FCC Test Report
(ENDC: n30 + LTE B2/B5/B66)

Report No.:	RFBFLF-WTW-P21010278-33
FCC ID:	MSQI007D
Test Model:	ASUS_I007D
Received Date:	Jan. 04, 2021
Test Date:	Feb. 26 ~ Apr. 21, 2021
Issued Date:	Apr. 21, 2021
Applicant:	ASUSTeK COMPUTER INC.
Address:	1F., No. 15, Lide Rd., Beitou Dist., Taipei City 112, Taiwan
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN
FCC Registration / Designation Number:	788550 / TW0003

Testing Laboratory
2021

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
RFBFLF-WTW-P21010278-33	Original release	Apr. 21, 2021

1 Certificate of Conformity

Product:	EXP21 Smartphone
Brand:	ASUS
Test Model:	ASUS_I007D
Sample Status:	Engineering sample
Applicant:	ASUSTeK COMPUTER INC.
Test Date:	Feb. 26 ~ Apr. 21, 2021
Standards:	FCC Part 22, Subpart H FCC Part 24, Subpart E FCC Part 27, Subpart C, D, L

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 : Celine Chou , **Date:** Apr. 21, 2021

Celine Chou / Senior Specialist

Approved by : Bruce Chen , **Date:** Apr. 21, 2021

Bruce Chen / Senior Project Engineer

2 Summary of Test Results

For n30

Applied Standard: FCC Part 27 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 27.50 (a)(3)	Equivalent Isotropically Radiated Power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	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 (a)(4)	Emission Mask	Pass	Meet the requirement of limit.
2.1051 27.53 (a)(4)	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
2.1053 27.53 (a)(4)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -11.56dB at 4620.00MHz.

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	Occupied Bandwidth	Pass	Refer to Note 1
24.238	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 -33.26dB at 48.43MHz.

Note:

1. This report is a partial report. Therefore, only test item of Transmitter Output Power and Effective Isotropically Radiated Power and Radiated Spurious Emissions tests were performed for this report. Other testing data please refer to BV CPS report no.: RFBFLF-WTW-P21010278-10.
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

For LTE Band 5

Applied Standard: FCC Part 22 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 22.913 (a)	Effective radiated power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	Pass	Refer to Note 1
22.913 (d)	Peak To Average Ratio	Pass	Refer to Note 1
2.1055 22.355	Frequency Stability	Pass	Refer to Note 1
2.1049	Occupied Bandwidth	Pass	Refer to Note 1
22.917	Band Edge Measurements	Pass	Refer to Note 1
2.1051 22.917	Conducted Spurious Emissions	Pass	Refer to Note 1
2.1053 22.917	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -45.17dB at 1673.00MHz.

Note:

1. This report is a partial report. Therefore, only test item of Transmitter Output Power and Effective Radiated Power and Radiated Spurious Emissions tests were performed for this report. Other testing data please refer to BV CPS report no.: RFBFLF-WTW-P21010278-9.
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 -25.47dB at 48.43MHz.

Note:

1. This report is a partial report. Therefore, only test item of Transmitter Output Power and Equivalent Isotropically Radiated Power and Radiated Spurious Emissions tests were performed for this report. Other testing data please refer to BV CPS report no.: RFBFLF-WTW-P21010278-11.
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. 16, 2020	Apr. 15, 2021
			Apr. 09, 2021	Apr. 08, 2022
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jun. 12, 2020	Jun. 11, 2021
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
5G Wireless Test Platforms Keysight	E7515B	MY60102114	May 28, 2020	May 27, 2021
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Nov. 06, 2020	Nov. 05, 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. 08, 2020	Jun. 07, 2021
Preamplifier Agilent (Above 1GHz)	8449B	3008A02367	Feb. 17, 2021	Feb. 16, 2022
RF signal cable HUBER+SUHNER&EMCI	SUCOFLEX 104 & EMC104-SM-SM8000	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. 08, 2020	Jun. 07, 2021
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-AR	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. 06, 2020	Jun. 05, 2021
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	EXP21 Smartphone
Brand	ASUS
Test Model	ASUS_I007D
Sample Status	Engineering sample
Power Supply Rating	7.74 Vdc (Battery) 5 Vdc / 9 Vdc / 12 Vdc / 15Vdc / 20Vdc (Adapter)

n30

Modulation Type	$\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM					
Waveform Type	CP-OFDM, DFT-s-OFDM					
Operating Frequency	n30 (Channel Bandwidth 5MHz)	2307.5MHz ~ 2312.5MHz				
	n30 (Channel Bandwidth 10MHz)	2310.0MHz				
Max. EIRP Power		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
	n30 (Channel Bandwidth 5MHz)	182.810mW (22.62dBm/5MHz)	183.231mW (22.63dBm/5MHz)	144.877mW (21.61dBm/5MHz)	102.802mW (20.12dBm/5MHz)	65.013mW (18.13dBm/5MHz)
	n30 (Channel Bandwidth 10MHz)	183.654mW (22.64dBm/5MHz)	184.077mW (22.65dBm/5MHz)	145.546mW (21.63dBm/5MHz)	82.794mW (19.18dBm/5MHz)	65.313mW (18.15dBm/5MHz)
Emission Designator		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
	n30 (Channel Bandwidth 5MHz)	4M47G7D	4M47G7D	4M47D7W	4M47D7W	4M47D7W
	n30 (Channel Bandwidth 10MHz)	9M18G7D	9M29G7D	9M28D7W	9M28D7W	9M28D7W

LTE Band

Modulation Type	QPSK, 16QAM, 64QAM, 256QAM				
Operating Frequency	LTE Band 2 (Channel Bandwidth 1.4MHz)	1850.7MHz ~ 1909.3MHz			
	LTE Band 2 (Channel Bandwidth 3MHz)	1851.5MHz ~ 1908.5MHz			
	LTE Band 2 (Channel Bandwidth 5MHz)	1852.5MHz ~ 1907.5MHz			
	LTE Band 2 (Channel Bandwidth 10MHz)	1855.0MHz ~ 1905.0MHz			
	LTE Band 2 (Channel Bandwidth 15MHz)	1857.5MHz ~ 1902.5MHz			
	LTE Band 2 (Channel Bandwidth 20MHz)	1860.0MHz ~ 1900.0MHz			
	LTE Band 5 (Channel Bandwidth 1.4MHz)	824.7MHz ~ 848.3MHz			
	LTE Band 5 (Channel Bandwidth 3MHz)	825.5MHz ~ 847.5MHz			
	LTE Band 5 (Channel Bandwidth 5MHz)	826.5MHz ~ 846.5MHz			
	LTE Band 5 (Channel Bandwidth 10MHz)	829.0MHz ~ 844.0MHz			
	LTE Band 66 (Channel Bandwidth 1.4MHz)	1710.7MHz ~ 1779.3MHz			
	LTE Band 66 (Channel Bandwidth 3MHz)	1711.5MHz ~ 1778.5MHz			
	LTE Band 66 (Channel Bandwidth 5MHz)	1712.5MHz ~ 1777.5MHz			
	LTE Band 66 (Channel Bandwidth 10MHz)	1715.0MHz ~ 1775.0MHz			
	LTE Band 66 (Channel Bandwidth 15MHz)	1717.5MHz ~ 1772.5MHz			
	LTE Band 66 (Channel Bandwidth 20MHz)	1720.0MHz ~ 1770.0MHz			
Max. EIRP Power		QPSK	16QAM	64QAM	256QAM
	LTE Band 2 (Channel Bandwidth 1.4MHz)	153.815mW (21.87dBm)	137.088mW (21.37dBm)	101.158mW (20.05dBm)	48.306mW (16.84dBm)
	LTE Band 2 (Channel Bandwidth 3MHz)	153.815mW (21.87dBm)	138.038mW (21.40dBm)	104.472mW (20.19dBm)	47.534mW (16.77dBm)
	LTE Band 2 (Channel Bandwidth 5MHz)	153.815mW (21.87dBm)	125.893mW (21.00dBm)	106.170mW (20.26dBm)	48.641mW (16.87dBm)
	LTE Band 2 (Channel Bandwidth 10MHz)	152.405mW (21.83dBm)	134.276mW (21.28dBm)	99.770mW (19.99dBm)	45.709mW (16.60dBm)
	LTE Band 2 (Channel Bandwidth 15MHz)	152.405mW (21.83dBm)	131.220mW (21.18dBm)	105.925mW (20.25dBm)	49.774mW (16.97dBm)
	LTE Band 2 (Channel Bandwidth 20MHz)	154.525mW (21.89dBm)	135.207mW (21.31dBm)	101.859mW (20.08dBm)	50.119mW (17.00dBm)
	LTE Band 66 (Channel Bandwidth 1.4MHz)	142.233mW (21.53dBm)	120.781mW (20.82dBm)	100.231mW (20.01dBm)	47.206mW (16.74dBm)
	LTE Band 66 (Channel Bandwidth 3MHz)	140.605mW (21.48dBm)	117.761mW (20.71dBm)	98.855mW (19.95dBm)	46.132mW (16.64dBm)
	LTE Band 66 (Channel Bandwidth 5MHz)	138.676mW (21.42dBm)	124.738mW (20.96dBm)	97.949mW (19.91dBm)	46.666mW (16.69dBm)
	LTE Band 66 (Channel Bandwidth 10MHz)	146.555mW (21.66dBm)	119.399mW (20.77dBm)	102.094mW (20.09dBm)	43.551mW (16.39dBm)
	LTE Band 66 (Channel Bandwidth 15MHz)	147.911mW (21.70dBm)	125.026mW (20.97dBm)	103.753mW (20.16dBm)	44.566mW (16.49dBm)
	LTE Band 66 (Channel Bandwidth 20MHz)	148.936mW (21.73dBm)	120.226mW (20.80dBm)	102.802mW (20.12dBm)	41.591mW (16.19dBm)

Max. ERP Power		QPSK	16QAM	64QAM	256QAM
	LTE Band 5 (Channel Bandwidth 1.4MHz)	106.414mW (20.27dBm)	91.833mW (19.63dBm)	65.163mW (18.14dBm)	34.198mW (15.34dBm)
	LTE Band 5 (Channel Bandwidth 3MHz)	104.232mW (20.18dBm)	92.045mW (19.64dBm)	62.230mW (17.94dBm)	30.479mW (14.84dBm)
	LTE Band 5 (Channel Bandwidth 5MHz)	105.925mW (20.25dBm)	83.753mW (19.23dBm)	66.222mW (18.21dBm)	32.137mW (15.07dBm)
	LTE Band 5 (Channel Bandwidth 10MHz)	107.399mW (20.31dBm)	86.696mW (19.38dBm)	65.313mW (18.15dBm)	32.584mW (15.13dBm)
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.

Product	Brand	Model	Description
Battery	SCUD	C21P2002	Rating: 7.74Vdc, 15.2Wh
Adapter	AOHAI	A320Q-200325C-US	I/P: 100-240Vac, 50/60Hz,1.5A O/P: 5Vdc, 3A; 9Vdc, 3A; 12Vdc, 3A; 15Vdc, 3A; 20Vdc, 3.25A
Type A to Type C USB Cable	Luxshare	LA9U2026-CS-R	0.5m
Type C to Type C Cable	Luxshare	LA9UC006-CS-R	1.2m
Bluetooth Earphone	Bang & Olufsen	EQ Earbud R	FCC ID: TTUBEOPLAYEQR IC: 3775B-BEOPLAYEQR
		EQ Earbud L	FCC ID: TTUBEOPLAYEQL IC: 3775B-BEOPLAYEQL
Bluetooth Earphone Charging Case	Bang & Olufsen	EQ Charging case	I/P: 5Vdc/500mA O/P: 5Vdc/ R170mA; L170mA

2. The following antennas were provided to the EUT.

Ant. No.	Brand	Model	Ant. Type	Connecter	Frequency Range
Ant 0	ASUS	ZS675KW	PIFA	LCP+Ipex	610-960MHz, 1710-2690MHz
Ant 1	ASUS	ZS675KW	PIFA	LCP+Ipex	1427-1510MHz, 1710-2690MHz
Ant 2	ASUS	ZS675KW	PIFA	LCP+Ipex	610-960MHz, 1427-1510MHz, 1710-2690MHz
Ant 3	INPAQ	ZS675KW	PIFA	Ipex	1575-1610MHz, 2400-2500MHz, 5150-5850MHz, 5925-7125MHz
Ant 4	INPAQ	ZS675KW	PIFA	Ipex	1176±10MHz, 2400-2500MHz, 5150-5850MHz, 5925-7125MHz
Ant 5	INPAQ	ZS675KW	PIFA	LCP+Ipex	3300-4000MHz, 4400-5000MHz
Ant 6	INPAQ	ZS675KW	PIFA	Ipex	1427-1510MHz, 2400-2500MHz, 5150-5850MHz, 5925-7125MHz
Ant 7	INPAQ	ZS675KW	PIFA	LCP+Ipex	3300-4000MHz, 4400-5000MHz
Ant 8	ASUS	ZS675KW	PIFA	LCP+Ipex	1427-1510MHz, 1710-2690MHz
Ant 9	ASUS	ZS675KW	PIFA	LCP+Ipex	1710-2690MHz
Ant 10	INPAQ	ZS675KW	PIFA	Ipex	3300-4000MHz, 4400-5000MHz
Ant 11	INPAQ	ZS675KW	PIFA	Ipex	3300-4000MHz, 4400-5000MHz

2G / 3G Band													
Band	Freq. Range (MHz)	Gain (dBi)											
		Ant. 0	Ant. 1	Ant. 2	Ant. 3	Ant. 4	Ant. 5	Ant. 6	Ant. 7	Ant. 8	Ant. 9	Ant. 10	Ant. 11
GSM-850	824 ~ 849	-1.891		-4.526									
GSM-1900	1850 ~ 1910		-1.887	-1.394						-2.89579			
WCDMA B2	1850 ~ 1910		-1.887	-1.394						-2.89579			
WCDMA B4	1710 ~ 1755		-2.884	-3.228						-3.13552			
WCDMA B5	824 ~ 849	-1.891		-4.526									
CDMA BC0	815 ~ 849	-1.891		-4.526									
CDMA BC1	1850 ~ 1910		-1.887	-1.394						-2.89579			
CDMA BC10	806 ~ 901	-1.891		-4.526									

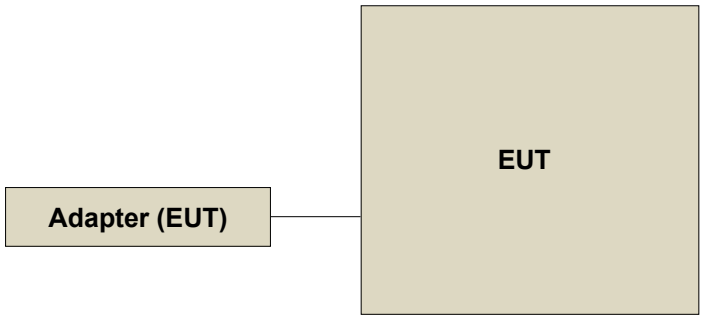
LTE Band												
Band	Freq. Range (MHz)	Gain (dBi)										
		Ant. 0	Ant. 1	Ant. 2	Ant. 3	Ant. 4	Ant. 5	Ant. 6	Ant. 7	Ant. 8	Ant. 9	Ant. 10	Ant. 11
LTE B2	1850 ~ 1910		-1.887	-1.394						-2.89579	-1.804		
LTE B4	1710 ~ 1755		-2.884	-3.228						-3.13552	-1.706		
LTE B5	824 ~ 849	-1.891		-4.526									
LTE B7	2500 ~ 2570		0.185	-0.657						-0.50837	-1.117		
LTE B12	698 ~ 716	-2.135		-4.343									
LTE B13	777 ~ 787	-4.37		-8.13									
LTE B14	788 ~ 798	-4.37		-7.931									
LTE B17	704 ~ 716	-2.135		-4.343									
LTE B25	1850 ~ 1915		-1.887	-1.394						-2.89579			
LTE B26	814 ~ 849	-1.891		-4.526									
LTE B30	2305 ~ 2315		-1.326	-2.669						-1.28433			
LTE B66	1710 ~ 1780		-2.884	-2.478						-3.0668	-1.685		
LTE B71	663 ~ 698	-5.741		-7.388									
T-LTE B38	2570 ~ 2620		0.724	-0.912						-0.59557			
T-LTE B40	2300 ~ 2400		-1.326	-2.669						-1.28433			
T-LTE B41	2496 ~ 2690		1.143	-0.657						-0.59557			
T-LTE B42	3400 ~ 3600						0.313		0.5277			-2.493	-0.35195
T-LTE B43	3600 ~ 3800						-0.434		0.5277			-0.477	-0.161
T-LTE B48	3550 ~ 3700						-0.434		0.5277			-0.477	-0.161
5G FR1 Band													
Band	Freq. Range (MHz)	Gain (dBi)										
		Ant. 0	Ant. 1	Ant. 2	Ant. 3	Ant. 4	Ant. 5	Ant. 6	Ant. 7	Ant. 8	Ant. 9	Ant. 10	Ant. 11
n2	1850 ~ 1910		-1.887	-1.394						-2.89579	-1.804		
n5	824 ~ 849	-1.891		-4.526									
n7	2500 ~ 2570		0.185	-0.657						-0.50837	-1.117		
n12	699 ~ 716	-2.135		-4.343									
n13	777 ~ 787	-4.37		-8.13									
n14	788 ~ 798	-4.37		-7.931									
n25	1850 ~ 1915		-1.887	-1.394						-2.89579	-1.627		
n26	814 ~ 849	-1.891		-4.526									
n30	2305 ~ 2315		-1.326	-2.669						-1.28433			
n38	2570 ~ 2620		0.724	-0.912						-0.59557	-1.3		
n41	2496 ~ 2690		1.143	-0.657						-0.59557	-0.076		
n66	1710 ~ 1780		-2.884	-2.478						-3.0668	-1.685		
n71	663 ~ 698	-5.741		-7.388									
n77	3300 ~ 4200						0.313		0.5277			2.017	0.19902
n78	3300 ~ 3800						0.313		0.5277			2.017	-0.161

* 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.

