FCC RF Test Report

APPLICANT	: Fibocom Wireless Inc.
EQUIPMENT	: 5G Module
BRAND NAME	: Fibocom
MODEL NAME	: FM350-GL
FCC ID	: ZMOFM350GL
STANDARD	: 47 CFR Part 2, 27
CLASSIFICATION	: PCS Licensed Transmitter (PCB)
TEST DATE(S)	: Aug. 19, 2021 ~ Sep. 27, 2021

We, Sporton International (ShenZhen) Inc., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (ShenZhen) Inc., the test report shall not be reproduced except in full.

Reviewed by: Derreck Chen / Supervisor

Approved by: Eric Shih / Manager

ACCREDITED Cert #5145.01

Sporton International (ShenZhen) Inc.

1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055

People's Republic of China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG051802-04B	Rev. 01	Initial issue of report	Oct. 09, 2021

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§27.50(h)(2)	Equivalent Isotropic Radiated Power (5G NR n41)	EIRP < 2Watt		
	§27.50(j)(3)	Equivalent Isotropic Radiated Power (5G NR n78)	EIRP < 1Watt		
3.5	§27.50(j)(4)	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§27.53(m)(4)	Conducted Band Edge Measurement (5G NR n41)	§27.53(m)(4)	PASS	-
3.8	§2.1051 §27.53(m)(4)	Conducted Spurious Emission (5G NR n41)	< $55+10\log_{10}$(P[Watts])	PASS	-
3.9	§27.54	Frequency Stability Temperature & Voltage	Within Authorized Band	PASS	-
4.4	§2.1053 §27.53(l)(2)	Radiated Spurious Emission (5G NR n78)	< $43+10\log_{10}$(P[Watts])	PASS	Under limit 24.00 dB at 10178.00 MHz
	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (5G NR n41)	< $55+10\log_{10}$(P[Watts])		

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1 General Description

1.1 Applicant

Fibocom Wireless Inc.
1101, Tower A, Building 6, Shenzhen International Innovation Valley, Dashi 1st Rd, Nanshan, Shenzhen, China

1.2 Manufacturer

Fibocom Wireless Inc.
1101, Tower A, Building 6, Shenzhen International Innovation Valley, Dashi 1st Rd, Nanshan, Shenzhen, China

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	5G Module
Brand Name	Fibocom
Model Name	FM350-GL
FCC ID	ZMOFM350GL
IMEI Code	Conducted: 354174400007998 Radiation: 862146050150950 354174400007998
HW Version	V1.0.6
SW Version	81600.0000.00.19.16.97
EUT Stage	Identical Prototype

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. This is a variant report for FM350-GL. The change note could be referred to the “FM350-GL _Class II Permissive Change letter” which is exhibit separately. Based on the similarity between current and previous project, add the additional n41 100M BW and add ENDC_7C_n78A / ENDC_38A_n78A based on original test report (Sporton Report Number FG051802I).

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n78 : 3700 MHz ~ 3800 MHz
Rx Frequency	5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n78 : 3700 MHz ~ 3800 MHz
SCS/Bandwidth	SCS: 15kHz: n41: 10MHz / 15MHz / 30MHz / 40MHz n78: 10MHz / 15MHz / 20MHz SCS: 30kHz: n41: 10MHz / 15MHz / 30MHz / 40MHz / 50MHz / 80MHz / 100MHz n78: 10MHz / 15MHz / 20MHz / 40MHz / 50MHz / 60MHz / 80MHz / 100MHz
Antenna Gain	5G NR n41: 4.0 dBi 5G NR n78: 3.0 dBi
Type of Modulation	CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Maximum Conducted Power and Emission Designator

5G NR n41 HPUE-SCS 30kHz		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	**Frequency Range (MHz)**	**Emission Designator (99%OBW)**	**Conducted Power(W)**	**Emission Designator (99%OBW)**	**Conducted Power(W)**
100	2546.01 ~ 2640.00	97M9G7D	0.4207	97M9W7D	0.3365

5G NR n41_UL MIMO HPUE -SCS 30kHz		QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	**Frequency Range (MHz)**	**Emission Designator (99%OBW)**	**Conducted Power(W)**	**Emission Designator (99%OBW)**	**Conducted Power(W)**
100	2546.01 ~ 2640.00	97M5G7D	0.3090	97M7W7D	0.2767

1.7 Testing Location

Sporton International (Shenzhen) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International (Shenzhen) Inc.		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	TH01-SZ	CN1256	421272

Test Firm	Sporton International (Shenzhen) Inc.		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City Guangdong Province China 518103 TEL: +86-755-33202398		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	03CH01-SZ 03CH02-SZ 03CH03-SZ	CN1256	421272

1.8 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH01-SZ	AUDIX	E3	6.2009-8-24
2.	03CH02-SZ	AUDIX	E3	6.2009-8-24a
3.	03CH03-SZ	AUDIX	E3	6.2009-8-24

1.9 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 2, 27
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark:

All test items were verified and recorded according to the standards and without any deviation during the test.

2 Test Configuration of Equipment Under Test

2.1 Test Mode

Antenna port conducted and radiated test items are performed according to KDB 971168 D01 Power Meas License Digital Systems v03r01 with maximum output power.

For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases were recorded in this report.

The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.

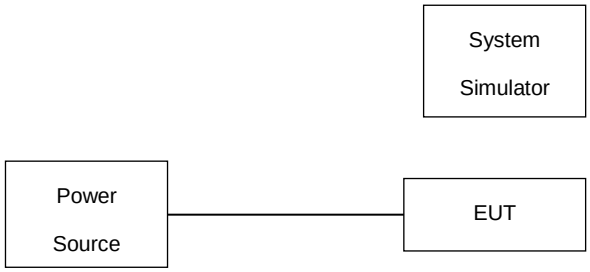
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			

Test Items	5G NR	Bandwidth (MHz)										Modulation					RB #		Test Channel		
		5	10	15	20	30	40	50	60	80	100	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM	1	Full	L	M	H
Max. Output Power	n41	-	-	-	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	n41	-	-	-	-	-	-	-	-	-	v	v	v				v	v	v	v	v
26dB and 99% Bandwidth	n41	-	-	-	-	-	-	-	-	-	v	v	v	v	v	v		v		v	
Conducted Band Edge	n41	-	-	-	-	-	-	-	-	-	v	v	v				v	v	v		v
Conducted Spurious Emission	n41	-	-	-	-	-	-	-	-	-	v	v	v				v		v	v	v
Frequency Stability	n41	-	-	-	-	-	-	-	-	-	v	v						v		v	
E.R.P / E.I.R.P	n41	-	-	-	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v	v
Radiated Spurious Emission	n41	Worst Case																		v	
	n78	Worst Case																		v	

Note

1. The mark "**v** " means that this configuration is chosen for testing
2. The mark "-" means that this bandwidth is not supported.
3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.
4. Based on engineering evaluation, only the worst modulation test results are shown in the report.
5. 5G NR n41 support UL MIMO mode, and only supports CP-OFDM modulation in UL MIMO mode.
6. 5G NR n41 UL MIMO mode, the conducted power show in the appendix A is the total MIMO power, and the transmit signals are uncorrelated.
7. 5G NR n41 SA/NSA/UL MIMO supports HPUE.
8. For the new ENDC_7C_n78A / ENDC_38A_n78A, the ENDC power was less than original report, thus only RSE is assessed according to the maximum power.

2.2 Connection Diagram of Test System



This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	DC Power Supply	GW	GPS-3030D	N/A	N/A	Unshielded, 1.8 m
2.	LTE Base Station	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m
3.	NR Base Station	Anritsu	MT8000A	N/A	N/A	Unshielded, 1.8 m
4.	Test Jig	N/A	N/A	N/A	N/A	N/A

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss.

Offset = RF cable loss.

Following shows an offset computation example with cable loss 4.3 dB.

Example :

Offset(dB) = RF cable loss(dB).

= 4.3 (dB)

2.5 Frequency List of Low/Middle/High Channels

5G NR n41 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
100	Channel	509202	518598	528000
	Frequency	2546.01	2592.99	2640

5G NR n78 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
20	Channel	647333	650000	652667
	Frequency	3709.995	3750	3790.005
100	Channel	-	650000	--
	Frequency	-	3750	-

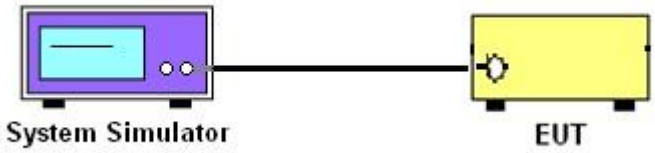
3 Conducted Test Items

3.1 Measuring Instruments

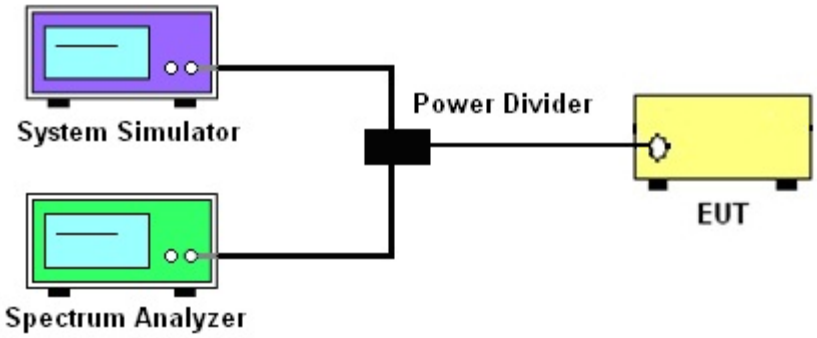
See list of measuring instruments of this test report.

3.2 Test Setup

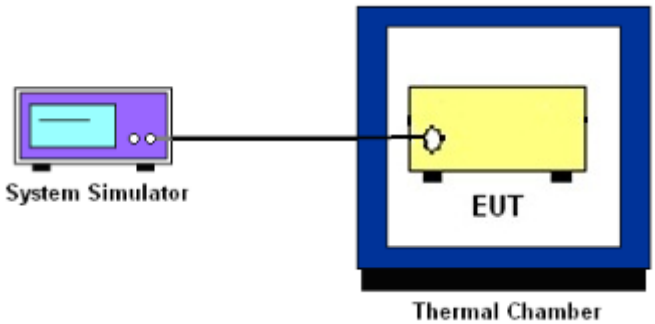
3.2.1 Conducted Output Power



3.2.2 Peak-to-Average Ratio, Occupied Bandwidth, Conducted Band-Edge and Conducted Spurious Emission



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power and EIRP

3.4.1 Description of the Conducted Output Power Measurement and EIRP Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The EIRP of mobile transmitters must not exceed 2 Watts for 5G NR n41.

According to KDB 412172 D01 Power Approach,

EIRP = $P_T + G_T – L_C$, ERP = EIRP -2.15, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2
2. The transmitter output port was connected to the system simulator.
3. Set EUT at maximum power through the system simulator.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure and record the power level from the system simulator.

3.5 Peak-to-Average Ratio

3.5.1 Description of the PAR Measurement

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument's resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

3.5.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2.3.4 (CCDF).
2. The EUT was connected to spectrum and system simulator via a power divider.
3. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
4. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
5. Record the deviation as Peak to Average Ratio.

3.6 Occupied Bandwidth

3.6.1 Description of Occupied Bandwidth Measurement

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

3.6.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.4
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.
4. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
5. Set the detection mode to peak, and the trace mode to max hold.
6. Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace. (this is the reference value)
7. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
8. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “–X dB down amplitude” determined in step 6. If a marker is below this “-X dB down amplitude” value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.
9. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

3.7 Conducted Band Edge

3.7.1 Description of Conducted Band Edge Measurement

27.53(m)(4)

For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

3.7.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The band edges of low and high channels for the highest RF powers were measured.
4. Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
5. Beyond the 1 MHz band from the band edge, RBW=1MHz was used.
6. Set spectrum analyzer with RMS detector.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
8. Checked that all the results comply with the emission limit line.
   Example:
   The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
   = P(W)- [43 + 10log(P)] (dB)
   = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB) = -13dBm.
9. For 5G NR n41, the other 40 dB, and 55 dB have additionally applied same calculation above.
10. When using the integration method, the starting frequency of the integration shall be centered at one-half of the RBW away from the band edge.

3.8 Conducted Spurious Emission

3.8.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

For 5G NR n41:

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 55 + 10 log (P) dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10^{th} harmonic.

3.8.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. The middle channel for the highest RF power within the transmitting frequency was measured.
5. The conducted spurious emission for the whole frequency range was taken.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
7. Set spectrum analyzer with RMS detector.
8. Taking the record of maximum spurious emission.
9. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
10. The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.
11. For 5G NR n41
    The limit line is derived from 55 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [55+ 10log(P)] (dB)
    = [30+ 10log(P)] (dBm) - [55+ 10log(P)] (dB)
    = -25dBm.

3.9 Frequency Stability

3.9.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center frequency.

3.9.2 Test Procedures for Temperature Variation

1. The testing follows ANSI C63.26 section 5.6.4
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
4. With power OFF, the temperature was raised in 10°C step up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

3.9.3 Test Procedures for Voltage Variation

1. The testing follows ANSI C63.26 section 5.6.5
2. The EUT was placed in a temperature chamber at 20±5°C and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value for other than hand carried battery equipment.
4. For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.
5. The variation in frequency was measured for the worst case.

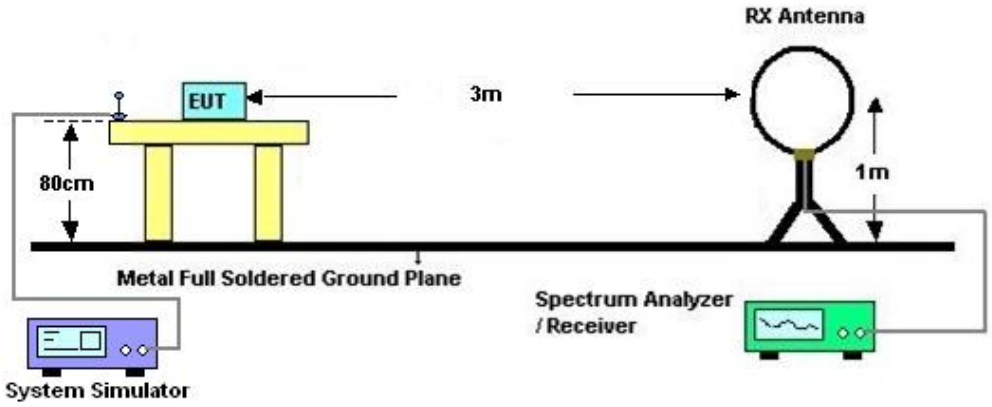
4 Radiated Test Items

4.1 Measuring Instruments

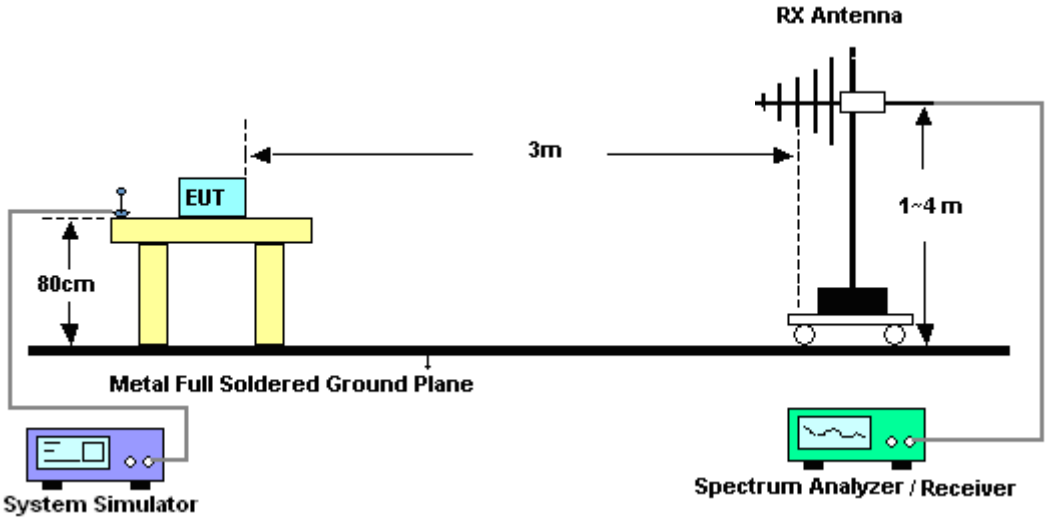
See list of measuring instruments of this test report.

4.2 Test Setup

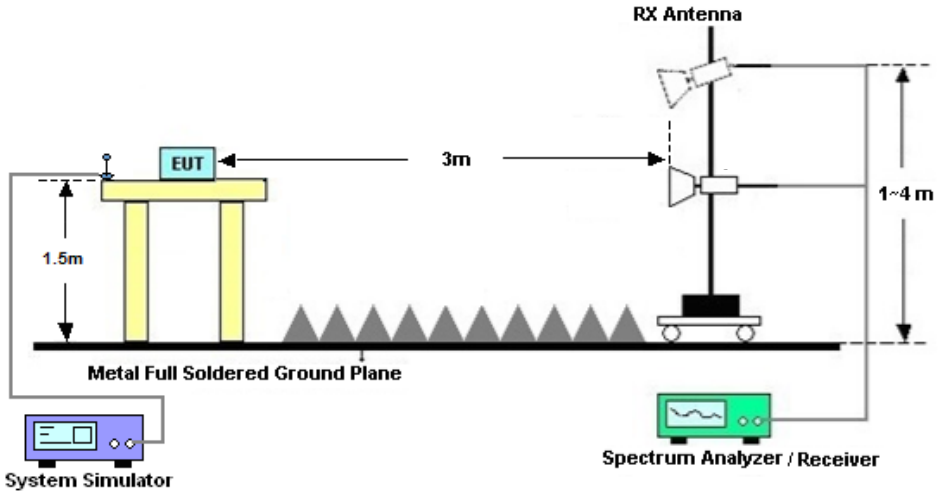
4.2.1 For radiated test below 30MHz



4.2.2 For radiated test from 30MHz to 1GHz



4.2.3 For radiated test above 1GHz



4.3 Test Result of Radiated Test

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

Please refer to Appendix B.

