FCC Test Report
(Part 27 – 5G NR n41/n77/n78 for 2TX)

Report No.:	RFBFLF-WTW-P21010278-34
FCC ID:	MSQI007D
Test Model:	ASUS_I007D
Received Date:	Jan. 04, 2021
Test Date:	Mar. 24 ~ Apr. 22, 2021
Issued Date:	Apr. 23, 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

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Release Control Record

Issue No.	Description	Date Issued
RFBFLF-WTW-P21010278-34	Original release	Apr. 23, 2021

1 Certificate of Conformity

Product:	EXP21 Smartphone
Brand:	ASUS
Test Model:	ASUS_I007D
Sample Status:	Engineering sample
Applicant:	ASUSTeK COMPUTER INC.
Test Date:	Mar. 24 ~ Apr. 22, 2021
Standards:	FCC Part 27, Subpart C, M, O

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. 23, 2021

Celine Chou / Senior Specialist

Approved by : Bruce Chen , **Date:** Apr. 23, 2021

Bruce Chen / Senior Project Engineer

2 Summary of Test Results

Applied Standard: FCC Part 27 & Part 2				
FCC Clause		Test Item	Result	Remarks
n41	n77 / n78			
2.1046 27.50 (h)(2)	2.1046 27.50 (j)	Equivalent Isotropically Radiated Power	Pass	Meet the requirement of limit.
2.1047	2.1047	Modulation Characteristics	Pass	Meet the requirement of limit.
----	----	Peak To Average Ratio	Pass	Meet the requirement of limit.
2.1055 27.54	2.1055 27.54	Frequency Stability Stay with the authorized bands of operation	Pass	Meet the requirement of limit.
2.1049	2.1049	Occupied Bandwidth	Pass	Meet the requirement of limit.
2.1051 27.53 (m)(4)(6)	2.1051 27.53(l)	Out of Band Emissions Measurements	Pass	Meet the requirement of limit.
2.1051 27.53 (m)(4)(6)	2.1051 27.53(l)	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
2.1053 27.53 (m)(4)(6)	2.1053 27.53(l)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -23.12dB at 5092.02MHz.

Note: 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)	
Modulation Type	QPSK, 16QAM, 64QAM, 256QAM	
Waveform Type	CP-OFDM	
Operating Frequency	n41 (Channel Bandwidth 20MHz)	2506.02MHz ~ 2679.99MHz
	n41 (Channel Bandwidth 30MHz)	2511.00MHz ~ 2674.98MHz
	n41 (Channel Bandwidth 40MHz)	2516.01MHz ~ 2670.00MHz
	n41 (Channel Bandwidth 50MHz)	2521.02MHz ~ 2664.99MHz
	n41 (Channel Bandwidth 60MHz)	2526.00MHz ~ 2659.98MHz
	n41 (Channel Bandwidth 80MHz)	2536.02MHz ~ 2649.99MHz
	n41 (Channel Bandwidth 90MHz)	2541.00MHz ~ 2644.98MHz
	n41 (Channel Bandwidth 100MHz)	2546.01MHz ~ 2640.00MHz
	n77 (Channel Bandwidth 20MHz)	3710.01MHz ~ 3969.99MHz
	n77 (Channel Bandwidth 30MHz)	3715.02MHz ~ 3964.98MHz
	n77 (Channel Bandwidth 40MHz)	3720.00MHz ~ 3960.00MHz
	n77 (Channel Bandwidth 50MHz)	3725.01MHz ~ 3954.99MHz
	n77 (Channel Bandwidth 60MHz)	3730.02MHz ~ 3949.98MHz
	n77 (Channel Bandwidth 70MHz)	3750.00MHz ~ 3945.00MHz
	n77 (Channel Bandwidth 80MHz)	3740.01MHz ~ 3939.99MHz
	n77 (Channel Bandwidth 90MHz)	3745.02MHz ~ 3934.98MHz
	n77 (Channel Bandwidth 100MHz)	3750.00MHz ~ 3930.00MHz
	n78 (Channel Bandwidth 20MHz)	3710.01MHz ~ 3789.99MHz
	n78 (Channel Bandwidth 30MHz)	3715.02MHz ~ 3784.98MHz
	n78 (Channel Bandwidth 40MHz)	3720.00MHz ~ 3780.00MHz
	n78 (Channel Bandwidth 50MHz)	3725.01MHz ~ 3774.99MHz
	n78 (Channel Bandwidth 60MHz)	3730.02MHz ~ 3769.98MHz
	n78 (Channel Bandwidth 70MHz)	3750.00MHz ~ 3765.00MHz
	n78 (Channel Bandwidth 80MHz)	3740.01MHz ~ 3759.99MHz
	n78 (Channel Bandwidth 90MHz)	3745.02MHz ~ 3754.98MHz
	n78 (Channel Bandwidth 100MHz)	3750.00MHz

		QPSK	16QAM	64QAM	256QAM
Max. EIRP Power	n41 (Channel Bandwidth 20MHz)	770.903mW (28.87dBm)	505.825mW (27.04dBm)	292.415mW (24.66dBm)	141.254mW (21.50dBm)
	n41 (Channel Bandwidth 30MHz)	755.092mW (28.78dBm)	506.991mW (27.05dBm)	294.442mW (24.69dBm)	146.893mW (21.67dBm)
	n41 (Channel Bandwidth 40MHz)	762.079mW (28.82dBm)	504.661mW (27.03dBm)	286.418mW (24.57dBm)	142.561mW (21.54dBm)
	n41 (Channel Bandwidth 50MHz)	762.079mW (28.82dBm)	489.779mW (26.90dBm)	297.167mW (24.73dBm)	146.218mW (21.65dBm)
	n41 (Channel Bandwidth 60MHz)	765.597mW (28.84dBm)	504.661mW (27.03dBm)	293.089mW (24.67dBm)	142.889mW (21.55dBm)
	n41 (Channel Bandwidth 80MHz)	755.092mW (28.78dBm)	508.159mW (27.06dBm)	297.167mW (24.73dBm)	141.906mW (21.52dBm)
	n41 (Channel Bandwidth 90MHz)	769.130mW (28.86dBm)	524.807mW (27.20dBm)	288.403mW (24.60dBm)	144.544mW (21.60dBm)
	n41 (Channel Bandwidth 100MHz)	792.501mW (28.99dBm)	515.229mW (27.12dBm)	292.415mW (24.66dBm)	147.231mW (21.68dBm)
	n77 (Channel Bandwidth 20MHz)	707.946mW (28.50dBm)	480.839mW (26.82dBm)	346.737mW (25.40dBm)	167.109mW (22.23dBm)
	n77 (Channel Bandwidth 30MHz)	704.693mW (28.48dBm)	469.894mW (26.72dBm)	347.536mW (25.41dBm)	170.608mW (22.32dBm)
	n77 (Channel Bandwidth 40MHz)	714.496mW (28.54dBm)	485.289mW (26.86dBm)	338.065mW (25.29dBm)	171.002mW (22.33dBm)
	n77 (Channel Bandwidth 50MHz)	714.496mW (28.54dBm)	476.431mW (26.78dBm)	341.979mW (25.34dBm)	168.655mW (22.27dBm)
	n77 (Channel Bandwidth 60MHz)	712.853mW (28.53dBm)	486.407mW (26.87dBm)	345.939mW (25.39dBm)	170.216mW (22.31dBm)
	n77 (Channel Bandwidth 70MHz)	721.107mW (28.58dBm)	472.063mW (26.74dBm)	342.768mW (25.35dBm)	167.880mW (22.25dBm)
	n77 (Channel Bandwidth 80MHz)	712.853mW (28.53dBm)	472.063mW (26.74dBm)	351.560mW (25.46dBm)	171.791mW (22.35dBm)
	n77 (Channel Bandwidth 90MHz)	726.106mW (28.61dBm)	487.528mW (26.88dBm)	347.536mW (25.41dBm)	163.305mW (22.13dBm)
	n77 (Channel Bandwidth 100MHz)	727.780mW (28.62dBm)	487.528mW (26.88dBm)	344.350mW (25.37dBm)	163.305mW (22.13dBm)

Emission Designator		QPSK	16QAM	64QAM	256QAM
	n41 (Channel Bandwidth 20MHz)	18M2G7D	18M2D7W	18M2D7W	18M2D7W
	n41 (Channel Bandwidth 30MHz)	27M9G7D	27M9D7W	27M9D7W	27M9D7W
	n41 (Channel Bandwidth 40MHz)	37M9G7D	37M8D7W	37M8D7W	37M8D7W
	n41 (Channel Bandwidth 50MHz)	47M5G7D	47M5D7W	47M5D7W	47M5D7W
	n41 (Channel Bandwidth 60MHz)	57M9G7D	57M9D7W	57M9D7W	57M8D7W
	n41 (Channel Bandwidth 80MHz)	77M5G7D	77M6D7W	77M5D7W	77M4D7W
	n41 (Channel Bandwidth 90MHz)	87M5G7D	87M5D7W	87M5D7W	87M5D7W
	n41 (Channel Bandwidth 100MHz)	97M4G7D	97M5D7W	97M5D7W	97M4D7W
	n77 (Channel Bandwidth 20MHz)	18M2G7D	18M2D7W	18M2D7W	18M2D7W
	n77 (Channel Bandwidth 30MHz)	27M8G7D	27M8D7W	27M8D7W	27M8D7W
	n77 (Channel Bandwidth 40MHz)	37M8G7D	37M8D7W	37M8D7W	37M8D7W
	n77 (Channel Bandwidth 50MHz)	47M5G7D	47M5D7W	47M5D7W	47M4D7W
	n77 (Channel Bandwidth 60MHz)	57M8G7D	57M8D7W	57M8D7W	57M8D7W
	n77 (Channel Bandwidth 70MHz)	67M5G7D	67M5D7W	67M5D7W	67M5D7W
	n77 (Channel Bandwidth 80MHz)	77M4G7D	77M4D7W	77M5D7W	77M4D7W
	n77 (Channel Bandwidth 90MHz)	87M4G7D	87M4D7W	87M4D7W	87M4D7W
	n77 (Channel Bandwidth 100MHz)	97M4G7D	97M5D7W	97M5D7W	97M5D7W
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. Only 5G NR n41, n77, n78 support 2TX function, the other band were support 1TX function only.
3. 5G NR n77 overlaps the entire frequency range of 5G NR n78. Therefore, test data provided in this report covers 5G NR n77 as well as 5G NR n78.

4. The following antennas were provided to the EUT.

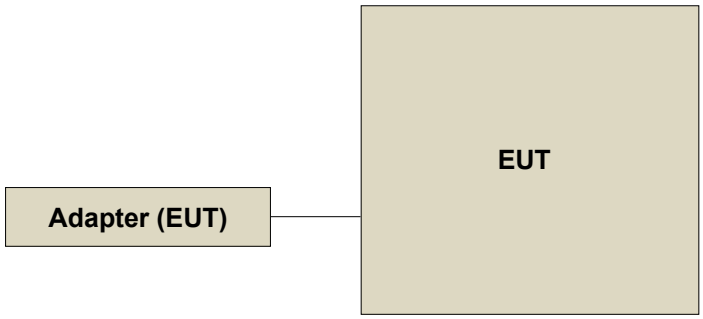
Ant. No.	Brand	Model	Ant. Type	Connecter	Frequency Range
Ant 0	ASUS	ZS675KW	PIFA	LCP+Ipex	610-960MHz, 1710-2690MHz
Ant 1	ASUS	ZS675KW	PIFA	LCP+Ipex	1427-1510MHz, 1710-2690MHz
Ant 2	ASUS	ZS675KW	PIFA	LCP+Ipex	610-960MHz, 1427-1510MHz, 1710-2690MHz
Ant 3	INPAQ	ZS675KW	PIFA	Ipex	1575-1610MHz, 2400-2500MHz, 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.

3.2 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
n41	Y-plane
n77	Y-plane

n41

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	EIRP	501204 to 535998	501204 (2506.02MHz), 518598 (2592.99MHz), 535998 (2679.99MHz)	20MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 26 RB Offset 1 RB / 49 RB Offset 25 RB / 0 RB Offset 25 RB / 13 RB Offset 25 RB / 26 RB Offset 50 RB / 0 RB Offset
		502200 to 534996	502200 (2511.00MHz), 518598 (2592.99MHz), 534996 (2674.98MHz)	30MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 39 RB Offset 1 RB / 76 RB Offset 36 RB / 0 RB Offset 36 RB / 21 RB Offset 36 RB / 42 RB Offset 75 RB / 0 RB Offset
		503202 to 534000	503202 (2516.01MHz), 518598 (2592.99MHz), 534000 (2670.00MHz)	40MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 53 RB Offset 1 RB / 104 RB Offset 50 RB / 0 RB Offset 50 RB / 28 RB Offset 50 RB / 56 RB Offset 100 RB / 0 RB Offset
		504204 to 532998	504204 (2521.02MHz), 518598 (2592.99MHz), 532998 (2664.99MHz)	50MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 67 RB Offset 1 RB / 131 RB Offset 64 RB / 0 RB Offset 64 RB / 35 RB Offset 64 RB / 69 RB Offset 128 RB / 0 RB Offset
		505200 to 531996	505200 (2526.00MHz), 518598 (2592.99MHz), 531996 (2659.98MHz)	60MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 81 RB Offset 1 RB / 160 RB Offset 81 RB / 0 RB Offset 81 RB / 41 RB Offset 81 RB / 81 RB Offset 162 RB / 0 RB Offset
		507204 to 529998	507204 (2536.02MHz), 518598 (2592.99MHz), 529998 (2649.99MHz)	80MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 109 RB Offset 1 RB / 215 RB Offset 108 RB / 0 RB Offset 108 RB / 55 RB Offset 108 RB / 109 RB Offset 216 RB / 0 RB Offset
		508200 to 528996	508200 (2541.00MHz), 518598 (2592.99MHz), 528996 (2644.98MHz)	90MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 123 RB Offset 1 RB / 243 RB Offset 120 RB / 0 RB Offset 120 RB / 63 RB Offset 120 RB / 125 RB Offset 243 RB / 0 RB Offset

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	EIRP	509202 to 528000	509202 (2546.01MHz), 518598 (2592.99MHz), 528000 (2640.00MHz)	100MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 137 RB Offset 1 RB / 271 RB Offset 135 RB / 0 RB Offset 135 RB / 69 RB Offset 135 RB / 138 RB Offset 270 RB / 0 RB Offset
-	Modulation Characteristics	509202 to 528000	518598 (2592.99MHz)	100MHz	QPSK / 16QAM / 64QAM / 256QAM	273 RB / 0 RB Offset
-	Frequency Stability	501204 to 535998	501204 (2506.02MHz), 535998 (2679.99MHz)	20MHz	QPSK	51 RB / 0 RB Offset
		502200 to 534996	502200 (2511.00MHz), 534996 (2674.98MHz)	30MHz	QPSK	78 RB / 0 RB Offset
		503202 to 534000	503202 (2516.01MHz), 534000 (2670.00MHz)	40MHz	QPSK	106 RB / 0 RB Offset
		504204 to 532998	504204 (2521.02MHz), 532998 (2664.99MHz)	50MHz	QPSK	133 RB / 0 RB Offset
		505200 to 531996	505200 (2526.00MHz), 531996 (2659.98MHz)	60MHz	QPSK	162 RB / 0 RB Offset
		507204 to 529998	507204 (2536.02MHz), 529998 (2649.99MHz)	80MHz	QPSK	217 RB / 0 RB Offset
		508200 to 528996	508200 (2541.00MHz), 528996 (2644.98MHz)	90MHz	QPSK	245 RB / 0 RB Offset
		509202 to 528000	509202 (2546.01MHz), 528000 (2640.00MHz)	100MHz	QPSK	273 RB / 0 RB Offset
-	Emission Bandwidth	501204 to 535998	501204 (2506.02MHz), 518598 (2592.99MHz), 535998 (2679.99MHz)	20MHz	QPSK / 16QAM / 64QAM / 256QAM	51 RB / 0 RB Offset
		502200 to 534996	502200 (2511.00MHz), 518598 (2592.99MHz), 534996 (2674.98MHz)	30MHz	QPSK / 16QAM / 64QAM / 256QAM	78 RB / 0 RB Offset
		503202 to 534000	503202 (2516.01MHz), 518598 (2592.99MHz), 534000 (2670.00MHz)	40MHz	QPSK / 16QAM / 64QAM / 256QAM	106 RB / 0 RB Offset
		504204 to 532998	504204 (2521.02MHz), 518598 (2592.99MHz), 532998 (2664.99MHz)	50MHz	QPSK / 16QAM / 64QAM / 256QAM	133 RB / 0 RB Offset
		505200 to 531996	505200 (2526.00MHz), 518598 (2592.99MHz), 531996 (2659.98MHz)	60MHz	QPSK / 16QAM / 64QAM / 256QAM	162 RB / 0 RB Offset
		507204 to 529998	507204 (2536.02MHz), 518598 (2592.99MHz), 529998 (2649.99MHz)	80MHz	QPSK / 16QAM / 64QAM / 256QAM	217 RB / 0 RB Offset
		508200 to 528996	508200 (2541.00MHz), 518598 (2592.99MHz), 528996 (2644.98MHz)	90MHz	QPSK / 16QAM / 64QAM / 256QAM	245 RB / 0 RB Offset
		509202 to 528000	509202 (2546.01MHz), 518598 (2592.99MHz), 528000 (2640.00MHz)	100MHz	QPSK / 16QAM / 64QAM / 256QAM	273 RB / 0 RB Offset

