



TEST REPORT

APPLICANT : OnePlus Technology (Shenzhen) Co., Ltd.

PRODUCT NAME : Mobile Phone

MODEL NAME : CPH2513, CPH2515

BRAND NAME : ONEPLUS

FCC ID : 2ABZ2-AA534

STANDARD(S) : 47 CFR Part 2
47 CFR Part 24
47 CFR Part 27
47 CFR Part 96

RECEIPT DATE : 2023-01-13

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DIRECTORY

- 1. Technical Information 3**
- 1.1. Applicant and Manufacturer Information 3**
- 1.2. Equipment Under Test (EUT) Description 4**
- 1.3. Maximum ERP/EIRP and Emission Designator 6**
- 1.4. Test Standards and Results 7**
- 1.5. Environmental Conditions 9**
- 2. 47 CFR Part 2and 27M Requirements 10**
- 2.1. Transmitter Conducted Output Power and ERP/EIPR 10**
- 2.2. Occupied Bandwidth 14**
- 2.3. Conducted Spurious Emissions 45**
- 2.4. Band Edge 99**
- 2.5. Radiated Spurious Emissions 118**
- Annex A Test Uncertainty 187**
- Annex B Testing Laboratory Information 188**

Change History		
Version	Date	Reason for change
1.0	2023-03-08	First edition



1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	OnePlus Technology (Shenzhen) Co., Ltd.
Applicant Address:	18C02, 18C03, 18C04, and 18C05, Shum Yip Terra Building, Binhe Avenue North, Futian District, Shenzhen, Guangdong, P.R. China
Manufacturer:	OnePlus Technology (Shenzhen) Co., Ltd.
Manufacturer Address:	18C02, 18C03, 18C04, and 18C05, Shum Yip Terra Building, Binhe Avenue North, Futian District, Shenzhen, Guangdong, P.R. China



1.2. Equipment Under Test (EUT) Description

Product Name:	Mobile Phone	
Hardware Version:	11	
Software Version:	OxygenOS 13.1	
IMEI:	869320060047729	
Modulation Type:	QPSK, 16QAM, 64QAM	
Operation Band:	Uplink: CA_41C, CA_48C, CA_2A-12A, CA_12A-66A	
Frequency Range:	LTE Band 2	Tx: 1850MHz–1910MHz
		Rx: 1930MHz–1990MHz
	LTE Band 12	Tx: 699MHz–716MHz
		Rx: 729MHz–746MHz
	LTE Band 41	Tx: 2496 MHz–2690MHz
		Rx: 2496 MHz–2690MHz
LTE Band 48	Tx: 3550MHz–3700MHz	
	Rx: 3550MHz–3700MHz	
LTE Band 66	Tx: 1710MHz –1780MHz	
	Rx: 2110MHz–2200MHz	
Channel Bandwidth:	LTE Band 2	1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
	LTE Band 12	1.4MHz, 3 MHz, 5 MHz, 10MHz
	LTE Band 41	5MHz, 10MHz, 15MHz, 20MHz
	LTE Band 48	5MHz, 10MHz, 15MHz, 20MHz
	LTE Band 66	1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
Antenna Type:	Fixed Internal Antenna	
Antenna Gain:	LTE Band 2	ANT 0: 0dBi; ANT 1: 0.7dBi; ANT 4: -3.5dBi
	LTE Band 12	ANT 0: -4.5dBi; ANT 1: -3.8dBi
	LTE Band 41	ANT 0: -0.2dBi; ANT 1: 2.5dBi; ANT 4: -0.7dBi
	LTE Band 48	ANT 3: 2.1dBi; ANT 4: 0dBi; ANT 5: -1dBi; ANT 6: 2.3dBi
	LTE Band 66	ANT 0: 1.9dBi; ANT 1: -0.3dBi; ANT 4: -2.3dBi
Accessory Information:	Battery 1	
	Brand Name:	SUPERVOOC
	Model No.:	BLP989
	Serial No.:	N/A
	Capacity:	Typical: 5000mAh, Rated: 4880mAh
	Rated Voltage:	3.89V
	Charge Limit:	4.48V

	Manufacturer:	Dongguan NVT Technology Co., Ltd.
	Battery 2	
	Brand Name:	SUPERVOOC
	Model No.:	BLP989
	Serial No.:	N/A
	Capacity:	Typical: 5000mAh, Rated: 4880mAh
	Rated Voltage:	3.89V
	Charge Limit:	4.48V
	Manufacturer:	SUNWODA Electronic Co., Ltd.
	AC Adapter 1	
	Brand Name:	SUPERVOOC
	Model No.:	VCB7CAUH
	Serial No.:	N/A
	Rated Output:	5V/2A or 5-11V/5A Max 5V/2A or 5-11V/6.1A Max
	Rated Input:	100-130V, 200-240V~50/60Hz, 1.8A
	Manufacturer:	Dongguan YOHO Electronic Technology Co., Ltd.
	AC Adapter 2	
	Brand Name:	SUPERVOOC
	Model No.:	VCB7CAUH
	Serial No.:	N/A
	Rated Output:	5V=2A or 5V-11V=5A Max 5V=2A or 5V-11V=6.1A Max
	Rated Input:	100-130V, 200-240V~50/60Hz, 1.8A
	Manufacturer:	Jiangsu Chenyang Electron Co., Ltd.
USB Cable 1		
Model No.:	DL124	
USB Cable 2		
Model No.:	DL129	

Note 1: According to the certificate holder, they declared that the models CPH2513 for dual SIM and CPH2515 for single SIM are accordant in both hardware and software version. These two models only differ in model name and SIM card slot. Everything else are the same. The main measuring model is CPH2515, only the results for CPH2515 were recorded in this report.

Note 2: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.



1.3. Maximum ERP/EIRP and Emission Designator

Channel bandwidth	Maximum ERP/EIRP (W)			
LTE CA_2A-12A	QPSK	16QAM	64QAM	256QAM
20+10	0.180	/	/	/
LTE CA_12A-66A	QPSK	16QAM	64QAM	256QAM
10+20	0.102	/	/	/
LTE CA_41C	QPSK	16QAM	64QAM	256QAM
20+20	0.326	/	/	/
LTE CA_48C	QPSK	16QAM	64QAM	256QAM
20+20	0.084	/	/	/

Channel bandwidth	Emission Designator (99%OBW)		
LTE CA_41C	QPSK	16QAM	64QAM
5+20	22M7G7W	22M8D7W	22M8D7W
10+15	23M0G7W	23M1D7W	23M1D7W
10+20	27M6G7W	27M6D7W	27M6D7W
15+10	23M1G7W	23M1D7W	23M1D7W
15+15	28M2G7W	28M3D7W	28M2D7W
15+20	32M6G7W	32M6D7W	32M6D7W
20+5	22M8G7W	22M8D7W	22M7D7W
20+10	27M7G7W	27M7D7W	27M8D7W
20+15	32M5G7W	32M7D7W	32M6D7W
20+20	37M5G7W	37M5D7W	37M5D7W

Channel bandwidth	Emission Designator (99%OBW)		
LTE CA_48C	QPSK	16QAM	64QAM
5+20	22M7G7W	22M8D7W	22M8D7W
10+20	27M6G7W	27M7D7W	27M7D7W
15+20	32M6G7W	32M5D7W	32M5D7W
20+5	23M0G7W	22M9D7W	22M8D7W
20+10	27M7G7W	27M7D7W	27M7D7W
20+15	32M6G7W	32M5D7W	32M6D7W
20+20	37M4G7W	37M5D7W	37M6D7W



1.4. Test Standards and Results

The objective of the report is to perform testing according to Part 2, Part 24, Part 27 and Part 96 for the EUT FCC ID Certification:

No	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 24	Personal Communications Services
3	47 CFR Part 27	Miscellaneous Wireless Communications Services
4	47 CFR Part 96	CITIZENS BROADBAND RADIO SERVICE



Test detailed items/section required by FCC rules and results are as below:

Section	Description	Test Date	Test Engineer	Result	Method Determination /Remark
2.1046, 24.232(c), 27.50(d)(4), 27.50(h)(2), 96.41(b)	Transmitter Conducted Output Power and ERP/EIRP	2023/02/20	Li Huaijie	PASS	No deviation
2.1049	Occupied Bandwidth	2023/02/10- 2023/02/24	Li Huaijie	PASS	No deviation
2.1051, 24.238(a), 27.53(m)(4), 27.53(h) 96.41(e)	Conducted Spurious Emissions	2023/02/10- 2023/02/22	Li Huaijie	PASS	No deviation
2.1051, 27.53(m)(4), 96.41(e)	Band Edge	2023/02/09- 2023/02/23	Li Huaijie	PASS	No deviation
2.1051, 27.53(m)(4), 96.41(e)	Radiated Spurious Emissions	2023/02/23	Su Zhan	PASS	No deviation
<p>Note 1: The tests were performed according to the method of measurements prescribed in KDB971168 D01 v03 and ANSI/TIA-603-E-2016.</p> <p>Note 2: The path loss during the RF test is calibrated to correct the results by the offset setting in the test equipment. The ref offset 8dB contains two parts that cable loss 5dB and Attenuator3dB.</p> <p>Note 3: When the test result is a critical value, we will use the measurement uncertainty give the judgment result based on the 95% confidence intervals.</p>					



1.5. Environmental Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15 - 35
Relative Humidity (%):	30 - 60
Atmospheric Pressure (kPa):	86-106



2. 47 CFR Part 2, Part 24, Part 27 and Part 96 Requirements

2.1. Transmitter Conducted Output Power and ERP/EIPR

2.1.1. Requirement

According to FCC section 2.1046(a) for transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in FCC section 2.1033(c)(8).

According to FCC section 24.232 (c) for LTE Band 2, Mobile and portable stations are limited to 2 watts E.I.R.P. and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

According to FCC section 27.50 (c)(10) for LTE Band 12, Portable stations (hand-held devices) operating in the 704-716MHz band are limited to 3watts E.R.P.

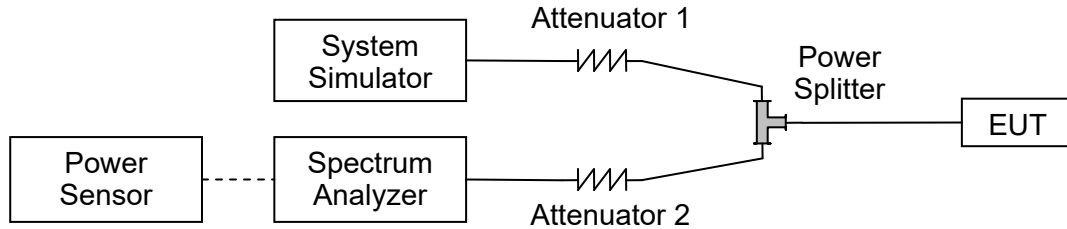
According to FCC section 27.50 (h)(2) for LTE Band 41, Mobile and other user stations. Mobile stations are limited to 2 watts E.I.R.P. All user stations are limited to 2 watts transmitter output power.

According to FCC section 27.50 (d)(4) for LTE Band 66, Fixed, mobile and portable (hand-held) stations in the 1710-1755MHz band are limited to 1wat E.I.R.P.

The maximum effective isotropic radiated power (EIRP) and maximum Power Spectral Density (PSD) of any CBSD and End User Device must comply with the limits shown in the table as below. paragraph.

Device	Maximum EIRP (dBm/10 megahertz)	Maximum PSD (dBm/MHz)
End User Device	23	n/a
Category A CBSD	30	20
Category B CBSD ¹	47	37

2.1.1. Test Description



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.

2.1.2. Test procedure

KDB 971168 D01v03 Section 5.2 and ANSI/TIA-603-E-2016.

$EIRP \text{ (dBm)} = \text{Conducted Output Power (dBm)} + \text{Antenna Gain (dBi)}$

$ERP \text{ (dBm)} = EIPR \text{ (dBm)} - 2.15$



2.1.3. Result

Conducted Output Power

LTE CA_41C								
Combination:20MHz+20MHz(100RB+100RB)								
PCC Channel (3GPP)	SCC Channel	Modulation	PCC		SCC		Total RB Size	Measured Power(dBm)
			RB Size	RB Offset	RB Size	RB Offset		
39750	39948	QPSK	1	0	100	0	1	22.33
40521	40719	QPSK	1	0	100	0	1	22.63
41292	41490	QPSK	1	0	100	0	1	22.55

LTE CA_48C								
Combination:20MHz+20MHz(100RB+100RB)								
PCC Channel (3GPP)	SCC Channel	Modulation	PCC		SCC		Total RB Size	Measured Power(dBm)
			RB Size	RB Offset	RB Size	RB Offset		
55340	55538	QPSK	1	0	100	0	1	22.56
55891	56089	QPSK	1	0	100	0	1	22.72
56442	56640	QPSK	1	0	100	0	1	22.48

Configure	CA Configuration	PCC				
		Band	BW (MHz)	UL Channel	UL Fre. (MHz)	UL Mode (Modulation/RB/Offset)
Inter-band	CA_2A-12A	2	20	19100	1900	QPSK/1#0
	CA_12A-66A	12	10	23095	707.5	QPSK/1#0

SCC				
Band	BW (MHz)	UL Channel	UL Fre. (MHz)	Measured Power(dBm)
12	10	23095	707.5	23.25
66	20	132322	1745	23.88



Effective Radiated Power and Effective Isotropic Radiated Power

LTE CA_41C									
Combination:20MHz+20MHz(100RB+100RB)									
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Measured Power(dBm)	Measured EIRP(W)
			RB Size	RB Offset	RB Size	RB Offset			
39750	39948	QPSK	1	0	100	0	1	24.83	0.304
40521	40719	QPSK	1	0	100	0	1	25.13	0.326
41292	41490	QPSK	1	0	100	0	1	25.05	0.320

LTE CA_48C									
Combination:20MHz+20MHz(100RB+100RB)									
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Measured Power(dBm)	Measured EIRP(W)
			RB Size	RB Offset	RB Size	RB Offset			
55340	55538	QPSK	1	0	100	0	1	19.06	0.081
55891	56089	QPSK	1	0	100	0	1	19.22	0.084
56442	56640	QPSK	1	0	100	0	1	18.98	0.079

Configure	CA Configuration	PCC				
		Band	BW (MHz)	UL Channel	UL Fre. (MHz)	UL Mode (Modulation/RB/Offset)
Inter-band	CA_2A-12A	2	20	19100	1900	QPSK/1#0
	CA_12A-66A	12	10	23095	707.5	QPSK/1#0

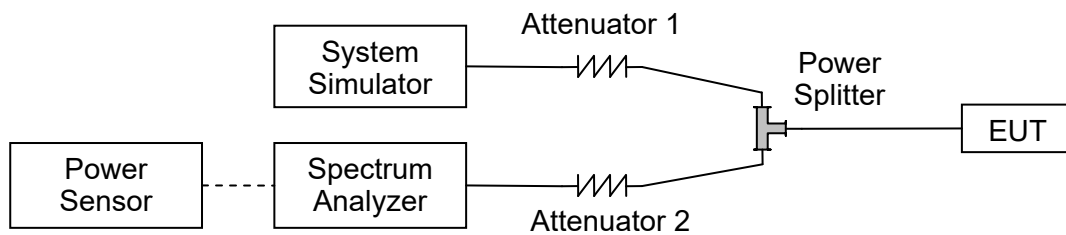
SCC					
Band	BW (MHz)	UL Channel	UL Fre. (MHz)	Measured Power(dBm)	Measured EIRP/ERP(W)
12	10	23095	707.5	22.55	0.180
66	20	132322	1745	20.08	0.102

2.2. Occupied Bandwidth

2.2.1. Requirement

According to FCC section 2.1049, 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 radiated by a given emission. Occupied bandwidth is also known as the 99% emission bandwidth.