4.4 Radiated Spurious Emission

4.4.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI C63.26. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

For 5G NR n41

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 55 + 10 log (P) dB.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

4.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
10. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
11. ERP (dBm) = EIRP - 2.15
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
    The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.
13. For 5G NR n41:
    The limit line is derived from 55 + 10log(P)dB below the transmitter power P(Watts)The limit line is derived from 55 + 10log(P)dB below the transmitter power P(Watts)

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 08, 2021	Aug. 25, 2021~ Sep. 27, 2021	Apr. 07, 2022	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04 265	60.06.020.0 077	0.4GHz~26.5G Hz	Dec. 26, 2020	Aug. 25, 2021~ Sep. 27, 2021	Dec. 25, 2021	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangrou p	LP-150U	H201408180 3	-40~+150°C	Jul. 14, 2021	Aug. 25, 2021~ Sep. 27, 2021	Jul. 13, 2022	Conducted (TH01-SZ)
EMI Test Receiver&SA	Agilent	N9038A	MY5226018 5	20Hz~26.5GHz	Dec. 03, 2020	Aug. 19, 2021	Dec. 02, 2021	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jun. 22, 2020	Aug. 19, 2021	Jun. 21, 2022	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz-2GHz	Jul. 15, 2021	Aug. 19, 2021	Jul. 14, 2022	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 25, 2021	Aug. 19, 2021	Jul. 24, 2022	Radiation (03CH01-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 11, 2021	Aug. 19, 2021	Apr. 10, 2022	Radiation (03CH01-SZ)
LF Amplifier	Burgeon	BPA-530	102209	0.01~3000Mhz	Apr. 07, 2021	Aug. 19, 2021	Apr. 06, 2022	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	AMF-7D-00 101800-30- 10P-R	1943528	1GHz~18GHz	Oct. 15, 2020	Aug. 19, 2021	Oct. 14, 2021	Radiation (03CH01-SZ)
HF Amplifier	KEYSIGHT	83017A	MY5327010 5	0.5GHz~26.5Gh z	Oct. 16, 2020	Aug. 19, 2021	Oct. 15, 2021	Radiation (03CH01-SZ
HF Amplifier	MITEQ	TTA1840-35 -HG	1871923	18GHz~40GHz	Jul. 21, 2021	Aug. 19, 2021	Jul. 20, 2022	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	6160100019 85	N/A	NCR	Aug. 19, 2021	NCR	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Aug. 19, 2021	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Aug. 19, 2021	NCR	Radiation (03CH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY5515021 3	10Hz~44GHz	Jul. 13, 2021	Sep. 27, 2021	Jul. 12, 2022	Radiation (03CH02-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jun. 22, 2020	Sep. 27, 2021	Jun. 21, 2022	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	-	30MHz-2GHz	Jul. 14, 2021	Sep. 27, 2021	Jul. 13, 2022	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 25, 2021	Sep. 27, 2021	Jul. 24, 2022	Radiation (03CH02-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 11 2021	Sep. 27, 2021	Apr. 10, 2022	Radiation (03CH02-SZ)
LF Amplifier	Bur35407geon	BPA-530	102211	0.01~3000Mhz	Jul. 13, 2021	Sep. 27, 2021	Jul. 13, 2022	Radiation (03CH02-SZ)
HF Amplifier	KEYSIGHT	83017A	MY5327010 5	0.5GHz~26.5Gh z	Oct. 16, 2020	Sep. 27, 2021	Oct. 15, 2021	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	TTA1840-35 -HG	1871923	18GHz~40GHz	Jul. 13, 2021	Sep. 27, 2021	Jul. 13, 2022	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	6160100024 70	N/A	NCR	Sep. 27, 2021	NCR	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	Sep. 27, 2021	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	Sep. 27, 2021	NCR	Radiation (03CH02-SZ)
EMI Test Receiver&SA	KEYSIGHT	N9038A	MY5445008 3	20Hz~8.4GHz	Apr. 07, 2021	Sep. 27, 2021	Apr. 06, 2022	Radiation (03CH03-SZ)
EXA Spectrum Anaiyzer	KEYSIGHT	N9010A	MY5515024 6	10Hz~44GHz;	Apr. 07, 2021	Sep. 27, 2021	Apr. 06, 2022	Radiation (03CH03-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jun. 22, 2020	Sep. 27, 2021	Jun. 21, 2022	Radiation (03CH03-SZ)
Bilog Antenna	TeseQ	CBL6112D	35408	30MHz-2GHz	Jun. 22, 2020	Sep. 27, 2021	Jun. 21, 2022	Radiation (03CH03-SZ)

Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1355	1GHz~18GHz	Apr. 25, 2021	Sep. 27, 2021	Apr. 24, 2022	Radiation (03CH03-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 11, 2021	Sep. 27, 2021	Apr. 10, 2022	Radiation (03CH03-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct. 16, 2020	Sep. 27, 2021	Oct. 15, 2021	Radiation (03CH03-SZ)
Amplifier	Agilent Technologies	83017A	MY39501302	500MHz~26.5GHz	Dec. 30, 2020	Sep. 27, 2021	Dec. 29, 2021	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jun. 22, 2020	Sep. 27, 2021	Jun. 21, 2022	Radiation (03CH03-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	NCR	Sep. 27, 2021	NCR	Radiation (03CH03-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Sep. 27, 2021	NCR	Radiation (03CH03-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Sep. 27, 2021	NCR	Radiation (03CH03-SZ)

NCR: No Calibration Required

6 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

For 03CH01-SZ

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.48dB**

Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.53dB**

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.02dB**

For 03CH02-SZ

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.47dB**

Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.31dB**

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.72dB**

For 03CH03-SZ

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.0dB**

Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.6dB**

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.8dB**

Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power and EIRP)

Software Version: 21.02.081201

FR1 N41

Transmitter Conducted Output Power And ERP/EIRP, (G_T - L_C)=4.0dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
41	30	100	509202	2546.01	DFT-s-OFDM PI/2 BPSK	135@67	26.11	30.11	1.0257
41	30	100	509202	2546.01	DFT-s-OFDM PI/2 BPSK	1@1	25.23	29.23	0.8375
41	30	100	509202	2546.01	DFT-s-OFDM PI/2 BPSK	1@271	25.09	29.09	0.8110
41	30	100	509202	2546.01	DFT-s-OFDM QPSK	135@67	26.11	30.11	1.0257
41	30	100	509202	2546.01	DFT-s-OFDM QPSK	1@1	26.19	30.19	1.0447
41	30	100	509202	2546.01	DFT-s-OFDM QPSK	1@271	25.4	29.4	0.8710
41	30	100	509202	2546.01	DFT-s-OFDM 16 QAM	135@67	25.15	29.15	0.8222
41	30	100	509202	2546.01	DFT-s-OFDM 16 QAM	1@1	24.45	28.45	0.6998
41	30	100	509202	2546.01	DFT-s-OFDM 16 QAM	1@271	24.89	28.89	0.7745
41	30	100	509202	2546.01	DFT-s-OFDM 64 QAM	135@67	23.57	27.57	0.5715
41	30	100	509202	2546.01	DFT-s-OFDM 64 QAM	1@1	22.94	26.94	0.4943
41	30	100	509202	2546.01	DFT-s-OFDM 64 QAM	1@271	22.97	26.97	0.4977
41	30	100	509202	2546.01	DFT-s-OFDM 256 QAM	135@67	21.49	25.49	0.3540
41	30	100	509202	2546.01	DFT-s-OFDM 256 QAM	1@1	20.73	24.73	0.2972
41	30	100	509202	2546.01	DFT-s-OFDM 256 QAM	1@271	20.68	24.68	0.2938
41	30	100	509202	2546.01	CP-OFDM QPSK	137@68	24.65	28.65	0.7328
41	30	100	509202	2546.01	CP-OFDM QPSK	1@1	24.19	28.19	0.6592
41	30	100	509202	2546.01	CP-OFDM QPSK	1@271	23.56	27.56	0.5702
41	30	100	518598	2592.99	DFT-s-OFDM PI/2 BPSK	135@67	26.14	30.14	1.0328
41	30	100	518598	2592.99	DFT-s-OFDM PI/2 BPSK	1@1	25.06	29.06	0.8054
41	30	100	518598	2592.99	DFT-s-OFDM PI/2 BPSK	1@271	25.91	29.91	0.9795
41	30	100	518598	2592.99	DFT-s-OFDM QPSK	135@67	26.08	30.08	1.0186
41	30	100	518598	2592.99	DFT-s-OFDM QPSK	1@1	25.72	29.72	0.9376
41	30	100	518598	2592.99	DFT-s-OFDM QPSK	1@271	26.24	30.24	1.0568
41	30	100	518598	2592.99	DFT-s-OFDM 16 QAM	135@67	25.14	29.14	0.8204
41	30	100	518598	2592.99	DFT-s-OFDM 16 QAM	1@1	24.27	28.27	0.6714
41	30	100	518598	2592.99	DFT-s-OFDM 16	1@271	24.92	28.92	0.7798

					QAM				
41	30	100	518598	2592.99	DFT-s-OFDM 64 QAM	135@67	23.56	27.56	0.5702
41	30	100	518598	2592.99	DFT-s-OFDM 64 QAM	1@1	22.55	26.55	0.4519
41	30	100	518598	2592.99	DFT-s-OFDM 64 QAM	1@271	23.62	27.62	0.5781
41	30	100	518598	2592.99	DFT-s-OFDM 256 QAM	135@67	21.5	25.5	0.3548
41	30	100	518598	2592.99	DFT-s-OFDM 256 QAM	1@1	20.54	24.54	0.2844
41	30	100	518598	2592.99	DFT-s-OFDM 256 QAM	1@271	21.34	25.34	0.3420
41	30	100	518598	2592.99	CP-OFDM QPSK	137@68	24.61	28.61	0.7261
41	30	100	518598	2592.99	CP-OFDM QPSK	1@1	24.02	28.02	0.6339
41	30	100	518598	2592.99	CP-OFDM QPSK	1@271	24.46	28.46	0.7015
41	30	100	528000	2640	DFT-s-OFDM PI/2 BPSK	135@67	26.21	30.21	1.0495
41	30	100	528000	2640	DFT-s-OFDM PI/2 BPSK	1@1	24.84	28.84	0.7656
41	30	100	528000	2640	DFT-s-OFDM PI/2 BPSK	1@271	25.74	29.74	0.9419
41	30	100	528000	2640	DFT-s-OFDM QPSK	135@67	26.21	30.21	1.0495
41	30	100	528000	2640	DFT-s-OFDM QPSK	1@1	25.83	29.83	0.9616
41	30	100	528000	2640	DFT-s-OFDM QPSK	1@271	25.97	29.97	0.9931
41	30	100	528000	2640	DFT-s-OFDM 16 QAM	135@67	25.27	29.27	0.8453
41	30	100	528000	2640	DFT-s-OFDM 16 QAM	1@1	24.27	28.27	0.6714
41	30	100	528000	2640	DFT-s-OFDM 16 QAM	1@271	24.92	28.92	0.7798
41	30	100	528000	2640	DFT-s-OFDM 64 QAM	135@67	23.72	27.72	0.5916
41	30	100	528000	2640	DFT-s-OFDM 64 QAM	1@1	22.48	26.48	0.4446
41	30	100	528000	2640	DFT-s-OFDM 64 QAM	1@271	23.79	27.79	0.6012
41	30	100	528000	2640	DFT-s-OFDM 256 QAM	135@67	21.73	25.73	0.3741
41	30	100	528000	2640	DFT-s-OFDM 256 QAM	1@1	20.3	24.3	0.2692
41	30	100	528000	2640	DFT-s-OFDM 256 QAM	1@271	21.23	25.23	0.3334
41	30	100	528000	2640	CP-OFDM QPSK	137@68	24.79	28.79	0.7568
41	30	100	528000	2640	CP-OFDM QPSK	1@1	23.51	27.51	0.5636
41	30	100	528000	2640	CP-OFDM QPSK	1@271	24.45	28.45	0.6998

Software Version: 21.02.091501

FR1 N41 MIMO

Transmitter Conducted Output Power And ERP/EIRP, (G_T - L_C)=4.0dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	ANT1 Power(dBm)	ANT2 Power(dBm)	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
41	30	100	509202	2546.01	CP-OFDM QPSK	137@68	21.71	21.82	24.78	28.78	0.7543
41	30	100	509202	2546.01	CP-OFDM QPSK	1@1	20.88	21.14	24.02	28.02	0.6342
41	30	100	509202	2546.01	CP-OFDM QPSK	1@271	21.14	21.3	24.23	28.23	0.6654
41	30	100	509202	2546.01	CP-OFDM 16 QAM	137@68	21.24	21.35	24.31	28.31	0.6770
41	30	100	509202	2546.01	CP-OFDM 16 QAM	1@1	20.43	20.43	23.44	27.44	0.5547
41	30	100	509202	2546.01	CP-OFDM 16 QAM	1@271	20.57	20.7	23.65	27.65	0.5815
41	30	100	509202	2546.01	CP-OFDM 64 QAM	137@68	19.87	19.8	22.85	26.85	0.4837
41	30	100	509202	2546.01	CP-OFDM 64 QAM	1@1	19.29	19.59	22.45	26.45	0.4419
41	30	100	509202	2546.01	CP-OFDM 64 QAM	1@271	19.33	19.48	22.42	26.42	0.4381
41	30	100	509202	2546.01	CP-OFDM 256 QAM	137@68	16.87	16.97	19.93	23.93	0.2472
41	30	100	509202	2546.01	CP-OFDM 256 QAM	1@1	16.26	16.57	19.43	23.43	0.2202
41	30	100	509202	2546.01	CP-OFDM 256 QAM	1@271	16.35	16.64	19.51	23.51	0.2243
41	30	100	518598	2592.99	CP-OFDM QPSK	137@68	21.67	21.79	24.74	28.74	0.7483
41	30	100	518598	2592.99	CP-OFDM QPSK	1@1	20.8	20.84	23.83	27.83	0.6068
41	30	100	518598	2592.99	CP-OFDM QPSK	1@271	21.63	21.43	24.54	28.54	0.7147
41	30	100	518598	2592.99	CP-OFDM 16 QAM	137@68	21.19	21.3	24.26	28.26	0.6692

41	30	100	518598	2592.99	CP-OFDM 16 QAM	1@1	20.25	20.6	23.44	27.44	0.5545
41	30	100	518598	2592.99	CP-OFDM 16 QAM	1@271	21.04	21.2	24.13	28.13	0.6503
41	30	100	518598	2592.99	CP-OFDM 64 QAM	137@68	19.85	19.74	22.81	26.81	0.4793
41	30	100	518598	2592.99	CP-OFDM 64 QAM	1@1	19.4	19.1	22.26	26.26	0.4229
41	30	100	518598	2592.99	CP-OFDM 64 QAM	1@271	20	19.63	22.83	26.83	0.4819
41	30	100	518598	2592.99	CP-OFDM 256 QAM	137@68	16.83	16.94	19.90	23.90	0.2452
41	30	100	518598	2592.99	CP-OFDM 256 QAM	1@1	16.12	16.23	19.19	23.19	0.2082
41	30	100	518598	2592.99	CP-OFDM 256 QAM	1@271	16.95	16.73	19.85	23.85	0.2428
41	30	100	528000	2640	CP-OFDM QPSK	137@68	21.84	21.93	24.90	28.90	0.7754
41	30	100	528000	2640	CP-OFDM QPSK	1@1	20.63	20.95	23.80	27.80	0.6030
41	30	100	528000	2640	CP-OFDM QPSK	1@271	21.58	21.57	24.59	28.59	0.7220
41	30	100	528000	2640	CP-OFDM 16 QAM	137@68	21.36	21.46	24.42	28.42	0.6951
41	30	100	528000	2640	CP-OFDM 16 QAM	1@1	19.92	20.33	23.14	27.14	0.5176
41	30	100	528000	2640	CP-OFDM 16 QAM	1@271	20.88	20.89	23.90	27.90	0.6159
41	30	100	528000	2640	CP-OFDM 64 QAM	137@68	20	19.92	22.97	26.97	0.4978
41	30	100	528000	2640	CP-OFDM 64 QAM	1@1	18.89	19.2	22.06	26.06	0.4035
41	30	100	528000	2640	CP-OFDM 64 QAM	1@271	19.85	19.88	22.88	26.88	0.4870
41	30	100	528000	2640	CP-OFDM 256 QAM	137@68	16.98	17.09	20.05	24.05	0.2538
41	30	100	528000	2640	CP-OFDM 256 QAM	1@1	15.84	16.37	19.12	23.12	0.2053
41	30	100	528000	2640	CP-OFDM 256 QAM	1@271	16.69	16.94	19.83	23.83	0.2414

<EN-DC 7C_n78A>

Transmitter Conducted Output Power And ERP/EIRP, (GT - LC)=3dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
78	15	20	647333	3709.995	DFT-s-OFDM PI/2 BPSK	50@25	24.03	27.03	0.5047
78	15	20	647333	3709.995	DFT-s-OFDM PI/2 BPSK	1@1	23.99	26.99	0.5000
78	15	20	647333	3709.995	DFT-s-OFDM PI/2 BPSK	1@104	24.16	27.16	0.5200
78	15	20	647333	3709.995	DFT-s-OFDM QPSK	50@25	24.12	27.12	0.5152
78	15	20	647333	3709.995	DFT-s-OFDM QPSK	1@1	23.98	26.98	0.4989
78	15	20	647333	3709.995	DFT-s-OFDM QPSK	1@104	24.24	27.24	0.5297
78	15	20	647333	3709.995	DFT-s-OFDM 16 QAM	50@25	23.22	26.22	0.4188
78	15	20	647333	3709.995	DFT-s-OFDM 16 QAM	1@1	23.01	26.01	0.3990
78	15	20	647333	3709.995	DFT-s-OFDM 16 QAM	1@104	23.26	26.26	0.4227
78	15	20	647333	3709.995	DFT-s-OFDM 64 QAM	50@25	21.56	24.56	0.2858
78	15	20	647333	3709.995	DFT-s-OFDM 64 QAM	1@1	21.3	24.3	0.2692
78	15	20	647333	3709.995	DFT-s-OFDM 64 QAM	1@104	21.49	24.49	0.2812
78	15	20	647333	3709.995	DFT-s-OFDM 256 QAM	50@25	19.6	22.6	0.1820
78	15	20	647333	3709.995	DFT-s-OFDM 256 QAM	1@1	19.62	22.62	0.1828
78	15	20	647333	3709.995	DFT-s-OFDM 256 QAM	1@104	19.83	22.83	0.1919
78	15	20	647333	3709.995	CP-OFDM QPSK	53@26	22.57	25.57	0.3606
78	15	20	647333	3709.995	CP-OFDM QPSK	1@1	22.56	25.56	0.3597
78	15	20	647333	3709.995	CP-OFDM QPSK	1@104	22.72	25.72	0.3733
78	15	20	650000	3750	DFT-s-OFDM PI/2 BPSK	50@25	23.96	26.96	0.4966
78	15	20	650000	3750	DFT-s-OFDM PI/2 BPSK	1@1	24.04	27.04	0.5058
78	15	20	650000	3750	DFT-s-OFDM PI/2 BPSK	1@104	24.08	27.08	0.5105

