

PCTEST

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# PART 27 C2PC TEST REPORT

#### **Applicant Name:**

Samsung Electronics Co., Ltd. 129, Samsung-ro, Yeongtong-gu, Suwon-si Gyeonggi-do, 16677, Korea

#### Date of Testing: 02/01/2022 - 02/28/2022 Test Report Issue Date: 03/02/2022 Test Site/Location: PCTEST Lab. Columbia, MD, USA Test Report Serial No.: 1M2202030009-03.A3L

### FCC ID:

# A3LSMS906E

Applicant Name:

### Samsung Electronics Co., Ltd.

Application Type: Model: Additional Model(s): EUT Type: FCC Classification: FCC Rule Part: Test Procedure(s): Class II Permissive Change: Original Grant Date: Class II Permissive Change SM-S906E/DS SM-S906E Portable Handset PCS Licensed Transmitter Held to Ear (PCE) 27 ANSI C63.26-2015, KDB 648474 D03 v01r04 Please see FCC change document 01/10/2022

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.

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.

Randy Ortanez President



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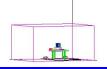


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# **PART 27 MEASUREMENT REPORT**



		Antenna S	SRS-1/ ANT	F		
					RP	
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	Max. Power [W]	Max. Power [dBm]	Emission Designator
		π/2 BPSK	3500.0	0.156	21.94	96M9G7D
	100 MHz	QPSK	3500.0	0.158	21.98	97M8G7D
		16QAM	3500.0	0.091	19.60	97M7W7D
	90 MHz	π/2 BPSK	3495.0 - 3505.0	0.156	21.94	87M5G7D
	90 WHZ	QPSK 16QAM	3495.0 - 3505.0 3495.0 - 3505.0	0.172	22.35 20.36	87M8G7D 87M9W7D
		π/2 BPSK	3490.0 - 3510.0	0.175	22.42	77M4G7D
	80 MHz	QPSK	3490.0 - 3510.0	0.165	22.19	77M9G7D
		16QAM	3490.0 - 3510.0	0.101	20.04	77M9W7D
	70 1415	π/2 BPSK	3485.0 - 3515.0	0.177	22.48	64M8G7D
	70 MHz	QPSK 16QAM	3485.0 - 3515.0 3485.0 - 3515.0	0.171	22.32	64M6G7D 64M7W7D
		π/2 BPSK	3480.0 - 3520.0	0.124	22.44	58M1G7D
	60 MHz	QPSK	3480.0 - 3520.0	0.168	22.25	58M1G7D
		16QAM	3480.0 - 3520.0	0.116	20.63	58M1W7D
NR Band n77 PC3		π/2 BPSK	3475.0 - 3525.0	0.173	22.38	46M0G7D
(3450 - 3550MHz)	50 MHz	QPSK	3475.0 - 3525.0	0.172	22.36	47M7G7D
		16QAM π/2 BPSK	3475.0 - 3525.0 3470.0 - 3530.0	0.111 0.177	20.45 22.49	47M8W7D 35M9G7D
	40 MHz	QPSK	3470.0 - 3530.0	0.179	22.53	38M0G7D
		16QAM	3470.0 - 3530.0	0.111	20.47	37M9W7D
	30 MHz 20 MHz	π/2 BPSK	3465.0 - 3535.0	0.176	22.46	27M0G7D
		QPSK	3465.0 - 3535.0	0.179	22.52	28M0G7D
		16QAM	3465.0 - 3535.0	0.125	20.95	28M1W7D
		π/2 BPSK QPSK	3460.0 - 3540.0 3460.0 - 3540.0	0.175	22.44 22.45	18M1G7D 18M3G7D
		16QAM	3460.0 - 3540.0	0.124	20.92	18M3W7D
	15 MHz 10 MHz	π/2 BPSK	3457.5 - 3542.5	0.173	22.37	13M0G7D
		QPSK	3457.5 - 3542.5	0.176	22.46	13M7G7D
		16QAM	3457.5 - 3542.5	0.099	19.96	13M7W7D
		π/2 BPSK QPSK	3455.0 - 3545.0 3455.0 - 3545.0	0.176	22.46 22.52	8M73G7D 8M71G7D
		16QAM	3455.0 - 3545.0	0.116	20.65	8M68W7D
		π/2 BPSK	3750.0 - 3930.0	0.104	20.18	96M9G7D
	100 MHz	QPSK	3750.0 - 3930.0	0.100	20.00	98M1G7D
		16QAM	3750.0 - 3930.0	0.072	18.55	97M9W7D
	00.0411-	π/2 BPSK	3745.0 - 3935.0	0.115	20.59	87M1G7D
	90 MHz	QPSK 16QAM	3745.0 - 3935.0 3745.0 - 3935.0	0.112	20.50 18.91	87M8G7D 87M9W7D
		π/2 BPSK	3740.0 - 3940.0	0.125	20.98	77M3G7D
	80 MHz	QPSK	3740.0 - 3940.0	0.118	20.71	77M7G7D
		16QAM	3740.0 - 3940.0	0.068	18.29	77M9W7D
		π/2 BPSK	3735.0 - 3945.0	0.110	20.43	64M7G7D
	70 MHz	QPSK	3735.0 - 3945.0	0.108	20.32	64M7G7D
		16QAM π/2 BPSK	3735.0 - 3945.0 3730.0 - 3950.0	0.080	19.01 21.01	64M7W7D 57M9G7D
	60 MHz	QPSK	3730.0 - 3950.0	0.121	20.82	58M0G7D
		16QAM	3730.0 - 3950.0	0.082	19.16	58M0W7D
NR Band n77 PC3		π/2 BPSK	3725.0 - 3955.0	0.121	20.82	45M9G7D
(3700 - 3980MHz)	50 MHz	QPSK	3725.0 - 3955.0	0.117	20.68	47M7G7D
		16QAM π/2 BPSK	3725.0 - 3955.0 3720.0 - 3960.0	0.092	19.64 21.22	48M1W7D 36M0G7D
	40 MHz	QPSK	3720.0 - 3960.0	0.116	20.66	38M0G7D
		16QAM	3720.0 - 3960.0	0.088	19.46	38M0W7D
		π/2 BPSK	3715.0 - 3965.0	0.126	21.00	27M1G7D
	30 MHz	QPSK	3715.0 - 3965.0	0.126	21.01	28M0G7D
		16QAM	3715.0 - 3965.0	0.072	18.55	27M0W7D
	20 MHz	π/2 BPSK QPSK	3710.0 - 3970.0 3710.0 - 3970.0	0.123	20.91 20.75	18M1G7D 18M4G7D
		16QAM	3710.0 - 3970.0	0.119	19.43	18M3W7D
		π/2 BPSK	3707.5 - 3972.5	0.115	20.62	13M0G7D
	15 MHz	QPSK	3707.5 - 3972.5	0.110	20.41	13M7G7D
		16QAM	3707.5 - 3972.5	0.080	19.04	13M8W7D
	40.5411-	π/2 BPSK	3705.0 - 3975.0	0.126	20.99	8M73G7D
	10 MHz	QPSK 16QAM	3705.0 - 3975.0 3705.0 - 3975.0	0.112	20.51 19.49	8M66G7D 8M70W7D
	1		Overview	0.009	15.45	OWNUWND

**EUT Overview** 

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### **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 and the Innovation, Science and Economic Development Canada.

### 1.2 PCTEST Test Location

These measurement tests were conducted at the PCTEST Engineering Laboratory, Inc. facility 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 PCTEST Engineering Lab located in Columbia, MD 21046, U.S.A.

- PCTEST 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.
- PCTEST 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).
- PCTEST facility is a registered (2451B) test laboratory with the site description on file with ISED.

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### 2.0 PRODUCT INFORMATION

### 2.1 Equipment Description

The Equipment Under Test (EUT) is the **Samsung Portable Handset FCC ID: A3LSMS906E**. The test data contained in this report pertains only to the emissions due to the EUT's licensed transmitters that operate under the provisions of Part 27.

Test Device Serial No.: 1509M, 1510M, 1498M, 7864V, 1502M

### 2.2 Device Capabilities

This device contains the following capabilities:

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

### 2.3 Test Configuration

The EUT was tested per the guidance of ANSI/TIA-603-E-2016 and KDB 971168 D01 v03r01. See Section 3.2 of this test report for a description of the radiated and antenna port conducted emissions tests.

This device supports wireless charging capability and, thus, is subject to the test requirements of KDB 648474 D03 v01r04. Additional radiated spurious emission measurements were performed with the EUT lying flat on an authorized wireless charging pad (WCP) Model: EP-N5100 while operating under normal conditions in a simulated call or data transmission configuration. The worst case radiated emissions data is shown in this report.

### 2.4 EMI Suppression Device(s)/Modifications

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

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# 3.0 DESCRIPTION OF TESTS

### 3.1 Evaluation Procedure

The measurement procedures described in the "Land Mobile FM or PM – Communications Equipment – Measurements and Performance Standards" (ANSI/TIA-603-E-2016) and "Measurement Guidance for Certification of Licensed Digital Transmitters" (KDB 971168 D01 v03r01) were used in the measurement of the EUT.

Deviation from Measurement Procedure.....None

### 3.2 Radiated Power and Radiated Spurious Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. 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.

The equipment under test was transmitting while connected to its integral antenna and is placed on a turntable 3 meters from the receive antenna. The receive antenna height is adjusted between 1 and 4 meter height, the turntable is rotated through 360 degrees, and the EUT is manipulated through all orthogonal planes representative of its typical use to achieve the highest reading on the receive spectrum analyzer.

For radiated power measurements, substitution method is used per the guidance of ANSI/TIA-603-E-2016. A halfwave dipole is substituted in place of the EUT. For emissions above 1GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator with the level of the signal generator being adjusted to obtain the same receive spectrum analyzer level previously recorded from the spurious emission from the EUT. The power of the emission is calculated using the following formula:

P<sub>d [dBm]</sub> = P<sub>g [dBm]</sub> - cable loss [dB] + antenna gain [dBd/dBi];

where  $P_d$  is the dipole equivalent power,  $P_g$  is the generator output into the substitution antenna, and the antenna gain is the gain of the substitute antenna used relative to either a half-wave dipole (dBd) or an isotropic source (dBi). The substitute level is equal to  $P_{g \text{ [dBm]}}$  – cable loss [dB].

For radiated spurious emissions measurements and calculations, conversion method is used per the formulas in KDB 971168 D01 v03r01. Field Strength (EIRP) is calculated using the following formulas:

$$\begin{split} E_{[dB\mu V/m]} &= Measured \ amplitude \ level_{[dBm]} + 107 + Cable \ Loss_{[dB]} + Antenna \ Factor_{[dB/m]} \\ And \\ EIRP_{[dBm]} &= E_{[dB\mu V/m]} + 20logD - 104.8; \ where \ D \ is the measurement \ distance \ in \ meters. \end{split}$$

All radiated measurements are performed in a chamber that meets the site requirements per ANSI C63.4-2014. Additionally, radiated emissions below 30MHz are also validated on an Open Area Test Site to assert correlation with the chamber measurements per the requirements of KDB 971168 D01 v03r01.

Radiated power and radiated spurious emission levels are investigated with the receive antenna horizontally and vertically polarized per ANSI/TIA-603-E-2016.

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# 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

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# 5.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST). 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
-	AP2	EMC Cable and Switch System	3/4/2021	Annual	3/4/2022	AP2
-	AP1	EMC Cable and Switch System	3/9/2021	Annual	3/9/2022	AP1
-	ETS	EMC Cable and Switch System	3/4/2021	Annual	3/4/2022	ETS
-	LTx4	Licensed Transmitter Cable Set	3/12/2021	Annual	3/12/2022	LTx4
-	LTx5	LIcensed Transmitter Cable Set	3/3/2021	Annual	3/3/2022	LTx5
Emco	3115	Horn Antenna (1-18GHz)	6/18/2020	Biennial	6/18/2022	9704-5182
ETS Lindgren	3117	1-18 GHz DRG Horn (Medium)	4/20/2021	Biennial	4/20/2023	00125518
Keysight Technologies	N9030A	PXA Signal Analyzer (44GHz)	7/21/2021	Annual	7/21/2022	MY49430494
Keysight Technologies	N9030B	PXA Signal Analyzer, Multi-touch	1/7/2022	Annual	1/7/2023	MY57141001
<b>Keysight Technologies</b>	N9038A	MXE EMI Receiver	1/21/2022	Annual	1/22/2023	MY51210133
Rohde & Schwarz	ESU26	EMI Test Receiver (26.5GHz)	8/3/2021	Annual	8/3/2022	100342
Rohde & Schwarz	ESU40	EMI Test Receiver (40GHz)	5/25/2021	Annual	5/25/2022	100348
Rohde & Schwarz	ESW44	EMI Test Receiver 2Hz to 44 GHz	1/21/2021	Annual	3/21/2022	101716
Rohde & Schwarz	FSW67	Signal / Spectrum Analyzer	8/25/2021	Annual	8/25/2022	103200
Sunol	JB5	Bi-Log Antenna (30M - 5GHz)	7/27/2020	Biennial	7/27/2022	A051107

Table 5-1. Test Equipment

#### Notes:

- 1. 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.
- 2. Equipment with a calibration date of "N/A" shown in this list was not used to make direct calibrated measurements.

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# 6.0 SAMPLE CALCULATIONS

### **QPSK Modulation**

#### Emission Designator = 8M62G7D

LTE BW = 8.62 MHz G = Phase Modulation 7 = Quantized/Digital Info D = Data transmission, telemetry, telecommand

### **QAM Modulation**

#### Emission Designator = 8M45W7D

LTE BW = 8.45 MHz W = Amplitude/Angle Modulated 7 = Quantized/Digital Info D = Data transmission, telemetry, telecommand

### **Spurious Radiated Emission**

#### Example: Spurious emission at 3700.40 MHz

The receive spectrum analyzer reading at 3 meters with the EUT on the turntable was -81.0 dBm. The gain of the substituted antenna is 8.1 dBi. The signal generator connected to the substituted antenna terminals is adjusted to produce a reading of -81.0 dBm on the spectrum analyzer. The loss of the cable between the signal generator and the terminals of the substituted antenna is 2.0 dB at 3700.40 MHz. So 6.1 dB is added to the signal generator reading of -30.9 dBm yielding -24.80 dBm. The fundamental EIRP was 25.50 dBm so this harmonic was 25.50 dBm -(-24.80) = 50.3 dBc.

