

PCTEST ENGINEERING LABORATORY, INC.

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### MEASUREMENT REPORT FCC PART 15.407 UNII 802.11ax OFDMA

#### Applicant Name:

Samsung Electronics Co., Ltd. 129, Samsung-ro, Yeongtong-gu, Suwon-si Gyeonggi-do, 16677, Korea Date of Testing: 11/9/2018 - 1/22/2019 Test Site/Location: PCTEST Lab. Columbia, MD, USA Test Report Serial No.: 1M1811260212-15.A3L

### FCC ID:

### A3LSMG9700

### **APPLICANT:**

## Samsung Electronics Co., Ltd.

Application Type: Model: Additional Model(s): EUT Type: Frequency Range: FCC Classification: FCC Rule Part(s): Test Procedure(s):

Certification SM-G9700 SM-G9708 Portable Handset 5180 – 5825MHz Unlicensed National Information Infrastructure (UNII) Part 15 Subpart E (15.407) ANSI C63.10-2013, KDB 789033 D02 v02r01, KDB 648474 D03 v01r04, 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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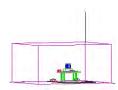


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# **MEASUREMENT REPORT**



	Ohannal		AN	IT1	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	56.494	17.52	61.518	17.89	56.023	17.48
2A	20	5260 - 5320	58.210	17.65	57.280	17.58	53.460	17.28
2C	20	5500 - 5720	61.094	17.86	59.020	17.71	59.125	17.72
3		5745 - 5825	58.479	17.67	60.674	17.83	56.334	17.51
1		5190 - 5230	47.315	16.75	47.098	16.73	44.958	16.53
2A	40	5270 - 5310	46.452	16.67	47.973	16.81	46.696	16.69
2C	40	5510 - 5710	49.888	16.98	48.529	16.86	47.063	16.73
3		5755 - 5795	49.659	16.96	50.003	16.99	46.639	16.69
1		5210	30.339	14.82	31.477	14.98	28.812	14.60
2A	80	5290	31.550	14.99	30.269	14.81	30.325	14.82
2C	80	5530 - 5690	39.719	15.99	39.719	15.99	39.049	15.92
3		5775	38.548	15.86	39.084	15.92	36.843	15.66
	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 17025-2005 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: A3LSMG9700**. The test data contained in this report pertains only to the emissions due to the EUT's UNII transmitter.

Test Device Serial No.: 0299M, 0500M, 0473M

### 2.2 Device Capabilities

This device contains the following capabilities:

850/1900 GSM/GPRS/EDGE, 850/1900 WCDMA/HSPA, Multi-band LTE, 802.11b/g/n/ax WLAN, 802.11a/n/ac/ax UNII, Bluetooth (1x, EDR, LE), NFC, ANT+, Wireless Power Transfer

	Band 1		Band 2A		Band 2C		Band 3
Ch.	Frequency (MHz)						
36	5180	52	5260	100	5500	149	5745
:	:	:	:	:	:	:	:
42	5210	56	5280	120	5600	157	5785
:	:	:	:	:	:	:	:
48	5240	64	5320	144	5720	165	5825

Table 2-1. 802.11a / 802.11n / 802.11ac / 802.11ax (20MHz) Frequency / Channel Operations

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

	Band 2A
h.	Frequency (MHz)
4	5270
:	:
2	5310

С

5

6

	Band 2C
Ch.	Frequency (MHz)
102	5510
:	•••
118	5590
:	:
142	5710

Ba	an	d	3	

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

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

	Band 1	Band 2A		Band 2A Band 2C		Band 3		Band 3	
Ch.	Frequency (MHz)	Ch.	Frequency (MHz)		Ch.	Frequency (MHz)		Ch.	Frequency (MHz)
42	5210	58	5290		106	5530		155	5775
					:	:			
					138	5690			

Table 2-3. 802.11ac / 802.11ax (80MHz 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:

Mode	Antenna	Channel	Tone	duty cycle (%)			
			26T	99.6			
			52T	99.6			
802.11ax	1	12	106T	99.6			
OFDMA	Ŧ	42	242T	99.6 99.6			
			484T	99.6 99.6 99.6 99.6 99.6 99.6 99.6 99.6			
			996T	99.5			
			26T	99.6			
			52T	99.6			
802.11ax	2	100	106T	99.6 99.6 99.6 99.6 99.6 99.6 99.6 99.6			
OFDMA	2	122	242T	99.6 99.6 99.6 99.6 99.6 99.6 99.6 99.6			
		42         106T         99.6           242T         99.6           242T         99.6           484T         99.6           996T         99.5           26T         99.6           52T         99.6           106T         99.6           106         242T           106         996T           106         996T           106         996T           996T         99.5           26T         99.2           52T         98.8           106T         99.1           242T         99.4           484T         99.4					
			26T	99.2			
			52T	98.8			
802.11ax		100	106T	99.1			
OFDMA	MIMO CDD	100	242T	99.4			
			484T	99.4			
			996T	99.4			

Table 2-4. Measured Duty Cycles

2. The device employs MIMO technology. Below are the possible configurations.

WiFi Configurations		SISO		SDM		CDD/MIMO	
		ANT1	ANT2	ANT1	ANT2	ANT1	ANT2
	11a	✓	✓	×	×	✓	✓
5047	11n/ac/ax (20MHz)	✓	✓	✓	✓	✓	✓
5GHz	11n/ac/ax (40MHz)	✓	✓	✓	✓	✓	✓
	11ac/ax (80MHz)	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	✓

Table 2-5. Frequency / Channel Operations

✓ = Support ; × = NOT Support

**SISO** = Single Input Single Output

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

**CDD** = Cyclic Delay Diversity - 2Tx Function

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3. This device supports simultaneous transmission operation, which allows for two SISO channels to operate independent of one another in the 2.4GHz (WLAN & BT) 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 this test report. The BT + 5GHz case is not considered as worst case since the BT power is lower than the 2.4GHz WLAN power.

Description	2.4 GHz Emission	5 GHz Emission
Antenna	1	2
Channel	6	144
Operating Frequency (MHz)	2437	5720
Data Rate (Mbps)	1	6
Mode	802.11b	802.11a

**Configuration 1:** ANT1 transmitting in 2.4GHz mode and ANT2 in 5GHz mode

#### Table 2-6. Config-1 (ANT1 2.4GHz & ANT2 5GHz)

**Configuration 2:** ANT1 transmitting in 5GHz mode and ANT2 in 2.4GHz mode

Description	2.4 GHz Emission	5 GHz Emission
Antenna	2	1
Channel	6	144
Operating Frequency (MHz)	2437	5720
Data Rate (Mbps)	1	6
Mode	802.11b	802.11a

Table 2-7. Config-2 (ANT1 5GHz & ANT2 2.4GHz)

Configuration 3: ANT1 and ANT2 both transmitting in 2.4GHz and 5GHz modes simultaneously

Description	2.4 GHz Emission	5 GHz Emission
Antenna	1, 2	1, 2
Channel	6	157
Operating Frequency (MHz)	2437	5785
Data Rate (Mbps)	6	6
Mode	802.11g	802.11a

Table 2-8. Config-3 (ANT1 MIMO & ANT2 MIMO)

#### 2.3 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.

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 placed 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/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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#### **MEASUREMENT UNCERTAINTY** 5.0