78	15	20	650000	3750	DFT-s-OFDM QPSK	50@25	24.09	27.09	0.5117
78	15	20	650000	3750	DFT-s-OFDM QPSK	1@1	24.06	27.06	0.5082
78	15	20	650000	3750	DFT-s-OFDM QPSK	1@104	24.08	27.08	0.5105
78	15	20	650000	3750	DFT-s-OFDM 16 QAM	50@25	23.16	26.16	0.4130
78	15	20	650000	3750	DFT-s-OFDM 16 QAM	1@1	23.11	26.11	0.4083
78	15	20	650000	3750	DFT-s-OFDM 16 QAM	1@104	23.12	26.12	0.4093
78	15	20	650000	3750	DFT-s-OFDM 64 QAM	50@25	21.61	24.61	0.2891
78	15	20	650000	3750	DFT-s-OFDM 64 QAM	1@1	21.34	24.34	0.2716
78	15	20	650000	3750	DFT-s-OFDM 64 QAM	1@104	21.5	24.5	0.2818
78	15	20	650000	3750	DFT-s-OFDM 256 QAM	50@25	19.49	22.49	0.1774
78	15	20	650000	3750	DFT-s-OFDM 256 QAM	1@1	19.54	22.54	0.1795
78	15	20	650000	3750	DFT-s-OFDM 256 QAM	1@104	19.57	22.57	0.1807
78	15	20	650000	3750	CP-OFDM QPSK	53@26	22.55	25.55	0.3589
78	15	20	650000	3750	CP-OFDM QPSK	1@1	22.61	25.61	0.3639
78	15	20	650000	3750	CP-OFDM QPSK	1@104	22.56	25.56	0.3597
78	15	20	652667	3790.005	DFT-s-OFDM PI/2 BPSK	50@25	24.22	27.22	0.5272
78	15	20	652667	3790.005	DFT-s-OFDM PI/2 BPSK	1@1	23.97	26.97	0.4977
78	15	20	652667	3790.005	DFT-s-OFDM PI/2 BPSK	1@104	24.19	27.19	0.5236
78	15	20	652667	3790.005	DFT-s-OFDM QPSK	50@25	24.22	27.22	0.5272
78	15	20	652667	3790.005	DFT-s-OFDM QPSK	1@1	24.11	27.11	0.5140
78	15	20	652667	3790.005	DFT-s-OFDM QPSK	1@104	24.33	27.33	0.5408
78	15	20	652667	3790.005	DFT-s-OFDM 16 QAM	50@25	23.16	26.16	0.4130
78	15	20	652667	3790.005	DFT-s-OFDM 16 QAM	1@1	23.11	26.11	0.4083
78	15	20	652667	3790.005	DFT-s-OFDM 16 QAM	1@104	23.33	26.33	0.4295

78	15	20	652667	3790.005	DFT-s-OFDM 64 QAM	50@25	21.7	24.7	0.2951
78	15	20	652667	3790.005	DFT-s-OFDM 64 QAM	1@1	21.36	24.36	0.2729
78	15	20	652667	3790.005	DFT-s-OFDM 64 QAM	1@104	21.52	24.52	0.2831
78	15	20	652667	3790.005	DFT-s-OFDM 256 QAM	50@25	19.6	22.6	0.1820
78	15	20	652667	3790.005	DFT-s-OFDM 256 QAM	1@1	19.54	22.54	0.1795
78	15	20	652667	3790.005	DFT-s-OFDM 256 QAM	1@104	19.75	22.75	0.1884
78	15	20	652667	3790.005	CP-OFDM QPSK	53@26	22.69	25.69	0.3707
78	15	20	652667	3790.005	CP-OFDM QPSK	1@1	22.68	25.68	0.3698
78	15	20	652667	3790.005	CP-OFDM QPSK	1@104	22.82	25.82	0.3819

NR	**SCS**	**Bandwidth**	**Arfcn**	**Freq**	**Modulation**	**RB**	**Conducted Power(dBm)**	**EIRP**	**EIRP**
Band	**(kHz)**	**(MHz)**		**(MHz)**				**(dBm)**	**(W)**
78	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	135@67	23.32	26.32	0.4285
78	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	1@1	22.3	25.3	0.3388
78	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	1@271	22.66	25.66	0.3681
78	30	100	650000	3750	DFT-s-OFDM QPSK	135@67	23.31	26.31	0.4276
78	30	100	650000	3750	DFT-s-OFDM QPSK	1@1	22.38	25.38	0.3451
78	30	100	650000	3750	DFT-s-OFDM QPSK	1@271	22.83	25.83	0.3828
78	30	100	650000	3750	DFT-s-OFDM 16 QAM	135@67	22.38	25.38	0.3451
78	30	100	650000	3750	DFT-s-OFDM 16 QAM	1@1	21.23	24.23	0.2649
78	30	100	650000	3750	DFT-s-OFDM 16 QAM	1@271	21.5	24.5	0.2818
78	30	100	650000	3750	DFT-s-OFDM 64 QAM	135@67	21.02	24.02	0.2523
78	30	100	650000	3750	DFT-s-OFDM 64 QAM	1@1	20.09	23.09	0.2037

78	30	100	650000	3750	DFT-s-OFDM 64 QAM	1@271	20.68	23.68	0.2333
78	30	100	650000	3750	DFT-s-OFDM 256 QAM	135@67	19.04	22.04	0.1600
78	30	100	650000	3750	DFT-s-OFDM 256 QAM	1@1	18.57	21.57	0.1435
78	30	100	650000	3750	DFT-s-OFDM 256 QAM	1@271	18.73	21.73	0.1489
78	30	100	650000	3750	CP-OFDM QPSK	137@68	21.77	24.77	0.2999
78	30	100	650000	3750	CP-OFDM QPSK	1@1	20.95	23.95	0.2483
78	30	100	650000	3750	CP-OFDM QPSK	1@271	21.48	24.48	0.2805
78	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	135@67	23.37	26.37	0.4335
78	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	1@1	22.32	25.32	0.3404
78	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	1@271	22.66	25.66	0.3681
78	30	100	650000	3750	DFT-s-OFDM QPSK	135@67	23.31	26.31	0.4276
78	30	100	650000	3750	DFT-s-OFDM QPSK	1@1	22.44	25.44	0.3499
78	30	100	650000	3750	DFT-s-OFDM QPSK	1@271	22.74	25.74	0.3750
78	30	100	650000	3750	DFT-s-OFDM 16 QAM	135@67	22.37	25.37	0.3443
78	30	100	650000	3750	DFT-s-OFDM 16 QAM	1@1	21.37	24.37	0.2735
78	30	100	650000	3750	DFT-s-OFDM 16 QAM	1@271	21.76	24.76	0.2992
78	30	100	650000	3750	DFT-s-OFDM 64 QAM	135@67	21.06	24.06	0.2547
78	30	100	650000	3750	DFT-s-OFDM 64 QAM	1@1	20.16	23.16	0.2070
78	30	100	650000	3750	DFT-s-OFDM 64 QAM	1@271	20.58	23.58	0.2280
78	30	100	650000	3750	DFT-s-OFDM 256 QAM	135@67	19.05	22.05	0.1603
78	30	100	650000	3750	DFT-s-OFDM 256 QAM	1@1	18.48	21.48	0.1406

78	30	100	650000	3750	DFT-s-OFDM 256 QAM	1@271	18.86	21.86	0.1535
78	30	100	650000	3750	CP-OFDM QPSK	137@68	21.84	24.84	0.3048
78	30	100	650000	3750	CP-OFDM QPSK	1@1	21.18	24.18	0.2618
78	30	100	650000	3750	CP-OFDM QPSK	1@271	21.3	24.3	0.2692

<EN-DC 38A_n78A>

Transmitter Conducted Output Power And ERP/EIRP, (GT - LC)=3dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
78	15	20	647333	3709.995	DFT-s-OFDM PI/2 BPSK	50@25	24.2	27.2	0.5248
78	15	20	647333	3709.995	DFT-s-OFDM PI/2 BPSK	1@1	24	27	0.5012
78	15	20	647333	3709.995	DFT-s-OFDM PI/2 BPSK	1@104	24.22	27.22	0.5272
78	15	20	647333	3709.995	DFT-s-OFDM QPSK	50@25	24.2	27.2	0.5248
78	15	20	647333	3709.995	DFT-s-OFDM QPSK	1@1	24	27	0.5012
78	15	20	647333	3709.995	DFT-s-OFDM QPSK	1@104	24.25	27.25	0.5309
78	15	20	647333	3709.995	DFT-s-OFDM 16 QAM	50@25	23.26	26.26	0.4227
78	15	20	647333	3709.995	DFT-s-OFDM 16 QAM	1@1	23.01	26.01	0.3990
78	15	20	647333	3709.995	DFT-s-OFDM 16 QAM	1@104	23.34	26.34	0.4305
78	15	20	647333	3709.995	DFT-s-OFDM 64 QAM	50@25	21.64	24.64	0.2911
78	15	20	647333	3709.995	DFT-s-OFDM 64 QAM	1@1	21.45	24.45	0.2786
78	15	20	647333	3709.995	DFT-s-OFDM 64 QAM	1@104	21.49	24.49	0.2812
78	15	20	647333	3709.995	DFT-s-OFDM 256 QAM	50@25	19.53	22.53	0.1791
78	15	20	647333	3709.995	DFT-s-OFDM 256 QAM	1@1	18.89	21.89	0.1545
78	15	20	647333	3709.995	DFT-s-OFDM 256 QAM	1@104	19.66	22.66	0.1845
78	15	20	647333	3709.995	CP-OFDM QPSK	53@26	22.7	25.7	0.3715
78	15	20	647333	3709.995	CP-OFDM QPSK	1@1	22.6	25.6	0.3631
78	15	20	647333	3709.995	CP-OFDM QPSK	1@104	22.73	25.73	0.3741
78	15	20	650000	3750	DFT-s-OFDM PI/2 BPSK	50@25	24.11	27.11	0.5140

78	15	20	650000	3750	DFT-s-OFDM PI/2 BPSK	1@1	24.04	27.04	0.5058
78	15	20	650000	3750	DFT-s-OFDM PI/2 BPSK	1@104	24.04	27.04	0.5058
78	15	20	650000	3750	DFT-s-OFDM QPSK	50@25	24.14	27.14	0.5176
78	15	20	650000	3750	DFT-s-OFDM QPSK	1@1	24.03	27.03	0.5047
78	15	20	650000	3750	DFT-s-OFDM QPSK	1@104	24.11	27.11	0.5140
78	15	20	650000	3750	DFT-s-OFDM 16 QAM	50@25	23.03	26.03	0.4009
78	15	20	650000	3750	DFT-s-OFDM 16 QAM	1@1	23.04	26.04	0.4018
78	15	20	650000	3750	DFT-s-OFDM 16 QAM	1@104	23.13	26.13	0.4102
78	15	20	650000	3750	DFT-s-OFDM 64 QAM	50@25	21.61	24.61	0.2891
78	15	20	650000	3750	DFT-s-OFDM 64 QAM	1@1	21.36	24.36	0.2729
78	15	20	650000	3750	DFT-s-OFDM 64 QAM	1@104	21.34	24.34	0.2716
78	15	20	650000	3750	DFT-s-OFDM 256 QAM	50@25	19.55	22.55	0.1799
78	15	20	650000	3750	DFT-s-OFDM 256 QAM	1@1	19.55	22.55	0.1799
78	15	20	650000	3750	DFT-s-OFDM 256 QAM	1@104	19.55	22.55	0.1799
78	15	20	650000	3750	CP-OFDM QPSK	53@26	22.54	25.54	0.3581
78	15	20	650000	3750	CP-OFDM QPSK	1@1	22.57	25.57	0.3606
78	15	20	650000	3750	CP-OFDM QPSK	1@104	22.56	25.56	0.3597
78	15	20	652667	3790.005	DFT-s-OFDM PI/2 BPSK	50@25	24.14	27.14	0.5176
78	15	20	652667	3790.005	DFT-s-OFDM PI/2 BPSK	1@1	24.02	27.02	0.5035
78	15	20	652667	3790.005	DFT-s-OFDM PI/2 BPSK	1@104	24.23	27.23	0.5284
78	15	20	652667	3790.005	DFT-s-OFDM QPSK	50@25	24.18	27.18	0.5224

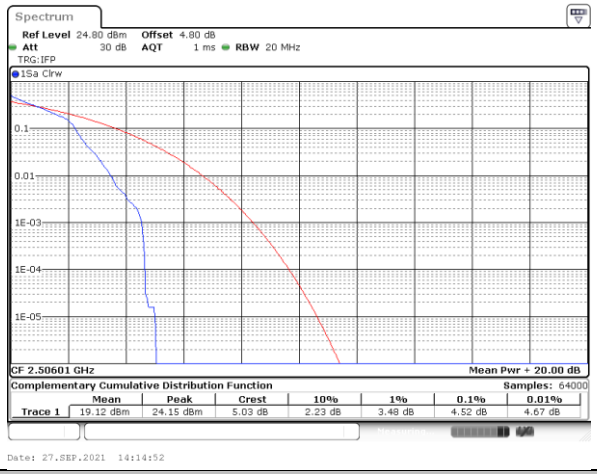
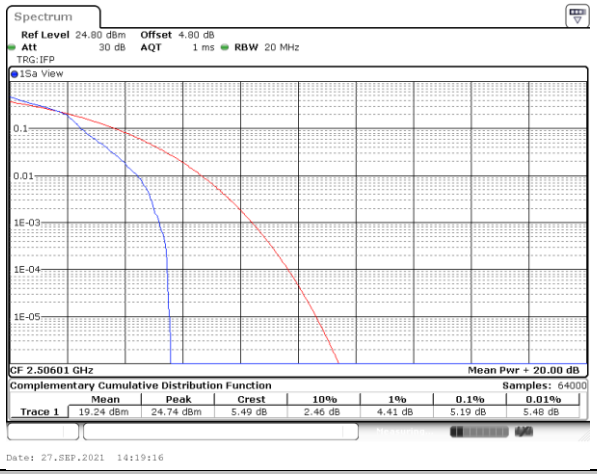
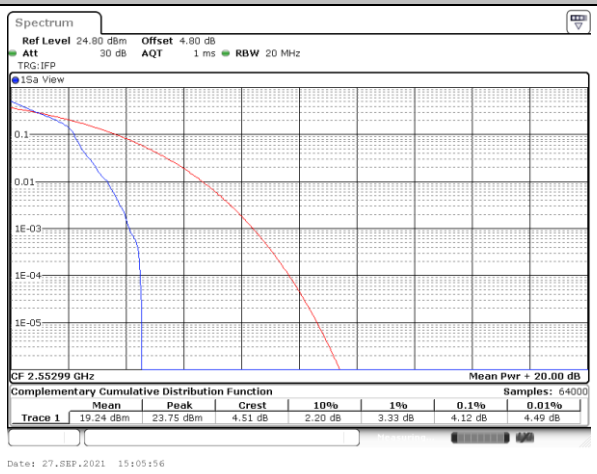
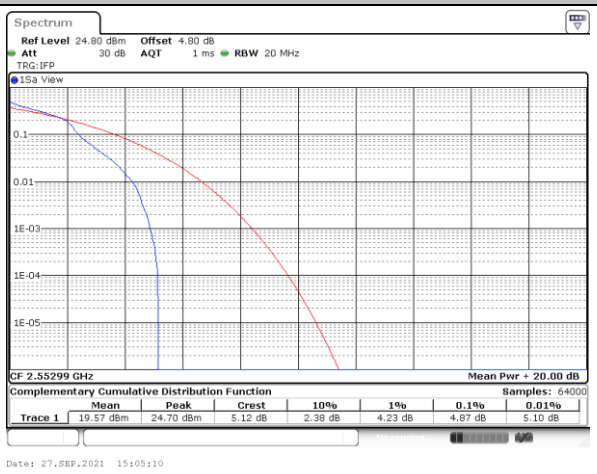
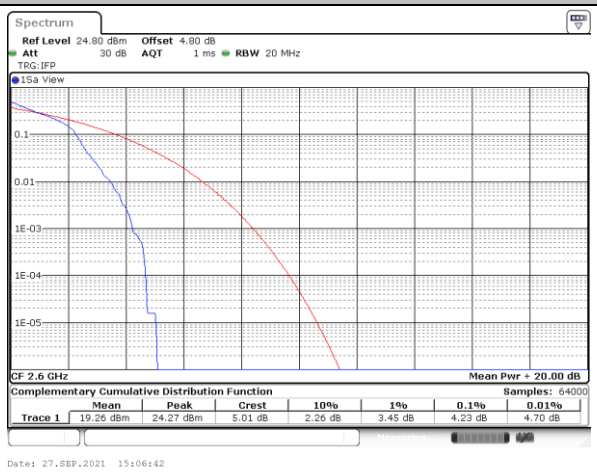
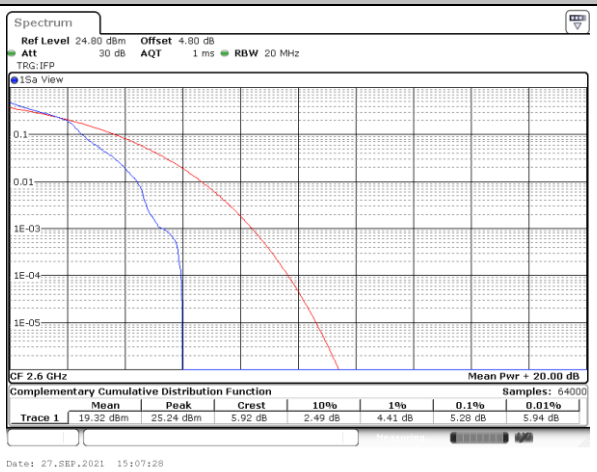
78	15	20	652667	3790.005	DFT-s-OFDM QPSK	1@1	24.11	27.11	0.5140
78	15	20	652667	3790.005	DFT-s-OFDM QPSK	1@104	24.32	27.32	0.5395
78	15	20	652667	3790.005	DFT-s-OFDM 16 QAM	50@25	23.22	26.22	0.4188
78	15	20	652667	3790.005	DFT-s-OFDM 16 QAM	1@1	23.13	26.13	0.4102
78	15	20	652667	3790.005	DFT-s-OFDM 16 QAM	1@104	23.35	26.35	0.4315
78	15	20	652667	3790.005	DFT-s-OFDM 64 QAM	50@25	21.7	24.7	0.2951
78	15	20	652667	3790.005	DFT-s-OFDM 64 QAM	1@1	21.52	24.52	0.2831
78	15	20	652667	3790.005	DFT-s-OFDM 64 QAM	1@104	21.54	24.54	0.2844
78	15	20	652667	3790.005	DFT-s-OFDM 256 QAM	50@25	19.58	22.58	0.1811
78	15	20	652667	3790.005	DFT-s-OFDM 256 QAM	1@1	19.52	22.52	0.1786
78	15	20	652667	3790.005	DFT-s-OFDM 256 QAM	1@104	19.72	22.72	0.1871
78	15	20	652667	3790.005	CP-OFDM QPSK	53@26	22.61	25.61	0.3639
78	15	20	652667	3790.005	CP-OFDM QPSK	1@1	22.58	25.58	0.3614
78	15	20	652667	3790.005	CP-OFDM QPSK	1@104	22.76	25.76	0.3767