2.2.2. Test Description



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.

2.2.3. Test procedure

KDB 971168 D01v03 Section 4.1 and ANSI/TIA-603-E-2016.

2.2.4. Test Result



LTE CA 41C					
BW(MHz)	Channel Level	Channel	Modulation	99% BW (MHz)	26dB BW (MHz)
5MHz+20MHz	Low	39683	QPSK	22.70	23.54
5MHz+20MHz	Low	39683	16QAM	22.78	23.79
5MHz+20MHz	Low	39683	64QAM	22.77	23.71
20MHz+5MHz	Low	39750	QPSK	22.81	24.69
20MHz+5MHz	Low	39750	16QAM	22.79	23.94
20MHz+5MHz	Low	39750	64QAM	22.33	24.16
10MHz+15MHz	Low	39703	QPSK	23.01	24.11
10MHz+15MHz	Low	39703	16QAM	23.00	23.96
10MHz+15MHz	Low	39703	64QAM	22.96	24.50
15MHz+10MHz	Low	39725	QPSK	23.10	24.21
15MHz+10MHz	Low	39725	16QAM	23.08	24.40
15MHz+10MHz	Low	39725	64QAM	23.09	24.26
10MHz+20MHz	Low	39705	QPSK	27.60	28.67
10MHz+20MHz	Low	39705	16QAM	27.58	28.65
10MHz+20MHz	Low	39705	64QAM	27.63	28.80
20MHz+10MHz	Low	39750	QPSK	27.66	29.45
20MHz+10MHz	Low	39750	16QAM	27.67	29.28
20MHz+10MHz	Low	39750	64QAM	27.75	29.81
15MHz+15MHz	Low	39725	QPSK	28.22	29.39
15MHz+15MHz	Low	39725	16QAM	28.26	29.44
15MHz+15MHz	Low	39725	64QAM	28.16	29.38
15MHz+20MHz	Low	39728	QPSK	32.50	33.79
15MHz+20MHz	Low	39728	16QAM	32.63	33.92
15MHz+20MHz	Low	39728	64QAM	32.51	33.85
20MHz+15MHz	Low	39750	QPSK	32.49	34.00
20MHz+15MHz	Low	39750	16QAM	32.57	34.04
20MHz+15MHz	Low	39750	64QAM	32.52	34.44
20MHz+20MHz	Low	39750	QPSK	37.34	39.65
20MHz+20MHz	Low	39750	16QAM	37.52	39.63
20MHz+20MHz	Low	39750	64QAM	37.47	39.56
5MHz+20MHz	Mid	40528	QPSK	22.73	23.72
5MHz+20MHz	Mid	40528	16QAM	22.75	24.08
5MHz+20MHz	Mid	40528	64QAM	22.75	23.76
20MHz+5MHz	Mid	40595	QPSK	22.80	24.50
20MHz+5MHz	Mid	40595	16QAM	22.81	23.83
20MHz+5MHz	Mid	40595	64QAM	22.66	23.62
10MHz+15MHz	Mid	40549	QPSK	23.02	23.93
10MHz+15MHz	Mid	40549	16QAM	23.03	24.20
10MHz+15MHz	Mid	40549	64QAM	23.09	24.60
15MHz+10MHz	Mid	40571	QPSK	23.06	24.21
15MHz+10MHz	Mid	40571	16QAM	23.07	24.82
15MHz+10MHz	Mid	40571	64QAM	23.00	24.28
10MHz+20MHz	Mid	40526	QPSK	27.64	28.73
10MHz+20MHz	Mid	40526	16QAM	27.53	29.17
10MHz+20MHz	Mid	40526	64QAM	27.63	29.56



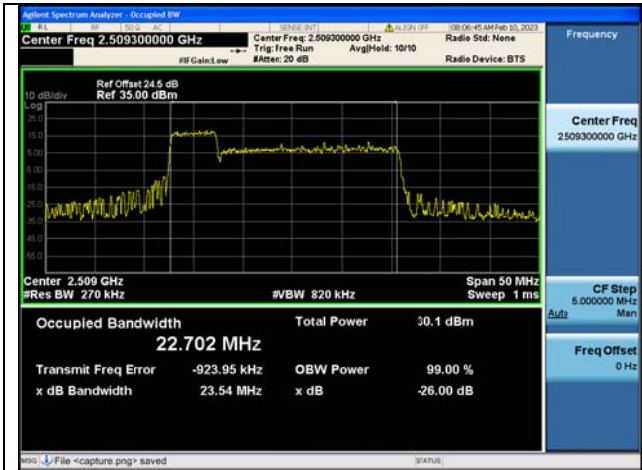
20MHz+10MHz	Mid	40571	QPSK	27.70	28.97
20MHz+10MHz	Mid	40571	16QAM	27.68	29.04
20MHz+10MHz	Mid	40571	64QAM	27.65	29.79
15MHz+15MHz	Mid	40545	QPSK	28.22	29.49
15MHz+15MHz	Mid	40545	16QAM	28.30	29.73
15MHz+15MHz	Mid	40545	64QAM	28.19	30.26
15MHz+20MHz	Mid	40523	QPSK	32.58	33.96
15MHz+20MHz	Mid	40523	16QAM	32.55	34.18
15MHz+20MHz	Mid	40523	64QAM	32.54	34.08
20MHz+15MHz	Mid	40546	QPSK	32.52	33.98
20MHz+15MHz	Mid	40546	16QAM	32.52	34.09
20MHz+15MHz	Mid	40546	64QAM	32.56	35.17
20MHz+20MHz	Mid	40521	QPSK	37.39	39.13
20MHz+20MHz	Mid	40521	16QAM	37.35	39.06
20MHz+20MHz	Mid	40521	64QAM	37.47	39.77
5MHz+20MHz	High	41373	QPSK	22.72	23.92
5MHz+20MHz	High	41373	16QAM	22.75	24.35
5MHz+20MHz	High	41373	64QAM	22.75	23.56
20MHz+5MHz	High	41440	QPSK	22.84	23.83
20MHz+5MHz	High	41440	16QAM	22.77	23.92
20MHz+5MHz	High	41440	64QAM	22.66	23.88
10MHz+15MHz	High	41395	QPSK	23.00	23.93
10MHz+15MHz	High	41395	16QAM	23.05	23.98
10MHz+15MHz	High	41395	64QAM	23.01	24.02
15MHz+10MHz	High	41417	QPSK	23.08	24.29
15MHz+10MHz	High	41417	16QAM	23.02	24.53
15MHz+10MHz	High	41417	64QAM	23.04	24.28
10MHz+20MHz	High	41346	QPSK	27.56	28.66
10MHz+20MHz	High	41346	16QAM	27.60	29.37
10MHz+20MHz	High	41346	64QAM	27.62	29.22
20MHz+10MHz	High	41391	QPSK	27.67	29.57
20MHz+10MHz	High	41391	16QAM	27.64	29.56
20MHz+10MHz	High	41391	64QAM	27.71	29.00
15MHz+15MHz	High	41365	QPSK	28.22	29.42
15MHz+15MHz	High	41365	16QAM	28.30	29.51
15MHz+15MHz	High	41365	64QAM	28.21	29.48
15MHz+20MHz	High	41319	QPSK	32.55	33.91
15MHz+20MHz	High	41319	16QAM	32.60	34.57
15MHz+20MHz	High	41319	64QAM	32.55	33.90
20MHz+15MHz	High	41341	QPSK	32.54	34.43
20MHz+15MHz	High	41341	16QAM	32.65	34.44
20MHz+15MHz	High	41341	64QAM	32.52	34.32
20MHz+20MHz	High	41292	QPSK	37.49	39.06
20MHz+20MHz	High	41292	16QAM	37.45	39.08
20MHz+20MHz	High	41292	64QAM	37.52	39.92



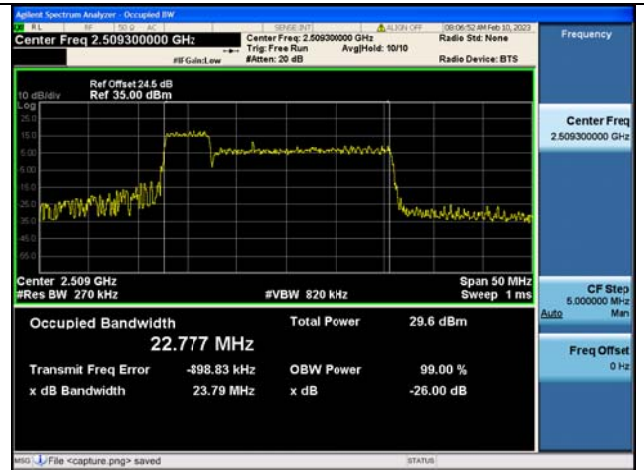
LTE CA 48C					
BW(MHz)	Channel Level	Channel	Modulation	99% BW (MHz)	26dB BW (MHz)
5MHz+20MHz	Low	55273	QPSK	22.74	23.65
5MHz+20MHz	Low	55273	16QAM	22.76	24.17
5MHz+20MHz	Low	55273	64QAM	22.74	23.67
20MHz+5MHz	Low	55340	QPSK	22.82	23.89
20MHz+5MHz	Low	55340	16QAM	22.85	23.88
20MHz+5MHz	Low	55340	64QAM	22.80	23.80
10MHz+20MHz	Low	55295	QPSK	27.60	28.81
10MHz+20MHz	Low	55295	16QAM	27.66	29.78
10MHz+20MHz	Low	55295	64QAM	27.61	28.78
20MHz+10MHz	Low	55340	QPSK	27.70	28.92
20MHz+10MHz	Low	55340	16QAM	27.68	29.60
20MHz+10MHz	Low	55340	64QAM	27.73	29.44
15MHz+20MHz	Low	55318	QPSK	32.58	33.76
15MHz+20MHz	Low	55318	16QAM	32.52	33.90
15MHz+20MHz	Low	55318	64QAM	32.50	33.93
20MHz+15MHz	Low	55340	QPSK	32.57	33.70
20MHz+15MHz	Low	55340	16QAM	32.50	33.96
20MHz+15MHz	Low	55340	64QAM	32.55	33.72
20MHz+20MHz	Low	55340	QPSK	37.40	39.13
20MHz+20MHz	Low	55340	16QAM	37.48	38.91
20MHz+20MHz	Low	55340	64QAM	37.55	41.02
5MHz+20MHz	Mid	55898	QPSK	22.60	23.54
5MHz+20MHz	Mid	55898	16QAM	22.70	24.19
5MHz+20MHz	Mid	55898	64QAM	22.69	23.96
20MHz+5MHz	Mid	55965	QPSK	22.97	23.69
20MHz+5MHz	Mid	55965	16QAM	22.86	23.92
20MHz+5MHz	Mid	55965	64QAM	22.82	23.80
10MHz+20MHz	Mid	55896	QPSK	27.60	28.57
10MHz+20MHz	Mid	55896	16QAM	27.56	28.79
10MHz+20MHz	Mid	55896	64QAM	27.53	28.79
20MHz+10MHz	Mid	55941	QPSK	27.68	28.85
20MHz+10MHz	Mid	55941	16QAM	27.64	28.82
20MHz+10MHz	Mid	55941	64QAM	27.68	28.80
15MHz+20MHz	Mid	55893	QPSK	32.39	33.76
15MHz+20MHz	Mid	55893	16QAM	32.46	33.90
15MHz+20MHz	Mid	55893	64QAM	32.51	33.87
20MHz+15MHz	Mid	55916	QPSK	32.45	33.94
20MHz+15MHz	Mid	55916	16QAM	32.45	34.62
20MHz+15MHz	Mid	55916	64QAM	32.47	34.02
20MHz+20MHz	Mid	55891	QPSK	37.27	38.82
20MHz+20MHz	Mid	55891	16QAM	37.47	39.00
20MHz+20MHz	Mid	55891	64QAM	37.43	38.86
5MHz+20MHz	High	56523	QPSK	22.69	23.54
5MHz+20MHz	High	56523	16QAM	22.75	23.49
5MHz+20MHz	High	56523	64QAM	22.83	23.92



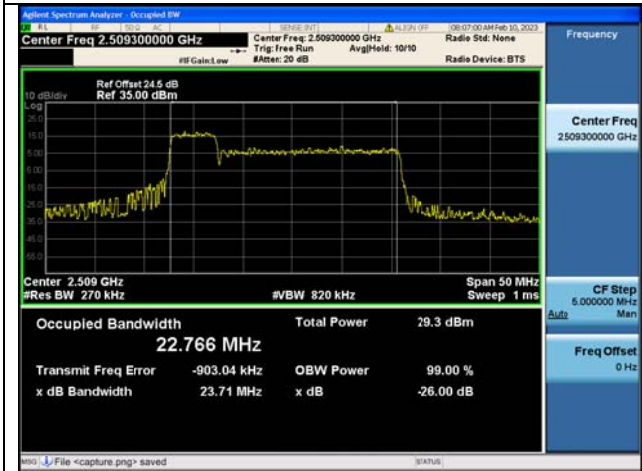
20MHz+5MHz	High	56590	QPSK	22.82	23.69
20MHz+5MHz	High	56590	16QAM	22.80	23.78
20MHz+5MHz	High	56590	64QAM	22.80	23.66
10MHz+20MHz	High	56496	QPSK	27.63	28.61
10MHz+20MHz	High	56496	16QAM	27.64	28.51
10MHz+20MHz	High	56496	64QAM	27.66	28.99
20MHz+10MHz	High	56541	QPSK	27.65	28.90
20MHz+10MHz	High	56541	16QAM	27.70	28.78
20MHz+10MHz	High	56541	64QAM	27.60	28.88
15MHz+20MHz	High	56469	QPSK	32.40	33.65
15MHz+20MHz	High	56469	16QAM	32.46	33.65
15MHz+20MHz	High	56469	64QAM	32.53	33.90
20MHz+15MHz	High	56491	QPSK	32.58	33.90
20MHz+15MHz	High	56491	16QAM	32.47	34.12
20MHz+15MHz	High	56491	64QAM	32.47	34.18
20MHz+20MHz	High	56442	QPSK	37.28	39.04
20MHz+20MHz	High	56442	16QAM	37.41	39.28
20MHz+20MHz	High	56442	64QAM	37.34	39.03



