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MEASUREMENT REPORT
FCC Part 30 5G mmWave

Applicant Name:
Samsung Electronics Co., Ltd.
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Yeongtong-gu, Suwon-si
Gyeonggi-do, 16677, Korea

Date of Testing:
09/26-11/3/2023
Test Report Issue Date:
11/3/2023
Test Site/Location:
Element Lab., Columbia, MD, USA
Test Report Serial No.:
1M2308210092-01-R1.A3L

FCC ID:	**A3LSMS928U**
APPLICANT:	**Samsung Electronics Co., Ltd.**

Application Type:	Certification
Model:	SM-S928U
Additional Model(s):	SM-S928U1
EUT Type:	Portable Handset
FCC Classification:	Part 30 Mobile Transmitter (5GM)
FCC Rule Part(s):	30
Test Procedure(s):	ANSI C63.26-2015, KDB 971168 D01 v03r01, KDB 842590 D01 v01r02

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in §2.947. Test results reported herein relate only to the item(s) tested.

Note: This revised Test Report (S/N: 1M2308210092-01-R1.A3L) supersedes and replaces the previously issued test report on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

RJ Ortanez
Executive Vice President

ACCREDITED
CERT #2041.01

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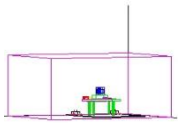
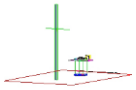


MEASUREMENT REPORT
FCC Part 30



Antenna	Band	Bandwidth [MHz]	Tx Frequency [MHz]	CCs Active	Modulation	Mode	EIRP		Emission Designator
							Max Power [W]	Max Power [dBm]	
Ant-1	NR-n258-R1	50	24275 - 24425	1	QPSK	SISO	0.611	27.86	46M2G7D
					QPSK	2Tx	1.368	31.36	46M2G7D
					π/2 BPSK	2Tx	1.294	31.12	46M1G7D
					16QAM	2Tx	1.262	31.01	46M4W7D
					64QAM	2Tx	0.662	28.21	45M9W7D
		100	24300 - 24400	1	QPSK	SISO	0.631	28.00	94M8G7D
					QPSK	2Tx	1.538	31.87	94M8G7D
					π/2 BPSK	2Tx	1.567	31.95	91M5G7D
					16QAM	2Tx	1.528	31.84	94M7W7D
					64QAM	2Tx	0.767	28.85	94M6W7D
				2	QPSK	2Tx	1.072	30.30	194MG7D
					π/2 BPSK	2Tx	1.054	30.23	192MG7D
					16QAM	2Tx	0.796	29.01	194MW7D
					64QAM	2Tx	0.774	28.89	194MW7D
Ant-2	NR-n258-R1	50	24275 - 24425	1	QPSK	SISO	0.498	26.97	-
					QPSK	2Tx	0.773	28.88	-
					π/2 BPSK	2Tx	0.748	28.74	-
					16QAM	2Tx	0.685	28.36	-
					64QAM	2Tx	0.418	26.21	-
		100	24300 - 24400	1	QPSK	SISO	0.603	27.80	-
					QPSK	2Tx	1.291	31.11	-
					π/2 BPSK	2Tx	1.172	30.69	-
					16QAM	2Tx	1.091	30.38	-
					64QAM	2Tx	0.948	29.77	-
				2	QPSK	2Tx	0.228	23.58	-
					π/2 BPSK	2Tx	0.230	23.61	-
					16QAM	2Tx	0.200	23.02	-
					64QAM	2Tx	0.089	19.51	-

EUT Overview (Band n258-R1)

Antenna	Band	Bandwidth [MHz]	Tx Frequency [MHz]	CCs Active	Modulation	Mode	EIRP		Emission Designator
							Max Power [W]	Max Power [dBm]	
Ant-1	NR-n258-R2	50	24775 - 25225	1	QPSK	SISO	0.757	28.79	46M5G7D
					QPSK	2Tx	0.828	29.18	46M5G7D
					π/2 BPSK	2Tx	0.839	29.24	46M1G7D
					16QAM	2Tx	0.794	29.00	46M3W7D
					64QAM	2Tx	0.406	26.08	46M0W7D
		100	24800 - 25200	1	QPSK	SISO	0.773	28.88	95M8G7D
					QPSK	2Tx	0.813	29.10	95M8G7D
					π/2 BPSK	2Tx	0.855	29.32	91M9G7D
					16QAM	2Tx	0.787	28.96	95M4W7D
					64QAM	2Tx	0.403	26.05	95M1W7D
				2	QPSK	2Tx	0.601	27.79	198MG7D
					π/2 BPSK	2Tx	0.607	27.83	194MG7D
					16QAM	2Tx	0.541	27.33	198MW7D
					64QAM	2Tx	0.233	23.68	196MW7D
				3	QPSK	2Tx	0.323	25.09	298MG7D
					π/2 BPSK	2Tx	0.321	25.07	296MG7D
					16QAM	2Tx	0.255	24.06	299MW7D
					64QAM	2Tx	0.161	22.06	297MW7D
				4	QPSK	2Tx	0.326	25.13	396MG7D
					π/2 BPSK	2Tx	0.328	25.16	394MG7D
					16QAM	2Tx	0.257	24.10	397MW7D
					64QAM	2Tx	0.160	22.05	396MW7D
Ant-2	NR-n258-R2	50	24775 - 25225	1	QPSK	SISO	0.767	28.85	-
					QPSK	2Tx	1.033	30.14	-
					π/2 BPSK	2Tx	1.045	30.19	-
					16QAM	2Tx	0.998	29.99	-
					64QAM	2Tx	0.504	27.02	-
		100	24800 - 25200	1	QPSK	SISO	0.771	28.87	-
					QPSK	2Tx	1.021	30.09	-
					π/2 BPSK	2Tx	1.016	30.07	-
					16QAM	2Tx	0.984	29.93	-
					64QAM	2Tx	0.488	26.88	-
				2	QPSK	2Tx	0.625	27.96	-
					π/2 BPSK	2Tx	0.614	27.88	-
					16QAM	2Tx	0.593	27.73	-
					64QAM	2Tx	0.258	24.12	-
				3	QPSK	2Tx	0.308	24.88	-
					π/2 BPSK	2Tx	0.305	24.85	-
					16QAM	2Tx	0.240	23.80	-
					64QAM	2Tx	0.150	21.77	-
				4	QPSK	2Tx	0.294	24.69	-
					π/2 BPSK	2Tx	0.298	24.74	-
					16QAM	2Tx	0.233	23.67	-
					64QAM	2Tx	0.146	21.63	-

EUT Overview (Band n258-R2)

Antenna	Band	Bandwidth [MHz]	Tx Frequency [MHz]	CCs Active	Modulation	Mode	EIRP		Emission Designator
							Max Power [W]	Max Power [dBm]	
Ant-1	NR-n261	50	27525 - 28325	1	QPSK	SISO	1.387	31.42	46M8G7D
					QPSK	2Tx	2.084	33.19	46M8G7D
					π/2 BPSK	2Tx	2.109	33.24	46M1G7D
					16QAM	2Tx	1.862	32.70	46M6W7D
					64QAM	2Tx	0.906	29.57	46M1W7D
		100	27550 - 28300	1	QPSK	SISO	1.455	31.63	95M8G7D
					QPSK	2Tx	2.280	33.58	95M8G7D
					π/2 BPSK	2Tx	2.249	33.52	91M7G7D
					16QAM	2Tx	2.023	33.06	95M9W7D
					64QAM	2Tx	0.998	29.99	94M9W7D
				2	QPSK	2Tx	1.556	31.92	195MG7D
					π/2 BPSK	2Tx	1.600	32.04	192MG7D
					16QAM	2Tx	1.406	31.48	195MW7D
					64QAM	2Tx	0.766	28.84	196MW7D
				3	QPSK	2Tx	1.107	30.44	295MG7D
					π/2 BPSK	2Tx	1.102	30.42	293MG7D
					16QAM	2Tx	0.877	29.43	295MW7D
					64QAM	2Tx	0.540	27.32	299MW7D
				4	QPSK	2Tx	1.096	30.40	397MG7D
					π/2 BPSK	2Tx	1.072	30.30	394MG7D
					16QAM	2Tx	0.853	29.31	398MW7D
					64QAM	2Tx	0.524	27.19	396MW7D
Ant-2	NR-n261	50	27525 - 28325	1	QPSK	SISO	1.256	30.99	-
					QPSK	2Tx	1.528	31.84	-
					π/2 BPSK	2Tx	1.531	31.85	-
					16QAM	2Tx	0.975	29.89	-
					64QAM	2Tx	0.485	26.86	-
		100	27550 - 28300	1	QPSK	SISO	1.112	30.46	-
					QPSK	2Tx	1.138	30.56	-
					π/2 BPSK	2Tx	1.143	30.58	-
					16QAM	2Tx	1.007	30.03	-
					64QAM	2Tx	0.957	29.81	-
				2	QPSK	2Tx	0.655	28.16	-
					π/2 BPSK	2Tx	0.646	28.10	-
					16QAM	2Tx	0.589	27.70	-
					64QAM	2Tx	0.259	24.13	-
				3	QPSK	2Tx	0.380	25.80	-
					π/2 BPSK	2Tx	0.378	25.77	-
					16QAM	2Tx	0.300	24.77	-
					64QAM	2Tx	0.190	22.78	-
				4	QPSK	2Tx	0.380	25.80	-
					π/2 BPSK	2Tx	0.376	25.75	-
					16QAM	2Tx	0.300	24.77	-
					64QAM	2Tx	0.185	22.68	-

EUT Overview (Band n261)

Antenna	Band	Bandwidth [MHz]	Tx Frequency [MHz]	CCs Active	Modulation	Mode	EIRP		Emission Designator
							Max Power [W]	Max Power [dBm]	
Ant-1	NR-n260	50	37025 - 39975	1	QPSK	SISO	0.776	28.90	46M2G7D
					QPSK	2Tx	0.871	29.40	46M2G7D
					π/2 BPSK	2Tx	0.904	29.56	46M0G7D
					16QAM	2Tx	0.838	29.23	46M1W7D
					64QAM	2Tx	0.412	26.15	46M0W7D
		100	37050 - 39950	1	QPSK	SISO	0.610	27.85	94M2G7D
					QPSK	MIMO	0.938	29.72	94M2G7D
					π/2 BPSK	2Tx	0.948	29.77	90M5G7D
					16QAM	2Tx	0.798	29.02	94M0W7D
					64QAM	2Tx	0.682	28.34	94M3W7D
				2	QPSK	2Tx	0.299	24.75	194MG7D
					π/2 BPSK	2Tx	0.299	24.75	190MG7D
					16QAM	2Tx	0.267	24.27	194MW7D
					64QAM	2Tx	0.211	23.24	194MW7D
				3	QPSK	2Tx	0.167	22.22	298MG7D
					π/2 BPSK	2Tx	0.168	22.26	297MG7D
					16QAM	2Tx	0.138	21.40	297MW7D
					64QAM	2Tx	0.114	20.56	298MW7D
				4	QPSK	2Tx	0.174	22.40	396MG7D
					π/2 BPSK	2Tx	0.175	22.42	400MG7D
					16QAM	2Tx	0.143	21.56	395MW7D
					64QAM	2Tx	0.108	20.34	395MW7D
Ant-2	NR-n260	50	37025 - 39975	1	QPSK	SISO	0.951	29.78	-
					QPSK	2Tx	1.618	32.09	-
					π/2 BPSK	2Tx	1.563	31.94	-
					16QAM	2Tx	1.208	30.82	-
					64QAM	2Tx	0.805	29.06	-
		100	37050 - 39950	1	QPSK	SISO	0.968	29.86	-
					QPSK	2Tx	2.084	33.19	-
					π/2 BPSK	2Tx	2.051	33.12	-
					16QAM	2Tx	1.698	32.30	-
					64QAM	2Tx	1.026	30.11	-
				2	QPSK	2Tx	0.569	27.55	-
					π/2 BPSK	2Tx	0.575	27.60	-
					16QAM	2Tx	0.513	27.10	-
					64QAM	2Tx	0.365	25.62	-
				3	QPSK	2Tx	0.322	25.08	-
					π/2 BPSK	2Tx	0.330	25.18	-
					16QAM	2Tx	0.261	24.16	-
					64QAM	2Tx	0.168	22.26	-
				4	QPSK	2Tx	0.338	25.29	-
					π/2 BPSK	2Tx	0.327	25.15	-
					16QAM	2Tx	0.261	24.17	-
					64QAM	2Tx	0.169	22.28	-

EUT Overview (Band n260)

Note: Due to similar antenna performance from the antennas after thorough investigation, the Occupied Bandwidth was only measured on one antenna for each band.

1.0 INTRODUCTION

1.1 Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission.

1.2 Element Test Location

These measurement tests were conducted at the Element laboratory located at 7185 Oakland Mills Road, Columbia, MD 21046. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014.

1.3 Test Facility / Accreditations

Measurements were performed at Element lab located in Columbia, MD 21046, U.S.A.

- Element Washington DC LLC is an ISO 17025-2017 accredited test facility under the American Association for Laboratory Accreditation (A2LA) with Certificate number 2041.01 for Specific Absorption Rate (SAR), Hearing Aid Compatibility (HAC) testing, where applicable, and Electromagnetic Compatibility (EMC) testing for FCC and Innovation, Science, and Economic Development Canada rules.

- Element Washington DC LLC TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC 17065-2012 by A2LA (Certificate number 2041.03) in all scopes of FCC Rules and ISED Standards (RSS).

- Element Washington DC LLC facility is a registered (2451B) test laboratory with the site description on file with ISED.

- Element Washington DC LLC is a Recognized U.S. Certification Assessment Body (CAB # US0110) for ISED Canada as designated by NIST under the U.S. and Canada Mutual Recognition Agreement.

2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Samsung FCC ID: A3LSMS928U** The test data contained in this report pertains only to the emissions due to the EUT's 5G mmWave function.

The EUT contains two patch antennas, referred to herein as Ant1 (M-Patch) and Ant2 (N-Patch). Each of the antennas is comprised of two separate antenna feeds - one for horizontal and one for vertical polarization. Only one array antenna can be active at a time.

Antenna	Name
Ant1	M Patch
Ant2	N Patch

The EUT supports both 50MHz bandwidth and 100MHz bandwidth. The EUT supports 1CC for 50MHz bandwidth and upto 4CC for 100MHz bandwidth. The table below indicates the supported bandwidths and component carriers for the Frequency ranges tested.

# CC's	BW (MHz)	Total CC BW (MHz)	Channel	24.25 - 24.45GHz (n258-R1)	24.75 - 25.25GHz (n258-R2)	27.5 - 28.35GHz (n261)	37 - 40GHz (n260)
1CC	50	50	Low	x	x	x	x
			Mid	x	x	x	x
			High	x	x	x	x
	100	100	Low	x	x	x	x
			Mid	x	x	x	x
			High	x	x	x	x
2CC	50	100	Low	-	-	-	-
			Mid	-	-	-	-
			High	-	-	-	-
	100	200	Low	-	x	x	x
			Mid	x	x	x	x
			High	-	x	x	x
3CC	50	150	Low	-	-	-	-
			Mid	-	-	-	-
			High	-	-	-	-
	100	300	Low	-	x	x	x
			Mid	-	x	x	x
			High	-	x	x	x
4CC	50	200	Low	-	-	-	-
			Mid	-	-	-	-
			High	-	-	-	-
	100	400	Low	-	x	x	x
			Mid	-	x	x	x
			High	-	x	x	x

The EUT supports a subcarrier spacing (SCS) of 120kHz with two transmission schemes, CP-OFDM and DFT-s-OFDM, with π/2-BPSK, QPSK, 16-QAM, and 64-QAM modulations. Different Beam IDs are supported, each corresponding to a different position in space for each antenna. During testing, FTM (Factory Test Mode) was used to operate the transmitter. MIMO operation was achieved by enabling two Beam IDs at the same time: one is from the list of H Beam IDs and other is from the list of V Beam IDs.

Test Device Serial No.: 0091M, 0094M

2.2 Device Capabilities

This device contains the following capabilities:

850/1900 GSM/GPRS/EDGE, 850/1700/1900 WCDMA/HSPA, Multi-band LTE, Multi-band 5G NR (FR1 and FR2), 802.11b/g/n/ax/be WLAN, 802.11a/n/ac/ax/be UNII (5GHz and 6GHz), Bluetooth (1x, EDR, LE), NFC, Wireless Power Transfer, UWB

2.3 Test Configuration

The EUT was tested per the guidance of KDB 842590 D01 v01r02 and ANSI C63.26-2015. See Section 7.0 of this test report for a description of the radiated tests.

EIRP Simulation data for all Beam IDs was used to help determine the worst case Beam ID for SISO operation and Beam ID pair for 2Tx (DFT-s-OFDM) and MIMO (CP-OFDM) operation. Several additional Beam ID's were also investigated to determine the Beam ID's producing the highest measured EIRP.

All testing was performed using FTM (Factory Test Mode) software at continuous Tx operation. When implemented out in the field, the EUT will operate with a maximum uplink configuration as allowed by the 5G network/carrier. The FTM software was also used for the EUT operation in the EN-DC and NR-DC mode.

2.4 Software and Firmware

The test was conducted with firmware version S928USQU0AWHA installed on the EUT.

2.5 EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and no modifications were made during testing.

3.0 DESCRIPTION OF TESTS

3.1 Measurement Procedure

The measurement procedures described in the document titled "American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services" (ANSI C63.26-2015) and the guidance provided in KDB 842590 D01 v01r02 were used in the measurement of the EUT.

3.2 Radiated Power and Radiated Spurious Emissions

§30.202, §30.203

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary for radiated emissions measurements in the spurious domain. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. The test site inside the chamber is a 6m x 5.2m elliptical, obstruction-free area in accordance with Figure 5.7 of Clause 5 in ANSI C63.4-2014. Absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections for measurements above 1GHz. For measurements below 1GHz, the absorbers are removed. A raised turntable is used for radiated measurement. The turn table is a continuously rotatable, remote-controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm tall test table made of Styrodur is placed on top of the turn table. A Styrodur pedestal is placed on top of the test table to bring the total table height to 1.5m for measurements above 1GHz.

Radiated power (EIRP) measurements were performed in a full anechoic chamber (FAC) conforming to the site validation requirements of CISPR 16-1-4. Radiated spurious emission measurements from 30MHz - 18GHz were performed in a semi anechoic chamber (SAC) conforming to the site validation requirements of CISPR 16-1-4. A positioner was used to manipulate the EUT through several positions in space by rotating about the roll axis as shown in the figure below. The positioner was mounted on top of a turntable bringing the total EUT height to 1.5m.

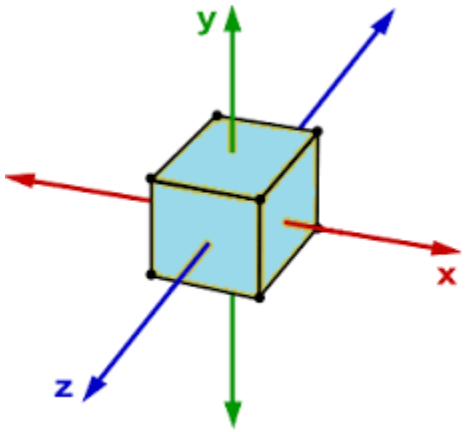


Figure 3-1. Rotation of the EUT Through Three Orthogonal Planes

The equipment under test was transmitting while connected to its integral antenna and is placed on a turntable. The measurement antenna is in the far field of the EUT per formula $2D^2/\lambda$ where D is the larger between the dimension of the measurement antenna and the transmitting antenna of the EUT. In this case, "D" is the largest dimension of the measurement antenna. The EUT is manipulated through all orthogonal planes representative of its typical use to achieve the highest reading on the receive spectrum analyzer.

Frequency Range (GHz)	Wavelength(cm)	Far Field Distance (m)	Measurement Distance (m)
18-40	0.749	0.54	1.00
40-60	0.500	1.39	1.50
60-90	0.333	0.91	1.00
90-140	0.214	0.58	1.00
140-200	0.150	0.39	1.00

Table 3-1. Far-Field Distance & Measurement Distance per Frequency Range

Radiated power levels are investigated while the receive antenna was rotated through all angles to determine the worst case polarization/positioning. It was determined that H=0 degree and V=90 degree are the worst case positions when the EUT was transmitting horizontally and vertically polarized beams, respectively.

The maximized power level is recorded using the spectrum analyzer “Channel Power” function with the integration bandwidth set to the emissions’ occupied bandwidth. The EIRP is calculated from the raw power level measured with the spectrum analyzer using the formulas shown below.

Effective Isotropic Radiated Power Sample Calculation

The measured e.i.r.p is converted to E-field in V/m. Then, the distance correction is applied before converting back to calculated e.i.r.p, as explained in KDB 971168 D01.

Field Strength [dBμV/m] = Measured Value [dBm] + AFCL [dB/m] + 107

= - 32.74 dBm + (40.7dB/m + 8.78dB) + 107 = 123.74dBuV/m

= 10^(123.74/20)/1000000 = 1.54 V/m

e.i.r.p. [dBm] = 10 * log((E-Field*D_m)^2/30) + 30dB

= 10 * log((1.54V/m * 1.00m)^2/30) + 30dB

= 18.98 dBm e.i.r.p.

4.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4-2014. All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95% level of confidence. The measurement uncertainty shown below meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Contribution	Expanded Uncertainty (±dB)
Conducted Bench Top Measurements	1.13
Radiated Disturbance (<1GHz)	4.98
Radiated Disturbance (>1GHz)	5.07
Radiated Disturbance (>18GHz)	5.09

5.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to an accredited ISO/IEC 17025 calibration facility. Measurements antennas used during testing were calibrated in accordance to the requirements of ANSI C63.5-2017.

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
N/A	ETS-001	EMC Cable and Switch System	1/11/2023	Annual	1/11/2024	ETS-001
N/A	ETS-002	EMC Cable and Switch System	1/11/2023	Annual	1/11/2024	ETS-002
EMCO	3115	Horn Antenna (1-18GHz)	8/8/2022	Biennial	8/8/2024	9704-5182
Espec	SCP-220	Temperature Chamber	5/25/2022	Biennial	5/25/2024	OCPS5H0612K05
ETS-Lindgren	3116C	DRG Horn Antenna	2/27/2023	Biennial	2/27/2025	218893
Keysight Technologies	N9030A	PXA Signal Analyzer (44GHz)	3/15/2023	Annual	3/15/2024	MY52350166
Keysight Technologies	N9030A	50GHz PXA Signal Analyzer	9/9/2022	Annual	11/9/2023	US51350301
Narda	180-422-KF	Horn (Small)	8/30/2022	Biennial	8/30/2024	U157403-01
OML Inc.	M19RH	WR-19 Horn Antenna, 24dBi, 40 - 60GHz	10/5/2022	Biennial	10/5/2024	18073001
OML Inc.	M12RH	WR-12 Horn Antenna, 24dBi, 60 - 90GHz	10/4/2022	Biennial	10/4/2024	18073001
OML Inc.	M08RH	WR-08 Horn Antenna, 24dBi, 90 - 140GHz	9/28/2022	Biennial	9/28/2024	18073001
OML Inc.	M05RH	WR-05 Horn Antenna, 24dBi, 140 - 220GHz	9/27/2022	Biennial	9/27/2024	18073001
Pasternack	NC-100	Torque Wrench	4/6/2022	Biennial	4/6/2024	83881
Rohde & Schwarz	ESU40	EMI Test Receiver (40GHz)	9/11/2023	Annual	9/11/2024	100348
Rohde & Schwarz	FSW67	Signal / Spectrum Analyzer	1/13/2023	Annual	1/13/2024	ID: 1312.8000K67-103200-iQ
Virginia Diodes Inc	SAX682	SAX Module (140 - 220GHz)	3/1/2023	Biennial	3/1/2025	SAX682
Virginia Diodes Inc	SAX681	SAX Module (90 - 140GHz)	1/5/2023	Biennial	1/5/2025	SAX681
Virginia Diodes Inc	SAX680	SAX Module (60 - 90GHz)	11/21/2022	Biennial	11/21/2024	SAX680
Virginia Diodes Inc	SAX679	SAX Module (40 - 60GHz)	11/21/2022	Biennial	11/21/2024	SAX679
Sunol	JB5	Bi-log Antenna (30M-5GHz)	8/30/2022	Biennial	8/30/2024	A051107

Table 5-1. Test Equipment

Notes:

For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.

6.0 SAMPLE CALCULATIONS

Emission Designator

π/2 BPSK/ QPSK Modulation

Emission Designator = 800MG7D

BW = 800 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data transmission, telemetry, telecommand

QAM Modulation

Emission Designator = 802MW7D

BW = 802 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data transmission, telemetry, telecommand

7.0 TEST RESULTS

7.1 Summary

Company Name: Samsung Electronics Co., Ltd.

FCC ID: A3LSMS928U

FCC Classification: Part 30 Mobile Transmitter (5GM)

Mode(s): TDD

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
2.1049	Occupied Bandwidth	N/A	RADIATED	PASS	Section 7.2
2.1046, 30.202	Equivalent Isotropic Radiated Power	43dBm		PASS	Section 7.3
2.1051, 30.203	Spurious Emissions	-13dBm/MHz for all out-of-band emissions		PASS	Section 7.4
2.1051, 30.203	Out-of-Band Emissions at the Band Edge	-13dBm/MHz for all out-of-band emissions, -5dBm/MHz from the band edge up to 10% of the channel BW		PASS	Section 7.5
2.1055	Frequency Stability	Fundamental emissions stay within authorized frequency block		PASS	Section 7.6

Table 7-1. Summary of Radiated Test Results

Notes:

1) All modes of operation and modulations were investigated. The test results shown in the following sections represent the worst case emissions.
2) This report contains references to "n258-R1" and "n258-R2". These correspond to n258 Range 1, operating from 24.25 - 24.45GHz, and n258 Range 2, operating from 24.75 - 25.25GHz, respectively, as defined in Part 30.4(a).
3) Per 2.1057(a)(2), spurious emissions were investigated up to 100GHz for n258-R1, n258-R2 and n261. For n260, spurious emissions were investigated up to 200GHz.
4) The radiated RF output power and all out-of-band emissions in the spurious domain are evaluated to the EIRP limits.
5) “CC” refers to “Component Carriers”.
6) Beam IDs were chosen based on which Beam ID produces the highest EIRP during EIRP simulation.
7) All testing was performed using FTM (Factory Test Mode) software at continuous Tx operation (100% duty cycle).
8) The CP-OFDM and DFT-s-OFDM transmission schemes were investigated fully for each test type and only the worst case data is included.

7.2 Occupied Bandwidth

§2.1049

Test Overview

The occupied bandwidth, that 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 shall be measured. All modes of operation were investigated and the worst case configuration results are reported in this section.

Test Procedure Used

ANSI C63.26-2015 Section 5.4.3
KDB 842590 D01 v01r02 Section 4.3

Test Settings

1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1 – 5% of the expected OBW
3. VBW ≥ 3 x RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize
8. If necessary, steps 2 – 7 were repeated after changing the RBW such that it would be within 1 – 5% of the 99% occupied bandwidth observed in Step 7

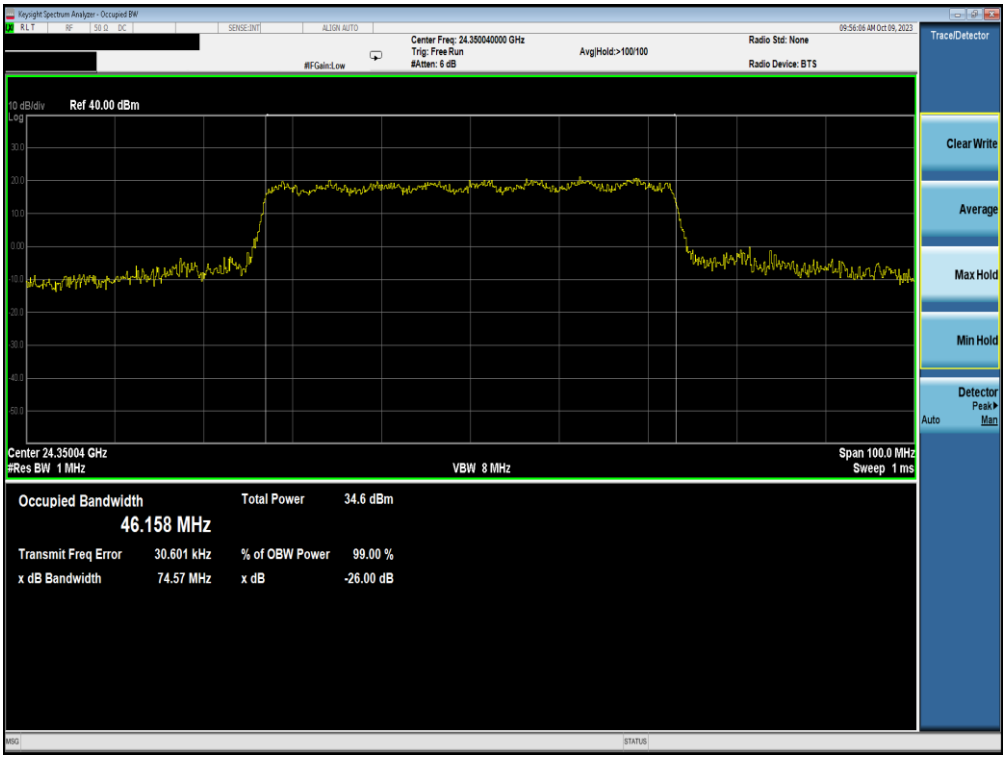
Test Notes

The EUT supports CP-OFDM and DFT-s-OFDM. OBW was measured for both waveforms and the worst case has been included in the report.

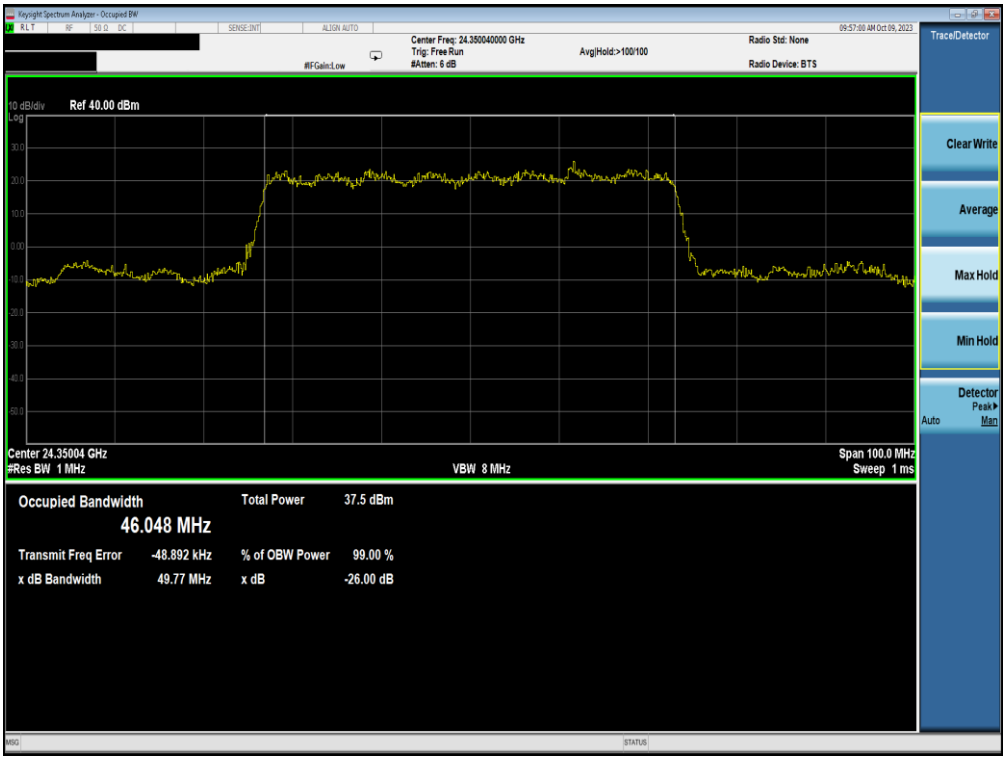
Band n258-R1

Bandwidth [MHz]	CCs Active	Transmition Scheme	Modulation	OBW [MHz]
50	1	CP-OFDM	QPSK	46.16
		DFT-s-OFDM	π/2 BPSK	46.05
		CP-OFDM	16QAM	46.35
		CP-OFDM	64QAM	45.92
100	1	CP-OFDM	QPSK	94.77
		DFT-s-OFDM	π/2 BPSK	91.49
		CP-OFDM	16QAM	94.74
		CP-OFDM	64QAM	94.60
	2	CP-OFDM	QPSK	194.34
		DFT-s-OFDM	π/2 BPSK	191.63
		CP-OFDM	16QAM	194.08
		CP-OFDM	64QAM	194.22

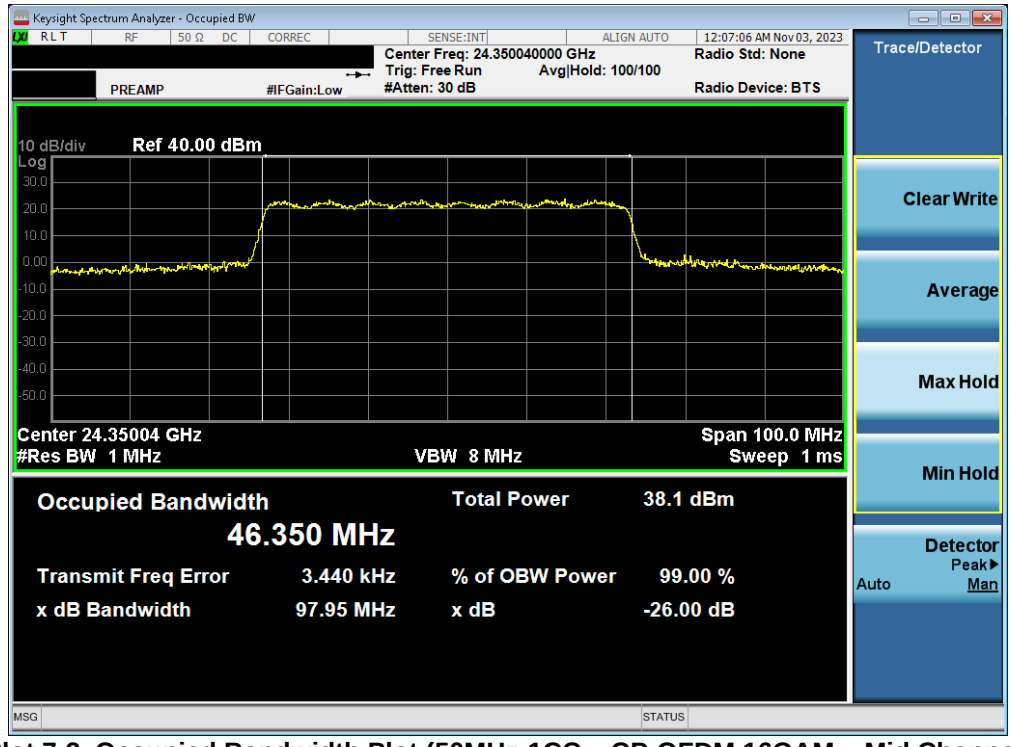
Table 7-2. Summary of Ant-1 Occupied Bandwidths (n258-R1)



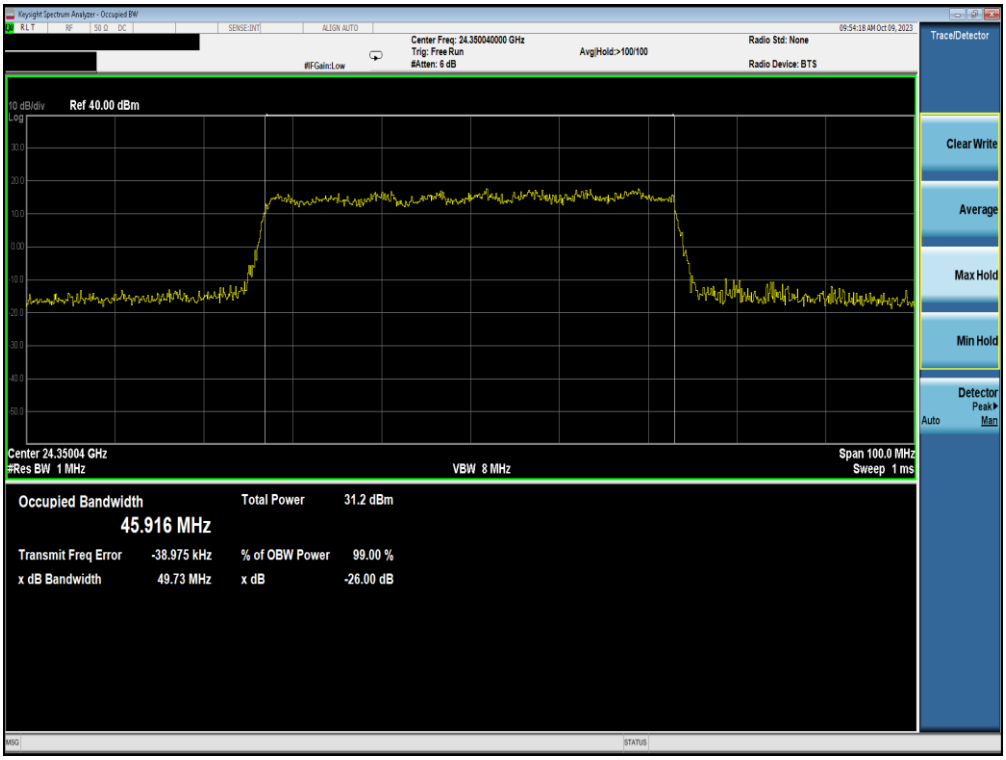
Plot 7-1. Occupied Bandwidth Plot (50MHz-1CC – CP-OFDM QPSK – Mid Channel)



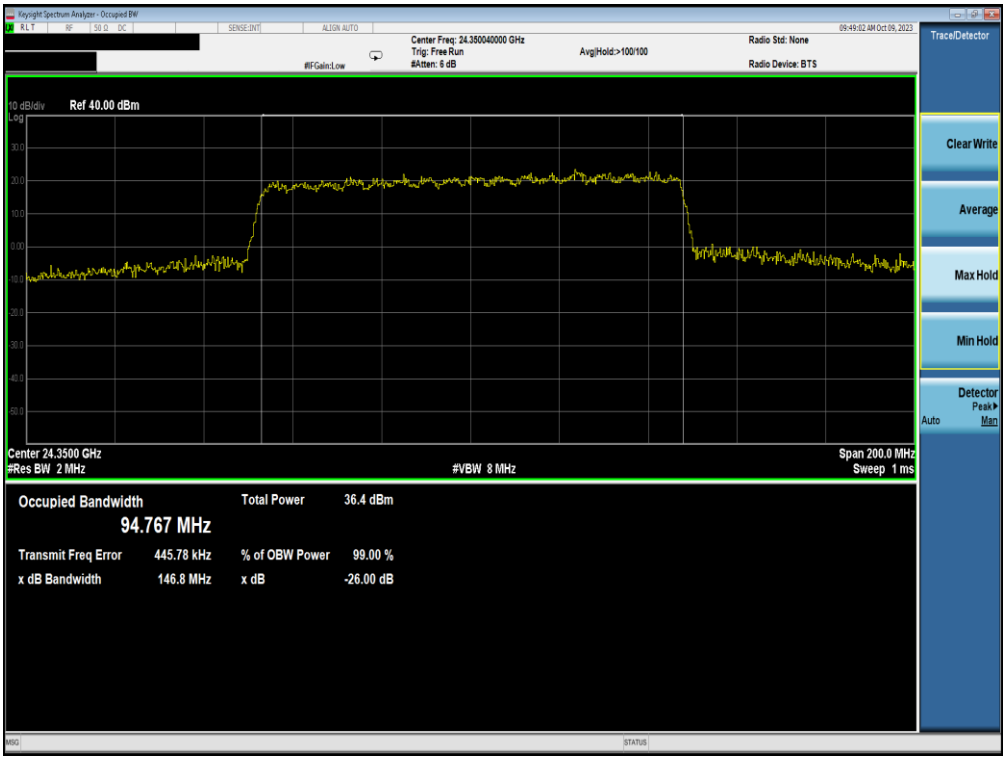
Plot 7-2. Occupied Bandwidth Plot (50MHz-1CC – DFT-s-OFDM π/2 BPSK – Mid Channel)



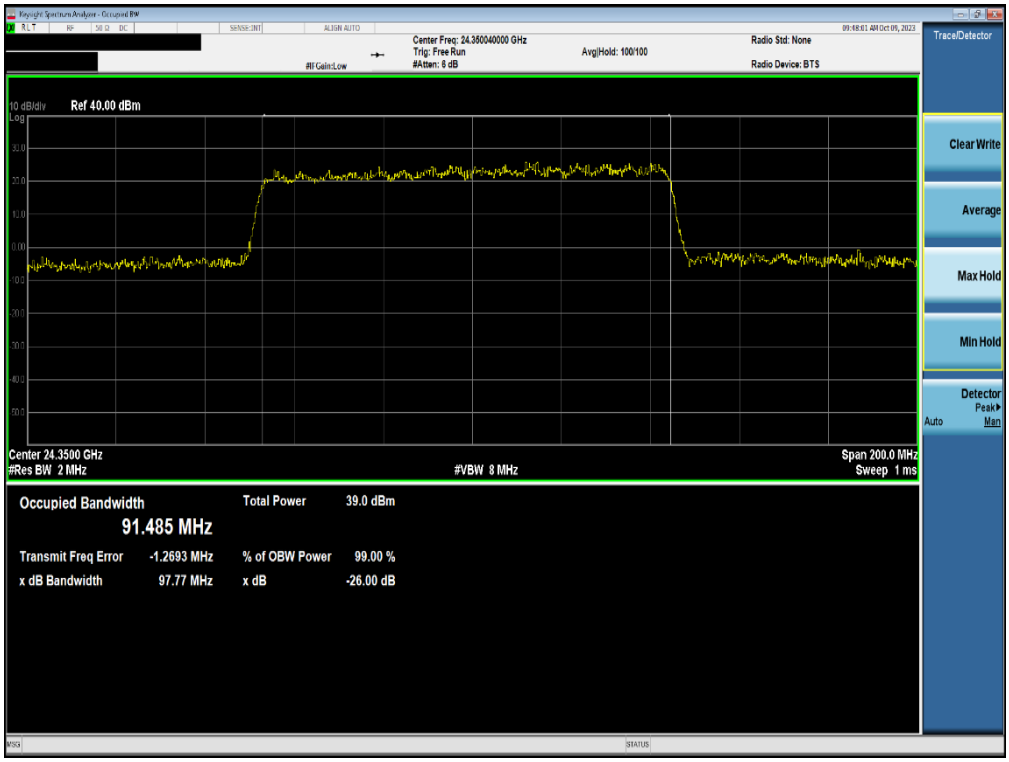
Plot 7-3. Occupied Bandwidth Plot (50MHz-1CC – CP-OFDM 16QAM – Mid Channel)