	FCC 5G FR1			ENDC
	Band	SCS	Bandwidth (MHz)	
5GNR	n2	15kHz	5/10/15/20	Band 5/12/13/14/30/66
	n5	15kHz	5/10/15/20	Band 2/7/12/30/48/66
	n7	15kHz	5/10/15/20/25/30/40	Band 2/5/12/13/66
	n12	15kHz	5/10/15	Band 2/66
	n14	15kHz	5/10	Band 2
	n25	15kHz	5/10/15/20/25/30/40	Band 12/66
	n30	15kHz	5/10	Band 2/5/66
	n38	30kHz	20/30/40	Band 2/4/5/12/66/71
	n41	30kHz	20/30/40/50/60/80/90/100	Band 2/4/12/25/26/66
	n66	15kHz	5/10/15/20/30/40	Band 2/5/7/12/13/14/30/48/71
	n71	15kHz	5/10/15/20	Band 2/7/66
	n77	30kHz	20/30/40/50/60/70/80/90/100	Band 7/41
	n78	30kHz	20/30/40/50/60/70/80/90/100	Band 2/4/5/7/12/13/38/66/71

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	-

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.

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 as the table below. Following channel(s) was (were) selected for the final test as listed below:

Band	Radiated Emission
n30	Y-plane
LTE Band 2	Y-plane
LTE Band 5	Y-plane
LTE Band 66	Y-plane

n30

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	EIRP	461500 to 462500	461500 (2307.5MHz), 462000 (2310.0MHz), 462500 (2312.5MHz)	5MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 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
		462000	462000 (2310.0MHz)	10MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 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
-	Modulation characteristics	462000	462000 (2310.0MHz)	10MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	52 RB / 0 RB Offset
-	Frequency Stability	461500 to 462500	461500 (2307.5MHz), 462500 (2312.5MHz)	5MHz	QPSK	25 RB / 0 RB Offset
		462000	462000 (2310.0MHz)	10MHz	QPSK	52 RB / 0 RB Offset
-	Emission Bandwidth	461500 to 462500	461500 (2307.5MHz), 462000 (2310.0MHz), 462500 (2312.5MHz)	5MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	25 RB / 0 RB Offset
		462000	462000 (2310.0MHz)	10MHz	$\pi/2$ BPSK / QPSK / 16QAM / 64QAM / 256QAM	52 RB / 0 RB Offset
-	Emission Mask	461500 to 462500	461500 (2307.5MHz), 462500 (2312.5MHz)	5MHz	QPSK	25 RB / 0 RB Offset
		462000	462000 (2310.0MHz)	10MHz	QPSK	52 RB / 0 RB Offset
-	Conducted Emission	461500 to 462500	461500 (2307.5MHz), 462000 (2310.0MHz), 462500 (2312.5MHz)	5MHz	QPSK	1 RB / 1 RB Offset
		462000	462000 (2310.0MHz)	10MHz	QPSK	1 RB / 1 RB Offset

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	Radiated Emission Below 1GHz	462000	462000 (2310.0MHz)	10MHz	QPSK	1 RB / 1 RB Offset
-	Radiated Emission Above 1GHz	461500 to 462500	461500 (2307.5MHz), 462000 (2310.0MHz), 462500 (2312.5MHz)	5MHz	QPSK	1 RB / 1 RB Offset
		462000	462000 (2310.0MHz)	10MHz	QPSK	1 RB / 1 RB Offset

Note:

1. For radiated emission below 1GHz, select the worst radiated emission channel (above 1GHz) for final testing.
2. For radiated emission above 1GHz, according to 3GPP 38.521-1 Section 6.5.3.1.4, choose the lowest and highest channel bandwidth for final test.
3. Only output power, modulation characteristics, occupied bandwidth items had been tested under $\pi/2$ BPSK, QPSK, 16QAM, 64QAM and 256QAM modes, the other test items were performed under worse 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 (1850.7MHz), 18900 (1880.0MHz), 19193 (1909.3MHz)	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
		18615 to 19185	18615 (1851.5MHz), 18900 (1880.0MHz), 19185 (1908.5MHz)	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
		18625 to 19175	18625 (1852.5MHz), 18900 (1880.0MHz), 19175 (1907.5MHz)	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
		18650 to 19150	18650 (1855.0MHz), 18900 (1880.0MHz), 19150 (1905.0MHz)	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
		18675 to 19125	18675 (1857.5MHz), 18900 (1880.0MHz), 19125 (1902.5MHz)	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
		18700 to 19100	18700 (1860.0MHz), 18900 (1880.0MHz), 19100 (1900.0MHz)	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

EUT Configure Mode	Test item	Available channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	Radiated Emission Below 1GHz	18700 to 19100	18900 (1880.0MHz)	20MHz	QPSK	1 RB / 0 RB Offset
-	Radiated Emission Above 1GHz	18607 to 19193	18607 (1850.7MHz), 18900 (1880.0MHz), 19193 (1909.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		18625 to 19175	18625 (1852.5MHz), 18900 (1880.0MHz), 19175 (1907.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		18700 to 19100	18700 (1860.0MHz), 18900 (1880.0MHz), 19100 (1900.0MHz)	20MHz	QPSK	1 RB / 0 RB Offset

Note:

1. For radiated emission below 1GHz, select the worst radiated emission channel (above 1GHz) for final testing.
2. 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.
3. The output power for QPSK, 16QAM, 64QAM and 256QAM, measured value of QPSK is higher than 16QAM, 64QAM and 256QAM mode. Therefore the radiated emission test items was performed under QPSK mode only.

LTE Band 5

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	ERP	20407 to 20643	20407 (824.7MHz), 20525 (836.5MHz), 20643 (848.3MHz)	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
		20415 to 20635	20415 (825.5MHz), 20525 (836.5MHz), 20635 (847.5MHz)	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
		20425 to 20625	20425 (826.5MHz), 20525 (836.5MHz), 20625 (846.5MHz)	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
		20450 to 20600	20450 (829.0MHz), 20525 (836.5MHz), 20600 (844.0MHz)	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
-	Radiated Emission Below 1GHz	20450 to 20600	20525 (836.5MHz)	10MHz	QPSK	1 RB / 0 RB Offset
-	Radiated Emission Above 1GHz	20407 to 20643	20407 (824.7MHz), 20525 (836.5MHz), 20643 (848.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		20425 to 20625	20425 (826.5MHz), 20525 (836.5MHz), 20625 (846.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		20450 to 20600	20450 (829.0MHz), 20525 (836.5MHz), 20600 (844.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset

Note:

1. For radiated emission below 1GHz, select the worst radiated emission channel (above 1GHz) for final testing.
2. 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.
3. The output power for QPSK, 16QAM, 64QAM and 256QAM, measured value of QPSK is higher than 16QAM, 64QAM and 256QAM mode. Therefore the radiated emission test items was performed under QPSK mode only.

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

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	Radiated Emission Below 1GHz	132072 to 132572	132322 (1745.0MHz)	20MHz	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:

1. For radiated emission below 1GHz, select the worst radiated emission channel (above 1GHz) for final testing.
2. 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.
3. The output power for QPSK, 16QAM, 64QAM and 256QAM, measured value of QPSK is higher than 16QAM, 64QAM and 256QAM mode. Therefore the radiated emission test items was performed under QPSK mode only.

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
EIRP / ERP	25deg. C, 60%RH	120Vac, 60Hz	James Yang
Modulation Characteristics	25deg. C, 60%RH	120Vac, 60Hz	James Yang
Frequency Stability	25deg. C, 60%RH	7.74Vdc	James Yang
Occupied Bandwidth	25deg. C, 60%RH	120Vac, 60Hz	James Yang
Emission Mask	25deg. C, 60%RH	120Vac, 60Hz	James Yang
Conducted Emission	25deg. C, 60%RH	120Vac, 60Hz	James Yang
Radiated Emission	23deg. C, 67%RH 25deg. C, 65%RH	120Vac, 60Hz	Adair Peng Tank Wu

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:

Test Standard:

FCC 47 CFR Part 2

FCC 47 CFR Part 22

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

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 and recorded as per the above standards.

4 Test Types and Results

4.1 Output Power Measurement

4.1.1 Limits of Output Power Measurement

For n30:
For mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth.

For LTE Band 2:
Mobile / Portable station are limited to 2 watts e.i.r.p.

For LTE Band 5:
Mobile / Portable station are limited to 7 watts e.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:

For all test band except n30:

The EUT was set up for the maximum power with 5GNR and LTE 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.

For n30:

Measurement method refers to ANSI C63.26 section 5.2.7 & 5.2.4.

Maximum EIRP / ERP

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

$EIRP = P_{Meas} + G_T$

$ERP = P_{Meas} + G_T - 2.15$

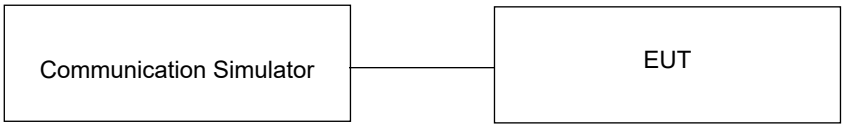
where

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)

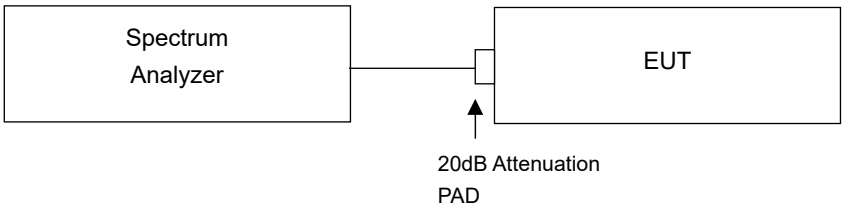
4.1.3 Test Setup

Conducted Power Measurement:

For all test band except n30:



For n30:



4.1.4 Test Results

Conducted Output Power (dBm/5MHz)

NR Band 30						
BW	MCS Index	RB Size	RB Offset	Mid		
		Channel		462000		
		Frequency (MHz)		2310		
10M	$\pi/2$ BPSK	1	1	23.91		
		1	26	23.92		
		1	50	23.85		
		25	0	23.35		
		25	14	23.81		
		25	27	23.4		
		50	0	23.45		
10M	QPSK	1	1	23.93		
		1	26	23.9		
		1	50	23.88		
		25	0	22.96		
		25	14	23.84		
		25	27	22.93		
		50	0	22.97		
10M	16QAM	1	1	22.91		
10M	64QAM	1	1	20.46		
10M	256QAM	1	1	19.43		
BW	MCS Index	Channel		461500	462000	462500
		Frequency (MHz)		2307.5	2310	2312.5
5M	$\pi/2$ BPSK	1	1	23.89	23.83	23.83
		1	13	23.90	23.84	23.84
		1	23	23.83	23.77	23.77
		12	0	23.33	23.27	23.27
		12	7	23.89	23.83	23.83
		12	13	23.38	23.32	23.32
		25	0	23.43	23.37	23.37
5M	QPSK	1	1	23.91	23.85	23.85
		1	13	23.88	23.82	23.82
		1	23	23.86	23.80	23.80
		12	0	22.94	22.88	22.88
		12	7	23.82	23.76	23.76
		12	13	22.91	22.85	22.85
		25	0	22.95	22.89	22.89
5M	16QAM	1	1	22.89	22.83	22.83
5M	64QAM	1	1	21.40	21.35	21.38
5M	256QAM	1	1	19.41	19.35	19.35

Conducted Output Power (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	23.01	23.20	23.28
		1	50	23.17	23.01	22.95
		1	99	23.15	23.19	23.23
		50	0	22.63	21.91	21.90
		50	25	22.59	22.67	22.42
		50	50	21.86	22.52	22.67
		100	0	21.90	21.79	21.92
20M	16QAM	1	0	22.50	22.70	22.29
		1	50	22.66	22.21	22.04
		1	99	22.50	22.07	22.18
		50	0	21.16	21.38	21.26
		50	25	21.00	21.57	20.94
		50	50	20.72	20.88	20.95
		100	0	20.85	21.44	21.49
20M	64QAM	1	0	21.15	21.16	20.95
		1	50	21.37	21.24	21.17
		1	99	20.87	21.16	21.47
		50	0	20.72	20.64	20.35
		50	25	20.24	20.35	20.40
		50	50	20.31	19.77	20.46
		100	0	20.55	20.29	20.22
20M	256QAM	1	0	18.01	18.39	17.97
		1	50	17.92	18.26	18.39
		1	99	18.28	18.05	17.37
		50	0	17.65	18.20	17.73
		50	25	17.57	17.40	18.22
		50	50	18.31	18.38	18.05
		100	0	18.33	17.75	17.40

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	23.09	23.21	23.16
		1	37	22.87	23.20	23.22
		1	74	23.13	23.03	23.22
		36	0	22.57	22.00	22.06
		36	19	22.07	21.99	22.65
		36	39	22.27	22.55	22.09
		75	0	22.44	22.28	22.59
15M	16QAM	1	0	21.95	21.99	22.57
		1	37	22.52	22.19	22.03
		1	74	21.91	22.19	22.11
		36	0	21.63	20.87	20.81
		36	19	20.93	21.37	20.72
		36	39	20.88	20.84	20.94
		75	0	21.02	21.30	20.95
15M	64QAM	1	0	21.64	21.26	21.23
		1	37	21.56	21.24	21.63
		1	74	20.91	20.97	21.34
		36	0	19.82	19.91	20.66
		36	19	19.74	19.71	20.00
		36	39	19.68	19.78	19.71
		75	0	20.47	20.21	19.93
15M	256QAM	1	0	18.36	17.64	18.02
		1	37	17.55	18.04	17.93
		1	74	17.92	18.17	17.76
		36	0	16.82	17.15	17.10
		36	19	16.78	16.27	17.08
		36	39	17.39	16.80	16.68
		75	0	17.05	16.89	16.64

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	22.81	23.21	23.05
		1	24	23.10	22.80	22.73
		1	49	23.22	23.20	23.09
		25	0	21.92	21.71	21.90
		25	12	21.73	22.25	22.68
		25	25	22.12	21.73	22.58
		50	0	22.25	22.44	22.11
10M	16QAM	1	0	22.48	22.28	22.11
		1	24	21.78	22.24	21.99
		1	49	22.67	22.25	22.54
		25	0	21.00	20.72	21.50
		25	12	21.36	20.57	20.64
		25	25	21.34	20.54	20.80
		50	0	21.04	20.87	20.84
10M	64QAM	1	0	20.94	20.77	21.13
		1	24	21.22	21.38	20.94
		1	49	20.87	20.63	20.62
		25	0	19.92	19.86	20.43
		25	12	19.72	20.06	20.06
		25	25	19.99	20.40	20.37
		50	0	19.83	19.93	20.28
10M	256QAM	1	0	17.72	17.94	17.95
		1	24	17.69	17.99	17.56
		1	49	17.81	17.64	17.19
		25	0	16.72	17.11	16.79
		25	12	16.95	17.29	16.46
		25	25	16.78	17.28	17.04
		50	0	16.68	16.49	17.12

