FCC RADIO TEST REPORT

FCC ID	:	**XIA-CFW2832**
Equipment	:	**CBRS 5G Cat B Outdoor CPE**
Brand Name	:	**Casa Systems**
Model Name	:	**CFW-2832**
Marketing Name	:	**CBRS 5G Cat B Outdoor CPE**
Applicant	:	**Netcomm Wireless Pty Ltd** **Level 5, 18-20 Orion Road, Lane Cove, NSW, Australia, 2066**
Manufacturer	:	**Casa Systems** **100 Old River Road, Andover MA 01810 USA**
Standard	:	**FCC 47 CFR Part 2, 96**

The product was received on Aug. 04, 2022 and testing was performed from Aug. 15, 2022 to Sep. 20, 2022. We, Sporton International (USA) Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA-603-E and has been in compliance with the applicable technical standards.

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

Neil Kao

Approved by: Neil Kao

Sporton International (USA) Inc.
1175 Montague Expressway, Milpitas, CA 95035

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History of this test report

Report No.	Version	Description	Issue Date
FG220615003B	01	Initial issue of report	Sep. 28, 2022

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046 RSS-192 8.6	Conducted Output Power	Reporting only	-
3.3	§96.41	Peak-to-Average Ratio	Pass	
3.4	§96.41	Effective Isotropic Radiated Power	Pass	-
		Power Density	Pass	-
3.5	§2.1049 §96.41	Occupied Bandwidth	Reporting only	-
3.6	§2.1051 §96.41	Conducted Band Edge Measurement	Pass	-
3.7	§2.1051 §96.41	Conducted Spurious Emission	Pass	
3.8	§2.1055	Frequency Stability for Temperature & Voltage	Pass	-
4.4	§2.1051 §96.41	Radiated Spurious Emission	Pass	5.25 dB under the limit at 7100.000 MHz

Conformity Assessment Condition:
1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account. 2. Please refer to the section “Uncertainty of Evaluation” for measurement uncertainty.
Comments and Explanations:
The product specifications of the EUT presented in the report are declared by the manufacturer who shall take full responsibility for the authenticity.

1 General Description

1.1 Product Feature of Equipment Under Test

5G NR, Bluetooth-LE.

Product Feature	
Antenna Type	WWAN: Directional Antenna Bluetooth-LE: Omni Directional Antenna
Antenna Gain	17 dBi

Remark: The EUT's information above is declared by manufacturer. Please refer to Comments and Explanations in report summary.

1.2 Modification of EUT

No modifications made to the EUT during the testing.

1.3 Testing Location

Test Site	Sporton International (USA) Inc.	
Test Site Location	1175 Montague Expressway, Milpitas, CA 95035 TEL : 408 9043300	
Test Site No.	**Sporton Site No.**	
	TH01-CA	03CH01-CA
Test Engineer	Venkata Kondepudi	Leo Liu and Fu Chen
Temperature (℃)	21~24	21~24
Relative Humidity (%)	49~54.2	42~44

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC Designation No.: US 1250

1.4 Applied Standards

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

- ANSI C63.26-2015
- ANSI / TIA-603-E
- FCC 47 CFR Part 2, 96
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- FCC KDB 940660 D01 Part 96 CBRS Eqpt v03
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- FCC KDB 414788 D01 Radiated Test Site v01r01

Remark:

1. All the test items were validated and recorded in accordance with the standards without any modification during the testing.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

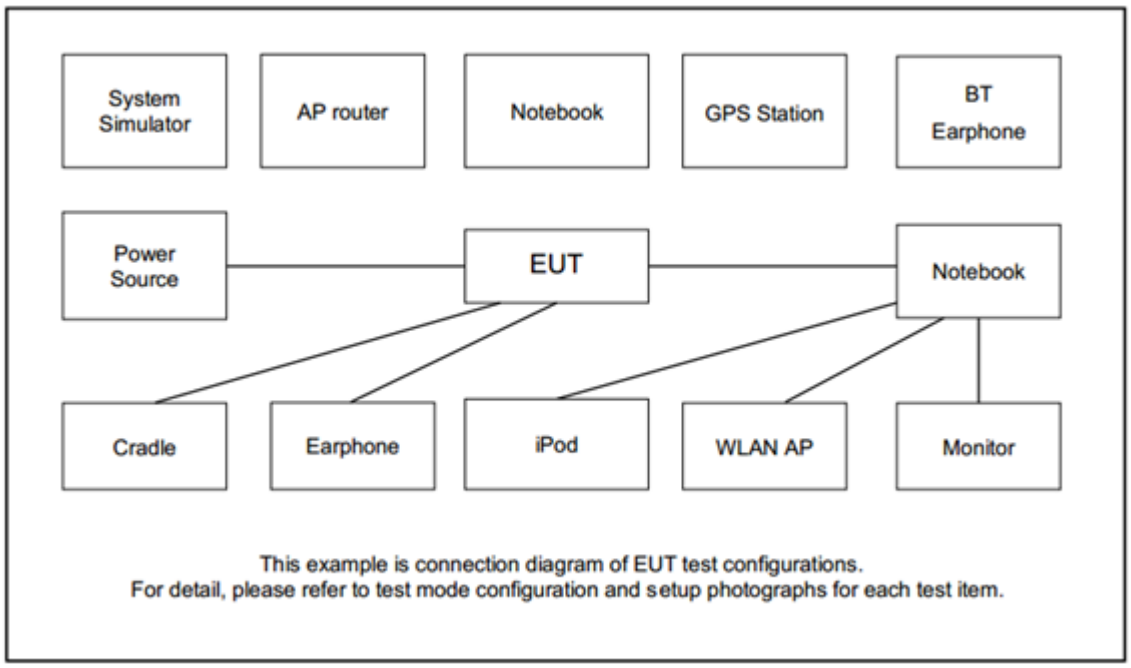
2.1 Test Mode

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

For radiated measurement, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and adjusting the measurement antenna orientation, following C63.26 exploratory test procedures and only the worst case emissions were reported in this report..

Test Items	Band	Bandwidth (MHz)				Modulation					RB #			Test Channel		
		10	20	30	40	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	M	H
Max. Output Power	n48	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
Power Density	n48	v	v	v	v	v	v	v	v	v	v			v	v	v
26dB and 99% Bandwidth	n48	v	v	v	v	v	v	v	v	v			v		v	
Conducted Band Edge	n48	v	v	v	v	v	v	v	v	v	v		v	v	v	v
Peak-to-Average Ratio	n48		v			v	v	v	v	v			v		v	
Conducted Spurious Emission	n48	v					v				v			v	v	v
E.I.R.P	n48	v	v	v	v	v	v	v	v	v	Max. Power					
Frequency Stability	n48		v			v					v				v	
Radiated Spurious Emission	n48	Worst Case												v	v	v
Remark	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. For radiated measurement, pre-scanned in two modes, DFT-s OFDM and CP OFDM. The worst cases (DFT-s OFDM) were recorded in this report 5. One representative bandwidth is selected to perform PAR and frequency stability.															

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration

Item	Equipment	Brand Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	Keysight	UXM	N/A	N/A	Unshielded, 1.8 m

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 and attenuator factor 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 and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

Example :

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.2 + 10 = 14.2 (dB)

2.5 Frequency List of Low/Middle/High Channels

5G NR n48 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
40	Channel	638000	641666	645332
	Frequency	3570	3624.99	3679.98
30	Channel	637668	641666	645666
	Frequency	3565.02	3624.99	3684.99
20	Channel	637334	641666	646000
	Frequency	3560.01	3624.99	3690
10	Channel	637000	641666	646332
	Frequency	3555	3624.99	3694.98

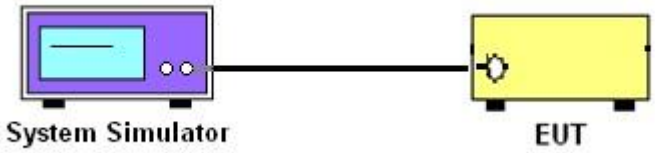
3 Conducted Test Items

3.1 Measuring Instruments

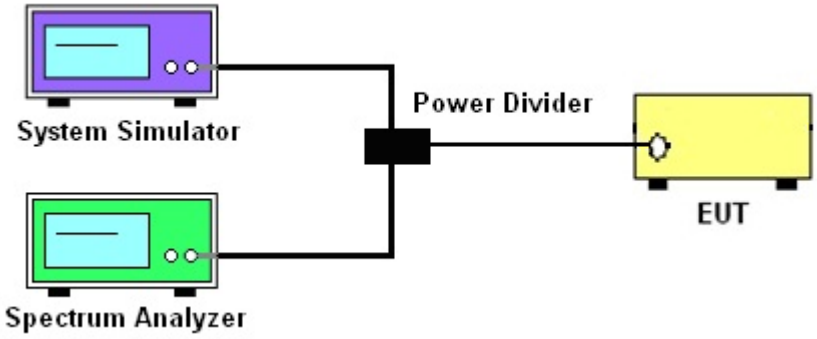
See list of measuring instruments of this test report.

3.1.1 Test Setup

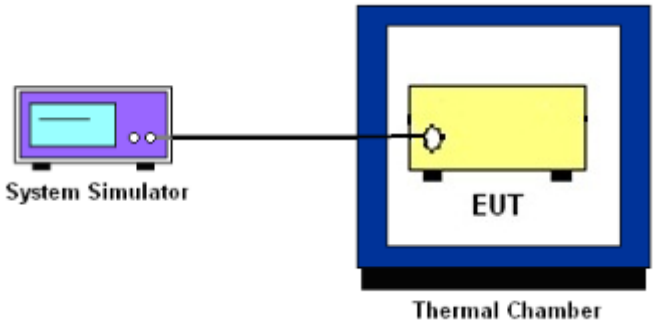
3.1.2 Conducted Output Power



3.1.3 EIRP, Power Density, Peak-to-Average Ratio, Occupied Bandwidth, Conducted Band-Edge and Conducted Spurious Emission



3.1.4 Frequency Stability



3.1.5 Test Result of Conducted Test

Please refer to Appendix A.

3.2 Conducted Output Power

3.2.1 Description of the Conducted Output Power 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.

3.2.2 Test Procedures

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

3.3 Peak-to-Average Ratio

3.3.1 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.

3.3.2 Test Procedures

The testing follows ANSI C63.26-2015 Section 5.2.6

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

3.4 EIRP and Power Density

3.4.1 Description of the EIRP and Power Density Measurement

The EIRP of mobile transmitters must not exceed 47 dBm /10 megahertz for LTE Band 48.

The testing follows ANSI C63.26-2015 Section 5.2.5.5

According to KDB 412172 D01 Power Approach,

EIRP = PT + GT – LC, 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

Device	Maximum EIRP (dBm/10 MHz)	Maximum PSD (dBm/MHz)
Category B CBSD	47	37

Remark:

1. Total channel power is complied with EIRP limit 47dBm/10MHz.
2. The MIMO mode is completely uncorrelated, so the directional gain is selected the maximum gain among all antennas.

3.4.2 Test Procedures

The testing follows procedure in Section 5.2 of ANSI C63.26-2015 and KDB 940660 D01 Part 96 CBRS Eqpt v03 Section 3.2(b)(2)

Determine the EIRP by adding the effective antenna gain to the measured average conducted power level.

3.5 Occupied Bandwidth

3.5.1 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.

3.5.2 Test Procedures

The testing follows ANSI C63.26-2015 Section 5.4.3 (26dB) and Section 5.4.4 (99OB)

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. 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.
3. 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.
4. Set the detection mode to peak, and the trace mode to max hold.
5. 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)
6. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
7. 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.
8. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

3.6 Conducted Band Edge

3.6.1 Description of Conducted Band Edge Measurement

Except as otherwise specified in paragraph (e)(2) of this section, for channel and frequency assignments made by the SAS to CBSDs, the conducted power of any CBSD emission outside the fundamental emission bandwidth as specified in paragraph (e)(3) of this section (whether the emission is inside or outside of the authorized band) shall not exceed −13 dBm/MHz within 0-10 megahertz above the upper SAS-assigned channel edge and within 0-10 megahertz below the lower SAS-assigned channel edge. At all frequencies greater than 10 megahertz above the upper SAS assigned channel edge and less than 10 MHz below the lower SAS assigned channel edge, the conducted power of any CBSD emission shall not exceed −25 dBm/MHz. The upper and lower SAS assigned channel edges are the upper and lower limits of any channel assigned to a CBSD by an SAS, or in the case of multiple contiguous channels, the upper and lower limits of the combined contiguous channels.

3.6.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.1.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The band edges of low and high channels for the highest RF powers were measured.
3. Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
4. Beyond the 1 MHz band from the band edge, RBW=1MHz was used
5. Set spectrum analyzer with RMS detector.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
7. For MIMO mode, add additional MIMO factor 10log(NTX=2) = 3.01dB into the spectrum analyzer offset.

3.7 Conducted Spurious Emission

3.7.1 Description of Conducted Spurious Emission Measurement

96.41 (e)(2)

The conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.

3.7.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.1.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. 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.
3. The middle channel for the highest RF power within the transmitting frequency was measured.
4. The conducted spurious emission for the whole frequency range was taken.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
6. Set spectrum analyzer with RMS detector.
7. Taking the record of maximum spurious emission.
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
9. The limit line is −40dBm/MHz.
10. For MIMO mode, add additional MIMO factor 10log(NTX=2) = 3.01dB into the spectrum analyzer offset.

3.8 Frequency Stability

3.8.1 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

3.8.2 Test Procedures for Temperature Variation

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

1. The EUT was set up in the thermal chamber and connected with the system simulator.
2. 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.
3. 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.

3.8.3 Test Procedures for Voltage Variation

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

1. The EUT was placed in a temperature chamber at 25±5° C and connected with the system simulator.
2. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

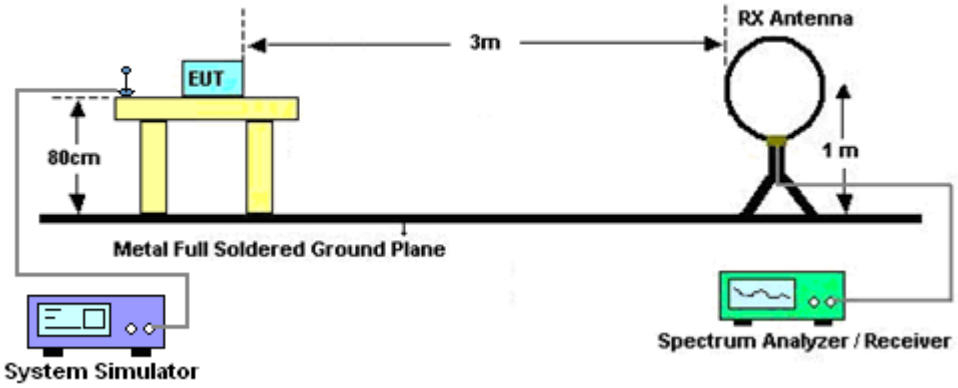
4 Radiated Test Items

4.1 Measuring Instruments

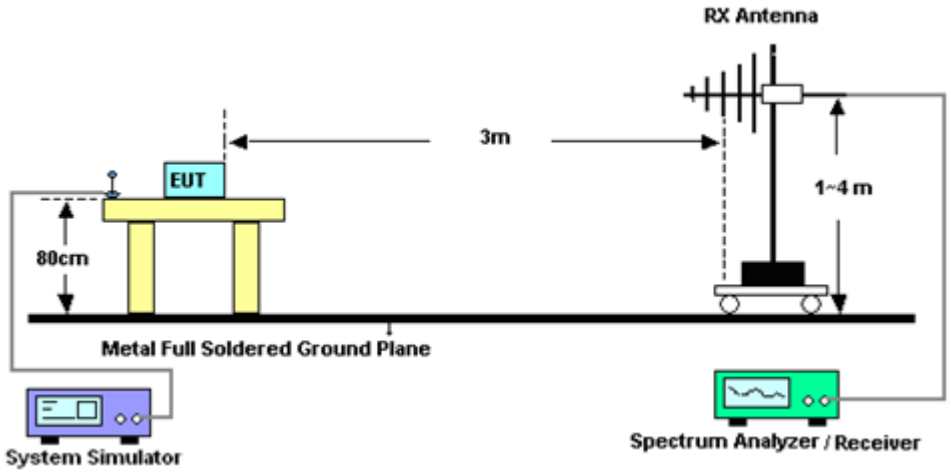
See list of measuring instruments of this test report.

4.2 Test Setup

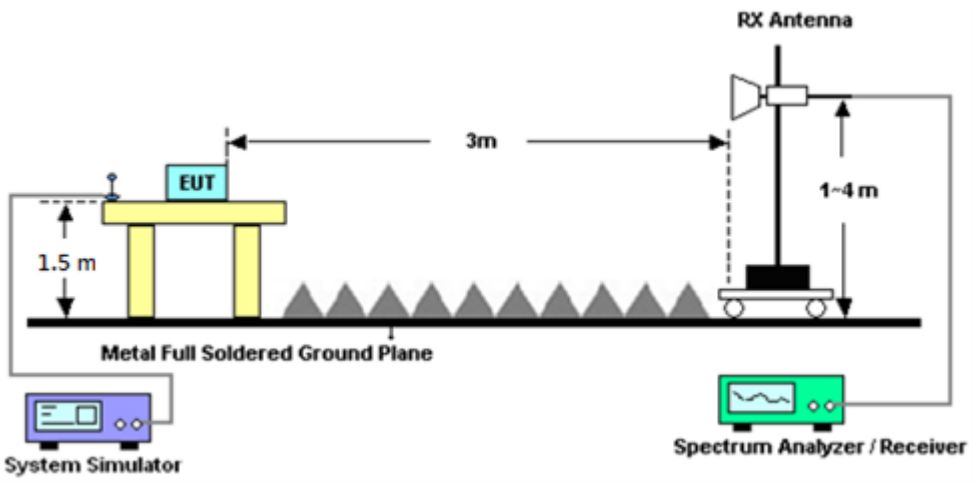
For radiated emissions below 30MHz



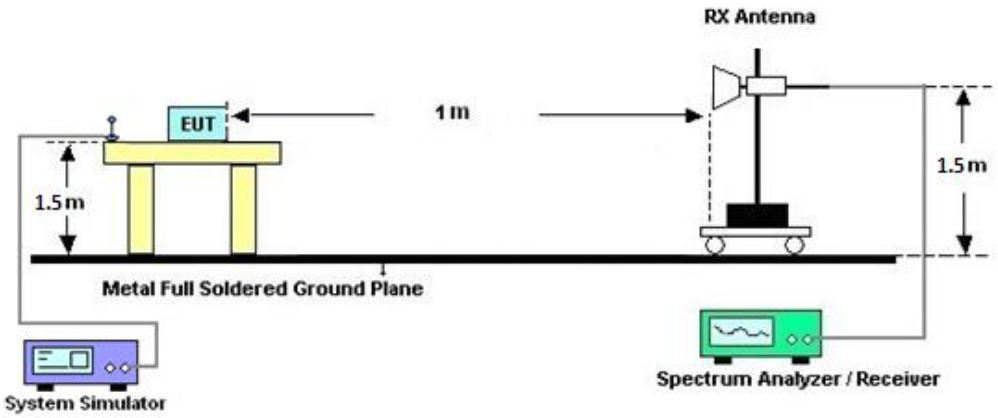
For radiated emissions from 30MHz to 1GHz



For radiated emissions from 1GHz to 18GHz



For radiated emissions above 18GHz



4.3 Test Result of Radiated Test

Please refer to Appendix B.

Note:

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.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

4.4 Radiated Spurious Emission

4.4.1 Description of Radiated Spurious Emission Measurement

The radiated spurious emission was measured by substitution method according to ANSI / TIA-603-E. 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 -40dBm / MHz .

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

4.4.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 7 and ANSI / TIA-603-E Section 2.2.12.

