

## PCTEST

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## MEASUREMENT REPORT FCC PART 15.407 UNII OFDMA

#### **Applicant Name:**

SONY Corporation 1-7-1 Konan Minato-ku Tokyo, 108-0075, Japan

## Date of Testing: 8/2/2021 - 9/10/2021 Test Site/Location: PCTEST Lab. Columbia, MD, USA Test Report Serial No.: 1M2108040087-09.PY7

FCC ID:	PY7-95324M
APPLICANT:	SONY Corporation

Application Type: EUT Type: Frequency Range: Modulation Type: FCC Equipment Class: FCC Rule Part(s): Test Procedure(s): Certification Portable Handset 5180 – 5825MHz OFDMA Unlicensed National Information Infrastructure TX (NII) Part 15 Subpart E (15.407) ANSI C63.10-2013, KDB 789033 D02 v02r01, KDB 662911 D01 v02r01

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 ANSI C63.10-2013 and KDB 789033 D02 v02r01. 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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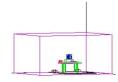


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# **MEASUREMENT REPORT**



	Channel		AN	JTT1	AN	IT2	MI	ON
UNII Band	Channel Bandwidth (MHz)	Tx Frequency (MHz)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)
1		5180 - 5240	17.539	12.44	15.885	12.01	32.868	15.17
2A	20	5260 - 5320	17.742	12.49	16.406	12.15	32.587	15.13
2C	20	5500 - 5720	17.701	12.48	16.069	12.06	33.771	15.29
3		5745 - 5825	17.824	12.51	16.255	12.11	33.709	15.28
1		5190 - 5230	17.824	12.51	16.331	12.13	33.845	15.29
2A	40	5270 - 5310	17.824	12.51	16.482	12.17	33.940	15.31
2C	40	5510 - 5710	17.824	12.51	16.482	12.17	33.960	15.31
3		5755 - 5795	17.742	12.49	16.482	12.17	33.980	15.31
1		5210	17.298	12.38	16.144	12.08	33.362	15.23
2A	80	5290	17.742	12.49	16.368	12.14	32.966	15.18
2C		5530 - 5690	17.824	12.51	16.255	12.11	33.559	15.26
3		5775	17.620	12.46	15.631	11.94	32.771	15.15

**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 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 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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#### PRODUCT INFORMATION 2.0

#### 2.1 **Equipment Description**

The Equipment Under Test (EUT) is the SONY Portable Handset FCC ID: PY7-95324M. The test data contained in this report pertains only to the emissions due to the EUT's UNII transmitter.

Test Device Serial No.: 01A9M, 04M9M, 04H9Q, 0539Q

#### 2.2 **Device Capabilities**

This device contains the following capabilities:

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

	Band 1		Band 2A		Band 2C		Band 3
Ch.	Frequency (MHz)						
36	5180	52	5260	100	5500	149	5745
:	:	:	:	:	:	:	:
40	5200	56	5280	120	5600	157	5785
:	:	:	:	:	:	:	:
48	5240	64	5320	144	5720	165	5825

Table 2-1. 802.11ax (20MHz) Frequer ations

	Band 1
Ch.	Frequency (MHz)
38	5190
:	:
46	5230

	Band 2A
Ch.	Frequency (MHz)
54	5270
:	:
62	5310

uency / Channel Opera					
	Band 2C				
Ch.	Frequency (MHz)				
102	5510				
:	:				
118	5590				

5710

	Band 3
Ch.	Frequency (MHz)
151	5755
:	:
159	5795

Table 2-2. 802.11ax (40MHz BW) Frequency / Channel Operations

. 142

	Band 1 Band 2A		Band 2A				Band 2C		Band 3
Ch.	Frequency (MHz)	CI	٦.	Frequency (MHz)		Ch.	Frequency (MHz)	Ch.	Frequency (MHz)
42	5210	5	3	5290		106	5530	155	5 5775
						•••	:		
					ĺ	138	5690		

Table 2-3. 802.11ax (80MHz BW) Frequency / Channel Operations

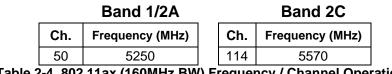


Table 2-4. 802.11ax (160MHz BW) Frequency / Channel Operations

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#### Notes:

5GHz NII operation is possible in 20MHz, and 40MHz, and 80MHz channel bandwidths. The maximum achievable duty cycles for all modes were determined based on measurements performed on a spectrum analyzer in zero-span mode with RBW = 8MHz, VBW = 50MHz, and detector = peak per the guidance of Section B)2)b) of ANSI C63.10-2013 and KDB 789033 D02 v02r01. The RBW and VBW were both greater than 50/T, where T is the minimum transmission duration, and the number of sweep points across T was greater than 100. The duty cycles are as follows:

Bandwidth	Tana	ANT1	ANT2	MIMO
[MHz]	Tone	Duty Cycle	Duty Cycle	Duty Cycle
	26T	98.81	98.91	99.32
20	52T	99.21	98.89	99.32
	106T	99.17	98.79	99.27
	242T	99.42	99.27	99.33
	26T	98.91	98.91	99.32
	52T	98.95	98.95	99.27
40	106T	98.82	98.89	99.27
	242T	99.34	99.00	99.26
	484T	99.66	99.29	99.54
	26T	98.98	98.98	99.28
	52T	98.97	98.95	99.27
80	106T	98.91	98.84	99.27
80	242T	98.81	98.88	99.26
	484T	99.43	98.84	99.30
	996T	99.41	99.35	99.34
	26T	99.08	99.04	99.35
	52T	99.06	99.06	99.42
160 (L)	106T	99.00	99.00	99.31
100(L)	242T	98.15	98.22	99.02
	484T	96.69	96.75	98.05
	996T	95.88	93.63	97.25
	26T	99.08	99.06	99.39
	52T	99.04	98.88	99.39
160 (U)	106T	99.00	98.93	99.47
100 (0)	242T	98.22	98.15	98.96
	484T	96.55	96.33	98.04
	996T	97.69	97.02	97.21

Table 2-5. Measured Duty Cycles

FCC ID: PY7-95324M	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager
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2. The device employs MIMO technology. Below are the possible configurations.

WiFi Configurations		SISO		SDM		MIMO	
		ANT1	ANT2	ANT1	ANT2	ANT1	ANT2
	11ax (20MHz)	✓	✓	✓	✓	✓	✓
504-	11ax (40MHz)	✓	✓	✓	✓	✓	✓
5GHz	11ax (80MHz)	✓	✓	✓	✓	✓	✓
	11ax (160MHz)	$\checkmark$	✓	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$

#### Table 2-6. Frequency / Channel Operations

 $\checkmark$  = Support ;  $\varkappa$  = NOT Support

SISO = Single Input Single Output

**SDM** = Spatial Diversity Multiplexing – MIMO function

This device supports simultaneous transmission operation, which allows for two SISO channels to operate independent of one another in the 2.4GHz and 5GHz bands simultaneously on each antenna. The following tables show the worst case configurations determined during testing. The data for these configurations is contained in the UNII test report.

Configuration 1: ANT1 and ANT2 in 2.4GHz/5GHz mode

Description	2.4 GHz Emission	5 GHz Emission
Antenna	1,2	1,2
Channel	11	100
Operating Frequency (MHz)	2462	5500
Data Rate (Mbps)	1	6
Mode	802.11b	802.11a

Table 2-7. Config-1 (MIMO 2.4GHz & 5GHz)

Configuration 2: ANT1 transmitting in Bluetooth and 5 GHz mode and ANT2 in 5GHz mode

Description	Bluetooth Emission	5 GHz Emission
Antenna	1	1,2
Channel	0	100
Operating Frequency (MHz)	2402	5500
Data Rate (Mbps)	1	6
Mode	GFSK	802.11a

Table 2-8. Config-2 (ANT1 Bluetooth & MIMO 5 GHz)

Configuration 3: ANT1 transmitting in Bluetooth and 5 GHz mode and ANT2 in 5GHz mode

Description	Bluetooth Emission	5 GHz Emission
Antenna	2	1,2
Channel	0	100
Operating Frequency (MHz)	2402	5500
Data Rate (Mbps)	1	6
Mode	GFSK	802.11a

#### Table 2-9. Config-3 (ANT2 Bluetooth & MIMO 5 GHz)

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## 2.3 Antenna Description

Following antenna was used for the testing.

Frequency [GHz]	Antenna Gain (dBi)
5.20	-1.4
5.30	-2.1
5.50	-1.2
5.80	-0.4

Table 2-10. Antenna Peak Gain

## 2.4 Test Configuration

The EUT was tested per the guidance of KDB 789033 D02 v02r01. ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated spurious emissions testing.

## 2.5 Software and Firmware

The test was conducted with firmware version 6.213 installed on the EUT.

## 2.6 EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or 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 American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices (ANSI C63.10-2013) and the guidance provided in KDB 789033 D02 v02r01 were used in the measurement of the EUT.

Deviation from measurement procedure.....None

## 3.2 Radiated 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. An 80cm tall test table made of Styrodur is placed on top of the turn table. For measurements above 1GHz, an additional Styrodur pedestal is placed on top of the test table to bring the total table height to 1.5m.

For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33 depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up was placed on top of the 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, mode of operation, turntable azimuth, and receive antenna height was noted for each frequency found.

Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions.

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 474788 D01.

## 3.3 Environmental Conditions

The temperature is controlled within range of 15°C to 35°C. The relative humidity is controlled within range of 10% to 75%. The atmospheric pressure is monitored within the range 86-106kPa (860-1060mbar).

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## 4.0 ANTENNA REQUIREMENTS

#### Excerpt from §15.203 of the FCC Rules/Regulations:

"An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section."

- The antennas of the EUT are permanently attached.
- There are no provisions for connection to an external antenna.

#### **Conclusion:**

The EUT complies with the requirement of §15.203.

