

ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT



Applicant: Telit Communications S.p.A.
Via Stazione di Prosecco 5/b 34010 Sgonico - Trieste

Product Name: LN920A12-WW / LN920A6-WW

Brand Name: Telit

Model No.: LN920A12-WW / LN920A6-WW

Model Difference: 1. Internal Component is different between two model.
2. Capability is different between two model.

Report Number: ER/2021/A0028

FCC ID RI7LN920

Issue Date: January 11, 2022

Date of Test: October 6, 2021~December 10, 2021

Date of EUT Received: October 6, 2021

Approved By

Blue Yang

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Central RF Lab The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.26-2015 and the energy emitted by the sample EUT comply with FCC rule part 2 , 96.

The results of this report relate only to the sample identified in this report.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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Revision History

Report Number	Revision	Description	Issue Date	Revised By	Remark
ER/2021/A0028	00	Original.	January 11, 2022	Susan Lin	

Note:

- 1、The remark "*" indicates modification of the report upon requests from certification body.
- 2、Variant information of model numbers is provided by the applicant, test results of this report are applicable to the sample EUT(s) received and are assessed as identical in hardware and firmware to each other.

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1 GENERAL PRODUCT INFORMATION

1.1 Product Description

Product Name:	LN920A12-WW / LN920A6-WW
Brand Name:	Telit
Model No.:	LN920A12-WW / LN920A6-WW
Model Difference:	1. Internal Component is different between two model. 2. Capability is different between two model.
Hardware Version:	1.0
Firmware Version:	LN920A12-WW: M0L.000001 / LN920A6-WW : M0L.010001
EUT Series No.:	35417570001280
Power Supply:	3.3Vdc
Test Software (Name/Version):	N/A

1.2 Antenna Designation

Antenna Type	Antenna Model No.
Dipole	WE14-S3-2
Note: Transmission frequencies in this test report are only available by the above antenna(s).	

Type	Modulation	Frequency (MHz)	Peak Antenna Gain (dBi)
Dipole	LTE-Band 42	3400 ~ 3600	1
	LTE-Band 43	3600 ~ 3700	1
	LTE-Band 48	3550 ~ 3700	1

Note: Antenna information is provided by the applicant.

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1.3 Operation Frequencies

LTE Band	BW (MHz)	Operation Frequency (MHz)		
42/43/48	5	3552.5	-	3697.5
	10	3555.0	-	3695.0
	15	3557.5	-	3692.5
	20	3560.0	-	3690.0

1.4 Maximum ERP/EIRP

LTE Band	BW	Modulation	ERP / EIRP (dBm/10MHz)		(W)	99%	Type of Emission
48	5	QPSK	22.78	EIRP	0.190	4.4904	4M49G7D
		16QAM	22.01	EIRP	0.159	4.4826	4M48D7W
		64QAM	20.79	EIRP	0.120	4.4964	4M50D7W
48	10	QPSK	22.68	EIRP	0.185	8.9618	8M96G7D
		16QAM	22.02	EIRP	0.159	8.9433	8M94D7W
		64QAM	20.80	EIRP	0.120	8.9568	8M96D7W
48	15	QPSK	22.82	EIRP	0.191	13.4270	13M4G7D
		16QAM	22.05	EIRP	0.160	13.4420	13M4D7W
		64QAM	20.81	EIRP	0.121	13.4230	13M4D7W
48	20	QPSK	22.87	EIRP	0.194	17.8840	17M9G7D
		16QAM	22.06	EIRP	0.161	17.8850	17M9D7W
		64QAM	20.74	EIRP	0.119	17.8830	17M9D7W

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1.5 Test Methodology of Applied Standards

FCC 47 CFR Part 2, Part 96E

ANSI C63.26-2015

ANSI/ITA C603-E.2016

KDB 971168 D01 Power Meas license Digital System v03r01

KDB 940660 D01 Part 96 CBRs Eqpt v02

KDB 412172 D01 Determining ERP and EIRP V01r01

1.6 Test Facility

Laboratory	Test Site Address	Test Site Name	FCC Designation number	IC CAB identifier
SGS Taiwan Ltd. Central RF Lab. (TAF code 3702)	No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan.	SAC 1	TW0027	TW3702
		SAC 3		
		Conduction 1		
		Conducted 1		
		Conducted 2		
		Conducted 3		
		Conducted 4		
		Conducted 5		
		Conducted 6		
	No.2, Keji 1st Rd., Guishan District, Taoyuan City, Taiwan 333	Conduction C	TW0028	
		SAC C		
		SAC D		
		SAC G		
		Conducted A		
		Conducted B		
		Conducted C		
		Conducted D		
		Conducted E		
		Conducted F		
		Conducted G		

Note: Test site name is remarked on the equipment list in each section of this report as an indication where measurements occurred in specific test site and address.

1.7 Special Accessories

No special accessories were used during testing.

1.8 Equipment Modifications

There was no modifications incorporated into the EUT.

1.9 Radiated Emission Test Sites For Measurements From 9 kHz To 30 MHz

Radiated emission below 30MHz is measured in a 9m*9m*6m semi-anechoic chamber, the measurements correspond to those obtained at an open-field test site.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

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2 SYSTEM TEST CONFIGURATION

2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2 EUT Exercise

The EUT (Transmitter) was operated in the continuous transmission mode employed with the simulator of the Base Station that fixates at test default channels to fix the Tx frequency which was for the purpose of the measurements.

2.3 Test Procedure

2.3.1 Conducted Measurement at Antenna Port

The EUT is placed on a table which is 0.8 m above ground plane. A low loss of RF cable was used to connect the antenna port of EUT to measurement equipment.

2.3.2 Radiated Emissions (ERP/EIRP)

The EUT is placed on a turn table, for emission measurements below 1 GHz is 0.8 m above ground plane, for emission measurements above 1 GHz, the table height shall be 1.5 m. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both Horizontal and Vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna.

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 attenuation factor between EUT conducted port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly EUT RF output level.

Note:

The spectrum analyzer offset is derived from RF cable loss and attenuator factor. Following shows an offset computation in physical test.

Frequency	RF Cable loss (dB)	Attenuation (dB)	Offset (dB)
HB(over 3GHz)	5.47	10	15.47

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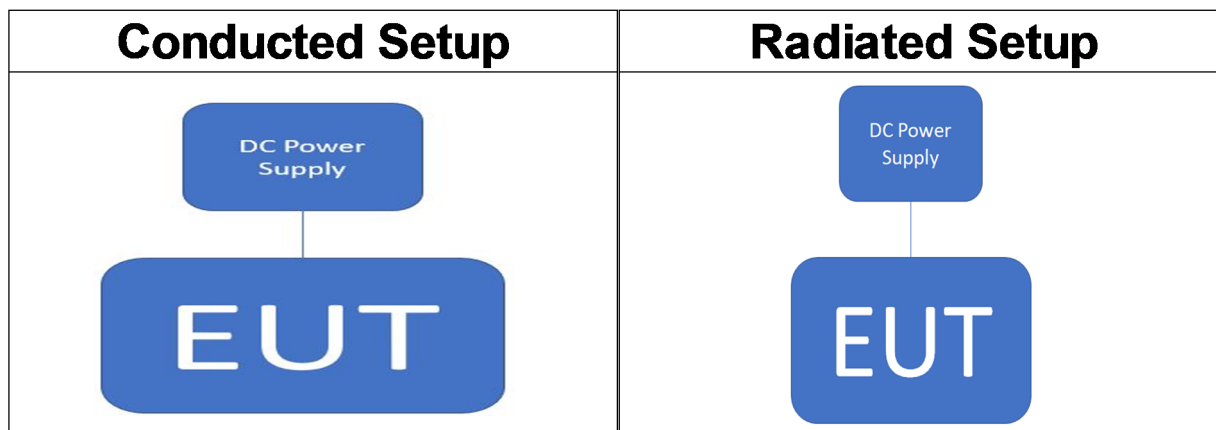
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2.5 Final Amplifier Voltage and Current Information:

LTE Band 48

Test Mode	DC voltage (V)	DC current (mA)
LTE Band 48_20M QPSK	3.3	457

2.6 Test Configuration



Note: Radio Communication Analyzer is placed in remote side for radiated test.

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3 SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§2.1046(a) §96.41(b)	Maximum Power Output	Compliant
§2.1046, §96.41(b)	Maximum Power Density	Compliant
§2.1053, §96.41(e)	FIELD STRENGTH OF SPURIOUS RADIATION	Compliant
§2.1051 §96.41(e)	OUT OF BAND EMISSION AT ANTENNA	Compliant
§2.1049,(h)	OCCUPIED BANDWIDTH	Compliant
§2.1055(a)	Frequency Stability	Compliant

3.1 Reporting statements of conformity

The conformity statement in this report is based solely on the test results, measurement uncertainty is excluded.

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4 DESCRIPTION OF TEST MODES

4.1 The Worst Test Modes and Channel Details

1. The EUT has been tested under operating condition.
2. Pre-Scan has been conducted to determine the worst-case scenario from all possible combinations among available modulations, data rates and antenna ports, the worst case configurations listed below for the final test.
3. The field strength of radiated emission was measured as the EUT positioned in different orthogonal planes (E1/E2/H) based on actual usage of the EUT to pre-scan the emissions for determining the worst case scenario.

4.2 Measurement Configuration

LTE Band 48 MODE

Test Items	Band	Test Channel			Bandwidth (MHz)						Modulation				RB #		
		L	M	H	1.4	3	5	10	15	20	QPSK	16QAM	64QAM	256QAM	1	Half	Full
Max. Output Power	48	v	v	v	-	-	v	v	v	v	v	v	v	v	v	v	v
Frequency	48	-	v	-	-	-		v			v	-	-	-	-	-	v

Test Items	Band	Test Channel			Bandwidth (MHz)						Modulation				RB #		
		L	M	H	1.4	3	5	10	15	20	QPSK	16QAM	64QAM	64QAM	1	Half	Full
26dB and 99% Bandwidth	48	v	v	v	-	-	v	v	v	v	v	v	v	v	-	-	v
Peak-to-Average Ratio	48	v	v	v	-	-	v	v	v	v	-	-	v	-	-	-	v

Test Items	Band	Test Channel			Bandwidth (MHz)						Modulation				RB #		
		L	M	H	1.4	3	5	10	15	20	QPSK	16QAM	64QAM	64QAM	1	Half	Full
Mask	48	v	v	v	-	-	v	v	v	v	v	-	-	-	v	v	v
Conducted Emission	48	v	v	v	-	-	-	-	-	v	v	-	-	-	v	-	-

Test Items	Band	Test Channel			Bandwidth (MHz)						Modulation				RB #		
		L	M	H	1.4	3	5	10	15	20	QPSK	16QAM	64QAM	256QAM	1	Half	Full
Radiated Emission	48	v	v	v	-	-	-	-	-	v	v	-	-	-	v	-	-

Note: LTE band 42/43 is covered by LTE band 48 because it is a subset of Band 48 and they have same output power.

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5 MEASUREMENT UNCERTAINTY

Test Items	Uncertainty
RF Power Output	+/- 1 dB
ERP/ EIRP measurement	+/- 3 dB
	+/- 3 dB
Emission Bandwidth	+/- 1.53 Hz
Out of Band Emissions at Antenna Terminals and Band Edge	+/- 1.69 dB
Peak to Average Ratio	+/- 1 dB
Frequency Stability vs. Temperature	+/- 1.53 Hz
Frequency Stability vs. Voltage	+/- 1.53 Hz
Temperature	+/- 0.4 °C
Humidity	+/- 3.5 %
DC / AC Power Source	+/- 1 %

Radiated Spurious Emission Measurement Uncertainty			
Polarization: Vertical	+/- 2.64 dB	9kHz~30MHz	
	+/- 4.93 dB	30MHz - 1000MHz	
	+/- 4.81 dB	1GHz - 18GHz	
	+/- 4.52 dB	18GHz - 40GHz	
Polarization: Horizontal	+/- 2.64 dB	9kHz~30MHz	
	+/- 4.45 dB	30MHz - 1000MHz	
	+/- 4.81 dB	1GHz - 18GHz	
	+/- 4.52 dB	18GHz - 40GHz	

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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6 MEASUREMENT EQUIPMENT USED

6.1 Conducted Measurement

Conducted Emission Test Site: Conducted 4					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EXA Spectrum Analyzer	Agilent	N9010A	MY54200716	10/13/2021	10/12/2022
Radio Communication Analyzer	Anritsu	MT8821C	6262044670	08/18/2021	08/17/2022
Test Software	SGS	Radio Test Software	Ver. 21	N.C.R	N.C.R
Temperature Chamber	Giant Force	GTH-150-40-CP-AR	MAA0512-018	05/19/2021	05/18/2022
DC Power Supply	Gwinstek	SPS-3610	GEV856761	09/18/2021	09/17/2022
Attenuator	Mini-Circuit	BW-S10W2+	4	12/16/2020	12/15/2021
DC Block	Mini-Circuits	BLK-18-S+	1	12/16/2020	12/15/2021
Power Divider	RF-LAMBAD	RFLT2W1G18G	11-JSPF412-017	12/16/2020	12/15/2021

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6.2 Radiated Measurement

Radiated Emission Test Site: SAC 1					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Bi-log Antenna	SCHWARZBECK	VULB9168	300	11/18/2020	11/17/2021
Horn Antenna	SCHWARZBECK	BBHA9120D	603	05/18/2021	05/17/2022
Horn Antenna	SCHWARZBECK	BBHA9170	184	12/11/2020	12/10/2021
Horn Antenna	SCHWARZBECK	BBHA9170	185	08/06/2021	08/05/2022
Site Cal	SGS	SAC I chamber	N/A	01/01/2021	12/31/2021
Horn Antenna	SCHWARZBECK	BBHA9120D	D803	12/17/2020	12/16/2021
Bi-log Antenna	TESEO	CBL 6112D	35242 & AT-N0555	01/13/2021	01/12/2022
Spectrum Analyzer	Agilent	E4446A	MY51100003	10/26/2020	10/25/2022
Radio Communication Analyser	Anritsu	MT8815B	6200711454	04/07/2021	04/06/2022
Radio Communication Analyser	Anritsu	MT8821C	6262044751	10/27/2021	10/26/2022
DC Power Supply	Agilent	E3640A	MY40005907	10/12/2021	10/11/2022
Pre-Amplifier	EMC Instruments	EMC184045 B	980135	10/27/2021	10/26/2022
Pre-Amplifier	HP	8449B	3008A01973	12/16/2020	12/15/2021
Pre-Amplifier	HP	8447D	2944A09469	12/16/2020	12/15/2021
Bandreject Filter 3300-3800	Micro-Tronics	WI	1	12/16/2020	12/15/2021
High Pass Filter	WI	WHKX6.0/18G-10SS	WHKX6.0/18G-10SS	12/16/2020	12/15/2021
Coaxial Cable	Huber Suhner	succoflex 102	MY2622/2	12/16/2020	12/15/2021
Coaxial Cable	Huber Suhner	succoflex 104A	800086/4a	12/16/2020	12/15/2021
Coaxial Cable	Huber Suhner	EMC 104-SM-SM-2000	160123	12/16/2020	12/15/2021
Coaxial Cable	Huber Suhner	SUCOFLEX 104	160125	12/16/2020	12/15/2021
Coaxial Cable	Huber Suhner	SUCOFLEX 106	76096/6	12/16/2020	12/15/2021
Coaxial Cable	Huber Suhner	SUCOFLEX 102	MY2630/2	12/16/2020	12/15/2021
Coaxial Cable	Huber Suhner	SUCOFLEX 102	MY22962/2	12/16/2020	12/15/2021
Coaxial Cable	Huber Suhner	SUCOFLEX 102	SN 520430/2	12/16/2020	12/15/2021

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7 MAXIMUM OUTPUT POWER MEASUREMENT

7.1 Standard Applicable

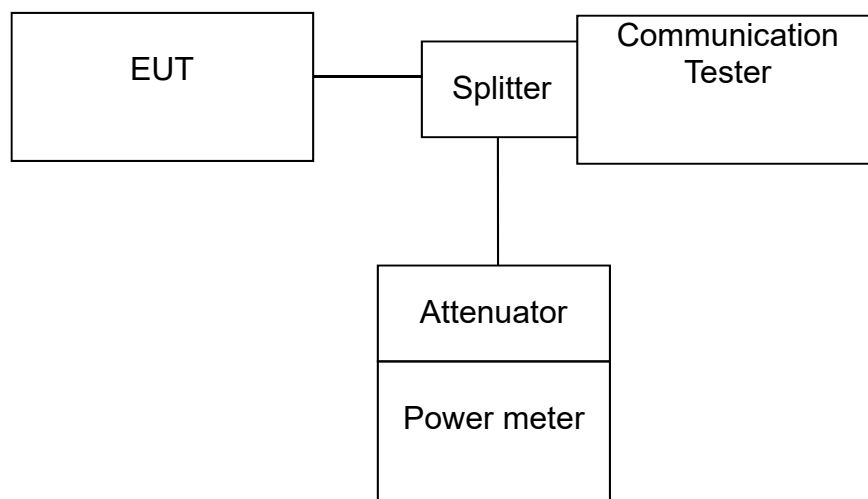
FCC §2.1046 & 96.41

- (a) FCC 96.41(a) Digital modulation. Systems operating in the Citizens Broadband Radio Service must use digital modulation techniques.
- (b) FCC 96.41(b) Power limits. Unless otherwise specified in this section, the maximum effective isotropic radiated power (EIRP) of any CBSD and End User Device must comply with the limits shown in the table in this paragraph (b):

Device	Maximum EIRP (dBm/10 megahertz)
End User Device	23
Category A CBSD	30
Category B CBSD ¹	47

Category B CBSDs will only be authorized for use after an ESC is approved and commercially deployed consistent with §§96.15 and 96.67.

7.2 Test Set-up



Note: Measurement setup for testing on Antenna connector

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7.3 Measurement Procedure

The transmitter output was connected to a calibrated attenuator, the other end of which was connected to a power meter. Transmitter output was read off the power meter in dBm. The power output at the transmitter antenna port was determined by adding the value of the attenuator to the power meter reading.

Determining ERP and/or EIRP from conducted RF output power measurements

$$\text{ERP/EIRP} = \text{PMeas} + \text{GT-LC}$$

Where:

ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as PMeas, typically dBW or dBm);

PMeas = measured transmitter output power or PSD, in dBm or dBW;

GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)

LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

For devices utilizing multiple antennas, KDB 662911 provides guidance for determining the effective array transmit antenna gain term to be used in the above equation.