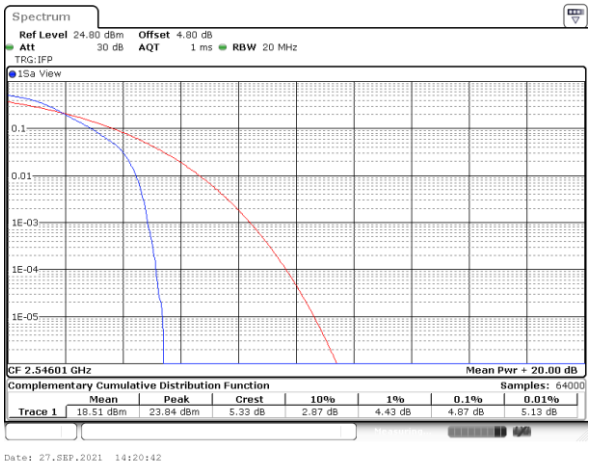
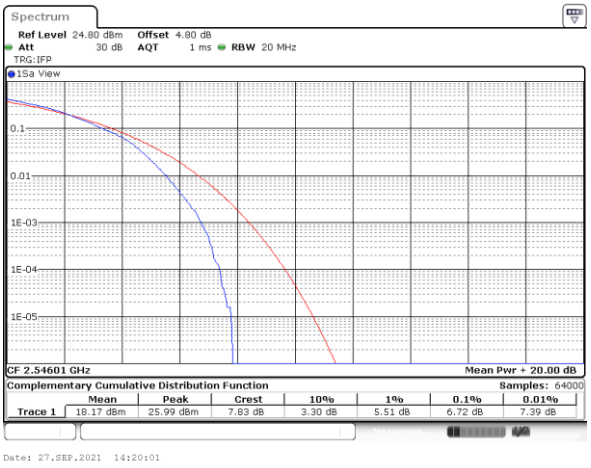
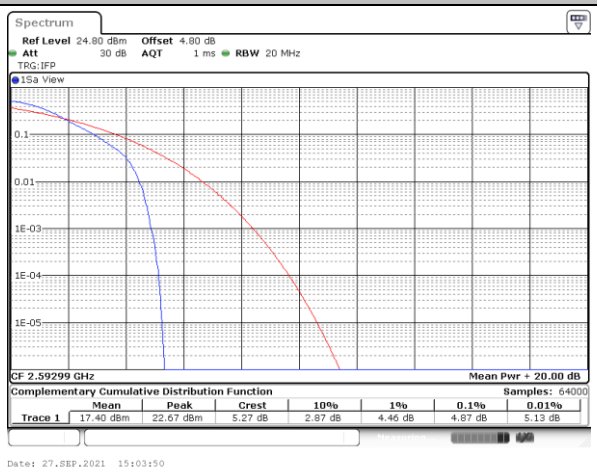
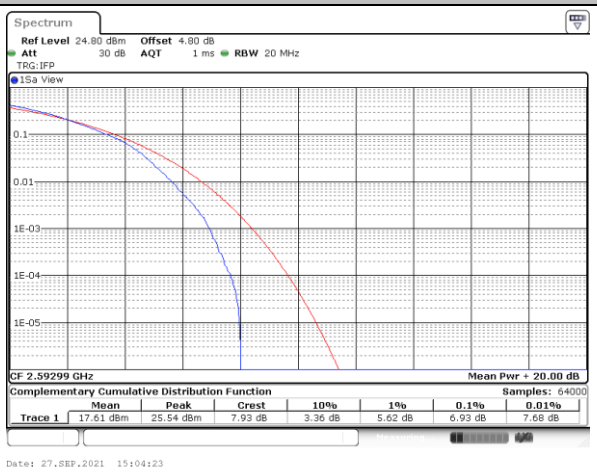
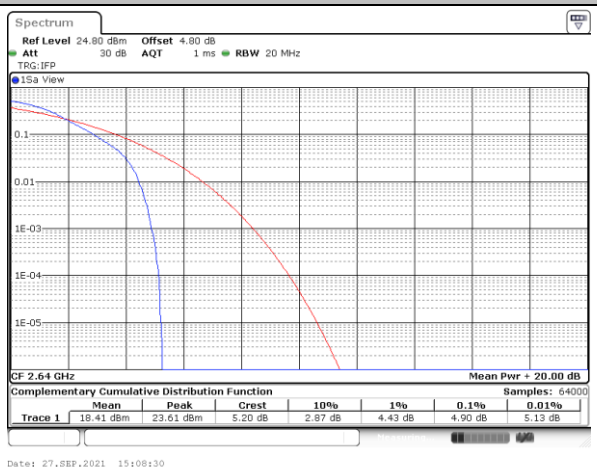
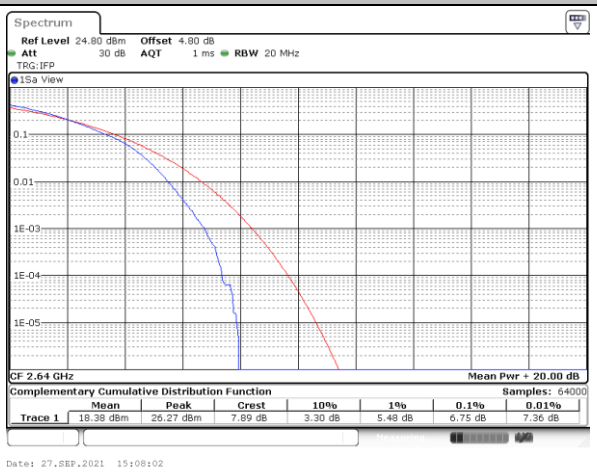
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
78	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	135@67	23.26	26.26	0.4227
78	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	1@1	22.31	25.31	0.3396
78	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	1@271	22.68	25.68	0.3698
78	30	100	650000	3750	DFT-s-OFDM QPSK	135@67	23.25	26.25	0.4217
78	30	100	650000	3750	DFT-s-OFDM QPSK	1@1	22.4	25.4	0.3467
78	30	100	650000	3750	DFT-s-OFDM QPSK	1@271	22.74	25.74	0.3750
78	30	100	650000	3750	DFT-s-OFDM 16 QAM	135@67	22.23	25.23	0.3334
78	30	100	650000	3750	DFT-s-OFDM 16 QAM	1@1	21.25	24.25	0.2661
78	30	100	650000	3750	DFT-s-OFDM 16 QAM	1@271	21.51	24.51	0.2825
78	30	100	650000	3750	DFT-s-OFDM 64 QAM	135@67	20.9	23.9	0.2455
78	30	100	650000	3750	DFT-s-OFDM 64 QAM	1@1	20.33	23.33	0.2153
78	30	100	650000	3750	DFT-s-OFDM 64 QAM	1@271	20.64	23.64	0.2312
78	30	100	650000	3750	DFT-s-OFDM 256 QAM	135@67	18.86	21.86	0.1535
78	30	100	650000	3750	DFT-s-OFDM 256 QAM	1@1	18.19	21.19	0.1315
78	30	100	650000	3750	DFT-s-OFDM 256 QAM	1@271	18.71	21.71	0.1483
78	30	100	650000	3750	CP-OFDM QPSK	137@68	21.74	24.74	0.2979
78	30	100	650000	3750	CP-OFDM QPSK	1@1	20.84	23.84	0.2421
78	30	100	650000	3750	CP-OFDM QPSK	1@271	21.4	24.4	0.2754

FR1 n41

Peak-to-Average Ratio

Mode	FR1 n41 / 100MHz / DFT-OFDM				
Mod.	BPSK	QPSK	BPSK	QPSK	Limit: 13dB
RB Size	1RB	1 RB	Full RB	Full RB	Result
Lowest CH	4.52	5.19	4.87	6.72	PASS
Middle CH	4.12	4.87	4.87	6.93	
Highest CH	4.23	5.28	4.90	6.75	

FR1 n41 / 100MHz / DFT-OFDM	
BPSK	**QPSK**
Lowest Channel / 1RB	**Lowest Channel / 1RB**
	
Middle Channel / 1 RB	**Middle Channel / 1 RB**
	
Highest Channel / 1 RB	**Highest Channel / 1 RB**
	

FR1 n41 / 100MHz / DFT-OFDM	
BPSK	**QPSK**
Lowest Channel / Full RB	**Lowest Channel / Full RB**
	
Middle Channel / Full RB	**Middle Channel / Full RB**
	
Highest Channel / Full RB	**Highest Channel / Full RB**
	

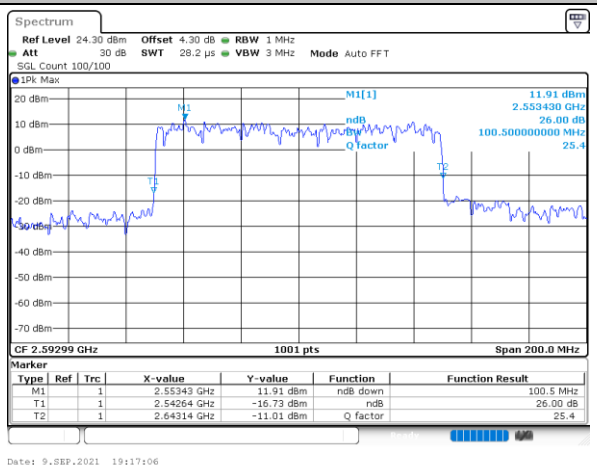
26dB Bandwidth

Mode	FR1 n41 : 26dB BW(MHz) / CP-OFDM							
BW	100MHz	100MHz	100MHz	100MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	100.5	100.7	100.3	100.5				

FR1 n41 / 100MHz / CP-OFDM

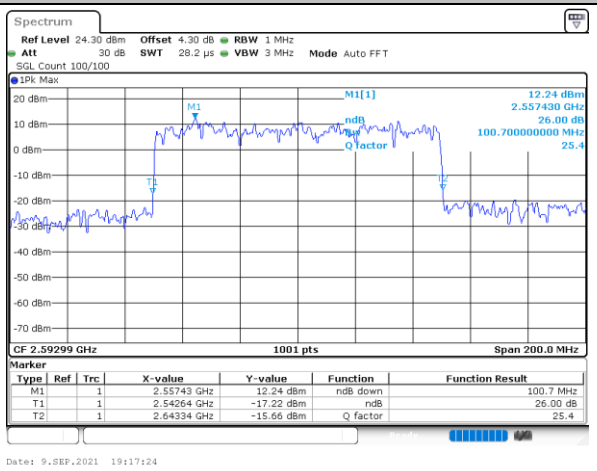
QPSK

Middle Channel



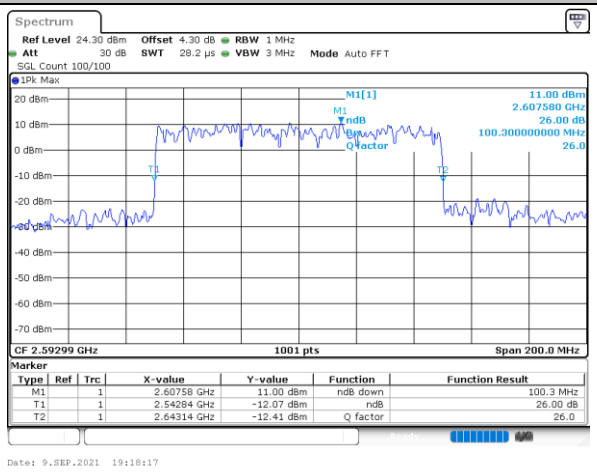
16QAM

Middle Channel



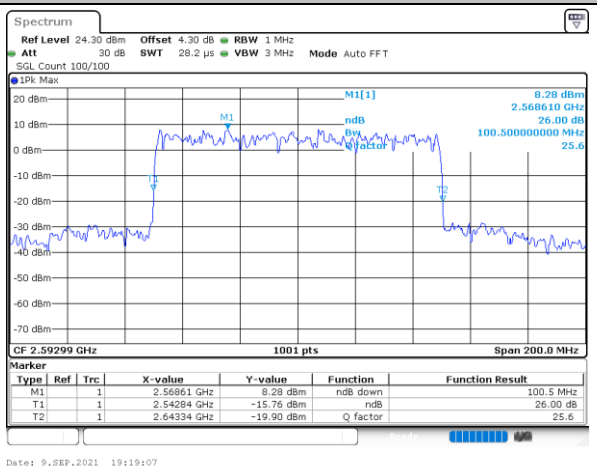
64QAM

Middle Channel



256QAM

Middle Channel



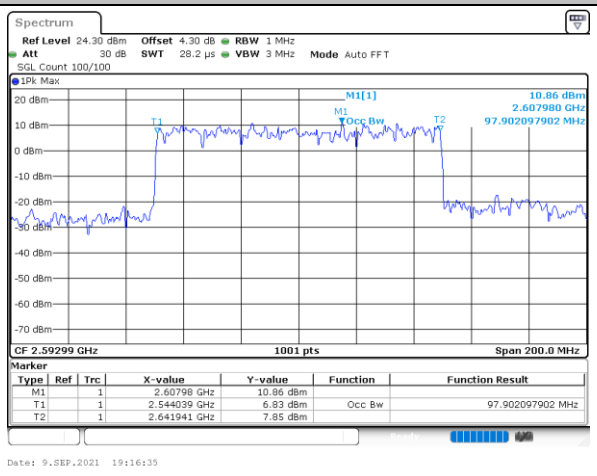
Occupied Bandwidth

Mode	FR1 n41 : OBW(MHz) / CP-OFDM							
BW	100MHz	100MHz	100MHz	100MHz				
Mod.	QPSK	16QAM	64QAM	256QAM				
Middle CH	97.90	97.50	97.9	97.5				

