

FCC Test Report (Part 96)

Report No.: RFBHQN-WTW-P20120273-4

FCC ID: MCLT77W968

Test Model: T77W968

Received Date: Dec. 09, 2020

Test Date: Dec. 22, 2020 to Jan. 28, 2021

Issued Date: Apr. 08, 2021

Applicant: HON HAI PRECISION IND. CO., LTD.

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R.O.C.

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Hsin Chu Laboratory

Lab Address: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
Taiwan

Test Location : E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
Taiwan

**FCC Registration /
Designation Number:** 723255 / TW2022



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Release Control Record

Issue No.	Description	Date Issued
RFBHQN-WTW-P20120273-4	Original release.	Apr. 08, 2021

1 Certificate of Conformity

Product: LTE M.2 Module
Brand: FOXCONN
Test Model: T77W968
Sample Status: Engineering sample
Applicant: HON HAI PRECISION IND. CO., LTD.
Test Date: Dec. 22, 2020 to Jan. 28, 2021
Standards: 47 CFR FCC Part 96, Subpart E

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 :  , **Date:** Apr. 08, 2021
Claire Kuan / Specialist

Approved by :  , **Date:** Apr. 08, 2021
Clark Lin / Technical Manager

2 Summary of Test Results

47 CFR FCC Part 96			
FCC Clause	Test Item	Result	Remarks
2.1046 96.41(b)	Maximum Peak Output Power and Maximum EIRP	Pass	Meet the requirement of limit.
2.1047 96.41(a)	Modulation characteristics	Pass	Meet the requirement.
96.41(g)	Peak to Average Ratio	Pass	Meet the requirement of limit.
2.1049	Emission Bandwidth	Pass	Meet the requirement of limit.
2.1055	Frequency Stability	Pass	Meet the requirement of limit.
2.1051 96.41(e)	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
2.1053 96.41(e)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -21.22dB at 16312.5MHz.

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) (\pm)
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.1 dB
	30MHz ~ 1GHz	5.4 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	5.0 dB
	18GHz ~ 40GHz	5.3 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	LTE M.2 Module		
Brand	FOXCONN		
Test Model	T77W968		
Status of EUT	Engineering sample		
Power Supply Rating	DC 3.3V from host equipment		
Modulation Type	QPSK, 16QAM, 64QAM		
Operating Frequency	LTE Band 42	TX: 3552.5 ~ 3597.5 MHz	
		RX: 3552.5 ~ 3597.5 MHz	
	LTE Band 48	TX: 3552.5 ~ 3697.5 MHz	
		RX: 3552.5 ~ 3697.5 MHz	
Channel Bandwidth	5MHz, 10MHz, 15MHz & 20MHz		
Max. EIRP Power (dBm/10MHz)	LTE Band 42	Channel Bandwidth 5MHz	22.79 dBm
		Channel Bandwidth 10MHz	22.93 dBm
		Channel Bandwidth 15MHz	22.90 dBm
		Channel Bandwidth 20MHz	22.93 dBm
	LTE Band 48	Channel Bandwidth 5MHz	22.84 dBm
		Channel Bandwidth 10MHz	22.93 dBm
		Channel Bandwidth 15MHz	22.97 dBm
		Channel Bandwidth 20MHz	22.94 dBm
Max. EIRP Power (Full Power)	LTE Band 42	Channel Bandwidth 5MHz	22.79 dBm
		Channel Bandwidth 10MHz	22.93 dBm
		Channel Bandwidth 15MHz	22.96 dBm
		Channel Bandwidth 20MHz	22.96 dBm
	LTE Band 48	Channel Bandwidth 5MHz	22.84 dBm
		Channel Bandwidth 10MHz	22.93 dBm
		Channel Bandwidth 15MHz	22.99 dBm
		Channel Bandwidth 20MHz	22.98 dBm

Emission Designator	LTE Band 42	Channel Bandwidth 5MHz	QPSK: 4M48G7D
			16QAM: 4M48D7W
			64QAM: 4M48D7W
		Channel Bandwidth 10MHz	QPSK: 8M96G7D
			16QAM: 8M96D7W
			64QAM: 8M94D7W
		Channel Bandwidth 15MHz	QPSK: 13M4G7D
			16QAM: 13M4D7W
			64QAM: 13M4D7W
		Channel Bandwidth 20MHz	QPSK: 17M9G7D
			16QAM: 17M8D7W
			64QAM: 17M8D7W
	LTE Band 48	Channel Bandwidth 5MHz	QPSK: 4M47G7D
			16QAM: 4M48D7W
			64QAM: 4M47D7W
		Channel Bandwidth 10MHz	QPSK: 8M94G7D
16QAM: 8M96D7W			
64QAM: 8M94D7W			
Channel Bandwidth 15MHz		QPSK: 13M4G7D	
		16QAM: 13M4D7W	
		64QAM: 13M4D7W	
Channel Bandwidth 20MHz		QPSK: 17M9G7D	
		16QAM: 17M8D7W	
		64QAM: 17M8D7W	
Antenna Type	Refer to Note		
Antenna Connector	Refer to Note		
Accessory Device	NA		
Data Cable Supplied	NA		

Note:

- This report is prepared for FCC Class II permissive change. The difference compared with the original report is as the following information:
 - ◆ Added the LTE Band 42, LTE Band 42C and LTE Band 48.
- According to above condition, all test items need to be performed. And all data are verified to meet the requirements. Only LTE Band 42 and LTE Band 48 test data was records this test report, for LTE Band 42C test data refer to the other test report (Report No.: RFBHQN-WTW-P20120273-5)
- The EUT incorporates a 1T4R function.

4. The antennas provided to the EUT, please refer to the following table:

Antenna No.	Antenna Net Gain(dBi)	Frequency range (MHz)	Antenna Type	Connecter Type	Cable Length
1	Please refer to below table	699~803	PIFA	i-pex(MHF)	100mm
2	Please refer to below table	791~960 1447.9~1606	PIFA	i-pex(MHF)	100mm
3	Please refer to below table	1710~2170 2500~2690	PIFA	i-pex(MHF)	100mm
4	Please refer to below table	5110~5925 (for LAA RX)	PIFA	i-pex(MHF)	100mm
5	Please refer to below table	2305~2315	Dipole	i-pex(MHF)	80mm
6	Please refer to below table	3500~3700	PCB	i-pex(MHF)	100mm

Antenna gain list

Antenna No.	Band	Freq. Range (MHz)	Gain (dBi)
3	WCDMA II (B2)	1850~1910	4.92
3	WCDMA IV (B4)	1710~1755	5.99
2	WCDMA V (B5)	824~849	2.68
3	LTE Band (2)	1850~1910	4.92
3	LTE Band (4)	1710~1755	5.99
2	LTE Band (5)	824~849	2.68
3	LTE Band (7)	2500~2570	5.2
1	LTE Band (12)	698~716	4.17
1	LTE Band (13)	777~787	3.05
1	LTE Band (14)	788~798	2.87
1	LTE Band (17)	704~716	4.17
3	LTE Band (25)	1850~1915	4.92
2	LTE Band (26)	814~849	2.92
5	LTE Band (30)	2305~2315	3.02
3	LTE Band (38)	2570~2620	4.82
3	LTE Band (41)	2496~2690	5.38
6	LTE Band (42)	3550~3700	0.92
6	LTE Band (48)	3550~3700	0.92
3	LTE Band (66)	1710~1780	5.99

5. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

6. 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 Test Mode Applicability and Tested Channel Detail

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports

The worst case was found when positioned on X-plane. Following channel(s) was (were) selected for the final test as listed below:

Band 42

Test Item	Available Frequency (MHz)	Tested Frequency (MHz)	Channel Bandwidth	Modulation
Maximum Output Power	3552.5 to 3597.5	3552.5, 3575, 3597.5	5MHz	QPSK, 16QAM, 64QAM
	3555 to 3595	3555, 3575, 3595	10MHz	QPSK, 16QAM, 64QAM
	3557.5 to 3592.5	3557.5, 3575, 3592.5	15MHz	QPSK, 16QAM, 64QAM
	3560 to 3590	3560, 3575, 3590	20MHz	QPSK, 16QAM, 64QAM
Modulation Characteristics	3552.5 to 3597.5	3575	5MHz	QPSK, 16QAM, 64QAM
Frequency Stability	3552.5 to 3597.5	3575	5MHz	QPSK
	3555 to 3595	3575	10MHz	QPSK
	3557.5 to 3592.5	3575	15MHz	QPSK
	3560 to 3590	3575	20MHz	QPSK
Occupied Bandwidth	3552.5 to 3597.5	3552.5, 3575, 3597.5	5MHz	QPSK, 16QAM, 64QAM
	3555 to 3595	3555, 3575, 3595	10MHz	QPSK, 16QAM, 64QAM
	3557.5 to 3592.5	3557.5, 3575, 3592.5	15MHz	QPSK, 16QAM, 64QAM
	3560 to 3590	3560, 3575, 3590	20MHz	QPSK, 16QAM, 64QAM
Peak to Average Ratio	3552.5 to 3597.5	3552.5, 3575, 3597.5	5MHz	QPSK
	3555 to 3595	3555, 3575, 3595	10MHz	QPSK
	3557.5 to 3592.5	3557.5, 3575, 3592.5	15MHz	QPSK
	3560 to 3590	3560, 3575, 3590	20MHz	QPSK

NOTE: All supported modulation types were evaluated. The Worst case of QPSK was selected. Therefore, the Frequency Stability and Peak to Average Ratio were presented under QPSK mode only.

Test Condition:

Test Item	Environmental Conditions	Input Power (System)	Tested By
Maximum Output Power	24deg. C, 58%RH	120Vac, 60Hz	Kevin Ko
Modulation Characteristics	24deg. C, 58%RH	120Vac, 60Hz	Kevin Ko
Frequency Stability	24deg. C, 58%RH	120Vac, 60Hz	Kevin Ko
Occupied Bandwidth	24deg. C, 58%RH	120Vac, 60Hz	Kevin Ko
Peak to Average Ratio	24deg. C, 58%RH	120Vac, 60Hz	Kevin Ko

Band 48

Test Item	Available Frequency (MHz)	Tested Frequency (MHz)	Channel Bandwidth	Modulation
Maximum Output Power	3552.5 to 3697.5	3552.5, 3625, 3697.5	5MHz	QPSK, 16QAM, 64QAM
	3555 to 3695	3555, 3625, 3695	10MHz	QPSK, 16QAM, 64QAM
	3557.5 to 3692.5	3557.5, 3625, 3692.5	15MHz	QPSK, 16QAM, 64QAM
	3560 to 3690	3560, 3625, 3690	20MHz	QPSK, 16QAM, 64QAM
Modulation Characteristics	3552.5 to 3697.5	3625	5MHz	QPSK, 16QAM, 64QAM
Frequency Stability	3552.5 to 3697.5	3625	5MHz	QPSK
	3555 to 3695	3625	10MHz	QPSK
	3557.5 to 3692.5	3625	15MHz	QPSK
	3560 to 3690	3625	20MHz	QPSK
Occupied Bandwidth	3552.5 to 3697.5	3552.5, 3625, 3697.5	5MHz	QPSK, 16QAM, 64QAM
	3555 to 3695	3555, 3625, 3695	10MHz	QPSK, 16QAM, 64QAM
	3557.5 to 3692.5	3557.5, 3625, 3692.5	15MHz	QPSK, 16QAM, 64QAM
	3560 to 3690	3560, 3625, 3690	20MHz	QPSK, 16QAM, 64QAM
Peak to Average Ratio	3552.5 to 3697.5	3552.5, 3625, 3697.5	5MHz	QPSK
	3555 to 3695	3555, 3625, 3695	10MHz	QPSK
	3557.5 to 3692.5	3557.5, 3625, 3692.5	15MHz	QPSK
	3560 to 3690	3560, 3625, 3690	20MHz	QPSK
Conducted Emission	3552.5 to 3697.5	3552.5, 3625, 3697.5	5MHz	QPSK
	3555 to 3695	3555, 3625, 3695	10MHz	QPSK
	3557.5 to 3692.5	3557.5, 3625, 3692.5	15MHz	QPSK
	3560 to 3690	3560, 3625, 3690	20MHz	QPSK
Radiated Emission	3552.5 to 3697.5	3552.5, 3625, 3697.5	5MHz	QPSK
	3555 to 3695	3555, 3625, 3695	10MHz	QPSK
	3557.5 to 3692.5	3557.5, 3625, 3692.5	15MHz	QPSK
	3560 to 3690	3560, 3625, 3690	20MHz	QPSK

NOTE:

- All supported modulation types were evaluated. The Worst case of QPSK was selected. Therefore, the Frequency Stability, Peak to Average Ratio were presented under QPSK mode only.
- For conducted emission and radiated emission test, select the LTE band48 with the maximum power for final test.

Test Condition:

Test Item	Environmental Conditions	Input Power (System)	Tested By
Maximum Output Power	24deg. C, 58%RH	120Vac, 60Hz	Kevin Ko
Modulation Characteristics	24deg. C, 58%RH	120Vac, 60Hz	Kevin Ko
Frequency Stability	24deg. C, 58%RH	120Vac, 60Hz	Kevin Ko
Occupied Bandwidth	24deg. C, 58%RH	120Vac, 60Hz	Kevin Ko
Peak to Average Ratio	24deg. C, 58%RH	120Vac, 60Hz	Kevin Ko
Conducted Emission	24deg. C, 58%RH	120Vac, 60Hz	Kevin Ko
Radiated Emission	25deg. C, 75%RH	120Vac, 60Hz	Ryan Du

3.3 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.

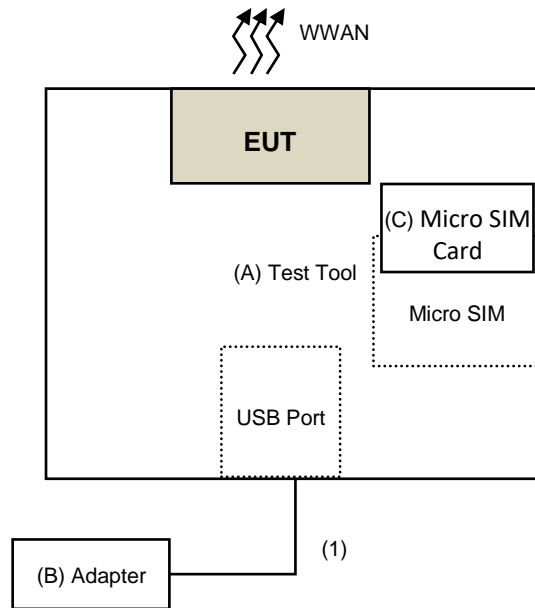
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Test Tool	Foxconn	NA	NA	NA	Supplied by client
B.	Adapter	ASUS	EXA1205UA	NA	NA	Provided by Lab
C.	Micro SIM Card	NA	NA	NA	NA	Provided by Lab
D.	Simulator	Keysight	E7515A	MY56030229	NA	Provided by Lab

Note:

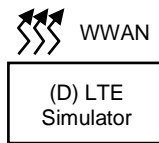
1. All power cords of the above support units are non-shielded (1.8m).