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7.4 Measurement Result

RF Conducted Output Power

LTE MODE:

Antenna gain (dBi)		1							
LTE Band 48_Uplink frequency band : 3550 to 3700 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm/10MHz)	EIRP Average (dBm/10MHz)	EIRP Limit (dBm/10MHz)	Margin (dBm/10MHz)
5	55265	3552.5	QPSK	1	0	21.65	22.65	23	-0.35
				1	24	21.69	22.69	23	-0.31
				12	6	20.66	21.66	23	-1.34
				25	0	20.64	21.64	23	-1.36
	55990	3625	QPSK	1	0	21.65	22.65	23	-0.35
				1	24	21.65	22.65	23	-0.35
				12	6	20.64	21.64	23	-1.36
				25	0	20.62	21.62	23	-1.38
	56715	3697.5	QPSK	1	0	21.76	22.76	23	-0.24
				1	24	21.78	22.78	23	-0.22
				12	6	20.79	21.79	23	-1.21
				25	0	20.77	21.77	23	-1.23
5	55265	3552.5	16QAM	1	0	20.96	21.96	23	-1.04
				1	24	20.91	21.91	23	-1.09
				12	6	19.71	20.71	23	-2.29
				25	0	19.68	20.68	23	-2.32
	55990	3625	16QAM	1	0	20.90	21.90	23	-1.1
				1	24	20.86	21.86	23	-1.14
				12	6	19.71	20.71	23	-2.29
				25	0	19.67	20.67	23	-2.33
	56715	3697.5	16QAM	1	0	21.01	22.01	23	-0.99
				1	24	20.98	21.98	23	-1.02
				12	6	19.84	20.84	23	-2.16
				25	0	19.80	20.80	23	-2.2
5	55265	3552.5	64QAM	1	0	19.66	20.66	23	-2.34
				1	24	19.70	20.70	23	-2.3
				12	6	18.79	19.79	23	-3.21
				25	0	18.73	19.73	23	-3.27
	55990	3625	64QAM	1	0	19.64	20.64	23	-2.36
				1	24	19.62	20.62	23	-2.38
				12	6	18.73	19.73	23	-3.27
				25	0	18.69	19.69	23	-3.31
	56715	3697.5	64QAM	1	0	19.78	20.78	23	-2.22
				1	24	19.79	20.79	23	-2.21
				12	6	18.84	19.84	23	-3.16
				25	0	18.82	19.82	23	-3.18

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Antenna gain (dBi)		1							
LTE Band 48_Uplink frequency band : 3550 to 3700 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm/10MHz)	EIRP Average (dBm/10MHz)	EIRP Limit (dBm/10MHz)	Margin (dBm/10MHz)
10	55290	3555	QPSK	1	0	21.57	22.57	23	-0.43
				1	49	21.65	22.65	23	-0.35
				25	12	20.70	21.70	23	-1.3
				50	0	20.69	21.69	23	-1.31
	55990	3625	QPSK	1	0	21.55	22.55	23	-0.45
				1	49	21.52	22.52	23	-0.48
				25	12	20.66	21.66	23	-1.34
				50	0	20.65	21.65	23	-1.35
	56690	3695	QPSK	1	0	21.67	22.67	23	-0.33
				1	49	21.68	22.68	23	-0.32
				25	12	20.80	21.80	23	-1.2
				50	0	20.76	21.76	23	-1.24
10	55290	3555	16QAM	1	0	20.90	21.90	23	-1.1
				1	49	20.95	21.95	23	-1.05
				25	12	19.75	20.75	23	-2.25
				50	0	19.76	20.76	23	-2.24
	55990	3625	16QAM	1	0	20.91	21.91	23	-1.09
				1	49	20.89	21.89	23	-1.11
				25	12	19.68	20.68	23	-2.32
				50	0	19.69	20.69	23	-2.31
	56690	3695	16QAM	1	0	20.98	21.98	23	-1.02
				1	49	21.02	22.02	23	-0.98
				25	12	19.83	20.83	23	-2.17
				50	0	19.81	20.81	23	-2.19
10	55290	3555	64QAM	1	0	19.61	20.61	23	-2.39
				1	49	19.69	20.69	23	-2.31
				25	12	18.79	19.79	23	-3.21
				50	0	18.71	19.71	23	-3.29
	55990	3625	64QAM	1	0	19.64	20.64	23	-2.36
				1	49	19.62	20.62	23	-2.38
				25	12	18.75	19.75	23	-3.25
				50	0	18.68	19.68	23	-3.32
	56690	3695	64QAM	1	0	19.78	20.78	23	-2.22
				1	49	19.80	20.80	23	-2.2
				25	12	18.90	19.90	23	-3.1
				50	0	18.78	19.78	23	-3.22

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Antenna gain (dBi)		1							
LTE Band 48_Uplink frequency band : 3550 to 3700 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm/10MHz)	EIRP Average (dBm/10MHz)	EIRP Limit (dBm/10MHz)	Margin (dBm/10MHz)
15	55315	3557.5	QPSK	1	0	21.69	22.69	23	-0.31
				1	74	21.77	22.77	23	-0.23
				36	18	20.68	21.68	23	-1.32
				75	0	20.67	21.67	23	-1.33
	55990	3625	QPSK	1	0	21.61	22.61	23	-0.39
				1	74	21.61	22.61	23	-0.39
				36	18	20.66	21.66	23	-1.34
				75	0	20.65	21.65	23	-1.35
	56665	3692.5	QPSK	1	0	21.74	22.74	23	-0.26
				1	74	21.82	22.82	23	-0.18
				36	18	20.80	21.80	23	-1.2
				75	0	20.79	21.79	23	-1.21
15	55315	3557.5	16QAM	1	0	20.86	21.86	23	-1.14
				1	74	21.02	22.02	23	-0.98
				36	18	19.70	20.70	23	-2.3
				75	0	19.69	20.69	23	-2.31
	55990	3625	16QAM	1	0	20.87	21.87	23	-1.13
				1	74	20.90	21.90	23	-1.1
				36	18	19.64	20.64	23	-2.36
				75	0	19.68	20.68	23	-2.32
	56665	3692.5	16QAM	1	0	20.94	21.94	23	-1.06
				1	74	21.05	22.05	23	-0.95
				36	18	19.78	20.78	23	-2.22
				75	0	19.82	20.82	23	-2.18
15	55315	3557.5	64QAM	1	0	19.58	20.58	23	-2.42
				1	74	19.66	20.66	23	-2.34
				36	18	18.73	19.73	23	-3.27
				75	0	18.73	19.73	23	-3.27
	55990	3625	64QAM	1	0	19.58	20.58	23	-2.42
				1	74	19.59	20.59	23	-2.41
				36	18	18.64	19.64	23	-3.36
				75	0	18.65	19.65	23	-3.35
	56665	3692.5	64QAM	1	0	19.69	20.69	23	-2.31
				1	74	19.81	20.81	23	-2.19
				36	18	18.79	19.79	23	-3.21
				75	0	18.80	19.80	23	-3.2

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Antenna gain (dBi)		1							
LTE Band 48_Uplink frequency band : 3550 to 3700 MHz									
BW (MHz)	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm/10MHz)	EIRP Average (dBm/10MHz)	EIRP Limit (dBm/10MHz)	Margin (dBm/10MHz)
20	55340	3560	QPSK	1	0	21.68	22.68	23	-0.32
				1	99	21.77	22.77	23	-0.23
				50	25	20.72	21.72	23	-1.28
				100	0	20.74	21.74	23	-1.26
	55990	3625	QPSK	1	0	21.66	22.66	23	-0.34
				1	99	21.66	22.66	23	-0.34
				50	25	20.65	21.65	23	-1.35
				100	0	20.64	21.64	23	-1.36
	56640	3690	QPSK	1	0	21.87	22.87	23	-0.13
				1	99	21.74	22.74	23	-0.26
				50	25	20.75	21.75	23	-1.25
				100	0	20.74	21.74	23	-1.26
20	55340	3560	16QAM	1	0	20.90	21.90	23	-1.1
				1	99	20.99	21.99	23	-1.01
				50	25	19.76	20.76	23	-2.24
				100	0	19.75	20.75	23	-2.25
	55990	3625	16QAM	1	0	20.90	21.90	23	-1.1
				1	99	20.88	21.88	23	-1.12
				50	25	19.70	20.70	23	-2.3
				100	0	19.67	20.67	23	-2.33
	56640	3690	16QAM	1	0	20.98	21.98	23	-1.02
				1	99	21.06	22.06	23	-0.94
				50	25	19.80	20.80	23	-2.2
				100	0	19.78	20.78	23	-2.22
20	55340	3560	64QAM	1	0	19.60	20.60	23	-2.4
				1	99	19.67	20.67	23	-2.33
				50	25	18.72	19.72	23	-3.28
				100	0	18.71	19.71	23	-3.29
	55990	3625	64QAM	1	0	19.56	20.56	23	-2.44
				1	99	19.58	20.58	23	-2.42
				50	25	18.68	19.68	23	-3.32
				100	0	18.66	19.66	23	-3.34
	56640	3690	64QAM	1	0	19.62	20.62	23	-2.38
				1	99	19.74	20.74	23	-2.26
				50	25	18.78	19.78	23	-3.22
				100	0	18.76	19.76	23	-3.24

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8 MAXIMUM POWER DENSITY MEASUREMENT

8.1 Standard Applicable

FCC §2.1046 & 96.41

- (a) FCC 96.41(a) Digital modulation. Systems operating in the Citizens Broadband Radio Service must use digital modulation techniques.
- (b) FCC 96.41(b) Power limits. Unless otherwise specified in this section, the maximum effective isotropic radiated power (EIRP) of any CBSD and End User Device must comply with the limits shown in the table in this paragraph (b):

Device	Maximum PSD (dBm/MHz)
End User Device	n/a
Category A CBSD	20
Category B CBSD ¹	37

Category B CBSDs will only be authorized for use after an ESC is approved and commercially deployed consistent with §§96.15 and 96.67.

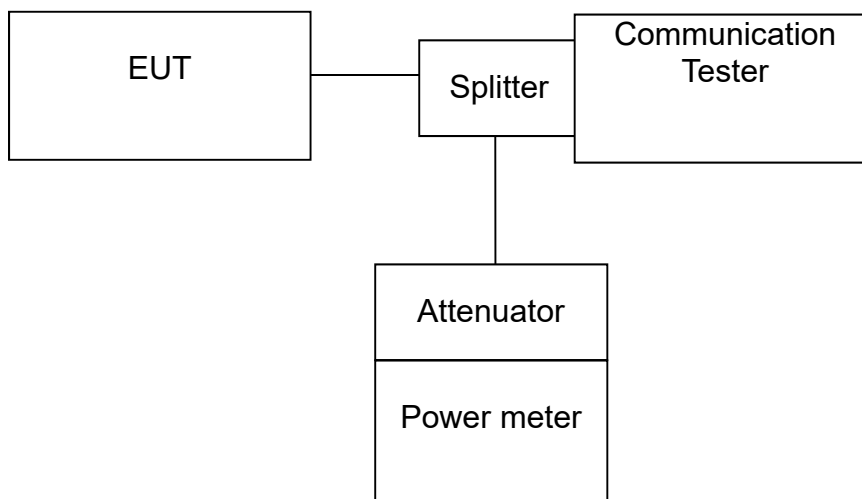
- (c) Power management. CBSDs and End User Devices shall limit their operating power to the minimum necessary for successful operations
- (1) CBSDs must support transmit power control capability and the capability to limit their maximum EIRP and the maximum EIRP of associated End User Devices in response to instructions from an SAS.
 - (2) End User Devices shall include transmit power control capability and the capability to limit their maximum EIRP in response to instructions from their associated CBSDs.

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8.2 Test Set-up



Note: Measurement setup for testing on Antenna connector

8.3 Measurement Procedure

1. Set instrument center frequency to OBW center frequency.
2. Set span to at least 1.5 times the OBW.
3. Set the RBW to the specified reference bandwidth (often 1 MHz).
4. Set VBW $\geq 3 \times$ RBW.
5. Detector = RMS (power averaging).
6. Ensure that the number of measurement points in the sweep $\geq 2 \times$ span/RBW.
7. Sweep time = auto couple.
8. Employ trace averaging (RMS) mode over a minimum of 100 traces.
9. Use the peak marker function to determine the maximum amplitude level within the reference bandwidth (PSD).
10. Determine the EIRP by adding the effective antenna gain to the adjusted power level.

8.4 Measurement Result

Peak Power Density Results:

N/A, this is an End user device.

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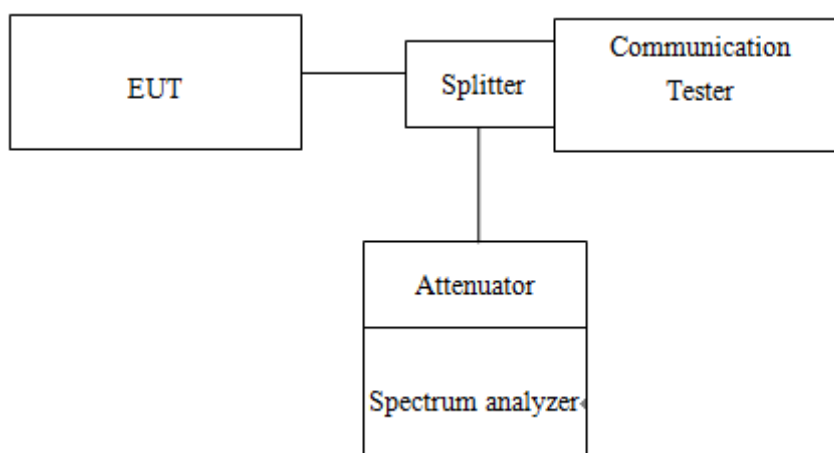
9 OCCUPIED BANDWIDTH MEASUREMENT

9.1 Standard Applicable

FCC Part 2.1049(h)

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power.

9.2 Test Set-up



9.3 Measurement Procedure

99% & 26dB Bandwidth with detector peak

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW was set to about 1% of emission BW, VBW= 3 times RBW, -26dBc display line was placed on the screen (or 26dB bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace. Then set RBW to 99% bandwidth, RBW= 1%, VBW= 3 RBW, with span > 2 * Signal BW, set % Power = 99%.

9.4 Measurement Result

LTE BAND 48 Channel bandwidth: 5MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
3552.5	55265	4.4866	4.4826	4.4964	5.038	4.959	4.902
3625.0	55990	4.4759	4.4697	4.4691	4.962	4.807	4.960
3697.5	56715	4.4904	4.4538	4.4771	4.910	4.842	4.791

LTE BAND 48 Channel bandwidth: 10MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
3555.0	55290	8.9618	8.9403	8.9568	9.708	9.688	9.729
3625.0	55990	8.9489	8.9356	8.9505	9.462	9.395	9.565
3695.0	56690	8.9479	8.9433	8.9703	9.542	9.408	9.578

LTE BAND 48 Channel bandwidth: 15MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
3557.5	55315	13.427	13.437	13.423	14.44	14.65	14.53
3625.0	55990	13.422	13.379	13.367	14.37	14.16	14.35
3692.5	56665	13.367	13.442	13.397	14.13	14.19	14.24

LTE BAND 48 Channel bandwidth: 20MHz							
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
3650.0	55340	17.884	17.885	17.883	19.30	19.25	19.23
3625.0	55990	17.822	17.804	17.848	18.83	19.09	18.77
3690.0	56640	17.852	17.881	29.730	18.90	19.02	30.00

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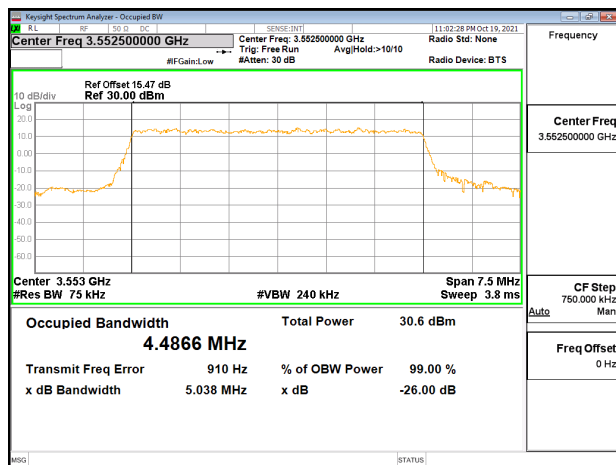
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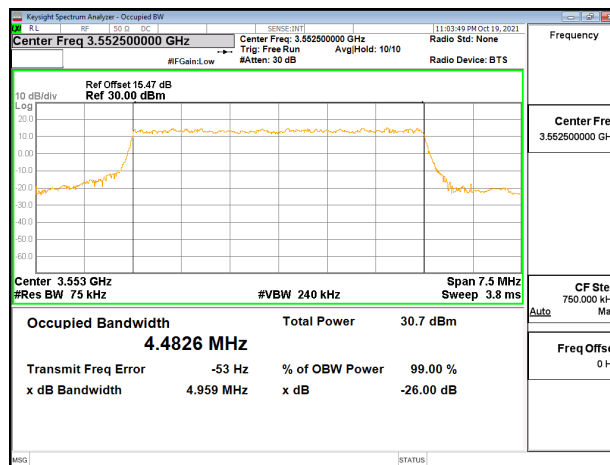
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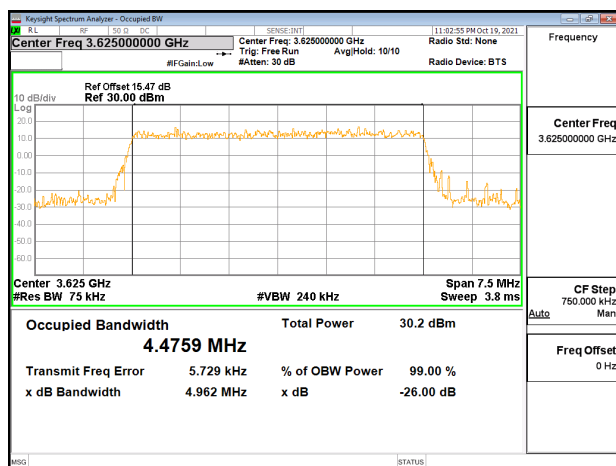
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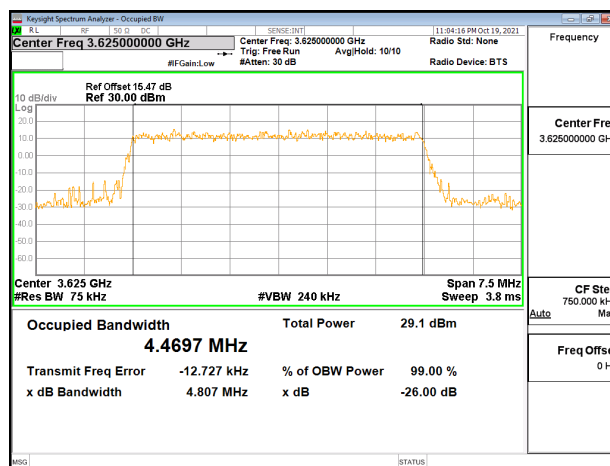
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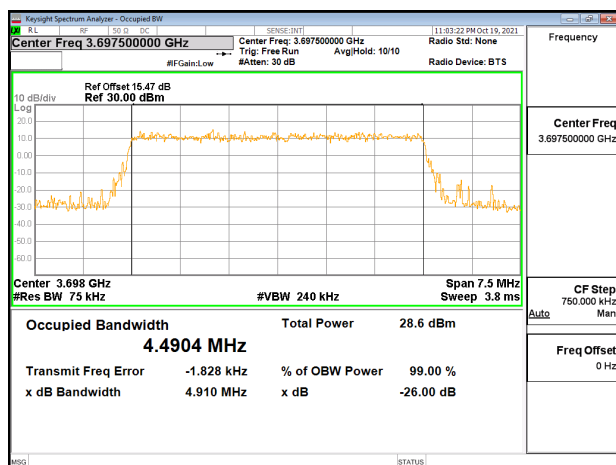
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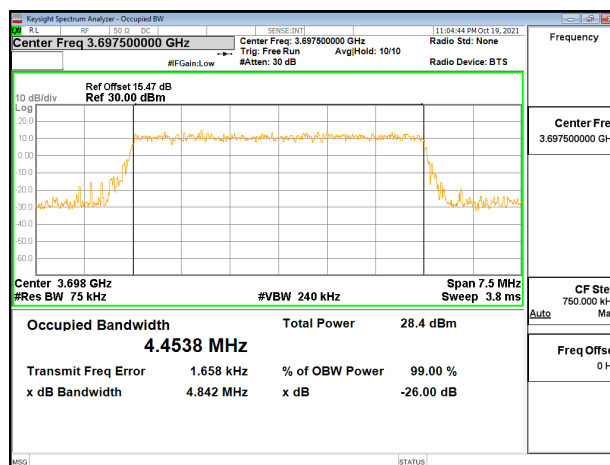
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Band48_5MHz_16QAM_RB25_0_CH56715