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	23.26	23.26	23.23
		1	12	23.23	22.93	22.59
		1	24	22.92	22.91	23.09
		12	0	22.03	22.44	22.32
		12	6	22.40	22.30	22.51
		12	13	22.28	22.35	22.42
		25	0	22.21	22.60	21.92
5M	16QAM	1	0	22.38	22.39	22.21
		1	12	21.90	21.84	21.75
		1	24	22.37	22.08	21.97
		12	0	21.18	20.60	21.37
		12	6	20.71	20.91	20.64
		12	13	20.97	20.95	21.29
		25	0	20.63	20.89	21.21
5M	64QAM	1	0	20.89	21.53	21.51
		1	12	21.47	21.01	20.92
		1	24	20.87	21.03	21.65
		12	0	20.38	20.52	19.72
		12	6	19.80	20.13	20.40
		12	13	20.29	20.04	20.36
		25	0	19.87	20.32	19.75
5M	256QAM	1	0	17.71	18.26	17.90
		1	12	17.61	18.13	17.69
		1	24	18.04	17.43	17.14
		12	0	16.60	16.78	16.82
		12	6	16.57	16.96	17.16
		12	13	16.62	16.69	16.63
		25	0	16.75	16.99	16.37

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	23.08	22.99	23.01
		1	7	23.18	22.64	23.13
		1	14	23.20	23.19	23.26
		8	0	22.36	22.12	22.41
		8	3	22.32	22.33	22.38
		8	7	22.58	22.44	22.13
		15	0	22.71	22.17	21.83
3M	16QAM	1	0	22.70	22.79	22.43
		1	7	22.09	22.35	21.73
		1	14	21.98	21.70	22.50
		8	0	21.40	20.75	20.92
		8	3	21.45	21.25	21.38
		8	7	21.35	20.84	20.81
		15	0	21.00	21.25	21.33
3M	64QAM	1	0	21.58	21.03	21.18
		1	7	21.49	21.45	21.53
		1	14	21.49	21.12	21.56
		8	0	20.30	19.86	20.02
		8	3	20.30	20.41	20.26
		8	7	20.14	20.54	19.75
		15	0	20.07	19.78	20.31
3M	256QAM	1	0	18.06	18.16	17.85
		1	7	18.14	17.72	17.42
		1	14	17.86	17.40	17.54
		8	0	17.19	16.32	16.80
		8	3	16.95	16.41	17.35
		8	7	17.19	17.09	17.26
		15	0	16.63	16.55	17.25

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	23.23	22.84	23.04
		1	2	23.17	22.73	23.05
		1	5	23.18	22.81	22.94
		3	0	23.16	23.07	23.23
		3	1	22.99	23.24	23.26
		3	3	23.11	23.09	23.05
		6	0	22.35	22.54	22.51
1.4M	16QAM	1	0	22.76	22.06	22.29
		1	2	22.47	22.14	22.26
		1	5	21.87	21.72	21.81
		3	0	22.29	21.97	21.73
		3	1	21.81	22.53	21.90
		3	3	22.07	22.24	22.45
		6	0	20.99	20.94	21.35
1.4M	64QAM	1	0	21.31	21.00	21.29
		1	2	20.98	21.44	21.44
		1	5	21.05	20.97	21.29
		3	0	21.41	20.90	21.13
		3	1	21.34	20.85	20.94
		3	3	20.86	20.56	20.56
		6	0	20.08	20.03	20.54
1.4M	256QAM	1	0	17.36	17.60	17.88
		1	2	17.47	17.90	18.22
		1	5	17.40	18.11	17.20
		3	0	17.62	18.23	17.74
		3	1	18.04	18.19	18.07
		3	3	18.01	17.31	17.51
		6	0	17.14	17.02	16.86

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20450	20525	20600
		Frequency (MHz)		829	836.5	844
10M	QPSK	1	0	24.29	24.35	24.05
		1	24	23.90	24.31	24.04
		1	49	23.77	24.25	24.03
		25	0	22.69	23.35	22.88
		25	12	23.06	22.99	22.95
		25	25	22.81	23.39	23.38
		50	0	23.36	23.79	22.92
10M	16QAM	1	0	23.19	23.21	22.87
		1	24	23.42	23.08	23.40
		1	49	23.15	23.03	23.04
		25	0	22.36	22.81	21.84
		25	12	21.84	22.46	22.35
		25	25	21.87	22.60	22.01
		50	0	21.93	22.55	22.10
10M	64QAM	1	0	21.52	22.19	21.99
		1	24	21.79	22.18	21.45
		1	49	21.28	21.81	21.22
		25	0	20.75	20.79	21.06
		25	12	20.36	20.99	20.28
		25	25	20.40	20.32	20.47
		50	0	20.29	20.40	20.52
10M	256QAM	1	0	18.62	18.97	18.69
		1	24	18.37	18.56	18.26
		1	49	18.77	19.17	18.30
		25	0	18.33	18.10	17.82
		25	12	18.15	17.92	17.46
		25	25	18.14	17.91	17.58
		50	0	17.55	18.30	17.70

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20425	20525	20625
		Frequency (MHz)		826.5	836.5	846.5
5M	QPSK	1	0	24.24	24.28	24.07
		1	12	24.27	24.29	24.16
		1	24	23.49	24.25	23.83
		12	0	23.48	22.95	22.79
		12	6	22.69	23.13	22.97
		12	13	22.99	22.77	22.70
		25	0	22.72	22.99	23.30
5M	16QAM	1	0	22.77	23.26	23.27
		1	12	22.67	23.25	22.87
		1	24	22.58	22.63	22.86
		12	0	22.62	22.81	21.79
		12	6	21.98	22.46	21.66
		12	13	22.07	22.61	21.50
		25	0	22.54	22.55	22.59
5M	64QAM	1	0	21.49	22.14	21.58
		1	12	22.25	21.82	21.75
		1	24	21.41	20.96	21.04
		12	0	20.79	21.45	20.29
		12	6	20.92	20.98	20.74
		12	13	19.98	20.00	20.24
		25	0	20.48	20.74	20.63
5M	256QAM	1	0	18.29	18.97	18.44
		1	12	18.46	18.69	18.80
		1	24	18.57	19.11	18.46
		12	0	17.66	17.51	17.33
		12	6	17.58	18.48	17.21
		12	13	18.04	18.31	17.59
		25	0	17.71	18.19	17.34

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20415	20525	20635
		Frequency (MHz)		825.5	836.5	847.5
3M	QPSK	1	0	23.80	24.22	23.93
		1	7	23.48	24.12	23.98
		1	14	23.90	24.09	23.39
		8	0	22.82	23.17	23.27
		8	3	23.37	23.48	23.56
		8	7	22.64	23.32	22.37
		15	0	23.26	23.04	23.05
3M	16QAM	1	0	23.40	23.68	22.91
		1	7	22.67	22.83	22.76
		1	14	22.84	22.94	22.24
		8	0	22.33	22.08	21.90
		8	3	22.07	22.52	22.32
		8	7	22.39	22.10	22.04
		15	0	22.06	21.86	22.07
3M	64QAM	1	0	21.98	21.97	21.33
		1	7	21.26	21.56	21.76
		1	14	21.30	21.06	20.56
		8	0	21.03	21.33	20.70
		8	3	20.53	21.02	20.30
		8	7	19.79	20.18	20.01
		15	0	20.36	20.70	20.27
3M	256QAM	1	0	18.59	18.41	18.67
		1	7	18.86	18.88	18.60
		1	14	17.87	18.85	18.28
		8	0	17.53	17.69	17.47
		8	3	17.52	17.50	18.22
		8	7	17.79	17.65	17.53
		15	0	17.77	17.62	17.46

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20407	20525	20643
		Frequency (MHz)		824.7	836.5	848.3
1.4M	QPSK	1	0	23.92	24.13	23.93
		1	2	24.01	24.14	24.04
		1	5	23.29	23.84	23.52
		3	0	24.29	23.98	23.73
		3	1	24.30	24.31	23.97
		3	3	23.66	23.90	23.83
		6	0	23.20	23.47	22.57
1.4M	16QAM	1	0	23.23	23.67	22.70
		1	2	22.92	23.21	22.97
		1	5	22.85	22.48	22.76
		3	0	22.92	23.00	22.93
		3	1	23.11	23.17	23.42
		3	3	22.72	23.16	22.34
		6	0	21.78	22.76	21.95
1.4M	64QAM	1	0	21.96	22.06	22.01
		1	2	21.17	21.42	21.66
		1	5	21.14	21.55	21.45
		3	0	21.78	22.18	21.70
		3	1	21.87	21.83	21.89
		3	3	21.30	21.74	20.85
		6	0	20.16	20.04	20.42
1.4M	256QAM	1	0	18.52	18.27	18.67
		1	2	18.55	18.87	18.38
		1	5	18.63	18.64	18.27
		3	0	18.11	19.38	18.31
		3	1	18.84	18.76	19.07
		3	3	18.83	18.93	18.71
		6	0	17.52	17.91	17.31

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	22.97	23.23	23.41
		1	50	22.50	23.05	23.20
		1	99	22.64	22.56	23.30
		50	0	21.86	22.26	22.62
		50	25	21.62	22.46	22.73
		50	50	22.40	22.28	22.51
		100	0	22.38	21.97	22.84
20M	16QAM	1	0	21.87	22.35	22.19
		1	50	21.79	21.80	22.37
		1	99	22.48	21.87	22.04
		50	0	21.00	21.56	21.66
		50	25	20.72	21.04	21.07
		50	50	21.10	20.80	20.90
		100	0	20.97	21.48	21.47
20M	64QAM	1	0	20.86	21.80	21.59
		1	50	21.01	21.62	21.02
		1	99	20.87	21.43	21.44
		50	0	20.07	20.52	20.03
		50	25	19.69	20.10	20.21
		50	50	20.01	20.25	20.50
		100	0	20.18	20.64	20.03
20M	256QAM	1	0	17.65	17.38	17.87
		1	50	17.67	17.68	17.67
		1	99	16.81	17.81	17.44
		50	0	16.35	16.94	17.69
		50	25	16.34	16.60	17.19
		50	50	16.70	16.71	16.92
		100	0	16.34	16.65	16.76

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	23.01	22.91	23.38
		1	37	22.56	22.94	23.29
		1	74	22.73	22.80	23.33
		36	0	22.37	22.16	22.60
		36	19	22.15	22.28	22.01
		36	39	22.27	21.96	22.28
		75	0	21.74	22.18	22.02
15M	16QAM	1	0	22.65	22.00	22.17
		1	37	22.64	21.77	22.14
		1	74	21.91	22.47	22.21
		36	0	20.99	21.50	21.11
		36	19	20.62	21.04	21.20
		36	39	20.82	21.24	21.45
		75	0	21.14	20.99	20.98
15M	64QAM	1	0	21.16	21.25	21.84
		1	37	20.54	21.32	21.62
		1	74	20.98	21.30	21.67
		36	0	19.86	20.76	20.61
		36	19	19.61	20.48	19.97
		36	39	20.05	20.52	20.05
		75	0	20.32	20.41	20.43
15M	256QAM	1	0	17.49	18.17	17.67
		1	37	17.69	17.82	18.12
		1	74	17.64	17.61	17.93
		36	0	17.00	16.22	17.32
		36	19	16.26	16.87	16.71
		36	39	17.09	16.35	16.83
		75	0	16.92	16.90	17.17

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	23.02	23.31	23.34
		1	24	22.64	23.27	22.99
		1	49	22.62	23.13	22.68
		25	0	21.72	22.17	22.22
		25	12	21.95	21.73	22.75
		25	25	22.16	22.43	22.03
		50	0	21.54	22.19	22.19
10M	16QAM	1	0	22.36	21.86	22.21
		1	24	22.03	22.38	22.45
		1	49	22.23	22.03	21.62
		25	0	21.28	20.88	21.22
		25	12	20.82	21.29	21.36
		25	25	20.60	20.63	21.40
		50	0	21.09	21.13	21.14
10M	64QAM	1	0	21.02	21.61	20.93
		1	24	20.98	21.63	21.77
		1	49	20.84	20.63	21.51
		25	0	19.67	20.30	20.64
		25	12	19.77	20.53	20.01
		25	25	20.19	20.54	19.91
		50	0	20.15	20.13	20.04
10M	256QAM	1	0	17.79	17.52	18.07
		1	24	17.74	17.32	17.79
		1	49	17.27	17.57	17.61
		25	0	16.39	16.45	16.64
		25	12	16.72	16.69	16.82
		25	25	16.85	16.72	17.31
		50	0	17.16	16.34	17.49

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	22.87	22.89	22.87
		1	12	22.80	22.84	22.80
		1	24	22.14	22.88	23.10
		12	0	21.44	22.17	22.57
		12	6	21.47	22.32	22.12
		12	13	22.27	21.76	21.76
		25	0	22.07	21.70	22.37
5M	16QAM	1	0	22.39	22.16	22.53
		1	12	21.90	21.72	22.64
		1	24	21.64	21.98	21.82
		12	0	21.05	20.96	20.67
		12	6	20.76	21.25	21.43
		12	13	21.23	21.43	20.80
		25	0	20.84	21.00	20.75
5M	64QAM	1	0	20.84	20.79	21.59
		1	12	20.49	21.16	20.92
		1	24	21.01	21.07	21.13
		12	0	19.97	20.40	20.23
		12	6	20.33	20.30	20.48
		12	13	20.01	20.48	20.07
		25	0	19.84	20.59	19.90
5M	256QAM	1	0	17.84	18.17	18.37
		1	12	17.44	17.71	17.82
		1	24	17.25	17.12	17.73
		12	0	16.34	16.95	16.97
		12	6	16.46	16.92	16.77
		12	13	16.88	16.36	16.43
		25	0	16.38	17.12	17.04

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	22.58	23.10	23.16
		1	7	22.76	22.80	23.15
		1	14	22.63	22.82	23.01
		8	0	21.51	21.89	22.11
		8	3	21.56	21.88	22.36
		8	7	21.53	21.92	22.10
		15	0	21.99	22.20	22.69
3M	16QAM	1	0	21.81	22.38	22.29
		1	7	22.08	21.74	22.07
		1	14	22.39	21.89	22.16
		8	0	20.91	21.41	21.50
		8	3	21.06	21.04	21.59
		8	7	20.52	20.85	20.87
		15	0	21.28	21.22	21.44
3M	64QAM	1	0	21.31	21.61	21.63
		1	7	20.82	21.13	21.63
		1	14	20.63	20.71	21.35
		8	0	19.67	20.43	20.49
		8	3	20.00	20.19	20.22
		8	7	19.53	20.73	20.14
		15	0	19.65	20.44	20.60
3M	256QAM	1	0	17.10	17.73	17.70
		1	7	17.61	17.54	18.32
		1	14	17.37	17.12	17.08
		8	0	16.49	16.37	17.34
		8	3	16.22	16.70	17.15
		8	7	16.52	16.53	17.15
		15	0	16.94	16.30	16.32

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	22.53	23.20	23.21
		1	2	22.65	23.17	23.18
		1	5	22.47	23.11	23.09
		3	0	22.60	22.83	23.08
		3	1	22.66	23.13	23.00
		3	3	23.18	23.16	23.14
		6	0	21.70	21.87	22.21
1.4M	16QAM	1	0	21.82	21.96	22.29
		1	2	22.05	22.03	22.12
		1	5	22.13	21.70	21.80
		3	0	22.35	21.97	21.75
		3	1	22.03	22.50	21.91
		3	3	22.00	21.86	22.25
		6	0	20.57	21.53	21.48
1.4M	64QAM	1	0	20.78	21.35	21.69
		1	2	20.83	21.46	21.59
		1	5	20.98	21.35	21.29
		3	0	21.47	21.43	20.63
		3	1	20.46	21.60	21.24
		3	3	21.02	21.34	20.86
		6	0	19.68	20.68	20.17
1.4M	256QAM	1	0	17.28	17.70	17.47
		1	2	17.12	17.64	18.09
		1	5	16.59	16.99	17.81
		3	0	17.55	17.23	18.13
		3	1	17.83	18.02	18.42
		3	3	17.44	17.92	17.88
		6	0	16.25	16.55	16.57

EIRP Power (dBm/5MHz)