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 UCISPR 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)	1/23/2018	Annual	1/23/2019	WL25-1
Agilent	N9020A	MXA Signal Analyzer	1/24/2018	Annual	1/24/2019	US46470561
Agilent	N9030A	PXA Signal Analyzer (44GHz)	5/25/2018	Annual	5/25/2019	MY52350166
Anritsu	MA2411B	Pulse Power Sensor	10/30/2018	Annual	10/30/2019	846215
Anritsu	ML2495A	Power Meter	10/21/2018	Annual	10/21/2019	941001
Com-Power	AL-130	9kHz - 30MHz Loop Antenna	10/10/2017	Biennial	10/10/2019	121034
COM-Power	PAM-103	Pre-Amplifier (1-1000MHz)	9/17/2018	Annual	9/17/2019	441119
Emco	3115	Horn Antenna (1-18GHz)	3/28/2018	Biennial	3/28/2020	9704-5182
Emco	3116	Horn Antenna (18 - 40GHz)	6/7/2018	Triennial	6/7/2021	9203-2178
Huber + Suhner	Sucoflex 102A	40GHz Radiated Cable Set	1/23/2018	Annual	1/23/2019	251425001
Rohde & Schwarz	ESU26	EMI Test Receiver (26.5GHz)	5/21/2018	Annual	5/21/2019	100342
Rohde & Schwarz	ESU40	EMI Test Receiver (40GHz)	8/9/2018	Annual	8/9/2019	100348
Rohde & Schwarz	SFUNIT-Rx	Shielded Filter Unit	6/18/2018	Annual	6/18/2019	102134
Rohde & Schwarz	SFUNIT-Rx	Shielded Filter Unit	6/25/2018	Annual	6/25/2019	102133
Rohde & Schwarz	TS-PR26	18-26.5 GHz Pre-Amplifier	1/24/2018	Annual	1/24/2019	100040
Rohde & Schwarz	TS-PR40	26.5-40 GHz Pre-Amplifier	1/24/2018	Annual	1/24/2019	100037
Seekonk	NC-100	Torque Wrench	5/9/2018	Biennial	5/9/2020	22217
Sunol	DRH-118	Horn Antenna (1-18GHz)	8/11/2017	Biennial	8/11/2019	A050307
Sunol	JB5	Bi-Log Antenna (30M - 5GHz)	4/19/2018	Biennial	4/19/2020	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:	Samsung Electronics Co., Ltd.
FCC ID:	A3LSMG9700
FCC Classification:	Unlicensed National Information Infrastructure (UNII)

FCC Part Section(s)	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
N/A	RSS-Gen [6.7]	26dB Bandwidth	N/A		PASS	Section 7.2
15.407(e)	RSS-Gen [6.7]	6dB Bandwidth	>500kHz(5725-5850MHz)		PASS	Section 7.3
15.407 (a.1.iv), (a.2), (a.3)	RSS-247 [6.2]	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)	RSS-247 [6.2]	Maximum Power Spectral Density Maximum power spectral density must (RSS-247 [6.2])		PASS	Section 7.5	
15.407(h)	RSS-247 [6.3]	Dynamic Frequency Selection	See DFS Test Report		PASS	See DFS Test Report
15.407(b.1), (2), (3), (4)	RSS-247 [6.2]	Undesirable Emissions	Undesirable emissions must meet the limits detailed in 15.407(b) (RSS-247 [6.2])		PASS	Section 7.6, 7.7
15.205, 15.407(b.1), (4), (5), (6)	RSS-Gen [8.9]	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	ength Bands meet the radiated limits detailed in		PASS	Section 7.6
15.407	RSS-Gen [8.8]	AC Conducted Emissions 150kHz – 30MHz	< FCC 15.207 (RSS-Gen [8.8]) limits	LINE CONDUCTED	PASS	See UNII Test Report

Table 7-1. Summary of Test Results

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Test Report S/N:	Test Dates:	EUT Type:		Dage 12 of 510
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#### 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 4.6.
- 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 0.2.16.
- 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.
- 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.

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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#### 7.2 26dB Bandwidth Measurement – 802.11ax OFDMA RSS-Gen [6.7]

#### **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	19.39
_	5200	40	ax (20MHz)	26T	MCS0	17.33
, pr	5240	48	ax (20MHz)	26T	MCS0	17.66
Band	5190	38	ax (40MHz)	26T	MCS0	19.50
	5230	46	ax (40MHz)	26T	MCS0	22.48
	5210	42	ax (80MHz)	26T	MCS0	19.32
	5260	52	ax (20MHz)	26T	MCS0	18.19
∢	5280	56	ax (20MHz)	26T	MCS0	18.57
d 2	5320	64	ax (20MHz)	26T	MCS0	20.08
Band 2A	5270	54	ax (40MHz)	26T	MCS0	18.87
ш	5310	62	ax (40MHz)	26T	MCS0	21.96
	5290	58	ax (80MHz)	26T	MCS0	19.50
	5500	100	ax (20MHz)	26T	MCS0	19.78
	5600	120	ax (20MHz)	26T	MCS0	15.12
	5720	144	ax (20MHz)	26T	MCS0	19.41
2C	5510	102	ax (40MHz)	26T	MCS0	19.55
Bnad	5590	118	ax (40MHz)	26T	MCS0	19.17
Bn	5710	142	ax (40MHz)	26T	MCS0	22.17
	5530	106	ax (80MHz)	26T	MCS0	38.06
	5610	122	ax (80MHz)	26T	MCS0	39.08
	5690	138	ax (80MHz)	26T	MCS0	38.16

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: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-3. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 48)



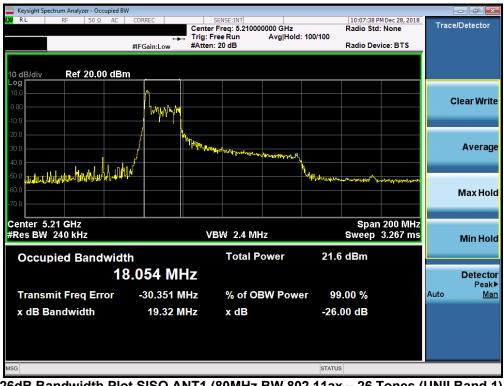
Plot 7-4. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 38)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-5. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 46)



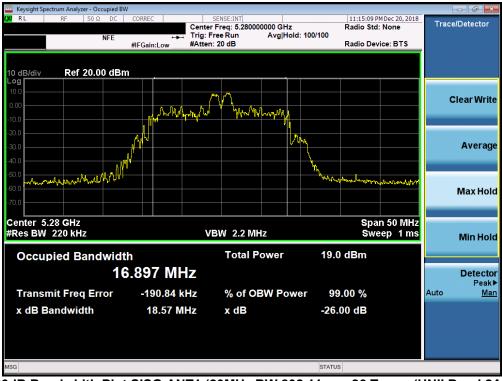
Plot 7-6. 26dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 42)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-7. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 52)



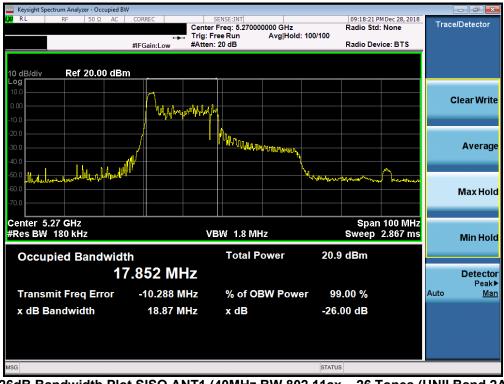
Plot 7-8. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 56)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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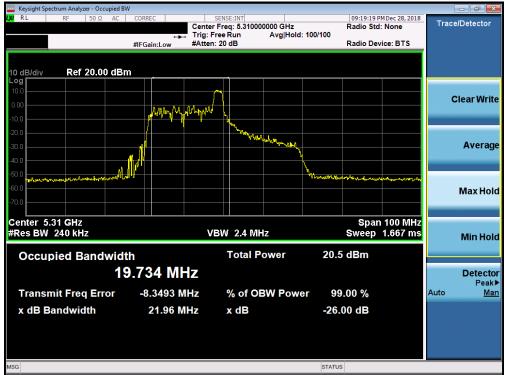
Plot 7-9. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 64)



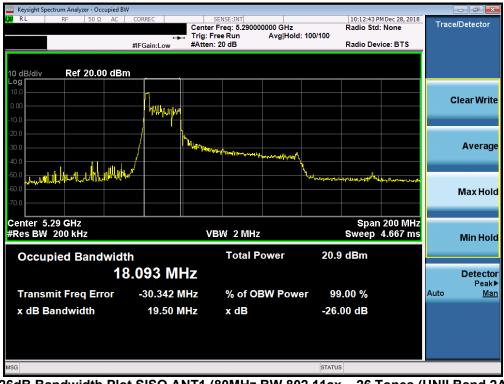
Plot 7-10. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 54)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-11. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 62)