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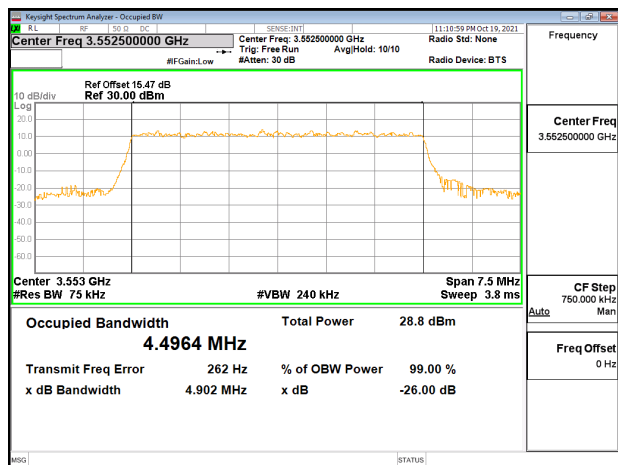
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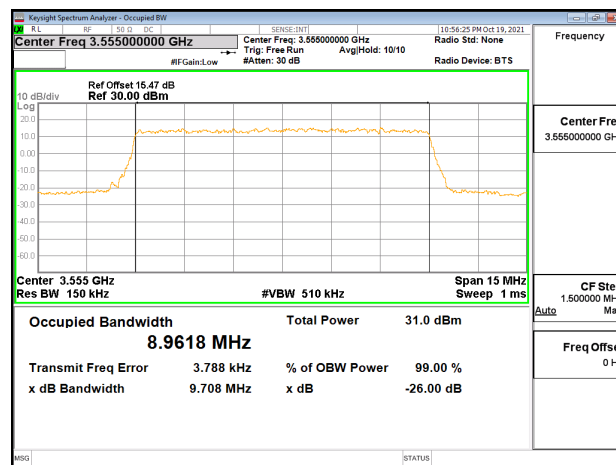
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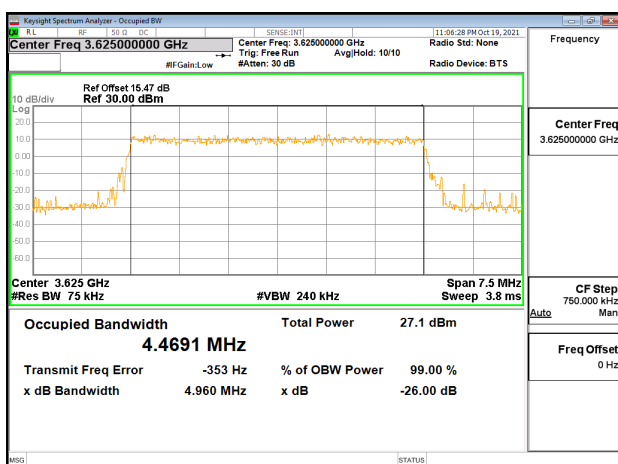
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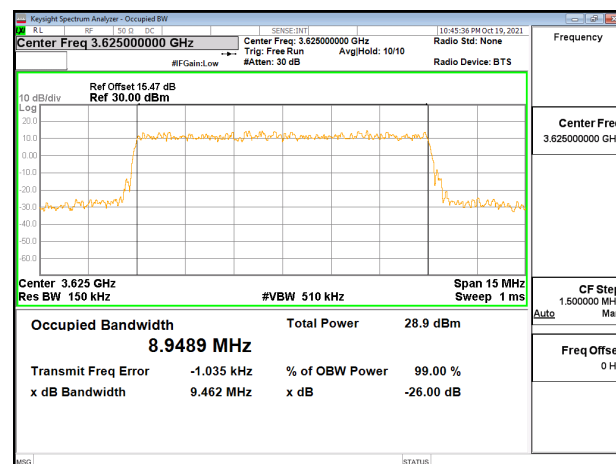
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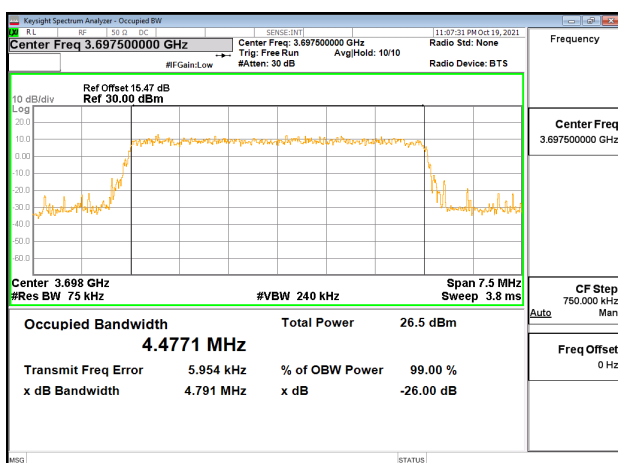
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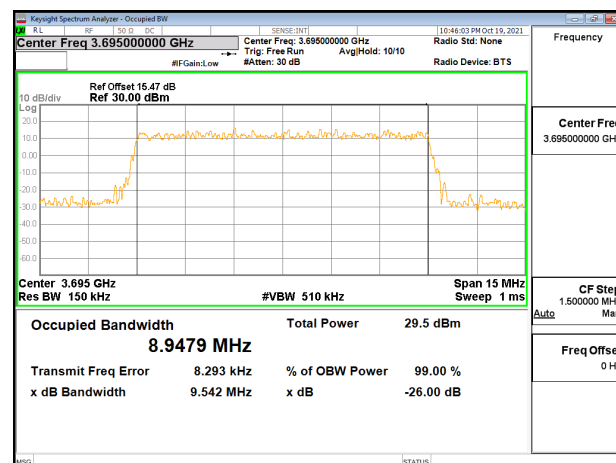
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Band48_5MHz_64QAM_RB25_0_CH56715



Band48_10MHz_QPSK_RB50_0_CH56690



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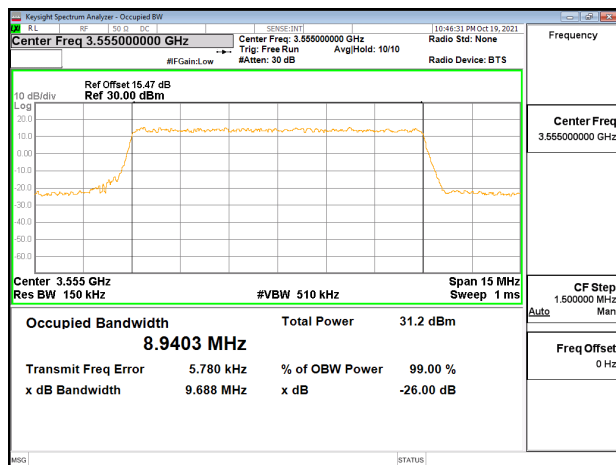
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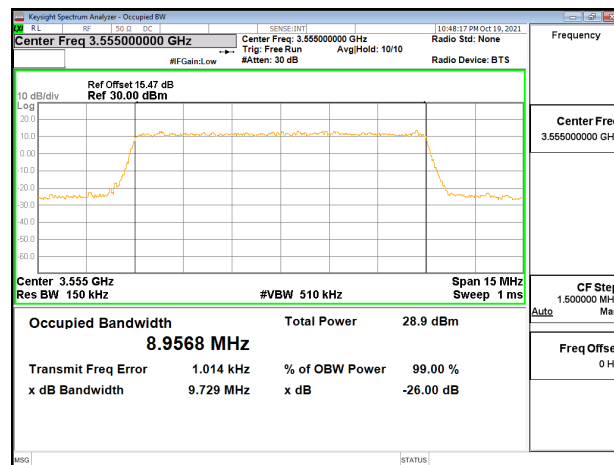
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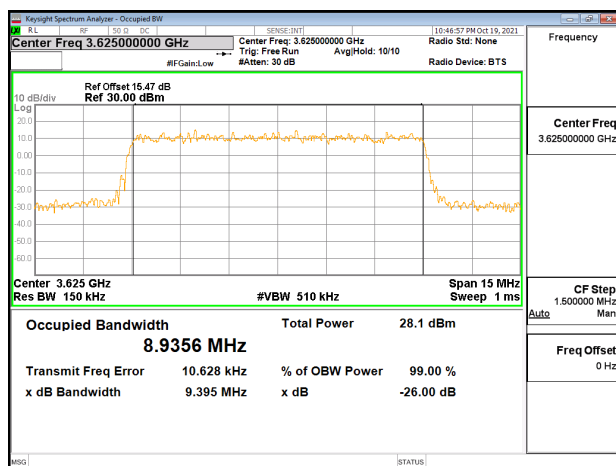
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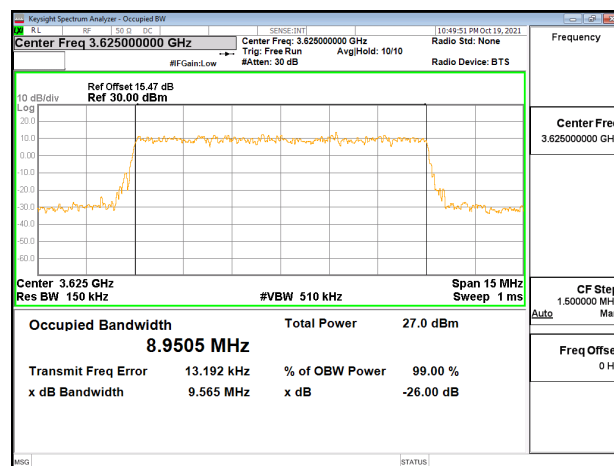
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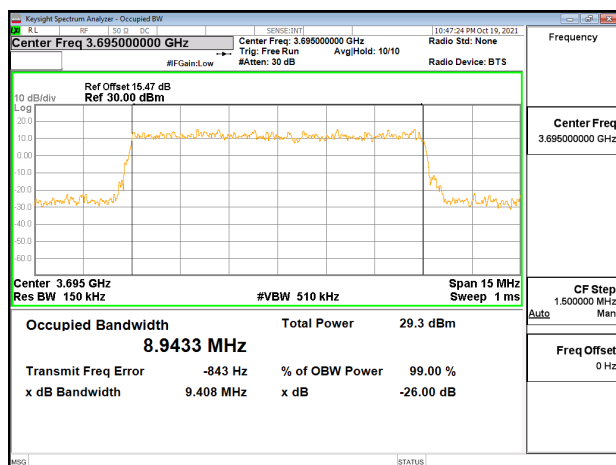
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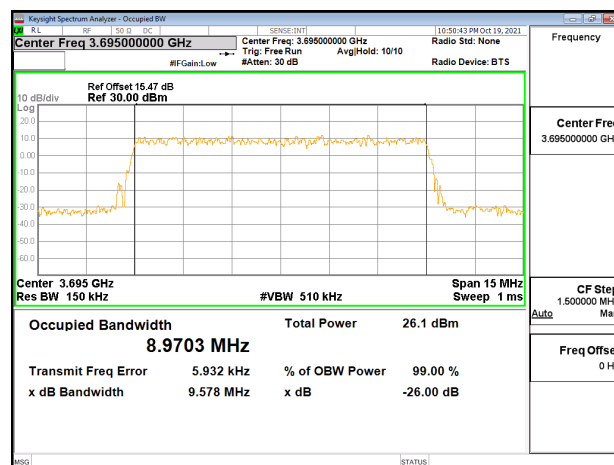
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Band48_10MHz_64QAM_RB50_0_CH56690



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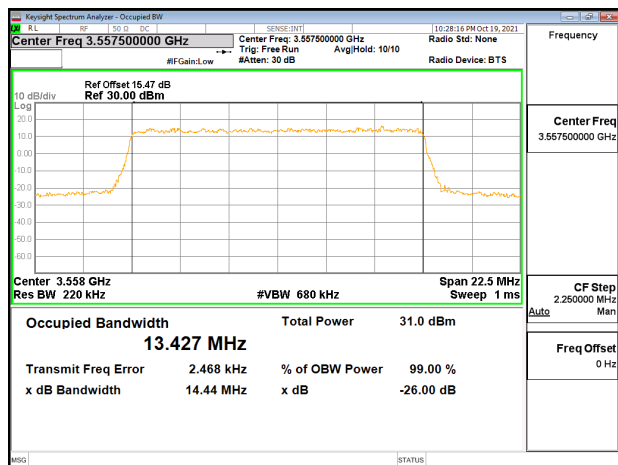
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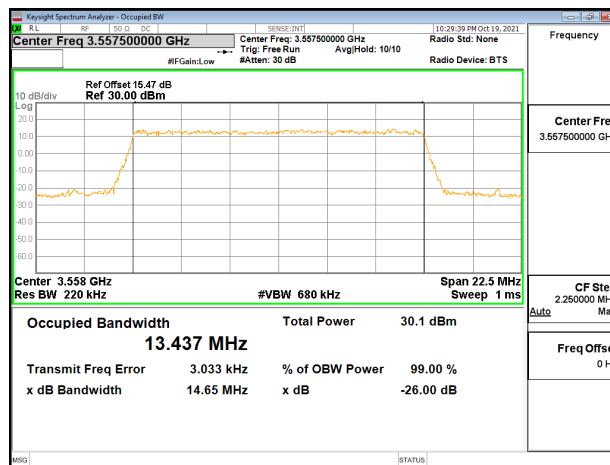
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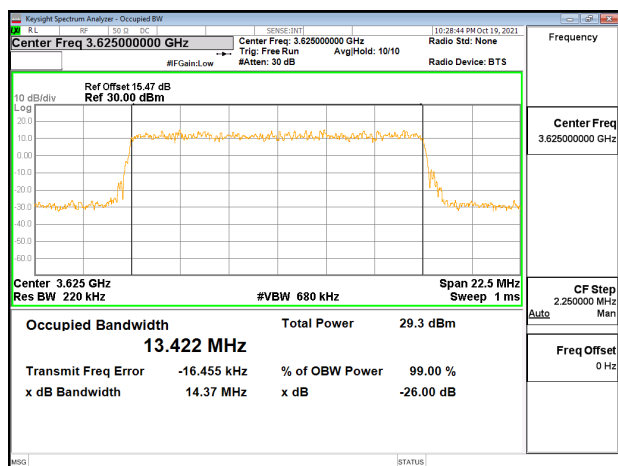
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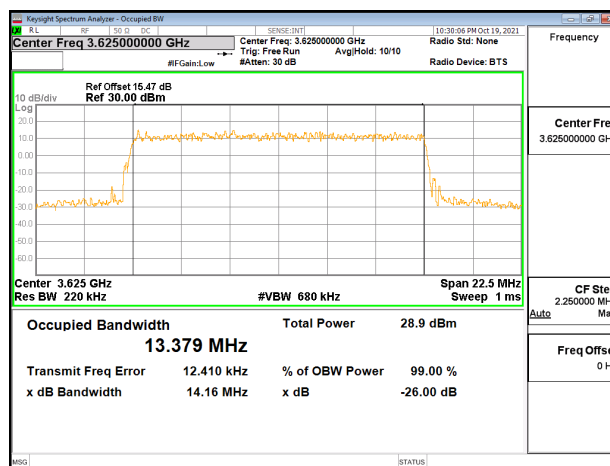
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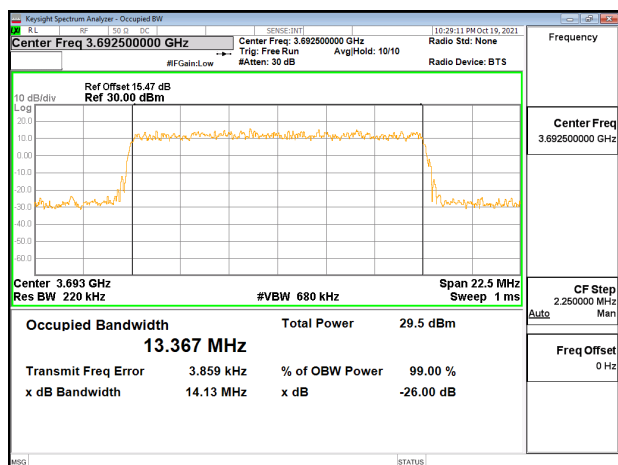
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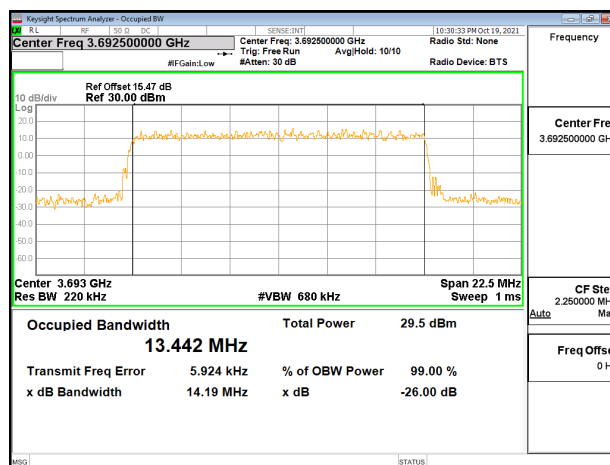
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Band48_15MHz_16QAM_RB75_0_CH56665