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	USB Cable	1	1	Yes	0	Provided by Lab

3.3.1 Configuration of System under Test



Remote Site



3.4 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:

47 CFR FCC Part 2

47 CFR FCC Part 96, Subpart E

ANSI/TIA/EIA-603-E 2016

ANSI 63.26-2015

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

References Test Guidance:

KDB 971168 D01 Power Meas License Digital Systems v03r01

KDB 940660 D01 Part 96 CBRS Eqpt v02

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

4 Test Types and Results

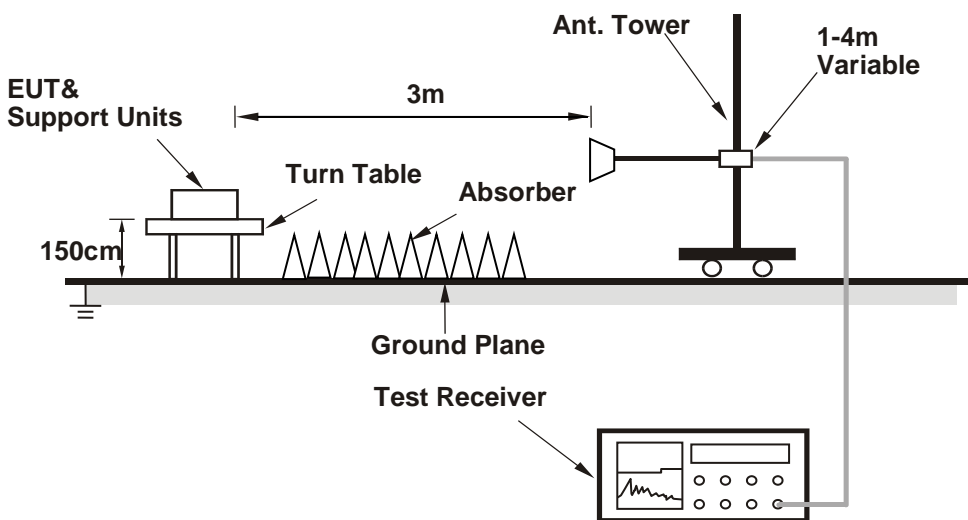
4.1 Maximum Output Power Measurement

4.1.1 Limits of Maximum Output Power Measurement

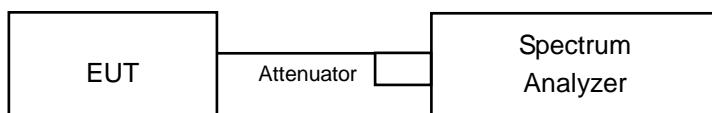
Device		Maximum EIRP (dBm/10 MHz)
<input checked="" type="checkbox"/>	End User Device	23
<input type="checkbox"/>	Category A CBSD	30
<input type="checkbox"/>	Category B CBSD	47

4.1.2 Test Setup

Radiated Measurement Method



Conducted Measurement Method



4.1.3 Test Instruments

For Band 42 radiated emissions test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 06, 2020	July 05, 2021
Pre-Amplifier EMCI	EMC001340	980142	May 25, 2020	May 24, 2021
Loop Antenna Electro-Metrics	EM-6879	264	Feb. 18, 2020	Feb. 17, 2021
RF Cable	5D-FB	LOOPCAB-001	Jan. 07, 2021	Jan. 06, 2022
RF Cable	5D-FB	LOOPCAB-002	Jan. 07, 2021	Jan. 06, 2022
Pre-Amplifier Mini-Circuits	ZFL-1000VH2	QA0838008	Oct. 20, 2020	Oct. 19, 2021
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Nov. 05, 2020	Nov. 04, 2021
RF Cable	8D	966-3-1	Mar. 17, 2020	Mar. 16, 2021
RF Cable	8D	966-3-2	Mar. 17, 2020	Mar. 16, 2021
RF Cable	8D	966-3-3	Mar. 17, 2020	Mar. 16, 2021
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	Sep. 24, 2020	Sep. 23, 2021
Horn_Antenna SCHWARZBECK	BBHA9120-D	9120D-406	Nov. 22, 2020	Nov. 21, 2021
Pre-Amplifier EMCI	EMC12630SE	980384	Jan. 11, 2021	Jan. 10, 2022
RF Cable	EMC104-SM-SM-1500	180504	Apr. 29, 2020	Apr. 28, 2021
RF Cable	EMC104-SM-SM-2000	180601	June 09, 2020	June 08, 2021
RF Cable	EMC104-SM-SM-6000	180602	June 09, 2020	June 08, 2021
Spectrum Analyzer Keysight	N9030A	MY54490679	July 13, 2020	July 12, 2021
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 11, 2021	Jan. 10, 2022
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 22, 2020	Nov. 21, 2021
RF Cable	EMC102-KM-KM-1200	160924	Jan. 11, 2021	Jan. 10, 2022
RF Cable	EMC-KM-KM-4000	200214	Mar. 11, 2020	Mar. 10, 2021
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	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 966 Chamber No. 3.
3. Tested Date: Jan. 28, 2021

For Band 48 radiated emissions test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 06, 2020	July 05, 2021
Pre-Amplifier EMCI	EMC001340	980142	May 25, 2020	May 24, 2021
Loop Antenna Electro-Metrics	EM-6879	264	Feb. 18, 2020	Feb. 17, 2021
RF Cable	NA	LOOPCAB-001	Jan. 08, 2020	Jan. 07, 2021
RF Cable	NA	LOOPCAB-002	Jan. 08, 2020	Jan. 07, 2021
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-05	Apr. 28, 2020	Apr. 27, 2021
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Nov. 05, 2020	Nov. 04, 2021
RF Cable	8D	966-3-1	Mar. 17, 2020	Mar. 16, 2021
RF Cable	8D	966-3-2	Mar. 17, 2020	Mar. 16, 2021
RF Cable	8D	966-3-3	Mar. 17, 2020	Mar. 16, 2021
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	Sep. 24, 2020	Sep. 23, 2021
Horn_Antenna SCHWARZBECK	BBHA9120-D	9120D-406	Nov. 22, 2020	Nov. 21, 2021
Pre-Amplifier EMCI	EMC12630SE	980384	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC104-SM-SM-1500	180504	Apr. 29, 2020	Apr. 28, 2021
RF Cable	EMC104-SM-SM-2000	180601	June 09, 2020	June 08, 2021
RF Cable	EMC104-SM-SM-6000	180602	June 09, 2020	June 08, 2021
Spectrum Analyzer Keysight	N9030A	MY54490679	July 13, 2020	July 12, 2021
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 15, 2020	Jan. 14, 2021
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 22, 2020	Nov. 21, 2021
RF Cable	EMC102-KM-KM-1200	160924	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC-KM-KM-4000	200214	Mar. 11, 2020	Mar. 10, 2021
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	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 966 Chamber No. 3.
3. Tested Date: Dec. 22, 2020

For other test items:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	100964	May 29, 2020	May 28, 2021
Spectrum Analyzer Keysight	N9030A	MY54490679	July 13, 2020	July 12, 2021
Power meter Anritsu	ML2495A	1529002	July 22, 2020	July 21, 2021
Power sensor Anritsu	MA2411B	1339443	July 22, 2020	July 21, 2021
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 14, 2020	Apr. 13, 2021
Mech Switch Absorptive Mini-Circuits	MSP4TA-18+	0140	Feb. 10, 2020	Feb. 09, 2021
FXD ATTEN Mini-Circuits	BW-S3W2+	MN71981	Feb. 10, 2020	Feb. 09, 2021
Software	ADT_RF Test Software V6.6.5.4	NA	NA	NA

- NOTE:**
1. The test was performed in Oven room 2.
 2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 3. Tested Date: Jan. 16, 2021

4.1.4 Test Procedures

Conducted output power measurement

1. Connect the DUT transmitter output to the spectrum analyzer via coaxial cable while ensuring proper impedance matching.
2. Set span to at least 1.5 times the OBW.
3. Set RBW = 1-5% of the OBW, not to exceed 1 MHz.
4. Set VBW $\geq 3 \times$ RBW.
5. Set number of points in sweep $\geq 2 \times$ span / RBW.
6. Sweep time = auto-couple.
7. Detector = RMS (power averaging).
8. If the EUT can be configured to transmit continuously (i.e., burst duty cycle $\geq 98\%$), then set the trigger to free run.
9. If the EUT cannot be configured to transmit continuously (i.e., burst duty cycle $< 98\%$), then use a sweep trigger with the level set to enable triggering only on full power bursts and configure the EUT to transmit at full power for the entire duration of each sweep. Ensure that the sweep time is less than or equal to the transmission burst duration.
10. Trace average at least 100 traces in power averaging (i.e., RMS) mode.
11. Compute the power by integrating the spectrum across the OBW of the signal using the instrument's band or channel power measurement function, with the band/channel limits set equal to the OBW band edges. If the instrument does not have a band or channel power function, then sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.
12. For per 10MHz method, channel power integrating bandwidth 10MHz is used for bandwidth 5M, 10M, 15M and 20M.
13. For full power method, channel power integrating bandwidth 10MHz is used for bandwidth 5M, 10M, integrating bandwidth 15MHz is used for bandwidth 15M, integrating bandwidth 20MHz is used for bandwidth 20M.

Maximum EIRP

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

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

where

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

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

G_{T} gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)

4.1.5 Deviation from Test Standard

No deviation.