Plot 7-12. 26dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 58)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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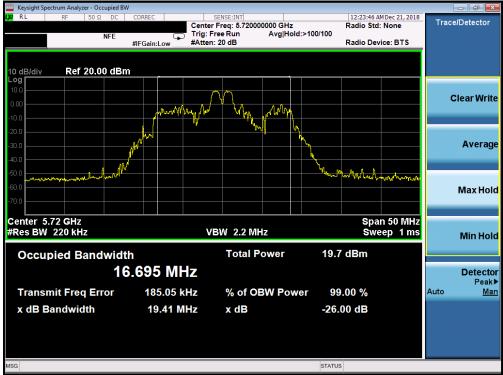
Plot 7-13. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 100)



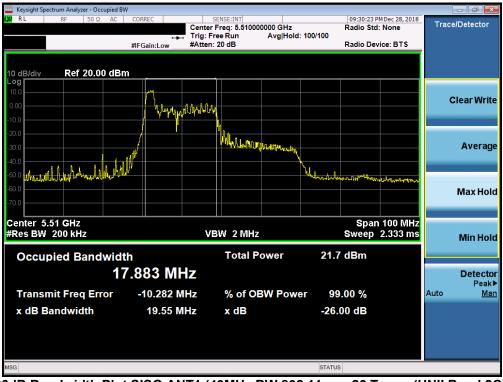
Plot 7-14. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 22 of 510
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Plot 7-15. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 144)



Plot 7-16. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 102)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 22 of 510
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Keysight Spectrum Analyzer - Occupied BW	1					- 6 💌
LX/RL RF 50Ω AC	CORREC	SENSE:INT r Freg: 5.590000000 GHz	09:31:38 Radio Sto	PM Dec 28, 2018	Trace	Detector
	🛶 Trig: F	ree Run Avg Hol	d: 100/100			
	#IFGain:Low #Atten	n: 20 dB	Radio De	vice: BTS		
10 dB/div Ref 20.00 dBm Log	<u>۱</u>					
10.0						
0.00			ļ		С	lear Write
-10.0		and the state of t				
-20.0		- N				
-30.0	And the state of t	NY	N I			Average
-40.0	Adda for a state of the state o					
50.0	In Mar		Nord Jak	Bate 1		
-60.0			and a first of the second s	limbur		
						Max Hold
-70.0						
Center 5.59 GHz			Spar	100 MHz		
#Res BW 200 kHz	ν	BW 2 MHz	Sweep	2.333 ms		Min Hold
	<b>1</b> -	Total Power	21.4 dBm			
Occupied Bandwidt		Total Fower	21.4 UBIII			
17	.801 MHz					Detector
Transmit Freq Error	10.270 MHz	% of OBW Pow	ver 99.00 %		Auto	Peak▶ Man
x dB Bandwidth	19.17 MHz	x dB	-26.00 dB			
MSG			STATUS			

Plot 7-17. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 118)



Plot 7-18. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 142)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 24 of 510
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Plot 7-19. 26dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 106)



Plot 7-20. 26dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 122)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 25 of 510
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 25 of 519
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Keysight Spectrum Analyzer - Occupied	d BW			
<b>LXI</b> RL RF 50Ω AC		SENSE:INT ter Freg: 5.690000000 GHz	10:19:34 PM De Radio Std: No	
	++- Trig	: Free Run Avg Hold: "	100/100	
	#IFGain:Low #Att	en: 20 dB	Radio Device:	BTS
10 dB/div Ref 20.00 dl	Bm			
10.0		A		
0.00				Clear Write
-10.0		mm mm mm		
-20.0	, <b></b>			
-30.0	Marth	140-pa		Average
-40.0			-	
-50.0 months and a second		l	When the manufacture was a service of the service o	Newsylenky
-60.0				Max Hold
-70.0				Maxmola
Center 5.69 GHz #Res BW 360 kHz		VBW 4 MHz	Span 20 Sweep 1.4	67 m a
THE DW JOO KILZ			амеер на	Min Hold
Occupied Bandwi	dth	Total Power	21.7 dBm	
	36.094 MHz			Detector
				Peak►
Transmit Freq Error	26.565 kHz	% of OBW Powe	r 99.00 %	Auto <u>Man</u>
x dB Bandwidth	38.16 MHz	x dB	-26.00 dB	
MSG			STATUS	

Plot 7-21. 26dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 26 of 510
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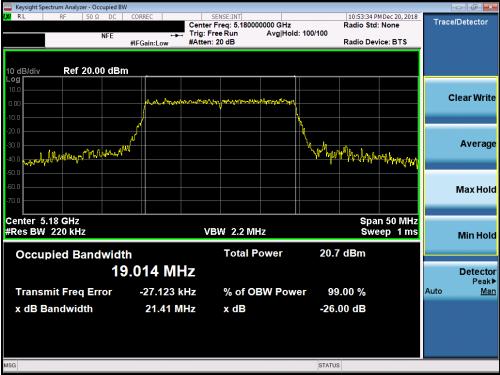
### SISO Antenna-1 26 dB Bandwidth Measurements (242 Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 26dB Bandwidth [MHz]
Ξ	5180	36	ax (20MHz)	242T	MCS0	21.41
Band	5200	40	ax (20MHz)	242T	MCS0	25.36
ä	5240	48	ax (20MHz)	242T	MCS0	24.94
σ	5260	52	ax (20MHz)	242T	MCS0	28.54
Band 2A	5280	56	ax (20MHz)	242T	MCS0	29.90
ш	5320	64	ax (20MHz)	242T	MCS0	21.67
σ	5500	100	ax (20MHz)	242T	MCS0	26.53
Bnad 2C	5600	120	ax (20MHz)	242T	MCS0	26.73
	5720	144	ax (20MHz)	242T	MCS0	32.96

Table 7-3. Conducted Bandwidth Measurements SISO ANT1 (242 Tones)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-22. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 1) - Ch. 36)



Plot 7-23. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 1) - Ch. 40)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Keysight Spectrum Analyzer - Oc	cupied BW								- • •
<mark>(X/ RL</mark> RF 50Ω	DC CORREC		SENSE:INT r Freg: 5.2400	0000 GHz		10:57:22 P	MDec 20, 2018	Trac	e/Detector
	NEE		Free Run		d: 100/100	Raulo Stu.	None		
	#IFGain	:Low #Atter	n: 20 dB			Radio Dev	ice: BTS		
10 dB/div Ref 20.0	0 dBm								
Log 10.0									
	يسم ا	Mar Martine	man perconnerty	mutomatura				(	Clear Write
0.00	1				N .				
-10.0	A				<b>h</b> .				
-20.0 -30.0	mouthorth				. hourself	holomytered ("Wirthy In	when the a		
-30.0 per 2010 - 2010 - 2010							IN INCLAS		Average
-40.0									
-50.0									
-60.0									Max Hold
-70.0									maxitora
Center 5.24 GHz			DW 0780				n 50 MHz		
#Res BW 270 kHz		v	'BW 2.7 M	12		Swe	ep 1 ms		Min Hold
Occupied Band	width		Total F	ower	24.5	dBm			
Coodpied Baild									
	19.169	5 WIAZ							Detector Peak▶
Transmit Freq Er	ror -76	.393 kHz	% of O	BW Pow	er 99	.00 %		Auto	Man
x dB Bandwidth	24	4.94 MHz	x dB		-26.	00 dB			
MSG					STATUS				

Plot 7-24. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 1) - Ch. 48)



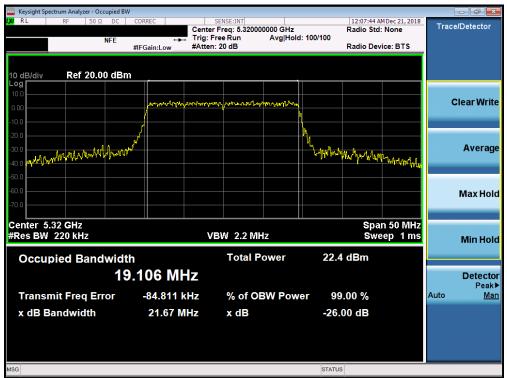
Plot 7-25. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 2A) - Ch. 52)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 20 of 510
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Keysight Spectrum Analyzer - Oce	cupied BW									
<b>ιχα</b> RL RF 50 Ω	DC COR	REC	Center Fr	(SE:INT) eq: 5.28000 Run		d: 100/100	12:05:32 A Radio Std	M Dec 21, 2018 : None	Trac	e/Detector
		ain:Low	#Atten: 20				Radio Dev	vice: BTS		
10 dB/div Ref 20.0	0 dBm									
Log 10.0 0.00		mytonativ	᠇ᢦᢞ <sup>ᡣᠬ</sup> ᡅᢇᢪᢑᠰ	Marynto	Human					Clear Write
-10.0	and AMM work					Marken	Wastella	a ft		
-20.0 -30.0								N W Maharala		Average
-50.0										
-70.0										Max Hold
Center 5.28 GHz #Res BW 220 kHz			VBV	V 2.2 MH	Iz			n 50 MHz ep 1 ms		Min Hold
Occupied Band				Total P	ower	25.1	dBm			
		62 MH								Detector Peak▶
Transmit Freq Err	or -	57.262 kl	Hz	% of OE	3W Pow	'er 99	.00 %		Auto	<u>Man</u>
x dB Bandwidth		29.90 MI	Hz	x dB		-26.	00 dB			
MSG						STATUS				