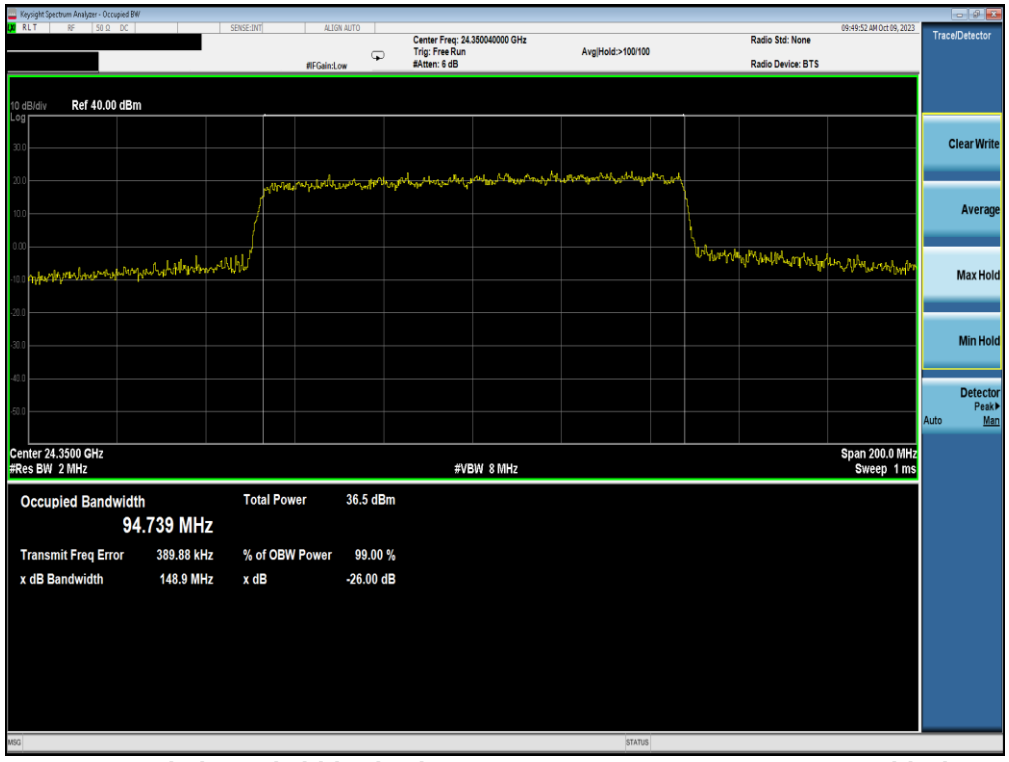
Plot 7-4. Occupied Bandwidth Plot (50MHz-1CC – CP-OFDM 64QAM – Mid Channel)



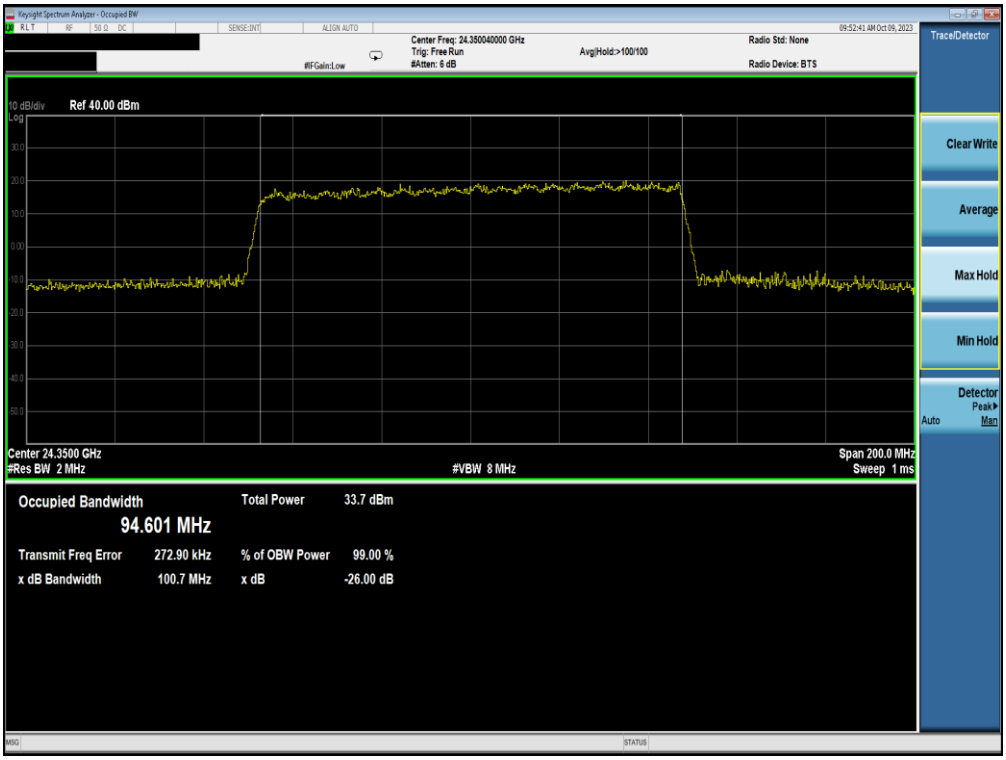
Plot 7-5. Occupied Bandwidth Plot (100MHz-1CC – CP-OFDM QPSK – Mid Channel)



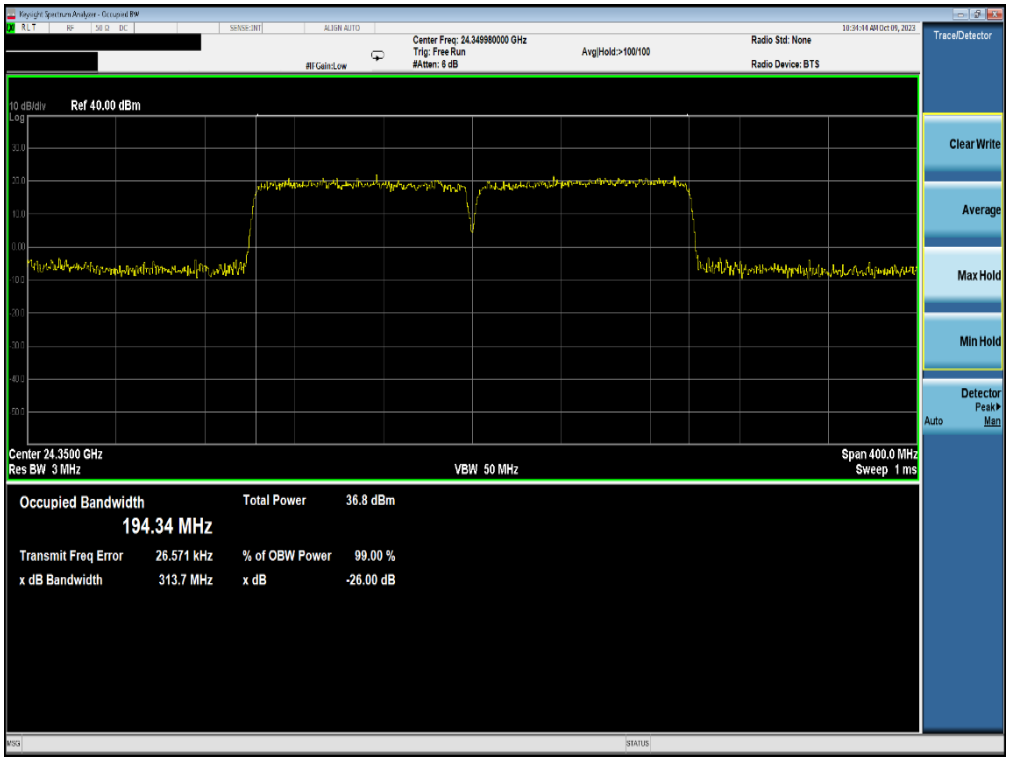
Plot 7-6.Occupied Bandwidth Plot (100MHz-1CC – DFT-s-OFDM π/2 BPSK – Mid Channel)



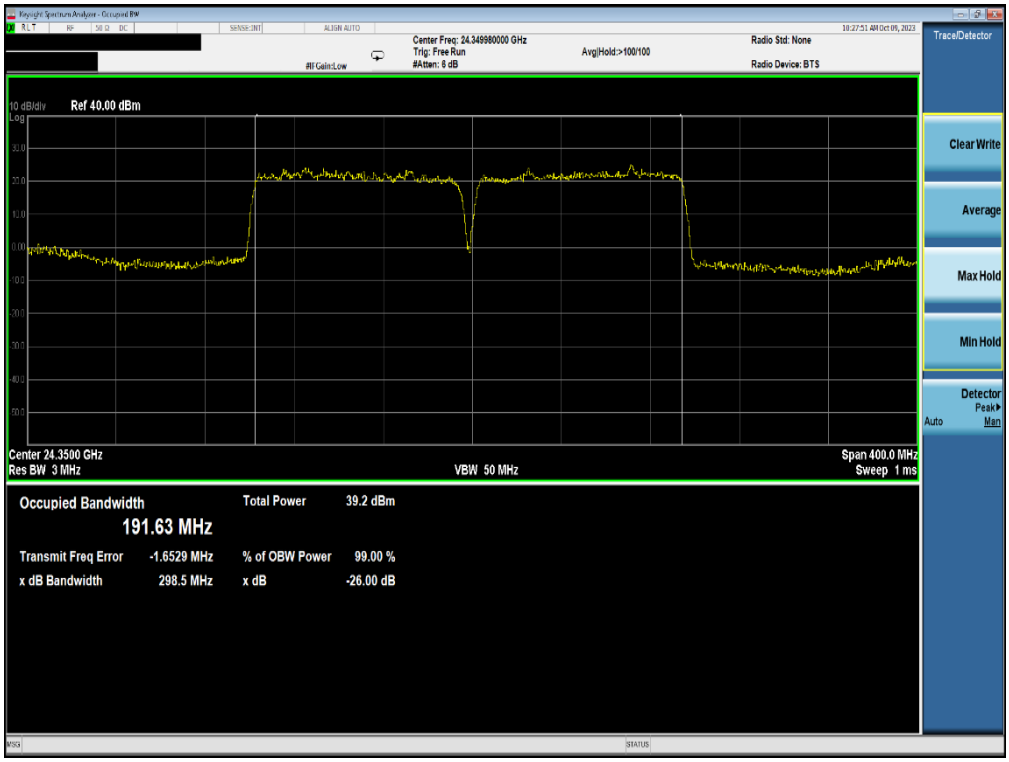
Plot 7-7. Occupied Bandwidth Plot (100MHz-1CC – CP-OFDM 16QAM – Mid Channel)



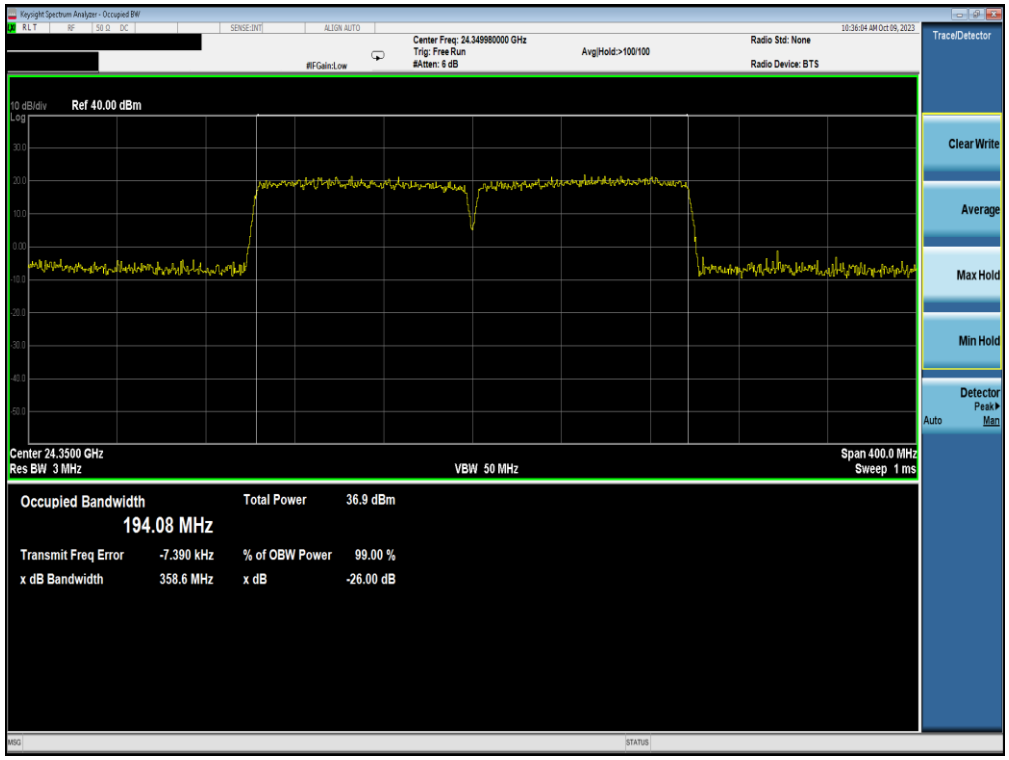
Plot 7-8. Occupied Bandwidth Plot (100MHz-1CC – CP-OFDM 64QAM – Mid Channel)



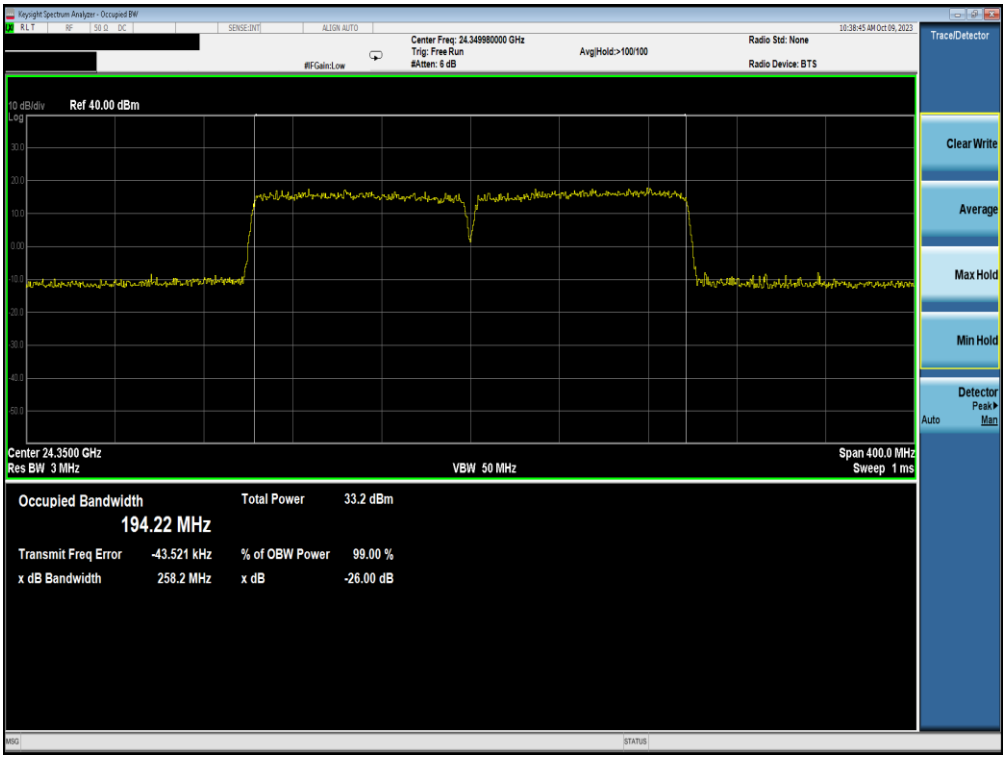
Plot 7-9. Occupied Bandwidth Plot (100MHz-2CC – CP-OFDM QPSK – Mid Channel)



Plot 7-10. Occupied Bandwidth Plot (100MHz-2CC – DFT-s-OFDM π/2 BPSK – Mid Channel)



Plot 7-11. Occupied Bandwidth Plot (100MHz-2CC – CP-OFDM 16QAM – Mid Channel)

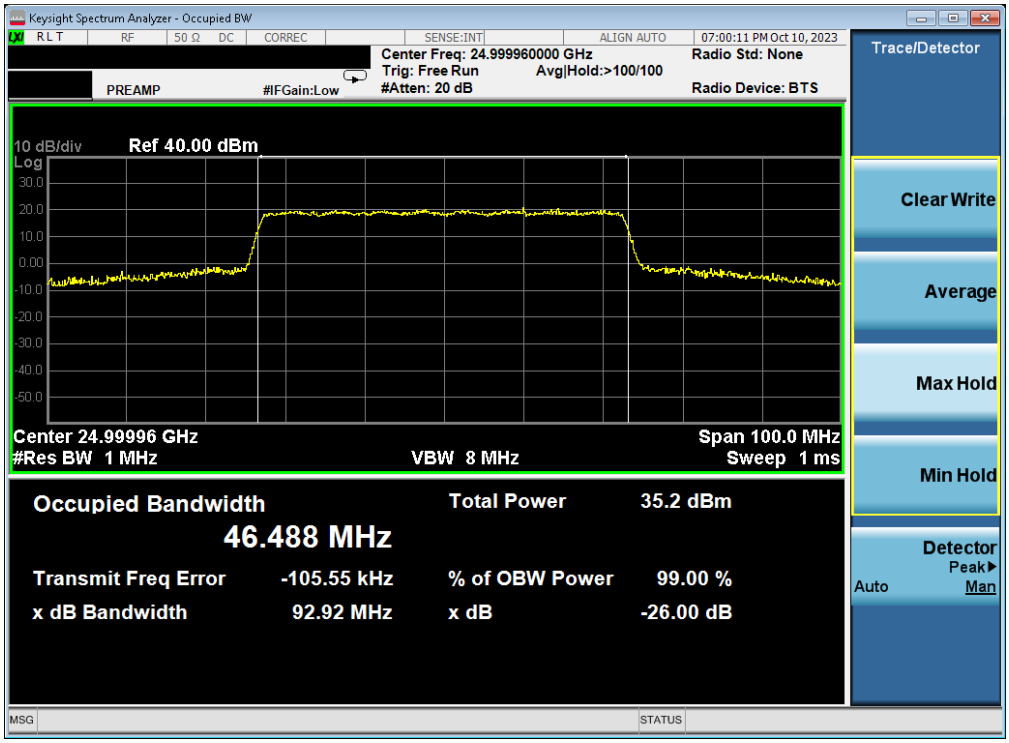


Plot 7-12. Occupied Bandwidth Plot (100MHz-2CC – DFT-s-OFDM 64QAM – Mid Channel)

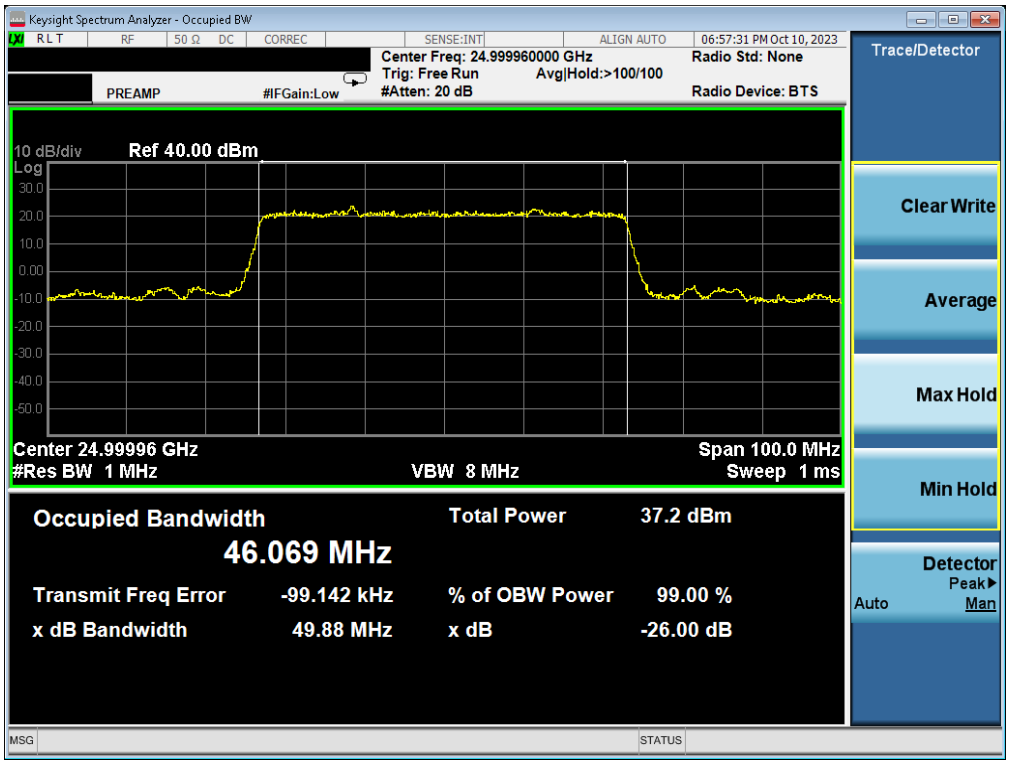
Band n258-R2

Bandwidth [MHz]	CCs Active	Transmition Scheme	Modulation	OBW [MHz]
50	1	CP-OFDM	QPSK	46.49
		DFT-s-OFDM	π/2 BPSK	46.07
		CP-OFDM	16QAM	46.30
		CP-OFDM	64QAM	46.03
100	1	CP-OFDM	QPSK	95.80
		DFT-s-OFDM	π/2 BPSK	91.88
		CP-OFDM	16QAM	95.41
		CP-OFDM	64QAM	95.07
	2	CP-OFDM	QPSK	198.01
		DFT-s-OFDM	π/2 BPSK	194.32
		CP-OFDM	16QAM	197.89
		CP-OFDM	64QAM	195.53
	3	CP-OFDM	QPSK	298.16
		DFT-s-OFDM	π/2 BPSK	296.47
		CP-OFDM	16QAM	298.91
		CP-OFDM	64QAM	296.59
	4	CP-OFDM	QPSK	396.12
		DFT-s-OFDM	π/2 BPSK	394.23
		CP-OFDM	16QAM	396.84
		CP-OFDM	64QAM	396.15

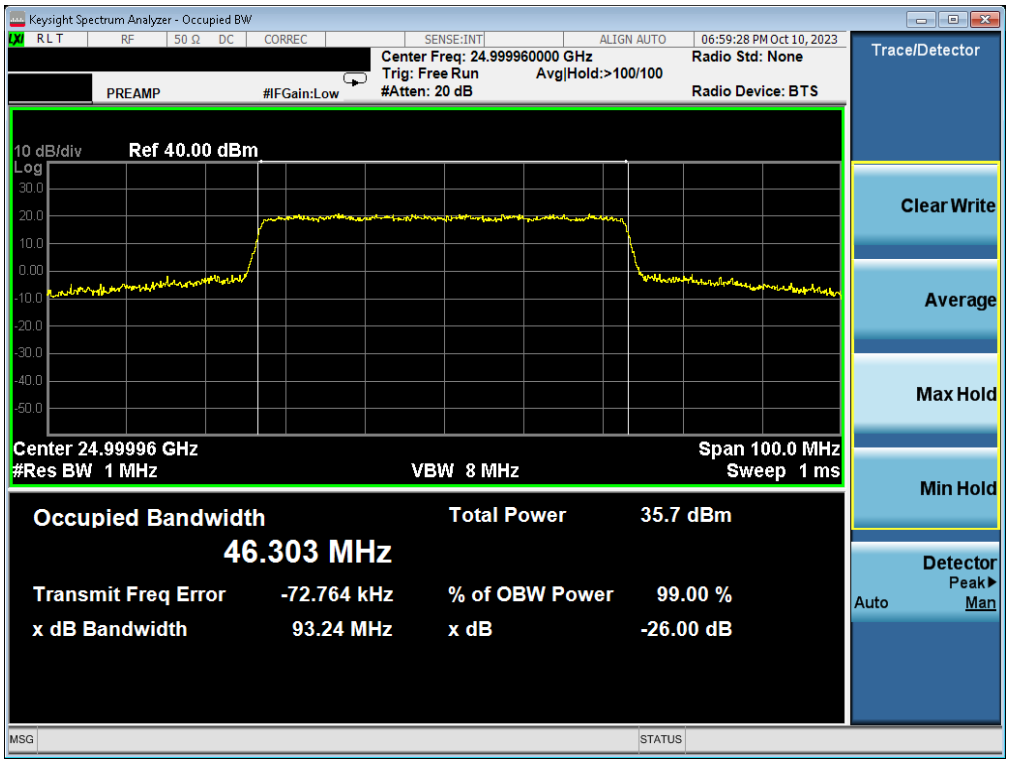
Table 7-3. Summary of Occupied Bandwidths (n258-R2)



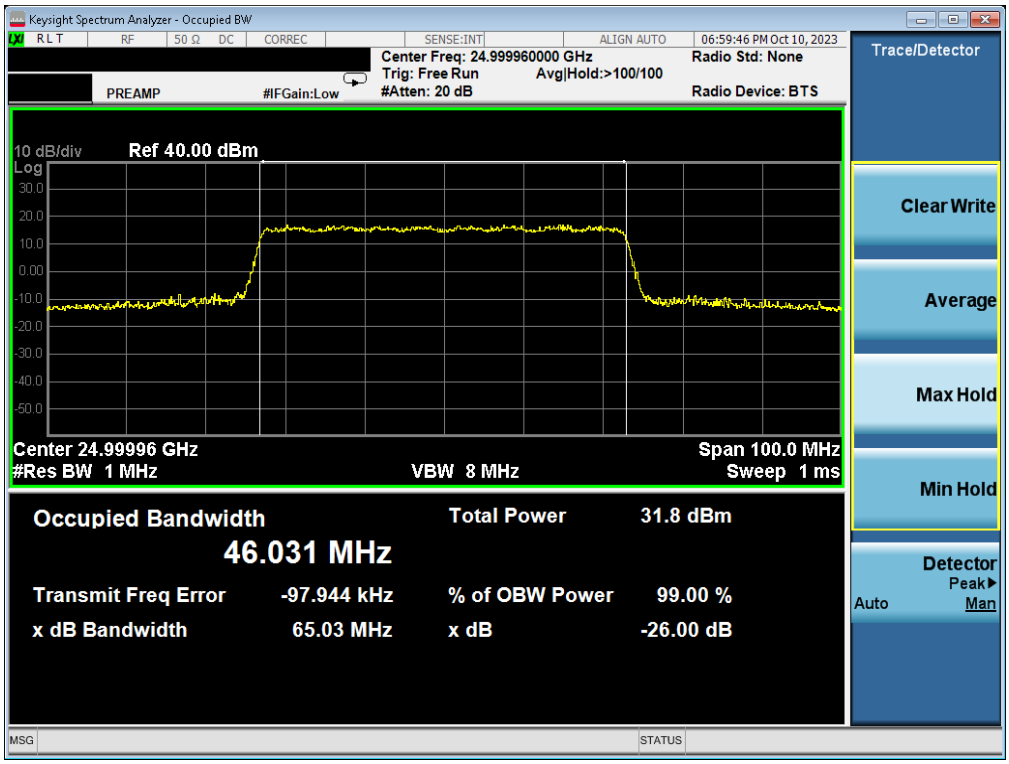
Plot 7-13. Occupied Bandwidth Plot (50MHz-1CC – CP-OFDM QPSK – Mid Channel)



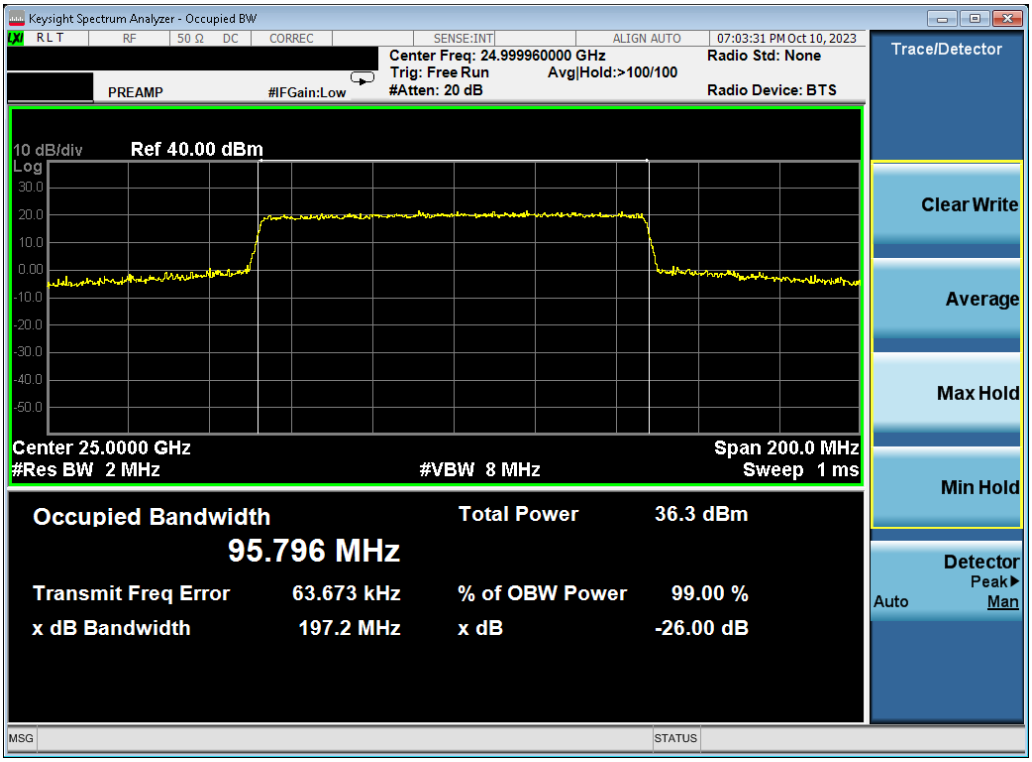
Plot 7-14. Occupied Bandwidth Plot (50MHz-1CC – DFT-s-OFDM π/2 BPSK – Mid Channel)



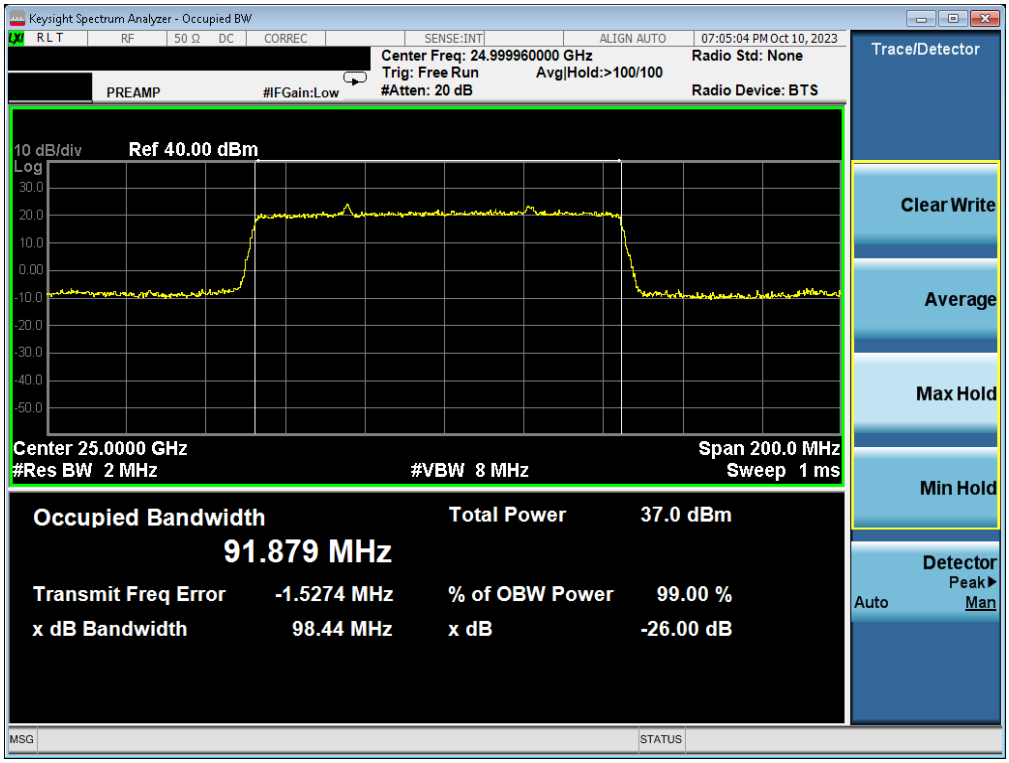
Plot 7-15. Occupied Bandwidth Plot (50MHz-1CC – CP-OFDM 16QAM – Mid Channel)



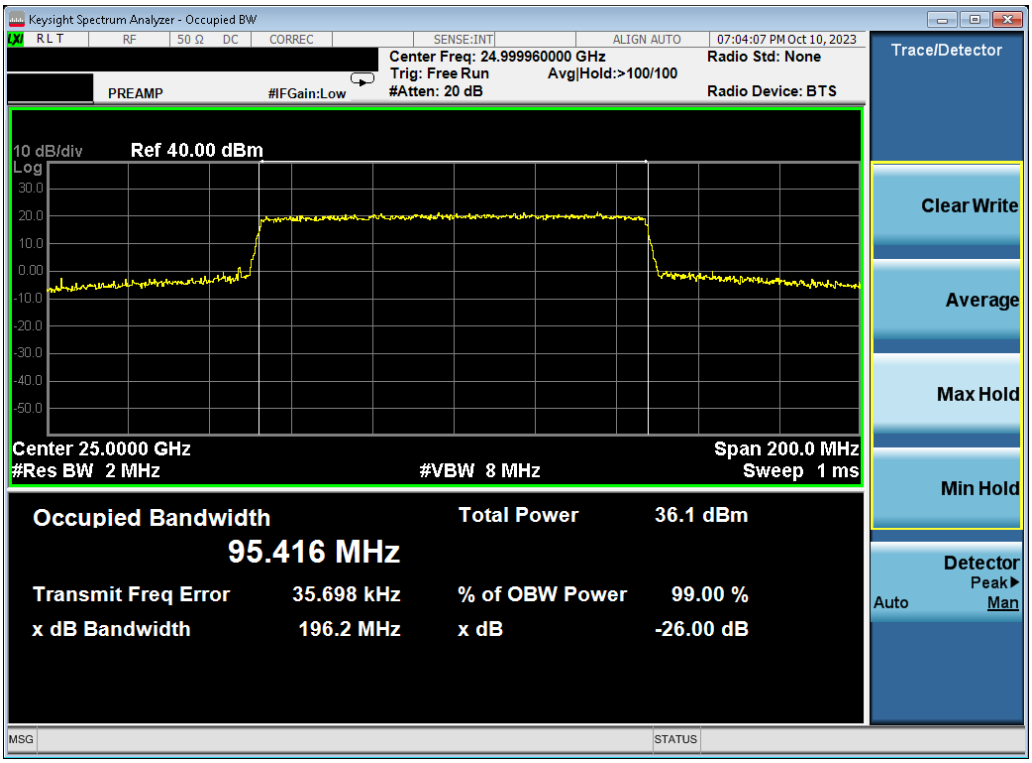
Plot 7-16. Occupied Bandwidth Plot (50MHz-1CC – CP-OFDM 64QAM – Mid Channel)



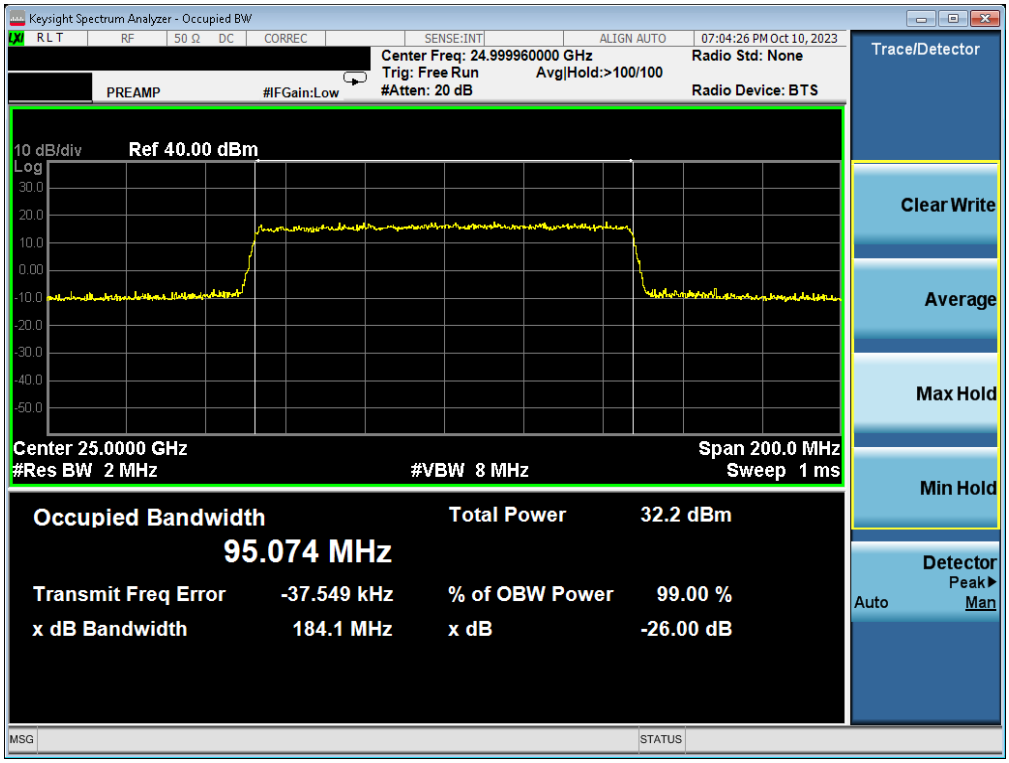
Plot 7-17. Occupied Bandwidth Plot (100MHz-1CC – CP-OFDM QPSK – Mid Channel)



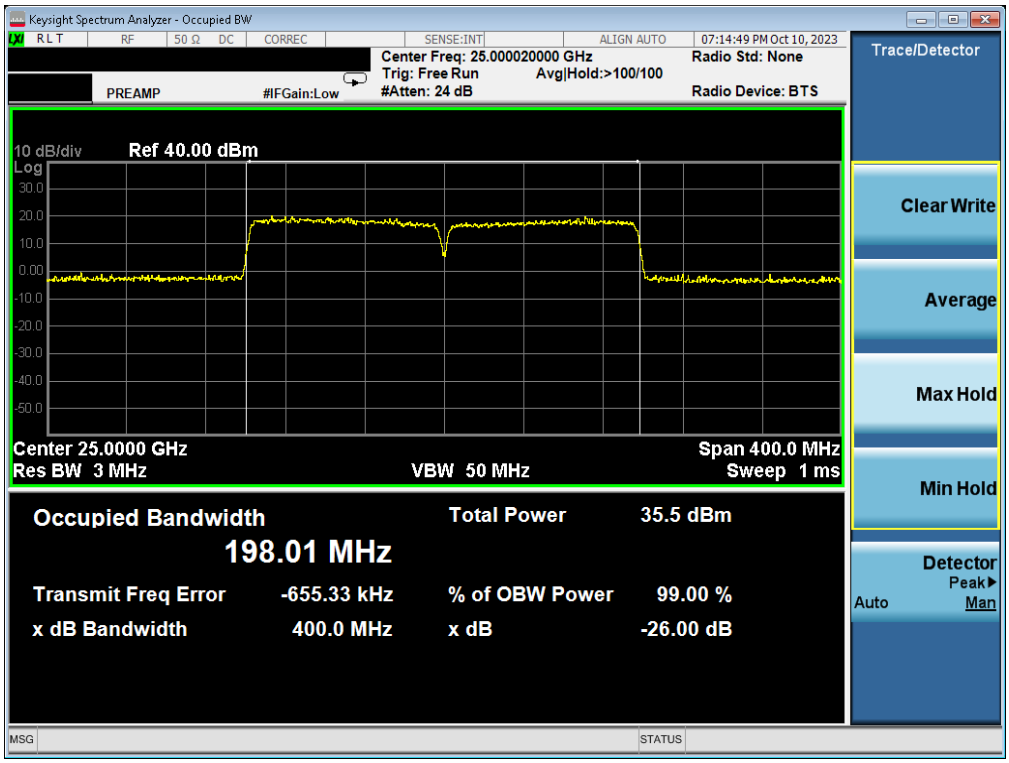
Plot 7-18. Occupied Bandwidth Plot (100MHz-1CC – DFT-s-OFDM π/2 BPSK – Mid Channel)



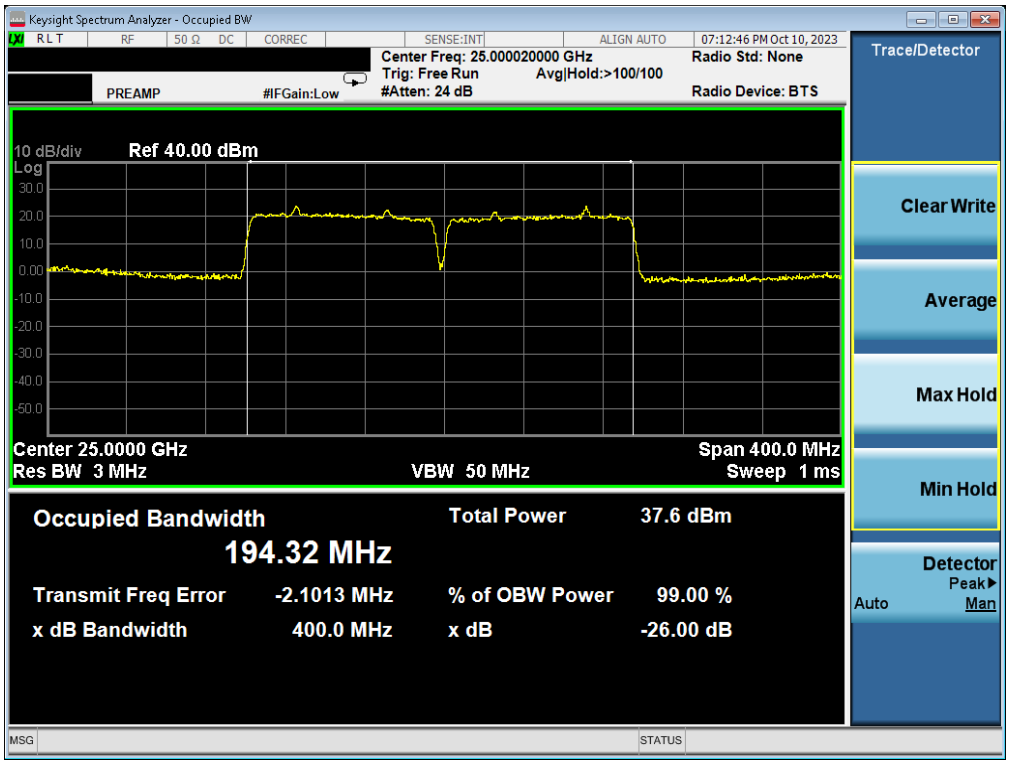
Plot 7-19. Occupied Bandwidth Plot (100MHz-1CC – CP-OFDM 16QAM – Mid Channel)



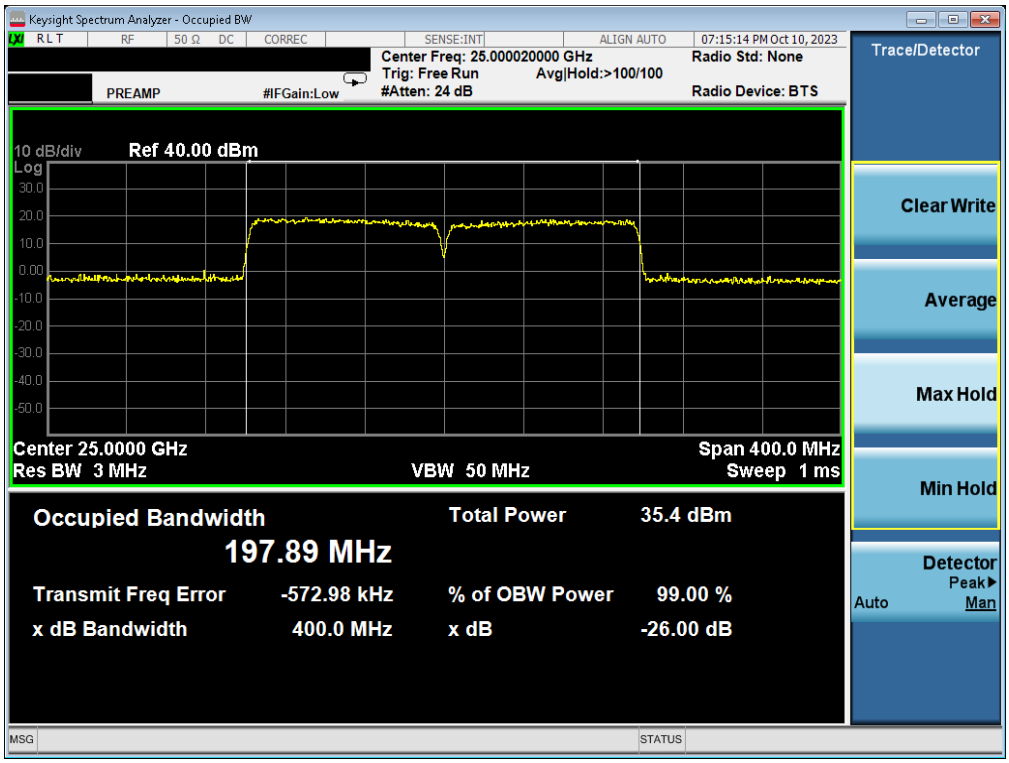
Plot 7-20. Occupied Bandwidth Plot (100MHz-1CC – CP-OFDM 64QAM – Mid Channel)