NR Band 30						
BW	MCS Index	RB Size	RB Offset	Mid		
		Channel		462000		
		Frequency (MHz)		2310		
10M	$\pi/2$ BPSK	1	1	22.63		
		1	26	22.64		
		1	50	22.57		
		25	0	22.07		
		25	14	22.53		
		25	27	22.12		
		50	0	22.17		
10M	QPSK	1	1	22.65		
		1	26	22.62		
		1	50	22.60		
		25	0	21.68		
		25	14	22.56		
		25	27	21.65		
		50	0	21.69		
10M	16QAM	1	1	21.63		
10M	64QAM	1	1	19.18		
10M	256QAM	1	1	18.15		
BW	MCS Index	Channel		461500	462000	462500
		Frequency (MHz)		2307.5	2310	2312.5
5M	$\pi/2$ BPSK	1	1	22.61	22.55	22.55
		1	13	22.62	22.56	22.56
		1	23	22.55	22.49	22.49
		12	0	22.05	21.99	21.99
		12	7	22.61	22.55	22.55
		12	13	22.10	22.04	22.04
		25	0	22.15	22.09	22.09
5M	QPSK	1	1	22.63	22.57	22.57
		1	13	22.60	22.54	22.54
		1	23	22.58	22.52	22.52
		12	0	21.66	21.60	21.60
		12	7	22.54	22.48	22.48
		12	13	21.63	21.57	21.57
		25	0	21.67	21.61	21.61
5M	16QAM	1	1	21.61	21.55	21.55
5M	64QAM	1	1	20.12	20.07	20.10
5M	256QAM	1	1	18.13	18.07	18.07

EIRP / ERP Power (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	21.62	21.81	21.89
		1	50	21.78	21.62	21.56
		1	99	21.76	21.80	21.84
		50	0	21.24	20.52	20.51
		50	25	21.20	21.28	21.03
		50	50	20.47	21.13	21.28
		100	0	20.51	20.40	20.53
20M	16QAM	1	0	21.11	21.31	20.90
		1	50	21.27	20.82	20.65
		1	99	21.11	20.68	20.79
		50	0	19.77	19.99	19.87
		50	25	19.61	20.18	19.55
		50	50	19.33	19.49	19.56
		100	0	19.46	20.05	20.10
20M	64QAM	1	0	19.76	19.77	19.56
		1	50	19.98	19.85	19.78
		1	99	19.48	19.77	20.08
		50	0	19.33	19.25	18.96
		50	25	18.85	18.96	19.01
		50	50	18.92	18.38	19.07
		100	0	19.16	18.90	18.83
20M	256QAM	1	0	16.62	17.00	16.58
		1	50	16.53	16.87	17.00
		1	99	16.89	16.66	15.98
		50	0	16.26	16.81	16.34
		50	25	16.18	16.01	16.83
		50	50	16.92	16.99	16.66
		100	0	16.94	16.36	16.01

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	21.70	21.82	21.77
		1	37	21.48	21.81	21.83
		1	74	21.74	21.64	21.83
		36	0	21.18	20.61	20.67
		36	19	20.68	20.60	21.26
		36	39	20.88	21.16	20.70
		75	0	21.05	20.89	21.20
15M	16QAM	1	0	20.56	20.60	21.18
		1	37	21.13	20.80	20.64
		1	74	20.52	20.80	20.72
		36	0	20.24	19.48	19.42
		36	19	19.54	19.98	19.33
		36	39	19.49	19.45	19.55
		75	0	19.63	19.91	19.56
15M	64QAM	1	0	20.25	19.87	19.84
		1	37	20.17	19.85	20.24
		1	74	19.52	19.58	19.95
		36	0	18.43	18.52	19.27
		36	19	18.35	18.32	18.61
		36	39	18.29	18.39	18.32
		75	0	19.08	18.82	18.54
15M	256QAM	1	0	16.97	16.25	16.63
		1	37	16.16	16.65	16.54
		1	74	16.53	16.78	16.37
		36	0	15.43	15.76	15.71
		36	19	15.39	14.88	15.69
		36	39	16.00	15.41	15.29
		75	0	15.66	15.50	15.25

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	21.42	21.82	21.66
		1	24	21.71	21.41	21.34
		1	49	21.83	21.81	21.70
		25	0	20.53	20.32	20.51
		25	12	20.34	20.86	21.29
		25	25	20.73	20.34	21.19
		50	0	20.86	21.05	20.72
10M	16QAM	1	0	21.09	20.89	20.72
		1	24	20.39	20.85	20.60
		1	49	21.28	20.86	21.15
		25	0	19.61	19.33	20.11
		25	12	19.97	19.18	19.25
		25	25	19.95	19.15	19.41
		50	0	19.65	19.48	19.45
10M	64QAM	1	0	19.55	19.38	19.74
		1	24	19.83	19.99	19.55
		1	49	19.48	19.24	19.23
		25	0	18.53	18.47	19.04
		25	12	18.33	18.67	18.67
		25	25	18.60	19.01	18.98
		50	0	18.44	18.54	18.89
10M	256QAM	1	0	16.33	16.55	16.56
		1	24	16.30	16.60	16.17
		1	49	16.42	16.25	15.80
		25	0	15.33	15.72	15.40
		25	12	15.56	15.90	15.07
		25	25	15.39	15.89	15.65
		50	0	15.29	15.10	15.73

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	21.87	21.87	21.84
		1	12	21.84	21.54	21.20
		1	24	21.53	21.52	21.70
		12	0	20.64	21.05	20.93
		12	6	21.01	20.91	21.12
		12	13	20.89	20.96	21.03
		25	0	20.82	21.21	20.53
5M	16QAM	1	0	20.99	21.00	20.82
		1	12	20.51	20.45	20.36
		1	24	20.98	20.69	20.58
		12	0	19.79	19.21	19.98
		12	6	19.32	19.52	19.25
		12	13	19.58	19.56	19.90
		25	0	19.24	19.50	19.82
5M	64QAM	1	0	19.50	20.14	20.12
		1	12	20.08	19.62	19.53
		1	24	19.48	19.64	20.26
		12	0	18.99	19.13	18.33
		12	6	18.41	18.74	19.01
		12	13	18.90	18.65	18.97
		25	0	18.48	18.93	18.36
5M	256QAM	1	0	16.32	16.87	16.51
		1	12	16.22	16.74	16.30
		1	24	16.65	16.04	15.75
		12	0	15.21	15.39	15.43
		12	6	15.18	15.57	15.77
		12	13	15.23	15.30	15.24
		25	0	15.36	15.60	14.98

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	21.69	21.60	21.62
		1	7	21.79	21.25	21.74
		1	14	21.81	21.80	21.87
		8	0	20.97	20.73	21.02
		8	3	20.93	20.94	20.99
		8	7	21.19	21.05	20.74
		15	0	21.32	20.78	20.44
3M	16QAM	1	0	21.31	21.40	21.04
		1	7	20.70	20.96	20.34
		1	14	20.59	20.31	21.11
		8	0	20.01	19.36	19.53
		8	3	20.06	19.86	19.99
		8	7	19.96	19.45	19.42
		15	0	19.61	19.86	19.94
3M	64QAM	1	0	20.19	19.64	19.79
		1	7	20.10	20.06	20.14
		1	14	20.10	19.73	20.17
		8	0	18.91	18.47	18.63
		8	3	18.91	19.02	18.87
		8	7	18.75	19.15	18.36
		15	0	18.68	18.39	18.92
3M	256QAM	1	0	16.67	16.77	16.46
		1	7	16.75	16.33	16.03
		1	14	16.47	16.01	16.15
		8	0	15.80	14.93	15.41
		8	3	15.56	15.02	15.96
		8	7	15.80	15.70	15.87
		15	0	15.24	15.16	15.86

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	21.84	21.45	21.65
		1	2	21.78	21.34	21.66
		1	5	21.79	21.42	21.55
		3	0	21.77	21.68	21.84
		3	1	21.60	21.85	21.87
		3	3	21.72	21.70	21.66
		6	0	20.96	21.15	21.12
1.4M	16QAM	1	0	21.37	20.67	20.90
		1	2	21.08	20.75	20.87
		1	5	20.48	20.33	20.42
		3	0	20.90	20.58	20.34
		3	1	20.42	21.14	20.51
		3	3	20.68	20.85	21.06
		6	0	19.60	19.55	19.96
1.4M	64QAM	1	0	19.92	19.61	19.90
		1	2	19.59	20.05	20.05
		1	5	19.66	19.58	19.90
		3	0	20.02	19.51	19.74
		3	1	19.95	19.46	19.55
		3	3	19.47	19.17	19.17
		6	0	18.69	18.64	19.15
1.4M	256QAM	1	0	15.97	16.21	16.49
		1	2	16.08	16.51	16.83
		1	5	16.01	16.72	15.81
		3	0	16.23	16.84	16.35
		3	1	16.65	16.80	16.68
		3	3	16.62	15.92	16.12
		6	0	15.75	15.63	15.47

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20450	20525	20600
		Frequency (MHz)		829	836.5	844
10M	QPSK	1	0	20.25	20.31	20.01
		1	24	19.86	20.27	20.00
		1	49	19.73	20.21	19.99
		25	0	18.65	19.31	18.84
		25	12	19.02	18.95	18.91
		25	25	18.77	19.35	19.34
		50	0	19.32	19.75	18.88
10M	16QAM	1	0	19.15	19.17	18.83
		1	24	19.38	19.04	19.36
		1	49	19.11	18.99	19.00
		25	0	18.32	18.77	17.80
		25	12	17.80	18.42	18.31
		25	25	17.83	18.56	17.97
		50	0	17.89	18.51	18.06
10M	64QAM	1	0	17.48	18.15	17.95
		1	24	17.75	18.14	17.41
		1	49	17.24	17.77	17.18
		25	0	16.71	16.75	17.02
		25	12	16.32	16.95	16.24
		25	25	16.36	16.28	16.43
		50	0	16.25	16.36	16.48
10M	256QAM	1	0	14.58	14.93	14.65
		1	24	14.33	14.52	14.22
		1	49	14.73	15.13	14.26
		25	0	14.29	14.06	13.78
		25	12	14.11	13.88	13.42
		25	25	14.10	13.87	13.54
		50	0	13.51	14.26	13.66

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20425	20525	20625
		Frequency (MHz)		826.5	836.5	846.5
5M	QPSK	1	0	20.20	20.24	20.03
		1	12	20.23	20.25	20.12
		1	24	19.45	20.21	19.79
		12	0	19.44	18.91	18.75
		12	6	18.65	19.09	18.93
		12	13	18.95	18.73	18.66
		25	0	18.68	18.95	19.26
5M	16QAM	1	0	18.73	19.22	19.23
		1	12	18.63	19.21	18.83
		1	24	18.54	18.59	18.82
		12	0	18.58	18.77	17.75
		12	6	17.94	18.42	17.62
		12	13	18.03	18.57	17.46
		25	0	18.50	18.51	18.55
5M	64QAM	1	0	17.45	18.10	17.54
		1	12	18.21	17.78	17.71
		1	24	17.37	16.92	17.00
		12	0	16.75	17.41	16.25
		12	6	16.88	16.94	16.70
		12	13	15.94	15.96	16.20
		25	0	16.44	16.70	16.59
5M	256QAM	1	0	14.25	14.93	14.40
		1	12	14.42	14.65	14.76
		1	24	14.53	15.07	14.42
		12	0	13.62	13.47	13.29
		12	6	13.54	14.44	13.17
		12	13	14.00	14.27	13.55
		25	0	13.67	14.15	13.30

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20415	20525	20635
		Frequency (MHz)		825.5	836.5	847.5
3M	QPSK	1	0	19.76	20.18	19.89
		1	7	19.44	20.08	19.94
		1	14	19.86	20.05	19.35
		8	0	18.78	19.13	19.23
		8	3	19.33	19.44	19.52
		8	7	18.60	19.28	18.33
		15	0	19.22	19.00	19.01
3M	16QAM	1	0	19.36	19.64	18.87
		1	7	18.63	18.79	18.72
		1	14	18.80	18.90	18.20
		8	0	18.29	18.04	17.86
		8	3	18.03	18.48	18.28
		8	7	18.35	18.06	18.00
		15	0	18.02	17.82	18.03
3M	64QAM	1	0	17.94	17.93	17.29
		1	7	17.22	17.52	17.72
		1	14	17.26	17.02	16.52
		8	0	16.99	17.29	16.66
		8	3	16.49	16.98	16.26
		8	7	15.75	16.14	15.97
		15	0	16.32	16.66	16.23
3M	256QAM	1	0	14.55	14.37	14.63
		1	7	14.82	14.84	14.56
		1	14	13.83	14.81	14.24
		8	0	13.49	13.65	13.43
		8	3	13.48	13.46	14.18
		8	7	13.75	13.61	13.49
		15	0	13.73	13.58	13.42

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20407	20525	20643
		Frequency (MHz)		824.7	836.5	848.3
1.4M	QPSK	1	0	19.88	20.09	19.89
		1	2	19.97	20.10	20.00
		1	5	19.25	19.80	19.48
		3	0	20.25	19.94	19.69
		3	1	20.26	20.27	19.93
		3	3	19.62	19.86	19.79
		6	0	19.16	19.43	18.53
1.4M	16QAM	1	0	19.19	19.63	18.66
		1	2	18.88	19.17	18.93
		1	5	18.81	18.44	18.72
		3	0	18.88	18.96	18.89
		3	1	19.07	19.13	19.38
		3	3	18.68	19.12	18.30
		6	0	17.74	18.72	17.91
1.4M	64QAM	1	0	17.92	18.02	17.97
		1	2	17.13	17.38	17.62
		1	5	17.10	17.51	17.41
		3	0	17.74	18.14	17.66
		3	1	17.83	17.79	17.85
		3	3	17.26	17.70	16.81
		6	0	16.12	16.00	16.38
1.4M	256QAM	1	0	14.48	14.23	14.63
		1	2	14.51	14.83	14.34
		1	5	14.59	14.60	14.23
		3	0	14.07	15.34	14.27
		3	1	14.80	14.72	15.03
		3	3	14.79	14.89	14.67
		6	0	13.48	13.87	13.27

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	21.29	21.55	21.73
		1	50	20.82	21.37	21.52
		1	99	20.96	20.88	21.62
		50	0	20.18	20.58	20.94
		50	25	19.94	20.78	21.05
		50	50	20.72	20.60	20.83
		100	0	20.70	20.29	21.16
20M	16QAM	1	0	20.19	20.67	20.51
		1	50	20.11	20.12	20.69
		1	99	20.80	20.19	20.36
		50	0	19.32	19.88	19.98
		50	25	19.04	19.36	19.39
		50	50	19.42	19.12	19.22
		100	0	19.29	19.80	19.79
20M	64QAM	1	0	19.18	20.12	19.91
		1	50	19.33	19.94	19.34
		1	99	19.19	19.75	19.76
		50	0	18.39	18.84	18.35
		50	25	18.01	18.42	18.53
		50	50	18.33	18.57	18.82
		100	0	18.50	18.96	18.35
20M	256QAM	1	0	15.97	15.70	16.19
		1	50	15.99	16.00	15.99
		1	99	15.13	16.13	15.76
		50	0	14.67	15.26	16.01
		50	25	14.66	14.92	15.51
		50	50	15.02	15.03	15.24
		100	0	14.66	14.97	15.08

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	21.33	21.23	21.70
		1	37	20.88	21.26	21.61
		1	74	21.05	21.12	21.65
		36	0	20.69	20.48	20.92
		36	19	20.47	20.60	20.33
		36	39	20.59	20.28	20.60
		75	0	20.06	20.50	20.34
15M	16QAM	1	0	20.97	20.32	20.49
		1	37	20.96	20.09	20.46
		1	74	20.23	20.79	20.53
		36	0	19.31	19.82	19.43
		36	19	18.94	19.36	19.52
		36	39	19.14	19.56	19.77
		75	0	19.46	19.31	19.30
15M	64QAM	1	0	19.48	19.57	20.16
		1	37	18.86	19.64	19.94
		1	74	19.30	19.62	19.99
		36	0	18.18	19.08	18.93
		36	19	17.93	18.80	18.29
		36	39	18.37	18.84	18.37
		75	0	18.64	18.73	18.75
15M	256QAM	1	0	15.81	16.49	15.99
		1	37	16.01	16.14	16.44
		1	74	15.96	15.93	16.25
		36	0	15.32	14.54	15.64
		36	19	14.58	15.19	15.03
		36	39	15.41	14.67	15.15
		75	0	15.24	15.22	15.49

