	Pass	Meet the requirement of limit.
2.1055 27.54	Frequency Stability Stay with the authorized bands of operation	Pass	Meet the requirement of limit.
2.1049	Occupied Bandwidth	Pass	Meet the requirement of limit.
2.1051 27.53 (g)	Band Edge / Out of Band Emissions Measurements	Pass	Meet the requirement of limit.
2.1051 27.53 (g)	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
2.1053 27.53 (g)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -39.00dB at 1361.00MHz.

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

For LTE Band 2:

Applied Standard: FCC Part 24 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 24.232	Effective Isotropically Radiated Power	Pass	Meet the requirement of limit.
2.1046 24.232(d)	Peak To Average Ratio	Pass	Refer to Note 1
2.1047	Modulation Characteristics	Pass	Refer to Note 1
2.1055 24.235	Frequency Stability	Pass	Refer to Note 1
2.1049 24.238(b)	Occupied Bandwidth	Pass	Refer to Note 1
24.238(b)	Band Edge Measurements	Pass	Refer to Note 1
2.1051 24.238	Conducted Spurious Emissions	Pass	Refer to Note 1
2.1053 24.238	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -32.43dB at 60.07MHz.

Note:

1. This report is a partial report. Therefore, only test item of Effective Isotropically Radiated Power and Radiated Spurious Emissions tests were performed for this report. Other testing data please refer to BV CPS report no.: RFBFJZ-WTW-P21050403-9.
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

For LTE Band 66:

Applied Standard: FCC Part 27 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 27.50 (d)(4)	Equivalent Isotropically Radiated Power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	Pass	Refer to Note 1
27.50 (d)(5)	Peak To Average Ratio	Pass	Refer to Note 1
2.1055 27.54	Frequency Stability Stay with the authorized bands of operation	Pass	Refer to Note 1
2.1049	Occupied Bandwidth	Pass	Refer to Note 1
2.1051 27.53 (h)	Band Edge Measurements	Pass	Refer to Note 1
2.1051 27.53 (h)	Conducted Spurious Emissions	Pass	Refer to Note 1
2.1053 27.53 (h)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -30.01dB at 37.76MHz.

Note:

1. This report is a partial report. Therefore, only test item of Equivalent Isotropically Radiated Power and Radiated Spurious Emissions tests were performed for this report. Other testing data please refer to BV CPS report no.: RFBFJZ-WTW-P21050403-10.
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	3.59 dB
	200MHz ~ 1000MHz	3.60 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Test Site and Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver KEYSIGHT	N9038A	MY55420137	Apr. 09, 2021	Apr. 08, 2022
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jun. 10, 2021	Jun. 09, 2022
Spectrum Analyzer ROHDE & SCHWARZ	FSW43	101866	Dec. 14, 2020	Dec. 13, 2021
MXG Vector signal generator Agilent	N5182B	MY53050430	Nov. 25, 2020	Nov. 24, 2021
Radio Communication Analyzer Anritsu	MT8821C	6261806803	Jan. 22, 2021	Jan. 21, 2022
Universal Radio Communication Tester R&S	CMU200	101095	Nov. 18, 2020	Nov. 17, 2021
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-969	Nov. 22, 2020	Nov. 21, 2021
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Nov. 06, 2020	Nov. 05, 2021
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Nov. 22, 2020	Nov. 21, 2021
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 22, 2020	Nov. 21, 2021
Preamplifier Agilent (Below 1GHz)	8447D	2944A10638	Jun. 05, 2021	Jun. 04, 2022
Preamplifier Agilent (Above 1GHz)	8449B	3008A02367	Feb. 17, 2021	Feb. 16, 2022
RF signal cable HUBER+SUHNER&EMCI	SUCOFLEX 104 & EMC104-SM-SM80 00	CABLE-CH9-02 (248780+171006)	Jan. 16, 2021	Jan. 15, 2022
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	Jan. 16, 2021	Jan. 15, 2022
RF signal cable Woken	8D-FB	Cable-CH9-01	Jun. 05, 2021	Jun. 04, 2022
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower & Turn BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Standard Temperature And Humidity Chamber GIANT FORCE	GTH-120-40-CP-A R	MAA1306-019	Sep. 10, 2020	Sep. 09, 2021

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
True RMS Clamp Meter Fluke	325	31130711WS	Jun. 02, 2021	Jun. 01, 2022
DC power supply Keysight	U8002A	MY56330015	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 9.

3 General Information

3.1 General Description of EUT

Product	SmartPhone
Brand	Kyocera
Test Model	C6930
Sample Status	Engineering sample
Power Supply Rating	3.87Vdc from battery 5Vdc / 9Vdc / 12Vdc from adapter

n71

Modulation Type	$\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM					
Waveform Type	CP-OFDM, DFT-s-OFDM					
Operating Frequency	n71 (Channel Bandwidth 5MHz)	665.5MHz ~ 695.5MHz				
	n71 (Channel Bandwidth 10MHz)	668.0MHz ~ 693.0MHz				
	n71 (Channel Bandwidth 15MHz)	670.5MHz ~ 690.5MHz				
	n71 (Channel Bandwidth 20MHz)	673.0MHz ~ 688.0MHz				
Max. ERP Power		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
	n71 (Channel Bandwidth 5MHz)	49.431mW (16.94dBm)	50.003mW (16.99dBm)	38.815mW (15.89dBm)	28.708mW (14.58dBm)	18.323mW (12.63dBm)
	n71 (Channel Bandwidth 10MHz)	49.091mW (16.91dBm)	49.204mW (16.92dBm)	38.548mW (15.86dBm)	28.973mW (14.62dBm)	18.493mW (12.67dBm)
	n71 (Channel Bandwidth 15MHz)	49.545mW (16.95dBm)	49.204mW (16.92dBm)	38.994mW (15.91dBm)	28.445mW (14.54dBm)	18.707mW (12.72dBm)
	n71 (Channel Bandwidth 20MHz)	49.888mW (16.98dBm)	50.350mW (17.02dBm)	39.084mW (15.92dBm)	28.973mW (14.62dBm)	18.750mW (12.73dBm)
Emission Designator		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
	n71 (Channel Bandwidth 5MHz)	4M47G7D	4M47G7D	4M47D7W	4M47D7W	4M47D7W
	n71 (Channel Bandwidth 10MHz)	9M21G7D	9M29G7D	9M29D7W	9M29D7W	9M29D7W
	n71 (Channel Bandwidth 15MHz)	14M1G7D	14M1G7D	14M1D7W	14M1D7W	14M1D7W
	n71 (Channel Bandwidth 20MHz)	18M8G7D	18M9G7D	18M9D7W	18M9D7W	18M9D7W

LTE Band

Modulation Type	QPSK, 16QAM, 64QAM, 256QAM					
Operating Frequency	LTE Band 2	Channel Bandwidth 1.4MHz	1850.7MHz ~1909.3MHz			
		Channel Bandwidth 3MHz	1851.5MHz ~1908.5MHz			
		Channel Bandwidth 5MHz	1852.5MHz ~1907.5MHz			
		Channel Bandwidth 10MHz	1855.0MHz ~1905.0MHz			
		Channel Bandwidth 15MHz	1857.5MHz ~1902.5MHz			
		Channel Bandwidth 20MHz	1860.0MHz ~1900.0MHz			
	LTE Band 66	Channel Bandwidth 1.4MHz	1710.7MHz ~ 1779.3MHz			
		Channel Bandwidth 3MHz	1711.5MHz ~ 1778.5MHz			
		Channel Bandwidth 5MHz	1712.5MHz ~ 1777.5MHz			
		Channel Bandwidth 10MHz	1715.0MHz ~ 1775.0MHz			
		Channel Bandwidth 15MHz	1717.5MHz ~ 1772.5MHz			
		Channel Bandwidth 20MHz	1720.0MHz ~ 1770.0MHz			
Max. EIRP Power	LTE Band 2		QPSK	16QAM	64QAM	256QAM
		Channel Bandwidth 1.4MHz	172.584mW (22.37dBm)	144.212mW (21.59dBm)	111.686mW (20.48dBm)	58.884mW (17.70dBm)
		Channel Bandwidth 3MHz	174.582mW (22.42dBm)	144.212mW (21.59dBm)	110.408mW (20.43dBm)	58.614mW (17.68dBm)
		Channel Bandwidth 5MHz	164.059mW (22.15dBm)	140.929mW (21.49dBm)	108.393mW (20.35dBm)	59.020mW (17.71dBm)
		Channel Bandwidth 10MHz	169.044mW (22.28dBm)	140.929mW (21.49dBm)	115.878mW (20.64dBm)	58.749mW (17.69dBm)
		Channel Bandwidth 15MHz	167.494mW (22.24dBm)	147.231mW (21.68dBm)	111.686mW (20.48dBm)	59.293mW (17.73dBm)
		Channel Bandwidth 20MHz	172.187mW (22.36dBm)	142.561mW (21.54dBm)	116.145mW (20.65dBm)	59.841mW (17.77dBm)
	LTE Band 66	Channel Bandwidth 1.4MHz	363.078mW (25.60dBm)	304.789mW (24.84dBm)	210.378mW (23.23dBm)	123.027mW (20.90dBm)
		Channel Bandwidth 3MHz	361.410mW (25.58dBm)	293.089mW (24.67dBm)	213.796mW (23.30dBm)	118.577mW (20.74dBm)
		Channel Bandwidth 5MHz	362.243mW (25.59dBm)	322.849mW (25.09dBm)	216.272mW (23.35dBm)	115.080mW (20.61dBm)
		Channel Bandwidth 10MHz	358.096mW (25.54dBm)	307.610mW (24.88dBm)	205.116mW (23.12dBm)	114.551mW (20.59dBm)
		Channel Bandwidth 15MHz	361.410mW (25.58dBm)	293.765mW (24.68dBm)	225.944mW (23.54dBm)	127.057mW (21.04dBm)
		Channel Bandwidth 20MHz	369.828mW (25.68dBm)	324.340mW (25.11dBm)	225.944mW (23.54dBm)	118.850mW (20.75dBm)
	Antenna Type	Refer to Note as below				
Antenna Connector	Refer to Note as below					
Accessory Device	Refer to Note as below					
Cable Supplied	Refer to Note as below					

Note:

1. The EUT contains following accessory devices.

Battery	
Brand	KYOCERA
Model	SCP-75LBPS
Rating	3.87 V typ / 4500 mAh/17.5 Wh typ

Adapter	
Brand	KYOCERA Corporation
Model	SCP-49ADT
Input Power	AC 100-240V, 50/60Hz 0.4A
Output Power	DC 5.0V, 1.8A / 9.0V, 1.8A / 12.0V, 1.2A

USB Cable	
Brand	KYOCERA Corporation
Model	SCP-24SDC
Signal Line	1m shielded Type A to Type C USB cable

2. The following antennas were provided to the EUT.

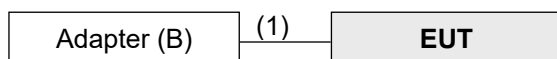
Band	Freq. Range (MHz)	Gain (dBi)
n71	665.5 ~ 695.5	-3.6 (Tx1)
LTE Band 2	1850.7 ~ 1909.3	-0.8 (Tx1), -1.3 (Tx2) (diversity)
LTE Band 66	1710.7 ~ 1779.3	2.3 (Tx1), -0.5 (Tx2) (diversity)

* The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

3. The EUT supports the following ENDC configuration.

5GNR	FCC 5G FR1			ENDC
	Band	SCS	Bandwidth (MHz)	
	n2	15kHz	5/10/15/20	Band 5/13
	n5	15kHz	5/10/15/20	Band 2/48/66
	n66	15kHz	5/10/15/20	Band 5/13
	n71	15kHz	5/10/15/20	Band 2/66

3.2 Configuration of System under Test



Remote site



3.2.1 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	5G Wireless Test Platforms	Keysight	E7515B	MY58300759	NA	-
B.	Adapter	KYOCERA	SCP-49ADT	NA	NA	Accessory

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as a communication partner to transfer data.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	Type A to Type C USB cable	1	1	Y	0	Accessory

3.3 Test Mode Applicability and Tested Channel Detail

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports. The worst case was found when positioned on Y-plane. Following channel(s) was (were) selected for the final test as listed below.

Band	Radiated Emission
n71	X-plane
LTE Band 2	X-plane
LTE Band 66	X-plane

n71

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	ERP	133100 to 139100	133100 (665.5MHz), 136100 (680.5MHz), 139100 (695.5MHz)	5 MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 13 RB Offset 1 RB / 23 RB Offset 12 RB / 0 RB Offset 12 RB / 7 RB Offset 12 RB / 13 RB Offset 25 RB / 0 RB Offset
		133600 to 138600	133600 (668.0MHz), 136100 (680.5MHz), 138600 (693.0MHz)	10 MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 26 RB Offset 1 RB / 50 RB Offset 25 RB / 0 RB Offset 25 RB / 14 RB Offset 25 RB / 27 RB Offset 50 RB / 0 RB Offset
		134100 to 138100	134100 (670.5MHz), 136100 (680.5MHz), 138100 (690.5MHz)	15 MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 40 RB Offset 1 RB / 77 RB Offset 36 RB / 0 RB Offset 36 RB / 22 RB Offset 36 RB / 43 RB Offset 75 RB / 0 RB Offset
		134600 to 137600	134600 (673.0MHz), 136100 (680.5MHz), 137600 (688.0MHz)	20 MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 53 RB Offset 1 RB / 104 RB Offset 50 RB / 0 RB Offset 50 RB / 28 RB Offset 50 RB / 56 RB Offset 100 RB / 0 RB Offset
-	Modulation Characteristics	134600 to 137600	136100 (680.5MHz)	20 MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	100 RB / 0 RB Offset
-	Frequency Stability	133100 to 139100	133100 (665.5MHz), 139100 (695.5MHz)	5 MHz	$\pi/2$ BPSK	25 RB / 0 RB Offset
		133600 to 138600	133600 (668.0MHz), 138600 (693.0MHz)	10 MHz	$\pi/2$ BPSK	50 RB / 0 RB Offset
		134100 to 138100	134100 (670.5MHz), 138100 (690.5MHz)	15 MHz	$\pi/2$ BPSK	75 RB / 0 RB Offset
		134600 to 137600	134600 (673.0MHz), 137600 (688.0MHz)	20 MHz	$\pi/2$ BPSK	100 RB / 0 RB Offset

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	Emission Bandwidth	133100 to 139100	133100 (665.5MHz), 136100 (680.5MHz), 139100 (695.5MHz)	5 MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	25 RB / 0 RB Offset
		133600 to 138600	133600 (668.0MHz), 136100 (680.5MHz), 138600 (693.0MHz)	10 MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	50 RB / 0 RB Offset
		134100 to 138100	134100 (670.5MHz), 136100 (680.5MHz), 138100 (690.5MHz)	15 MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	75 RB / 0 RB Offset
		134600 to 137600	134600 (673.0MHz), 136100 (680.5MHz), 137600 (688.0MHz)	20 MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	100 RB / 0 RB Offset
-	Band Edge	133100 to 139100	133100 (665.5MHz), 139100 (695.5MHz)	5 MHz	$\pi/2$ BPSK	1 RB / 0 RB Offset 1 RB / 23 RB Offset 25 RB / 0 RB Offset
		133600 to 138600	133600 (668.0MHz), 138600 (693.0MHz)	10 MHz	$\pi/2$ BPSK	1 RB / 0 RB Offset 1 RB / 50 RB Offset 50 RB / 0 RB Offset
		134100 to 138100	134100 (670.5MHz), 138100 (690.5MHz)	15 MHz	$\pi/2$ BPSK	1 RB / 0 RB Offset 1 RB / 77 RB Offset 75 RB / 0 RB Offset
		134600 to 137600	134600 (673.0MHz), 137600 (688.0MHz)	20 MHz	$\pi/2$ BPSK	1 RB / 0 RB Offset 1 RB / 104 RB Offset 100 RB / 0 RB Offset
-	Peak to Average Ratio	133100 to 139100	133100 (665.5MHz), 136100 (680.5MHz), 139100 (695.5MHz)	5 MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset
		133600 to 138600	133600 (668.0MHz), 136100 (680.5MHz), 138600 (693.0MHz)	10 MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset
		134100 to 138100	134100 (670.5MHz), 136100 (680.5MHz), 138100 (690.5MHz)	15 MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset
		134600 to 137600	134600 (673.0MHz), 136100 (680.5MHz), 137600 (688.0MHz)	20 MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset
-	Conducted Emission	133100 to 139100	133100 (665.5MHz), 136100 (680.5MHz), 139100 (695.5MHz)	5 MHz	$\pi/2$ BPSK	1 RB / 0 RB Offset
		133600 to 138600	133600 (668.0MHz), 136100 (680.5MHz), 138600 (693.0MHz)	10 MHz	$\pi/2$ BPSK	1 RB / 0 RB Offset
		134100 to 138100	134100 (670.5MHz), 136100 (680.5MHz), 138100 (690.5MHz)	15 MHz	$\pi/2$ BPSK	1 RB / 0 RB Offset
		134600 to 137600	134600 (673.0MHz), 136100 (680.5MHz), 137600 (688.0MHz)	20 MHz	$\pi/2$ BPSK	1 RB / 0 RB Offset

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	Radiated Emission Below 1GHz	133100 to 139100	136100 (680.5MHz)	5 MHz	$\pi/2$ BPSK	1 RB / 0 RB Offset
-	Radiated Emission Above 1GHz	133100 to 139100	133100 (665.5MHz), 136100 (680.5MHz), 139100 (695.5MHz)	5 MHz	$\pi/2$ BPSK	1 RB / 0 RB Offset
		134600 to 137600	134600 (673.0MHz), 136100 (680.5MHz), 137600 (688.0MHz)	20 MHz	$\pi/2$ BPSK	1 RB / 0 RB Offset

Note: Only output power, modulation characteristics, occupied bandwidth and Peak to average ratio items had been tested under $\pi/2$ BPSK, QPSK, 16QAM, 64QAM and 256QAM modes, the other test items were performed under worst mode according to the maximum output power.