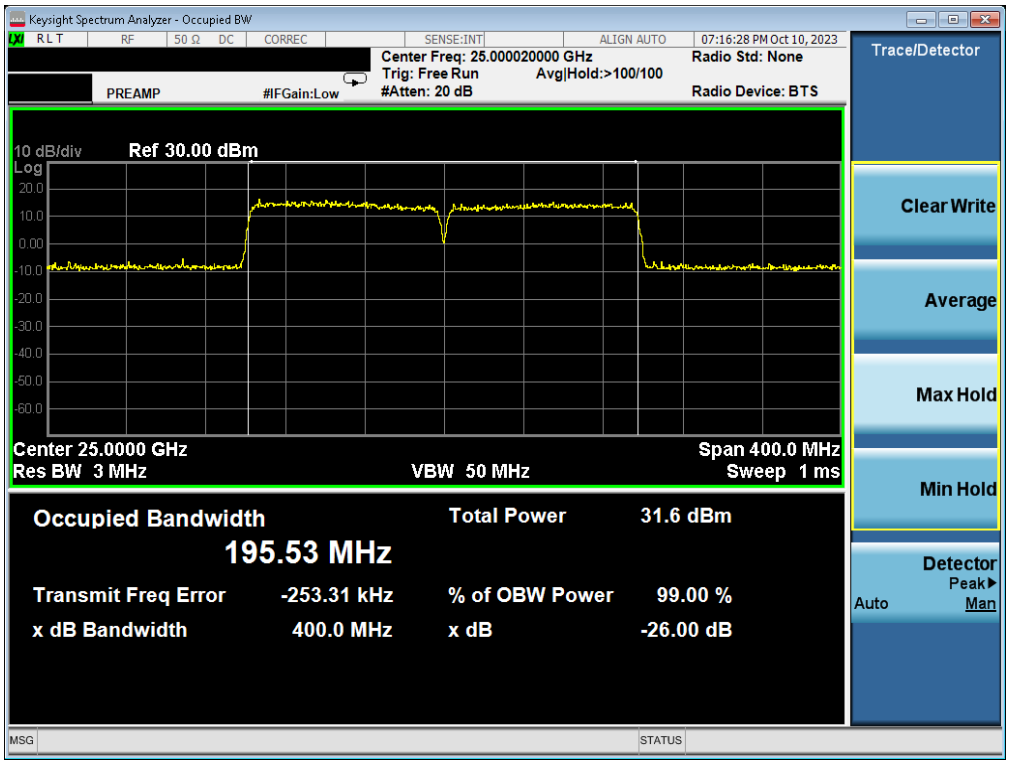
Plot 7-21. Occupied Bandwidth Plot (100MHz-2CC – CP-OFDM QPSK – Mid Channel)



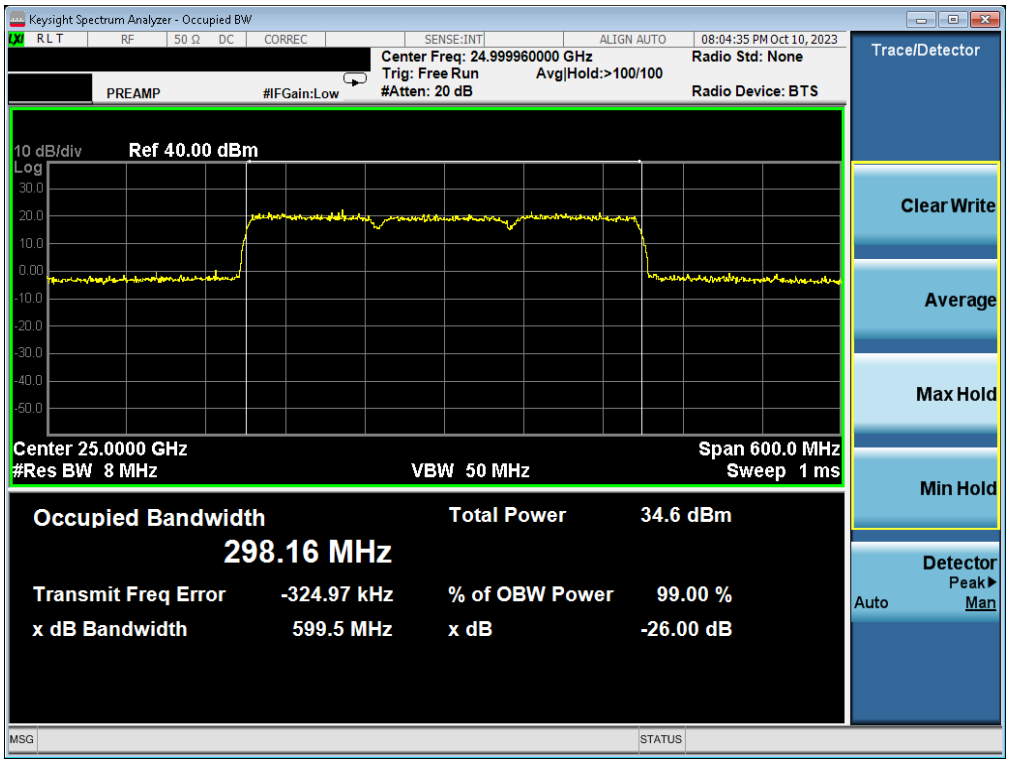
Plot 7-22. Occupied Bandwidth Plot (100MHz-2CC – DFT-s-OFDM π/2 BPSK – Mid Channel)



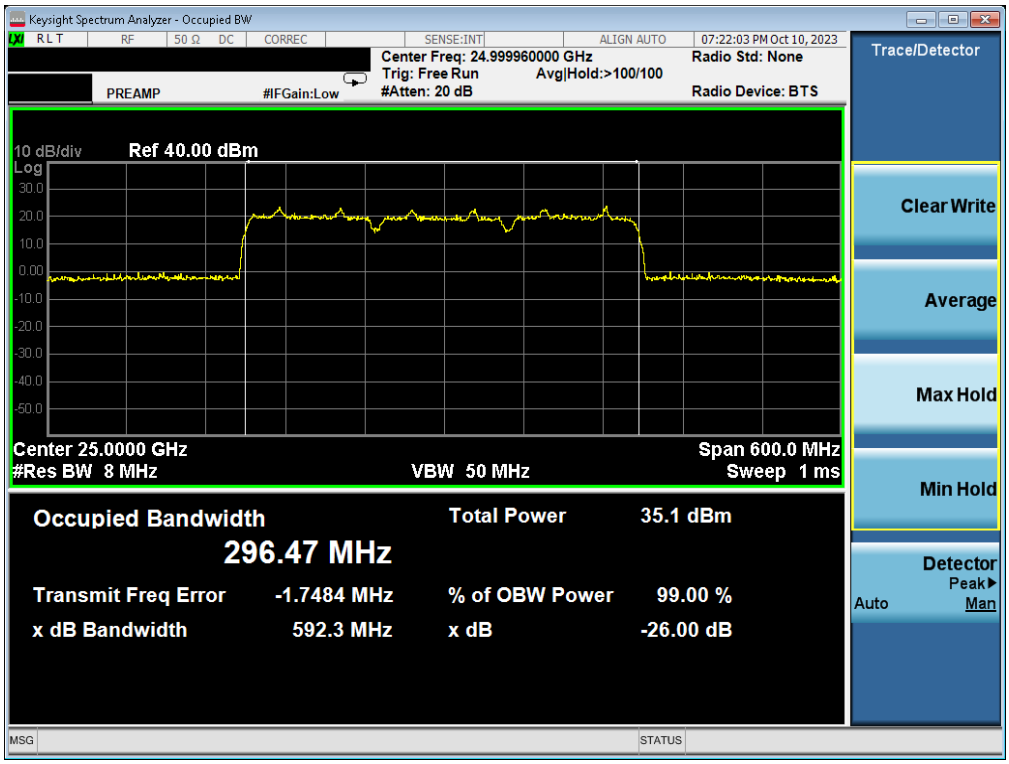
Plot 7-23. Occupied Bandwidth Plot (100MHz-2CC – CP-OFDM 16QAM – Mid Channel)



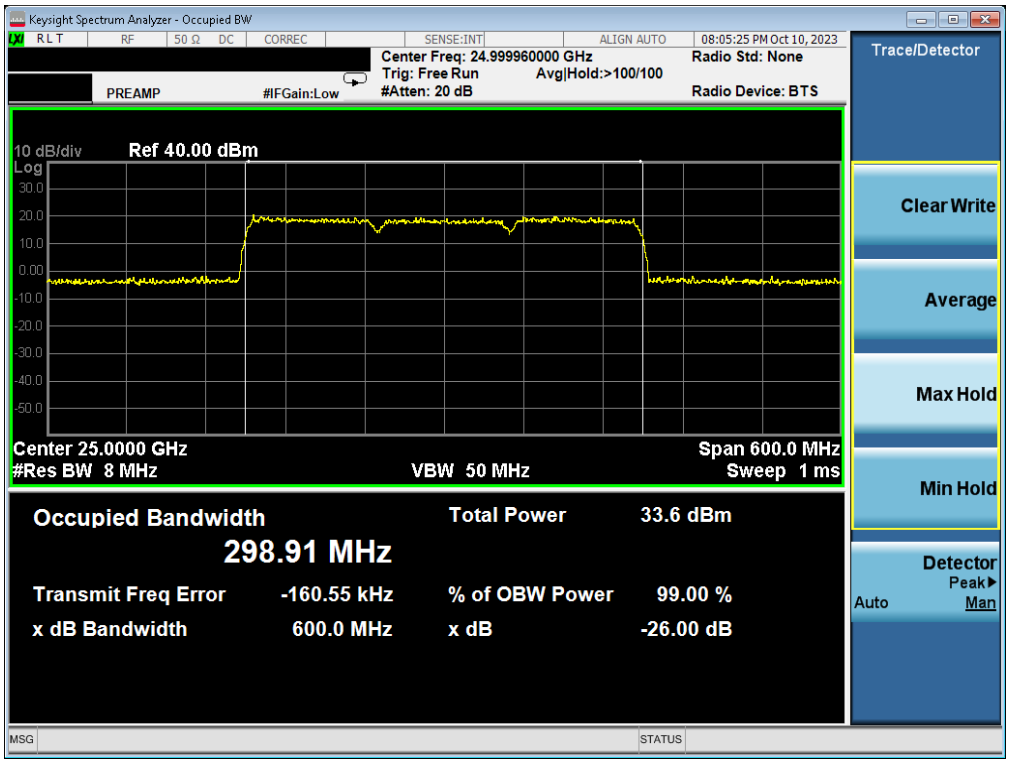
Plot 7-24. Occupied Bandwidth Plot (100MHz-2CC – CP-OFDM 64QAM – Mid Channel)



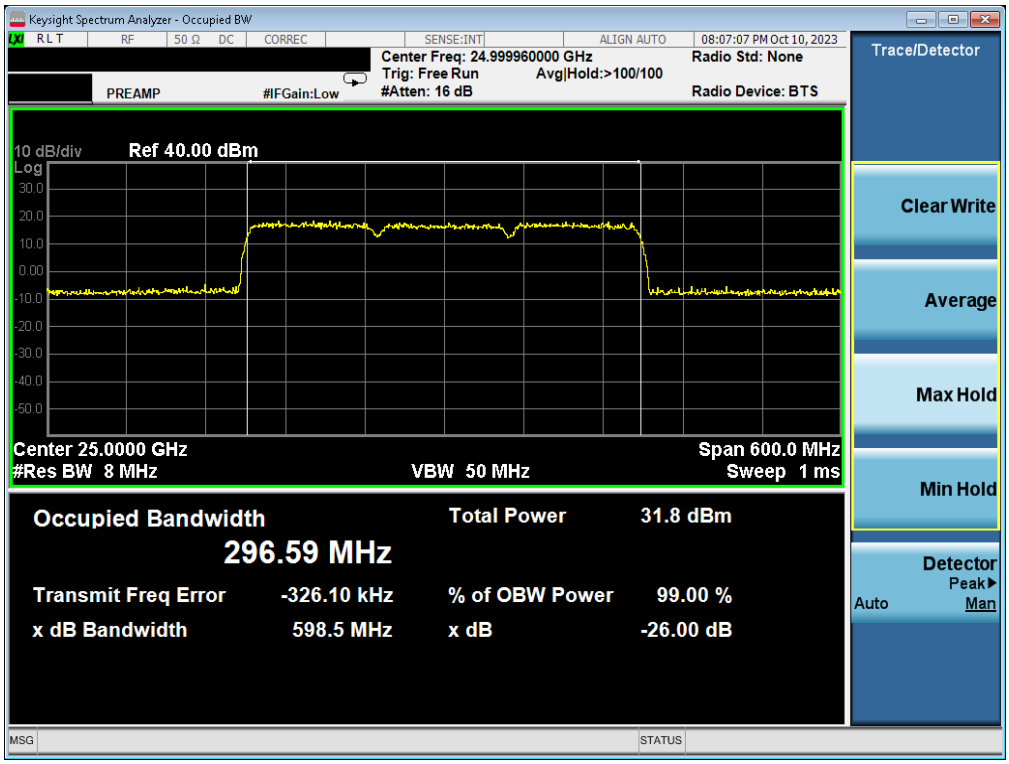
Plot 7-25. Occupied Bandwidth Plot (100MHz-3CC – CP-OFDM QPSK – Mid Channel)



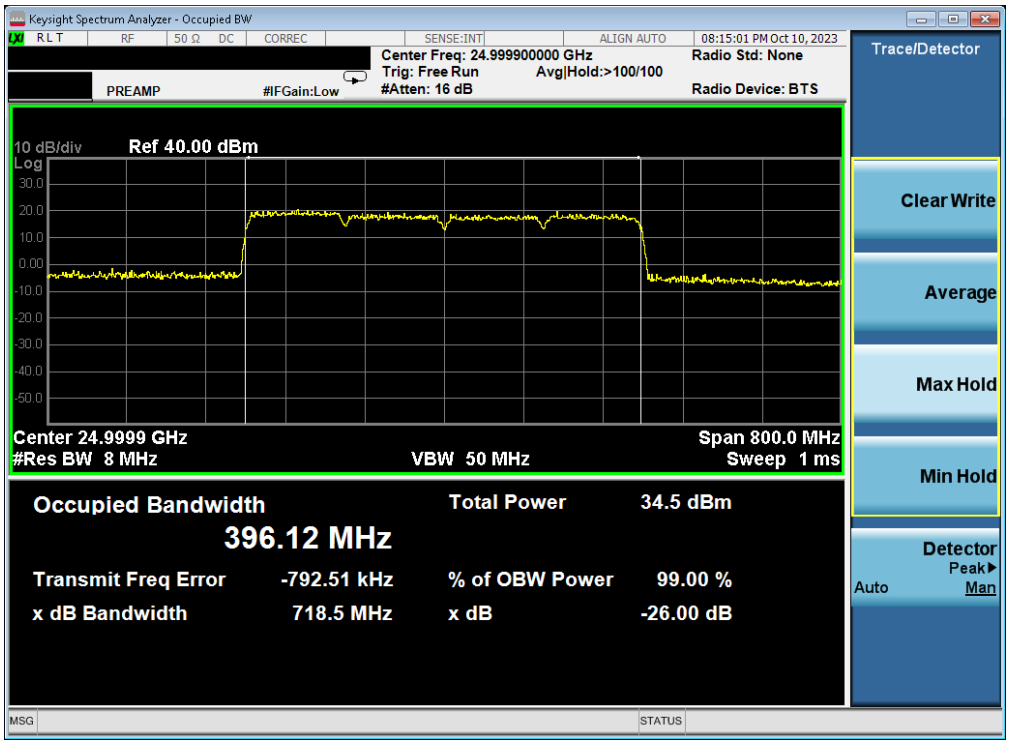
Plot 7-26. Occupied Bandwidth Plot (100MHz-3CC – DFT-s-OFDM π/2 BPSK – Mid Channel)



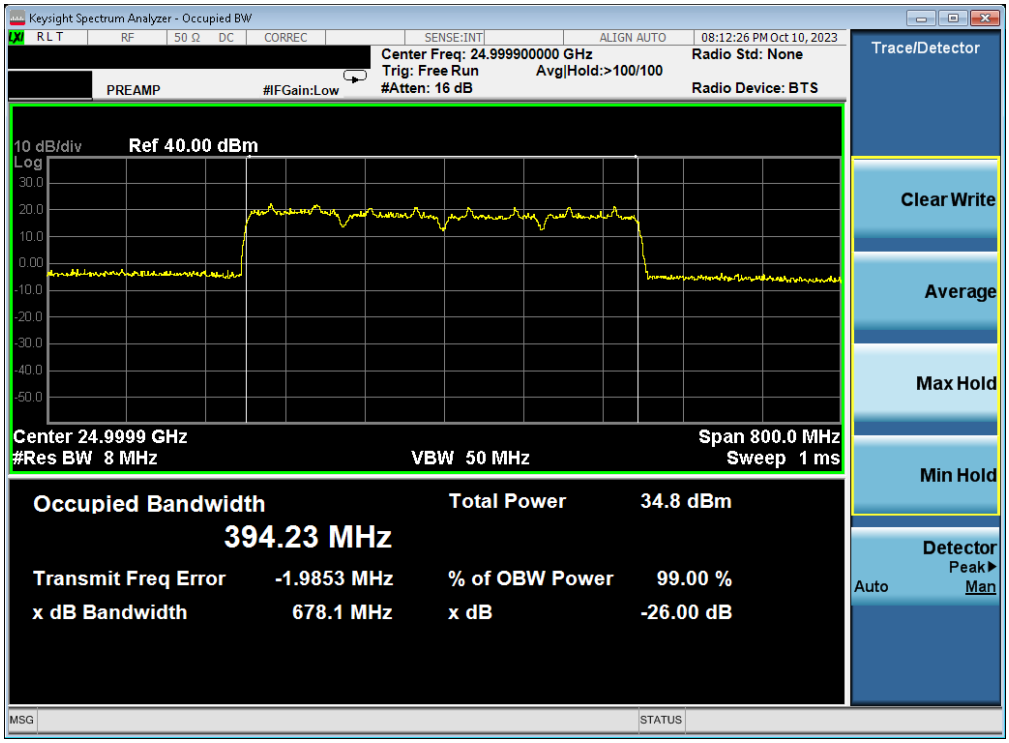
Plot 7-27. Occupied Bandwidth Plot (100MHz-3CC – CP-OFDM 16QAM – Mid Channel)



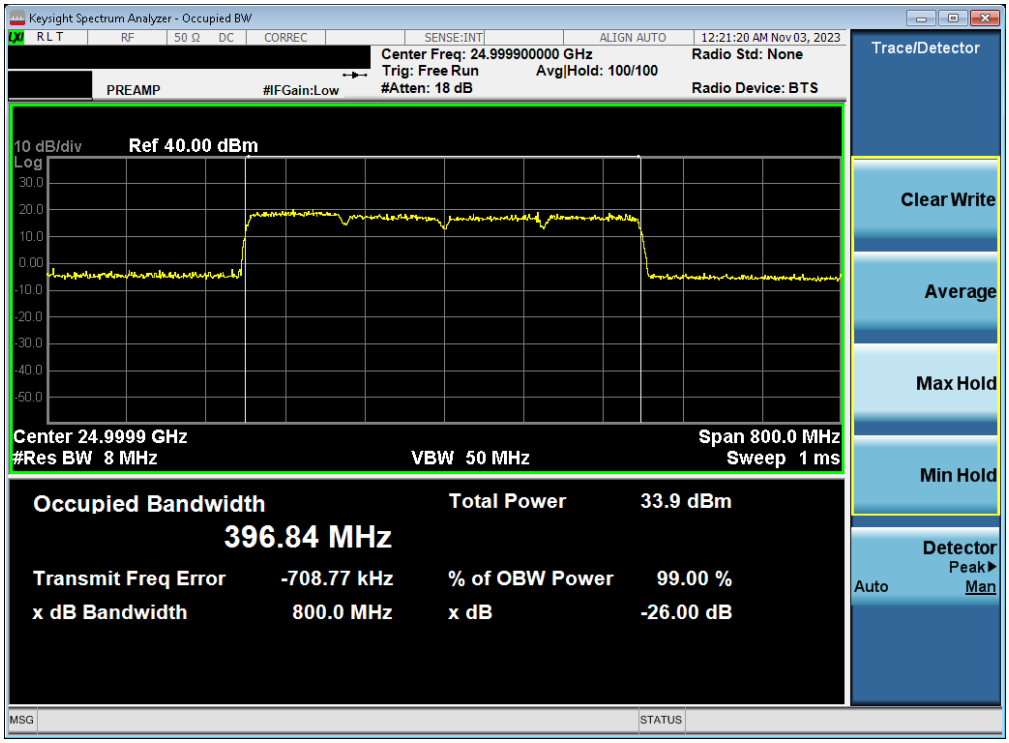
Plot 7-28. Occupied Bandwidth Plot (100MHz-3CC – CP-OFDM 64QAM – Mid Channel)



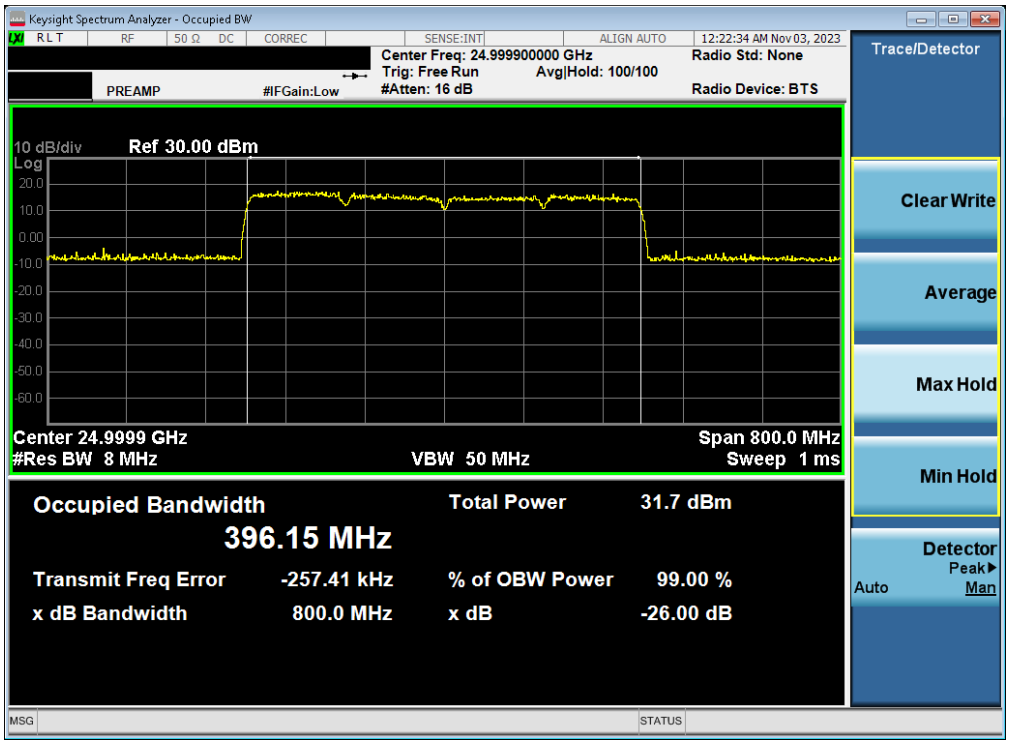
Plot 7-29. Occupied Bandwidth Plot (100MHz-4CC – CP-OFDM QPSK – Mid Channel)



Plot 7-30. Occupied Bandwidth Plot (100MHz-4CC – DFT-s-OFDM π/2 BPSK – Mid Channel)



Plot 7-31. Occupied Bandwidth Plot (100MHz-4CC – CP-OFDM 16QAM – Mid Channel)

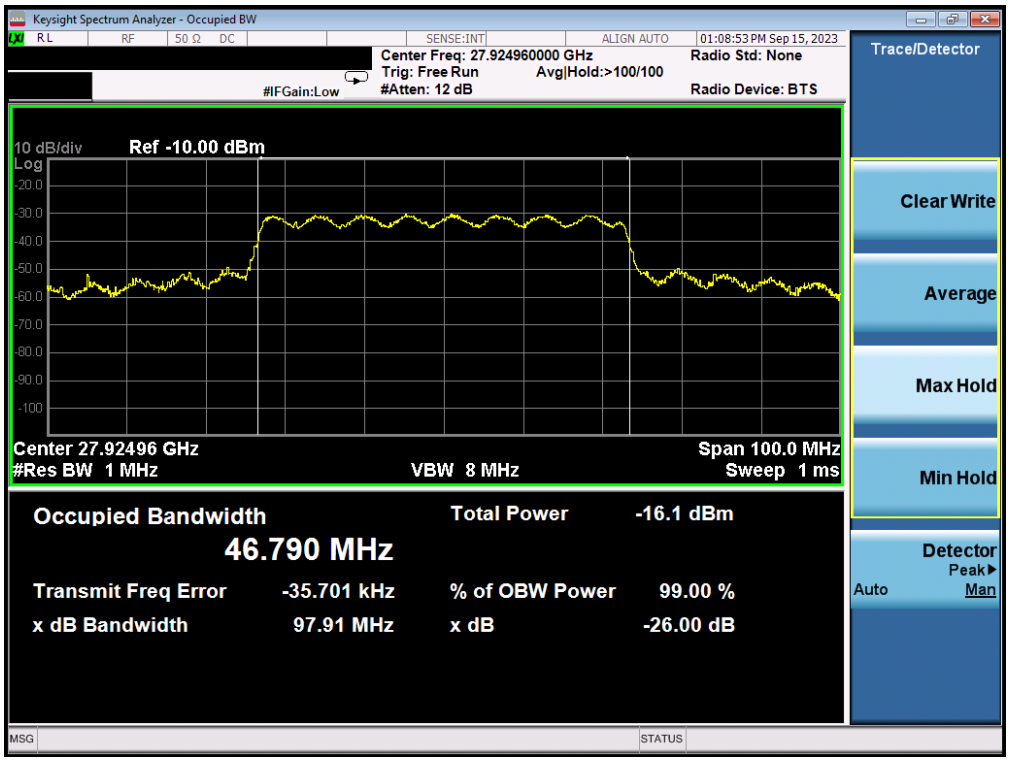


Plot 7-32. Occupied Bandwidth Plot (100MHz-4CC – CP-OFDM 64QAM – Mid Channel)

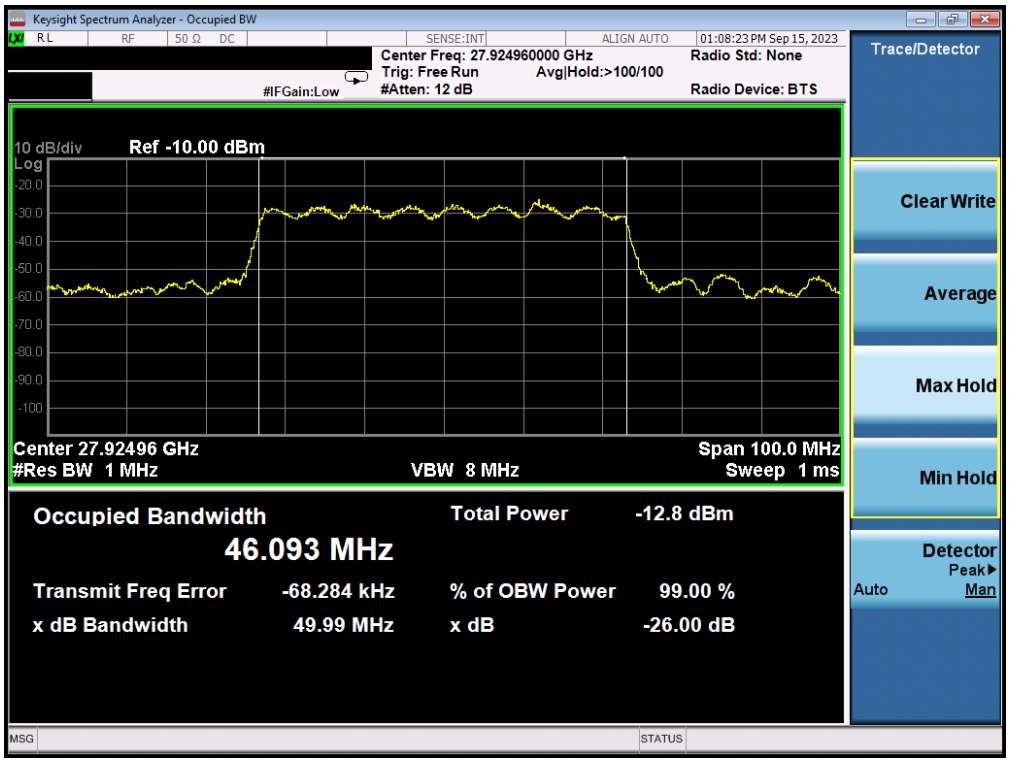
Band n261

Bandwidth [MHz]	CCs Active	Transmition Scheme	Modulation	OBW [MHz]
50	1	CP-OFDM	QPSK	46.79
		DFT-s-OFDM	π/2 BPSK	46.09
		CP-OFDM	16QAM	46.59
		CP-OFDM	64QAM	46.13
100	1	CP-OFDM	QPSK	95.83
		DFT-s-OFDM	π/2 BPSK	91.66
		CP-OFDM	16QAM	95.87
		CP-OFDM	64QAM	94.90
	2	CP-OFDM	QPSK	194.99
		DFT-s-OFDM	π/2 BPSK	191.82
		CP-OFDM	16QAM	194.93
		CP-OFDM	64QAM	195.92
	3	CP-OFDM	QPSK	295.09
		DFT-s-OFDM	π/2 BPSK	292.68
		CP-OFDM	16QAM	295.20
		CP-OFDM	64QAM	298.84
	4	CP-OFDM	QPSK	397.08
		DFT-s-OFDM	π/2 BPSK	393.83
		CP-OFDM	16QAM	397.52
		CP-OFDM	64QAM	396.25

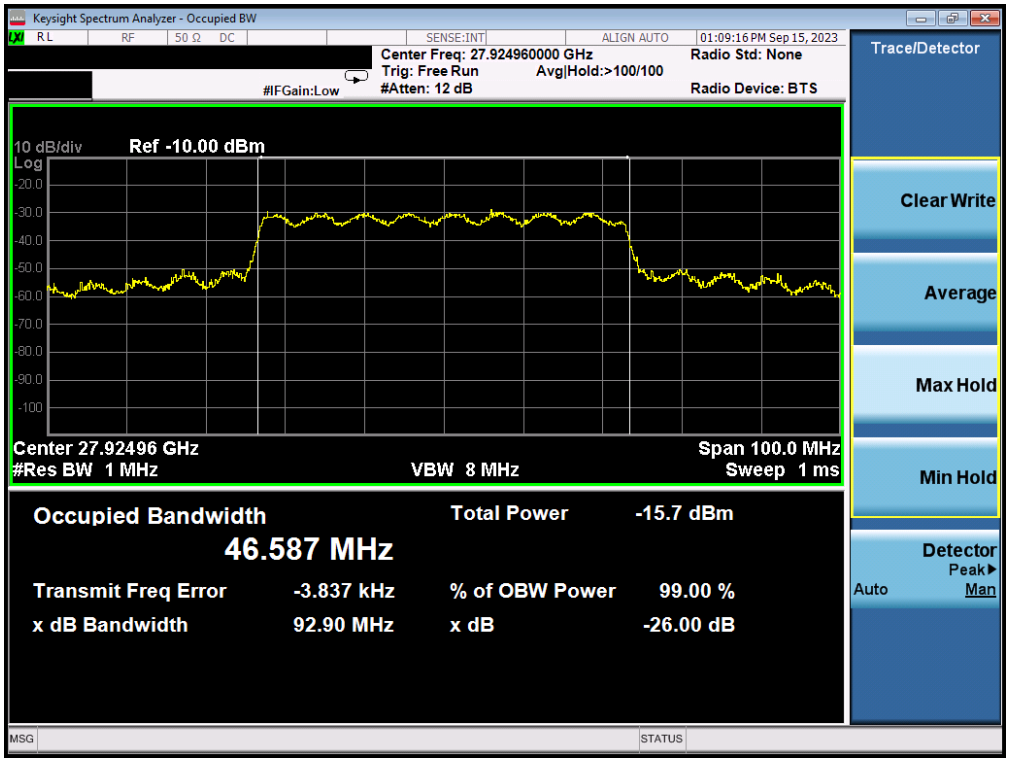
Table 7-4. Summary of Occupied Bandwidths (n261)



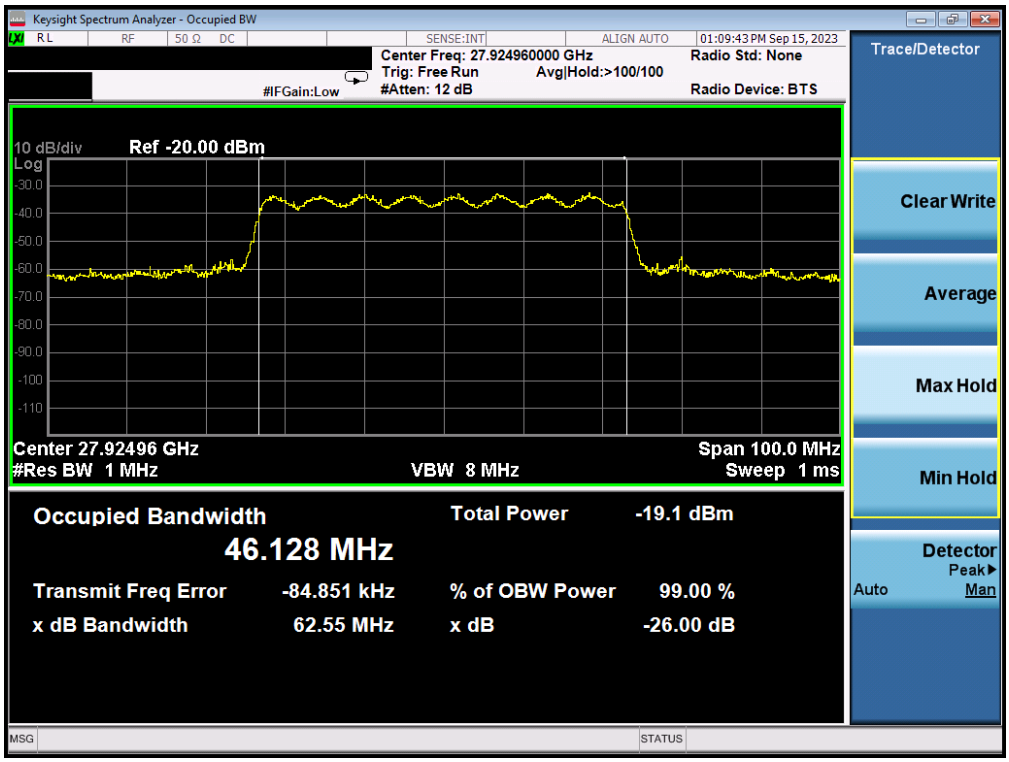
Plot 7-33. Occupied Bandwidth Plot (50MHz-1CC – CP-OFDM QPSK – Mid Channel)



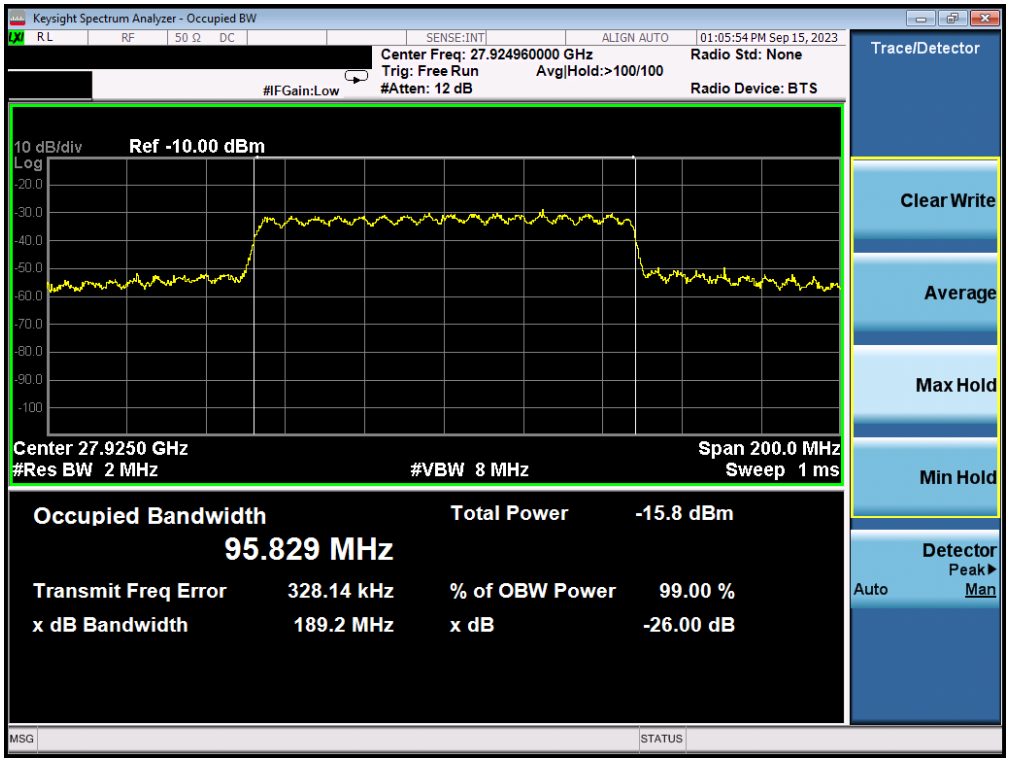
Plot 7-34. Occupied Bandwidth Plot (50MHz-1CC – DFT-s-OFDM π/2 BPSK – Mid Channel)



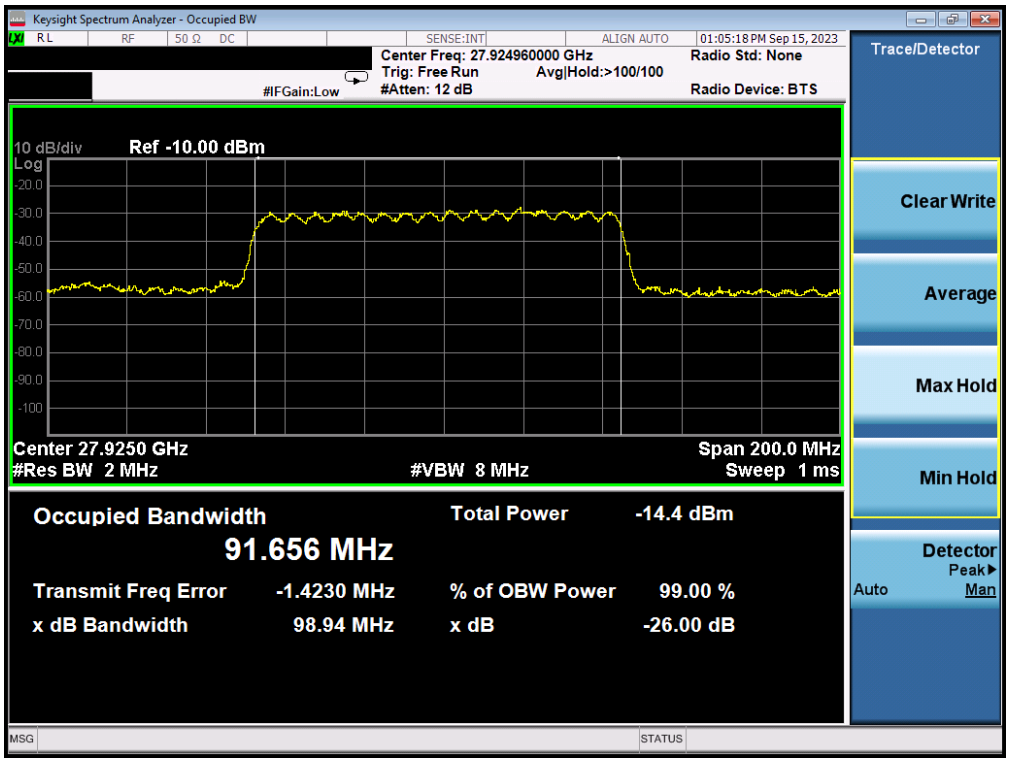
Plot 7-35. Occupied Bandwidth Plot (50MHz-1CC – CP-OFDM 16QAM – Mid Channel)



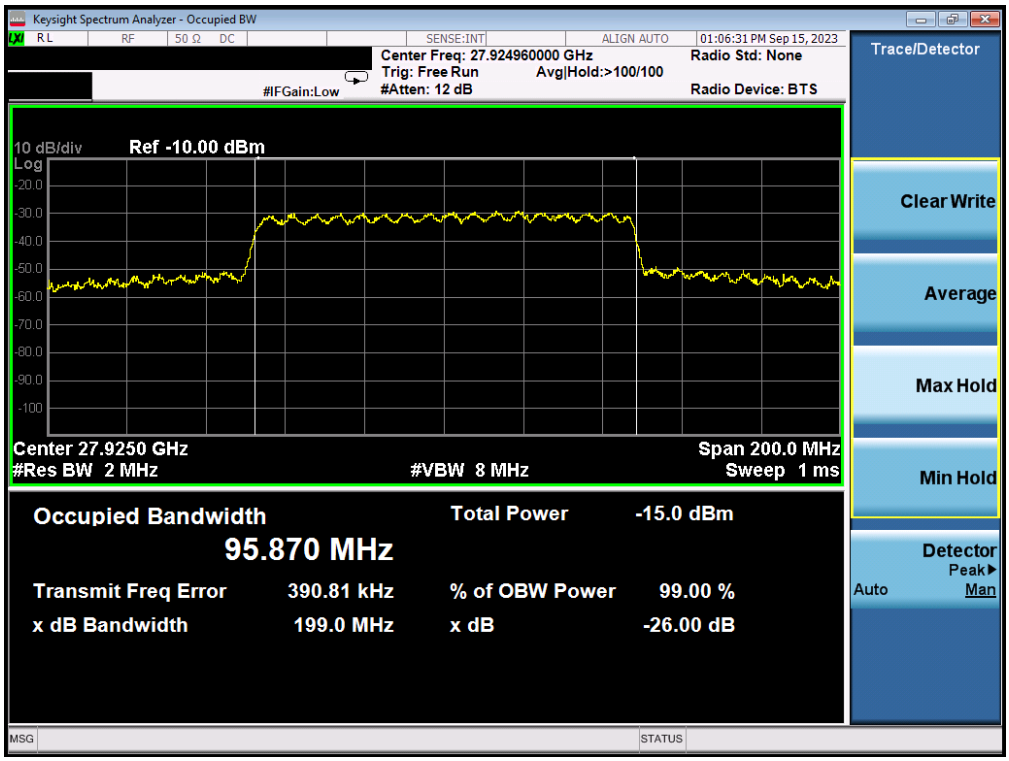
Plot 7-36. Occupied Bandwidth Plot (50MHz-1CC – CP-OFDM 64QAM – Mid Channel)