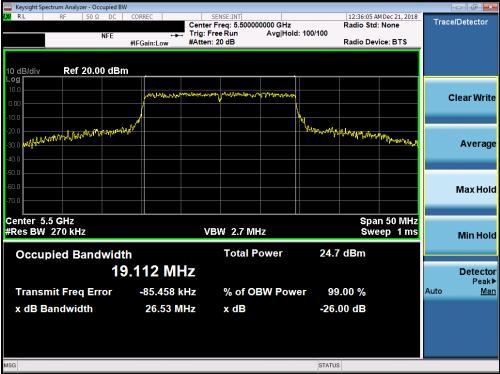
Plot 7-26. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 2A) - Ch. 56)



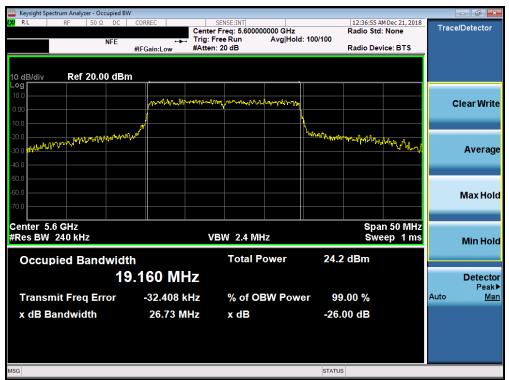
Plot 7-27. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 2A) - Ch. 64)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-28. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 2C) - Ch. 100)



Plot 7-29. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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🔤 Keysight Spec	trum Analyzer - C	Occupied BV	V								
LXI RL	RF 50	ΩDC	CORREC	Cent	SENSE:INT er Freq: 5.7200	00000 GHz		12:38:21 A	MDec 21, 2018	Trac	e/Detector
		NFE		Trig:	Free Run n: 20 dB		d: 100/100	Radio Dev			
			#IFGain:Lo	w #Atte	n: 20 dB			Radio Dev	ICE: BIS		
	B-6.00	AA									
10 dB/div Log	Ref 20.	UU dBn	n								
10.0			Andrahi	สารางสะจา	MAN NEW BURN	M.A. with return					Clear Write
0.00							<u> </u>				clear write
-10.0			pr/				1.				
-20.0 -30.0 phalage	L and broke Marshill	manyoha	n har				www.ww	W. <sup>A.</sup> whowholewhiley,	10-010-00 Do		
-30.0	- V- U-								1 LADMLE		Average
-40.0											
-50.0											
-60.0											Max Hold
-70.0											
Center 5.7	72 04-								50 MU-		
#Res BW				1	VBW 2.7 MHz			Span 50 MHz Sweep 1 ms			
											Min Hold
Occup	oied Ban	dwidt	h		Total F	ower	24.6	i dBm			
		19	9.174	MHz							Detector
_					0/					0	Peak▶
Transm	nit Freq E	rror	-69.1	17 kHz		BW Pow	'er 99	.00 %		Auto	Man
x dB Ba	andwidth		32.	96 MHz	x dB		-26.	00 dB			
MSG							STATUS	5			

Plot 7-30. 26dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax – 242 Tones (UNII Band 2C) – Ch. 144)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 22 of 510
1M1811260212-15.A3L	260212-15.A3L 11/9/2018 - 1/22/2019 Portable Handset			Page 32 of 519
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_		Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 26dB Bandwidth [MHz]
	Band 1	5190	38	ax (40MHz)	484T	MCS0	39.75
	, Ba	5230	46	ax (40MHz)	484T	MCS0	40.04
	Ban d 2A	5270	54	ax (40MHz)	484T	MCS0	40.08
	σB	5310	62	ax (40MHz)	484T	MCS0	39.56
	σ	5510	102	ax (40MHz)	484T	MCS0	40.05
	Band 2C	5590	118	ax (40MHz)	484T	MCS0	39.86
	ш	5710	142	ax (40MHz)	484T	MCS0	39.86

### SISO Antenna-1 26 dB Bandwidth Measurements (484 Tones)

Table 7-4. Conducted Bandwidth Measurements SISO ANT1 (484 Tones)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 22 of 510
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 33 of 519
© 2019 PCTEST Engineering Labo	ratory Inc			V 8 8 11/19/2018



Keysight Spectrum Analyzer - Occupied BW							
<b>ΙΧΙ </b> RF 50 Ω AC	CORREC Cent	SENSE:INT er Freq: 5.190000000 GH	z old: 100/100	09:13:13 P	None	Trace	/Detector
		en: 20 dB	010. 100/100	Radio Dev	ice: BTS		
10 dB/div Ref 20.00 dBm	1						
Log 10.0							
0.00		N. A. W-RABAL Pale Mars M				С	lear Write
	- Annonal holestarthered		~~				
-10.0			Υ				
-20.0	المر		1				A
-30.0	n <sup>nr</sup> i		<u>Ч</u> .				Average
-40.0	μ·•		W Lookath	whyth			
-30.0				and that the	he we have been a for the second		
-60.0							Max Hold
-70.0						_	
Center 5.19 GHz				Span	100 MHz		
#Res BW 390 kHz		VBW 4 MHz			ep 1 ms		Min Hold
							Minitiona
Occupied Bandwidt	h	Total Power	20.1	dBm			
37	.668 MHz						Detector
	24 255 1.11-			00.0/		Auto	Peak▶ Man
Transmit Freq Error	-31.355 kHz	% of OBW Po		.00 %		Auto	Ivian
x dB Bandwidth	39.75 MHz	x dB	-26.0	)0 dB			
MSG			STATUS				

Plot 7-31. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 484 Tones (UNII Band 1) - Ch. 38)



Plot 7-32. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 484 Tones (UNII Band 1) - Ch. 46)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 24 of 510	
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 34 of 519	
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Keysight Spectrum Analyzer - Occupied B	W				
LXX RL RF 50Ω AC	🛶 Trig: I		09:25:47 Radio S d: 100/100	7 PM Dec 28, 2018 td: None	Trace/Detector
	#IFGain:Low #Atter	n: 20 dB	Radio D	evice: BTS	
10 dB/div Ref 20.00 dBi	n				
-10.0 -10.0	handensamman 	holynahadhilananash			Clear Write
-20.0 -30.0 -40.0	4~~~		Workwalk Margara	WHILE WARDE	Average
-60.0					Max Hold
Center 5.27 GHz #Res BW 390 kHz		/BW 4 MHz	Śv	n 100 MHz veep 1 ms	Min Hold
Occupied Bandwid	th	Total Power	24.0 dBm		
37.682 MHz					Detector Peak► Auto Man
Transmit Freq Error	-24.475 kHz	% of OBW Pow	ver 99.00 %		Auto <u>Man</u>
x dB Bandwidth	40.08 MHz	x dB	-26.00 dB		
MSG			STATUS		

Plot 7-33. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 484 Tones (UNII Band 2A) - Ch. 54)