LTE Band 2

EUT Configure Mode	Test item	Available channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	EIRP	18607 to 19193	18607 (1850.70MHz), 18900 (1880.00MHz), 19193 (1909.30MHz)	1.4MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 2 RB Offset 1 RB / 5 RB Offset 3 RB / 0 RB Offset 3 RB / 1 RB Offset 3 RB / 3 RB Offset 6 RB / 0 RB Offset
		18615 to 19185	18615 (1851.50MHz), 18900 (1880.00MHz), 19185 (1908.50MHz)	3MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 7 RB Offset 1 RB / 14 RB Offset 8 RB / 0 RB Offset 8 RB / 3 RB Offset 8 RB / 7 RB Offset 15 RB / 0 RB Offset
		18625 to 19175	18625 (1852.50MHz), 18900 (1880.00MHz), 19175 (1907.50MHz)	5MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 12 RB Offset 1 RB / 24 RB Offset 12 RB / 0 RB Offset 12 RB / 6 RB Offset 12 RB / 13 RB Offset 25 RB / 0 RB Offset
		18650 to 19150	18650 (1855.00MHz), 18900 (1880.00MHz), 19150 (1905.00MHz)	10MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 24 RB Offset 1 RB / 49 RB Offset 25 RB / 0 RB Offset 25 RB / 12 RB Offset 25 RB / 25 RB Offset 50 RB / 0 RB Offset
		18675 to 19125	18675 (1857.50MHz), 18900 (1880.00MHz), 19125 (1902.50MHz)	15MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 37 RB Offset 1 RB / 74 RB Offset 36 RB / 0 RB Offset 36 RB / 19 RB Offset 36 RB / 39 RB Offset 75 RB / 0 RB Offset
		18700 to 19100	18700 (1860.00MHz), 18900 (1880.00MHz), 19100 (1900.00MHz)	20MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 50 RB Offset 1 RB / 99 RB Offset 50 RB / 0 RB Offset 50 RB / 25 RB Offset 50 RB / 50 RB Offset 100 RB / 0 RB Offset
-	Radiated Emission Below 1GHz	18607 to 19193	18900 (1880.00MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
-	Radiated Emission Above 1GHz	18607 to 19193	18607 (1850.70MHz), 18900 (1880.00MHz), 19193 (1909.30MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		18625 to 19175	18625 (1852.50MHz), 18900 (1880.00MHz), 19175 (1907.50MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		18700 to 19100	18700 (1860.00MHz), 18900 (1880.00MHz), 19100 (1900.00MHz)	20MHz	QPSK	1 RB / 0 RB Offset

Note:

- The measured output power for QPSK mode is higher than the measured output power for 16QAM, 64QAM and 256QAM modes. Therefore, only EIRP, occupied bandwidth and Peak to average ratio items had been tested under QPSK, 16QAM, 64QAM and 256QAM modes, the other test items were performed under QPSK mode only.
- For radiated emission above 1GHz, according to 3GPP 36.521 Section 6.6.3.1.4, choose the lowest, 5MHz & highest channel bandwidth for final test.

LTE Band 66

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	EIRP	131979 to 132665	131979 (1710.7MHz), 132322 (1745.0MHz), 132665 (1779.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 2 RB Offset 1 RB / 5 RB Offset 3 RB / 0 RB Offset 3 RB / 1 RB Offset 3 RB / 3 RB Offset 6 RB / 0 RB Offset
		131987 to 132657	131987 (1711.5MHz), 132322 (1745.0MHz), 132657 (1778.5MHz)	3MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 7 RB Offset 1 RB / 14 RB Offset 8 RB / 0 RB Offset 8 RB / 3 RB Offset 8 RB / 7 RB Offset 15 RB / 0 RB Offset
		131997 to 132647	131997 (1712.5MHz), 132322 (1745.0MHz), 132647 (1777.5MHz)	5MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 12 RB Offset 1 RB / 24 RB Offset 12 RB / 0 RB Offset 12 RB / 6 RB Offset 12 RB / 13 RB Offset 25 RB / 0 RB Offset
		132022 to 132622	132022 (1715.0MHz), 132322 (1745.0MHz), 132622 (1775.0MHz)	10MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 24 RB Offset 1 RB / 49 RB Offset 25 RB / 0 RB Offset 25 RB / 12 RB Offset 25 RB / 25 RB Offset 50 RB / 0 RB Offset
		132047 to 132597	132047 (1717.5MHz), 132322 (1745.0MHz), 132597 (1772.5MHz)	15MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 37 RB Offset 1 RB / 74 RB Offset 36 RB / 0 RB Offset 36 RB / 19 RB Offset 36 RB / 39 RB Offset 75 RB / 0 RB Offset
		132072 to 132572	132072 (1720.0MHz), 132322 (1745.0MHz), 132572 (1770.0MHz)	20MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 0 RB Offset 1 RB / 50 RB Offset 1 RB / 99 RB Offset 50 RB / 0 RB Offset 50 RB / 25 RB Offset 50 RB / 50 RB Offset 100 RB / 0 RB Offset
-	Radiated Emission Below 1GHz	131979 to 132665	132665 (1779.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
-	Radiated Emission Above 1GHz	131979 to 132665	131979 (1710.7MHz), 132322 (1745.0MHz), 132665 (1779.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		131997 to 132647	131997 (1712.5MHz), 132322 (1745.0MHz), 132647 (1777.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		132072 to 132572	132072 (1720.0MHz), 132322 (1745.0MHz), 132572 (1770.0MHz)	20MHz	QPSK	1 RB / 0 RB Offset

Note:

- The measured output power for QPSK mode is higher than the measured output power for 16QAM, 64QAM and 256QAM modes. Therefore, only EIRP, occupied bandwidth and Peak to average ratio items had been tested under QPSK, 16QAM, 64QAM and 256QAM modes, the other test items were performed under QPSK mode only.
- For radiated emission above 1GHz, according to 3GPP 36.521 Section 6.6.3.1.4, choose the lowest, 5MHz & highest channel bandwidth for final test.

Test Condition:

Test Item	Environmental Conditions	Input Power (system)	Tested By
ERP / EIRP	25deg. C, 60%RH	120Vac, 60Hz	James Yang
Modulation characteristics	25deg. C, 60%RH	120Vac, 60Hz	James Yang
Frequency Stability	25deg. C, 60%RH	3.87Vdc	James Yang
Occupied Bandwidth	25deg. C, 60%RH	120Vac, 60Hz	James Yang
Band Edge	25deg. C, 60%RH	120Vac, 60Hz	James Yang
Peak To Average Ratio	25deg. C, 60%RH	120Vac, 60Hz	James Yang
Conducted Emission	25deg. C, 60%RH	120Vac, 60Hz	James Yang
Radiated Emission	22deg. C, 66%RH	120Vac, 60Hz	Greg Lin

3.4 EUT Operating Conditions

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency

3.5 General Description of Applied Standards and References

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards and References:

Test Standard:

FCC 47 CFR Part 2

FCC 47 CFR Part 24

FCC 47 CFR Part 27

ANSI/TIA/EIA-603-D-2010

ANSI/TIA/EIA-603-E 2016

ANSI 63.26-2015

All test items have been performed and recorded as per the above standards.

References Test Guidance:

KDB 971168 D01 Power Meas License Digital Systems v03r01

KDB 971168 D02 Misc Rev Approv License Devices v02r01

All test items have been performed as a reference to the above KDB test guidance.

4 Test Types and Results

4.1 Output Power Measurement

4.1.1 Limits of Output Power Measurement

For n71:

Control and mobile stations in the 698-746 MHz, 746-757 MHz, 787-788 MHz and 805-806 MHz band are limited to 30 watts ERP.

Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink, 746-757 MHz, 787-788 MHz and 805-806 MHz band are limited to 3 watts ERP.

For LTE Band 2:

Mobile / Portable station are limited to 2 watts e.i.r.p.

For LTE Band 66:

Mobile / Portable station are limited to 1 watts e.i.r.p.

4.1.2 Test Procedures

Conducted Power Measurement:

The EUT was set up for the maximum power with 5GNR link data modulation and link up with simulator.

Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

Maximum EIRP

The relevant equation for determining the maximum ERP or EIRP from the measured RF output power is given in Equation as follows:

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_T$$

where

ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively
(expressed in the same units as P_{Meas} , e.g., dBm or dBW)

P_{Meas} measured transmitter output power or PSD, in dBm or dBW

G_T gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)

4.1.3 Test Setup

Conducted Power Measurement:



4.1.4 Test Results

Conducted Output Power (dBm)

NR Band 71						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		134600	136100	137600
		Frequency (MHz)		673	680.5	688
20M	$\pi/2$ BPSK	1	1	22.73	22.43	22.34
20M	QPSK	1	1	22.77	22.47	22.38
		1	53	22.43	22.31	22.25
		1	104	22.38	22.29	22.23
		50	0	21.57	21.39	21.25
		50	28	22.58	22.33	22.29
		50	56	21.45	21.32	21.28
		100	0	21.56	21.41	21.29
20M	16QAM	1	1	21.67	21.37	21.28
20M	64QAM	1	1	20.37	20.07	19.98
20M	256QAM	1	1	18.48	18.18	18.09
BW	MCS Index	Channel		134100	136100	138100
		Frequency (MHz)		670.5	680.5	690.5
15M	$\pi/2$ BPSK	1	1	22.70	22.36	22.33
15M	QPSK	1	1	22.67	22.47	22.38
		1	40	22.37	22.30	22.21
		1	77	22.36	22.22	22.16
		36	0	21.54	21.31	21.23
		36	22	22.56	22.32	22.19
		36	43	21.36	21.26	21.22
		75	0	21.46	21.39	21.29
15M	16QAM	1	1	21.66	21.33	21.23
15M	64QAM	1	1	20.29	19.99	19.95
15M	256QAM	1	1	18.47	18.08	18.04

NR Band 71						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		133600	136100	138600
		Frequency (MHz)		668	680.5	693
10M	$\pi/2$ BPSK	1	1	22.66	22.33	22.28
10M	QPSK	1	1	22.67	22.37	22.28
		1	26	22.42	22.24	22.19
		1	50	22.38	22.29	22.21
		25	0	21.53	21.35	21.19
		25	14	22.48	22.30	22.26
		25	27	21.35	21.32	21.24
		50	0	21.51	21.40	21.25
10M	16QAM	1	1	21.61	21.29	21.22
10M	64QAM	1	1	20.37	20.00	19.90
10M	256QAM	1	1	18.42	18.12	18.08
BW	MCS Index	Channel		133100	136100	139100
		Frequency (MHz)		665.5	680.5	695.5
5M	$\pi/2$ BPSK	1	1	22.69	22.42	22.29
5M	QPSK	1	1	22.74	22.43	22.35
		1	13	22.40	22.26	22.23
		1	23	22.32	22.25	22.23
		12	0	21.52	21.34	21.20
		12	7	22.53	22.32	22.26
		12	13	21.45	21.24	21.28
		25	0	21.52	21.38	21.24
5M	16QAM	1	1	21.64	21.35	21.26
5M	64QAM	1	1	20.33	20.00	19.96
5M	256QAM	1	1	18.38	18.08	18.09

LTE Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18700	18900	19100
		Frequency (MHz)		1860	1880	1900
20M	QPSK	1	0	23.15	23.16	23.14
		1	50	23.03	22.85	23.07
		1	99	22.71	22.72	22.85
		50	0	22.49	22.05	22.32
		50	25	22.25	21.98	22.31
		50	50	21.89	22.30	21.93
		100	0	22.03	22.19	22.01
20M	16QAM	1	0	22.31	22.25	21.94
		1	50	22.12	22.34	21.93
		1	99	22.34	22.17	21.93
		50	0	20.94	21.30	21.02
		50	25	21.40	21.52	20.90
		50	50	21.06	20.93	21.10
		100	0	20.81	20.94	20.93
20M	64QAM	1	0	21.43	21.21	21.16
		1	50	21.38	21.41	21.29
		1	99	21.41	21.45	21.35
		50	0	20.17	19.99	20.34
		50	25	20.23	20.46	19.98
		50	50	20.23	20.02	20.03
		100	0	20.18	20.48	20.20
20M	256QAM	1	0	18.04	18.14	18.40
		1	50	18.16	18.57	17.96
		1	99	18.27	18.16	17.89
		50	0	18.29	18.56	17.97
		50	25	18.41	18.37	18.03
		50	50	18.13	17.97	17.82
		100	0	17.92	18.20	18.24

LTE Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18675	18900	19125
		Frequency (MHz)		1857.5	1880	1902.5
15M	QPSK	1	0	22.82	23.04	23.00
		1	37	22.99	22.96	22.97
		1	74	22.94	23.00	22.96
		36	0	22.22	21.99	21.82
		36	19	22.25	21.96	21.85
		36	39	22.20	21.86	22.15
		75	0	22.04	22.07	22.01
15M	16QAM	1	0	22.28	22.15	22.07
		1	37	22.12	22.48	22.28
		1	74	22.26	22.27	22.32
		36	0	21.04	21.46	21.09
		36	19	21.27	21.48	21.37
		36	39	21.22	20.98	20.85
		75	0	21.03	21.12	21.19
15M	64QAM	1	0	21.08	21.23	20.96
		1	37	21.22	21.28	21.06
		1	74	21.06	21.19	20.89
		36	0	19.86	20.17	20.13
		36	19	20.20	20.11	20.11
		36	39	19.73	20.32	20.19
		75	0	20.21	20.39	20.29
15M	256QAM	1	0	18.44	18.40	17.98
		1	37	18.04	18.53	17.90
		1	74	18.01	18.24	17.83
		36	0	18.11	18.53	17.85
		36	19	18.21	18.42	17.91
		36	39	18.01	18.04	17.81
		75	0	18.25	17.93	18.17

LTE Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18650	18900	19150
		Frequency (MHz)		1855	1880	1905
10M	QPSK	1	0	23.08	22.95	23.06
		1	24	22.85	22.84	22.82
		1	49	23.01	22.78	22.73
		25	0	22.24	22.49	21.97
		25	12	22.14	22.22	22.10
		25	25	21.73	21.79	21.80
		50	0	22.06	21.98	21.74
10M	16QAM	1	0	21.96	22.29	22.26
		1	24	22.06	22.02	21.92
		1	49	22.12	22.13	21.76
		25	0	20.82	21.29	21.33
		25	12	20.87	20.97	21.18
		25	25	21.22	21.25	20.77
		50	0	21.01	20.73	21.05
10M	64QAM	1	0	21.44	21.34	20.82
		1	24	21.43	20.93	21.30
		1	49	21.07	21.15	21.22
		25	0	19.98	20.28	20.20
		25	12	20.04	20.27	19.97
		25	25	20.00	20.09	19.85
		50	0	19.95	20.22	20.16
10M	256QAM	1	0	18.49	17.89	18.34
		1	24	18.43	18.10	18.33
		1	49	18.31	18.04	18.12
		25	0	18.46	18.31	17.83
		25	12	18.28	18.03	18.18
		25	25	18.01	18.12	17.91
		50	0	18.19	18.09	18.19

LTE Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18625	18900	19175
		Frequency (MHz)		1852.5	1880	1907.5
5M	QPSK	1	0	22.72	22.95	22.83
		1	12	22.76	22.93	22.73
		1	24	22.73	22.94	22.79
		12	0	22.33	22.21	22.28
		12	6	21.81	21.87	22.08
		12	13	21.89	21.94	21.89
		25	0	21.86	21.74	21.76
5M	16QAM	1	0	21.79	22.29	22.06
		1	12	22.23	22.14	22.00
		1	24	22.17	22.09	21.75
		12	0	20.98	21.39	20.90
		12	6	21.27	20.81	21.00
		12	13	21.08	21.10	20.98
		25	0	20.97	21.04	20.90
5M	64QAM	1	0	20.93	21.01	21.13
		1	12	21.07	21.15	20.82
		1	24	20.89	20.98	20.90
		12	0	19.90	20.24	19.89
		12	6	19.73	20.10	20.18
		12	13	20.11	19.77	19.98
		25	0	20.17	20.06	20.15
5M	256QAM	1	0	18.51	18.15	18.16
		1	12	18.21	17.96	18.11
		1	24	17.96	18.04	17.99
		12	0	18.25	18.28	17.86
		12	6	18.30	18.15	18.06
		12	13	18.03	18.25	17.84
		25	0	18.25	17.81	17.73

LTE Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18615	18900	19185
		Frequency (MHz)		1851.5	1880	1908.5
3M	QPSK	1	0	23.22	23.15	22.98
		1	7	22.75	22.80	22.87
		1	14	22.79	22.85	22.72
		8	0	22.16	21.99	21.76
		8	3	22.06	22.08	21.98
		8	7	21.81	22.19	21.88
		15	0	21.82	22.22	22.17
3M	16QAM	1	0	22.39	22.39	22.31
		1	7	21.91	22.10	22.10
		1	14	22.13	22.13	22.11
		8	0	20.89	20.92	21.08
		8	3	20.81	21.16	21.08
		8	7	21.09	21.15	20.96
		15	0	20.87	21.15	20.96
3M	64QAM	1	0	20.96	21.23	21.09
		1	7	21.22	21.10	21.08
		1	14	21.03	20.87	20.75
		8	0	19.92	20.13	19.71
		8	3	20.01	19.88	20.17
		8	7	19.83	20.11	20.06
		15	0	19.98	20.05	19.86
3M	256QAM	1	0	18.40	18.44	18.16
		1	7	18.05	18.15	18.18
		1	14	17.90	18.44	18.39
		8	0	18.12	18.38	18.48
		8	3	17.97	17.87	17.94
		8	7	18.00	18.22	17.92
		15	0	17.95	18.13	18.03

LTE Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18607	18900	19193
		Frequency (MHz)		1850.7	1880	1909.3
1.4M	QPSK	1	0	23.10	23.05	23.03
		1	2	22.89	22.88	22.96
		1	5	22.74	23.04	22.94
		3	0	22.86	22.88	22.92
		3	1	22.89	23.17	22.99
		3	3	22.82	22.88	22.70
		6	0	21.98	22.17	21.79
1.4M	16QAM	1	0	22.39	22.34	21.79
		1	2	21.86	22.13	22.32
		1	5	22.13	22.13	22.04
		3	0	21.88	22.18	22.16
		3	1	22.15	21.84	22.06
		3	3	22.07	22.35	22.19
		6	0	21.03	21.02	20.85
1.4M	64QAM	1	0	21.25	21.24	20.77
		1	2	21.23	21.17	21.00
		1	5	20.89	21.20	21.03
		3	0	21.25	21.28	20.74
		3	1	20.92	21.05	20.85
		3	3	21.11	21.06	20.88
		6	0	19.84	19.96	20.08
1.4M	256QAM	1	0	18.03	18.29	18.31
		1	2	17.91	18.50	18.00
		1	5	18.01	18.04	18.01
		3	0	17.96	18.47	18.21
		3	1	17.84	18.20	18.02
		3	3	18.04	17.99	18.05
		6	0	18.27	17.95	18.14