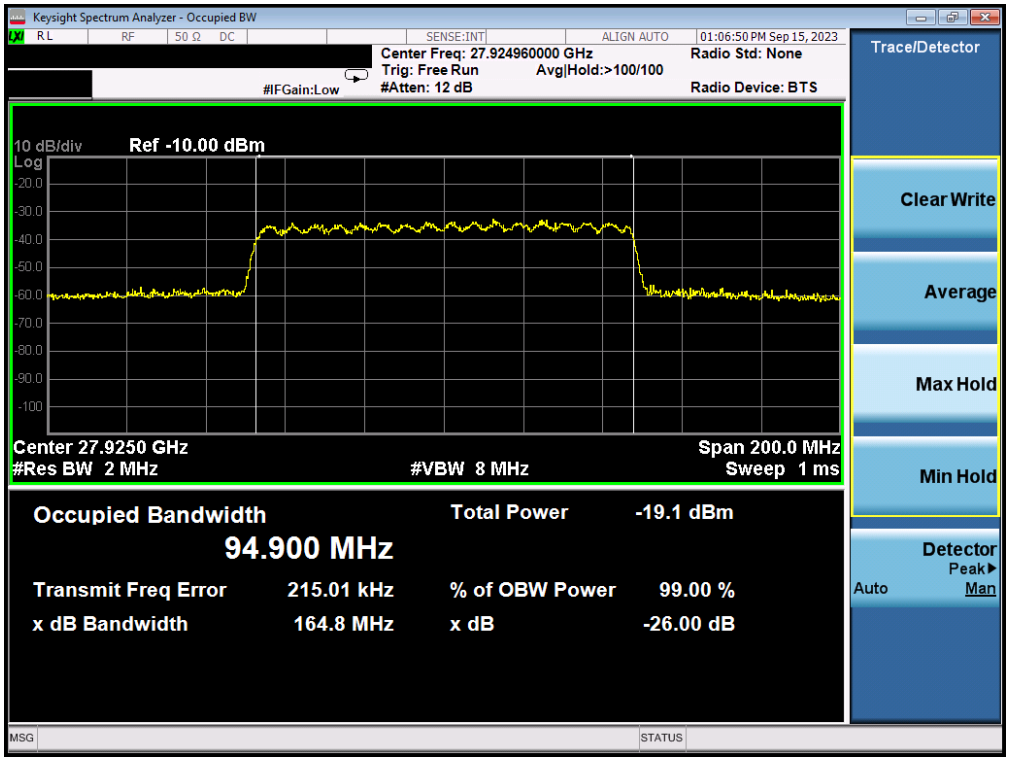
Plot 7-37. Occupied Bandwidth Plot (100MHz-1CC – CP-OFDM QPSK – Mid Channel)



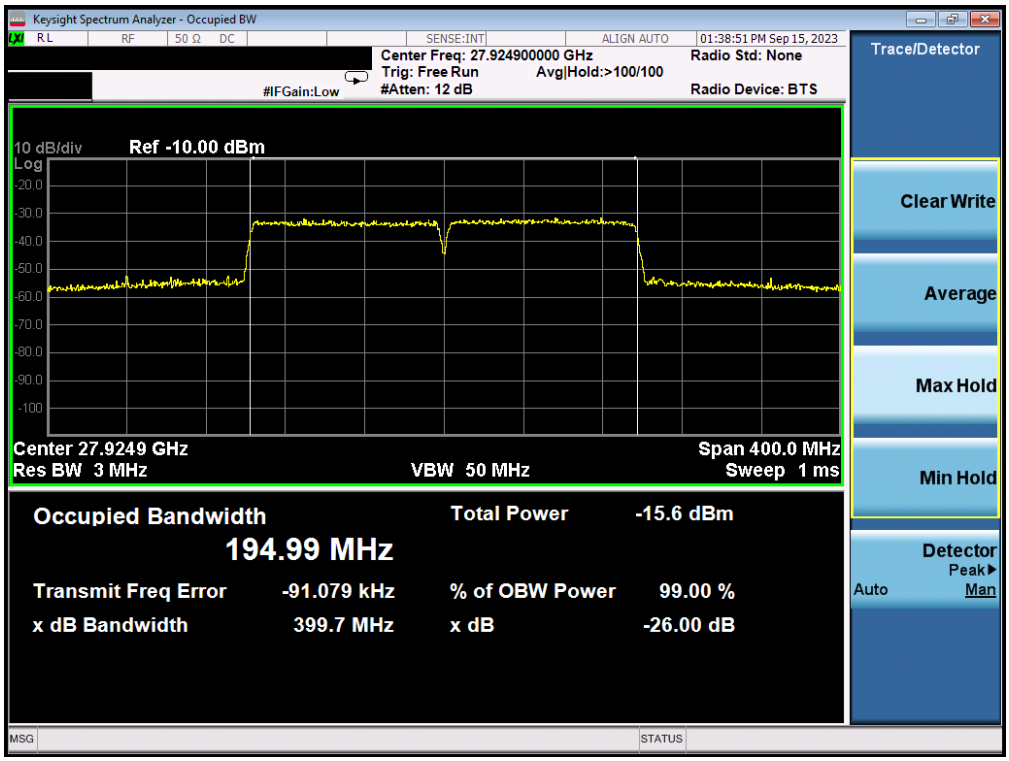
Plot 7-38. Occupied Bandwidth Plot (100MHz-1CC – DFT-s-OFDM π/2 BPSK – Mid Channel)



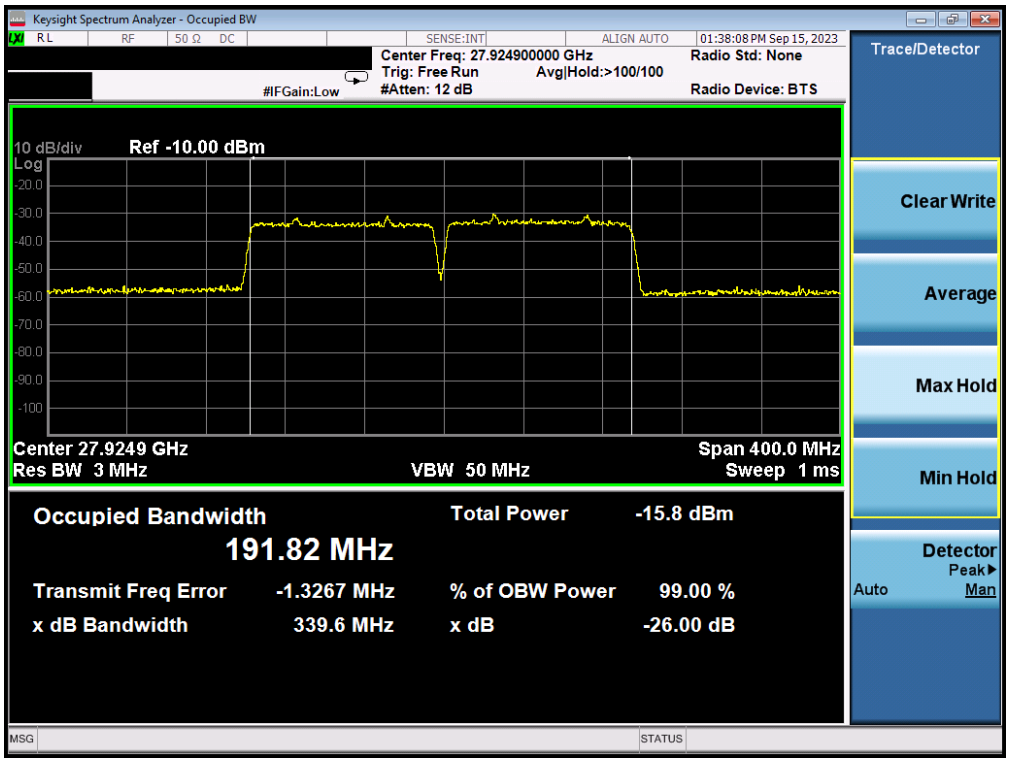
Plot 7-39. Occupied Bandwidth Plot (100MHz-1CC – CP-OFDM 16QAM – Mid Channel)



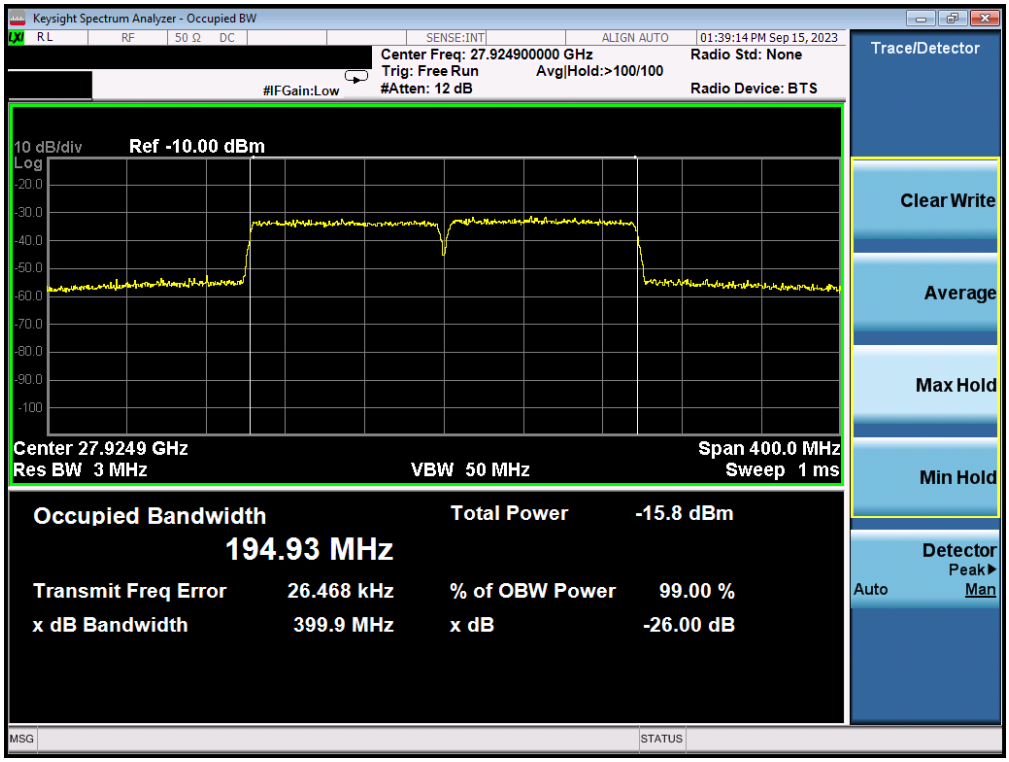
Plot 7-40. Occupied Bandwidth Plot (100MHz-1CC – CP-OFDM 64QAM – Mid Channel)



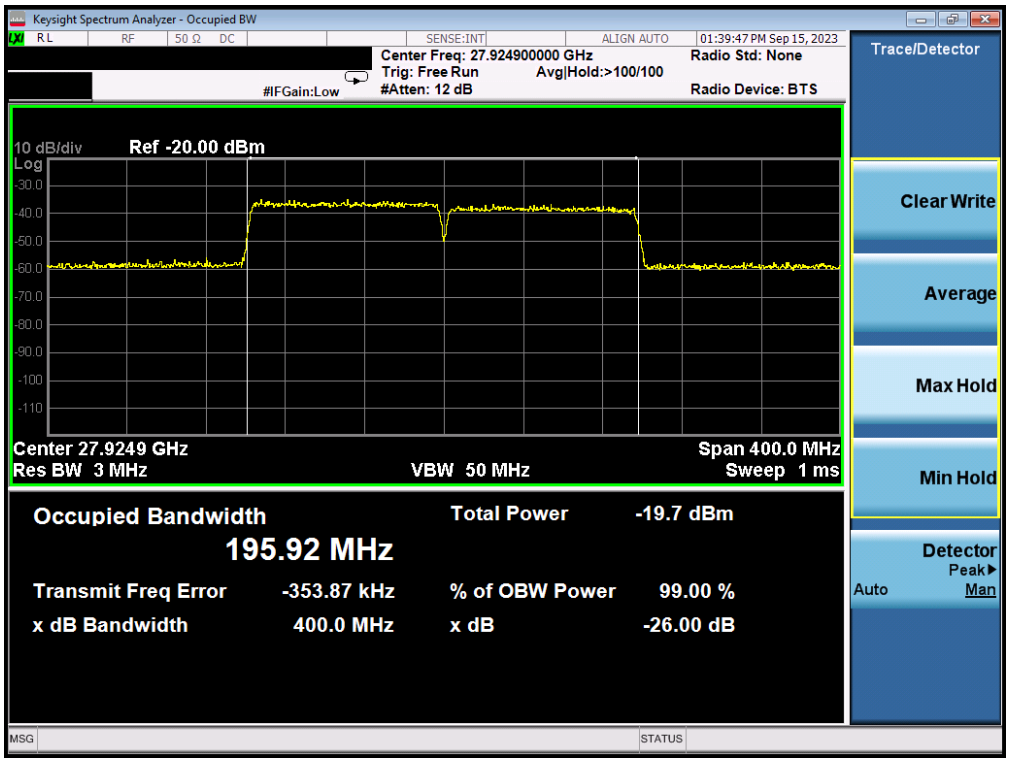
Plot 7-41. Occupied Bandwidth Plot (100MHz-2CC – CP-OFDM QPSK – Mid Channel)



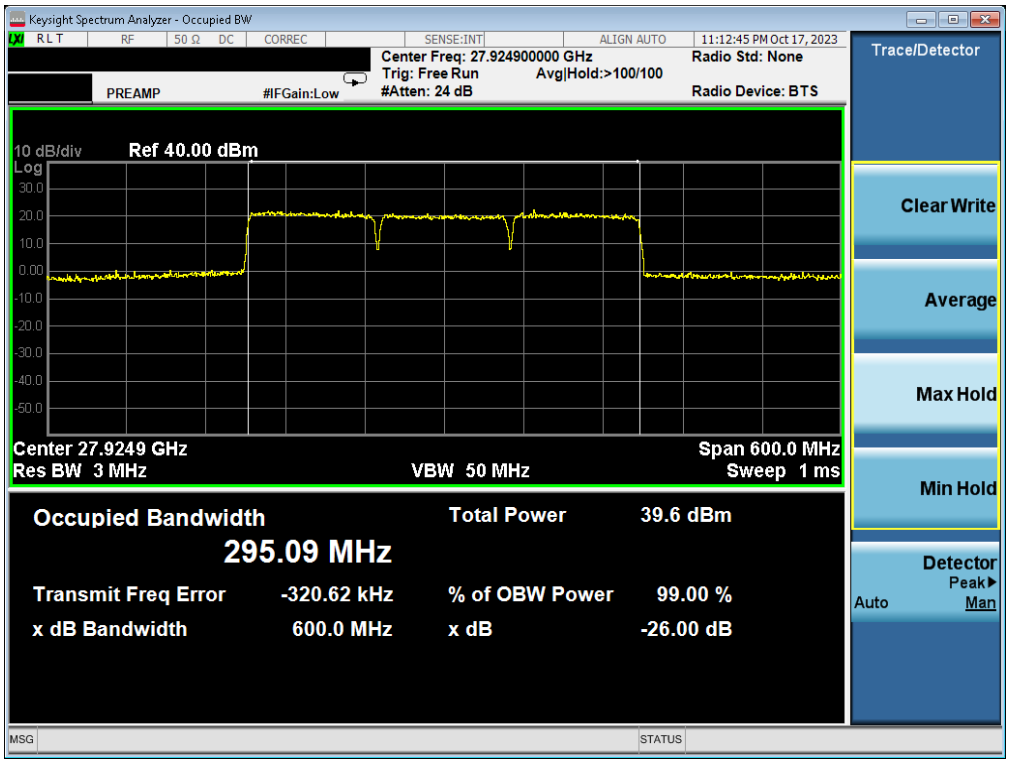
Plot 7-42. Occupied Bandwidth Plot (100MHz-2CC – DFT-s-OFDM π/2 BPSK – Mid Channel)



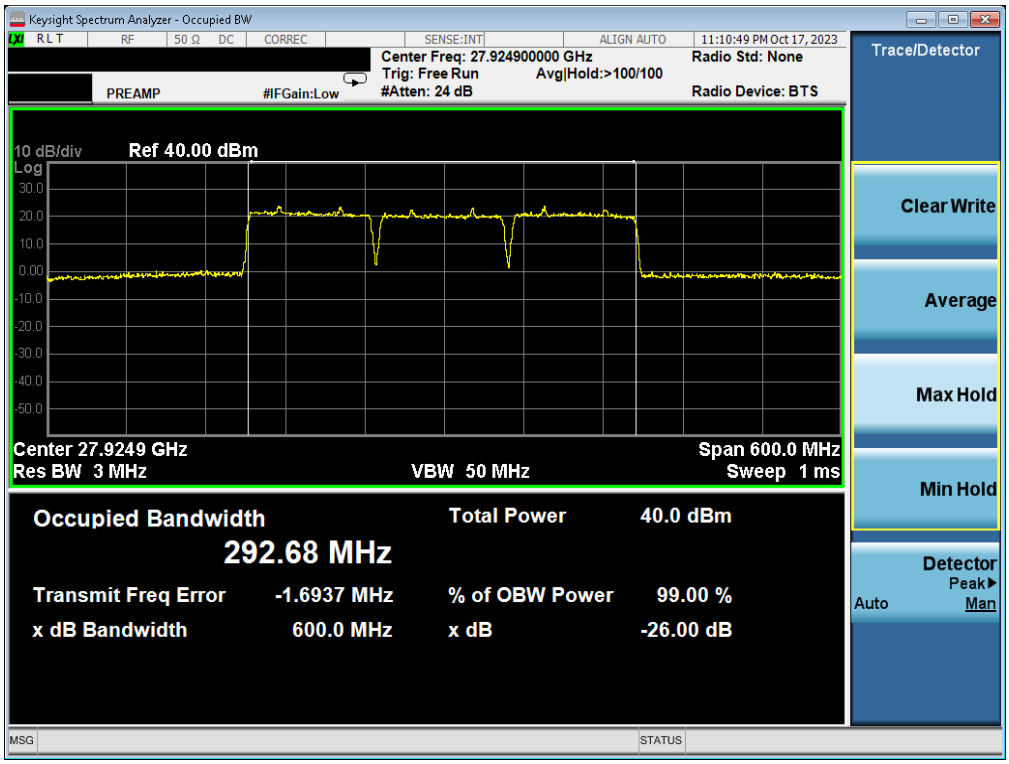
Plot 7-43. Occupied Bandwidth Plot (100MHz-2CC – CP-OFDM 16QAM – Mid Channel)



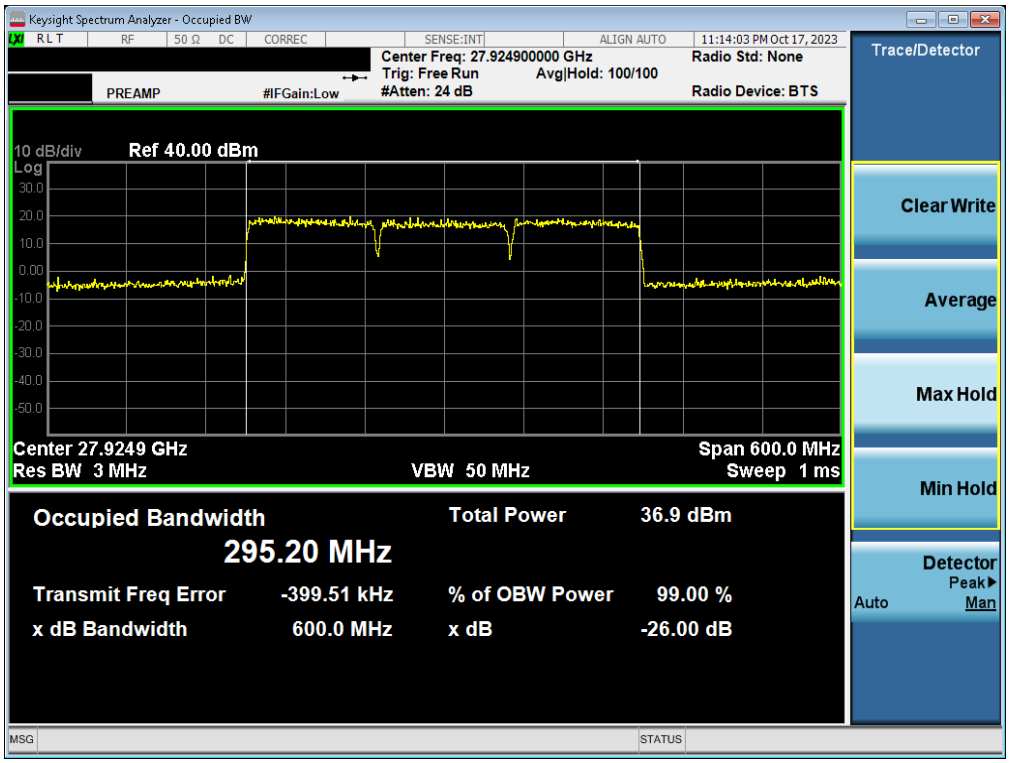
Plot 7-44. Occupied Bandwidth Plot (100MHz-2CC – CP-OFDM 64QAM – Mid Channel)



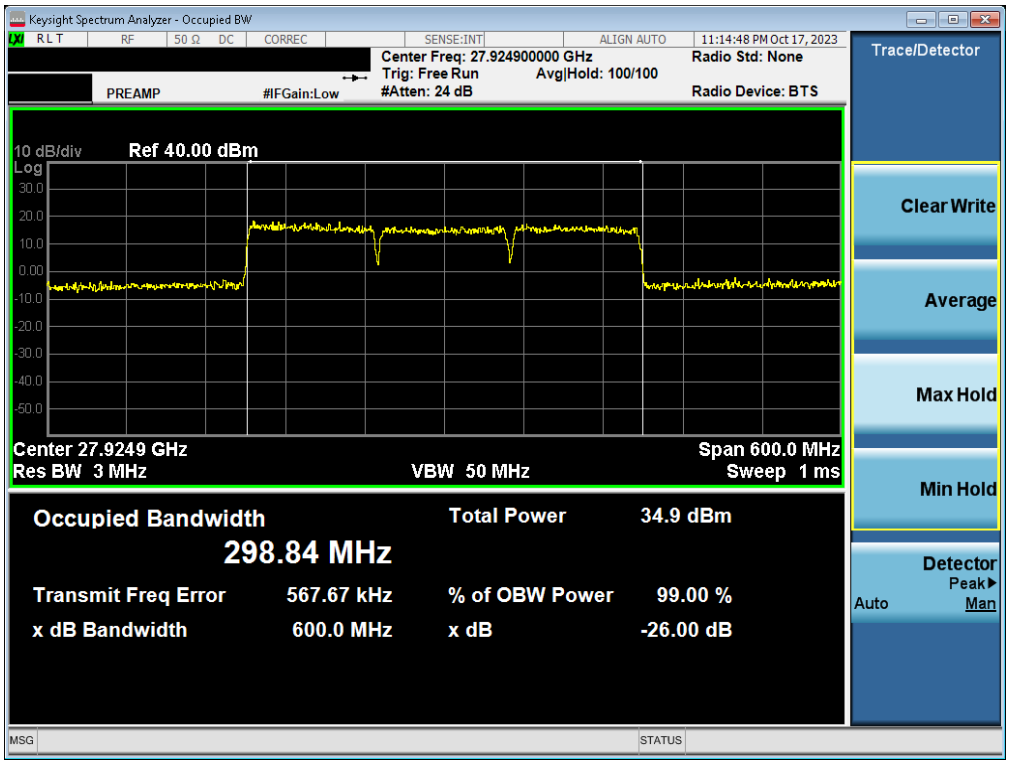
Plot 7-45. Occupied Bandwidth Plot (100MHz-3CC – CP-OFDM QPSK – Mid Channel)



Plot 7-46. Occupied Bandwidth Plot (100MHz-3CC – DFT-s-OFDM π/2 BPSK – Mid Channel)

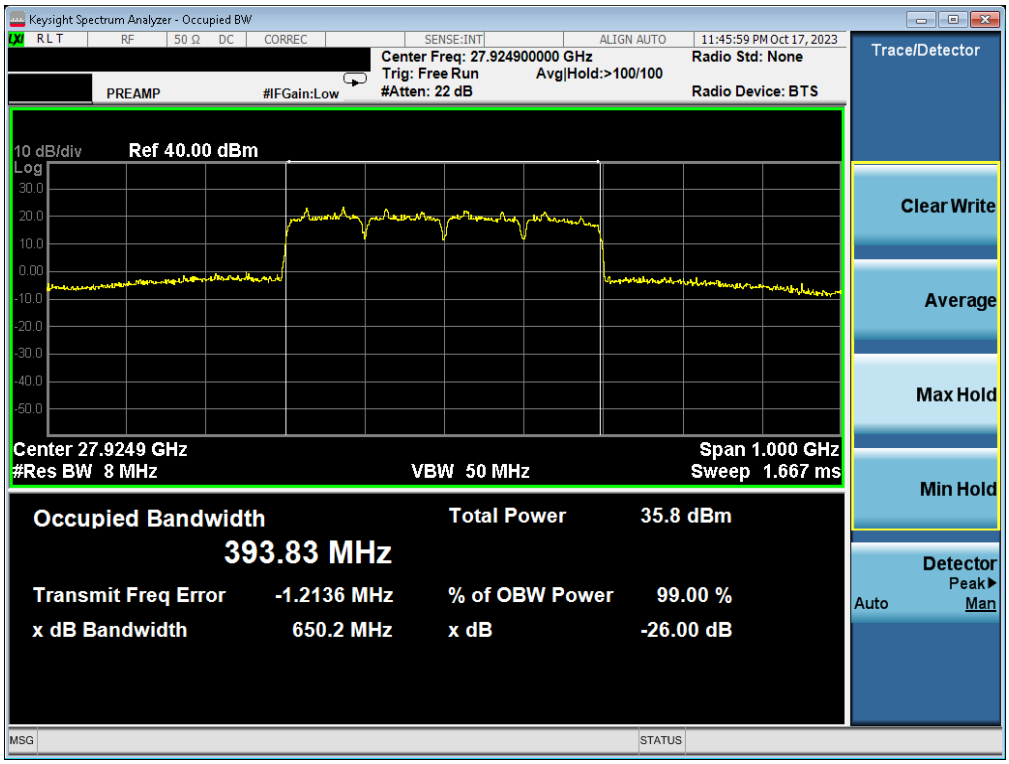


Plot 7-47. Occupied Bandwidth Plot (100MHz-3CC – CP-OFDM 16QAM – Mid Channel)

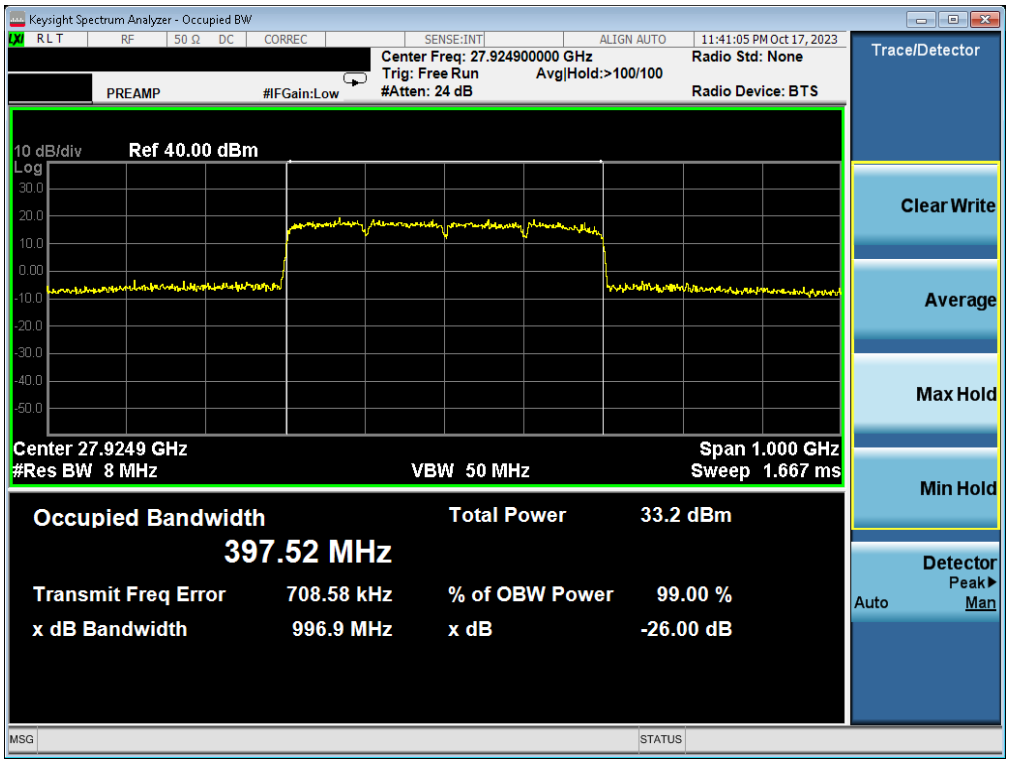


Plot 7-48. Occupied Bandwidth Plot (100MHz-3CC – CP-OFDM 64QAM – Mid Channel)

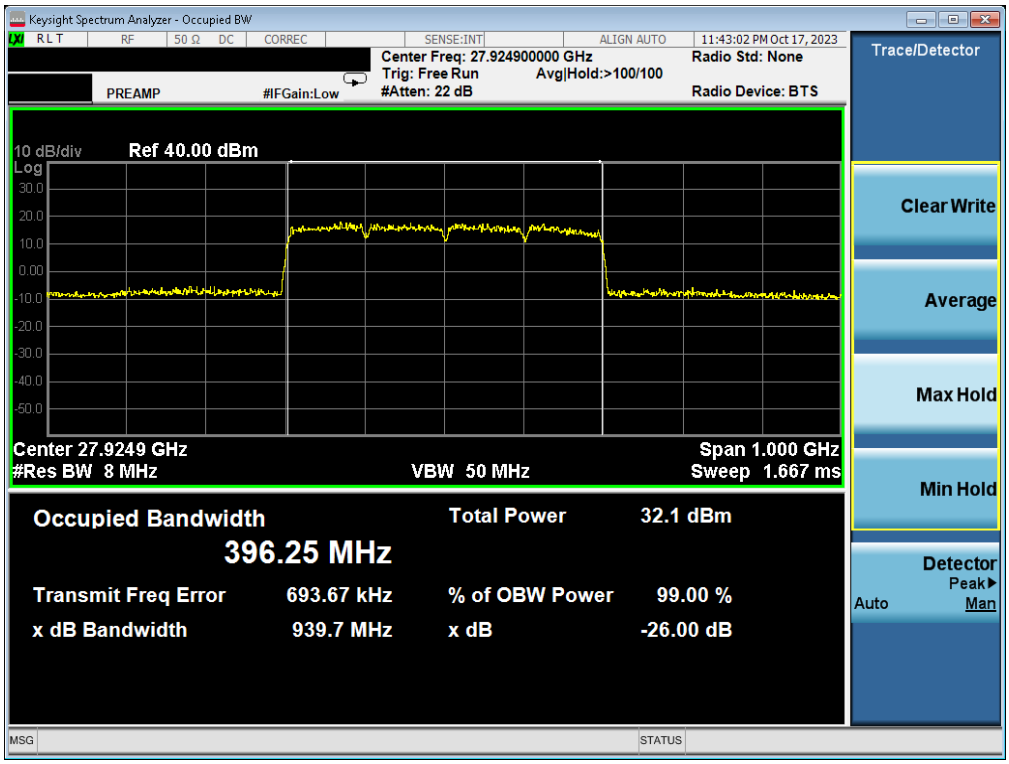
Plot 7-49. Occupied Bandwidth Plot (100MHz-4CC – CP-OFDM QPSK – Mid Channel)



Plot 7-50. Occupied Bandwidth Plot (100MHz-4CC – DFT-s-OFDM π/2 BPSK – Mid Channel)



Plot 7-51. Occupied Bandwidth Plot (100MHz-4CC – CP-OFDM 16QAM – Mid Channel)

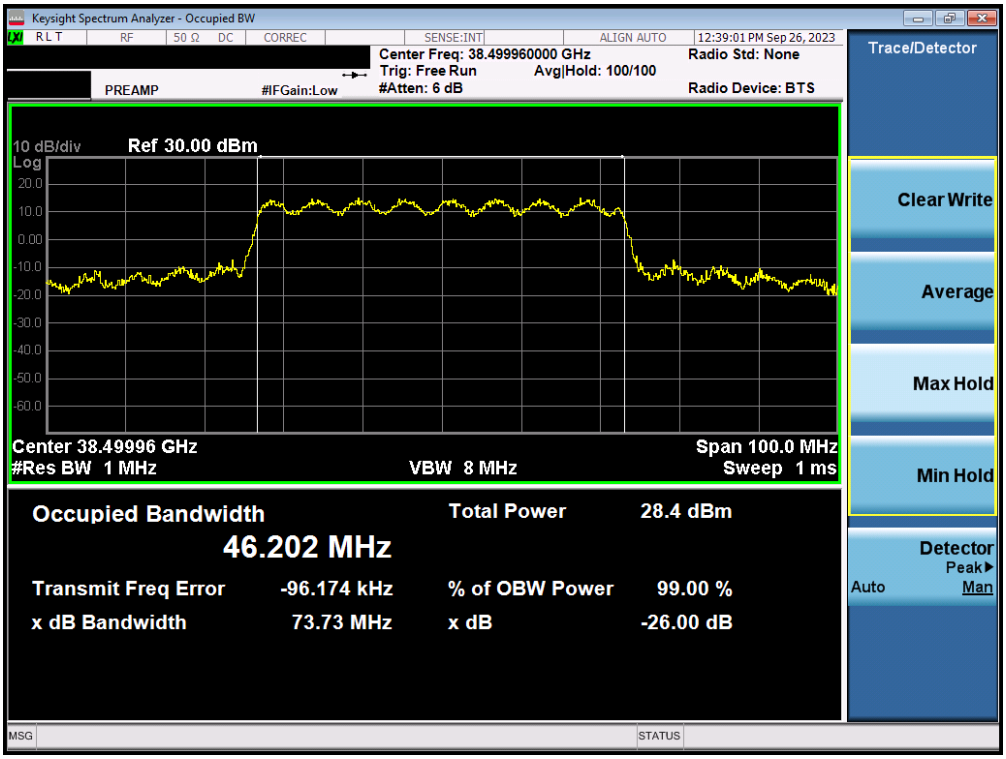


Plot 7-52. Occupied Bandwidth Plot (100MHz-4CC – CP-OFDM 64QAM – Mid Channel)

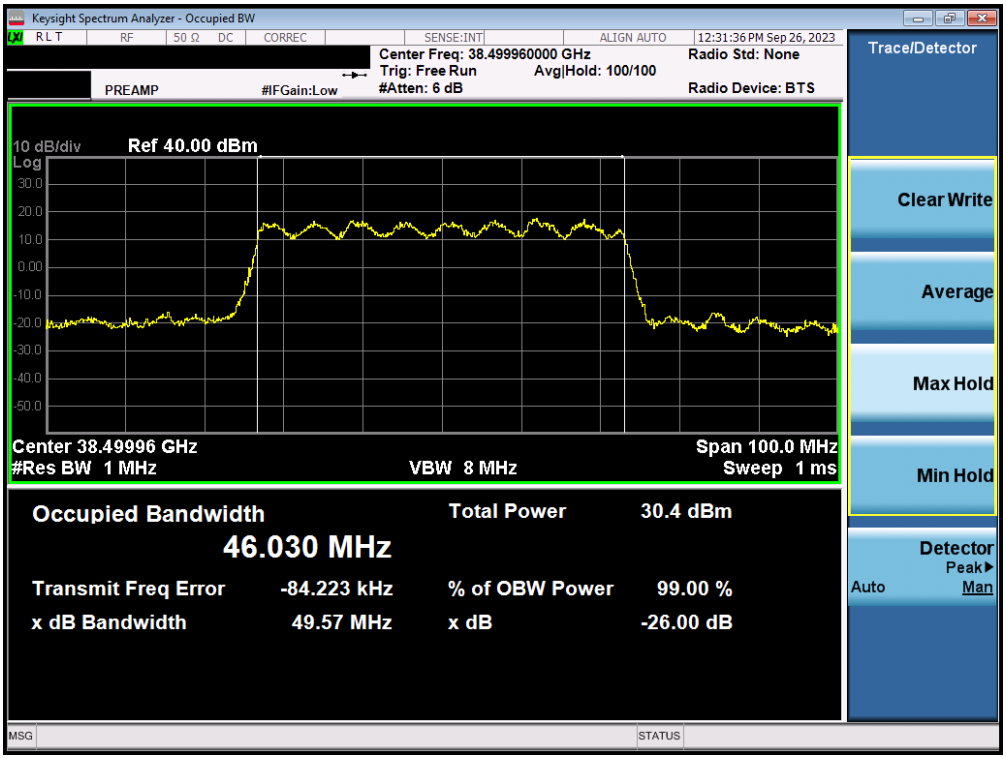
Band n260

Bandwidth [MHz]	CCs Active	Transmition Scheme	Modulation	OBW [MHz]
50	1	CP-OFDM	QPSK	46.20
		DFT-s-OFDM	π/2 BPSK	46.03
		CP-OFDM	16QAM	46.07
		CP-OFDM	64QAM	45.98
100	1	CP-OFDM	QPSK	94.15
		DFT-s-OFDM	π/2 BPSK	90.47
		CP-OFDM	16QAM	94.02
		CP-OFDM	64QAM	94.29
	2	CP-OFDM	QPSK	194.10
		DFT-s-OFDM	π/2 BPSK	189.98
		CP-OFDM	16QAM	194.04
		CP-OFDM	64QAM	194.20
	3	CP-OFDM	QPSK	297.96
		DFT-s-OFDM	π/2 BPSK	296.75
		CP-OFDM	16QAM	297.42
		CP-OFDM	64QAM	298.02
	4	CP-OFDM	QPSK	395.58
		DFT-s-OFDM	π/2 BPSK	399.80
		CP-OFDM	16QAM	395.36
		CP-OFDM	64QAM	395.13

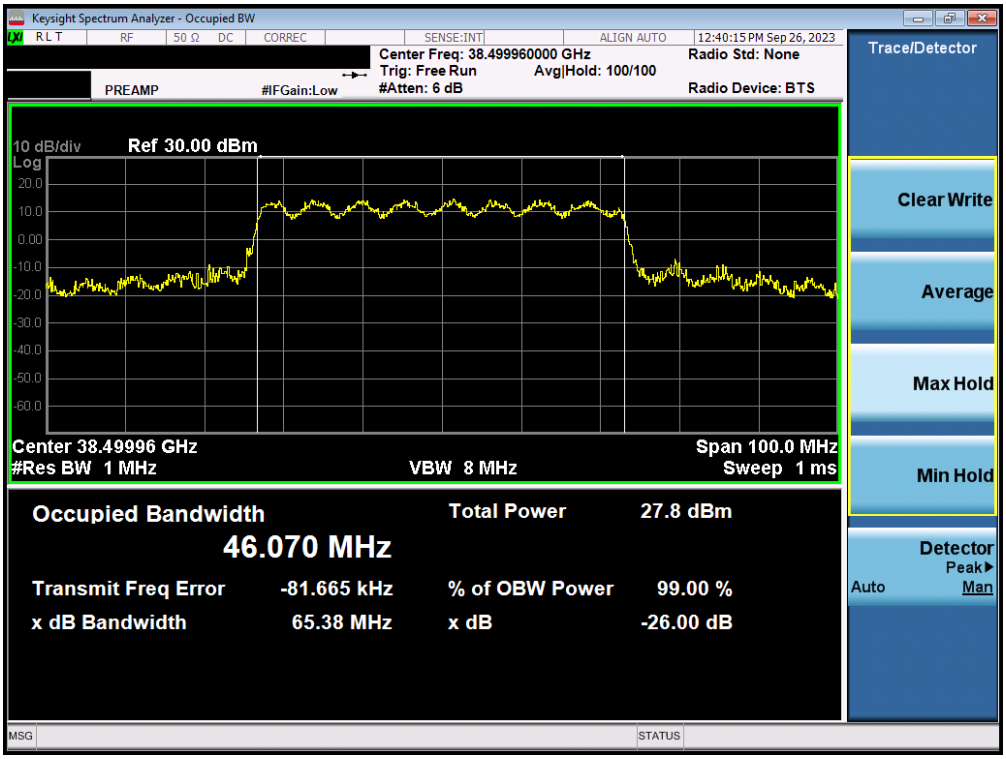
Table 7-5. Summary of Occupied Bandwidths (n260)



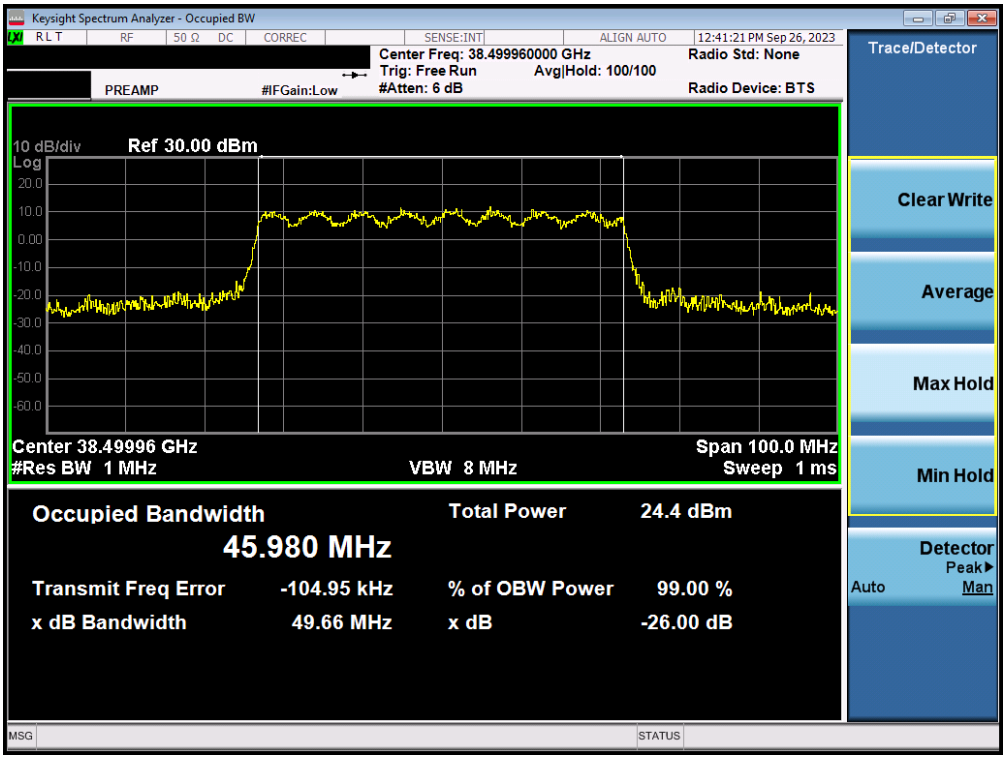
Plot 7-53. Occupied Bandwidth Plot (50MHz-1CC – CP-OFDM QPSK – Mid Channel)