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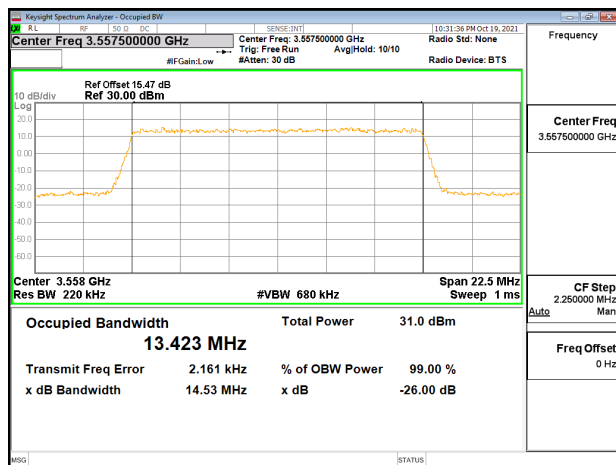
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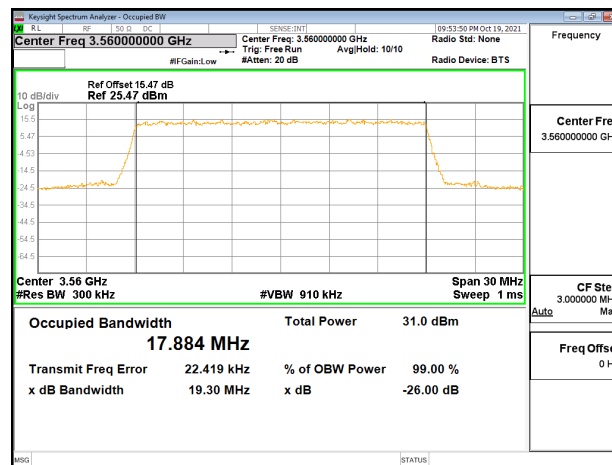
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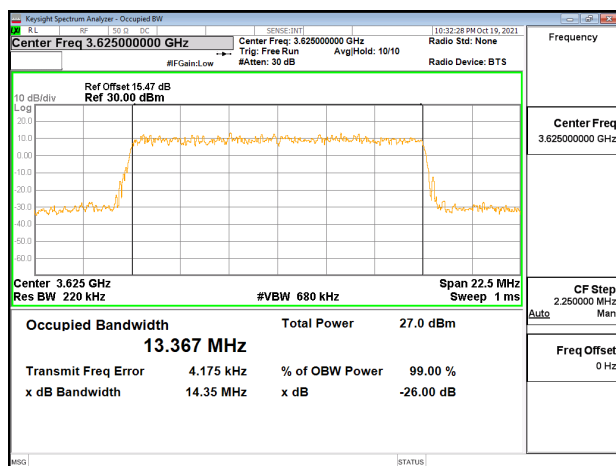
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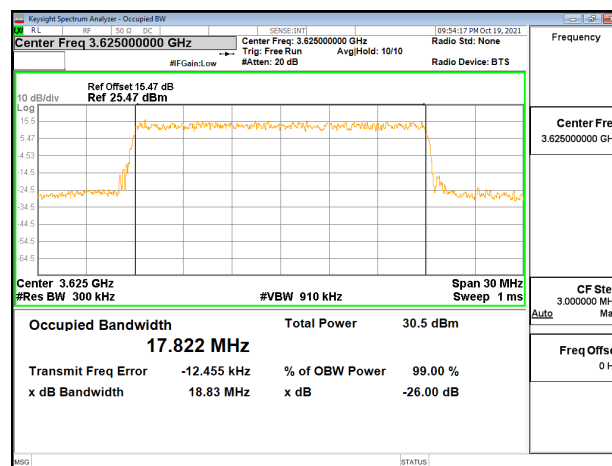
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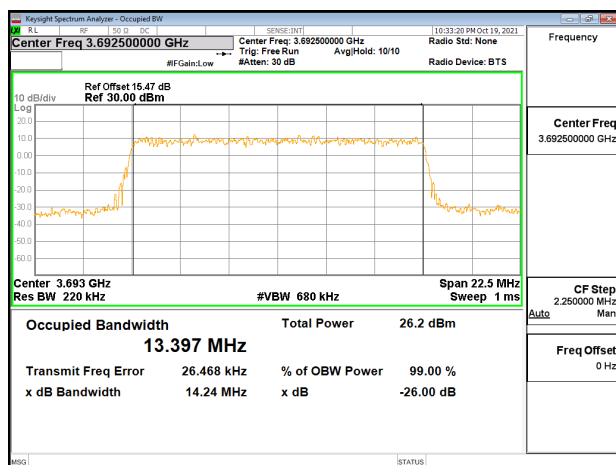
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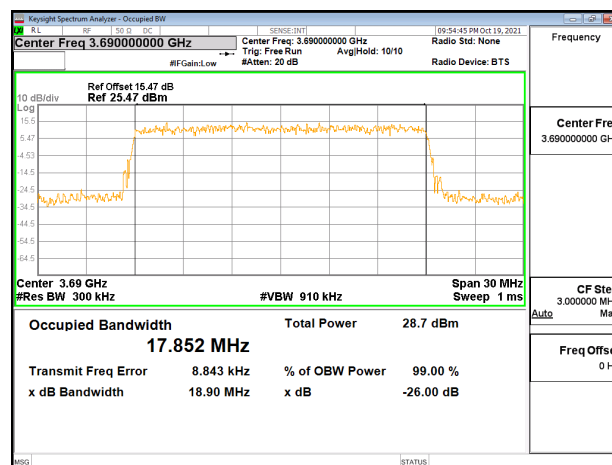
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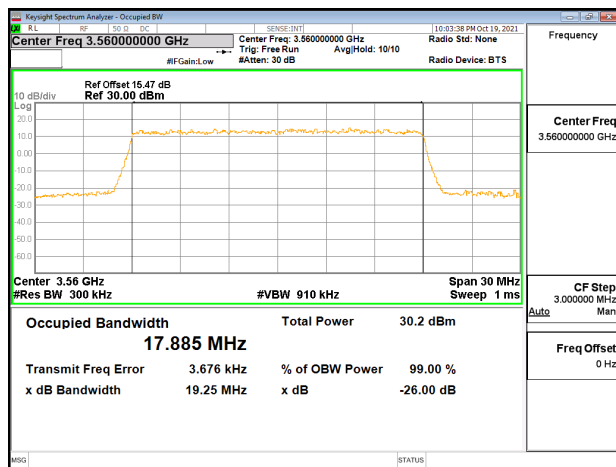
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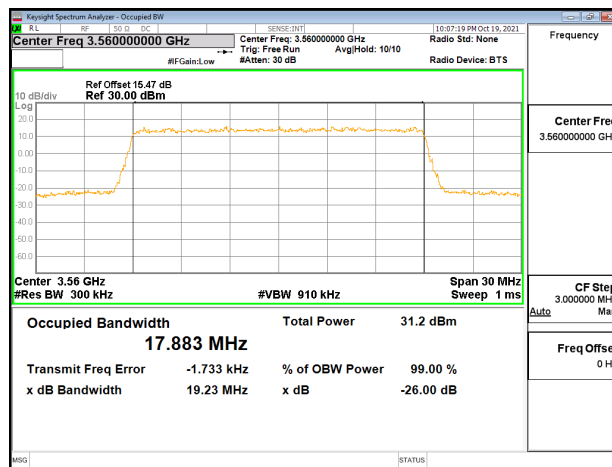
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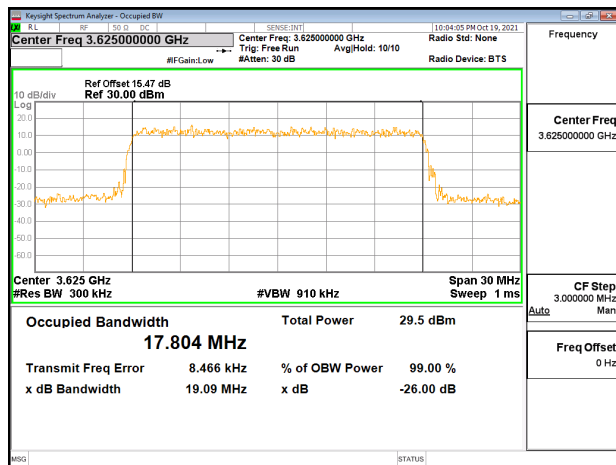
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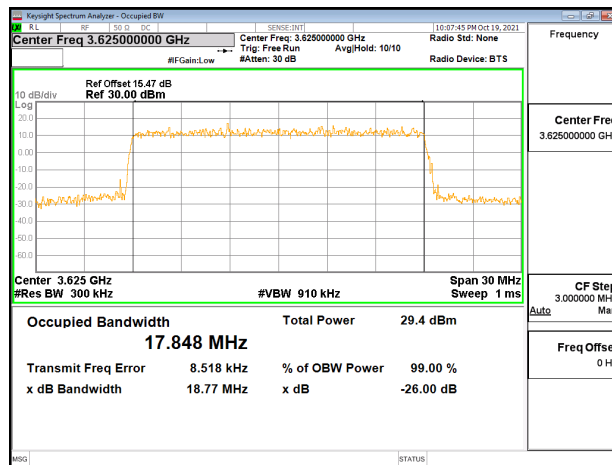
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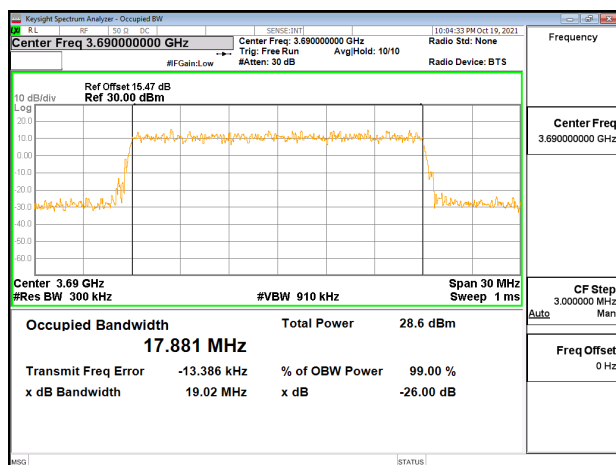
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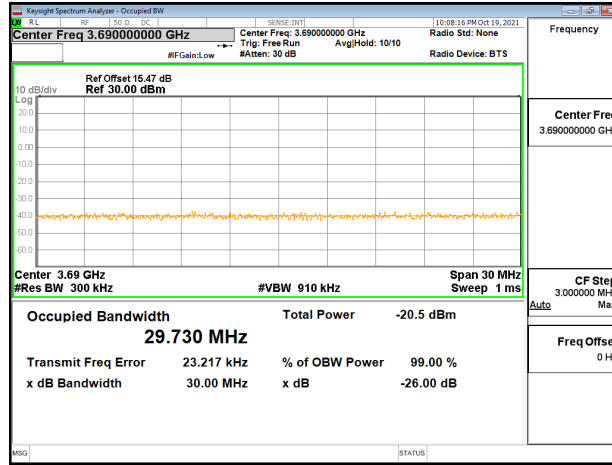
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Band48_20MHz_16QAM_RB100_0_CH56640



Band48_20MHz_64QAM_RB100_0_CH56640



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10 OUT OF BAND EMISSION AT ANTENNA TERMINALS

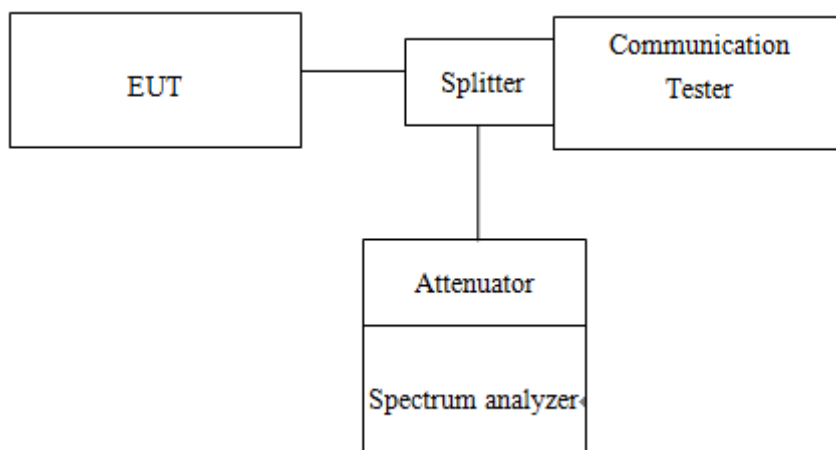
10.1 Standard Applicable

FCC Part 2.1051, Part 96.41, C63.26 Clause 5.7.

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.

For CBSDs and End User Devices, the conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed -25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed -40 dBm/MHz.

10.2 Test SET-UP



10.3 Measurement Procedure

10.3.1 Conducted Emission

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 1MHz, sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic.

To connect Antenna Port of EUT to Spectrum.

Set RBW = 1MHz & VBW = 1MHz on Spectrum.

Allow trace to fully stabilize

Repeat above procedures until all default test channel measured were complete.

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10.3.2 Band Edge

1. To connect Antenna Port of EUT to Spectrum.
2. The band edge of low and high channels for the highest RF powers was measured. Setting RBW $\geq$ 1% EBW.
3. Allow trace to fully stabilize
4. Repeat above procedures until all default test channel measured were complete.

10.4 Test Results:

Refer to next page for test plots.

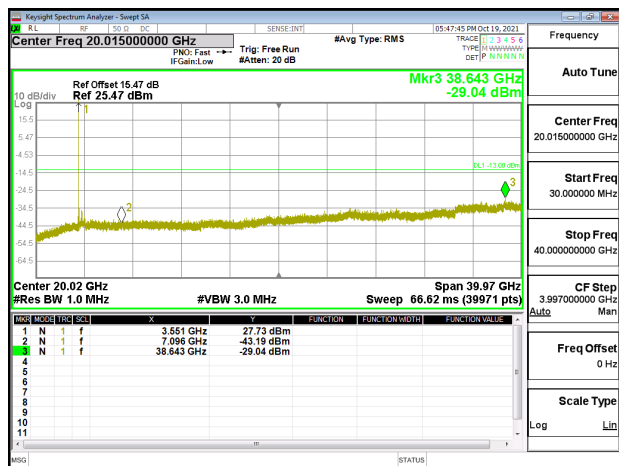
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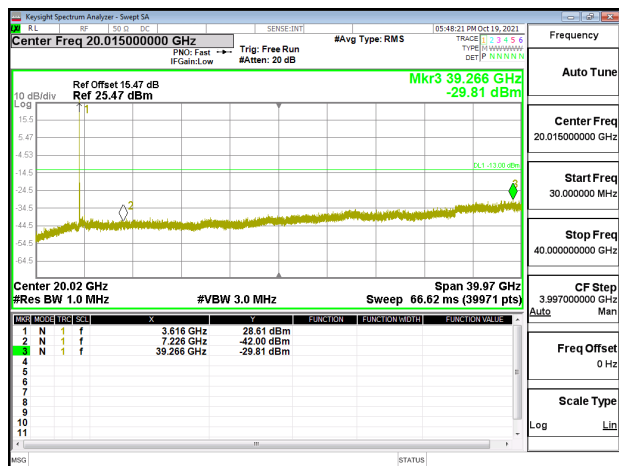
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10.4.1 Unwanted Emission

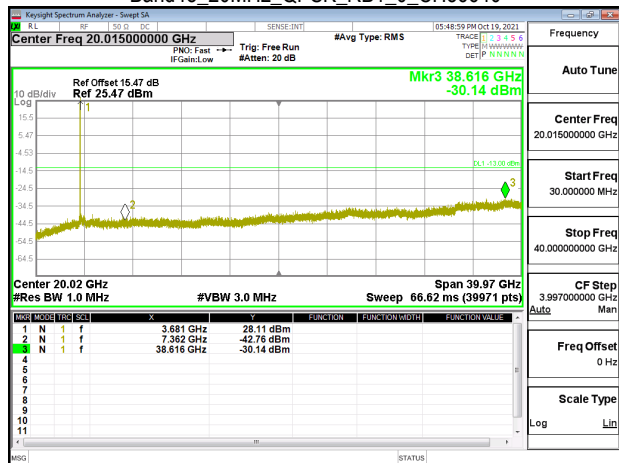
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Band48_20MHz_QPSK_RB1_0_CH56640



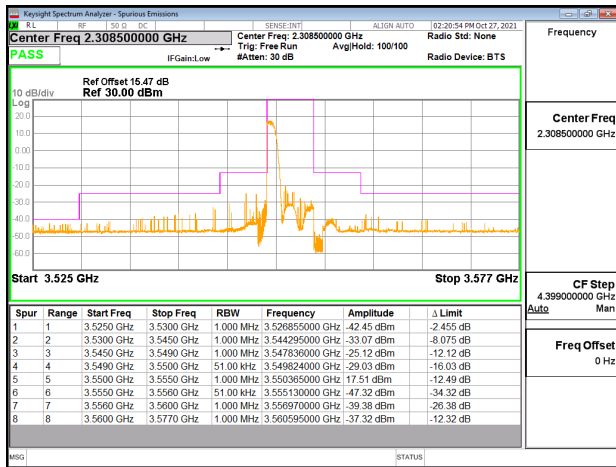
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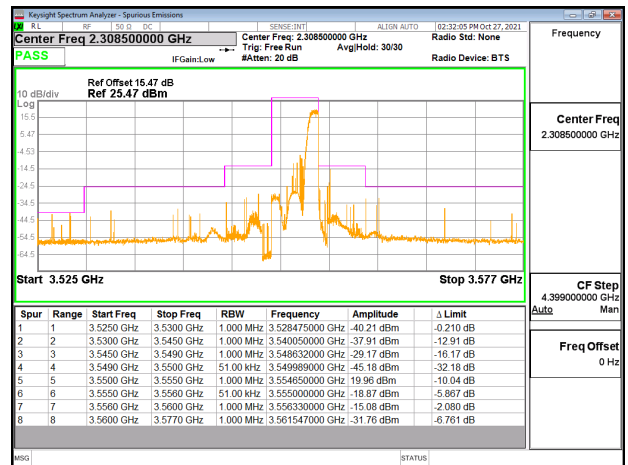
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10.4.2 Band Edge:

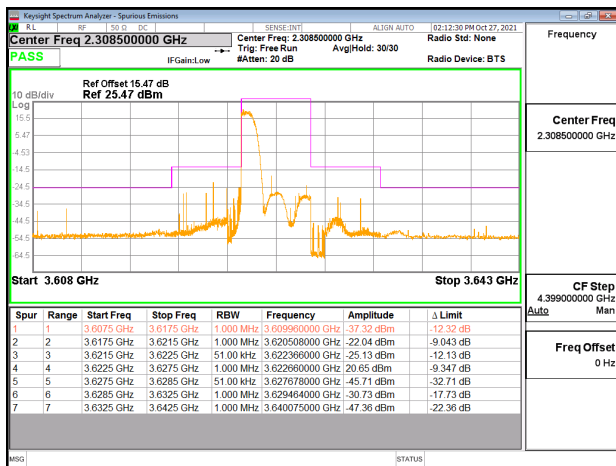
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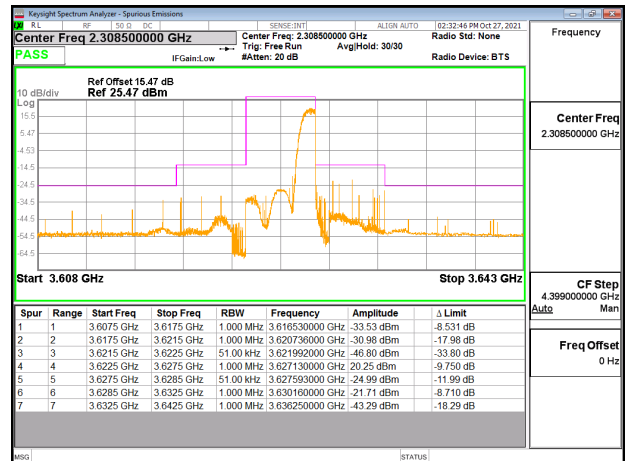
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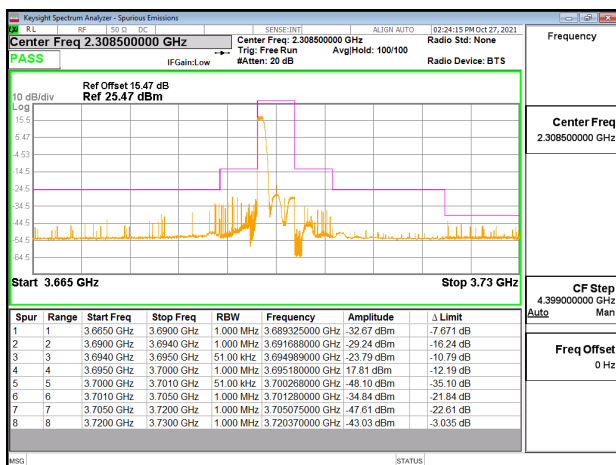
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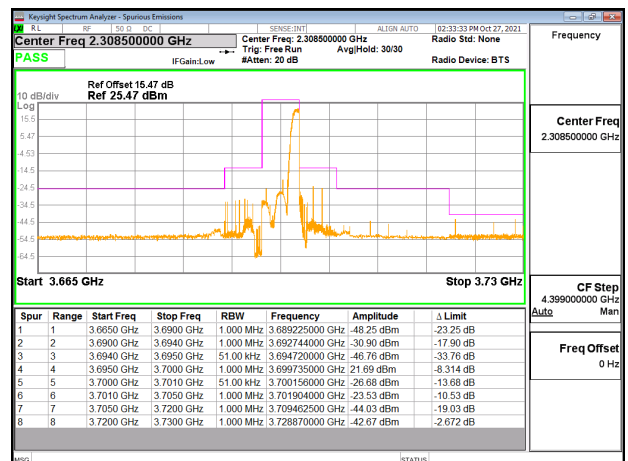
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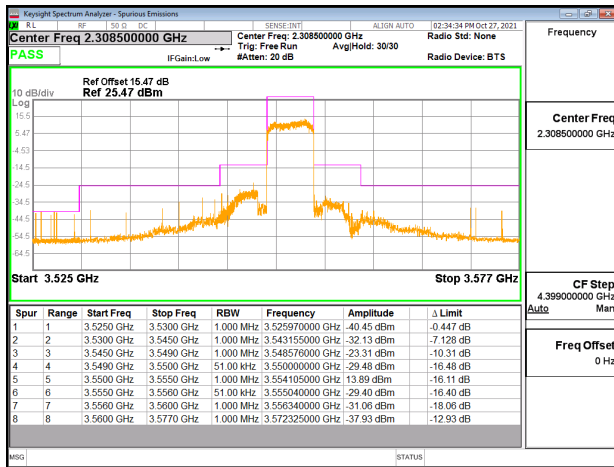


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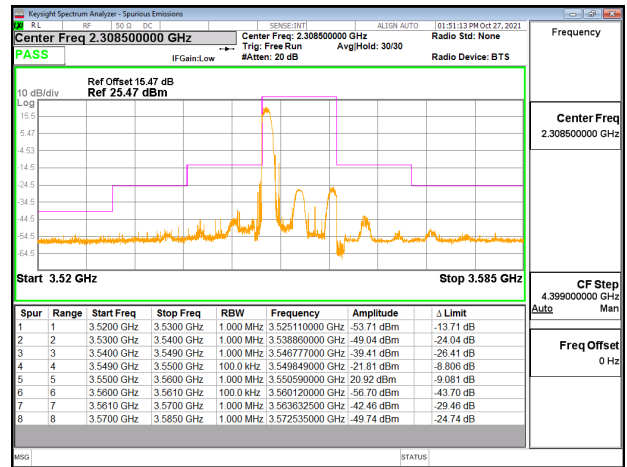
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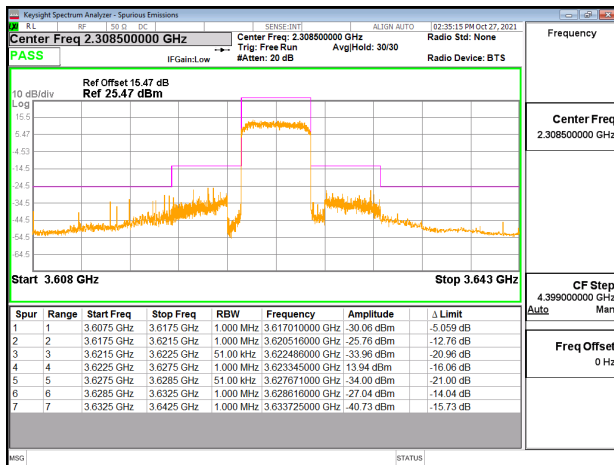
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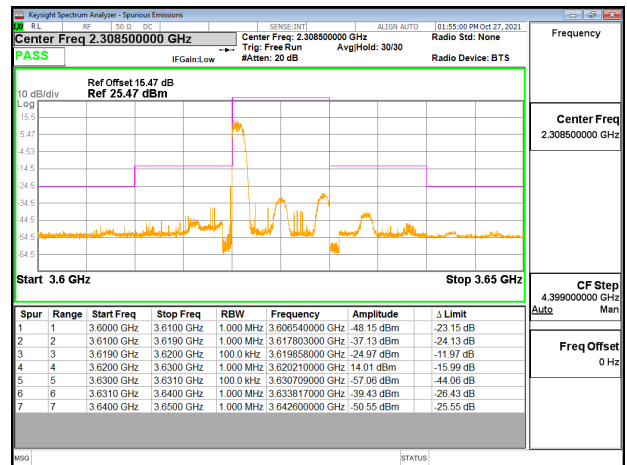
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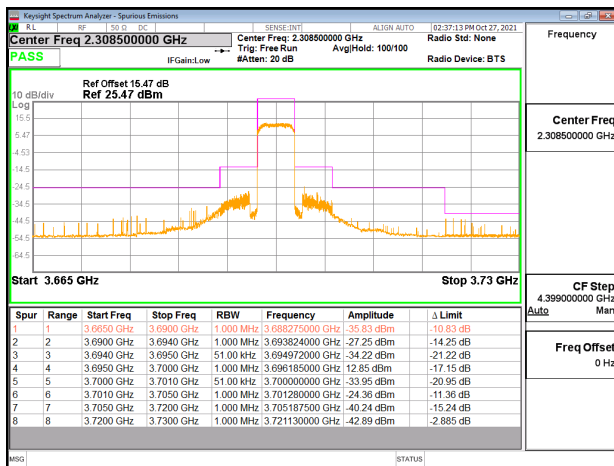
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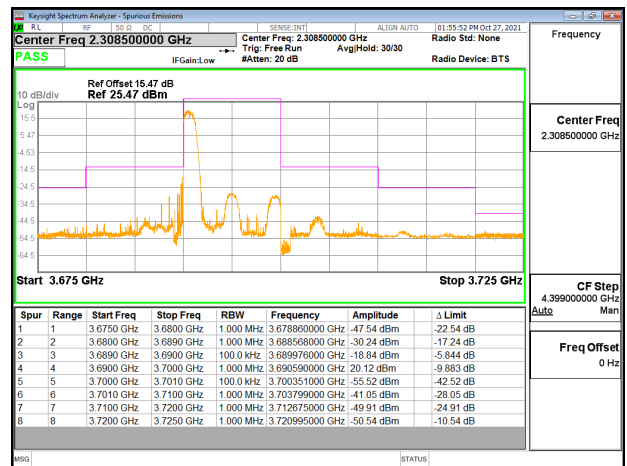
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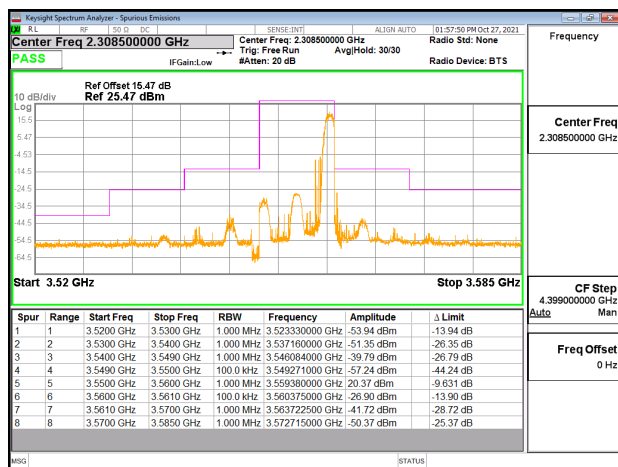


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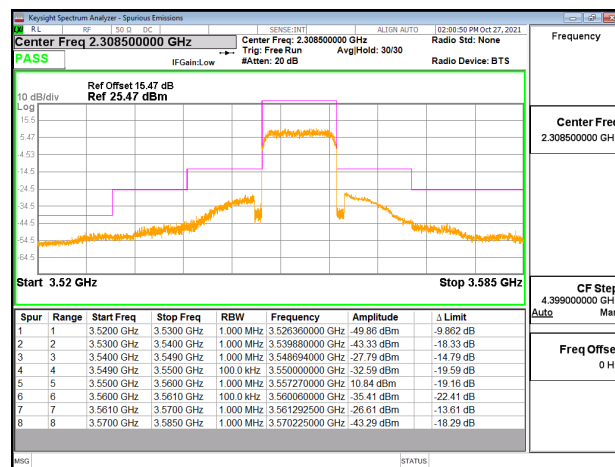
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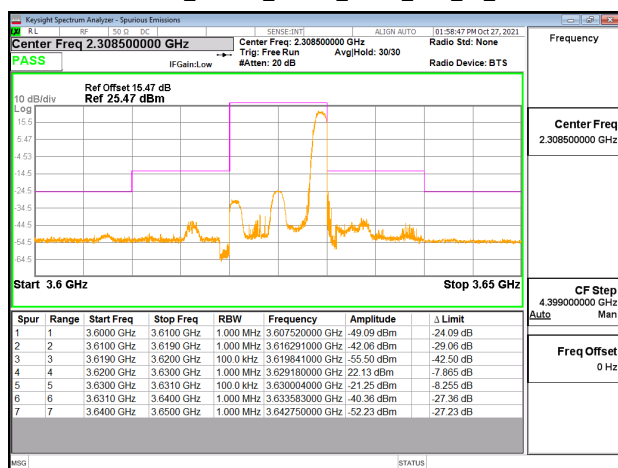
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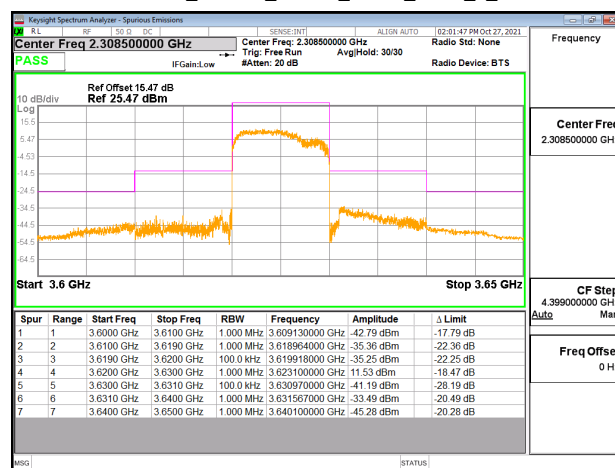
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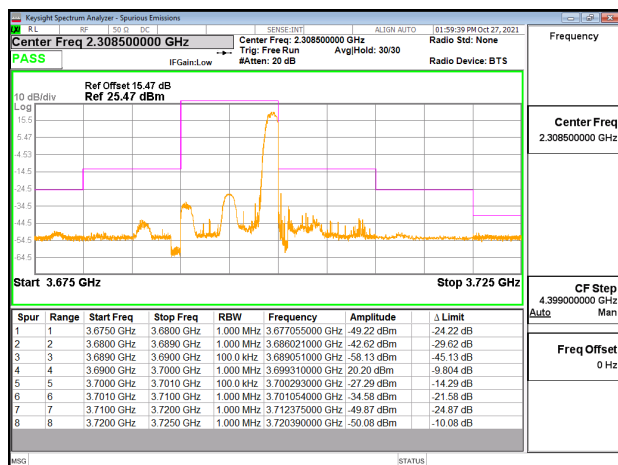
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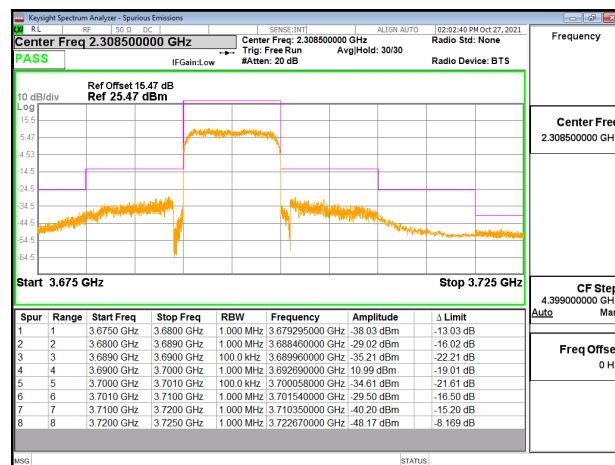
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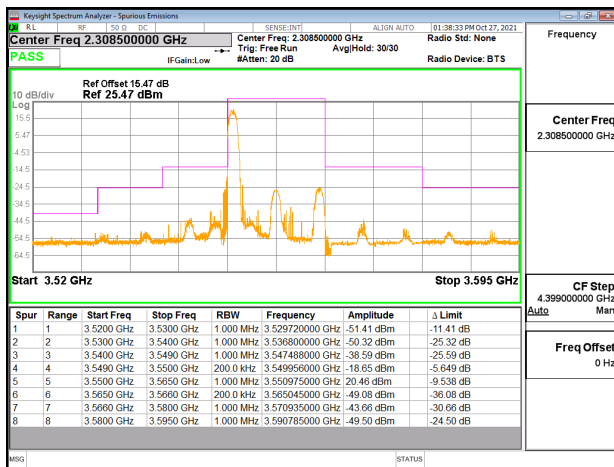


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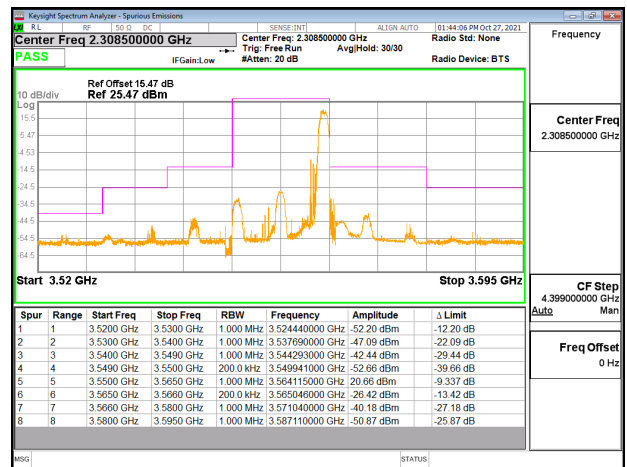
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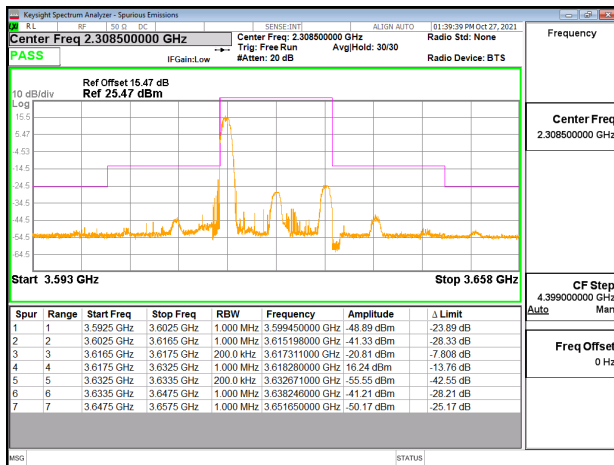
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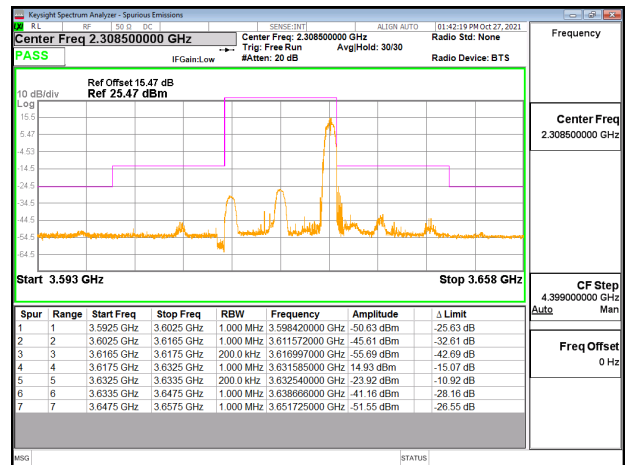
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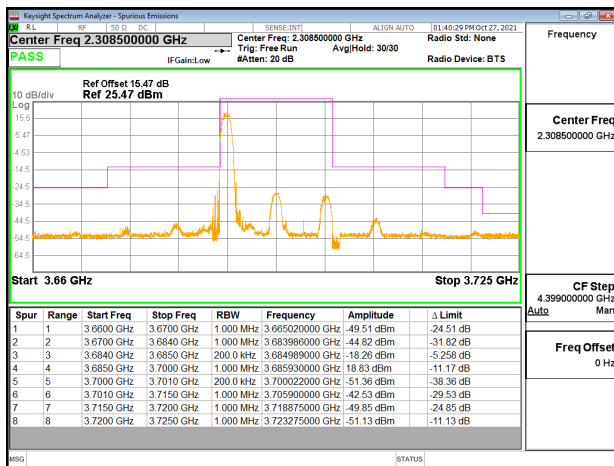
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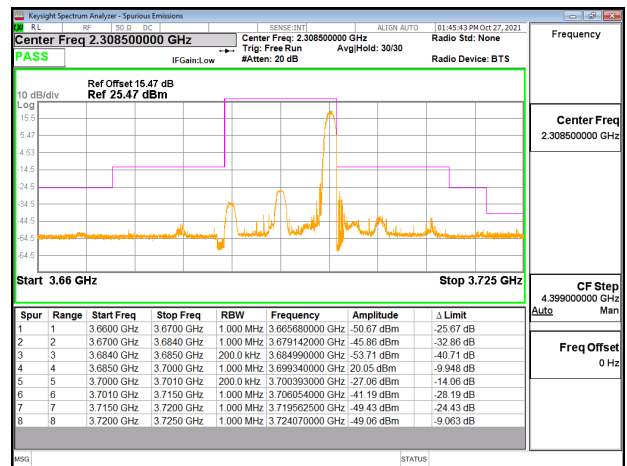
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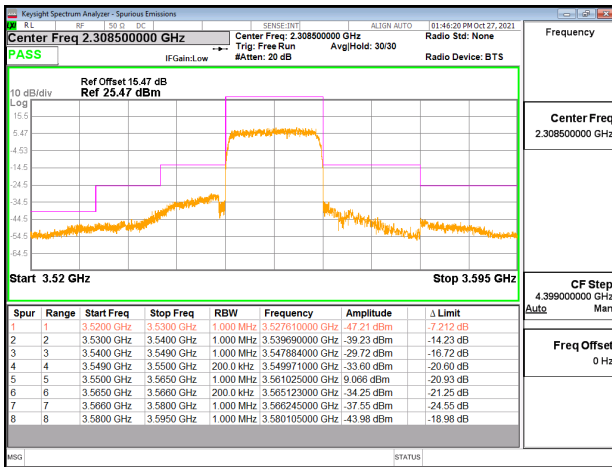