1. 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.
2. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
5. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
   Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
   EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
   ERP (dBm) = EIRP - 2.15
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
   The limit line is −40dBm/MHz

5 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Bilog Antenna	TESEQ	6111D	54683	30MHz~1GHz	Oct. 15, 2021	Aug. 18, 2022~ Aug. 19, 2022	Oct. 14, 2022	Radiation (03CH01-CA)
Bilog Antenna	TESEQ	6111D	50392	30MHz~1GHz	Jul. 11, 2022	Aug. 18, 2022~ Aug. 19, 2022	Jul. 10, 2023	Radiation (03CH01-CA)
Horn Antenna	SCHWARZBECK	BBHA 9120D	02140	1GHz~18GHz	Sep. 30, 2021	Aug. 18, 2022~ Aug. 19, 2022	Sep. 29, 2022	Radiation (03CH01-CA)
Horn Antenna	SCHWARZBECK	BBHA 9120D	01895	1GHz~18GHz	Aug. 25, 2021	Aug. 18, 2022~ Aug. 19, 2022	Aug. 24, 2022	Radiation (03CH01-CA)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	00991	18GHz~40GHz	May 14, 2022	Aug. 18, 2022~ Aug. 19, 2022	May 13, 2023	Radiation (03CH01-CA)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	00841	18GHz~40GHz	Aug. 26, 2021	Aug. 18, 2022~ Aug. 19, 2022	Aug. 25, 2022	Radiation (03CH01-CA)
Preamplifier	SONOMA	310N	372241	9kHz~1GHz	May 09, 2022	Aug. 18, 2022~ Aug. 19, 2022	May 08, 2023	Radiation (03CH01-CA)
Preamplifier	E-instrument	ERA-100M-18G-56-01-A70	EC1900252	1GHz~18GHz	May 09, 2022	Aug. 18, 2022~ Aug. 19, 2022	May 08, 2023	Radiation (03CH01-CA)
Preamplifie	EMEC	EMC18G40G	060725	18G-40G	May 10, 2022	Aug. 18, 2022~ Aug. 19, 2022	May 09, 2023	Radiation (03CH01-CA)
EMI Test Receiver	R&S	ESU26	100049	20Hz~26.5GHz	Jun. 01, 2022	Aug. 18, 2022~ Aug. 19, 2022	May 31, 2023	Radiation (03CH01-CA)
Signal Generator	Rohde & Schwarz	SMF100A	105544	9kHz~44GHz	May 17, 2022	Aug. 18, 2022~ Aug. 19, 2022	May 16, 2023	Radiation (03CH01-CA)
RF Cable	HUBER+SUHNER	SUCOFLEX 102	8015932/2, 8015762/2, 6015772/2	N/A	Aug. 08 ,2022	Aug. 18, 2022~ Aug. 19, 2022	Aug. 07, 2023	Radiation (03CH01-CA)
Filter	Wainwright	WHKX8-5872.5-6750-18000-40ST	SN8	6.75GHz High Pass Filter	Jul. 21, 2022	Aug. 18, 2022~ Aug. 19, 2022	Jul. 20, 2023	Radiation (03CH01-CA)
Hygrometer	TESTO	608-H1	45142559	N/A	Aug. 30, 2021	Aug. 18, 2022~ Aug. 19, 2022	Aug. 29, 2022	Radiation (03CH01-CA)
Controller	Chaintek	EM-1000	060881	Control Turn Table & Antenna Mast	N/A	Aug. 18, 2022~ Aug. 19, 2022	N/A	Radiation (03CH01-CA)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Aug. 18, 2022~ Aug. 19, 2022	N/A	Radiation (03CH01-CA)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Aug. 18, 2022~ Aug. 19, 2022	N/A	Radiation (03CH01-CA)
Test Software	Audix E3	E6.2009-8-24 d	PK-002093	N/A	N/A	Aug. 18, 2022~ Aug. 19, 2022	N/A	Radiation (03CH01-CA)
Hygrometer	Testo	608-H1	45141354	N/A	Jul. 27, 2022	Aug 15, 2022~ Sep. 20, 2022	Jul. 26, 2023	Conducted (TH01-CA)
Spectrum Analyzer	Rohde & Schwarz	FSV40	101545	10Hz-40GHz	May 31, 2022	Aug 15, 2022~ Sep. 20, 2022	May 30, 2023	Conducted (TH01-CA)
Radio Communication Test Station	Anritsu	MT8000A	6262208375	N/A	Jun. 08, 2022	Aug 15, 2022~ Sep. 20, 2022	Jun.07.2023	Conducted (TH01-CA)
Temperature & Humidity Chamber	ESPEC	SH-642	93012171	N/A	Sep. 06, 2022	Aug 15, 2022~ Sep. 20, 2022	Sep. 05, 2023	Conducted (TH01-CA)

6 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.4 dB**

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

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

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.3 dB**

Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power) and EIRP

<Ant. 1>

NR n48 Maximum Average Power [dBm] (GT - LC = 17 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
10	1	1	PI/2 BPSK	17.79	19.72	18.80	36.72	4.6989
10	1	22		17.75	19.58	18.74		
10	12	6		17.78	19.70	18.79		
10	1	0		17.19	19.15	18.20		
10	1	23		17.19	19.05	18.21		
10	24	0		17.30	19.21	18.34		
10	1	1	QPSK	17.81	19.72	18.81		
10	1	22		17.75	19.62	18.76		
10	12	6		17.78	19.69	18.77		
10	1	0		16.74	18.69	17.76		
10	1	23		16.71	18.62	17.73		
10	24	0		16.78	18.69	17.81		
10	1	1	16-QAM	16.70	18.71	17.76	35.71	3.7239
10	1	1	64-QAM	15.23	17.18	16.31		
10	1	1	256-QAM	13.22	15.14	14.25		
Limit	EIRP < 47dBm/10MHz			Result			Pass	

NR n48 Maximum Average Power [dBm] (GT - LC = 17 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
20	1	1	PI/2 BPSK	18.11	19.91	18.96	36.91	4.9091
20	1	49		18.05	19.72	18.86		
20	25	12		18.09	19.88	18.95		
20	1	0		17.52	19.38	18.38		
20	1	50		17.56	19.23	18.40		
20	50	0		17.64	19.39	18.47		
20	1	1	QPSK	18.11	19.89	18.95		
20	1	49		18.08	19.72	18.95		
20	25	12		18.09	19.88	18.94		
20	1	0		17.03	18.91	17.96		
20	1	50		17.18	18.72	17.90		
20	50	0		17.10	18.89	17.98		
20	1	1	16-QAM	16.91	18.94	17.81	35.94	3.9264
20	1	1	64-QAM	15.44	17.39	16.28		
20	1	1	256-QAM	13.43	15.34	14.37		
Limit	EIRP < 47dBm/10MHz			Result			Pass	

NR n48 Maximum Average Power [dBm] (GT - LC = 17 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
30	1	1	PI/2 BPSK	18.15	20.05	19.11	37.05	5.0699
30	1	76		18.02	19.83	19.13		
30	36	18		18.13	20.03	19.09		
30	1	0		17.65	19.60	18.54		
30	1	77		17.57	19.35	18.65		
30	75	0		17.66	19.60	18.57		
30	1	1	QPSK	18.13	20.05	19.11		
30	1	76		18.07	19.84	19.10		
30	36	18		18.09	20.01	19.07		
30	1	0		17.14	19.12	18.02		
30	1	77		17.05	18.81	18.10		
30	75	0		17.10	19.07	18.07		
30	1	1	16-QAM	17.06	19.09	18.15	36.09	4.0644
30	1	1	64-QAM	15.52	17.48	16.54		
30	1	1	256-QAM	13.52	15.48	14.52		
Limit	EIRP < 47dBm/10MHz			Result			Pass	

NR n48 Maximum Average Power [dBm] (GT - LC = 17 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
40	1	1	PI/2 BPSK	18.19	20.00	19.07	37.03	5.0466
40	1	104		18.30	19.98	19.19		
40	50	25		18.18	19.99	19.05		
40	1	0		17.58	19.60	18.48		
40	1	105		17.84	19.50	18.65		
40	100	0		17.75	19.55	18.54		
40	1	1	QPSK	18.20	20.03	19.05		
40	1	104		18.39	20.02	19.16		
40	50	25		18.19	20.02	19.04		
40	1	0		17.16	19.10	18.04		
40	1	105		17.37	19.05	18.22		
40	100	0		17.21	19.06	18.04		
40	1	1	16-QAM	17.06	19.02	17.96	36.02	3.9994
40	1	1	64-QAM	15.55	17.36	16.40		
40	1	1	256-QAM	13.56	15.50	14.42		
Limit	EIRP < 47dBm/10MHz			Result			Pass	

Part96 NR n48 Maximum EIRP PSD [dBm], DG = 17 dBi							
BW	RB	RB	Mod	EIRP PSD			Max
(MHz)	Size	Offset		Lowest	Middle	Highest	(dBm/MHz)
10	1	1	BPSK	33.39	35.56	35.07	36.26
10	1	22		34.31	34.27	33.62	
10	1	0		34.29	35.42	34.92	
10	1	23		33.43	33.46	34.85	
10	1	1	QPSK	32.49	36.26	33.55	
10	1	22		32.66	34.77	33.71	
10	1	0		32.64	34.04	32.65	
10	1	23		31.34	33.32	32.60	
10	1	1	16-QAM	31.77	33.33	32.36	33.33
10	1	1	64-QAM	29.92	31.97	30.97	
10	1	1	256-QAM	28.06	29.99	28.41	
Limit	EIRP < 37dBm/MHz			Result			Pass

Part96 NR n48 Maximum EIRP PSD [dBm], DG = 17 dBi							
BW	RB	RB	Mod	EIRP PSD			Max
(MHz)	Size	Offset		Lowest	Middle	Highest	(dBm/MHz)
20	1	1	BPSK	34.27	36.27	33.97	36.27
20	1	49		34.62	36.03	33.83	
20	1	0		33.57	35.20	34.44	
20	1	50		33.86	35.68	33.18	
20	1	1	QPSK	32.80	35.05	33.63	
20	1	49		33.31	34.09	34.17	
20	1	0		31.64	33.55	32.71	
20	1	50		31.99	33.11	33.12	
20	1	1	16-QAM	31.50	33.58	32.70	33.58
20	1	1	64-QAM	30.26	32.23	31.15	
20	1	1	256-QAM	27.66	30.15	29.22	
Limit	EIRP < 37dBm/MHz			Result			Pass

Part96 NR n48 Maximum EIRP PSD [dBm], DG = 17 dBi							
BW	RB	RB	Mod	EIRP PSD			Max
(MHz)	Size	Offset		Lowest	Middle	Highest	(dBm/MHz)
30	1	1	BPSK	34.25	36.41	35.39	36.41
30	1	76		34.31	36.00	35.38	
30	1	0		33.50	35.68	34.38	
30	1	77		34.13	35.55	34.82	
30	1	1	QPSK	33.02	34.92	33.75	
30	1	76		32.18	36.14	34.93	
30	1	0		31.94	33.81	33.42	
30	1	77		33.23	33.50	33.17	
30	1	1	16-QAM	31.83	33.56	33.04	33.56
30	1	1	64-QAM	29.94	32.18	31.30	
30	1	1	256-QAM	28.22	30.00	28.28	
Limit	EIRP < 37dBm/MHz			Result			Pass

Part96 NR n48 Maximum EIRP PSD [dBm], DG = 17 dBi							
BW	RB	RB	Mod	EIRP PSD			Max
(MHz)	Size	Offset		Lowest	Middle	Highest	(dBm/MHz)
40	1	1	BPSK	34.37	34.49	34.62	36.32
40	1	104		34.54	36.32	35.16	
40	1	0		33.98	35.91	34.18	
40	1	105		33.96	35.52	33.61	
40	1	1	QPSK	32.98	35.28	33.94	
40	1	104		32.40	34.99	33.69	
40	1	0		31.73	34.38	31.68	
40	1	105		32.01	33.55	33.84	
40	1	1	16-QAM	31.14	33.56	32.99	33.56
40	1	1	64-QAM	29.64	32.20	31.21	
40	1	1	256-QAM	27.89	30.04	29.14	
Limit	EIRP < 37dBm/MHz			Result			Pass

MIMO <Ant. 1 + Ant. 2>

Part96 NR n48 Maximum Average Power [dBm], DG = 17 dBi														
BW	RB	RB	Mod	Antenna 1			Antenna 2			Combine			EIRP	EIRP
(MHz)	Size	Offset		Lowest	Middle	Highest	Lowest	Middle	Highest	Lowest	Middle	Highest	(dBm)	(W)
10	1	1	QPSK	13.40	15.37	14.50	14.40	16.07	15.20	16.94	18.74	17.87	35.74	3.75
10	1	22		13.46	15.35	14.42	14.46	16.05	15.28	17.00	18.72	17.88		
10	12	6		13.40	15.30	14.41	14.51	16.05	15.24	17.00	18.70	17.86		
10	1	0		11.88	13.89	13.01	13.03	14.59	13.72	15.50	17.26	16.39		
10	1	23		11.94	13.78	12.97	12.93	14.52	13.65	15.47	17.18	16.33		
10	24	0		11.89	13.86	12.93	12.99	14.57	13.75	15.49	17.24	16.37		
10	1	1	16-QAM	12.80	14.83	13.92	13.87	15.50	14.67	16.38	18.19	17.32	35.19	3.304
10	1	1	64-QAM	11.33	13.30	12.40	12.47	14.05	13.21	14.95	16.70	15.83		
10	1	1	256-QAM	8.33	10.43	9.48	9.37	11.01	10.02	11.89	13.74	12.77		
Limit	EIRP < 47dBm/10MHz			Result									Pass	

Part96 NR n48 Maximum Average Power [dBm], DG = 17 dBi														
BW	RB	RB	Mod	Antenna 1			Antenna 2			Combine			EIRP	EIRP
(MHz)	Size	Offset		Lowest	Middle	Highest	Lowest	Middle	Highest	Lowest	Middle	Highest	(dBm)	(W)
20	1	1	QPSK	13.72	15.67	14.56	14.67	16.31	15.23	17.23	19.01	17.92	36.01	3.99
20	1	49		13.83	15.44	14.65	14.75	16.25	15.33	17.32	18.87	18.01		
20	25	12		13.62	15.51	14.48	14.76	16.23	15.23	17.24	18.90	17.88		
20	1	0		12.10	14.07	13.09	13.24	14.28	13.69	15.72	17.19	16.41		
20	1	50		12.33	14.04	13.15	13.23	14.72	13.83	15.81	17.40	16.51		
20	51	0		12.11	13.99	12.93	13.21	14.73	13.72	15.71	17.39	16.35		
20	1	1	16-QAM	13.15	15.10	14.01	14.27	15.78	14.68	16.76	18.46	17.37	35.46	3.516
20	1	1	64-QAM	11.63	13.58	12.51	12.75	14.32	13.25	15.24	16.98	15.91		
20	1	1	256-QAM	8.74	10.67	9.63	9.68	11.31	10.18	12.25	14.01	12.92		
Limit	EIRP < 47dBm/10MHz			Result									Pass	

Part96 NR n48 Maximum Average Power [dBm], DG = 17 dBi														
BW	RB	RB	Mod	Antenna 1			Antenna 2			Combine			EIRP	EIRP
(MHz)	Size	Offset		Lowest	Middle	Highest	Lowest	Middle	Highest	Lowest	Middle	Highest	(dBm)	(W)
30	1	1	QPSK	13.72	15.75	14.77	14.76	16.38	15.46	17.28	19.09	18.14	36.09	4.064
30	1	76		13.78	15.67	14.92	14.79	16.36	15.41	17.32	19.04	18.18		
30	39	19		13.63	15.59	14.69	14.68	16.30	15.42	17.20	18.97	18.08		
30	1	0		12.22	14.33	13.33	13.29	15.02	13.97	15.80	17.70	16.67		
30	1	77		12.27	14.01	13.38	13.21	14.84	13.94	15.78	17.46	16.68		
30	78	0		12.20	14.19	13.22	13.18	14.78	13.93	15.73	17.51	16.60		
30	1	1	16-QAM	13.18	15.24	14.18	14.16	15.87	14.91	16.71	18.58	17.57	35.58	3.614
30	1	1	64-QAM	11.67	13.67	12.72	12.77	14.47	13.52	15.27	17.10	16.15		
30	1	1	256-QAM	8.77	10.81	9.75	9.77	11.40	10.34	12.31	14.13	13.07		
Limit	EIRP < 47dBm/10MHz			Result									Pass	

Part96 NR n48 Maximum Average Power [dBm], DG = 17 dBi														
BW	RB	RB	Mod	Antenna 1			Antenna 2			Combine			EIRP	EIRP
(MHz)	Size	Offset		Lowest	Middle	Highest	Lowest	Middle	Highest	Lowest	Middle	Highest	(dBm)	(W)
40	1	1	QPSK	13.80	15.69	14.65	14.71	16.45	15.32	17.29	19.10	18.01	36.10	4.074
40	1	104		14.02	15.68	14.92	14.83	16.44	15.49	17.45	19.09	18.22		
40	53	26		13.82	15.58	14.68	14.73	16.31	15.40	17.31	18.97	18.07		
40	1	0		12.31	14.28	13.26	13.34	14.97	13.88	15.87	17.65	16.59		
40	1	105		12.48	14.14	13.32	13.35	14.94	13.95	15.95	17.57	16.66		
40	106	0		12.33	14.20	13.22	13.24	14.82	13.92	15.82	17.53	16.59		
40	1	1	16-QAM	13.29	15.19	14.14	14.25	15.81	14.80	16.81	18.52	17.49	35.52	3.565
40	1	1	64-QAM	11.74	13.65	12.64	12.74	14.35	13.32	15.28	17.02	16.00		
40	1	1	256-QAM	8.80	10.77	9.73	9.80	11.43	10.29	12.34	14.12	13.03		
Limit	EIRP < 47dBm/10MHz			Result									Pass	

Part96 NR n48 Maximum EIRP PSD [dBm], DG = 17 dBi													
BW	RB	RB	Mod	Antenna 1			Antenna 2			Combine			Max
(MHz)	Size	Offset		Lowest	Middle	Highest	Lowest	Middle	Highest	Lowest	Middle	Highest	(dBm/MHz)
10	1	1	QPSK	28.09	30.40	29.20	28.29	30.49	29.40	31.20	33.46	32.31	33.46
10	1	22		28.28	30.21	29.58	28.48	30.10	28.95	31.39	33.17	32.29	
10	1	0		26.83	28.95	27.60	26.98	28.35	27.67	29.92	31.67	30.65	
10	1	23		26.72	28.73	27.97	26.90	28.87	27.62	29.82	31.81	30.81	
10	1	1	16-QAM	27.02	30.22	29.33	27.47	30.03	28.85	30.26	33.14	32.11	33.14
10	1	1	64-QAM	26.25	28.32	27.58	26.44	28.20	27.26	29.36	31.27	30.43	
10	1	1	256-QAM	23.18	25.14	24.33	23.27	25.18	24.05	26.24	28.17	27.20	
Limit	EIRP < 37dBm/MHz			Result									Pass

Part96 NR n48 Maximum EIRP PSD [dBm], DG = 17 dBi													
BW	RB	RB	Mod	Antenna 1			Antenna 2			Combine			Max
(MHz)	Size	Offset		Lowest	Middle	Highest	Lowest	Middle	Highest	Lowest	Middle	Highest	(dBm/MHz)
20	1	1	QPSK	28.36	30.22	28.96	28.42	30.35	29.40	31.40	33.30	32.20	33.40
20	1	49		28.57	30.65	29.36	28.71	30.12	29.08	31.65	33.40	32.23	
20	1	0		27.06	28.88	26.82	27.20	28.56	27.53	30.14	31.73	30.20	
20	1	50		27.33	28.29	27.80	27.29	28.49	27.77	30.32	31.40	30.80	
20	1	1	16-QAM	28.07	28.92	29.08	28.16	30.36	28.60	31.13	32.71	31.86	32.71
20	1	1	64-QAM	25.85	28.45	27.21	26.98	28.44	27.22	29.46	31.46	30.23	
20	1	1	256-QAM	23.26	25.49	23.71	22.19	25.47	24.05	25.77	28.49	26.89	
Limit	EIRP < 37dBm/MHz			Result									Pass

Part96 NR n48 Maximum EIRP PSD [dBm], DG = 17 dBi													
BW	RB	RB	Mod	Antenna 1			Antenna 2			Combine			Max
(MHz)	Size	Offset		Lowest	Middle	Highest	Lowest	Middle	Highest	Lowest	Middle	Highest	(dBm/MHz)
30	1	1	QPSK	28.45	31.03	29.54	28.59	30.20	29.57	31.53	33.65	32.57	33.65
30	1	76		28.54	30.11	30.00	29.05	30.52	29.28	31.81	33.33	32.67	
30	1	0		25.95	27.58	28.44	27.19	29.06	27.79	29.62	31.39	31.14	
30	1	77		27.17	28.75	28.20	26.97	28.88	27.61	30.08	31.83	30.93	
30	1	1	16-QAM	27.97	30.22	29.18	28.73	30.42	28.40	31.38	33.33	31.82	33.33
30	1	1	64-QAM	26.08	28.94	27.59	26.29	28.31	27.18	29.20	31.65	30.40	
30	1	1	256-QAM	23.44	25.86	24.34	22.60	25.40	24.34	26.05	28.65	27.35	
Limit	EIRP < 37dBm/MHz			Result									Pass