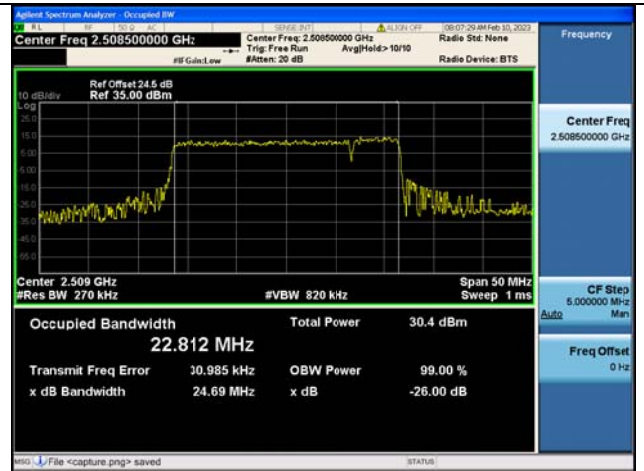
Band41C / 5MHz+20MHz / QPSK/ Low CH



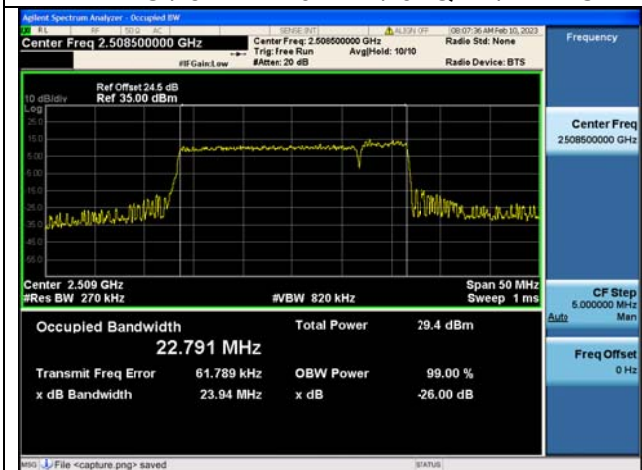
Band41C / 5MHz+20MHz / 16QAM/ Low CH



Band41C / 5MHz+20MHz / 64QAM/ Low CH



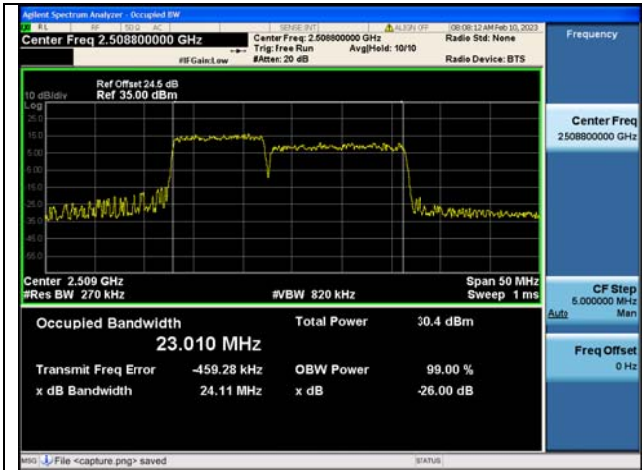
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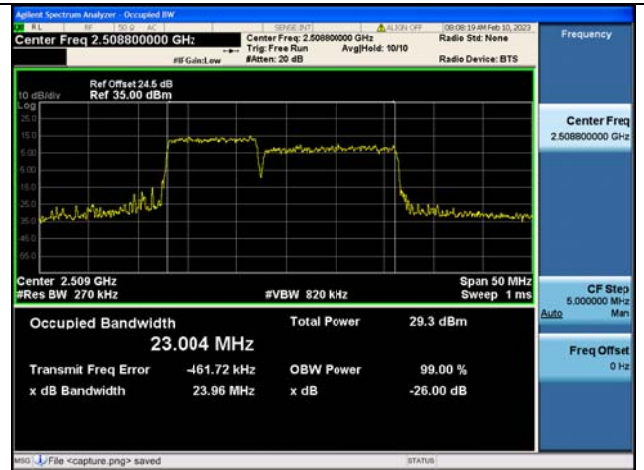
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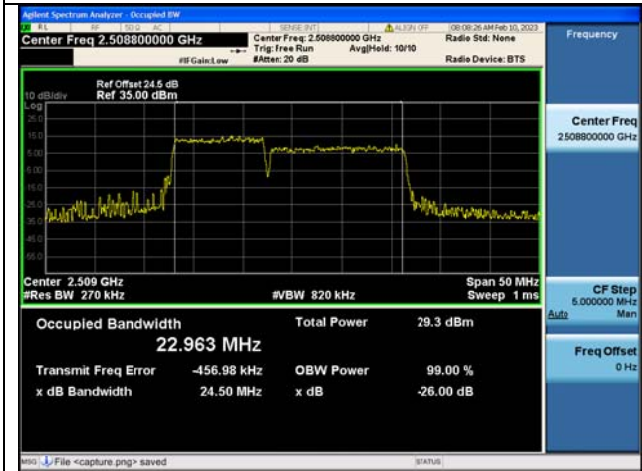
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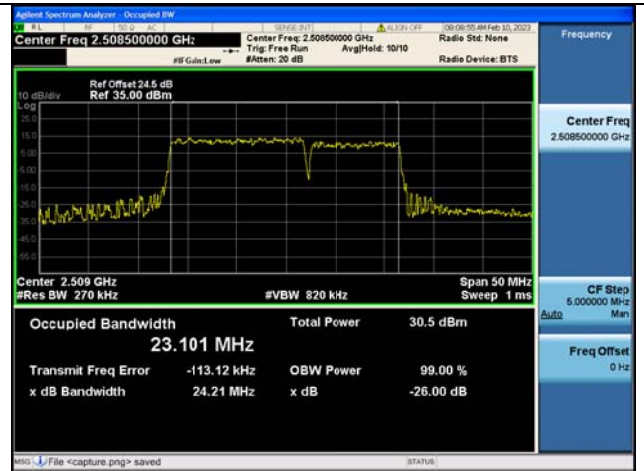
Band41C / 10MHz+15MHz / QPSK/ Low CH



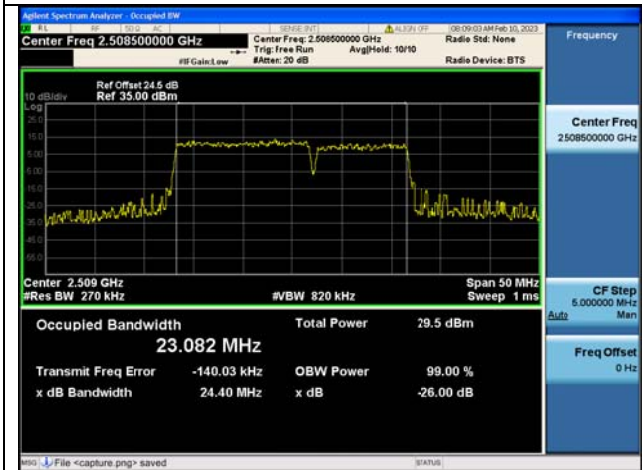
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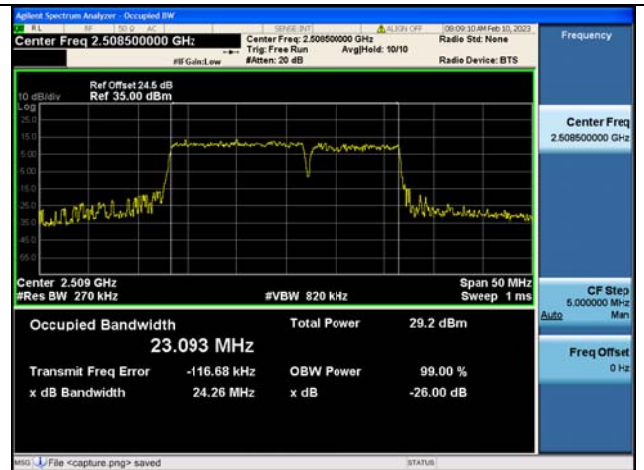
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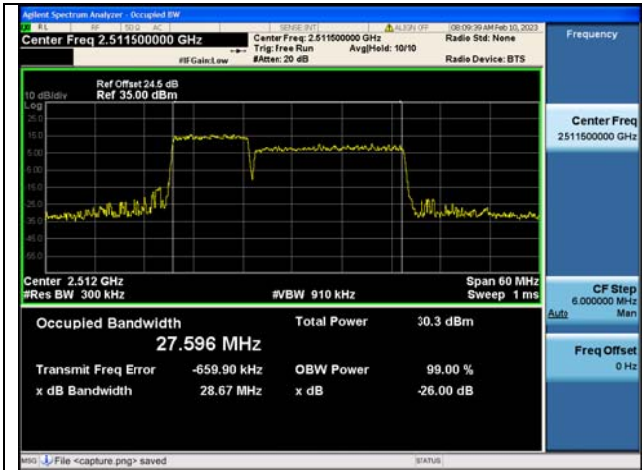
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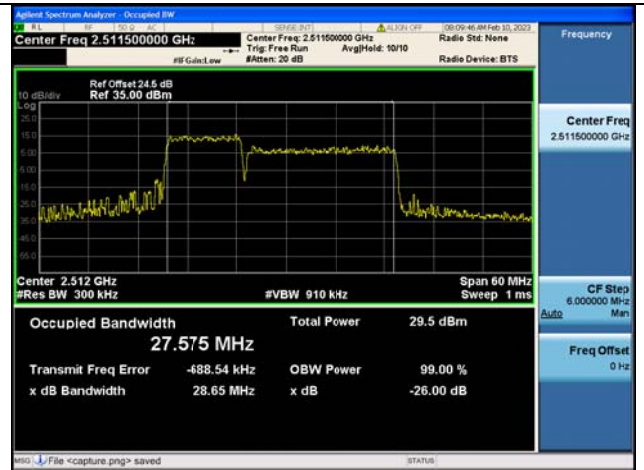
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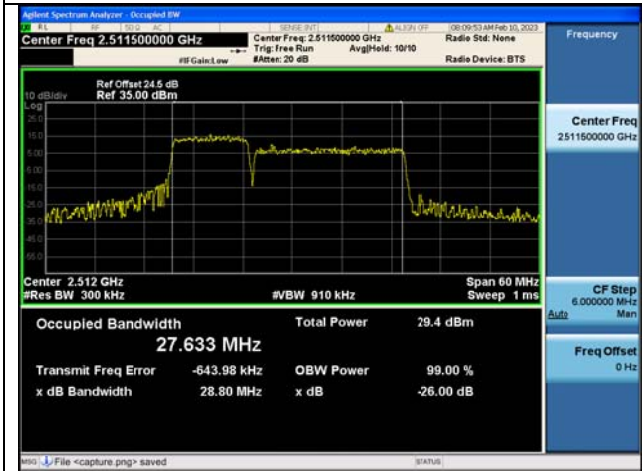
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Band41C / 10MHz+20MHz / QPSK/ Low CH



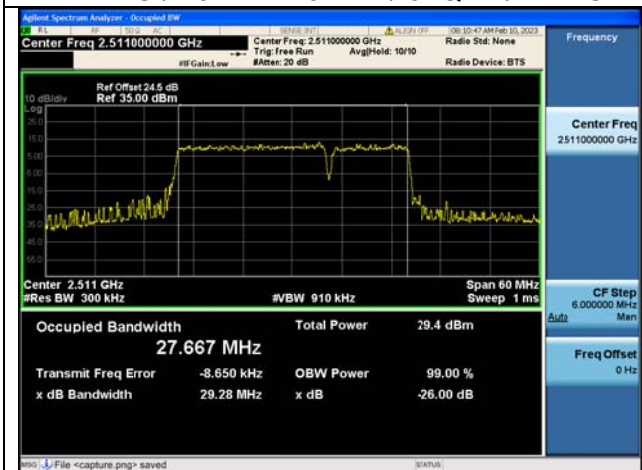
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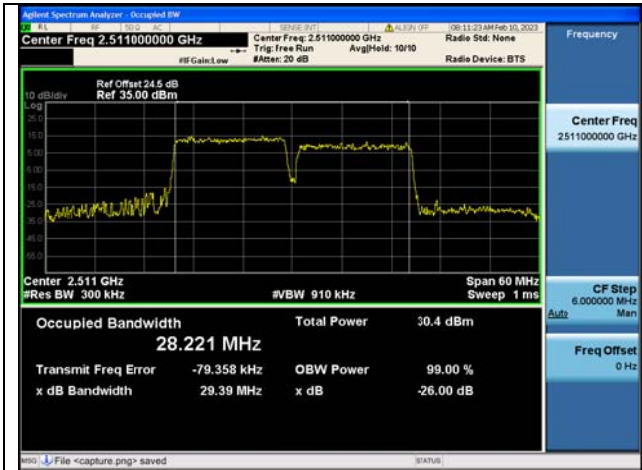
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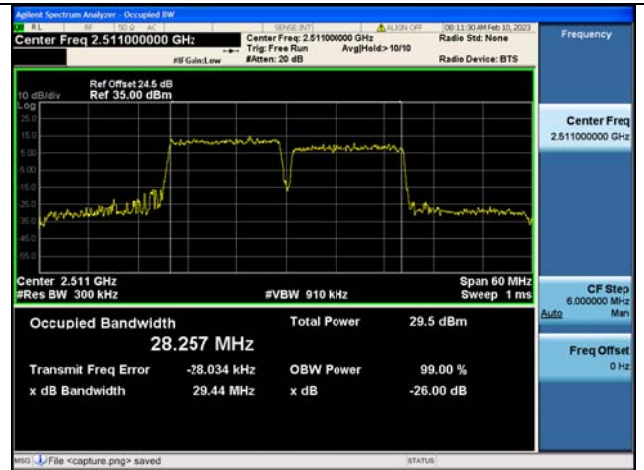
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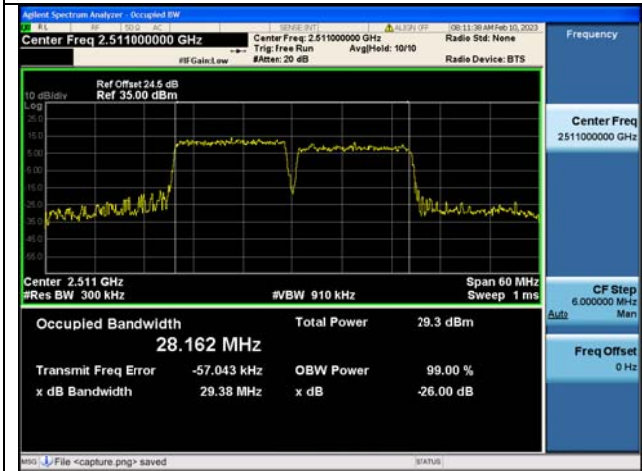
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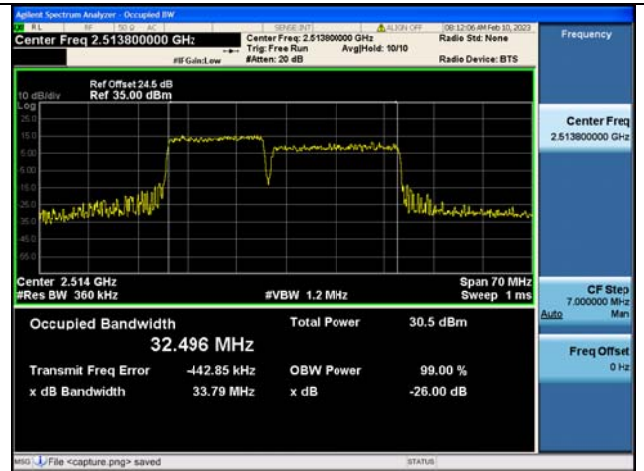
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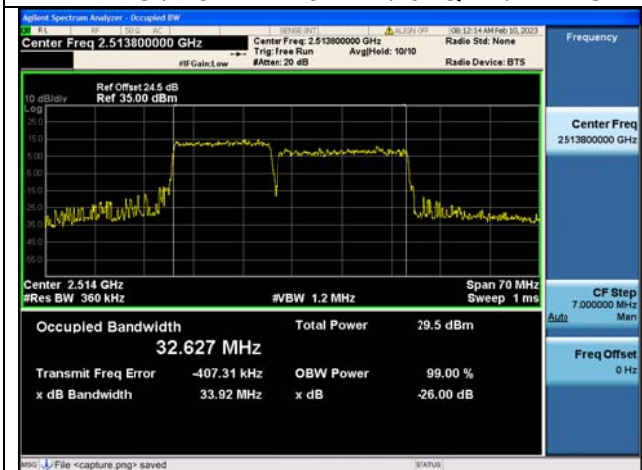
Band41C / 15MHz+15MHz / 16QAM/ Low CH