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	Out-of-Band Emissions	501204 to 535998	501204 (2506.02MHz), 535998 (2679.99MHz)	20MHz	QPSK	1 RB / 0 RB Offset 1 RB / 50 RB Offset 51 RB / 0 RB Offset
		502200 to 534996	502200 (2511.00MHz), 534996 (2674.98MHz)	30MHz	QPSK	1 RB / 0 RB Offset 1 RB / 77 RB Offset 78 RB / 0 RB Offset
		503202 to 534000	503202 (2516.01MHz), 534000 (2670.00MHz)	40MHz	QPSK	1 RB / 0 RB Offset 1 RB / 105 RB Offset 106 RB / 0 RB Offset
		504204 to 532998	504204 (2521.02MHz), 532998 (2664.99MHz)	50MHz	QPSK	1 RB / 0 RB Offset 1 RB / 132 RB Offset 133 RB / 0 RB Offset
		505200 to 531996	505200 (2526.00MHz), 531996 (2659.98MHz)	60MHz	QPSK	1 RB / 0 RB Offset 1 RB / 161 RB Offset 162 RB / 0 RB Offset
		507204 to 529998	507204 (2536.02MHz), 529998 (2649.99MHz)	80MHz	QPSK	1 RB / 0 RB Offset 1 RB / 216 RB Offset 217 RB / 0 RB Offset
		508200 to 528996	508200 (2541.00MHz), 528996 (2644.98MHz)	90MHz	QPSK	1 RB / 0 RB Offset 1 RB / 244 RB Offset 245 RB / 0 RB Offset
		509202 to 528000	509202 (2546.01MHz), 528000 (2640.00MHz)	100MHz	QPSK	1 RB / 0 RB Offset 1 RB / 272 RB Offset 273 RB / 0 RB Offset
-	Peak to Average Ratio	501204 to 535998	501204 (2506.02MHz), 518598 (2592.99MHz), 535998 (2679.99MHz)	20MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset
		502200 to 534996	502200 (2511.00MHz), 518598 (2592.99MHz), 534996 (2674.98MHz)	30MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset
		503202 to 534000	503202 (2516.01MHz), 518598 (2592.99MHz), 534000 (2670.00MHz)	40MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset
		504204 to 532998	504204 (2521.02MHz), 518598 (2592.99MHz), 532998 (2664.99MHz)	50MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset
		505200 to 531996	505200 (2526.00MHz), 518598 (2592.99MHz), 531996 (2659.98MHz)	60MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset
		507204 to 529998	507204 (2536.02MHz), 518598 (2592.99MHz), 529998 (2649.99MHz)	80MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset
		508200 to 528996	508200 (2541.00MHz), 518598 (2592.99MHz), 528996 (2644.98MHz)	90MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset
		509202 to 528000	509202 (2546.01MHz), 518598 (2592.99MHz), 528000 (2640.00MHz)	100MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	Conducted Emission	501204 to 535998	501204 (2506.02MHz), 518598 (2592.99MHz), 535998 (2679.99MHz)	20MHz	QPSK	1 RB / 1 RB Offset
		502200 to 534996	502200 (2511.00MHz), 518598 (2592.99MHz), 534996 (2674.98MHz)	30MHz	QPSK	1 RB / 1 RB Offset
		503202 to 534000	503202 (2516.01MHz), 518598 (2592.99MHz), 534000 (2670.00MHz)	40MHz	QPSK	1 RB / 1 RB Offset
		504204 to 532998	504204 (2521.02MHz), 518598 (2592.99MHz), 532998 (2664.99MHz)	50MHz	QPSK	1 RB / 1 RB Offset
		505200 to 531996	505200 (2526.00MHz), 518598 (2592.99MHz), 531996 (2659.98MHz)	60MHz	QPSK	1 RB / 1 RB Offset
		507204 to 529998	507204 (2536.02MHz), 518598 (2592.99MHz), 529998 (2649.99MHz)	80MHz	QPSK	1 RB / 1 RB Offset
		508200 to 528996	508200 (2541.00MHz), 518598 (2592.99MHz), 528996 (2644.98MHz)	90MHz	QPSK	1 RB / 1 RB Offset
		509202 to 528000	509202 (2546.01MHz), 518598 (2592.99MHz), 528000 (2640.00MHz)	100MHz	QPSK	1 RB / 1 RB Offset
-	Radiated Emission Below 1GHz	509202 to 528000	509202 (2546.01MHz)	100MHz	QPSK	1 RB / 1 RB Offset
-	Radiated Emission Above 1GHz	501204 to 535998	501204 (2506.02MHz), 518598 (2592.99MHz), 535998 (2679.99MHz)	20MHz	QPSK	1 RB / 1 RB Offset
		504204 to 532998	504204 (2521.02MHz), 518598 (2592.99MHz), 532998 (2664.99MHz)	50MHz	QPSK	1 RB / 1 RB Offset
		509202 to 528000	509202 (2546.01MHz), 518598 (2592.99MHz), 528000 (2640.00MHz)	100MHz	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, mid and highest channel bandwidth for final test.
3. Only output power, modulation characteristics, occupied bandwidth and Peak to average ratio items had been tested under QPSK, 16QAM, 64QAM and 256QAM modes, the other test items were performed under worse mode according to the maximum output power.

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EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	EIRP	647334 to 664666	647334 (3710.01MHz), 656000 (3840.00MHz), 664666 (3969.99MHz)	20MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 26 RB Offset 1 RB / 49 RB Offset 25 RB / 0 RB Offset 25 RB / 13 RB Offset 25 RB / 26 RB Offset 50 RB / 0 RB Offset
		647668 to 664332	647668 (3715.02MHz), 656000 (3840.00MHz), 665666 (3964.98MHz)	30MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 39 RB Offset 1 RB / 76 RB Offset 36 RB / 0 RB Offset 36 RB / 21 RB Offset 36 RB / 42 RB Offset 75 RB / 0 RB Offset
		648000 to 664000	648000 (3720.00MHz), 656000 (3840.00MHz), 664000 (3960.00MHz)	40MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 53 RB Offset 1 RB / 104 RB Offset 50 RB / 0 RB Offset 50 RB / 28 RB Offset 50 RB / 56 RB Offset 100 RB / 0 RB Offset
		648334 to 663666	648334 (3725.01MHz), 656000 (3840.00MHz), 663666 (3954.99MHz)	50MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 67 RB Offset 1 RB / 131 RB Offset 64 RB / 0 RB Offset 64 RB / 35 RB Offset 64 RB / 69 RB Offset 128 RB / 0 RB Offset
		648668 to 663332	648668 (3730.02MHz), 656000 (3840.00MHz), 663332 (3949.98MHz)	60MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 81 RB Offset 1 RB / 160 RB Offset 81 RB / 0 RB Offset 81 RB / 41 RB Offset 81 RB / 81 RB Offset 162 RB / 0 RB Offset
		649000 to 663332	649000 (3735.00MHz), 656000 (3840.00MHz), 663000 (3945.00MHz)	70MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 95 RB Offset 1 RB / 187 RB Offset 90 RB / 0 RB Offset 90 RB / 50 RB Offset 90 RB / 99 RB Offset 180 RB / 0 RB Offset
		649334 to 662666	649334 (3740.01MHz), 656000 (3840.00MHz), 662666 (3939.99MHz)	80MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 109 RB Offset 1 RB / 215 RB Offset 108 RB / 0 RB Offset 108 RB / 55 RB Offset 108 RB / 109 RB Offset 216 RB / 0 RB Offset

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	EIRP	649668 to 662332	649668 (3745.02MHz), 656000 (3840.00MHz), 662332 (3934.98MHz)	90MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 123 RB Offset 1 RB / 243 RB Offset 120 RB / 0 RB Offset 120 RB / 63 RB Offset 120 RB / 125 RB Offset 243 RB / 0 RB Offset
		650000 to 662000	650000 (3750.00MHz), 656000 (3840.00MHz), 662000 (3930.00MHz)	100MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset 1 RB / 137 RB Offset 1 RB / 271 RB Offset 135 RB / 0 RB Offset 135 RB / 69 RB Offset 135 RB / 138 RB Offset 270 RB / 0 RB Offset
-	Modulation Characteristics	650000 to 662000	656000 (3840.00MHz)	100MHz	QPSK / 16QAM / 64QAM / 256QAM	273 RB / 0 RB Offset
-	Frequency Stability	647334 to 664666	647334 (3710.01MHz), 664666 (3969.99MHz)	20MHz	QPSK	51 RB / 0 RB Offset
		647668 to 664332	647668 (3715.02MHz), 665666 (3964.98MHz)	30MHz	QPSK	78 RB / 0 RB Offset
		648000 to 664000	648000 (3720.00MHz), 664000 (3960.00MHz)	40MHz	QPSK	106 RB / 0 RB Offset
		648334 to 663666	648334 (3725.01MHz), 663666 (3954.99MHz)	50MHz	QPSK	133 RB / 0 RB Offset
		648668 to 663332	648668 (3730.02MHz), 663332 (3949.98MHz)	60MHz	QPSK	162 RB / 0 RB Offset
		649000 to 663332	649000 (3735.00MHz), 663000 (3945.00MHz)	70MHz	QPSK	189 RB / 0 RB Offset
		649334 to 662666	649334 (3740.01MHz), 662666 (3939.99MHz)	80MHz	QPSK	217 RB / 0 RB Offset
		649668 to 662332	649668 (3745.02MHz), 662332 (3934.98MHz)	90MHz	QPSK	245 RB / 0 RB Offset
		650000 to 662000	650000 (3750.00MHz), 662000 (3930.00MHz)	100MHz	QPSK	273 RB / 0 RB Offset

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	Emission Bandwidth	647334 to 664666	647334 (3710.01MHz), 656000 (3840.00MHz), 664666 (3969.99MHz)	20MHz	QPSK / 16QAM / 64QAM / 256QAM	51 RB / 0 RB Offset
		647668 to 664332	647668 (3715.02MHz), 656000 (3840.00MHz), 665666 (3964.98MHz)	30MHz	QPSK / 16QAM / 64QAM / 256QAM	78 RB / 0 RB Offset
		648000 to 664000	648000 (3720.00MHz), 656000 (3840.00MHz), 664000 (3960.00MHz)	40MHz	QPSK / 16QAM / 64QAM / 256QAM	106 RB / 0 RB Offset
		648334 to 663666	648334 (3725.01MHz), 656000 (3840.00MHz), 663666 (3954.99MHz)	50MHz	QPSK / 16QAM / 64QAM / 256QAM	133 RB / 0 RB Offset
		648668 to 663332	648668 (3730.02MHz), 656000 (3840.00MHz), 663332 (3949.98MHz)	60MHz	QPSK / 16QAM / 64QAM / 256QAM	162 RB / 0 RB Offset
		649000 to 663332	649000 (3735.00MHz), 656000 (3840.00MHz), 663000 (3945.00MHz)	70MHz	QPSK / 16QAM / 64QAM / 256QAM	189 RB / 0 RB Offset
		649334 to 662666	649334 (3740.01MHz), 656000 (3840.00MHz), 662666 (3939.99MHz)	80MHz	QPSK / 16QAM / 64QAM / 256QAM	217 RB / 0 RB Offset
		649668 to 662332	649668 (3745.02MHz), 656000 (3840.00MHz), 662332 (3934.98MHz)	90MHz	QPSK / 16QAM / 64QAM / 256QAM	245 RB / 0 RB Offset
		650000 to 662000	650000 (3750.00MHz), 656000 (3840.00MHz), 662000 (3930.00MHz)	100MHz	QPSK / 16QAM / 64QAM / 256QAM	273 RB / 0 RB Offset

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	Out-of-Band Emissions	647334 to 664666	647334 (3710.01MHz), 664666 (3969.99MHz)	20MHz	QPSK	1 RB / 0 RB Offset 1 RB / 50 RB Offset 51 RB / 0 RB Offset
		647668 to 664332	647668 (3715.02MHz), 665666 (3964.98MHz)	30MHz	QPSK	1 RB / 0 RB Offset 1 RB / 77 RB Offset 78 RB / 0 RB Offset
		648000 to 664000	648000 (3720.00MHz), 664000 (3960.00MHz)	40MHz	QPSK	1 RB / 0 RB Offset 1 RB / 105 RB Offset 106 RB / 0 RB Offset
		648334 to 663666	648334 (3725.01MHz), 663666 (3954.99MHz)	50MHz	QPSK	1 RB / 0 RB Offset 1 RB / 132 RB Offset 133 RB / 0 RB Offset
		648668 to 663332	648668 (3730.02MHz), 663332 (3949.98MHz)	60MHz	QPSK	1 RB / 0 RB Offset 1 RB / 161 RB Offset 162 RB / 0 RB Offset
		649000 to 663332	649000 (3735.00MHz), 663000 (3945.00MHz)	70MHz	QPSK	1 RB / 0 RB Offset 1 RB / 188 RB Offset 189 RB / 0 RB Offset
		649334 to 662666	649334 (3740.01MHz), 662666 (3939.99MHz)	80MHz	QPSK	1 RB / 0 RB Offset 1 RB / 216 RB Offset 217 RB / 0 RB Offset
		649668 to 662332	649668 (3745.02MHz), 662332 (3934.98MHz)	90MHz	QPSK	1 RB / 0 RB Offset 1 RB / 244 RB Offset 245 RB / 0 RB Offset
		650000 to 662000	650000 (3750.00MHz), 662000 (3930.00MHz)	100MHz	QPSK	1 RB / 0 RB Offset 1 RB / 272 RB Offset 273 RB / 0 RB Offset

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	Peak to Average Ratio	647334 to 664666	647334 (3710.01MHz), 656000 (3840.00MHz), 664666 (3969.99MHz)	20MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset
		647668 to 664332	647668 (3715.02MHz), 656000 (3840.00MHz), 665666 (3964.98MHz)	30MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset
		648000 to 664000	648000 (3720.00MHz), 656000 (3840.00MHz), 664000 (3960.00MHz)	40MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset
		648334 to 663666	648334 (3725.01MHz), 656000 (3840.00MHz), 663666 (3954.99MHz)	50MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset
		648668 to 663332	648668 (3730.02MHz), 656000 (3840.00MHz), 663332 (3949.98MHz)	60MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset
		649000 to 663332	649000 (3735.00MHz), 656000 (3840.00MHz), 663000 (3945.00MHz)	70MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset
		649334 to 662666	649334 (3740.01MHz), 656000 (3840.00MHz), 662666 (3939.99MHz)	80MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset
		649668 to 662332	649668 (3745.02MHz), 656000 (3840.00MHz), 662332 (3934.98MHz)	90MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset
		650000 to 662000	650000 (3750.00MHz), 656000 (3840.00MHz), 662000 (3930.00MHz)	100MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB / 1 RB Offset

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	Conducted Emission	647334 to 664666	647334 (3710.01MHz), 656000 (3840.00MHz), 664666 (3969.99MHz)	20MHz	QPSK	1 RB / 1 RB Offset
		647668 to 664332	647668 (3715.02MHz), 656000 (3840.00MHz), 665666 (3964.98MHz)	30MHz	QPSK	1 RB / 1 RB Offset
		648000 to 664000	648000 (3720.00MHz), 656000 (3840.00MHz), 664000 (3960.00MHz)	40MHz	QPSK	1 RB / 1 RB Offset
		648334 to 663666	648334 (3725.01MHz), 656000 (3840.00MHz), 663666 (3954.99MHz)	50MHz	QPSK	1 RB / 1 RB Offset
		648668 to 663332	648668 (3730.02MHz), 656000 (3840.00MHz), 663332 (3949.98MHz)	60MHz	QPSK	1 RB / 1 RB Offset
		649000 to 663332	649000 (3735.00MHz), 656000 (3840.00MHz), 663000 (3945.00MHz)	70MHz	QPSK	1 RB / 1 RB Offset
		649334 to 662666	649334 (3740.01MHz), 656000 (3840.00MHz), 662666 (3939.99MHz)	80MHz	QPSK	1 RB / 1 RB Offset
		649668 to 662332	649668 (3745.02MHz), 656000 (3840.00MHz), 662332 (3934.98MHz)	90MHz	QPSK	1 RB / 1 RB Offset
		650000 to 662000	650000 (3750.00MHz), 656000 (3840.00MHz), 662000 (3930.00MHz)	100MHz	QPSK	1 RB / 1 RB Offset
-	Radiated Emission Below 1GHz	647334 to 664666	662000 (3930.00MHz)	100MHz	QPSK	1 RB / 1 RB Offset
-	Radiated Emission Above 1GHz	647334 to 664666	647334 (3710.01MHz), 656000 (3840.00MHz), 664666 (3969.99MHz)	20MHz	QPSK	1 RB / 1 RB Offset
		648334 to 663666	648334 (3725.01MHz), 656000 (3840.00MHz), 663666 (3954.99MHz)	50MHz	QPSK	1 RB / 1 RB Offset
		650000 to 662000	650000 (3750.00MHz), 656000 (3840.00MHz), 662000 (3930.00MHz)	100MHz	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, mid and highest channel bandwidth for final test.
3. Only output power, modulation characteristics, occupied bandwidth and Peak to average ratio items had been tested under QPSK, 16QAM, 64QAM and 256QAM modes, the other test items were performed under worse mode according to the maximum output power.