4.1.6 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.1.7 Test Results

Conducted Output Power (dBm/10MHz)

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			43115	43340	43565		43115	43340	43565		43115	43340	43565	
			3552.5	3575	3597.5		3552.5	3575	3597.5		3552.5	3575	3597.5	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
42 / 5M	1	0	21.87	21.43	21.46	0	20.65	20.16	20.11	1	19.44	18.88	18.81	2
	1	12	21.64	21.42	21.43	0	20.59	20.11	20.07	1	19.31	18.79	18.79	2
	1	24	21.63	21.45	21.42	0	20.54	20.09	20.06	1	19.17	18.73	18.77	2
	12	0	20.71	20.27	20.32	1	19.79	19.34	19.37	2	18.75	18.35	18.32	3
	12	6	20.67	20.24	20.37	1	19.88	19.39	19.41	2	18.79	18.23	18.24	3
	12	13	20.64	20.23	20.24	1	19.84	19.38	19.43	2	18.66	18.24	18.29	3
	25	0	20.75	20.31	20.49	1	19.87	19.51	19.53	2	18.99	18.36	18.42	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			43140	43340	43540		43140	43340	43540		43140	43340	43540	
			3555	3575	3595		3555	3575	3595		3555	3575	3595	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
42 / 10M	1	0	22.01	21.58	21.51	0	20.88	20.54	20.46	1	19.84	19.45	19.45	2
	1	24	21.87	21.41	21.49	0	20.65	20.37	20.31	1	19.46	18.99	19.28	2
	1	49	21.84	21.37	21.48	0	20.61	20.34	20.35	1	19.57	19.23	19.17	2
	25	0	20.82	20.43	20.55	1	19.87	19.49	19.47	2	18.89	18.55	18.56	3
	25	12	20.81	20.42	20.37	1	19.95	19.55	19.57	2	18.76	18.39	18.46	3
	25	25	20.79	20.39	20.49	1	19.88	19.46	19.53	2	18.77	18.45	18.44	3
	50	0	20.95	20.54	20.47	1	20.01	19.55	19.57	2	18.90	18.59	18.57	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			43165	43340	43515		43165	43340	43515		43165	43340	43515	
			3557.5	3575	3592.5		3557.5	3575	3592.5		3557.5	3575	3592.5	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
42 / 15M	1	0	21.98	21.37	21.55	0	20.78	20.44	20.39	1	19.67	19.36	19.12	2
	1	37	20.79	21.19	21.37	0	20.53	20.26	20.08	1	19.41	19.10	19.08	2
	1	74	21.66	21.20	21.44	0	20.66	20.17	20.15	1	19.64	19.07	19.16	2
	36	0	20.64	20.35	20.29	1	19.64	19.28	19.43	2	18.67	18.17	18.40	3
	36	19	20.65	20.27	20.23	1	19.65	19.22	19.47	2	18.36	18.22	18.46	3
	36	39	20.61	20.19	20.27	1	19.66	19.43	19.30	2	18.44	18.28	18.17	3
	75	0	19.28	18.94	18.99	1	18.30	17.95	18.10	2	17.30	16.99	16.84	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			43190	43340	43490		43190	43340	43490		43190	43340	43490	
			3560	3575	3590		3560	3575	3590		3560	3575	3590	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
42 / 20M	1	0	22.01	21.67	21.55	0	20.83	20.54	20.58	1	19.67	19.78	19.66	2
	1	50	21.57	21.36	21.24	0	20.78	20.41	20.36	1	19.43	19.18	19.23	2
	1	99	21.40	21.25	21.39	0	20.57	20.36	20.39	1	19.61	19.17	19.37	2
	50	0	20.79	20.34	20.20	1	19.58	19.30	19.27	2	19.65	18.24	18.35	3
	50	25	20.54	20.33	20.24	1	19.53	19.33	19.24	2	18.57	18.25	18.17	3
	50	50	20.66	20.30	20.36	1	19.55	19.20	19.22	2	18.46	18.27	18.20	3
	100	0	17.82	17.49	17.48	1	16.78	16.43	16.41	2	15.77	15.53	15.43	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			55265	55990	56715		55265	55990	56715		55265	55990	56715	
			3552.5	3625	3697.5		3552.5	3625	3697.5		3552.5	3625	3697.5	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
48 / 5M	1	0	21.92	21.43	21.46	0	20.68	20.18	20.14	1	19.42	18.90	18.82	2
	1	12	21.79	21.42	21.43	0	20.57	20.13	20.02	1	19.35	18.81	18.77	2
	1	24	21.81	21.45	21.42	0	20.48	20.11	20.08	1	19.15	18.74	18.71	2
	12	0	20.67	20.26	20.34	1	19.82	19.35	19.43	2	18.73	18.32	18.32	3
	12	6	20.73	20.22	20.36	1	19.92	19.40	19.38	2	18.80	18.22	18.27	3
	12	13	20.65	20.25	20.25	1	19.87	19.36	19.37	2	18.64	18.25	18.25	3
	25	0	20.78	20.30	20.51	1	19.90	19.53	19.49	2	18.96	18.38	18.40	3

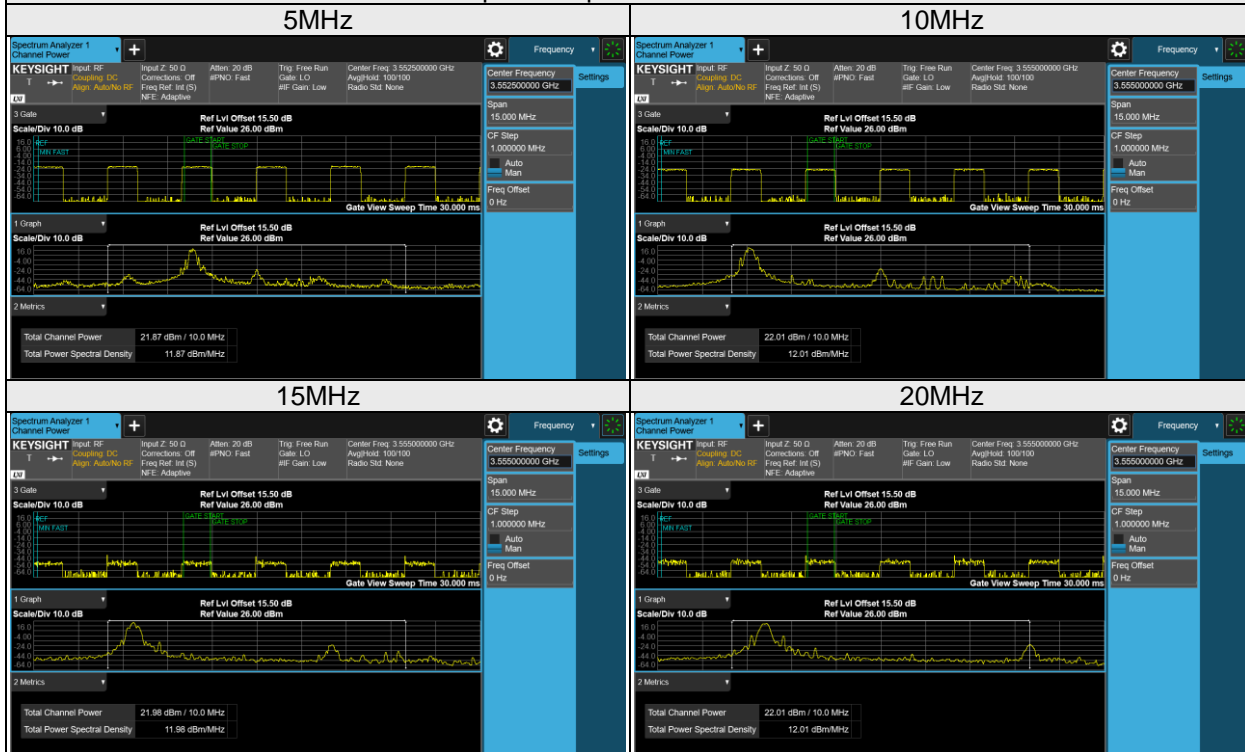
Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			55290	55990	56690		55290	55990	56690		55290	55990	56690	
			3555	3625	3695		3555	3625	3695		3555	3625	3695	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
48 / 10M	1	0	22.01	21.61	21.49	0	20.96	20.45	20.45	1	19.86	19.45	19.46	2
	1	24	21.77	21.35	21.40	0	20.67	20.16	20.21	1	19.47	18.92	19.11	2
	1	49	21.89	21.39	21.48	0	20.63	20.25	20.32	1	19.60	19.14	19.14	2
	25	0	20.84	20.45	20.53	1	19.95	19.50	19.51	2	18.92	18.52	18.52	3
	25	12	20.89	20.39	20.33	1	19.90	19.53	19.48	2	18.75	18.37	18.40	3
	25	25	20.77	20.41	20.50	1	19.85	19.44	19.55	2	18.76	18.42	18.43	3
	50	0	20.96	20.55	20.43	1	20.01	19.56	19.60	2	18.88	18.53	18.60	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			55315	55990	56665		55315	55990	56665		55315	55990	56665	
			3557.5	3625	3692.5		3557.5	3625	3692.5		3557.5	3625	3692.5	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
48 / 15M	1	0	22.05	21.38	21.56	0	20.81	20.47	20.41	1	19.69	19.40	19.12	2
	1	37	20.82	21.13	21.33	0	20.47	20.28	20.06	1	19.35	19.05	19.08	2
	1	74	21.62	21.21	21.40	0	20.63	20.15	20.16	1	19.66	19.06	19.16	2
	36	0	20.65	20.36	20.27	1	19.63	19.32	19.45	2	18.68	18.20	18.40	3
	36	19	20.60	20.28	20.25	1	19.67	19.21	19.44	2	18.38	18.19	18.46	3
	36	39	20.59	20.21	20.28	1	19.68	19.41	19.28	2	18.50	18.31	18.17	3
	75	0	19.29	18.93	18.95	1	18.29	17.90	18.09	2	17.29	16.95	16.83	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			55340	55990	56640		55340	55990	56640		55340	55990	56640	
			3560	3625	3690		3560	3625	3690		3560	3625	3690	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
48 / 20M	1	0	22.02	21.65	21.53	0	20.81	20.58	20.57	1	19.69	19.75	19.64	2
	1	50	21.54	21.33	21.25	0	20.74	20.42	20.33	1	19.41	19.16	19.20	2
	1	99	21.38	21.22	21.37	0	20.59	20.35	20.42	1	19.67	19.15	19.38	2
	50	0	20.77	20.33	20.19	1	19.61	19.29	19.22	2	19.62	18.27	18.33	3
	50	25	20.58	20.34	20.22	1	19.49	19.27	19.24	2	18.57	18.26	18.15	3
	50	50	20.61	20.27	20.33	1	19.51	19.13	19.21	2	18.46	18.29	18.14	3
	100	0	17.81	17.50	17.47	1	16.79	16.40	16.45	2	15.71	15.50	15.41	3