Band41C / 15MHz+15MHz / 64QAM/ Low CH



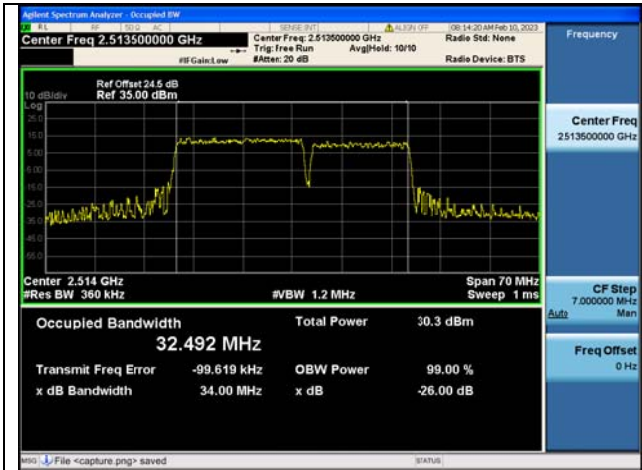
Band41C / 15MHz+20MHz / QPSK/ Low CH



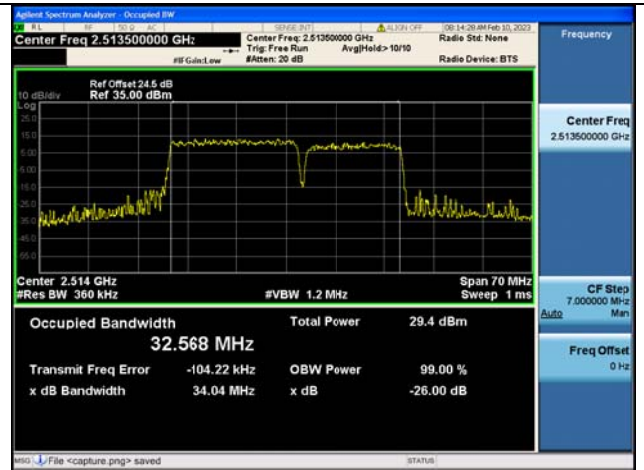
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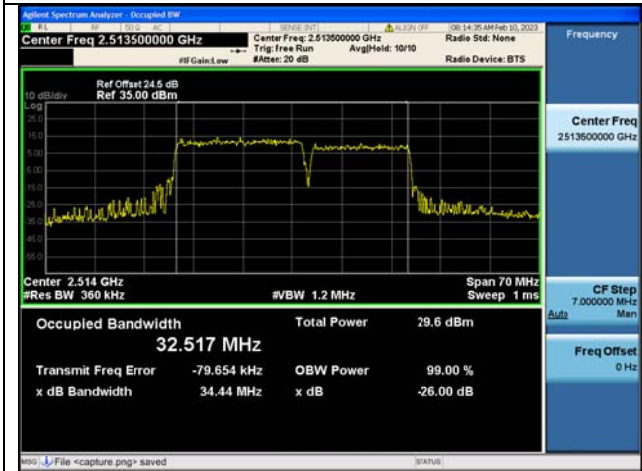
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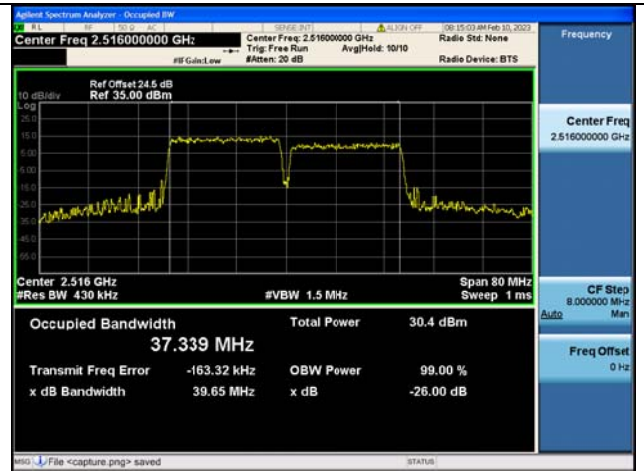
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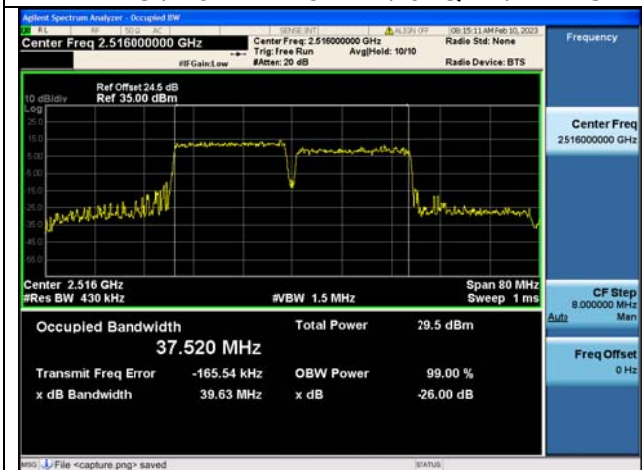
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Band41C / 20MHz+15MHz / 64QAM/ Low CH



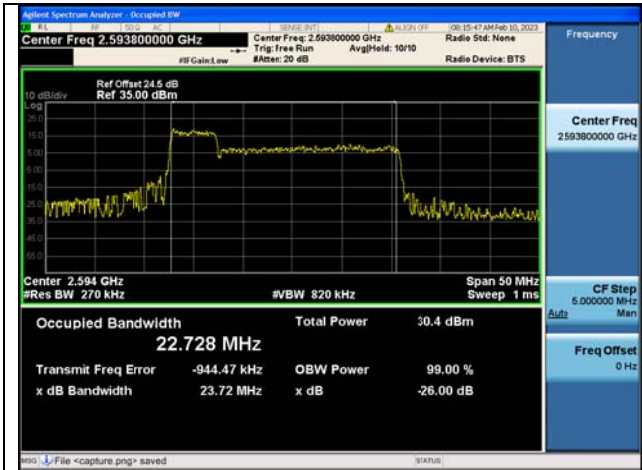
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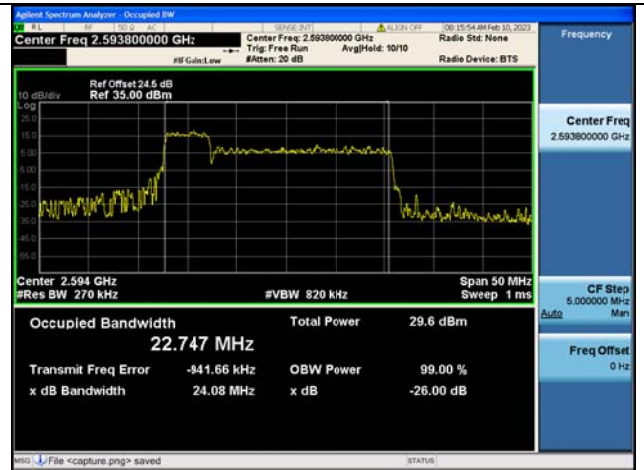
Band41C / 20MHz+20MHz / 16QAM/ Low CH