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## 7.0 TEST RESULTS

### 7.1 Summary

Company Name:	Samsung Electronics Co., Ltd.
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FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
Mode(s):	NR

Test Condition	Test Description	FCC Part Section(s)	Test Limit	Test Result	Reference
	Transmitter Conducted Output Power	2.1046(a), 2.1046(c)	N/A	PASS	Section 7.2
Ē	Occupied Bandwidth	2.1049(h)	N/A	PASS	Section 7.3
CONDUCTED	Conducted Band Edge / Spurious Emissions (NR Band n77)	2.1051, 27.53(I), 27.53(n)	≤ 13 dBm / MHz	PASS	Sections 7.4, 7.5
ខ	Peak-to-Average Ratio (NR Band n77)	27.53(j)(4), 27.53(k)(4)	≤ 13 dB	PASS	Section 7.6
	Frequency Stability	2.1055, 27.54	Fundamental emissions stay within authorized frequency block.	PASS	Section 7.9
RADIATED	Effective Radiated Power / Equivalent Isotropic Radiated Power (NR Band n77)	27.53(j)(3), 27.53(k)(3)	≤ 1 Watt EIRP	PASS	Section 7.7
RADI	Radiated Spurious Emissions (NR Band n77)	2.1053, 27.53(I), 27.53(n)	≤ 13 dBm / MHz	PASS	Section 7.8

\* The only transmitter output conducted powers included in this report are those where the Pmax value, per the tune-up document, is higher than any of the DSI power levels. For the remaining conducted power measurements, see the **RF Exposure Report**.

Table 7-1. Summary of Test Results

#### Notes:

- 1) All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst case emissions.
- 2) The analyzer plots were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables, directional couplers, and attenuators used as part of the system to maintain a link between the call box and the EUT at all frequencies of interest.
- 3) All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables, attenuators, and couplers.
- All conducted emissions measurements are performed with automated test software to capture the corresponding plots necessary to show compliance. The measurement software utilized is PCTEST EMC Software Tool v1.0.

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#### 7.2 Conducted Power Output Data Test Overview

The EUT is set up to transmit at maximum power for NR channels. All power levels are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All modes of operation were investigated and the worst case configuration results are reported in this section.

#### Test Procedure Used

KDB 971168 D01 v03r01 - Section 5.2

#### Test Settings

- 1. The signal analyzer's channel power measurement capability was used to perform power output measurement at the RF terminal.
- 2. Integration BW was set greater or equal to the expected channel bandwidth of the emission
- 3. RBW = 1-5% of the Integration BW
- 4. VBW  $\geq$  3 x RBW
- 5. Trigger Mode = Free Run for continuous emissions, RF Burst for pulsed emissions
- 6. Gating = Off for continuous emissions, On only during transmission for pulsed emissions
- 7. Detector = RMS
- 8. Trace mode = trace averaging
- 9. Sweep time = auto couple
- 10. The trace was allowed to stabilize

#### Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



Figure 7-1. Test Instrument & Measurement Setup

#### Test Notes

None.

FCC ID: A3LSMS906E				Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 11 of 170
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Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
	π/2 BPSK	633334	3500.01	1 / 136	24.95
100 MHz	QPSK	633334	3500.01	1 / 136	24.94
	16-QAM	633334	3500.01	1 / 136	23.39
	(0.550)/	633000	3495.00	1 / 122	24.95
N	π/2 BPSK	633334	3500.01	1 / 122	24.86
90 MHz		633666	3504.99	1 / 61	24.88
0	QPSK	633000 633334	3495.00 3500.01	1 / 122	25.02
67	GFSR	633666	3504.99	1 / 122	24.90 25.32
	16-QAM	633666	3504.99	1 / 61	24.15
	10-02-101	632668	3490.02	1 / 54	25.23
	π/2 BPSK	633334	3500.01	1 / 54	25.17
우		634000	3510.00	1 / 54	25.43
80 MHz		632668	3490.02	1 / 54	25.15
8	QPSK	633334	3500.01	1 / 54	25.09
		634000	3510.00	1 / 54	24.76
	16-QAM	632668	3490.02	1 / 54	23.83
		632334	3485.01	1 / 141	25.49
	π/2 BPSK	633334	3500.01	1 / 47	25.48
70 MHz		634332	3514.98	1 / 47	25.29
N N		632334	3485.01	1 / 141	25.24
2	QPSK	633334	3500.01	1 / 47	25.28
		634332	3514.98	1 / 47	25.11
	16-QAM	633334	3500.01	1 / 47	24.70
		632000	3480.00	1 / 40	25.32
	π/2 BPSK	633334	3500.01	1 / 81	25.45
60 MHz		634666	3519.99	1 / 40	25.01
20		632000	3480.00	1 / 40	25.21
99	QPSK	633334	3500.01	1 / 81	25.17
		634666	3519.99	1 / 40	25.12
	16-QAM	632000	3480.00	1 / 40	24.42
	10 00011	631668	3475.02	1 / 66	25.06
N	π/2 BPSK	633334	3500.01	1/33	25.39
50 MHz	Ë –	635000	3525.00 3475.02	1/66	24.64
0	QPSK	631668 633334	3475.02	1/66	25.17
5	QPSK	635000	3525.00	1 / 33 1 / 66	25.32 24.67
	16-QAM	633334	3500.01	1 / 33	24.87
	10-024101	631334	3470.01	1 / 26	25.45
	π/2 BPSK	633334	3500.01	106 / 0	24.89
2	1.72 81 81	635332	3529.98	1 / 26	25.50
₩ ₩		631334	3470.01	1 / 26	25.22
40 MHz	QPSK	633334	3500.01	1 / 26	25.49
7		635332	3529.98	1 / 26	25.12
	16-QAM	635332	3529.98	1 / 26	24.25
		631000	3465.00	1 / 19	25.21
	π/2 BPSK	633334	3500.01	1 / 19	25.32
보		635666	3534.99	1 / 19	25.48
30 MHz		631000	3465.00	1 / 19	24.47
30	QPSK	633334	3500.01	1 / 19	25.48
		635666	3534.99	1 / 19	25.36
	16-QAM	633334	3500.01	1 / 19	24.74
		630668	3460.02	1 / 13	25.36
	π/2 BPSK	633334	3500.01	1 / 13	25.45
20 MHz		636000	3540.00	1 / 13	25.14
N N		630668	3460.02	1 / 13	25.42
50	QPSK	633334	3500.01	1 / 13	25.25
		636000	3540.00	1 / 13	25.17
	16-QAM	630668	3460.02	1 / 13	24.71
	<b>7/2 DDO</b> //	630500	3457.50	1/19	25.38
N	π/2 BPSK	633334	3500.01	1/19	25.03
		636166 630500	3542.49	1 / 19	25.23 25.42
E QPSK		3457.50	1 / 19		
	QPSK	633334	3500.01	1/19	24.51
	16-QAM	636166	3542.49 3457.50	1 / 19 1 / 19	24.48 23.75
	IO-QAIVI	630500 630334	3457.50		
	π/2 BPSK	630334	3455.01	1 / 6 1 / 12	25.18 25.47
N	11/2 BPOK		3500.01	1/12	25.47
10 MHz		636332 630334	3455.01	1/1/	25.19
9	QPSK	633334	3500.01	1/12	25.48
		636332	3544.98	1/12	25.01
	16-QAM	633334	3500.01	1 / 12	24.44

Table 7-2.Conducted Power Data (NR Band n77 (DoD) - SRS-1-Ant F)

FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 12 of 179
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THO PHON         650000         3750.00         1/136         24.46           0000         3930.00         1/136         24.32           0000         3930.00         1/136         24.32           0000         3930.00         1/136         24.32           0000         3930.00         1/136         24.32           0000         3930.00         1/136         24.32           0000         3930.00         1/136         24.32           0000         3930.00         1/136         24.42           0000         3930.00         1/136         24.43           0000         3930.00         1/138         24.33           0000         3930.00         1/141         24.43           0000         3934.98         1/183         24.33           0000         3934.98         1/183         24.33           0000         3750.00         1/162         24.60           0000         3750.00         1/161         24.48           0000         3750.00         1/141         24.43           0000         3750.00         1/141         24.45           0000         3750.00         1/141         24.45	Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
PIOO         662000         3930.00         1/136         24.42           GPSK         662000         3930.00         1/136         24.46           16-0AM         662000         3930.00         1/136         24.13           m72 BPSK         666000         3930.00         1/136         24.13           m72 BPSK         666000         3930.00         1/136         24.39           GPSK         666000         3934.98         1/1133         24.37           GPSK         666000         3934.90         1/161         24.49           GPSK         666000         3934.98         1/1133         24.39           GPSK         666000         3934.99         1/1133         24.39           M72 BPSK         666000         3934.99         1/1133         24.49           GPSK         666000         3939.99         1/108         24.80           GPSK         666000         3939.99         1/108         24.80           GPSK         666000         3934.00         1/141         24.43           GPSK         666000         3934.00         1/141         24.43           GPSK         666000         3934.00         1/141         24.43 </td <th></th> <td></td> <td>650000</td> <td>3750.00</td> <td>1 / 136</td> <td>24.45</td>			650000	3750.00	1 / 136	24.45
Figure 1         662000         3390.00         1/136         24.46           16-OAM         642000         3390.00         1/138         24.45           172 BPSK         666000         3840.00         1/161         24.49           0780         649668         3745.02         1/183         24.37           0781         666000         3840.00         1/161         24.49           0781         66232         3934.98         1/183         24.93           0781         66232         3934.98         1/183         24.93           0780         66232         3934.98         1/183         24.94           0780         66232         3934.98         1/183         24.98           0780         66232         3934.98         1/183         24.98           0780         66232         3934.98         1/181         24.88           0780         66232         3934.98         1/181         24.88           0780         66232         3939.99         1/108         24.88           0780         66232         3939.99         1/108         24.88           0781         662000         3939.99         1/108         24.89	N	π/2 BPSK				
Figure 1         662000         3390.00         1/136         24.46           16-OAM         642000         3390.00         1/138         24.45           172 BPSK         666000         3840.00         1/161         24.49           0780         649668         3745.02         1/183         24.37           0781         666000         3840.00         1/161         24.49           0781         66232         3934.98         1/183         24.93           0781         66232         3934.98         1/183         24.93           0780         66232         3934.98         1/183         24.94           0780         66232         3934.98         1/183         24.98           0780         66232         3934.98         1/183         24.98           0780         66232         3934.98         1/181         24.88           0780         66232         3934.98         1/181         24.88           0780         66232         3939.99         1/108         24.88           0780         66232         3939.99         1/108         24.88           0781         662000         3939.99         1/108         24.89	Ĥ					
Figure 1         662000         3390.00         1/136         24.46           16-OAM         642000         3390.00         1/138         24.45           172 BPSK         666000         3840.00         1/161         24.49           0780         649668         3745.02         1/183         24.37           0781         666000         3840.00         1/161         24.49           0781         66232         3934.98         1/183         24.93           0781         66232         3934.98         1/183         24.93           0780         66232         3934.98         1/183         24.94           0780         66232         3934.98         1/183         24.98           0780         66232         3934.98         1/183         24.98           0780         66232         3934.98         1/181         24.88           0780         66232         3934.98         1/181         24.88           0780         66232         3939.99         1/108         24.88           0780         66232         3939.99         1/108         24.88           0781         662000         3939.99         1/108         24.89	0 N		-			
THO OF         662000         3930.00         1 / 183         22.12           π/2 BPSK         656000         3840.00         1 / 183         22.449           662332         3934.98         1 / 183         24.37           GPSK         666000         3840.00         1 / 161         24.37           GPSK         666232         3934.98         1 / 183         24.37           GPSK         662332         3934.98         1 / 183         24.34           m/2 BPSK         656000         3840.00         1 / 54         24.88           662066         3939.99         1 / 108         24.86           649331         3740.01         1 / 162         24.86           649333         3740.00         1 / 54         24.88           662066         3939.99         1 / 108         22.86           67000         3840.00         1 / 141         24.42           662000         3840.00         1 / 141         24.42           663000         3840.00         1 / 141         24.42           663000         3840.00         1 / 141         24.51           67000         3840.00         1 / 141         24.43           6712 BPSK	10	QPSK				
THO         64968b         3745 02         1 / 183         24.45           0         660332         394.98         1 / 183         24.37           0         646968         3745.02         1 / 183         24.39           0         662332         3934.98         1 / 183         24.39           0         662332         3934.98         1 / 183         24.39           16-0AM         662332         3934.98         1 / 183         24.39           17/2 BPSK         662332         3934.98         1 / 183         24.49           0         662334         3740.01         1 / 162         24.91           0         662366         3939.99         1 / 108         24.66           0         656000         3940.00         1 / 141         24.46           0         656000         3934.90         1 / 141         24.46           0         656000         3940.00         1 / 141         24.46           0         900         3735.00         1 / 141         24.41           0         9345.00         1 / 141         24.41         1         24.91           0         716         656000         3840.00         1 / 141		40.0414				
THO         586000         3840.00         1/161         24.49           0PSK         662332         3934.98         1/183         24.37           0PSK         656000         3840.00         1/161         24.63           0FSK         656232         3934.98         1/183         24.37           1E-0AM         662332         3934.98         1/183         24.39           172 BPSK         656000         3840.00         1/54         24.91           662666         3939.99         1/108         24.56         649364           0PSK         656000         3840.00         1/54         24.81           662666         3939.99         1/108         24.86           1E-0AM         662666         3939.99         1/141         24.42           663000         3840.00         1/141         24.42           649000         3755.00         1/141         24.42           649000         3755.00         1/141         24.41           649000         3840.00         1/141         24.41           649000         3840.00         1/141         24.41           74000         656300         3840.00         1/141         24.41		16-QAM				
FM00         662332         3934.98         1 / 183         24.37           GPSK         649680         3745.02         1 / 183         24.39           GPSK         669000         3840.00         1 / 183         24.39           GPSK         662332         3934.98         1 / 183         24.09           TIDEOAM         662332         3934.98         1 / 183         24.39           TIDEOAM         662332         3934.98         1 / 183         24.39           GPSK         662332         3934.98         1 / 183         24.49           GPSK         662333         3940.00         1 / 183         24.49           GPSK         665000         3840.00         1 / 141         24.48           GPSK         656000         3934.90         1 / 141         24.48           GPSK         656000         3840.00         1 / 141         24.43           GPSK         656000         3840.00         1 / 141         24.43           GPSK         656000         3840.00         1 / 141         24.41           GPSK         656000         3840.00         1 / 141         24.43           GPSK         656000         3840.00         1 / 141						
FTM 00         662232         3934.98         1 / 183         24.09           16-QAM         662232         3934.98         1 / 183         23.48           m/2 BPSK         662066         3939.99         1 / 163         24.56           GPSK         662066         3939.99         1 / 108         24.56           GPSK         662966         3939.99         1 / 108         24.56           GPSK         662966         3939.99         1 / 108         24.64           GPSK         662966         3939.99         1 / 108         24.84           GPSK         650000         3840.00         1 / 141         24.42           GPSK         655000         3840.00         1 / 141         24.42           GPSK         655000         3840.00         1 / 141         24.45           GPSK         655000         3840.00         1 / 141         24.51           GPSK         656000         3840.00         1 / 141         24.51           GPSK         656000         3840.00         1 / 141         24.51           GPSK         656000         3840.00         1 / 121         24.91           GPSK         656000         3840.00         1 / 121		11/2 DPSK	-			
FTM 00         662232         3934.98         1 / 183         24.09           16-QAM         662232         3934.98         1 / 183         23.48           m/2 BPSK         662066         3939.99         1 / 163         24.56           GPSK         662066         3939.99         1 / 108         24.56           GPSK         662966         3939.99         1 / 108         24.56           GPSK         662966         3939.99         1 / 108         24.64           GPSK         662966         3939.99         1 / 108         24.84           GPSK         650000         3840.00         1 / 141         24.42           GPSK         655000         3840.00         1 / 141         24.42           GPSK         655000         3840.00         1 / 141         24.45           GPSK         655000         3840.00         1 / 141         24.51           GPSK         656000         3840.00         1 / 141         24.51           GPSK         656000         3840.00         1 / 141         24.51           GPSK         656000         3840.00         1 / 121         24.91           GPSK         656000         3840.00         1 / 121	НИ					
FTM 00         662232         3934.98         1 / 183         24.09           16-QAM         662232         3934.98         1 / 183         23.48           m/2 BPSK         662066         3939.99         1 / 163         24.56           GPSK         662066         3939.99         1 / 108         24.56           GPSK         662966         3939.99         1 / 108         24.56           GPSK         662966         3939.99         1 / 108         24.64           GPSK         662966         3939.99         1 / 108         24.84           GPSK         650000         3840.00         1 / 141         24.42           GPSK         655000         3840.00         1 / 141         24.42           GPSK         655000         3840.00         1 / 141         24.45           GPSK         655000         3840.00         1 / 141         24.51           GPSK         656000         3840.00         1 / 141         24.51           GPSK         656000         3840.00         1 / 141         24.51           GPSK         656000         3840.00         1 / 121         24.91           GPSK         656000         3840.00         1 / 121	106	OPSK				
THO         66/23/2         3934 98         1 / 183         23.48           π/2 BPSK         649334         3740.01         1 / 162         24.91           65000         3840.00         1 / 54         24.85           0PSK         652066         3939.99         1 / 108         24.56           0PSK         652066         3939.99         1 / 108         24.60           16-OAM         662066         3939.99         1 / 108         24.80           16-OAM         662066         3939.99         1 / 108         24.80           16-OAM         662060         3939.99         1 / 108         24.80           16-OAM         662060         3939.99         1 / 108         24.80           0PSK         655000         3840.00         1 / 141         24.42           0PSK         656000         3840.00         1 / 141         24.41           0PSK         666332         3949.98         1 / 81         24.39           16-OAM         656000         3840.00         1 / 121         24.80           0PSK         66332         3949.98         1 / 81         24.31           16-OAM         656000         3840.00         1 / 121         24.80	0,					
FMO         FMO         FMO         FMO         FMO           FMO         Fig. 285K         656000         3840.00         1.154         24.86           GE006         3939.99         1.108         24.86         62266         3939.99         1.108         24.84           GE006         3840.00         1.154         24.84         656000         3840.00         1.141         24.84           GE006         3939.99         1.108         22.86         3939.99         1.1141         24.48           GE000         3840.00         1.141         24.44         49000         3735.00         1.1141         24.42           m/2 BPSK         665000         3840.00         1.1141         24.42         44900         3735.00         1.1141         24.42           GPSK         665000         3840.00         1.1141         24.41         24.91         1.11         24.91         1.11         24.91         1.11         24.91         1.11         24.91         1.11         24.91         1.11         24.91         1.11         24.91         1.11         24.91         1.11         24.91         1.11         24.91         1.11         24.91         1.11         24.91         1.11		16-QAM				
FM 00         662266         3339.99         1/108         24.86           0PSK         66200         3840.00         1/154         24.84           66200         3840.00         1/164         24.84           66200         3840.00         1/164         24.84           66200         3840.00         1/141         24.84           663000         3945.00         1/141         24.48           663000         3945.00         1/141         24.44           663000         3945.00         1/141         24.42           663000         3945.00         1/141         24.42           663000         3945.00         1/141         24.42           663000         3940.00         1/141         24.56           663000         3940.00         1/141         24.57           7800         66332         3949.98         1/81         24.38           7800         663302         3949.98         1/81         24.38           7800         656000         3840.00         1/166         24.71           7800         656000         3840.00         1/166         24.47           7800         656000         3840.00         1						24.91
THO         662666         3939.99         1/108         24.60           16-OAM         662666         3939.99         1/108         24.60           172 BPSK         656000         3840.00         1/141         24.48           172 BPSK         656000         3840.00         1/141         24.48           QPSK         656000         3840.00         1/141         24.49           QPSK         656000         3840.00         1/141         24.57           16-OAM         656000         3840.00         1/141         24.51           16-OAM         656000         3840.00         1/141         24.90           66332         3949.98         1/161         25.04           66332         3949.98         1/171         24.90           648668         3730.02         1/181         24.60           0PSK         656000         3840.00         1/121         24.91           16-OAM         656000         3840.00         1/166         24.71           66306         3954.99         1/66         24.69         24.90           16-OAM         656000         3840.00         1/26         24.18           172 BPSK         656000 <th></th> <td>π/2 BPSK</td> <td>656000</td> <td>3840.00</td> <td>1 / 54</td> <td>24.88</td>		π/2 BPSK	656000	3840.00	1 / 54	24.88
THO         662666         3939.99         1/108         24.60           16-OAM         662666         3939.99         1/108         24.60           172 BPSK         656000         3840.00         1/141         24.48           172 BPSK         656000         3840.00         1/141         24.48           QPSK         656000         3840.00         1/141         24.49           QPSK         656000         3840.00         1/141         24.57           16-OAM         656000         3840.00         1/141         24.51           16-OAM         656000         3840.00         1/141         24.90           66332         3949.98         1/161         25.04           66332         3949.98         1/171         24.90           648668         3730.02         1/181         24.60           0PSK         656000         3840.00         1/121         24.91           16-OAM         656000         3840.00         1/166         24.71           66306         3954.99         1/66         24.69         24.90           16-OAM         656000         3840.00         1/26         24.18           172 BPSK         656000 <th>ž</th> <td></td> <td>662666</td> <td>3939.99</td> <td>1 / 108</td> <td>24.56</td>	ž		662666	3939.99	1 / 108	24.56
THO         662666         3939.99         1/108         24.60           16-OAM         662666         3939.99         1/108         24.60           172 BPSK         656000         3840.00         1/141         24.48           172 BPSK         656000         3840.00         1/141         24.48           QPSK         656000         3840.00         1/141         24.49           QPSK         656000         3840.00         1/141         24.57           16-OAM         656000         3840.00         1/141         24.51           16-OAM         656000         3840.00         1/141         24.90           66332         3949.98         1/161         25.04           66332         3949.98         1/171         24.90           648668         3730.02         1/181         24.60           0PSK         656000         3840.00         1/121         24.91           16-OAM         656000         3840.00         1/166         24.71           66306         3954.99         1/66         24.69         24.90           16-OAM         656000         3840.00         1/26         24.18           172 BPSK         656000 <th>Σ</th> <td></td> <td>649334</td> <td>3740.01</td> <td>1 / 162</td> <td>24.66</td>	Σ		649334	3740.01	1 / 162	24.66
THO         11/108         22.86           91/2 BPSK         649000         3735.00         1/141         24.48           650000         3345.00         1/141         24.48           663000         3345.00         1/141         24.42           663000         3346.00         1/141         24.45           663000         3346.00         1/141         24.45           663000         3346.00         1/141         24.45           663000         3340.00         1/141         24.45           663000         3340.00         1/141         24.91           66300         3340.00         1/141         24.91           66300         3340.00         1/181         24.13           664323         349.98         1/181         24.33           16-QAM         656000         3840.00         1/121         23.65           909         1/60         3440.00         1/121         24.93           916-QAM         656000         3840.00         1/166         24.47           909K         658000         3840.00         1/26         24.83           916-QAM         656000         3840.00         1/26         24.90 </td <th>8</th> <td>QPSK</td> <td>656000</td> <td>3840.00</td> <td>1 / 54</td> <td>24.84</td>	8	QPSK	656000	3840.00	1 / 54	24.84
PHO2         T/2 BPSK         665000         33840.00         1 / 141         24.43           665000         33840.00         1 / 141         24.43           GPSK         665000         33840.00         1 / 141         24.44           GPSK         655000         33840.00         1 / 141         24.44           GPSK         655000         33840.00         1 / 141         24.45           GPSK         655000         33840.00         1 / 141         24.57           GPSK         656000         3840.00         1 / 141         24.51           GPSK         656000         3840.00         1 / 121         24.91           GPSK         656000         3840.00         1 / 121         24.93           GPSK         656000         3840.00         1 / 121         24.93           GPSK         656000         3840.00         1 / 121         23.65           GPSK         656000         3840.00         1 / 121         23.65           GPSK         656000         3840.00         1 / 121         24.93           GPSK         656000         3840.00         1 / 126         24.81           GPSK         656000         3840.00         1 / 126 </td <th></th> <td></td> <td>662666</td> <td>3939.99</td> <td>1 / 108</td> <td>24.60</td>			662666	3939.99	1 / 108	24.60
PHO2         π/2 BPSK         655000         3840.00         1 / 141         24.32           0PSK         663000         3945.00         1 / 141         24.42           0PSK         656000         3840.00         1 / 141         24.42           0PSK         656000         3840.00         1 / 141         24.62           0PSK         656000         3840.00         1 / 141         24.57           16-0AM         656000         3840.00         1 / 141         24.57           0PSK         656000         3840.00         1 / 141         24.94           663332         3949.98         1 / 81         24.94           663332         3949.98         1 / 81         24.93           666332         3949.98         1 / 81         24.94           663332         3949.98         1 / 81         24.94           663332         3949.98         1 / 81         24.94           663000         3840.00         1 / 66         24.47           663000         3840.00         1 / 66         24.47           664000         360.00         1 / 26         24.83           672 BPSK         656000         3840.00         1 / 26         24.99		16-QAM	662666	3939.99	1 / 108	22.86