FR1 n41 / 100MHz / CP-OFDM

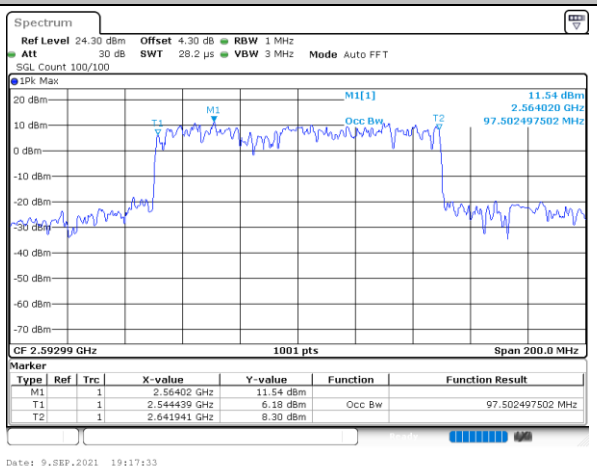
QPSK

Middle Channel



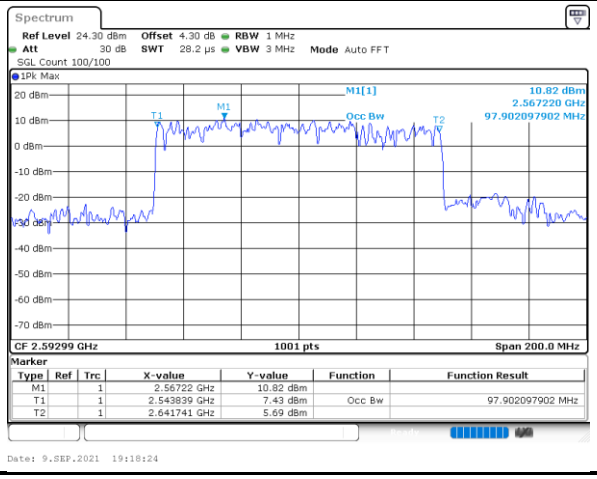
16QAM

Middle Channel



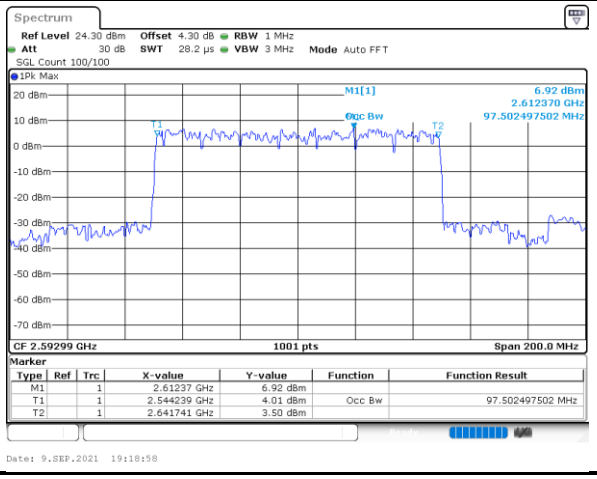
64QAM

Middle Channel

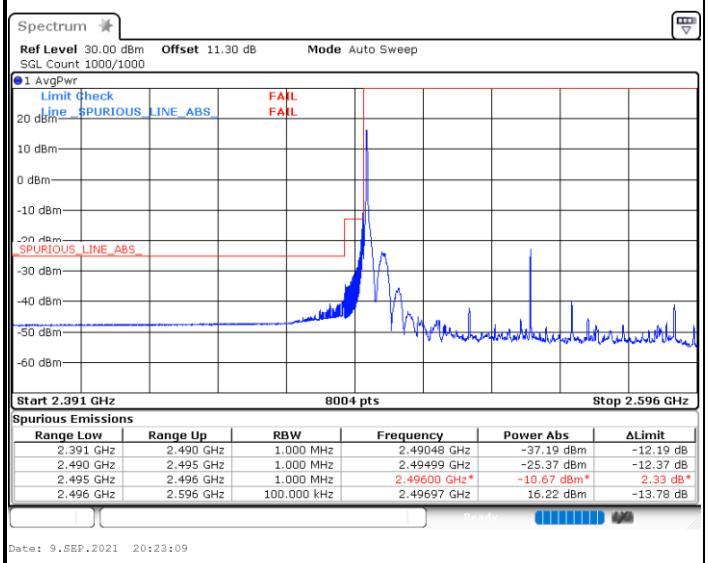
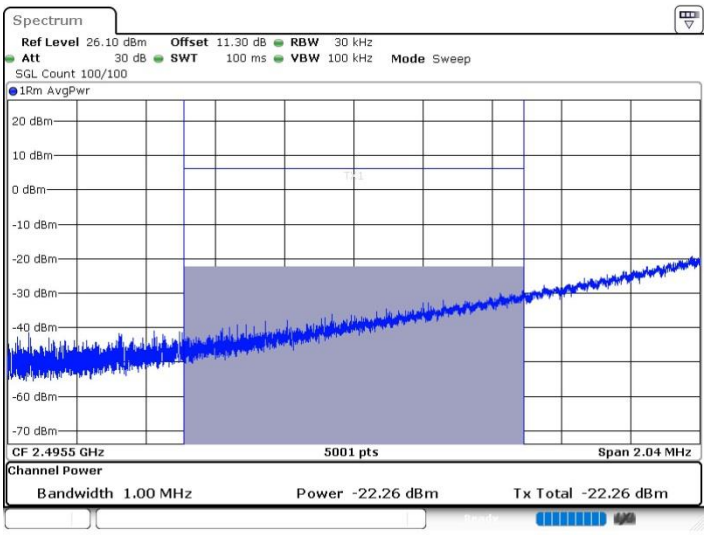
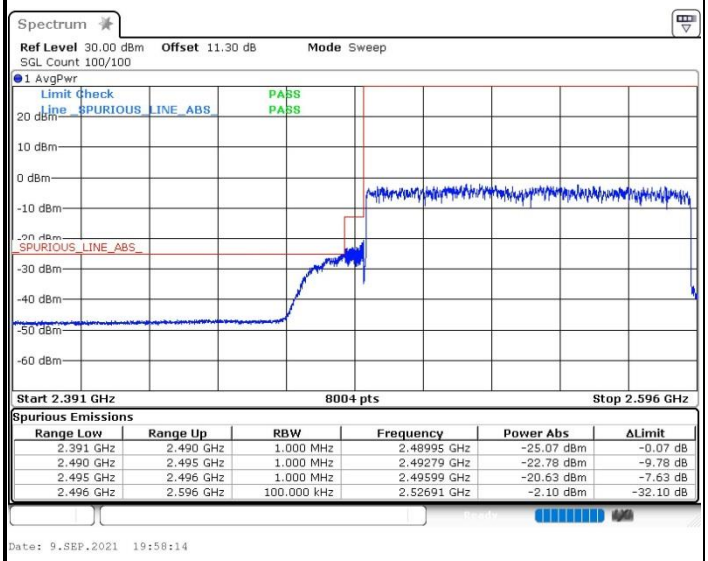
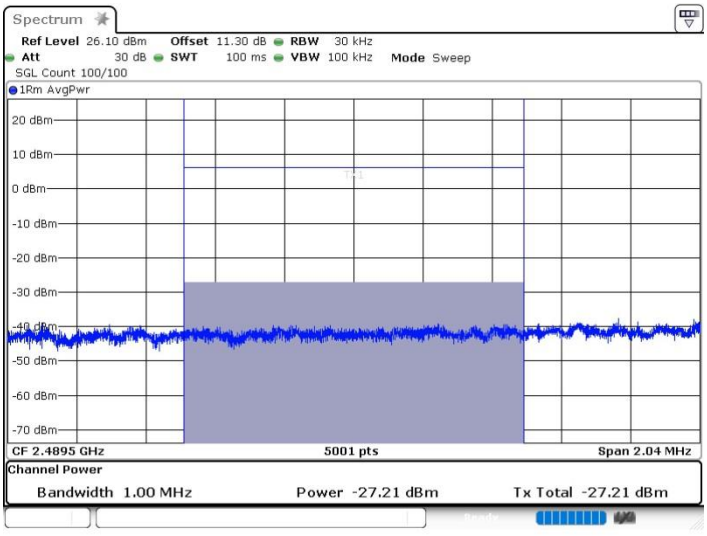


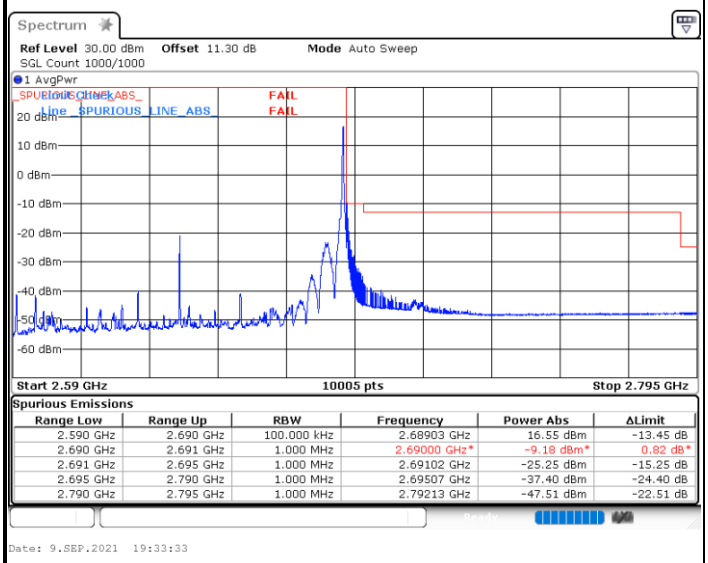
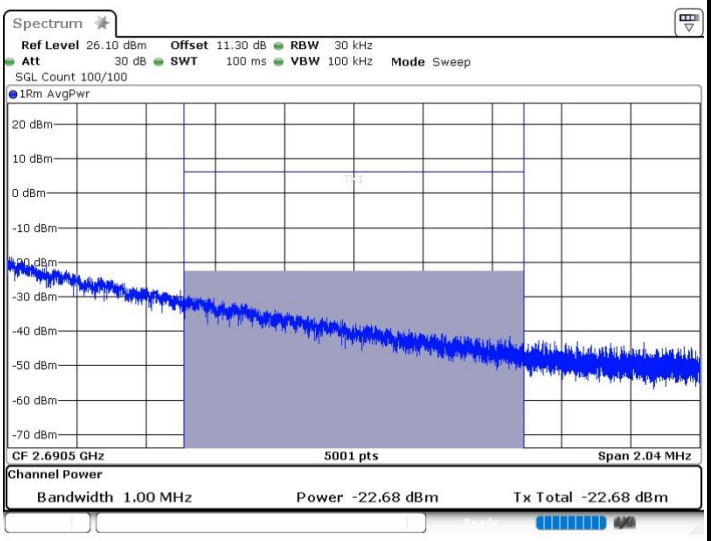
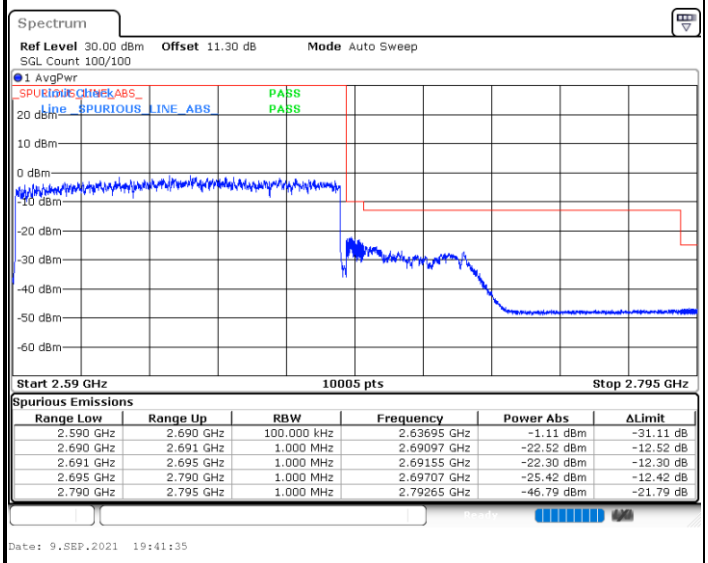
256QAM

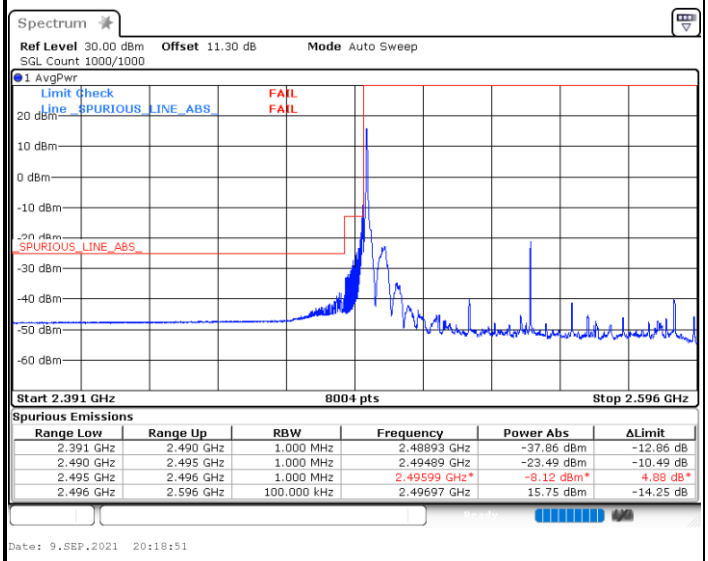
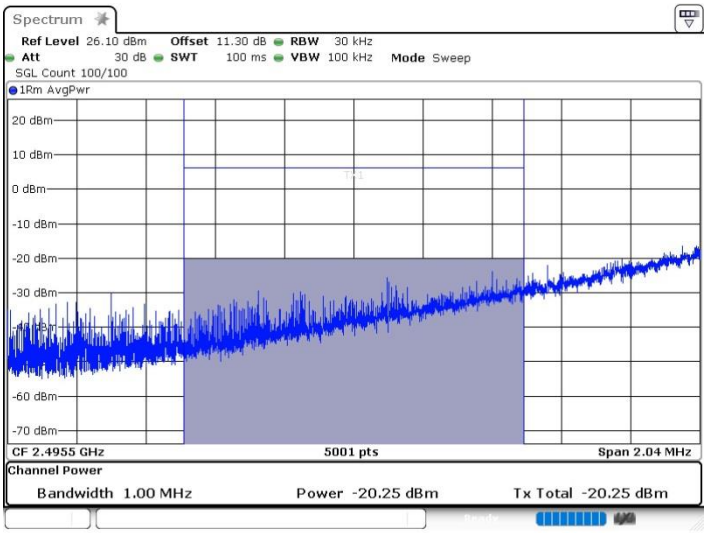
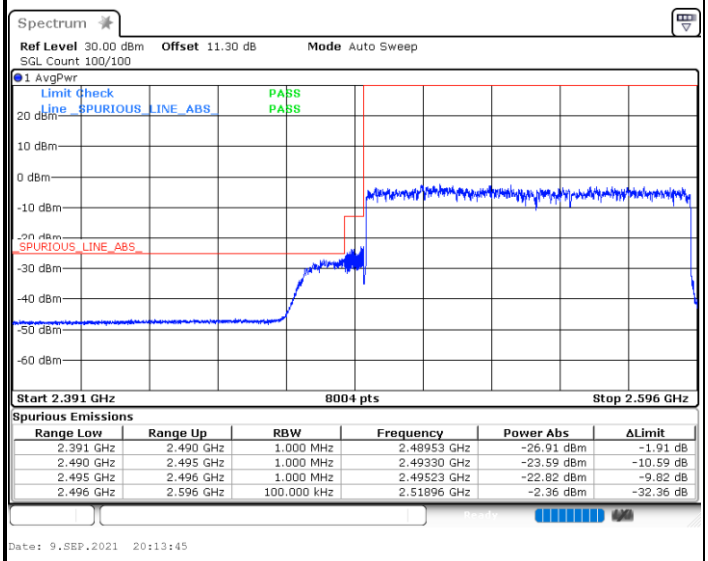
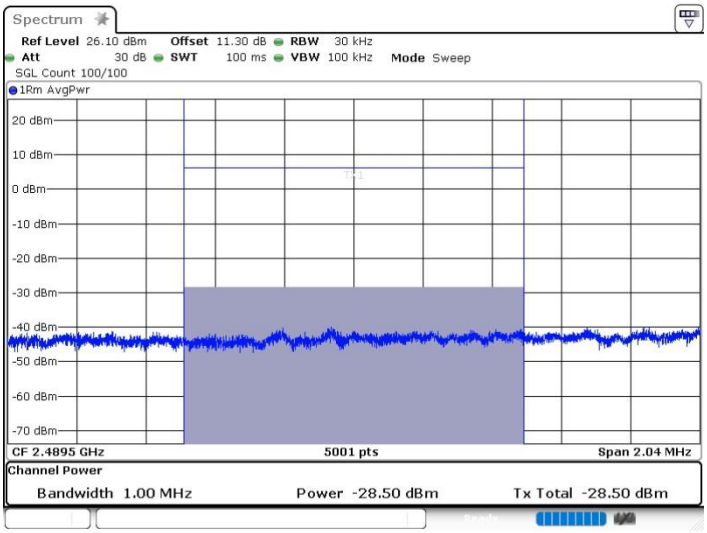
Middle Channel

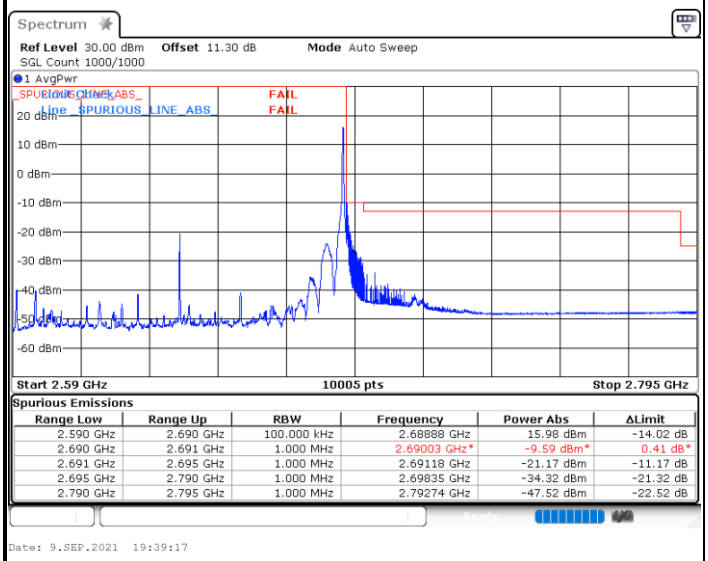
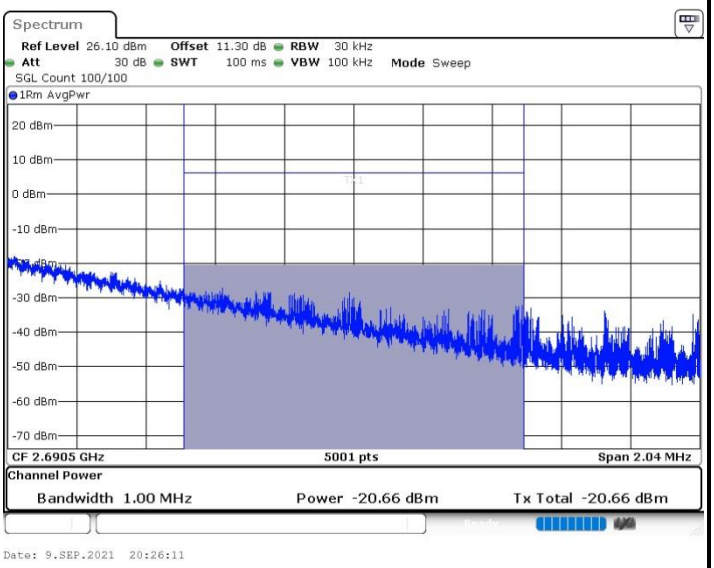
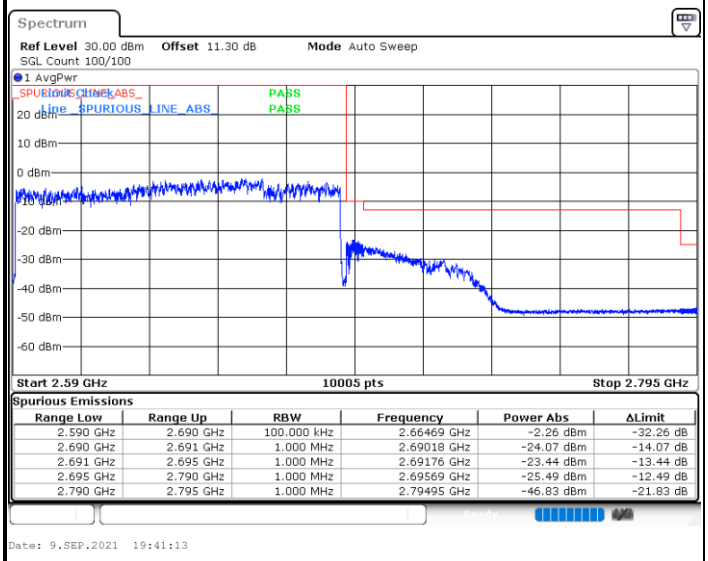


Conducted Band Edge

FR1 n41 / 100MHz / DFT-S OFDM BPSK	
Lowest Band Edge / 1 RB	**Channel Power < -13dBm Pass**
	