Band41C / 20MHz+20MHz / 64QAM/ Low CH



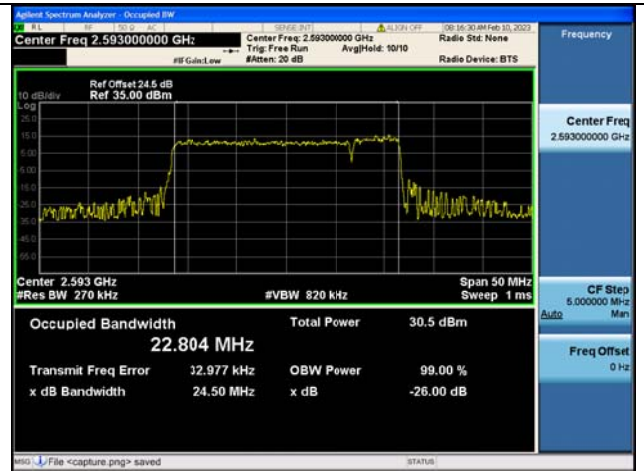
Band41C / 5MHz+20MHz / QPSK/ Mid CH



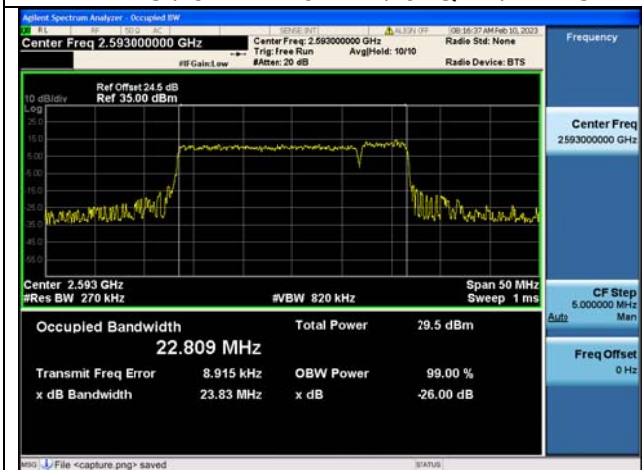
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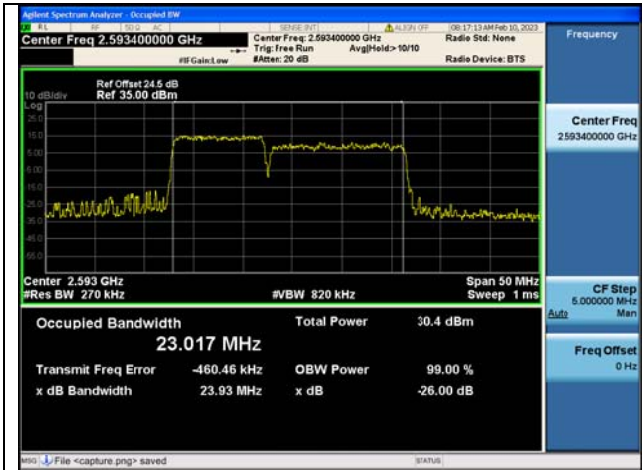
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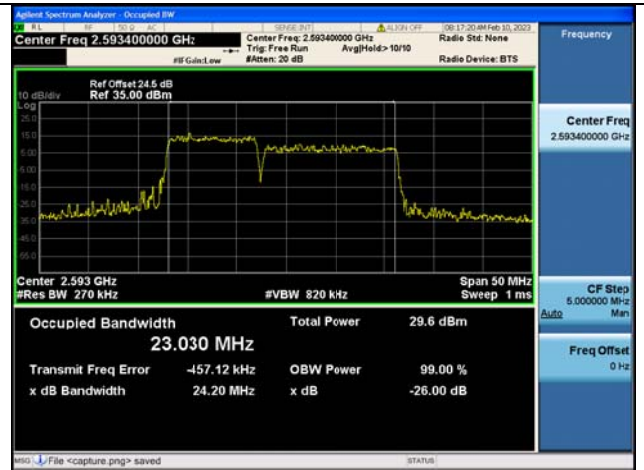
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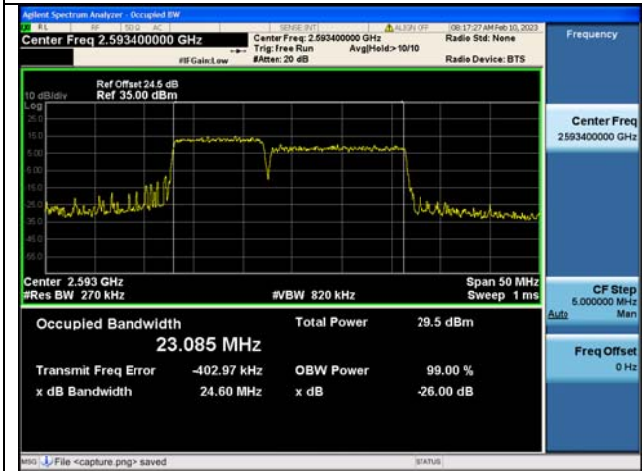
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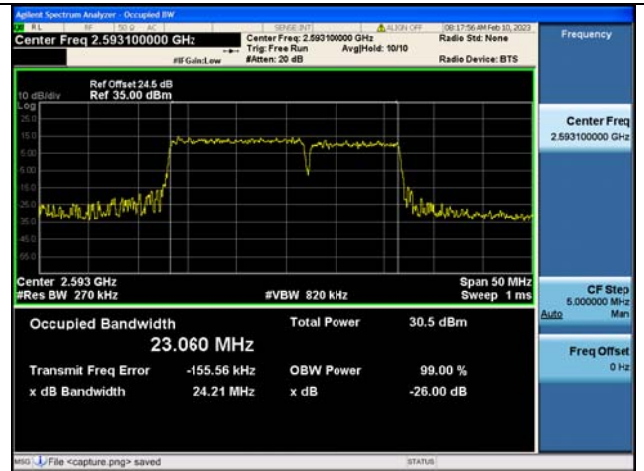
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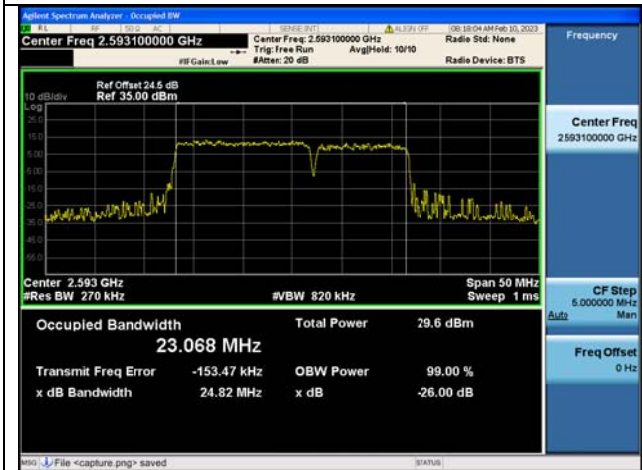
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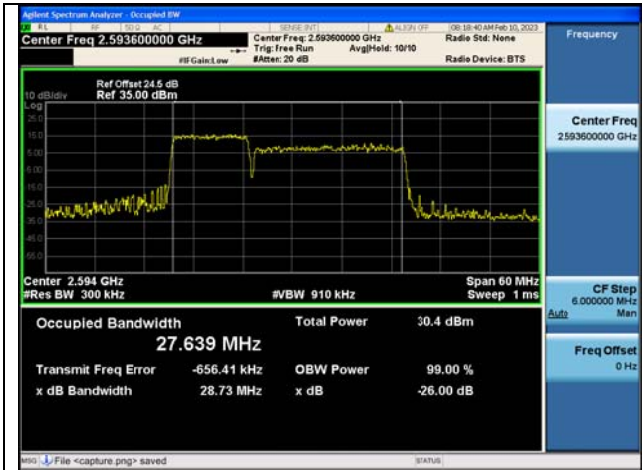
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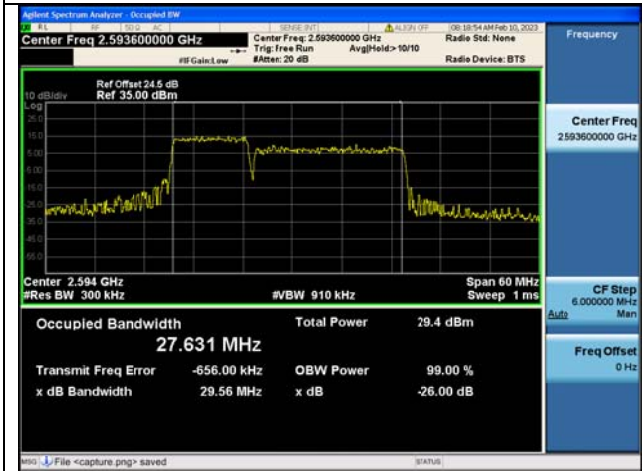
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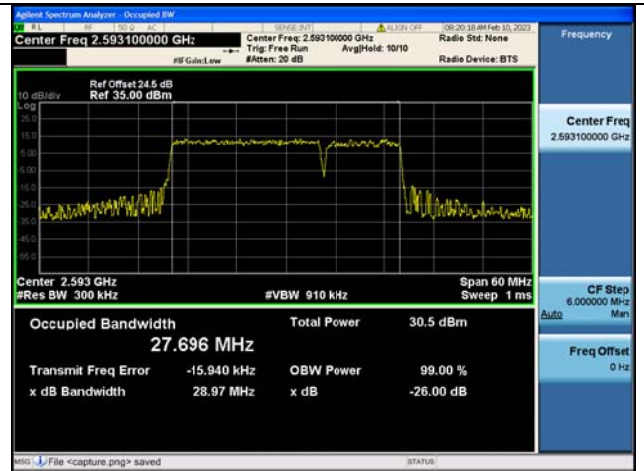
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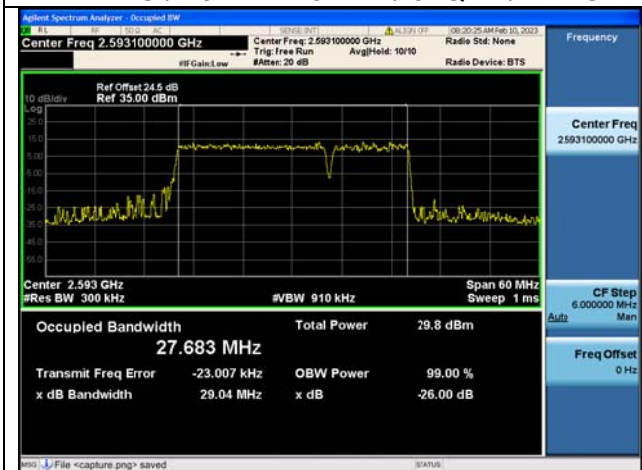
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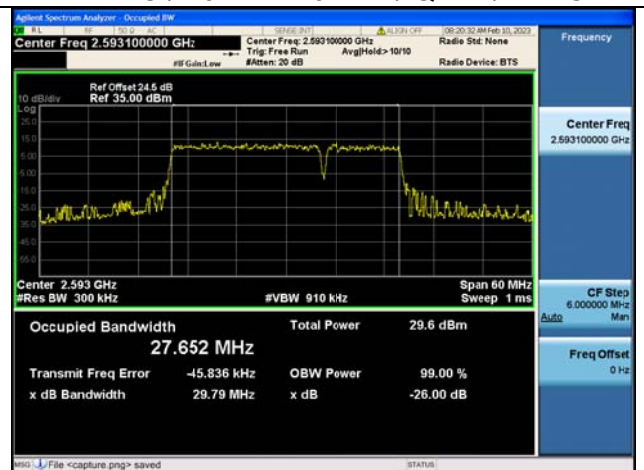
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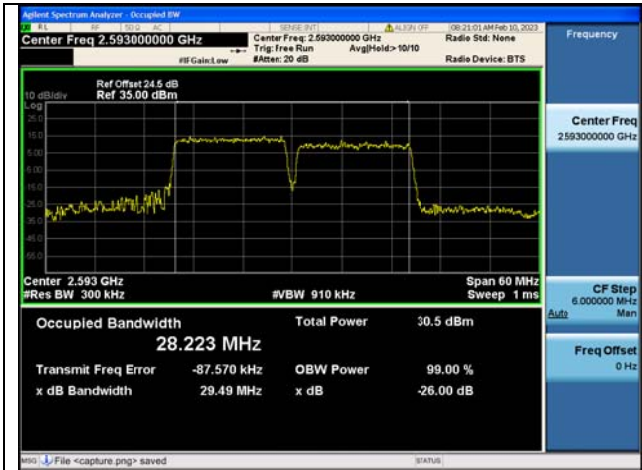
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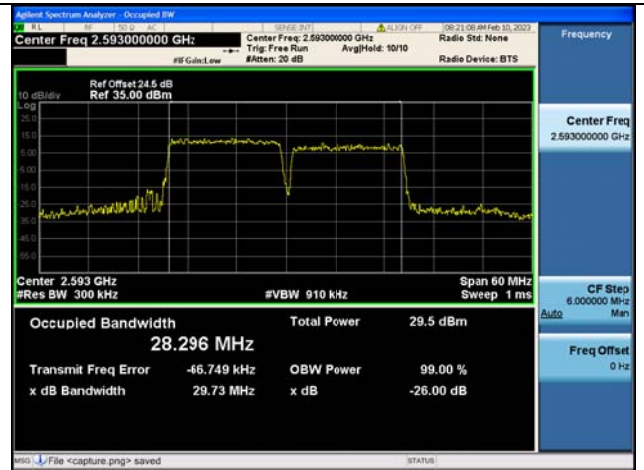
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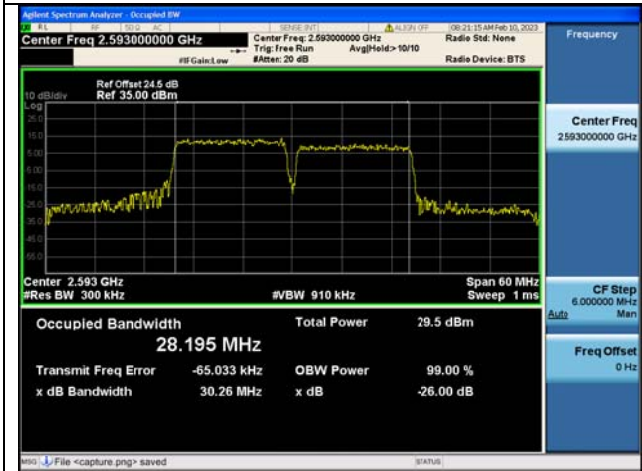
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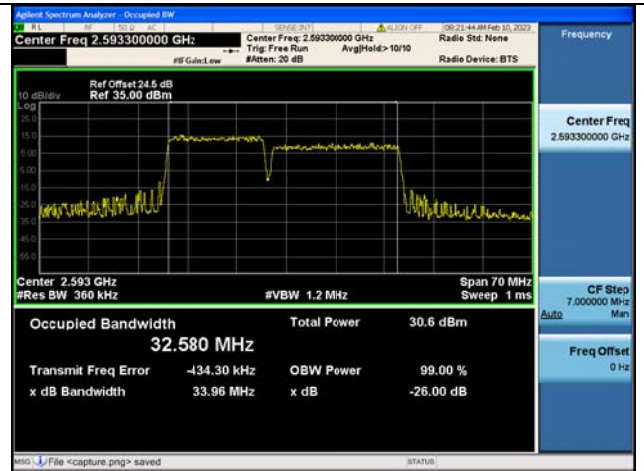
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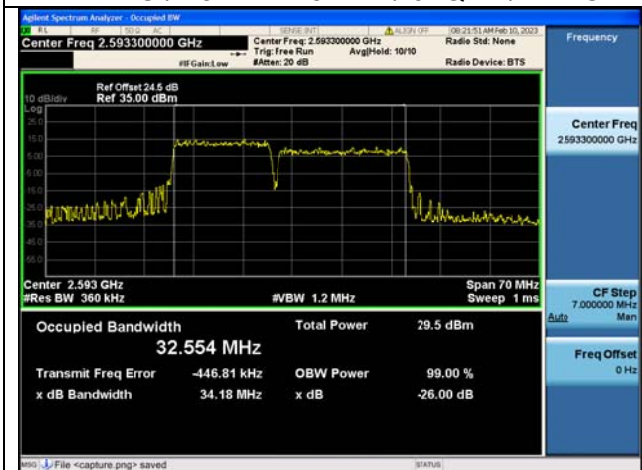
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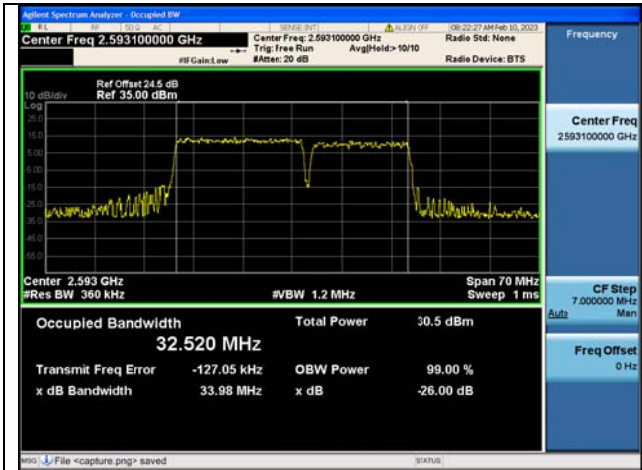
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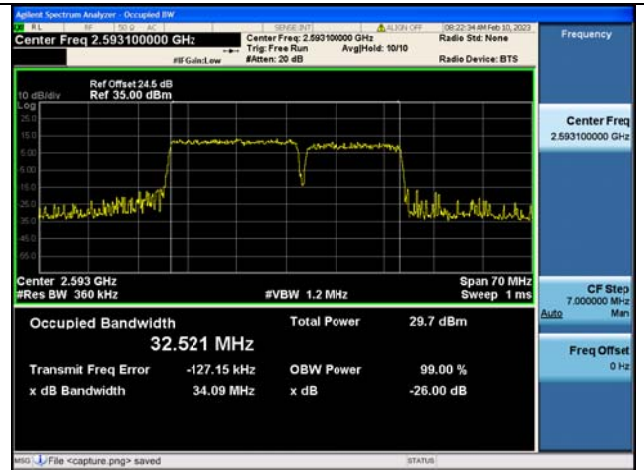
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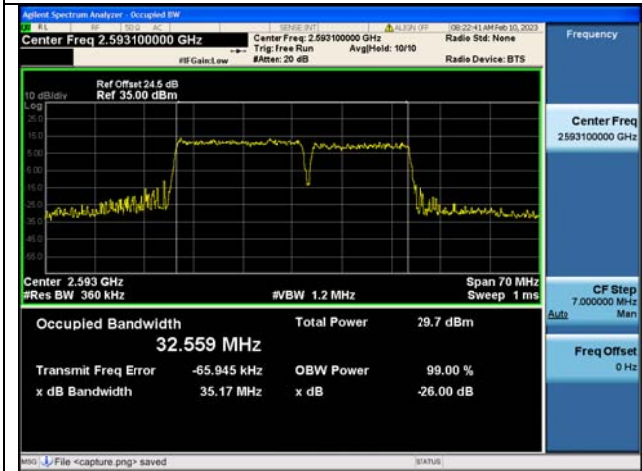
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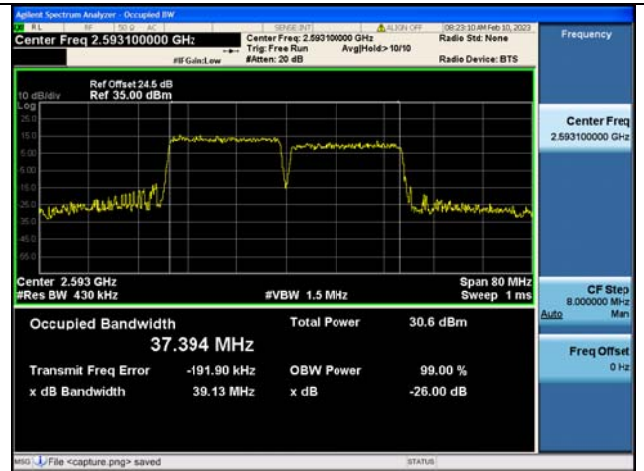
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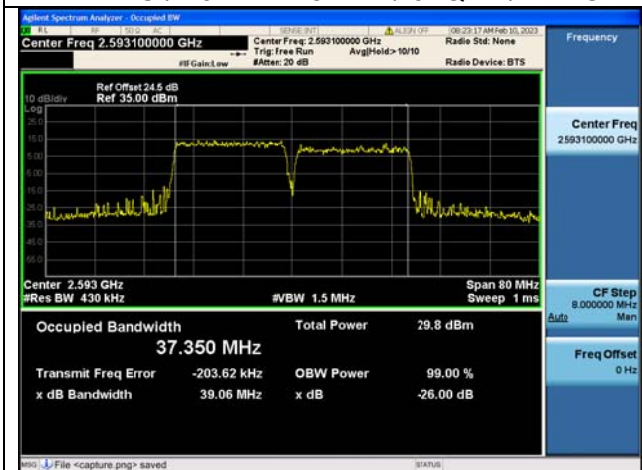
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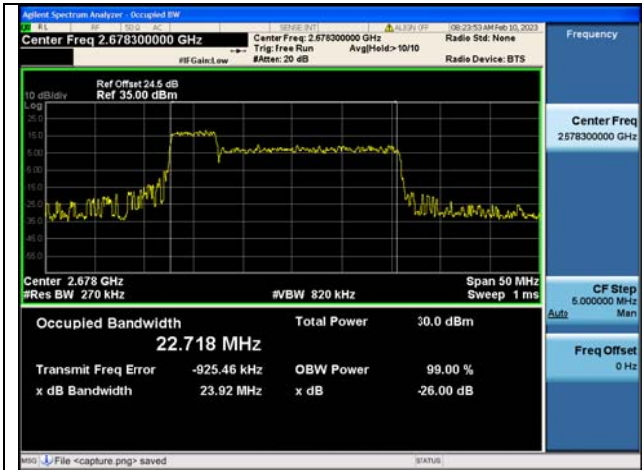
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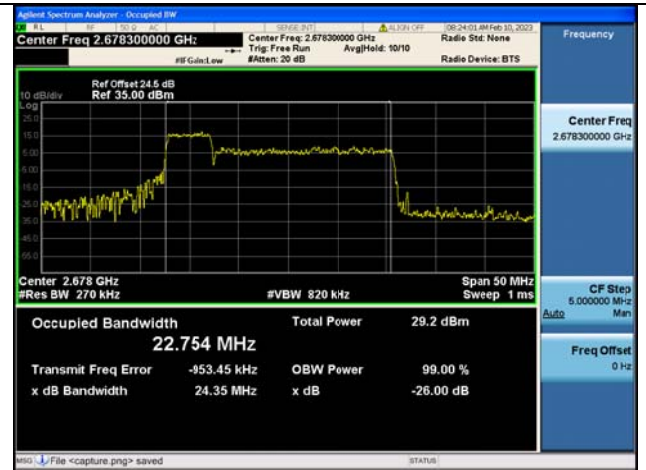
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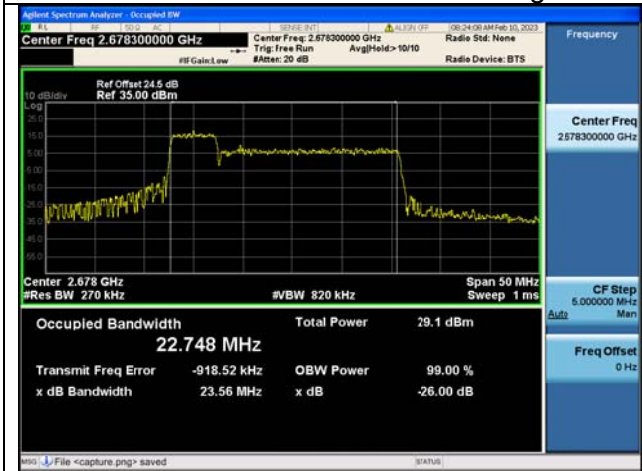
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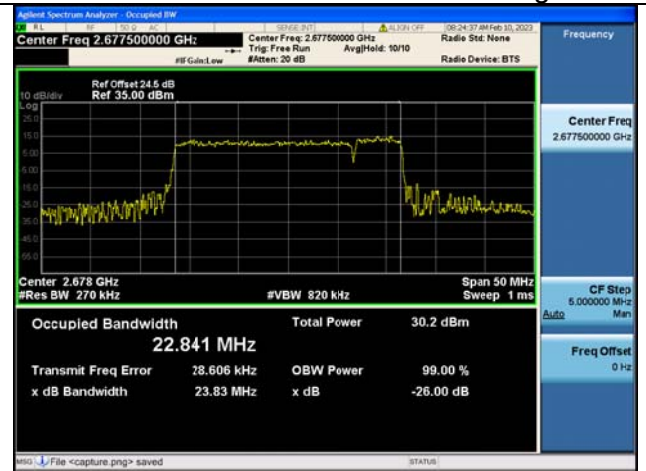
Band41C / 5MHz+20MHz / QPSK/ High CH