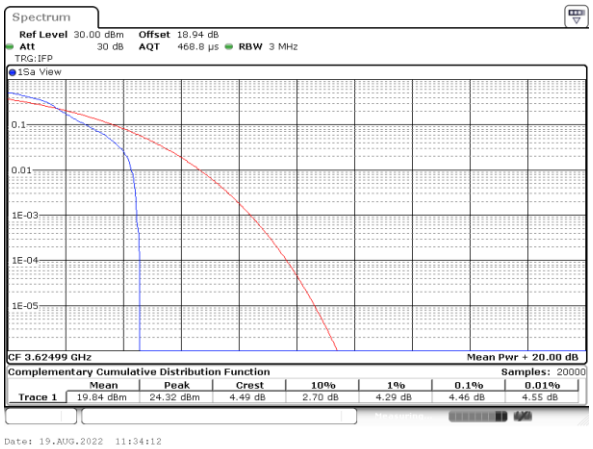
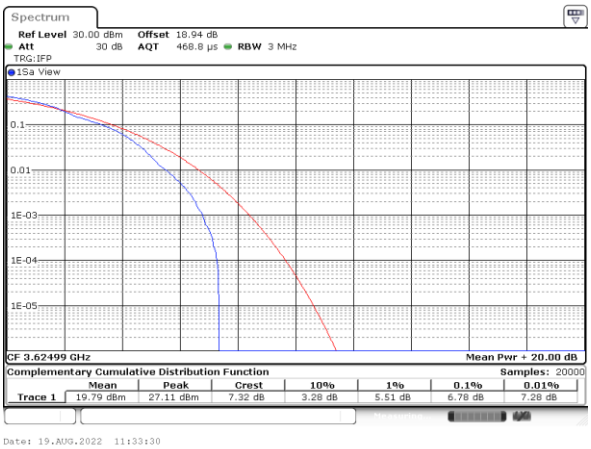
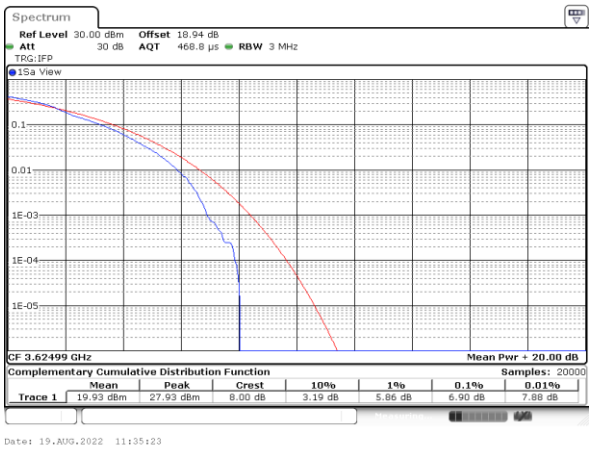
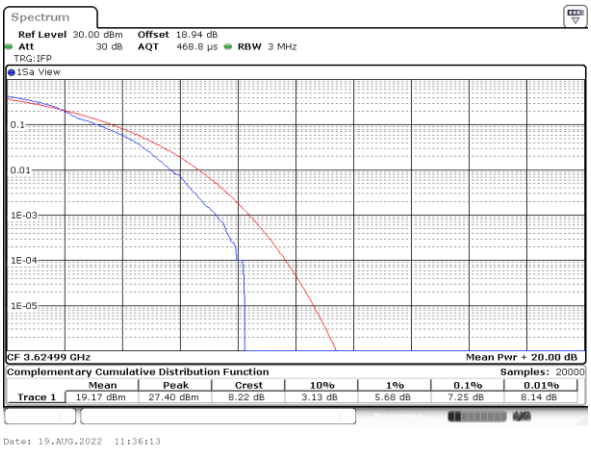
Part96 NR n48 Maximum EIRP PSD [dBm], DG = 17 dBi													
BW	RB	RB	Mod	Antenna 1			Antenna 2			Combine			Max
(MHz)	Size	Offset		Lowest	Middle	Highest	Lowest	Middle	Highest	Lowest	Middle	Highest	(dBm/MHz)
40	1	1	QPSK	28.33	28.78	29.34	28.43	30.20	29.17	31.39	32.56	32.27	32.99
40	1	104		28.68	30.27	29.31	28.78	29.66	29.50	31.74	32.99	32.42	
40	1	0		26.89	27.48	27.99	27.07	29.01	27.37	29.99	31.32	30.70	
40	1	105		26.95	28.66	27.41	27.14	28.57	27.79	30.06	31.63	30.61	
40	1	1	16-QAM	27.57	29.23	28.55	28.19	29.57	28.88	30.90	32.41	31.73	32.41
40	1	1	64-QAM	26.35	27.98	26.95	25.96	26.28	27.27	29.17	30.22	30.12	
40	1	1	256-QAM	22.63	23.38	24.40	22.99	25.07	23.82	25.82	27.32	27.13	
Limit	EIRP < 37dBm/MHz			Result									Pass

FR1 n48

<Ant. 1>

Peak-to-Average Ratio

Mode	FR1 n48 / 20MHz / DFT-S OFDM				
Mod.	PI/2 BPSK	QPSK	16QAM	64QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Full RB	Result
Middle CH	4.46	6.78	6.9	7.25	PASS
Mode	FR1 n48 / 20MHz / DFT-S OFDM				
Mod.	256QAM				Limit: 13dB
RB Size	Full RB				Result
Middle CH	7.16				PASS

FR1 n48 / 20MHz / DFT-S OFDM / Middle Channel / Full RB	
PI/2 BPSK	QPSK
	
16QAM	64QAM
	
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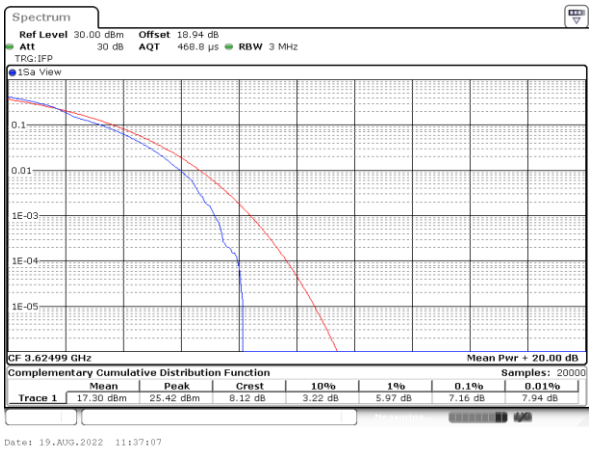
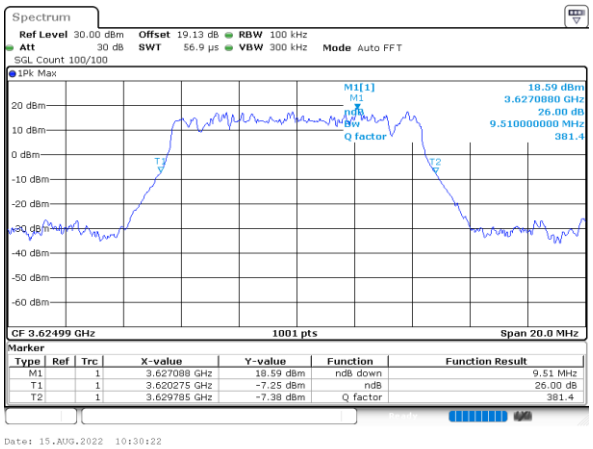
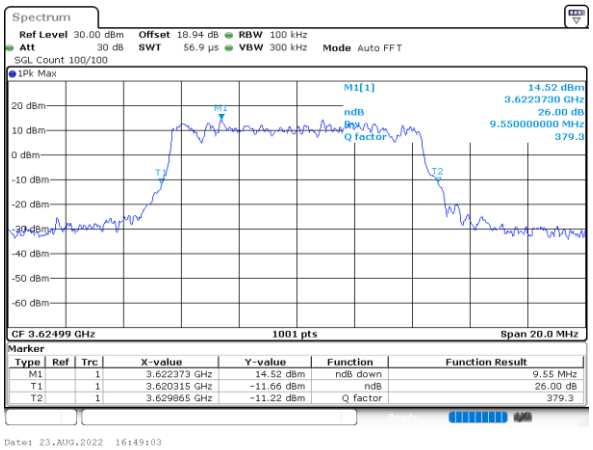
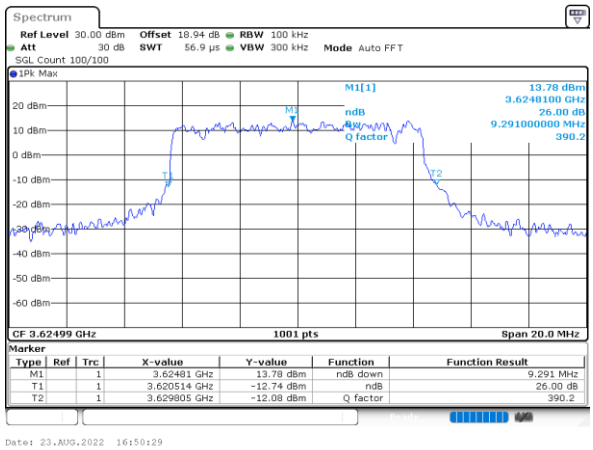
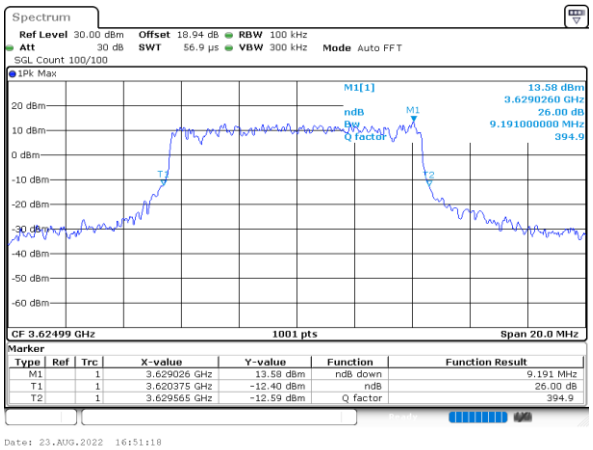
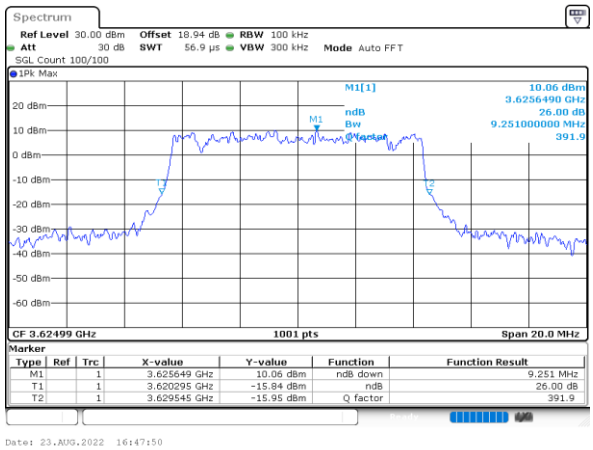
	

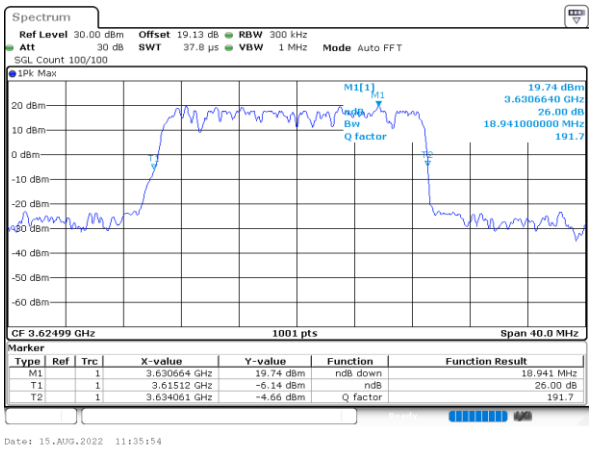
26dB Bandwidth

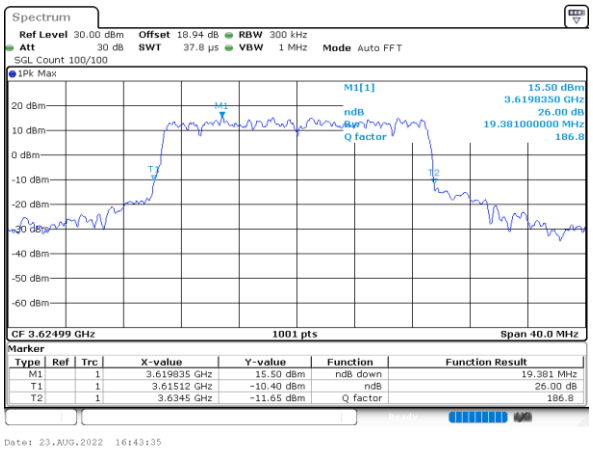
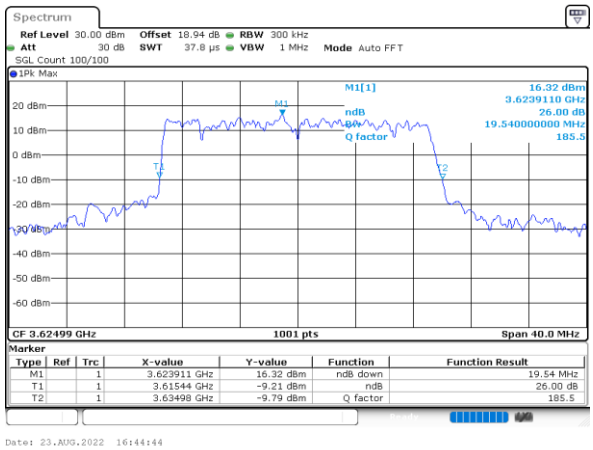
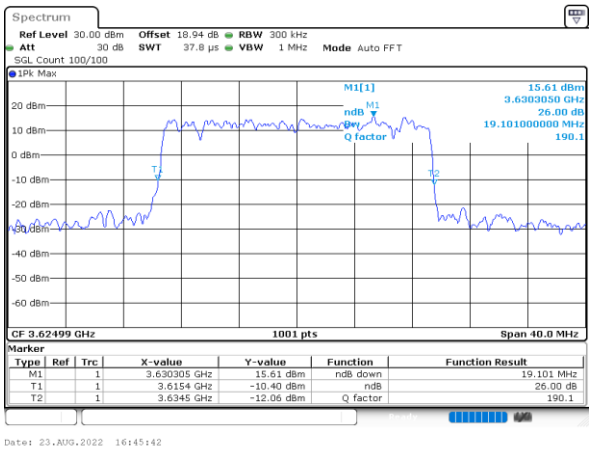
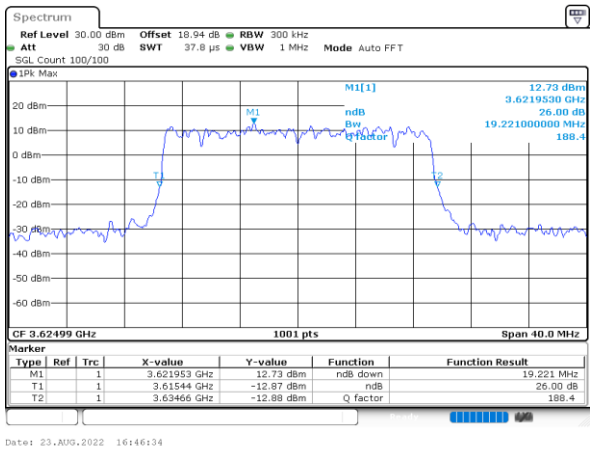
Mode	FR1 n48 : 26dB BW(MHz) / DFT-S OFDM							
BW	10MHz	20MHz	30MHz	40MHz				
Mod.	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK				
Middle CH	9.51	18.941	27.932	38.282	-	-	-	-

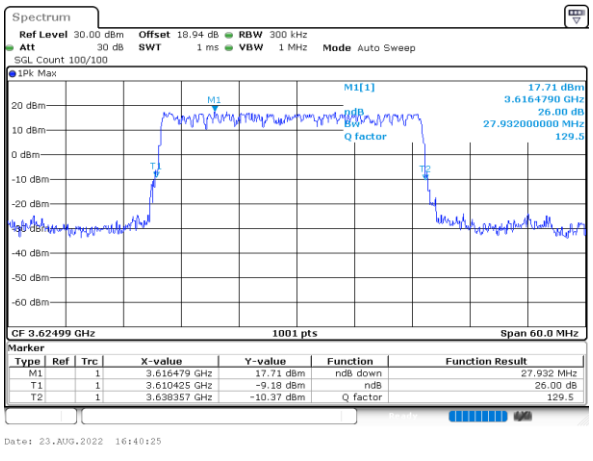
Mode	FR1 n48 : 26dB BW(MHz) / CP OFDM							
BW	10MHz		20MHz		30MHz		40MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	9.55	9.291	19.381	19.54	29.071	29.491	40.36	40.36
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	9.191	9.251	19.101	19.221	28.831	28.831	40.44	40.36

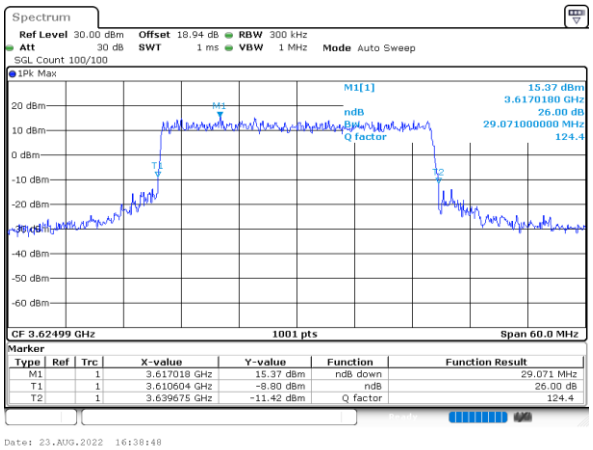
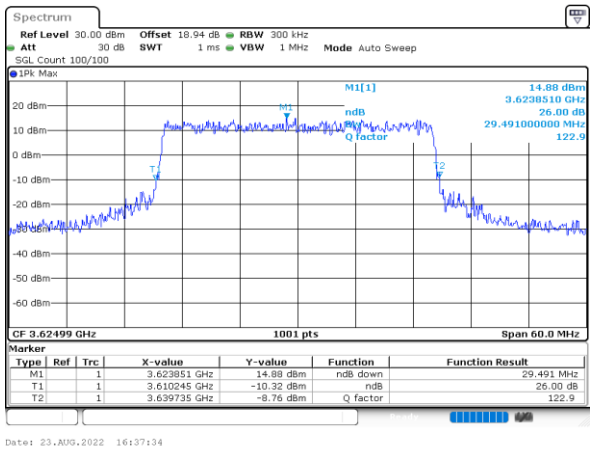
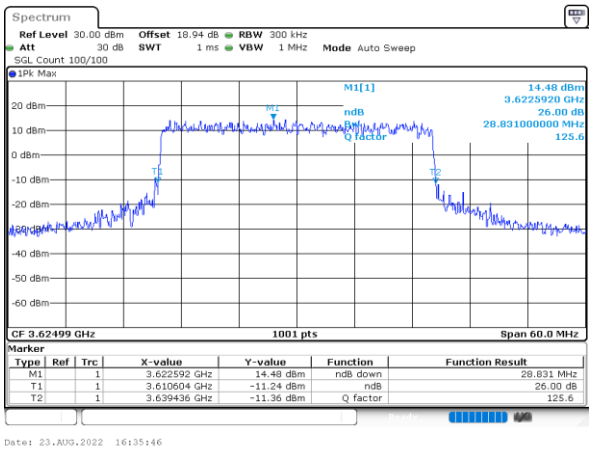
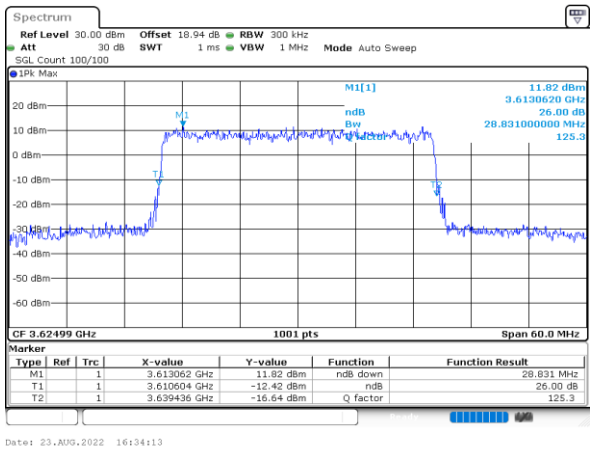
FR1 n48 / 10MHz / DFT-S OFDM / Middle Channel / Full RB	
PI/2 BPSK	
	