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	21.34	21.63	21.66
		1	24	20.96	21.59	21.31
		1	49	20.94	21.45	21.00
		25	0	20.04	20.49	20.54
		25	12	20.27	20.05	21.07
		25	25	20.48	20.75	20.35
		50	0	19.86	20.51	20.51
10M	16QAM	1	0	20.68	20.18	20.53
		1	24	20.35	20.70	20.77
		1	49	20.55	20.35	19.94
		25	0	19.60	19.20	19.54
		25	12	19.14	19.61	19.68
		25	25	18.92	18.95	19.72
		50	0	19.41	19.45	19.46
10M	64QAM	1	0	19.34	19.93	19.25
		1	24	19.30	19.95	20.09
		1	49	19.16	18.95	19.83
		25	0	17.99	18.62	18.96
		25	12	18.09	18.85	18.33
		25	25	18.51	18.86	18.23
		50	0	18.47	18.45	18.36
10M	256QAM	1	0	16.11	15.84	16.39
		1	24	16.06	15.64	16.11
		1	49	15.59	15.89	15.93
		25	0	14.71	14.77	14.96
		25	12	15.04	15.01	15.14
		25	25	15.17	15.04	15.63
		50	0	15.48	14.66	15.81

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	21.19	21.21	21.19
		1	12	21.12	21.16	21.12
		1	24	20.46	21.20	21.42
		12	0	19.76	20.49	20.89
		12	6	19.79	20.64	20.44
		12	13	20.59	20.08	20.08
		25	0	20.39	20.02	20.69
5M	16QAM	1	0	20.71	20.48	20.85
		1	12	20.22	20.04	20.96
		1	24	19.96	20.30	20.14
		12	0	19.37	19.28	18.99
		12	6	19.08	19.57	19.75
		12	13	19.55	19.75	19.12
		25	0	19.16	19.32	19.07
5M	64QAM	1	0	19.16	19.11	19.91
		1	12	18.81	19.48	19.24
		1	24	19.33	19.39	19.45
		12	0	18.29	18.72	18.55
		12	6	18.65	18.62	18.80
		12	13	18.33	18.80	18.39
		25	0	18.16	18.91	18.22
5M	256QAM	1	0	16.16	16.49	16.69
		1	12	15.76	16.03	16.14
		1	24	15.57	15.44	16.05
		12	0	14.66	15.27	15.29
		12	6	14.78	15.24	15.09
		12	13	15.20	14.68	14.75
		25	0	14.70	15.44	15.36

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	20.90	21.42	21.48
		1	7	21.08	21.12	21.47
		1	14	20.95	21.14	21.33
		8	0	19.83	20.21	20.43
		8	3	19.88	20.20	20.68
		8	7	19.85	20.24	20.42
		15	0	20.31	20.52	21.01
3M	16QAM	1	0	20.13	20.70	20.61
		1	7	20.40	20.06	20.39
		1	14	20.71	20.21	20.48
		8	0	19.23	19.73	19.82
		8	3	19.38	19.36	19.91
		8	7	18.84	19.17	19.19
		15	0	19.60	19.54	19.76
3M	64QAM	1	0	19.63	19.93	19.95
		1	7	19.14	19.45	19.95
		1	14	18.95	19.03	19.67
		8	0	17.99	18.75	18.81
		8	3	18.32	18.51	18.54
		8	7	17.85	19.05	18.46
		15	0	17.97	18.76	18.92
3M	256QAM	1	0	15.42	16.05	16.02
		1	7	15.93	15.86	16.64
		1	14	15.69	15.44	15.40
		8	0	14.81	14.69	15.66
		8	3	14.54	15.02	15.47
		8	7	14.84	14.85	15.47
		15	0	15.26	14.62	14.64

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	20.85	21.52	21.53
		1	2	20.97	21.49	21.50
		1	5	20.79	21.43	21.41
		3	0	20.92	21.15	21.40
		3	1	20.98	21.45	21.32
		3	3	21.50	21.48	21.46
		6	0	20.02	20.19	20.53
1.4M	16QAM	1	0	20.14	20.28	20.61
		1	2	20.37	20.35	20.44
		1	5	20.45	20.02	20.12
		3	0	20.67	20.29	20.07
		3	1	20.35	20.82	20.23
		3	3	20.32	20.18	20.57
		6	0	18.89	19.85	19.80
1.4M	64QAM	1	0	19.10	19.67	20.01
		1	2	19.15	19.78	19.91
		1	5	19.30	19.67	19.61
		3	0	19.79	19.75	18.95
		3	1	18.78	19.92	19.56
		3	3	19.34	19.66	19.18
		6	0	18.00	19.00	18.49
1.4M	256QAM	1	0	15.60	16.02	15.79
		1	2	15.44	15.96	16.41
		1	5	14.91	15.31	16.13
		3	0	15.87	15.55	16.45
		3	1	16.15	16.34	16.74
		3	3	15.76	16.24	16.20
		6	0	14.57	14.87	14.89

4.2 Modulation Characteristics Measurement

4.2.1 Limits of Modulation Characteristics

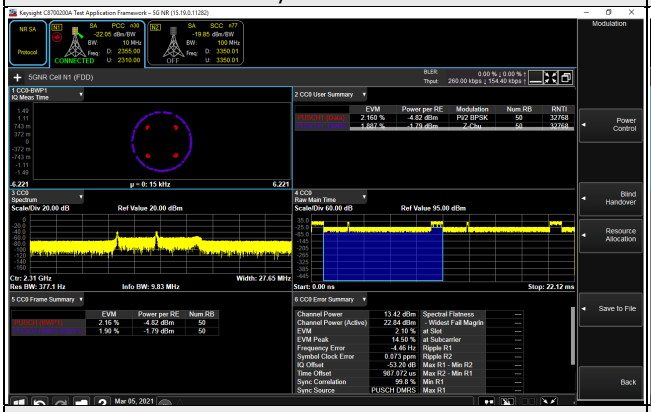
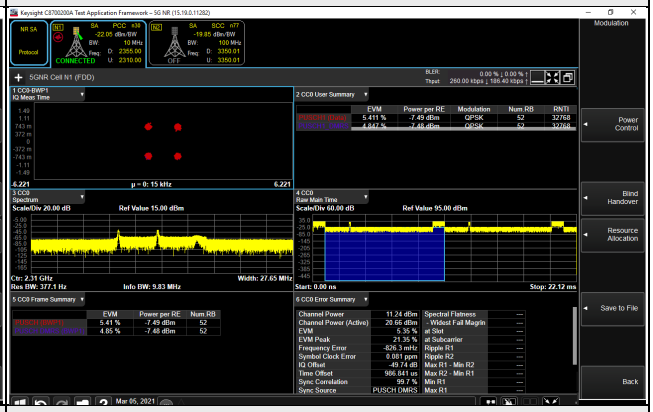
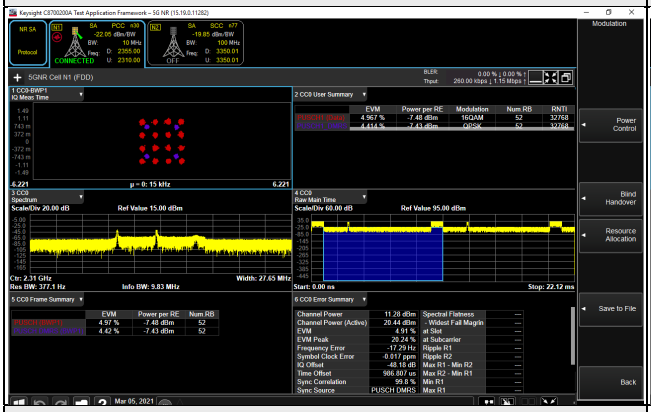
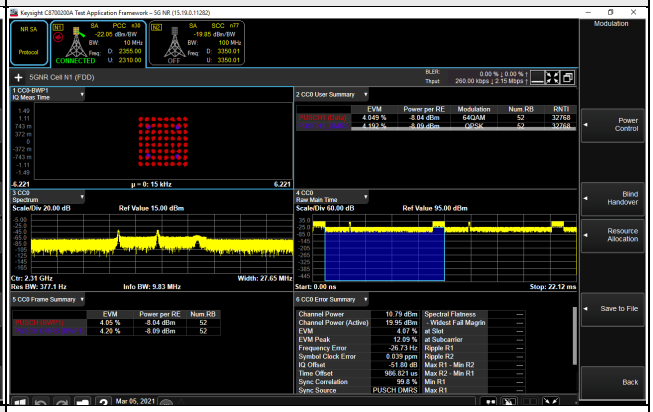
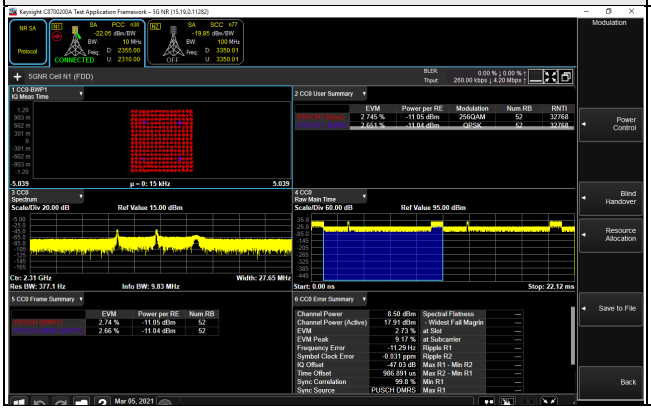
N/A

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

n30	
Spectrum Plot of Measurement Value	
Channel: 462000 / Frequency (MHz): 2310.0MHz	
$\pi/2$ BPSK	QPSK
	
16QAM	64QAM
	
256QAM	
	

4.3 Frequency Stability Measurement

4.3.1 Limits of Frequency Stabiliity Measurement

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

4.3.2 Test Procedure

a. 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.
b. 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.
c. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the ±0.5 ℃ 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.

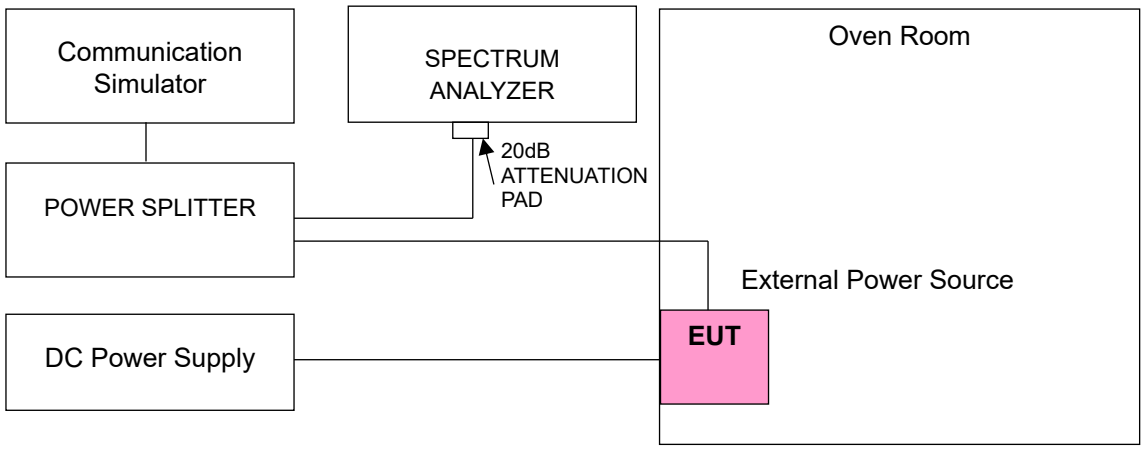
Note: The frequency error was recorded frequency error from the communication simulator.

4.3.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
5G Wireless Test Platforms Keysight	E7515B	MY60102114	May 28, 2020	May 27, 2021
Temperature & Humidity Chamber TERCHY	HRM-120RF	931022	Dec. 24, 2020	Dec. 23, 2021
Digital Multimeter Fluke	87-III	70360742	Jun. 23, 2020	Jun. 22, 2021
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 Conducted Setup



4.3.5 Test Results

Frequency Error vs. Voltage

Voltage (Vdc)	n30			
	Channel Bandwidth 5 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	2307.500003	0.001	2312.500000	0.001
7.74	2307.500004	0.002	2312.500000	0.000
6.58	2307.500001	0.000	2312.500000	0.001

Note: The applicant defined the normal working voltage is from 6.58Vdc to 8.90Vdc.

Frequency Error vs. Temperature

Temp. (℃)	n30			
	Channel Bandwidth 5 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	2307.500002	0.001	2312.500000	0.001
-20	2307.500002	0.001	2312.500000	0.001
-10	2307.500002	0.001	2312.500000	0.001
0	2307.500002	0.001	2312.500000	0.002
10	2307.499997	-0.001	2312.500000	-0.001
20	2307.499997	-0.002	2312.500000	0.000
30	2307.499997	-0.001	2312.500000	-0.001
40	2307.499997	-0.002	2312.500000	-0.001
50	2307.499999	-0.001	2312.500000	0.000

Frequency Error vs. Voltage

Voltage (Vdc)	n30	
	Channel Bandwidth 10 MHz	
	Frequency (MHz)	Frequency Error (ppm)
8.90	2310.000003	0.001
7.74	2310.000003	0.001
6.58	2310.000002	0.001

Note: The applicant defined the normal working voltage is from 6.58Vdc to 8.90Vdc.

Frequency Error vs. Temperature

Temp. (℃)	n30	
	Channel Bandwidth 10 MHz	
	Frequency (MHz)	Frequency Error (ppm)
-30	2310.000003	0.001
-20	2310.000002	0.001
-10	2310.000001	0.001
0	2310.000001	0.001
10	2309.999997	-0.001
20	2309.999997	-0.001
30	2309.999997	-0.001
40	2309.999999	0.000
50	2309.999998	-0.001

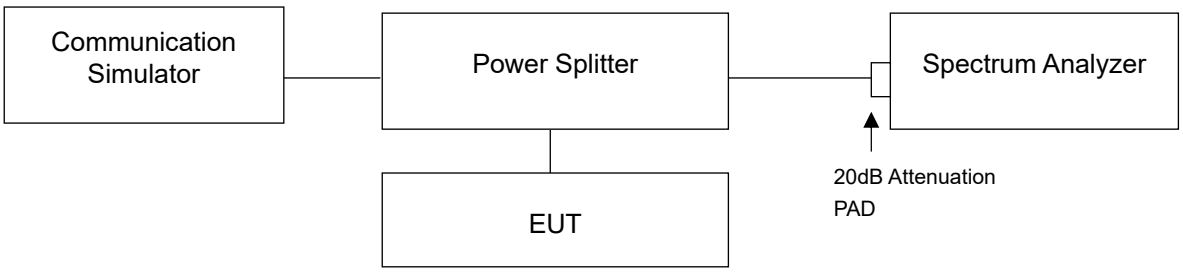
4.4 Occupied Bandwidth Measurement

4.4.1 Test Procedure

The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Measurement method, please refer to section 5.4.4 of ANSI C63.26. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

For the 26dBc bandwidth measurement method, please refer to section 5.4.3 of ANSI C63.26.