PHO2         E60000         3945.00         1 / 141         24.44           0PSK         650000         3340.00         1 / 141         24.45           0PSK         650000         3340.00         1 / 141         24.45           0FSK         656000         3840.00         1 / 141         24.45           0FSK         66600         3840.00         1 / 141         24.91           0FSK         666000         3840.00         1 / 121         24.91           0FSK         666000         3840.00         1 / 121         24.91           0FSK         656000         3840.00         1 / 121         24.93           0FSK         656000         3840.00         1 / 121         23.65           0FSK         656000         3840.00         1 / 121         23.65           0FSK         656000         3840.00         1 / 66         24.47           0FSK         656000         3840.00         1 / 66         24.47           0FSK         656000         3840.00         1 / 26         24.90           16-QAM         656000         3840.00         1 / 26         24.91           0FSK         656000         3840.00         1 / 26 <t< td=""><th></th><td></td><td></td><td></td><td></td><td></td></t<>						
PHO0         3945.00         1/141         24.57           16-OAM         666000         3840.00         1/141         23.51           17/2 BPSK         666000         3840.00         1/141         23.51           648668         373.0.02         1/81         24.90           648688         373.0.02         1/81         24.90           648688         373.0.02         1/111         24.30           648688         373.0.02         1/181         24.33           648688         373.0.02         1/181         24.34           648334         3725.01         1/166         24.71           663666         3954.99         1/66         24.47           663666         3954.99         1/66         24.47           6663666         3954.99         1/66         24.41           666300         3840.00         1/26         24.13           7/2 BPSK         666000         3840.00         1/26         24.83           67/2 BPSK         666000         3840.00         1/26         24.14           664300         3860.00         1/26         24.48         16.24.48           67/2 BPSK         666000         3840.00         <		π/2 BPSK				
PHO0         3945.00         1/141         24.57           16-OAM         666000         3840.00         1/141         23.51           17/2 BPSK         666000         3840.00         1/141         23.51           648668         373.0.02         1/81         24.90           648688         373.0.02         1/81         24.90           648688         373.0.02         1/111         24.30           648688         373.0.02         1/181         24.33           648688         373.0.02         1/181         24.34           648334         3725.01         1/166         24.71           663666         3954.99         1/66         24.47           663666         3954.99         1/66         24.47           6663666         3954.99         1/66         24.41           666300         3840.00         1/26         24.13           7/2 BPSK         666000         3840.00         1/26         24.83           67/2 BPSK         666000         3840.00         1/26         24.14           664300         3860.00         1/26         24.48         16.24.48           67/2 BPSK         666000         3840.00         <	4	-				
PHO0         3945.00         1/141         24.57           16-OAM         666000         3840.00         1/141         23.51           17/2 BPSK         666000         3840.00         1/141         23.51           648668         373.0.02         1/81         24.90           648688         373.0.02         1/81         24.90           648688         373.0.02         1/111         24.30           648688         373.0.02         1/181         24.33           648688         373.0.02         1/181         24.34           648334         3725.01         1/166         24.71           663666         3954.99         1/66         24.47           663666         3954.99         1/66         24.47           6663666         3954.99         1/66         24.41           666300         3840.00         1/26         24.13           7/2 BPSK         666000         3840.00         1/26         24.83           67/2 BPSK         666000         3840.00         1/26         24.14           664300         3860.00         1/26         24.48         16.24.48           67/2 BPSK         666000         3840.00         <	2	05.00				
PHO         16-OAM         656000         3840.00         1 / 141         23.51           m/2 BPSK         648668         3730.02         1 / 81         24.91           m/2 BPSK         666332         3949.98         1 / 121         24.90           OPSK         666332         3949.98         1 / 181         24.13           OPSK         666332         3949.98         1 / 181         24.33           16-OAM         656000         3840.00         1 / 121         23.65           m/2 BPSK         666000         3840.00         1 / 121         23.65           648334         3725.01         1 / 66         24.67           648343         3725.01         1 / 66         24.47           663666         3954.99         1 / 66         24.48           648000         3720.00         1 / 66         24.48           m/2 BPSK         656000         3840.00         1 / 26         24.14           648000         3720.00         1 / 26         24.83           m/2 BPSK         656000         3840.00         1 / 26         24.99           647688         3715.02         1 / 19         24.38           m/2 BPSK         656000 <t< td=""><th>7</th><td>QPSK</td><td></td><td></td><td></td><td></td></t<>	7	QPSK				
PHO0         π/2 BPSK         648668         3730.02         1 / 81         24.91           0         660332         3949.98         1 / 81         24.91           0         675K         66000         3840.00         1 / 121         24.94           0         663322         3949.98         1 / 81         24.13           0         0         663322         3949.98         1 / 81         24.94           663032         3840.00         1 / 121         23.96           0         666332         3840.00         1 / 121         23.66           0         666600         3840.00         1 / 66         24.71           663666         3954.99         1 / 66         24.47           663600         3840.00         1 / 66         24.41           16-0AM         656000         3840.00         1 / 26         24.83           π/2 BPSK         666000         3840.00         1 / 26         24.48           16-0AM         656000         3840.00         1 / 26         24.99           647568         3715.02         1 / 19         25.12           648000         3960.00         1 / 26         24.48           16-0AM		10.011				
THO         BFK         656000         3840.00         1 / 121         24.90           643322         3949.98         1 / 81         25.06           GPSK         648668         373.0.02         1 / 81         24.13           GPSK         666000         3840.00         1 / 121         24.34           64332         3949.98         1 / 81         24.33           16-QAM         656000         3840.00         1 / 121         23.65           m/2 BPSK         656000         3840.00         1 / 166         24.47           666366         3954.99         1 / 66         24.69           m/2 BPSK         656000         3840.00         1 / 66         24.81           666600         3954.99         1 / 99         24.30           m/2 BPSK         656000         3840.00         1 / 26         24.83           m/2 BPSK         666000         3840.00         1 / 26         24.14           4647000         3720.00         1 / 26         24.83           m/2 BPSK         666000         3840.00         1 / 26         24.91           67632         3960.00         1 / 26         24.91           674332         3960.00         1 /		16-QAM				
PHO9         663332         3949.98         1 / 81         25.06           OPSK         648668         3730.02         1 / 81         24.13           OPSK         6663000         3840.00         1 / 121         24.94           66332         3949.98         1 / 121         23.65           MI2         648334         3725.01         1 / 66         25.24           MI2         648334         3725.01         1 / 66         24.47           663666         3954.99         1 / 66         24.47           663666         3954.99         1 / 66         24.47           663666         3954.99         1 / 66         24.41           663666         3954.99         1 / 66         24.14           663666         3954.99         1 / 29         24.90           16-0AM         656000         3840.00         1 / 26         25.12           644000         3720.00         1 / 26         24.01           16-0AM         656000         3840.00         1 / 28         24.91           647568         3715.02         1 / 19         23.96           16-0AM         656000         3840.00         1 / 28         24.90						
PHOP         663332         3949.98         1 / 81         24.38           16-QAM         666000         3840.00         1 / 121         23.65           1/2 BPSK         666000         3840.00         1 / 166         24.71           663666         3954.99         1 / 66         24.69           67832         663666         3954.99         1 / 66         24.69           678334         3725.01         1 / 66         24.47           663666         3954.99         1 / 99         24.90           16-QAM         656000         3840.00         1 / 26         24.81           648000         3720.00         1 / 26         24.83           1/2 BPSK         666000         3840.00         1 / 26         24.91           0PSK         666000         3840.00         1 / 26         24.91           0PSK         666000         3840.00         1 / 28         24.91           0PSK         666000         3840.00         1 / 28         24.91           0PSK         666000         3840.00         1 / 28         24.90           647668         3715.02         1 / 19         24.38           1/2 BPSK         666000         3840.00	N	11/2 BPSK				
PHOP         663332         3949.98         1 / 81         24.38           16-QAM         666000         3840.00         1 / 121         23.65           1/2 BPSK         666000         3840.00         1 / 166         24.71           663666         3954.99         1 / 66         24.69           67832         663666         3954.99         1 / 66         24.69           678334         3725.01         1 / 66         24.47           663666         3954.99         1 / 99         24.90           16-QAM         656000         3840.00         1 / 26         24.81           648000         3720.00         1 / 26         24.83           1/2 BPSK         666000         3840.00         1 / 26         24.91           0PSK         666000         3840.00         1 / 26         24.91           0PSK         666000         3840.00         1 / 28         24.91           0PSK         666000         3840.00         1 / 28         24.91           0PSK         666000         3840.00         1 / 28         24.90           647668         3715.02         1 / 19         24.38           1/2 BPSK         666000         3840.00	H					
PHOP         663332         3949.98         1 / 81         24.38           16-QAM         666000         3840.00         1 / 121         23.65           1/2 BPSK         666000         3840.00         1 / 166         24.71           663666         3954.99         1 / 66         24.69           67832         663666         3954.99         1 / 66         24.69           678334         3725.01         1 / 66         24.47           663666         3954.99         1 / 99         24.90           16-QAM         656000         3840.00         1 / 26         24.81           648000         3720.00         1 / 26         24.83           1/2 BPSK         666000         3840.00         1 / 26         24.91           0PSK         666000         3840.00         1 / 26         24.91           0PSK         666000         3840.00         1 / 28         24.91           0PSK         666000         3840.00         1 / 28         24.91           0PSK         666000         3840.00         1 / 28         24.90           647668         3715.02         1 / 19         24.38           1/2 BPSK         666000         3840.00	0	OPSK				
PI         16-QAM         656000         3840.00         1 / 121         23.65           m/2 BPSK         648334         3725.01         1 / 66         25.24           m/2 BPSK         665000         3840.00         1 / 66         24.71           663666         3954.99         1 / 66         24.69           QPSK         665000         3840.00         1 / 66         24.47           663666         3954.99         1 / 66         24.41           663666         3954.99         1 / 76         24.81           67000         3840.00         1 / 66         24.14           663666         3954.99         1 / 99         24.90           16-QAM         656000         3840.00         1 / 26         24.83           m/2 BPSK         666000         3840.00         1 / 26         24.99           647668         3715.02         1 / 19         24.78           m/2 BPSK         666000         3840.00         1 / 79         23.96           m/2 BPSK         666000         3840.00         1 / 79         24.78           m/2 BPSK         666000         3840.00         1 / 79         24.78           m/2 BPSK         666000         3	9	QF SK				
PIO         Particle         648334         3725.01         1 / 66         25.24           072 BPSK         666000         3840.00         1 / 66         24.67           063666         3954.99         1 / 66         24.67           0FSK         666000         3840.00         1 / 66         24.47           0FSK         666000         3840.00         1 / 66         24.41           0FSK         666000         3840.00         1 / 66         24.14           0FSK         666000         3840.00         1 / 26         24.83           16-0AM         656000         3840.00         1 / 26         24.78           16-0AM         656000         3840.00         1 / 58		16-QAM				
PHO         Tr/2 BPSK         666000         3840.00         1 / 66         24.71           663666         3954.99         1 / 66         24.61           0PSK         663666         3954.99         1 / 66         24.43           0PSK         663666         3954.99         1 / 99         24.90           16-QAM         666000         3840.00         1 / 66         24.81           π/2 BPSK         666000         3840.00         1 / 26         24.13           648000         3720.00         1 / 26         24.83           π/2 BPSK         666000         3840.00         1 / 26         24.90           648000         3720.00         1 / 26         24.91           648000         3720.00         1 / 26         24.91           649000         3840.00         1 / 26         24.91           648000         3720.00         1 / 26         24.91           16-QAM         656000         3840.00         1 / 79         23.96           67332         3960.03         1 / 19         25.13         66432         3964.98         1 / 39         25.20           6PSK         656000         3840.00         1 / 19         24.38         647668 </td <th></th> <td>10 00 111</td> <td></td> <td></td> <td></td> <td></td>		10 00 111				
PHO         663666         3954.99         1 / 66         24.69           OPSK         663666         3954.99         1 / 66         24.47           OPSK         666000         3840.00         1 / 66         24.47           663666         3954.99         1 / 99         24.90           16-OAM         656000         3840.00         1 / 66         24.14           648000         3720.00         1 / 26         24.83           649000         3720.00         1 / 26         24.99           648000         3720.00         1 / 26         24.91           647000         3960.00         1 / 26         24.91           647668         3715.02         1 / 79         24.78           647668         3715.02         1 / 79         23.96           71/2 BPSK         666000         3840.00         1 / 79         23.96           647668         3715.02         1 / 19         24.51         25.03           647668         3715.02         1 / 19         24.51         36           64734         3710.01         1 / 25         24.68         371.92         24.99           647666         3840.00         1 / 25         24.81		π/2 BPSK				
PHO         663666         3954.99         1 / 99         24.90           16-OAM         666000         3840.00         1 / 66         24.14           648000         3720.00         1 / 26         24.83           664000         3960.00         1 / 26         24.99           648000         3720.00         1 / 26         24.91           664000         3960.00         1 / 26         24.91           664000         3840.00         1 / 79         23.96           676600         3840.00         1 / 79         23.96           647668         3715.02         1 / 19         24.78           7/2 BPSK         666000         3840.00         1 / 79         23.96           647668         3715.02         1 / 19         24.51           647688         3715.02         1 / 19         24.51           647332         3964.98         1 / 39         25.13           647686         3715.02         1 / 19         24.51           647668         3715.02         1 / 19         24.51           647668         3715.02         1 / 19         24.51           647334         3710.01         1 / 25         24.81	부	11/2 21 011				
PHO         663666         3954.99         1 / 99         24.90           16-OAM         666000         3840.00         1 / 66         24.14           648000         3720.00         1 / 26         24.83           664000         3960.00         1 / 26         24.99           648000         3720.00         1 / 26         24.91           664000         3960.00         1 / 26         24.91           664000         3840.00         1 / 79         23.96           676600         3840.00         1 / 79         23.96           647668         3715.02         1 / 19         24.78           7/2 BPSK         666000         3840.00         1 / 79         23.96           647668         3715.02         1 / 19         24.51           647688         3715.02         1 / 19         24.51           647332         3964.98         1 / 39         25.13           647686         3715.02         1 / 19         24.51           647668         3715.02         1 / 19         24.51           647668         3715.02         1 / 19         24.51           647334         3710.01         1 / 25         24.81	WH	QPSK	648334	3725.01	1 / 66	24.47
PHO         16-QAM         656000         3840.00         1 / 66         24.14           π/2 BPSK         648000         3720.00         1 / 26         24.83           π/2 BPSK         666000         3960.00         1 / 26         24.83           QPSK         666000         3960.00         1 / 26         24.99           QPSK         666000         3960.00         1 / 26         24.01           QPSK         666000         3940.00         1 / 79         23.96           16-QAM         656000         3840.00         1 / 79         23.96           16-QAM         666000         3840.00         1 / 79         23.96           16-QAM         666000         3840.00         1 / 79         23.96           16-QAM         666000         3840.00         1 / 58         24.90           647668         3715.02         1 / 19         24.51           664332         3964.98         1 / 39         24.38           16-QAM         647668         3715.02         1 / 19         24.51           647334         3710.01         1 / 25         24.81         664666         3969.99         1 / 25         24.81           0PSK         66666	20		656000	3840.00	1 / 66	24.81
PHO         648000         3720.00         1 / 26         24.83           π/2 BPSK         664000         3840.00         1 / 26         25.12           664000         3840.00         1 / 26         24.93           OPSK         666000         3840.00         1 / 26         24.93           648000         3720.00         1 / 26         24.91           0PSK         666000         3840.00         1 / 79         24.78           664000         3840.00         1 / 79         23.96           16-DAM         656000         3840.00         1 / 79         23.96           17/2 BPSK         666332         3964.98         1 / 39         25.20           664332         3964.98         1 / 39         25.20           664332         3964.98         1 / 39         24.38           16-DAM         647668         3715.02         1 / 19         23.57           647334         3710.01         1 / 25         24.81           647343         3710.01         1 / 25         24.81           647666         3969.99         1 / 25         24.81           647167         3707.51         1 / 19         24.52           647167			663666	3954.99	1 / 99	24.90
τμ/2 BPSK         656000         3840.00         1 / 26         25.12           664000         3960.00         1 / 26         24.99           648000         372.00         1 / 26         24.99           GPSK         666000         3860.00         1 / 26         24.91           GPSK         666000         3840.00         1 / 79         24.78           16-QAM         656000         3840.00         1 / 79         23.96           17/2 BPSK         656000         3840.00         1 / 79         23.96           17/2 BPSK         656000         3840.00         1 / 78         23.96           647668         3715.02         1 / 19         24.78           647668         3715.02         1 / 19         24.51           6PSK         666000         3840.00         1 / 58         25.13           647334         3710.01         1 / 25         24.68           16-QAM         647334         3710.01         1 / 25         24.81           647334         3710.01         1 / 25         24.81           647666         3969.99         1 / 25         24.81           647666         3969.99         1 / 25         24.81		16-QAM	656000	3840.00	1 / 66	24.14
PHO         664000         3960.00         1 / 26         24.99           GPSK         664000         3720.00         1 / 26         24.01           GPSK         666000         33840.00         1 / 79         24.78           16-QAM         656000         3840.00         1 / 79         23.96           17/2 BPSK         664000         3960.00         1 / 79         23.96           647668         3715.02         1 / 19         25.13           664332         3964.98         1 / 39         25.20           647668         3715.02         1 / 19         24.38           16-QAM         647668         3715.02         1 / 19         24.51           647332         3964.98         1 / 39         24.38           16-QAM         647668         3715.02         1 / 19         24.51           647334         3710.01         1 / 25         24.81           647334         3710.01         1 / 25         24.81           647666         3969.99         1 / 25         24.91           647334         3710.01         1 / 25         24.81           647666         3969.99         1 / 25         24.81           647667			648000	3720.00	1 / 26	24.83
PHO         664000         3960.00         1 / 26         24.48           16-QAM         656000         3840.00         1 / 79         23.96           647668         3715.02         1 / 19         25.93           1/2 BPSK         666000         3840.00         1 / 58         24.48           1/2 BPSK         666000         3840.00         1 / 19         25.13           664332         3964.98         1 / 39         25.20           647668         3715.02         1 / 19         24.51           664332         3964.98         1 / 39         24.38           16-QAM         647668         3715.02         1 / 19         23.57           647334         3710.01         1 / 25         24.81           647668         3969.99         1 / 25         24.81           647666         3969.99         1 / 25         24.81           647666         3969.99         1 / 25         24.81           647666         3969.99         1 / 25         24.81           64767         3707.51         1 / 19         24.65           647167         3707.51         1 / 19         24.65           64769         3989.99         1 / 25		π/2 BPSK				