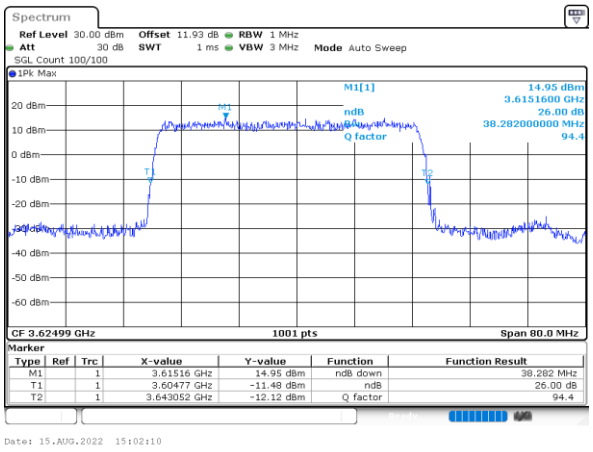
FR1 n48 / 10MHz / CP OFDM / Middle Channel / Full RB	
QPSK	16QAM
	
64QAM	256QAM
	

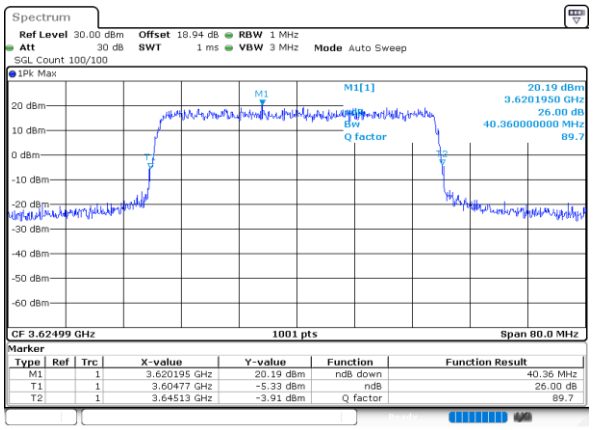
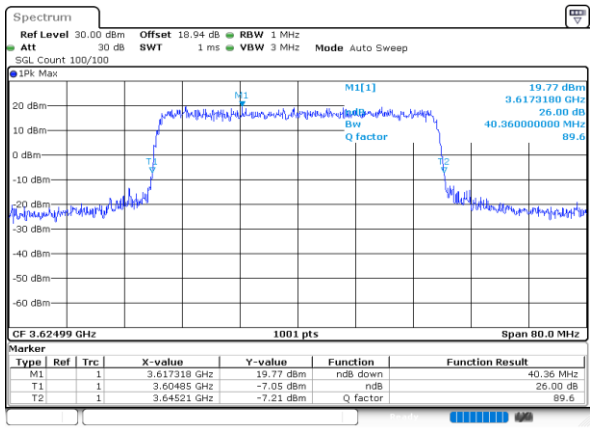
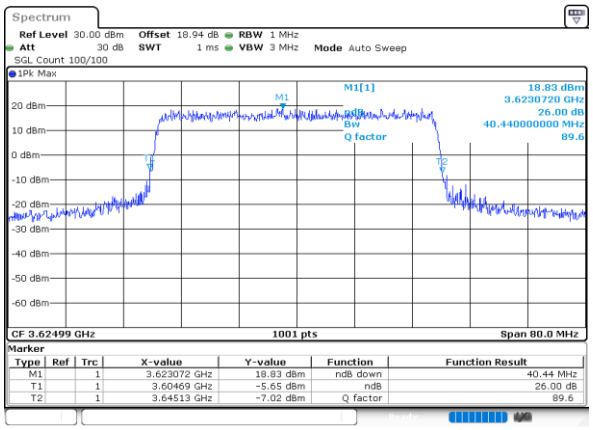
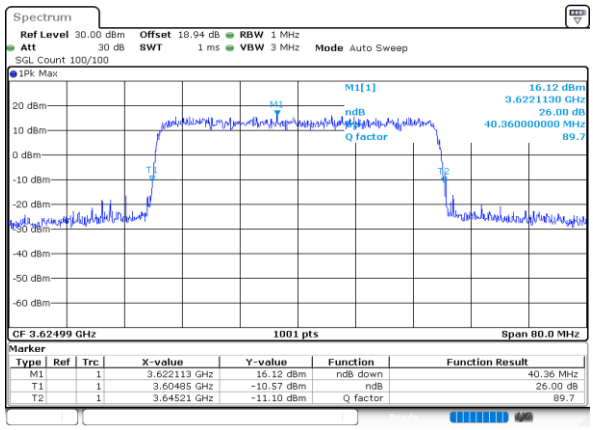
FR1 n48 / 20MHz / DFT-S OFDM / Middle Channel / Full RB	
PI/2 BPSK	
	

FR1 n48 / 20MHz / CP OFDM / Middle Channel / Full RB	
QPSK	16QAM
	
64QAM	256QAM
	

FR1 n48 / 30MHz / DFT-S OFDM / Middle Channel / Full RB	
PI/2 BPSK	
	

FR1 n48 / 30MHz / CP OFDM / Middle Channel / Full RB	
QPSK	16QAM
	
64QAM	256QAM
	

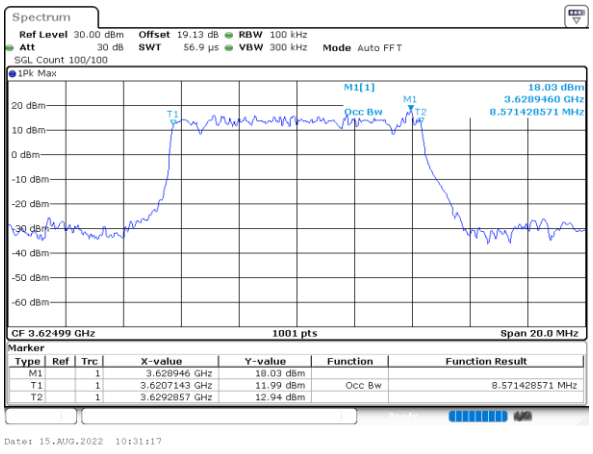
FR1 n48 / 40MHz / DFT-S OFDM / Middle Channel / Full RB	
PI/2 BPSK	
	

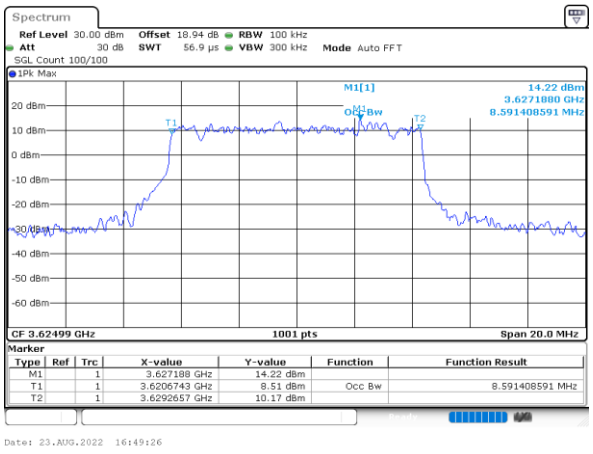
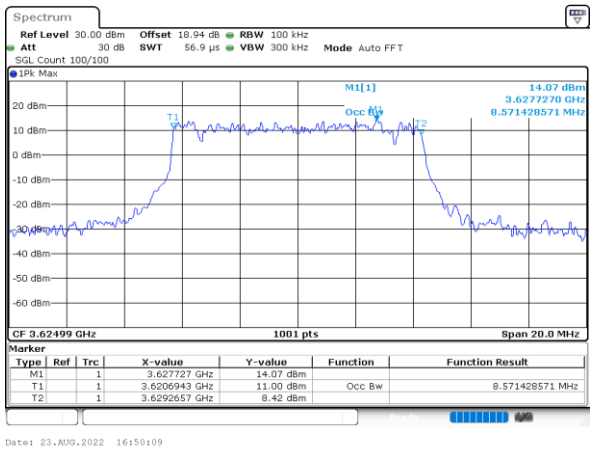
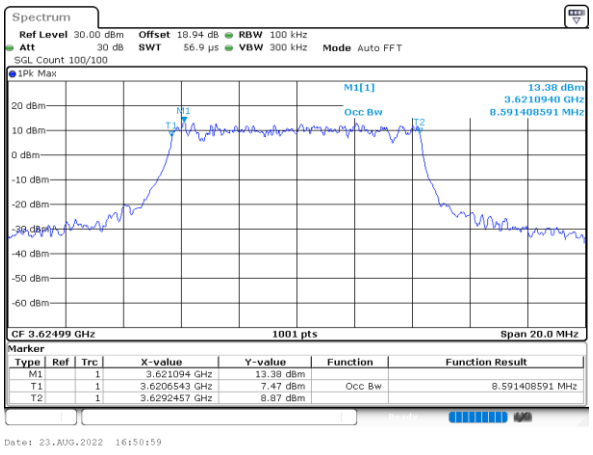
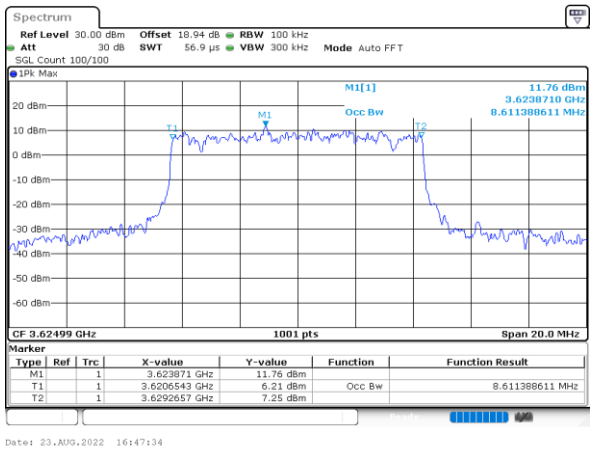
FR1 n48 / 40MHz / CP OFDM / Middle Channel / Full RB	
QPSK	16QAM
	
64QAM	256QAM
	

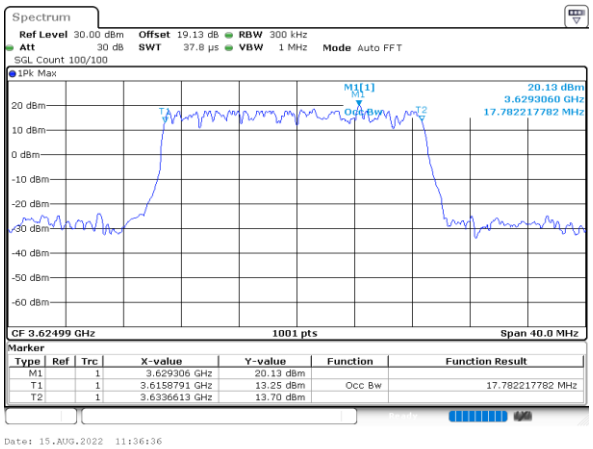
Occupied Bandwidth

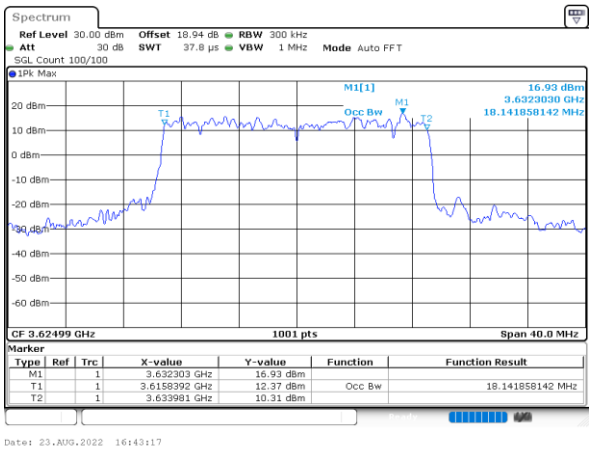
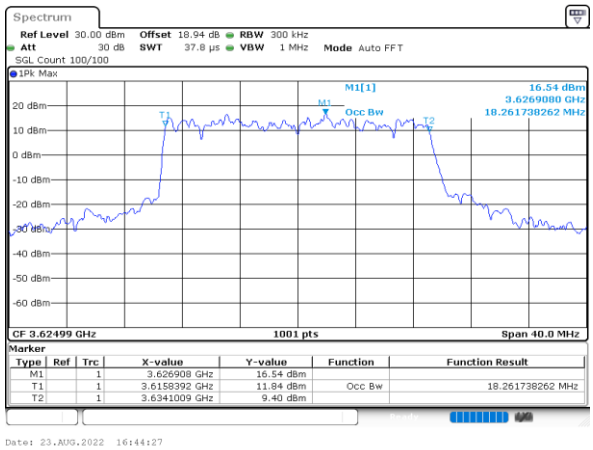
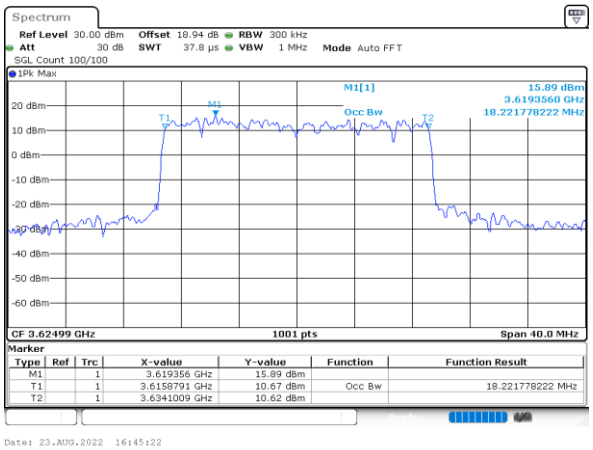
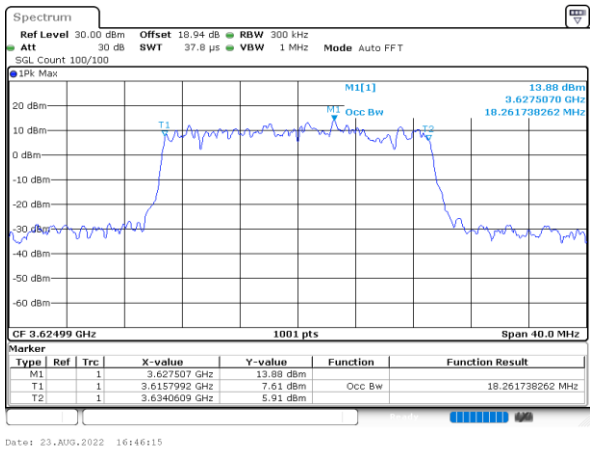
Mode	FR1 n48 : OB BW(MHz) / DFT-S OFDM							
BW	10MHz	20MHz	30MHz	40MHz				
Mod.	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK	PI/2 BPSK				
Middle CH	8.571	17.782	26.793	36.044	-	-	-	-

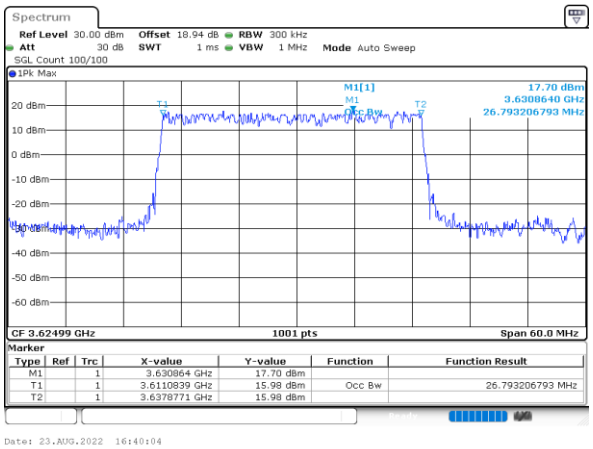
Mode	FR1 n48 : OB BW(MHz) / CP OFDM							
BW	10MHz		20MHz		30MHz		40MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	8.591	8.571	18.142	18.262	27.872	27.812	37.882	38.042
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	8.591	8.611	18.222	18.262	27.872	27.992	38.122	38.122

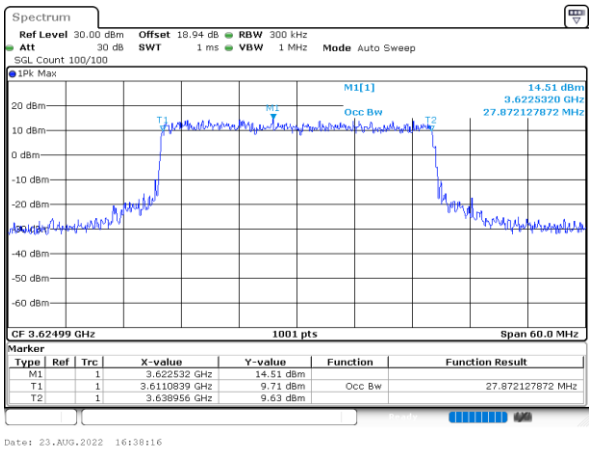
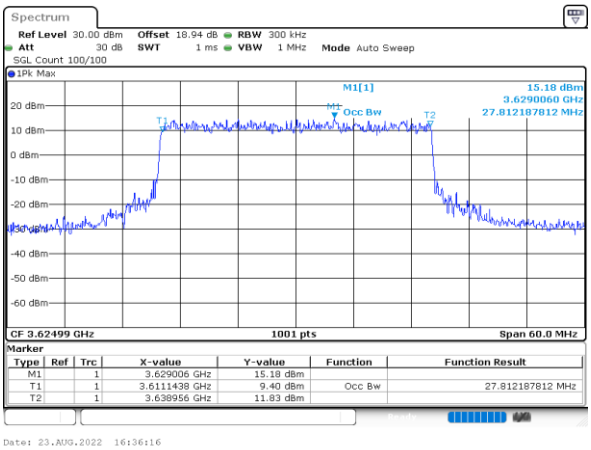
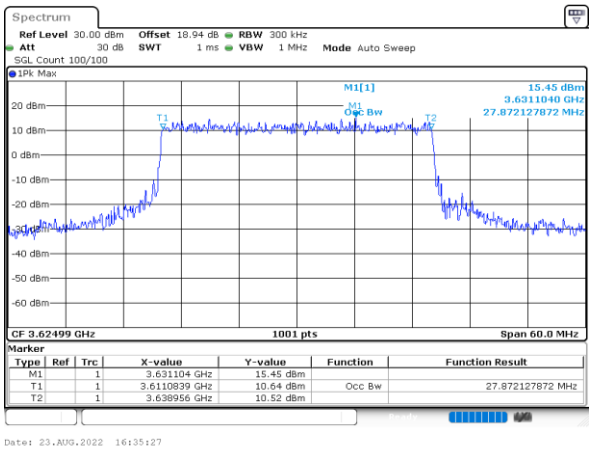
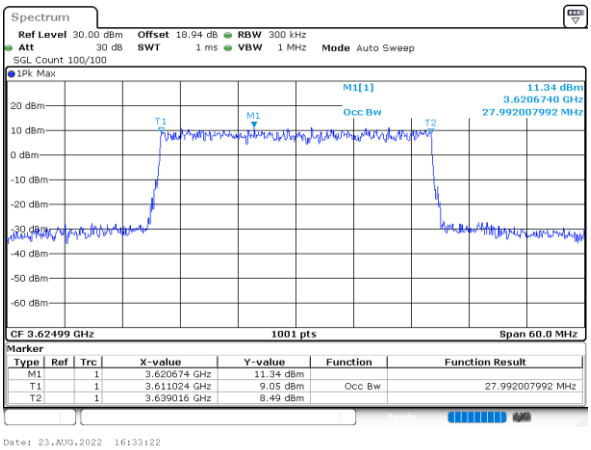
FR1 n48 / 10MHz / DFT-S OFDM / Middle Channel / Full RB	
PI/2 BPSK	
	

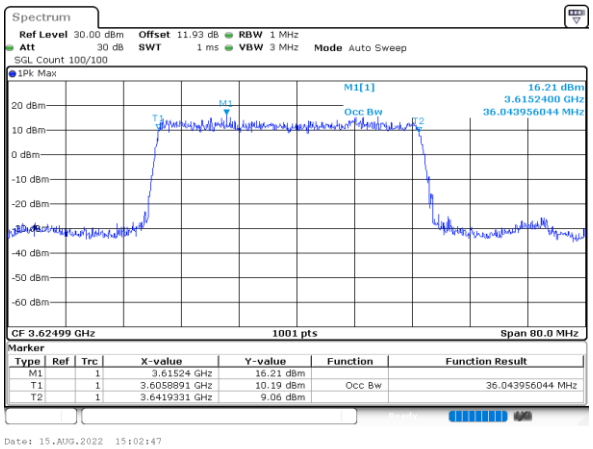
FR1 n48 / 10MHz / CP OFDM / Middle Channel / Full RB	
QPSK	16QAM
	