4.4.2 Test Setup



4.4.3 Test Result

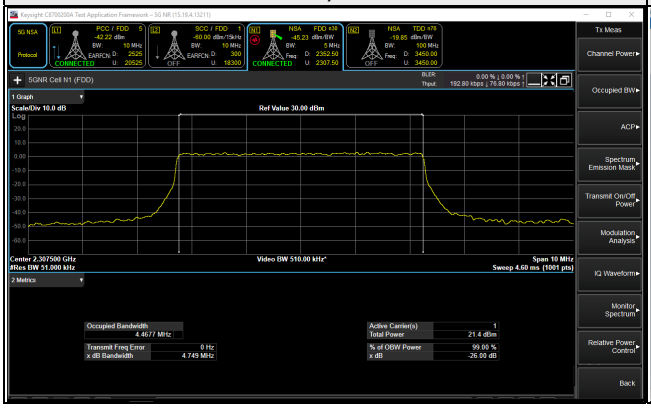
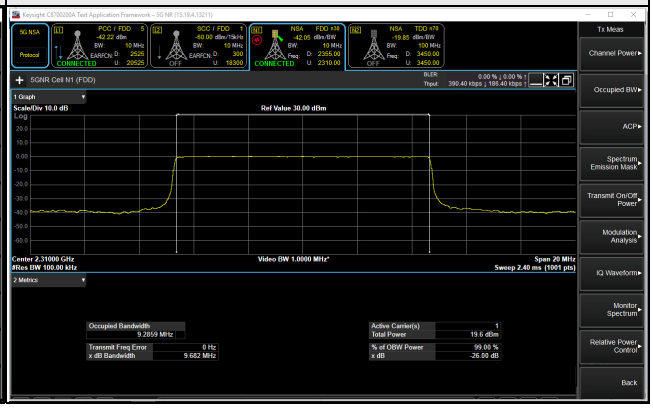
Occupied Bandwidth

n30, Channel Bandwidth 5MHz						
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
461500	2307.5	4.47	4.46	4.46	4.47	4.47
462000	2310.0	4.46	4.47	4.47	4.47	4.47
462500	2312.5	4.46	4.47	4.47	4.47	4.46
n30, Channel Bandwidth 10MHz						
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
462000	2310.0	9.18	9.29	9.28	9.28	9.28

Spectrum Plot of Worst Value	
5MHz / 256QAM	10MHz / QPSK
	

26dB Bandwidth

n30, Channel Bandwidth 5MHz						
Channel	Frequency (MHz)	26dB Bandwidth (MHz)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
461500	2307.5	4.75	4.72	4.74	4.73	4.74
462000	2310.0	4.73	4.73	4.73	4.73	4.74
462500	2312.5	4.73	4.75	4.69	4.72	4.74
n30, Channel Bandwidth 10MHz						
Channel	Frequency (MHz)	26dB Bandwidth (MHz)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
462000	2310.0	9.32	9.68	9.64	9.65	9.64

Spectrum Plot of Worst Value	
5MHz / $\pi/2$ BPSK	10MHz / QPSK
	

4.5 Emission Mask Measurement

4.5.1 Limits of Emission Mask Measurement

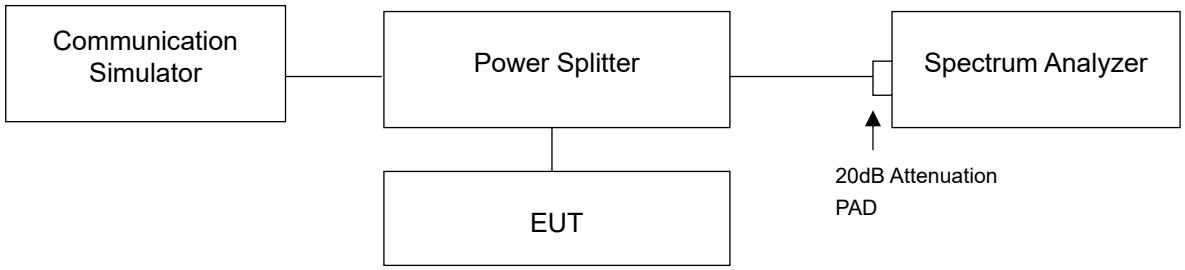
According to FCC 27.53(a) (4) For mobile and portable stations operating in the 2305-2315MHz and 2350-2360 MHz bands:

(i) By a factor of not less than: 43 + 10 log (P) dB on all frequencies between 2305 and 2320MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337 MHz;

(ii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305MHz, 55 + 10 log (P) dB on all frequencies between 2296 and 2300 MHz, 61 + 10 log (P) dB on all frequencies between 2292 and 2296 MHz, 67 + 10 log (P) dB on all frequencies between 2288 and 2292 MHz, and 70 + 10 log (P) dB below 2288 MHz;

(iii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365MHz, and not less than 70 + 10 log (P) dB above 2365MHz.

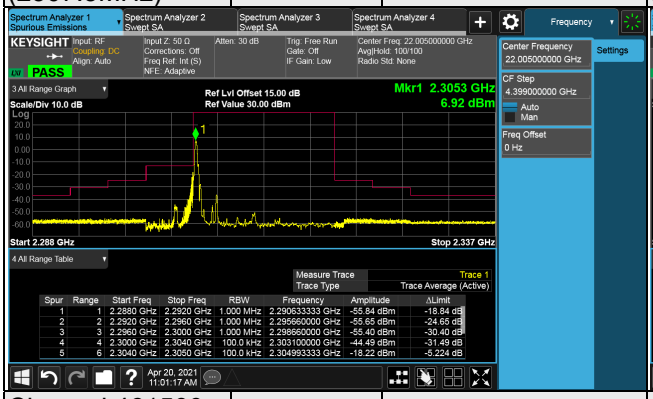
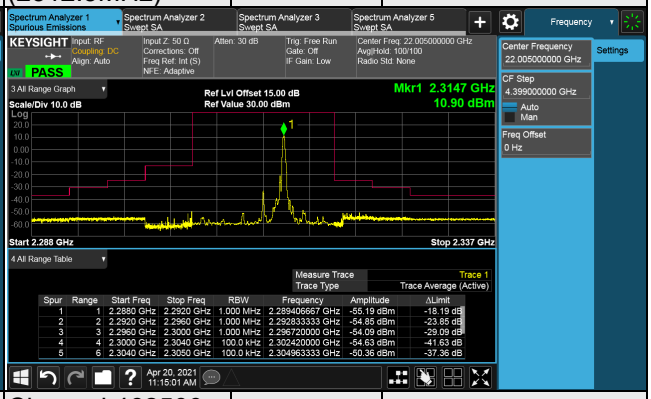
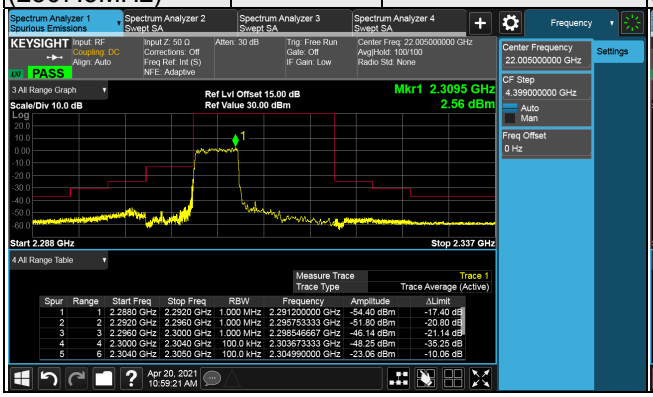
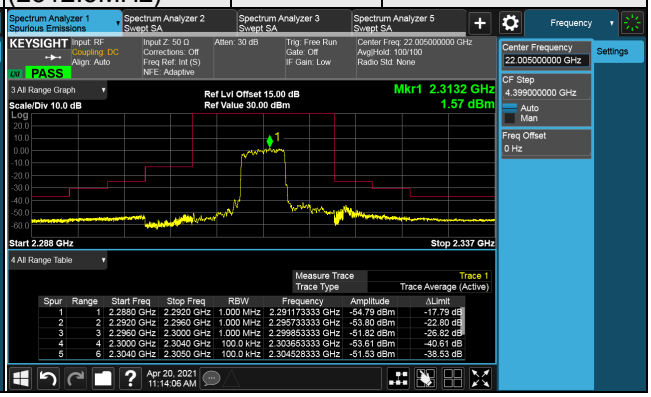
4.5.2 Test Setup

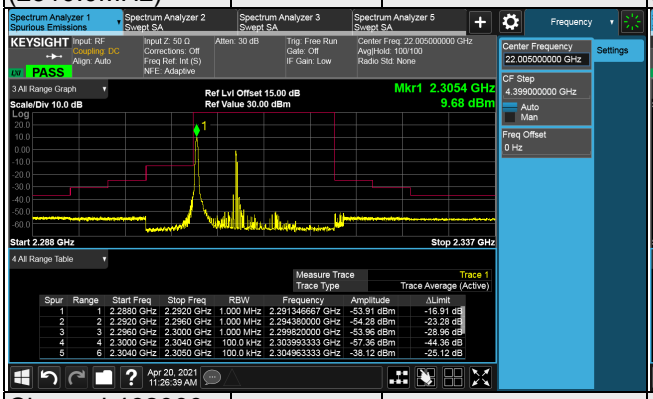
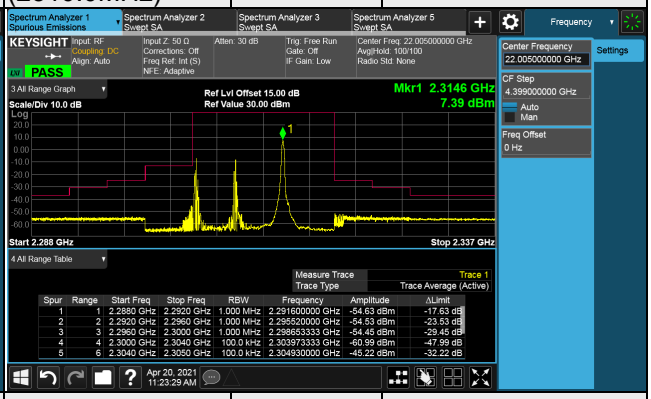
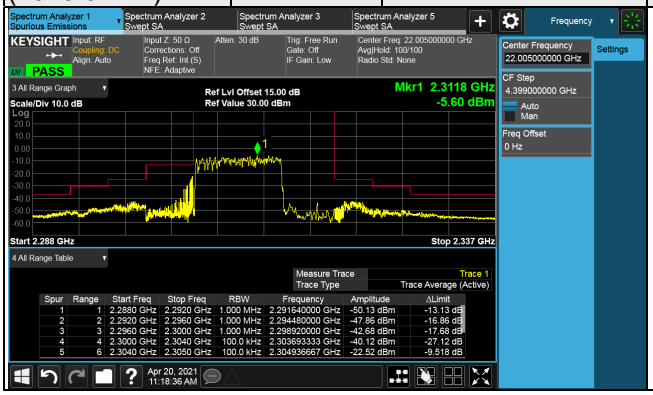


4.5.3 Test Procedures

a. The testing follows ANSI C63.26 section 5.7
b. The EUT was connected to spectrum analyzer and system simulator via a power divider.
c. The band edges of low and high channels for the highest RF powers were measured.
d. Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
e. Beyond the 1 MHz band from the band edge, RBW=1MHz was used.
f. Set spectrum analyzer with RMS detector.
g. Checked that all the results comply with the emission limit line.

4.5.4 Test Results

n30, Channel Bandwidth 5MHz					
Channel 461500 (2307.5MHz)	QPSK	1 RB / 0 RB Offset	Channel 462500 (2312.5MHz)	QPSK	1 RB / 24 RB Offset
					
Channel 461500 (2307.5MHz)	QPSK	25 RB / 0 RB Offset	Channel 462500 (2312.5MHz)	QPSK	25 RB / 0 RB Offset
					

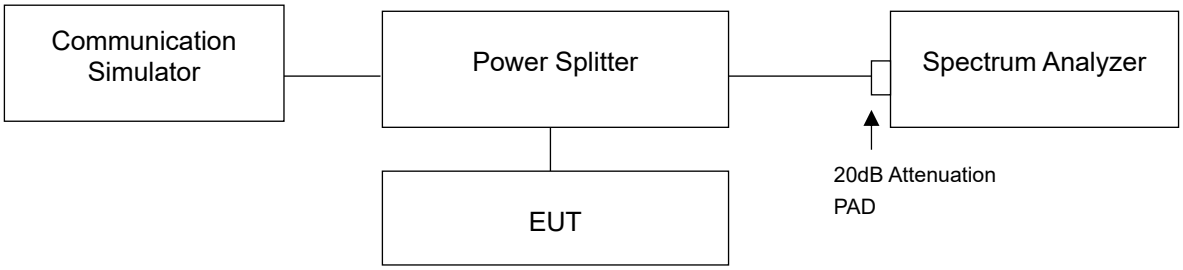
n30, Channel Bandwidth 10MHz					
Channel 462000 (2310.0MHz)	QPSK	1 RB / 0 RB Offset	Channel 462000 (2310.0MHz)	QPSK	1 RB / 50 RB Offset
					
Channel 462000 (2310.0MHz)	QPSK	51 RB / 0 RB Offset			
					

4.6 Conducted Spurious Emissions

4.6.1 Limits of Conducted Spurious Emissions Measurement

In the FCC 27.53(a)(4)(iii), the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 70 +10 log (P) dB. The limit of emission is equal to -40 dBm.

4.6.2 Test Setup

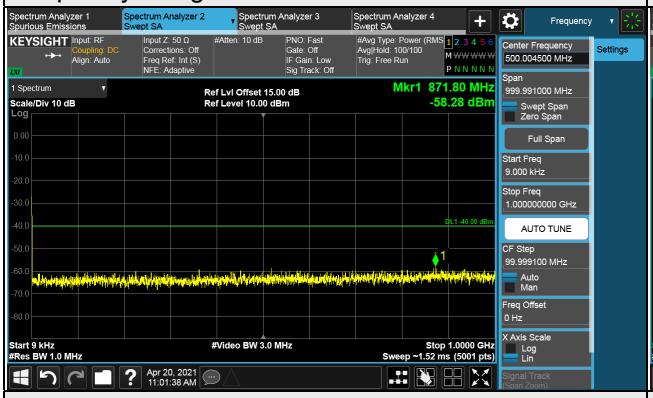
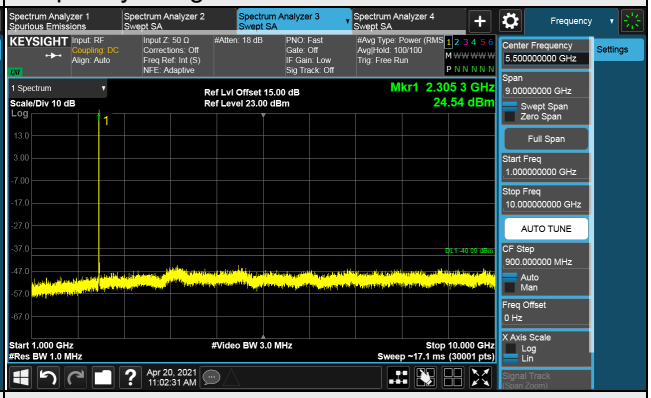
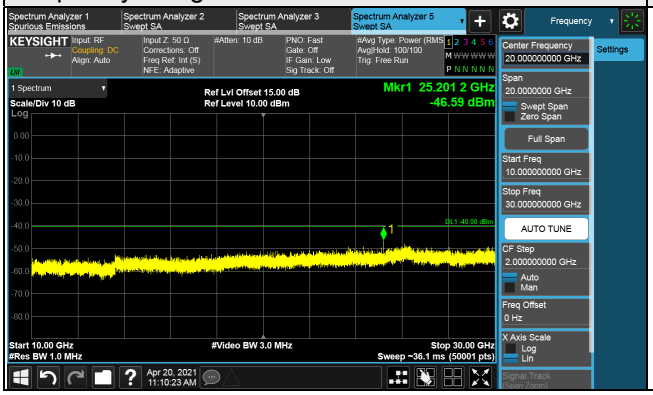


4.6.3 Test Procedure

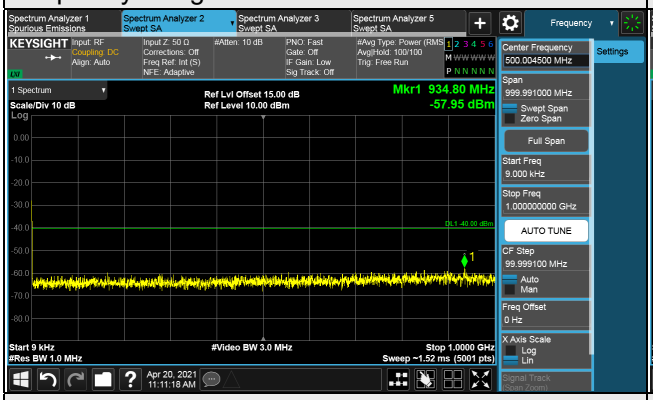
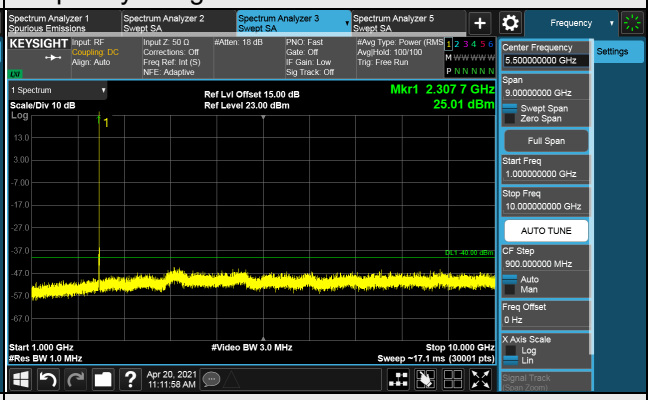
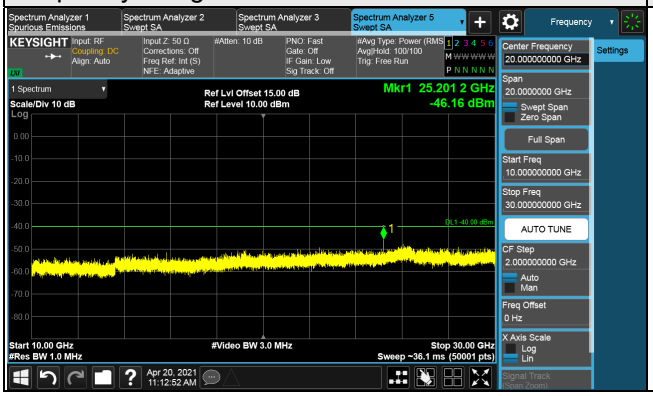
a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.

b. Measuring frequency range is from 9kHz to 30GHz. 20dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz are used for conducted emission measurement.