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
EIRP	25deg. C, 60%RH	120Vac, 60Hz	James Yang
Modulation Characteristics	25deg. C, 60%RH	120Vac, 60Hz	James Yang
Frequency Stability	25deg. C, 60%RH	7.74Vdc	James Yang
Occupied Bandwidth	25deg. C, 60%RH	120Vac, 60Hz	James Yang
Out-of-Band Emissions	25deg. C, 60%RH	120Vac, 60Hz	James Yang
Peak To Average Ratio	25deg. C, 60%RH	120Vac, 60Hz	James Yang
Conducted Emission	25deg. C, 60%RH	120Vac, 60Hz	James Yang
Radiated Emission	23deg. C, 67%RH 25deg. C, 65%RH	120Vac, 60Hz	Adair Peng Noah Chang

3.4 EUT Operating Conditions

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

3.5 General Description of Applied Standards and References

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

Test Standard:

FCC 47 CFR Part 2

FCC 47 CFR Part 27

ANSI/TIA/EIA-603-E 2016

ANSI 63.26-2015

References Test Guidance:

KDB 971168 D01 Power Meas License Digital Systems v03r01

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

4 Test Types and Results

4.1 Output Power Measurement

4.1.1 Limits of Output Power Measurement

For n41:
Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

For n77:
Mobile and portable stations are limited to 1 Watt EIRP. Mobile and portable stations operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

4.1.2 Test Procedures

Conducted Power Measurement:

The EUT was set up for the maximum power with 5GNR link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

Maximum EIRP / 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:

4.1.4 Test Results

Conducted Output Power (dBm)

NR Band 41												
BW	MCS	RB Size	RB Offset	Low			Mid			High		
	Index	Channel		509202			518598			528000		
		Frequency (MHz)		2546.01			2592.99			2640		
100M	QPSK	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	21.22	21.12	24.18	21.15	21.05	24.11	21.33	21.2	24.28
		1	137	21.21	21.02	24.08	21.12	21.01	24.08	21.28	21.15	24.23
		1	271	21.19	20.87	24.04	21.05	20.95	24.01	21.22	21.12	24.18
		135	0	19.65	19.41	22.45	19.85	19.69	22.78	19.88	19.52	22.71
		135	69	21.12	20.75	23.95	21.22	20.82	24.03	21.2	20.95	24.09
		135	138	19.45	19.31	22.39	19.82	19.65	22.75	19.74	19.52	22.64
		270	0	19.34	19.25	22.31	19.79	19.62	22.72	19.69	19.41	22.56
100M	16QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	19.28	19.17	22.23	19.52	19.28	22.41	19.48	19.31	22.40
100M	64QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	17.06	16.81	19.95	16.87	16.65	19.77	17.06	16.69	19.89
100M	256QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	13.98	13.93	16.96	13.95	13.81	16.89	13.97	13.88	16.94
BW	MCS	RB Size	RB Offset	Low			Mid			High		
	Index	Channel		508200			518598			528996		
		Frequency (MHz)		2541.00			2592.99			2644.98		
90M	QPSK	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	20.93	20.87	23.91	20.93	20.81	23.88	21.17	21.11	24.15
		1	123	20.90	20.81	23.86	20.86	20.75	23.82	21.06	20.84	23.96
		1	243	20.80	20.67	23.75	20.93	20.89	23.92	21.16	21.01	24.09
		120	0	19.54	19.07	22.32	19.58	19.52	22.56	19.56	19.15	22.37
		120	63	21.02	20.49	23.77	20.97	20.51	23.76	20.97	20.79	23.89
		120	125	19.33	18.93	22.14	19.44	19.31	22.38	19.67	19.25	22.48
		243	0	19.07	19.17	22.13	19.58	19.40	22.50	19.37	19.11	22.26
90M	16QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	19.26	19.14	22.21	19.15	19.00	22.08	19.57	19.39	22.49
90M	64QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	16.96	16.79	19.89	16.94	16.66	19.81	16.95	16.78	19.88
90M	256QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	13.93	13.74	16.85	13.93	13.72	16.83	13.96	13.79	16.89

NR Band 41												
BW	MCS	RB Size	RB Offset	Low			Mid			High		
	Index	Channel		507204			518598			529998		
		Frequency (MHz)		2536.02			2592.99			2649.99		
80M	QPSK	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	21.08	20.83	23.96	21.06	20.89	23.99	21.16	20.93	24.06
		1	109	20.95	20.80	23.88	21.08	20.95	24.03	21.04	21.01	24.04
		1	215	20.94	20.83	23.89	20.70	20.67	23.69	21.07	21.05	24.07
		108	0	19.35	19.23	22.30	19.61	19.63	22.63	19.56	19.46	22.52
		108	55	20.83	20.62	23.74	21.02	20.60	23.83	21.04	20.78	23.93
		108	109	19.11	18.97	22.05	19.51	19.45	22.49	19.48	19.38	22.44
		216	0	19.27	19.05	22.17	19.71	19.39	22.56	19.57	19.25	22.42
80M	16QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	19.35	19.21	22.29	19.33	19.27	22.31	19.52	19.14	22.35
80M	64QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	17.04	16.83	19.94	17.07	16.92	20.01	17.04	16.97	20.01
80M	256QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	13.74	13.62	16.69	13.75	13.61	16.69	13.89	13.69	16.81
BW	MCS	RB Size	RB Offset	Low			Mid			High		
	Index	Channel		505200			518598			531996		
		Frequency (MHz)		2526.00			2592.99			2659.98		
60M	QPSK	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	21.10	20.84	23.98	21.03	20.83	23.94	21.28	20.94	24.12
		1	81	21.11	20.66	23.90	21.02	20.84	23.94	21.03	21.07	24.06
		1	160	21.00	20.83	23.93	20.91	20.65	23.79	20.93	21.04	23.99
		81	0	19.55	19.19	22.39	19.61	19.39	22.51	19.62	19.38	22.51
		81	41	20.82	20.60	23.72	21.05	20.49	23.79	20.83	20.76	23.81
		81	81	19.33	18.97	22.16	19.46	19.49	22.49	19.43	19.33	22.39
		162	0	19.26	18.99	22.14	19.75	19.53	22.65	19.61	19.16	22.40
60M	16QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	19.22	18.99	22.12	19.11	19.00	22.07	19.38	19.23	22.32
60M	64QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	16.95	16.81	19.89	17.11	16.71	19.93	17.01	16.89	19.96
60M	256QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	13.78	13.64	16.72	13.92	13.59	16.77	13.88	13.77	16.83

NR Band 41												
BW	MCS	RB Size	RB Offset	Low			Mid			High		
	Index	Channel		504204			518598			532998		
		Frequency (MHz)		2521.02			2592.99			2664.99		
50M	QPSK	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	21.12	21.07	24.10	21.02	20.89	23.96	21.16	20.90	24.04
		1	67	20.96	20.84	23.91	20.81	20.77	23.80	21.23	20.89	24.07
		1	131	21.12	20.49	23.83	20.84	20.57	23.72	20.84	21.03	23.95
		64	0	19.57	19.35	22.47	19.80	19.43	22.63	19.53	19.30	22.43
		64	35	21.06	20.39	23.75	20.86	20.51	23.70	20.87	20.61	23.76
		64	69	19.25	18.98	22.13	19.59	19.52	22.57	19.58	19.45	22.52
		128	0	19.19	19.11	22.16	19.52	19.39	22.47	19.59	19.05	22.34
50M	16QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	19.18	19.14	22.17	19.11	19.04	22.08	19.21	19.14	22.19
50M	64QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	16.85	16.79	19.83	16.84	16.71	19.79	17.10	16.92	20.02
50M	256QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	14.01	13.84	16.94	13.73	13.61	16.68	13.79	13.66	16.74
BW	MCS	RB Size	RB Offset	Low			Mid			High		
	Index	Channel		503202			518598			534000		
		Frequency (MHz)		2516.01			2592.99			2670.00		
40M	QPSK	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	21.06	20.86	23.97	21.11	20.87	24.00	21.21	20.98	24.11
		1	53	21.06	20.66	23.88	20.83	20.93	23.89	21.17	20.89	24.04
		1	104	21.11	20.52	23.83	20.77	20.55	23.67	21.07	20.85	23.97
		50	0	19.44	19.18	22.32	19.73	19.29	22.53	19.77	19.34	22.57
		50	28	20.97	20.51	23.76	21.17	20.66	23.93	21.06	20.65	23.87
		50	56	19.29	19.02	22.17	19.62	19.60	22.62	19.52	19.45	22.49
		100	0	19.28	18.90	22.11	19.40	19.54	22.48	19.60	19.34	22.48
40M	16QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	19.26	18.99	22.13	19.19	19.12	22.16	19.53	19.07	22.32
40M	64QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	16.85	16.65	19.77	16.89	16.79	19.85	17.03	16.66	19.86
40M	256QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	13.79	13.72	16.76	13.86	13.71	16.80	13.93	13.70	16.83

NR Band 41												
BW	MCS	RB Size	RB Offset	Low			Mid			High		
	Index	Channel		502200			518598			534996		
		Frequency (MHz)		2511.00			2592.99			2674.98		
30M	QPSK	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	21.09	20.96	24.04	21.03	20.97	24.01	21.17	20.84	24.01
		1	39	21.09	20.98	24.05	20.96	20.62	23.80	21.12	20.82	23.98
		1	76	20.99	20.49	23.76	20.91	20.87	23.90	21.04	21.06	24.06
		36	0	19.41	19.05	22.24	19.47	19.51	22.50	19.54	19.16	22.36
		36	21	20.76	20.61	23.70	21.07	20.55	23.83	21.06	20.76	23.93
		36	42	19.05	19.25	22.16	19.53	19.30	22.43	19.62	19.44	22.54
		75	0	18.99	19.15	22.08	19.57	19.56	22.58	19.37	19.03	22.21
30M	16QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	19.32	19.21	22.28	19.24	19.11	22.19	19.42	19.23	22.34
30M	64QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	16.88	16.79	19.84	16.96	16.84	19.91	17.00	16.94	19.98
30M	256QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	14.01	13.88	16.95	13.83	13.79	16.82	13.90	13.85	16.89
BW	MCS	RB Size	RB Offset	Low			Mid			High		
	Index	Channel		501204			518598			535998		
		Frequency (MHz)		2506.02			2592.99			2679.99		
20M	QPSK	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	21.02	20.90	23.97	21.07	20.85	23.97	21.29	21.00	24.16
		1	26	20.94	20.73	23.84	20.82	20.86	23.85	20.99	20.77	23.89
		1	49	21.15	20.56	23.87	20.85	20.85	23.86	20.84	20.76	23.81
		25	0	19.29	19.11	22.21	19.53	19.44	22.49	19.70	19.32	22.52
		25	13	20.85	20.61	23.74	20.90	20.77	23.85	20.87	20.65	23.77
		25	26	19.31	18.93	22.13	19.50	19.26	22.39	19.37	19.29	22.34
		50	0	19.06	19.04	22.06	19.41	19.24	22.33	19.44	19.28	22.37
20M	16QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	19.36	19.06	22.22	19.31	19.12	22.23	19.51	19.12	22.33
20M	64QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	17.08	16.78	19.94	17.07	16.76	19.93	16.97	16.75	19.87
20M	256QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	13.86	13.67	16.78	13.77	13.59	16.69	13.90	13.65	16.78

NR Band 77												
BW	MCS	RB Size	RB Offset	Low			Mid			High		
	Index	Channel		650000			656000			662000		
		Frequency (MHz)		3750			3840			3930		
100M	QPSK	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	20.24	20.12	23.19	20.35	20.12	23.22	20.21	20.11	23.17
		1	137	20.19	20.05	23.13	20.21	20.09	23.16	20.05	19.94	23.01
		1	271	20.05	19.92	23	20.16	19.92	23.05	20	19.91	22.97
		135	0	18.82	18.71	21.78	18.8	18.71	21.77	18.81	18.69	21.76
		135	69	20.12	19.98	23.06	20.12	19.94	23.04	20.05	19.95	23.01
		135	138	18.79	18.68	21.75	18.75	18.6	21.69	18.8	18.7	21.76
		270	0	18.72	18.74	21.74	18.71	18.65	21.69	18.83	18.75	21.8
100M	16QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	18.51	18.43	21.48	18.53	18.33	21.44	18.49	18.37	21.44
100M	64QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	17.09	16.74	19.93	17.03	16.89	19.97	16.99	16.85	19.93
100M	256QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	13.76	13.65	16.72	13.77	13.68	16.74	13.76	13.67	16.72
BW	MCS	RB Size	RB Offset	Low			Mid			High		
	Index	Channel		649668			656000			662332		
		Frequency (MHz)		3745.02			3840.00			3934.98		
90M	QPSK	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	20.08	19.94	23.02	20.30	20.10	23.21	20.14	20.03	23.10
		1	123	20.10	19.73	22.93	20.11	19.81	22.97	19.66	19.57	22.62
		1	243	19.93	19.76	22.85	20.05	19.80	22.94	19.70	19.72	22.72
		120	0	18.75	18.43	21.60	18.52	18.37	21.46	18.44	18.51	21.49
		120	63	20.03	19.73	22.89	19.86	19.60	22.74	20.00	19.55	22.79
		120	125	18.65	18.33	21.50	18.65	18.48	21.58	18.42	18.37	21.41
		243	0	18.47	18.68	21.58	18.49	18.42	21.47	18.44	18.59	21.53
90M	16QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	18.26	18.11	21.19	18.54	18.40	21.48	18.29	18.15	21.23
90M	64QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	17.06	16.95	20.01	17.06	16.65	19.87	17.09	16.75	19.94
90M	256QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	13.74	13.58	16.67	13.72	13.67	16.70	13.84	13.61	16.74

NR Band 77												
BW	MCS	RB Size	RB Offset	Low			Mid			High		
	Index	Channel		649334			656000			662666		
		Frequency (MHz)		3740.01			3840.00			3939.99		
80M	QPSK	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	20.18	20.07	23.14	20.18	20.00	23.10	20.10	20.03	23.07
		1	109	20.04	19.66	22.86	20.07	19.91	23.00	19.71	19.89	22.81
		1	215	19.66	19.68	22.68	20.12	19.64	22.90	19.61	19.54	22.59
		108	0	18.65	18.56	21.62	18.61	18.46	21.55	18.43	18.58	21.51
		108	55	19.98	19.58	22.79	19.98	19.79	22.90	19.84	19.65	22.76
		108	109	18.51	18.39	21.46	18.66	18.42	21.55	18.65	18.33	21.51
		216	0	18.35	18.56	21.47	18.36	18.49	21.43	18.79	18.70	21.75
80M	16QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	18.42	18.24	21.34	18.45	18.20	21.34	18.24	18.20	21.23
80M	64QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	16.89	16.70	19.81	17.10	17.00	20.06	17.08	16.93	20.02
80M	256QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	14.00	13.88	16.95	13.97	13.74	16.87	13.77	13.63	16.71
BW	MCS	RB Size	RB Offset	Low			Mid			High		
	Index	Channel		649000			656000			663000		
		Frequency (MHz)		3735.00			3840.00			3945.00		
70M	QPSK	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	20.13	20.08	23.12	20.27	20.07	23.18	20.01	19.89	22.96
		1	95	20.11	19.93	23.03	19.86	19.74	22.81	19.95	19.60	22.78
		1	187	19.93	19.80	22.88	20.00	19.62	22.83	19.94	19.87	22.91
		90	0	18.64	18.42	21.54	18.75	18.47	21.63	18.74	18.36	21.56
		90	50	19.96	19.84	22.91	20.00	19.89	22.96	19.98	19.86	22.93
		90	99	18.49	18.42	21.47	18.37	18.30	21.35	18.65	18.44	21.56
		180	0	18.54	18.67	21.62	18.65	18.44	21.55	18.75	18.39	21.58
70M	16QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	18.49	18.16	21.34	18.34	18.14	21.25	18.33	18.22	21.29
70M	64QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	16.93	16.90	19.93	17.10	16.78	19.95	16.82	16.76	19.80
70M	256QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	13.87	13.81	16.85	13.89	13.65	16.78	13.89	13.60	16.76