64QAM	256QAM
	

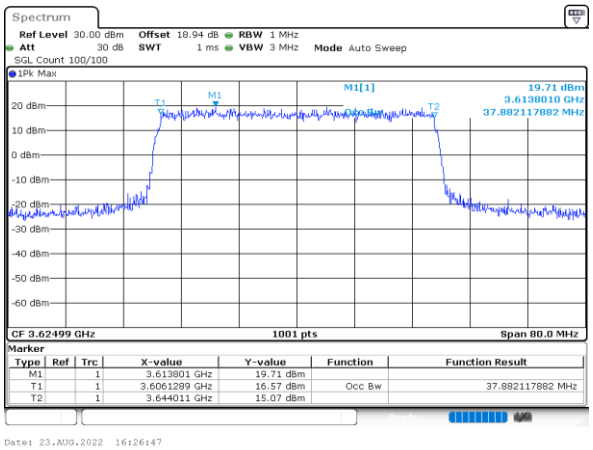
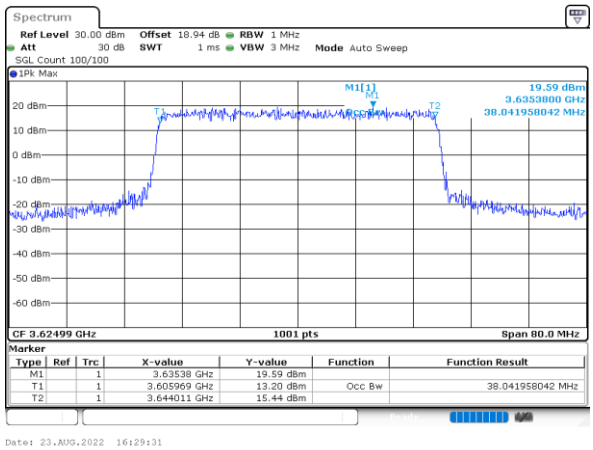
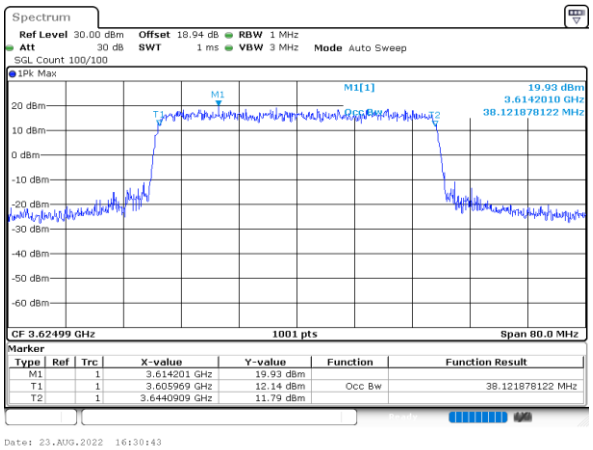
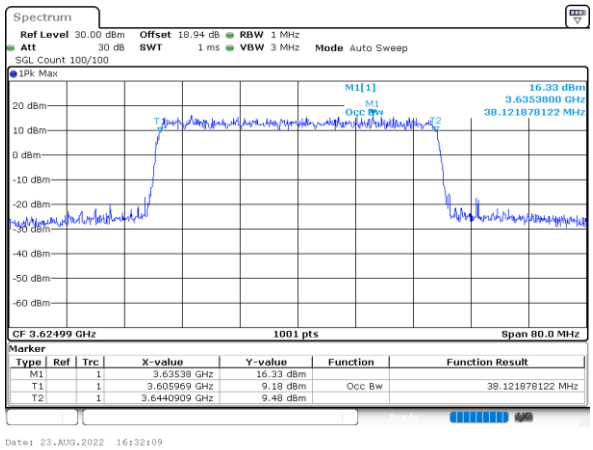
FR1 n48 / 20MHz / DFT-S OFDM / Middle Channel / Full RB	
PI/2 BPSK	
	

FR1 n48 / 20MHz / CP OFDM / Middle Channel / Full RB	
QPSK	16QAM
	
64QAM	256QAM
	

FR1 n48 / 30MHz / DFT-S OFDM / Middle Channel / Full RB	
PI/2 BPSK	
	

FR1 n48 / 30MHz / CP OFDM / Middle Channel / Full RB	
QPSK	16QAM
	
64QAM	256QAM
	

FR1 n48 / 40MHz / DFT-S OFDM / Middle Channel / Full RB	
PI/2 BPSK	
	

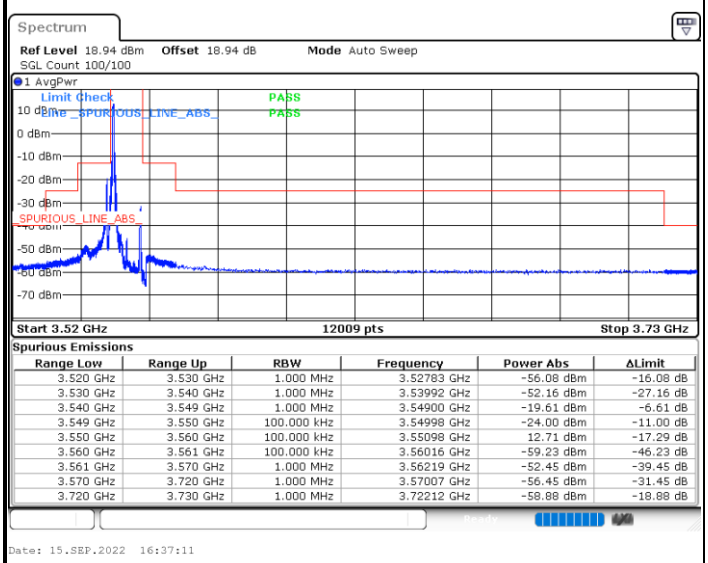
FR1 n48 / 40MHz / CP OFDM / Middle Channel / Full RB	
QPSK	16QAM
	
64QAM	256QAM
	

Unwanted Emission (MASK)

FR1 n48 / 10MHz / DFT-S OFDM / PI/2 BPSK

Lowest Channel

1RB0

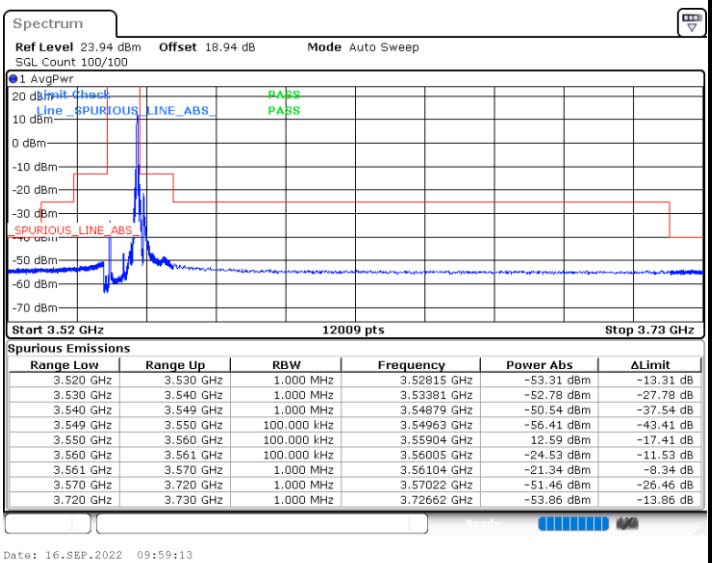


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.520 GHz	3.530 GHz	1.000 MHz	3.52783 GHz	-56.08 dBm	-16.08 dB
3.530 GHz	3.540 GHz	1.000 MHz	3.53992 GHz	-52.16 dBm	-27.16 dB
3.540 GHz	3.549 GHz	1.000 MHz	3.54900 GHz	-19.61 dBm	-6.61 dB
3.549 GHz	3.550 GHz	100.000 kHz	3.54998 GHz	-24.00 dBm	-11.00 dB
3.550 GHz	3.560 GHz	100.000 kHz	3.55098 GHz	12.71 dBm	-17.29 dB
3.560 GHz	3.561 GHz	100.000 kHz	3.56016 GHz	-59.23 dBm	-46.23 dB
3.561 GHz	3.570 GHz	1.000 MHz	3.56219 GHz	-52.45 dBm	-39.45 dB
3.570 GHz	3.720 GHz	1.000 MHz	3.57007 GHz	-56.45 dBm	-31.45 dB
3.720 GHz	3.730 GHz	1.000 MHz	3.72212 GHz	-58.88 dBm	-18.88 dB

Date: 15.SEP.2022 16:37:11

1RBmax

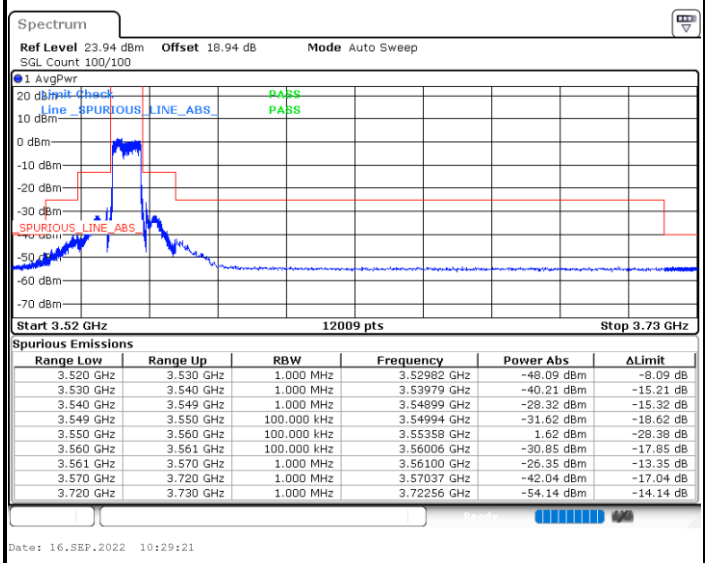


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.520 GHz	3.530 GHz	1.000 MHz	3.52815 GHz	-53.31 dBm	-13.31 dB
3.530 GHz	3.540 GHz	1.000 MHz	3.53381 GHz	-52.78 dBm	-27.78 dB
3.540 GHz	3.549 GHz	1.000 MHz	3.54879 GHz	-50.54 dBm	-37.54 dB
3.549 GHz	3.550 GHz	100.000 kHz	3.54963 GHz	-56.41 dBm	-43.41 dB
3.550 GHz	3.560 GHz	100.000 kHz	3.55904 GHz	12.59 dBm	-17.41 dB
3.560 GHz	3.561 GHz	100.000 kHz	3.56005 GHz	-24.53 dBm	-11.53 dB
3.561 GHz	3.570 GHz	1.000 MHz	3.56104 GHz	-21.34 dBm	-8.34 dB
3.570 GHz	3.720 GHz	1.000 MHz	3.57022 GHz	-51.46 dBm	-26.46 dB
3.720 GHz	3.730 GHz	1.000 MHz	3.72662 GHz	-53.86 dBm	-13.86 dB

Date: 16.SEP.2022 09:59:13

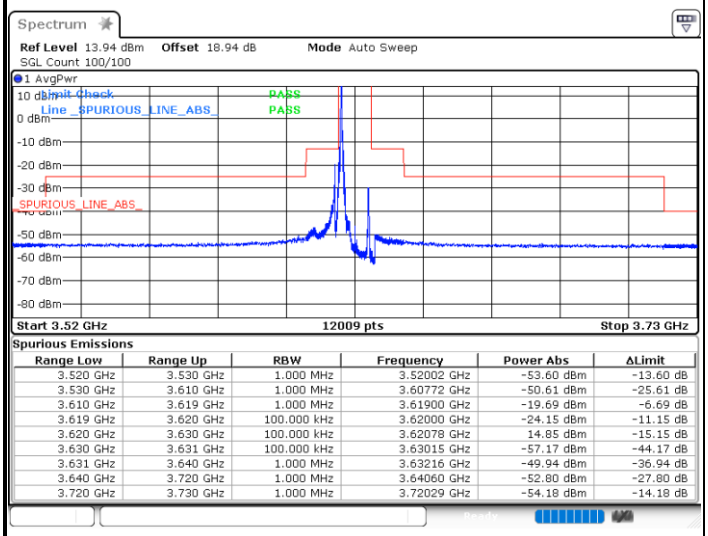
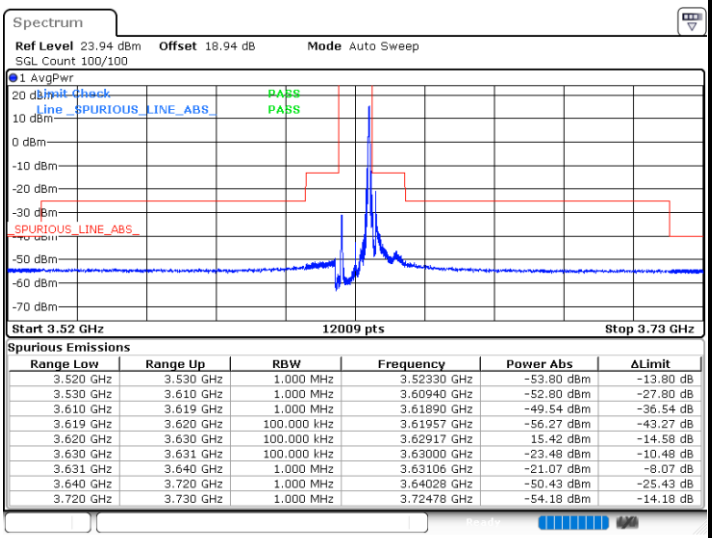
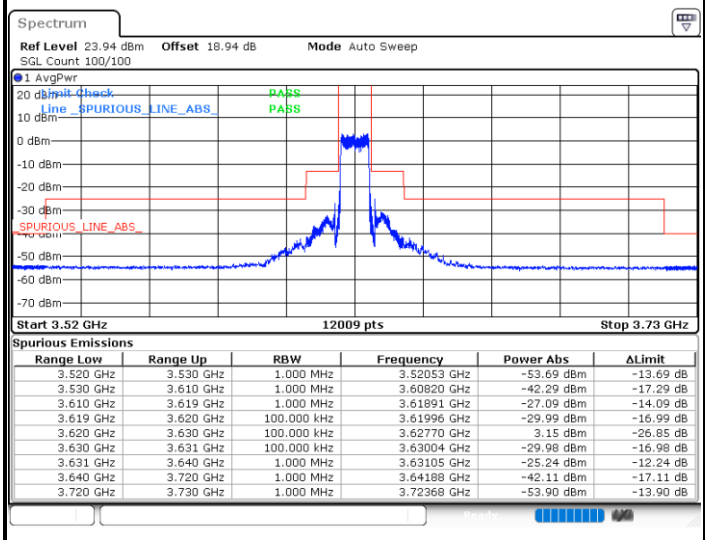
Full RB

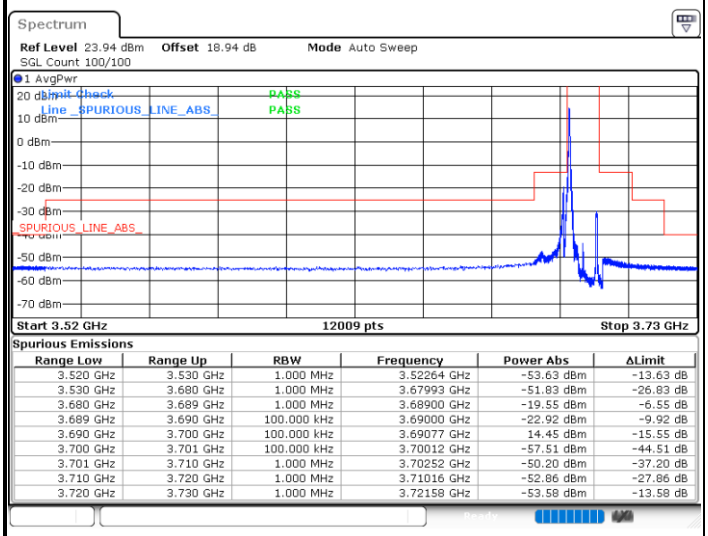
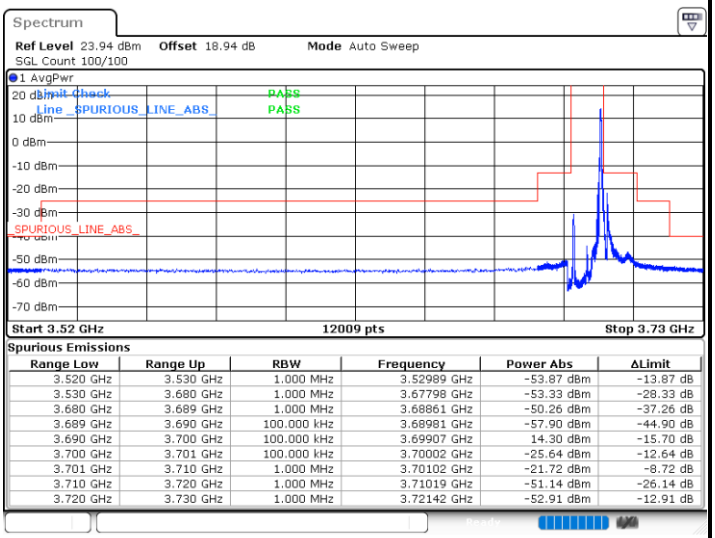
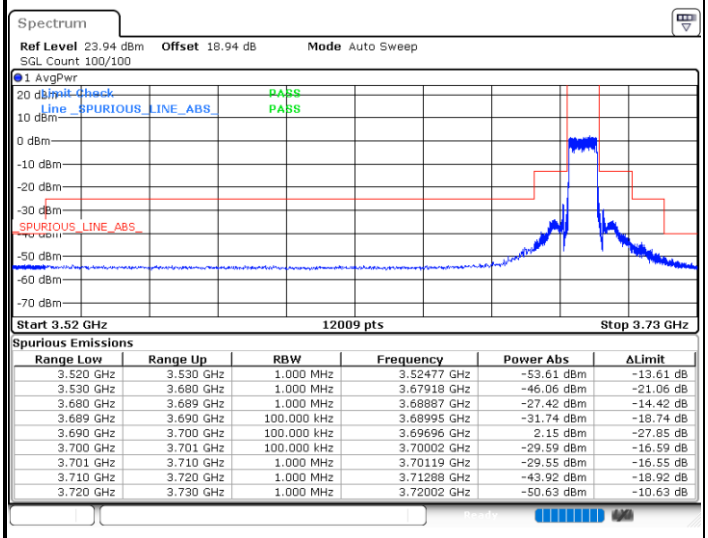