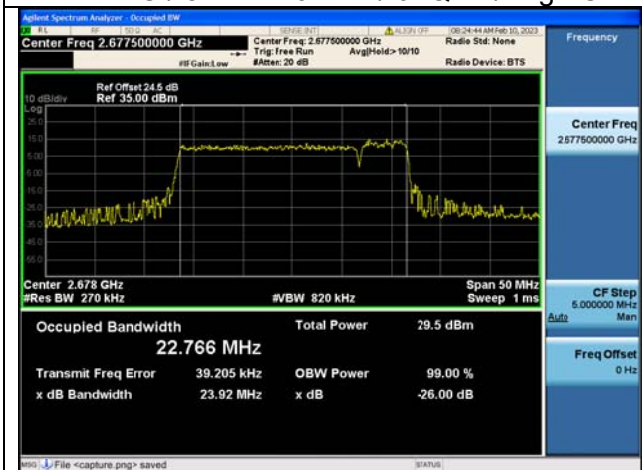
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Band41C / 5MHz+20MHz / 64QAM/ High CH



Band41C / 20MHz+5MHz / QPSK/ High CH



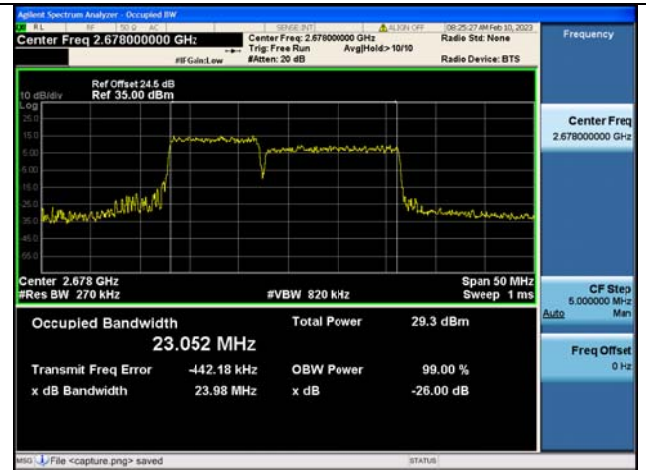
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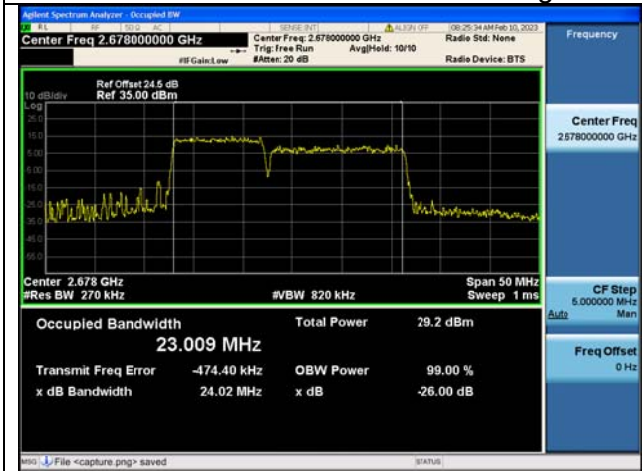
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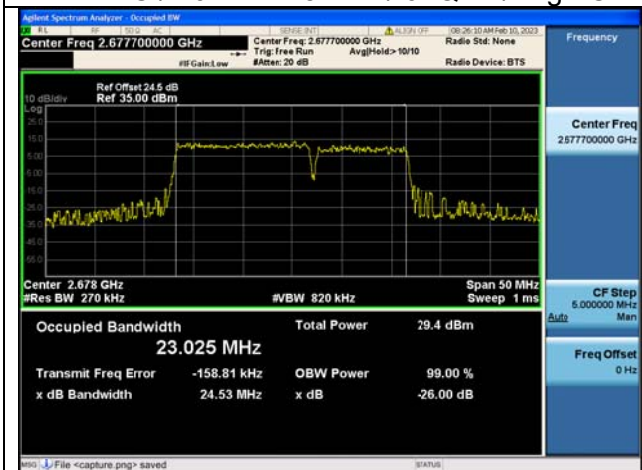
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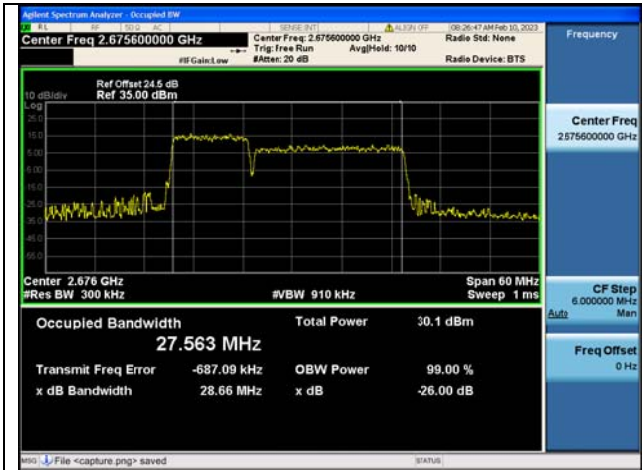
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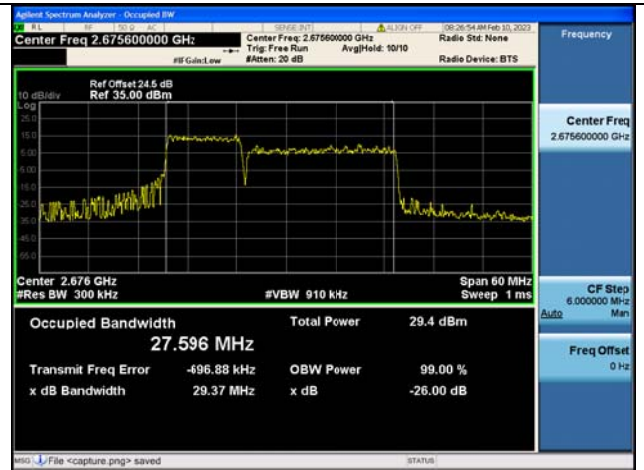
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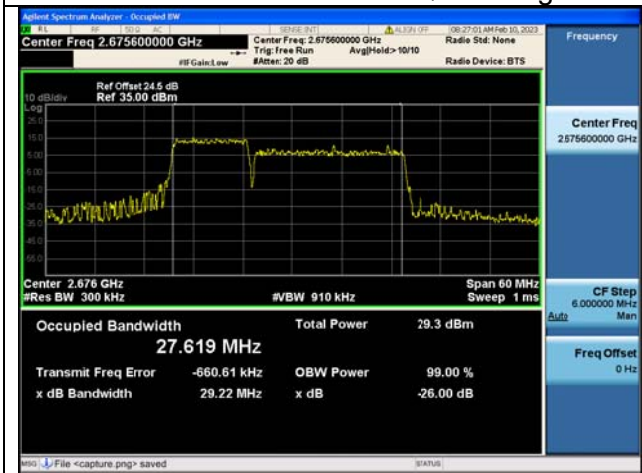
Band41C / 15MHz+10MHz / 64QAM/ High CH



Band41C / 10MHz+20MHz / QPSK/ High CH



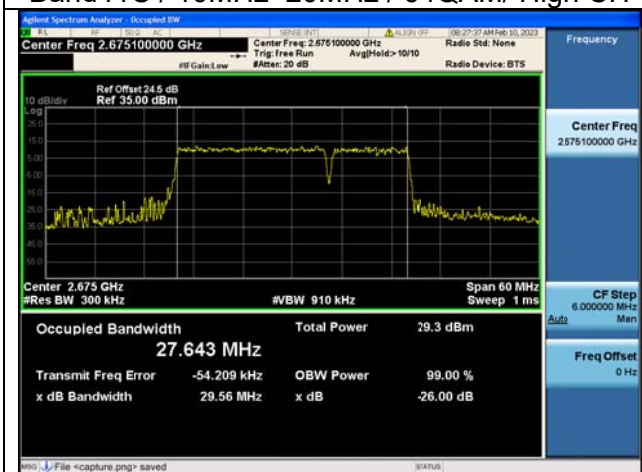
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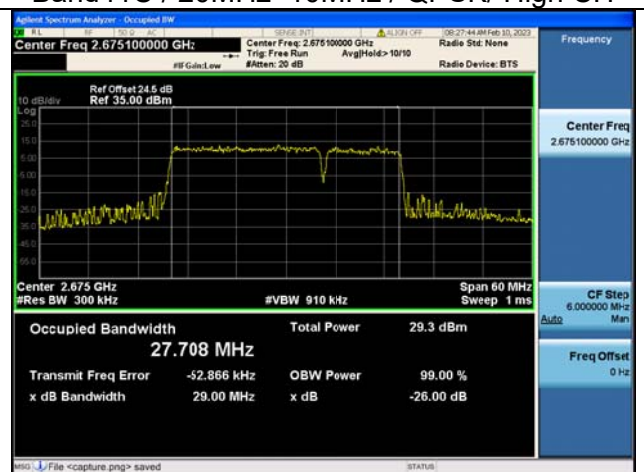
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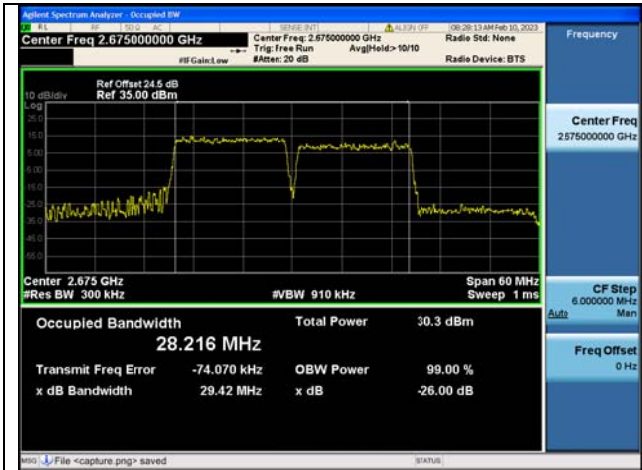
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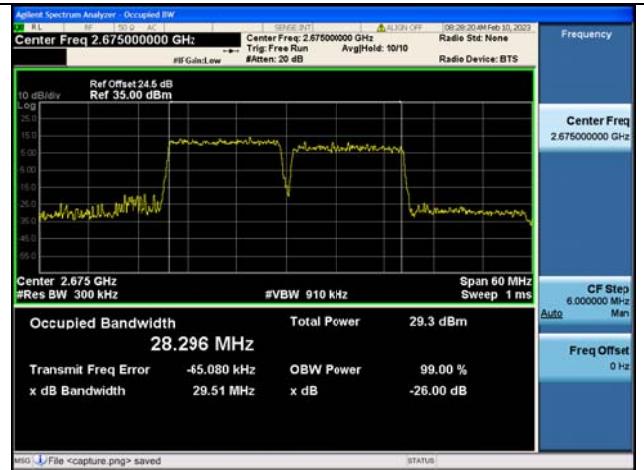
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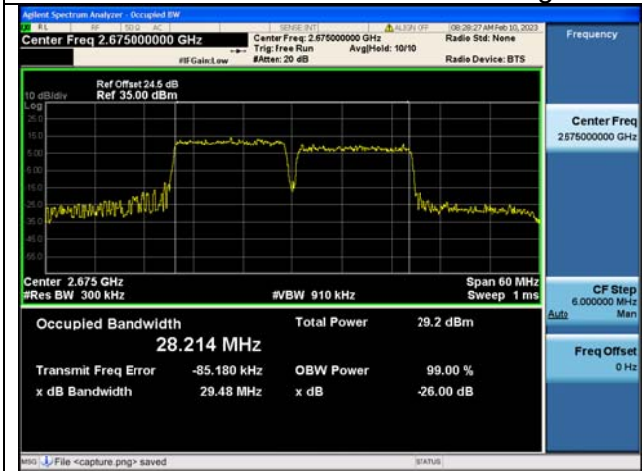
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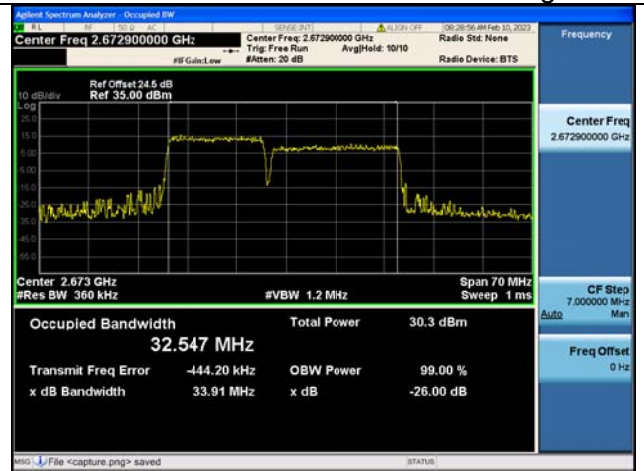
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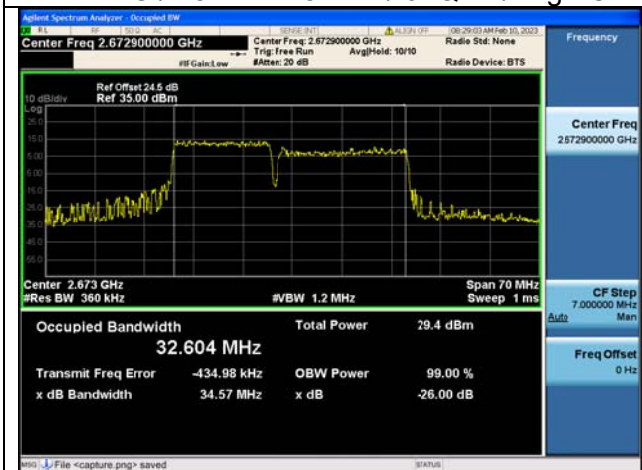
Band41C / 15MHz+15MHz / 16QAM/ High CH