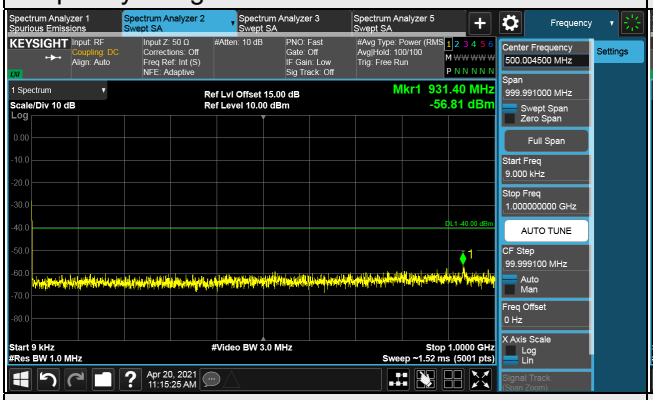
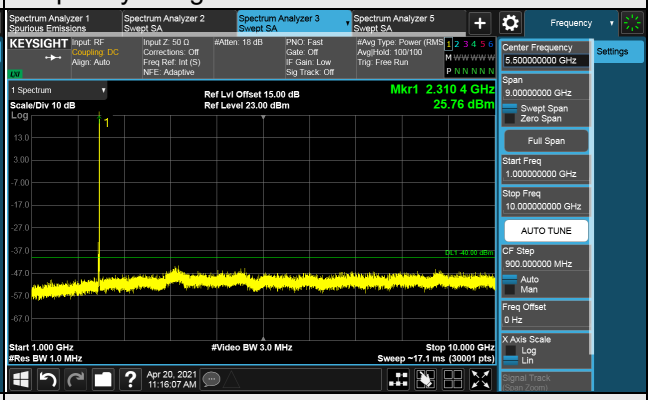
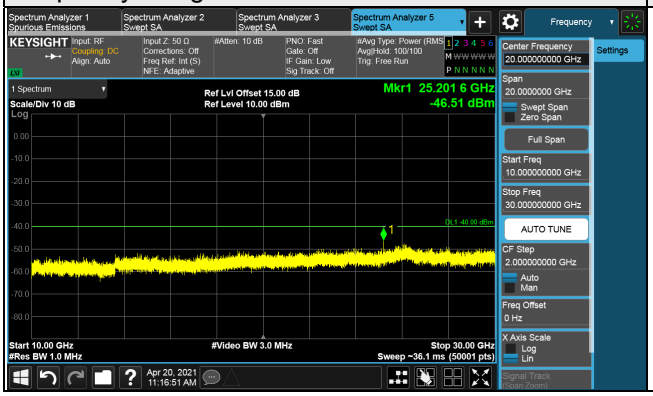
4.6.4 Test Results

n30, Channel Bandwidth 5MHz	
Channel 461500 (2307.5MHz)	
Frequency Range : 9kHz ~ 1GHz	Frequency Range : 1GHz ~ 10GHz
	
Frequency Range : 10GHz ~ 30GHz	
	

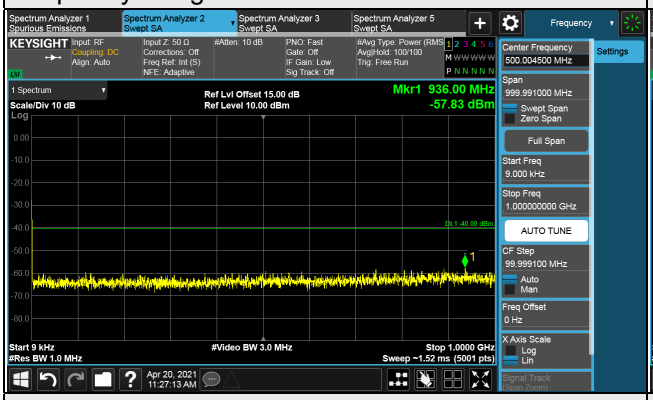
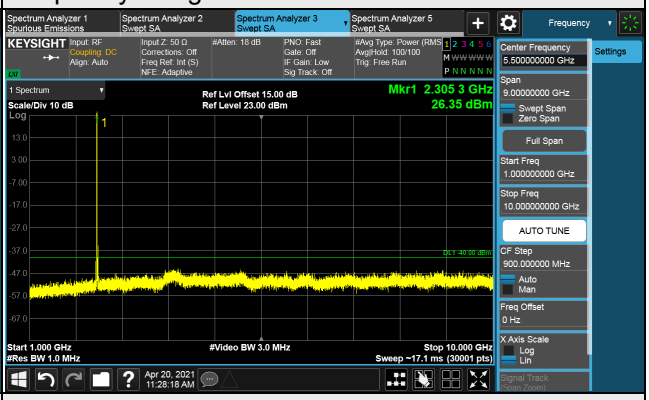
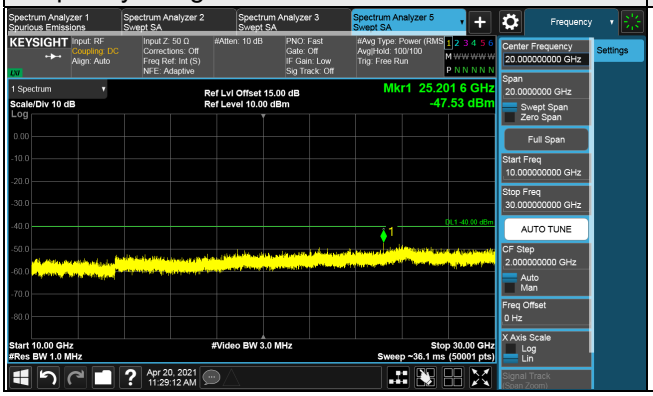
*The 9kHz signal over the limit is from Spectrum.

n30, Channel Bandwidth 5MHz	
Channel 462000 (2310.0MHz)	
Frequency Range : 9kHz ~ 1GHz	Frequency Range : 1GHz ~ 10GHz
	
Frequency Range : 10GHz ~ 30GHz	
	

*The 9kHz signal over the limit is from Spectrum.

n30, Channel Bandwidth 5MHz	
Channel 462500 (2312.5MHz)	
Frequency Range : 9kHz ~ 1GHz	Frequency Range : 1GHz ~ 10GHz
	
Frequency Range : 10GHz ~ 30GHz	
	

*The 9kHz signal over the limit is from Spectrum.

n30, Channel Bandwidth 10MHz	
Channel 462000 (2310.0MHz)	
Frequency Range : 9kHz ~ 1GHz	Frequency Range : 1GHz ~ 10GHz
	
Frequency Range : 10GHz ~ 30GHz	
	

*The 9kHz signal over the limit is from Spectrum.

4.7 Radiated Emission Measurement

4.7.1 Limits of Radiated Emission Measurement

For n30:
In the FCC 27.53(a)(4)(iii), the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 70 +10 log (P) dB. The limit of emission is equal to -40 dBm.

For LTE Band 2, LTE Band 5:
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 –13dBm.

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.

4.7.2 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 (dBμV/m) + 20log(D) - 104.8; where D is the measurement distance (in the far field region) in m.
   - ERP (dBm) = E (dBμV/m) + 20log(D) - 104.8 - 2.15; where D is the measurement distance (in the far field region) in m.

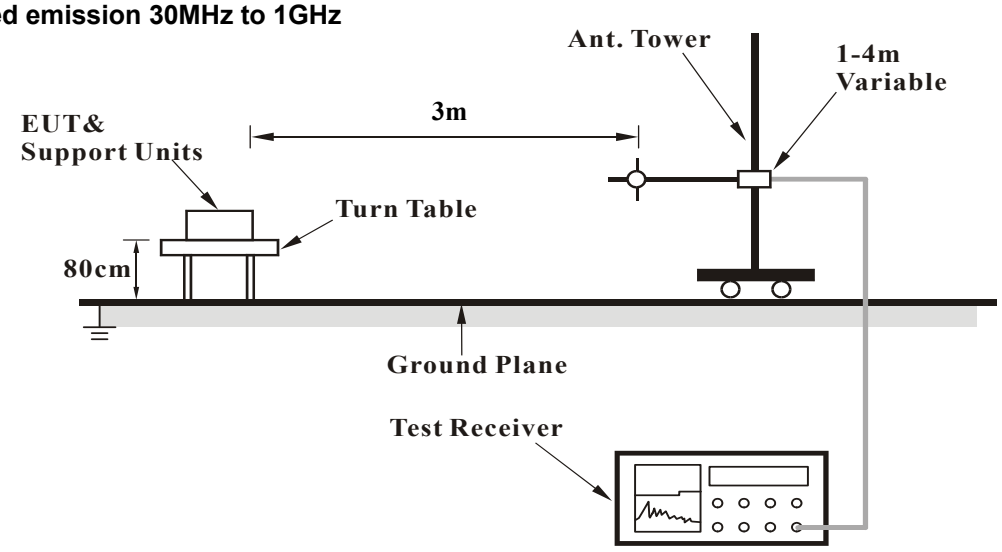
Note:
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.
2. The emission levels were against the limit of frequency range 9 kHz ~ 30 MHz:
   The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

4.7.3 Deviation from Test Standard

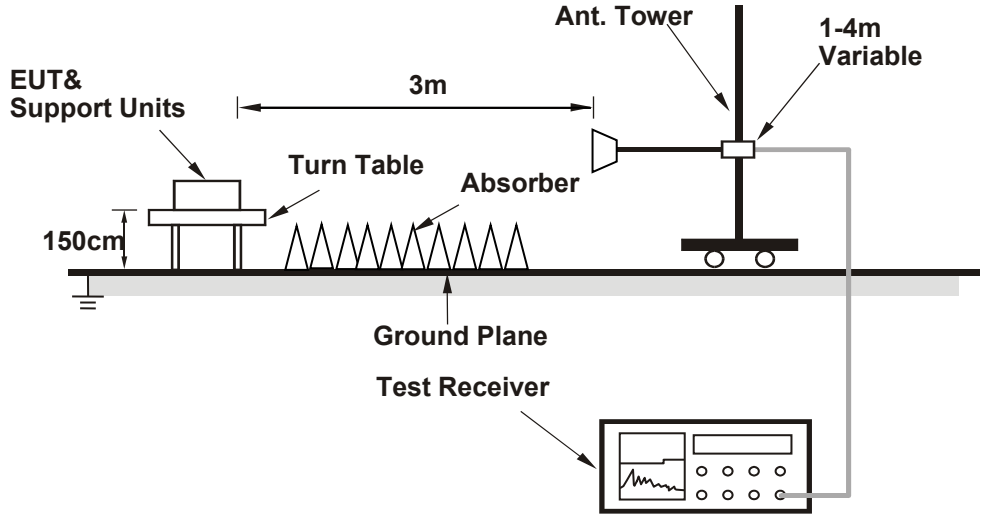
No deviation.

4.7.4 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).

4.7.5 Test Results

Below 1GHz

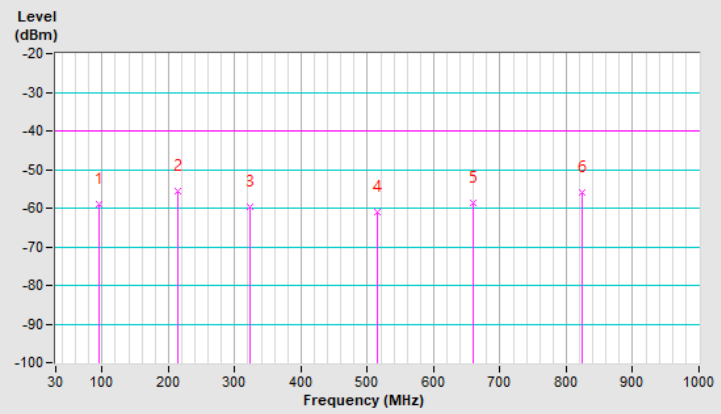
n30, Channel Bandwidth 10MHz

Mode	TX channel 462000 (2310.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	95.96	-59.11	-40.00	-19.11	1.00 H	133	49.97	-109.08
2	214.30	-55.46	-40.00	-15.46	1.00 H	260	50.65	-106.11
3	322.94	-59.71	-40.00	-19.71	1.00 H	48	41.71	-101.42
4	515.97	-61.02	-40.00	-21.02	1.00 H	66	36.56	-97.58
5	659.53	-58.64	-40.00	-18.64	1.00 H	36	36.23	-94.87
6	823.46	-55.97	-40.00	-15.97	1.00 H	9	35.76	-91.73

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.

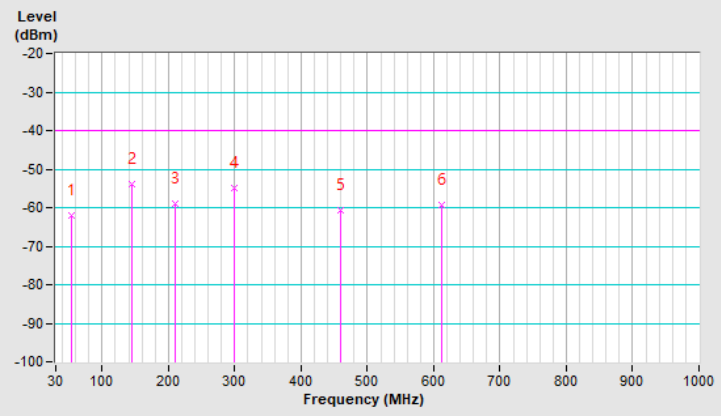


Mode	TX channel 462000 (2310.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	54.25	-62.12	-40.00	-22.12	1.00 V	333	42.28	-104.40
2	145.43	-53.91	-40.00	-13.91	1.00 V	122	49.87	-103.78
3	210.42	-58.91	-40.00	-18.91	1.00 V	285	47.36	-106.27
4	299.66	-54.85	-40.00	-14.85	1.00 V	120	47.17	-102.02
5	459.71	-60.58	-40.00	-20.58	1.00 V	148	37.89	-98.47
6	612.97	-59.33	-40.00	-19.33	1.00 V	226	36.16	-95.49

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.



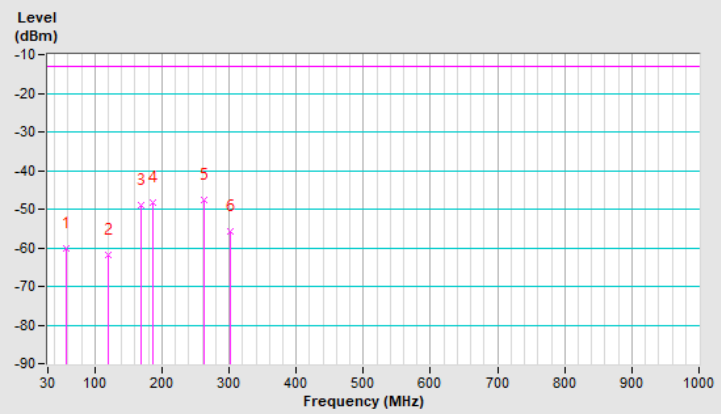
LTE Band 2, Channel Bandwidth 20MHz

Mode	TX channel 18900 (1880.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	57.16	-60.08	-13.00	-47.08	1.00 H	39	44.51	-104.59
2	119.24	-61.87	-13.00	-48.87	1.00 H	154	44.19	-106.06
3	168.71	-49.04	-13.00	-36.04	1.00 H	156	54.80	-103.84
4	187.14	-48.39	-13.00	-35.39	1.00 H	163	57.46	-105.85
5	262.80	-47.58	-13.00	-34.58	1.00 H	118	55.77	-103.35
6	301.60	-55.86	-13.00	-42.86	1.00 H	303	46.11	-101.97

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.