PHO         664000         3960.00         1 / 26         24.48           16-QAM         656000         3840.00         1 / 79         23.96           647668         3715.02         1 / 19         25.93           1/2 BPSK         666000         3840.00         1 / 58         24.48           1/2 BPSK         666000         3840.00         1 / 19         25.13           664332         3964.98         1 / 39         25.20           647668         3715.02         1 / 19         24.51           664332         3964.98         1 / 39         24.38           16-QAM         647668         3715.02         1 / 19         23.57           647334         3710.01         1 / 25         24.81           647668         3969.99         1 / 25         24.81           647666         3969.99         1 / 25         24.81           647666         3969.99         1 / 25         24.81           647666         3969.99         1 / 25         24.81           64767         3707.51         1 / 19         24.65           647167         3707.51         1 / 19         24.65           64769         3989.99         1 / 25	H					
PHO         664000         3960.00         1 / 26         24.48           16-QAM         656000         3840.00         1 / 79         23.96           647668         3715.02         1 / 19         25.93           1/2 BPSK         666000         3840.00         1 / 58         24.48           1/2 BPSK         666000         3840.00         1 / 19         25.13           664332         3964.98         1 / 39         25.20           647668         3715.02         1 / 19         24.51           664332         3964.98         1 / 39         24.38           16-QAM         647668         3715.02         1 / 19         23.57           647334         3710.01         1 / 25         24.81           647668         3969.99         1 / 25         24.81           647666         3969.99         1 / 25         24.81           647666         3969.99         1 / 25         24.81           647666         3969.99         1 / 25         24.81           64767         3707.51         1 / 19         24.65           647167         3707.51         1 / 19         24.65           64769         3989.99         1 / 25	N N					
μ         16-QAM         656000         3840.00         1 / 79         23.96           π/2 BPSK         647668         3715.02         1 / 19         25.13           π/2 BPSK         666000         3840.00         1 / 58         24.90           QPSK         666332         3964.98         1 / 39         25.20           QPSK         666332         3964.98         1 / 39         24.38           16-QAM         647668         3715.02         1 / 19         24.51           QPSK         666332         3964.98         1 / 39         24.38           16-QAM         647668         3715.02         1 / 19         23.57           98         647334         3710.01         1 / 125         24.81           647343         3740.01         1 / 25         24.81           64666         3969.99         1 / 25         24.81           647667         3707.51         1 / 19         24.65           647167         3707.51         1 / 19         24.65           647167         3707.51         1 / 19         24.62           674768         3840.00         1 / 28         24.53           647167         3707.51         1 / 19	4(	QPSK				
PI         647668         3715.02         1 / 19         25.13           π/2 BPSK         664068         3715.02         1 / 19         25.13           664322         3964.98         1 / 39         25.20           OPSK         664032         3964.98         1 / 19         25.13           664322         3964.98         1 / 19         24.51           664322         3964.98         1 / 19         24.51           664322         3964.98         1 / 19         24.53           664332         3964.98         1 / 19         23.57           16-OAM         647668         3715.02         1 / 19         23.57           π/2 BPSK         66400         3869.99         1 / 25         24.68           674666         3969.99         1 / 25         24.81           664666         3969.99         1 / 25         24.81           664666         3969.99         1 / 25         24.81           664666         3969.99         1 / 25         24.81           664666         3969.99         1 / 25         24.00           16-QAM         664666         3969.99         1 / 25         24.01           647167         3707.51		10.011				
Ψ/2 BPSK         656000         3840.00         1 / 58         24.90           647668         3715.02         1 / 19         25.20           647668         3715.02         1 / 19         24.51           OPSK         6664332         3964.98         1 / 39         24.51           647668         3715.02         1 / 19         24.51           647334         3710.01         1 / 25         24.81           647668         3715.02         1 / 19         23.57           m/2 BPSK         664734         3710.01         1 / 25         24.81           647334         3710.01         1 / 25         24.81         666466           6969.99         1 / 25         24.81         666666         3969.99         1 / 25         24.81           6PSK         6664666         3969.99         1 / 25         24.88         6664666         3969.99         1 / 25         24.88           6PSK         6664666         3969.99         1 / 25         24.90         1 / 25         24.91           7/2 BPSK         6647167         3707.51         1 / 19         24.65         65           60PSK         6664000         3840.00         1 / 28         23.54		16-QAM				
Mg         664332         3964.98         1 / 39         25.20           0PSK         647668         3715.02         1 / 19         24.51           647688         3715.02         1 / 19         24.51           647332         3964.98         1 / 39         24.38           16-OAM         647668         3715.02         1 / 19         23.57           647334         3710.01         1 / 12         24.38           16-OAM         647668         3715.02         1 / 19         23.57           647334         3710.01         1 / 25         24.81           6647344         3710.01         1 / 25         24.81           GPSK         666600         3840.00         1 / 25         24.81           GPSK         664666         3969.99         1 / 25         24.08           647167         3707.51         1 / 19         24.65           647167         3707.51         1 / 19         24.65           6647167         3707.51         1 / 19         24.65           677.51         1 / 19         24.65           6647			-			
Yet         647668         3715.02         1 / 19         24.51           0PSK         666000         3840.00         1 / 58         25.13           664322         3964.98         1 / 39         24.35           16-QAM         647668         3715.02         1 / 19         24.35           π/2 BPSK         647334         3710.01         1 / 25         24.68           π/2 BPSK         64666         3869.99         1 / 25         24.81           664666         3869.99         1 / 25         24.81           664666         3969.99         1 / 25         24.81           664666         3969.99         1 / 25         24.81           664666         3969.99         1 / 25         24.00           16-QAM         664690         3972.50         1 / 19         24.62           678         664499         3972.50         1 / 19         24.62           684499         3972.50         1 / 19	N	II/2 BPSK				
Model         664332         3964.98         1 / 39         24.38           16-QAM         647668         3715.02         1 / 19         23.57           16-QAM         647668         3715.02         1 / 19         23.57           17/2 BPSK         647668         3715.02         1 / 19         23.57           1/19         23.57         647668         3715.02         1 / 19         23.57           1/2         BPSK         656000         3840.00         1 / 25         24.81           647343         3710.01         1 / 25         24.91         647343         3710.01         1 / 25         24.81           0PSK         656000         3840.00         1 / 25         24.81         66666         366.99         1 / 25         24.00           16-QAM         664666         3969.99         1 / 25         24.00         647167         3707.51         1 / 19         24.62           π/2 BPSK         666499         3972.50         1 / 19         24.62         647167         3707.51         1 / 19         24.24         54           0PSK         666000         3840.00         1 / 28         24.53         664399         3972.50         1 / 19         24.23	Ŧ		00.000			
Model         664332         3964.98         1 / 39         24.38           16-QAM         647668         3715.02         1 / 19         23.57           16-QAM         647668         3715.02         1 / 19         23.57           17/2 BPSK         647668         3715.02         1 / 19         23.57           1/19         23.57         647668         3715.02         1 / 19         23.57           1/2         BPSK         656000         3840.00         1 / 25         24.81           647343         3710.01         1 / 25         24.91         647343         3710.01         1 / 25         24.81           0PSK         656000         3840.00         1 / 25         24.81         66666         366.99         1 / 25         24.00           16-QAM         664666         3969.99         1 / 25         24.00         647167         3707.51         1 / 19         24.62           π/2 BPSK         666499         3972.50         1 / 19         24.62         647167         3707.51         1 / 19         24.24         54           0PSK         666000         3840.00         1 / 28         24.53         664399         3972.50         1 / 19         24.23	8	OPSK				
16-QAM         647668         3715.02         1 / 19         23.57           π/2 BPSK         647334         3710.01         1 / 25         24.68           π/2 BPSK         666600         3840.00         1 / 25         24.81           664666         3869.99         1 / 25         24.81           664666         3869.99         1 / 25         24.81           664666         3869.99         1 / 25         24.81           664666         3869.99         1 / 25         24.81           664666         3969.99         1 / 25         24.00           16-QAM         664666         3969.99         1 / 25         24.00           16-QAM         664666         3969.99         1 / 25         24.00           π/2 BPSK         664600         3969.99         1 / 25         24.00           664499         3972.50         1 / 19         24.62           664499         3972.50         1 / 19         24.53           664499         3972.50         1 / 19         24.23           16-QAM         656000         3840.00         1 / 28         23.54           647000         3705.00         1 / 17         25.16           647000 </td <th></th> <td><u> </u></td> <td></td> <td></td> <td></td> <td></td>		<u> </u>				
μ         647334         3710.01         1 / 25         24.68           π/2 BPSK         666000         3840.00         1 / 25         24.81           664666         3669.99         1 / 25         24.81           664666         369.99         1 / 25         24.81           647334         3710.01         1 / 25         24.81           647334         3710.01         1 / 25         24.81           647666         3969.99         1 / 25         24.81           666666         3669.99         1 / 25         24.81           664666         3969.99         1 / 25         24.81           664666         3969.99         1 / 25         24.81           664669         3969.99         1 / 25         24.00           π/2 BPSK         664666         3969.99         1 / 25         24.00           664499         3972.50         1 / 1 9         24.65           664499         3972.50         1 / 1 9         24.16           66400         3840.00         1 / 28         23.54           16-QAM         656000         3840.00         1 / 1 28         23.54           16-QAM         656000         3840.00         1 / 1 28 <th></th> <td>16-QAM</td> <td></td> <td></td> <td></td> <td></td>		16-QAM				
Ψ/2 BPSK         656000         3840.00         1 / 25         24.81           64734         3710.01         1 / 25         24.91           64734         3710.01         1 / 25         24.91           697334         3710.01         1 / 25         24.81           0PSK         666666         3969.99         1 / 25         24.81           0PSK         666666         3969.99         1 / 25         24.88           16-0AM         664666         3969.99         1 / 25         24.00           π/2 BPSK         666000         3840.00         1 / 25         24.00           647167         3707.51         1 / 19         24.65           66499         3972.50         1 / 19         24.65           66499         3840.00         1 / 28         24.51           6647167         3707.51         1 / 19         24.65           69499         3972.50         1 / 19         24.24           0PSK         666000         3840.00         1 / 28         23.54           16-0AM         656000         3840.00         1 / 17         25.16           π/2 BPSK         666000         3840.00         1 / 17         25.31					1	1
PHO         664666         3969.99         1 / 25         24.91           QPSK         647334         3710.01         1 / 25         24.81           GPSK         666000         3840.00         1 / 25         24.88           16-QAM         664666         3969.99         1 / 25         24.00           16-QAM         664600         3969.99         1 / 25         24.00           16-QAM         664600         3969.99         1 / 25         24.00           0PSK         664499         3972.50         1 / 19         24.62           0PSK         666000         3840.00         1 / 28         24.53           16-QAM         656000         3840.00         1 / 28         23.54           64700         3705.00         1 / 17         25.16           m/2 BPSK         647000         3705.00         1 / 17         25.31           64332         3975.00         1 / 17         25.31           <		π/2 BPSK				
Product         647334         3710.01         1 / 25         24.81           GPSK         6647334         3710.01         1 / 25         24.81           664660         3860.00         1 / 25         24.83           664666         3969.99         1 / 25         24.00           16-QAM         664666         3969.99         1 / 25         24.00           m/2 BPSK         6666000         3840.00         1 / 19         24.65           664499         3972.50         1 / 19         24.62           QPSK         666409         3972.50         1 / 19         24.62           664499         3972.50         1 / 19         24.53           664499         3972.50         1 / 19         24.53           664499         3972.50         1 / 19         24.25           16-QAM         656000         3840.00         1 / 28         23.54           647000         3705.00         1 / 17         25.16           m/2 BPSK         664332         3975.00         1 / 17         25.31           647000         3705.00         1 / 17         25.04         664332         3975.00         1 / 17         25.04           69SW00         3840.00	원					
M         664666         3969.99         1 / 25         25.06           16-QAM         664666         3969.99         1 / 25         24.00           647167         3707.51         1 / 19         24.65           m/2 BPSK         664060         3840.00         1 / 28         24.51           664499         3972.50         1 / 19         24.62           OPSK         666000         3840.00         1 / 28         24.51           664499         3972.50         1 / 19         24.62           OPSK         666000         3840.00         1 / 28         24.51           664499         3972.50         1 / 19         24.62           16-QAM         656000         3840.00         1 / 28         24.53           66439         3972.50         1 / 19         24.24         24.53           16-QAM         656000         3840.00         1 / 28         23.54           66432         3975.00         1 / 17         25.16           647000         3705.00         1 / 17         25.31           647000         3705.00         1 / 17         25.31           695000         3840.00         24 / 0         23.43           6	W		647334	3710.01	1 / 25	24.81
I6-QAM         664666         3969.99         1 / 25         24,00           m/2 BPSK         664066         3969.99         1 / 19         24,65           m/2 BPSK         666000         3840.00         1 / 19         24,65           QPSK         666499         3972.50         1 / 19         24,62           16-QAM         664499         3972.50         1 / 19         24,62           QPSK         664499         3972.50         1 / 19         24,16           16-QAM         656000         3840.00         1 / 28         23,54           16-QAM         656000         3840.00         1 / 17         25.16           m/2 BPSK         664300         3840.00         1 / 17         25.16           m/2 BPSK         664332         3975.00         1 / 17         25.31           664332         3975.00         1 / 17         25.31           QPSK         666000         3840.00         24 / 0         23.43           664332         3975.00         1 / 17         25.31           QPSK         666000         3840.00         24 / 0         23.43	20	QPSK	656000	3840.00	1 / 25	24.88
μ         647167         3707.51         1 / 19         24.65           π/2 BPSK         666000         3840.00         1 / 28         24.51           66499         3972.50         1 / 19         24.65           66499         3972.50         1 / 19         24.65           66499         3972.50         1 / 19         24.65           66499         3972.50         1 / 19         24.65           66499         3972.50         1 / 19         24.16           66499         3972.50         1 / 19         24.23           16-QAM         656000         3840.00         1 / 28         23.54           π/2 BPSK         664302         3975.00         1 / 17         25.16           664332         3975.00         1 / 17         25.04         664332           664332         3975.00         1 / 17         25.43           666000         3640.00         24 / 0         23.43           647000         3705.00         1 / 17         25.04           666000         3840.00         1 / 17         25.04           666000         3840.00         24 / 0         23.43           646432         3975.00         1 / 1 / 7			664666	3969.99	1 / 25	25.06
M/2 BPSK         656000         3840.00         1 / 28         24.51           664499         3972.50         1 / 19         24.62           0PSK         664499         3972.50         1 / 19         24.62           0PSK         666000         3840.00         1 / 28         24.51           0PSK         666000         3840.00         1 / 28         24.53           16-QAM         656000         3840.00         1 / 28         23.54           16-QAM         656000         3840.00         1 / 28         23.54           17/2 BPSK         664000         3840.00         24 / 0         24.23           66432         3975.00         1 / 17         25.16           0PSK         664332         3975.00         1 / 17         25.31           0PSK         666332         3975.00         1 / 17         25.44		16-QAM	664666	3969.99	1 / 25	24.00
PY         664499         3972.50         1 / 19         24.62           OPSK         664409         3707.51         1 / 19         24.16           OPSK         666000         3840.00         1 / 28         24.53           16-QAM         656000         3840.00         1 / 28         23.54           16-QAM         656000         3840.00         1 / 28         23.54           64700         3705.00         1 / 17         25.16           m/2 BPSK         664332         3975.00         1 / 17         25.31           664332         3975.00         1 / 17         25.04         23.43           664332         3975.00         1 / 17         23.43           664332         3975.00         1 / 17         23.43						
μ         647167         3707.51         1 / 19         24.16           QPSK         666000         3840.00         1 / 28         24.53           66499         3972.50         1 / 19         24.28           16-QAM         656000         3840.00         1 / 28         23.54           π/2 BPSK         664300         3705.00         1 / 17         25.16           64432         3975.00         1 / 17         25.31           664332         3975.00         1 / 17         25.04           QPSK         666000         3840.00         24 / 0         23.43           664332         3975.00         1 / 17         25.04           0PSK         666000         3840.00         24 / 0         23.43		π/2 BPSK				
QPSK         656000         3840.00         1 / 28         24.53           664499         3972.50         1 / 19         24.28           16-QAM         656000         3840.00         1 / 28         23.54           μ         647000         3705.00         1 / 17         25.16           π/2 BPSK         66432         3975.00         1 / 17         25.31           664332         3975.00         1 / 17         25.31           664332         3975.00         1 / 17         25.04           695000         3840.00         24 / 0         23.43           664332         3975.00         1 / 17         25.04           664332         3975.00         1 / 17         25.14	15 MHz					
Ν         664499         3972.50         1 / 19         24.28           16-QAM         656000         3840.00         1 / 28         23.54           π/2 BPSK         667000         3705.00         1 / 17         25.16           647000         3705.00         1 / 17         25.31           664332         3975.00         1 / 17         25.31           664300         3705.00         1 / 17         25.31           664332         3975.00         1 / 17         25.44           QPSK         6664332         3840.00         24 / 0         23.43           664332         3875.00         1 / 17         25.34						
16-QAM         656000         3840.00         1 / 28         23.54           π/2 BPSK         647000         3705.00         1 / 17         25.16           664332         3975.00         1 / 17         25.31           664332         3975.00         1 / 17         25.31           664332         3975.00         1 / 17         25.04           666000         3840.00         24 / 0         23.43           664332         3975.00         1 / 17         25.34		QPSK				
μ         647000         3705.00         1 / 17         25.16           π/2 BPSK         656000         3840.00         24 / 0         24.23           664332         3975.00         1 / 17         25.31           664332         3975.00         1 / 17         25.04           0PSK         664332         3975.00         1 / 17         25.44           664332         3975.00         1 / 17         25.14		10.0				
τ/2 BPSK         656000         3840.00         24 / 0         24.23           664332         3975.00         1 / 17         25.31           0PSK         664300         3705.00         1 / 17         25.04           0PSK         664332         3975.00         1 / 17         25.14		16-QAM				
P         664332         3975.00         1 / 17         25.31           QPSK         647000         3705.00         1 / 17         25.04           66900         3840.00         24 / 0         23.43           664332         3975.00         1 / 17         25.14		-/0 550//				
E         647000         3705.00         1 / 17         25.04           QPSK         656000         3840.00         24 / 0         23.43           664332         3975.00         1 / 17         25.14	N	π/2 BPSK				
QPSK         656000         3840.00         24 / 0         23.43           664332         3975.00         1 / 17         25.14	Ϊ					
664332 3975.00 1 / 17 25.14	0	OPer				
		UPSK	-			
		16-QAM	647000	3705.00	1/17	23.14