LTE Band 66						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		132072	132322	132572
		Frequency (MHz)		1720	1745	1770
20M	QPSK	1	0	23.38	23.35	23.29
		1	50	23.37	23.16	23.17
		1	99	22.88	23.35	23.32
		50	0	22.38	22.45	22.05
		50	25	22.29	22.41	22.44
		50	50	21.95	22.43	22.12
		100	0	22.05	22.49	22.45
20M	16QAM	1	0	22.29	22.81	22.69
		1	50	21.99	22.73	22.72
		1	99	22.17	22.25	22.36
		50	0	20.98	21.67	21.60
		50	25	21.06	21.62	21.64
		50	50	20.92	21.13	21.02
		100	0	21.18	21.35	21.61
20M	64QAM	1	0	20.76	20.78	21.24
		1	50	20.72	20.79	20.74
		1	99	20.75	20.74	20.79
		50	0	19.80	20.34	19.98
		50	25	19.72	19.85	19.71
		50	50	19.85	19.99	19.84
		100	0	19.83	19.83	19.91
20M	256QAM	1	0	18.34	18.45	18.45
		1	50	18.06	18.44	18.45
		1	99	18.43	18.39	18.35
		50	0	18.22	18.23	18.25
		50	25	18.24	18.21	18.21
		50	50	17.89	18.27	18.06
		100	0	18.11	18.28	18.24

LTE Band 66						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		132047	132322	132597
		Frequency (MHz)		1717.5	1745	1772.5
15M	QPSK	1	0	23.28	23.11	23.22
		1	37	23.24	23.14	23.02
		1	74	22.77	23.05	23.15
		36	0	21.94	22.34	22.27
		36	19	22.10	22.28	22.53
		36	39	22.30	22.43	22.10
		75	0	22.23	22.19	22.59
15M	16QAM	1	0	22.02	22.28	22.23
		1	37	22.32	22.35	22.38
		1	74	22.29	22.26	22.18
		36	0	20.86	21.27	21.23
		36	19	20.90	21.45	21.40
		36	39	21.00	21.32	21.27
		75	0	21.37	21.23	21.29
15M	64QAM	1	0	20.86	21.24	21.08
		1	37	20.88	20.89	20.76
		1	74	20.73	20.80	20.82
		36	0	19.85	20.12	20.28
		36	19	19.84	20.11	19.70
		36	39	19.79	19.79	19.78
		75	0	19.83	19.77	19.77
15M	256QAM	1	0	18.15	18.74	18.32
		1	37	18.25	18.28	18.19
		1	74	18.20	18.25	18.40
		36	0	17.97	18.20	18.29
		36	19	18.22	18.25	18.27
		36	39	17.85	18.27	18.33
		75	0	18.24	18.27	18.23

LTE Band 66						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		132022	132322	132622
		Frequency (MHz)		1715	1745	1775
10M	QPSK	1	0	23.24	23.20	23.07
		1	24	23.19	23.06	22.91
		1	49	22.98	22.99	23.07
		25	0	21.71	22.31	22.30
		25	12	21.88	22.37	22.36
		25	25	21.89	22.39	22.38
		50	0	21.97	22.32	22.01
10M	16QAM	1	0	22.25	22.20	22.23
		1	24	21.82	22.23	22.58
		1	49	22.29	22.27	22.16
		25	0	21.06	21.12	21.16
		25	12	21.17	20.97	21.12
		25	25	21.07	21.05	21.11
		50	0	21.06	21.29	21.25
10M	64QAM	1	0	20.71	20.77	20.77
		1	24	20.76	20.75	20.81
		1	49	20.75	20.72	20.82
		25	0	19.75	20.00	20.14
		25	12	19.76	20.03	19.92
		25	25	19.74	19.78	19.85
		50	0	19.79	19.77	19.76
10M	256QAM	1	0	18.13	18.23	18.22
		1	24	17.89	18.29	18.11
		1	49	18.13	18.20	18.14
		25	0	17.78	18.23	18.13
		25	12	18.04	18.29	17.84
		25	25	17.83	18.25	17.89
		50	0	18.24	18.20	18.26

LTE Band 66						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		131997	132322	132647
		Frequency (MHz)		1712.5	1745	1777.5
5M	QPSK	1	0	23.23	23.28	23.02
		1	12	23.29	23.25	22.95
		1	24	22.86	23.17	22.85
		12	0	22.11	22.29	22.37
		12	6	21.74	22.61	22.40
		12	13	22.06	22.55	22.10
		25	0	22.27	22.22	22.12
5M	16QAM	1	0	22.29	22.79	22.63
		1	12	22.10	22.28	22.22
		1	24	22.29	22.32	22.05
		12	0	21.20	21.30	21.15
		12	6	20.72	21.21	21.26
		12	13	20.76	21.07	21.17
		25	0	20.74	21.26	21.27
5M	64QAM	1	0	20.72	21.05	20.96
		1	12	20.73	20.86	20.80
		1	24	20.77	20.76	20.72
		12	0	19.85	19.82	20.10
		12	6	19.83	19.80	19.74
		12	13	19.74	19.79	19.75
		25	0	19.77	19.72	19.79
5M	256QAM	1	0	18.17	18.31	18.29
		1	12	17.95	18.31	18.20
		1	24	18.05	18.28	18.24
		12	0	17.95	18.13	18.28
		12	6	18.21	17.99	18.15
		12	13	17.78	18.08	18.22
		25	0	17.74	18.19	18.13

LTE Band 66						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		131987	132322	132657
		Frequency (MHz)		1711.5	1745	1778.5
3M	QPSK	1	0	23.25	23.23	23.28
		1	7	23.24	23.22	23.23
		1	14	23.23	23.13	22.78
		8	0	22.02	22.14	22.39
		8	3	21.74	22.32	22.02
		8	7	21.84	22.15	22.39
		15	0	22.31	22.24	23.25
3M	16QAM	1	0	22.31	22.37	22.33
		1	7	22.36	22.36	22.34
		1	14	22.08	22.36	22.30
		8	0	21.30	20.96	21.28
		8	3	20.82	21.10	21.07
		8	7	21.05	21.26	20.95
		15	0	21.05	21.26	21.03
3M	64QAM	1	0	20.77	20.78	21.00
		1	7	20.86	20.97	20.79
		1	14	20.84	20.90	20.82
		8	0	19.77	19.71	19.93
		8	3	19.74	19.78	19.77
		8	7	19.82	19.88	19.76
		15	0	19.84	19.74	19.78
3M	256QAM	1	0	18.00	18.37	18.44
		1	7	18.39	18.40	18.42
		1	14	18.23	18.22	18.27
		8	0	18.25	18.01	18.26
		8	3	17.72	18.29	18.29
		8	7	17.91	18.10	17.93
		15	0	17.87	18.25	18.09

LTE Band 66						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		131979	132322	132665
		Frequency (MHz)		1710.7	1745	1779.3
1.4M	QPSK	1	0	23.23	23.24	23.23
		1	2	23.23	23.17	23.20
		1	5	22.97	23.16	23.26
		3	0	23.21	23.26	23.21
		3	1	22.79	23.30	23.28
		3	3	23.00	23.17	22.97
		6	0	22.38	22.40	22.52
1.4M	16QAM	1	0	22.39	22.46	22.54
		1	2	21.86	22.38	22.24
		1	5	22.36	22.26	22.39
		3	0	22.03	22.13	22.23
		3	1	22.22	22.08	22.22
		3	3	21.84	22.00	22.07
		6	0	21.22	21.40	21.71
1.4M	64QAM	1	0	20.77	20.76	20.78
		1	2	20.72	20.71	20.71
		1	5	20.73	20.76	20.74
		3	0	20.88	20.78	20.93
		3	1	20.75	20.72	20.77
		3	3	20.77	20.72	20.79
		6	0	19.96	19.90	19.89
1.4M	256QAM	1	0	18.24	18.38	18.60
		1	2	18.19	18.57	18.42
		1	5	18.00	18.53	18.53
		3	0	18.01	18.17	18.42
		3	1	17.78	17.92	18.18
		3	3	17.76	18.20	18.15
		6	0	17.92	18.18	18.17

ERP Power (dBm)

NR Band 71						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		134600	136100	137600
		Frequency (MHz)		673	680.5	688
20M	$\pi/2$ BPSK	1	1	16.98	16.68	16.59
20M	QPSK	1	1	17.02	16.72	16.63
		1	53	16.68	16.56	16.50
		1	104	16.63	16.54	16.48
		50	0	15.82	15.64	15.50
		50	28	16.83	16.58	16.54
		50	56	15.70	15.57	15.53
		100	0	15.81	15.66	15.54
20M	16QAM	1	1	15.92	15.62	15.53
20M	64QAM	1	1	14.62	14.32	14.23
20M	256QAM	1	1	12.73	12.43	12.34
BW	MCS Index	Channel		134100	136100	138100
		Frequency (MHz)		670.5	680.5	690.5
15M	$\pi/2$ BPSK	1	1	16.95	16.61	16.58
15M	QPSK	1	1	16.92	16.72	16.63
		1	40	16.62	16.55	16.46
		1	77	16.61	16.47	16.41
		36	0	15.79	15.56	15.48
		36	22	16.81	16.57	16.44
		36	43	15.61	15.51	15.47
		75	0	15.71	15.64	15.54
15M	16QAM	1	1	15.91	15.58	15.48
15M	64QAM	1	1	14.54	14.24	14.20
15M	256QAM	1	1	12.72	12.33	12.29

*ERP = Conducted + antenna gain (-3.6dBi)-2.15

NR Band 71						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		133600	136100	138600
		Frequency (MHz)		668	680.5	693
10M	$\pi/2$ BPSK	1	1	16.91	16.58	16.53
10M	QPSK	1	1	16.92	16.62	16.53
		1	26	16.67	16.49	16.44
		1	50	16.63	16.54	16.46
		25	0	15.78	15.60	15.44
		25	14	16.73	16.55	16.51
		25	27	15.60	15.57	15.49
		50	0	15.76	15.65	15.50
10M	16QAM	1	1	15.86	15.54	15.47
10M	64QAM	1	1	14.62	14.25	14.15
10M	256QAM	1	1	12.67	12.37	12.33
BW	MCS Index	Channel		133100	136100	139100
		Frequency (MHz)		665.5	680.5	695.5
5M	$\pi/2$ BPSK	1	1	16.94	16.67	16.54
5M	QPSK	1	1	16.99	16.68	16.60
		1	13	16.65	16.51	16.48
		1	23	16.57	16.50	16.48
		12	0	15.77	15.59	15.45
		12	7	16.78	16.57	16.51
		12	13	15.70	15.49	15.53
		25	0	15.77	15.63	15.49
5M	16QAM	1	1	15.89	15.60	15.51
5M	64QAM	1	1	14.58	14.25	14.21
5M	256QAM	1	1	12.63	12.33	12.34

*ERP = Conducted + antenna gain (-3.6dBi)-2.15

EIRP (dBm)

LTE Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18700	18900	19100
		Frequency (MHz)		1860	1880	1900
20M	QPSK	1	0	22.35	22.36	22.34
		1	50	22.23	22.05	22.27
		1	99	21.91	21.92	22.05
		50	0	21.69	21.25	21.52
		50	25	21.45	21.18	21.51
		50	50	21.09	21.50	21.13
		100	0	21.23	21.39	21.21
20M	16QAM	1	0	21.51	21.45	21.14
		1	50	21.32	21.54	21.13
		1	99	21.54	21.37	21.13
		50	0	20.14	20.50	20.22
		50	25	20.60	20.72	20.10
		50	50	20.26	20.13	20.30
		100	0	20.01	20.14	20.13
20M	64QAM	1	0	20.63	20.41	20.36
		1	50	20.58	20.61	20.49
		1	99	20.61	20.65	20.55
		50	0	19.37	19.19	19.54
		50	25	19.43	19.66	19.18
		50	50	19.43	19.22	19.23
		100	0	19.38	19.68	19.40
20M	256QAM	1	0	17.24	17.34	17.60
		1	50	17.36	17.77	17.16
		1	99	17.47	17.36	17.09
		50	0	17.49	17.76	17.17
		50	25	17.61	17.57	17.23
		50	50	17.33	17.17	17.02
		100	0	17.12	17.40	17.44

*EIRP = Conducted + antenna gain (-0.8dBi)

LTE Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18675	18900	19125
		Frequency (MHz)		1857.5	1880	1902.5
15M	QPSK	1	0	22.02	22.24	22.20
		1	37	22.19	22.16	22.17
		1	74	22.14	22.20	22.16
		36	0	21.42	21.19	21.02
		36	19	21.45	21.16	21.05
		36	39	21.40	21.06	21.35
		75	0	21.24	21.27	21.21
15M	16QAM	1	0	21.48	21.35	21.27
		1	37	21.32	21.68	21.48
		1	74	21.46	21.47	21.52
		36	0	20.24	20.66	20.29
		36	19	20.47	20.68	20.57
		36	39	20.42	20.18	20.05
		75	0	20.23	20.32	20.39
15M	64QAM	1	0	20.28	20.43	20.16
		1	37	20.42	20.48	20.26
		1	74	20.26	20.39	20.09
		36	0	19.06	19.37	19.33
		36	19	19.40	19.31	19.31
		36	39	18.93	19.52	19.39
		75	0	19.41	19.59	19.49
15M	256QAM	1	0	17.64	17.60	17.18
		1	37	17.24	17.73	17.10
		1	74	17.21	17.44	17.03
		36	0	17.31	17.73	17.05
		36	19	17.41	17.62	17.11
		36	39	17.21	17.24	17.01
		75	0	17.45	17.13	17.37

*EIRP = Conducted + antenna gain (-0.8dBi)

LTE Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18650	18900	19150
		Frequency (MHz)		1855	1880	1905
10M	QPSK	1	0	22.28	22.15	22.26
		1	24	22.05	22.04	22.02
		1	49	22.21	21.98	21.93
		25	0	21.44	21.69	21.17
		25	12	21.34	21.42	21.30
		25	25	20.93	20.99	21.00
		50	0	21.26	21.18	20.94
10M	16QAM	1	0	21.16	21.49	21.46
		1	24	21.26	21.22	21.12
		1	49	21.32	21.33	20.96
		25	0	20.02	20.49	20.53
		25	12	20.07	20.17	20.38
		25	25	20.42	20.45	19.97
		50	0	20.21	19.93	20.25
10M	64QAM	1	0	20.64	20.54	20.02
		1	24	20.63	20.13	20.50
		1	49	20.27	20.35	20.42
		25	0	19.18	19.48	19.40
		25	12	19.24	19.47	19.17
		25	25	19.20	19.29	19.05
		50	0	19.15	19.42	19.36
10M	256QAM	1	0	17.69	17.09	17.54
		1	24	17.63	17.30	17.53
		1	49	17.51	17.24	17.32
		25	0	17.66	17.51	17.03
		25	12	17.48	17.23	17.38
		25	25	17.21	17.32	17.11
		50	0	17.39	17.29	17.39

*EIRP = Conducted + antenna gain (-0.8dBi)

LTE Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18625	18900	19175
		Frequency (MHz)		1852.5	1880	1907.5
5M	QPSK	1	0	21.92	22.15	22.03
		1	12	21.96	22.13	21.93
		1	24	21.93	22.14	21.99
		12	0	21.53	21.41	21.48
		12	6	21.01	21.07	21.28
		12	13	21.09	21.14	21.09
		25	0	21.06	20.94	20.96
5M	16QAM	1	0	20.99	21.49	21.26
		1	12	21.43	21.34	21.20
		1	24	21.37	21.29	20.95
		12	0	20.18	20.59	20.10
		12	6	20.47	20.01	20.20
		12	13	20.28	20.30	20.18
		25	0	20.17	20.24	20.10
5M	64QAM	1	0	20.13	20.21	20.33
		1	12	20.27	20.35	20.02
		1	24	20.09	20.18	20.10
		12	0	19.10	19.44	19.09
		12	6	18.93	19.30	19.38
		12	13	19.31	18.97	19.18
		25	0	19.37	19.26	19.35
5M	256QAM	1	0	17.71	17.35	17.36
		1	12	17.41	17.16	17.31
		1	24	17.16	17.24	17.19
		12	0	17.45	17.48	17.06
		12	6	17.50	17.35	17.26
		12	13	17.23	17.45	17.04
		25	0	17.45	17.01	16.93

*EIRP = Conducted + antenna gain (-0.8dBi)

LTE Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18615	18900	19185
		Frequency (MHz)		1851.5	1880	1908.5
3M	QPSK	1	0	22.42	22.35	22.18
		1	7	21.95	22.00	22.07
		1	14	21.99	22.05	21.92
		8	0	21.36	21.19	20.96
		8	3	21.26	21.28	21.18
		8	7	21.01	21.39	21.08
		15	0	21.02	21.42	21.37
3M	16QAM	1	0	21.59	21.59	21.51
		1	7	21.11	21.30	21.30
		1	14	21.33	21.33	21.31
		8	0	20.09	20.12	20.28
		8	3	20.01	20.36	20.28
		8	7	20.29	20.35	20.16
		15	0	20.07	20.35	20.16
3M	64QAM	1	0	20.16	20.43	20.29
		1	7	20.42	20.30	20.28
		1	14	20.23	20.07	19.95
		8	0	19.12	19.33	18.91
		8	3	19.21	19.08	19.37
		8	7	19.03	19.31	19.26
		15	0	19.18	19.25	19.06
3M	256QAM	1	0	17.60	17.64	17.36
		1	7	17.25	17.35	17.38
		1	14	17.10	17.64	17.59
		8	0	17.32	17.58	17.68
		8	3	17.17	17.07	17.14
		8	7	17.20	17.42	17.12
		15	0	17.15	17.33	17.23