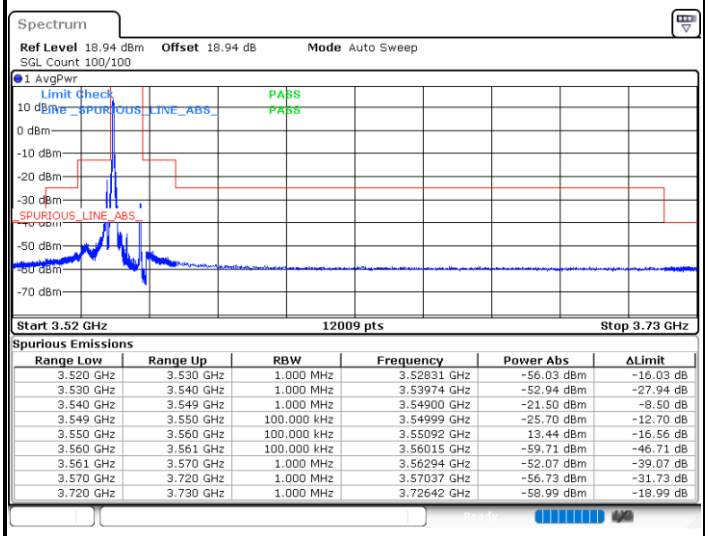
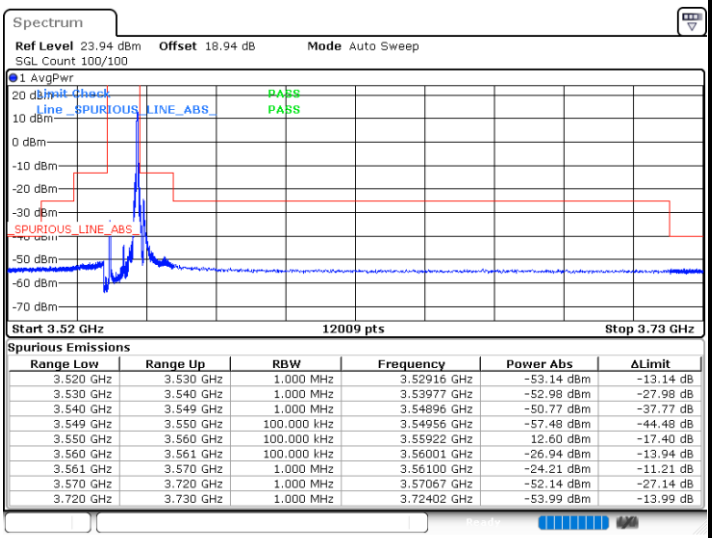
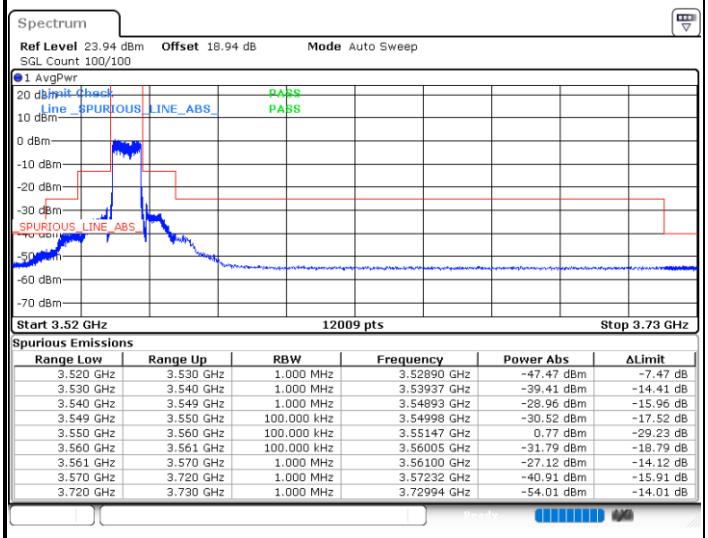
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.520 GHz	3.530 GHz	1.000 MHz	3.52982 GHz	-48.09 dBm	-8.09 dB
3.530 GHz	3.540 GHz	1.000 MHz	3.53979 GHz	-40.21 dBm	-15.21 dB
3.540 GHz	3.549 GHz	1.000 MHz	3.54899 GHz	-28.32 dBm	-15.32 dB
3.549 GHz	3.550 GHz	100.000 kHz	3.54994 GHz	-31.62 dBm	-18.62 dB
3.550 GHz	3.560 GHz	100.000 kHz	3.55358 GHz	1.62 dBm	-28.38 dB
3.560 GHz	3.561 GHz	100.000 kHz	3.56006 GHz	-30.85 dBm	-17.85 dB
3.561 GHz	3.570 GHz	1.000 MHz	3.56100 GHz	-26.35 dBm	-13.35 dB
3.570 GHz	3.720 GHz	1.000 MHz	3.57037 GHz	-42.04 dBm	-17.04 dB
3.720 GHz	3.730 GHz	1.000 MHz	3.72256 GHz	-54.14 dBm	-14.14 dB

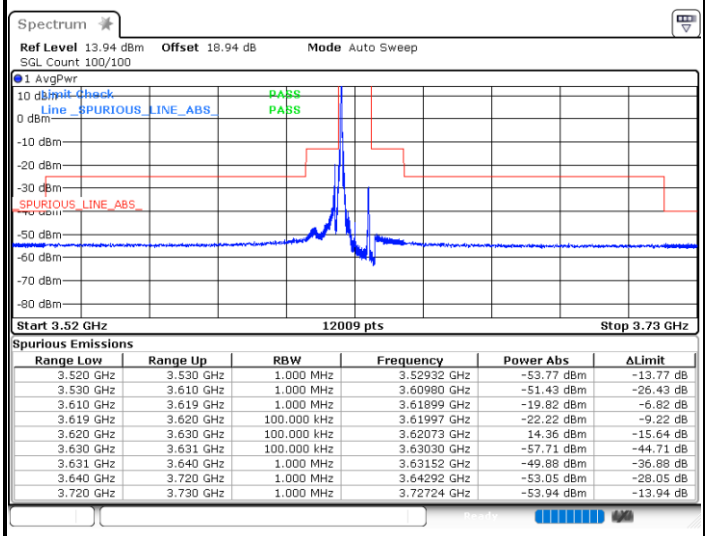
Date: 16.SEP.2022 10:29:21

FR1 n48 / 10MHz / DFT-S OFDM / PI/2 BPSK	
Middle Channel	
1RB0	**1RBmax**
	
Full RB	
	

FR1 n48 / 10MHz / DFT-S OFDM / PI/2 BPSK	
Highest Channel	
1RB0	**1RBmax**
	
Full RB	
	

FR1 n48 / 10MHz / DFT-S OFDM / QPSK	
Lowest Channel	
1RB0	**1RBmax**
	
Full RB	
	

FR1 n48 / 10MHz / DFT-S OFDM / QPSK	
Middle Channel	
1RB0	**1RBmax**



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.520 GHz	3.530 GHz	1.000 MHz	3.52932 GHz	-53.77 dBm	-13.77 dB
3.530 GHz	3.610 GHz	1.000 MHz	3.60980 GHz	-51.43 dBm	-26.43 dB
3.610 GHz	3.619 GHz	1.000 MHz	3.61899 GHz	-19.82 dBm	-6.82 dB
3.619 GHz	3.620 GHz	100.000 kHz	3.61997 GHz	-22.22 dBm	-9.22 dB
3.620 GHz	3.630 GHz	100.000 kHz	3.62073 GHz	14.36 dBm	-15.64 dB
3.630 GHz	3.631 GHz	100.000 kHz	3.63030 GHz	-57.71 dBm	-44.71 dB
3.631 GHz	3.640 GHz	1.000 MHz	3.63152 GHz	-49.88 dBm	-36.88 dB
3.640 GHz	3.720 GHz	1.000 MHz	3.64292 GHz	-53.05 dBm	-28.05 dB
3.720 GHz	3.730 GHz	1.000 MHz	3.72724 GHz	-53.94 dBm	-13.94 dB

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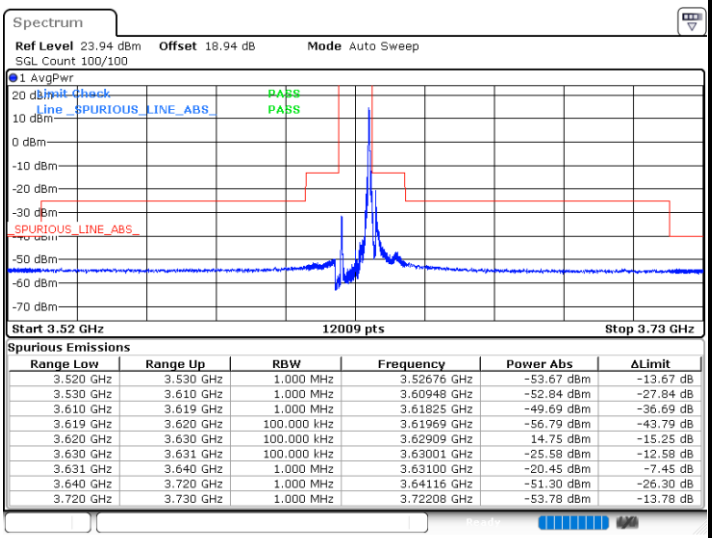

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.520 GHz	3.530 GHz	1.000 MHz	3.52676 GHz	-53.67 dBm	-13.67 dB
3.530 GHz	3.610 GHz	1.000 MHz	3.60948 GHz	-52.84 dBm	-27.84 dB
3.610 GHz	3.619 GHz	1.000 MHz	3.61825 GHz	-49.69 dBm	-36.69 dB
3.619 GHz	3.620 GHz	100.000 kHz	3.61969 GHz	-56.79 dBm	-43.79 dB
3.620 GHz	3.630 GHz	100.000 kHz	3.62909 GHz	14.75 dBm	-15.25 dB
3.630 GHz	3.631 GHz	100.000 kHz	3.63001 GHz	-25.58 dBm	-12.58 dB
3.631 GHz	3.640 GHz	1.000 MHz	3.63100 GHz	-20.45 dBm	-7.45 dB
3.640 GHz	3.720 GHz	1.000 MHz	3.64116 GHz	-51.30 dBm	-26.30 dB
3.720 GHz	3.730 GHz	1.000 MHz	3.72208 GHz	-53.78 dBm	-13.78 dB

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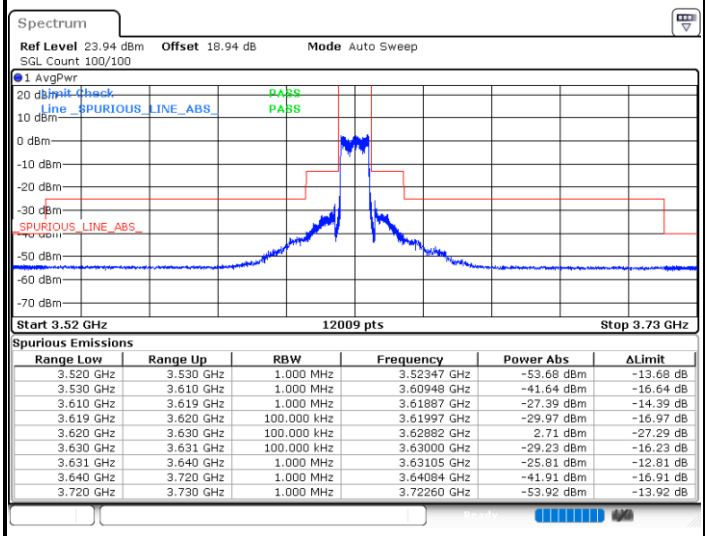
Full RB	



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.520 GHz	3.530 GHz	1.000 MHz	3.52347 GHz	-53.68 dBm	-13.68 dB
3.530 GHz	3.610 GHz	1.000 MHz	3.60948 GHz	-41.64 dBm	-16.64 dB
3.610 GHz	3.619 GHz	1.000 MHz	3.61887 GHz	-27.39 dBm	-14.39 dB
3.619 GHz	3.620 GHz	100.000 kHz	3.61997 GHz	-29.97 dBm	-16.97 dB
3.620 GHz	3.630 GHz	100.000 kHz	3.62882 GHz	2.71 dBm	-27.29 dB
3.630 GHz	3.631 GHz	100.000 kHz	3.63000 GHz	-29.23 dBm	-16.23 dB
3.631 GHz	3.640 GHz	1.000 MHz	3.63105 GHz	-25.81 dBm	-12.81 dB
3.640 GHz	3.720 GHz	1.000 MHz	3.64084 GHz	-41.91 dBm	-16.91 dB
3.720 GHz	3.730 GHz	1.000 MHz	3.72260 GHz	-53.92 dBm	-13.92 dB

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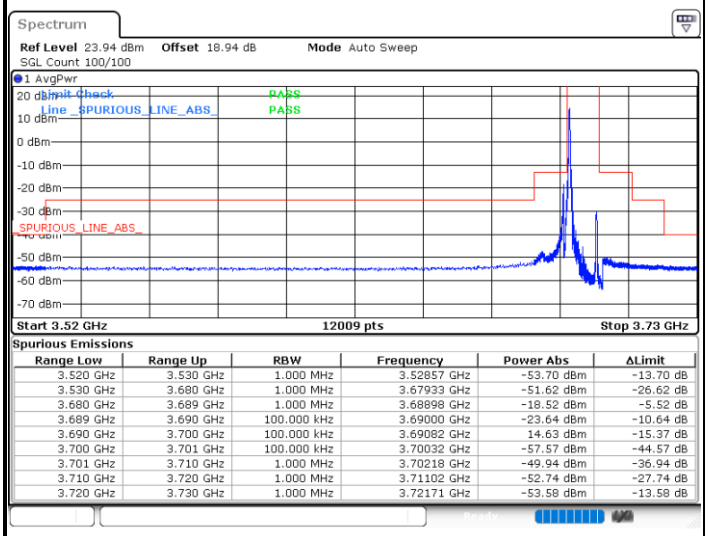
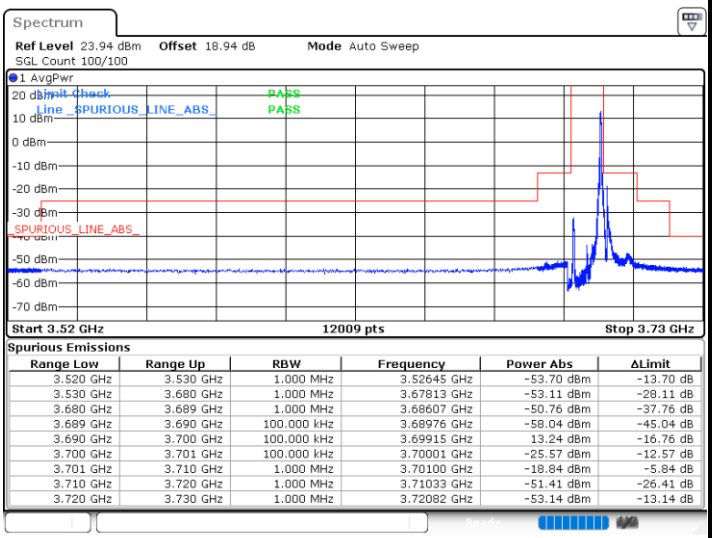
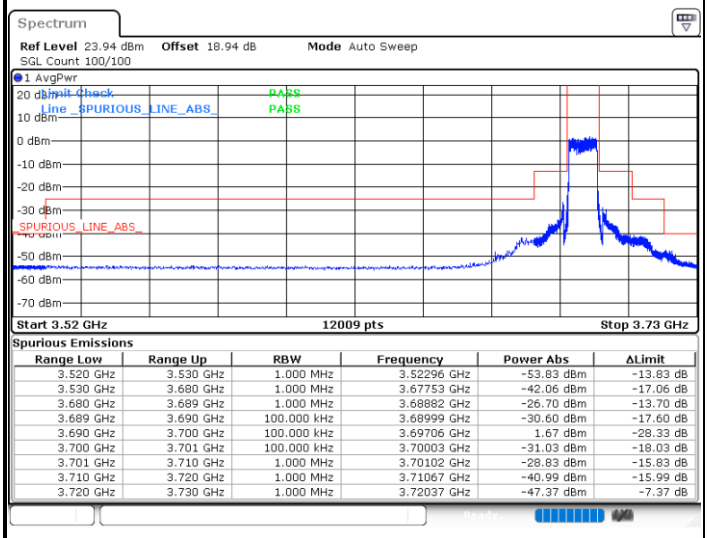
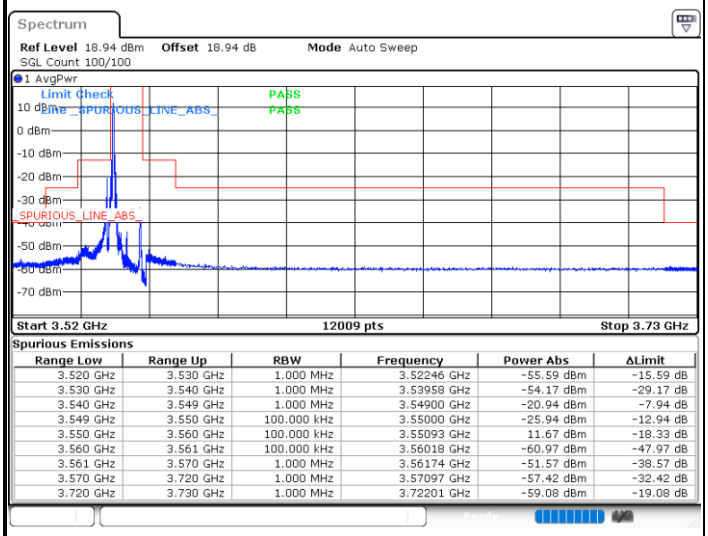
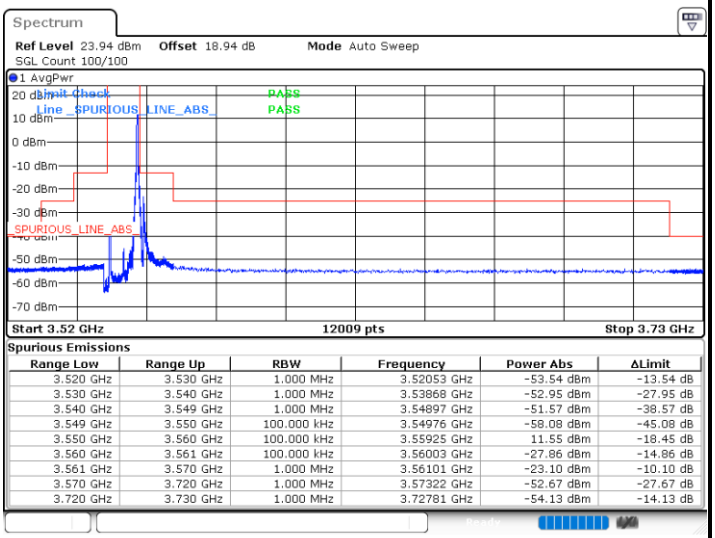
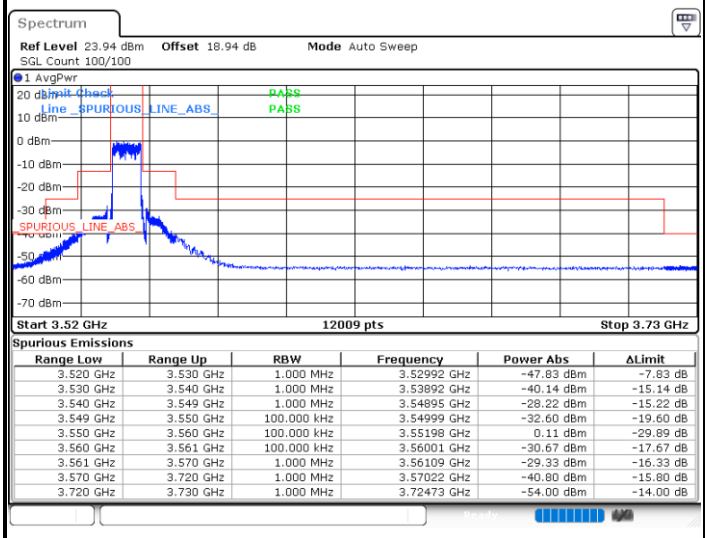
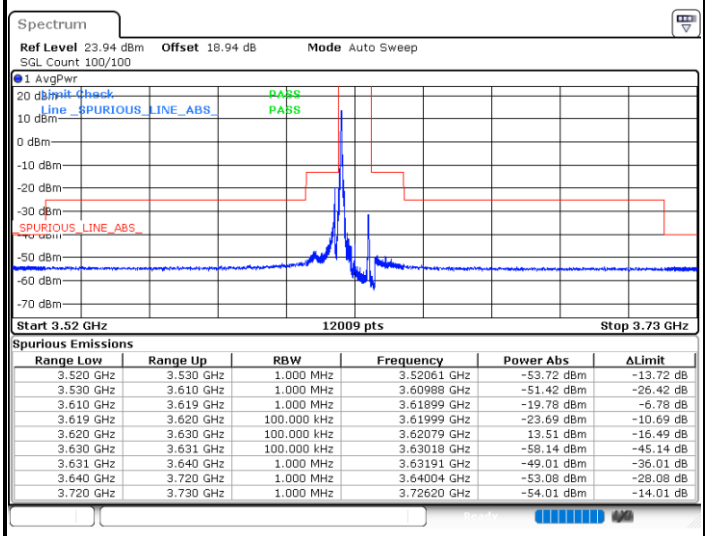
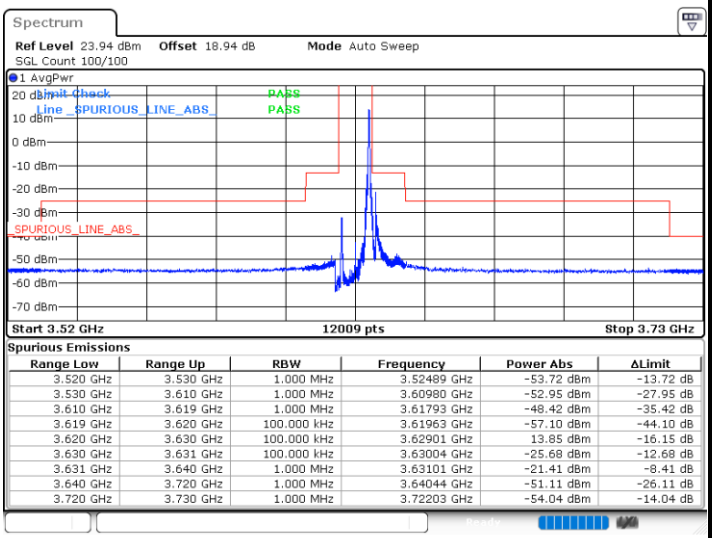
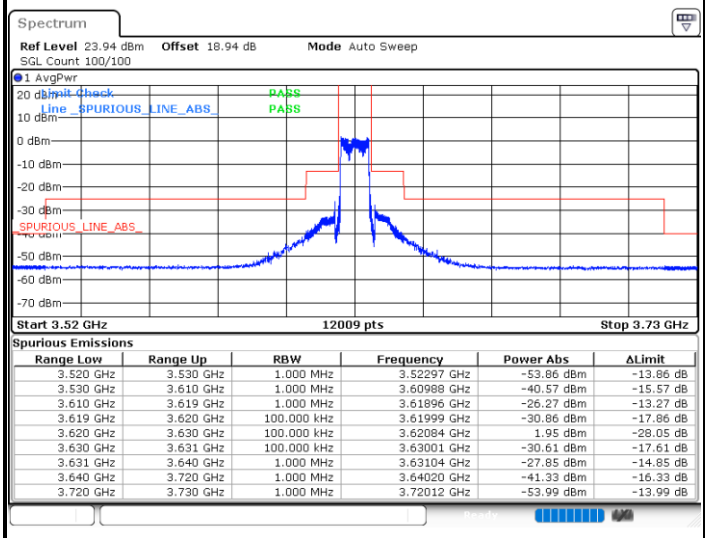
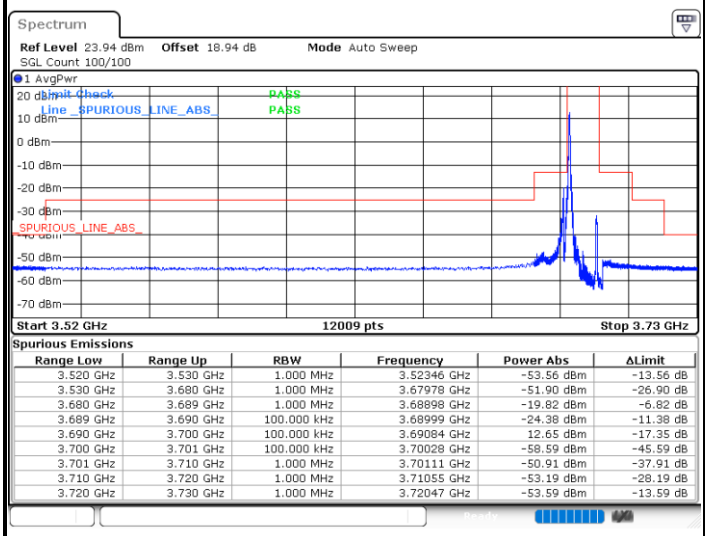
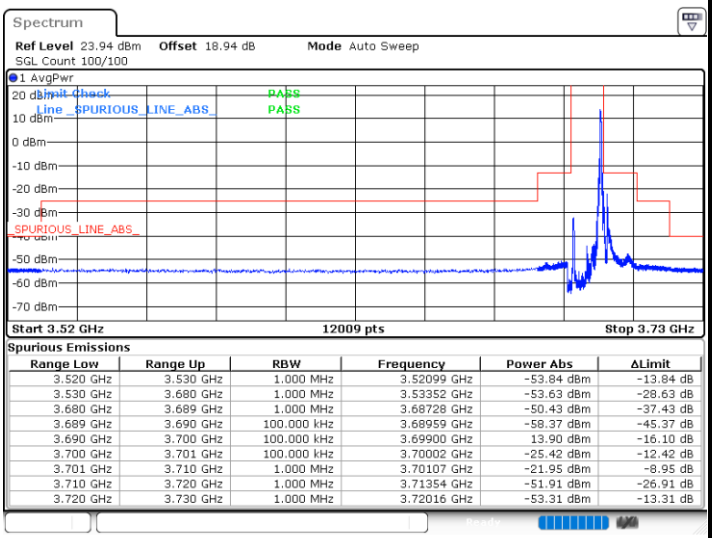
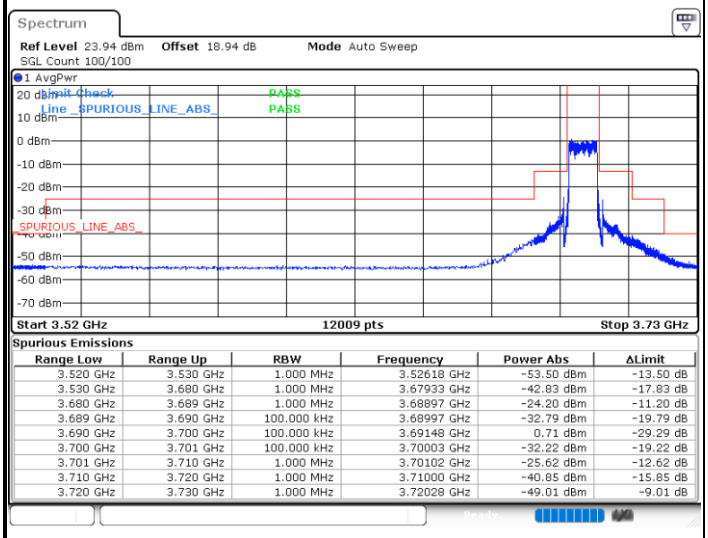
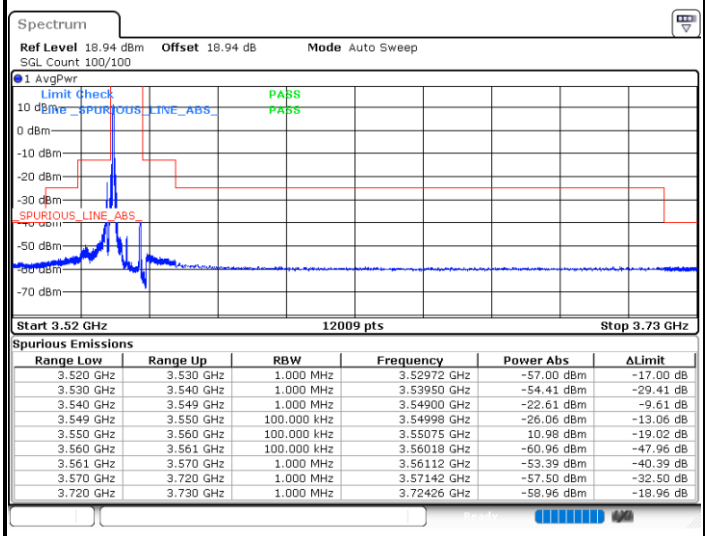
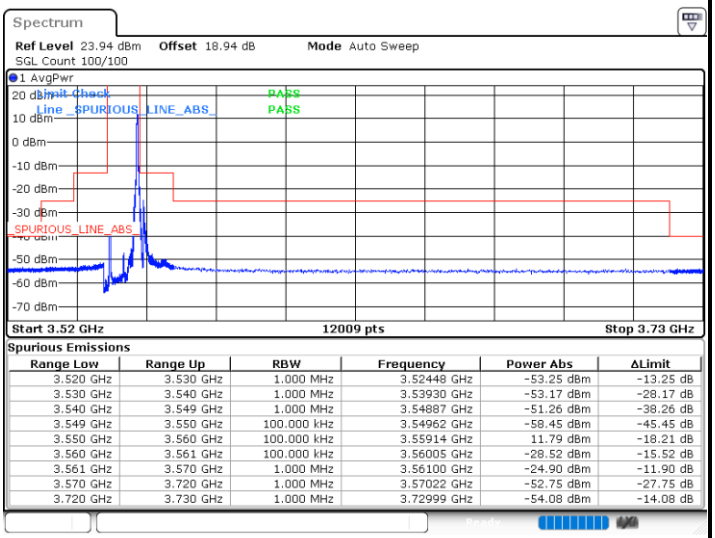
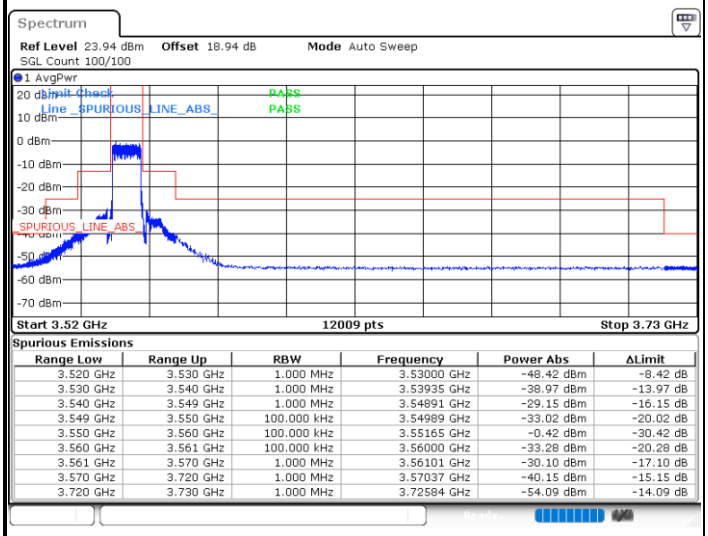
FR1 n48 / 10MHz / DFT-S OFDM / QPSK	
Highest Channel	
1RB0	**1RBmax**
	