Table 7-3.Conducted Power Data (NR Band n77 (C-Band) - SRS-1-Ant F)

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Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
	π/2 BPSK	633334	3500.01	1 / 68	24.54
100 MHz	QPSK	633334	3500.01	1 / 68	24.62
	16-QAM	633334	3500.01	1 / 68	23.55

Table 7-4.Conducted Power Data (NR Band n77 (DoD) – SRS-2-Ant H)

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
		650000	3750.00	1 / 204	24.46
τη/2 e	π/2 BPSK	656000	3840.00	1 / 68	24.09
		662000	3930.00	1 / 136	23.93
N N N N N N N N N N N N N N N N N N N		650000	3750.00	1 / 204	24.43
100	QPSK	656000	3840.00	1 / 68	24.31
		662000	3930.00	1 / 136	23.87
	16-QAM	650000	3750.00	1 / 204	23.67

Table 7-5.Conducted Power Data (NR Band n77 (C-Band) - SRS-2-Ant H)

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
	π/2 BPSK	633334	3500.01	1 / 68	22.41
100 MHz	QPSK	633334	3500.01	1 / 68	22.37
	16-QAM	633334	3500.01	1 / 68	21.57

Table 7-6. Conducted Power Data (NR Band n77 (DoD) - SRS-3-Ant C)

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]	
		650000	3750.00	1 / 204	22.06	
	π/2 BPSK	656000	3840.00	1 / 136	22.37	
MHz		662000	3930.00	1 / 204	22.10	
		650000	3750.00	1 / 204	21.28	
100	QPSK	656000	3840.00	1 / 136	22.01	
		662000	3930.00	1 / 204	20.84	
16-QAM		650000	3750.00	1 / 204	20.17	

Table 7-7. Conducted Power Data (NR Band n77 (C-Band) - SRS-3-Ant C)

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Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]	
	π/2 BPSK	633334	3500.01	1 / 68	22.37	
100 MHz	QPSK	633334	3500.01	1 / 68	22.48	
	16-QAM	633334	3500.01	1 / 68	21.42	

Table 7-8. Conducted Power Data (NR Band n77 (DoD) - SRS-4-Ant D)

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
		650000	3750.00	1 / 204	21.88
	π/2 BPSK	656000	3840.00	1 / 136	22.41
MHz		662000	3930.00	1 / 68	22.36
		650000	3750.00	1 / 204	20.81
100	QPSK	656000	3840.00	1 / 136	21.72
		662000	3930.00	1 / 68	21.51
	16-QAM	650000	3750.00	1 / 204	19.64

Table 7-9. Conducted Power Data (NR Band n77 (C-Band) – SRS-4-Ant D)

FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
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### 7.3 Occupied Bandwidth

#### 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

KDB 971168 D01 v03r01 - Section 4.2

#### **Test Settings**

- 1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth and the 26dB 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  $\geq$  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 Setup

The EUT and measurement equipment were set up as shown in the diagram below.



Figure 7-2. Test Instrument & Measurement Setup

#### Test Note

The Occupied Bandwidth was only measured on the antenna with the highest power for each band (SRS-1 / ANT F).

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### NR Band n77 – DoD-Band – SRS 1 - Ant F



Plot 7-1. Occupied Bandwidth Plot (NR Band n77 - 100MHz π/2 BPSK - Full RB - Ant F)



Plot 7-2. Occupied Bandwidth Plot (NR Band n77 - 100MHz QPSK - Full RB - Ant F)

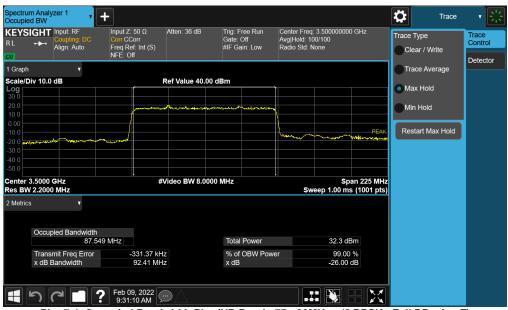
FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
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Keysight Spectrum Analyzer - Occupie					
LXIRL RF 50ΩD	C CORREC	SENSE:INT Center Freg: 3.50000	ALIGN AUTO	07:56:30 PM Feb 08, 202 Radio Std: None	2 Trace/Detector
	÷+	Trig: Free Run	Avg Hold: 100/100		
	#IFGain:Low	#Atten: 36 dB		Radio Device: BTS	_
10 dB/div Ref 40.00 d	IBm				
Log 30.0					
					Clear Write
20.0	at the second	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	han marter have		
10.0					
0.00					
-10.0					Average
-20.0	all the second		Դավվ/Դամնչինվել	almatimatichen million	R
-30.0	Adamali, .				
-40.0					Max Hold
-50.0					Muxitoru
Center 3.5000 GHz				Span 250.0 MH	
Res BW 2.4 MHz		#VBW 8 MH	Z	Sweep 1 m	Min Hold
Occupied Bandwi	idth	Total P	ower 29.8	dBm	
			20.0	abiii	
	97.687 MI	1Z			Detector
Transmit Freq Error	-4.528	Hz % of OE	3W Power 99	.00 %	Peak▶ Auto <u>Man</u>
x dB Bandwidth	103.1 N	IHz x dB	-20.	00 dB	
MSG			STATUS	3	

Plot 7-3. Occupied Bandwidth Plot (NR Band n77 - 100MHz 16-QAM - Full RB - Ant F)



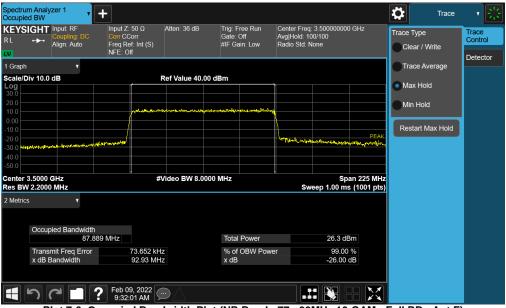
Plot 7-4. Occupied Bandwidth Plot (NR Band n77 - 90MHz π/2 BPSK - Full RB - Ant F)

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Cocupied BW     Input: RF       Input: RF     Coupling: DC       Align: Auto     Align: Auto	Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) NFE: Off	Atten: 36 dB	Gate: (	ree Run Off iin: Low	Center Freq: Avg Hold: 10 Radio Std: N	0/100	0 GHz	Trace Type Clear /		Trace Control
Graph 🔻								Trace A	verage	
scale/Div 10.0 dB .og 20.0		Ref Value 30.00	dBm					Max Ho	old	
20.0 10.0 0.00	and the second second	het-moster's-manalogethetist	nala Agrianta de	breton				Min Ho	ld	
10.0 20.0 Macharland Arthur Arthur Arthur Arthur 40.0 50.0 60.0	nuralisentille				hamparts	talynthinenf	PEAK	Restart	Max Hold	
enter 3.5000 GHz es BW 2.2000 MHz	. #	Video BW 8.000	00 MHz		Sw		an 225 MHz s (1001 pts)			
Metrics V										
Occupied Bandwidth 87.8	1 823 MHz		Total	Power		29.5 dl	Зm			
Transmit Freq Error x dB Bandwidth	-45.885 kH 92.99 MH		% of x dB	OBW Powe	er	99.00 -26.00				
1501	<b>?</b> Feb 09, 2022 9:32:27 AM									

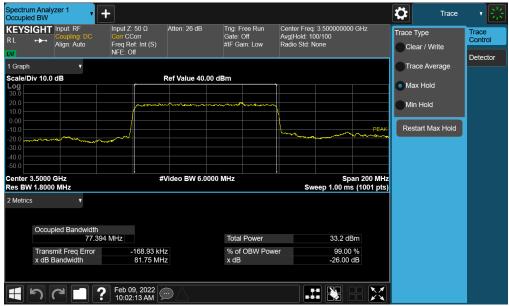
Plot 7-5. Occupied Bandwidth Plot (NR Band n77 - 90MHz QPSK - Full RB - Ant F)



Plot 7-6. Occupied Bandwidth Plot (NR Band n77 - 90MHz 16-QAM - Full RB - Ant F)

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Plot 7-7. Occupied Bandwidth Plot (NR Band n77 - 80MHz π/2 BPSK - Full RB - Ant F)

Spectrum Analyzer Occupied BW	r1 <b>7</b> +	-							Trace	• 崇
	out: RF oupling: DC gn: Auto	Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) NFE: Off	Atten: 26 dB	Gate:	ree Run Off in: Low	Center Freq: Avg Hold: 10 Radio Std: N	0/100	) GHz	Trace Type Clear / Write	Trace Control Detector
1 Graph									Trace Average	Delector
Scale/Div 10.0 dB	3		Ref Value 40.0	0 dBm					A May Lipid	
Log 30.0									Max Hold	
20.0			and and the state of the state	land and the second	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				Min Hold	
0.00						Luna	~~~~	PEAK	Restart Max Hold	
-20.0 -30.0										
-40.0 -50.0										
Center 3.5000 GH Res BW 1.8000 M		ا. #۱	/ideo BW 6.00	000 MHz		Swe		an 200 MHz s (1001 pts)		
2 Metrics	•									
Occupied	d Bandwidth									
	77.867	MHz		Total	Power		31.2 di	3m		
	Freq Error	33.954 kH:			OBW Powe	۲	99.00			
x dB Ban	iawiath	82.13 MH:	4	x dB			-26.00	αB		
<b>1</b>	?	Feb 09, 2022 10:03:33 AM								

Plot 7-8. Occupied Bandwidth Plot (NR Band n77 - 80MHz QPSK - Full RB - Ant F)

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Graph 🔻						Trace Average	Detector
cale/Div 10.0 dB		Ref Value 40.00	dBm	·		Max Hold	
0.0		~~~~~	m	×		Min Hold	
00 0.0 0.0				Lanna	PE	Restart Max Hold	
0.0 0.0 0.0							
nter 3.5000 GHz s BW 1.8000 MHz	#	Video BW 6.000	00 MHz	Swi	Span 200 M eep 1.00 ms (1001 p		
Metrics v							
Occupied Bandwidth	4 MHz		Total Power		31.2 dBm		
77.91		7	% of OBW Pow	rer	99.00 %		
77.91 Transmit Freq Error x dB Bandwidth	3.771 kH 82.29 MH		x dB		-26.00 dB		

Plot 7-9. Occupied Bandwidth Plot (NR Band n77 - 80MHz 16-QAM - Full RB - Ant F)



Plot 7-10. Occupied Bandwidth Plot (NR Band n77 - 70MHz π/2 BPSK - Full RB - Ant F)

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Plot 7-11. Occupied Bandwidth Plot (NR Band n77 - 70MHz QPSK - Full RB - Ant F)



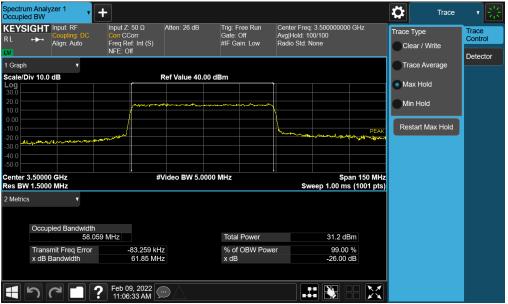
Plot 7-12. Occupied Bandwidth Plot (NR Band n77 - 70MHz 16-QAM - Full RB - Ant F)

FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager	
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Plot 7-13. Occupied Bandwidth Plot (NR Band n77 - 60MHz π/2 BPSK - Full RB - Ant F)



Plot 7-14. Occupied Bandwidth Plot (NR Band n77 - 60MHz QPSK - Full RB - Ant F)

FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	Approved by: Technical Manager	
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Plot 7-15. Occupied Bandwidth Plot (NR Band n77 - 60MHz 16-QAM - Full RB - Ant F)



Plot 7-16. Occupied Bandwidth Plot (NR Band n77 - 50MHz π/2 BPSK - Full RB - Ant F)