Lowest Band Edge / Full RB	**Channel Power < -13dBm Pass**
	

FR1 n41 / 100MHz / DFT-S OFDM BPSK	
Highest Band Edge / 1 RB	**Channel Power < -10dBm Pass**
 Spurious Emissions Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit 2.590 GHz | 2.690 GHz | 100.000 kHz | 2.68903 GHz | 16.55 dBm | -13.45 dB 2.690 GHz | 2.691 GHz | 1.000 MHz | 2.69000 GHz* | -9.18 dBm* | 0.82 dB* 2.691 GHz | 2.695 GHz | 1.000 MHz | 2.69102 GHz | -25.25 dBm | -15.25 dB 2.695 GHz | 2.790 GHz | 1.000 MHz | 2.69507 GHz | -37.40 dBm | -24.40 dB 2.790 GHz | 2.795 GHz | 1.000 MHz | 2.79213 GHz | -47.51 dBm | -22.51 dB Date: 9.SEP.2021 19:33:33	 Date: 9.SEP.2021 20:25:25
Highest Band Edge / Full RB	
 Spurious Emissions Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit 2.590 GHz | 2.690 GHz | 100.000 kHz | 2.63695 GHz | -1.11 dBm | -31.11 dB 2.690 GHz | 2.691 GHz | 1.000 MHz | 2.69097 GHz | -22.52 dBm | -12.52 dB 2.691 GHz | 2.695 GHz | 1.000 MHz | 2.69155 GHz | -22.30 dBm | -12.30 dB 2.695 GHz | 2.790 GHz | 1.000 MHz | 2.69707 GHz | -25.42 dBm | -12.42 dB 2.790 GHz | 2.795 GHz | 1.000 MHz | 2.79265 GHz | -46.79 dBm | -21.79 dB Date: 9.SEP.2021 19:41:35	/

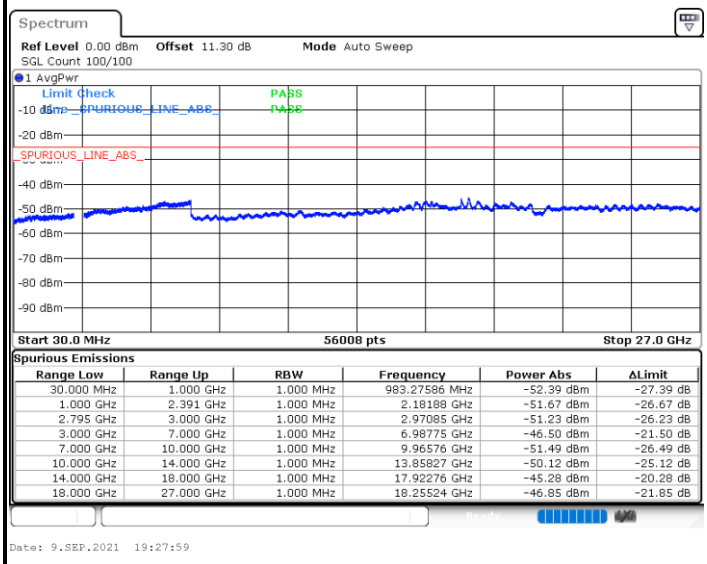
FR1 n41 / 100MHz / DFT-S OFDM QPSK	
Lowest Band Edge / 1 RB	**Channel Power < -13dBm Pass**
	
Lowest Band Edge / Full RB	**Channel Power < -25dBm Pass**
	

FR1 n41 / 100MHz / DFT-S OFDM QPSK	
Highest Band Edge / 1 RB	**Channel Power < -10dBm Pass**
	
Highest Band Edge / Full RB	
	/

Conducted Spurious Emission

FR1 n41 / 100MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB

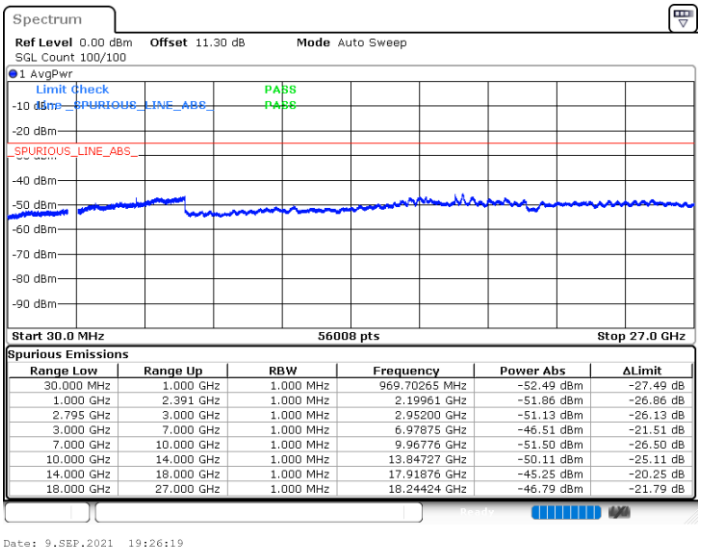


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	983.27586 MHz	-52.39 dBm	-27.39 dB
1.000 GHz	2.391 GHz	1.000 MHz	2.18188 GHz	-51.67 dBm	-26.67 dB
2.795 GHz	3.000 GHz	1.000 MHz	2.97085 GHz	-51.23 dBm	-26.23 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.98775 GHz	-46.50 dBm	-21.50 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.96576 GHz	-51.49 dBm	-26.49 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.85827 GHz	-50.12 dBm	-25.12 dB
14.000 GHz	18.000 GHz	1.000 MHz	17.92276 GHz	-45.28 dBm	-20.28 dB
18.000 GHz	27.000 GHz	1.000 MHz	18.25524 GHz	-46.85 dBm	-21.85 dB

Date: 9.SEP.2021 19:27:59

Middle Channel / 1RB

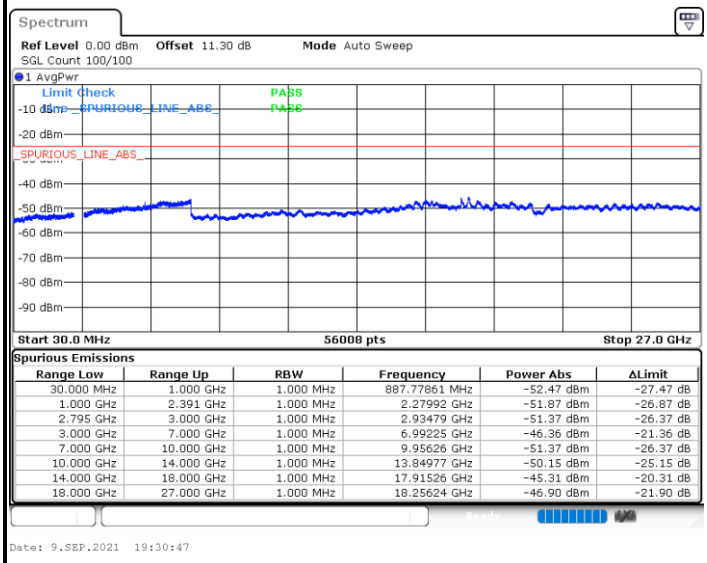


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	969.70265 MHz	-52.49 dBm	-27.49 dB
1.000 GHz	2.391 GHz	1.000 MHz	2.19961 GHz	-51.86 dBm	-26.86 dB
2.795 GHz	3.000 GHz	1.000 MHz	2.95200 GHz	-51.13 dBm	-26.13 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.97875 GHz	-46.51 dBm	-21.51 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.96776 GHz	-51.50 dBm	-26.50 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.84727 GHz	-50.11 dBm	-25.11 dB
14.000 GHz	18.000 GHz	1.000 MHz	17.91876 GHz	-45.25 dBm	-20.25 dB
18.000 GHz	27.000 GHz	1.000 MHz	18.24424 GHz	-46.79 dBm	-21.79 dB

Date: 9.SEP.2021 19:26:19

Highest Channel / 1RB



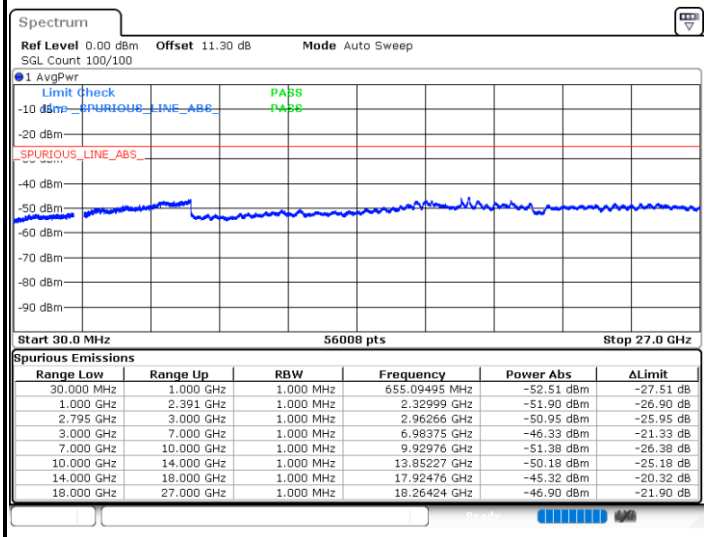
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	887.77861 MHz	-52.47 dBm	-27.47 dB
1.000 GHz	2.391 GHz	1.000 MHz	2.27992 GHz	-51.87 dBm	-26.87 dB
2.795 GHz	3.000 GHz	1.000 MHz	2.93479 GHz	-51.37 dBm	-26.37 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99225 GHz	-46.36 dBm	-21.36 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.95626 GHz	-51.37 dBm	-26.37 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.84977 GHz	-50.15 dBm	-25.15 dB
14.000 GHz	18.000 GHz	1.000 MHz	17.91526 GHz	-45.31 dBm	-20.31 dB
18.000 GHz	27.000 GHz	1.000 MHz	18.25624 GHz	-46.90 dBm	-21.90 dB

Date: 9.SEP.2021 19:30:47

FR1 n41 / 20MHz / DFT-S OFDM / QPSK

Lowest Channel / 1RB

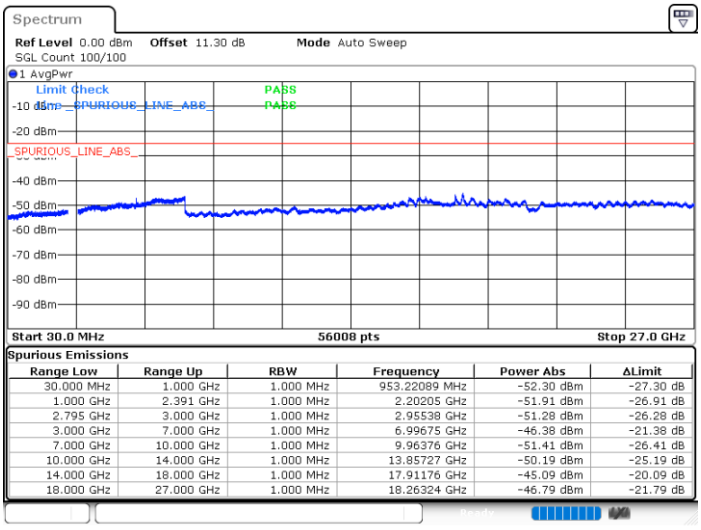


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	655.09495 MHz	-52.51 dBm	-27.51 dB
1.000 GHz	2.391 GHz	1.000 MHz	2.32999 GHz	-51.90 dBm	-26.90 dB
2.795 GHz	3.000 GHz	1.000 MHz	2.96266 GHz	-50.95 dBm	-25.95 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.98375 GHz	-46.33 dBm	-21.33 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.92976 GHz	-51.38 dBm	-26.38 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.85227 GHz	-50.18 dBm	-25.18 dB
14.000 GHz	18.000 GHz	1.000 MHz	17.92476 GHz	-45.32 dBm	-20.32 dB
18.000 GHz	27.000 GHz	1.000 MHz	18.26424 GHz	-46.90 dBm	-21.90 dB

Date: 9.SEP.2021 19:28:53

Middle Channel / 1RB

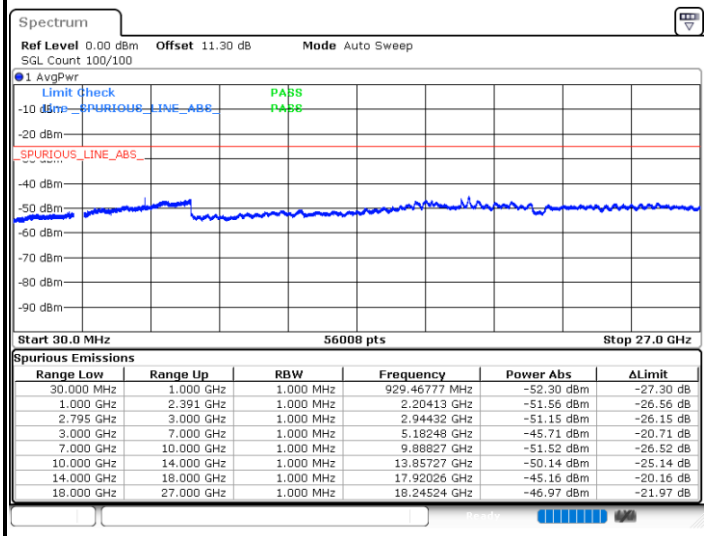


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	953.22089 MHz	-52.30 dBm	-27.30 dB
1.000 GHz	2.391 GHz	1.000 MHz	2.20205 GHz	-51.91 dBm	-26.91 dB
2.795 GHz	3.000 GHz	1.000 MHz	2.95538 GHz	-51.28 dBm	-26.28 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99675 GHz	-46.38 dBm	-21.38 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.96376 GHz	-51.41 dBm	-26.41 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.85727 GHz	-50.19 dBm	-25.19 dB
14.000 GHz	18.000 GHz	1.000 MHz	17.91176 GHz	-45.09 dBm	-20.09 dB
18.000 GHz	27.000 GHz	1.000 MHz	18.26324 GHz	-46.79 dBm	-21.79 dB

Date: 9.SEP.2021 19:23:58

Highest Channel / 1RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	929.46777 MHz	-52.30 dBm	-27.30 dB
1.000 GHz	2.391 GHz	1.000 MHz	2.20413 GHz	-51.56 dBm	-26.56 dB
2.795 GHz	3.000 GHz	1.000 MHz	2.94432 GHz	-51.15 dBm	-26.15 dB
3.000 GHz	7.000 GHz	1.000 MHz	5.18248 GHz	-45.71 dBm	-20.71 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.88827 GHz	-51.52 dBm	-26.52 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.85727 GHz	-50.14 dBm	-25.14 dB
14.000 GHz	18.000 GHz	1.000 MHz	17.92026 GHz	-45.16 dBm	-20.16 dB
18.000 GHz	27.000 GHz	1.000 MHz	18.24524 GHz	-46.97 dBm	-21.97 dB

Date: 9.SEP.2021 19:29:49

Frequency Stability

Test Conditions		NR n41 (BPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 100MHz	Within Band
		Deviation (ppm)	Result
50	Normal Voltage	0.0025	PASS
40	Normal Voltage	0.0009	
30	Normal Voltage	0.0037	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0003	
0	Normal Voltage	0.0013	
-10	Normal Voltage	0.0013	
-20	Normal Voltage	0.0016	
-30	Normal Voltage	0.0005	
20	Maximum Voltage	0.0013	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0005	

Note:

1. Normal Voltage =3.3 V. ; Battery End Point (BEP) =3.14V. ; Maximum Voltage =4.4 V.

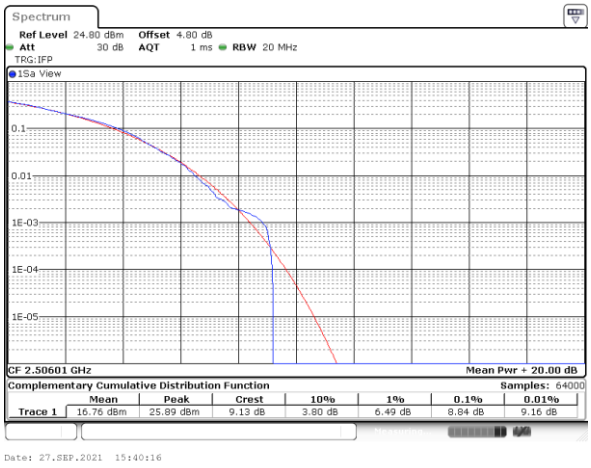
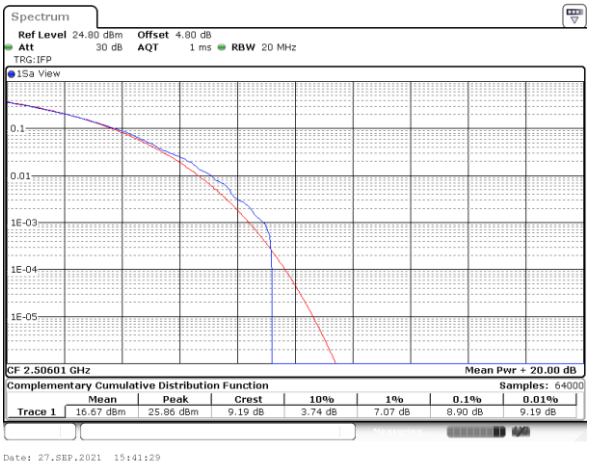
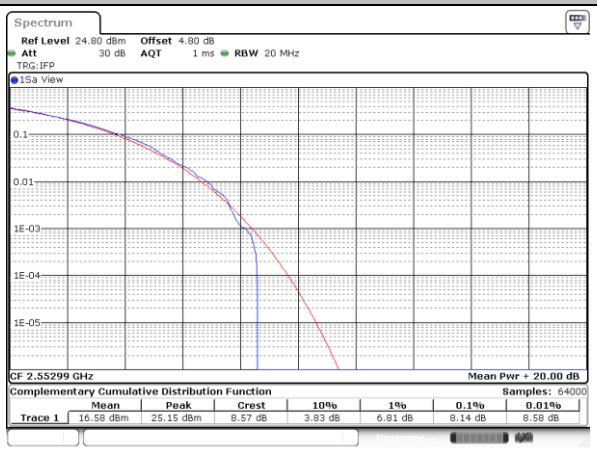
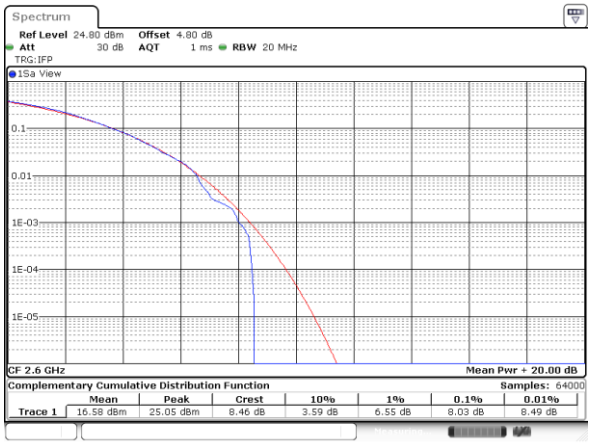
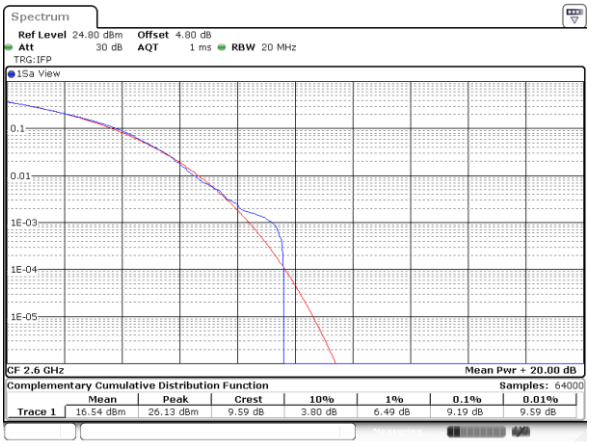
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