NR Band 77												
BW	MCS	RB Size	RB Offset	Low			Mid			High		
	Index	Channel		648668			656000			663332		
		Frequency (MHz)		3730.02			3840.00			3949.98		
60M	QPSK	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	20.18	20.07	23.14	20.21	20.02	23.13	20.07	20.03	23.06
		1	81	20.06	19.73	22.91	19.87	19.82	22.86	19.83	19.70	22.77
		1	160	19.76	19.71	22.74	19.76	19.78	22.78	19.78	19.75	22.78
		81	0	18.72	18.56	21.65	18.45	18.48	21.48	18.66	18.30	21.49
		81	41	19.77	19.83	22.81	19.75	19.62	22.70	20.00	19.77	22.90
		81	81	18.64	18.45	21.55	18.39	18.20	21.31	18.54	18.51	21.53
		162	0	18.42	18.45	21.44	18.53	18.52	21.54	18.45	18.40	21.44
60M	16QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	18.55	18.17	21.37	18.61	18.30	21.47	18.31	18.28	21.30
60M	64QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	16.97	16.82	19.91	17.03	16.75	19.90	17.08	16.89	19.99
60M	256QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	13.87	13.73	16.81	13.96	13.69	16.84	14.02	13.79	16.92
BW	MCS	RB Size	RB Offset	Low			Mid			High		
	Index	Channel		648334			656000			663666		
		Frequency (MHz)		3725.01			3840.00			3954.99		
50M	QPSK	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	20.18	20.08	23.14	20.11	20.03	23.08	20.16	20.05	23.11
		1	67	19.95	19.68	22.83	20.01	19.87	22.95	19.77	19.84	22.82
		1	131	19.67	19.64	22.67	19.94	19.79	22.87	19.89	19.69	22.80
		64	0	18.62	18.32	21.48	18.56	18.60	21.59	18.75	18.48	21.63
		64	35	19.98	19.75	22.88	19.88	19.74	22.82	19.91	19.84	22.88
		64	69	18.60	18.52	21.57	18.37	18.46	21.43	18.74	18.50	21.63
		128	0	18.57	18.67	21.63	18.59	18.35	21.48	18.61	18.39	21.51
50M	16QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	18.57	18.16	21.38	18.42	18.24	21.34	18.49	18.11	21.31
50M	64QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	16.92	16.91	19.92	17.10	16.75	19.94	17.01	16.78	19.91
50M	256QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	13.77	13.68	16.74	14.00	13.63	16.83	13.93	13.79	16.87

NR Band 77												
BW	MCS	RB Size	RB Offset	Low			Mid			High		
	Index	Channel		648000			656000			664000		
		Frequency (MHz)		3720.00			3840.00			3960.00		
40M	QPSK	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	20.18	20.09	23.14	20.21	20.03	23.13	20.20	20.04	23.13
		1	53	19.85	19.97	22.92	20.08	19.77	22.94	20.01	19.85	22.94
		1	104	19.67	19.56	22.62	20.08	19.60	22.86	19.86	19.61	22.75
		50	0	18.70	18.64	21.68	18.50	18.66	21.59	18.49	18.30	21.41
		50	28	19.74	19.76	22.76	19.86	19.82	22.85	19.78	19.87	22.84
		50	56	18.68	18.31	21.51	18.70	18.28	21.51	18.50	18.55	21.54
		100	0	18.67	18.46	21.58	18.45	18.42	21.45	18.51	18.65	21.59
40M	16QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	18.30	18.19	21.25	18.48	18.30	21.40	18.58	18.33	21.47
40M	64QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	16.80	16.76	19.79	16.90	16.85	19.89	16.91	16.69	19.81
40M	256QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	13.83	13.70	16.77	13.80	13.76	16.79	13.99	13.86	16.93
BW	MCS	RB Size	RB Offset	Low			Mid			High		
	Index	Channel		647668			656000			664332		
		Frequency (MHz)		3715.02			3840.00			3964.98		
30M	QPSK	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	20.09	19.91	23.01	20.15	20.00	23.08	20.11	20.02	23.07
		1	39	20.05	19.86	22.97	20.01	19.86	22.94	19.78	19.68	22.74
		1	76	19.71	19.58	22.65	19.80	19.69	22.76	19.94	19.75	22.86
		36	0	18.57	18.45	21.52	18.42	18.32	21.38	18.49	18.33	21.42
		36	21	19.90	19.62	22.77	19.84	19.59	22.73	19.67	19.75	22.72
		36	42	18.40	18.60	21.51	18.66	18.42	21.55	18.58	18.39	21.50
		75	0	18.63	18.49	21.57	18.65	18.31	21.50	18.65	18.39	21.54
30M	16QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	18.44	18.18	21.32	18.45	18.05	21.27	18.50	18.11	21.32
30M	64QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	17.01	16.99	20.01	16.86	16.66	19.77	16.91	16.80	19.86
30M	256QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	13.72	13.60	16.67	13.94	13.89	16.92	13.94	13.88	16.92

NR Band 77												
BW	MCS	RB Size	RB Offset	Low			Mid			High		
	Index	Channel		647334			656000			664666		
		Frequency (MHz)		3710.01			3840.00			3969.99		
20M	QPSK	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	20.13	20.03	23.09	20.16	20.02	23.10	20.07	20.00	23.05
		1	26	19.85	19.91	22.89	19.85	19.99	22.93	19.84	19.78	22.82
		1	49	19.83	19.82	22.83	20.09	19.69	22.90	19.80	19.66	22.74
		25	0	18.56	18.41	21.50	18.74	18.32	21.54	18.61	18.43	21.53
		25	13	19.72	19.76	22.75	19.93	19.83	22.89	19.90	19.72	22.82
		25	26	18.41	18.58	21.50	18.71	18.56	21.65	18.42	18.56	21.50
		50	0	18.38	18.34	21.37	18.31	18.55	21.44	18.59	18.40	21.51
20M	16QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	18.35	18.09	21.23	18.51	18.12	21.33	18.46	18.37	21.42
20M	64QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	16.91	16.82	19.87	16.90	16.79	19.86	17.10	16.89	20.00
20M	256QAM	Tx Chain		Tx 1	Tx2	Total	Tx 1	Tx2	Total	Tx 1	Tx2	Total
		1	1	13.87	13.70	16.80	13.97	13.67	16.83	13.83	13.69	16.77

EIRP Power (dBm)

NR Band 41						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		509202	518598	528000
		Frequency (MHz)		2546.01	2592.99	2640
100M	QPSK	1	1	28.89	28.82	28.99
		1	137	28.79	28.79	28.94
		1	271	28.75	28.72	28.89
		135	0	27.16	27.49	27.42
		135	69	28.66	28.74	28.80
		135	138	27.10	27.46	27.35
		270	0	27.02	27.43	27.27
100M	16QAM	1	1	26.95	27.12	27.12
100M	64QAM	1	1	24.66	24.48	24.61
100M	256QAM	1	1	21.68	21.61	21.65
BW	MCS Index	Channel		508200	518598	528996
		Frequency (MHz)		2541	2592.99	2644.98
90M	QPSK	1	1	28.62	28.59	28.86
		1	123	28.58	28.53	28.67
		1	243	28.46	28.63	28.81
		120	0	27.03	27.27	27.09
		120	63	28.49	28.47	28.61
		120	125	26.86	27.10	27.19
		243	0	26.85	27.22	26.97
90M	16QAM	1	1	26.93	26.80	27.20
90M	64QAM	1	1	24.60	24.53	24.59
90M	256QAM	1	1	21.56	21.55	21.60
BW	MCS Index	Channel		507204	518598	529998
		Frequency (MHz)		2536.02	2592.99	2649.99
80M	QPSK	1	1	28.68	28.70	28.77
		1	109	28.59	28.74	28.75
		1	215	28.61	28.41	28.78
		108	0	27.01	27.34	27.23
		108	55	28.45	28.54	28.64
		108	109	26.76	27.20	27.16
		216	0	26.89	27.28	27.13
80M	16QAM	1	1	27.00	27.02	27.06
80M	64QAM	1	1	24.66	24.72	24.73
80M	256QAM	1	1	21.41	21.41	21.52

Note:

1. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 3.57dBi.
2. EIRP Power (dBm) = Conducted Output Power (dBm) + Directional gain (dBi).

NR Band 41						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		505200	518598	531996
		Frequency (MHz)		2526	2592.99	2659.98
60M	QPSK	1	1	28.70	28.66	28.84
		1	81	28.61	28.66	28.77
		1	160	28.64	28.51	28.71
		81	0	27.10	27.22	27.22
		81	41	28.43	28.50	28.52
		81	81	26.87	27.20	27.11
		162	0	26.85	27.36	27.11
60M	16QAM	1	1	26.83	26.78	27.03
60M	64QAM	1	1	24.60	24.64	24.67
60M	256QAM	1	1	21.43	21.48	21.55
BW	MCS Index	Channel		504204	518598	532998
		Frequency (MHz)		2521.02	2592.99	2664.99
50M	QPSK	1	1	28.82	28.68	28.75
		1	67	28.62	28.51	28.79
		1	131	28.54	28.43	28.66
		64	0	27.18	27.34	27.14
		64	35	28.47	28.41	28.47
		64	69	26.84	27.28	27.24
		128	0	26.87	27.18	27.05
50M	16QAM	1	1	26.89	26.80	26.90
50M	64QAM	1	1	24.55	24.50	24.73
50M	256QAM	1	1	21.65	21.39	21.45
BW	MCS Index	Channel		503202	518598	534000
		Frequency (MHz)		2516.01	2592.99	2670
40M	QPSK	1	1	28.68	28.71	28.82
		1	53	28.59	28.60	28.75
		1	104	28.55	28.38	28.68
		50	0	27.04	27.24	27.28
		50	28	28.47	28.64	28.58
		50	56	26.88	27.33	27.21
		100	0	26.82	27.19	27.19
40M	16QAM	1	1	26.85	26.88	27.03
40M	64QAM	1	1	24.48	24.57	24.57
40M	256QAM	1	1	21.48	21.51	21.54

Note:

1. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 3.57dBi.
2. EIRP Power (dBm) = Conducted Output Power (dBm) + Directional gain (dBi).

NR Band 41						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		502200	518598	534996
		Frequency (MHz)		2511	2592.99	2674.98
30M	QPSK	1	1	28.75	28.73	28.73
		1	39	28.76	28.51	28.70
		1	76	28.47	28.62	28.78
		36	0	26.95	27.21	27.08
		36	21	28.41	28.54	28.64
		36	42	26.87	27.14	27.25
		75	0	26.80	27.29	26.92
30M	16QAM	1	1	26.99	26.90	27.05
30M	64QAM	1	1	24.56	24.63	24.69
30M	256QAM	1	1	21.67	21.53	21.60
BW	MCS Index	Channel		501204	518598	535998
		Frequency (MHz)		2506.02	2592.99	2679.99
20M	QPSK	1	1	28.68	28.69	28.87
		1	26	28.56	28.56	28.60
		1	49	28.59	28.57	28.52
		25	0	26.92	27.21	27.24
		25	13	28.46	28.56	28.48
		25	26	26.85	27.11	27.05
		50	0	26.77	27.05	27.08
20M	16QAM	1	1	26.93	26.94	27.04
20M	64QAM	1	1	24.66	24.64	24.58
20M	256QAM	1	1	21.49	21.40	21.50

Note:

1. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 3.57dBi.
2. EIRP Power (dBm) = Conducted Output Power (dBm) + Directional gain (dBi).

NR Band 77						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		650000	656000	662000
		Frequency (MHz)		3750	3840	3930
100M	QPSK	1	1	28.59	28.62	28.57
		1	137	28.53	28.56	28.41
		1	271	28.40	28.45	28.37
		135	0	27.18	27.17	27.16
		135	69	28.46	28.44	28.41
		135	138	27.15	27.09	27.16
		270	0	27.14	27.09	27.20
100M	16QAM	1	1	26.88	26.84	26.84
100M	64QAM	1	1	25.32	25.37	25.33
100M	256QAM	1	1	22.12	22.13	22.12
BW	MCS Index	Channel		649668	656000	662332
		Frequency (MHz)		3745.02	3840	3934.98
90M	QPSK	1	1	28.42	28.61	28.49
		1	123	28.33	28.37	28.02
		1	243	28.25	28.33	28.12
		120	0	27.00	26.85	26.88
		120	63	28.29	28.14	28.19
		120	125	26.90	26.97	26.80
		243	0	26.98	26.86	26.92
90M	16QAM	1	1	26.59	26.88	26.63
90M	64QAM	1	1	25.41	25.27	25.33
90M	256QAM	1	1	22.07	22.10	22.13
		Channel		649334	656000	662666
		Frequency (MHz)		3740.01	3840	3939.99
80M	QPSK	1	1	28.53	28.50	28.47
		1	109	28.26	28.40	28.21
		1	215	28.08	28.29	27.98
		108	0	27.01	26.94	26.91
		108	55	28.19	28.29	28.16
		108	109	26.86	26.95	26.90
		216	0	26.87	26.83	27.15
80M	16QAM	1	1	26.74	26.73	26.63
80M	64QAM	1	1	25.20	25.46	25.41
80M	256QAM	1	1	22.35	22.26	22.11

Note:

1. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 3.38dBi.
2. EIRP Power (dBm) = Conducted Output Power (dBm) + Directional gain (dBi).

NR Band 77						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		649000	6560000	663000
		Frequency (MHz)		3735	3840	3945
70M	QPSK	1	1	28.51	28.58	28.36
		1	95	28.43	28.21	28.18
		1	187	28.28	28.22	28.31
		90	0	26.94	27.02	26.96
		90	50	28.31	28.36	28.33
		90	99	26.86	26.75	26.95
		180	0	27.02	26.95	26.98
70M	16QAM	1	1	26.74	26.65	26.69
70M	64QAM	1	1	25.32	25.35	25.20
70M	256QAM	1	1	22.25	22.18	22.16
		Channel		648668	656000	663332
		Frequency (MHz)		3730.02	3840	3949.98
60M	QPSK	1	1	28.53	28.53	28.46
		1	81	28.31	28.26	28.17
		1	160	28.14	28.18	28.17
		81	0	27.05	26.87	26.89
		81	41	28.21	28.09	28.29
		81	81	26.95	26.70	26.93
		162	0	26.84	26.93	26.84
60M	16QAM	1	1	26.77	26.87	26.70
60M	64QAM	1	1	25.30	25.30	25.39
60M	256QAM	1	1	22.20	22.23	22.31
BW	MCS Index	Channel		648334	656000	663666
		Frequency (MHz)		3725.01	3840	3954.99
50M	QPSK	1	1	28.54	28.47	28.51
		1	67	28.22	28.35	28.21
		1	131	28.07	28.27	28.20
		64	0	26.88	26.99	27.02
		64	35	28.28	28.22	28.28
		64	69	26.97	26.82	27.03
		128	0	27.03	26.88	26.91
50M	16QAM	1	1	26.78	26.74	26.71
50M	64QAM	1	1	25.32	25.34	25.30
50M	256QAM	1	1	22.13	22.23	22.27

Note:

1. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 3.38dBi.
2. EIRP Power (dBm) = Conducted Output Power (dBm) + Directional gain (dBi).

NR Band 77						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		648000	656000	664000
		Frequency (MHz)		3720	3840	3960
40M	QPSK	1	1	28.54	28.53	28.53
		1	53	28.32	28.34	28.34
		1	104	28.02	28.26	28.15
		50	0	27.08	26.99	26.80
		50	28	28.16	28.25	28.23
		50	56	26.91	26.90	26.94
		100	0	26.97	26.84	26.99
40M	16QAM	1	1	26.65	26.80	26.86
40M	64QAM	1	1	25.19	25.29	25.20
40M	256QAM	1	1	22.17	22.19	22.33
BW	MCS Index	Channel		647668	656000	664332
		Frequency (MHz)		3715.02	3840	3964.98
30M	QPSK	1	1	28.41	28.48	28.47
		1	39	28.37	28.34	28.14
		1	76	28.05	28.15	28.26
		36	0	26.92	26.78	26.82
		36	21	28.17	28.13	28.12
		36	42	26.91	26.95	26.89
		75	0	26.97	26.89	26.93
30M	16QAM	1	1	26.72	26.66	26.72
30M	64QAM	1	1	25.41	25.17	25.26
30M	256QAM	1	1	22.07	22.32	22.32
		Channel		647334	656000	664666
		Frequency (MHz)		3710.01	3840	3969.99
20M	QPSK	1	1	28.49	28.50	28.44
		1	26	28.29	28.32	28.22
		1	49	28.23	28.30	28.14
		25	0	26.89	26.94	26.93
		25	13	28.15	28.29	28.22
		25	26	26.90	27.04	26.90
		50	0	26.77	26.84	26.90
20M	16QAM	1	1	26.63	26.72	26.82
20M	64QAM	1	1	25.27	25.25	25.40
20M	256QAM	1	1	22.20	22.23	22.17

Note:

1. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 3.38dBi.
2. EIRP Power (dBm) = Conducted Output Power (dBm) + Directional gain (dBi).