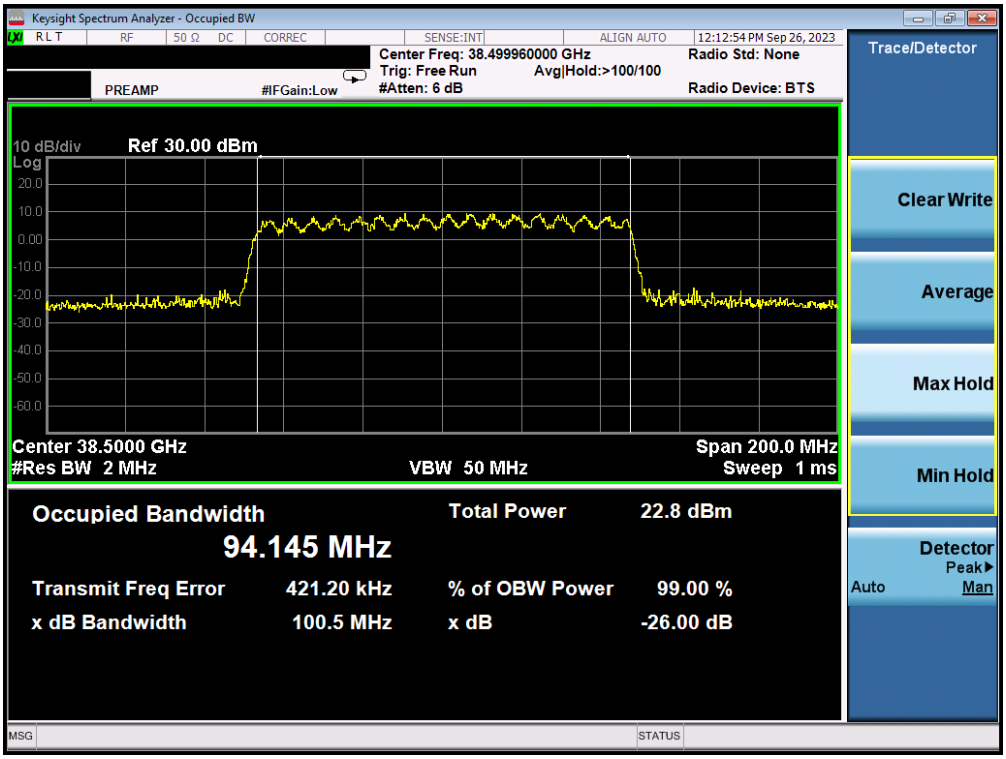
Plot 7-54. Occupied Bandwidth Plot (50MHz-1CC – DFT-s-OFDM π/2 BPSK – Mid Channel)



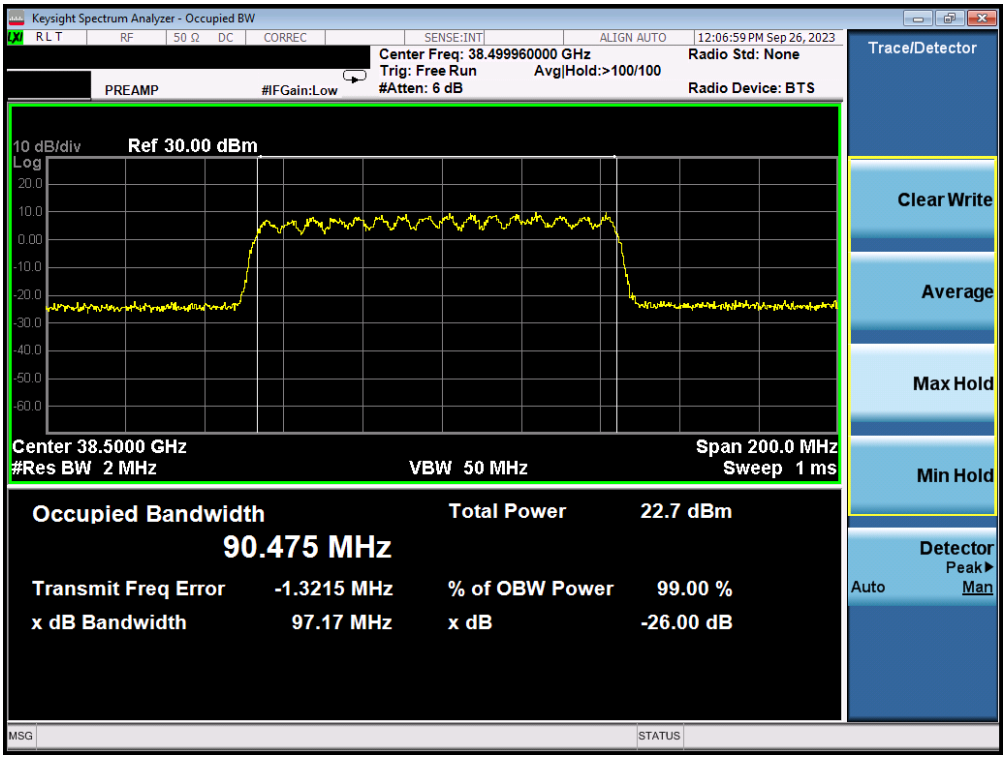
Plot 7-55. Occupied Bandwidth Plot (50MHz-1CC – CP-OFDM 16QAM – Mid Channel)



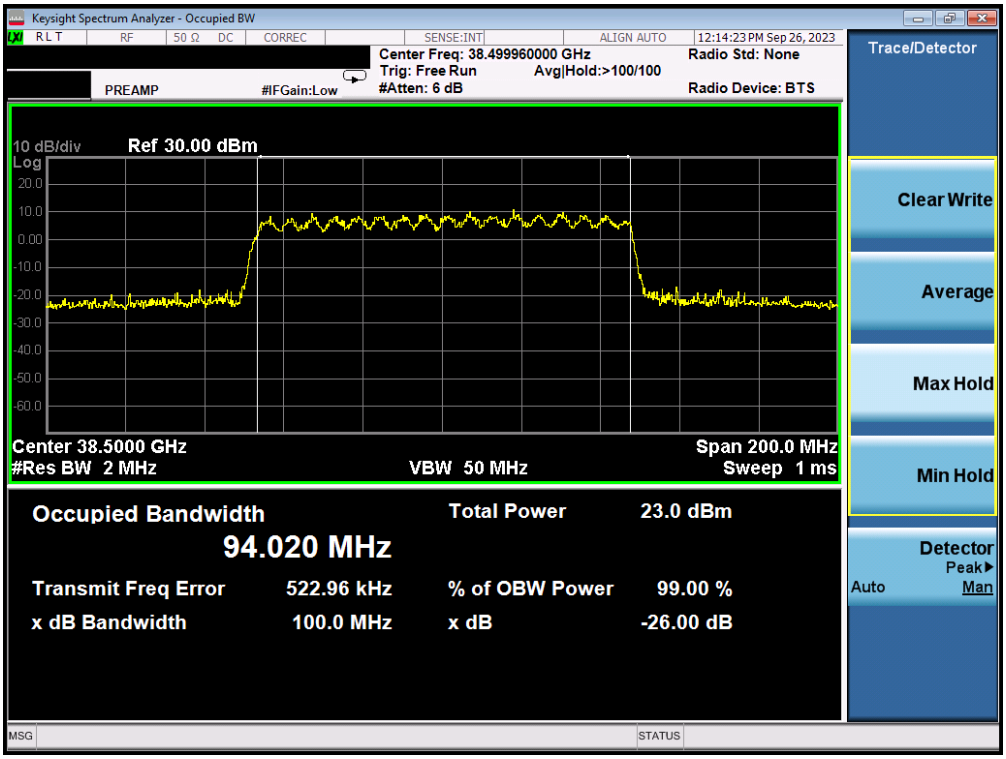
Plot 7-56. Occupied Bandwidth Plot (50MHz-1CC – CP-OFDM 64QAM – Mid Channel)



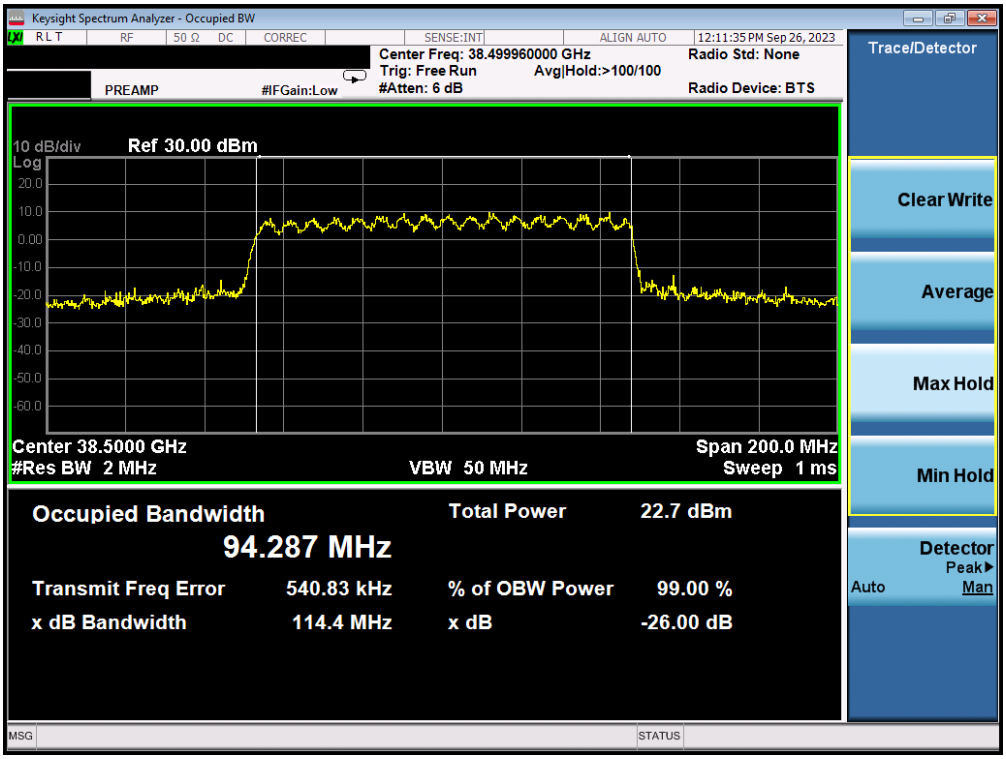
Plot 7-57. Occupied Bandwidth Plot (100MHz-1CC – CP-OFDM QPSK – Mid Channel)



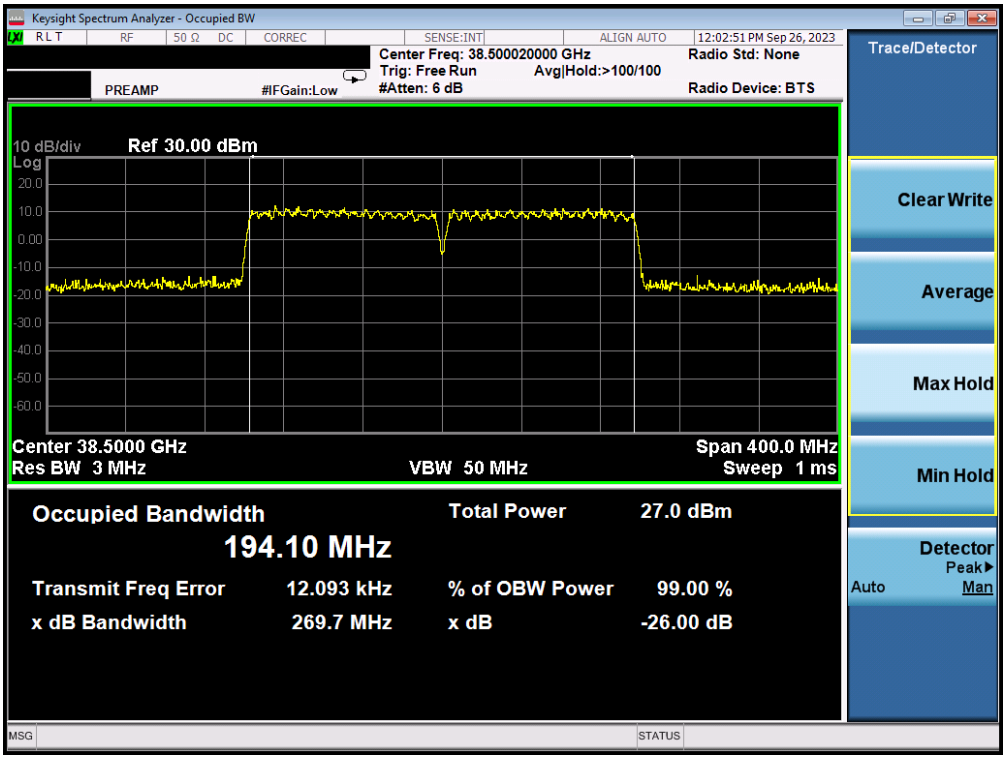
Plot 7-58. Occupied Bandwidth Plot (100MHz-1CC – DFT-s-OFDM π/2 BPSK – Mid Channel)



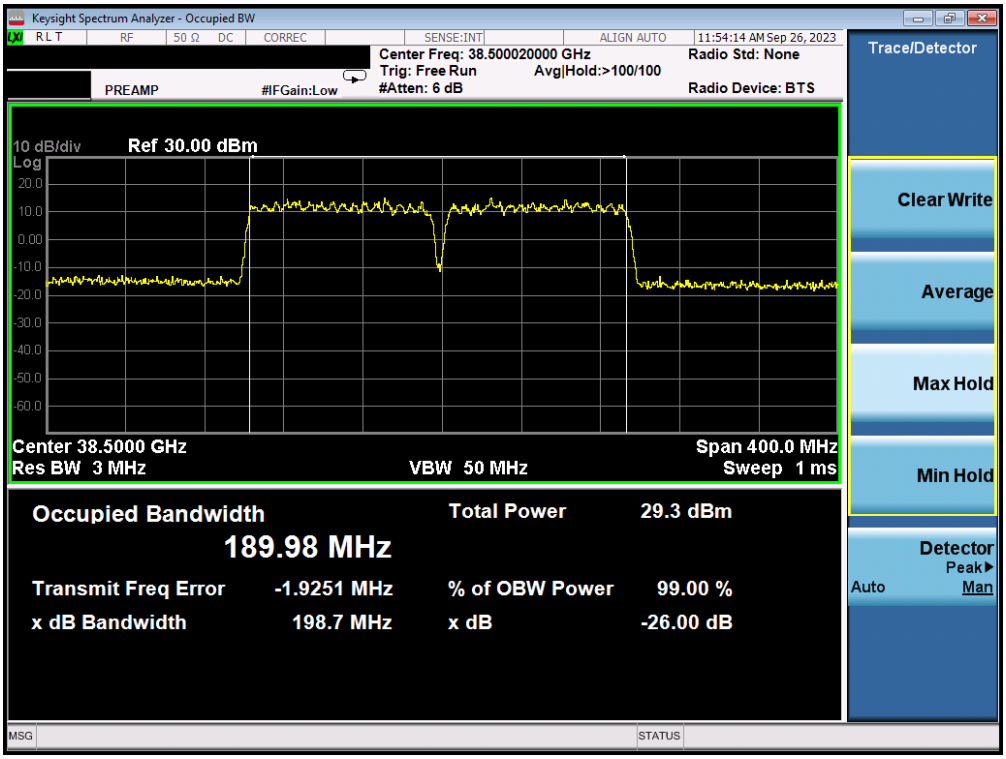
Plot 7-59. Occupied Bandwidth Plot (100MHz-1CC – CP-OFDM 16QAM – Mid Channel)



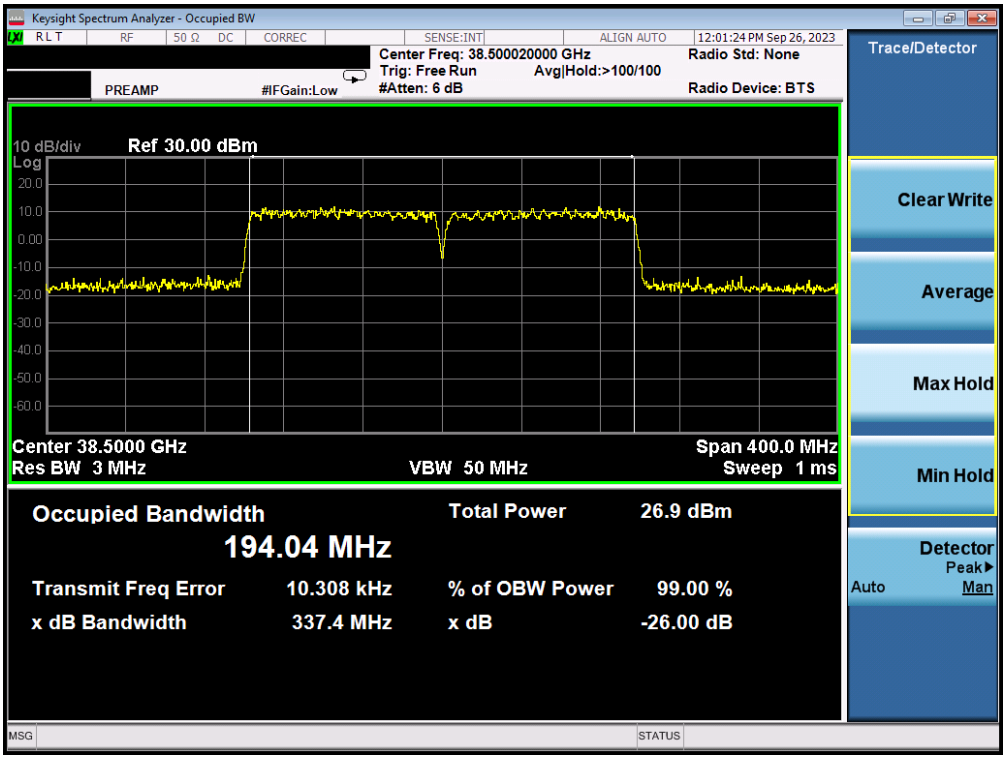
Plot 7-60. Occupied Bandwidth Plot (100MHz-1CC – CP-OFDM 64QAM – Mid Channel)



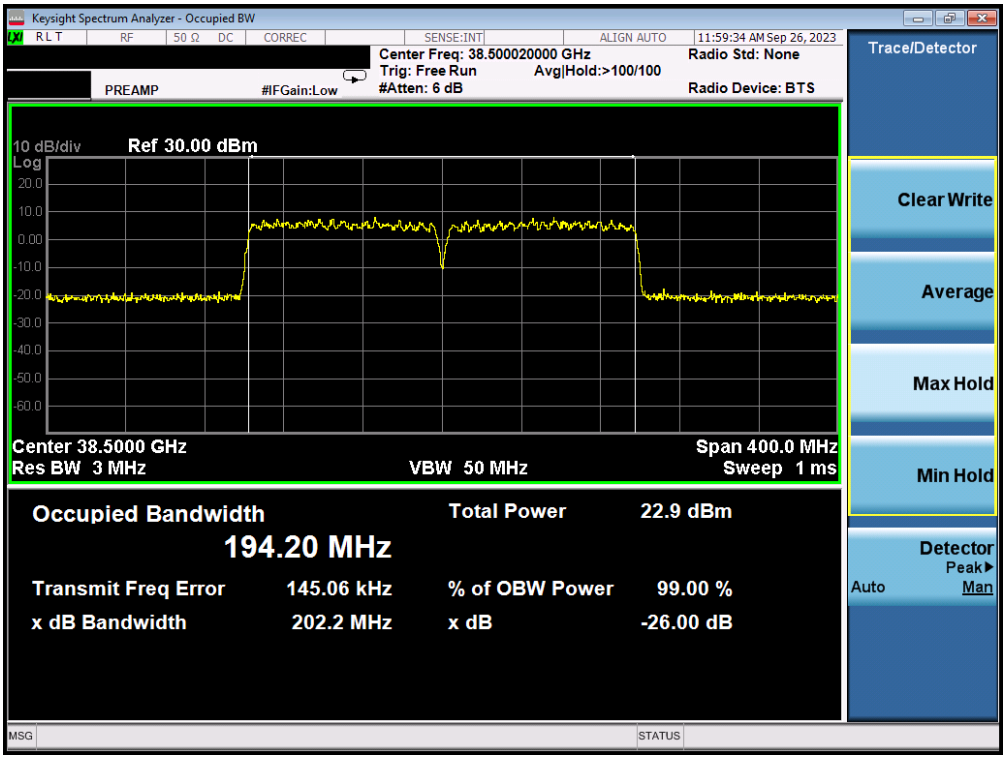
Plot 7-61. Occupied Bandwidth Plot (100MHz-2CC – CP-OFDM QPSK – Mid Channel)



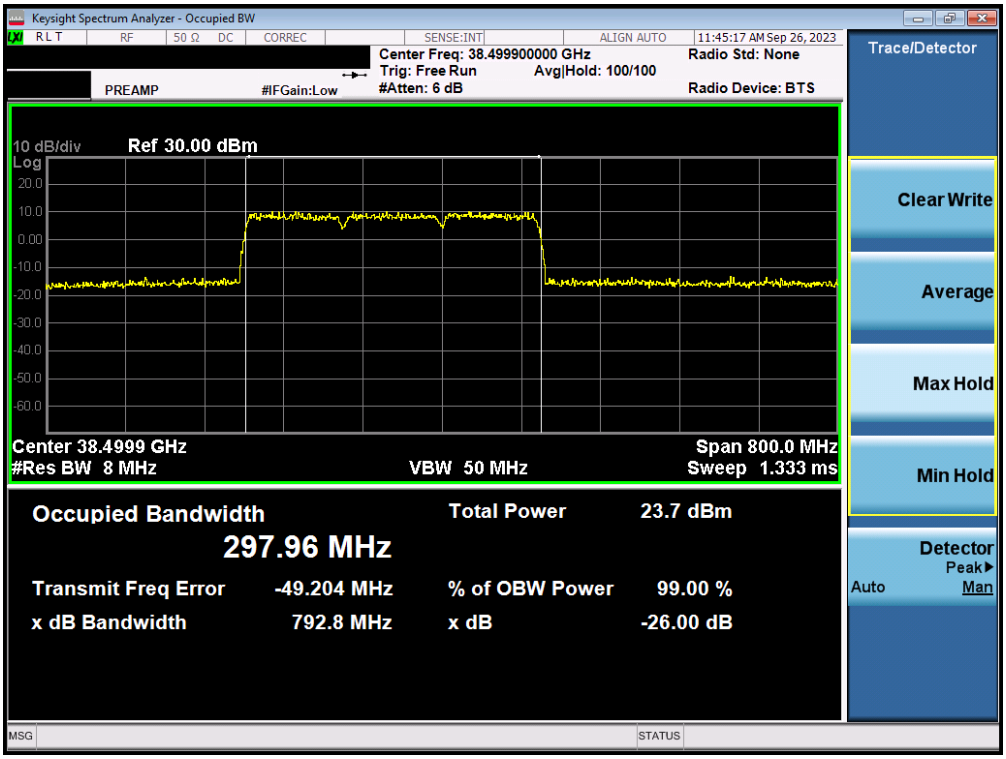
Plot 7-62. Occupied Bandwidth Plot (100MHz-2CC – DFT-s-OFDM π/2 BPSK – Mid Channel)



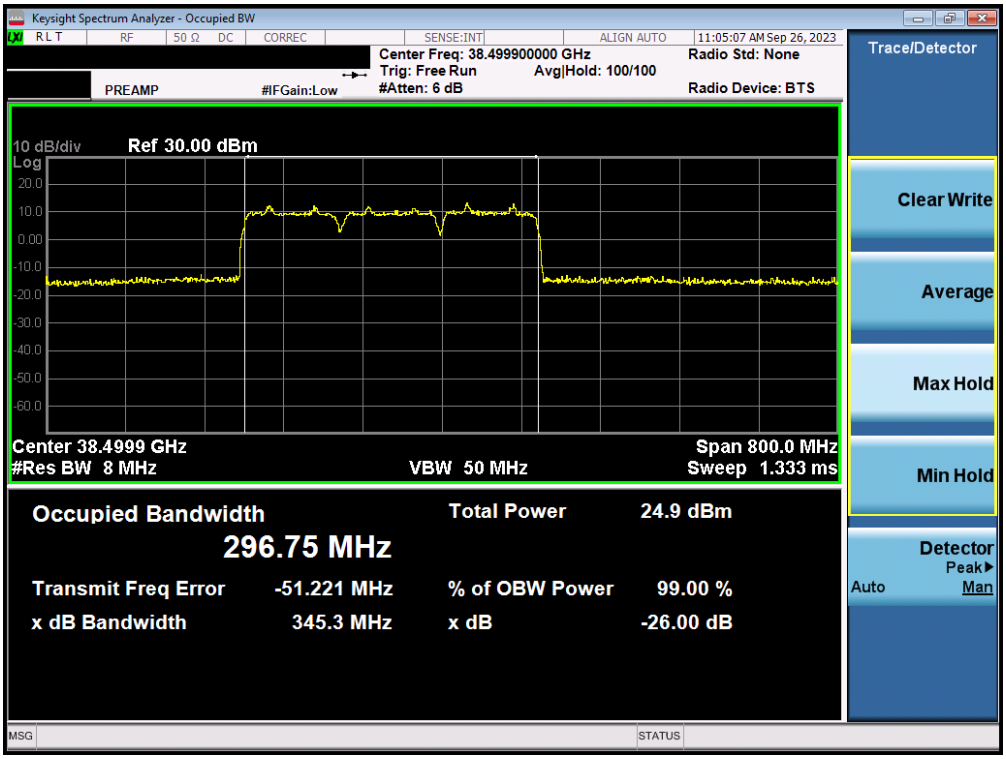
Plot 7-63. Occupied Bandwidth Plot (100MHz-2CC – CP-OFDM 16QAM – Mid Channel)



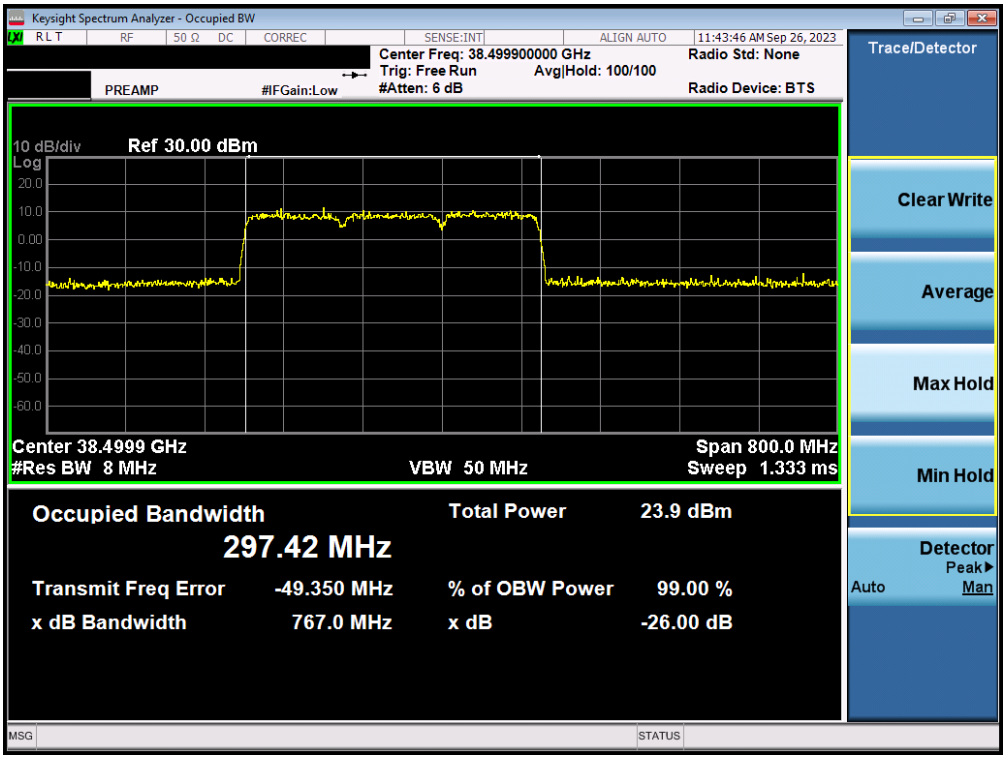
Plot 7-64. Occupied Bandwidth Plot (100MHz-2CC – CP-OFDM 64QAM – Mid Channel)



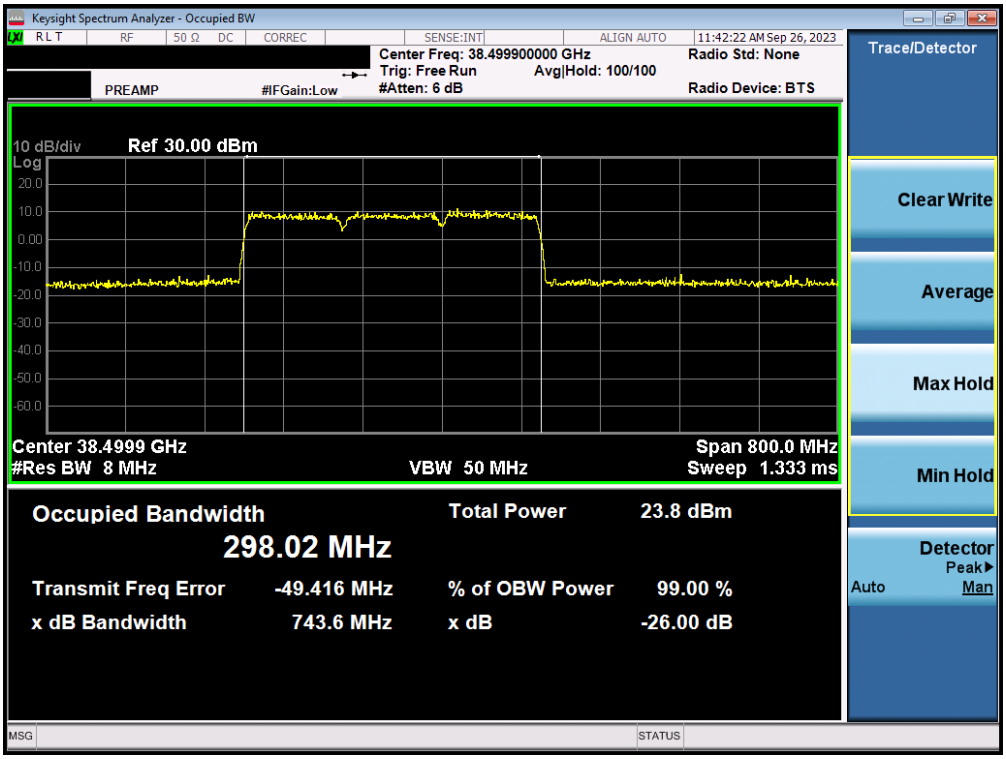
Plot 7-65. Occupied Bandwidth Plot (100MHz-3CC – CP-OFDM QPSK – Mid Channel)



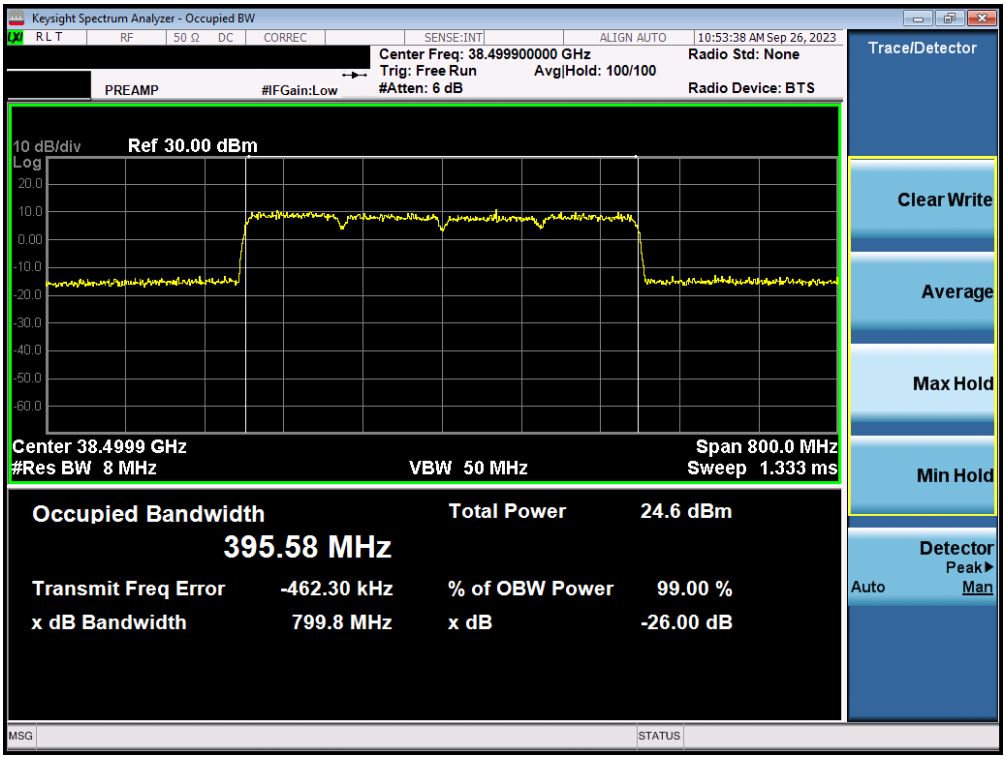
Plot 7-66. Occupied Bandwidth Plot (100MHz-3CC – DFT-s-OFDM π/2 BPSK – Mid Channel)



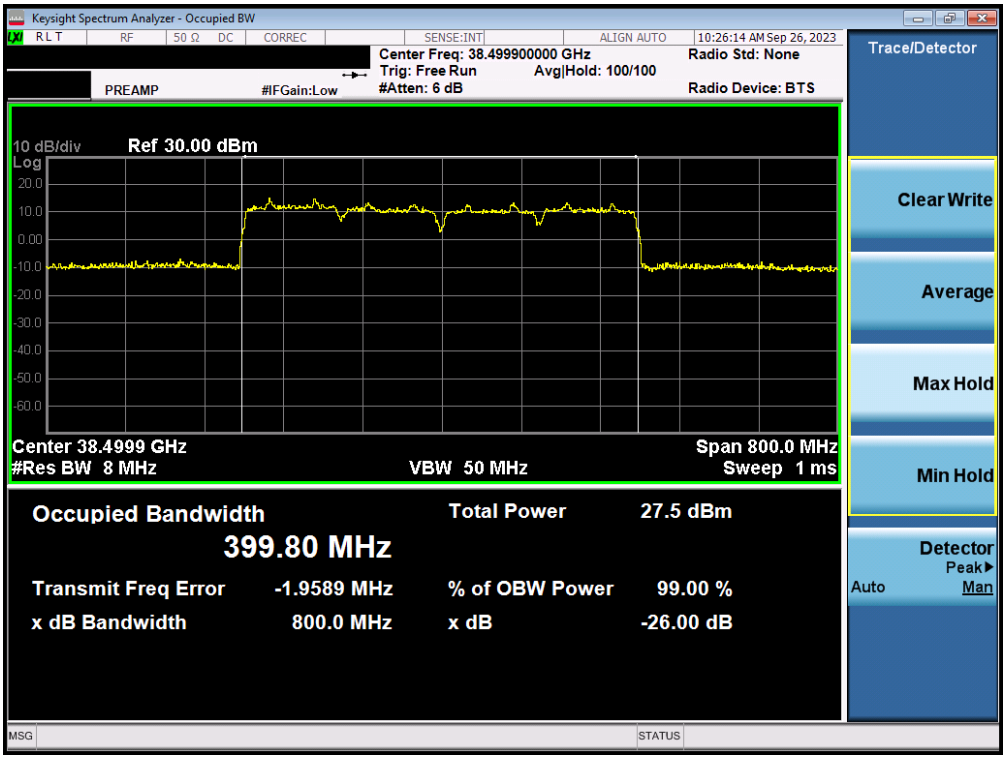
Plot 7-67. Occupied Bandwidth Plot (100MHz-3CC – CP-OFDM 16QAM – Mid Channel)



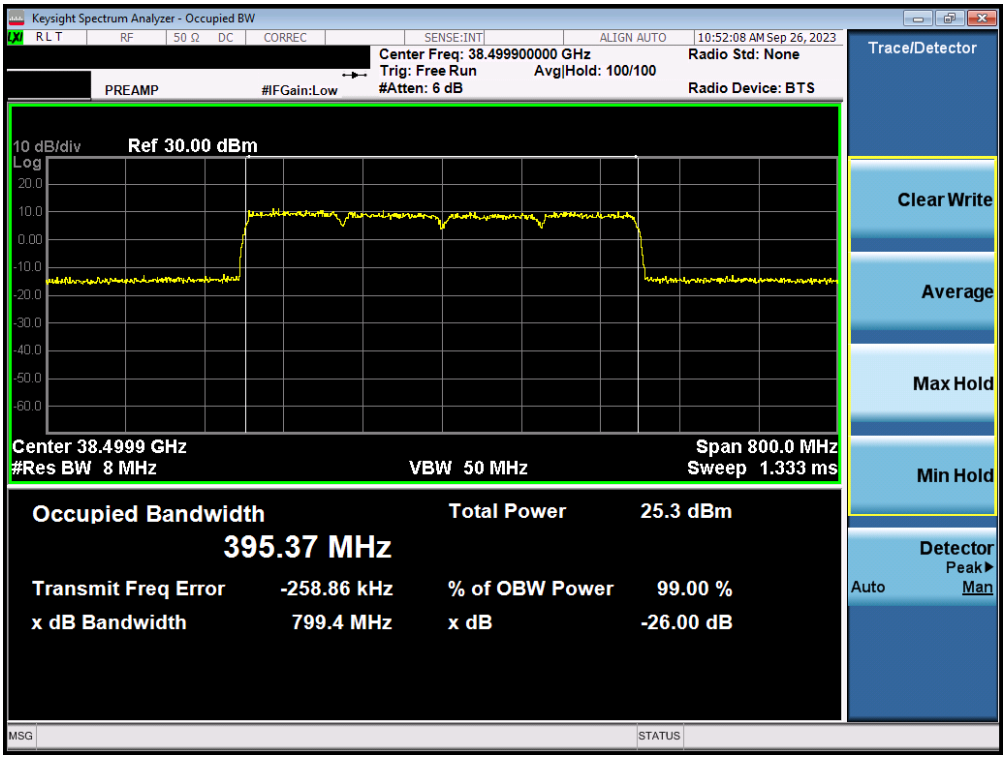
Plot 7-68. Occupied Bandwidth Plot (100MHz-3CC – CP-OFDM 64QAM – Mid Channel)



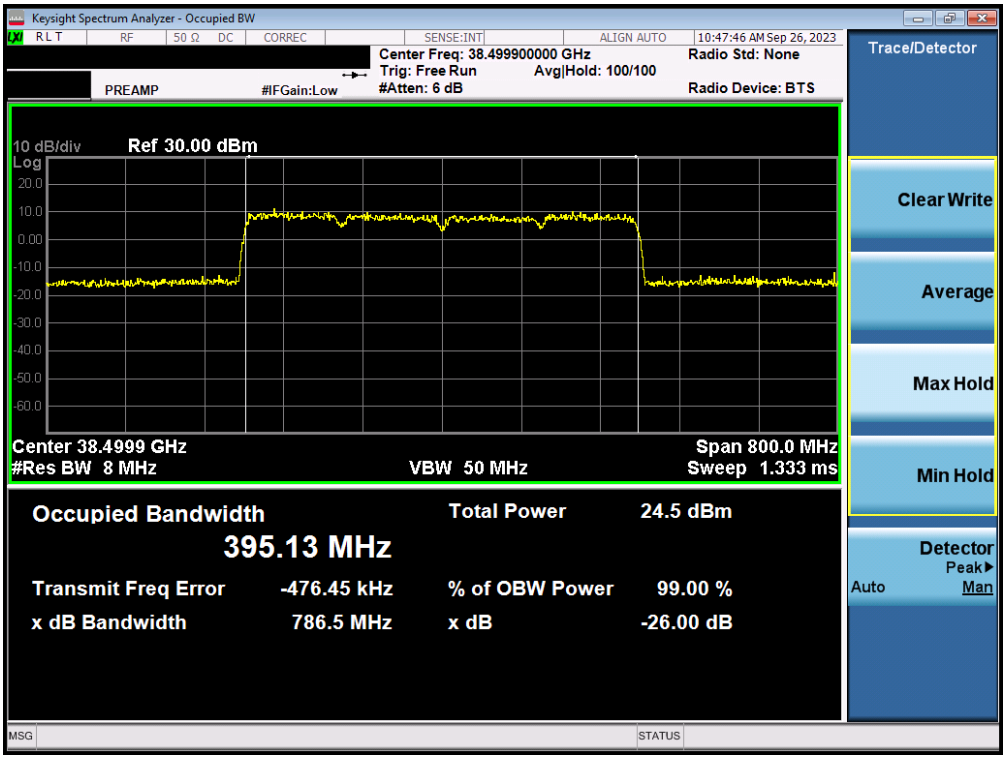
Plot 7-69. Occupied Bandwidth Plot (100MHz-4CC – CP-OFDM QPSK – Mid Channel)



Plot 7-70. Occupied Bandwidth Plot (100MHz-4CC – DFT-s-OFDM π/2 BPSK – Mid Channel)



Plot 7-71. Occupied Bandwidth Plot (100MHz-4CC – CP-OFDM 16QAM – Mid Channel)



Plot 7-72. Occupied Bandwidth Plot (100MHz-4CC – CP-OFDM 64QAM – Mid Channel)

7.3 Equivalent Isotropic Radiated Power

§2.1046, §30.202

Test Overview

Equivalent Isotropic Radiated Power (EIRP) measurements are performed using broadband horn antennas. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

The average power of the sum of all antenna elements is limited to a maximum EIRP of +43 dBm.