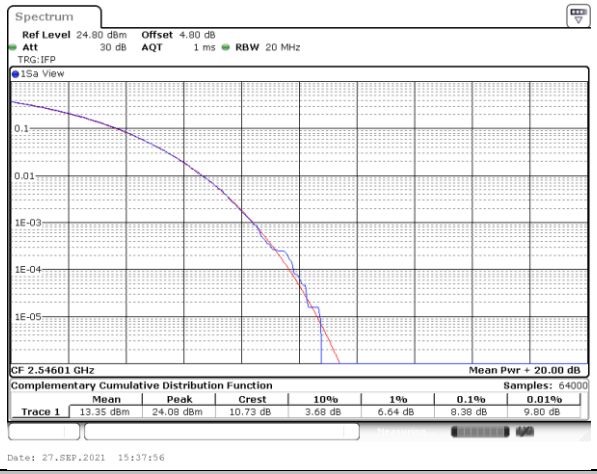
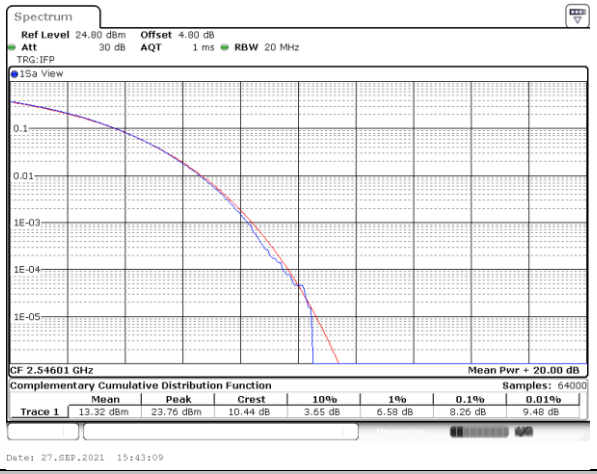
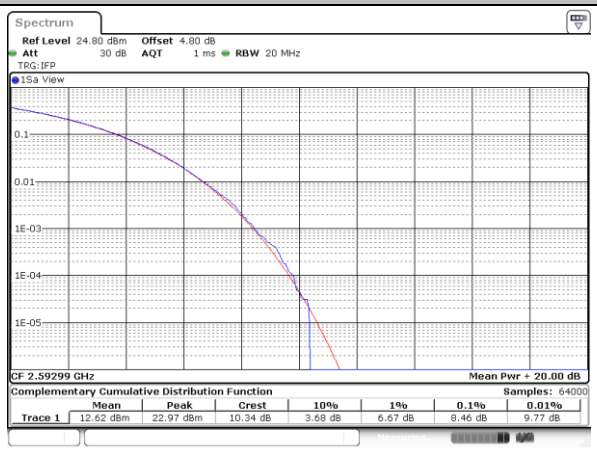
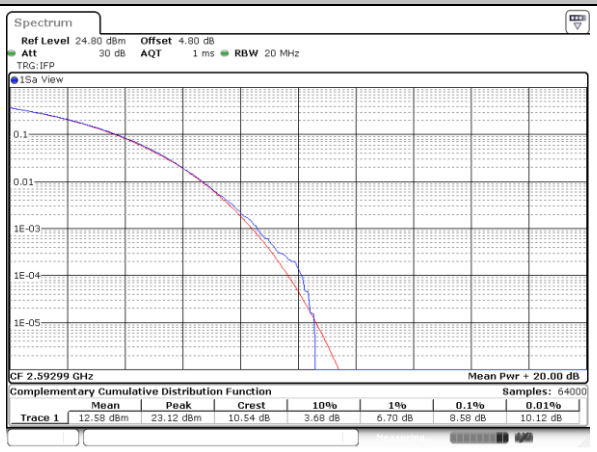
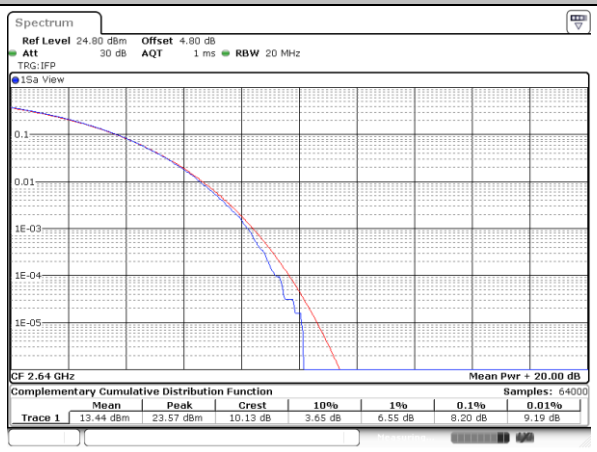
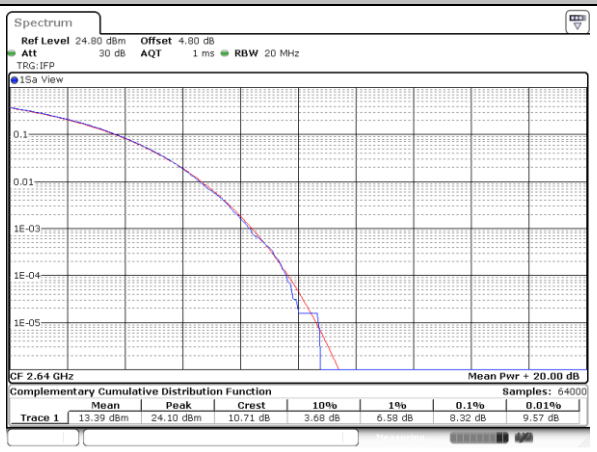
FR1 n41 UL-MIMO

Peak-to-Average Ratio

Mode	FR1 UL-MIMO n41 / 100MHz / CP-OFDM (M)				
Mod.	QPSK	QPSK			Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	8.84	8.38			PASS
Middle CH	8.17	8.46			
Highest CH	8.03	8.20			

Mode	FR1 UL-MIMO n41 / 100MHz / CP-OFDM (M2)				
Mod.	QPSK	QPSK			Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	8.90	8.26			PASS
Middle CH	8.14	8.58			
Highest CH	9.19	8.32			

FR1 UL-MIMO n41 / 100MHz / CP-OFDM	
QPSK(M)	**QPSK(M2)**
Lowest Channel / 1RB	**Lowest Channel / 1RB**
	
Middle Channel / 1 RB	**Middle Channel / 1 RB**
	
Highest Channel / 1 RB	**Highest Channel / 1 RB**
	

FR1 UL-MIMO n41 / 100MHz / CP-OFDM	
QPSK(M)	**QPSK(M2)**
Lowest Channel / Full RB	**Lowest Channel / Full RB**
	
Middle Channel / Full RB	**Middle Channel / Full RB**
	
Highest Channel / Full RB	**Highest Channel / Full RB**
	

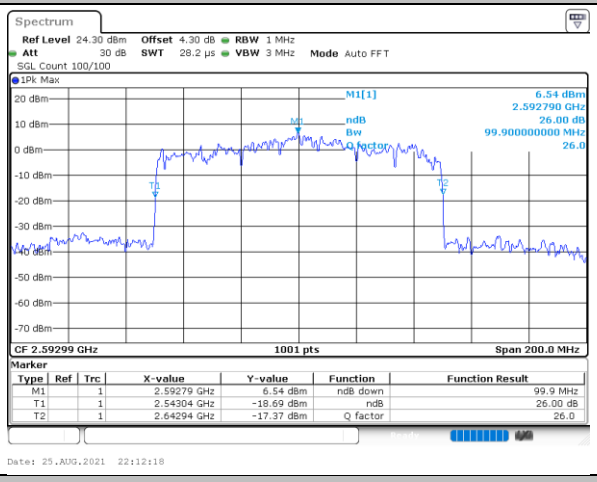
26dB Bandwidth

Mode	FR1 UL-MIMO n41 : 26dB BW(MHz) / CP-OFDM							
	MIMI 1				MIMO 2			
BW	100MHz	100MHz	100MHz	100MHz	100MHz	100MHz	100MHz	100MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	99.9	99.9	100.1	100.1	100.9	101.3	100.3	100.5

FR1 UL-MIMO n41 / 100MHz / CP-OFDM (MIMO 1)

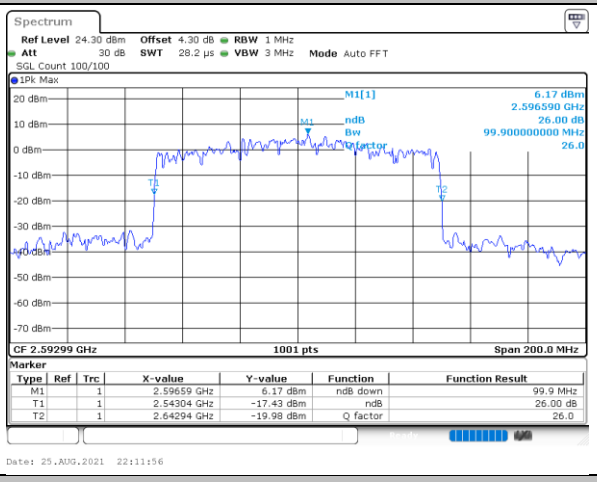
QPSK

Middle Channel



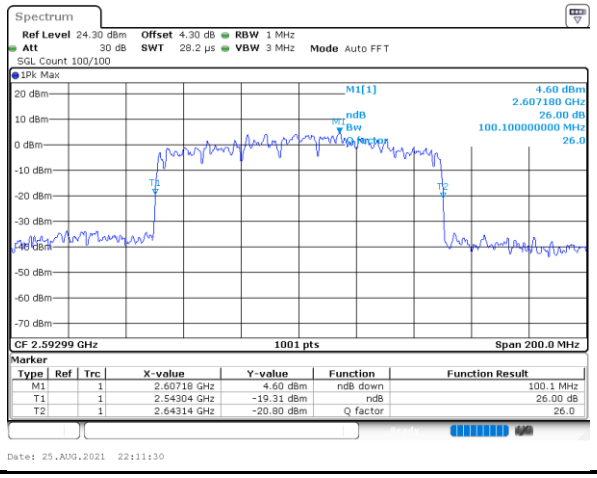
16QAM

Middle Channel



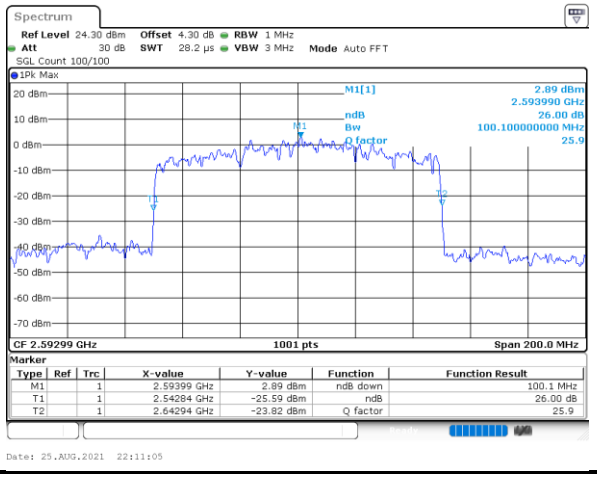
64QAM

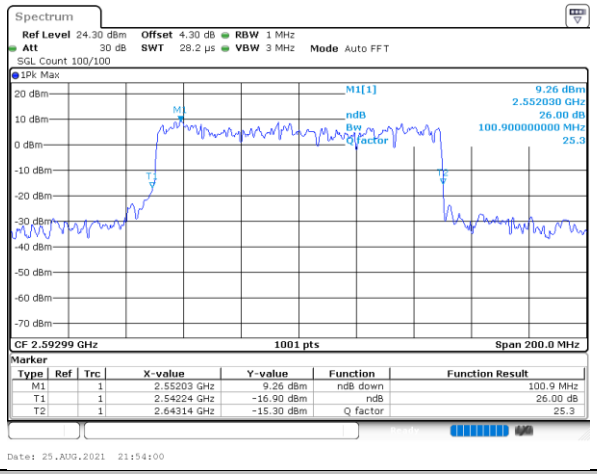
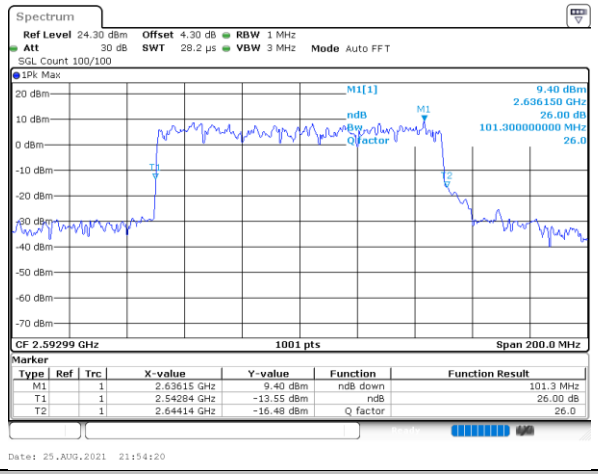
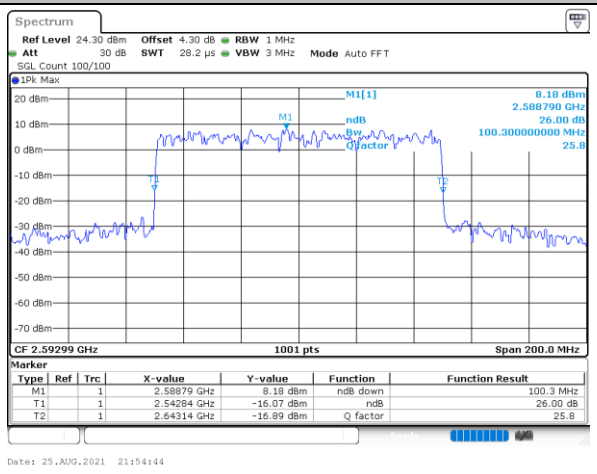
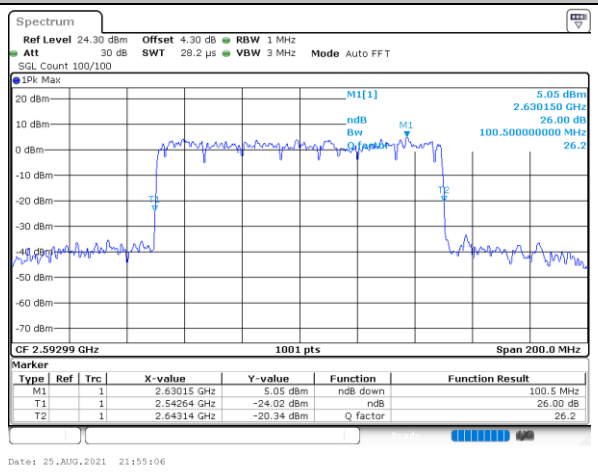
Middle Channel



256QAM

Middle Channel



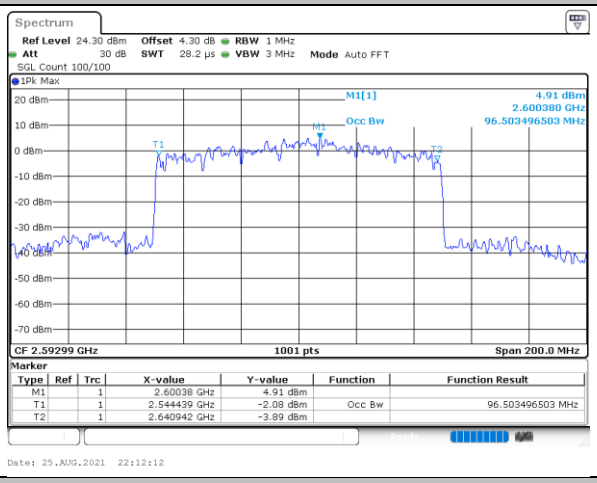
FR1 UL-MIMO n41 / 100MHz / CP-OFDM (MIMO 2)	
QPSK	**16QAM**
Middle Channel	**Middle Channel**
	
64QAM	**256QAM**
Middle Channel	**Middle Channel**
	

Occupied Bandwidth

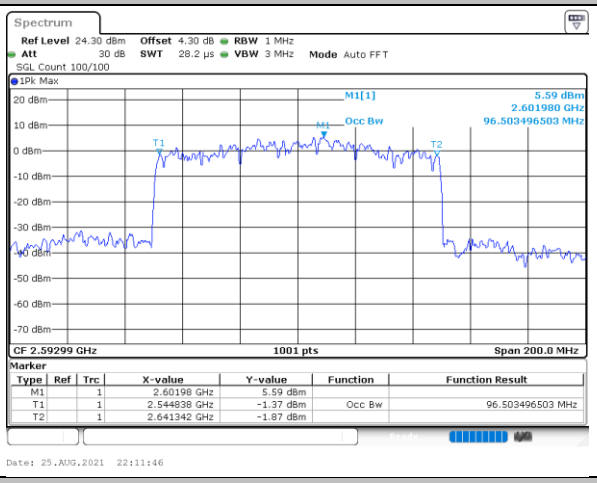
Mode	FR1 UL-MIMO n41 : OBW(MHz) / CP-OFDM							
	MIMO 1				MIMO 2			
BW	100MHz	100MHz	100MHz	100MHz	100MHz	100MHz	100MHz	100MHz
Mod.	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
Middle CH	96.5	96.5	96.3	96.5	97.5	97.3	97.7	97.3

FR1 UL-MIMO n41 / 100MHz / CP-OFDM (MIMO 1)