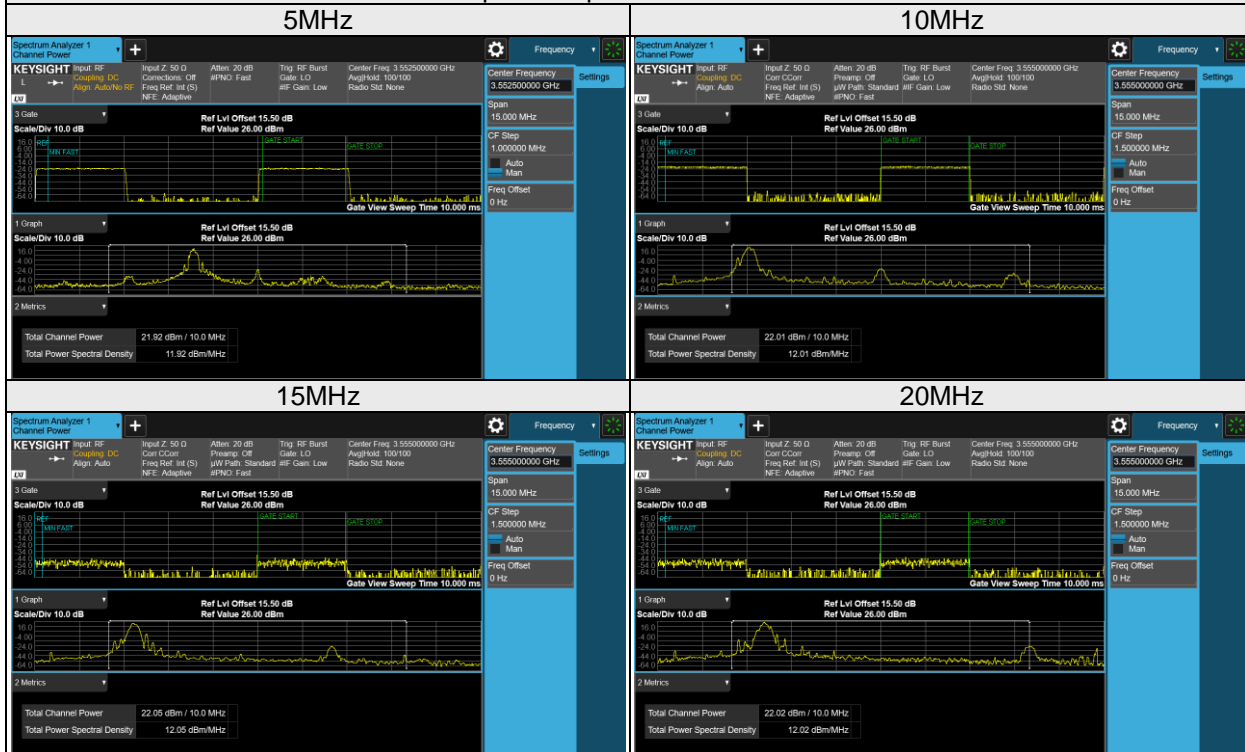
Band 42

Spectrum plot of worst case



Band 48

Spectrum plot of worst case



EIRP (dBm/10MHz)