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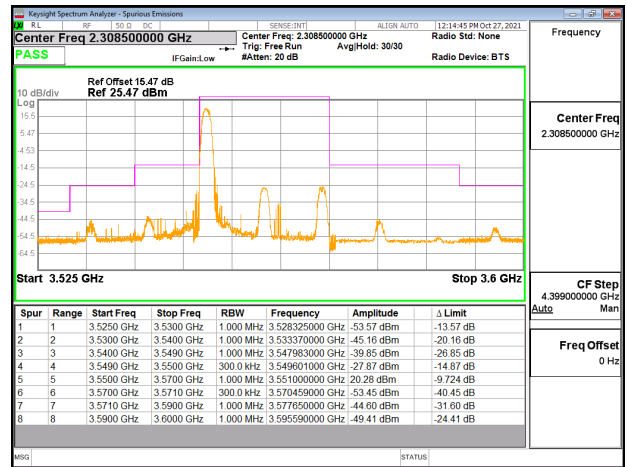
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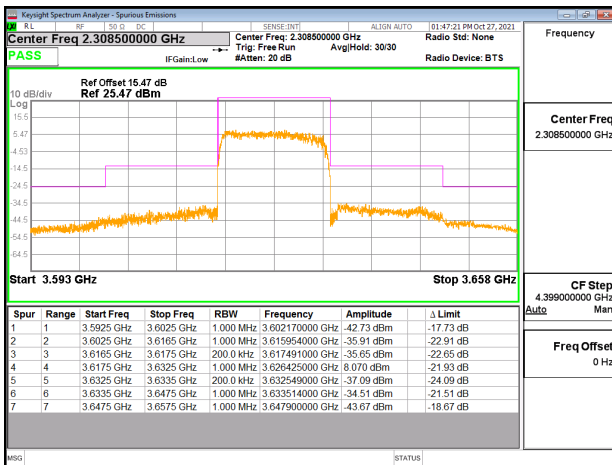
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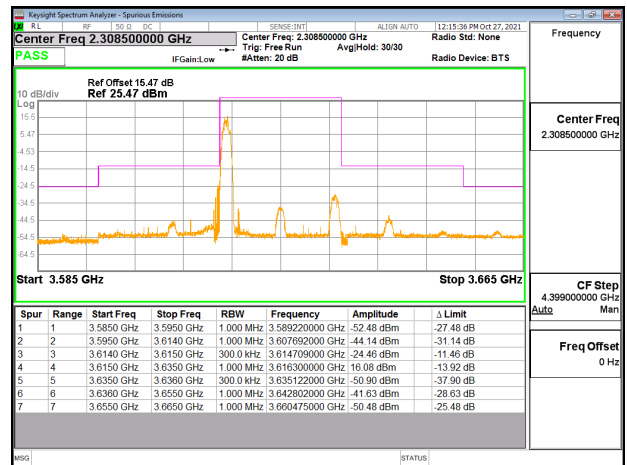
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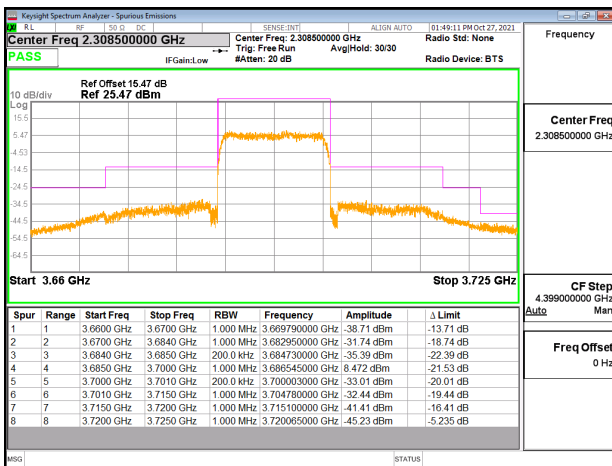
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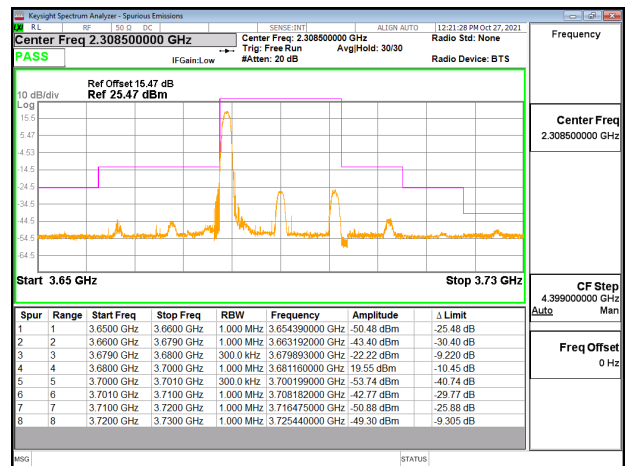
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Emission Mask_Band48_20MHz_QPSK_RB1_0_CH56640

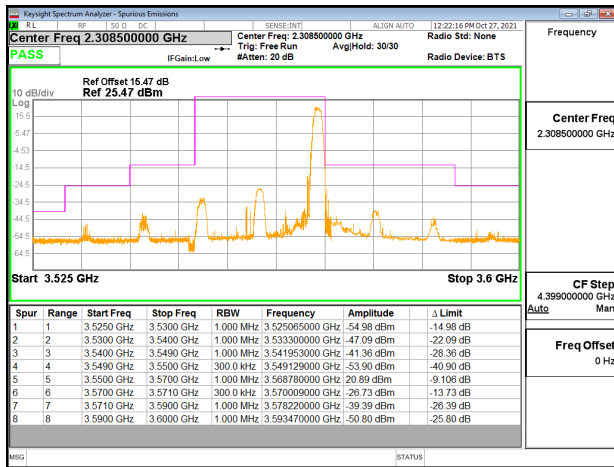


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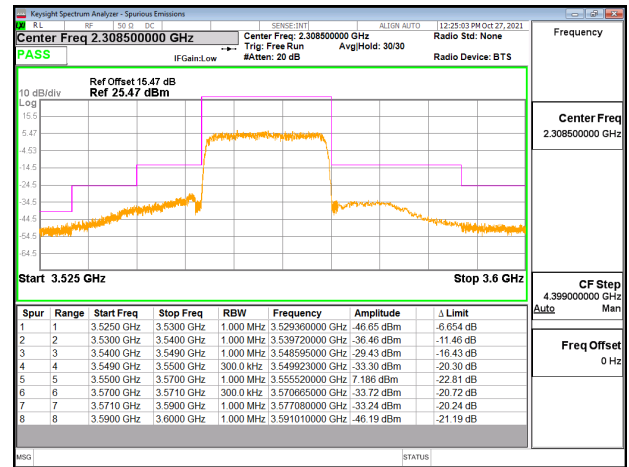
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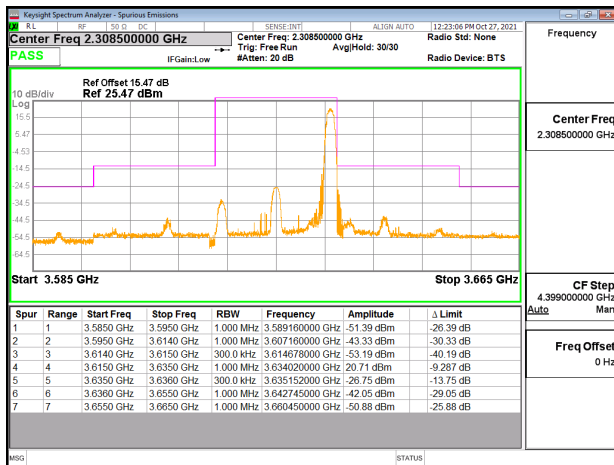
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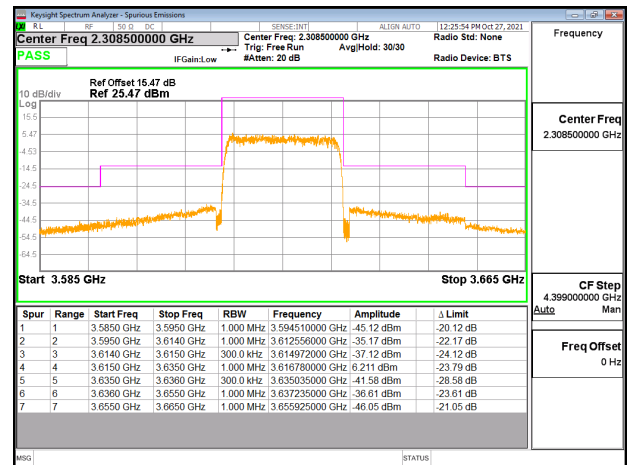
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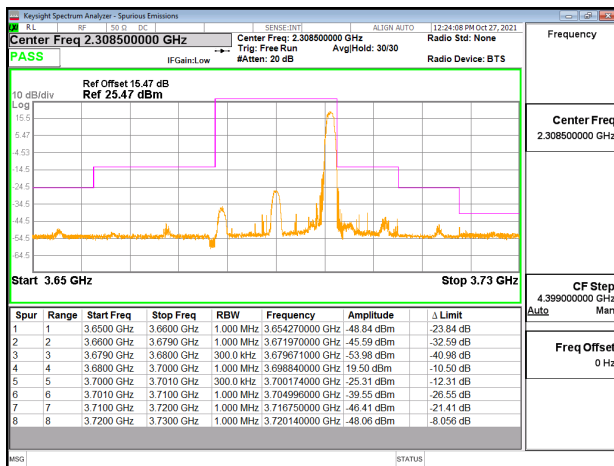
Emission Mask_Band48_20MHz_QPSK_RB1_99_CH55990



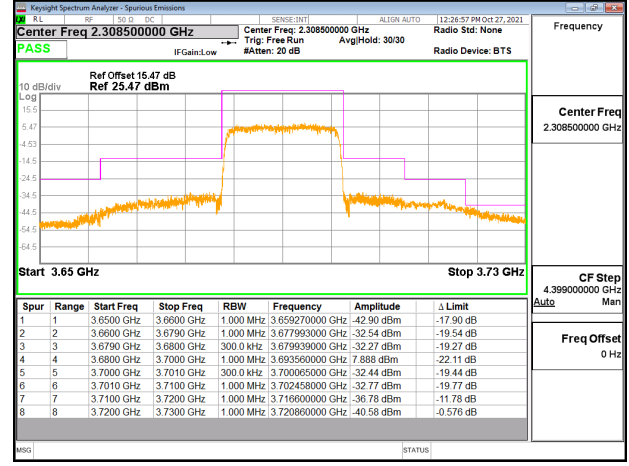
Emission Mask_Band48_20MHz_QPSK_RB100_0_CH55990



Emission Mask_Band48_20MHz_QPSK_RB1_99_CH56640



Emission Mask_Band48_20MHz_QPSK_RB100_0_CH56640



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11 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

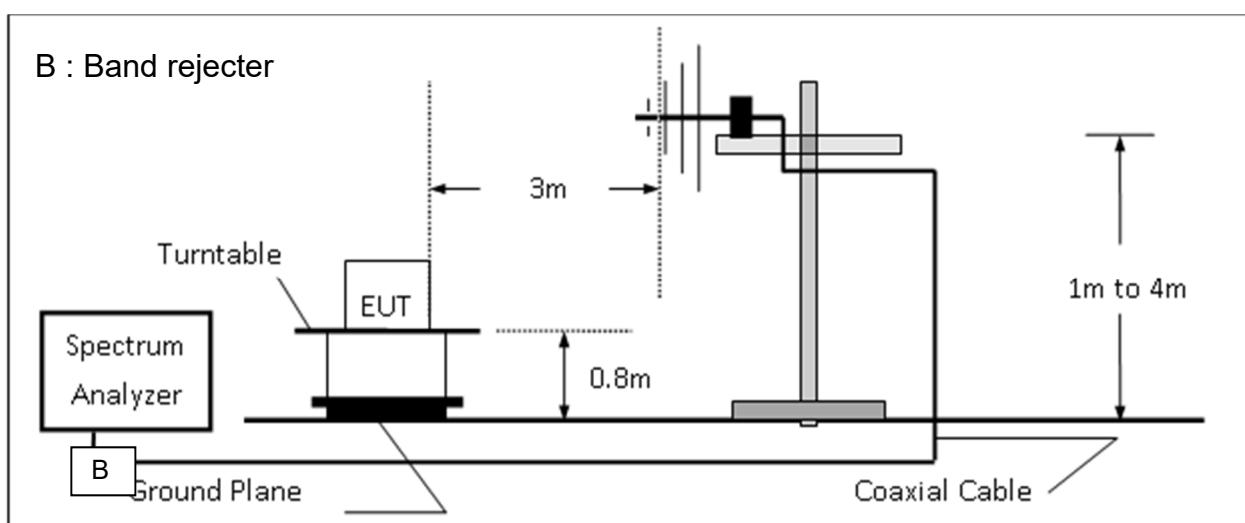
11.1 Standard Applicable

FCC Part 2.1053, Part 96.41, C63.26 Clause 5.7

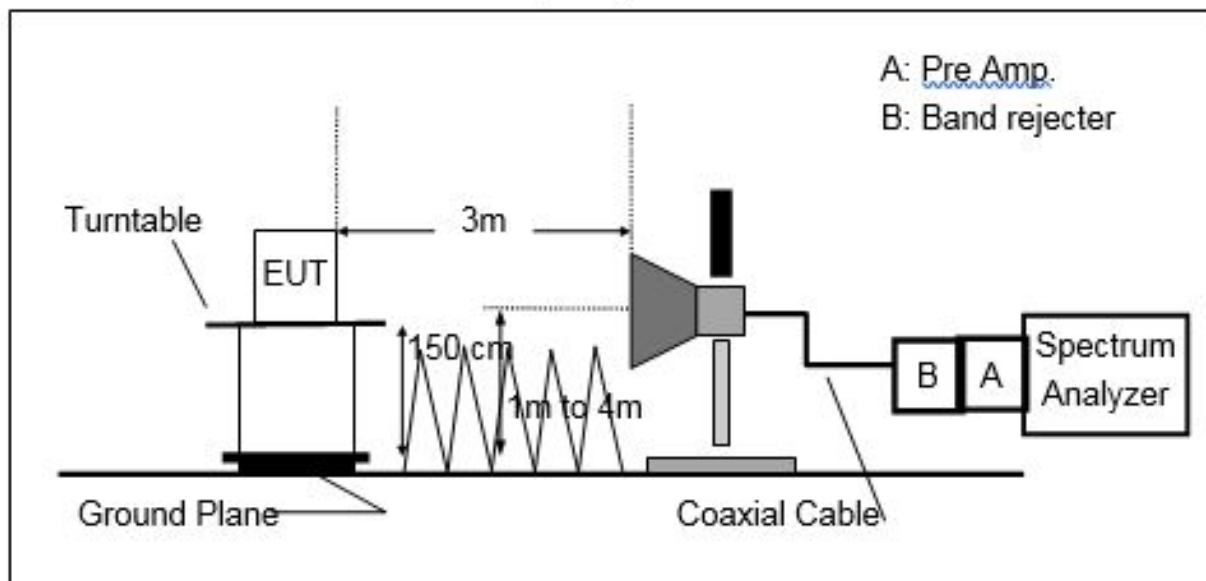
1. within 0 MHz to 10 MHz above and below the **assigned channel** ≤ -13 dBm/MHz
2. greater than 10 MHz above and below the **assigned channel** ≤ -25 dBm/MHz
3. any emission below 3530 MHz and above 3720 MHz ≤ -40 dBm/MHz

11.2 EUT Setup

Radiated Emission Test Set-Up, Frequency Below 1000MHz



Radiated Emission Test Set-UP Frequency Over 1 GHz



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11.3 Measurement Procedure:

The EUT was placed on a non-conductive; the measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

The frequency range up to tenth harmonic was investigated for each of three fundamental frequencies (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method.