Plot 7-34. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax – 484 Tones (UNII Band 2A) – Ch. 62)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 25 of 510		
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 35 of 519	
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Keysight Spectrum Analyzer - Occupied BW						
LXX RL RF 50Ω AC	Center	SENSE:INT Freq: 5.510000000 GHz Tree Run Avg Hol	09:42:47 Radio St d: 100/100	PMDec 28, 2018 d: None	Trace/Detec	tor
	#IFGain:Low #Atten	: 20 dB	Radio De	evice: BTS		
10 dB/div Ref 20.00 dBm						
	mounoweathers	Ly parta Mohaner y marine			Clear	Nrite
-10.0						
-30.0 -40.0 <mark>http:///////////////////////////////////</mark>	hul <sup>0</sup>		h. 	Mallerson	Ave	erage
-50.0					Мах	Hold
Center 5.51 GHz				n 100 MHz		_
#Res BW 390 kHz	V	BW 4 MHz	Sw	reep 1 ms	Min	Hold
Occupied Bandwidt		Total Power	22.2 dBm			
37.608 MHz						ector <sup>⊳</sup> eak▶
Transmit Freq Error	12.584 kHz	% of OBW Pov	ver 99.00 %		Auto	Man
x dB Bandwidth	40.05 MHz	x dB	-26.00 dB			
MSG			STATUS			

Plot 7-35. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 102)



Plot 7-36. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 484 Tones (UNII Band 2C) - Ch. 118)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dama 26 of 510	
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 36 of 519	
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Keysight Spectrum Analyzer - Occupied B <sup>1</sup>	W				
<b>LX/ RL</b> RF 50Ω AC	CORREC	SENSE:INT nter Freg: 5.710000000 G		3:51 PM Dec 28, 2018 Std: None	Trace/Detector
	🛶 Tri	g: Free Run Avg	Hold: 100/100		
	#IFGain:Low #A	tten: 20 dB	Radio	Device: BTS	
10 dB/div Ref 20.00 dBr	n				
Log 10.0					
0.00	In mound all and all all all all all all all all all al	while when the man	maty		Clear Write
	<u>/</u>				
-10.0					
-20.0 -30.0 Manual Martin Mallan Martin	riand		he multiple and	สโตโหน	
			¥	and the second second	Average
-40.0					
-50.0					
-60.0					Max Hold
-70.0					
Center 5.71 GHz #Res BW 390 kHz		VBW 4 MHz		pan 100 MHz Sweep 1 ms	
Thes DW 390 KHZ				Sweep This	Min Hold
Occupied Bandwid	th	Total Power	24.7 dBn	n	
	7.614 MHz				Detector
<b>3</b>					Detector Peak►
Transmit Freq Error	-13.932 kHz	% of OBW P	ower 99.00 %	6	Auto <u>Man</u>
x dB Bandwidth	39.86 MHz	x dB	-26.00 dE	,	
	39.00 MHZ	A UB	-20.00 ui	2	
MSG			STATUS		

Plot 7-37. 26dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 27 of 510	
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 37 of 519	
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### SISO Antenna-1 26 dB Bandwidth Measurements (996 Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 26dB Bandwidth [MHz]
Band 1	5210	42	ax (80MHz)	996T	MCS0	81.33
Band 2A	5290	58	ax (80MHz)	996T	MCS0	81.27
ပ္လ	5530	106	ax (80MHz)	996T	MCS0	81.41
Band 2C	5610	122	ax (80MHz)	996T	MCS0	97.97
Bai	5690	138	ax (80MHz)	996T	MCS0	98.28

Table 7-5. Conducted Bandwidth Measurements SISO ANT1 (996 Tones)



Plot 7-38. 26dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ax - 996 Tones (UNII Band 1) - Ch. 42)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Daga 29 of 510	
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 38 of 519	
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www.www.com analyzer - Occupied BW						[	- 0 ×
	Center		old: 100/100	Radio Std:		Trace	e/Detector
	#IFGain:Low #Atten:	: 20 dB		Radio Devi	ce: BTS		
10 dB/div Ref 20.00 dBm			_				
Log 10.0 0.00		regulanter to the water to get				c	lear Write
-10.0	<mark>/</mark>						
-20.0			705 4 45				Average
-40.0 Whenton Hallowell March				MM.A.MM			
-60.0							Max Hold
-70.0							
Center 5.29 GHz #Res BW 820 kHz	VI	BW 8 MHz			200 MHz ep 1 ms		Min Hold
Occupied Bandwidth		Total Power	20.5 (	dBm			
	016 MHz						Detector Peak▶
Transmit Freq Error	193.10 kHz	% of OBW Po	wer 99.(	00 %		Auto	Man
x dB Bandwidth	81.27 MHz	x dB	-26.0	0 dB			
MSG			STATUS				

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



Plot 7-40. 26dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ax – 996 Tones (UNII Band 2C) – Ch. 106)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dage 20 of 510		
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 39 of 519		
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Keysight Spectrum Analyzer - Occupied BW								
IX/RL RF 50Ω AC CC	RREC	SENSE:INT Center Freg: 5.6100	00000 GHz		10:29:46 P	MDec 28, 2018	Trac	e/Detector
		Trig: Free Run		d: 100/100				
#IF	Gain:Low	#Atten: 20 dB			Radio Dev	ice: BTS		
10 dB/div Ref 20.00 dBm								
Log 10.0								
	Lowalnan	and the property and the second	manhalman				(	Clear Write
0.00								
-10.0								
-20.0					White	10 m		
-30.0 Martin Martin Martin Contractor				L Makedad	՟ՙՠՠՠֈֈՠՠ	<sup>al</sup> "\ <mark>J</mark> hard		Average
-40.0							_	
-50.0								
-60.0								Max Hold
-70.0								Maxilolu
Center 5.61 GHz						200 MHz		
#Res BW/1 MHz		VBW 8 MH	z		Swe	ep 1 ms		Min Hold
Occupied Bandwidth		Total	Power	23.3	dBm			
				20.0				
77.1	82 MH	Z						Detector
Transmit Freq Error	30.812 k	Hz % of C	BW Pow	or 00	.00 %		Auto	Peak▶ Man
x dB Bandwidth	97.97 M	Hz xdB		-26.	00 dB			
MSG				STATUS	6			

Plot 7-41. 26dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ax - 996 Tones (UNII Band 2C) - Ch. 122)



Plot 7-42. 26dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ax - 996 Tones (UNII Band 2C) - Ch. 138)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 40 of 510
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 40 of 519
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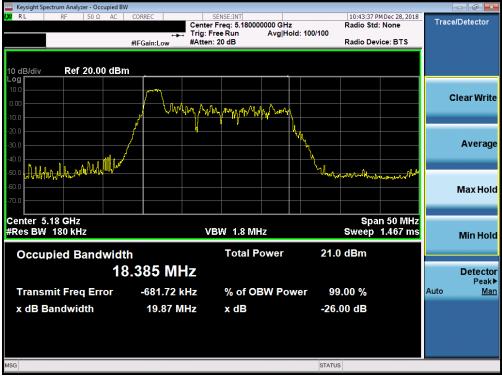
# SISO Antenna-2 26 dB Bandwidth Measurements (26 Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 26dB Bandwidth [MHz]
	5180	36	ax (20MHz)	26T	MCS0	19.87
_	5200	40	ax (20MHz)	26T	MCS0	20.09
, pr	5240	48	ax (20MHz)	26T	MCS0	18.49
Band	5190	38	ax (40MHz)	26T	MCS0	19.67
	5230	46	ax (40MHz)	26T	MCS0	19.43
	5210	42	ax (80MHz)	26T	MCS0	20.22
	5260	52	ax (20MHz)	26T	MCS0	19.11
∢	5280	56	ax (20MHz)	26T	MCS0	18.60
d 2A	5320	64	ax (20MHz)	26T	MCS0	17.81
Band	5270	54	ax (40MHz)	26T	MCS0	21.86
ш	5310	62	ax (40MHz)	26T	MCS0	19.25
	5290	58	ax (80MHz)	26T	MCS0	20.20
	5500	100	ax (20MHz)	26T	MCS0	18.61
	5600	120	ax (20MHz)	26T	MCS0	18.80
	5720	144	ax (20MHz)	26T	MCS0	18.96
2C	5510	102	ax (40MHz)	26T	MCS0	19.41
Bnad	5590	118	ax (40MHz)	26T	MCS0	19.58
Bn	5710	142	ax (40MHz)	26T	MCS0	20.05
	5530	106	ax (80MHz)	26T	MCS0	19.28
	5610	122	ax (80MHz)	26T	MCS0	19.36
	5690	138	ax (80MHz)	26T	MCS0	38.19

Table 7-6. Conducted Bandwidth Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dage 41 of 510		
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Plot 7-43. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 36)