Band41C / 15MHz+15MHz / 64QAM/ High CH



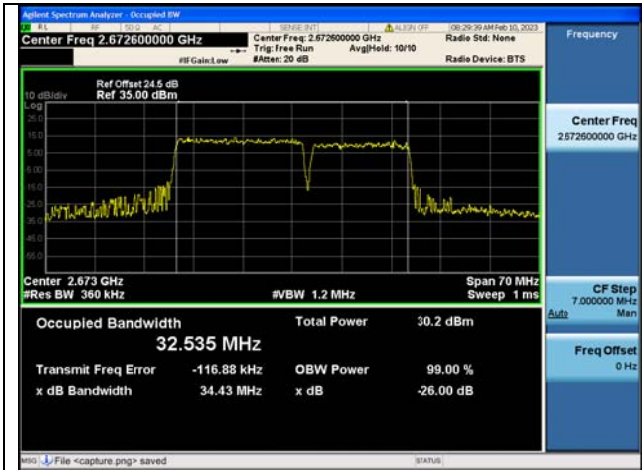
Band41C / 15MHz+20MHz / QPSK/ High CH



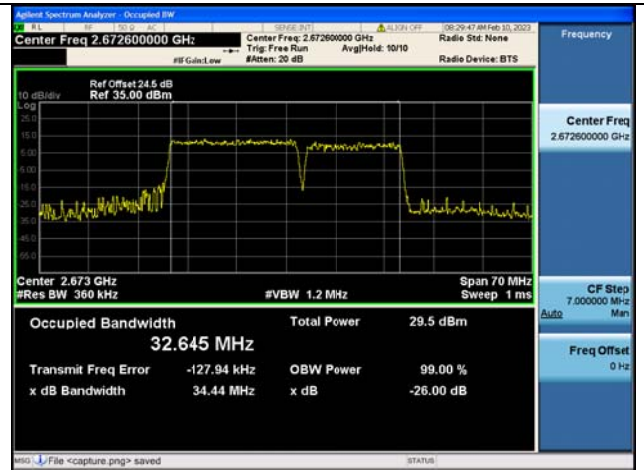
Band41C / 15MHz+20MHz / 16QAM/ High CH



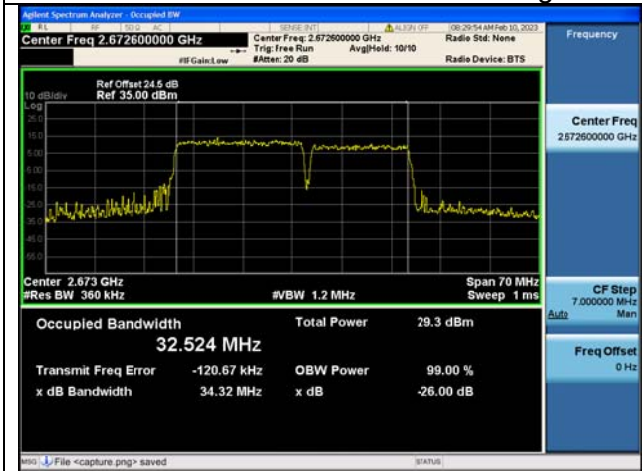
Band41C / 15MHz+20MHz / 64QAM/ High CH



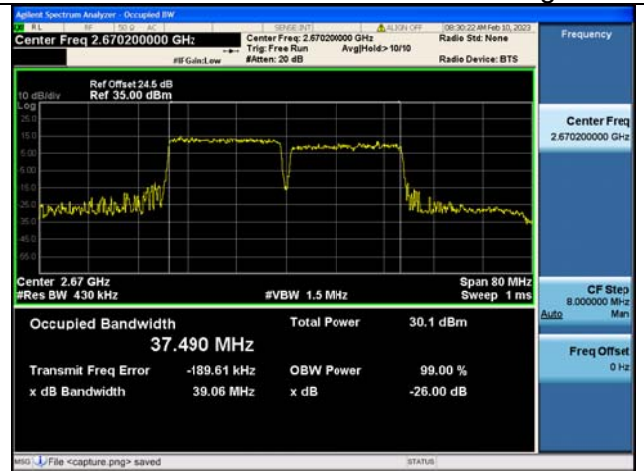
Band41C / 20MHz+15MHz / QPSK/ High CH



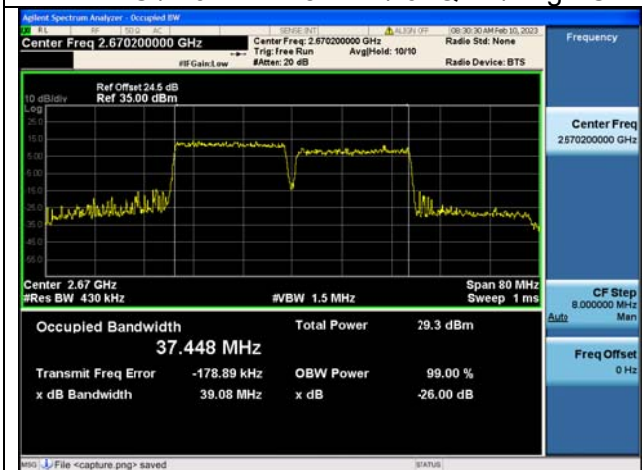
Band41C / 20MHz+15MHz / 16QAM/ High CH



Band41C / 20MHz+15MHz / 64QAM/ High CH



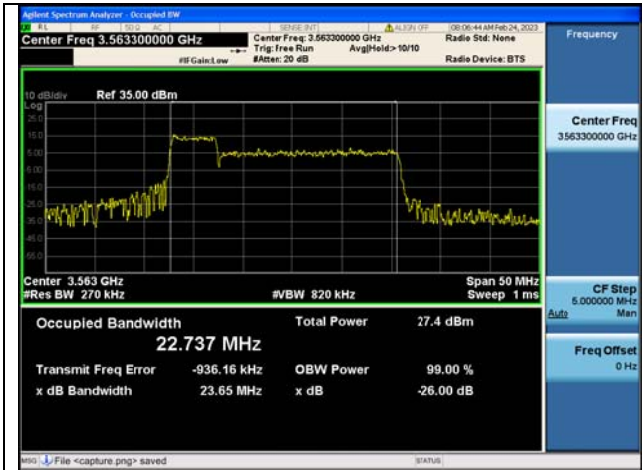
Band41C / 20MHz+20MHz / QPSK/ High CH



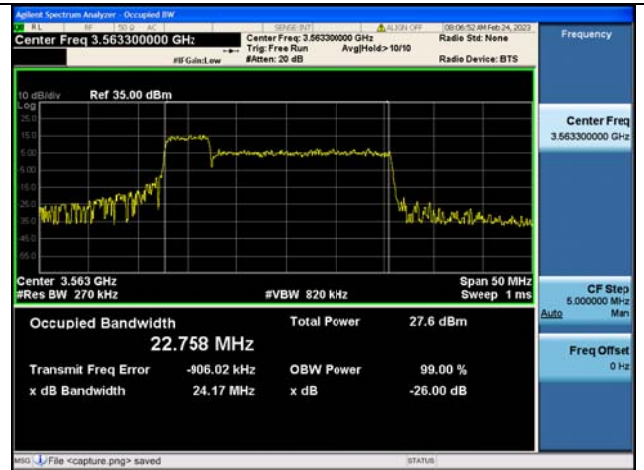
Band41C / 20MHz+20MHz / 16QAM/ High CH



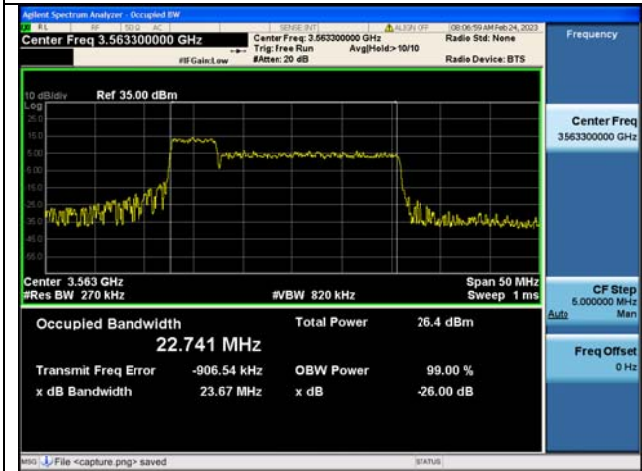
Band41C / 20MHz+20MHz / 64QAM/ High CH



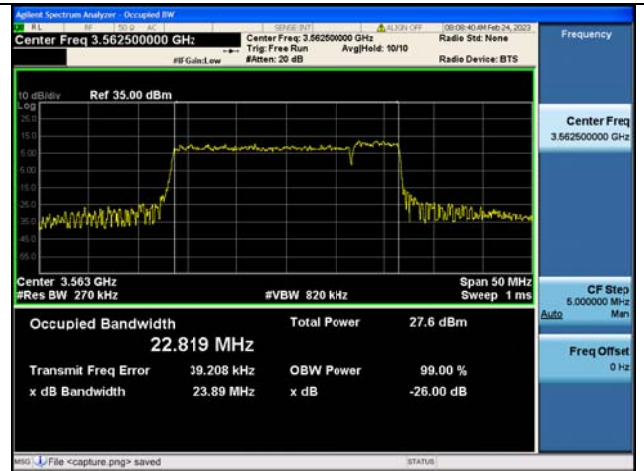
Band48C / 5MHz+20MHz / QPSK/ Low CH



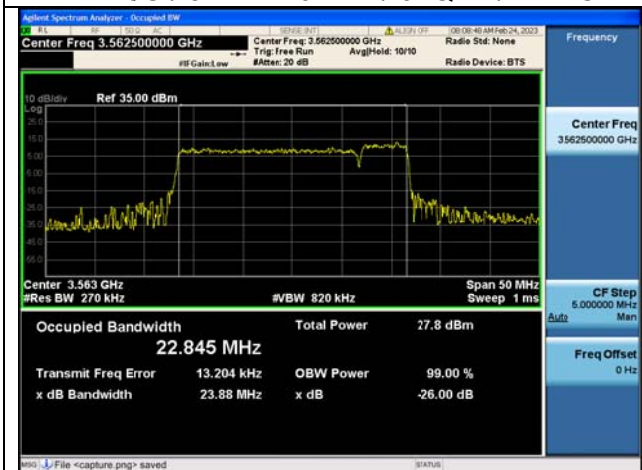
Band48C / 5MHz+20MHz / 16QAM/ Low CH



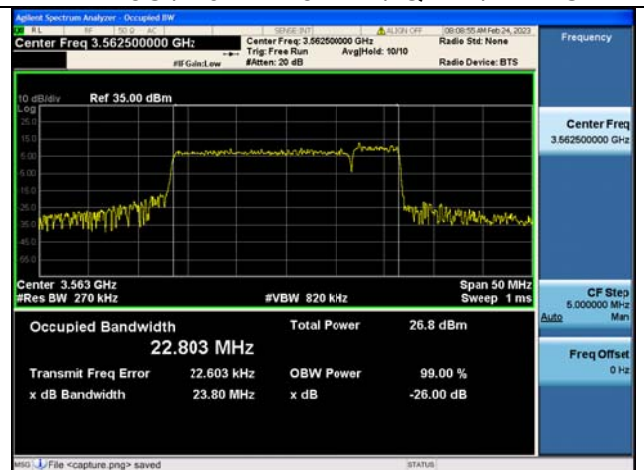
Band48C / 5MHz+20MHz / 64QAM/ Low CH



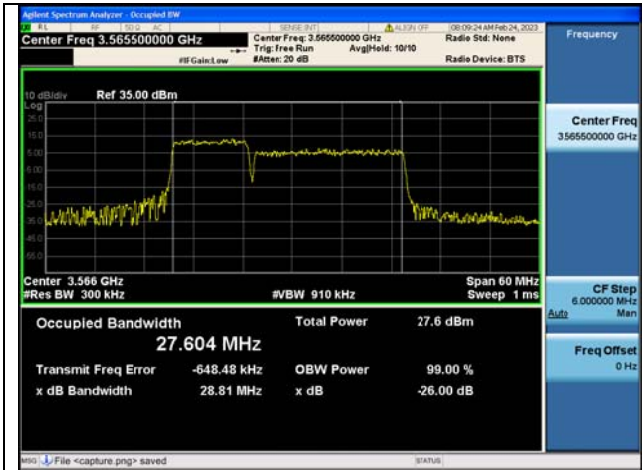
Band48C / 20MHz+5MHz / QPSK/ Low CH



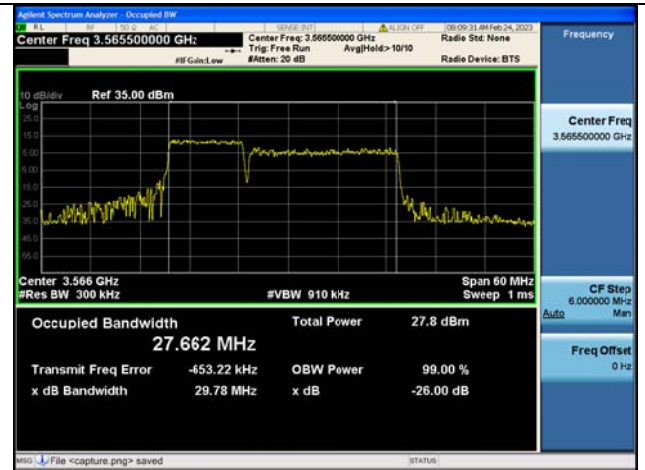
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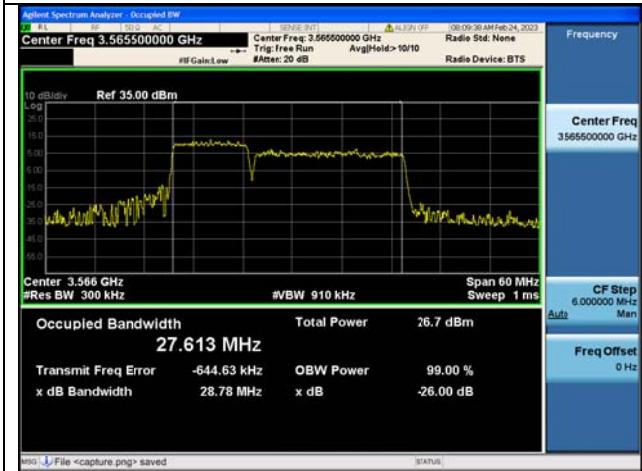
Band48C / 20MHz+5MHz / 64QAM/ Low CH