4.2 Modulation Characteristics Measurement

4.2.1 Limits of Modulation Characteristics

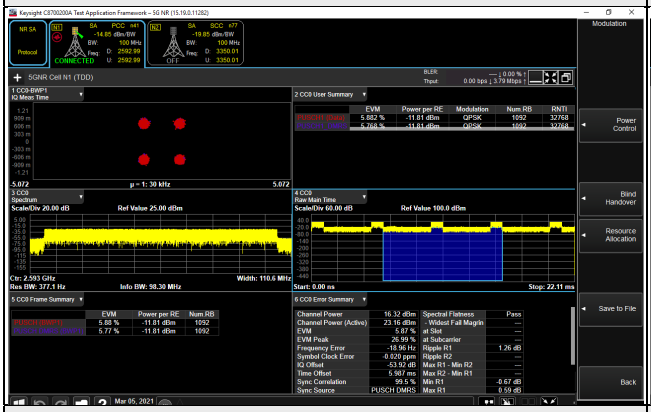
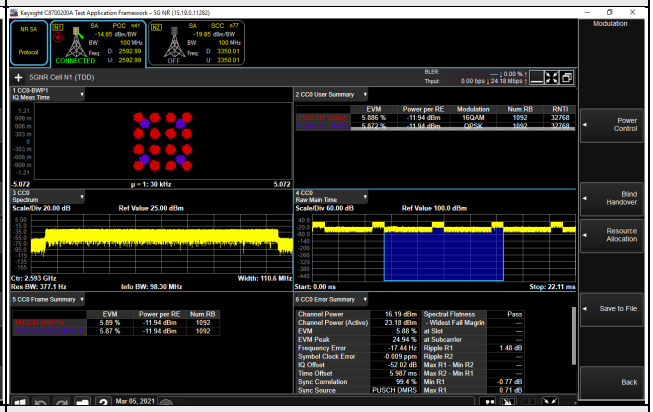
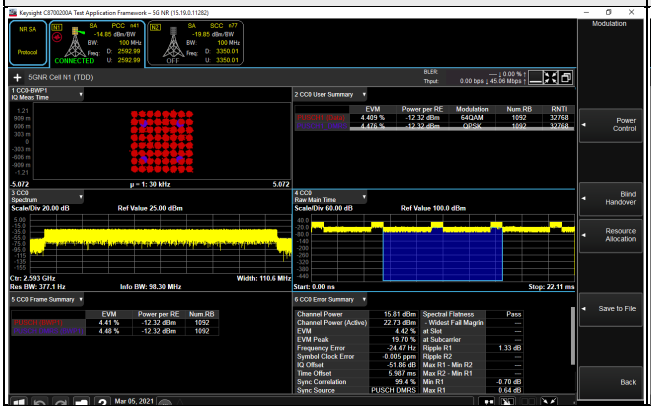
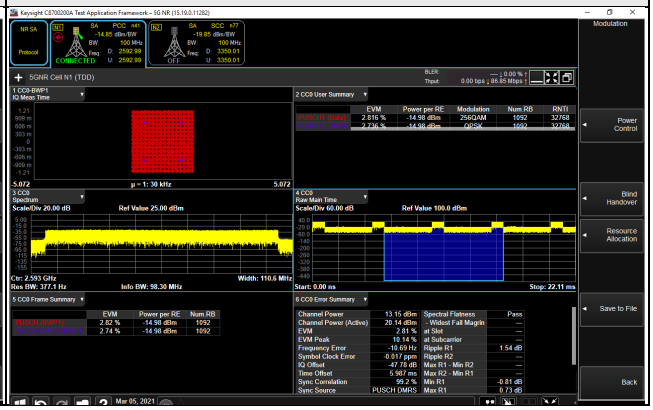
N/A

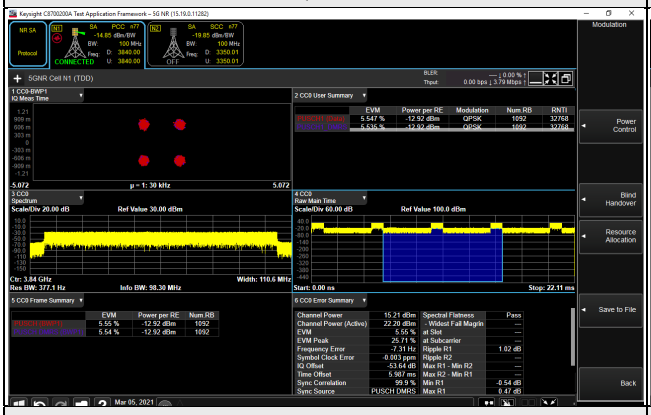
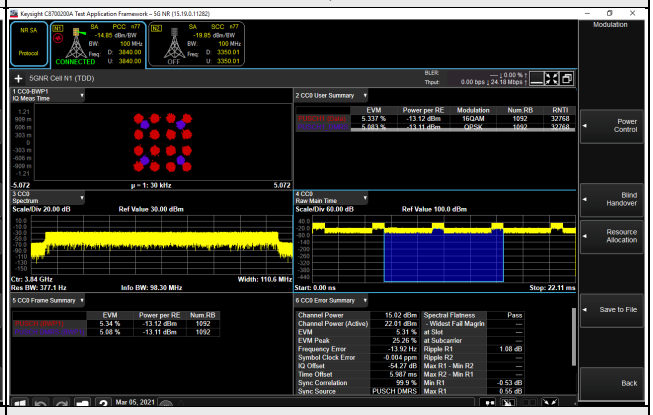
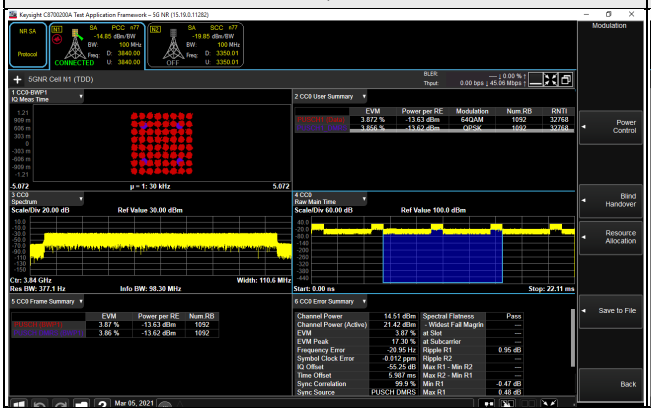
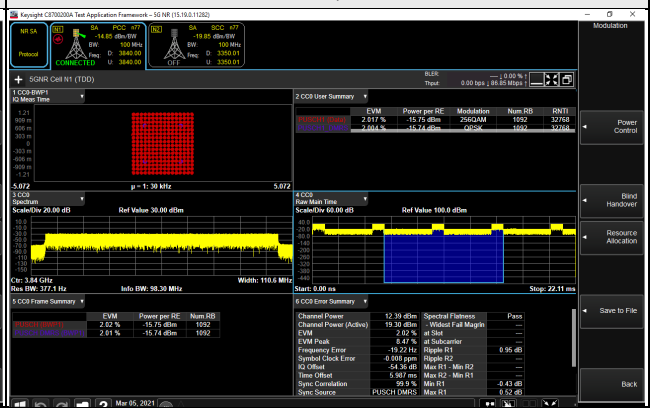
4.2.2 Test Procedure

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

n41	
Spectrum Plot of Measurement Value	
Channel: 518598 / Frequency (MHz): 2592.99MHz	
QPSK	16QAM
	
64QAM	256QAM
	

n77	
Spectrum Plot of Measurement Value	
Channel: 656000 / Frequency (MHz): 3840.00MHz	
QPSK	16QAM
	
64QAM	256QAM
	

4.3 Frequency Stability Measurement

4.3.1 Limits of Frequency Stability Measurement

According to the FCC part 2.1055 shall be tested the frequency stability. The rule is defined that" The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block." The test extreme voltage is according to the 2.1055(d)(1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment and the extreme temperature rule is comply with specification of EUT -30℃ ~ 50℃.

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.

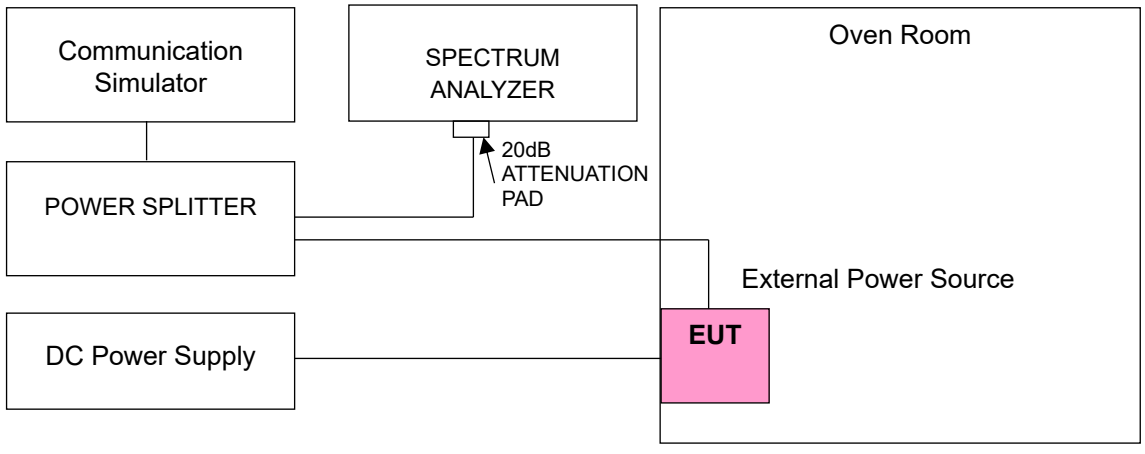
Note: The frequency error was recorded frequency error from the communication simulator.

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 Test Setup



4.3.5 Test Results

n41, Chain 0

Frequency Error vs. Voltage

Voltage (Vdc)	n41			
	Channel Bandwidth 20 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	2506.020003	0.001	2679.990000	0.001
7.74	2506.020002	0.001	2679.990000	0.001
6.58	2506.020001	0.001	2679.990000	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n41			
	Channel Bandwidth 20 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	2506.020001	0.000	2679.990000	0.001
-20	2506.020003	0.001	2679.990000	0.001
-10	2506.020002	0.001	2679.990000	0.001
0	2506.020001	0.001	2679.990000	0.001
10	2506.019999	0.000	2679.990000	-0.001
20	2506.019998	-0.001	2679.990000	0.000
30	2506.019997	-0.001	2679.990000	-0.001
40	2506.019999	-0.001	2679.990000	-0.001
50	2506.019999	0.000	2679.990000	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n41			
	Channel Bandwidth 30 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	2511.000003	0.001	2674.980004	0.001
7.74	2511.000001	0.000	2674.980001	0.001
6.58	2511.000004	0.001	2674.980001	0.000

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

Frequency Error vs. Temperature

Temp. (℃)	n41			
	Channel Bandwidth 30 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	2511.000004	0.002	2674.980002	0.001
-20	2511.000003	0.001	2674.980002	0.001
-10	2511.000002	0.001	2674.980003	0.001
0	2511.000002	0.001	2674.980002	0.001
10	2510.999998	-0.001	2674.979997	-0.001
20	2510.999999	-0.001	2674.979996	-0.001
30	2510.999998	-0.001	2674.979998	-0.001
40	2510.999997	-0.001	2674.979998	-0.001
50	2510.999996	-0.001	2674.979998	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n41			
	Channel Bandwidth 40 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	2516.010004	0.002	2670.000001	0.001
7.74	2516.010003	0.001	2670.000003	0.001
6.58	2516.010001	0.001	2670.000003	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n41			
	Channel Bandwidth 40 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	2516.010001	0.000	2670.000004	0.001
-20	2516.010001	0.000	2670.000002	0.001
-10	2516.010002	0.001	2670.000003	0.001
0	2516.010004	0.001	2670.000002	0.001
10	2516.009996	-0.001	2669.999998	-0.001
20	2516.009999	-0.001	2669.999997	-0.001
30	2516.009996	-0.002	2669.999996	-0.001
40	2516.009996	-0.002	2669.999998	-0.001
50	2516.009998	-0.001	2669.999999	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n41			
	Channel Bandwidth 50 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	2521.020003	0.001	2664.990003	0.001
7.74	2521.020001	0.001	2664.990003	0.001
6.58	2521.020003	0.001	2664.990004	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n41			
	Channel Bandwidth 50 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	2521.020002	0.001	2664.990002	0.001
-20	2521.020003	0.001	2664.990002	0.001
-10	2521.020002	0.001	2664.990002	0.001
0	2521.020002	0.001	2664.990004	0.001
10	2521.019997	-0.001	2664.989998	-0.001
20	2521.019996	-0.002	2664.989998	-0.001
30	2521.019998	-0.001	2664.989998	-0.001
40	2521.019998	-0.001	2664.989997	-0.001
50	2521.019999	-0.001	2664.989997	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n41			
	Channel Bandwidth 60 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	2526.000003	0.001	2659.980002	0.001
7.74	2526.000003	0.001	2659.980003	0.001
6.58	2526.000002	0.001	2659.980003	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n41			
	Channel Bandwidth 60 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	2526.000003	0.001	2659.980003	0.001
-20	2526.000002	0.001	2659.980003	0.001
-10	2526.000001	0.000	2659.980002	0.001
0	2526.000002	0.001	2659.980003	0.001
10	2525.999998	-0.001	2659.979998	-0.001
20	2525.999999	-0.001	2659.979997	-0.001
30	2525.999998	-0.001	2659.979997	-0.001
40	2525.999997	-0.001	2659.979997	-0.001
50	2525.999998	-0.001	2659.979998	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n41			
	Channel Bandwidth 80 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	2536.020001	0.001	2649.990001	0.001
7.74	2536.020002	0.001	2649.990003	0.001
6.58	2536.020004	0.002	2649.990003	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n41			
	Channel Bandwidth 80 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	2536.020001	0.000	2649.990002	0.001
-20	2536.020001	0.000	2649.990002	0.001
-10	2536.020001	0.000	2649.990004	0.001
0	2536.020004	0.001	2649.990004	0.001
10	2536.019998	-0.001	2649.989997	-0.001
20	2536.019996	-0.001	2649.989996	-0.001
30	2536.019997	-0.001	2649.989998	-0.001
40	2536.019998	-0.001	2649.989996	-0.001
50	2536.019998	-0.001	2649.989996	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n41			
	Channel Bandwidth 90 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	2541.000002	0.001	2644.980003	0.001
7.74	2541.000002	0.001	2644.980004	0.001
6.58	2541.000002	0.001	2644.980001	0.000

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

Frequency Error vs. Temperature

Temp. (℃)	n41			
	Channel Bandwidth 90 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	2541.000004	0.001	2644.980003	0.001
-20	2541.000002	0.001	2644.980003	0.001
-10	2541.000004	0.002	2644.980003	0.001
0	2541.000001	0.000	2644.980003	0.001
10	2540.999997	-0.001	2644.979997	-0.001
20	2540.999999	0.000	2644.979999	0.000
30	2540.999999	-0.001	2644.979997	-0.001
40	2540.999999	-0.001	2644.979999	0.000
50	2540.999998	-0.001	2644.979997	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n41			
	Channel Bandwidth 100 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	2546.010003	0.001	2640.000002	0.001
7.74	2546.010002	0.001	2640.000004	0.001
6.58	2546.010003	0.001	2640.000004	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n41			
	Channel Bandwidth 100 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	2546.010003	0.001	2640.000003	0.001
-20	2546.010002	0.001	2640.000003	0.001
-10	2546.010001	0.000	2640.000003	0.001
0	2546.010002	0.001	2640.000001	0.000
10	2546.009996	-0.002	2639.999997	-0.001
20	2546.009996	-0.002	2639.999999	-0.001
30	2546.009999	0.000	2639.999998	-0.001
40	2546.009997	-0.001	2639.999996	-0.001
50	2546.009999	-0.001	2639.999997	-0.001

n41, Chain 1

Frequency Error vs. Voltage

Voltage (Vdc)	n41			
	Channel Bandwidth 20 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	2506.020003	0.001	2679.990000	0.001
7.74	2506.020003	0.001	2679.990000	0.000
6.58	2506.020003	0.001	2679.990000	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n41			
	Channel Bandwidth 20 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	2506.020001	0.001	2679.990000	0.001
-20	2506.020002	0.001	2679.990000	0.001
-10	2506.020002	0.001	2679.990000	0.001
0	2506.020004	0.001	2679.990000	0.001
10	2506.020001	0.001	2679.990000	0.001
20	2506.019999	-0.001	2679.990000	-0.001
30	2506.019998	-0.001	2679.990000	-0.001
40	2506.019997	-0.001	2679.990000	-0.001
50	2506.019996	-0.002	2679.990000	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n41			
	Channel Bandwidth 30 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	2511.000002	0.001	2674.980003	0.001
7.74	2511.000003	0.001	2674.980004	0.001
6.58	2511.000004	0.002	2674.980004	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n41			
	Channel Bandwidth 30 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	2516.010002	0.001	2670.000001	0.000
-20	2511.000004	0.002	2674.980003	0.001
-10	2511.000004	0.002	2674.980003	0.001
0	2511.000002	0.001	2674.980002	0.001
10	2511.000003	0.001	2674.980003	0.001
20	2510.999998	-0.001	2674.979999	0.000
30	2510.999998	-0.001	2674.979999	0.000
40	2510.999998	-0.001	2674.979998	-0.001
50	2510.999997	-0.001	2674.979999	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n41			
	Channel Bandwidth 40 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	2516.010003	0.001	2670.000001	0.000
7.74	2516.010003	0.001	2670.000003	0.001
6.58	2516.010004	0.001	2670.000001	0.000