Test Procedures Used

ANSI C63.26-2015 Section 5.2.4.4.1
KDB 842590 D01 v01r02 Section 4.2

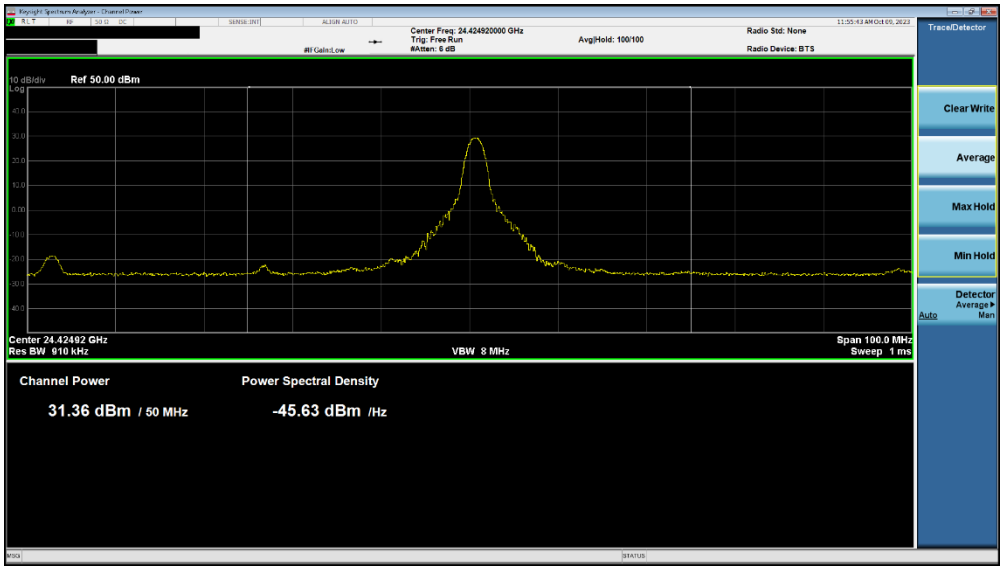
Test Settings

1. Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation.
2. RBW = 1 – 5% of the expected OBW, not to exceed 1MHz
3. VBW ≥ 3 x RBW
4. Span = 2x to 3x the OBW
5. No. of sweep points ≥ 2 x span / RBW
6. Detector = RMS
7. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation.
8. Trace mode = trace averaging (RMS) over 100 sweeps
9. The trace was allowed to stabilize

Band n258-R1

Bandwidth [MHz]	CCs Active	Channel	Frequency [MHz]	Transmission Scheme	Modulation	Beam ID	Beam Pol.	Ant. Div.	Ant. Pol. [H/V]	Positioner Roll [degrees]	Turntable Azimuth [degrees]	RB Size/Offsets	EIRP [dBm]
50	1	Low	24275.04	DFT-s-OFDM	QPSK	293 + 37	H + V	2Tx	H	253	305	1 / 16	**30.79**
		Mid	24350.04	DFT-s-OFDM	QPSK	293 + 37	H + V	2Tx	H	254	304	1 / 16	**29.94**
				DFT-s-OFDM	QPSK	282	H	SISO	H	296	269	1 / 16	27.86
				CP-OFDM	QPSK	293 + 37	H + V	MIMO	H	254	304	1 / 16	28.93
				CP-OFDM	QPSK	282	H	SISO	H	296	269	1 / 16	26.75
		High	24424.92	DFT-s-OFDM	QPSK	293 + 37	H + V	2Tx	H	255	305	1 / 16	**31.36**
				DFT-s-OFDM	QPSK	37	V	SISO	V	73	300	32 /0	25.83
				CP-OFDM	QPSK	293 + 37	H + V	MIMO	H	255	305	1 / 16	30.42
				CP-OFDM	QPSK	37	V	SISO	V	73	300	32 / 0	23.21
				DFT-s-OFDM	π/2 BPSK	293 + 37	H + V	2Tx	H	255	305	1 / 16	31.12
				DFT-s-OFDM	16QAM	293 + 37	H + V	2Tx	H	255	305	1 / 16	31.01
				DFT-s-OFDM	64QAM	293 + 37	H + V	2Tx	H	255	305	1 / 16	28.21

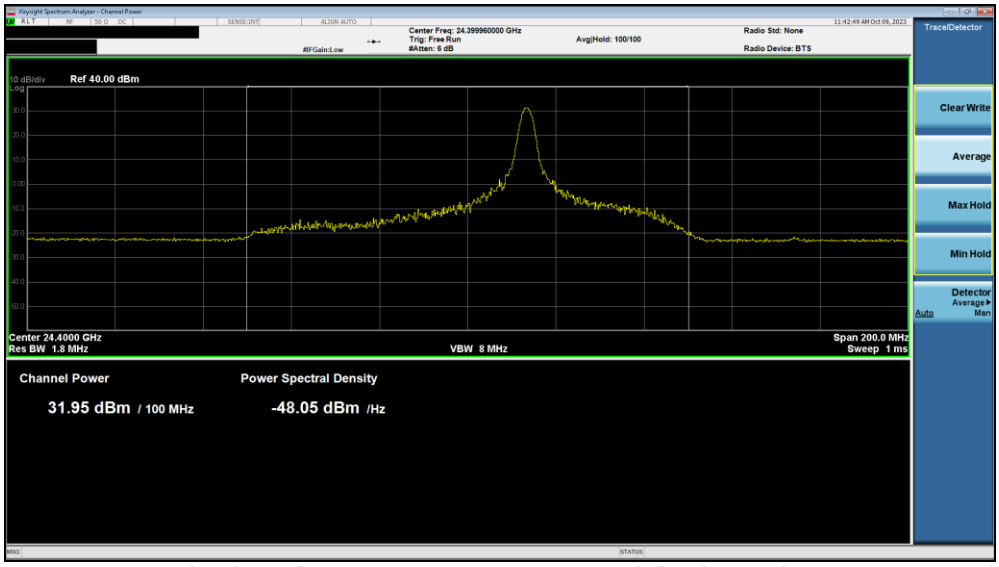
Table 7-6. Ant 1 EIRP Data (Band n258-R1 - 50MHz)



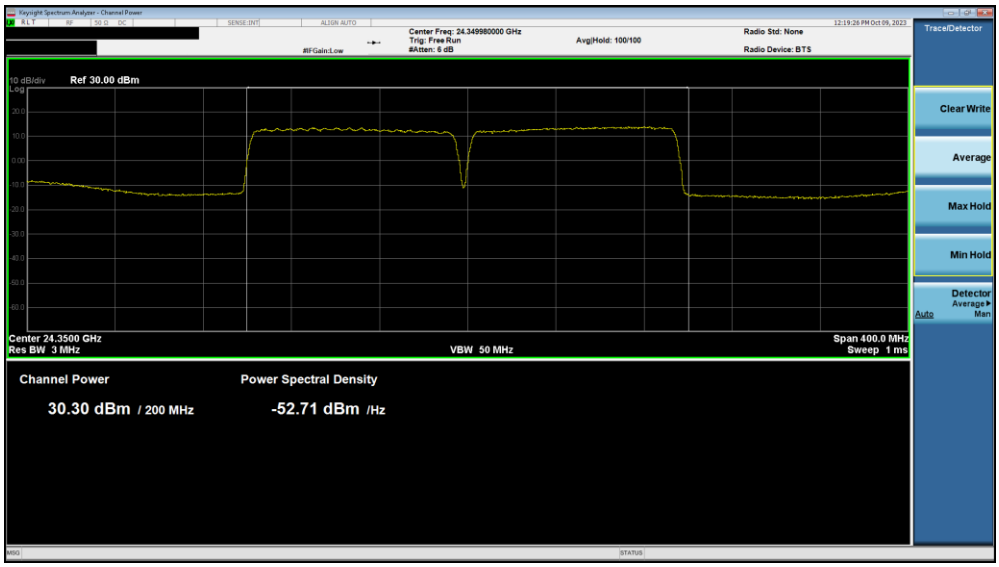
Plot 7-73. Ant 1 EIRP Plot (Band n258-R1 − 50MHz-1CC High Channel DFT-s-OFDM QPSK)

Bandwidth [MHz]	CCs Active	Channel	Frequency [MHz]	Transmission Scheme	Modulation	Beam ID	Beam Pol.	Ant. Div.	Ant. Pol. [H/V]	Positioner Roll [degrees]	Turntable Azimuth [degrees]	RB Size/Offsets	EIRP [dBm]
100	1	Low	24300.00	DFT-s-OFDM	QPSK	293 + 37	H + V	2Tx	H	253	306	1 / 23	**30.88**
		Mid	24350.04	DFT-s-OFDM	QPSK	293 + 37	H + V	2Tx	H	254	305	1 / 42	**31.78**
		High	24399.96	DFT-s-OFDM	QPSK	293 + 37	H + V	2Tx	H	253	305	1 / 42	31.87
				DFT-s-OFDM	QPSK	282	H	SISO	H	296	269	1 / 42	28.00
				DFT-s-OFDM	QPSK	37	V	SISO	V	73	300	64 / 0	25.72
				CP-OFDM	QPSK	293 + 37	H + V	MIMO	H	253	305	1 / 42	30.84
				CP-OFDM	QPSK	282	H	SISO	H	296	269	1 / 42	26.97
				CP-OFDM	QPSK	37	V	SISO	V	73	300	66 / 0	23.13
				DFT-s-OFDM	π/2 BPSK	293 + 37	H + V	2Tx	H	253	305	1 / 42	**31.95**
				DFT-s-OFDM	16QAM	293 + 37	H + V	2Tx	H	253	305	1 / 42	31.84
				DFT-s-OFDM	64QAM	293 + 37	H + V	2Tx	H	253	305	1 / 42	28.85
100+100	2	Mid	24349.98	DFT-s-OFDM	QPSK	293 + 37	H + V	2Tx	H	255	303	64 / 0	**30.30**
				CP-OFDM	QPSK	293 + 37	H + V	MIMO	H	255	303	66 / 0	28.93
				DFT-s-OFDM	π/2 BPSK	293 + 37	H + V	2Tx	H	255	303	64 / 0	30.23
				DFT-s-OFDM	16QAM	293 + 37	H + V	2Tx	H	255	303	64 / 0	29.01
				DFT-s-OFDM	64QAM	293 + 37	H + V	2Tx	H	255	303	64 / 0	28.89

Table 7-7. Ant 1 EIRP Data (Band n258-R1 - 100MHz)



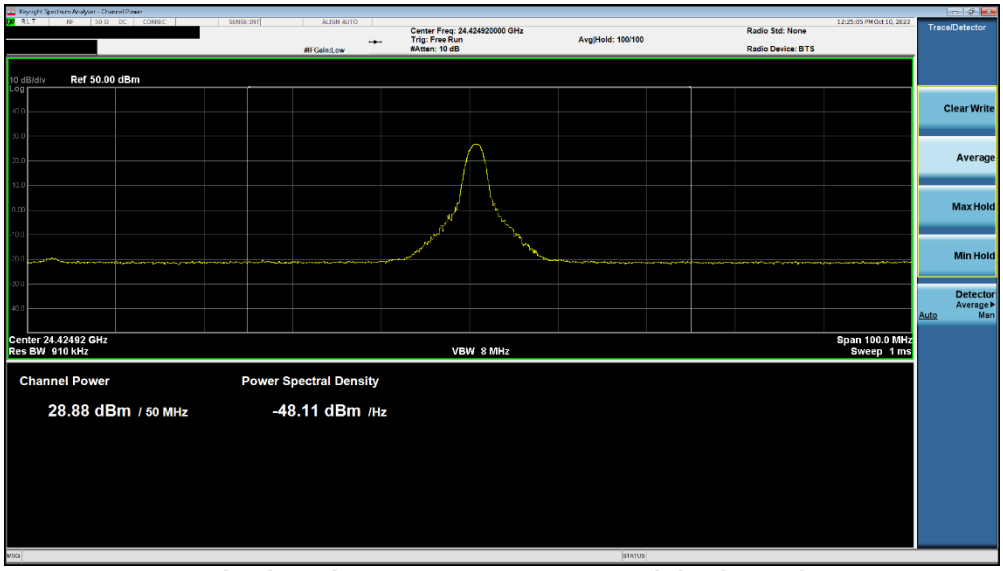
Plot 7-74. Ant 1 EIRP Plot (Band n258-R1 − 100MHz-1CC High Channel DFT-s-OFDM π/2 BPSK)



Plot 7-75. Ant 1 EIRP Plot (Band n258-R1 − 100MHz-2CC Mid Channel DFT-s-OFDM QPSK)

Bandwidth [MHz]	CCs Active	Channel	Frequency [MHz]	Transmission Scheme	Modulation	Beam ID	Beam Pol.	Ant. Div.	Ant. Pol. [H/V]	Positioner Roll [degrees]	Turntable Azimuth [degrees]	RB Size/Offsets	EIRP [dBm]
50	1	Low	24275.04	DFT-s-OFDM	QPSK	287+31	H + V	2Tx	H	76	32	32 /0	**28.60**
		Mid	24350.04	DFT-s-OFDM	QPSK	287+31	H + V	2Tx	H	76	32	1 / 19	**28.43**
		High	24424.92	DFT-s-OFDM	QPSK	287+31	H + V	2Tx	H	79	31	1 / 16	**28.88**
				DFT-s-OFDM	QPSK	286	H	SISO	H	350	79	1 / 16	24.47
				DFT-s-OFDM	QPSK	31	V	SISO	V	25	277	1 / 19	26.97
				CP-OFDM	QPSK	287+31	H + V	MIMO	H	79	31	1 / 16	27.98
				CP-OFDM	QPSK	286	H	SISO	H	350	79	1 / 16	23.34
				CP-OFDM	QPSK	31	V	SISO	V	25	277	1 / 19	25.80
				DFT-s-OFDM	π/2 BPSK	287+31	H + V	2Tx	H	79	31	1 / 16	28.74
				DFT-s-OFDM	16QAM	287+31	H + V	2Tx	H	79	31	1 / 16	28.36
				DFT-s-OFDM	64QAM	287+31	H + V	2Tx	H	79	31	1 / 16	26.21

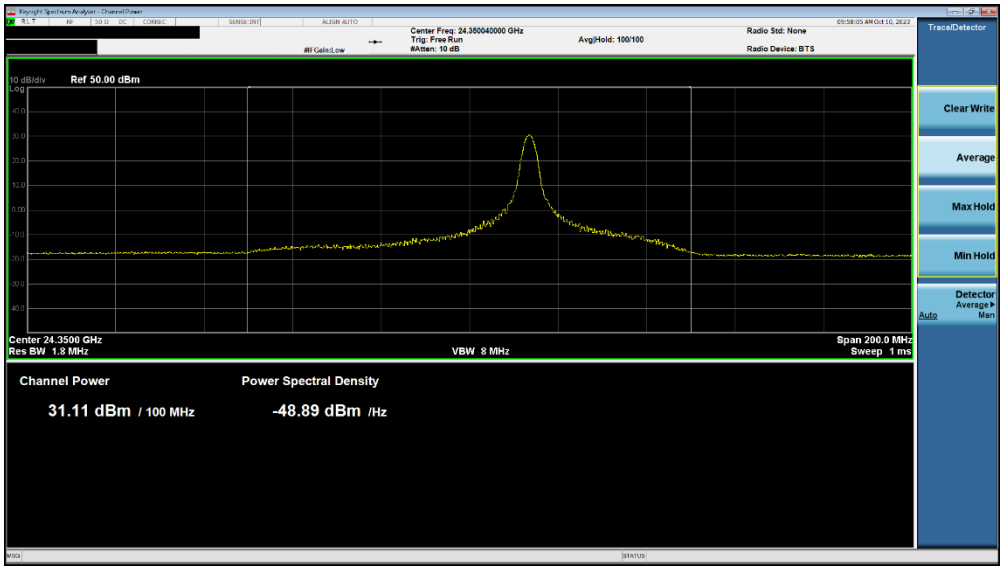
Table 7-8. Ant 2 EIRP Data (Band n258-R1 - 50MHz)



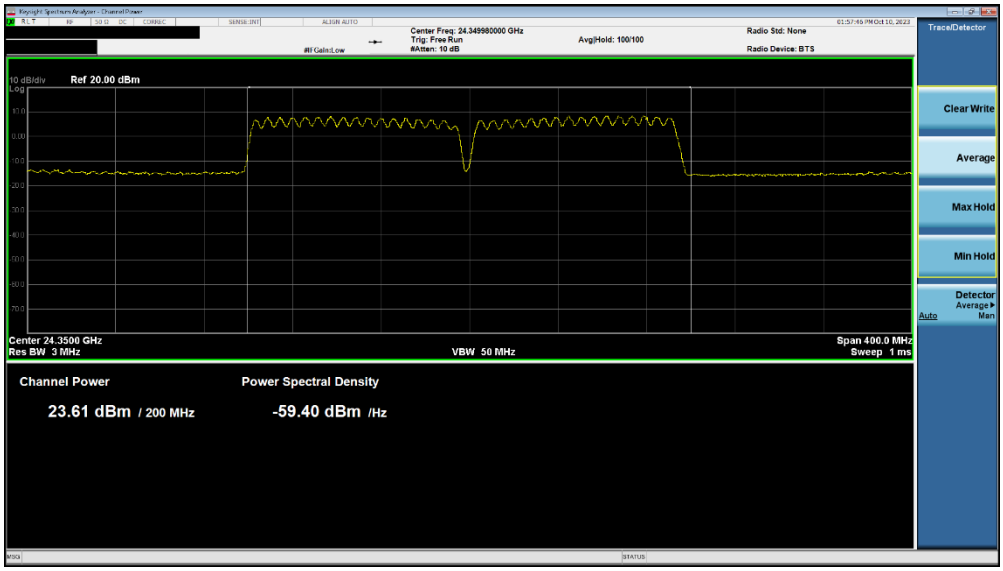
Plot 7-76. Ant 2 EIRP Plot (Band n258-R1 − 50MHz-1CC High Channel DFT-s-OFDM QPSK)

Bandwidth [MHz]	CCs Active	Channel	Frequency [MHz]	Transmission Scheme	Modulation	Beam ID	Beam Pol.	Ant. Div.	Ant. Pol. [H/V]	Positioner Roll [degrees]	Turntable Azimuth [degrees]	RB Size/Offsets	EIRP [dBm]
100	1	Low	24300.00	DFT-s-OFDM	QPSK	31+287	H + V	2Tx	H	77	31	1 / 23	**30.58**
		Mid	24350.04	DFT-s-OFDM	QPSK	31+287	H + V	2Tx	H	75	31	1 / 42	**31.11**
				CP-OFDM	QPSK	31+287	H + V	MIMO	H	75	31	1 / 42	30.07
				DFT-s-OFDM	π/2 BPSK	31+287	H + V	2Tx	H	75	31	1 / 42	30.69
				DFT-s-OFDM	16QAM	31+287	H + V	2Tx	H	75	31	1 / 42	30.38
				DFT-s-OFDM	64QAM	31+287	H + V	2Tx	H	75	31	1 / 42	29.77
		High	24399.96	DFT-s-OFDM	QPSK	31+287	H + V	2Tx	H	75	32	1 / 42	**30.95**
				DFT-s-OFDM	QPSK	286	H	SISO	H	350	79	1 / 42	24.31
				DFT-s-OFDM	QPSK	31	V	SISO	V	25	277	1 / 42	27.80
				CP-OFDM	QPSK	286	H	SISO	H	350	79	1 / 42	23.34
				CP-OFDM	QPSK	31	V	SISO	V	25	277	1 / 42	26.78
100+100	2	Mid	24349.98	DFT-s-OFDM	QPSK	31+287	H + V	2Tx	H	323	347	64 / 0	23.58
				CP-OFDM	QPSK	31+287	H + V	MIMO	H	323	347	66 / 0	22.19
				DFT-s-OFDM	π/2 BPSK	31+287	H + V	2Tx	H	323	347	64 / 0	**23.61**
				DFT-s-OFDM	16QAM	31+287	H + V	2Tx	H	323	347	64 / 0	23.02
				DFT-s-OFDM	64QAM	31+287	H + V	2Tx	H	323	347	64 / 0	19.51

Table 7-9. Ant 2 EIRP Data (Band n258-R1 - 100MHz)



Plot 7-77. Ant 2 EIRP Plot (Band n258-R1 − 100MHz-1CC Mid Channel DFT-s-OFDM QPSK)

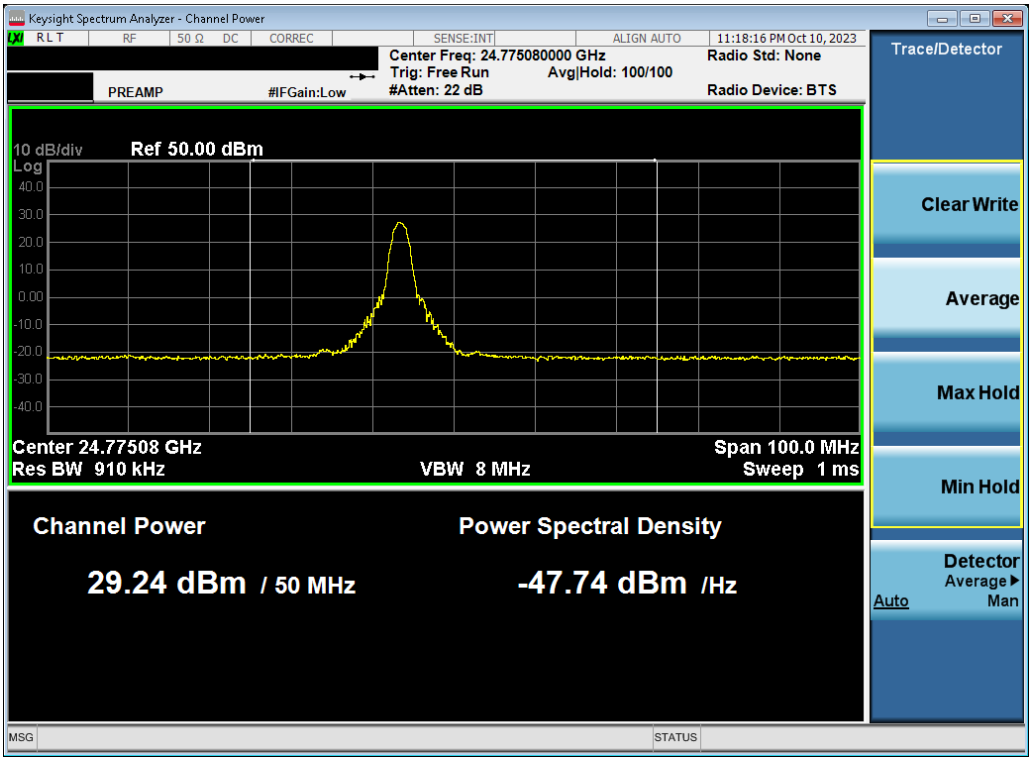


Plot 7-78. Ant 2 EIRP Plot (Band n258-R1 − 100MHz-2CC Mid Channel DFT-s-OFDM π/2 BPSK)

Band n258-R2

Bandwidth [MHz]	CCs Active	Channel	Frequency [MHz]	Transmission Scheme	Modulation	Beam ID	Beam Pol.	Ant. Div.	Ant. Pol. [H/V]	Positioner Roll [degrees]	Turntable Azimuth [degrees]	RB Size/Offsets	EIRP [dBm]
50	1	Low	24775.08	DFT-s-OFDM	QPSK	36+292	H + V	2Tx	H	71	263	1 / 12	**29.18**
				CP-OFDM	QPSK	36+292	H + V	MIMO	H	71	263	1 / 12	28.04
				DFT-s-OFDM	π/2 BPSK	36+292	H + V	2Tx	H	71	263	1 / 12	**29.24**
				DFT-s-OFDM	16QAM	36+292	H + V	2Tx	H	71	263	1 / 12	29.00
				DFT-s-OFDM	64QAM	36+292	H + V	2Tx	H	71	263	1 / 12	26.08
		Mid	24999.96	DFT-s-OFDM	QPSK	36+292	H + V	2Tx	H	72	263	1 / 12	**29.06**
				DFT-s-OFDM	QPSK	284	H	SISO	V	336	246	32 /0	28.79
				DFT-s-OFDM	QPSK	26	V	SISO	V	31	106	1 / 12	28.25
				CP-OFDM	QPSK	284	H	SISO	V	336	246	32 / 0	26.22
				CP-OFDM	QPSK	26	V	SISO	V	31	106	1 / 12	27.19
		High	25224.96	DFT-s-OFDM	QPSK	36+292	H + V	2Tx	H	79	266	1 / 19	**28.67**

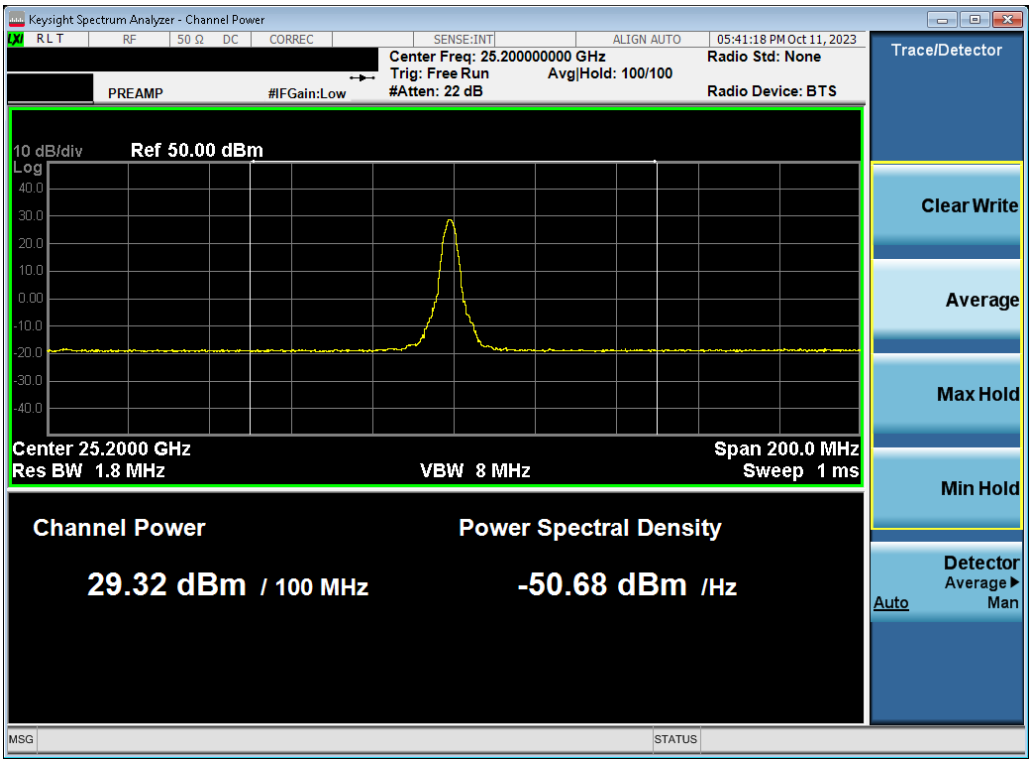
Table 7-10. Ant 1 EIRP Data (Band n258-R2 - 50MHz)



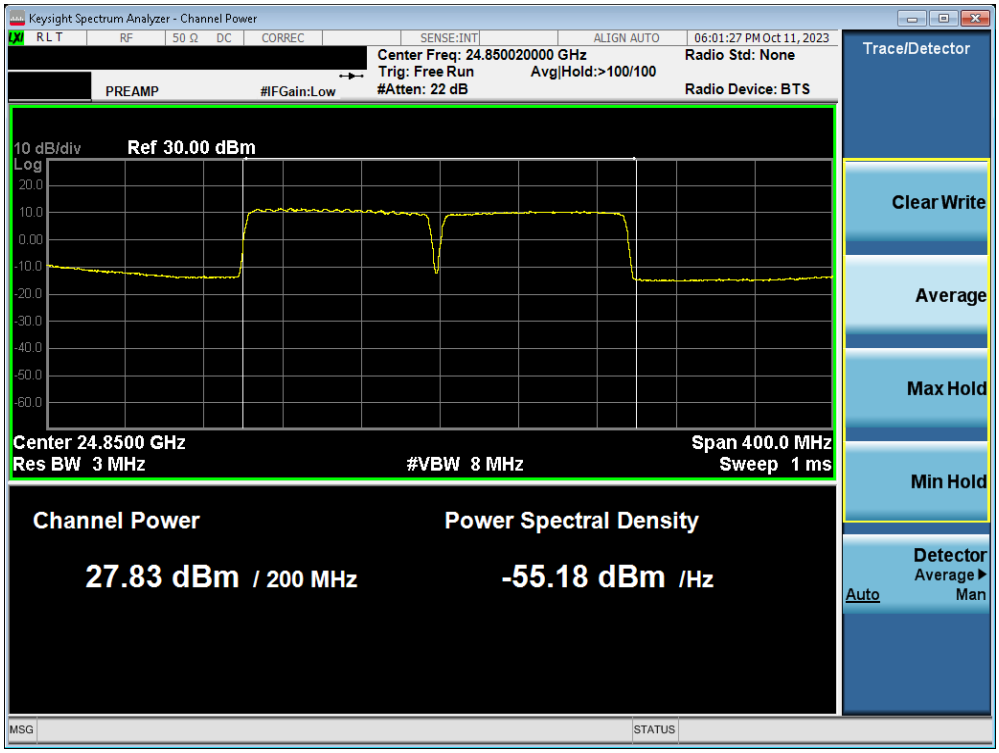
Plot 7-79. Ant 1 EIRP Plot (Band n258-R2 − 50MHz-1CC Low Channel DFT-s-OFDM π/2 BPSK)

Bandwidth [MHz]	CCs Active	Channel	Frequency [MHz]	Transmission Scheme	Modulation	Beam ID	Beam Pol.	Ant. Div.	Ant. Pol. [H/V]	Positioner Roll [degrees]	Turntable Azimuth [degrees]	RB Size/Offsets	EIRP [dBm]
100	1	Low	24800.04	DFT-s-OFDM	QPSK	36+292	H + V	2Tx	H	74	263	1 / 23	**29.09**
		Mid	24999.96	DFT-s-OFDM	QPSK	26	V	SISO	V	31	106	64 / 0	28.18
				CP-OFDM	QPSK	26	V	SISO	V	31	106	66 / 0	25.61
				DFT-s-OFDM	π/2 BPSK	36+292	H + V	2Tx	H	74	262	1 / 23	**29.05**
		High	25200.00	DFT-s-OFDM	QPSK	36+292	H + V	2Tx	H	74	261	1 / 33	29.10
				DFT-s-OFDM	QPSK	284	H	SISO	V	336	246	64 / 0	28.88
				CP-OFDM	QPSK	36+292	H + V	MIMO	H	74	261	1 / 33	27.86
				CP-OFDM	QPSK	284	H	SISO	V	336	246	66 / 0	26.39
				DFT-s-OFDM	π/2 BPSK	36+292	H + V	2Tx	H	74	261	1 / 33	**29.32**
				DFT-s-OFDM	16QAM	36+292	H + V	2Tx	H	74	261	1 / 33	28.96
				DFT-s-OFDM	64QAM	36+292	H + V	2Tx	H	74	261	1 / 33	26.05
100+100	2	Low	24850.02	DFT-s-OFDM	QPSK	36+292	H + V	2Tx	H	86	262	64 / 0	27.79
				CP-OFDM	QPSK	36+292	H + V	MIMO	H	86	262	66 / 0	25.31
				DFT-s-OFDM	π/2 BPSK	36+292	H + V	2Tx	H	86	262	64 / 0	**27.83**
				DFT-s-OFDM	16QAM	36+292	H + V	2Tx	H	86	262	64 / 0	27.33
				DFT-s-OFDM	64QAM	36+292	H + V	2Tx	H	86	262	64 / 0	23.68
		Mid	25000.02	DFT-s-OFDM	QPSK	36+292	H + V	2Tx	H	88	270	64 / 0	**27.35**
		High	25150.02	DFT-s-OFDM	QPSK	36+292	H + V	2Tx	H	85	269	64 / 0	**25.31**
100+100+100	3	Low	24900.00	DFT-s-OFDM	QPSK	36+292	H + V	2Tx	H	89	266	64 / 0	**25.06**
		High	25100.04	DFT-s-OFDM	QPSK	36+292	H + V	2Tx	H	79	264	64 / 0	**25.09**
				CP-OFDM	QPSK	36+292	H + V	MIMO	H	79	264	66 / 0	24.08
				DFT-s-OFDM	π/2 BPSK	36+292	H + V	2Tx	H	79	264	64 / 0	25.07
				DFT-s-OFDM	16QAM	36+292	H + V	2Tx	H	79	264	64 / 0	24.06
				DFT-s-OFDM	64QAM	36+292	H + V	2Tx	H	79	264	64 / 0	22.06
100+100+100+100	4	Low	24949.98	DFT-s-OFDM	QPSK	36+292	H + V	2Tx	H	79	265	64 / 0	25.13
				CP-OFDM	QPSK	36+292	H + V	MIMO	H	79	265	66 / 0	24.16
				DFT-s-OFDM	π/2 BPSK	36+292	H + V	2Tx	H	79	265	64 / 0	**25.16**
				DFT-s-OFDM	16QAM	36+292	H + V	2Tx	H	79	265	64 / 0	24.10
				DFT-s-OFDM	64QAM	36+292	H + V	2Tx	H	79	265	64 / 0	22.05
		High	25050.06	DFT-s-OFDM	π/2 BPSK	36+292	H + V	2Tx	H	79	266	64 / 0	**24.43**

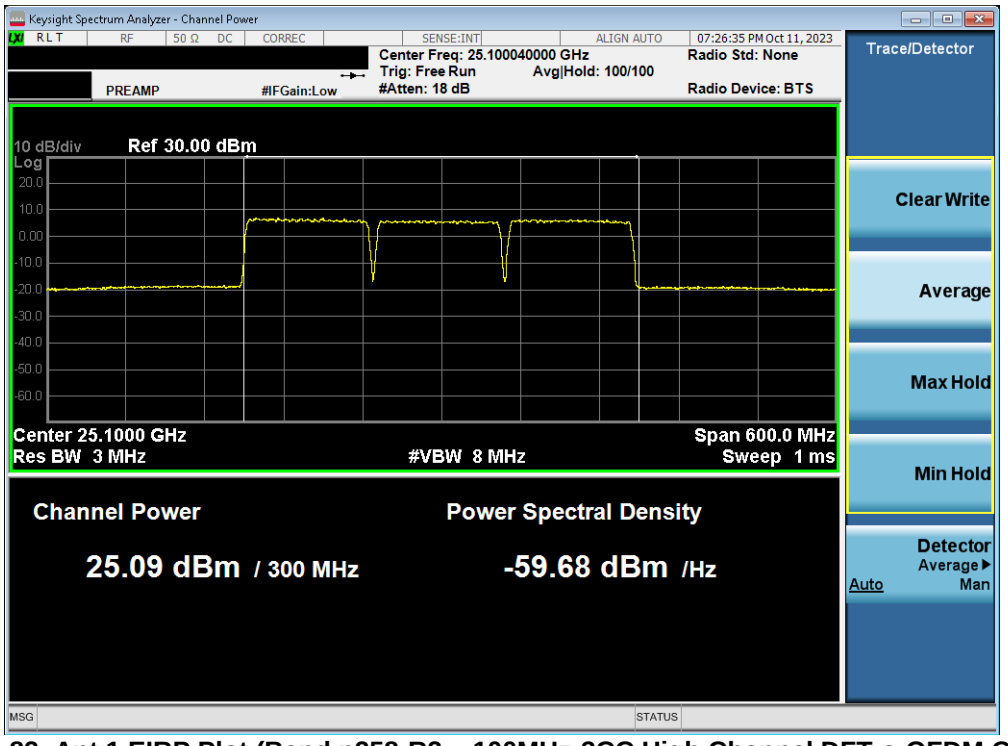
Table 7-11. Ant 1 EIRP Data (Band n258-R2 - 100MHz)



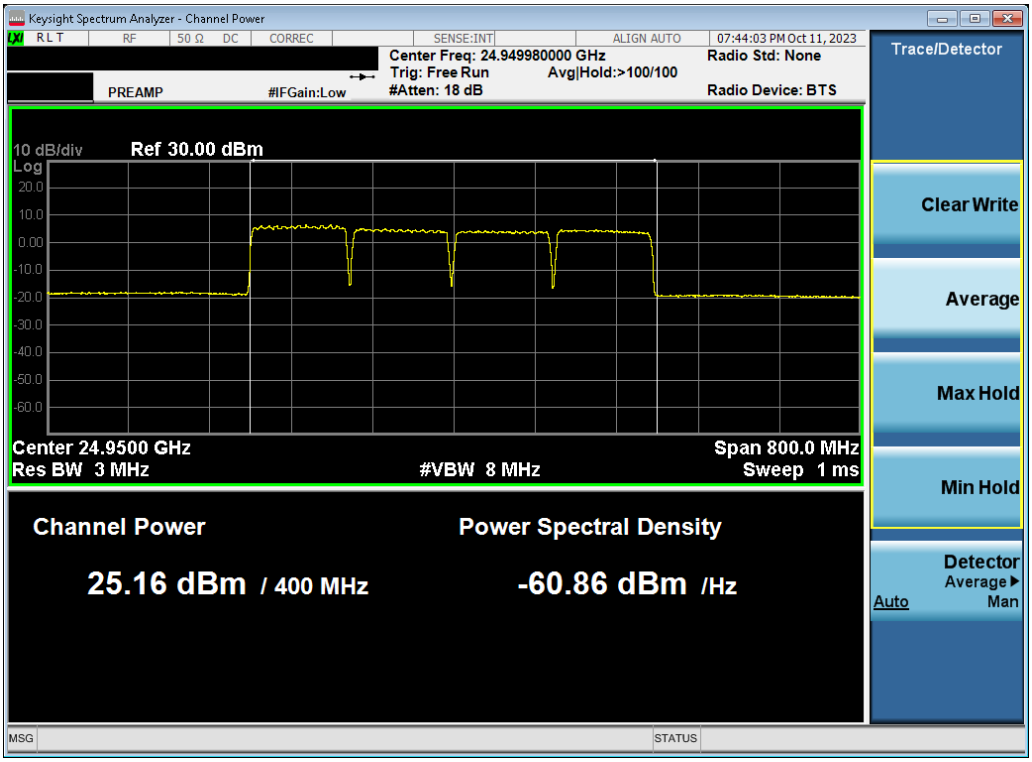
Plot 7-80. Ant 1 EIRP Plot (Band n258-R2 − 100MHz-1CC High Channel DFT-s-OFDM π/2 BPSK)



Plot 7-81.Ant 1 EIRP Plot (Band n258-R2 − 100MHz-2CC Low Channel DFT-s-OFDM π/2 BPSK)



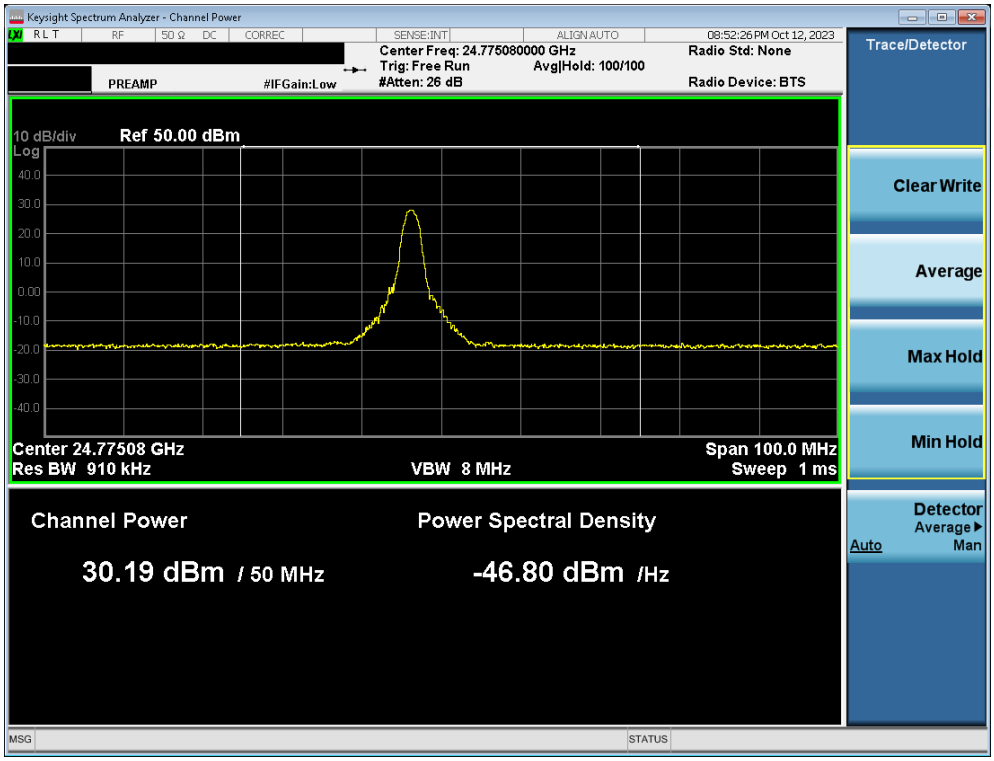
Plot 7-82. Ant 1 EIRP Plot (Band n258-R2 − 100MHz-3CC High Channel DFT-s-OFDM QPSK)



Plot 7-83. Ant 1 EIRP Plot (Band n258-R2 − 100MHz-4CC Low Channel DFT-s-OFDM π/2 BPSK)

Bandwidth [MHz]	CCs Active	Channel	Frequency [MHz]	Transmission Scheme	Modulation	Beam ID	Beam Pol.	Ant. Div.	Ant. Pol. [H/V]	Positioner Roll [degrees]	Turntable Azimuth [degrees]	RB Size/Offsets	EIRP [dBm]
50	1	Low	24775.08	DFT-s-OFDM	QPSK	39+295	H + V	2Tx	V	32	77	1 / 12	**30.14**
				DFT-s-OFDM	QPSK	295	H	SISO	V	110	90	1 / 12	27.41
				DFT-s-OFDM	QPSK	40	V	SISO	V	257	331	32 /0	28.85
				CP-OFDM	QPSK	39+295	H + V	MIMO	V	32	77	1 / 12	28.84
				CP-OFDM	QPSK	295	H	SISO	V	110	90	1 / 12	26.43
				CP-OFDM	QPSK	40	V	SISO	V	257	331	32 / 0	26.21
				DFT-s-OFDM	π/2 BPSK	39+295	H + V	2Tx	V	32	77	1 / 12	**30.19**
				DFT-s-OFDM	16QAM	39+295	H + V	2Tx	V	32	77	1 / 12	29.99
				DFT-s-OFDM	64QAM	39+295	H + V	2Tx	V	32	77	1 / 12	27.02
		Mid	24999.96	DFT-s-OFDM	QPSK	39+295	H + V	2Tx	V	33	77	1 / 12	**29.80**
		High	25224.96	DFT-s-OFDM	π/2 BPSK	39+295	H + V	2Tx	V	33	75	1 / 12	**29.73**

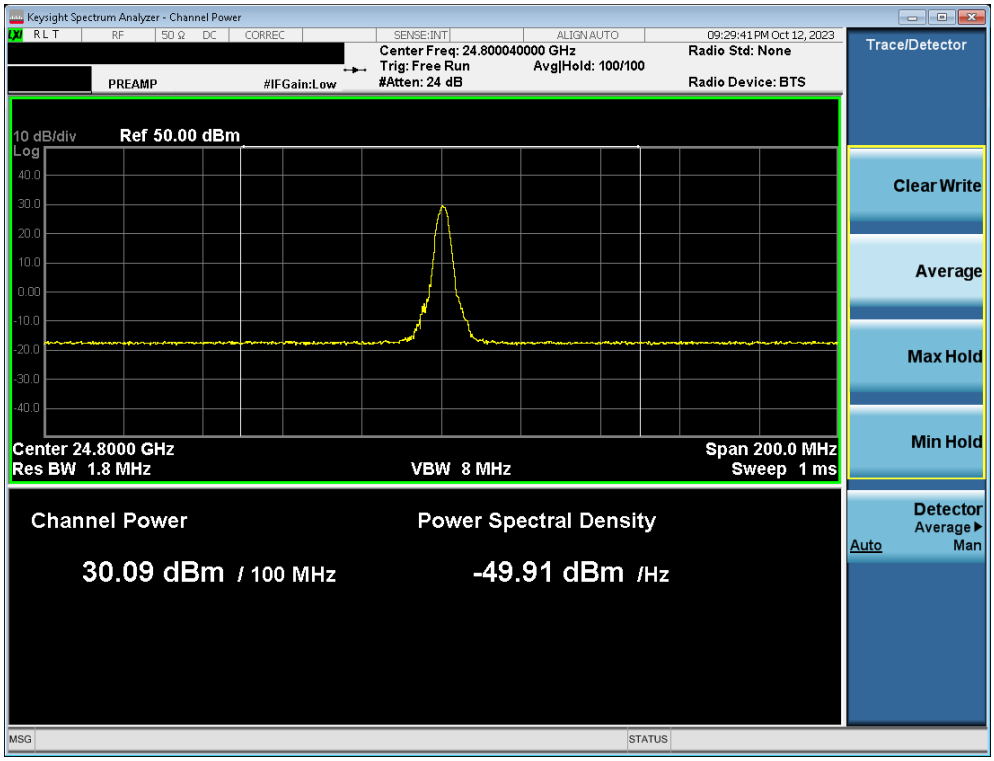
Table 7-12. Ant 2 EIRP Data (Band n258-R2 - 50MHz)