Full RB	
	

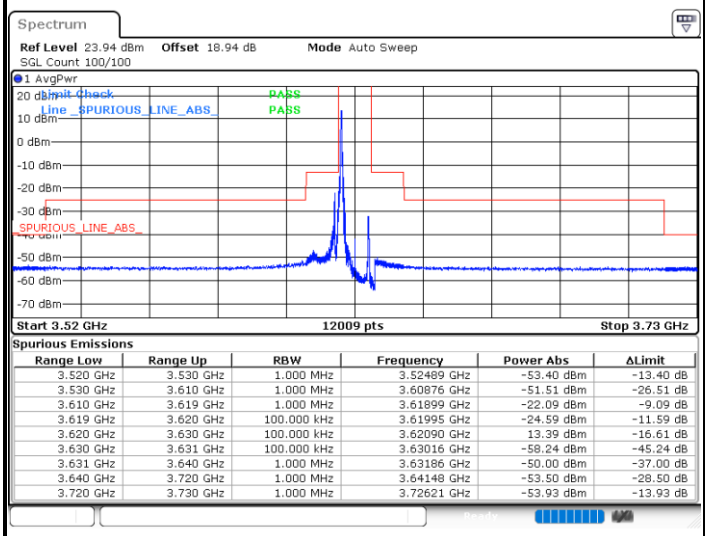
FR1 n48 / 10MHz / DFT-S OFDM / 16QAM	
Lowest Channel	
1RB0	**1RBmax**
	
Full RB	
	

FR1 n48 / 10MHz / DFT-S OFDM / 16QAM	
Middle Channel	
1RB0	**1RBmax**
	
Full RB	
	

FR1 n48 / 10MHz / DFT-S OFDM / 16QAM	
Highest Channel	
1RB0	**1RBmax**
	
Full RB	
	

FR1 n48 / 10MHz / DFT-S OFDM / 64QAM	
Lowest Channel	
1RB0	**1RBmax**
	
Full RB	
	

FR1 n48 / 10MHz / DFT-S OFDM / 64QAM	
Middle Channel	
1RB0	**1RBmax**



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.520 GHz	3.530 GHz	1.000 MHz	3.52489 GHz	-53.40 dBm	-13.40 dB
3.530 GHz	3.610 GHz	1.000 MHz	3.60876 GHz	-51.51 dBm	-26.51 dB
3.610 GHz	3.619 GHz	1.000 MHz	3.61899 GHz	-22.09 dBm	-9.09 dB
3.619 GHz	3.620 GHz	100.000 kHz	3.61995 GHz	-24.59 dBm	-11.59 dB
3.620 GHz	3.630 GHz	100.000 kHz	3.62090 GHz	13.39 dBm	-16.61 dB
3.630 GHz	3.631 GHz	100.000 kHz	3.63016 GHz	-58.24 dBm	-45.24 dB
3.631 GHz	3.640 GHz	1.000 MHz	3.63186 GHz	-50.00 dBm	-37.00 dB
3.640 GHz	3.720 GHz	1.000 MHz	3.64148 GHz	-53.50 dBm	-28.50 dB
3.720 GHz	3.730 GHz	1.000 MHz	3.72621 GHz	-53.93 dBm	-13.93 dB

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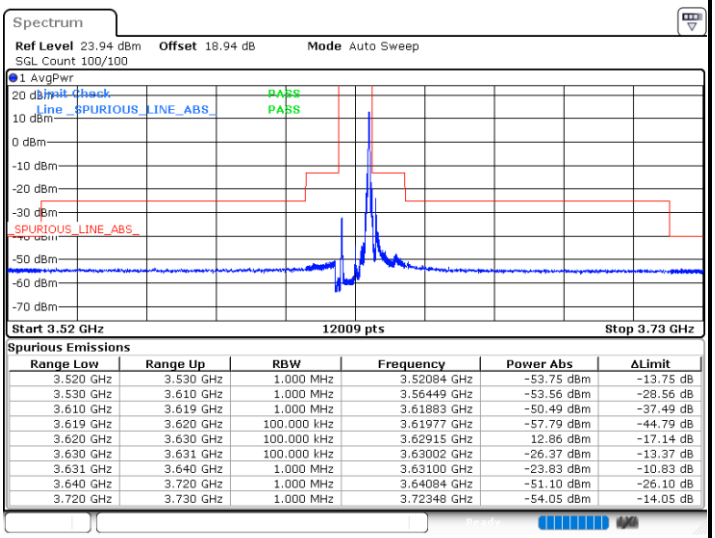

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.520 GHz	3.530 GHz	1.000 MHz	3.52084 GHz	-53.75 dBm	-13.75 dB
3.530 GHz	3.610 GHz	1.000 MHz	3.56449 GHz	-53.56 dBm	-28.56 dB
3.610 GHz	3.619 GHz	1.000 MHz	3.61883 GHz	-50.49 dBm	-37.49 dB
3.619 GHz	3.620 GHz	100.000 kHz	3.61977 GHz	-57.79 dBm	-44.79 dB
3.620 GHz	3.630 GHz	100.000 kHz	3.62915 GHz	12.86 dBm	-17.14 dB
3.630 GHz	3.631 GHz	100.000 kHz	3.63002 GHz	-26.37 dBm	-13.37 dB
3.631 GHz	3.640 GHz	1.000 MHz	3.63100 GHz	-23.83 dBm	-10.83 dB
3.640 GHz	3.720 GHz	1.000 MHz	3.64084 GHz	-51.10 dBm	-26.10 dB
3.720 GHz	3.730 GHz	1.000 MHz	3.72348 GHz	-54.05 dBm	-14.05 dB

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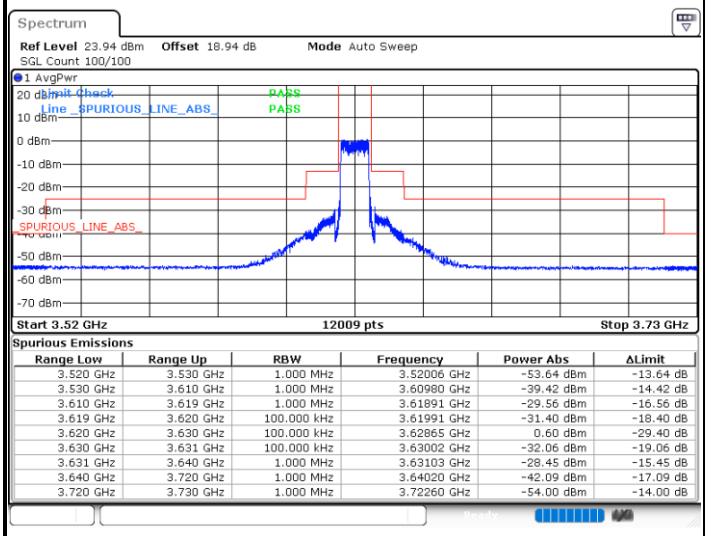
Full RB	



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.520 GHz	3.530 GHz	1.000 MHz	3.52006 GHz	-53.64 dBm	-13.64 dB
3.530 GHz	3.610 GHz	1.000 MHz	3.60980 GHz	-39.42 dBm	-14.42 dB
3.610 GHz	3.619 GHz	1.000 MHz	3.61891 GHz	-29.56 dBm	-16.56 dB
3.619 GHz	3.620 GHz	100.000 kHz	3.61991 GHz	-31.40 dBm	-18.40 dB
3.620 GHz	3.630 GHz	100.000 kHz	3.62865 GHz	0.60 dBm	-29.40 dB
3.630 GHz	3.631 GHz	100.000 kHz	3.63002 GHz	-32.06 dBm	-19.06 dB
3.631 GHz	3.640 GHz	1.000 MHz	3.63103 GHz	-28.45 dBm	-15.45 dB
3.640 GHz	3.720 GHz	1.000 MHz	3.64020 GHz	-42.09 dBm	-17.09 dB
3.720 GHz	3.730 GHz	1.000 MHz	3.72260 GHz	-54.00 dBm	-14.00 dB