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## 5.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2013. 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
Line Conducted Disturbance	3.09
Radiated Disturbance (<1GHz)	4.98
Radiated Disturbance (>1GHz)	5.07
Radiated Disturbance (>18GHz)	5.09

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## 6.0 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
-	WL25-1	Conducted Cable Set (25GHz)	2/23/2021	Annual	2/23/2022	WL25-1
-	WL40-1	WLAN Cable Set (40GHz)	2/23/2021	Annual	2/23/2022	WL40-1
-	WL40-2	WLAN Cable Set (40GHz)	3/12/2021	Annual	3/12/2022	WL40-2
Agilent	N5183A	MXG Analog Signal Generator	1/21/2021	Annual	1/21/2022	MY50141900
Anritsu	ML2495A	Power Meter	1/18/2021	Annual	1/18/2022	941001
Anritsu	MA2411B	Pulse Power Sensor	2/5/2021	Annual	2/5/2022	846215
Anritsu	ML2496A	Power Meter	11/25/2020	Annual	11/25/2021	1405003
Anritsu	MA2411B	Pulse Power Sensor	10/20/2020	Annual	10/20/2021	1339027
Anritsu	MS46322A	Vector Network Analyzer	11/6/2020	Annual	11/6/2021	1521001
Anritsu	36585K-2F	Precision Autocal 2-Port	10/24/2020	Annual	10/24/2021	1628014
Emco	3115	Horn Antenna (1-18GHz)	6/18/2020	Biennial	6/18/2022	9704-5182
Emco	3116	Horn Antenna (18 - 40GHz)	7/20/2021	Biennial	7/20/2023	9203-2178
Espec	ESX-2CA	Environmental Chamber	8/27/2020	Biennial	8/27/2022	17620
ETS-Lindgren	3816/2NM	LISN	7/9/2020	Biennial	7/9/2022	114451
ETS-Lindgren	3115	Double Ridged Guide Horn 750MHz - 18GHz	3/12/2020	Biennial	3/12/2022	150693
Keysight Technologies	N9020A	MXA Signal Analyzer	9/22/2020	Annual	9/22/2021	MY54500644
Pasternack	NMLC-2	Line Conducted Emissions Cable (NM)	2/25/2021	Annual	2/25/2022	NMLC-2
Rohde & Schwarz	ESU40	EMI Test Receiver (40GHz)	5/25/2021	Annual	5/25/2022	100348
Solar Electronics	8012-50-R-24-BNC	Line Impedance Stabilization Network	10/1/2019	Biennial	10/1/2021	310233
Sunol	DRH-118	Horn Antenna (1-18GHz)	10/3/2019	Biennial	10/3/2021	A050307
Sunol Science	JB5	Bi-Log Antenna (30M - 5GHz)	7/27/2020	Biennial	7/27/2022	A051107

Table 6-1. Annual Test Equipment Calibration Schedule

#### Note:

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.

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## 7.0 TEST RESULTS

#### 7.1 Summary

Company Name:	Sony Mobile Communications Inc
FCC ID:	<u>PY7-95324M</u>
FCC Classification:	Unlicensed National Information Infrastructure (UNII)

FCC Part Section(s)	Test Description	tion Test Limit		Test Result	Reference
N/A	26dB Bandwidth	N/A		PASS	Section 7.2
15.407(e)	6dB Bandwidth	>500kHz(5725-5850MHz)		PASS	Section 7.3
15.407 (a.1.iv), (a.2), (a.3)	Maximum Conducted Output Power	Maximum conducted powers must meet the limits detailed in 15.407 (a) (RSS-247 [6.2])	CONDUCTED	PASS	Section 7.4
15.407 (a.1.iv), (a.2), (a.3)	Maximum Power Spectral Density	Maximum power spectral density must meet the limits detailed in 15.407 (a) (RSS-247 [6.2])		PASS	Section 7.5
15.407(h)	Dynamic Frequency Selection	See DFS Test Report		PASS	See DFS Test Report
15.407(b.1), (2), (3), (4)	Undesirable Emissions	Undesirable emissions must meet the limits detailed in 15.407(b) (RSS-247 [6.2])		PASS	Section 7.6
15.205, 15.407(b.1), (4), (5), (6)	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	eneral Field Strength mits (Restricted Bands nd Radiated Emission Emission in restricted bands must meet the radiated limits detailed in 15 209 (RSS-Gen [8 9])		PASS	Section 7.6, 7.7

Table 7-1. Summary of Test Results

#### Notes:

- 1) All channels, modes, and modulations/data rates were investigated among all UNII bands. The test results shown in the following sections represent the worst case emissions.
- 2) The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer 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 and attenuators.
- 4) For conducted spurious emissions, automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance. The measurement software utilized is PCTEST "UNII Automation," Version 4.7.
- 5) For radiated band edge, automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance. The measurement software utilized is PCTEST "Chamber Automation," Version 1.3.1.
- 6) Per RSS-247 Section 6.2.3, transmission on channels which overlap the 5600-5650 MHz is prohibited. This device operates under these frequencies only under the control of a certified master device and does not support active scanning on these channels. This device does not transmit any beacons or initiate any transmissions in UNII Bands 2A or 2C.

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- 7) 802.11ax OFDMA testing was performed for all signal tone configurations as specified by the 802.11ax standard. Worst case results are determined and reported per the guidance provided at the October 2018 TCB Workshop.
- 8) Only one RU index could be selected at a time so no contiguous or non-contiguous RU's were considered for testing.

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# 7.2 26dB Bandwidth Measurement – 802.11ax OFDMA RSS-Gen [6.2]

#### **Test Overview and Limit**

The bandwidth at 26dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10-2013 and KDB 789033 D02 v02r01, and at the appropriate frequencies. The spectrum analyzer's bandwidth measurement function is configured to measure the 26dB bandwidth.

#### The 26dB bandwidth is used to determine the conducted power limits.

#### **Test Procedure Used**

ANSI C63.10-2013 – Section 12.4 KDB 789033 D02 v02r01 – Section C

#### Test Settings

- The signal analyzers' automatic bandwidth measurement capability was used to perform the 26dB bandwidth measurement. The "X" dB bandwidth parameter was set to X = 26. The automatic bandwidth measurement function also has the capability of simultaneously measuring the 99% occupied bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
- 2. RBW = approximately 1% of the emission bandwidth
- 3. VBW <u>></u> 3 x RBW
- 4. Detector = Peak
- 5. Trace mode = max hold

#### 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

The 26dB Bandwidth measurement for each channel was measured with the RU index showing the highest conducted power.

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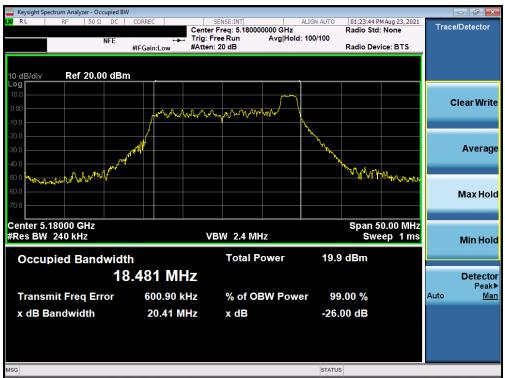
## SISO Antenna-1 26 dB Bandwidth Measurements (26 Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 26dB Bandwidth [MHz]
	5180	36	ax (20MHz)	26T	MCS0	20.41
	5200	40	ax (20MHz)	26T	MCS0	20.13
Band 1	5240	48	ax (20MHz)	26T	MCS0	20.28
Ban	5190	38	ax (40MHz)	26T	MCS0	38.12
	5230	46	ax (40MHz)	26T	MCS0	38.10
	5210	42	ax (80MHz)	26T	MCS0	81.83
Band 1/2A	5250	50	ax (160 MHz L)	26T	MCS0	153.90
Ba 1//	5250	50	ax (160 MHz U)	26T	MCS0	158.90
	5260	52	ax (20MHz)	26T	MCS0	20.36
	5280	56	ax (20MHz)	26T	MCS0	18.45
Band 2A	5320	64	ax (20MHz)	26T	MCS0	20.47
Ban	5270	54	ax (40MHz)	26T	MCS0	39.91
	5310	62	ax (40MHz)	26T	MCS0	40.25
	5290	58	ax (80MHz)	26T	MCS0	82.00
	5500	100	ax (20MHz)	26T	MCS0	18.40
	5600	120	ax (20MHz)	26T	MCS0	18.32
	5720	144	ax (20MHz)	26T	MCS0	18.67
	5510	102	ax (40MHz)	26T	MCS0	40.31
ပ္ရ	5590	118	ax (40MHz)	26T	MCS0	40.20
Band 2C	5710	142	ax (40MHz)	26T	MCS0	38.06
Ba	5530	106	ax (80MHz)	26T	MCS0	78.04
	5610	122	ax (80MHz)	26T	MCS0	81.89
	5690	138	ax (80MHz)	26T	MCS0	81.79
	5570	114	ax (160 MHz L)	26T	MCS0	159.30
	5570	114	ax (160 MHz U)	26T	MCS0	158.50
	Table 7-2.	Conducted	Bandwidth Measu	rements SIS	O ANT1 (26 T	ones)

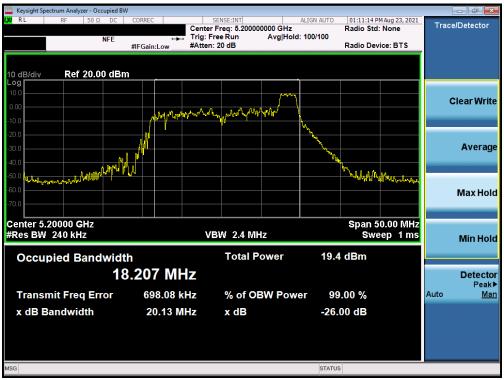
Table 7-2. Conducted Bandwidth Measurements SISO ANT1 (26 Tones)

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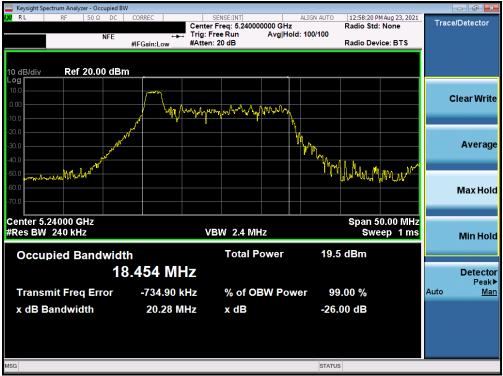
Plot 7-1. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 36)



Plot 7-2. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 40)

FCC ID: PY7-95324M	PCTEST <sup>®</sup> Proud to be part of <b>®</b> element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager		
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Plot 7-3. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 48)



Plot 7-4. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 38)