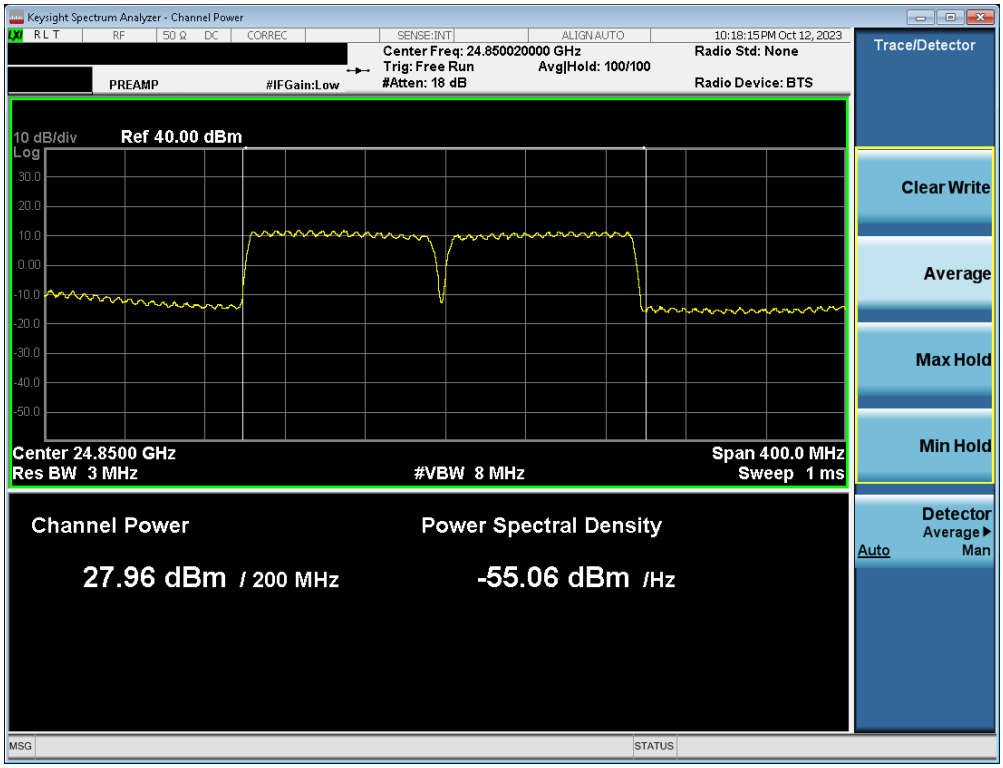
Plot 7-84. Ant 2 EIRP Plot (Band n258-R2 − 50MHz-1CC Low Channel DFT-s-OFDM π/2 BPSK)

Bandwidth [MHz]	CCs Active	Channel	Frequency [MHz]	Transmission Scheme	Modulation	Beam ID	Beam Pol.	Ant. Div.	Ant. Pol. [H/V]	Positioner Roll [degrees]	Turntable Azimuth [degrees]	RB Size/Offsets	EIRP [dBm]
100	1	Low	24800.04	DFT-s-OFDM	QPSK	39+295	H + V	2Tx	V	33	77	1 / 33	**30.09**
				DFT-s-OFDM	QPSK	295	H	SISO	V	110	90	1 / 42	27.44
				DFT-s-OFDM	QPSK	40	V	SISO	V	257	331	1 / 42	28.87
				CP-OFDM	QPSK	39+295	H + V	MIMO	V	33	77	1 / 33	28.95
				CP-OFDM	QPSK	295	H	SISO	V	110	90	1 / 42	26.41
				CP-OFDM	QPSK	40	V	SISO	V	257	331	1 / 42	27.68
				DFT-s-OFDM	π/2 BPSK	39+295	H + V	2Tx	V	33	77	1 / 33	**30.07**
				DFT-s-OFDM	16QAM	39+295	H + V	2Tx	V	33	77	1 / 33	29.93
				DFT-s-OFDM	64QAM	39+295	H + V	2Tx	V	33	77	1 / 33	26.88
		Mid	24999.96	DFT-s-OFDM	QPSK	39+295	H + V	2Tx	V	30	79	1 / 23	**29.64**
		High	25200.00	DFT-s-OFDM	π/2 BPSK	39+295	H + V	2Tx	V	30	77	1 / 33	**29.11**
100+100	2	Low	24850.02	DFT-s-OFDM	QPSK	36+295	H + V	2Tx	V	29	79	64 / 0	**27.96**
				CP-OFDM	QPSK	36+295	H + V	MIMO	V	29	79	66 / 0	25.37
				DFT-s-OFDM	π/2 BPSK	39+295	H + V	2Tx	V	29	79	64 / 0	27.88
				DFT-s-OFDM	16QAM	39+295	H + V	2Tx	V	29	79	64 / 0	27.73
				DFT-s-OFDM	64QAM	39+295	H + V	2Tx	V	29	79	64 / 0	24.12
		Mid	25000.02	DFT-s-OFDM	π/2 BPSK	39+295	H + V	2Tx	V	29	78	64 / 0	**27.81**
		High	25150.02	DFT-s-OFDM	π/2 BPSK	39+295	H + V	2Tx	V	30	79	64 / 0	**27.57**
100+100+100	3	Low	24900.00	DFT-s-OFDM	QPSK	39+295	H + V	2Tx	V	44	79	64 / 0	**24.88**
				CP-OFDM	QPSK	39+295	H + V	MIMO	V	44	79	66 / 0	23.77
				DFT-s-OFDM	π/2 BPSK	36+295	H + V	2Tx	V	44	79	64 / 0	24.85
				DFT-s-OFDM	16QAM	36+295	H + V	2Tx	V	44	79	64 / 0	23.80
				DFT-s-OFDM	64QAM	36+295	H + V	2Tx	V	44	79	64 / 0	21.77
		High	25100.04	DFT-s-OFDM	π/2 BPSK	39+295	H + V	2Tx	V	35	83	64 / 0	**24.63**
100+100+100+100	4	Low	24949.98	DFT-s-OFDM	QPSK	39+295	H + V	2Tx	V	35	84	64 / 0	**24.59**
		High	25050.06	DFT-s-OFDM	QPSK	39+295	H + V	2Tx	V	32	84	64 / 0	24.69
				CP-OFDM	QPSK	39+295	H + V	MIMO	V	32	84	66 / 0	23.76
				DFT-s-OFDM	π/2 BPSK	39+295	H + V	2Tx	V	32	84	64 / 0	**24.74**
				DFT-s-OFDM	16QAM	39+295	H + V	2Tx	V	32	84	64 / 0	23.67
				DFT-s-OFDM	64QAM	39+295	H + V	2Tx	V	32	84	64 / 0	21.63

Table 7-13. Ant 2 EIRP Data (Band n258-R2 - 100MHz)

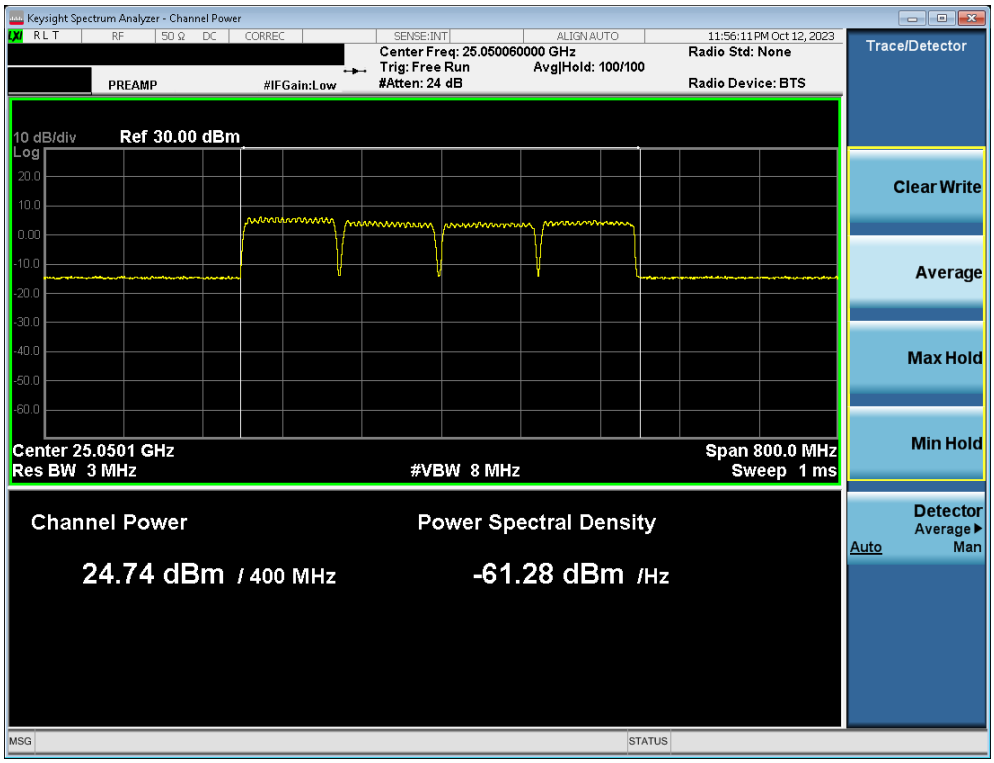


Plot 7-85. Ant 2 EIRP Plot (Band n258-R2 − 100MHz-1CC Low Channel DFT-s-OFDM QPSK)



Plot 7-86.Ant 2 EIRP Plot (Band n258-R2 − 100MHz-2CC Low Channel DFT-s-OFDM QPSK)

Plot 7-87. Ant 2 EIRP Plot (Band n258-R2 − 100MHz-3CC Low Channel DFT-s-OFDM QPSK)

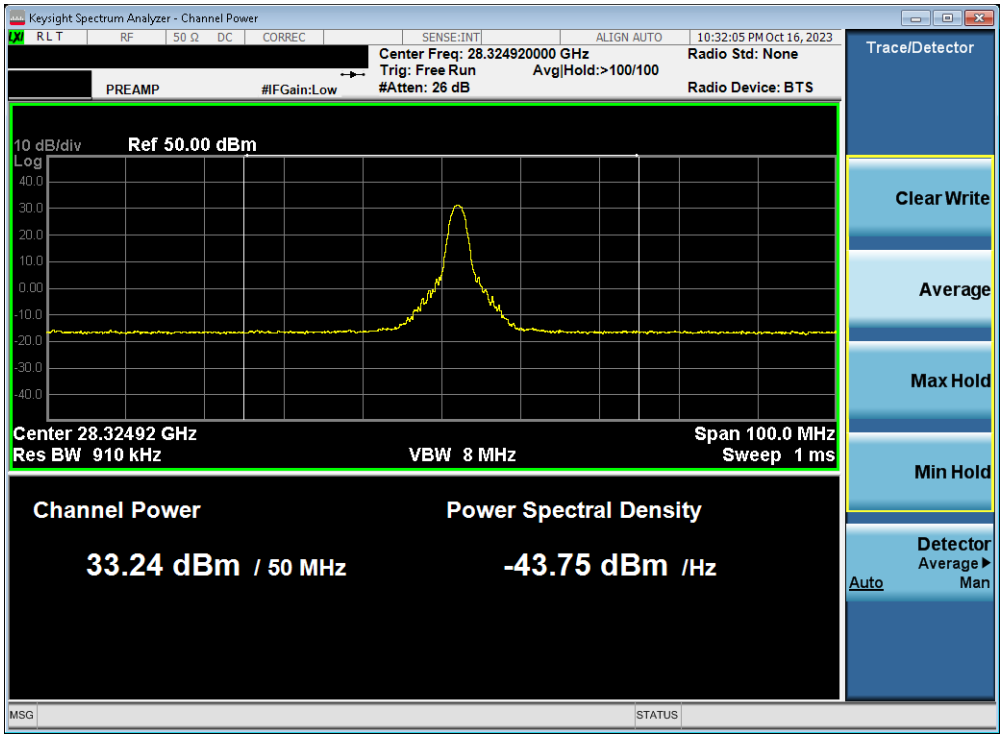


Plot 7-88. Ant 2 EIRP Plot (Band n258-R2 − 100MHz-4CC High Channel DFT-s-OFDM π/2 BPSK)

Band n261

Bandwidth [MHz]	CCs Active	Channel	Frequency [MHz]	Transmission Scheme	Modulation	Beam ID	Beam Pol.	Ant. Div.	Ant. Pol. [H/V]	Positioner Roll [degrees]	Turntable Azimuth [degrees]	RB Size/Offsets	EIRP [dBm]
50	1	Low	27525.00	DFT-s-OFDM	QPSK	37+293	H + V	2Tx	H	108	126	1 / 12	**32.35**
		Mid	27924.96	DFT-s-OFDM	QPSK	37+293	H + V	2Tx	H	111	126	1 / 16	**32.99**
				DFT-s-OFDM	QPSK	26	V	SISO	V	255	266	1 / 12	28.87
				CP-OFDM	QPSK	26	V	SISO	V	255	266	1 / 12	27.16
		High	28324.92	DFT-s-OFDM	QPSK	37+293	H + V	2Tx	H	108	127	1 / 16	33.19
				DFT-s-OFDM	QPSK	282	H	SISO	V	94	281	1 / 16	31.42
				CP-OFDM	QPSK	37+293	H + V	MIMO	H	108	127	1 / 16	31.70
				CP-OFDM	QPSK	282	H	SISO	V	94	281	1 / 16	29.91
				DFT-s-OFDM	π/2 BPSK	37+293	H + V	2Tx	H	108	127	1 / 16	**33.24**
				DFT-s-OFDM	16QAM	37+293	H + V	2Tx	H	108	127	1 / 16	32.70
				DFT-s-OFDM	64QAM	37+293	H + V	2Tx	H	108	127	1 / 16	29.57

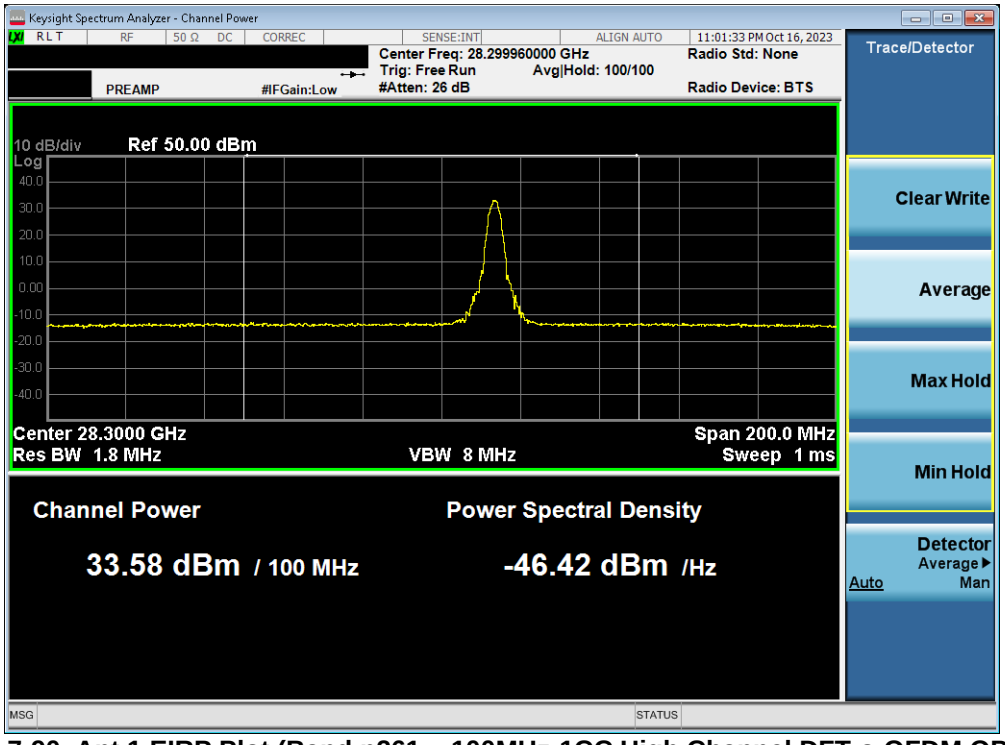
Table 7-14. Ant-1 EIRP Data (Band n261 - 50MHz)



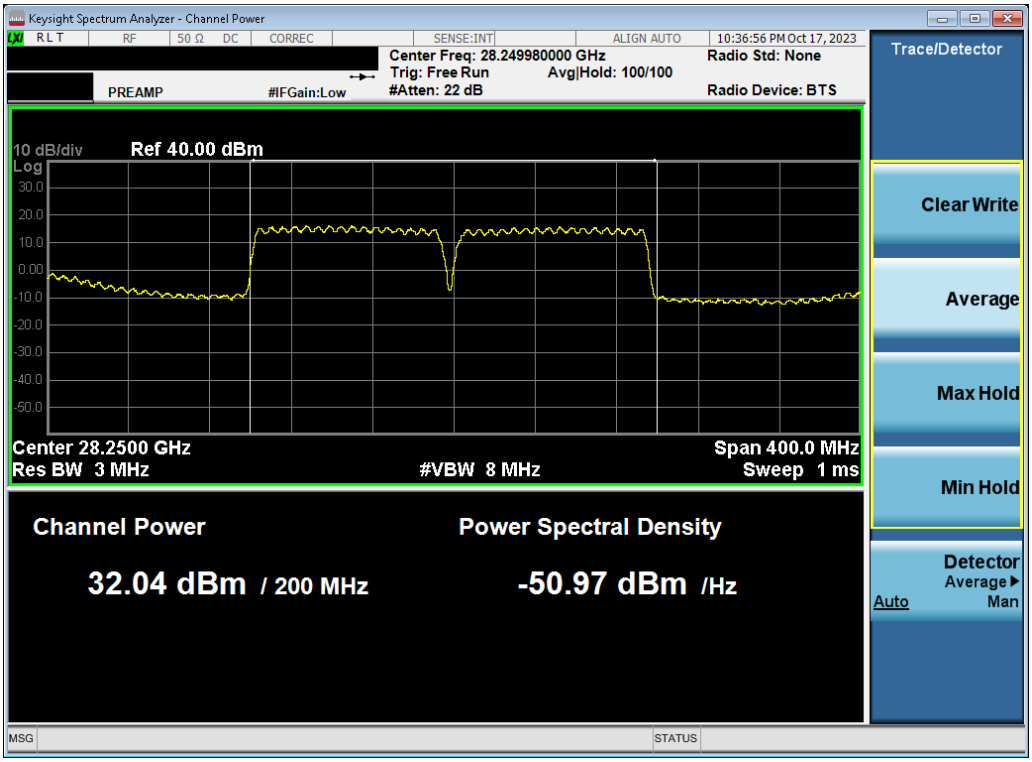
Plot 7-89.Ant 1 EIRP Plot (Band n261 − 50MHz-1CC High Channel DFT-s-OFDM π/2 BPSK)

Bandwidth [MHz]	CCs Active	Channel	Frequency [MHz]	Transmission Scheme	Modulation	Beam ID	Beam Pol.	Ant. Div.	Ant. Pol. [H/V]	Positioner Roll [degrees]	Turntable Azimuth [degrees]	RB Size/Offsets	EIRP [dBm]
100	1	Low	27550.08	DFT-s-OFDM	π/2 BPSK	37+293	H + V	2Tx	H	109	126	1 / 33	**32.32**
		Mid	27924.96	DFT-s-OFDM	QPSK	37+293	H + V	2Tx	H	109	126	1 / 42	**32.97**
		High	28299.96	DFT-s-OFDM	QPSK	37+293	H + V	2Tx	H	109	127	1 / 42	**33.58**
				DFT-s-OFDM	QPSK	282	H	SISO	V	91	277	1 / 23	31.63
				DFT-s-OFDM	QPSK	26	V	SISO	V	256	268	1 / 23	29.27
				CP-OFDM	QPSK	37+293	H + V	MIMO	H	109	127	1 / 42	32.07
				CP-OFDM	QPSK	282	H	SISO	V	91	277	1 / 23	30.11
				CP-OFDM	QPSK	26	V	SISO	V	256	268	1 / 23	27.75
				DFT-s-OFDM	π/2 BPSK	37+293	H + V	2Tx	H	109	127	1 / 42	33.52
				DFT-s-OFDM	16QAM	37+293	H + V	2Tx	H	109	127	1 / 42	33.06
				DFT-s-OFDM	64QAM	37+293	H + V	2Tx	H	109	127	1 / 42	29.99
100+100	2	Low	27600.06	DFT-s-OFDM	QPSK	37+293	H + V	2Tx	H	108	126	64 / 0	**31.89**
		Mid	27925.02	DFT-s-OFDM	π/2 BPSK	37+293	H + V	2Tx	H	110	125	64 / 0	**31.80**
		High	28249.98	DFT-s-OFDM	QPSK	37+293	H + V	2Tx	H	110	126	64 / 0	31.92
				CP-OFDM	QPSK	37+293	H + V	MIMO	H	110	126	66 / 0	30.65
				DFT-s-OFDM	π/2 BPSK	37+293	H + V	2Tx	H	110	126	64 / 0	**32.04**
				DFT-s-OFDM	16QAM	37+293	H + V	2Tx	H	110	126	64 / 0	31.48
				DFT-s-OFDM	64QAM	37+293	H + V	2Tx	H	110	126	64 / 0	28.84
100+100+100	3	Low	27650.04	DFT-s-OFDM	π/2 BPSK	37+293	H + V	2Tx	H	109	126	64 / 0	**29.95**
		Mid	27924.96	DFT-s-OFDM	QPSK	37+293	H + V	2Tx	H	110	126	64 / 0	**30.36**
		High	28200.00	DFT-s-OFDM	QPSK	37+293	H + V	2Tx	H	110	126	64 / 0	**30.44**
				CP-OFDM	QPSK	37+293	H + V	MIMO	H	110	126	66 / 0	29.44
				DFT-s-OFDM	π/2 BPSK	37+293	H + V	2Tx	H	110	126	64 / 0	30.42
				DFT-s-OFDM	16QAM	37+293+	H + V	2Tx	H	110	126	64 / 0	29.43
				DFT-s-OFDM	64QAM	37+293	H + V	2Tx	H	110	126	64 / 0	27.32
100+100+100+100	4	Low	27700.02	DFT-s-OFDM	π/2 BPSK	37+293	H + V	2Tx	H	109	126	64 / 0	**30.12**
		Mid	27925.02	DFT-s-OFDM	π/2 BPSK	37+293	H + V	2Tx	H	111	126	64 / 0	**30.24**
		High	28150.02	DFT-s-OFDM	QPSK	37+293	H + V	2Tx	H	111	126	64 / 0	**30.40**
				CP-OFDM	QPSK	37+293	H + V	MIMO	H	111	126	66 / 0	29.32
				DFT-s-OFDM	π/2 BPSK	37+293	H + V	2Tx	H	111	126	64 / 0	30.30
				DFT-s-OFDM	16QAM	37+293	H + V	2Tx	H	111	126	64 / 0	29.31
				DFT-s-OFDM	64QAM	37+293	H + V	2Tx	H	111	126	64 / 0	27.19

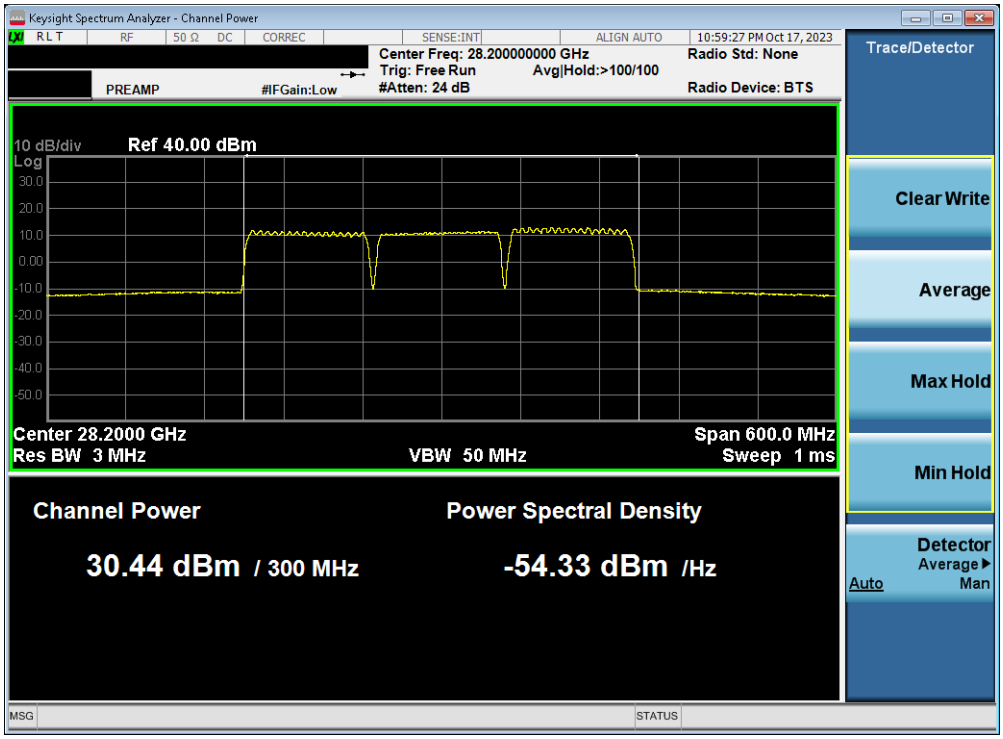
Table 7-15. Ant 1 EIRP Data (Band n261 - 100MHz)



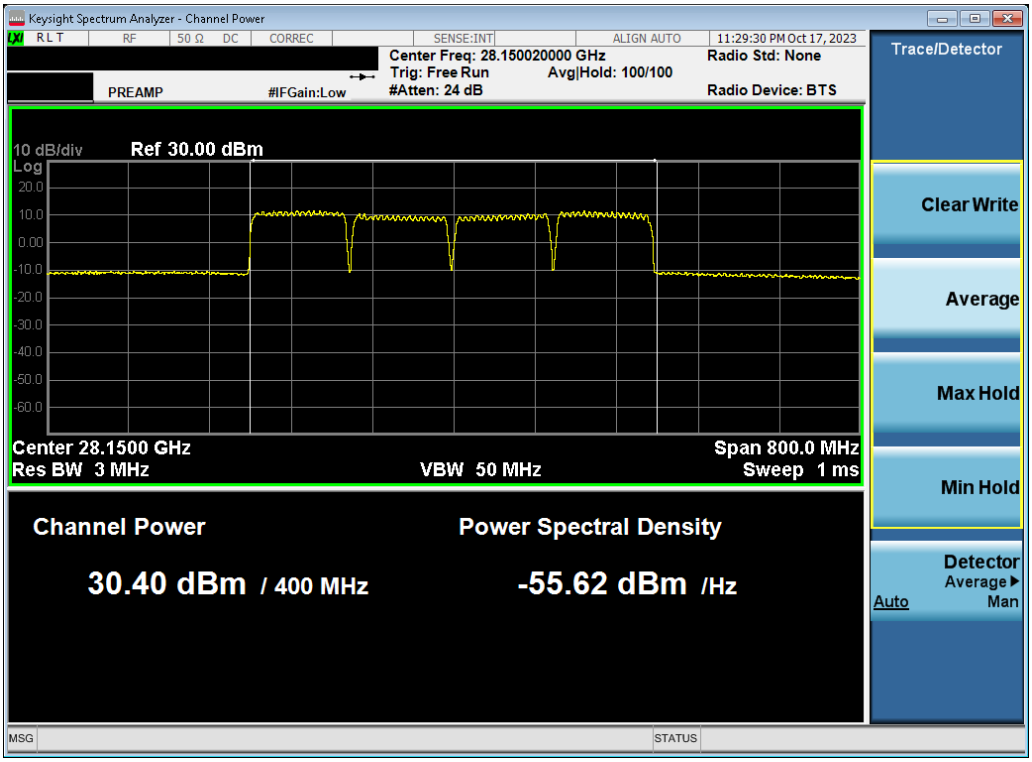
Plot 7-90. Ant 1 EIRP Plot (Band n261 − 100MHz-1CC High Channel DFT-s-OFDM QPSK)



Plot 7-91.Ant 1 EIRP Plot (Band n261 − 100MHz-2CC High Channel DFT-s-OFDM π/2 BPSK)



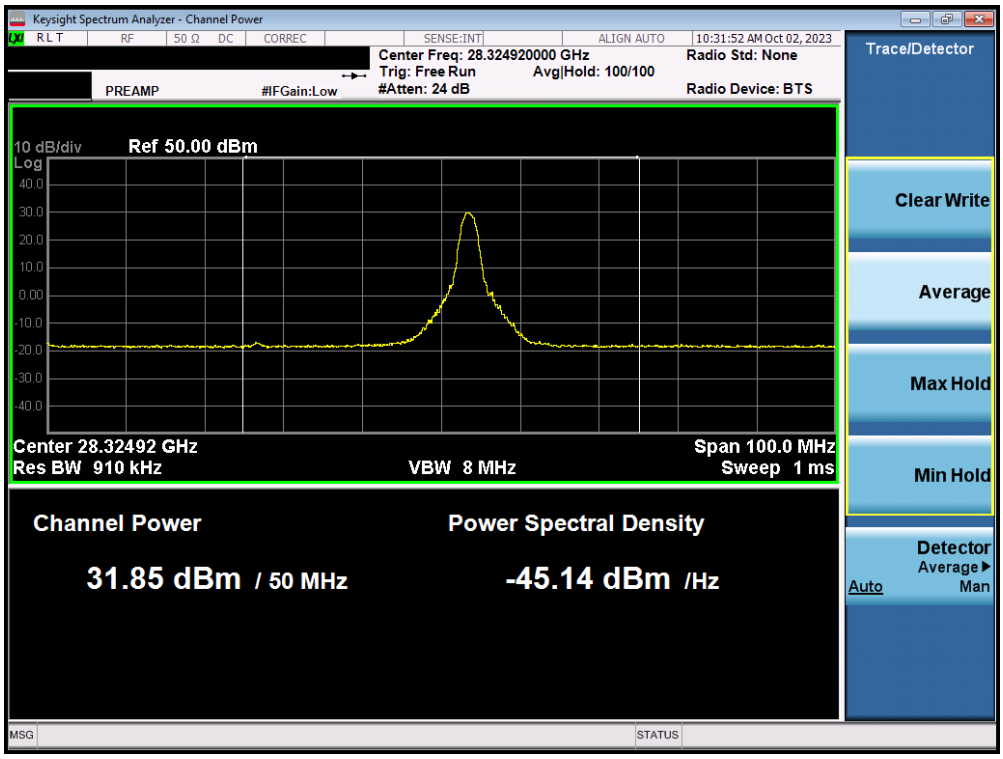
Plot 7-92. Ant 1 EIRP Plot (Band n261 − 100MHz-3CC High Channel DFT-s-OFDM QPSK)



Plot 7-93.Ant 1 EIRP Plot (Band n261 − 100MHz-4CC High Channel DFT-s-OFDM QPSK)

Bandwidth [MHz]	CCs Active	Channel	Frequency [MHz]	Transmission Scheme	Modulation	Beam ID	Beam Pol.	Ant. Div.	Ant. Pol. [H/V]	Positioner Roll [degrees]	Turntable Azimuth [degrees]	RB Size/Offsets	EIRP [dBm]
50	1	Low	27525.00	DFT-s-OFDM	π/2 BPSK	32+288	H + V	2Tx	H	351	76	1 / 19	**28.50**
		Mid	27924.96	DFT-s-OFDM	QPSK	40+296	H + V	2Tx	H	354	84	1 / 19	**29.62**
		High	28324.92	DFT-s-OFDM	QPSK	31+287	H + V	2Tx	V	79	21	1 / 19	31.84
				DFT-s-OFDM	QPSK	296	H	SISO	H	354	90	1 / 16	30.06
				DFT-s-OFDM	QPSK	39	V	SISO	H	81	27	1 / 19	30.99
				CP-OFDM	QPSK	31+287	H + V	MIMO	V	79	21	1 / 19	30.88
				CP-OFDM	QPSK	296	H	SISO	H	354	90	1 / 16	28.52
				CP-OFDM	QPSK	39	V	SISO	H	81	27	1 / 19	29.37
				DFT-s-OFDM	π/2 BPSK	31+287	H + V	2Tx	V	79	21	1 / 19	**31.85**
				DFT-s-OFDM	16QAM	31+287	H + V	2Tx	V	79	21	1 / 19	29.89
				DFT-s-OFDM	64QAM	31+287	H + V	2Tx	V	79	21	1 / 19	26.86

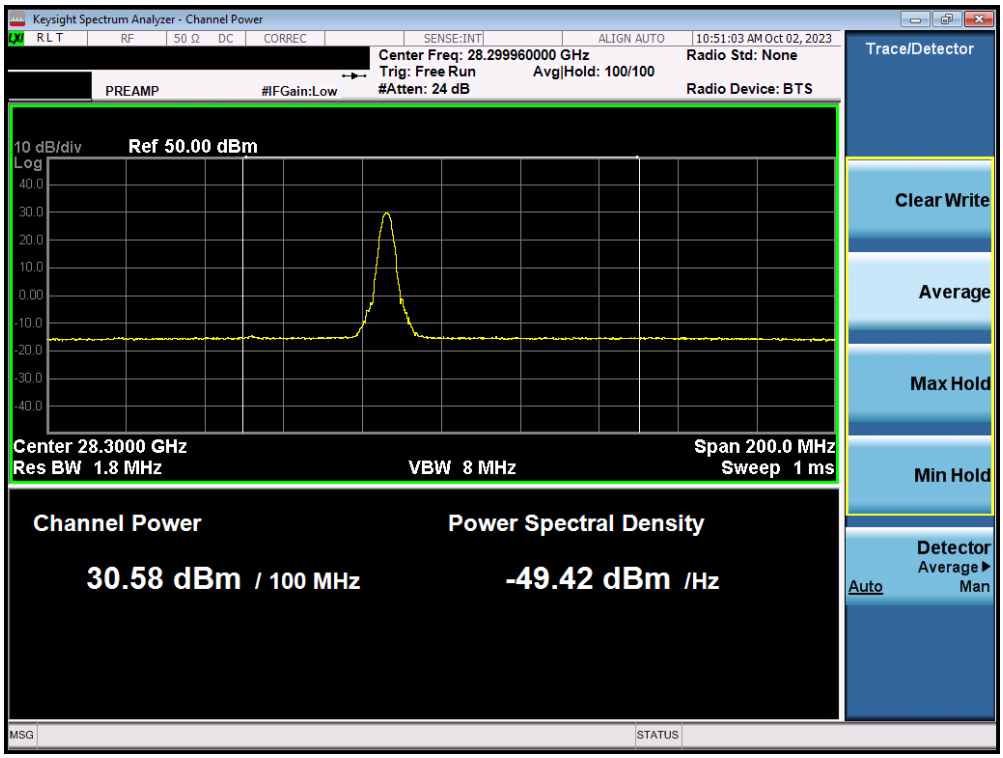
Table 7-16. Ant 2 EIRP Data (Band n261 - 50MHz)



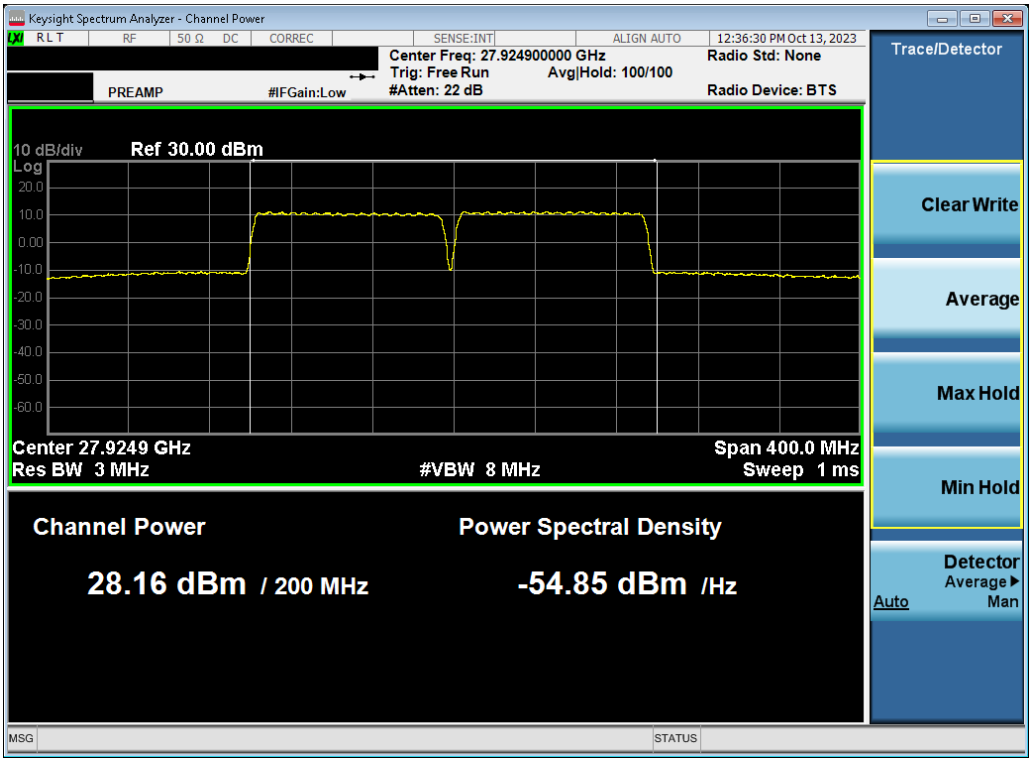
Plot 7-94.Ant 2 EIRP Plot (Band n261 − 50MHz-1CC High Channel DFT-s-OFDM π/2 BPSK)

Bandwidth [MHz]	CCs Active	Channel	Frequency [MHz]	Transmission Scheme	Modulation	Beam ID	Beam Pol.	Ant. Div.	Ant. Pol. [H/V]	Positioner Roll [degrees]	Turntable Azimuth [degrees]	RB Size/Offsets	EIRP [dBm]
100	1	Low	27550.08	DFT-s-OFDM	π/2 BPSK	32+288	H + V	2Tx	H	355	78	1 / 33	**28.02**
		Mid	27924.96	DFT-s-OFDM	π/2 BPSK	40+296	H + V	2Tx	H	351	85	1 / 33	**29.27**
		High	28299.96	DFT-s-OFDM	QPSK	31+287	H + V	2Tx	V	261	335	1 / 23	30.56
				DFT-s-OFDM	QPSK	296	H	SISO	H	351	87	1 / 23	30.46
				DFT-s-OFDM	QPSK	39	V	SISO	H	79	37	1 / 23	28.61
				CP-OFDM	QPSK	31+287	H + V	MIMO	V	261	335	1 / 23	29.29
				CP-OFDM	QPSK	296	H	SISO	H	351	87	1 / 23	28.92
				CP-OFDM	QPSK	39	V	SISO	H	79	37	1 / 23	27.18
				DFT-s-OFDM	π/2 BPSK	31+287	H + V	2Tx	V	261	335	1 / 23	**30.58**
				DFT-s-OFDM	16QAM	31+287	H + V	2Tx	V	261	335	1 / 23	30.03
				DFT-s-OFDM	64QAM	31+287	H + V	2Tx	V	261	335	1 / 23	29.81
100+100	2	Low	27600.06	DFT-s-OFDM	π/2 BPSK	32+288	H + V	2Tx	H	355	77	64 / 0	**26.71**
		Mid	27925.02	DFT-s-OFDM	QPSK	40+296	H + V	2Tx	H	348	84	64 / 0	**28.16**
				CP-OFDM	QPSK	40+296	H + V	MIMO	H	348	84	66 / 0	25.67
				DFT-s-OFDM	π/2 BPSK	40+296	H + V	2Tx	H	348	84	64 / 0	28.10
				DFT-s-OFDM	16QAM	40+296	H + V	2Tx	H	348	84	64 / 0	27.70
				DFT-s-OFDM	64QAM	40+296	H + V	2Tx	H	348	84	64 / 0	24.13
		High	28249.98	DFT-s-OFDM	QPSK	31+287	H + V	2Tx	V	314	349	64 / 0	**27.83**
100+100+100	3	Low	27650.04	DFT-s-OFDM	QPSK	32+288	H + V	2Tx	H	355	76	64 / 0	**24.54**
		Mid	27924.96	DFT-s-OFDM	QPSK	40+296	H + V	2Tx	H	348	84	64 / 0	**25.80**
				CP-OFDM	QPSK		H + V	MIMO	H	348	84	66 / 0	24.74
				DFT-s-OFDM	π/2 BPSK	40+296	H + V	2Tx	H	348	84	64 / 0	25.77
				DFT-s-OFDM	16QAM		H + V	2Tx	H	348	84	64 / 0	24.77
				DFT-s-OFDM	64QAM		H + V	2Tx	H	348	84	64 / 0	22.78
		High	28200.00	DFT-s-OFDM	QPSK	31+287	H + V	2Tx	V	314	349	64 / 0	**25.01**
100+100+100+100	4	Low	27700.02	DFT-s-OFDM	QPSK	32+288	H + V	2Tx	H	355	76	64 / 0	**24.70**
		Mid	27925.02	DFT-s-OFDM	QPSK	40+296	H + V	2Tx	H	348	84	64 / 0	**25.80**
				CP-OFDM	QPSK	40+296	H + V	MIMO	H	348	84	66 / 0	24.76
				DFT-s-OFDM	π/2 BPSK	40+296	H + V	2Tx	H	348	84	64 / 0	25.75
				DFT-s-OFDM	16QAM	40+296	H + V	2Tx	H	348	84	64 / 0	24.77
				DFT-s-OFDM	64QAM	40+296	H + V	2Tx	H	348	84	64 / 0	22.68
		High	28150.02	DFT-s-OFDM	QPSK	31+287	H + V	2Tx	V	315	349	64 / 0	**25.15**

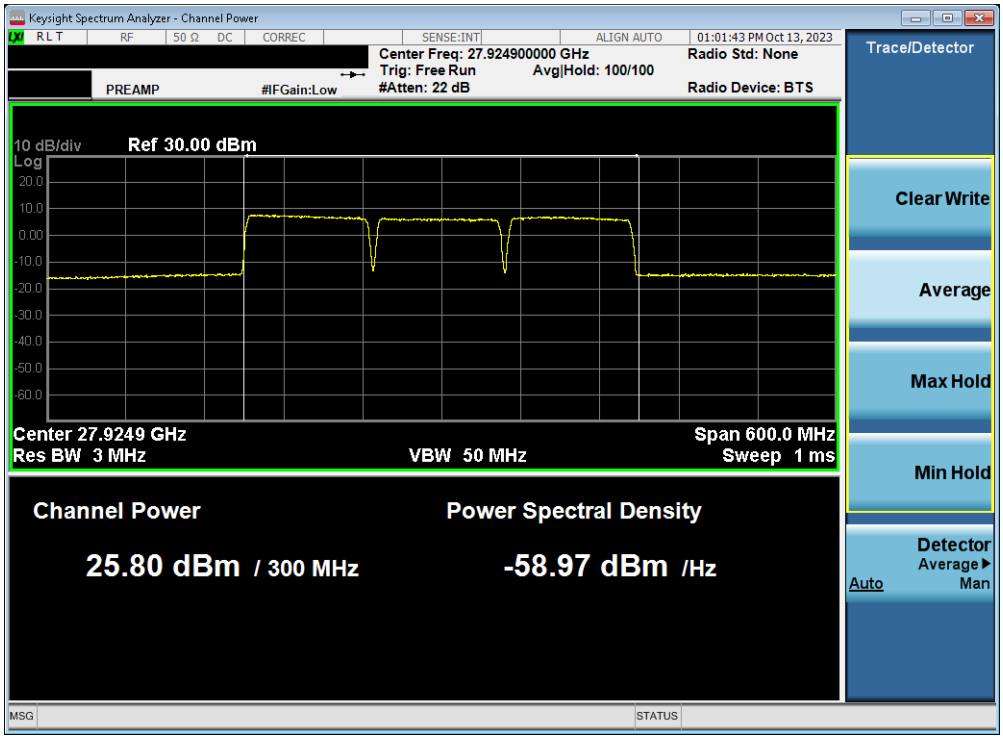
Table 7-17. Ant 2 EIRP Data (Band n261 - 100MHz)