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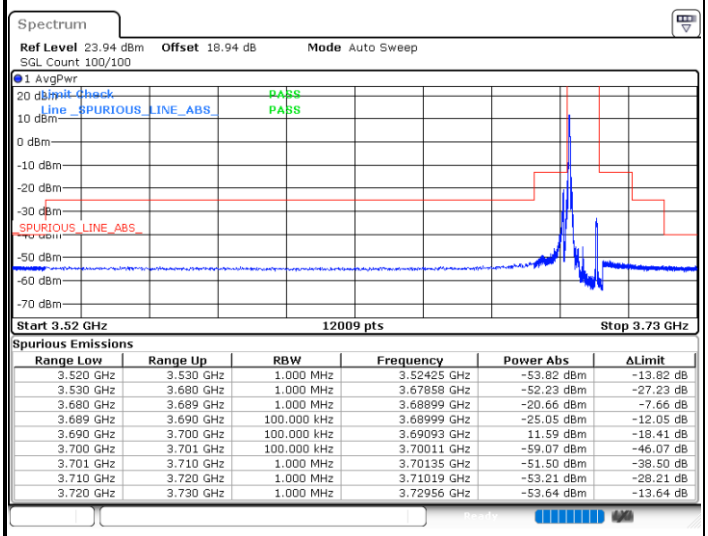
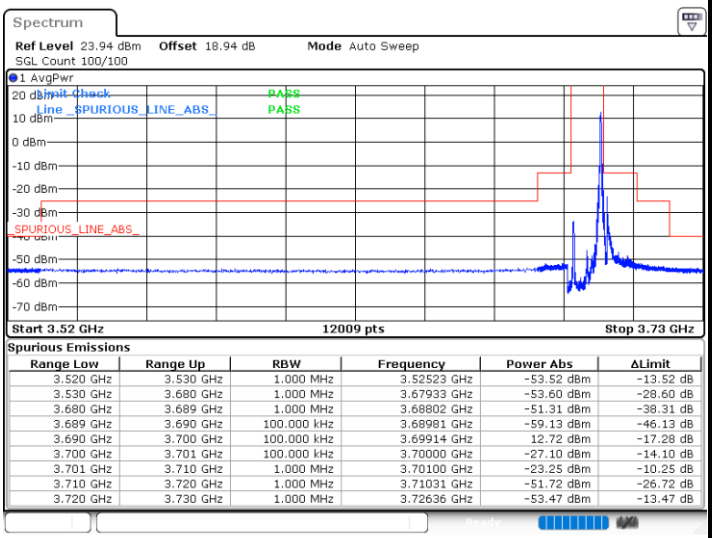
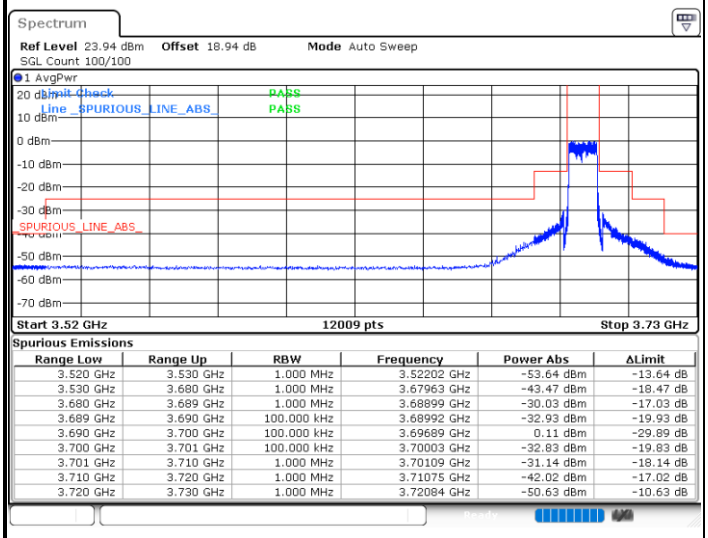
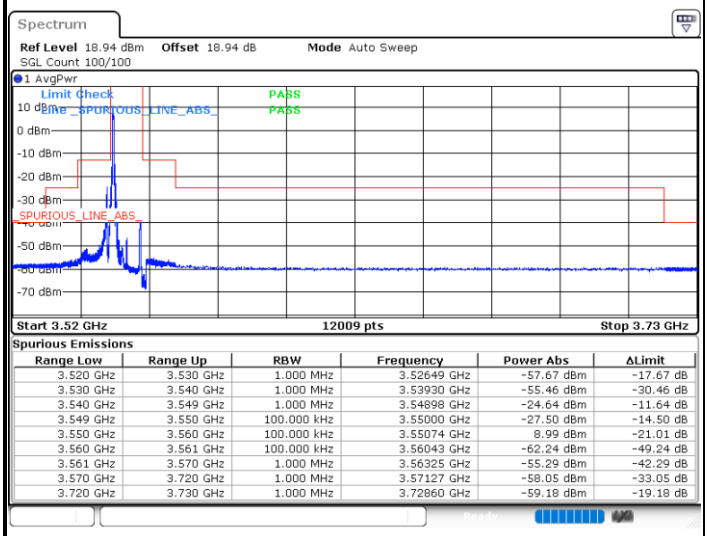
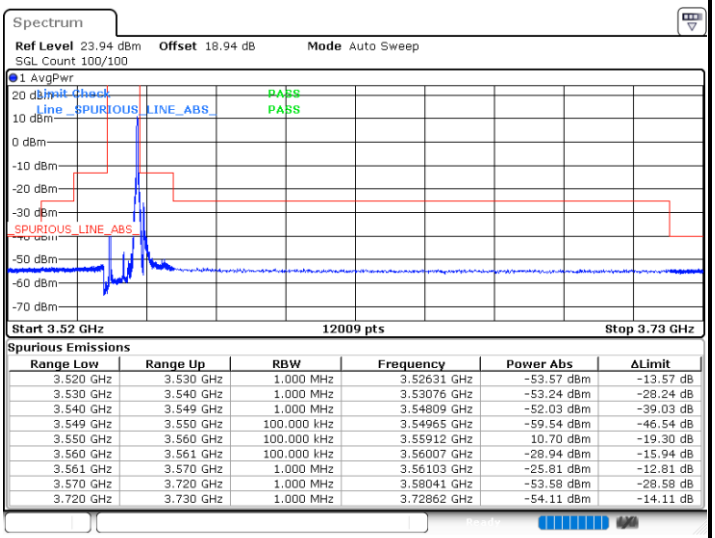
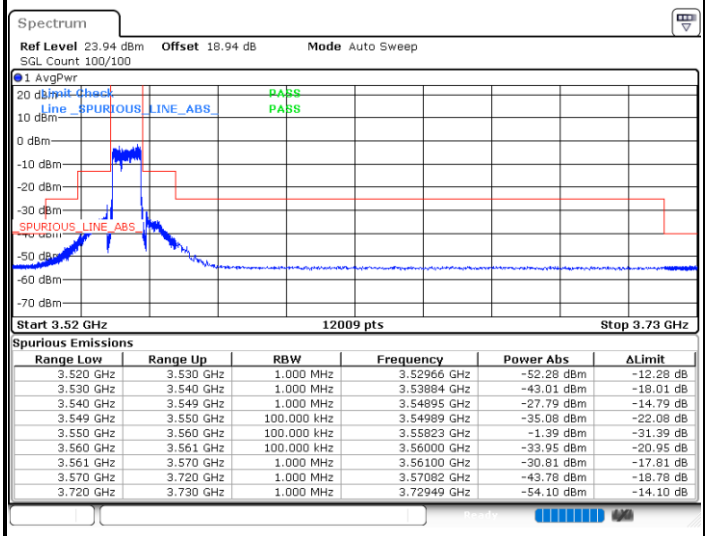
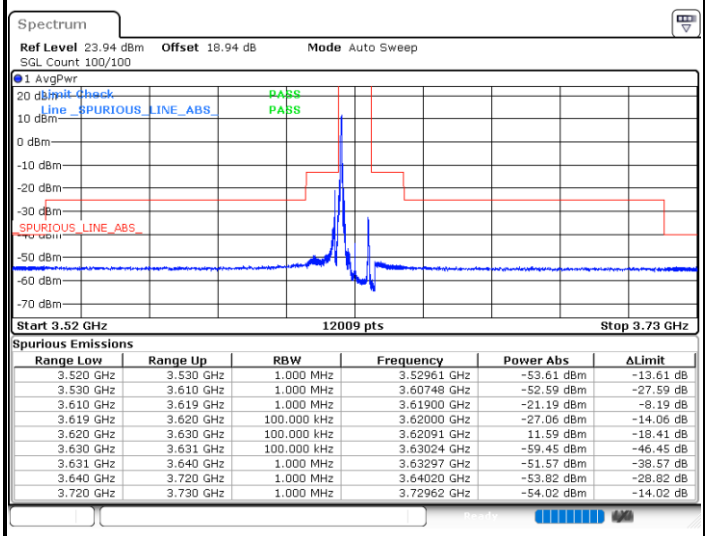
FR1 n48 / 10MHz / DFT-S OFDM / 64QAM	
Highest Channel	
1RB0	**1RBmax**
	
Full RB	
	

FR1 n48 / 10MHz / DFT-S OFDM / 256QAM	
Lowest Channel	
1RB0	**1RBmax**
	
Full RB	
	

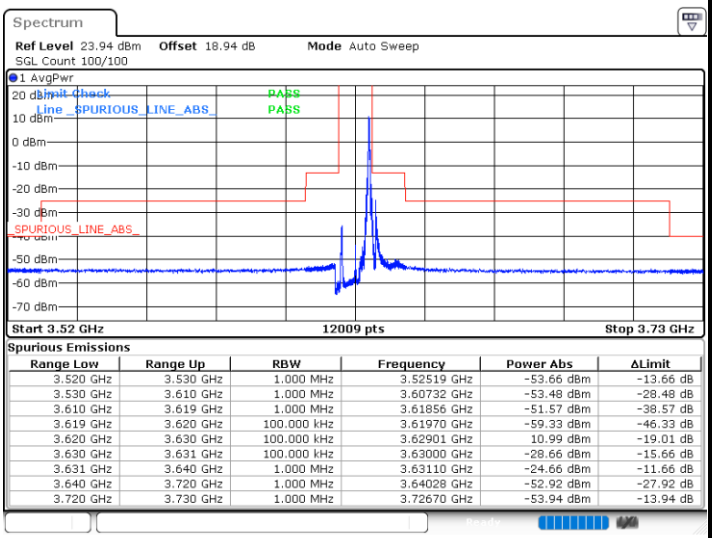
FR1 n48 / 10MHz / DFT-S OFDM / 256QAM	
Middle Channel	
1RB0	**1RBmax**



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.520 GHz	3.530 GHz	1.000 MHz	3.52961 GHz	-53.61 dBm	-13.61 dB
3.530 GHz	3.610 GHz	1.000 MHz	3.60748 GHz	-52.59 dBm	-27.59 dB
3.610 GHz	3.619 GHz	1.000 MHz	3.61900 GHz	-21.19 dBm	-8.19 dB
3.619 GHz	3.620 GHz	100.000 kHz	3.62000 GHz	-27.06 dBm	-14.06 dB
3.620 GHz	3.630 GHz	100.000 kHz	3.62091 GHz	11.59 dBm	-18.41 dB
3.630 GHz	3.631 GHz	100.000 kHz	3.63024 GHz	-59.45 dBm	-46.45 dB
3.631 GHz	3.640 GHz	1.000 MHz	3.63297 GHz	-51.57 dBm	-38.57 dB
3.640 GHz	3.720 GHz	1.000 MHz	3.64020 GHz	-53.82 dBm	-28.82 dB
3.720 GHz	3.730 GHz	1.000 MHz	3.72962 GHz	-54.02 dBm	-14.02 dB

Date: 15.SEP.2022 17:04:35

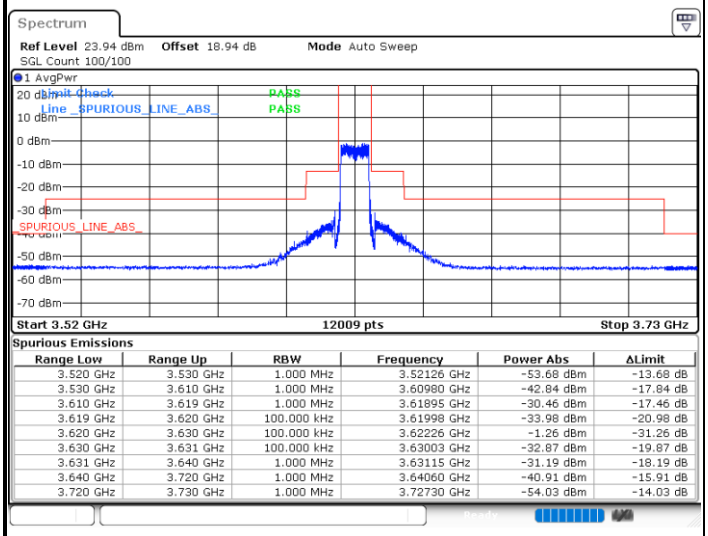


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.520 GHz	3.530 GHz	1.000 MHz	3.52519 GHz	-53.66 dBm	-13.66 dB
3.530 GHz	3.610 GHz	1.000 MHz	3.60732 GHz	-53.48 dBm	-28.48 dB
3.610 GHz	3.619 GHz	1.000 MHz	3.61856 GHz	-51.57 dBm	-38.57 dB
3.619 GHz	3.620 GHz	100.000 kHz	3.61970 GHz	-59.33 dBm	-46.33 dB
3.620 GHz	3.630 GHz	100.000 kHz	3.62901 GHz	10.99 dBm	-19.01 dB
3.630 GHz	3.631 GHz	100.000 kHz	3.63000 GHz	-28.66 dBm	-15.66 dB
3.631 GHz	3.640 GHz	1.000 MHz	3.63110 GHz	-24.66 dBm	-11.66 dB
3.640 GHz	3.720 GHz	1.000 MHz	3.64028 GHz	-52.92 dBm	-27.92 dB
3.720 GHz	3.730 GHz	1.000 MHz	3.72670 GHz	-53.94 dBm	-13.94 dB

Date: 16.SEP.2022 10:16:07

Full RB	



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.520 GHz	3.530 GHz	1.000 MHz	3.52126 GHz	-53.68 dBm	-13.68 dB
3.530 GHz	3.610 GHz	1.000 MHz	3.60980 GHz	-42.84 dBm	-17.84 dB
3.610 GHz	3.619 GHz	1.000 MHz	3.61895 GHz	-30.46 dBm	-17.46 dB
3.619 GHz	3.620 GHz	100.000 kHz	3.61998 GHz	-33.98 dBm	-20.98 dB
3.620 GHz	3.630 GHz	100.000 kHz	3.62226 GHz	-1.26 dBm	-31.26 dB
3.630 GHz	3.631 GHz	100.000 kHz	3.63003 GHz	-32.87 dBm	-19.87 dB
3.631 GHz	3.640 GHz	1.000 MHz	3.63115 GHz	-31.19 dBm	-18.19 dB
3.640 GHz	3.720 GHz	1.000 MHz	3.64060 GHz	-40.91 dBm	-15.91 dB
3.720 GHz	3.730 GHz	1.000 MHz	3.72730 GHz	-54.03 dBm	-14.03 dB

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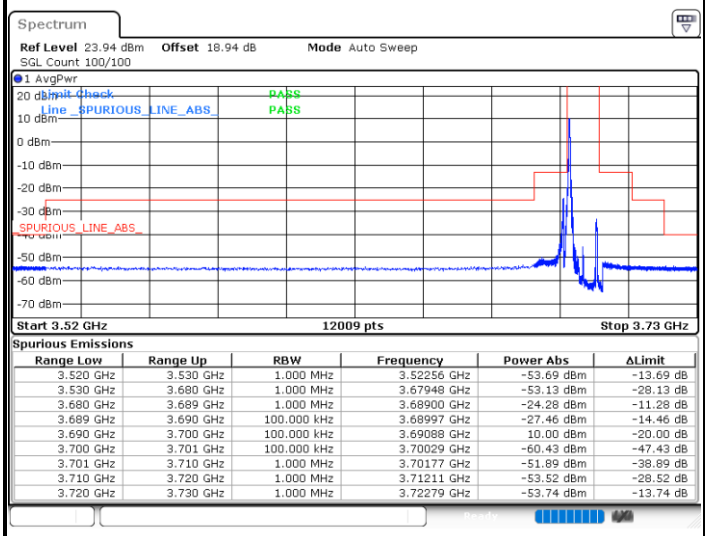
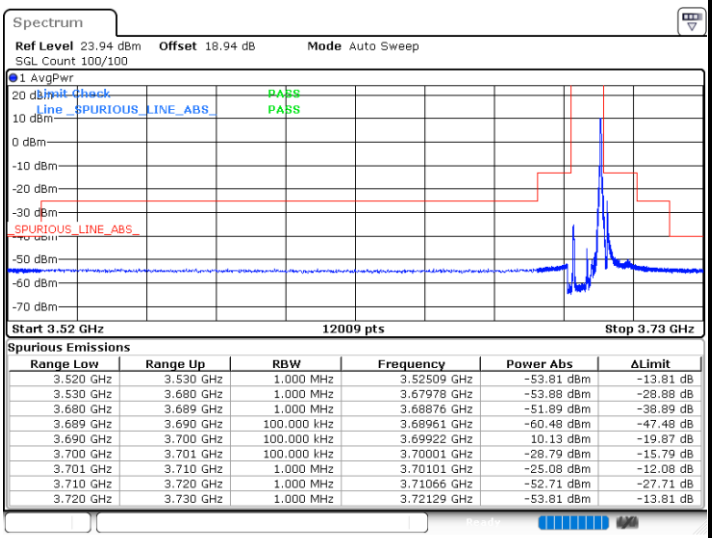
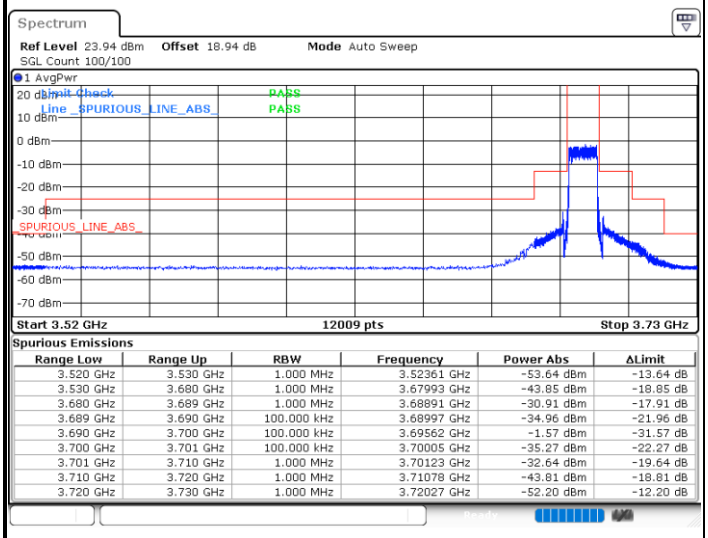
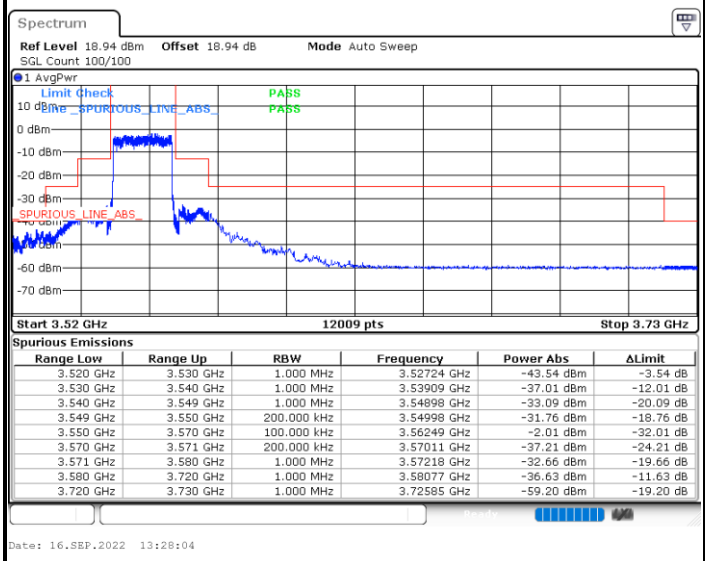
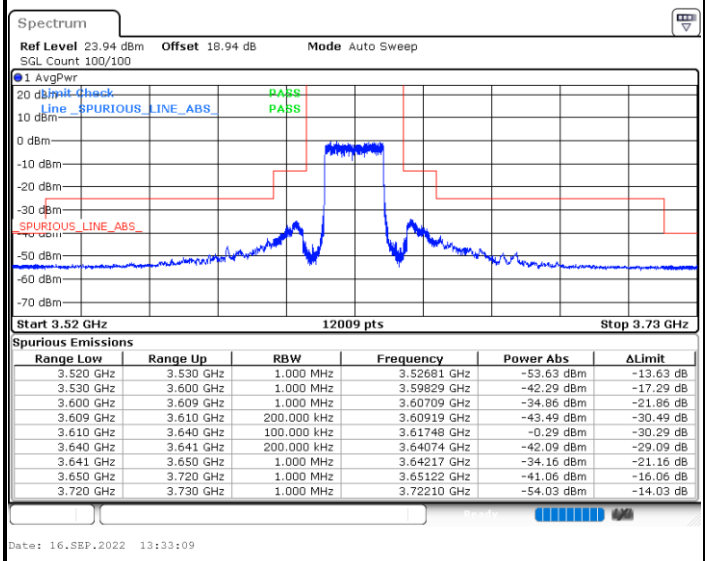
FR1 n48 / 10MHz / DFT-S OFDM / 256QAM	
Highest Channel	
1RB0	**1RBmax**
	
Full RB	
	

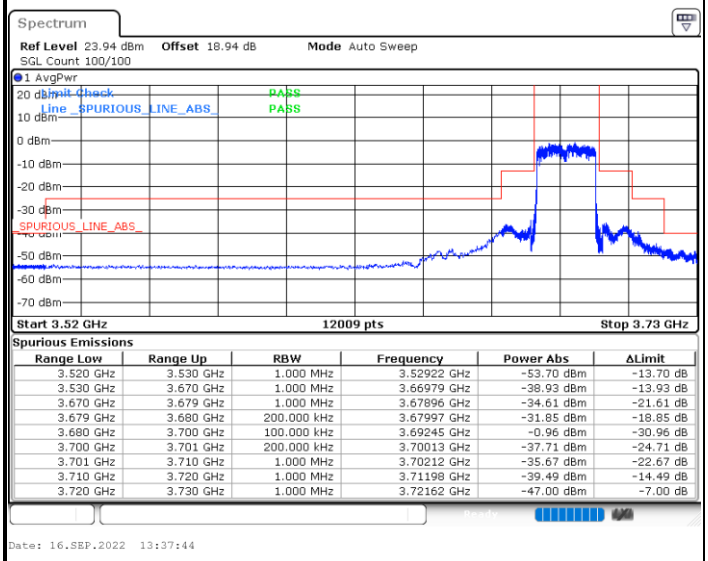
FR1 n48 / 20MHz / DFT-S OFDM / PI/2 BPSK	
Lowest Channel	
Full RB	



FR1 n48 / 20MHz / DFT-S OFDM / PI/2 BPSK	
Middle Channel	
Full RB	



FR1 n48 / 20MHz / DFT-S OFDM / PI/2 BPSK	
Highest Channel	
Full RB	



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
3.520 GHz	3.530 GHz	1.000 MHz	3.52922 GHz	-53.70 dBm	-13.70 dB
3.530 GHz	3.670 GHz	1.000 MHz	3.66979 GHz	-38.93 dBm	-13.93 dB
3.670 GHz	3.679 GHz	1.000 MHz	3.67896 GHz	-34.61 dBm	-21.61 dB
3.679 GHz	3.680 GHz	200.000 kHz	3.67997 GHz	-31.85 dBm	-18.85 dB
3.680 GHz	3.700 GHz	100.000 kHz	3.69245 GHz	-0.96 dBm	-30.96 dB
3.700 GHz	3.701 GHz	200.000 kHz	3.70013 GHz	-37.71 dBm	-24.71 dB
3.701 GHz	3.710 GHz	1.000 MHz	3.70212 GHz	-35.67 dBm	-22.67 dB
3.710 GHz	3.720 GHz	1.000 MHz	3.71198 GHz	-39.49 dBm	-14.49 dB
3.720 GHz	3.730 GHz	1.000 MHz	3.72162 GHz	-47.00 dBm	-7.00 dB

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