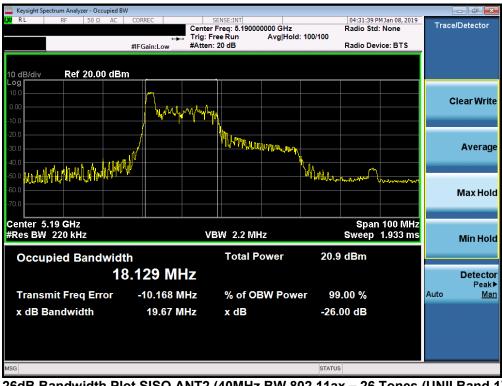
Plot 7-44. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 40)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Daga 42 of 510		
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 42 of 519		
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Plot 7-45. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 48)



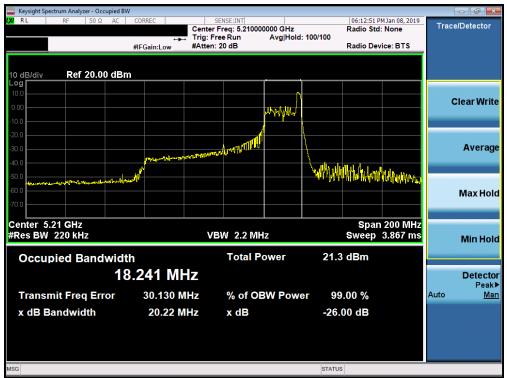
Plot 7-46. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 38)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 42 of 510
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 43 of 519
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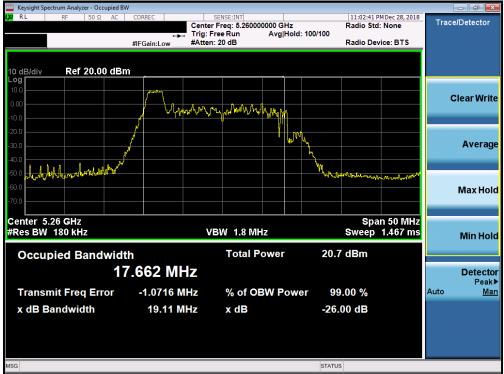
Plot 7-47. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 46)



Plot 7-48. 26dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 42)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 14 of 510
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 44 of 519
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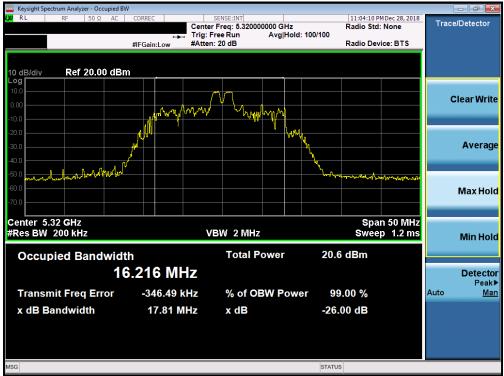
Plot 7-49. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 52)



Plot 7-50. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 56)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 45 of 510
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 45 of 519
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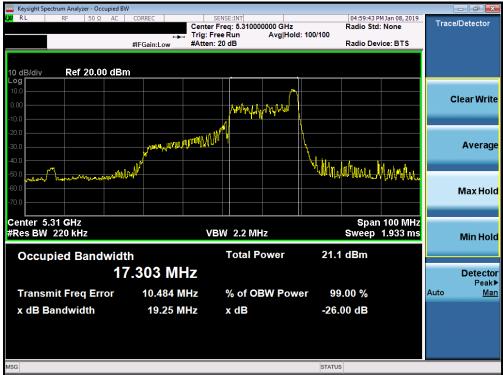
Plot 7-51. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 64)



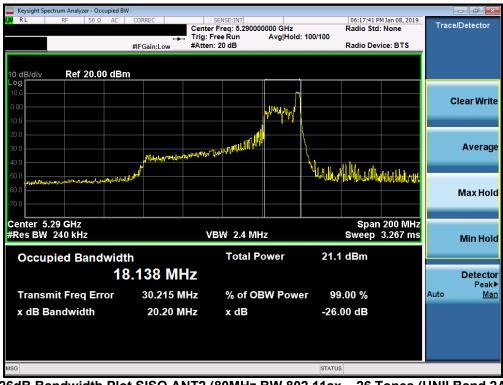
Plot 7-52. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 54)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 46 of 510
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Plot 7-53. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 62)



Plot 7-54. 26dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 47 of 510
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Plot 7-55. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 100)



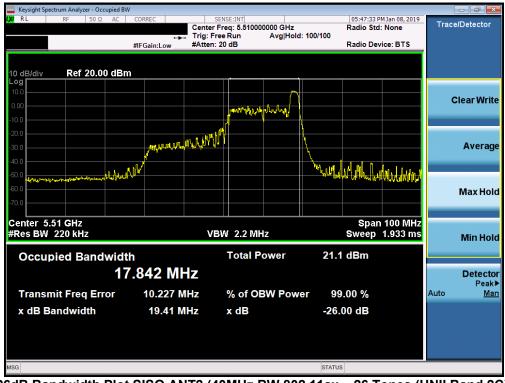
Plot 7-56. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 48 of 510
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 48 of 519
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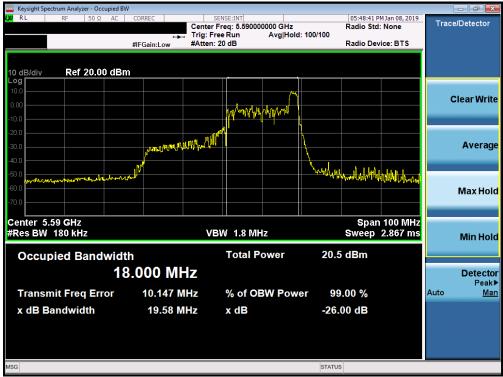
Plot 7-57. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 144)



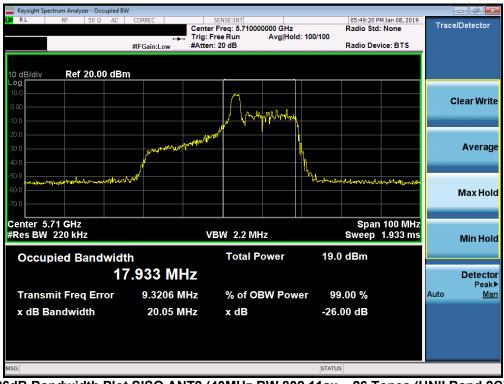
Plot 7-58. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 102)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 40 of 510
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Plot 7-59. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 118)



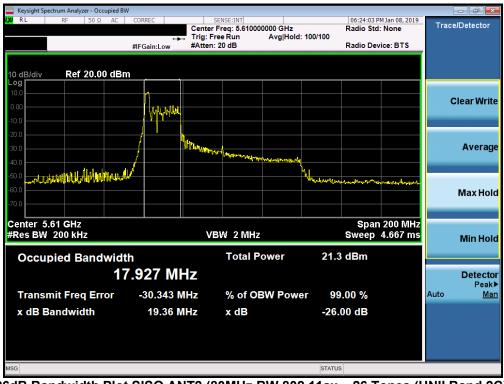
Plot 7-60. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 142)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 50 of 510
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Plot 7-61. 26dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 106)



Plot 7-62. 26dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 122)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 51 of 510
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 51 of 519
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Keysight Spectrum Analyzer - Occupied B	N				
<mark>Ι XI</mark> RL RF 50 Ω AC	CORREC	SENSE:INT ter Freg: 5.690000000 GHz	06:25:05 P Radio Std	M Jan 08, 2019 Trace/E	Detector
	⊷ Trig	: Free Run Avg Hold	: 100/100		
	#IFGain:Low #Atte	en: 20 dB	Radio Dev	vice: BTS	
10 dB/div Ref 20.00 dBr	n				
10.0		A			
0.00				Cle	ear Write
-10.0		where allowed week			
-20.0					
-30.0		Mine March			Average
-40.0					-
-50.0	JUL		My dalland		
-60.0					/lax Hold
-70.0				, , , , , , , , , , , , , , , , , , ,	
Center 5.69 GHz				200 MHz	
#Res BW 360 kHz		VBW 4 MHz	sweep	1.467 ms	Min Hold
Occupied Bandwidt	th	Total Power	22.1 dBm		
	6.266 MHz				Detector
					Peak▶
Transmit Freq Error	-292.34 kHz	% of OBW Powe	er 99.00 %	Auto	<u>Man</u>
x dB Bandwidth	38.19 MHz	x dB	-26.00 dB		
MSG			STATUS		