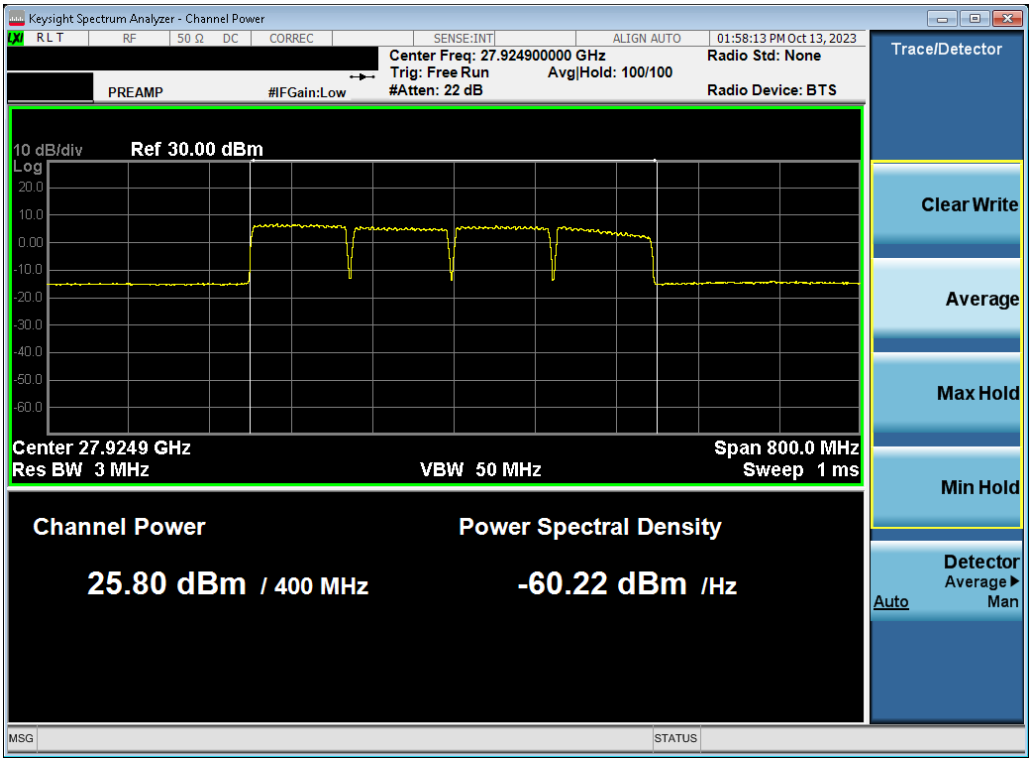
Plot 7-95. Ant 2 EIRP Plot (Band n261 − 100MHz-1CC High Channel DFT-s-OFDM π/2 BPSK)



Plot 7-96.Ant 2 EIRP Plot (Band n261 − 100MHz-2CC Mid Channel DFT-s-OFDM QPSK)



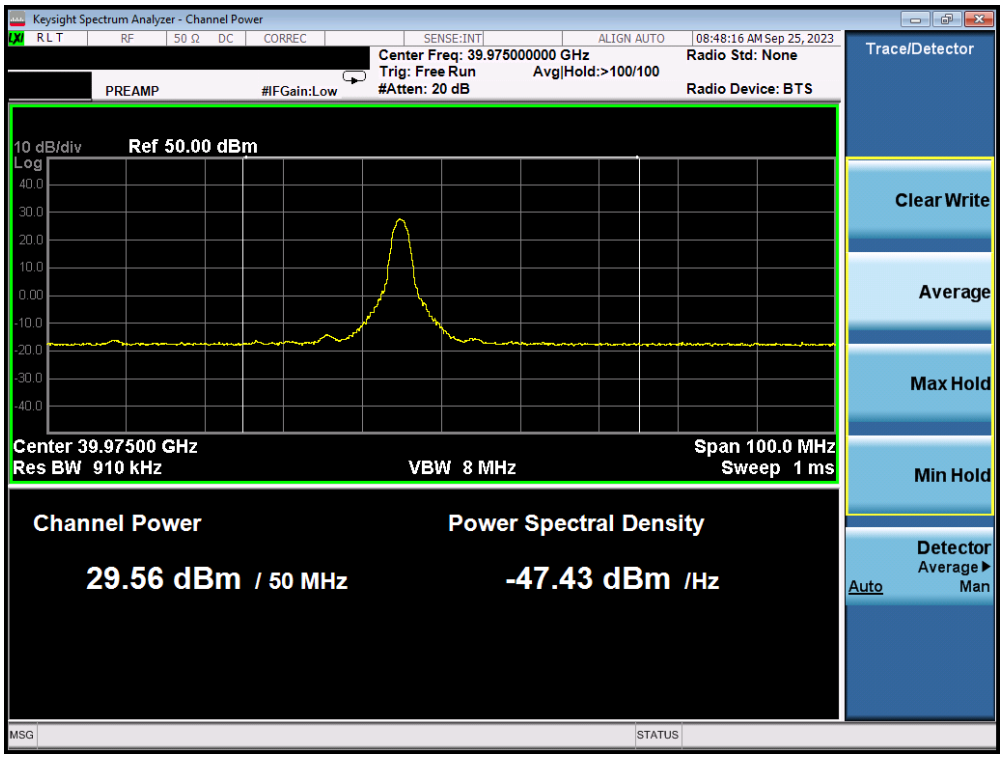
Plot 7-97. Ant 2 EIRP Plot (Band n261 − 100MHz-3CC Mid Channel DFT-s-OFDM QPSK)



Plot 7-98.Ant 2 EIRP Plot (Band n261 − 100MHz-4CC Mid Channel DFT-s-OFDM QPSK)

Bandwidth [MHz]	CCs Active	Channel	Frequency [MHz]	Transmission Scheme	Modulation	Beam ID	Beam Pol.	Ant. Div.	Ant. Pol. [H/V]	Positioner Roll [degrees]	Turntable Azimuth [degrees]	RB Size/Offsets	EIRP [dBm]
50	1	Low	37025.04	DFT-s-OFDM	π/2 BPSK	26/282	H + V	2Tx	V	223	268	1 / 12	**28.09**
		Mid	38499.96	DFT-s-OFDM	QPSK	282	H	SISO	H	268	252	32 /0	28.90
				DFT-s-OFDM	QPSK	35	V	SISO	H	291	254	1 / 19	27.93
				CP-OFDM	QPSK	282	H	SISO	H	268	252	32 / 0	26.91
				CP-OFDM	QPSK	35	V	SISO	H	291	254	1 / 19	27.36
				DFT-s-OFDM	π/2 BPSK	35/291	H + V	2Tx	V	225	280	1 / 16	**29.06**
		High	39975.00	DFT-s-OFDM	QPSK	27/283	H + V	2Tx	V	67	62	1 / 16	29.40
				CP-OFDM	QPSK	27/283	H + V	MIMO	V	67	62	1 / 12	27.40
				DFT-s-OFDM	π/2 BPSK	27/283	H + V	2Tx	V	67	62	1 / 12	**29.56**
				DFT-s-OFDM	16QAM	27/283	H + V	2Tx	V	67	62	1 / 12	29.23
				DFT-s-OFDM	64QAM	27/283	H + V	2Tx	V	67	62	1 / 12	26.15

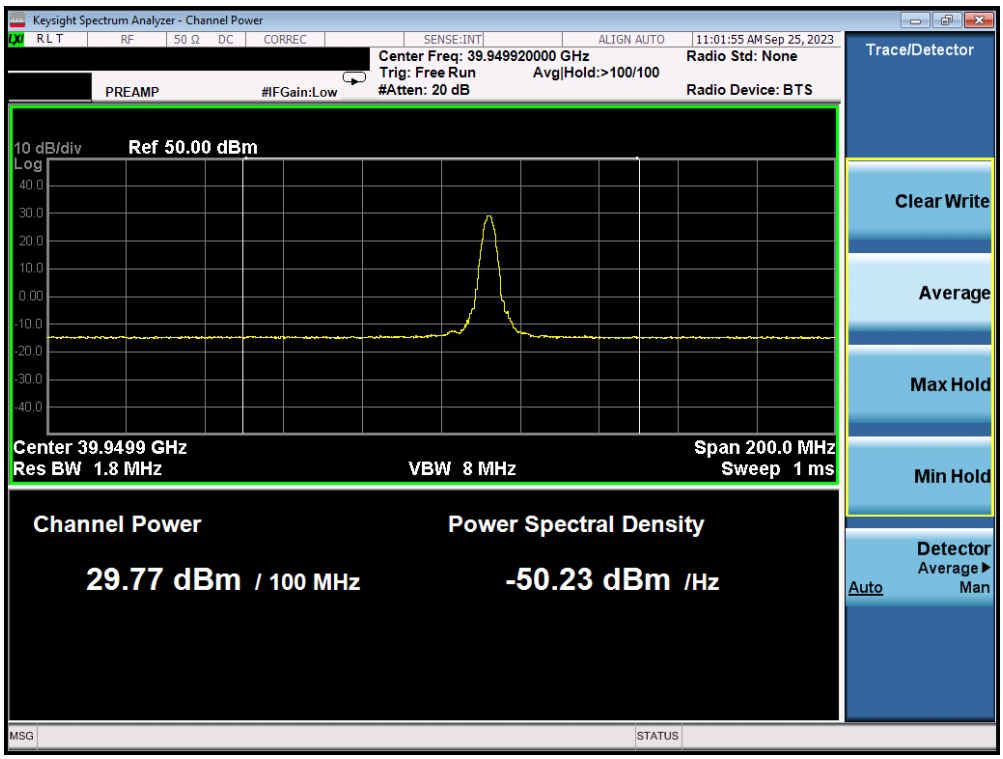
Table 7-18. Ant 1 EIRP Data (Band n260 - 50MHz)



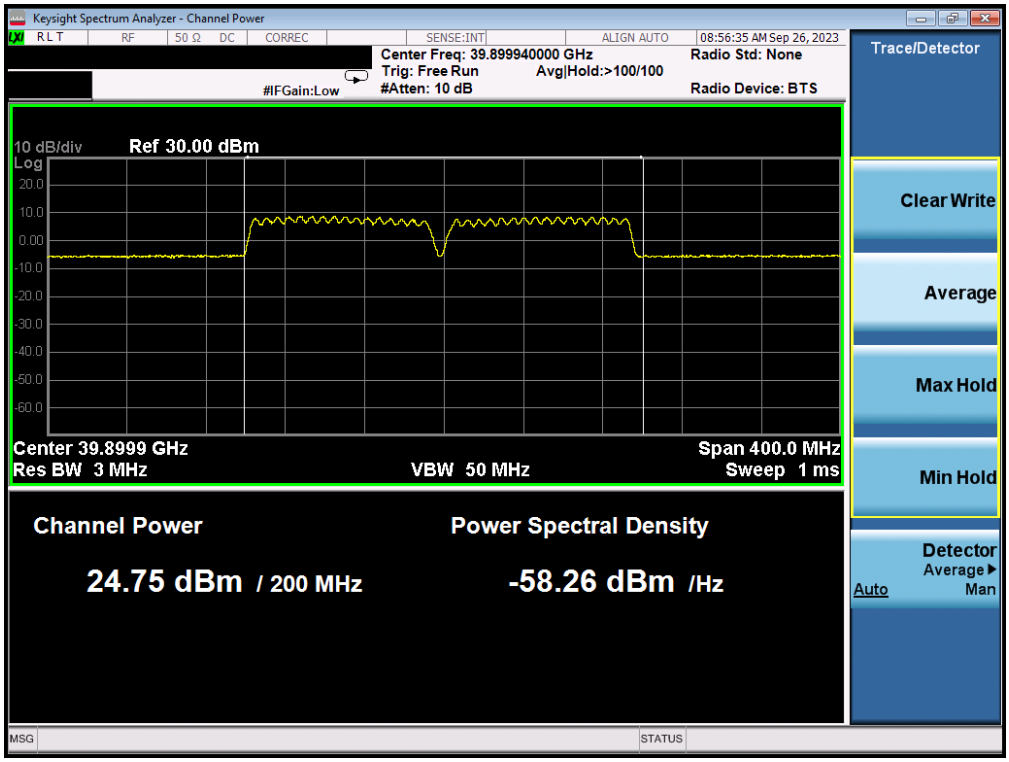
Plot 7-99.Ant 1 EIRP Plot (Band n260 − 50MHz-1CC High Channel DFT-s-OFDM π/2 BPSK)

Bandwidth [MHz]	CCs Active	Channel	Frequency [MHz]	Transmission Scheme	Modulation	Beam ID	Beam Pol.	Ant. Div.	Ant. Pol. [H/V]	Positioner Roll [degrees]	Turntable Azimuth [degrees]	RB Size/Offsets	EIRP [dBm]
100	1	Low	37050.00	DFT-s-OFDM	π/2 BPSK	26/282	H + V	2Tx	V	221	270	1 / 42	**28.08**
		Mid	38499.96	DFT-s-OFDM	QPSK	282	H	SISO	V	268	267	1 / 33	27.03
				DFT-s-OFDM	QPSK	35	V	SISO	V	291	254	64 / 0	27.85
				CP-OFDM	QPSK	282	H	SISO	V	268	267	66 / 0	27.06
				CP-OFDM	QPSK	35	V	SISO	V	291	254	66 / 0	25.90
				DFT-s-OFDM	π/2 BPSK	35/291	H + V	2Tx	V	225	280	1 / 42	**28.31**
		High	39949.92	DFT-s-OFDM	QPSK	27/283	H + V	2Tx	V	214	288	1 / 42	27.33
				CP-OFDM	QPSK	27/283	H + V	MIMO	V	214	288	1 / 42	29.72
				DFT-s-OFDM	π/2 BPSK	27/283	H + V	2Tx	V	214	288	1 / 42	**29.77**
				DFT-s-OFDM	16QAM	27/283	H + V	2Tx	V	214	288	1 / 42	29.02
				DFT-s-OFDM	64QAM	27/283	H + V	2Tx	V	214	288	1 / 42	28.34
100+100	2	Low	37099.98	DFT-s-OFDM	π/2 BPSK	26/282	H + V	2Tx	V	221	270	1 / 42	**24.01**
		Mid	38500.02	DFT-s-OFDM	π/2 BPSK	35/291	H + V	2Tx	V	225	280	1 / 42	**23.95**
		High	39899.94	DFT-s-OFDM	QPSK	27/283	H + V	2Tx	V	285	285	64 / 0	**24.75**
				CP-OFDM	QPSK	27/283	H + V	MIMO	V	285	285	66 / 0	22.13
				DFT-s-OFDM	π/2 BPSK	27/283	H + V	2Tx	V	285	285	64 / 0	24.75
				DFT-s-OFDM	16QAM	27/283	H + V	2Tx	V	285	285	64 / 0	24.27
				DFT-s-OFDM	64QAM	27/283	H + V	2Tx	V	285	285	64 / 0	23.24
100+100+100	3	Low	37149.96	DFT-s-OFDM	π/2 BPSK	26/281	H + V	2Tx	V	221	270	1 / 42	**21.56**
		Mid	38499.96	DFT-s-OFDM	π/2 BPSK	35/291	H + V	2Tx	V	225	280	1 / 42	**21.02**
		High	39849.96	DFT-s-OFDM	QPSK	27/283	H + V	2Tx	V	285	283	64 / 0	22.22
				CP-OFDM	QPSK	27/283	H + V	MIMO	V	285	283	66 / 0	20.03
				DFT-s-OFDM	π/2 BPSK	27/283	H + V	2Tx	V	285	283	64 / 0	**22.26**
				DFT-s-OFDM	16QAM	27/283	H + V	2Tx	V	285	283	64 / 0	21.40
				DFT-s-OFDM	64QAM	27/283	H + V	2Tx	V	285	283	64 / 0	20.56
100+100+100+100	4	Low	37199.94	DFT-s-OFDM	π/2 BPSK	26/282	H + V	2Tx	V	221	270	1 / 42	**21.28**
		Mid	38500.02	DFT-s-OFDM	π/2 BPSK	35/291	H + V	2Tx	V	225	280	1 / 42	**21.01**
		High	39799.98	DFT-s-OFDM	QPSK	26/281	H + V	2Tx	V	285	282	64 / 0	22.40
				CP-OFDM	QPSK	35/291	H + V	MIMO	V	285	282	66 / 0	20.16
				DFT-s-OFDM	π/2 BPSK	27/283	H + V	2Tx	V	285	282	64 / 0	**22.42**
				DFT-s-OFDM	16QAM	27/283	H + V	2Tx	V	285	282	64 / 0	21.56
				DFT-s-OFDM	64QAM	27/283	H + V	2Tx	V	285	282	64 / 0	20.34

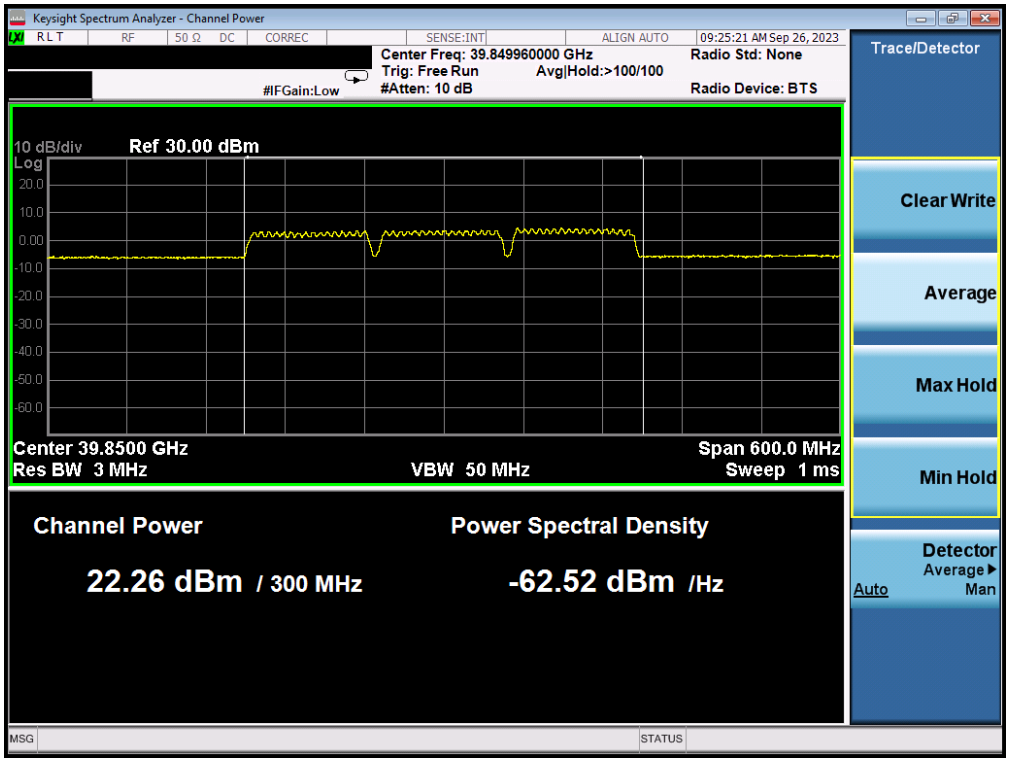
Table 7-19.Ant 1 EIRP Data (Band n260 - 100MHz)



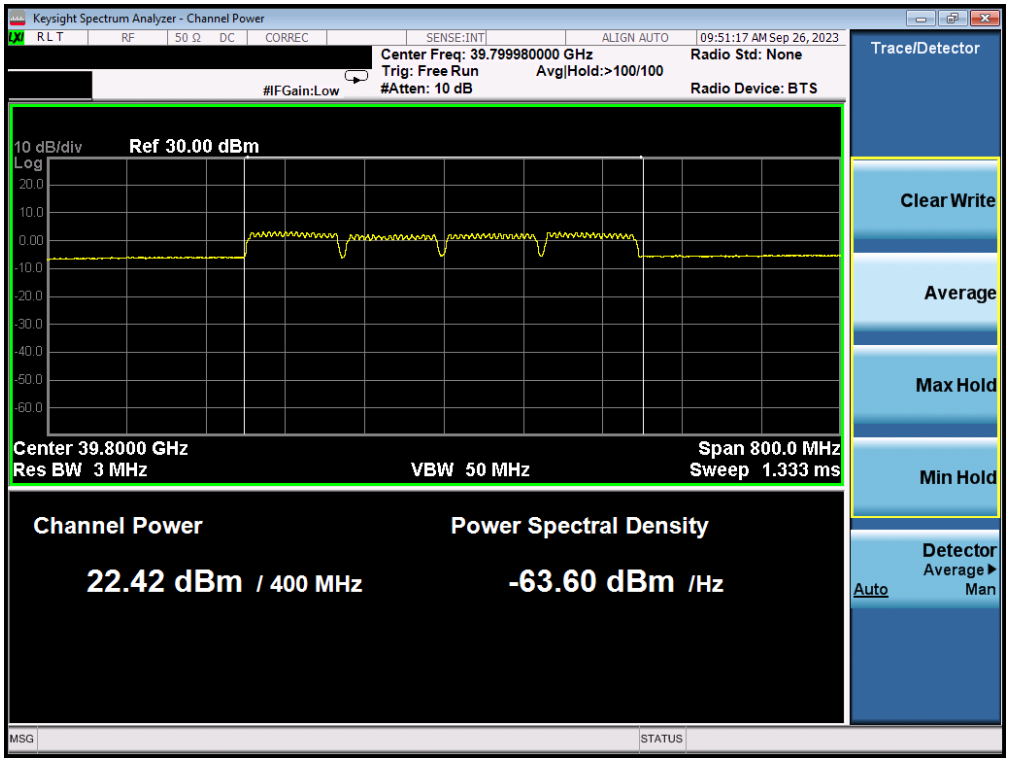
Plot 7-100.Ant 1 EIRP Plot (Band n260 − 100MHz-1CC High Channel DFT-s-OFDM π/2 BPSK)



Plot 7-101.Ant 1 EIRP Plot (Band n260 − 100MHz-2CC High Channel DFT-s-OFDM QPSK)



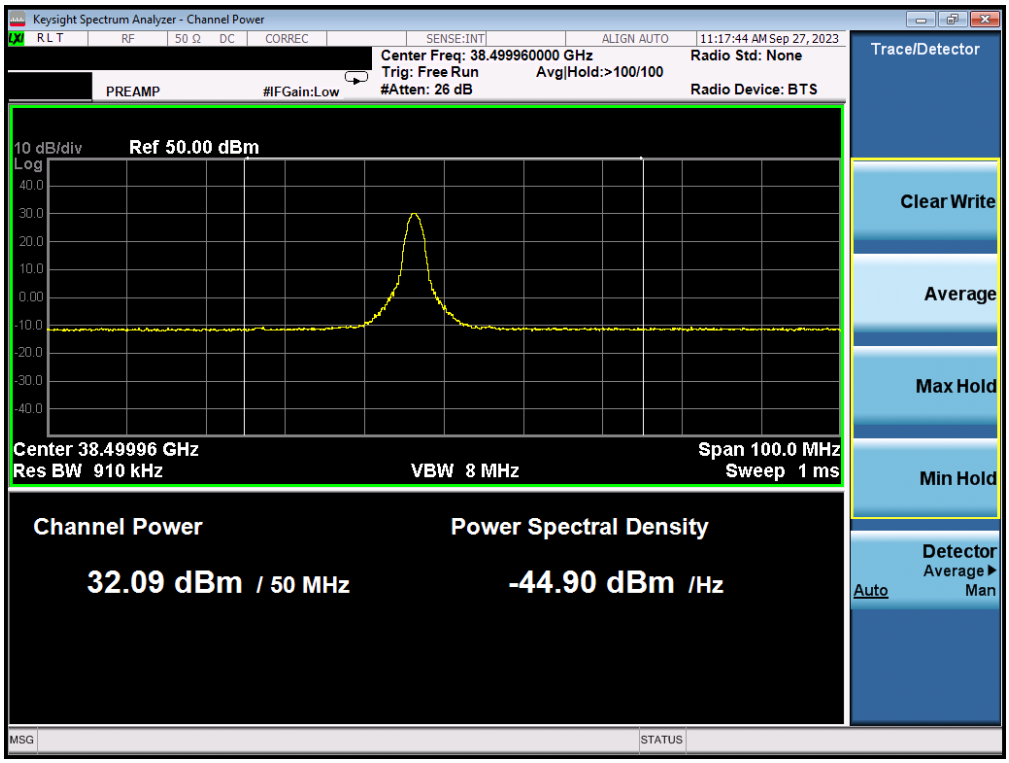
Plot 7-102.Ant 1 EIRP Plot (Band n260 − 100MHz-3CC High Channel DFT-s-OFDM π/2 BPSK)



Plot 7-103.Ant 1 EIRP Plot (Band n260 − 100MHz-4CC High Channel DFT-s-OFDM π/2 BPSK)

Bandwidth [MHz]	CCs Active	Channel	Frequency [MHz]	Transmission Scheme	Modulation	Beam ID	Beam Pol.	Ant. Div.	Ant. Pol. [H/V]	Positioner Roll [degrees]	Turntable Azimuth [degrees]	RB Size/Offsets	EIRP [dBm]
50	1	Low	37025.04	DFT-s-OFDM	QPSK	40+296	H + V	2Tx	V	76	29	1 / 12	**30.95**
		Mid	38499.96	DFT-s-OFDM	QPSK	40+296	H + V	2Tx	V	76	28	1 / 12	**32.09**
				DFT-s-OFDM	QPSK	296	H	SISO	V	30	270	1 / 16	29.53
				DFT-s-OFDM	QPSK	41	V	SISO	H	25	214	1 / 12	29.78
				CP-OFDM	QPSK	40+296	H + V	MIMO	V	76	28	1 / 12	30.85
				CP-OFDM	QPSK	296	H	SISO	V	30	270	1 / 16	28.90
				CP-OFDM	QPSK	41	V	SISO	H	25	214	1 / 12	29.30
				DFT-s-OFDM	π/2 BPSK	40+296	H + V	2Tx	V	76	28	1 / 12	31.94
				DFT-s-OFDM	16QAM	40+296	H + V	2Tx	V	76	28	1 / 12	30.82
				DFT-s-OFDM	64QAM	40+296	H + V	2Tx	V	76	28	1 / 12	29.06
		High	39975.00	DFT-s-OFDM	QPSK	40+296	H + V	2Tx	V	77	29	1 / 12	**30.69**

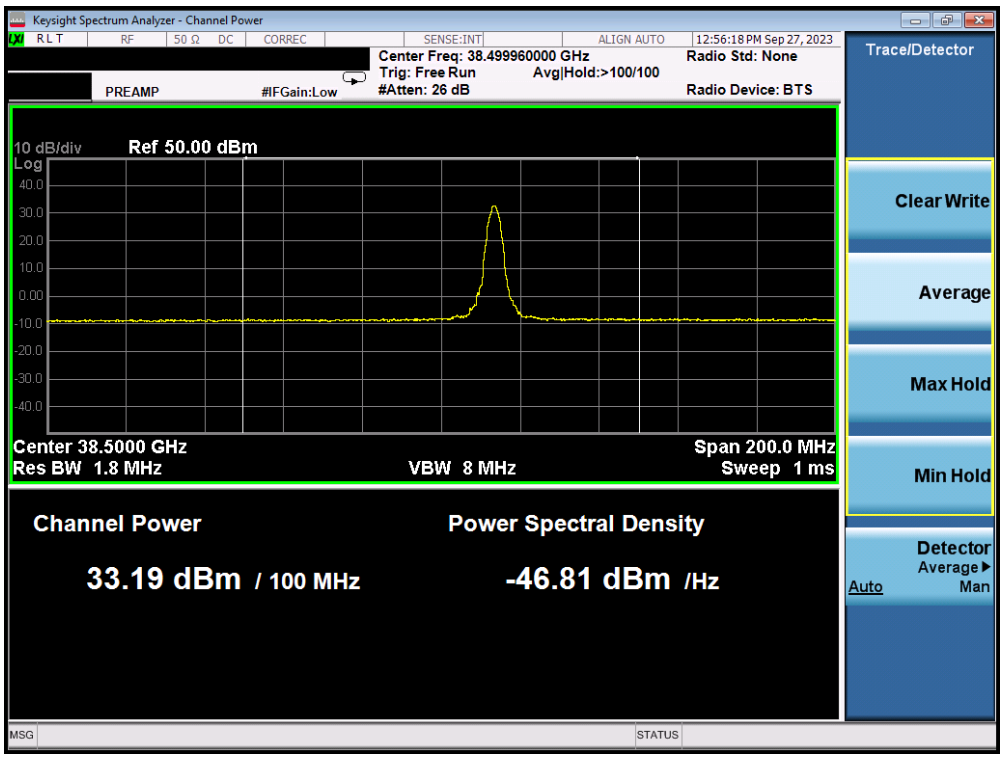
Table 7-20. Ant 2 EIRP Data (Band n260 - 50MHz)



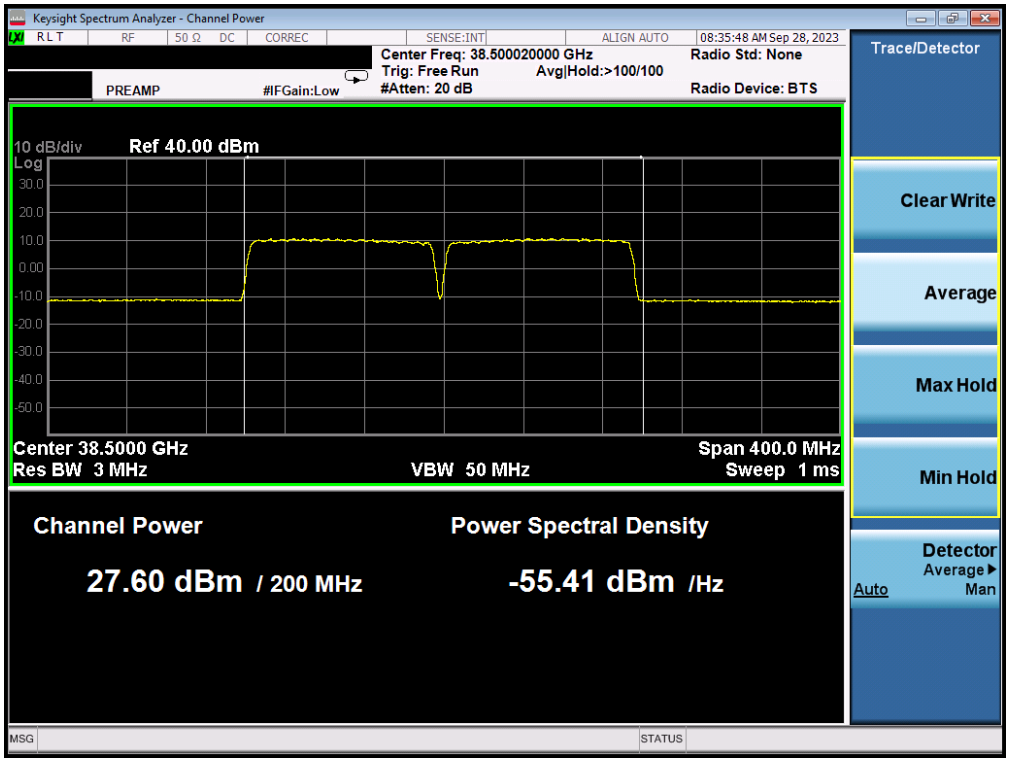
Plot 7-104.Ant 2 EIRP Plot (Band n260 − 50MHz-1CC Mid Channel DFT-s-OFDM QPSK)

Bandwidth [MHz]	CCs Active	Channel	Frequency [MHz]	Transmission Scheme	Modulation	Beam ID	Beam Pol.	Ant. Div.	Ant. Pol. [H/V]	Positioner Roll [degrees]	Turntable Azimuth [degrees]	RB Size/Offsets	EIRP [dBm]
100	1	Low	37050.00	DFT-s-OFDM	QPSK	40/296	H + V	2Tx	V	76	29	1 / 23	**29.97**
		Mid	38499.96	DFT-s-OFDM	QPSK	40/296	H + V	2Tx	V	76	29	1 / 42	**33.19**
				DFT-s-OFDM	QPSK	296	H	SISO	V	32	268	64 / 0	28.90
				DFT-s-OFDM	QPSK	41	V	SISO	H	25	214	64 / 0	29.86
				CP-OFDM	QPSK	40/296	H + V	MIMO	V	76	29	1 / 42	32.52
				CP-OFDM	QPSK	296	H	SISO	V	32	268	66 / 0	26.93
				CP-OFDM	QPSK	41	V	SISO	H	25	214	66 / 0	27.78
				DFT-s-OFDM	π/2 BPSK	40/296	H + V	2Tx	V	76	29	1 / 42	33.12
				DFT-s-OFDM	16QAM	40/296	H + V	2Tx	V	76	29	1 / 42	32.30
				DFT-s-OFDM	64QAM	40/296	H + V	2Tx	V	76	29	1 / 42	30.11
		High	39949.92	DFT-s-OFDM	QPSK	40/296	H + V	2Tx	V	70	21	1 / 23	**29.56**
100+100	2	Low	37099.98	DFT-s-OFDM	QPSK	40/296	H + V	2Tx	V	76	29	64 / 0	**26.54**
		Mid	38500.02	DFT-s-OFDM	QPSK	40/296	H + V	2Tx	V	93	341	64 / 0	27.55
				CP-OFDM	QPSK	40/296	H + V	MIMO	V	93	341	66 / 0	25.36
				DFT-s-OFDM	π/2 BPSK	40/296	H + V	2Tx	V	93	341	64 / 0	**27.60**
				DFT-s-OFDM	16QAM	40/296	H + V	2Tx	V	93	341	64 / 0	27.10
				DFT-s-OFDM	64QAM	40/296	H + V	2Tx	V	93	341	64 / 0	25.62
		High	39899.94	DFT-s-OFDM	QPSK	40/296	H + V	2Tx	V	70	21	64 / 0	**26.33**
100+100+100	3	Low	37149.96	DFT-s-OFDM	QPSK	40/296	H + V	2Tx	V	76	29	64 / 0	**24.33**
		Mid	38499.96	DFT-s-OFDM	QPSK	40/296	H + V	2Tx	V	93	341	64 / 0	25.08
				CP-OFDM	QPSK	40/296	H + V	MIMO	V	93	341	66 / 0	24.26
				DFT-s-OFDM	π/2 BPSK	40/296	H + V	2Tx	V	93	341	64 / 0	**25.18**
				DFT-s-OFDM	16QAM	40/296	H + V	2Tx	V	93	341	64 / 0	24.16
				DFT-s-OFDM	64QAM	40/296	H + V	2Tx	V	93	341	64 / 0	22.26
		High	39849.96	DFT-s-OFDM	QPSK	40/296	H + V	2Tx	V	70	21	64 / 0	**24.16**
100+100+100+100	4	Low	37199.94	DFT-s-OFDM	QPSK	40/296	H + V	2Tx	V	76	29	64 / 0	**24.05**
		Mid	38500.02	DFT-s-OFDM	QPSK	40/296	H + V	2Tx	V	93	341	64 / 0	**25.29**
				CP-OFDM	QPSK	40/296	H + V	MIMO	V	93	341	66 / 0	23.26
				DFT-s-OFDM	π/2 BPSK	40/296	H + V	2Tx	V	93	341	64 / 0	25.15
				DFT-s-OFDM	16QAM	40/296	H + V	2Tx	V	93	341	64 / 0	24.17
				DFT-s-OFDM	64QAM	40/296	H + V	2Tx	V	93	341	64 / 0	22.28
		High	39799.98	DFT-s-OFDM	QPSK	40/296	H + V	2Tx	V	70	21	64 / 0	**23.82**

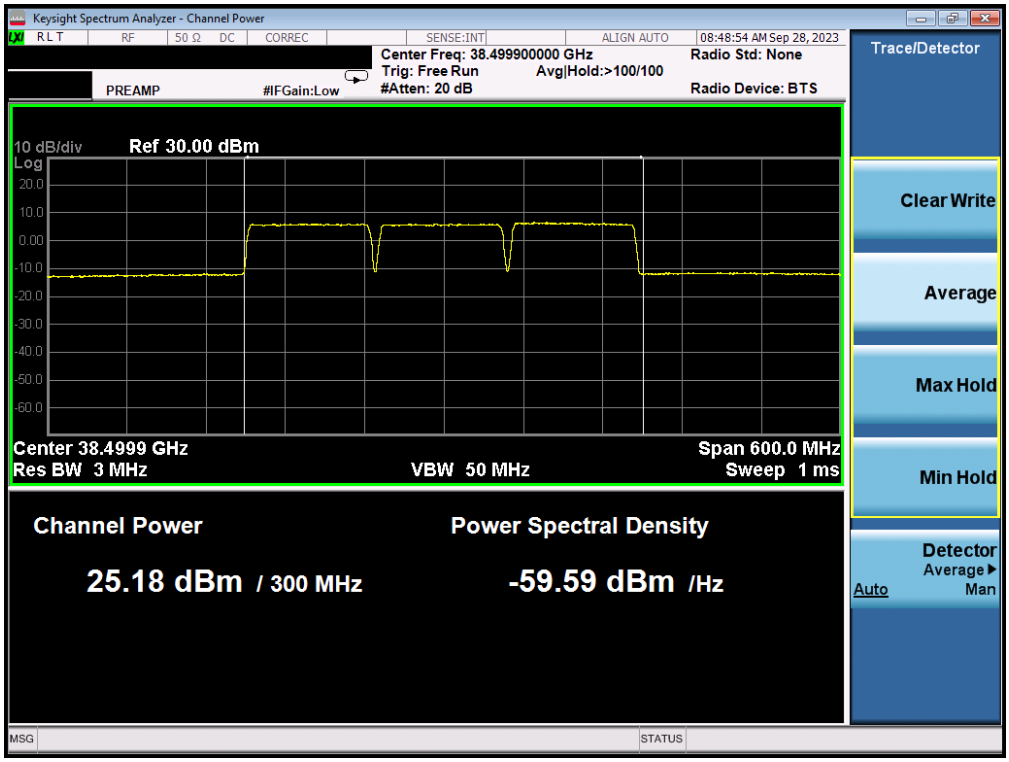
Table 7-21.Ant 2 EIRP Data (Band n260 - 100MHz)



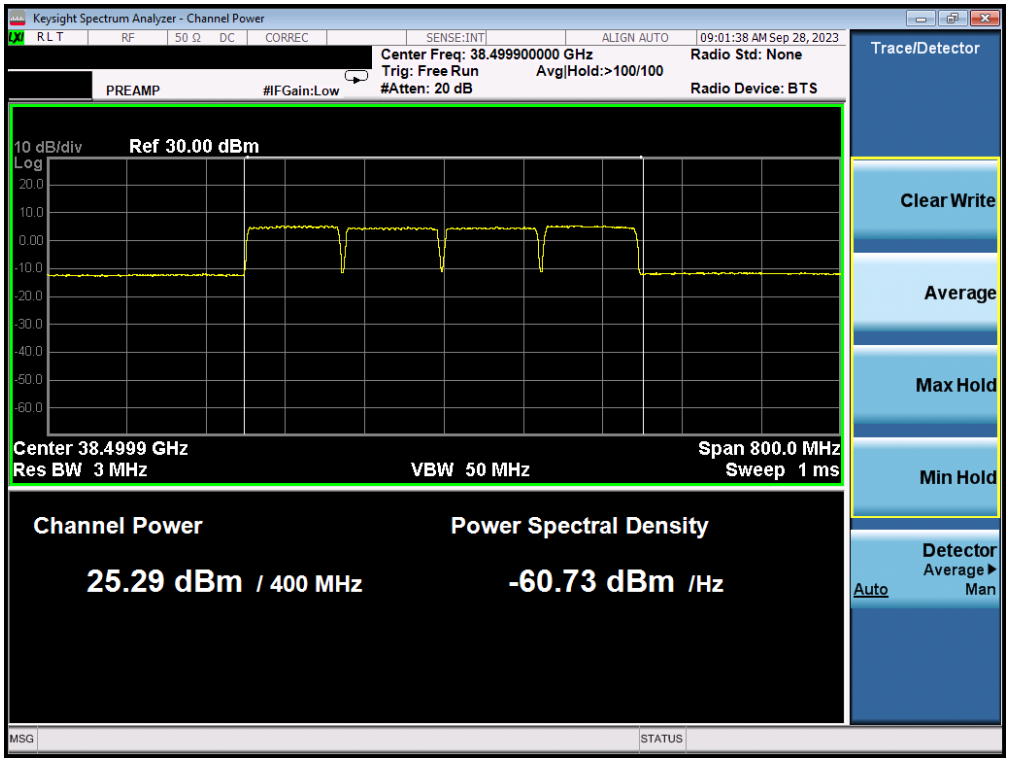
Plot 7-105.Ant 2 EIRP Plot (Band n260 − 100MHz-1CC Mid Channel DFT-s-OFDM QPSK)



Plot 7-106.Ant 2 EIRP Plot (Band n260 − 100MHz-2CC Mid Channel DFT-s-OFDM π/2 BPSK)



Plot 7-107.Ant 2 EIRP Plot (Band n260 − 100MHz-3CC Mid Channel DFT-s-OFDM π/2 BPSK)



Plot 7-108.Ant 2 EIRP Plot (Band n260 − 100MHz-4CC Mid Channel DFT-s-OFDM QPSK)

Test Notes

1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below. Both H-Beam and V-Beam were investigated and the worst-case measurements were reported below.

2) Elements within the same antenna array are correlated to produce beamforming array gain. Antenna arrays cannot be correlated with another antenna array. During testing, only one antenna array was active.

3) EIRP measurements for all bands were taken at 1m test distance as was required for far-field conditions (see Table 3-1).

4) The average EIRP reported below is calculated per section 5.2.7 of ANSI C63.26-2015 which states: EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m. The field strength at the antenna terminals E is calculated as: E (dBµV/m) = Spectrum Analyzer Channel Power Level (dBm) + Antenna Factor (dB/m) + Cable Loss (dB) + 107.

5) All EIRP measurements were made with the appropriate offset levels loaded into the spectrum analyzer as determined from the measurement distance, antenna factor, cable loss, and the equations in Note 4 above.

6) Radiated power levels are investigated while the receive antenna was rotated through all angles to determine the worst case polarization/positioning.

7) This device supports transmission of H-polarized and V-polarized beams from the antenna array in both CP-OFDM and DFT-s-OFDM transmission schemes. SISO and MIMO operation is also supported for some configurations. As part of the testing, all modes are investigated fully on the channel showing the highest simulated EIRP using QPSK modulation. The configuration that shows the highest measured EIRP was then used to determine the EIRP for the low and high channels and for the additional modulations.

8) Several BeamID's are investigated based on the provided simulated data to determine the worst-case BeamID.

Sample Calculation

The offset level loaded into the spectrum analyzer allows for a direct conversion of the raw channel power level measured by the analyzer into an EIRP. This offset level is frequency dependent and is calculated as follows:

Offset Level [dB] = Antenna Factor [dB/m] + Cable Loss [dB] + 20 Log(Distance [m]) + 107 - 104.8 .

For example, to measure an EIRP at a frequency of 24400MHz with an antenna factor of 45.49dB/m, a cable loss of 8.53dB, and a measurement distance of 1 meter, an offset level of:

Offset Level = 45.49dB/m + 8.53dB + 20 Log(1 meter) + 107 - 104.8 = 56.22 dB

shall be loaded into the spectrum analyzer.

7.4 Radiated Spurious and Harmonic Emissions

§2.1051, §30.203

Test Overview

The spectrum is scanned from 30MHz to 100GHz for n258-R1, n258-R2, and n261. For n260, the spectrum is scanned from 30MHz to 200GHz. All out of band emissions are measured in a radiated test setup while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All modulations were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

The conductive power or total radiated power of any emissions outside a licensee's frequency block shall be -13dBm/1MHz.

Test Procedure Used

ANSI C63.26-2015 Section 5.7.4
KDB 842590 D01 v01r02 Section 4.4.3

Test Settings

1. Start frequency was set to 30MHz and stop frequency was set to 100 GHz for n258/n261 and 200GHz for n260. Several plots are used to show investigations in this entire span.
2. Detector = RMS
3. Trace mode = trace average
4. Sweep time = auto couple
5. Number of sweep points ≥ 2 x Span/RBW
6. The trace was allowed to stabilize
7. RBW = 1MHz, VBW = 3MHz

Test Notes

1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.

2) The plots in this section were taken with the analyzer set to max hold. All final measurements shown in the tables that accompany the plots were taken with trace averaging performed over 100 sweeps while the analyzer was triggering on a specific emission of interest.

3) Elements within the same antenna array are correlated to produce beamforming array gain. Antenna arrays cannot be correlated with another antenna array. During testing, only one antenna array was active.