FCC ID: PY7-95324M	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 10 of 274
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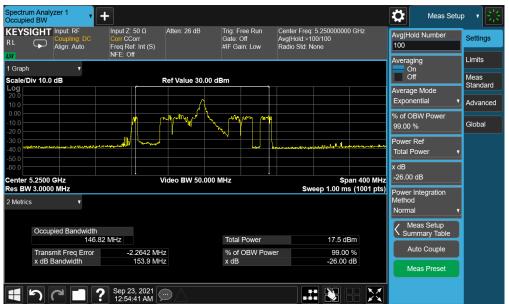
Plot 7-5. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 46)



Plot 7-6. 26dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 42)

FCC ID: PY7-95324M	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager		
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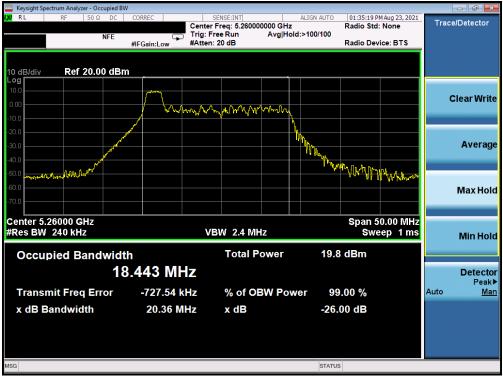
Plot 7-7. 26dB Bandwidth Plot SISO ANT1 (160MHz BW(L) 802.11ax - 26 Tones (UNII Band 1/2A) - Ch. 50)



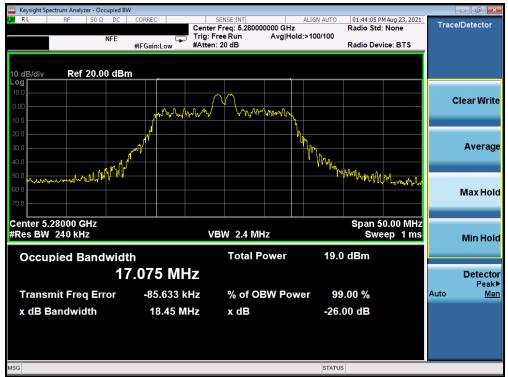
Plot 7-8. 26dB Bandwidth Plot SISO ANT1 (160MHz BW(U) 802.11ax – 26 Tones (UNII Band 1/2A) – Ch. 50)

FCC ID: PY7-95324M	PCTEST° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	DNY	Approved by: Technical Manager	
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Plot 7-9. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 52)



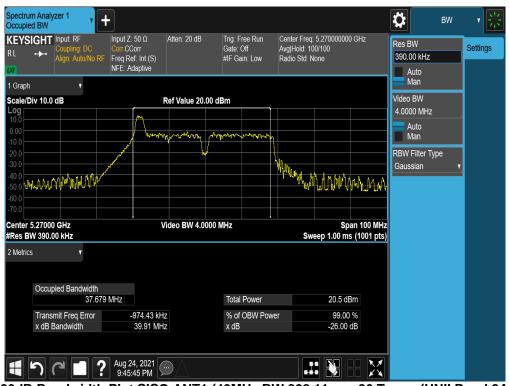
Plot 7-10. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 56)

FCC ID: PY7-95324M	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type: Portable Handset		Page 21 of 274		
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Keysight Spectrum Analyzer - Oce					
<mark>LX/</mark> RL RF 50 Ω	DC CORREC	SENSE:INT Center Freg: 5.32000	ALIGN AUTO	01:55:30 PM Aug 23, 2021 Radio Std: None	Trace/Detector
	NFE ++	Trig: Free Run	Avg Hold: 100/100		
	#IFGain:Low	#Atten: 20 dB		Radio Device: BTS	
10 dB/div Ref 20.0	0 dBm				
Log					
			$\sim$		Clear Write
0.00	why why	white white	Now \		
-10.0			<u> </u>		
-20.0					
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-40.0 mm	m <sup>1</sup>		ļ \	M.,	
-40.0 mm/m -50.0	м <sup>т</sup> —			Mr. of the bardeness	
-60.0				. A har managemental	Max Hold
-70.0					Max Holu
10.0					
Center 5.32000 GHz				Span 50.00 MHz	
#Res BW 240 kHz		VBW 2.4 MH	lz	Sweep 1 ms	Min Hold
		Total P	ower 10 1	2 dBm	
Occupied Band			ower 19.		
	18.463 MI	z			Detector
T	F00.00 L		DIA/ D		Peak▶ Auto Man
Transmit Freq Err	ror 588.80 k	HZ % OT U	BW Power 99	9.00 %	Auto <u>Man</u>
x dB Bandwidth	20.47 M	Hz x dB	-26	.00 dB	
MSG			STATU	s	

Plot 7-11. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 64)



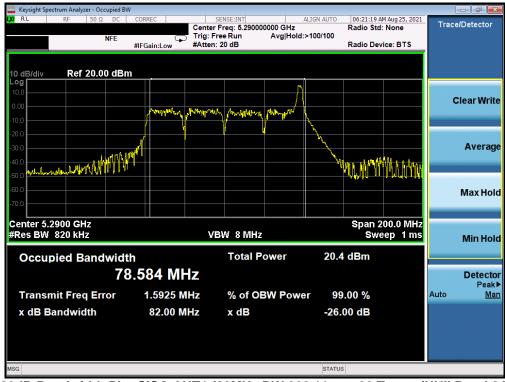
Plot 7-12. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 54)

FCC ID: PY7-95324M	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager	
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1M2108040087-09.PY7	8/2/2021 - 9/10/2021	Portable Handset		Page 22 of 274	
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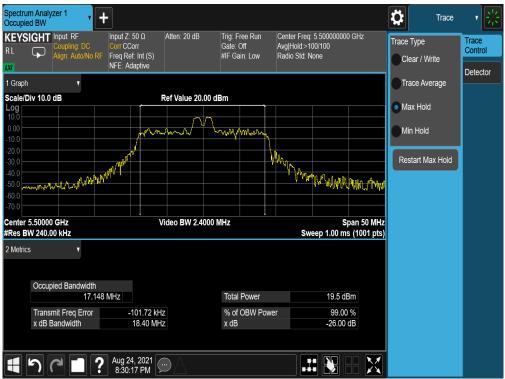
Plot 7-13. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 62)



Plot 7-14. 26dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 58)

FCC ID: PY7-95324M	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager		
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Plot 7-15. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 100)



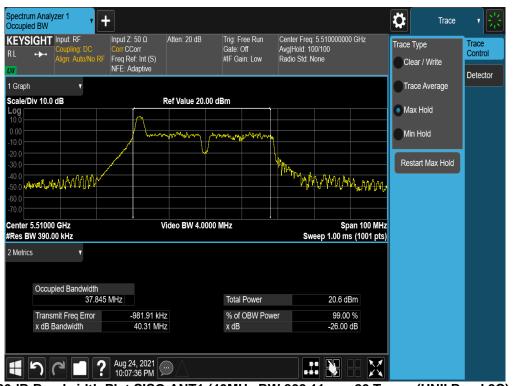
Plot 7-16. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 120)

FCC ID: PY7-95324M	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type: Portable Handset		Page 24 of 274	
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Plot 7-17. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 144)



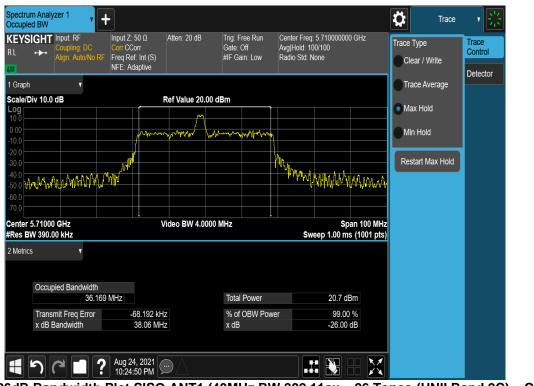
Plot 7-18. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 102)

FCC ID: PY7-95324M	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type: Portable Handset		Page 25 of 274	
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Occupied		ł				Trace	- " 崇
RL	GHT Input: RF ← Coupling: DC Align: Auto/No RF	Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) NFE: Adaptive	Atten: 20 dB	Trig: Free Run Gate: Off #IF Gain: Low	Center Freq: 5.590000000 GHz Avg Hold: 100/100 Radio Std: None	Trace Type Clear / Write	Trace Control
1 Graph	T	NFE. Adaptive				Trace Average	Detector
Log 10.0 -10.0 -20.0 -30.0	iv 10.0 dB ኪዮሌ/ጊዲ ሊህ/ህላላ/ም	$\land$	Ref Value 20.00	ᡥᠬᢍᢛᡊᢇᡵᢩᡘᡊ᠇ᠬᢦᡟᢩᡅᢦᡘᢩ	Man want Marian	Max Hold     Min Hold     Restart Max Hold	
	5.59000 GHz V 390.00 kHz	; 	/ideo BW 4.000	00 MHz	Span 10 Sweep 1.00 ms (100		
2 Metrics							
	Occupied Bandwidth 37.98	6 MHz		Total Power	19.7 dBm		
	Transmit Freq Error x dB Bandwidth	-922.87 kH 40.20 MH		% of OBW Pow x dB	er 99.00 % -26.00 dB		
	า 🥂 🗖 ?	Aug 24, 2021 10:14:23 PM				X	

Plot 7-19. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 118)



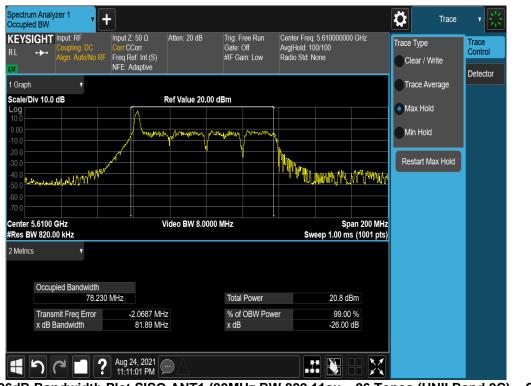
Plot 7-20. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 142)