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

Frequency Error vs. Temperature

Temp. (℃)	n41			
	Channel Bandwidth 40 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	2516.010003	0.001	2670.000002	0.001
-20	2516.010001	0.000	2670.000004	0.001
-10	2516.010003	0.001	2670.000002	0.001
0	2516.010002	0.001	2670.000002	0.001
10	2516.010002	0.001	2670.000001	0.000
20	2516.009996	-0.002	2669.999999	-0.001
30	2516.009998	-0.001	2669.999999	0.000
40	2516.009996	-0.002	2669.999998	-0.001
50	2516.009999	0.000	2669.999996	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n41			
	Channel Bandwidth 50 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	2521.020002	0.001	2664.990004	0.001
7.74	2521.020002	0.001	2664.990002	0.001
6.58	2521.020002	0.001	2664.990002	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n41			
	Channel Bandwidth 50 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	2521.020003	0.001	2664.990003	0.001
-20	2521.020002	0.001	2664.990004	0.001
-10	2521.020003	0.001	2664.990001	0.000
0	2521.020004	0.002	2664.990003	0.001
10	2521.020001	0.000	2664.990002	0.001
20	2521.019999	0.000	2664.989996	-0.001
30	2521.019996	-0.001	2664.989999	-0.001
40	2521.019997	-0.001	2664.989998	-0.001
50	2521.019999	-0.001	2664.989999	0.000

Frequency Error vs. Voltage

Voltage (Vdc)	n41			
	Channel Bandwidth 60 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	2526.000001	0.000	2659.980003	0.001
7.74	2526.000004	0.002	2659.980004	0.001
6.58	2526.000002	0.001	2659.980003	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n41			
	Channel Bandwidth 60 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	2526.000003	0.001	2659.980002	0.001
-20	2526.000002	0.001	2659.980003	0.001
-10	2526.000001	0.001	2659.980002	0.001
0	2526.000002	0.001	2659.980002	0.001
10	2526.000002	0.001	2659.980002	0.001
20	2525.999997	-0.001	2659.979996	-0.001
30	2525.999998	-0.001	2659.979999	0.000
40	2525.999999	-0.001	2659.979997	-0.001
50	2525.999997	-0.001	2659.979998	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n41			
	Channel Bandwidth 80 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	2536.020002	0.001	2649.990003	0.001
7.74	2536.020002	0.001	2649.990002	0.001
6.58	2536.020001	0.000	2649.990001	0.000

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

Frequency Error vs. Temperature

Temp. (℃)	n41			
	Channel Bandwidth 80 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	2536.020003	0.001	2649.990002	0.001
-20	2536.020002	0.001	2649.990002	0.001
-10	2536.020001	0.000	2649.990001	0.000
0	2536.020003	0.001	2649.990002	0.001
10	2536.020004	0.002	2649.990001	0.000
20	2536.019997	-0.001	2649.989999	-0.001
30	2536.019999	-0.001	2649.989999	-0.001
40	2536.019998	-0.001	2649.989998	-0.001
50	2536.019998	-0.001	2649.989997	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n41			
	Channel Bandwidth 90 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	2541.000002	0.001	2644.980003	0.001
7.74	2541.000002	0.001	2644.980004	0.001
6.58	2541.000002	0.001	2644.980001	0.000

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

Frequency Error vs. Temperature

Temp. (℃)	n41			
	Channel Bandwidth 90 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	2541.000001	0.000	2659.980003	0.001
-20	2541.000004	0.002	2644.980001	0.001
-10	2541.000002	0.001	2644.980004	0.001
0	2541.000002	0.001	2644.980001	0.000
10	2541.000002	0.001	2644.980003	0.001
20	2540.999997	-0.001	2644.979998	-0.001
30	2540.999998	-0.001	2644.979999	0.000
40	2540.999998	-0.001	2644.979997	-0.001
50	2540.999999	-0.001	2644.979999	0.000

Frequency Error vs. Voltage

Voltage (Vdc)	n41			
	Channel Bandwidth 100 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	2546.010002	0.001	2640.000003	0.001
7.74	2546.010004	0.001	2640.000001	0.000
6.58	2546.010002	0.001	2640.000003	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n41			
	Channel Bandwidth 100 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	2526.000001	0.001	2659.980003	0.001
-20	2546.010004	0.002	2640.000003	0.001
-10	2546.010004	0.001	2640.000002	0.001
0	2546.010003	0.001	2640.000002	0.001
10	2546.010002	0.001	2640.000004	0.001
20	2546.009999	0.000	2639.999999	0.000
30	2546.009996	-0.002	2639.999996	-0.001
40	2546.009997	-0.001	2639.999997	-0.001
50	2546.009997	-0.001	2639.999996	-0.001

n77, Chain 0

Frequency Error vs. Voltage

Voltage (Vdc)	n77			
	Channel Bandwidth 20 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	3710.010002	0.001	3969.990000	0.001
7.74	3710.010004	0.001	3969.990000	0.000
6.58	3710.010001	0.000	3969.990000	0.000

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

Frequency Error vs. Temperature

Temp. (℃)	n77			
	Channel Bandwidth 20 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3710.010003	0.001	3969.990000	0.001
-20	3710.010003	0.001	3969.990000	0.001
-10	3710.010002	0.000	3969.990000	0.001
0	3710.010003	0.001	3969.990000	0.001
10	3710.009998	0.000	3969.990000	0.000
20	3710.009999	0.000	3969.990000	-0.001
30	3710.009998	-0.001	3969.990000	-0.001
40	3710.009998	-0.001	3969.990000	-0.001
50	3710.009998	-0.001	3969.990000	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n77			
	Channel Bandwidth 30 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	3715.020001	0.000	3964.980003	0.001
7.74	3715.020004	0.001	3964.980003	0.001
6.58	3715.020002	0.000	3964.980001	0.000

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

Frequency Error vs. Temperature

Temp. (℃)	n77			
	Channel Bandwidth 30 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3715.020004	0.001	3964.980001	0.000
-20	3715.020003	0.001	3964.980003	0.001
-10	3715.020003	0.001	3964.980003	0.001
0	3715.020004	0.001	3964.980001	0.000
10	3715.019997	-0.001	3964.979996	-0.001
20	3715.019996	-0.001	3964.979998	0.000
30	3715.019996	-0.001	3964.979999	0.000
40	3715.019998	0.000	3964.979996	-0.001
50	3715.019998	-0.001	3964.979997	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n77			
	Channel Bandwidth 40 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	3720.000002	0.001	3960.000004	0.001
7.74	3720.000003	0.001	3960.000003	0.001
6.58	3720.000001	0.000	3960.000002	0.000

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

Frequency Error vs. Temperature

Temp. (℃)	n77			
	Channel Bandwidth 40 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3720.000003	0.001	3960.000003	0.001
-20	3720.000001	0.000	3960.000004	0.001
-10	3720.000003	0.001	3960.000002	0.001
0	3720.000003	0.001	3960.000002	0.000
10	3719.999996	-0.001	3959.999996	-0.001
20	3719.999997	-0.001	3959.999998	0.000
30	3719.999998	-0.001	3959.999997	-0.001
40	3719.999998	0.000	3959.999998	0.000
50	3719.999998	-0.001	3959.999997	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n77			
	Channel Bandwidth 50 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	3725.010002	0.000	3954.990004	0.001
7.74	3725.010002	0.001	3954.990001	0.000
6.58	3725.010002	0.001	3954.990003	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n77			
	Channel Bandwidth 50 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3725.010002	0.001	3954.990002	0.001
-20	3725.010003	0.001	3954.990002	0.000
-10	3725.010003	0.001	3954.990003	0.001
0	3725.010001	0.000	3954.990002	0.001
10	3725.009998	-0.001	3954.989998	-0.001
20	3725.009998	-0.001	3954.989997	-0.001
30	3725.009997	-0.001	3954.989997	-0.001
40	3725.009998	-0.001	3954.989996	-0.001
50	3725.009998	0.000	3954.989996	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n77			
	Channel Bandwidth 60 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	3730.020003	0.001	3949.980001	0.000
7.74	3730.020003	0.001	3949.980003	0.001
6.58	3730.020003	0.001	3949.980004	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n77			
	Channel Bandwidth 60 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3730.020002	0.000	3949.980003	0.001
-20	3730.020001	0.000	3949.980004	0.001
-10	3730.020003	0.001	3949.980002	0.000
0	3730.020003	0.001	3949.980004	0.001
10	3730.019998	-0.001	3949.979996	-0.001
20	3730.019998	-0.001	3949.979997	-0.001
30	3730.019997	-0.001	3949.979997	-0.001
40	3730.019998	-0.001	3949.979996	-0.001
50	3730.019996	-0.001	3949.979999	0.000

Frequency Error vs. Voltage

Voltage (Vdc)	n77			
	Channel Bandwidth 70 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	3735.000003	0.001	3945.000003	0.001
7.74	3735.000004	0.001	3945.000002	0.000
6.58	3735.000002	0.001	3945.000003	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n77			
	Channel Bandwidth 70 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3735.000002	0.000	3945.000002	0.000
-20	3735.000003	0.001	3945.000002	0.000
-10	3735.000003	0.001	3945.000002	0.001
0	3735.000003	0.001	3945.000003	0.001
10	3734.999998	0.000	3944.999998	-0.001
20	3734.999999	0.000	3944.999997	-0.001
30	3734.999996	-0.001	3944.999998	-0.001
40	3734.999998	-0.001	3944.999997	-0.001
50	3734.999996	-0.001	3944.999999	0.000

Frequency Error vs. Voltage

Voltage (Vdc)	n77			
	Channel Bandwidth 80 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	3740.010002	0.001	3939.990001	0.000
7.74	3740.010002	0.001	3939.990002	0.001
6.58	3740.010002	0.001	3939.990003	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n77			
	Channel Bandwidth 80 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3740.010004	0.001	3939.990004	0.001
-20	3740.010002	0.001	3939.990002	0.001
-10	3740.010002	0.001	3939.990001	0.000
0	3740.010003	0.001	3939.990002	0.001
10	3740.009999	0.000	3939.989998	0.000
20	3740.009997	-0.001	3939.989999	0.000
30	3740.009998	-0.001	3939.989997	-0.001
40	3740.009997	-0.001	3939.989999	0.000
50	3740.009996	-0.001	3939.989998	0.000

Frequency Error vs. Voltage

Voltage (Vdc)	n77			
	Channel Bandwidth 90 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	3745.020004	0.001	3934.980002	0.000
7.74	3745.020002	0.001	3934.980003	0.001
6.58	3745.020004	0.001	3934.980002	0.000

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

Frequency Error vs. Temperature

Temp. (℃)	n77			
	Channel Bandwidth 90 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3745.020004	0.001	3934.980001	0.001
-20	3745.020004	0.001	3934.980001	0.000
-10	3745.020002	0.001	3934.980002	0.001
0	3745.020003	0.001	3934.980001	0.000
10	3745.019998	0.000	3934.979997	-0.001
20	3745.019997	-0.001	3934.979998	0.000
30	3745.019997	-0.001	3934.979997	-0.001
40	3745.019997	-0.001	3934.979998	0.000
50	3745.019999	0.000	3934.979999	0.000

Frequency Error vs. Voltage

Voltage (Vdc)	n77			
	Channel Bandwidth 100 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	3750.000003	0.001	3930.000004	0.001
7.74	3750.000003	0.001	3930.000002	0.001
6.58	3750.000003	0.001	3930.000004	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n77			
	Channel Bandwidth 100 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3750.000002	0.001	3930.000003	0.001
-20	3750.000002	0.001	3930.000003	0.001
-10	3750.000004	0.001	3930.000003	0.001
0	3750.000003	0.001	3930.000003	0.001
10	3749.999997	-0.001	3929.999998	0.000
20	3749.999997	-0.001	3929.999997	-0.001
30	3749.999999	0.000	3929.999999	0.000
40	3749.999997	-0.001	3929.999999	0.000
50	3749.999996	-0.001	3929.999998	-0.001

n77, Chain 1

Frequency Error vs. Voltage

Voltage (Vdc)	n77			
	Channel Bandwidth 20 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	3710.010002	0.001	3969.990000	0.000
7.74	3710.010002	0.001	3969.990000	0.000
6.58	3710.010004	0.001	3969.990000	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n77			
	Channel Bandwidth 20 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3710.010004	0.001	3969.990000	0.000
-20	3710.010003	0.001	3969.990000	0.001
-10	3710.010003	0.001	3969.990000	0.001
0	3710.010002	0.001	3969.990000	0.001
10	3710.010003	0.001	3969.990000	0.000
20	3710.009998	-0.001	3969.990000	-0.001
30	3710.009999	0.000	3969.990000	-0.001
40	3710.009997	-0.001	3969.990000	-0.001
50	3710.009997	-0.001	3969.990000	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n77			
	Channel Bandwidth 30 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	3715.020003	0.001	3964.980000	0.001
7.74	3715.020002	0.000	3964.980000	0.001
6.58	3715.020002	0.001	3964.980000	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n77			
	Channel Bandwidth 30 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3715.020003	0.001	3964.980000	0.001
-20	3715.020003	0.001	3964.980000	0.001
-10	3715.020003	0.001	3964.980000	0.001
0	3715.020003	0.001	3964.980000	0.001
10	3715.020003	0.001	3964.980000	0.000
20	3715.019999	0.000	3964.980000	-0.001
30	3715.019996	-0.001	3964.980000	-0.001
40	3715.019998	-0.001	3964.980000	-0.001
50	3715.019998	-0.001	3964.980000	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n77			
	Channel Bandwidth 40 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	3720.000003	0.001	3960.000002	0.000
7.74	3720.000003	0.001	3960.000004	0.001
6.58	3720.000003	0.001	3960.000003	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n77			
	Channel Bandwidth 40 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3720.000002	0.001	3960.000002	0.001
-20	3720.000003	0.001	3960.000002	0.001
-10	3720.000004	0.001	3960.000001	0.000
0	3720.000001	0.000	3960.000003	0.001
10	3720.000001	0.000	3960.000003	0.001
20	3719.999997	-0.001	3959.999998	-0.001
30	3719.999999	0.000	3959.999997	-0.001
40	3719.999997	-0.001	3959.999999	0.000
50	3719.999997	-0.001	3959.999997	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n77			
	Channel Bandwidth 50 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	3725.010002	0.000	3954.990003	0.001
7.74	3725.010004	0.001	3954.990004	0.001
6.58	3725.010003	0.001	3954.990002	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n77			
	Channel Bandwidth 50 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3725.010003	0.001	3954.990003	0.001
-20	3725.010003	0.001	3954.990003	0.001
-10	3725.010002	0.001	3954.990002	0.001
0	3725.010003	0.001	3954.990001	0.000
10	3725.010001	0.000	3954.990003	0.001
20	3725.009998	-0.001	3954.989996	-0.001
30	3725.009998	-0.001	3954.989998	0.000
40	3725.009998	-0.001	3954.989999	0.000
50	3725.009998	0.000	3954.989997	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n77			
	Channel Bandwidth 60 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	3730.020002	0.001	3949.980002	0.000
7.74	3730.020001	0.000	3949.980004	0.001
6.58	3730.020003	0.001	3949.980003	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n77			
	Channel Bandwidth 60 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3730.020003	0.001	3949.980002	0.000
-20	3730.020004	0.001	3949.980002	0.000
-10	3730.020003	0.001	3949.980002	0.000
0	3730.020002	0.001	3949.980002	0.000
10	3730.020003	0.001	3949.980001	0.000
20	3730.019998	-0.001	3949.979996	-0.001
30	3730.019997	-0.001	3949.979999	0.000
40	3730.019997	-0.001	3949.979997	-0.001
50	3730.019998	-0.001	3949.979996	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n77			
	Channel Bandwidth 70 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	3735.000003	0.001	3945.000002	0.000
7.74	3735.000003	0.001	3945.000003	0.001
6.58	3735.000003	0.001	3945.000002	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n77			
	Channel Bandwidth 70 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3735.000002	0.001	3945.000003	0.001
-20	3735.000004	0.001	3945.000003	0.001
-10	3735.000002	0.001	3945.000003	0.001
0	3735.000001	0.000	3945.000002	0.001
10	3735.000002	0.001	3945.000001	0.000
20	3734.999996	-0.001	3944.999998	-0.001
30	3734.999997	-0.001	3944.999998	0.000
40	3734.999999	0.000	3944.999998	-0.001
50	3734.999997	-0.001	3944.999996	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n77			
	Channel Bandwidth 80 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	3740.010003	0.001	3939.990001	0.000
7.74	3740.010002	0.000	3939.990002	0.000
6.58	3740.010003	0.001	3939.990004	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n77			
	Channel Bandwidth 80 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3740.010004	0.001	3939.990002	0.001
-20	3740.010004	0.001	3939.990002	0.001
-10	3740.010002	0.001	3939.990003	0.001
0	3740.010004	0.001	3939.990004	0.001
10	3740.010002	0.000	3939.990002	0.001
20	3740.009997	-0.001	3939.989997	-0.001
30	3740.009998	-0.001	3939.989998	-0.001
40	3740.009997	-0.001	3939.989998	-0.001
50	3740.009998	0.000	3939.989996	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n77			
	Channel Bandwidth 90 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	3745.020003	0.001	3934.980002	0.001
7.74	3745.020003	0.001	3934.980004	0.001
6.58	3745.020002	0.000	3934.980003	0.001

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

Frequency Error vs. Temperature

Temp. (℃)	n77			
	Channel Bandwidth 90 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3730.020003	0.001	3949.980004	0.001
-20	3745.020001	0.000	3934.980003	0.001
-10	3745.020002	0.000	3934.980003	0.001
0	3745.020003	0.001	3934.980002	0.000
10	3745.020001	0.000	3934.980001	0.000
20	3745.019998	0.000	3934.979999	0.000
30	3745.019999	0.000	3934.979997	-0.001
40	3745.019999	0.000	3934.979997	-0.001
50	3745.019998	0.000	3934.979996	-0.001

Frequency Error vs. Voltage

Voltage (Vdc)	n77			
	Channel Bandwidth 100 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
8.90	3750.000002	0.000	3930.000004	0.001
7.74	3750.000002	0.001	3930.000001	0.000
6.58	3750.000001	0.000	3930.000002	0.000

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

Frequency Error vs. Temperature

Temp. (℃)	n77			
	Channel Bandwidth 100 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3730.020004	0.001	3949.980003	0.001
-20	3750.000003	0.001	3930.000002	0.001
-10	3750.000003	0.001	3930.000002	0.001
0	3750.000003	0.001	3930.000004	0.001
10	3750.000001	0.000	3930.000003	0.001
20	3749.999999	0.000	3929.999996	-0.001
30	3749.999997	-0.001	3929.999998	-0.001
40	3749.999996	-0.001	3929.999997	-0.001
50	3749.999998	-0.001	3929.999998	0.000

4.4 Occupied Bandwidth Measurement

4.4.1 Limits of Occupied Bandwidth Measurement

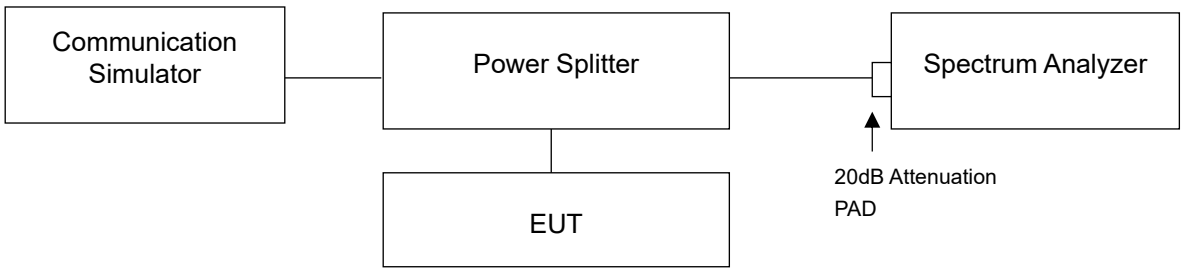
The occupied bandwidth (OBW), that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission.