The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

$$\text{ERP (dBm)} = \text{SG Level(dBm)} + \text{Antenna Gain(dBd)} + \text{Cable Loss(dB)}$$

$$\text{EIRP (dBm)} = \text{SG Level(dBm)} + \text{Antenna Gain(dBi)} + \text{Cable Loss(dB)}$$

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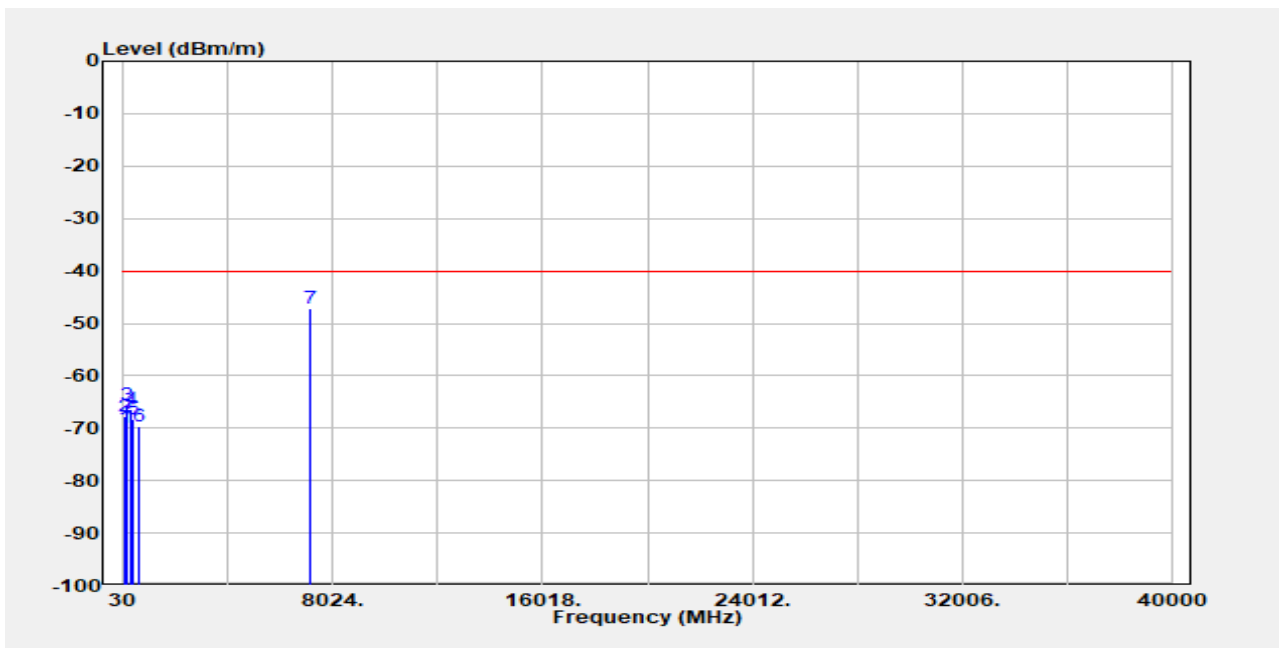
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11.4 Measurement Result:

Report Number :ER/2021/A0028
 Operation Mode :LTE B48
 Test Mode :Tx CH Low
 EUT Pol :H Plane
 Test Frequency :3557.5 MHz

Test Site :SAC 1
 Test Date :2021-11-12
 Temp./Humi. :23.8/53
 Antenna Pol. :Vertical
 Engineer :GN Lin



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
60.72	-69.99	-59.86	-9.38	-0.74	-40.00	-29.99
101.13	-67.84	-65.94	-0.88	-1.02	-40.00	-27.84
149.63	-65.61	-62.85	-1.62	-1.15	-40.00	-25.61
335.55	-66.52	-68.91	4.28	-1.90	-40.00	-26.52
348.48	-68.26	-70.78	4.52	-2.01	-40.00	-28.26
623.32	-69.74	-70.89	3.47	-2.32	-40.00	-29.74
7115.00	-47.05	-48.19	10.97	-9.83	-40.00	-7.05

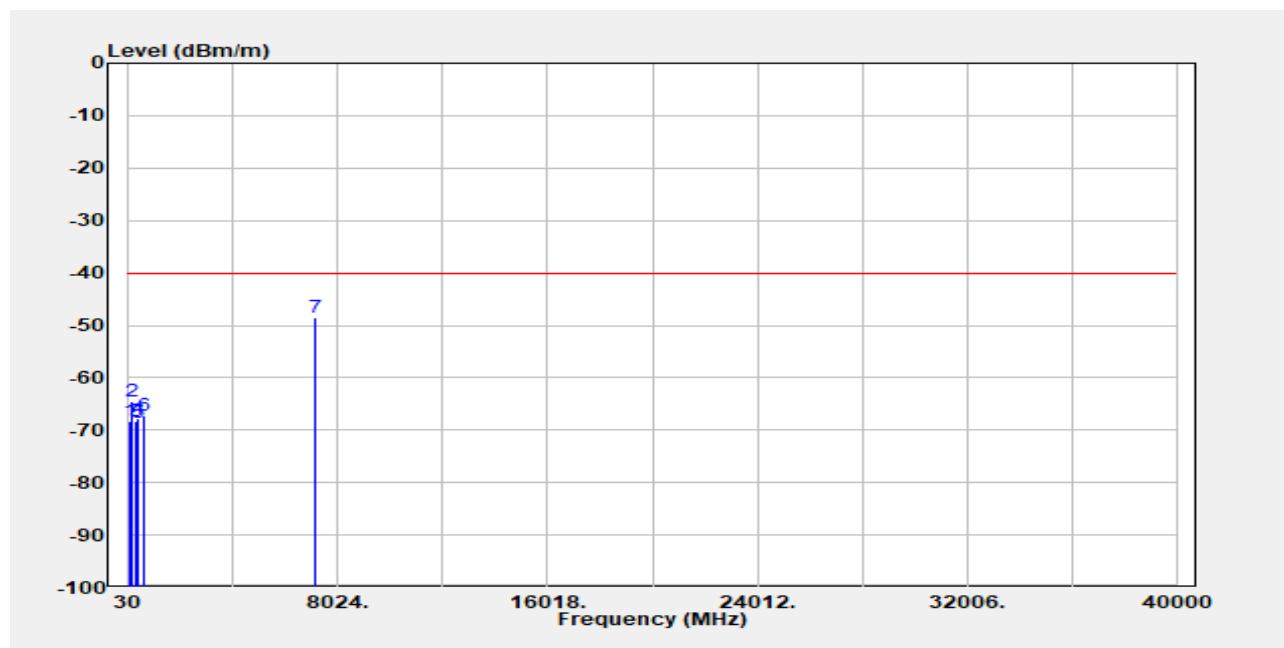
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Report Number :ER/2021/A0028
Operation Mode :LTE B48
Test Mode :Tx CH Low
EUT Pol :H Plane
Test Frequency :3557.5 MHz

Test Site :SAC 1
Test Date :2021-11-12
Temp./Humi. :23.8/53
Antenna Pol. :Horizontal
Engineer :GN Lin



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
89.82	-68.27	-66.86	-0.43	-0.98	-40.00	-28.27
164.18	-64.38	-62.25	-0.88	-1.26	-40.00	-24.38
335.55	-68.20	-70.59	4.28	-1.90	-40.00	-28.20
348.48	-67.65	-70.16	4.52	-2.01	-40.00	-27.65
388.90	-68.51	-70.87	4.40	-2.04	-40.00	-28.51
610.38	-67.29	-68.28	3.48	-2.50	-40.00	-27.29
7115.00	-48.45	-49.59	10.97	-9.83	-40.00	-8.45

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Report Number :ER/2021/A0028

Test Site :SAC 1

Operation Mode :LTE B48

Test Date :2021-11-12

Test Mode :Tx CH Mid

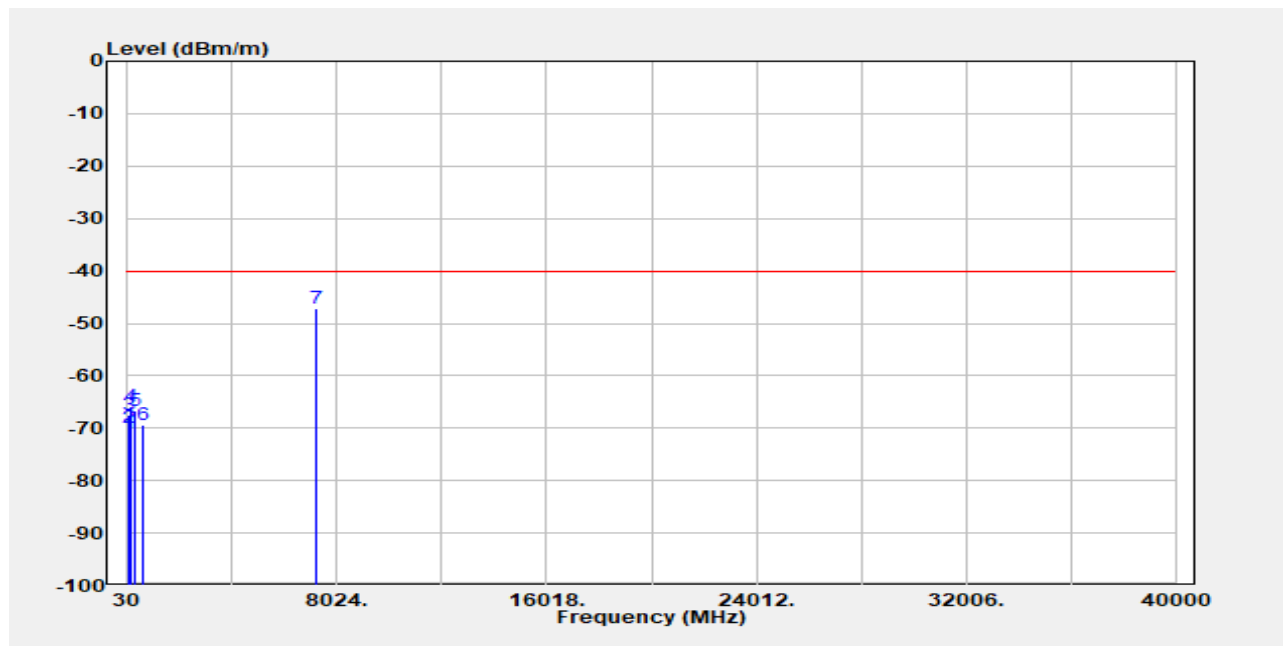
Temp./Humi. :23.8/53

EUT Pol :H Plane

Antenna Pol. :Vertical

Test Frequency :3625 MHz

Engineer :GN Lin



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
60.72	-70.90	-60.77	-9.38	-0.74	-40.00	-30.90
89.82	-69.87	-68.46	-0.43	-0.98	-40.00	-29.87
107.60	-67.58	-65.12	-1.42	-1.04	-40.00	-27.58
149.63	-65.90	-63.13	-1.62	-1.15	-40.00	-25.90
335.55	-66.67	-69.06	4.28	-1.90	-40.00	-26.67
610.38	-69.27	-70.26	3.48	-2.50	-40.00	-29.27
7250.00	-47.29	-48.65	10.80	-9.44	-40.00	-7.29

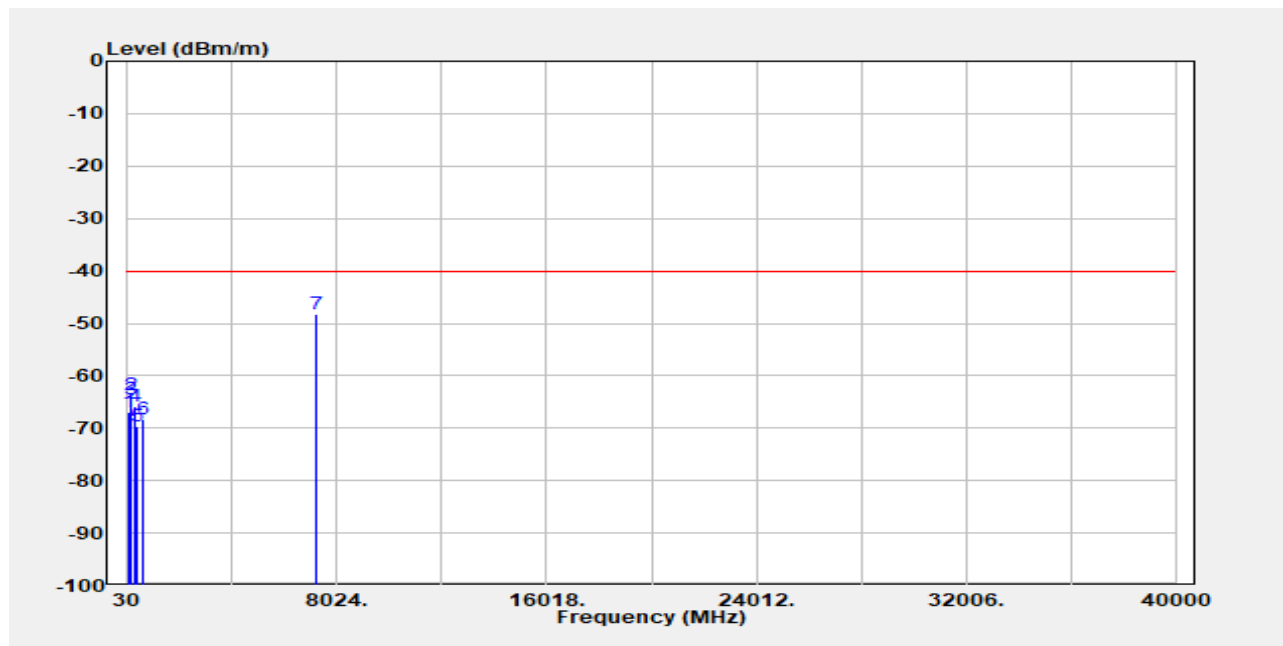
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Report Number :ER/2021/A0028
 Operation Mode :LTE B48
 Test Mode :Tx CH Mid
 EUT Pol :H Plane
 Test Frequency :3625 MHz

Test Site :SAC 1
 Test Date :2021-11-12
 Temp./Humi. :23.8/53
 Antenna Pol. :Horizontal
 Engineer :GN Lin



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
89.82	-66.94	-65.53	-0.43	-0.98	-40.00	-26.94
149.63	-63.78	-61.01	-1.62	-1.15	-40.00	-23.78
164.18	-64.41	-62.28	-0.88	-1.26	-40.00	-24.41
342.02	-65.84	-68.28	4.36	-1.92	-40.00	-25.84
388.90	-69.70	-72.06	4.40	-2.04	-40.00	-29.70
610.38	-68.24	-69.23	3.48	-2.50	-40.00	-28.24
7250.00	-48.16	-49.52	10.80	-9.44	-40.00	-8.16

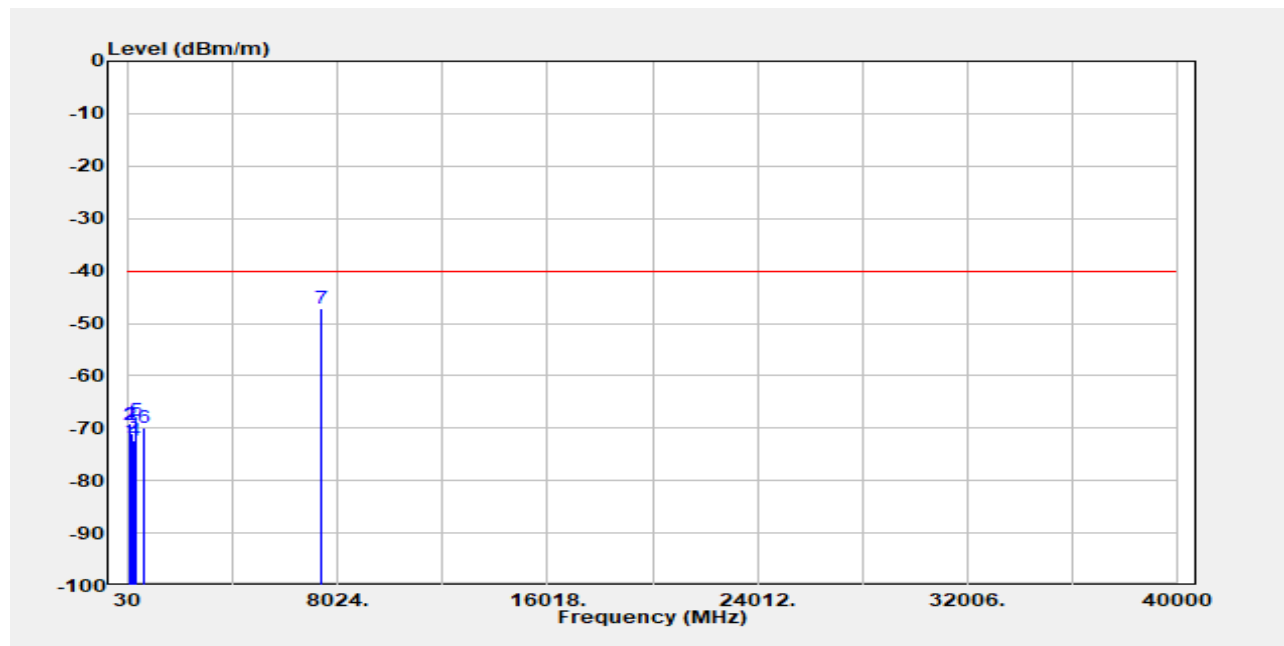
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Report Number :ER/2021/A0028
Operation Mode :LTE B48
Test Mode :Tx CH High
EUT Pol :H Plane
Test Frequency :3692.5 MHz

Test Site :SAC 1
Test Date :2021-11-12
Temp./Humi. :23.8/53
Antenna Pol. :Vertical
Engineer :GN Lin



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
60.72	-69.20	-59.08	-9.38	-0.74	-40.00	-29.20
89.82	-69.26	-67.85	-0.43	-0.98	-40.00	-29.26
164.18	-70.88	-68.75	-0.88	-1.26	-40.00	-30.88
240.17	-72.28	-75.05	4.38	-1.61	-40.00	-32.28
342.02	-68.61	-71.05	4.36	-1.92	-40.00	-28.61
610.38	-69.98	-70.97	3.48	-2.50	-40.00	-29.98
7385.00	-47.15	-49.11	10.97	-9.01	-40.00	-7.15

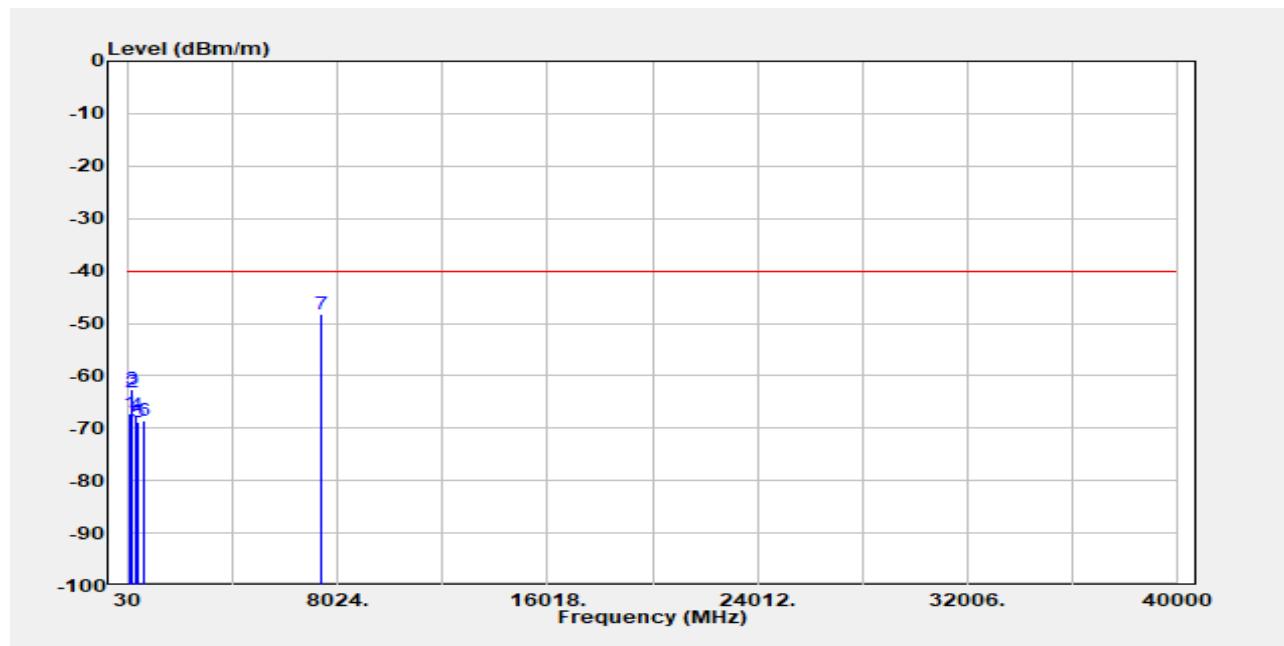
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Report Number :ER/2021/A0028
Operation Mode :LTE B48
Test Mode :Tx CH High
EUT Pol :H Plane
Test Frequency :3692.5 MHz