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			43115	43340	43565		43115	43340	43565		43115	43340	43565	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
42 / 5M	1	0	22.79	22.35	22.38	0	21.57	21.08	21.03	1	20.36	19.80	19.73	2
	1	12	22.56	22.34	22.35	0	21.51	21.03	20.99	1	20.23	19.71	19.71	2
	1	24	22.55	22.37	22.34	0	21.46	21.01	20.98	1	20.09	19.65	19.69	2
	12	0	21.63	21.19	21.24	1	20.71	20.26	20.29	2	19.67	19.27	19.24	3
	12	6	21.59	21.16	21.29	1	20.80	20.31	20.33	2	19.71	19.15	19.16	3
	12	13	21.56	21.15	21.16	1	20.76	20.30	20.35	2	19.58	19.16	19.21	3
	25	0	21.67	21.23	21.41	1	20.79	20.43	20.45	2	19.91	19.28	19.34	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			43140	43340	43540		43140	43340	43540		43140	43340	43540	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
42 / 10M	1	0	22.93	22.50	22.43	0	21.80	21.46	21.38	1	20.76	20.37	20.37	2
	1	24	22.79	22.33	22.41	0	21.57	21.29	21.23	1	20.38	19.91	20.20	2
	1	49	22.76	22.29	22.40	0	21.53	21.26	21.27	1	20.49	20.15	20.09	2
	25	0	21.74	21.35	21.47	1	20.79	20.41	20.39	2	19.81	19.47	19.48	3
	25	12	21.73	21.34	21.29	1	20.87	20.47	20.49	2	19.68	19.31	19.38	3
	25	25	21.71	21.31	21.41	1	20.80	20.38	20.45	2	19.69	19.37	19.36	3
	50	0	21.87	21.46	21.39	1	20.93	20.47	20.49	2	19.82	19.51	19.49	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			43165	43340	43515		43165	43340	43515		43165	43340	43515	
			3557.5	3575	3592.5		3557.5	3575	3592.5		3557.5	3575	3592.5	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
42 / 15M	1	0	22.90	22.29	22.47	0	21.70	21.36	21.31	1	20.59	20.28	20.04	2
	1	37	21.71	22.11	22.29	0	21.45	21.18	21.00	1	20.33	20.02	20.00	2
	1	74	22.58	22.12	22.36	0	21.58	21.09	21.07	1	20.56	19.99	20.08	2
	36	0	21.56	21.27	21.21	1	20.56	20.20	20.35	2	19.59	19.09	19.32	3
	36	19	21.57	21.19	21.15	1	20.57	20.14	20.39	2	19.28	19.14	19.38	3
	36	39	21.53	21.11	21.19	1	20.58	20.35	20.22	2	19.36	19.20	19.09	3
	75	0	20.20	19.86	19.91	1	19.22	18.87	19.02	2	18.22	17.91	17.76	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			43190	43340	43490		43190	43340	43490		43190	43340	43490	
			3560	3575	3590		3560	3575	3590		3560	3575	3590	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
42 / 20M	1	0	22.93	22.59	22.47	0	21.75	21.46	21.50	1	20.59	20.70	20.58	2
	1	50	22.49	22.28	22.16	0	21.70	21.33	21.28	1	20.35	20.10	20.15	2
	1	99	22.32	22.17	22.31	0	21.49	21.28	21.31	1	20.53	20.09	20.29	2
	50	0	21.71	21.26	21.12	1	20.50	20.22	20.19	2	20.57	19.16	19.27	3
	50	25	21.46	21.25	21.16	1	20.45	20.25	20.16	2	19.49	19.17	19.09	3
	50	50	21.58	21.22	21.28	1	20.47	20.12	20.14	2	19.38	19.19	19.12	3
	100	0	18.74	18.41	18.40	1	17.70	17.35	17.33	2	16.69	16.45	16.35	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			55265	55990	56715		55265	55990	56715		55265	55990	56715	
			3552.5	3625	3697.5		3552.5	3625	3697.5		3552.5	3625	3697.5	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
48 / 5M	1	0	22.84	22.35	22.38	0	21.60	21.10	21.06	1	20.34	19.82	19.74	2
	1	12	22.71	22.34	22.35	0	21.49	21.05	20.94	1	20.27	19.73	19.69	2
	1	24	22.73	22.37	22.34	0	21.40	21.03	21.00	1	20.07	19.66	19.63	2
	12	0	21.59	21.18	21.26	1	20.74	20.27	20.35	2	19.65	19.24	19.24	3
	12	6	21.65	21.14	21.28	1	20.84	20.32	20.30	2	19.72	19.14	19.19	3
	12	13	21.57	21.17	21.17	1	20.79	20.28	20.29	2	19.56	19.17	19.17	3
	25	0	21.70	21.22	21.43	1	20.82	20.45	20.41	2	19.88	19.30	19.32	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			55290	55990	56690		55290	55990	56690		55290	55990	56690	
			3555	3625	3695		3555	3625	3695		3555	3625	3695	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
48 / 10M	1	0	22.93	22.53	22.41	0	21.88	21.37	21.37	1	20.78	20.37	20.38	2
	1	24	22.69	22.27	22.32	0	21.59	21.08	21.13	1	20.39	19.84	20.03	2
	1	49	22.81	22.31	22.40	0	21.55	21.17	21.24	1	20.52	20.06	20.06	2
	25	0	21.76	21.37	21.45	1	20.87	20.42	20.43	2	19.84	19.44	19.44	3
	25	12	21.81	21.31	21.25	1	20.82	20.45	20.40	2	19.67	19.29	19.32	3
	25	25	21.69	21.33	21.42	1	20.77	20.36	20.47	2	19.68	19.34	19.35	3
	50	0	21.88	21.47	21.35	1	20.93	20.48	20.52	2	19.80	19.45	19.52	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			55315	55990	56665		55315	55990	56665		55315	55990	56665	
			3557.5	3625	3692.5		3557.5	3625	3692.5		3557.5	3625	3692.5	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
48 / 15M	1	0	22.97	22.30	22.48	0	21.73	21.39	21.33	1	20.61	20.32	20.04	2
	1	37	21.74	22.05	22.25	0	21.39	21.20	20.98	1	20.27	19.97	20.00	2
	1	74	22.54	22.13	22.32	0	21.55	21.07	21.08	1	20.58	19.98	20.08	2
	36	0	21.57	21.28	21.19	1	20.55	20.24	20.37	2	19.60	19.12	19.32	3
	36	19	21.52	21.20	21.17	1	20.59	20.13	20.36	2	19.30	19.11	19.38	3
	36	39	21.51	21.13	21.20	1	20.60	20.33	20.20	2	19.42	19.23	19.09	3
	75	0	20.21	19.85	19.87	1	19.21	18.82	19.01	2	18.21	17.87	17.75	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			55340	55990	56640		55340	55990	56640		55340	55990	56640	
			3560	3625	3690		3560	3625	3690		3560	3625	3690	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
48 / 20M	1	0	22.94	22.57	22.45	0	21.73	21.50	21.49	1	20.61	20.67	20.56	2
	1	50	22.46	22.25	22.17	0	21.66	21.34	21.25	1	20.33	20.08	20.12	2
	1	99	22.30	22.14	22.29	0	21.51	21.27	21.34	1	20.59	20.07	20.30	2
	50	0	21.69	21.25	21.11	1	20.53	20.21	20.14	2	20.54	19.19	19.25	3
	50	25	21.50	21.26	21.14	1	20.41	20.19	20.16	2	19.49	19.18	19.07	3
	50	50	21.53	21.19	21.25	1	20.43	20.05	20.13	2	19.38	19.21	19.06	3
	100	0	18.73	18.42	18.39	1	17.71	17.32	17.37	2	16.63	16.42	16.33	3

Conducted Full Power

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			43115	43340	43565		43115	43340	43565		43115	43340	43565	
			3552.5	3575	3597.5		3552.5	3575	3597.5		3552.5	3575	3597.5	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
42 / 5M	1	0	21.87	21.43	21.46	0	20.65	20.16	20.11	1	19.44	18.88	18.81	2
	1	12	21.64	21.42	21.43	0	20.59	20.11	20.07	1	19.31	18.79	18.79	2
	1	24	21.63	21.45	21.42	0	20.54	20.09	20.06	1	19.17	18.73	18.77	2
	12	0	20.71	20.27	20.32	1	19.79	19.34	19.37	2	18.75	18.35	18.32	3
	12	6	20.67	20.24	20.37	1	19.88	19.39	19.41	2	18.79	18.23	18.24	3
	12	13	20.64	20.23	20.24	1	19.84	19.38	19.43	2	18.66	18.24	18.29	3
	25	0	20.75	20.31	20.49	1	19.87	19.51	19.53	2	18.99	18.36	18.42	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			43140	43340	43540		43140	43340	43540		43140	43340	43540	
			3555	3575	3595		3555	3575	3595		3555	3575	3595	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
42 / 10M	1	0	22.01	21.58	21.51	0	20.88	20.54	20.46	1	19.84	19.45	19.45	2
	1	24	21.87	21.41	21.49	0	20.65	20.37	20.31	1	19.46	18.99	19.28	2
	1	49	21.84	21.37	21.48	0	20.61	20.34	20.35	1	19.57	19.23	19.17	2
	25	0	20.82	20.43	20.55	1	19.87	19.49	19.47	2	18.89	18.55	18.56	3
	25	12	20.81	20.42	20.37	1	19.95	19.55	19.57	2	18.76	18.39	18.46	3
	25	25	20.79	20.39	20.49	1	19.88	19.46	19.53	2	18.77	18.45	18.44	3
	50	0	20.95	20.54	20.47	1	20.01	19.55	19.57	2	18.90	18.59	18.57	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			43165	43340	43515		43165	43340	43515		43165	43340	43515	
			3557.5	3575	3592.5		3557.5	3575	3592.5		3557.5	3575	3592.5	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
42 / 15M	1	0	22.04	21.49	21.66	0	21.01	20.58	20.51	1	19.87	19.56	19.38	2
	1	37	21.10	21.38	21.46	0	20.70	20.36	20.36	1	19.56	19.17	19.29	2
	1	74	21.81	21.37	21.50	0	20.88	20.33	20.39	1	19.84	19.27	19.31	2
	36	0	20.87	20.51	20.54	1	19.81	19.61	19.61	2	18.80	18.45	18.61	3
	36	19	20.84	20.45	20.49	1	19.88	19.57	19.66	2	18.65	18.36	18.55	3
	36	39	20.80	20.38	20.48	1	19.84	19.50	19.58	2	18.77	18.44	18.43	3
	75	0	20.87	20.49	20.60	1	19.95	19.61	19.67	2	18.79	18.60	18.46	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			43190	43340	43490		43190	43340	43490		43190	43340	43490	
			3560	3575	3590		3560	3575	3590		3560	3575	3590	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
42 / 20M	1	0	22.04	21.69	21.57	0	20.98	20.84	20.71	1	19.88	19.88	19.75	2
	1	50	21.77	21.43	21.38	0	20.91	20.54	20.53	1	19.73	19.40	19.49	2
	1	99	21.69	21.33	21.55	0	20.88	20.45	20.66	1	19.86	19.37	19.55	2
	50	0	20.90	20.46	20.48	1	19.91	19.51	19.57	2	18.85	18.45	18.51	3
	50	25	20.83	20.46	20.55	1	19.79	19.53	19.56	2	18.76	18.38	18.37	3
	50	50	20.81	20.47	20.47	1	19.81	19.37	19.47	2	18.65	18.46	18.28	3
	100	0	20.84	20.45	20.43	1	19.88	19.50	19.53	2	18.83	18.45	18.45	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			55265	55990	56715		55265	55990	56715		55265	55990	56715	
			3552.5	3625	3697.5		3552.5	3625	3697.5		3552.5	3625	3697.5	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
48 / 5M	1	0	21.92	21.43	21.46	0	20.68	20.18	20.14	1	19.42	18.90	18.82	2
	1	12	21.79	21.42	21.43	0	20.57	20.13	20.02	1	19.35	18.81	18.77	2
	1	24	21.81	21.45	21.42	0	20.48	20.11	20.08	1	19.15	18.74	18.71	2
	12	0	20.67	20.26	20.34	1	19.82	19.35	19.43	2	18.73	18.32	18.32	3
	12	6	20.73	20.22	20.36	1	19.92	19.40	19.38	2	18.80	18.22	18.27	3
	12	13	20.65	20.25	20.25	1	19.87	19.36	19.37	2	18.64	18.25	18.25	3
	25	0	20.78	20.30	20.51	1	19.90	19.53	19.49	2	18.96	18.38	18.40	3