4.4.2 Test 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.

4.4.3 Test Setup



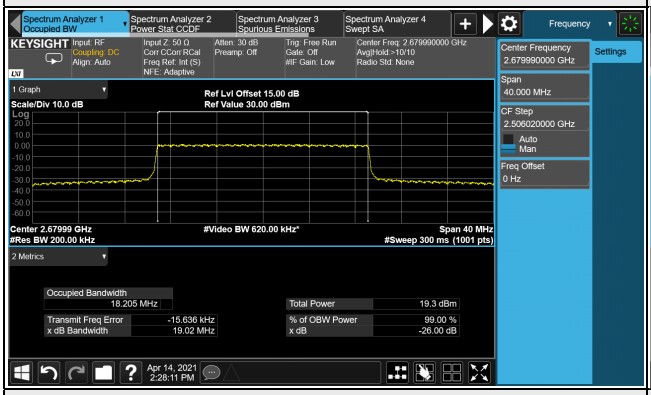
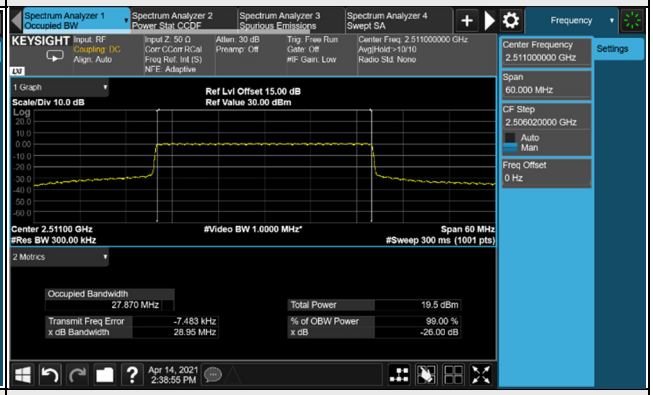
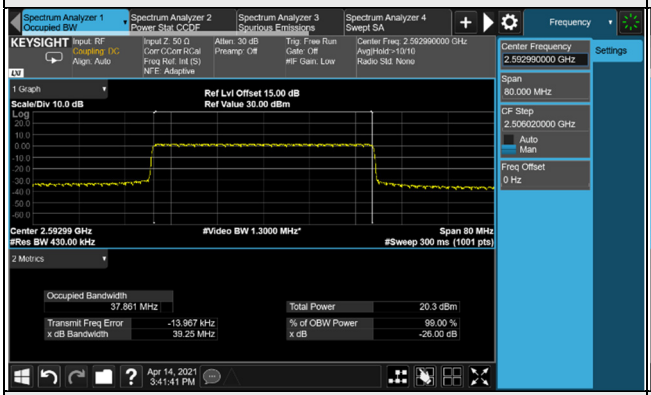
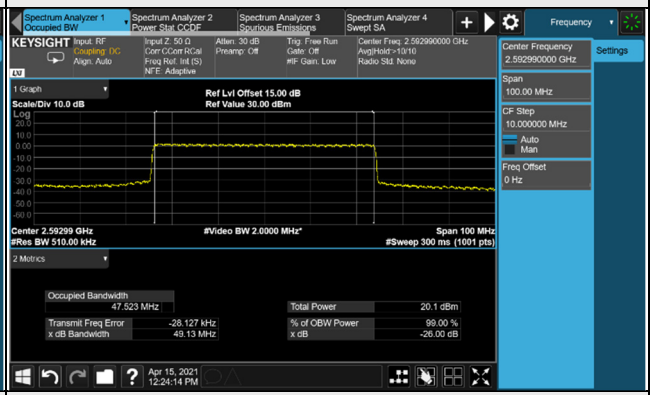
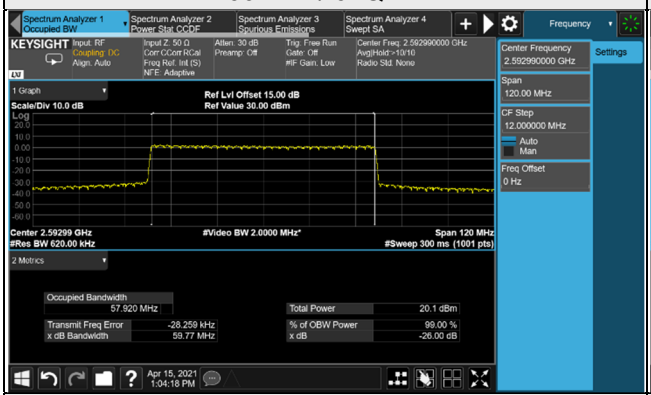
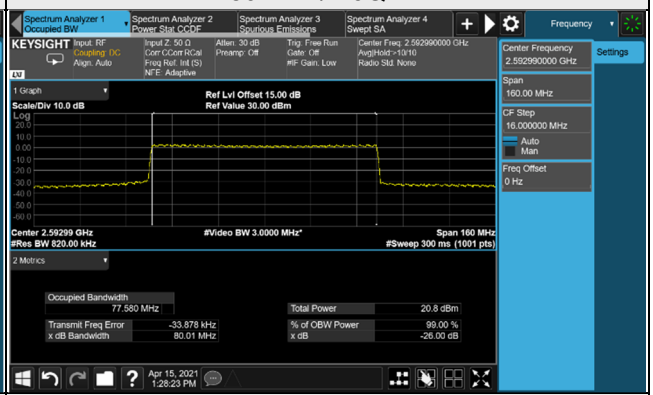
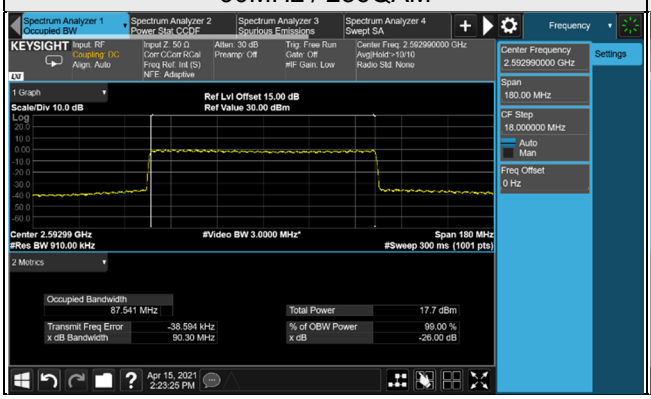
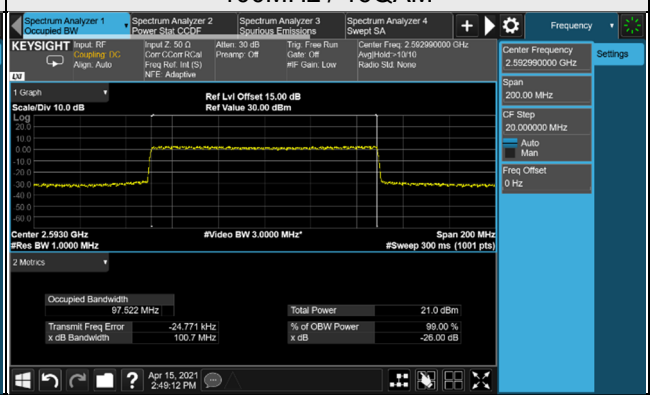
4.4.4 Test Result

Occupied Bandwidth

n41, Chain 0

n41, Channel Bandwidth 20MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
501204	2506.02	18.19	18.20	18.18	18.19
518598	2592.99	18.20	18.19	18.19	18.18
535998	2679.99	18.20	18.21	18.20	18.18
n41, Channel Bandwidth 30MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
502200	2511.00	27.85	27.87	27.87	27.84
518598	2592.99	27.84	27.82	27.81	27.85
534996	2674.98	27.82	27.83	27.85	27.80
n41, Channel Bandwidth 40MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
503202	2516.01	37.85	37.82	37.83	37.83
518598	2592.99	37.86	37.81	37.82	37.79
534000	2670.00	37.78	37.76	37.77	37.75
n41, Channel Bandwidth 50MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
504204	2521.02	47.47	47.42	47.48	47.49
518598	2592.99	47.52	47.51	47.52	47.50
532998	2664.99	47.42	47.40	47.44	47.41
n41, Channel Bandwidth 60MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
505200	2526.00	57.72	57.80	57.69	57.69
518598	2592.99	57.91	57.85	57.92	57.78
531996	2659.98	57.69	57.78	57.63	57.73

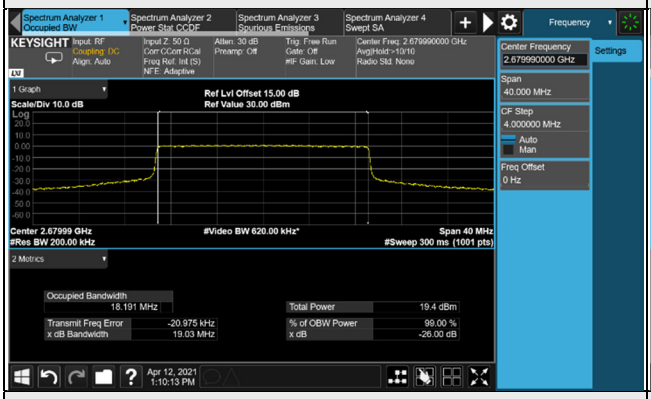
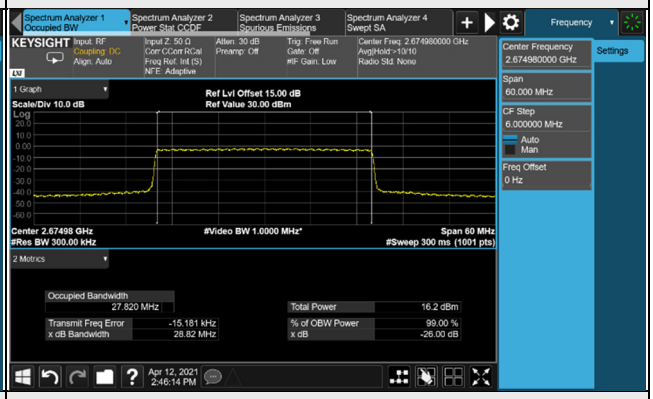
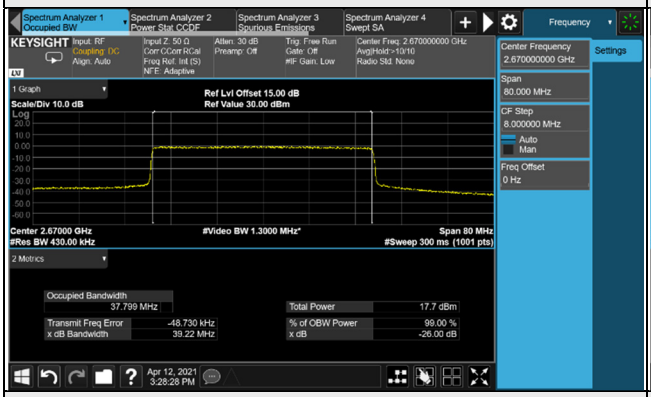
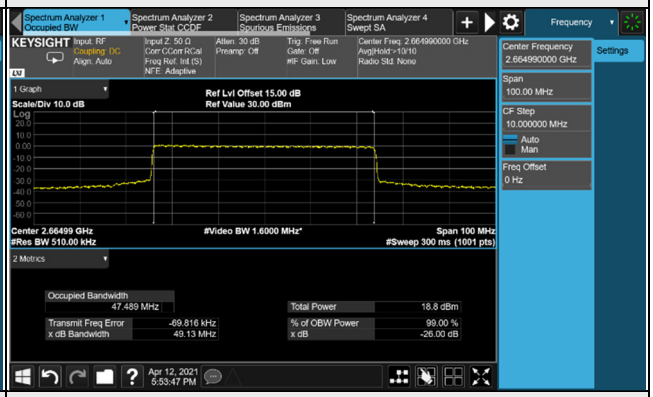
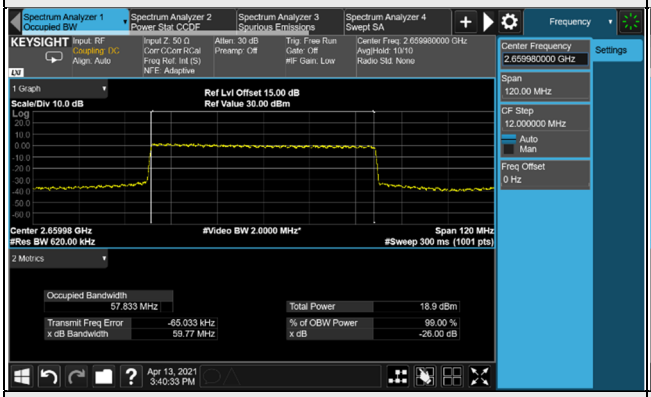
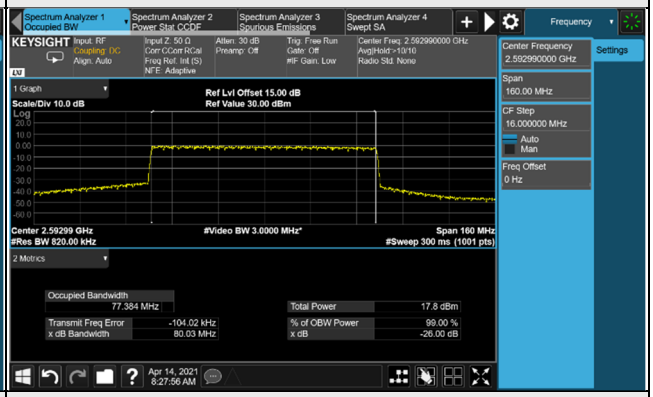
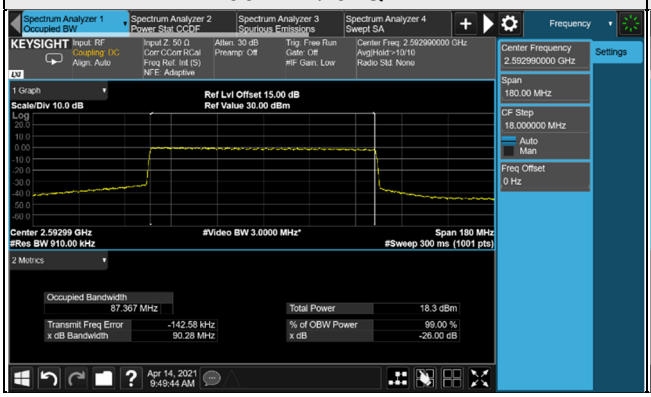
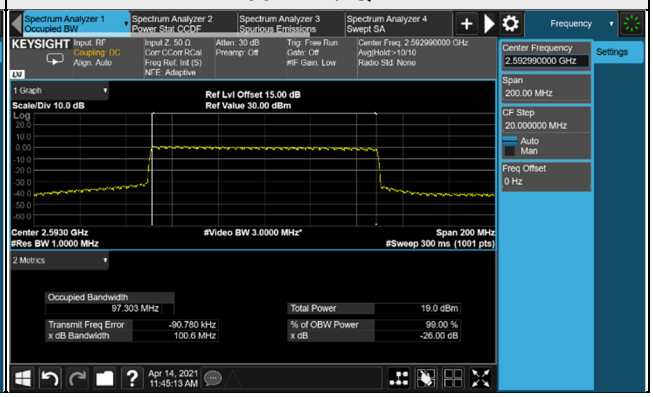
n41, Channel Bandwidth 80MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
507204	2536.02	77.25	77.19	77.26	77.16
518598	2592.99	77.50	77.58	77.53	77.44
529998	2649.99	77.24	77.28	77.14	77.10
n41, Channel Bandwidth 90MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
508200	2541.00	87.11	87.11	87.07	87.13
518598	2592.99	87.49	87.51	87.48	87.54
528996	2644.98	87.17	87.12	87.18	87.15
n41, Channel Bandwidth 100MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
509202	2546.01	96.99	97.08	96.97	96.94
518598	2592.99	97.42	97.52	97.48	97.41
528000	2640.00	97.12	97.14	97.07	97.10