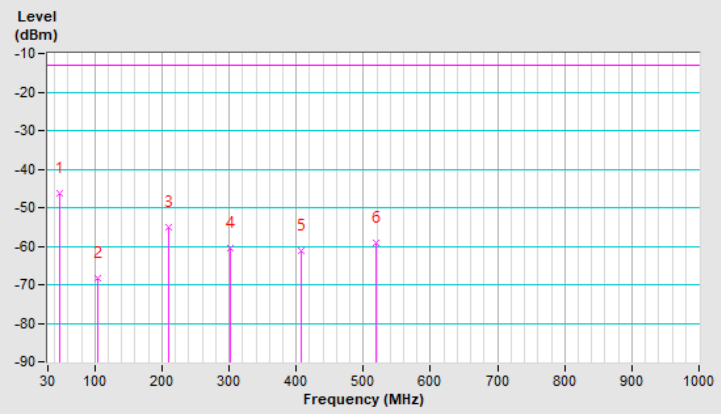


Mode	TX channel 18900 (1880.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	**48.43**	**-46.26**	**-13.00**	**-33.26**	**1.00 V**	**302**	**57.91**	**-104.17**
2	104.69	-68.29	-13.00	-55.29	1.00 V	292	39.23	-107.52
3	210.42	-54.92	-13.00	-41.92	1.00 V	288	51.35	-106.27
4	301.60	-60.38	-13.00	-47.38	1.00 V	151	41.59	-101.97
5	408.30	-61.05	-13.00	-48.05	1.00 V	123	38.83	-99.88
6	519.85	-59.10	-13.00	-46.10	1.00 V	348	38.46	-97.56

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.



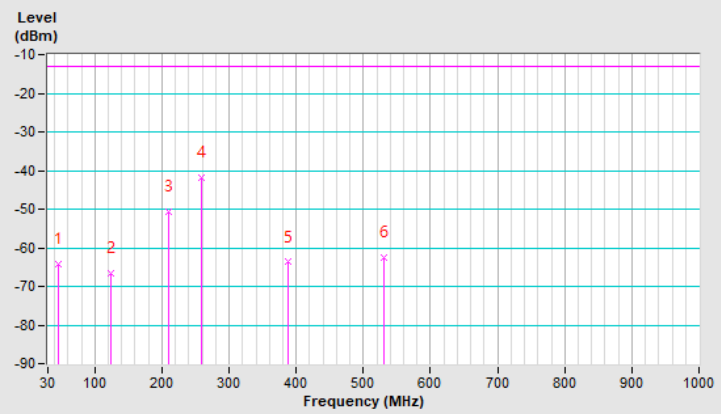
LTE Band 5, Channel Bandwidth 10MHz

Mode	TX channel 20525 (836.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	45.52	-64.36	-13.00	-51.36	1.00 H	49	42.07	-106.43
2	124.09	-66.73	-13.00	-53.73	1.00 H	302	41.07	-107.80
3	210.42	-50.61	-13.00	-37.61	1.00 H	86	57.81	-108.42
4	257.95	-42.00	-13.00	-29.00	1.00 H	84	63.78	-105.78
5	387.93	-63.73	-13.00	-50.73	1.00 H	304	38.52	-102.25
6	531.49	-62.52	-13.00	-49.52	1.00 H	66	37.06	-99.58

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) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

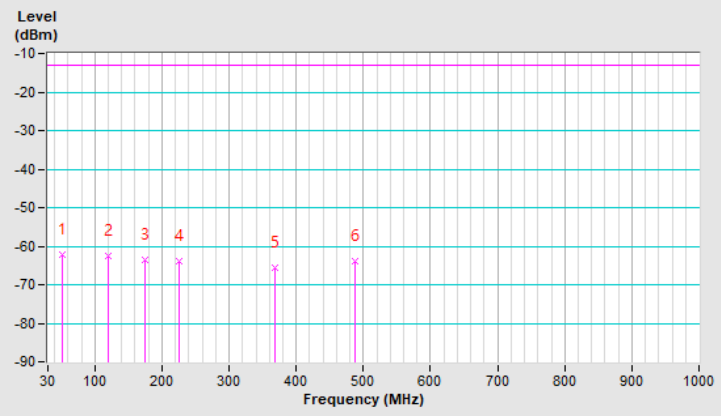


Mode	TX channel 20525 (836.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	52.31	-62.22	-13.00	-49.22	1.00 V	312	44.13	-106.35
2	119.24	-62.49	-13.00	-49.49	1.00 V	15	45.72	-108.21
3	175.50	-63.51	-13.00	-50.51	1.00 V	199	43.07	-106.58
4	225.94	-63.74	-13.00	-50.74	1.00 V	15	44.54	-108.28
5	368.53	-65.51	-13.00	-52.51	1.00 V	23	37.14	-102.65
6	487.84	-63.84	-13.00	-50.84	1.00 V	104	36.43	-100.27

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) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.



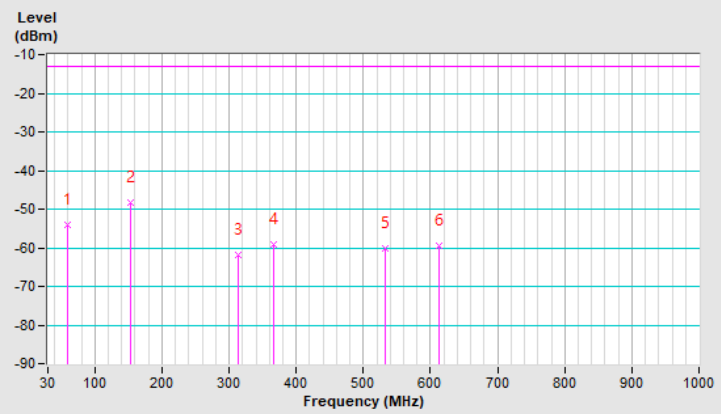
LTE Band 66, Channel Bandwidth 20MHz

Mode	TX channel 132322 (1745.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	60.07	-54.11	-13.00	-41.11	1.00 H	1	50.51	-104.62
2	153.19	-48.41	-13.00	-35.41	1.00 H	234	55.16	-103.57
3	313.24	-61.80	-13.00	-48.80	1.00 H	19	39.84	-101.64
4	366.59	-59.18	-13.00	-46.18	1.00 H	115	41.38	-100.56
5	532.46	-60.03	-13.00	-47.03	1.00 H	52	37.39	-97.42
6	612.97	-59.57	-13.00	-46.57	1.00 H	199	35.92	-95.49

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.

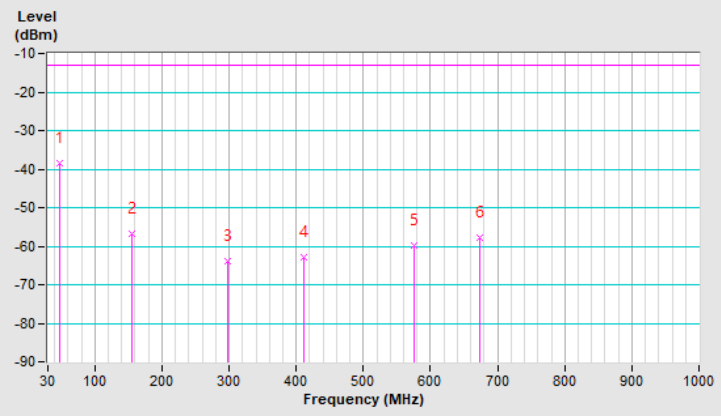


Mode	TX channel 132322 (1745.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

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	**48.43**	**-38.47**	**-13.00**	**-25.47**	**1.00 V**	**126**	**65.70**	**-104.17**
2	156.10	-56.66	-13.00	-43.66	1.00 V	164	46.83	-103.49
3	298.69	-63.93	-13.00	-50.93	1.00 V	132	38.12	-102.05
4	411.21	-62.83	-13.00	-49.83	1.00 V	192	37.00	-99.83
5	575.14	-59.67	-13.00	-46.67	1.00 V	261	36.83	-96.50
6	673.11	-57.76	-13.00	-44.76	1.00 V	160	36.87	-94.63

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) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.



Above 1GHz

n30, Channel Bandwidth 5MHz

Mode	TX channel 461500 (2307.5MHz)	Frequency Range	1GHz ~ 30GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	4615.00	-52.30	-40.00	-12.30	1.34 H	214	41.87	-94.17
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	4615.00	-52.29	-40.00	-12.29	1.02 V	243	41.88	-94.17

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) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 462000 (2310.0MHz)	Frequency Range	1GHz ~ 30GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	4620.00	-52.48	-40.00	-12.48	1.30 H	216	41.67	-94.15
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	4620.00	-51.73	-40.00	-11.73	1.01 V	246	42.42	-94.15

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 462500 (2312.5MHz)	Frequency Range	1GHz ~ 30GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	4625.00	-52.25	-40.00	-12.25	1.38 H	216	41.89	-94.14
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	4625.00	-52.48	-40.00	-12.48	1.08 V	244	41.66	-94.14

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) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

n30, Channel Bandwidth 10MHz

Mode	TX channel 462000 (2310.0MHz)	Frequency Range	1GHz ~ 30GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	4620.00	-51.93	-40.00	-11.93	1.35 H	211	42.22	-94.15
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	**4620.00**	**-51.56**	**-40.00**	**-11.56**	**1.09 V**	**243**	**42.59**	**-94.15**

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.

LTE Band 2, Channel Bandwidth 1.4MHz

Mode	TX channel 18607 (1850.7MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	-55.08	-13.00	-42.08	1.36 H	217	40.88	-95.96
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	-53.93	-13.00	-40.93	2.12 V	227	42.03	-95.96

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 (1880.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	-54.90	-13.00	-41.90	1.33 H	210	40.91	-95.81
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	-53.54	-13.00	-40.54	2.19 V	227	42.27	-95.81

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 19193 (1909.3MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	-55.11	-13.00	-42.11	1.33 H	206	40.42	-95.53
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	-53.95	-13.00	-40.95	2.09 V	225	41.58	-95.53

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.

LTE Band 2, Channel Bandwidth 5MHz

Mode	TX channel 18625 (1852.5MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	-54.85	-13.00	-41.85	1.31 H	212	41.11	-95.96
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	-53.46	-13.00	-40.46	2.11 V	223	42.50	-95.96

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 (1880.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	-54.60	-13.00	-41.60	1.31 H	217	41.21	-95.81
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	-54.12	-13.00	-41.12	2.17 V	226	41.69	-95.81

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 (1907.5MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	-54.86	-13.00	-41.86	1.30 H	214	40.68	-95.54
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	-54.11	-13.00	-41.11	2.15 V	229	41.43	-95.54

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.

LTE Band 2, Channel Bandwidth 20MHz

Mode	TX channel 18700 (1860.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	-54.90	-13.00	-41.90	1.38 H	216	41.02	-95.92
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	-53.69	-13.00	-40.69	2.14 V	226	42.23	-95.92

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 (1880.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	-54.36	-13.00	-41.36	1.38 H	217	41.45	-95.81
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	-53.22	-13.00	-40.22	2.13 V	229	42.59	-95.81

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 19100 (1900.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	-55.05	-13.00	-42.05	1.34 H	214	40.63	-95.68
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	-53.85	-13.00	-40.85	2.14 V	229	41.83	-95.68

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.

LTE Band 5, Channel Bandwidth 1.4MHz

Mode	TX channel 20407 (824.7MHz)	Frequency Range	1GHz ~ 9GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	1649.40	-58.65	-13.00	-45.65	1.35 H	180	44.84	-103.49
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	1649.40	-60.63	-13.00	-47.63	3.37 V	89	42.86	-103.49

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) + 20log(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 20525 (836.5MHz)	Frequency Range	1GHz ~ 9GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	1673.00	-58.60	-13.00	-45.60	1.41 H	178	44.85	-103.45
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	1673.00	-60.62	-13.00	-47.62	3.39 V	86	42.83	-103.45

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) + 20log(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 20643 (848.3MHz)	Frequency Range	1GHz ~ 9GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	1696.60	-58.66	-13.00	-45.66	1.33 H	181	44.74	-103.40
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	1696.60	-60.72	-13.00	-47.72	3.34 V	84	42.68	-103.40

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) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

LTE Band 5, Channel Bandwidth 5MHz

Mode	TX channel 20425 (826.5MHz)	Frequency Range	1GHz ~ 9GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	1653.00	-58.91	-13.00	-45.91	1.36 H	179	44.58	-103.49
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	1653.00	-60.19	-13.00	-47.19	3.35 V	85	43.30	-103.49

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) + 20log(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 20525 (836.5MHz)	Frequency Range	1GHz ~ 9GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	1673.00	-58.89	-13.00	-45.89	1.38 H	182	44.56	-103.45
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	1673.00	-60.80	-13.00	-47.80	3.41 V	89	42.65	-103.45

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) + 20log(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 20625 (846.5MHz)	Frequency Range	1GHz ~ 9GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	1693.00	-58.97	-13.00	-45.97	1.36 H	182	44.44	-103.41
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	1693.00	-60.33	-13.00	-47.33	3.38 V	88	43.08	-103.41

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) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

LTE Band 5, Channel Bandwidth 10MHz

Mode	TX channel 20450 (829.0MHz)	Frequency Range	1GHz ~ 9GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	1658.00	-59.01	-13.00	-46.01	1.35 H	177	44.47	-103.48
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	1658.00	-60.16	-13.00	-47.16	3.35 V	87	43.32	-103.48

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) + 20log(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 20525 (836.5MHz)	Frequency Range	1GHz ~ 9GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	**1673.00**	**-58.17**	**-13.00**	**-45.17**	**1.40 H**	**179**	**45.28**	**-103.45**
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	1673.00	-59.96	-13.00	-46.96	3.41 V	87	43.49	-103.45

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) + 20log(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 20600 (844.0MHz)	Frequency Range	1GHz ~ 9GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	1688.00	-59.02	-13.00	-46.02	1.31 H	181	44.39	-103.41
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	1688.00	-60.60	-13.00	-47.60	3.37 V	83	42.81	-103.41

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) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP 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	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	-54.22	-13.00	-41.22	2.06 H	255	42.85	-97.07
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	-53.02	-13.00	-40.02	1.64 V	321	44.05	-97.07

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 132322 (1745.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	-53.96	-13.00	-40.96	2.11 H	254	42.73	-96.69
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	-53.49	-13.00	-40.49	1.61 V	322	43.20	-96.69

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 132665 (1779.3MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	-53.87	-13.00	-40.87	2.06 H	252	42.45	-96.32
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	-53.17	-13.00	-40.17	1.63 V	315	43.15	-96.32

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.

LTE Band 66, Channel Bandwidth 5MHz

Mode	TX channel 131997 (1712.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	-54.21	-13.00	-41.21	2.08 H	257	42.84	-97.05
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	-53.91	-13.00	-40.91	1.65 V	315	43.14	-97.05

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 132322 (1745.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	-54.35	-13.00	-41.35	2.06 H	252	42.34	-96.69
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	-53.34	-13.00	-40.34	1.64 V	315	43.35	-96.69

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 132647 (1777.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	-54.49	-13.00	-41.49	2.07 H	252	41.84	-96.33
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	-53.06	-13.00	-40.06	1.70 V	322	43.27	-96.33

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.

LTE Band 66, Channel Bandwidth 20MHz

Mode	TX channel 132072 (1720.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	-54.30	-13.00	-41.30	2.10 H	252	42.69	-96.99
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	-53.13	-13.00	-40.13	1.65 V	315	43.86	-96.99

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 132322 (1745.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	-53.55	-13.00	-40.55	2.06 H	255	43.14	-96.69
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	-52.92	-13.00	-39.92	2.06 V	255	43.77	-96.69

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 132572 (1770.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

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	-53.69	-13.00	-40.69	2.06 H	252	42.71	-96.40
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	-53.34	-13.00	-40.34	1.63 V	322	43.06	-96.40

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.

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.

If you have any comments, please feel free to contact us at the following:

Lin Kou EMC/RF Lab
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
Tel: 886-3-6668565
Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab
Tel: 886-3-3183232
Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

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

--- END ---