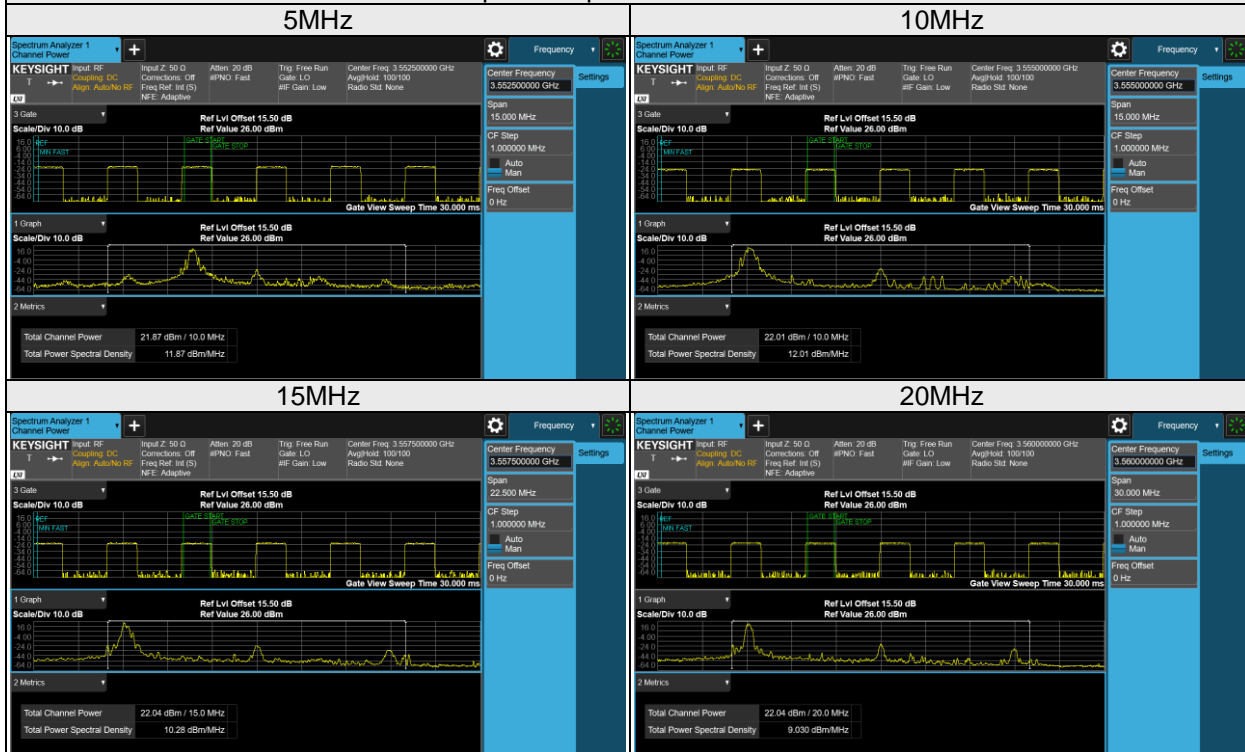
Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			55290	55990	56690		55290	55990	56690		55290	55990	56690	
			3555	3625	3695		3555	3625	3695		3555	3625	3695	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
48 / 10M	1	0	22.01	21.61	21.49	0	20.96	20.45	20.45	1	19.86	19.45	19.46	2
	1	24	21.77	21.35	21.40	0	20.67	20.16	20.21	1	19.47	18.92	19.11	2
	1	49	21.89	21.39	21.48	0	20.63	20.25	20.32	1	19.60	19.14	19.14	2
	25	0	20.84	20.45	20.53	1	19.95	19.50	19.51	2	18.92	18.52	18.52	3
	25	12	20.89	20.39	20.33	1	19.90	19.53	19.48	2	18.75	18.37	18.40	3
	25	25	20.77	20.41	20.50	1	19.85	19.44	19.55	2	18.76	18.42	18.43	3
	50	0	20.96	20.55	20.43	1	20.01	19.56	19.60	2	18.88	18.53	18.60	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			55315	55990	56665		55315	55990	56665		55315	55990	56665	
			3557.5	3625	3692.5		3557.5	3625	3692.5		3557.5	3625	3692.5	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
48 / 15M	1	0	22.07	21.47	21.61	0	21.00	20.57	20.52	1	19.85	19.57	19.36	2
	1	37	21.00	21.38	21.43	0	20.66	20.39	20.35	1	19.53	19.18	19.28	2
	1	74	21.82	21.36	21.54	0	20.87	20.31	20.41	1	19.84	19.26	19.29	2
	36	0	20.89	20.55	20.55	1	19.89	19.62	19.63	2	18.79	18.47	18.60	3
	36	19	20.86	20.43	20.43	1	19.81	19.50	19.61	2	18.62	18.36	18.57	3
	36	39	20.77	20.39	20.44	1	19.85	19.53	19.55	2	18.76	18.46	18.42	3
	75	0	20.85	20.48	20.58	1	19.92	19.56	19.66	2	18.81	18.59	18.48	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			55340	55990	56640		55340	55990	56640		55340	55990	56640	
			3560	3625	3690		3560	3625	3690		3560	3625	3690	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
48 / 20M	1	0	22.06	21.69	21.55	0	21.02	20.84	20.69	1	19.85	19.85	19.76	2
	1	50	21.75	21.40	21.39	0	20.89	20.55	20.57	1	19.71	19.37	19.45	2
	1	99	21.66	21.32	21.53	0	20.85	20.46	20.67	1	19.83	19.38	19.53	2
	50	0	20.91	20.43	20.48	1	19.89	19.55	19.52	2	19.86	18.46	18.49	3
	50	25	20.79	20.46	20.51	1	19.78	19.47	19.50	2	18.79	18.38	18.34	3
	50	50	20.75	20.43	20.45	1	19.79	19.38	19.46	2	18.60	18.45	18.31	3
	100	0	20.82	20.49	20.39	1	19.85	19.49	19.48	2	18.88	18.42	18.41	3