Spectrum Plot of Worst Value	
20MHz / 16QAM	30MHz / 16QAM
	
40MHz / QPSK	50MHz / 64QAM
	
60MHz / 64QAM	80MHz / 16QAM
	
90MHz / 256QAM	100MHz / 16QAM
	

n41, Chain 1

n41, Channel Bandwidth 20MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
501204	2506.02	18.17	18.17	18.17	18.16
518598	2592.99	18.18	18.17	18.17	18.17
535998	2679.99	18.18	18.19	18.18	18.17
n41, Channel Bandwidth 30MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
502200	2511.00	27.78	27.76	27.78	27.77
518598	2592.99	27.81	27.77	27.78	27.80
534996	2674.98	27.79	27.77	27.77	27.82
n41, Channel Bandwidth 40MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
503202	2516.01	37.72	37.71	37.70	37.70
518598	2592.99	37.79	37.74	37.76	37.76
534000	2670.00	37.78	37.79	37.76	37.78
n41, Channel Bandwidth 50MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
504204	2521.02	47.35	47.35	47.33	47.34
518598	2592.99	47.42	47.43	47.40	47.38
532998	2664.99	47.48	47.48	47.47	47.46
n41, Channel Bandwidth 60MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
505200	2526.00	57.56	57.53	57.67	57.58
518598	2592.99	57.69	57.63	57.79	57.66
531996	2659.98	57.83	57.72	57.73	57.77

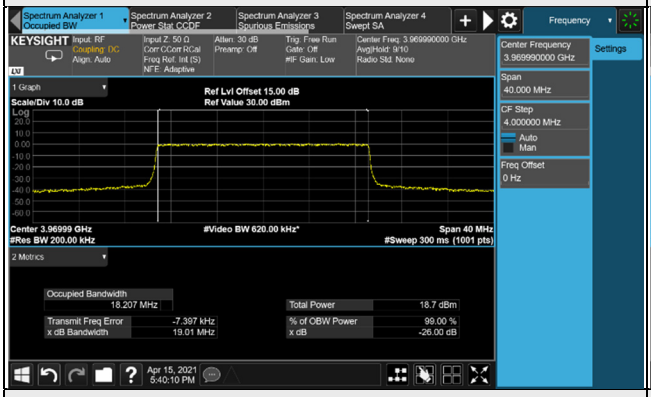
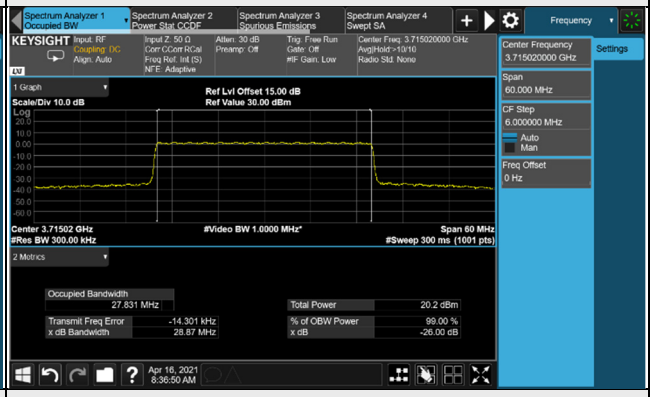
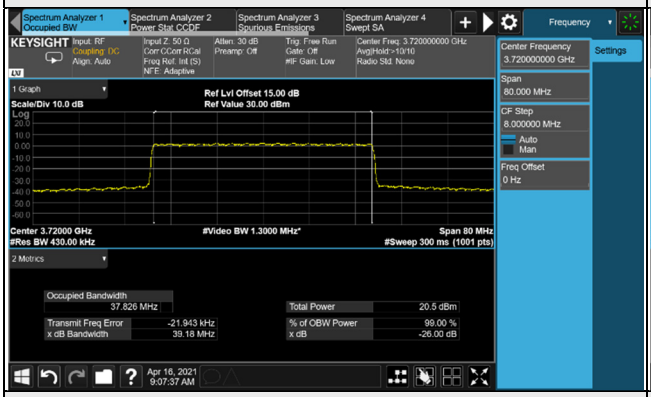
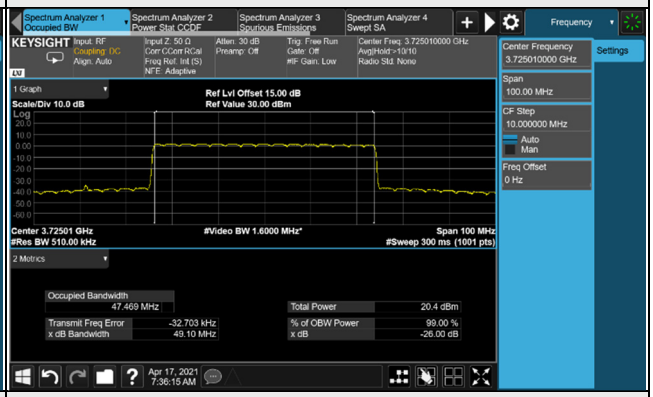
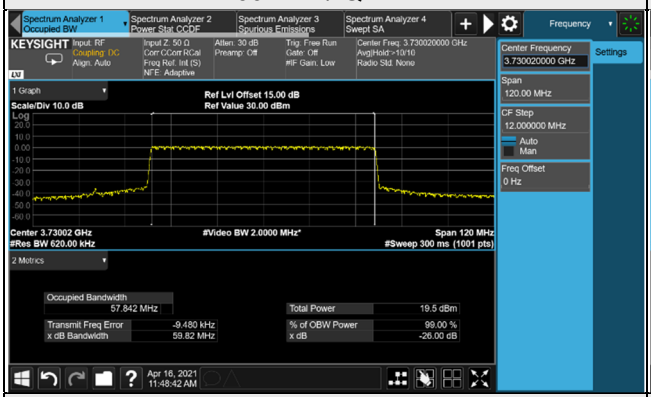
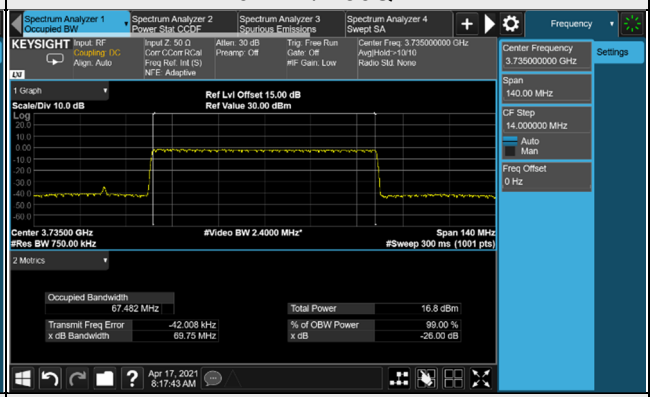
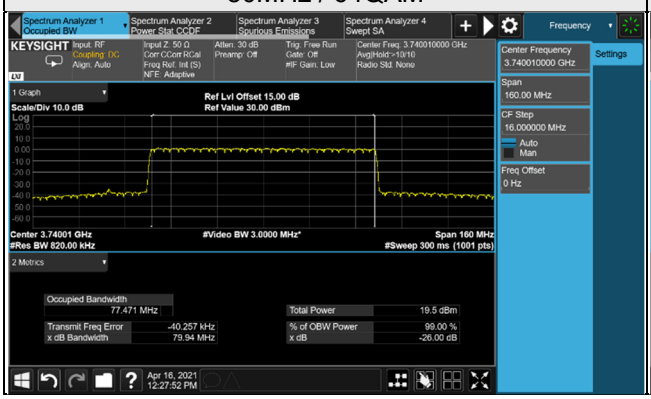
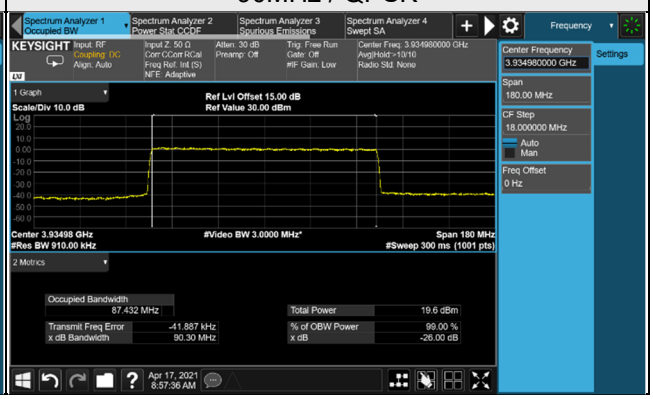
n41, Channel Bandwidth 80MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
507204	2536.02	77.12	77.07	77.15	77.11
518598	2592.99	77.28	77.26	77.38	77.27
529998	2649.99	77.23	77.29	77.28	77.17
n41, Channel Bandwidth 90MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
508200	2541.00	87.07	87.14	86.98	87.01
518598	2592.99	87.34	87.33	87.36	87.26
528996	2644.98	87.15	87.19	87.21	87.13
n41, Channel Bandwidth 100MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
509202	2546.01	97.03	96.97	97.01	97.05
518598	2592.99	97.30	97.21	97.22	97.27
528000	2640.00	97.11	97.13	97.08	97.03

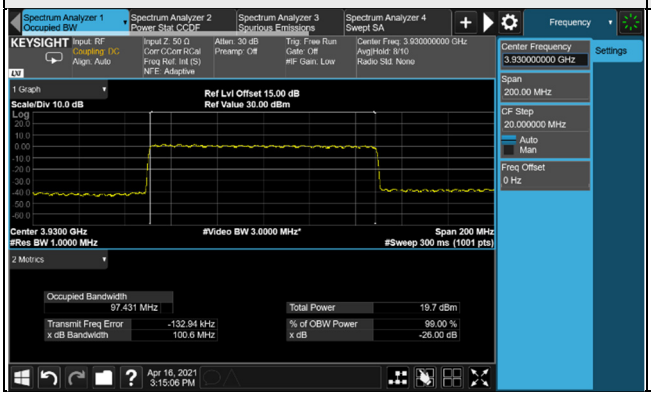
Spectrum Plot of Worst Value	
20MHz / 16QAM	30MHz / 256QAM
	
40MHz / 16QAM	50MHz / 16QAM
	
60MHz / QPSK	80MHz / 64QAM
	
90MHz / 64QAM	100MHz / QPSK
	

n77, Chain 0

n77, Channel Bandwidth 20MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
647334	3710.01	18.19	18.20	18.19	18.20
656000	3840.00	18.19	18.20	18.19	18.20
664666	3969.99	18.20	18.21	18.19	18.20
n77, Channel Bandwidth 30MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
647668	3715.02	27.79	27.80	27.83	27.80
656000	3840.00	27.82	27.81	27.79	27.81
664332	3964.98	27.79	27.80	27.82	27.82
n77, Channel Bandwidth 40MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
648000	3720.00	37.82	37.83	37.82	37.78
656000	3840.00	37.80	37.79	37.81	37.81
664000	3960.00	37.79	37.80	37.80	37.80
n77, Channel Bandwidth 50MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
648334	3725.01	47.43	47.47	47.39	47.36
656000	3840.00	47.46	47.43	47.45	47.43
663666	3954.99	47.43	47.43	47.41	47.42
n77, Channel Bandwidth 60MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
648668	3730.02	57.84	57.69	57.78	57.73
656000	3840.00	57.83	57.76	57.82	57.78
663332	3949.98	57.78	57.79	57.80	57.77

n77, Channel Bandwidth 70MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
649000	3735.00	67.44	67.38	67.32	67.48
656000	3840.00	67.44	67.42	67.45	67.41
663000	3945.00	67.43	67.44	67.44	67.42
n77, Channel Bandwidth 80MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
649334	3740.01	77.39	77.42	77.47	77.33
656000	3840.00	77.29	77.38	77.37	77.35
662666	3939.99	77.38	77.37	77.39	77.38
n77, Channel Bandwidth 90MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
649558	3745.02	87.39	87.28	87.37	87.29
656000	3840.00	87.36	87.38	87.40	87.41
662332	3934.98	87.43	87.34	87.32	87.41
n77, Channel Bandwidth 100MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
650000	3750.00	97.29	97.32	97.27	97.27
656000	3840.00	97.37	97.29	97.30	97.27
662000	3930.00	97.43	97.39	97.37	97.33

Spectrum Plot of Worst Value	
20MHz / 16QAM	30MHz / 64QAM
	
40MHz / 16QAM	50MHz / 16QAM
	
60MHz / QPSK	70MHz / 256QAM
	
80MHz / 64QAM	90MHz / QPSK
	

100MHz / QPSK	
 Spectrum Analyzer 1 Occupied BW Spectrum Analyzer 2 Power Stat CCDF Spectrum Analyzer 3 Spurious Emissions Spectrum Analyzer 4 Swept SA Frequency KEYSIGHT Input: RF Coupling: DC Align: Auto Input Z: 50 Ω Corr CCorr RCal Freq Ref: Int (S) NFE: Adaptive Atten: 30 dB Preamp: Off Trig: Free Run Gate: Off #IF Gain: Low Center Freq: 3.930000000 GHz Avg|Hold: 8/10 Radio Std: None Center Frequency 3.930000000 GHz Settings Span 200.00 MHz CF Step 20.000000 MHz Auto Man Freq Offset 0 Hz 1 Graph Ref Lvl Offset 15.00 dB Scale/Div 10.0 dB Ref Value 30.00 dBm Log 20.0 10.0 0.00 -10.0 -20.0 -30.0 -40.0 -50.0 -60.0 Center 3.9300 GHz #Video BW 3.0000 MHz* Span 200 MHz #Res BW 1.0000 MHz #Sweep 300 ms (1001 pts) 2 Metrics Occupied Bandwidth 97.431 MHz Total Power 19.7 dBm Transmit Freq Error -132.94 kHz % of OBW Power 99.00 % x dB Bandwidth 100.6 MHz x dB -26.00 dB Apr 16, 2021 3:15:06 PM	

n77, Chain 1

n77, Channel Bandwidth 20MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
647334	3710.01	18.19	18.21	18.20	18.19
656000	3840.00	18.20	18.20	18.19	18.19
664666	3969.99	18.19	18.19	18.19	18.19
n77, Channel Bandwidth 30MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
647668	3715.02	27.84	27.81	27.84	27.83
656000	3840.00	27.82	27.81	27.80	27.79
664332	3964.98	27.81	27.80	27.81	27.80
n77, Channel Bandwidth 40MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
648000	3720.00	37.82	37.81	37.81	37.83
656000	3840.00	37.79	37.80	37.79	37.79
664000	3960.00	37.81	37.79	37.78	37.80
n77, Channel Bandwidth 50MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
648334	3725.01	47.47	47.40	47.48	47.39
656000	3840.00	47.43	47.45	47.44	47.42
663666	3954.99	47.46	47.43	47.43	47.43
n77, Channel Bandwidth 60MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
648668	3730.02	57.71	57.78	57.83	57.80
656000	3840.00	57.81	57.78	57.81	57.80
663332	3949.98	57.75	57.75	57.78	57.79

n77, Channel Bandwidth 70MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
649000	3735.00	67.50	67.46	67.49	67.45
656000	3840.00	67.42	67.44	67.43	67.41
663000	3945.00	67.41	67.40	67.40	67.37
n77, Channel Bandwidth 80MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
649334	3740.01	77.43	77.28	77.47	77.38
656000	3840.00	77.40	77.35	77.50	77.42
662666	3939.99	77.41	77.38	77.41	77.41
n77, Channel Bandwidth 90MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
649558	3745.02	87.28	87.39	87.41	87.41
656000	3840.00	87.41	87.34	87.32	87.44
662332	3934.98	87.41	87.44	87.33	87.37
n77, Channel Bandwidth 100MHz					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)			
		QPSK	16QAM	64QAM	256QAM
650000	3750.00	97.33	97.41	97.48	97.37
656000	3840.00	97.36	97.34	97.41	97.47
662000	3930.00	97.33	97.45	97.38	97.42