*EIRP = Conducted + antenna gain (-0.8dBi)

LTE Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18607	18900	19193
		Frequency (MHz)		1850.7	1880	1909.3
1.4M	QPSK	1	0	22.30	22.25	22.23
		1	2	22.09	22.08	22.16
		1	5	21.94	22.24	22.14
		3	0	22.06	22.08	22.12
		3	1	22.09	22.37	22.19
		3	3	22.02	22.08	21.90
		6	0	21.18	21.37	20.99
1.4M	16QAM	1	0	21.59	21.54	20.99
		1	2	21.06	21.33	21.52
		1	5	21.33	21.33	21.24
		3	0	21.08	21.38	21.36
		3	1	21.35	21.04	21.26
		3	3	21.27	21.55	21.39
		6	0	20.23	20.22	20.05
1.4M	64QAM	1	0	20.45	20.44	19.97
		1	2	20.43	20.37	20.20
		1	5	20.09	20.40	20.23
		3	0	20.45	20.48	19.94
		3	1	20.12	20.25	20.05
		3	3	20.31	20.26	20.08
		6	0	19.04	19.16	19.28
1.4M	256QAM	1	0	17.23	17.49	17.51
		1	2	17.11	17.70	17.20
		1	5	17.21	17.24	17.21
		3	0	17.16	17.67	17.41
		3	1	17.04	17.40	17.22
		3	3	17.24	17.19	17.25
		6	0	17.47	17.15	17.34

*EIRP = Conducted + antenna gain (-0.8dBi)

LTE Band 66						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		132072	132322	132572
		Frequency (MHz)		1720	1745	1770
20M	QPSK	1	0	25.68	25.65	25.59
		1	50	25.67	25.46	25.47
		1	99	25.18	25.65	25.62
		50	0	24.68	24.75	24.35
		50	25	24.59	24.71	24.74
		50	50	24.25	24.73	24.42
		100	0	24.35	24.79	24.75
20M	16QAM	1	0	24.59	25.11	24.99
		1	50	24.29	25.03	25.02
		1	99	24.47	24.55	24.66
		50	0	23.28	23.97	23.90
		50	25	23.36	23.92	23.94
		50	50	23.22	23.43	23.32
		100	0	23.48	23.65	23.91
20M	64QAM	1	0	23.06	23.08	23.54
		1	50	23.02	23.09	23.04
		1	99	23.05	23.04	23.09
		50	0	22.10	22.64	22.28
		50	25	22.02	22.15	22.01
		50	50	22.15	22.29	22.14
		100	0	22.13	22.13	22.21
20M	256QAM	1	0	20.64	20.75	20.75
		1	50	20.36	20.74	20.75
		1	99	20.73	20.69	20.65
		50	0	20.52	20.53	20.55
		50	25	20.54	20.51	20.51
		50	50	20.19	20.57	20.36
		100	0	20.41	20.58	20.54

*EIRP = Conducted + antenna gain (2.3dBi)

LTE Band 66						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		132047	132322	132597
		Frequency (MHz)		1717.5	1745	1772.5
15M	QPSK	1	0	25.58	25.41	25.52
		1	37	25.54	25.44	25.32
		1	74	25.07	25.35	25.45
		36	0	24.24	24.64	24.57
		36	19	24.40	24.58	24.83
		36	39	24.60	24.73	24.40
		75	0	24.53	24.49	24.89
15M	16QAM	1	0	24.32	24.58	24.53
		1	37	24.62	24.65	24.68
		1	74	24.59	24.56	24.48
		36	0	23.16	23.57	23.53
		36	19	23.20	23.75	23.70
		36	39	23.30	23.62	23.57
		75	0	23.67	23.53	23.59
15M	64QAM	1	0	23.16	23.54	23.38
		1	37	23.18	23.19	23.06
		1	74	23.03	23.10	23.12
		36	0	22.15	22.42	22.58
		36	19	22.14	22.41	22.00
		36	39	22.09	22.09	22.08
		75	0	22.13	22.07	22.07
15M	256QAM	1	0	20.45	21.04	20.62
		1	37	20.55	20.58	20.49
		1	74	20.50	20.55	20.70
		36	0	20.27	20.50	20.59
		36	19	20.52	20.55	20.57
		36	39	20.15	20.57	20.63
		75	0	20.54	20.57	20.53

*EIRP = Conducted + antenna gain (2.3dBi)

LTE Band 66						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		132022	132322	132622
		Frequency (MHz)		1715	1745	1775
10M	QPSK	1	0	25.54	25.50	25.37
		1	24	25.49	25.36	25.21
		1	49	25.28	25.29	25.37
		25	0	24.01	24.61	24.60
		25	12	24.18	24.67	24.66
		25	25	24.19	24.69	24.68
		50	0	24.27	24.62	24.31
10M	16QAM	1	0	24.55	24.50	24.53
		1	24	24.12	24.53	24.88
		1	49	24.59	24.57	24.46
		25	0	23.36	23.42	23.46
		25	12	23.47	23.27	23.42
		25	25	23.37	23.35	23.41
		50	0	23.36	23.59	23.55
10M	64QAM	1	0	23.01	23.07	23.07
		1	24	23.06	23.05	23.11
		1	49	23.05	23.02	23.12
		25	0	22.05	22.30	22.44
		25	12	22.06	22.33	22.22
		25	25	22.04	22.08	22.15
		50	0	22.09	22.07	22.06
10M	256QAM	1	0	20.43	20.53	20.52
		1	24	20.19	20.59	20.41
		1	49	20.43	20.50	20.44
		25	0	20.08	20.53	20.43
		25	12	20.34	20.59	20.14
		25	25	20.13	20.55	20.19
		50	0	20.54	20.50	20.56

*EIRP = Conducted + antenna gain (2.3dBi)

LTE Band 66						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		131997	132322	132647
		Frequency (MHz)		1712.5	1745	1777.5
5M	QPSK	1	0	25.53	25.58	25.32
		1	12	25.59	25.55	25.25
		1	24	25.16	25.47	25.15
		12	0	24.41	24.59	24.67
		12	6	24.04	24.91	24.70
		12	13	24.36	24.85	24.40
		25	0	24.57	24.52	24.42
5M	16QAM	1	0	24.59	25.09	24.93
		1	12	24.40	24.58	24.52
		1	24	24.59	24.62	24.35
		12	0	23.50	23.60	23.45
		12	6	23.02	23.51	23.56
		12	13	23.06	23.37	23.47
		25	0	23.04	23.56	23.57
5M	64QAM	1	0	23.02	23.35	23.26
		1	12	23.03	23.16	23.10
		1	24	23.07	23.06	23.02
		12	0	22.15	22.12	22.40
		12	6	22.13	22.10	22.04
		12	13	22.04	22.09	22.05
		25	0	22.07	22.02	22.09
5M	256QAM	1	0	20.47	20.61	20.59
		1	12	20.25	20.61	20.50
		1	24	20.35	20.58	20.54
		12	0	20.25	20.43	20.58
		12	6	20.51	20.29	20.45
		12	13	20.08	20.38	20.52
		25	0	20.04	20.49	20.43

*EIRP = Conducted + antenna gain (2.3dBi)

LTE Band 66						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		131987	132322	132657
		Frequency (MHz)		1711.5	1745	1778.5
3M	QPSK	1	0	25.55	25.53	25.58
		1	7	25.54	25.52	25.53
		1	14	25.53	25.43	25.08
		8	0	24.32	24.44	24.69
		8	3	24.04	24.62	24.32
		8	7	24.14	24.45	24.69
		15	0	24.61	24.54	25.55
3M	16QAM	1	0	24.61	24.67	24.63
		1	7	24.66	24.66	24.64
		1	14	24.38	24.66	24.60
		8	0	23.60	23.26	23.58
		8	3	23.12	23.40	23.37
		8	7	23.35	23.56	23.25
		15	0	23.35	23.56	23.33
3M	64QAM	1	0	23.07	23.08	23.30
		1	7	23.16	23.27	23.09
		1	14	23.14	23.20	23.12
		8	0	22.07	22.01	22.23
		8	3	22.04	22.08	22.07
		8	7	22.12	22.18	22.06
		15	0	22.14	22.04	22.08
3M	256QAM	1	0	20.30	20.67	20.74
		1	7	20.69	20.70	20.72
		1	14	20.53	20.52	20.57
		8	0	20.55	20.31	20.56
		8	3	20.02	20.59	20.59
		8	7	20.21	20.40	20.23
		15	0	20.17	20.55	20.39

*EIRP = Conducted + antenna gain (2.3dBi)

LTE Band 66						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		131979	132322	132665
		Frequency (MHz)		1710.7	1745	1779.3
1.4M	QPSK	1	0	25.53	25.54	25.53
		1	2	25.53	25.47	25.50
		1	5	25.27	25.46	25.56
		3	0	25.51	25.56	25.51
		3	1	25.09	25.60	25.58
		3	3	25.30	25.47	25.27
		6	0	24.68	24.70	24.82
1.4M	16QAM	1	0	24.69	24.76	24.84
		1	2	24.16	24.68	24.54
		1	5	24.66	24.56	24.69
		3	0	24.33	24.43	24.53
		3	1	24.52	24.38	24.52
		3	3	24.14	24.30	24.37
		6	0	23.52	23.70	24.01
1.4M	64QAM	1	0	23.07	23.06	23.08
		1	2	23.02	23.01	23.01
		1	5	23.03	23.06	23.04
		3	0	23.18	23.08	23.23
		3	1	23.05	23.02	23.07
		3	3	23.07	23.02	23.09
		6	0	22.26	22.20	22.19
1.4M	256QAM	1	0	20.54	20.68	20.90
		1	2	20.49	20.87	20.72
		1	5	20.30	20.83	20.83
		3	0	20.31	20.47	20.72
		3	1	20.08	20.22	20.48
		3	3	20.06	20.50	20.45
		6	0	20.22	20.48	20.47

*EIRP = Conducted + antenna gain (2.3dBi)

4.2 Modulation Characteristics Measurement

4.2.1 Limits of Modulation Characteristics

N/A

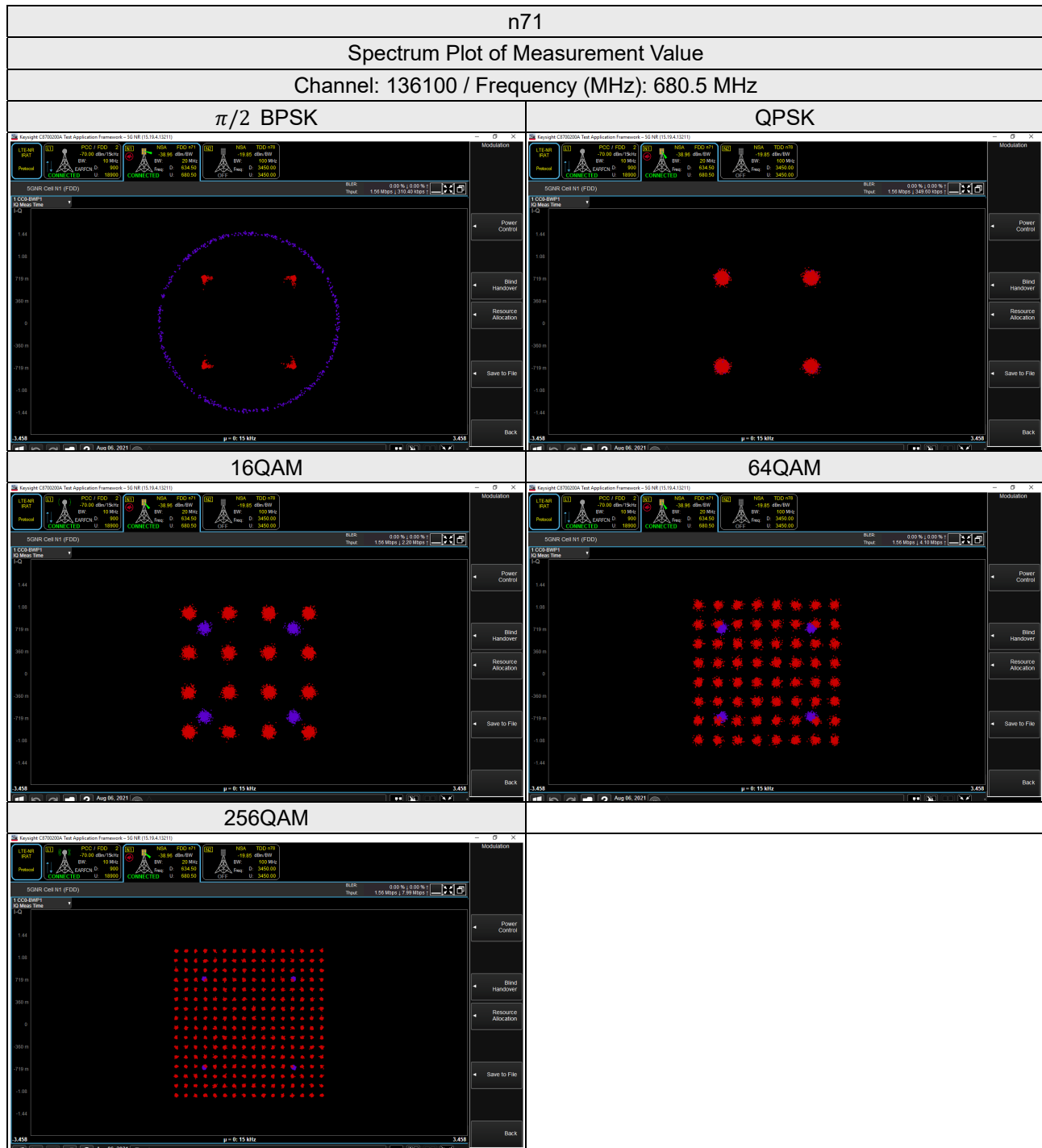
4.2.2 Test Procedure

Connect the EUT to Communication Simulator via the antenna connector, The frequency band is set as EUT supported Modulation and Channels, the EUT output is matched with 50 ohm load, the waveform quality and constellation of the EUT was tested.

4.2.3 Test Setup



4.2.4 Test Results



4.3 Frequency Stability Measurement

4.3.1 Limits of Frequency Stability Measurement

1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

4.3.2 Test Procedure

- Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
- EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
- The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the $\pm 0.5^{\circ}\text{C}$ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

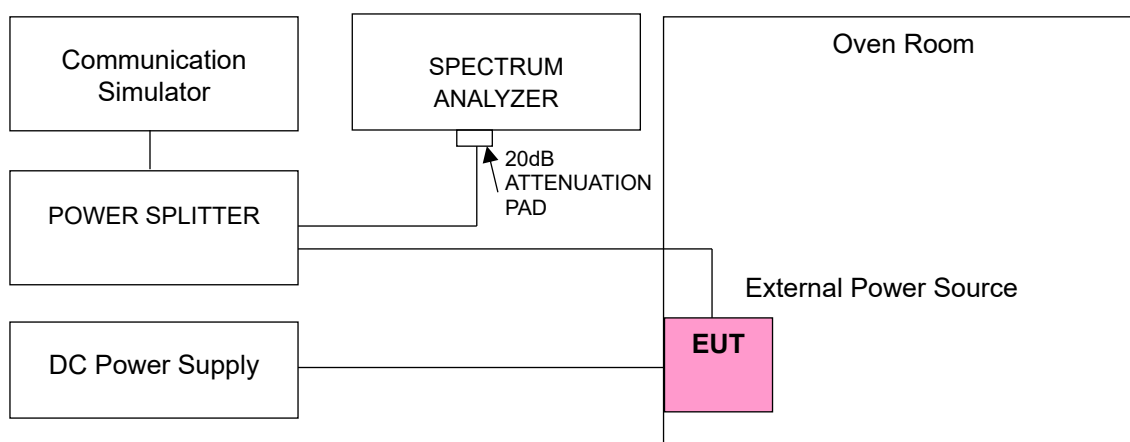
Note: The frequency error was recorded frequency error from the communication simulator.

4.3.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
5G Wireless Test Platforms Keysight	E7515B	MY60102114	May 21, 2021	May 20, 2022
Temperature & Humidity Chamber TERCHY	HRM-120RF	931022	Dec. 24, 2020	Dec. 23, 2021
Digital Multimeter Fluke	87-III	70360742	Jun. 24, 2021	Jun. 23, 2022
DC Power Supply Topward	6306A	727263	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.3.4 Test Setup



4.3.5 Test Results

Frequency Error vs. Voltage

Voltage (Vdc)	n71			
	Channel Bandwidth: 5 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.87	665.500036	0.054	695.500000	0.039
3.28	665.500028	0.042	695.500000	0.055
4.45	665.500038	0.057	695.500000	0.020

Note: The applicant defined the normal working voltage is from 3.28Vdc to 4.45Vdc.

Frequency Error vs. Temperature

Temp. (°C)	n71			
	Channel Bandwidth: 5 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	665.500027	0.041	695.500000	0.032
-20	665.500024	0.036	695.500000	0.027
-10	665.500020	0.030	695.500000	0.040
0	665.500035	0.053	695.500000	0.024
10	665.500038	0.057	695.500000	0.053
20	665.499965	-0.053	695.500000	-0.032
30	665.499988	-0.018	695.500000	-0.049
40	665.499978	-0.033	695.500000	-0.030
50	665.499985	-0.023	695.500000	-0.016
60	665.499972	-0.042	695.500000	-0.029

Frequency Error vs. Voltage

Voltage (Vdc)	n71			
	Channel Bandwidth: 10 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.87	668.000026	0.039	693.000029	0.042
3.28	668.000040	0.060	693.000037	0.053
4.45	668.000019	0.029	693.000016	0.023

Note: The applicant defined the normal working voltage is from 3.28Vdc to 4.45Vdc.

Frequency Error vs. Temperature

Temp. (°C)	n71			
	Channel Bandwidth: 10 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	668.000033	0.050	693.000032	0.046
-20	668.000036	0.054	693.000036	0.052
-10	668.000015	0.023	693.000014	0.020
0	668.000029	0.044	693.000012	0.017
10	668.000022	0.033	693.000026	0.037
20	667.999990	-0.015	692.999987	-0.019
30	667.999968	-0.048	692.999974	-0.037
40	667.999982	-0.027	692.999982	-0.026
50	667.999984	-0.024	692.999977	-0.033
60	667.999989	-0.017	692.999976	-0.035

Frequency Error vs. Voltage

Voltage (Vdc)	n71			
	Channel Bandwidth: 15 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.87	670.500026	0.039	690.500017	0.024
3.28	670.500021	0.032	690.500026	0.037
4.45	670.500029	0.044	690.500037	0.053

Note: The applicant defined the normal working voltage is from 3.28Vdc to 4.45Vdc.