Band 42

Spectrum plot of worst case



Band 48

Spectrum plot of worst case



EIRP Full Power

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			43115	43340	43565		43115	43340	43565		43115	43340	43565	
			3552.5	3575	3597.5		3552.5	3575	3597.5		3552.5	3575	3597.5	
			MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz			
42 / 5M	1	0	22.79	22.35	22.38	0	21.57	21.08	21.03	1	20.36	19.80	19.73	2
	1	12	22.56	22.34	22.35	0	21.51	21.03	20.99	1	20.23	19.71	19.71	2
	1	24	22.55	22.37	22.34	0	21.46	21.01	20.98	1	20.09	19.65	19.69	2
	12	0	21.63	21.19	21.24	1	20.71	20.26	20.29	2	19.67	19.27	19.24	3
	12	6	21.59	21.16	21.29	1	20.80	20.31	20.33	2	19.71	19.15	19.16	3
	12	13	21.56	21.15	21.16	1	20.76	20.30	20.35	2	19.58	19.16	19.21	3
	25	0	21.67	21.23	21.41	1	20.79	20.43	20.45	2	19.91	19.28	19.34	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			43140	43340	43540		43140	43340	43540		43140	43340	43540	
			3555	3575	3595		3555	3575	3595		3555	3575	3595	
			MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz			
42 / 10M	1	0	22.93	22.50	22.43	0	21.80	21.46	21.38	1	20.76	20.37	20.37	2
	1	24	22.79	22.33	22.41	0	21.57	21.29	21.23	1	20.38	19.91	20.20	2
	1	49	22.76	22.29	22.40	0	21.53	21.26	21.27	1	20.49	20.15	20.09	2
	25	0	21.74	21.35	21.47	1	20.79	20.41	20.39	2	19.81	19.47	19.48	3
	25	12	21.73	21.34	21.29	1	20.87	20.47	20.49	2	19.68	19.31	19.38	3
	25	25	21.71	21.31	21.41	1	20.80	20.38	20.45	2	19.69	19.37	19.36	3
	50	0	21.87	21.46	21.39	1	20.93	20.47	20.49	2	19.82	19.51	19.49	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			43165	43340	43515		43165	43340	43515		43165	43340	43515	
			3557.5	3575	3592.5		3557.5	3575	3592.5		3557.5	3575	3592.5	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
42 / 15M	1	0	22.96	22.41	22.58	0	21.93	21.50	21.43	1	20.79	20.48	20.30	2
	1	37	22.02	22.30	22.38	0	21.62	21.28	21.28	1	20.48	20.09	20.21	2
	1	74	22.73	22.29	22.42	0	21.80	21.25	21.31	1	20.76	20.19	20.23	2
	36	0	21.79	21.43	21.46	1	20.73	20.53	20.53	2	19.72	19.37	19.53	3
	36	19	21.76	21.37	21.41	1	20.80	20.49	20.58	2	19.57	19.28	19.47	3
	36	39	21.72	21.30	21.40	1	20.76	20.42	20.50	2	19.69	19.36	19.35	3
	75	0	21.79	21.41	21.52	1	20.87	20.53	20.59	2	19.71	19.52	19.38	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			43190	43340	43490		43190	43340	43490		43190	43340	43490	
			3560	3575	3590		3560	3575	3590		3560	3575	3590	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
42 / 20M	1	0	22.96	22.61	22.49	0	21.90	21.76	21.63	1	20.80	20.80	20.67	2
	1	50	22.69	22.35	22.30	0	21.83	21.46	21.45	1	20.65	20.32	20.41	2
	1	99	22.61	22.25	22.47	0	21.80	21.37	21.58	1	20.78	20.29	20.47	2
	50	0	21.82	21.38	21.40	1	20.83	20.43	20.49	2	19.77	19.37	19.43	3
	50	25	21.75	21.38	21.47	1	20.71	20.45	20.48	2	19.68	19.30	19.29	3
	50	50	21.73	21.39	21.39	1	20.73	20.29	20.39	2	19.57	19.38	19.20	3
	100	0	21.76	21.37	21.35	1	20.80	20.42	20.45	2	19.75	19.37	19.37	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			55265	55990	56715		55265	55990	56715		55265	55990	56715	
			3552.5	3625	3697.5		3552.5	3625	3697.5		3552.5	3625	3697.5	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
48 / 5M	1	0	22.84	22.35	22.38	0	21.60	21.10	21.06	1	20.34	19.82	19.74	2
	1	12	22.71	22.34	22.35	0	21.49	21.05	20.94	1	20.27	19.73	19.69	2
	1	24	22.73	22.37	22.34	0	21.40	21.03	21.00	1	20.07	19.66	19.63	2
	12	0	21.59	21.18	21.26	1	20.74	20.27	20.35	2	19.65	19.24	19.24	3
	12	6	21.65	21.14	21.28	1	20.84	20.32	20.30	2	19.72	19.14	19.19	3
	12	13	21.57	21.17	21.17	1	20.79	20.28	20.29	2	19.56	19.17	19.17	3
	25	0	21.70	21.22	21.43	1	20.82	20.45	20.41	2	19.88	19.30	19.32	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			55290	55990	56690		55290	55990	56690		55290	55990	56690	
			3555	3625	3695		3555	3625	3695		3555	3625	3695	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
48 / 10M	1	0	22.93	22.53	22.41	0	21.88	21.37	21.37	1	20.78	20.37	20.38	2
	1	24	22.69	22.27	22.32	0	21.59	21.08	21.13	1	20.39	19.84	20.03	2
	1	49	22.81	22.31	22.40	0	21.55	21.17	21.24	1	20.52	20.06	20.06	2
	25	0	21.76	21.37	21.45	1	20.87	20.42	20.43	2	19.84	19.44	19.44	3
	25	12	21.81	21.31	21.25	1	20.82	20.45	20.40	2	19.67	19.29	19.32	3
	25	25	21.69	21.33	21.42	1	20.77	20.36	20.47	2	19.68	19.34	19.35	3
	50	0	21.88	21.47	21.35	1	20.93	20.48	20.52	2	19.80	19.45	19.52	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			55315	55990	56665		55315	55990	56665		55315	55990	56665	
			3557.5	3625	3692.5		3557.5	3625	3692.5		3557.5	3625	3692.5	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
48 / 15M	1	0	22.99	22.39	22.53	0	21.92	21.49	21.44	1	20.77	20.49	20.28	2
	1	37	21.92	22.30	22.35	0	21.58	21.31	21.27	1	20.45	20.10	20.20	2
	1	74	22.74	22.28	22.46	0	21.79	21.23	21.33	1	20.76	20.18	20.21	2
	36	0	21.81	21.47	21.47	1	20.81	20.54	20.55	2	19.71	19.39	19.52	3
	36	19	21.78	21.35	21.35	1	20.73	20.42	20.53	2	19.54	19.28	19.49	3
	36	39	21.69	21.31	21.36	1	20.77	20.45	20.47	2	19.68	19.38	19.34	3
	75	0	21.77	21.40	21.50	1	20.84	20.48	20.58	2	19.73	19.51	19.40	3

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)	64QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			55340	55990	56640		55340	55990	56640		55340	55990	56640	
			3560	3625	3690		3560	3625	3690		3560	3625	3690	
			MHz	MHz	MHz		MHz	MHz	MHz		MHz	MHz	MHz	
48 / 20M	1	0	22.98	22.61	22.47	0	21.94	21.76	21.61	1	20.77	20.77	20.68	2
	1	50	22.67	22.32	22.31	0	21.81	21.47	21.49	1	20.63	20.29	20.37	2
	1	99	22.58	22.24	22.45	0	21.77	21.38	21.59	1	20.75	20.30	20.45	2
	50	0	21.83	21.35	21.40	1	20.81	20.47	20.44	2	20.78	19.38	19.41	3
	50	25	21.71	21.38	21.43	1	20.70	20.39	20.42	2	19.71	19.30	19.26	3
	50	50	21.67	21.35	21.37	1	20.71	20.30	20.38	2	19.52	19.37	19.23	3
	100	0	21.74	21.41	21.31	1	20.77	20.41	20.40	2	19.80	19.34	19.33	3

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