FCC ID: A3LSMS906E	Percent of the selement	PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
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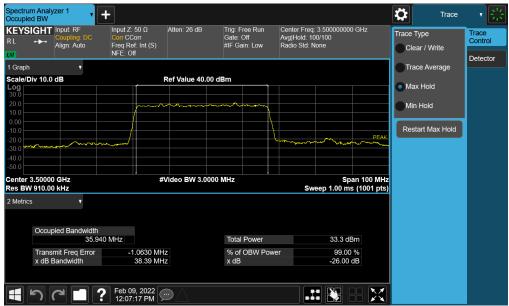
Plot 7-17. Occupied Bandwidth Plot (NR Band n77 - 50MHz QPSK - Full RB - Ant F)



Plot 7-18. Occupied Bandwidth Plot (NR Band n77 - 50MHz 16-QAM - Full RB - Ant F)

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Plot 7-19. Occupied Bandwidth Plot (NR Band n77 - 40MHz π/2 BPSK - Full RB - Ant F)



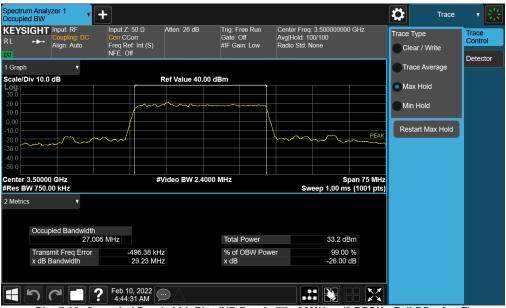
Plot 7-20. Occupied Bandwidth Plot (NR Band n77 - 40MHz QPSK - Full RB - Ant F)

FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager	
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EYSIGHT Input: RF L + Anton Auto	Hoput Ζ: 50 Ω Corr CCorr Freq Ref: Int (S) NFE: Off	Atten: 26 dB	Trig: Free Run Gate: Off #IF Gain: Low	Center Freq Avg Hold: 10 Radio Std: N		Trace Ty	be Trace Control
Graph 🔻						Trace	Average
cale/Div 10.0 dB		Ref Value 40.00	) dBm			Max H	Hold
0.0 0.0 0.0 0.0	jum	······	مورحي وحوار معرفين	<u>\</u>		Min H	lold
.00				han	t-traky national actions	PEAK	t Max Hold
0.0							
nter 3.50000 GHz s BW 910.00 kHz	#	video BW 3.000	00 MHz	Sw	Span 10 eep 1.00 ms (10		
Metrics v							
Occupied Bandwidth 37.93	5 MHz		Total Power		31.3 dBm		
Transmit Freq Error x dB Bandwidth	-13.930 kH 40.76 MH		% of OBW Pow x dB	ver	99.00 % -26.00 dB		

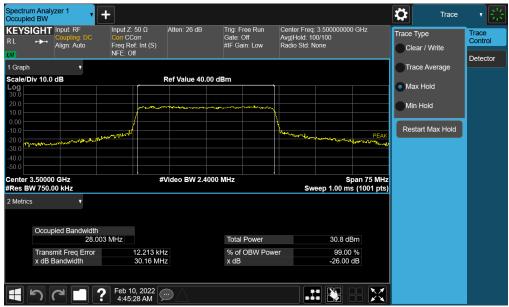
Plot 7-21. Occupied Bandwidth Plot (NR Band n77 - 40MHz 16-QAM - Full RB - Ant F)



Plot 7-22. Occupied Bandwidth Plot (NR Band n77 - 30MHz π/2 BPSK - Full RB - Ant F)

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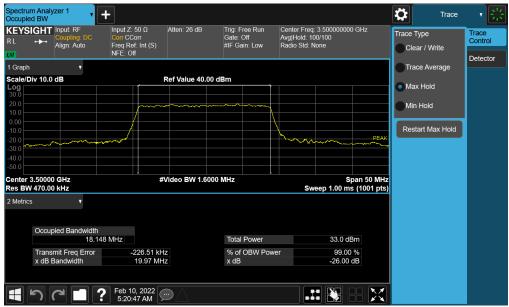
Plot 7-23. Occupied Bandwidth Plot (NR Band n77 - 30MHz QPSK - Full RB - Ant F)



Plot 7-24. Occupied Bandwidth Plot (NR Band n77 - 30MHz 16-QAM - Full RB - Ant F)

FCC ID: A3LSMS906E	Poul to be part of @ element	PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	Approved by: Technical Manager	
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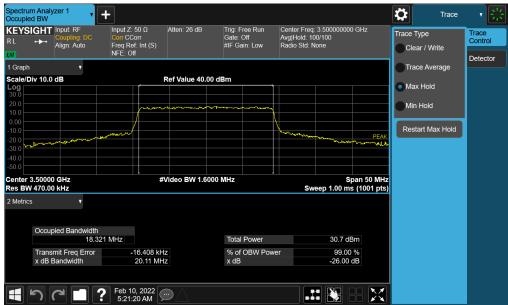
Plot 7-25. Occupied Bandwidth Plot (NR Band n77 - 20MHz π/2 BPSK - Full RB - Ant F)



Plot 7-26. Occupied Bandwidth Plot (NR Band n77 - 20MHz QPSK - Full RB - Ant F)

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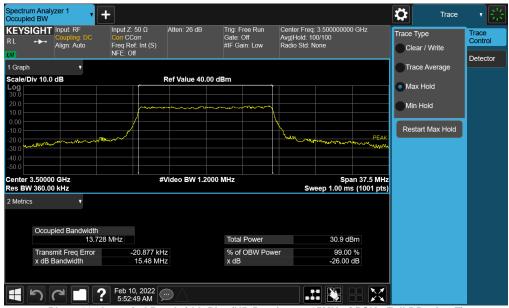
Plot 7-27. Occupied Bandwidth Plot (NR Band n77 - 20MHz 16-QAM - Full RB - Ant F)



Plot 7-28. Occupied Bandwidth Plot (NR Band n77 - 15MHz π/2 BPSK - Full RB - Ant F)

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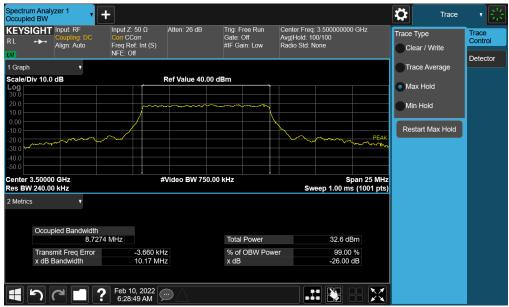
Plot 7-29. Occupied Bandwidth Plot (NR Band n77 - 15MHz QPSK - Full RB - Ant F)



Plot 7-30. Occupied Bandwidth Plot (NR Band n77 - 15MHz 16-QAM - Full RB - Ant F)

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Plot 7-31. Occupied Bandwidth Plot (NR Band n77 - 10MHz π/2 BPSK - Full RB - Ant F)



Plot 7-32. Occupied Bandwidth Plot (NR Band n77 - 10MHz QPSK - Full RB - Ant F)

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	Input: RF Coupling: DC Align: Auto	Input Ζ: 50 Ω Corr CCorr Freq Ref: Int (S) NFE: Off	Atten: 26 dB	Trig: Free R Gate: Off #IF Gain: Lo	Avg	ter Freq: 3.50000  Hold: 100/100 lio Std: None	00000 GHz	Trace Type Clear / Write	Trace Control Detector
Graph	•							Trace Average	
cale/Div 10.0 c	β		Ref Value 40.	00 dBm				Max Hold	
<b>.09</b> 30.0 20.0 10.0				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~			Min Hold	
0.00 10.0 20.0 30.0	-ndraman	and a second and a second a s				magn linguages	PEAk	Restart Max Hold	
40.0									
enter 3.50000 es BW 240.00			#Video BW 75	0.00 kHz		Sweep 1.0	Span 25 MH: 0 ms (1001 pts		
Metrics	▼ ed Bandwidth	50 MHz		Total Pow	er		3 dBm		
	nit Freq Error andwidth	-17.039 10.02 I		% of OBW x dB	Power		9.00 % 6.00 dB		

Plot 7-33. Occupied Bandwidth Plot (NR Band n77 - 10MHz 16-QAM - Full RB - Ant F)

FCC ID: A3LSMS906E	POLICE ST	PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
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# NR Band n77 - C-Band - SRS 1- Ant F

	n Analyzer 1 d BW		F							₽	Trace	- T 🚼
RL	GHT Input: R Couplin Align: A	g: DC	Input Z: 50 Ω Corr CCorr Freq Ref: Int (S NFE: Off	Atten: 26 dB	Gate:	Free Run Off ain: Low	Center Free Avg Hold: 1 Radio Std: I		GHz	Trace Type Clear /		Trace Control
LN 1 Graph		•	NFE. OII	Bafilfahaa 40	00 d <b>P</b> m					Trace A	verage	Detector
Scale/Di           30.0           20.0           10.0           -10.0	iv 10.0 dB			Ref Value 40					PEAK	Max Ho Min Ho Restart I		
-20.0 -30.0 -40.0 -50.0	.8400 GHz			#Video BW 8.0	0000 MHz			Spa	an 250 MHz			
	2.4000 MHz	T					Sv	veep 1.00 ms				
	Occupied Bar	ndwidth 96.942	MHz		Total	Power		32.7 dB	m			
	Transmit Fred x dB Bandwid		-653.13 102.4		% of x dB	OBW Pow	er	99.00 -26.00 c				
	って	]?	Feb 08, 2022 10:46:02 AM									

Plot 7-34. Occupied Bandwidth Plot (NR Band n77 - 100MHz π/2 BPSK - Full RB - Ant F)

Spectrum Analyze Occupied BW	er 1	÷					Trace	- * 崇
	nput: RF Coupling: DC Nign: Auto	Input Ζ: 50 Ω Corr CCorr Freq Ref: Int (S) NFE: Off	Atten: 26 dB	Trig: Free Run Gate: Off #IF Gain: Low	Center Freq: 3 Avg Hold:>10 Radio Std: No		Trace Type Clear / Write	Trace Control Detector
1 Graph							Trace Average	Delector
Scale/Div 10.0 d	B		Ref Value 40.00 d	Bm			Max Hold	
20.0			-		- -		Min Hold	
0.00 -10.0 -20.0	Antonia	and the second se			human	PEA	Restart Max Hold	
-30.0								
-50.0 Center 3.8400 G Res BW 2,4000 I		#	Video BW 8.0000	MHz	Swee	Span 250 MH ep 1.00 ms (1001 pt		
2 Metrics	vii 12. V				5116		<u>,</u>	
Occupie	ed Bandwidth							
	98.07	7 MHz		Total Power		30.6 dBm		
	it Freq Error andwidth	-110.89 kH 103.5 MH		% of OBW Pow x dB	er	99.00 % -26.00 dB		
<b>1</b> 50	┙ 🗋 ?	Feb 08, 2022 10:46:47 AM						

Plot 7-35. Occupied Bandwidth Plot (NR Band n77 - 100MHz QPSK - Full RB - Ant F)

FCC ID: A3LSMS906E	PCTEST. Proud to be part of @ element	PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
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<b>YSIGHT</b> Input: RF Coupling: DC Align: Auto	Input Ζ: 50 Ω Corr CCorr Freq Ref: Int (S) NFE: Off	Atten: 26 dB	Trig: Free Run Gate: Off #IF Gain: Low	Center Freq: 3 Avg Hold:>100 Radio Std: Nor		Trace Type Clear / Write	Trace Control
Graph 🔻						Trace Average	
ale/Div 10.0 dB		Ref Value 40.00	dBm			Max Hold	
.0	مىمىلىرى مەمىيىلىرى	man and the state of	r	7		Min Hold	
00				Lanondan	PEAI PEAI	Restart Max Hold	
1.0 1.0 1.0							
nter 3.8400 GHz s BW 2.4000 MHz	· · · · · · · · · · · · · · · · · · ·	#Video BW 8.000	00 MHz	- Euro	Span 250 MH ep 1.00 ms (1001 pts	z	
letrics v				3000	-p 1.00 ms (100 r pts	21	
Occupied Bandwidth 97.8	58 MHz		Total Power		30.7 dBm		
Transmit Freq Error x dB Bandwidth	-221.39 kl 103.3 Mł		% of OBW Pow x dB	rer	99.00 % -26.00 dB		

Plot 7-36. Occupied Bandwidth Plot (NR Band n77 - 100MHz 16-QAM - Full RB - Ant F)

Spectrum Analy Occupied BW		ŀ						Тгасе	· *
	Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) NFE: Off	Atten: 26 dB	Trig: Free Run Gate: Off #IF Gain: Low	Center Fr Avg Hold: Radio Std		10 GHz	Trace Type Clear / Write	Trace Control
1 Graph	•							Trace Average	Detector
Scale/Div 10.0	dB		Ref Value 30.00	dBm	_,			Max Hold	
20.0 10.0 0.00		, and the second s	Mars		~			Min Hold	
-10.0 -20.0 -30.0					lun		PEAK	Restart Max Hold	
-40.0 -50.0 -60.0									
Center 3.8400 Res BW 2.2000		. #	/ideo BW 8.000	0 MHz	S	Sp Sweep 1.00 m	oan 225 MHz is (1001 pts)		
2 Metrics	T								
Occup	vied Bandwidth 87.140	) MHz		Total Power		32.2 d	Bm		
	mit Freq Error Bandwidth	-468.50 kH 92.40 MH		% of OBW Pc x dB	ower	99.00 -26.00			
<b>1</b> 50		Feb 08, 2022 10:45:07 AM							

Plot 7-37. Occupied Bandwidth Plot (NR Band n77 - 90MHz π/2 BPSK - Full RB - Ant F)

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Spectrur Occupie	dBW	'	+										Trace	· 米
RL RL		Input: RF Coupling: DC Align: Auto	Input Z: Corr CCo Freq Ret	orr f: Int (S)	Atten: 26 dB	Gate	Free Run : Off Sain: Low		req: 3.840 d:>100/100 td: None		GHz	Trace Cle	Type ear / Write	Trace Control
1 Graph		<b>v</b>	NFE: Of	1								Tra	ace Average	Detector
Scale/D	iv 10.0 (	dB		R	ef Value 30.0	00 dBm		•				O Ma	ax Hold	
Log 20.0 10.0 0.00			j	and a start of the	••••••	<b>~~~</b> ,,	- ++						n Hold	
-10.0	Apertoday	mananthanna						have		gan Jarge	PEAK	Res	start Max Hold	
-40.0														
Center 3 Res BW				#V	ídeo BW 8.0	000 MHz		1	Sweep 1		n 225 MHz (1001 pts)			
2 Metrics	6													
	Occupi	ied Bandwidth 87 7	58 MHz			Tot	al Power			30.4 dBr	n			
		nit Freq Error	-2	215.53 kHz		% c	of OBW Pow	er		99.00 %	6			
	x dB B	landwidth		92.97 MHz		x di	3			-26.00 dl	В			
	り (		<b>?</b> Feb 08 10:44:	3, 2022 35 AM										