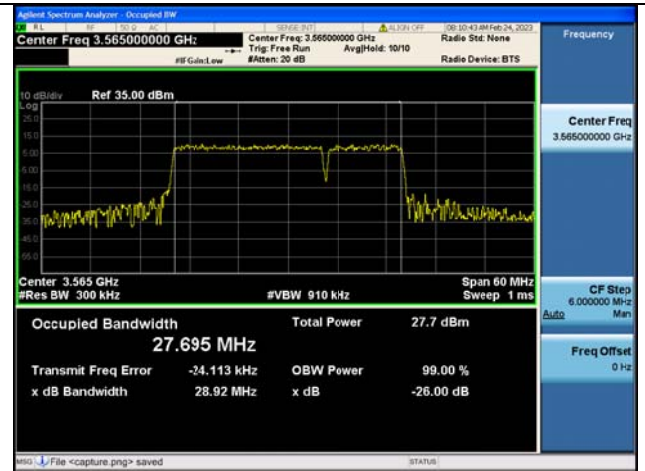
Band48C / 10MHz+20MHz / QPSK/ Low CH



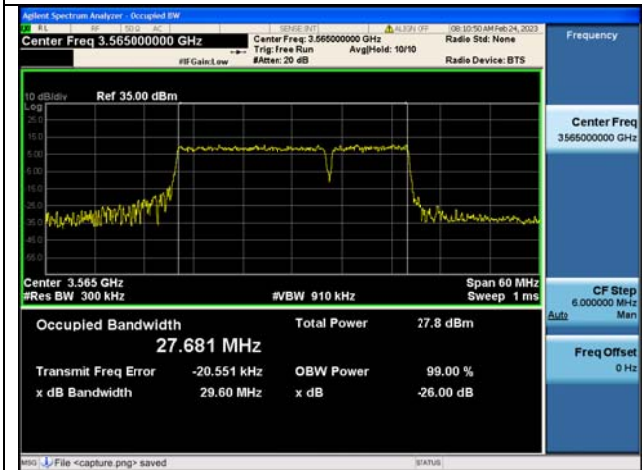
Band48C / 10MHz+20MHz / 16QAM/ Low CH



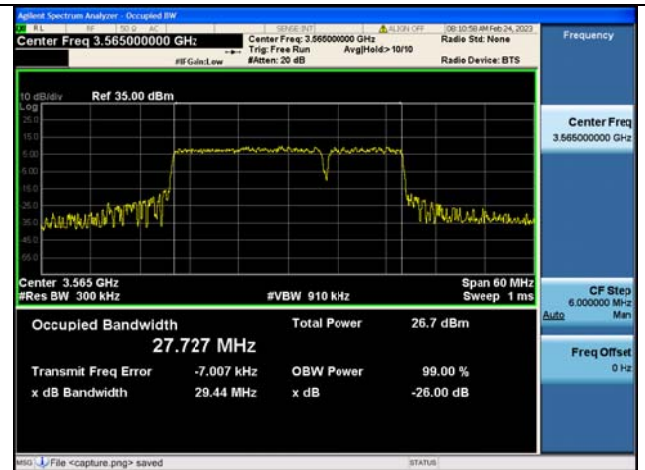
Band48C / 10MHz+20MHz / 64QAM/ Low CH



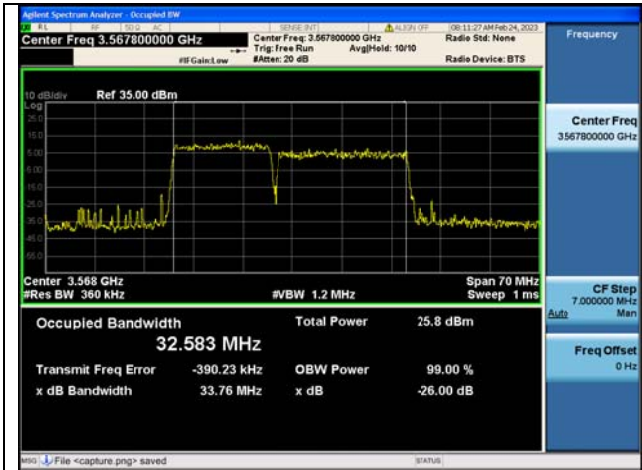
Band48C / 20MHz+10MHz / QPSK/ Low CH



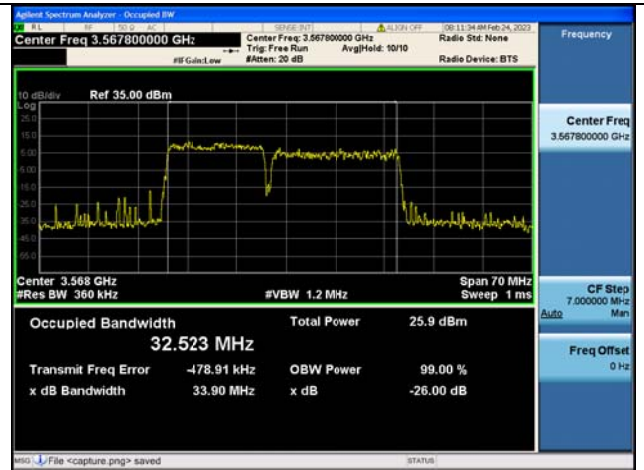
Band48C / 20MHz+10MHz / 16QAM/ Low CH



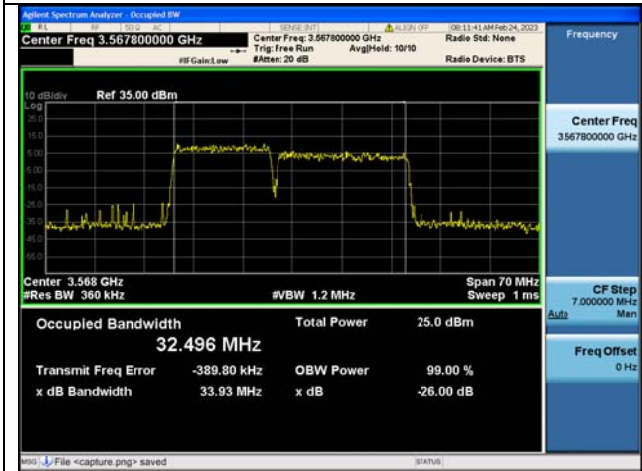
Band48C / 20MHz+10MHz / 64QAM/ Low CH



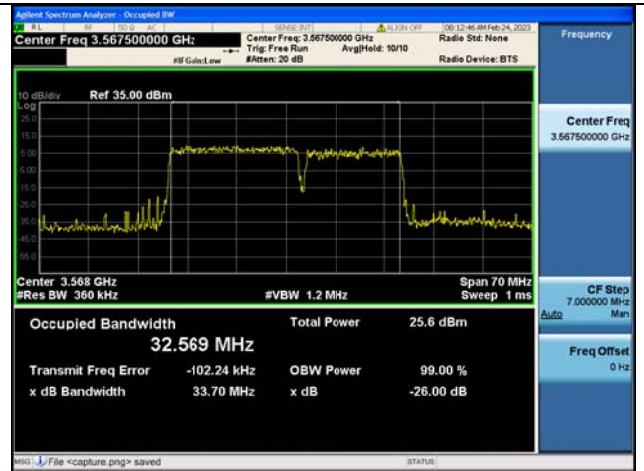
Band48C / 15MHz+20MHz / QPSK/ Low CH



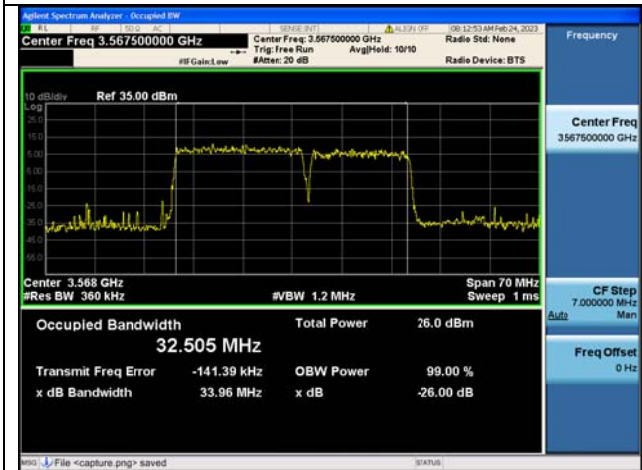
Band48C / 15MHz+20MHz / 16QAM/ Low CH



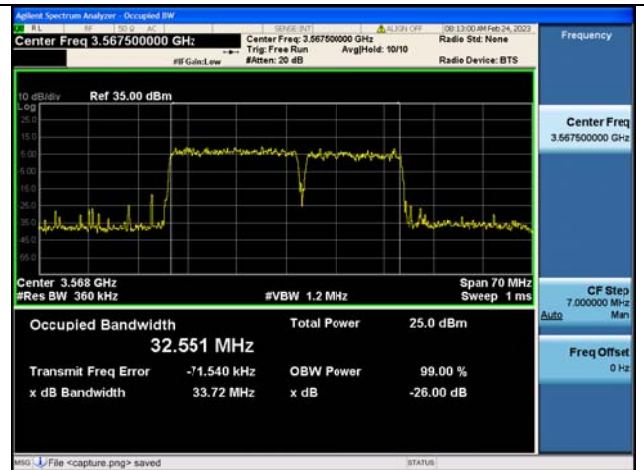
Band48C / 15MHz+20MHz / 64QAM/ Low CH



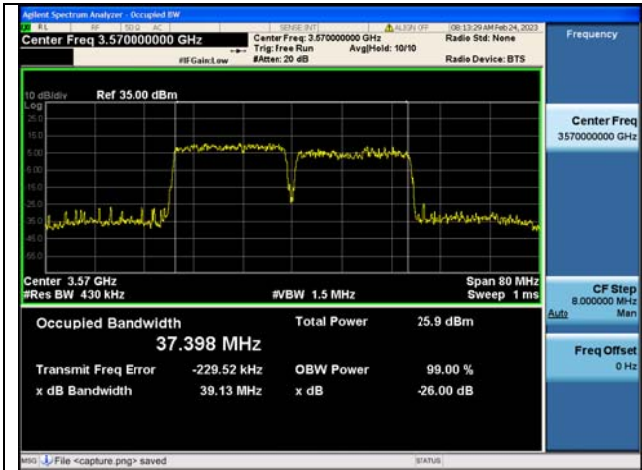
Band48C / 20MHz+15MHz / QPSK/ Low CH



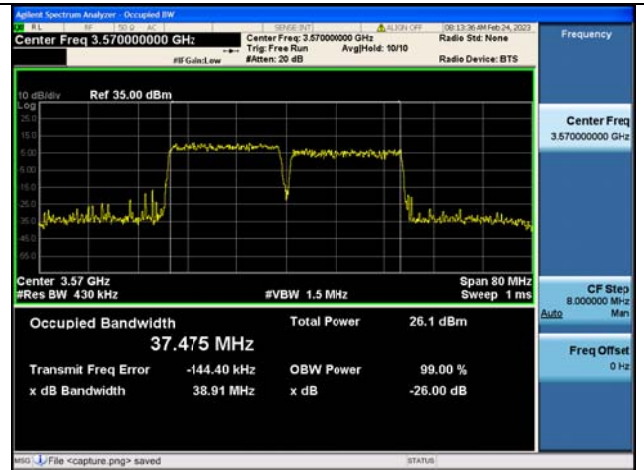
Band48C / 20MHz+15MHz / 16QAM/ Low CH



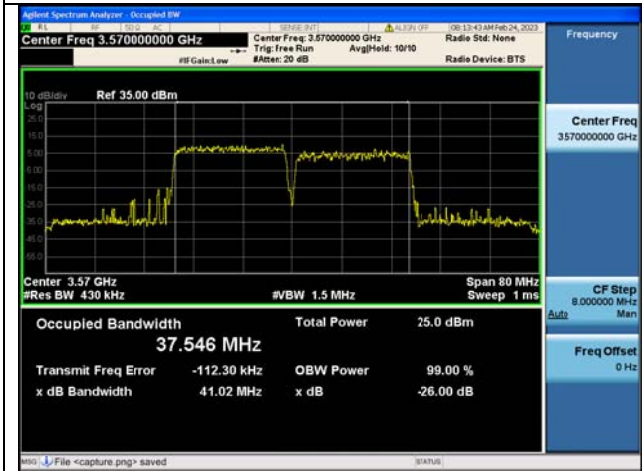
Band48C / 20MHz+15MHz / 64QAM/ Low CH



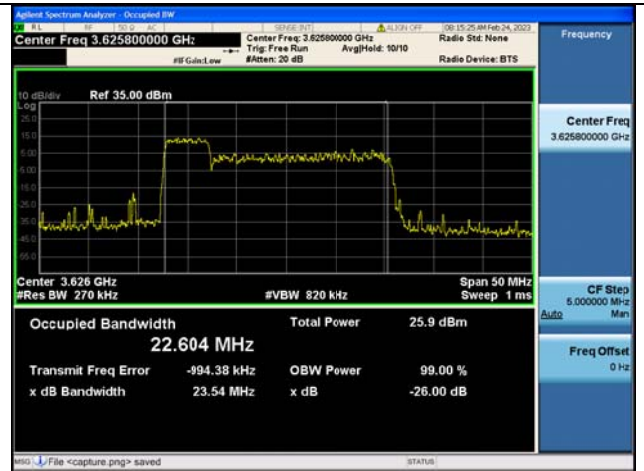
Band48C / 20MHz+20MHz / QPSK/ Low CH



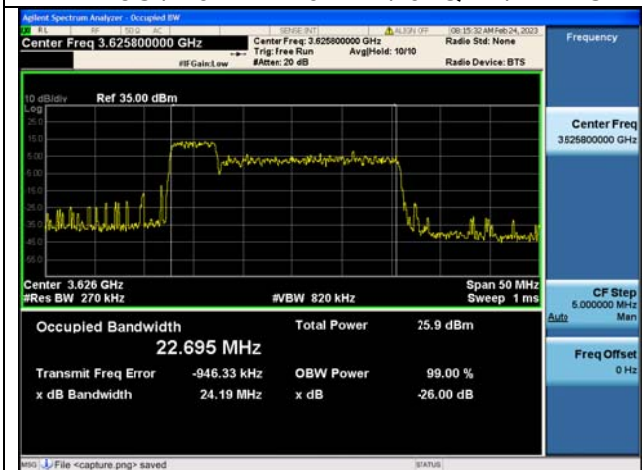
Band48C / 20MHz+20MHz / 16QAM/ Low CH



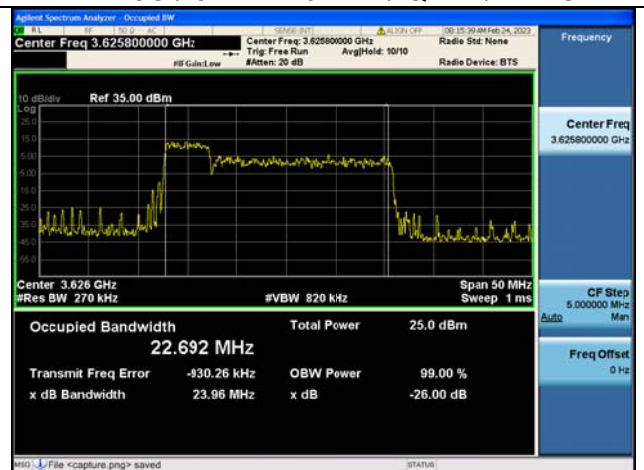
Band48C / 20MHz+20MHz / 64QAM/ Low CH



Band48C / 5MHz+20MHz / QPSK/ Mid CH



Band48C / 5MHz+20MHz / 16QAM/ Mid CH



Band48C / 5MHz+20MHz / 64QAM/ Mid CH