Plot 7-63. 26dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 52 of 510
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# SISO Antenna-2 26 dB Bandwidth Measurements (242 Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 26dB Bandwidth [MHz]
-	5180	36	ax (20MHz)	242T	MCS0	21.57
Band	5200	40	ax (20MHz)	242T	MCS0	38.58
ä	5240	48	ax (20MHz)	242T	MCS0	34.18
σ	5260	52	ax (20MHz)	242T	MCS0	34.48
Band 2A	5280	56	ax (20MHz)	242T	MCS0	32.82
ш	5320	64	ax (20MHz)	242T	MCS0	28.15
σ	5500	100	ax (20MHz)	242T	MCS0	32.41
Bnad 2C	5600	120	ax (20MHz)	242T	MCS0	31.24
	5720	144	ax (20MHz)	242T	MCS0	32.11

Table 7-7. Conducted Bandwidth Measurements SISO ANT2 (242 Tones)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 52 of 510
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 53 of 519
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Plot 7-64. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 1) - Ch. 36)



Plot 7-65. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 1) - Ch. 40)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 54 of 519
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset	able Handset	
© 2019 PCTEST Engineering Lab	V 8.8 11/19/2018			





Plot 7-66. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 1) - Ch. 48)



Plot 7-67. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 2A) - Ch. 52)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 55 of 519
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset	le Handset	
© 2019 PCTEST Engineering Labora	V 8.8 11/19/2018			



Keysight Spectrum Analyzer - Occupied BW								
<b>(χ) RL</b> RF 50 Ω AC		SENSE:INT enter Freq: 5.28000 rig: Free Run	0000 GHz Avg Hold:	: 100/100	11:12:04 P	M Dec 28, 2018 None	Trac	e/Detector
	#IFGain:Low #Atten: 20 dB Radio Device: BTS							
10 dB/div Ref 20.00 dBm								
10.0	M. D. M. DANSA July	make to prather hall	with the state					
0.00								Clear Write
-10.0	<i></i>			կ. Ա. Ա. Ս. Ս. Ս. Ս.				
-10.0 -20.0 with the second	• •			. W. W. W. WWIP	hadden yrthe	when developed by		
-30.0						-1¥ 4*		Average
-40.0								
-50.0								
-60.0								Max Hold
-70.0								
Center 5.28 GHz				1	Spa	n 50 MHz		
#Res BW 360 kHz		VBW 4 MHz			Swe	ep 1 ms		Min Hold
Occupied Bandwidth		Total P	ower	25.2	dBm			
	309 MHz	,						Detector
13.								Peak ►
Transmit Freq Error	-25.598 kHz	2 % of OE	BW Powe	er 99	.00 %		Auto	<u>Man</u>
x dB Bandwidth	32.82 MHz	x dB		-26.	00 dB			
MSG				STATUS	;			

Plot 7-68. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 2A) - Ch. 56)



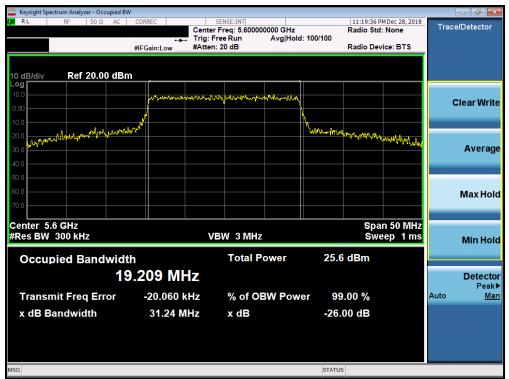
Plot 7-69. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 2A) - Ch. 64)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 56 of 519
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset	ndset	
© 2019 PCTEST Engineering Labor	V 8.8 11/19/2018			



Keysight Spectrum Analyzer - Occupied BW							
LXX RL RF 50Ω AC CO		ENSE:INT Freq: 5.500000000 GHz See Run Avg Hold	d: 100/100	11:19:13 P Radio Std	M Dec 28, 2018 : None	Trac	e/Detector
#IF	Gain:Low #Atten: 2	20 dB		Radio Dev	rice: BTS		
10 dB/div Ref 20.00 dBm							
10.0							
0.00	and had not an addition of the	Man Man				(	Clear Write
-10.0			ň				
- n. h.f			mound	Mylenhormy	)e i		
-20.0 whith had the high of the second of th				- And and all all all all all all all all all al	Mary Mary Mary Mary		Average
							Average
-40.0							
-50.0							
-60.0							Max Hold
-70.0							
Center 5.5 GHz				Sna	n 50 MHz		
#Res BW 300 kHz	VB	W 3 MHz		Swe	ep 1 ms		Min Hold
					· · ·		MITHOU
Occupied Bandwidth		Total Power	25.4	dBm			
19.3	58 MHz						Detector
							Peak▶
Transmit Freq Error	-33.325 kHz	% of OBW Pow	'er 99	.00 %		Auto	<u>Man</u>
x dB Bandwidth	32.41 MHz	x dB	-26.	00 dB			
MSG			STATUS	;			

Plot 7-70. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 2C) - Ch. 100)



Plot 7-71. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 57 of 519
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		
© 2019 PCTEST Engineering Labo	V 8.8 11/19/2018			



	CORREC	SENSE:INT er Freq: 5.720000000 GHz	Radio Std	MDec 28, 2018 : None	Trace/Detector
	, and the second secon	Free Run Avg Hole en: 20 dB	d: 100/100 Radio Dev	ice: BTS	
10 dB/div Ref 20.00 dB	m				
	riyawalanan mirana mir	munananan			Clear Write
-10.0	in server		Markey Replaced a		
-20.0 -30.0			munulaite	mhwh <sub>whola</sub>	Average
-40.0					
-60.0					Max Hold
Center 5.72 GHz				n 50 MHz	
#Res BW 270 kHz Occupied Bandwid		VBW 2.7 MHz Total Power	25.7 dBm	ep 1 ms	Min Hold
	9.176 MHz		2017 4011		Detector
Transmit Freq Error	-48.580 kHz	% of OBW Pow	ver 99.00 %	A	Peak≯ uto <u>Man</u>
x dB Bandwidth	32.11 MHz	x dB	-26.00 dB		
/SG			STATUS		

Plot 7-72. 26dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 2C) - Ch. 144)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega EQ of E10
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 58 of 519
© 2019 PCTEST Engineering Labo	V 8 8 11/19/2018			



### SISO Antenna-2 26 dB Bandwidth Measurements (484 Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 26dB Bandwidth [MHz]
Band 1	5190	38	ax (40MHz)	484T	MCS0	40.17
Ba	5230	46	ax (40MHz)	484T	MCS0	67.34
an 2A	5270	54	ax (40MHz)	484T	MCS0	63.04
Ξσ	5310	62	ax (40MHz)	484T	MCS0	40.16
σ	5510	102	ax (40MHz)	484T	MCS0	39.89
Band 2C	5590	118	ax (40MHz)	484T	MCS0	43.57
	5710	142	ax (40MHz)	484T	MCS0	40.51

Table 7-8. Conducted Bandwidth Measurements SISO ANT2 (484 Tones)



Plot 7-73. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 484 Tones (UNII Band 1) - Ch. 38)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 50 of 510
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	- 1/22/2019 Portable Handset		Page 59 of 519
© 2019 PCTEST Engineering Lab	V 8.8 11/19/2018			