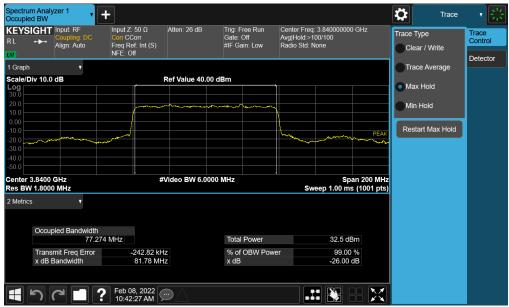
Plot 7-38. Occupied Bandwidth Plot (NR Band n77 - 90MHz QPSK - Full RB - Ant F)

Spectrum Analyzer 1 Occupied BW	' <b>•</b> +	-							Trac	xe 🔻 👬
	t: RF pling: DC n: Auto	Input Ζ: 50 Ω Corr CCorr Freq Ref: Int (S) NFE: Off	Atten: 26 dB	Trig: Free Run Gate: Off #IF Gain: Low	Avg Ho	Center Freq: 3.840000000 GHz Avg Hold:>100/100 Radio Std: None		Trace Type Clear / Write	Trace Control Detector	
1 Graph	•								Trace Average	Detector
Scale/Div 10.0 dB			Ref Value 30.00 d	IBm					Max Hold	
20.0					~~~				a max riola	
10.0									Min Hold	
-10.0	and the second	mark			- Contraction	V-4.9 d	hand an an and the	PEAK	Restart Max Hol	d
-30.0										
-50.0										
Center 3.8400 GHz			/ideo BW 8.0000	MHz			Sna	an 225 MHz		
Res BW 2.2000 MHz Sweep 1.00 ms (1001 pts)										
2 Metrics	¥									
Occupied E										
87.900 MHz				Total Power		30.6 dBm				
Transmit F		-182.45 kH		% of OBW P	ower		99.00			
x dB Band	width	93.07 MH	2	x dB			-26.00 (	18		
100	2	Feb 08, 2022 10:44:11 AM								

Plot 7-39. Occupied Bandwidth Plot (NR Band n77 - 90MHz 16-QAM - Full RB - Ant F)

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Plot 7-40. Occupied Bandwidth Plot (NR Band n77 - 80MHz π/2 BPSK - Full RB - Ant F)



Plot 7-41. Occupied Bandwidth Plot (NR Band n77 - 80MHz QPSK - Full RB - Ant F)

FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	Approved by: Technical Manager
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Plot 7-42. Occupied Bandwidth Plot (NR Band n77 - 80MHz 16-QAM - Full RB - Ant F)



Plot 7-43. Occupied Bandwidth Plot (NR Band n77 - 70MHz π/2 BPSK - Full RB - Ant F)

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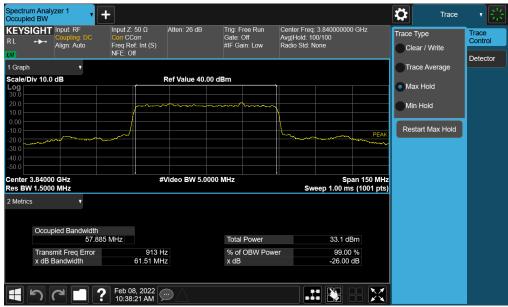
Plot 7-44. Occupied Bandwidth Plot (NR Band n77 - 70MHz QPSK - Full RB - Ant F)



Plot 7-45. Occupied Bandwidth Plot (NR Band n77 - 70MHz 16-QAM - Full RB - Ant F)

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Plot 7-46. Occupied Bandwidth Plot (NR Band n77 - 60MHz π/2 BPSK - Full RB - Ant F)



Plot 7-47. Occupied Bandwidth Plot (NR Band n77 - 60MHz QPSK - Full RB - Ant F)

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Align: Auto	Corr CCorr Freq Ref: Int (S) NFE: Off	Atten: 26 dB	Trig: Free Run Gate: Off #IF Gain: Low	Center Freq Avg Hold:>1 Radio Std: N		GHz	Trace Type Clear / Write	Trace Control Detector
Graph 🔻							Trace Average	Deteotor
ale/Div 10.0 dB		Ref Value 30.00	dBm	- <b>1</b>			<ul> <li>Max Hold</li> </ul>	
0.0			~				Min Hold	
0.0 0.0 0.0				han	~~~~~	PEAK	Restart Max Hold	
0.0 0.0								
nter 3.84000 GHz s BW 1.5000 MHz	#	Video BW 5.000	00 MHz	Sw	Spa veep 1.00 ms	n 150 MHz (1001 pts)		
Netrics v								
58.002			Total Power		30.5 dB			
Transmit Freq Error x dB Bandwidth	-124.43 kH 61.62 MH		% of OBW Pov x dB	wei	99.00 <sup>d</sup> -26.00 d			

Plot 7-48. Occupied Bandwidth Plot (NR Band n77 - 60MHz 16-QAM - Full RB - Ant F)



Plot 7-49. Occupied Bandwidth Plot (NR Band n77 - 50MHz π/2 BPSK - Full RB - Ant F)

FCC ID: A3LSMS906E	PCTEST. Preud to be pest of @ element	PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
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<b>YSIGHT</b> Input: RF Coupling: DC Align: Auto	Input Ζ: 50 Ω Corr CCorr Freq Ref: Int (S) NFE: Off	Atten: 26 dB	Trig: Free Run Gate: Off #IF Gain: Low	Center Freq Avg Hold: 10 Radio Std: N		Trace Type Clear / Write	Trace Control
araph 🔻						Trace Average	
ale/Div 10.0 dB g		Ref Value 35.00	) dBm	1		Max Hold	
.0		and the second	an a			Min Hold	
00 .0 .0				Vinnan	PE.	Restart Max Hold	
.0							
nter 3.84000 GHz s BW 1.2000 MHz		Video BW 4.000	00 MHz		Span 125 M eep 1.00 ms (1001 p		
letrics				5			
	58 MHz		Total Power		30.1 dBm		
Transmit Freq Error x dB Bandwidth	-60.175 kH 50.69 MH		% of OBW Pow x dB	ver	99.00 % -26.00 dB		

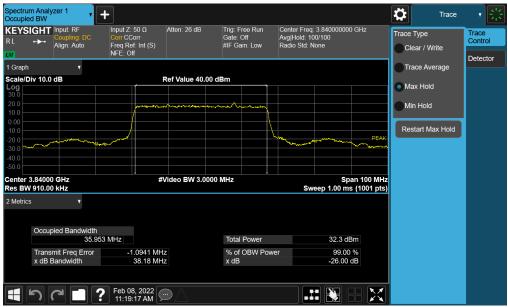
Plot 7-50. Occupied Bandwidth Plot (NR Band n77 - 50MHz QPSK - Full RB - Ant F)

Spectrum Analyzer 1 Occupied BW				Trace	・ 栄
KEYSIGHT     Input: RF     Input: 2: 5       R L     ↔     Coupling: DC     Corr CCc       Align: Auto     Freq Ref     NFE: Off	rr : Int (S)	Trig: Free Run Gate: Off #IF Gain: Low	Center Freq: 3.840000000 GHz Avg Hold:>100/100 Radio Std: None	Trace Type	Trace Control
1 Graph				Trace Average	
Scale/Div 10.0 dB	Ref Value 40.00 d	IBm		Max Hold	
30.0 20.0 10.0	py-wayne and the second state of the second st	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		Min Hold	
0.00 -10.0 -20.0			hamman marine with	PEAK Restart Max Hold	
-30.0 -40.0 -50.0					
Center 3.84000 GHz Res BW 1.2000 MHz	#Video BW 4.0000	MHz	Span 12 Sweep 1.00 ms (10		
2 Metrics					
Occupied Bandwidth 48.129 MHz		Total Power	33.1 dBm		
	2.688 kHz 63.22 MHz	% of OBW Powe x dB	er 99.00 % -26.00 dB		

Plot 7-51. Occupied Bandwidth Plot (NR Band n77 - 50MHz 16-QAM - Full RB - Ant F)

FCC ID: A3LSMS906E		PART 27 MEASUREMENT REPORT CLASS II PERMISSIVE CHANGE	SAMSUNG	Approved by: Technical Manager
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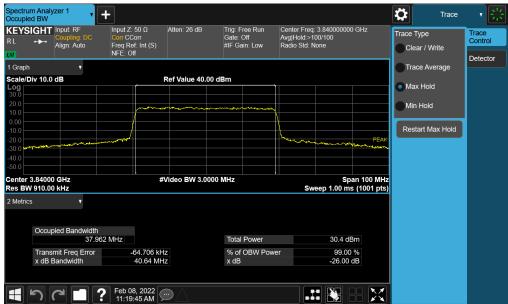
Plot 7-52. Occupied Bandwidth Plot (NR Band n77 - 40MHz π/2 BPSK - Full RB - Ant F)



Plot 7-53. Occupied Bandwidth Plot (NR Band n77 - 40MHz QPSK - Full RB - Ant F)

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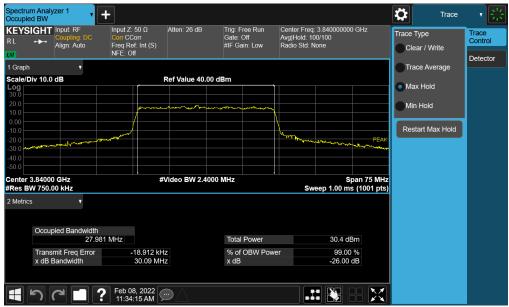
Plot 7-54. Occupied Bandwidth Plot (NR Band n77 - 40MHz 16-QAM - Full RB - Ant F)



Plot 7-55. Occupied Bandwidth Plot (NR Band n77 - 30MHz π/2 BPSK - Full RB - Ant F)

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Plot 7-56. Occupied Bandwidth Plot (NR Band n77 - 30MHz QPSK - Full RB - Ant F)



Plot 7-57. Occupied Bandwidth Plot (NR Band n77 - 30MHz 16-QAM - Full RB - Ant F)

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Plot 7-58. Occupied Bandwidth Plot (NR Band n77 - 20MHz π/2 BPSK - Full RB - Ant F)



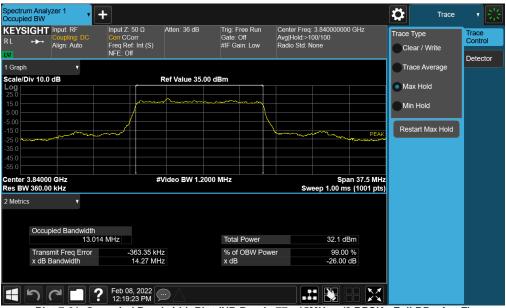
Plot 7-59. Occupied Bandwidth Plot (NR Band n77 - 20MHz QPSK - Full RB - Ant F)

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Spectrum Analyzer 1 Occupied BW KEYSIGHT Input: RF	HINDUT Z: 50 Ω Atten: 26	dB Trig: Free Run C	Center Freq: 3.840000000 GHz	Trace	- " 崇
R L + Align: Auto	Corr CCorr Freq Ref: Int (S) NFE: Off	Gate: Off A	wg Hold: 100/100 Radio Std: None	Trace Type Clear / Write	Trace Control
1 Graph 🔹				Trace Average	
Scale/Div 10.0 dB	Ref Value	e 30.00 dBm		<ul> <li>Max Hold</li> </ul>	
10.0				Min Hold	
-10.0 -20.0 -30.0			PEAK	Restart Max Hold	
-40.0					
Center 3.84000 GHz Res BW 470.00 kHz	#Video BV	V 1.6000 MHz	Span 50 MHz Sweep 1.00 ms (1001 pts)		
2 Metrics					
Occupied Bandwidth 18.33	0 MHz	Total Power	30.5 dBm		
Transmit Freq Error	-19.754 kHz	% of OBW Power	99.00 %		
x dB Bandwidth	20.18 MHz	x dB	-26.00 dB		
	Feb 08, 2022				

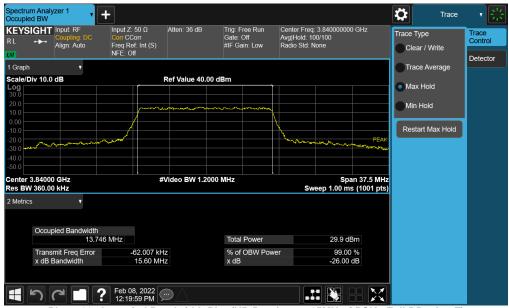
Plot 7-60. Occupied Bandwidth Plot (NR Band n77 - 20MHz 16-QAM - Full RB - Ant F)



Plot 7-61. Occupied Bandwidth Plot (NR Band n77 - 15MHz π/2 BPSK - Full RB - Ant F)

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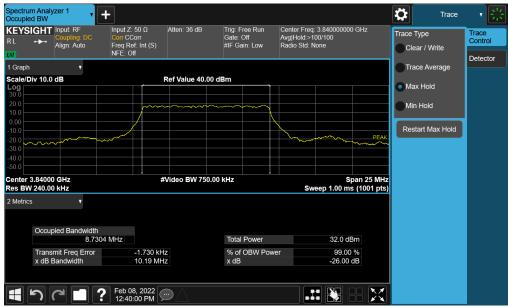
Plot 7-62. Occupied Bandwidth Plot (NR Band n77 - 15MHz QPSK - Full RB - Ant F)



Plot 7-63. Occupied Bandwidth Plot (NR Band n77 - 15MHz 16-QAM - Full RB - Ant F)

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Plot 7-64. Occupied Bandwidth Plot (NR Band n77 - 10MHz π/2 BPSK - Full RB - Ant F)



Plot 7-65. Occupied Bandwidth Plot (NR Band n77 - 10MHz QPSK - Full RB - Ant F)

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EYSIGHT Input: RF Coupling: DC Align: Auto	Input Ζ: 50 Ω Atten Corr CCorr Freq Ref: Int (S) NFE: Off	Gate: Off Avg H	r Freq: 3.84000000 GHz lold: 100/100 Std: None	Trace Type Clear / Write	Trace Control Detector
Graph v				Trace Average	
ale/Div 10.0 dB	Ref Va	lue 40.00 dBm		Max Hold	
<b>D</b> D D D D D D D D D D D D D				Min Hold	
00			PEAK	Restart Max Hold	
0.0					
nter 3.84000 GHz s BW 240.00 kHz	#Video	BW 750.00 kHz	Span 25 MHz Sweep 1.00 ms (1001 pts)		
Vetrics v	12 MHz	Total Power	29.7 dBm		
Transmit Freg Error	142 Hz	% of OBW Power	99.00 %		
	10.17 MHz	x dB	-26.00 dB		

Plot 7-66. Occupied Bandwidth Plot (NR Band n77 - 10MHz 16-QAM - Full RB - Ant F)

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