FCC ID: PY7-95324M	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager		
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Spectrun Occupied	d BW		•	-									\$	Trace	<u>ا</u>
RL		nput: RF Coupling: I Jign: Auto		Input Z: Corr CCo Freq Ref NFE: Ad	orr : Int (S)	Atten: 20 dB		Gate: (	iree Run Off ain: Low	Avg Hol	Freq: 5.53000000 d: 100/100 td: None	0 GHz	Trace T Clea	ÿpe ar / Write	Trace Control
1 Graph		•											Trac	ce Average	Detector
Scale/Di Log 10.0 0.00 -10.0	iv 10.0 d	B			R Animupinteria	tef Value 20.	00 dBr		mmuhal				<ul> <li>Max</li> <li>Min</li> </ul>	( Hold Hold	
-20.0 -30.0 -40.0 -50.0 -60.0 -70.0	to and the second s	and Address	ሰባት	M. Mary							YUMAN MAYA	,\\\*^T\\\ <sup>1</sup> ~,	Rest	art Max Hold	
Center 5 #Res BV					i Vi	ideo BW 8.00	000 MH	lz	<b>i</b>		Sp Sweep 1.00 m	oan 200 MHz s (1001 pts)			
2 Metrics	;	v													
	Occupie	ed Bandv	vidth 74.621	MHz				Total	Power		20.8 d	Bm			
		it Freq E Indwidth	rror		113.77 kHz 78.04 MHz			% of x dB	OBW Powe	er	99.00 -26.00				
	า (		]?	Aug 24	, 2021 41 PM										

Plot 7-21. 26dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 106)



Plot 7-22. 26dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 122)

FCC ID: PY7-95324M	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	IY	Approved by: Technical Manager				
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Spectrun Occupied	d BW		• -												Trace	· · · 兴
RL		nput: RF Coupling: [ Align: Auto		Input Z: Corr CC Freq Re NFE: A	Corr ef: Int (S)	Atten: 20 dB		Gate: O	ee Run Mf n: Low	Center Fi Avg Hold Radio Sto	100/10		GHz	Trace Cle	Type ear / Write	Trace Control
1 Graph		•												Tra	ace Average	Detector
Scale/Di	iv 10.0 d	в				Ref Value 20.	.00 dBr	n							ax Hold	
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-50.0	harder	andria	<u>NV -</u>							, v	WW	I VITI V	had a la CVinna			
-60.0																
Center 5	5.6900 G	Hz			<u>ا</u>	ideo BW 8.0	000 MH	łz					n 200 MHz			
#Res BV	V 820.00	) kHz									Sweep	1.00 ms	(1001 pts)			
2 Metrics		▼														
	Occupie	ed Bandw	/idth 78.496	MU-				Tatal	Power				-			
	Tronom	iit Freq Ei			」 1.9171 MH	-			DBW Powe			21.0 dB				
		andwidth	TOF		81.79 MH			‰orc xdB	JEVV POW	:r		-26.00 d				
	า (		?	Aug 2 11:17	4, 2021 :54 PM											

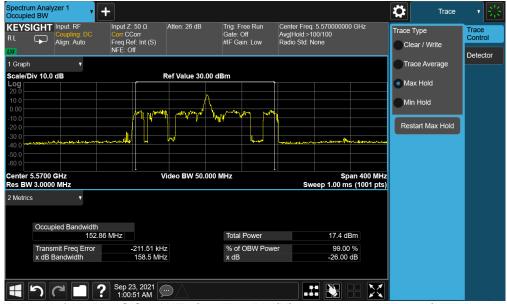
Plot 7-23. 26dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 138)



Plot 7-24. 26dB Bandwidth Plot SISO ANT1 (160MHz BW(L) 802.11ax – 26 Tones (UNII Band 2C) – Ch. 114)

FCC ID: PY7-95324M		MEASUREMENT REPORT (CERTIFICATION)	ONY	Approved by: Technical Manager			
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Plot 7-25. 26dB Bandwidth Plot SISO ANT1 (160MHz BW(U) 802.11ax - 26 Tones (UNII Band 2C) - Ch. 114)

FCC ID: PY7-95324M	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager	
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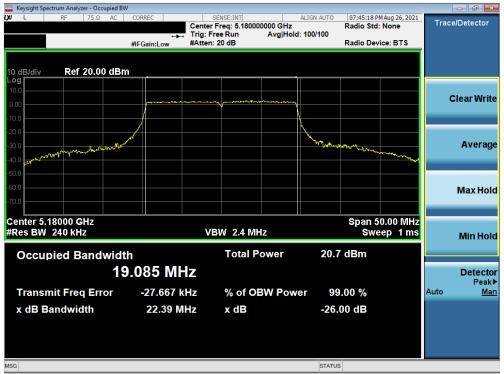
## SISO Antenna-1 26 dB Bandwidth Measurements (Full Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 26dB Bandwidth [MHz]
	5180	36	ax (20MHz)	242T	MCS0	22.39
	5200	40	ax (20MHz)	242T	MCS0	22.22
Band 1	5240	48	ax (20MHz)	242T	MCS0	22.11
Bar	5190	38	ax (40MHz)	484T	MCS0	43.74
	5230	46	ax (40MHz)	484T	MCS0	44.08
	5210	42	ax (80MHz)	996T	MCS0	86.06
Band 1/2A	5250	50	ax (160 MHz L)	996T	MCS0	168.30
Ba 117	5250	50	ax (160 MHz U)	996T	MCS0	168.20
	5260	52	ax (20MHz)	242T	MCS0	22.54
	5280	56	ax (20MHz)	242T	MCS0	22.19
Band 2A	5320	64	ax (20MHz)	242T	MCS0	22.34
Bane	5270	54	ax (40MHz)	484T	MCS0	43.56
	5310	62	ax (40MHz)	484T	MCS0	43.56
	5290	58	ax (80MHz)	996T	MCS0	86.22
	5500	100	ax (20MHz)	242T	MCS0	22.21
	5600	120	ax (20MHz)	242T	MCS0	22.31
	5720	144	ax (20MHz)	242T	MCS0	22.12
	5510	102	ax (40MHz)	484T	MCS0	43.67
ပ္ရ	5590	118	ax (40MHz)	484T	MCS0	43.60
Band 2C	5710	142	ax (40MHz)	484T	MCS0	43.66
Bâ	5530	106	ax (80MHz)	996T	MCS0	86.26
	5610	122	ax (80MHz)	996T	MCS0	86.50
	5690	138	ax (80MHz)	996T	MCS0	87.08
	5570	114	ax (160 MHz L)	996T	MCS0	157.90
	5570	114	ax (160 MHz U)	996T	MCS0	168.80

Table 7-3. Conducted Bandwidth Measurements SISO ANT1 (Full Tones)

FCC ID: PY7-95324M	PCTEST° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 20 of 274
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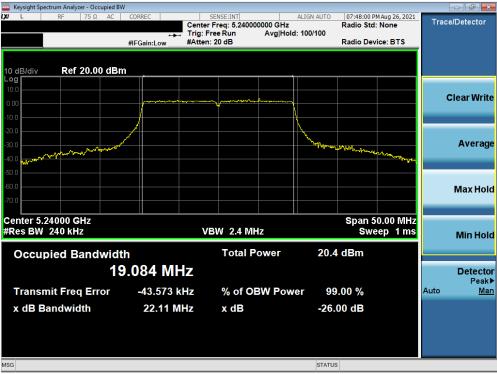
Plot 7-26. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 1) - Ch. 36)



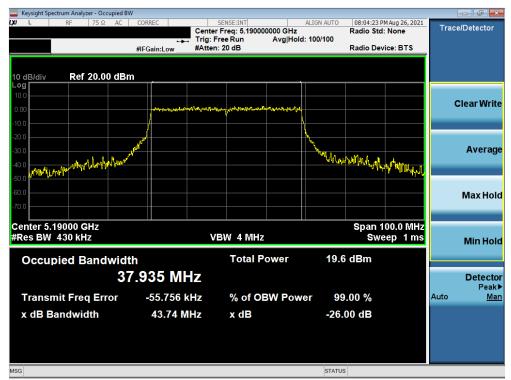
Plot 7-27. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 1) - Ch. 40)

FCC ID: PY7-95324M	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager				
Test Report S/N:	Test Dates:	EUT Type:		Dage 24 of 274				
1M2108040087-09.PY7	8/2/2021 - 9/10/2021	Portable Handset		Page 31 of 274				
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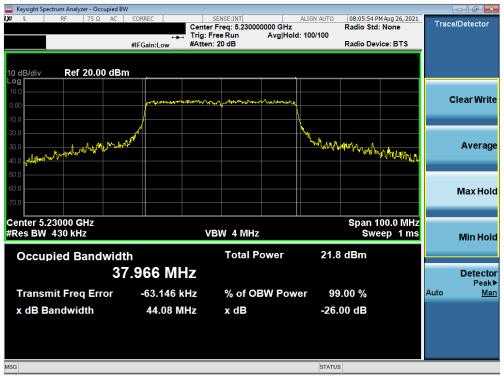
Plot 7-28. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 1) - Ch. 48)



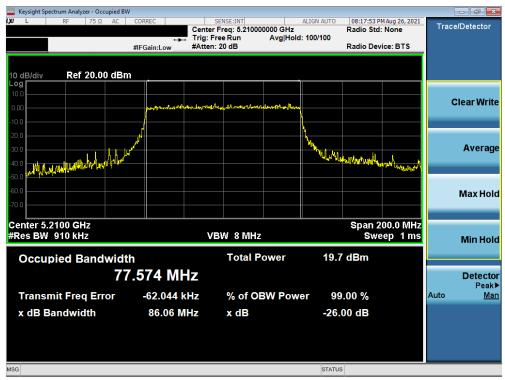
Plot 7-29. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 484 Tones (UNII Band 1) - Ch. 38)

FCC ID: PY7-95324M	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dama 00 af 074	
1M2108040087-09.PY7	8/2/2021 - 9/10/2021	Portable Handset		Page 32 of 274	
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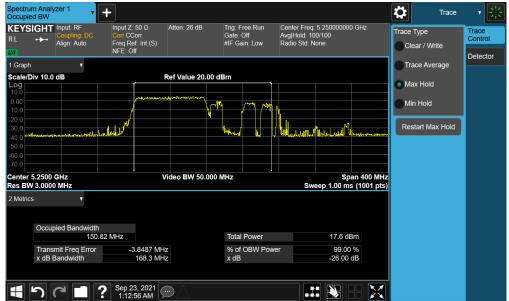
Plot 7-30. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 484 Tones (UNII Band 1) - Ch. 46)



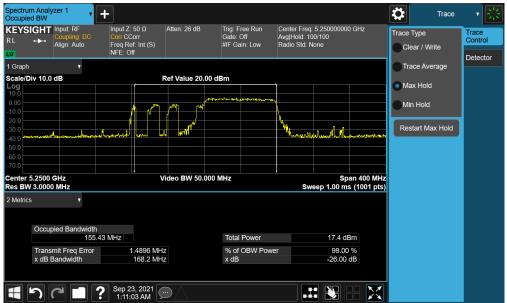
Plot 7-31. 26dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ax – 996 Tones (UNII Band 1) – Ch. 42)