Frequency Error vs. Temperature

Temp. (°C)	n71			
	Channel Bandwidth: 15 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	670.500014	0.021	690.500023	0.033
-20	670.500011	0.017	690.500020	0.029
-10	670.500022	0.033	690.500033	0.047
0	670.500022	0.033	690.500027	0.039
10	670.500028	0.042	690.500034	0.049
20	670.499985	-0.023	690.499990	-0.014
30	670.499970	-0.045	690.499967	-0.047
40	670.499990	-0.015	690.499960	-0.058
50	670.499978	-0.033	690.499985	-0.022
60	670.499967	-0.050	690.499974	-0.037

Frequency Error vs. Voltage

Voltage (Vdc)	n71			
	Channel Bandwidth: 20 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.87	673.000014	0.021	688.000012	0.017
3.28	673.000021	0.032	688.000037	0.053
4.45	673.000013	0.020	688.000027	0.039

Note: The applicant defined the normal working voltage is from 3.28Vdc to 4.45Vdc.

Frequency Error vs. Temperature

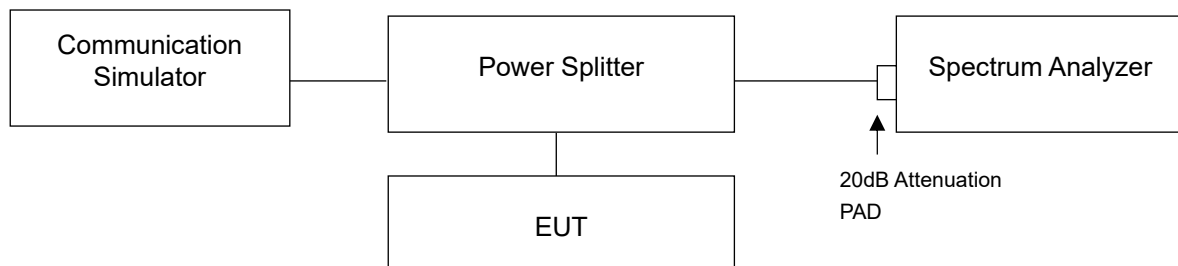
Temp. (°C)	n71			
	Channel Bandwidth: 20 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	673.000020	0.030	688.000026	0.037
-20	673.000019	0.029	688.000031	0.045
-10	673.000018	0.027	688.000034	0.049
0	673.000023	0.035	688.000027	0.039
10	673.000035	0.053	688.000020	0.029
20	672.999986	-0.021	687.999987	-0.019
30	672.999967	-0.050	687.999984	-0.023
40	672.999971	-0.044	687.999989	-0.016
50	672.999966	-0.051	687.999976	-0.035
60	672.999969	-0.047	687.999963	-0.053

4.4 Occupied Bandwidth Measurement

4.4.1 Test Procedure

The occupied bandwidth (OBW), 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 % of the total mean power radiated by a given emission.

4.4.2 Test Setup



4.4.3 Test Result

Occupied Bandwidth

n71

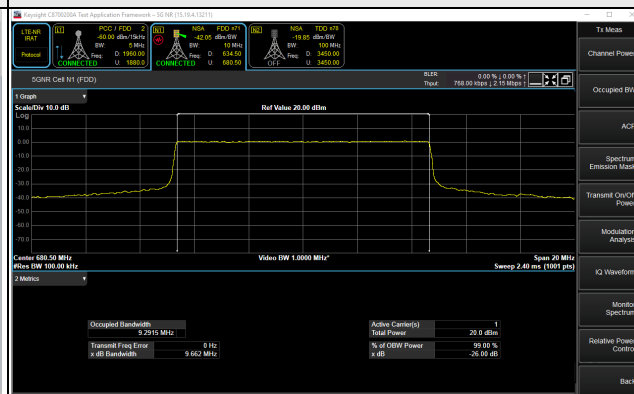
n71, Channel Bandwidth 5MHz						
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
133100	665.5	4.47	4.47	4.47	4.47	4.47
136100	680.5	4.47	4.47	4.47	4.47	4.47
139100	695.5	4.47	4.47	4.47	4.47	4.47
n71, Channel Bandwidth 10MHz						
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
133600	668	9.18	9.29	9.28	9.29	9.29
136100	680.5	9.21	9.29	9.29	9.29	9.28
138600	693	9.17	9.29	9.29	9.29	9.29
n71, Channel Bandwidth 15MHz						
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
134100	670.5	13.93	14.11	14.10	14.11	14.11
136100	680.5	13.99	14.11	14.10	14.11	14.11
138100	690.5	14.05	14.12	14.11	14.12	14.12
n71, Channel Bandwidth 20MHz						
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
134600	673	18.65	18.90	18.90	18.90	18.90
136100	680.5	18.73	18.90	18.90	18.91	18.91
137600	688	18.81	18.91	18.91	18.91	18.91

Spectrum Plot of Worst Value

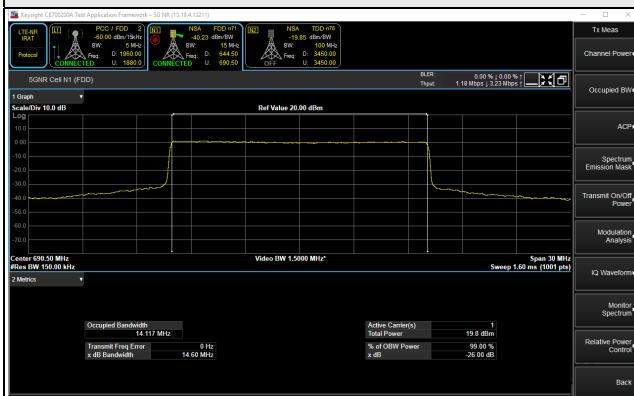
5MHz / 16QAM



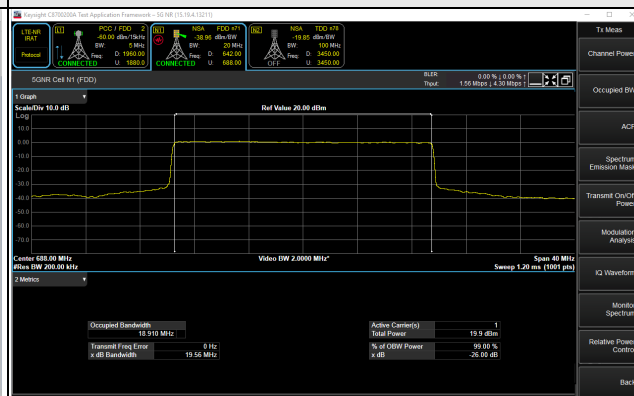
10MHz / 64QAM



15MHz / 64QAM



20MHz / 64QAM



26dB Bandwidth

n71

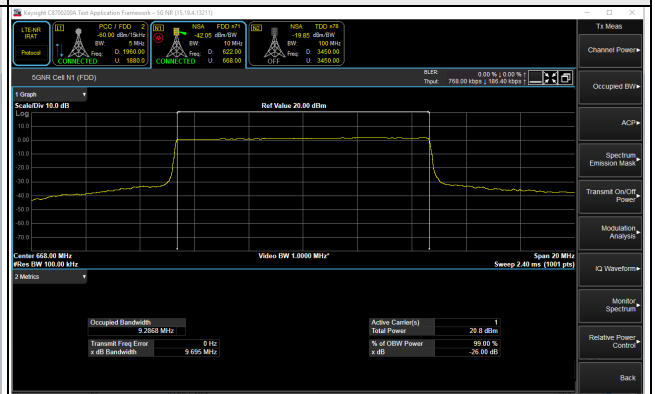
n71, Channel Bandwidth 5MHz						
Channel	Frequency (MHz)	26dB Bandwidth (MHz)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
133100	665.5	4.76	4.80	4.75	4.75	4.73
136100	680.5	4.75	4.79	4.76	4.73	4.71
139100	695.5	4.77	4.77	4.73	4.72	4.70
n71, Channel Bandwidth 10MHz						
Channel	Frequency (MHz)	26dB Bandwidth (MHz)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
133600	668	9.28	9.70	9.63	9.64	9.65
136100	680.5	9.30	9.69	9.68	9.66	9.64
138600	693	9.30	9.67	9.65	9.66	9.65
n71, Channel Bandwidth 15MHz						
Channel	Frequency (MHz)	26dB Bandwidth (MHz)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
134100	670.5	13.89	14.62	14.62	14.60	14.58
136100	680.5	13.90	14.63	14.61	14.63	14.61
138100	690.5	13.89	14.61	14.62	14.60	14.58
n71, Channel Bandwidth 20MHz						
Channel	Frequency (MHz)	26dB Bandwidth (MHz)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
134600	673	18.48	19.58	19.58	19.56	19.55
136100	680.5	18.47	19.58	19.59	19.57	19.56
137600	688	18.49	19.58	19.58	19.56	19.56

Spectrum Plot of Worst Value

5MHz / QPSK



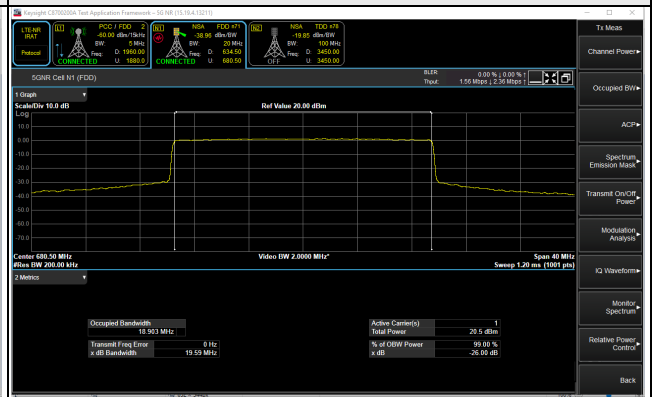
10MHz / QPSK



15MHz / QPSK



20MHz / 16QAM

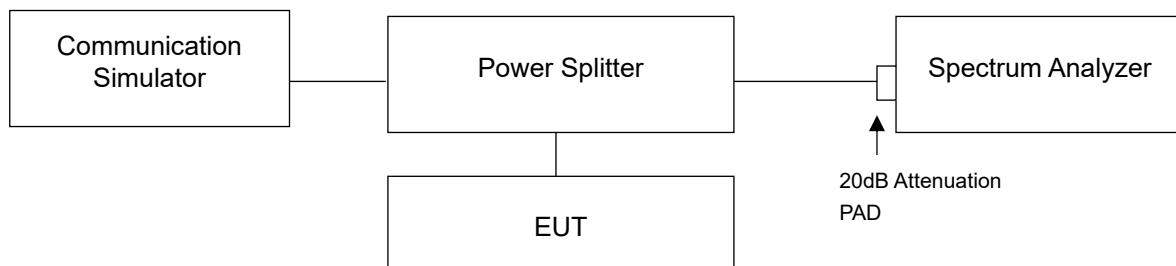


4.5 Band Edge Measurement

4.5.1 Limits of Band Edge Measurement

According to FCC 27.53(g) for operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater.

4.5.2 Test Setup



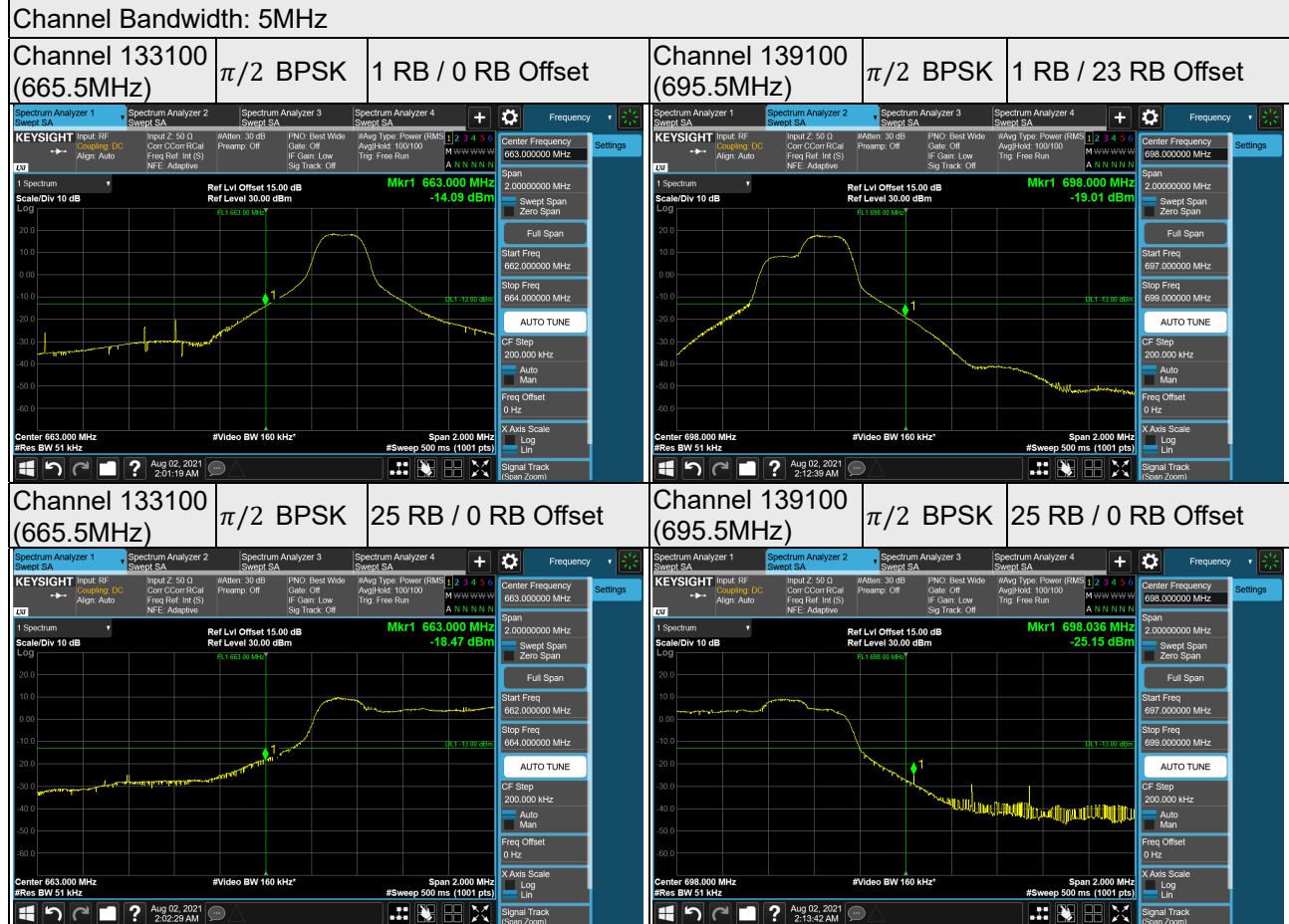
4.5.3 Test Procedures

- All measurements were done at low and high operational frequency range.
- The center frequency of spectrum is the band edge frequency and span is 2MHz. RB of the spectrum is 51kHz and VB of the spectrum is 160kHz (Channel Bandwidth 5MHz).
- The center frequency of spectrum is the band edge frequency and span is 2MHz. RB of the spectrum is 100kHz and VB of the spectrum is 300kHz (Channel Bandwidth 10MHz).
- The center frequency of spectrum is the band edge frequency and span is 2MHz. RB of the spectrum is 150kHz and VB of the spectrum is 470kHz (Channel Bandwidth 15MHz).
- The center frequency of spectrum is the band edge frequency and span is 2MHz. RB of the spectrum is 200kHz and VB of the spectrum is 620kHz (Channel Bandwidth 20MHz).
- Record the max trace plot into the test report.