Test Site :SAC 1
Test Date :2021-11-12
Temp./Humi. :23.8/53
Antenna Pol. :Horizontal
Engineer :GN Lin



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
89.82	-67.34	-65.93	-0.43	-0.98	-40.00	-27.34
149.63	-63.25	-60.48	-1.62	-1.15	-40.00	-23.25
164.18	-62.53	-60.40	-0.88	-1.26	-40.00	-22.53
335.55	-67.41	-69.80	4.28	-1.90	-40.00	-27.41
388.90	-68.81	-71.17	4.40	-2.04	-40.00	-28.81
610.38	-68.57	-69.56	3.48	-2.50	-40.00	-28.57
7385.00	-48.31	-50.26	10.97	-9.01	-40.00	-8.31

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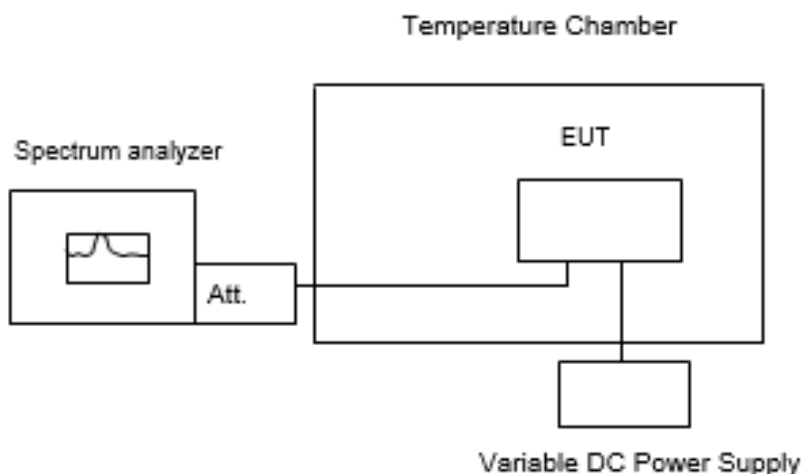
12 FREQUENCY STABILITY MEASUREMENT

12.1 Standard Applicable

FCC §2.1055(a)

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency band. The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ (± 2.5 ppm) of the center frequency.

12.2 Test Set-up



Note: Measurement setup for testing on Antenna connector

12.3 Measurement Procedure

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

Set chamber temperature to 25°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation (+/- 15%) and endpoint as declared by the manufacturer, record the maximum frequency change.

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12.4 Measurement Result

Reference Freq.:		LTE B48 Mid Channel		3625.0000	MHz 10M QPSK CH 55990
Power Supply Vdc	Temp. (°C)	Freq. (MHz)	(ppm)	Limit	
Freq. ERROR vs. VOLTAGE					
3.795	25	3624.999993	-0.0019	+/- 2.5 ppm	
3.3	25	3624.999997	-0.0008		
2.805	25	3624.999999	-0.0003		
2.4 (End Point)	25	3625.000010	0.0028		
Freq. ERROR vs. Temp.					
3.3	-30	3625.000006	0.0017	+/- 2.5 ppm	
3.3	-20	3624.999989	-0.0030		
3.3	-10	3624.999998	-0.0006		
3.3	0	3624.999994	-0.0017		
3.3	10	3624.999992	-0.0022		
3.3	20	3625.000007	0.0019		
3.3	30	3624.999991	-0.0025		
3.3	40	3625.000005	0.0014		
3.3	50	3624.999998	-0.0006		

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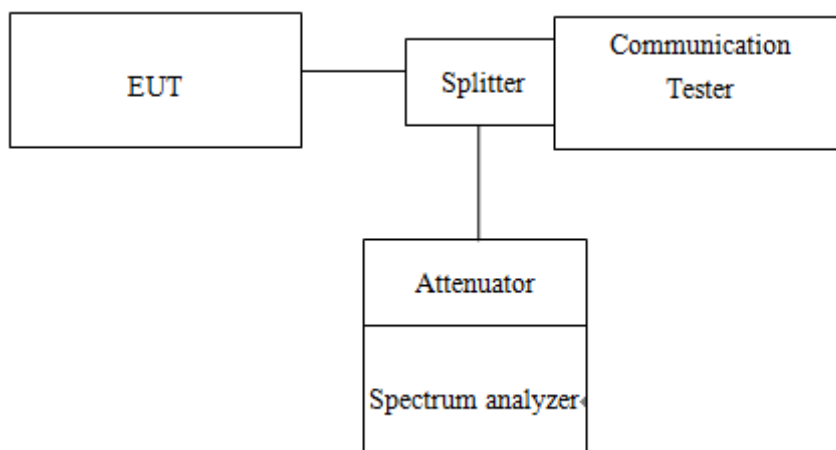
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13 PEAK TO AVERAGE RATIO

13.1 Standard Applicable

The peak-to-average ratio (PAR) of the transmission may not exceed 13dB.

13.2 Test SET-UP



13.3 Measurement Procedure

1. KDB 971168 D01 is employed as the following procedure is proper adjusted accordingly:
2. Set resolution/measurement bandwidth $\geq$ signal's occupied bandwidth; & internal = 1ms
3. Set the number of counts to a value that stabilizes the measured CCDF curve.

13.4 Measurement Result

LTE BAND 48							
Channel bandwidth: 5MHz				Channel bandwidth: 10MHz			
Freq. (MHz)	CH	PAPR (dB)		Freq. (MHz)	CH	PAPR (dB)	
		64QAM	Limit			64QAM	Limit
3552.5	55265	7.22	13	3555.0	55290	6.45	13
3625.0	55990	7.07	13	3625.0	55990	6.72	13
3697.5	56715	6.27	13	3695.0	56690	6.46	13

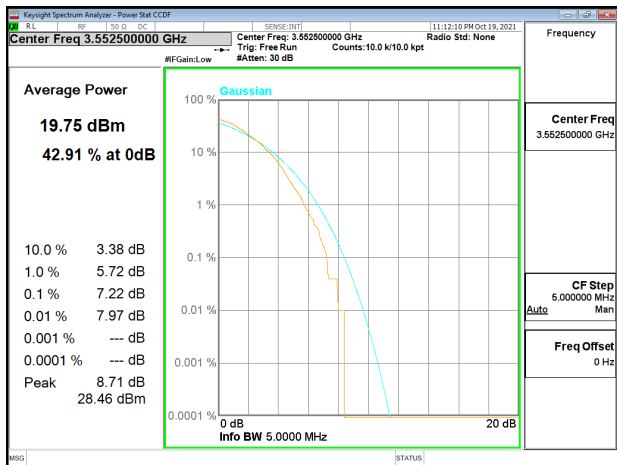
LTE BAND 48							
Channel bandwidth: 15MHz				Channel bandwidth: 20MHz			
Freq. (MHz)	CH	PAPR (dB)		Freq. (MHz)	CH	PAPR (dB)	
		64QAM	Limit			64QAM	Limit
3557.5	55315	9.00	13	3650.0	55340	6.43	13
3625.0	55990	6.74	13	3625.0	55990	6.61	13
3692.5	56665	6.28	13	3690.0	56640	6.61	13

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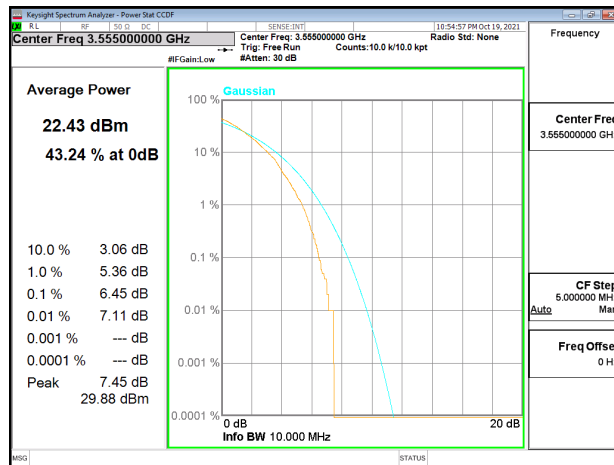
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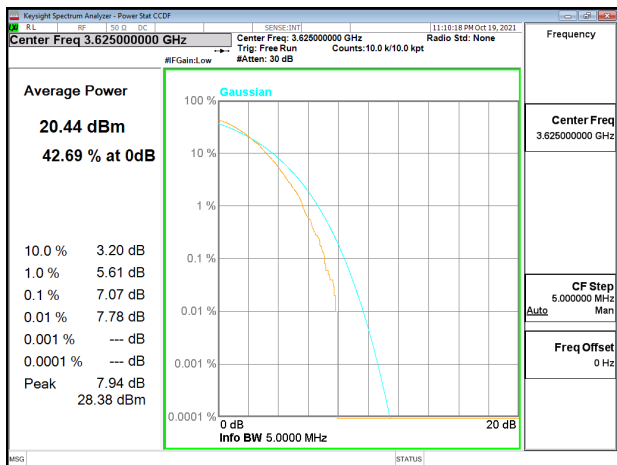
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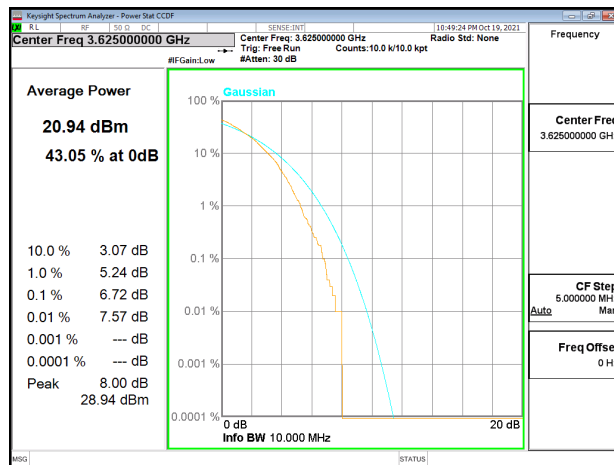
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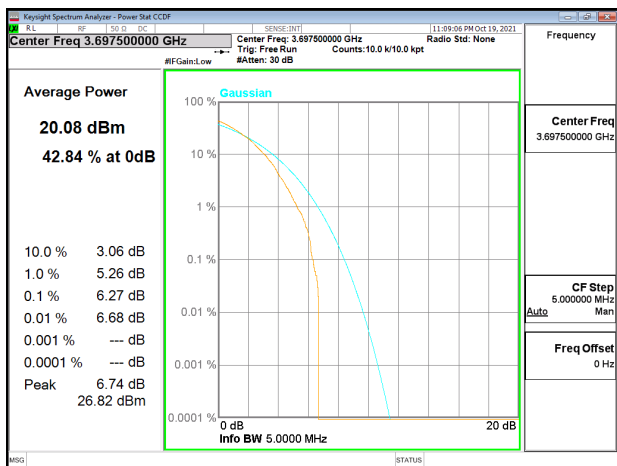
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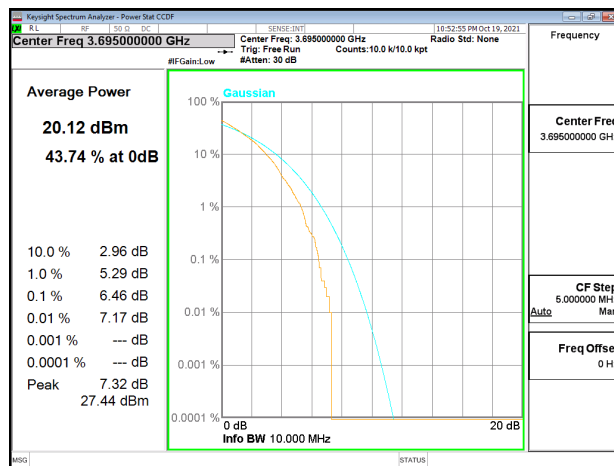
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Band48_5MHz_64QAM_RB25_0_CH56715



Band48_10MHz_64QAM_RB50_0_CH56690



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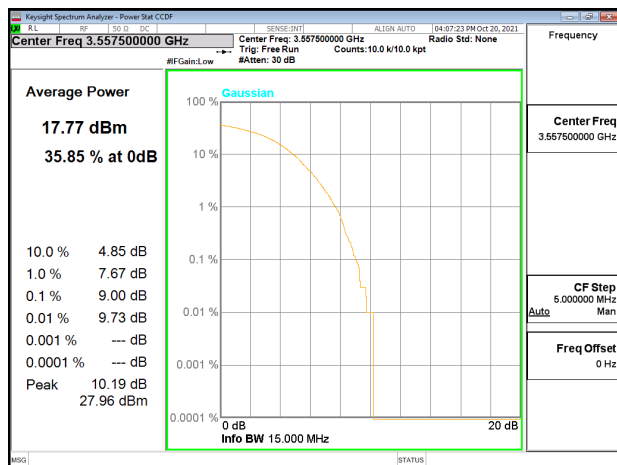
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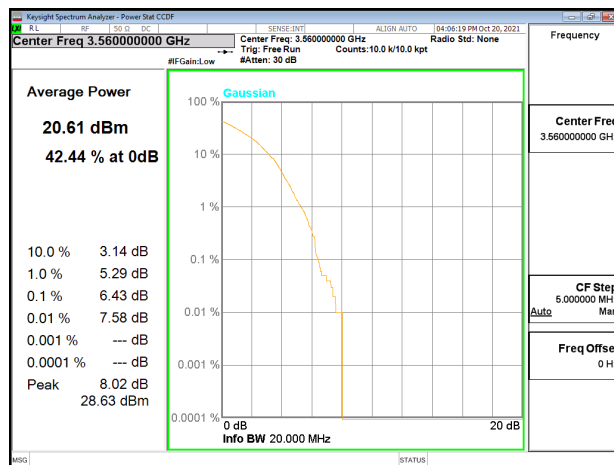
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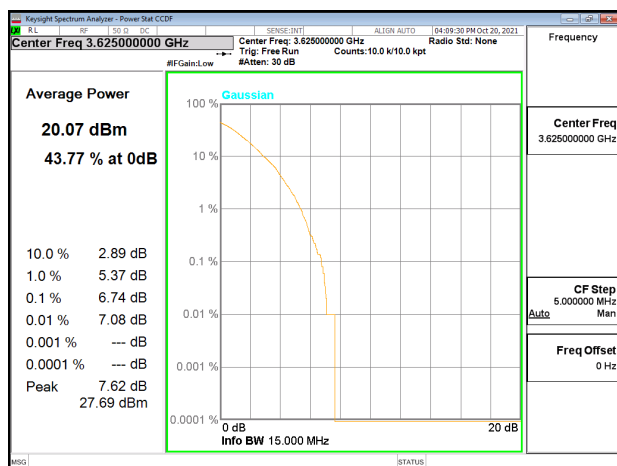
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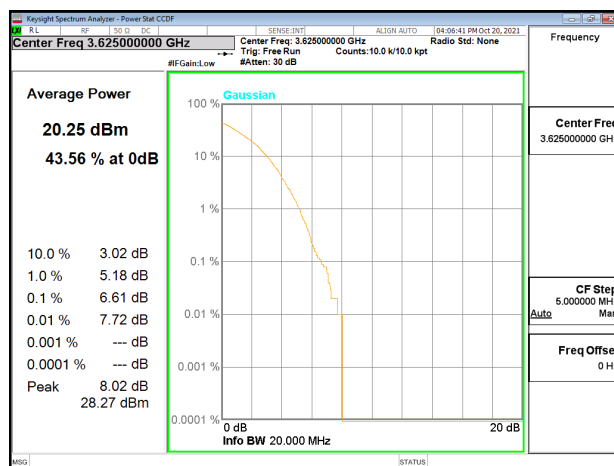
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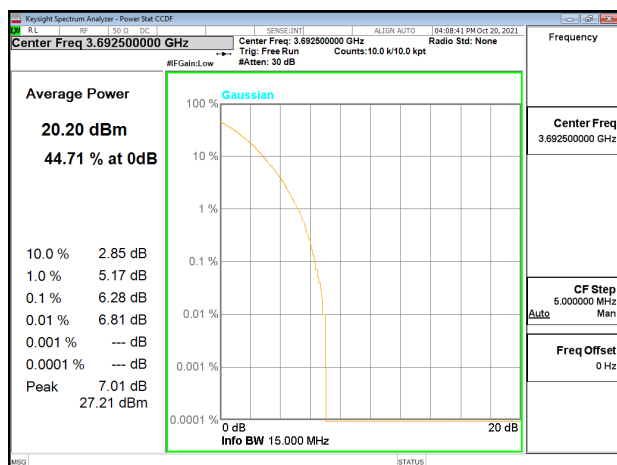
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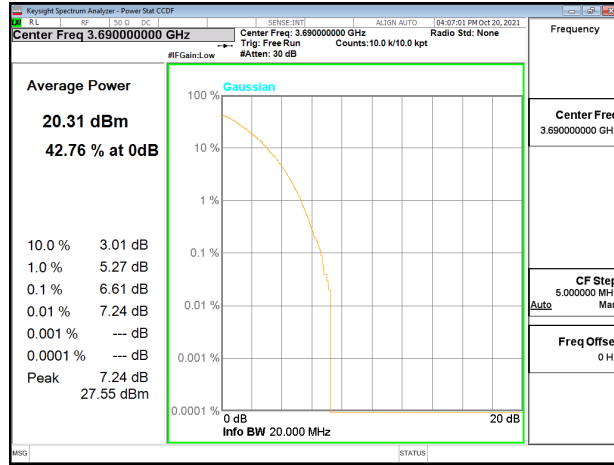
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Band48_15MHz_64QAM_RB75_0_CH56665



Band48_20MHz_64QAM_RB100_0_CH56640



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