FCC ID: PY7-95324M	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION) SONY	Approved by: Technical Manager					
Test Report S/N:	Test Dates:	EUT Type:	Daga 22 of 274					
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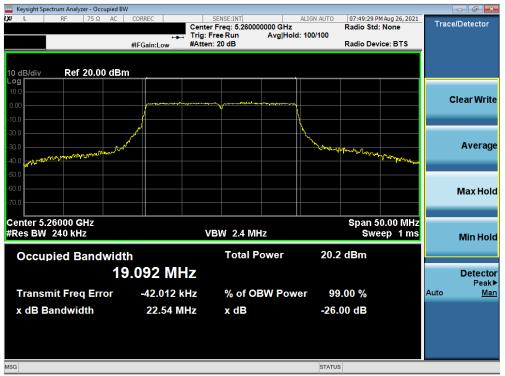
Plot 7-32. 26dB Bandwidth Plot SISO ANT1 (160MHz BW(L) 802.11ax – 996 Tones (UNII Band 1/2A) – Ch. 50)



Plot 7-33. 26dB Bandwidth Plot SISO ANT1 (160MHz BW(U) 802.11ax – 996 Tones (UNII Band 1/2A) – Ch. 50)

FCC ID: PY7-95324M	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 24 of 274
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Plot 7-34. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 2A) - Ch. 52)



Plot 7-35. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 2A) - Ch. 56)