4.5.4 Test Results

n71

Band edge:



Channel Bandwidth: 10MHz

Channel 133600
(668.0MHz)

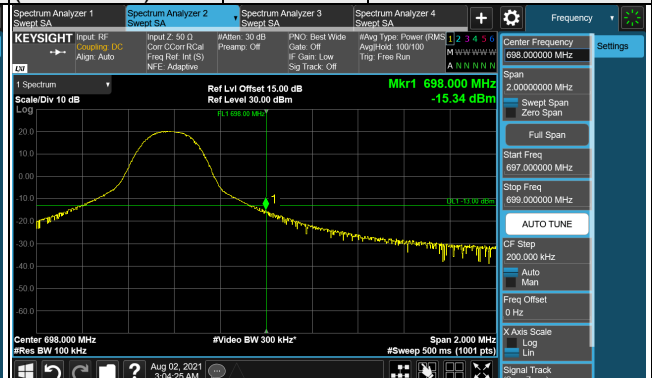
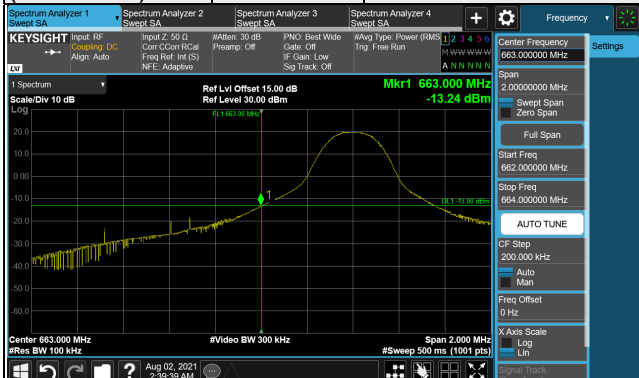
$\pi/2$ BPSK

1 RB / 0 RB Offset

Channel 138600
(693.0MHz)

$\pi/2$ BPSK

1 RB / 50 RB Offset



Channel 133600
(668.0MHz)

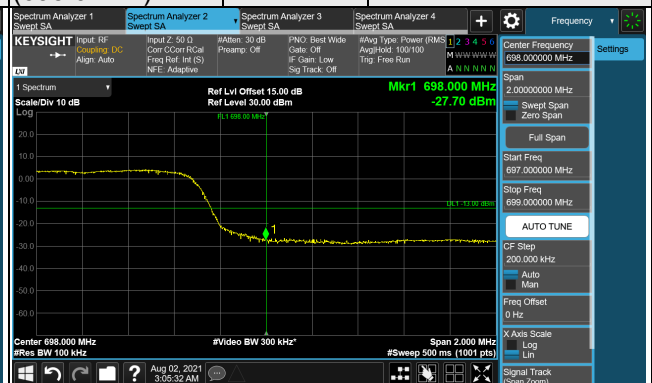
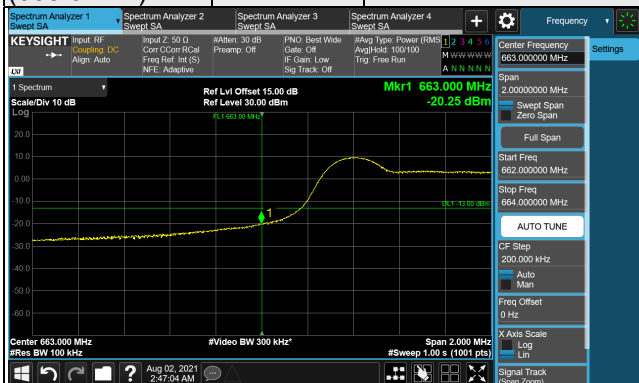
$\pi/2$ BPSK

50 RB / 0 RB Offset

Channel 138600
(693.0MHz)

$\pi/2$ BPSK

50 RB / 0 RB Offset



Channel Bandwidth: 15MHz

Channel 134100
(670.5MHz)

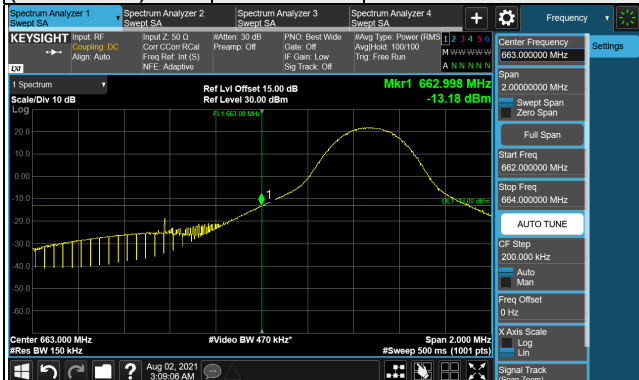
$\pi/2$ BPSK

1 RB / 0 RB Offset

Channel 138100
(690.5MHz)

$\pi/2$ BPSK

1 RB / 77 RB Offset



Channel 134100
(670.5MHz)

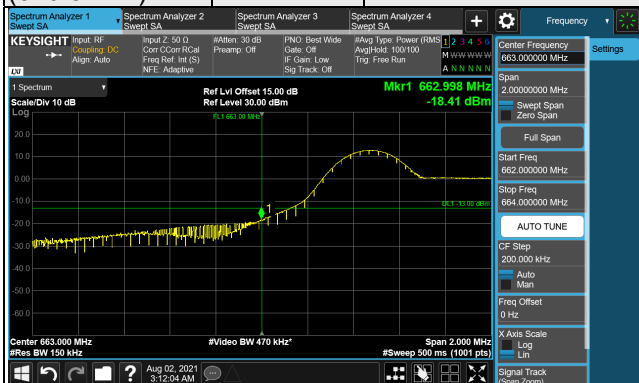
$\pi/2$ BPSK

75 RB / 0 RB Offset

Channel 138100
(690.5MHz)

$\pi/2$ BPSK

75 RB / 0 RB Offset



Channel Bandwidth: 20MHz

Channel 134600
(673.0MHz)

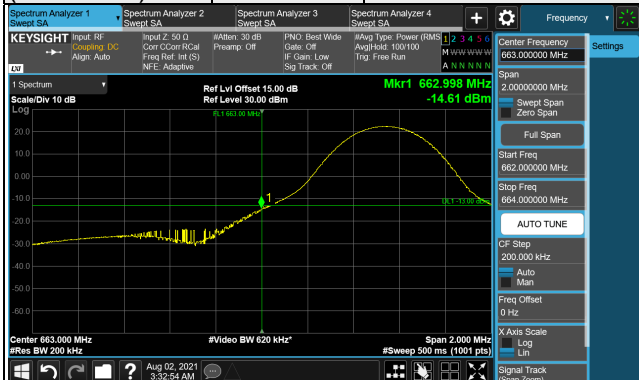
$\pi/2$ BPSK

1 RB / 0 RB Offset

Channel 137600
(688.0MHz)

$\pi/2$ BPSK

1 RB / 104 RB Offset



Channel 134600
(673.0MHz)

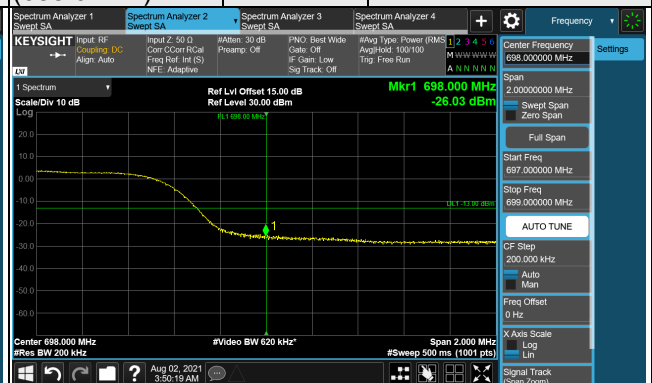
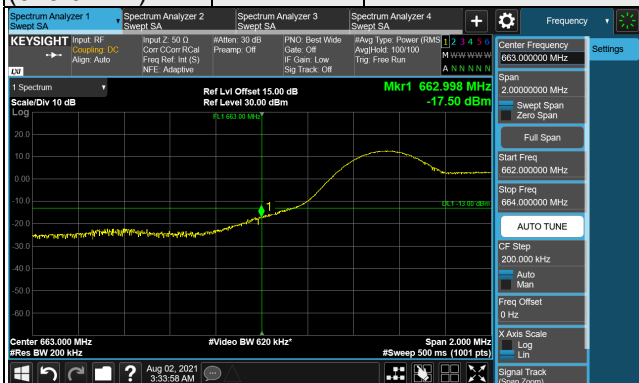
$\pi/2$ BPSK

100 RB / 0 RB Offset

Channel 137600
(688.0MHz)

$\pi/2$ BPSK

100 RB / 0 RB Offset

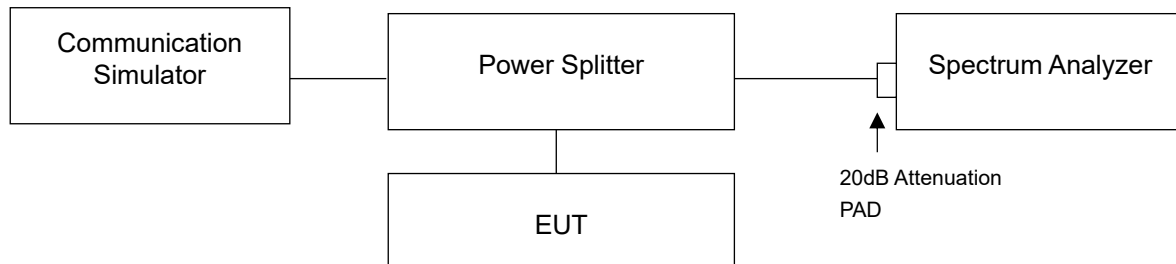


4.6 Peak to Average Ratio

4.6.1 Limits of Peak to Average Ratio Measurement

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

4.6.2 Test Setup



4.6.3 Test Procedures

- Set resolution/measurement bandwidth $\geq$ signal's occupied bandwidth;
- Set the number of counts to a value that stabilizes the measured CCDF curve;
- Record the maximum PAPR level associated with a probability of 0.1%.

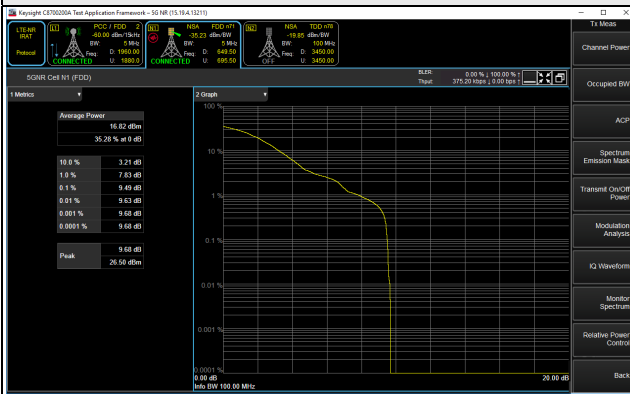
4.6.4 Test Results

n71

n71, Channel Bandwidth 5MHz						
Channel	Frequency (MHz)	Peak To Average Ratio (dB)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
133100	665.5	3.34	6.50	6.14	6.71	8.20
136100	680.5	3.37	6.42	6.06	6.66	9.04
139100	695.5	3.37	6.60	6.18	6.56	9.49
n71, Channel Bandwidth 10MHz						
Channel	Frequency (MHz)	Peak To Average Ratio (dB)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
133600	668	3.35	5.83	5.86	6.45	8.41
136100	680.5	3.38	5.70	6.10	6.69	7.58
138600	693	3.35	5.80	6.78	6.79	8.67
n71, Channel Bandwidth 15MHz						
Channel	Frequency (MHz)	Peak To Average Ratio (dB)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
134100	670.5	3.26	5.55	6.21	6.93	8.53
136100	680.5	3.43	5.82	6.40	7.01	8.75
138100	690.5	3.33	5.56	6.09	6.51	7.89
n71, Channel Bandwidth 20MHz						
Channel	Frequency (MHz)	Peak To Average Ratio (dB)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
134600	673	3.29	5.73	6.04	6.71	8.78
136100	680.5	3.31	5.55	5.92	6.45	8.07
137600	688	3.53	6.06	6.39	6.81	9.19

Spectrum Plot of Worst Value

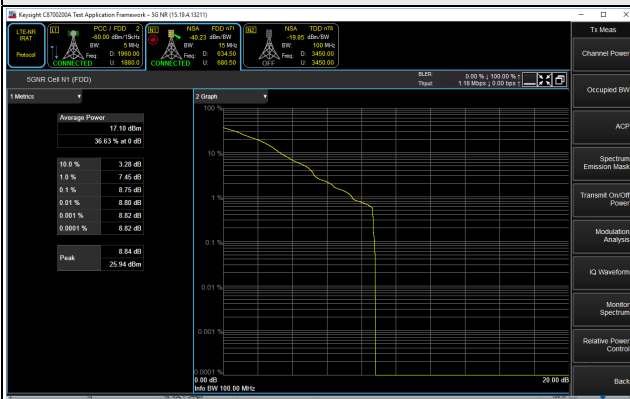
5MHz / 256QAM



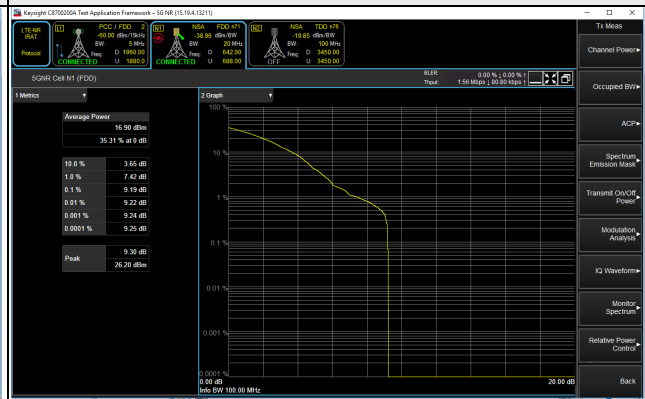
10MHz / 256QAM



15MHz / 256QAM



20MHz / 256QAM



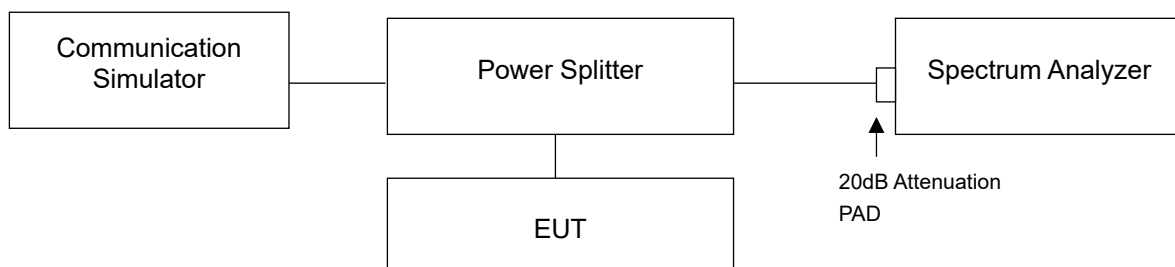
4.7 Conducted Spurious Emissions

4.7.1 Limits of Conducted Spurious Emissions Measurement

According to FCC 27.53(g) for operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB.

Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater.

4.7.2 Test Setup



4.7.3 Test Procedure

- The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- Measuring frequency range is from 9kHz to 10GHz. 20dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

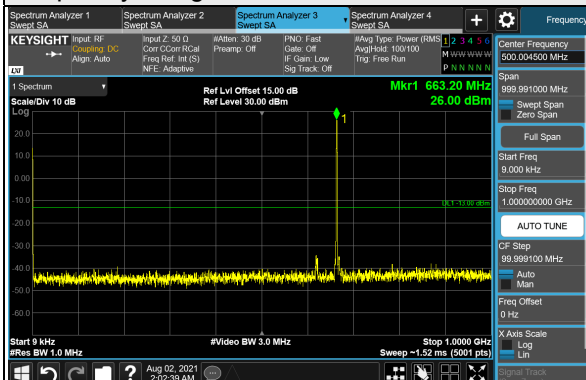
4.7.4 Test Results

n71

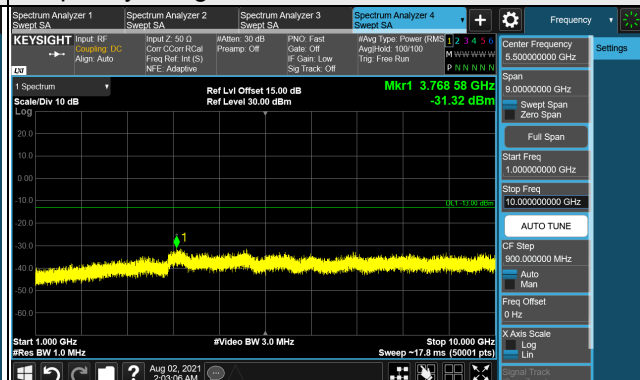
Channel Bandwidth: 5MHz

Channel 133100 (665.5MHz)

Frequency Range : 9kHz~1GHz

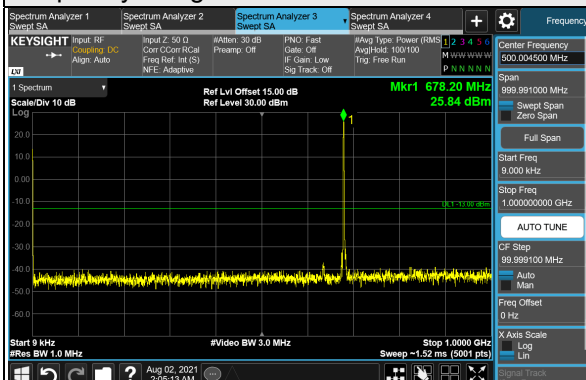


Frequency Range : 1GHz~10GHz

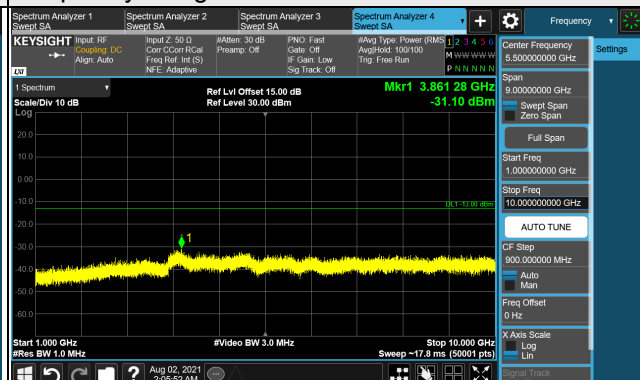


Channel 136100 (680.5MHz)

Frequency Range : 9kHz~1GHz

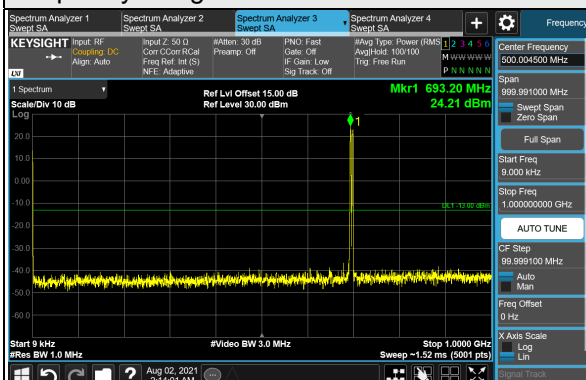


Frequency Range : 1GHz~10GHz

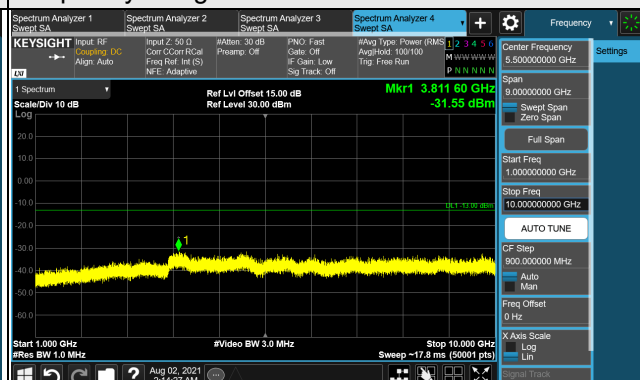


Channel 139100 (695.5MHz)

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz

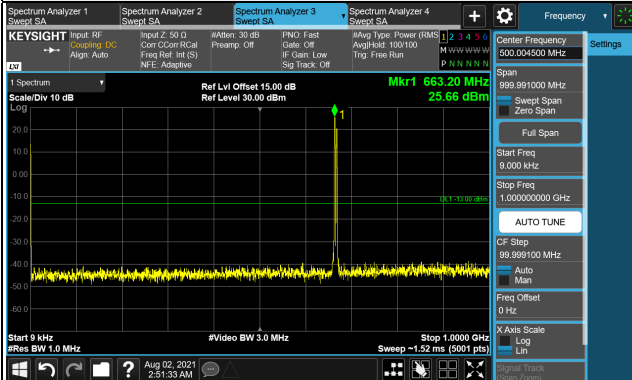


*The 9 kHz tone is from the spectrum analyzer.