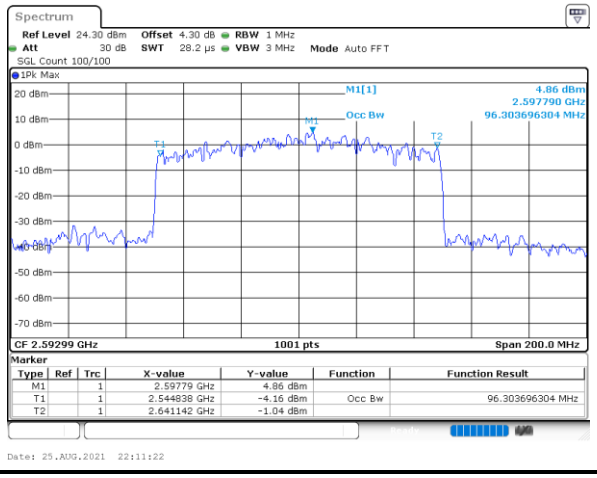
QPSK — **Middle Channel**



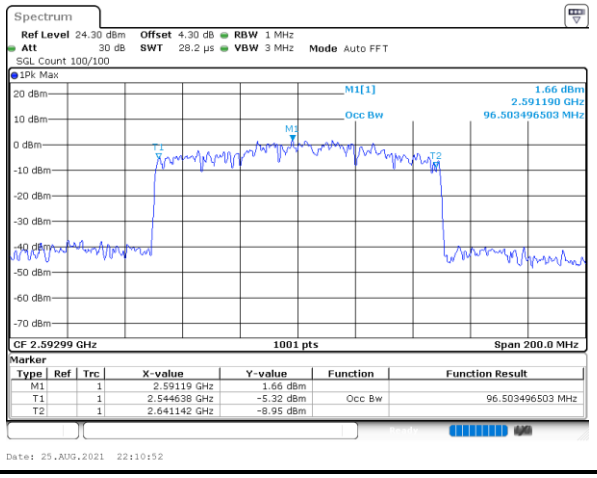
16QAM — **Middle Channel**

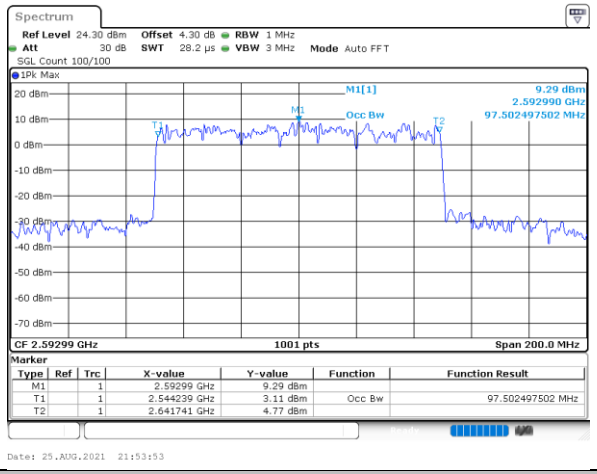
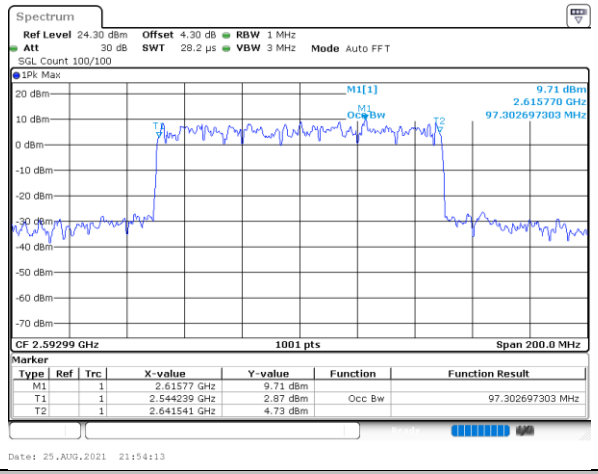
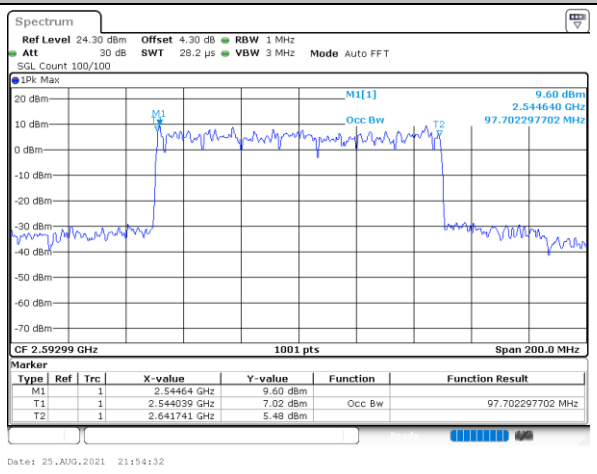
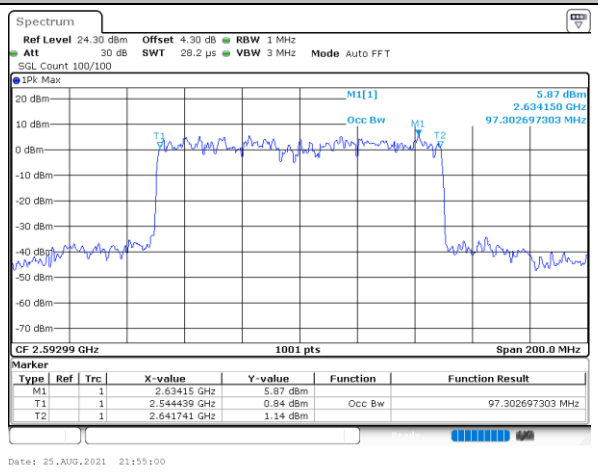


64QAM — **Middle Channel**

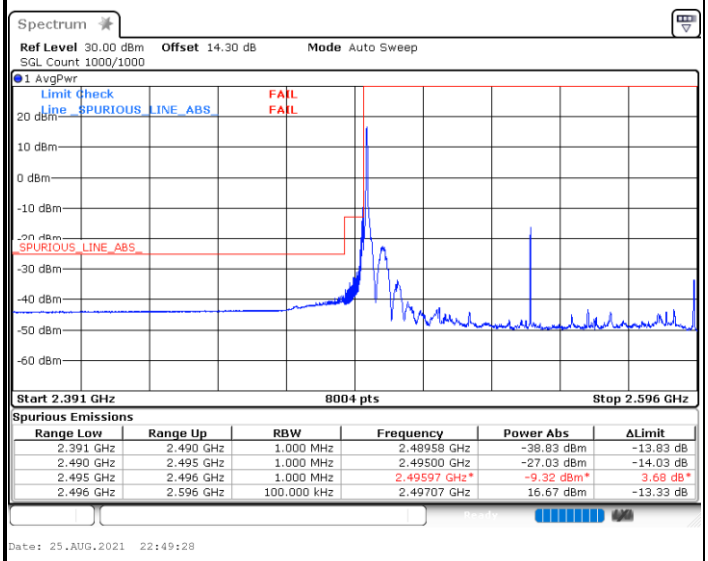
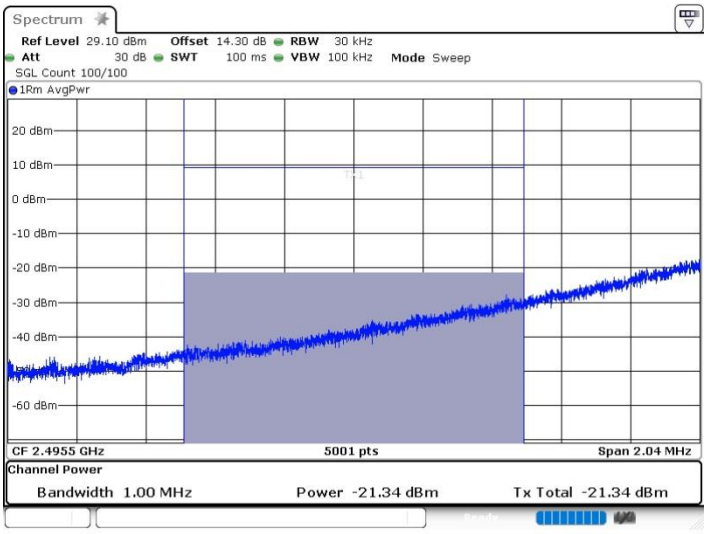
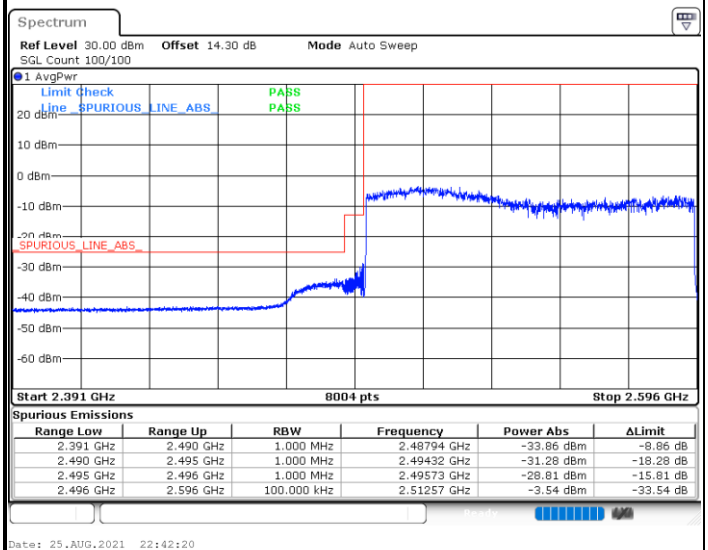


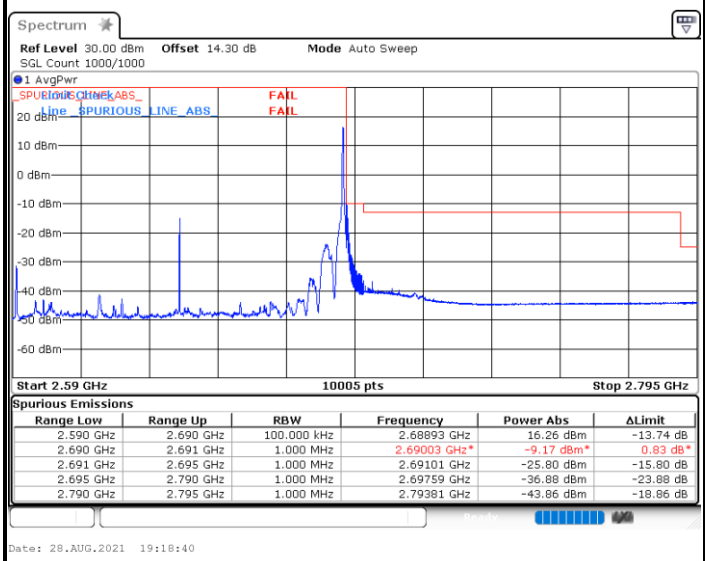
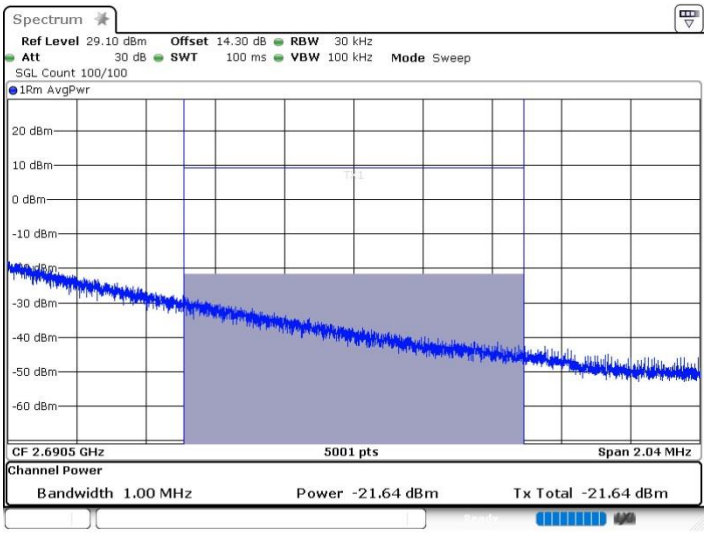
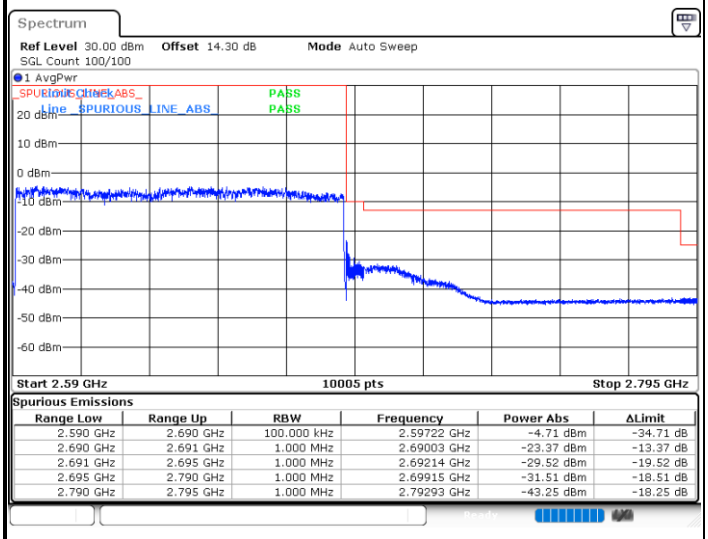
256QAM — **Middle Channel**

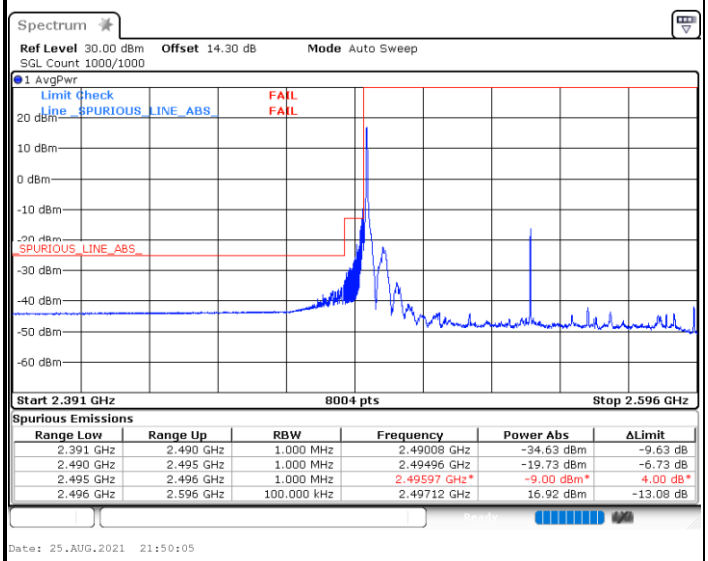
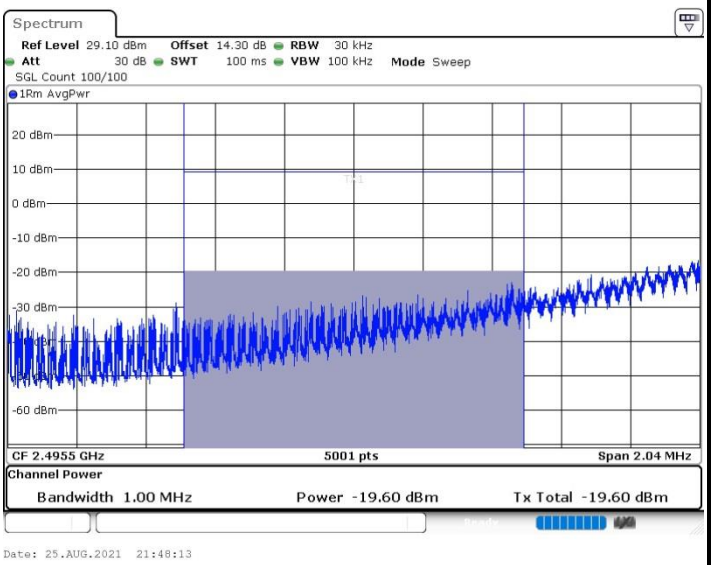
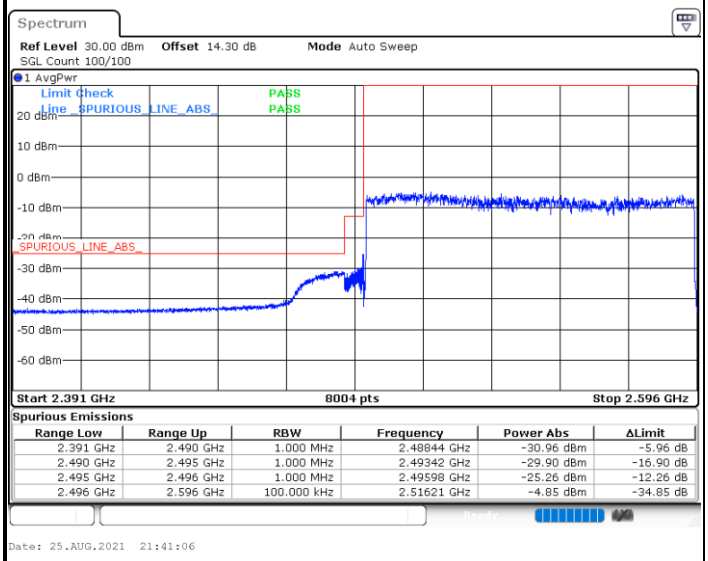


FR1 UL-MIMO n41 / 100MHz / CP-OFDM (MIMO 2)	
QPSK	**16QAM**
Middle Channel	**Middle Channel**
	
64QAM	**256QAM**
Middle Channel	**Middle Channel**
	

Conducted Band Edge

FR1 UL-MIMO n41 / 100MHz / CP-OFDM QPSK (MIMO 1)	
Lowest Band Edge / 1 RB	**Channel Power < -13dBm Pass**
	
Lowest Band Edge / Full RB	**Channel Power < -13dBm Pass**
	/

FR1 UL-MIMO n41 / 100MHz / CP-OFDM QPSK (MIMO 1)	
Highest Band Edge / 1 RB	**Channel Power < -10dBm Pass**
	
Highest Band Edge / Full RB	
	/

FR1 UL-MIMO n41 / 100MHz / CP-OFDM QPSK (MIMO 2)	
Lowest Band Edge / 1 RB	**Channel Power < -13dBm Pass**
	
Lowest Band Edge / Full RB	
	/