FCC ID: PY7-95324M	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager				
Test Report S/N: Test Dates:		EUT Type:		Dage 25 of 274				
1M2108040087-09.PY7	Page 35 of 274							
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🔤 Keysight Spectrum Analyzer - Occupi	ed BW						
LX/L RF 75Ω 4	AC CORREC	SENSE:INT Center Freg: 5.32000	ALIGN AUTO	07:55:16 P Radio Std	M Aug 26, 2021	Trace	e/Detector
		Trig: Free Run	Avg Hold: 100/100	Radio Sta	: None		
	#IFGain:Low	#Atten: 20 dB	<b>.</b>	Radio Dev	ice: BTS		
10 dB/div Ref 20.00 d	lBm						
Log							
10.0							No on Muito
0.00		and the second s	- <sup>1</sup>			,	lear Write
-10.0			↓ \				
-20.0			<u> </u>				
-30.0							Average
	~~~~ [		VIW/V	Muren	ALL AND ALL AN		Arciuge
-40.0 Marty Martin and Martin					ANA ANA		
-50.0							
-60.0							Max Hold
-70.0							
Center 5.32000 GHz					0.00 MHz		
#Res BW 240 kHz		VBW 2.4 MH	IZ	SW	eep 1 ms		Min Hold
Occupied Dendu	idth	Total P	ower 20	.5 dBm			
Occupied Bandw			0wei 20.				
	19.063 MH	Ζ					Detector
Tronomit From France	26 060 1	0/ <del></del>		0.00.0/		Auto	Peak▶ Man
Transmit Freq Error	-36.860 k	HZ % OT U	3W Power 9	9.00 %		Auto	Ivian
x dB Bandwidth	22.34 MI	Hz xdB	-26	i.00 dB			
MSG			STATI	US			

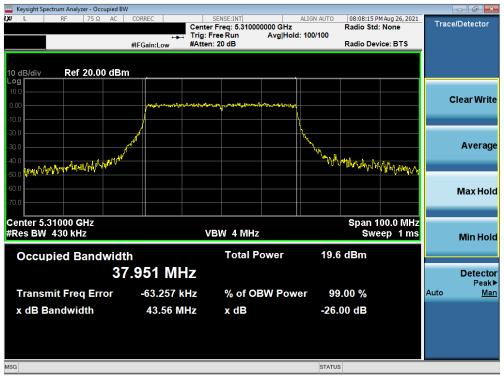
Plot 7-36. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 2A) - Ch. 64)



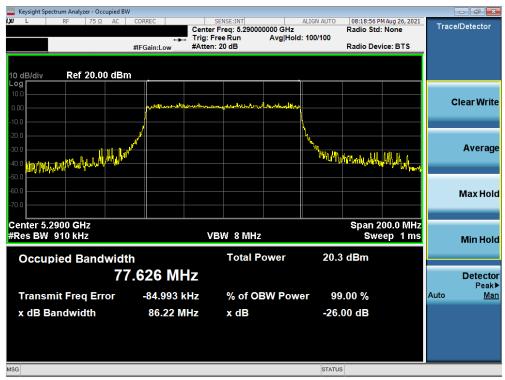
Plot 7-37. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 484 Tones (UNII Band 2A) - Ch. 54)

FCC ID: PY7-95324M	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager			
Test Report S/N:	Test Dates:	EUT Type:		Dege 26 of 274			
1M2108040087-09.PY7	8/2/2021 - 9/10/2021	Portable Handset		Page 36 of 274			
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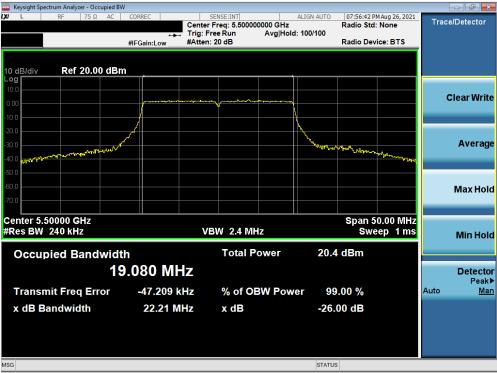
Plot 7-38. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 484 Tones (UNII Band 2A) - Ch. 62)



Plot 7-39. 26dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ax – 996 Tones (UNII Band 2A) – Ch. 58)

FCC ID: PY7-95324M	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION) SONY	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dega 27 of 274	
1M2108040087-09.PY7	8/2/2021 - 9/10/2021	Portable Handset	Page 37 of 274	
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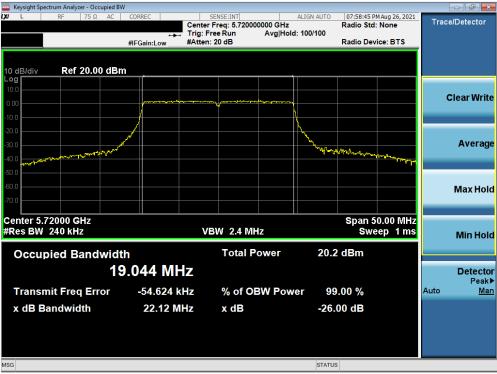
Plot 7-40. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 2C) - Ch. 100)



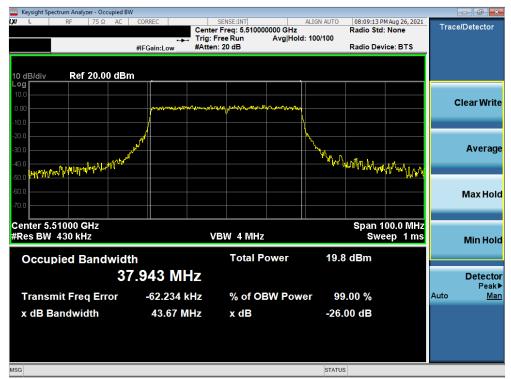
Plot 7-41. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 2C) - Ch. 120)

FCC ID: PY7-95324M	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager
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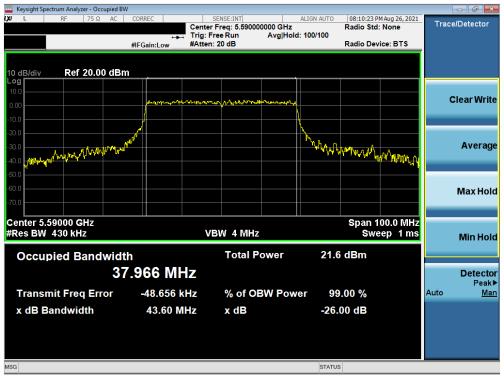
Plot 7-42. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 2C) - Ch. 144)



Plot 7-43. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 484 Tones (UNII Band 2C) - Ch. 102)

FCC ID: PY7-95324M	PCTEST <sup>°</sup> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 20 of 274
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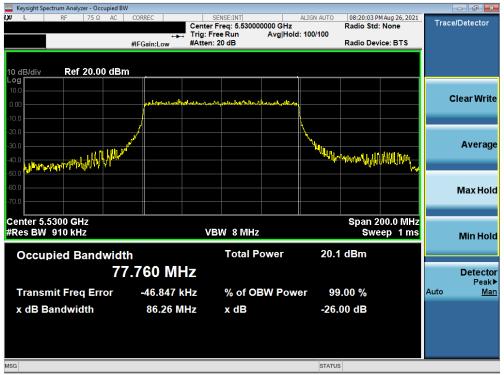
Plot 7-44. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 484 Tones (UNII Band 2C) - Ch. 118)



Plot 7-45. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 484 Tones (UNII Band 2C) - Ch. 142)

FCC ID: PY7-95324M	Proved to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 40 of 274
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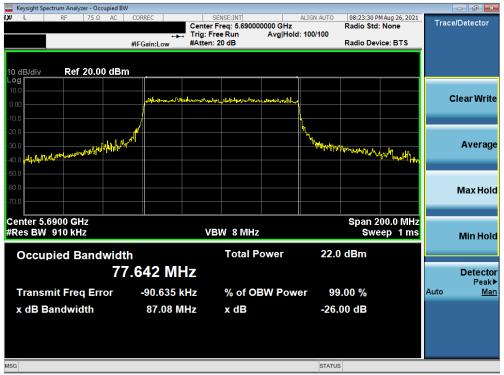
Plot 7-46. 26dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ax - 996 Tones (UNII Band 2C) - Ch. 106)



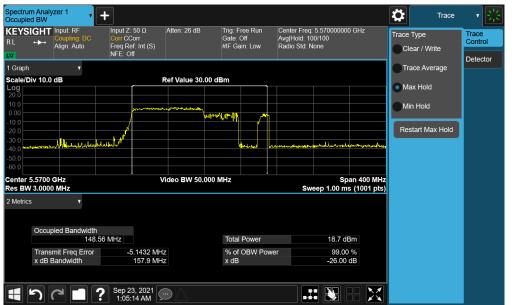
Plot 7-47. 26dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ax - 996 Tones (UNII Band 2C) - Ch. 122)

FCC ID: PY7-95324M	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager
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Plot 7-48. 26dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ax - 996 Tones (UNII Band 2C) - Ch. 138)



Plot 7-49. 26dB Bandwidth Plot SISO ANT1 (160MHz BW(L) 802.11ax – 996 Tones (UNII Band 2C) – Ch. 114)

FCC ID: PY7-95324M	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager
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Plot 7-50. 26dB Bandwidth Plot SISO ANT1 (160MHz BW(U) 802.11ax – 996 Tones (UNII Band 2C) – Ch. 114)

FCC ID: PY7-95324M	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 42 of 274
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## SISO Antenna-2 26dB Bandwidth Measurements (26 Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 26dB Bandwidth [MHz]
	5180	36	ax (20MHz)	26T	MCS0	18.25
	5200	40	ax (20MHz)	26T	MCS0	18.42
Band 1	5240	48	ax (20MHz)	26T	MCS0	18.27
Bar	5190	38	ax (40MHz)	26T	MCS0	40.28
	5230	46	ax (40MHz)	26T	MCS0	40.03
	5210	42	ax (80MHz)	26T	MCS0	77.94
Band 1/2A	5250	50	ax (160 MHz L)	26T	MCS0	166.10
Ba 1//	5250	50	ax (160 MHz U)	26T	MCS0	159.40
	5260	52	ax (20MHz)	26T	MCS0	20.10
	5280	56	ax (20MHz)	26T	MCS0	18.35
Band 2A	5320	64	ax (20MHz)	26T	MCS0	20.06
Bane	5270	54	ax (40MHz)	26T	MCS0	39.21
	5310	62	ax (40MHz)	26T	MCS0	37.99
	5290	58	ax (80MHz)	26T	MCS0	82.04
	5500	100	ax (20MHz)	26T	MCS0	20.13
	5600	120	ax (20MHz)	26T	MCS0	20.20
	5720	144	ax (20MHz)	26T	MCS0	20.36
	5510	102	ax (40MHz)	26T	MCS0	39.87
ပ္ရ	5590	118	ax (40MHz)	26T	MCS0	37.97
Band 2C	5710	142	ax (40MHz)	26T	MCS0	39.92
Ba	5530	106	ax (80MHz)	26T	MCS0	81.45
	5610	122	ax (80MHz)	26T	MCS0	78.08
	5690	138	ax (80MHz)	26T	MCS0	77.26
	5570	114	ax (160 MHz L)	26T	MCS0	165.10
	5570	114	ax (160 MHz U)	26T	MCS0	165.80
Table 7-4. Conducted Bandwidth Measurements SISO ANT2 (26 Tones)						

Table 7-4. Conducted Bandwidth Measurements SISO ANT2 (26 Tones)

FCC ID: PY7-95324M	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION) SONY	Approved by: Technical Manager	