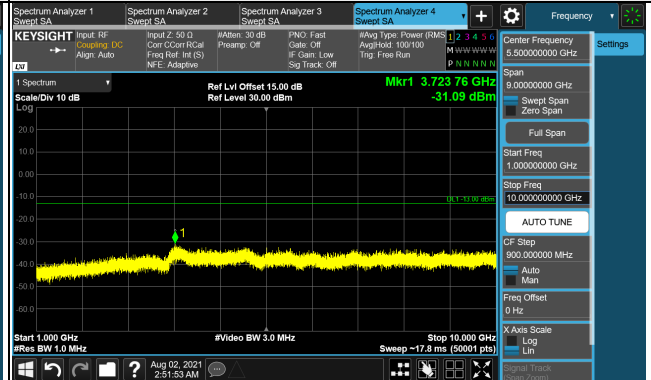
Channel Bandwidth: 10MHz

Channel 133600 (668.0MHz)

Frequency Range : 9kHz~1GHz

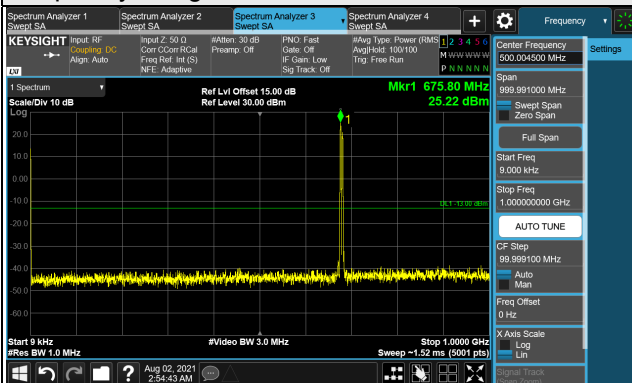


Frequency Range : 1GHz~10GHz

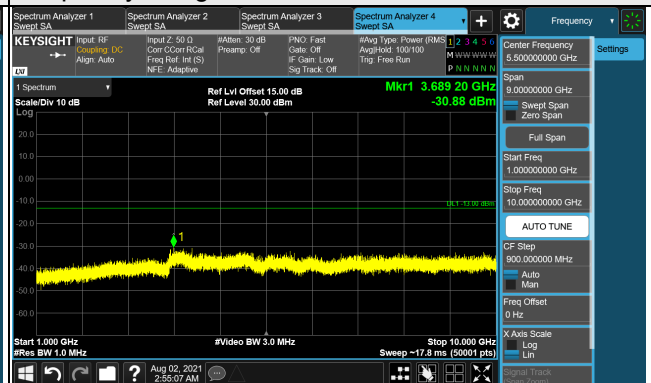


Channel 136100 (680.5MHz)

Frequency Range : 9kHz~1GHz

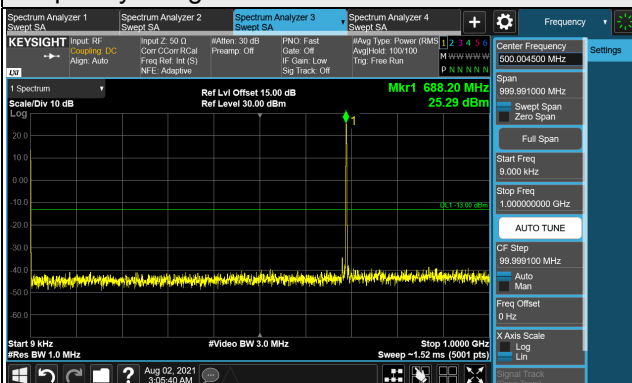


Frequency Range : 1GHz~10GHz

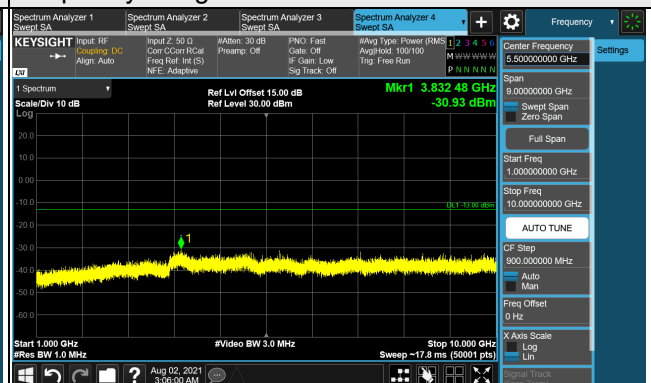


Channel 138600 (693.0MHz)

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz

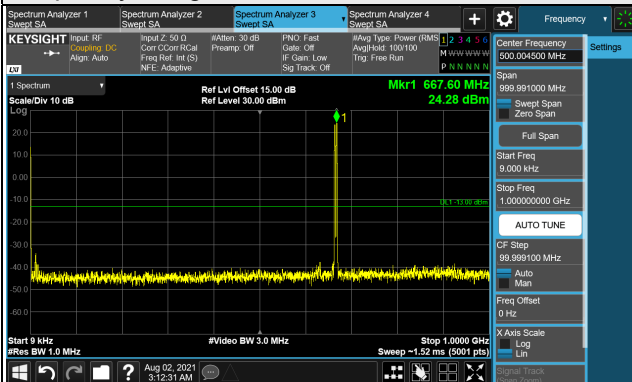


*The 9 kHz tone is from the spectrum analyzer.

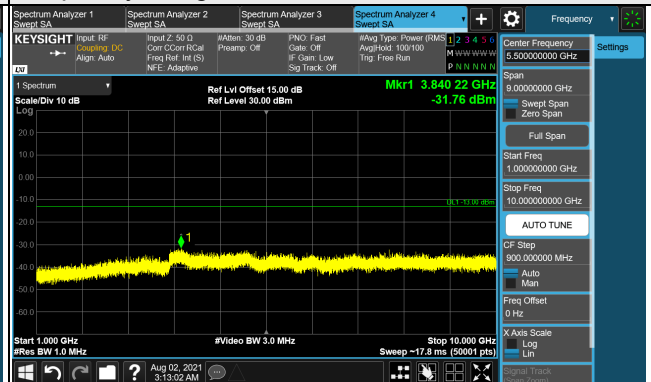
Channel Bandwidth: 15MHz

Channel 134100 (670.5MHz)

Frequency Range : 9kHz~1GHz

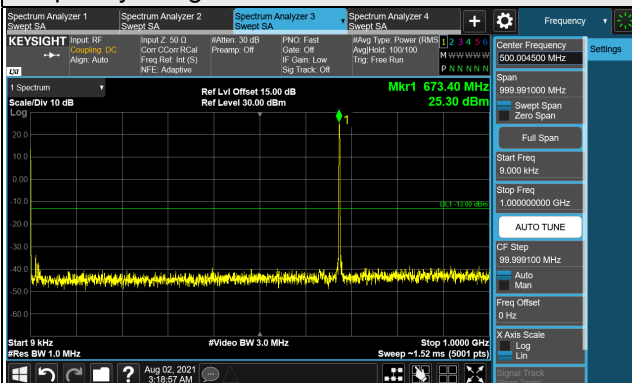


Frequency Range : 1GHz~10GHz

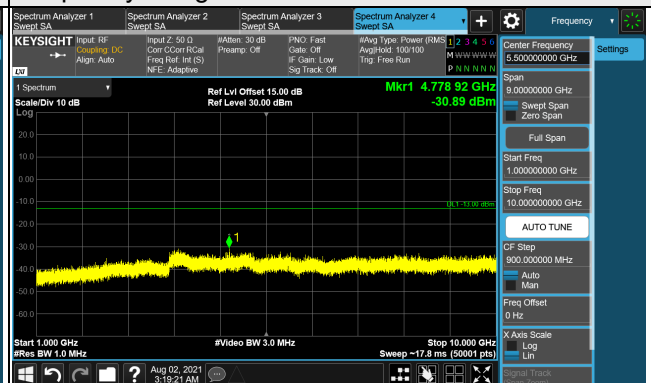


Channel 136100 (680.5MHz)

Frequency Range : 9kHz~1GHz

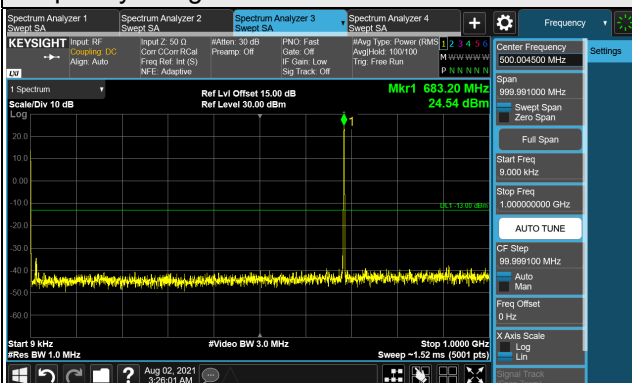


Frequency Range : 1GHz~10GHz

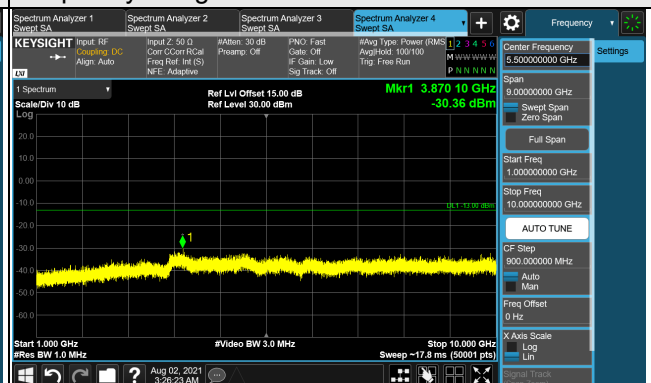


Channel 138100 (690.5MHz)

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz

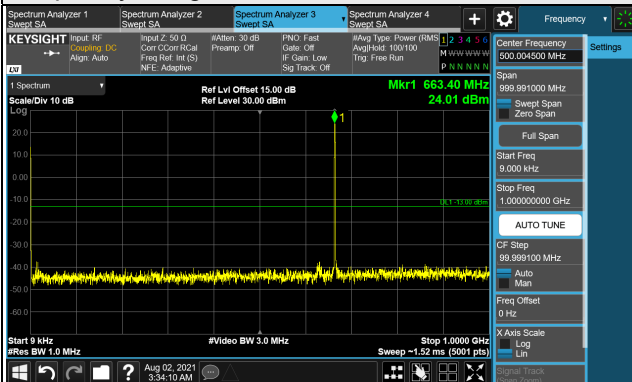


*The 9 kHz tone is from the spectrum analyzer.

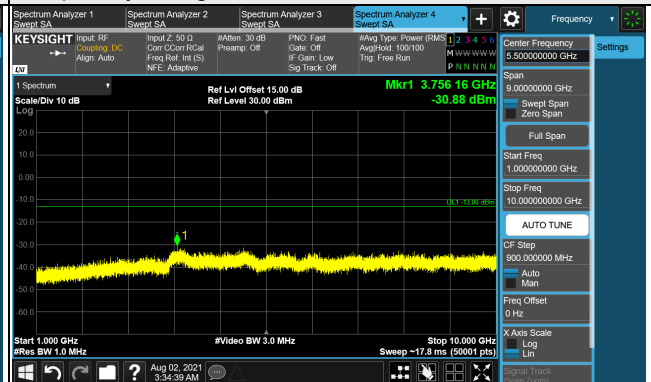
Channel Bandwidth: 20MHz

Channel 134600 (673.0MHz)

Frequency Range : 9kHz~1GHz

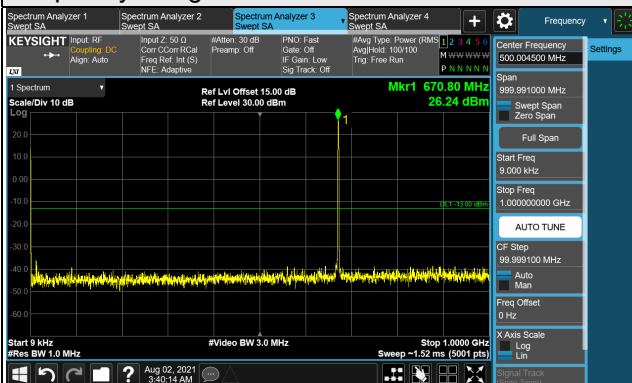


Frequency Range : 1GHz~10GHz

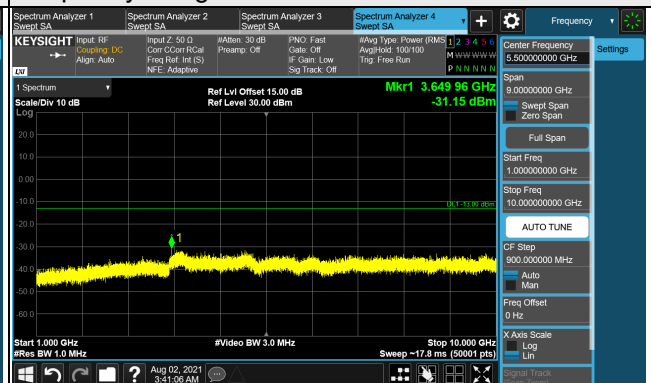


Channel 136100 (680.5MHz)

Frequency Range : 9kHz~1GHz

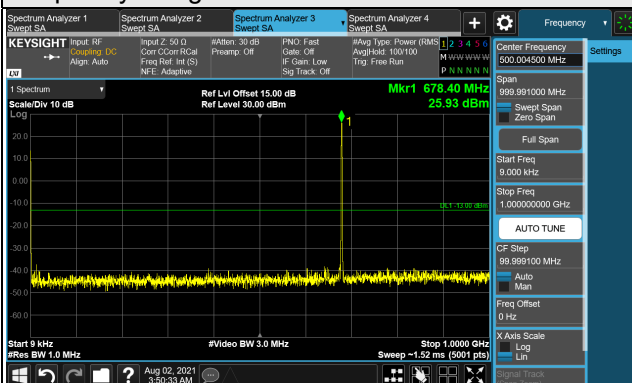


Frequency Range : 1GHz~10GHz

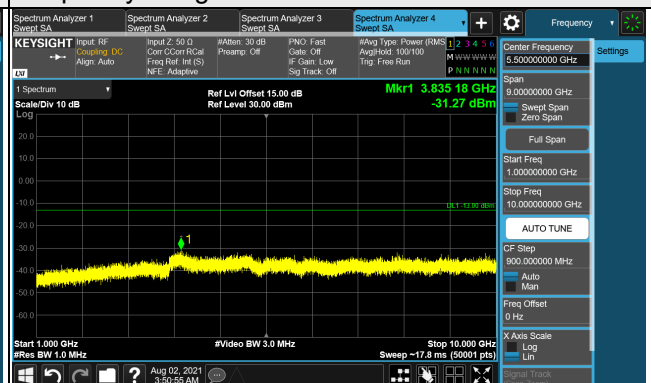


Channel 137600 (688.0MHz)

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



*The 9 kHz tone is from the spectrum analyzer.

4.8 Radiated Emission Measurement

4.8.1 Limits of Radiated Emission Measurement

According to FCC 27.53(l) for mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (l)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. 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.

For n71:

According to FCC 27.53(g) for operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater.

For LTE Band 2:

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. The emission limit equal to -13 dBm.

For LTE Band 66:

According to FCC 27.53(h) for operations in the 1695-1710MHz, 1710-1755MHz, 1755-1780 MHz, 1915-1920MHz, 1995-2000 MHz, 2000-2020MHz, 2110-2155MHz, 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 $43 + 10 \log (P)$ dB.

4.8.2 Test Procedure

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m(below or equal 1GHz) and/or 1.5m(above 1GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- c. Perform a field strength measurement and record the worse read value, is the field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor and then mathematically convert the measured field strength level to EIRP/ERP level.
- d. Following C63.26 section 5.5 and 5.2.7
 - $EIRP (dBm) = E (dB\mu V/m) + 20\log(D) - 104.8$; where D is the measurement distance (in the far field region) in m.
 - $ERP (dBm) = E (dB\mu V/m) + 20\log(D) - 104.8 - 2.15$; where D is the measurement distance (in the far field region) in m.