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Plot 7-51. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 36)



Plot 7-52. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 40)

FCC ID: PY7-95324M	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager
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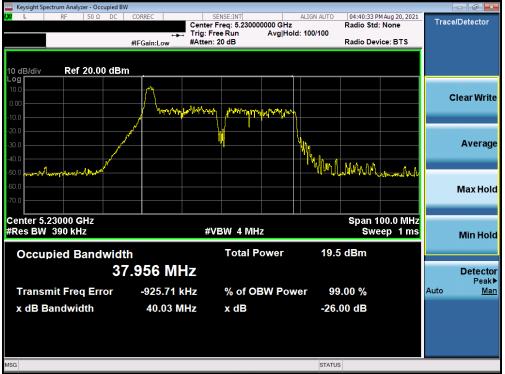
Plot 7-53. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 48)



Plot 7-54. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 38)

FCC ID: PY7-95324M	PCTEST <sup>°</sup> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dama 40 at 074	
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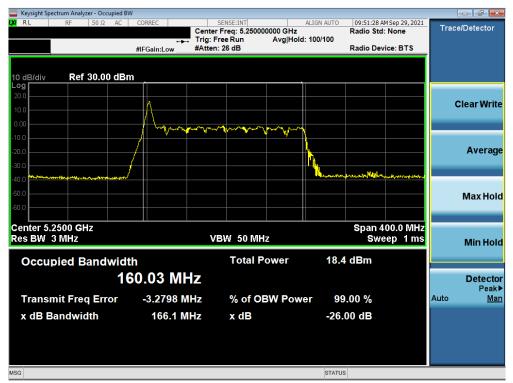
Plot 7-55. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 46)



Plot 7-56. 26dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 42)

FCC ID: PY7-95324M	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager
Test Report S/N:	Test Dates: EUT Type:		Dama 47 af 074	
1M2108040087-09.PY7	8/2/2021 - 9/10/2021	Portable Handset		Page 47 of 274
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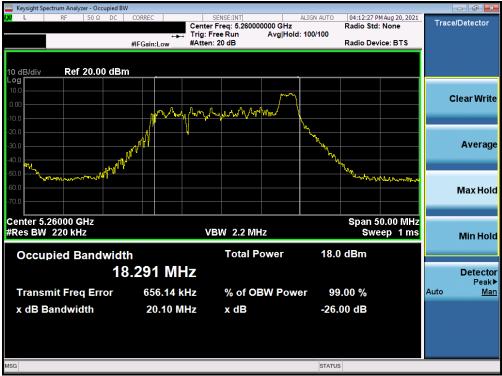
Plot 7-57. 26dB Bandwidth Plot SISO ANT2 (160MHz BW(L) 802.11ax - 26 Tones (UNII Band 1/2A) - Ch. 50)



Plot 7-58. 26dB Bandwidth Plot SISO ANT2 (160MHz BW(U) 802.11ax - 26 Tones (UNII Band 1/2A) - Ch. 50)

FCC ID: PY7-95324M	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dara 40 at 074		
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Plot 7-59. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 52)



Plot 7-60. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 56)

FCC ID: PY7-95324M	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dara 40 at 074		
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Plot 7-61. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 64)



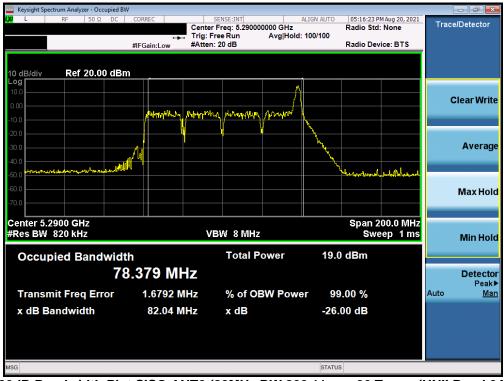
Plot 7-62. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 54)

FCC ID: PY7-95324M	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dara 50 at 074		
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Plot 7-63. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 62)



Plot 7-64. 26dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 58)

FCC ID: PY7-95324M	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager		
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Plot 7-65. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 100)



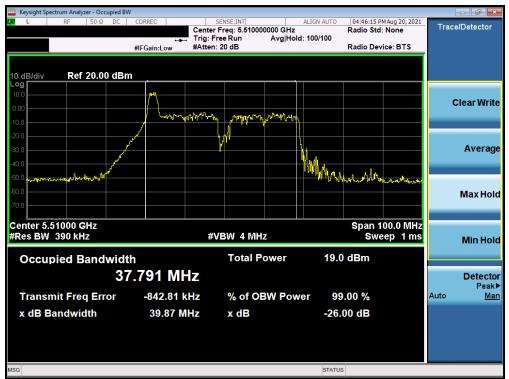
Plot 7-66. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 120)

FCC ID: PY7-95324M	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dara 50 at 074		
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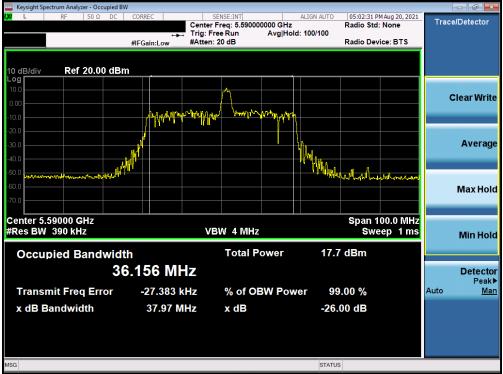
Plot 7-67. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 144)



Plot 7-68. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 102)

FCC ID: PY7-95324M	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager
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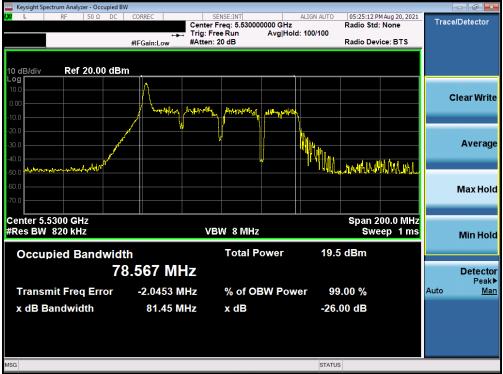
Plot 7-69. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 118)



Plot 7-70. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 142)

FCC ID: PY7-95324M	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager		
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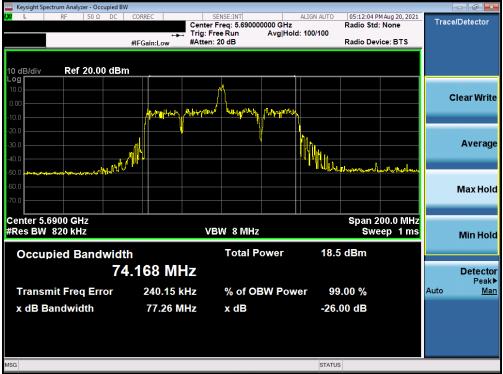
Plot 7-71. 26dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 106)



Plot 7-72. 26dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 122)

FCC ID: PY7-95324M	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Y	Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:		Daga FE of 274		
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Plot 7-73. 26dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 138)



Plot 7-74. 26dB Bandwidth Plot SISO ANT2 (160MHz BW(L) 802.11ax - 26 Tones (UNII Band 2A) - Ch. 114)

FCC ID: PY7-95324M	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dage FC of 274		
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🔤 Keysight Spectrum Analyzer - Oo	cupied BW									
L <mark>X/</mark> RL RF 50 Ω	AC CO	RREC		NSE:INT eq: 5.57000		ALIGN AUTO	10:00:18 A Radio Std	M Sep 29, 2021	Trace	e/Detector
		↔	Trig: Free	e Run	Avg Hold:	100/100				
	#IF	Gain:Low	#Atten: 2	6 dB			Radio Dev	rice: BTS		
10 dB/div Ref 30.0	0 dBm	_				•				
20.0										
10.0					٨				C	Clear Write
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-10.0						λ.				Average
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-50.0										Max Hold
-60.0										
Center 5.5700 GHz							Enan /	00.0 MHz		
Res BW 3 MHz			VBV	V 50 MH	z			ep 1 ms		Min Halal
										Min Hold
Occupied Band	lwidth			Total P	ower	15.8	dBm			
	159	30 MI	7							Detector
										Peak▶
Transmit Freq Er	ror	3.2772 M	IHz	% of O	<b>3W Powe</b>	er 99	.00 %		Auto	<u>Man</u>
x dB Bandwidth		165.8 M	Hz	x dB		-26.	00 dB			
MSG						STATUS	5			

Plot 7-75. 26dB Bandwidth Plot SISO ANT2 (160MHz BW(U) 802.11ax – 26 Tones (UNII Band 2A) – Ch. 114)

FCC ID: PY7-95324M	Proud to be part of @ element			Approved by: Technical Manager
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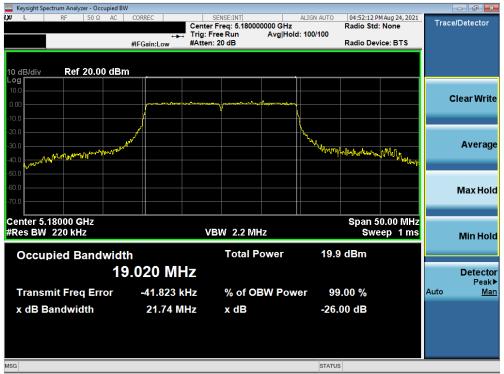
## SISO Antenna-2 26dB Bandwidth Measurements (Full Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 26dB Bandwidth [MHz]
	5180	36	ax (20MHz)	242T	MCS0	21.74
	5200	40	ax (20MHz)	242T	MCS0	22.36
Band 1	5240	48	ax (20MHz)	242T	MCS0	21.97
Bar	5190	38	ax (40MHz)	484T	MCS0	43.95
	5230	46	ax (40MHz)	484T	MCS0	44.33
	5210	42	ax (80MHz)	996T	MCS0	86.96
Band 1/2A	5250	50	ax (160 MHz L)	996T	MCS0	165.00
Ba 1/1	5250	50	ax (160 MHz U)	996T	MCS0	162.70
	5260	52	ax (20MHz)	242T	MCS0	22.20
	5280	56	ax (20MHz)	242T	MCS0	22.20