Note:

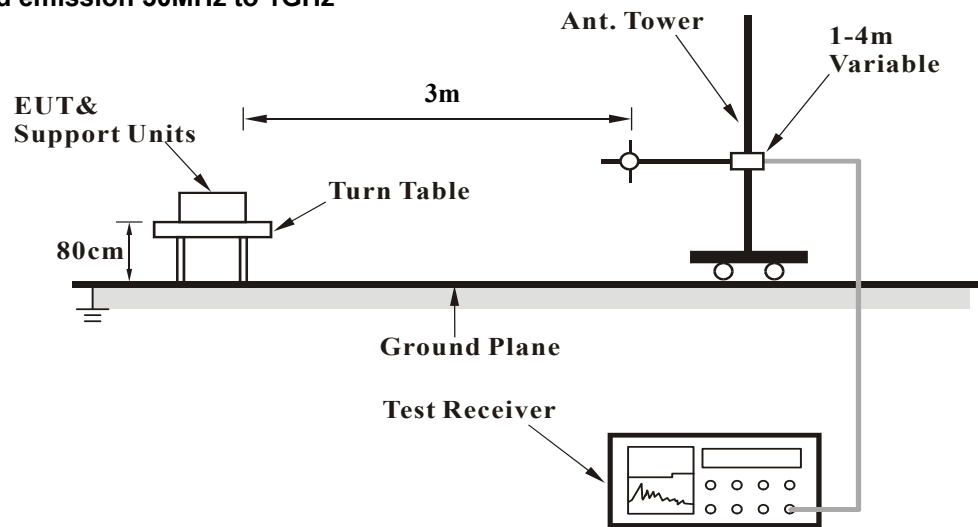
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.
2. The emission levels were against the limit of frequency range 9 kHz ~ 30 MHz:
The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

4.8.3 Deviation from Test Standard

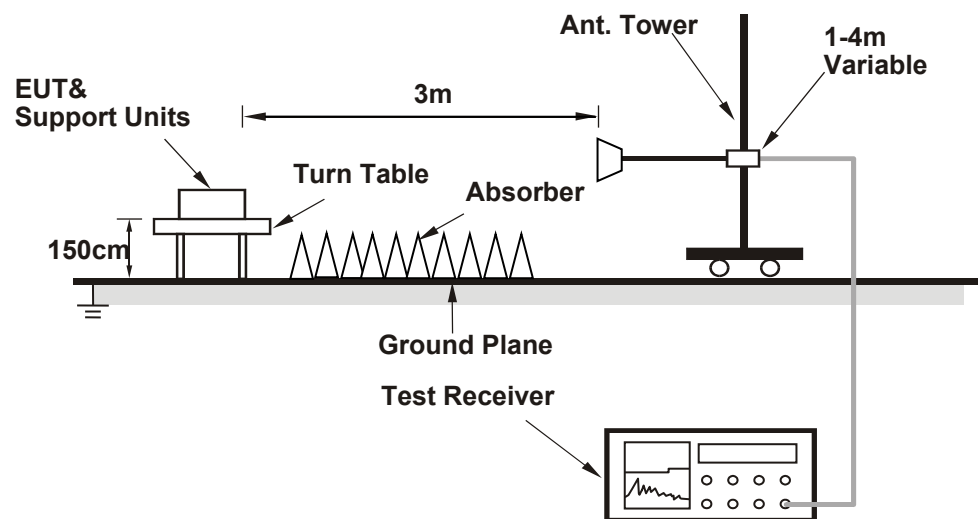
No deviation.

4.8.4 Test Setup

For radiated emission 30MHz to 1GHz



For radiated emission above 1GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.8.5 Test Results

Below 1GHz

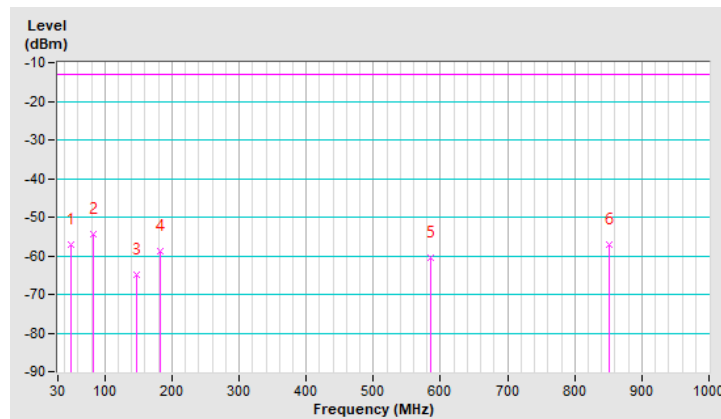
n71, Channel Bandwidth: 5MHz

Mode	TX channel 136100 (680.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	50.37	-56.96	-13.00	-43.96	1.50 H	93	49.34	-106.30
2	82.38	-54.52	-13.00	-41.52	1.00 H	19	56.82	-111.34
3	147.37	-64.84	-13.00	-51.84	1.00 H	232	41.25	-106.09
4	182.29	-58.68	-13.00	-45.68	1.25 H	232	49.06	-107.74
5	584.84	-60.35	-13.00	-47.35	1.00 H	40	37.64	-97.99
6	850.62	-57.07	-13.00	-44.07	1.00 H	9	35.97	-93.04

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.

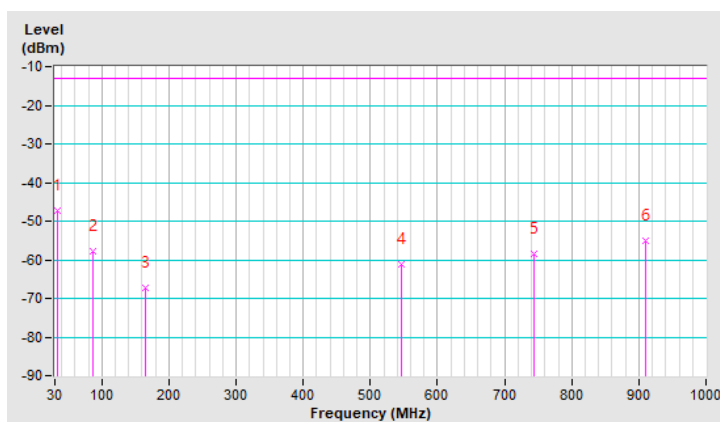


Mode	TX channel 136100 (680.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	33.88	-47.22	-13.00	-34.22	1.00 V	219	60.23	-107.45
2	86.26	-57.96	-13.00	-44.96	1.25 V	291	53.98	-111.94
3	165.80	-67.22	-13.00	-54.22	1.00 V	232	38.90	-106.12
4	547.01	-61.22	-13.00	-48.22	1.00 V	175	37.72	-98.94
5	743.92	-58.36	-13.00	-45.36	1.00 V	137	36.90	-95.26
6	909.79	-55.12	-13.00	-42.12	1.50 V	5	36.39	-91.51

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.



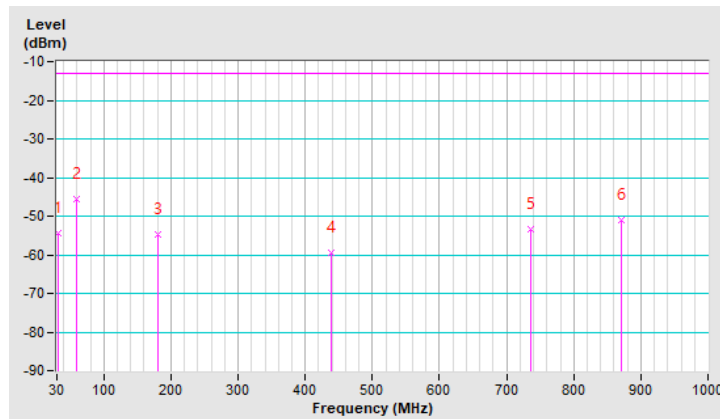
LTE Band 2, Channel Bandwidth: 1.4MHz

Mode	TX channel 18900 (1880.00MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	31.94	-54.46	-13.00	-41.46	1.00 H	9	51.04	-105.50
2	60.07	-45.43	-13.00	-32.43	1.25 H	179	59.26	-104.69
3	181.32	-54.91	-13.00	-41.91	1.25 H	255	50.57	-105.48
4	438.37	-59.51	-13.00	-46.51	1.00 H	58	39.21	-98.72
5	736.16	-53.53	-13.00	-40.53	1.50 H	156	39.78	-93.31
6	870.02	-50.85	-13.00	-37.85	1.00 H	87	39.66	-90.51

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. $Margin\ value = EIRP - Limit\ value$
4. The other EIRP levels were very low against the limit.

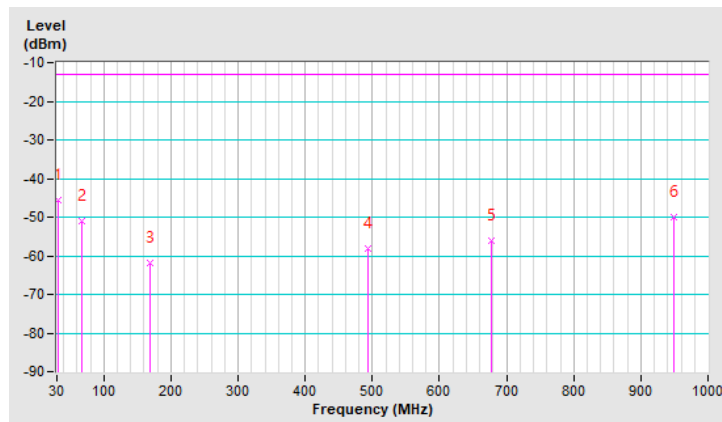


Mode	TX channel 18900 (1880.00MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	31.94	-45.55	-13.00	-32.55	1.25 V	58	59.95	-105.50
2	67.83	-50.97	-13.00	-37.97	1.00 V	335	54.72	-105.69
3	168.71	-61.87	-13.00	-48.87	1.25 V	160	42.24	-104.11
4	493.66	-58.19	-13.00	-45.19	1.50 V	117	39.51	-97.70
5	676.99	-56.22	-13.00	-43.22	1.00 V	106	38.13	-94.35
6	948.59	-50.04	-13.00	-37.04	1.25 V	94	38.76	-88.80

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. $Margin\ value = EIRP - Limit\ value$
4. The other EIRP levels were very low against the limit.



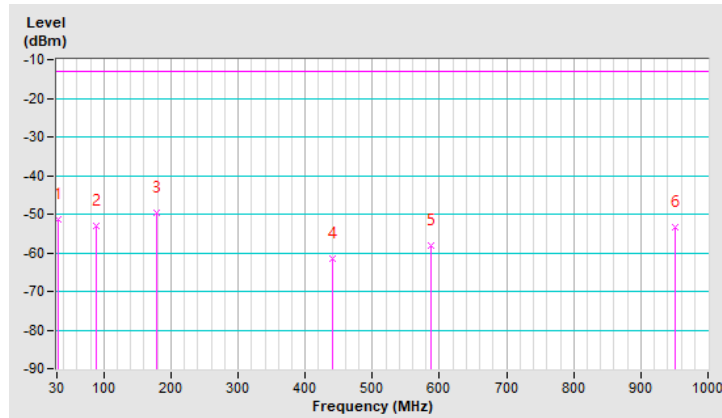
LTE Band 66, Channel Bandwidth: 1.4MHz

Mode	TX channel 132665 (1779.3MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	32.91	-51.38	-13.00	-38.38	1.25 H	91	54.25	-105.63
2	89.17	-52.94	-13.00	-39.94	1.00 H	207	56.87	-109.81
3	178.41	-49.82	-13.00	-36.82	1.25 H	257	55.23	-105.05
4	440.31	-61.46	-13.00	-48.46	1.50 H	194	37.21	-98.67
5	586.78	-58.16	-13.00	-45.16	1.00 H	109	37.63	-95.79
6	951.50	-53.33	-13.00	-40.33	1.50 H	226	35.46	-88.79

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. $Margin\ value = EIRP - Limit\ value$
4. The other EIRP levels were very low against the limit.

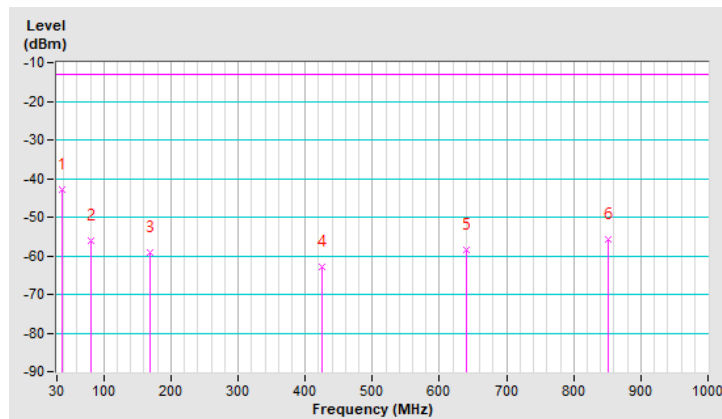


Mode	TX channel 132665 (1779.3MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	37.76	-43.01	-13.00	-30.01	1.25 V	278	62.06	-105.07
2	81.41	-55.97	-13.00	-42.97	1.50 V	278	53.08	-109.05
3	168.71	-59.22	-13.00	-46.22	1.00 V	151	44.89	-104.11
4	425.76	-62.83	-13.00	-49.83	1.00 V	315	36.29	-99.12
5	640.13	-58.59	-13.00	-45.59	1.00 V	11	36.16	-94.75
6	851.59	-55.66	-13.00	-42.66	1.25 V	182	35.21	-90.87

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. $Margin\ value = EIRP - Limit\ value$
4. The other EIRP levels were very low against the limit.



Above 1GHz

n71, Channel Bandwidth: 5MHz

Mode	TX channel 133100 (665.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1331.00	-52.20	-13.00	-39.20	1.78 H	47	49.60	-101.80
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1331.00	-57.20	-13.00	-44.20	2.07 V	126	44.60	-101.80

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 136100 (680.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1361.00	-52.00	-13.00	-39.00	1.80 H	48	49.80	-101.80
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1361.00	-57.70	-13.00	-44.70	2.05 V	124	44.10	-101.80

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 139100 (695.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1391.00	-52.10	-13.00	-39.10	1.85 H	49	49.60	-101.70
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1391.00	-57.20	-13.00	-44.20	2.12 V	126	44.50	-101.70

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB)$
 $+ 20\log(D) - 104.8 - 2.15$
3. $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.

n71, Channel Bandwidth: 20MHz

Mode	TX channel 134600 (673.0MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1346.00	-53.84	-13.00	-40.84	2.42 H	204	47.97	-101.81
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1346.00	-55.09	-13.00	-42.09	2.96 V	101	46.72	-101.81

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 136100 (680.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1361.00	-53.49	-13.00	-40.49	2.44 H	199	48.27	-101.76
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1361.00	-54.95	-13.00	-41.95	2.98 V	97	46.81	-101.76

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 137600 (688.0MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1376.00	-53.92	-13.00	-40.92	2.52 H	204	47.78	-101.70
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1376.00	-55.12	-13.00	-42.12	2.94 V	105	46.58	-101.70

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB)$
 $+ 20\log(D) - 104.8 - 2.15$
3. $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.

LTE Band 2, Channel Bandwidth: 1.4MHz

Mode	TX channel 18607 (1850.70MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3701.40	-48.61	-13.00	-35.61	2.52 H	174	43.02	-91.63
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3701.40	-50.07	-13.00	-37.07	1.93 V	233	41.56	-91.63

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 18900 (1880.00MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-48.09	-13.00	-35.09	2.59 H	174	43.33	-91.42
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-49.65	-13.00	-36.65	1.92 V	221	41.77	-91.42

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 19193 (1909.30MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3818.60	-48.17	-13.00	-35.17	2.57 H	180	42.92	-91.09
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3818.60	-49.25	-13.00	-36.25	1.99 V	224	41.84	-91.09

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

LTE Band 2, Channel Bandwidth 5MHz

Mode	TX channel 18625 (1852.50MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3705.00	-48.66	-13.00	-35.66	2.55 H	175	42.96	-91.62
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3705.00	-49.63	-13.00	-36.63	1.93 V	226	41.99	-91.62

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
+ 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 18900 (1880.00MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-48.10	-13.00	-35.10	2.59 H	173	43.32	-91.42
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-49.75	-13.00	-36.75	1.95 V	227	41.67	-91.42

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
+ 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 19175 (1907.50MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3815.00	-48.27	-13.00	-35.27	2.62 H	177	42.83	-91.10
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3815.00	-49.42	-13.00	-36.42	1.91 V	224	41.68	-91.10

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. $Margin\ value = EIRP - Limit\ value$
4. The other EIRP levels were very low against the limit.

LTE Band 2, Channel Bandwidth 20MHz

Mode	TX channel 18700 (1860.00MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3720.00	-48.35	-13.00	-35.35	2.59 H	178	43.22	-91.57
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3720.00	-49.86	-13.00	-36.86	1.99 V	223	41.71	-91.57

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 18900 (1880.00MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-48.11	-13.00	-35.11	2.51 H	173	43.31	-91.42
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-49.53	-13.00	-36.53	1.95 V	222	41.89	-91.42

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 19100 (1900.00MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3800.00	-48.16	-13.00	-35.16	2.58 H	174	42.98	-91.14
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3800.00	-49.73	-13.00	-36.73	1.92 V	234	41.41	-91.14

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

LTE Band 66, Channel Bandwidth: 1.4MHz

Mode	TX channel 131979 (1710.7MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3421.40	-45.37	-13.00	-32.37	2.02 H	231	47.83	-93.20
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3421.40	-46.89	-13.00	-33.89	2.58 V	91	46.31	-93.20

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 132322 (1745.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3490.00	-44.88	-13.00	-31.88	1.99 H	231	47.78	-92.66
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3490.00	-46.00	-13.00	-33.00	2.60 V	92	46.66	-92.66

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 132665 (1779.3MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3558.60	-43.96	-13.00	-30.96	2.05 H	232	48.25	-92.21
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3558.60	-45.79	-13.00	-32.79	2.56 V	91	46.42	-92.21

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

LTE Band 66, Channel Bandwidth: 5MHz

Mode	TX channel 131997 (1712.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3425.00	-45.29	-13.00	-32.29	2.07 H	234	47.88	-93.17
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3425.00	-46.90	-13.00	-33.90	2.55 V	93	46.27	-93.17

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 132322 (1745.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3490.00	-44.62	-13.00	-31.62	2.09 H	237	48.04	-92.66
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3490.00	-46.27	-13.00	-33.27	2.60 V	94	46.39	-92.66

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 132647 (1777.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3555.00	-44.08	-13.00	-31.08	2.05 H	228	48.14	-92.22
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3555.00	-45.69	-13.00	-32.69	2.52 V	103	46.53	-92.22

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. $Margin\ value = EIRP - Limit\ value$
4. The other EIRP levels were very low against the limit.

LTE Band 66, Channel Bandwidth: 20MHz

Mode	TX channel 132072 (1720.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3440.00	-44.79	-13.00	-31.79	2.08 H	238	48.29	-93.08
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3440.00	-46.29	-13.00	-33.29	2.55 V	101	46.79	-93.08

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 132322 (1745.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3490.00	-44.45	-13.00	-31.45	2.09 H	232	48.21	-92.66
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3490.00	-45.94	-13.00	-32.94	2.61 V	92	46.72	-92.66

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 132572 (1770.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3540.00	-44.02	-13.00	-31.02	2.01 H	229	48.28	-92.30
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3540.00	-45.51	-13.00	-32.51	2.63 V	87	46.79	-92.30

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

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The address and road map of all our labs can be found in our web site also.

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