Band 2A	5320	64	ax (20MHz)	242T	MCS0	22.04
Ban	5270	54	ax (40MHz)	484T	MCS0	44.33
	5310	62	ax (40MHz)	484T	MCS0	43.78
	5290	58	ax (80MHz)	996T	MCS0	86.69
	5500	100	ax (20MHz)	242T	MCS0	21.91
	5600	120	ax (20MHz)	242T	MCS0	22.34
	5720	144	ax (20MHz)	242T	MCS0	22.31
	5510	102	ax (40MHz)	484T	MCS0	44.04
Ŋ	5590	118	ax (40MHz)	484T	MCS0	44.29
and 2C	5710	142	ax (40MHz)	484T	MCS0	43.28
Ba	5530	106	ax (80MHz)	996T	MCS0	86.99
	5610	122	ax (80MHz)	996T	MCS0	85.82
	5690	138	ax (80MHz)	996T	MCS0	86.69
	5570	114	ax (160 MHz L)	996T	MCS0	166.30
	5570	114	ax (160 MHz U)	996T	MCS0	166.80

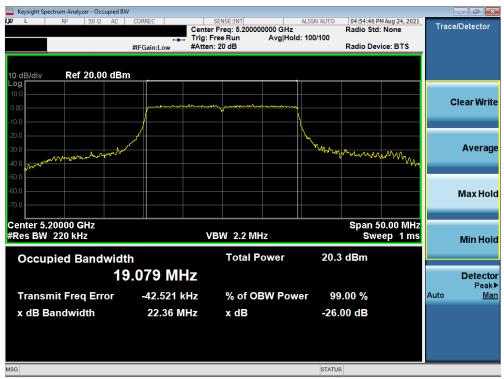
Table 7-5. Conducted Bandwidth Measurements SISO ANT2 (Full Tones)

FCC ID: PY7-95324M	PCTEST <sup>®</sup> Proud to be part of <b>®</b> element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager
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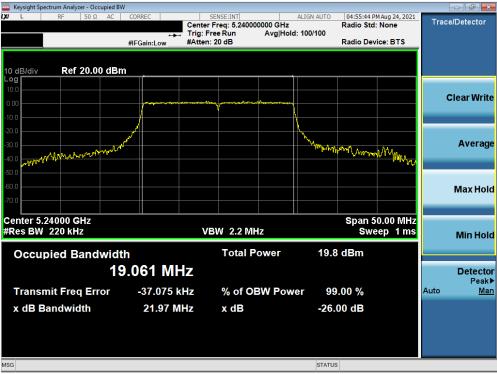
Plot 7-76. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 1) - Ch. 36)



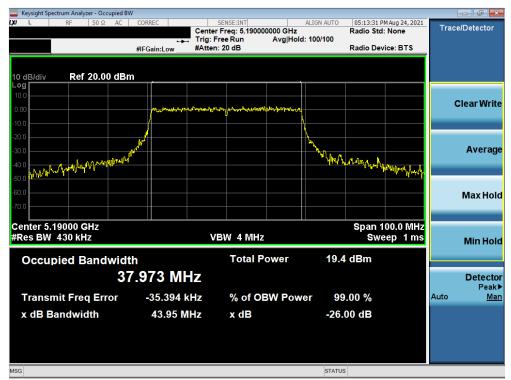
Plot 7-77. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 1) - Ch. 40)

FCC ID: PY7-95324M	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager
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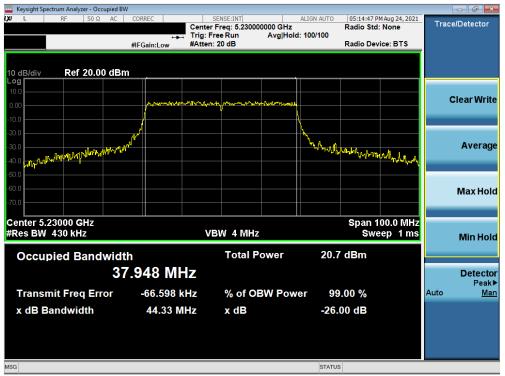
Plot 7-78. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 1) - Ch. 48)



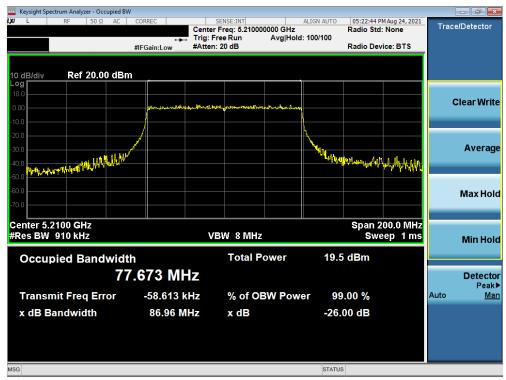
Plot 7-79. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 484 Tones (UNII Band 1) - Ch. 38)

FCC ID: PY7-95324M	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager
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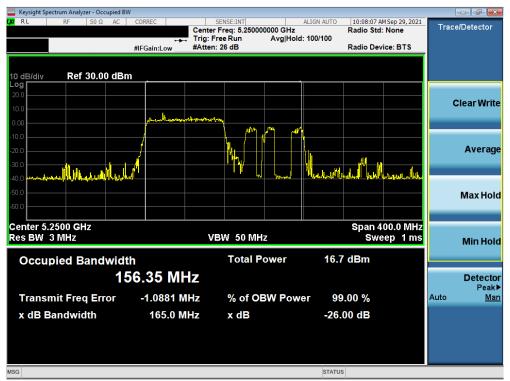
Plot 7-80. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 484 Tones (UNII Band 1) - Ch. 46)



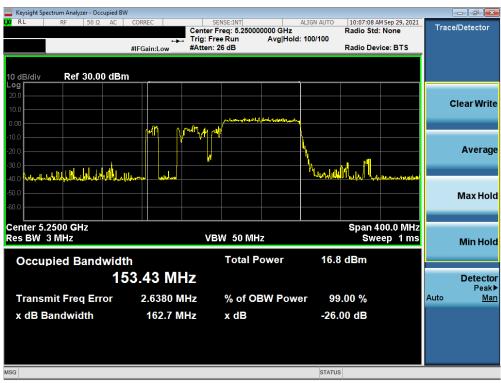
Plot 7-81. 26dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 1) – Ch. 42)

FCC ID: PY7-95324M	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION) SONY	Approved by: Technical Manager
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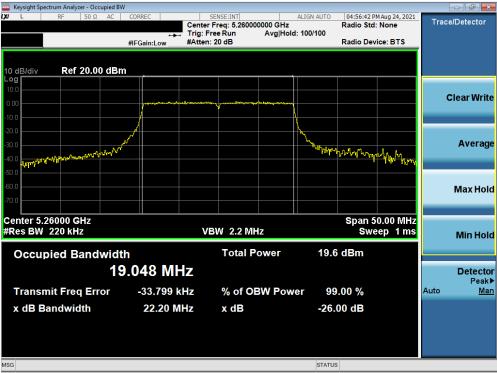
Plot 7-82. 26dB Bandwidth Plot SISO ANT2 (160MHz BW(L) 802.11ax - 996 Tones (UNII Band 2A) - Ch. 50)



Plot 7-83. 26dB Bandwidth Plot SISO ANT2 (160MHz BW(U) 802.11ax - 996 Tones (UNII Band 2A) - Ch. 50)

FCC ID: PY7-95324M	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager
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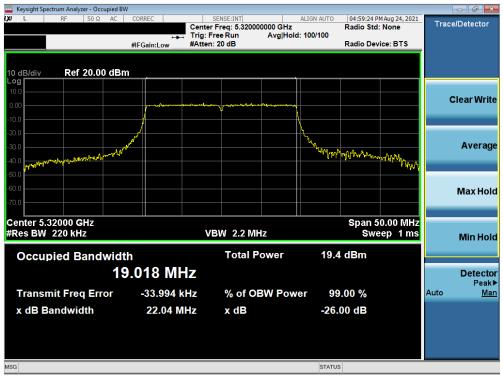
Plot 7-84. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 2A) - Ch. 52)



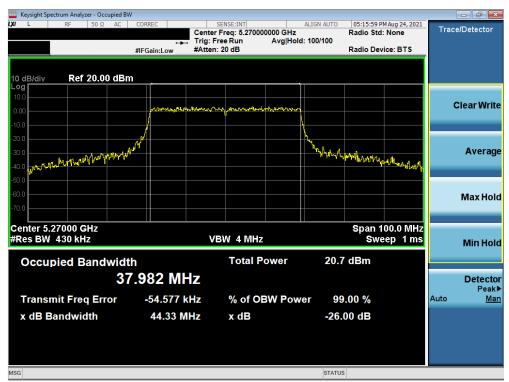
Plot 7-85. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 2A) - Ch. 56)

FCC ID: PY7-95324M	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager
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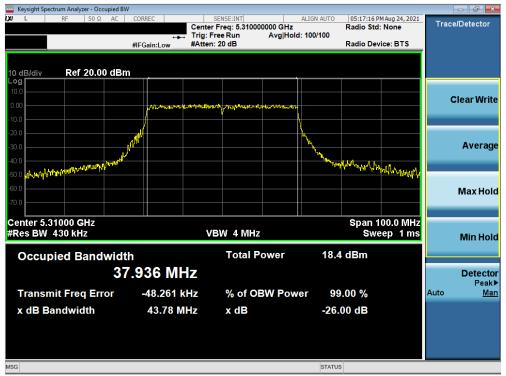
Plot 7-86. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 2A) - Ch. 64)



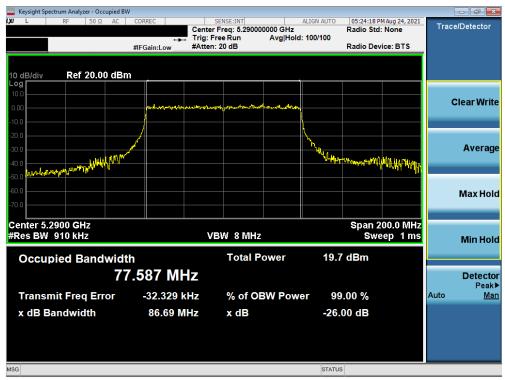
Plot 7-87. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 484 Tones (UNII Band 2A) - Ch. 54)

FCC ID: PY7-95324M	PCTEST <sup>°</sup> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager
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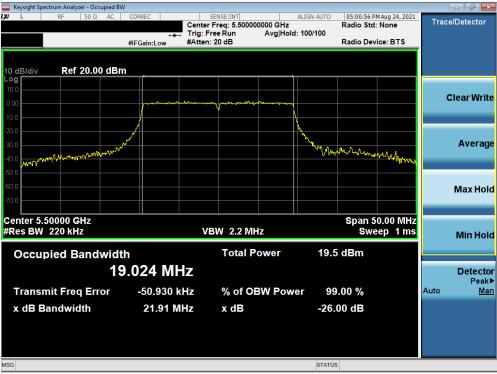
Plot 7-88. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 484 Tones (UNII Band 2A) - Ch. 62)



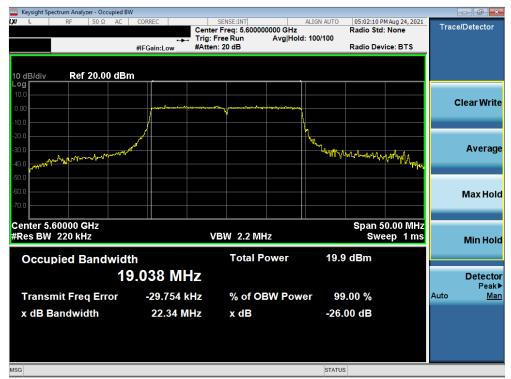
Plot 7-89. 26dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 2A) – Ch. 58)

FCC ID: PY7-95324M	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION) SONY	Approved by: Technical Manager
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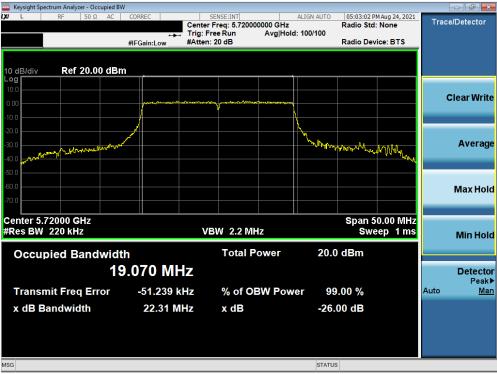
Plot 7-90. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 2C) - Ch. 100)



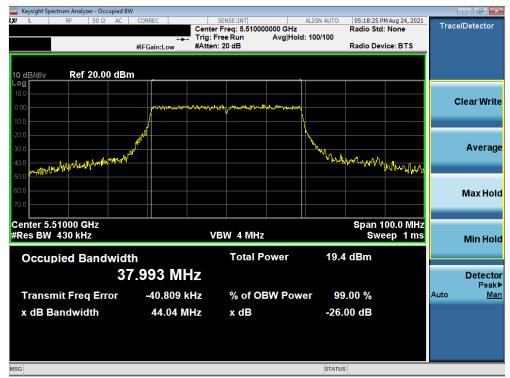
Plot 7-91. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 2C) - Ch. 120)

FCC ID: PY7-95324M	PCTEST ° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager
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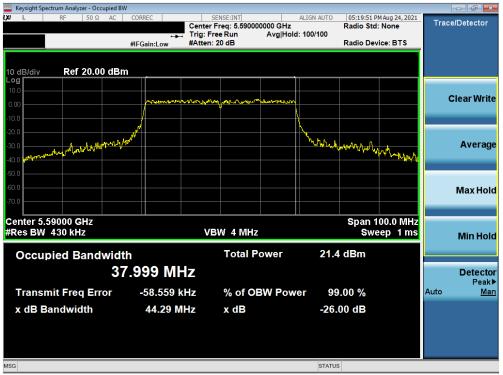
Plot 7-92. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 2C) - Ch. 144)



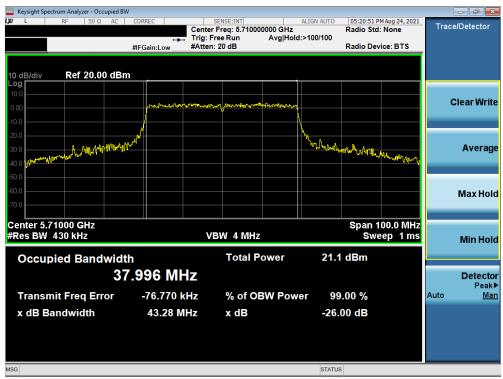
Plot 7-93. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 484 Tones (UNII Band 2C) - Ch. 102)

FCC ID: PY7-95324M	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager
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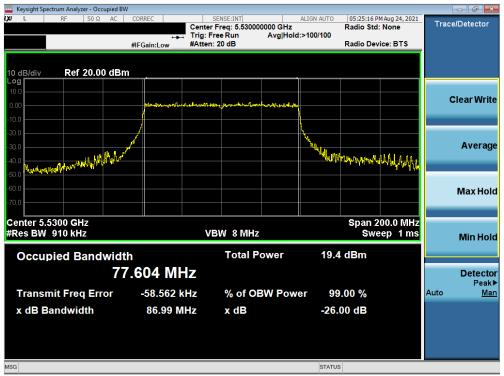
Plot 7-94. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 484 Tones (UNII Band 2C) - Ch. 118)



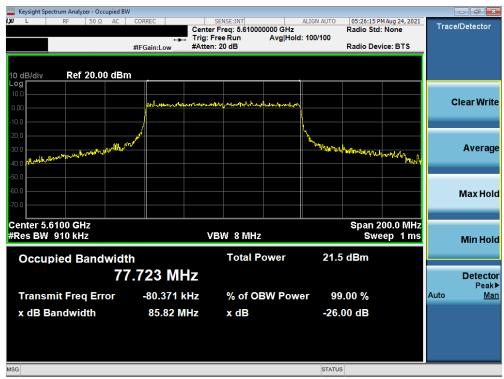
Plot 7-95. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 484 Tones (UNII Band 2C) - Ch. 142)

FCC ID: PY7-95324M	PCTEST* Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION) SONY	Approved by: Technical Manager
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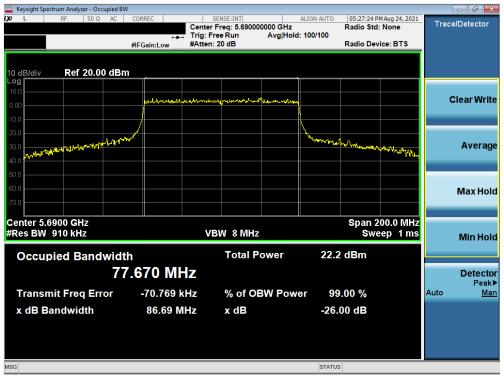
Plot 7-96. 26dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax - 996 Tones (UNII Band 2C) - Ch. 106)



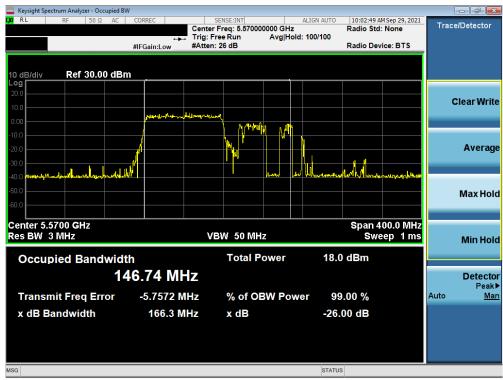
Plot 7-97. 26dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax - 996 Tones (UNII Band 2C) - Ch. 122)

FCC ID: PY7-95324M	PCTEST ° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager
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Plot 7-98. 26dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax - 996 Tones (UNII Band 2C) - Ch. 138)



Plot 7-99. 26dB Bandwidth Plot SISO ANT2 (160MHz BW(L) 802.11ax – 996 Tones (UNII Band 2C) – Ch. 114)

FCC ID: PY7-95324M	PCTEST <sup>°</sup> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SONY	Approved by: Technical Manager	
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