Keysight Spectrum Analyzer - Occupied	BW						- 5 -
<b>(X)</b> RL RF 50 Ω AC	CORREC	SENSE:INT Center Freg: 5.230000000	GH7	04:54:08 P	MJan 08, 2019	Trace	e/Detector
		Trig: Free Run Av	g Hold: 100/100				
	#IFGain:Low	#Atten: 20 dB		Radio Dev	ice: BTS		
10 dB/div Ref 20.00 dE	sm						
Log 10.0							
0.00	prothelyboard	and million protocol and a second				C	Clear Write
-10.0	l l						
	k rhald		Maphalyman	مناحد ا			
Mar MUNITIM AND AND				Maril Marine C. A	MAR HALL		Average
							Average
-40.0							
-50.0							
-60.0							Max Hold
-70.0						_	
Center 5.23 GHz				Snan	100 MHz		
#Res BW 620 kHz		VBW 6 MHz			ep 1 ms		Min Hold
							Millinoid
Occupied Bandwic	ith	Total Powe	er 24.4	dBm			
3	7.781 MH	Z					Detector
							Peak►
Transmit Freq Error	39.705 kH	z % of OBW	Power 99	.00 %		Auto	<u>Man</u>
x dB Bandwidth	67.34 MH	z xdB	-26.0	00 dB			
MSG			STATUS				

Plot 7-74. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 484 Tones (UNII Band 1) - Ch. 46)



Plot 7-75. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 484 Tones (UNII Band 2A) - Ch. 54)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 60 of 519
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset	landset	
© 2019 PCTEST Engineering Labora	V 8.8 11/19/2018			



Even State Content Analyzer - Occupied BW						×
<b>LX/ RL</b> RF 50Ω AC C	ORREC	SENSE:INT ter Frea: 5.310000000 GHz	05:46:18 P Radio Std	M Jan 08, 2019	Trace/Detec	tor
	🛶 Trig	g: Free Run Avg Hold	1: 100/100			
#	FGain:Low #At	ten: 20 dB	Radio Dev	/ice: BTS		
10 dB/div Ref 20.00 dBm						
10.0						
0.00	alutalian	my for maria and all rates			ClearV	Vrite
-10.0						
-20.0						
	/		A .		Avo	rage
-30.0	<u>,</u>		Mary Mary Mary Mary Mary Market	Aller .	AVE	aye
			, prejujo prej	a allow front		
-50.0						
-60.0					Max	Hold
-70.0						
Center 5.31 GHz			Snar	100 MHz		
#Res BW 390 kHz		VBW 4 MHz		eep 1 ms	Min	Hold
					WIITI	noiu
Occupied Bandwidth		Total Power	21.6 dBm			
37	542 MHz				Dete	ector
						eak▶
Transmit Freq Error	9.668 kHz	% of OBW Pow	er 99.00 %		Auto	Man
x dB Bandwidth	40.16 MHz	x dB	-26.00 dB			
MSG			STATUS			

Plot 7-76. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 2A) – Ch. 62)



Plot 7-77. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 102)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dama 64 of 540		
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 61 of 519		
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Keysight Spectrum Analyzer - Occup	pied BW						- # <b>X</b>
(X/ RL RF 50 Ω	AC CORREC	SENSE:INT Center Freg: 5.59000	0000 GHz	05:59:49 Pt Radio Std:	4 Jan 08, 2019	Trace	/Detector
	<b>→</b>	Trig: Free Run	Avg Hold: 100/100				
	#IFGain:Low	#Atten: 20 dB		Radio Dev	ice: BTS		
10 dB/div Ref 20.00	dBm						
Log 10.0							
0.00	water of the strengt	month hyperson three	-llbother, have			C	lear Write
-10.0	1						
-20.0 -30.0 - Marroya Minaham	hours		(month and )	maduluman	and the second		Avorago
					and all and all		Average
-40.0							
-50.0							
-60.0							Max Hold
-70.0							
Center 5.59 GHz				Snan	100 MHz		
#Res BW 390 kHz		VBW 4 MHz			ep 1 ms		Min Hold
							Min Hold
Occupied Bandw	vidth	Total P	ower 24.	5 dBm			
	37.684 MI	-17					Detector
							Peak▶
Transmit Freq Erro	or -16.296 l	kHz % of Ol	BW Power 99	9.00 %		Auto	<u>Man</u>
x dB Bandwidth	43.57 N	lHz xdB	-26.	00 dB			
MSG			STATU	s			
			UIAID	-			

Plot 7-78. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 118)



Plot 7-79. 26dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 484 Tones (UNII Band 2C) - Ch. 142)

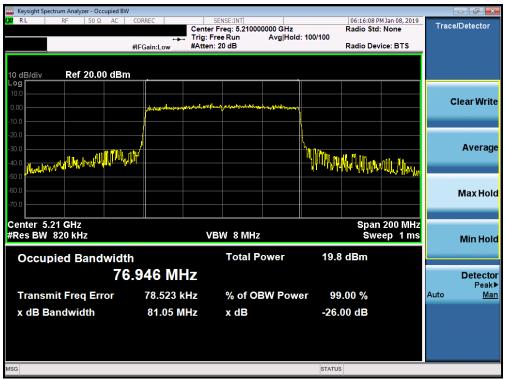
FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dawa (0) of 540		
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 62 of 519		
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### SISO Antenna-2 26 dB Bandwidth Measurements (996 Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 26dB Bandwidth [MHz]
Band 1	5210	42	ax (80MHz)	996T	MCS0	81.05
Band 2A	5290	58	ax (80MHz)	996T	MCS0	81.20
ပ္ရ	5530	106	ax (80MHz)	996T	MCS0	97.75
Band 2C	5610	122	ax (80MHz)	996T	MCS0	103.60
Bai	5690	138	ax (80MHz)	996T	MCS0	98.62

 Table 7-9. Conducted Bandwidth Measurements SISO ANT2 (996 Tones)



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

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Page 63 of 519	
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 63 01 5 19	
© 2019 PCTEST Engineering Labo	pratory Inc.			V 8 8 11/19/2018	



Keysight Spectrum Analyzer - Occupied BW							
LXX RL RF 50Ω AC COR		Freq: 5.29000000 GHz ree Run AvalHol	d: 100/100	06:21:33 P	MJan 08, 2019 None	Trac	e/Detector
#IFG	ain:Low #Atten:			Radio Dev	ice: BTS		
10 dB/div Ref 20.00 dBm	·						
10.0							
0.00	Heren marken and the second	whole warman provide the				(	Clear Write
-10.0							
-20.0							
20.0							Average
-40.0 10 - 10 - 10 - 10 - 10 - 10 - 10 - 1			", MAR	d BLMmart	al utilita.		
-50.0			.h dindak	da Akla da bil	Harden Alland		
-60.0							
							Max Hold
-70.0							
Center 5.29 GHz				Span	200 MHz		
#Res BW/820 kHz	VE	SW 8 MHz		Swe	ep 1 ms		Min Hold
Occupied Bandwidth		Total Power	20.7	dBm			
	54 MHz						Detector
10.5							Peak▶
Transmit Freq Error	48.990 kHz	% of OBW Pow	ver 99	.00 %		Auto	<u>Man</u>
x dB Bandwidth	81.20 MHz	x dB	-26.0	00 dB			
MSG			STATUS				

Plot 7-81. 26dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax - 996 Tones (UNII Band 2A) - Ch. 58)



Plot 7-82. 26dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax - 996 Tones (UNII Band 2C) - Ch. 106)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 64 of 510	
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 64 of 519	
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Keysight Spectrum Analyzer - Occu	upied BW									
<b>(X)</b> RL RF 50 Ω	AC COR	REC		NSE:INT reg: 5.61000	0000 GHz		06:36:35 P Radio Std	M Jan 08, 2019	Trac	ce/Detector
		·	. Trig: Free	e Run	Avg Hold	i: 100/100				
	#IFG	Gain:Low	#Atten: 2	0 dB			Radio Dev	ice: BTS		
10 dB/div Ref 20.00	dBm									
Log 10.0										
0.00		Linternation	application of the second	www.	man					Clear Write
-10.0										
	I all all					- date				
-20.0 -30.0 HIL AND MARTHING MAN	CAPALLY Drawn					ALL ALL DEVELOPMENT	will have a factor	W. Alp. M		Average
										Average
-40.0										
-50.0										
-60.0										Max Hold
-70.0										
Center 5.61 GHz							Snan	200 MHz		
#Res BW 1.1 MHz			VB)	N 8 MHz				ep 1 ms		Min Hold
										Mill Hold
Occupied Bandy	width			Total P	ower	24.3	dBm			
	77.2	05 MI	17							Detector
										Peak▶
Transmit Freq Erro	or	11.531 k	Hz	% of O	<b>3W Pow</b>	er 99	.00 %		Auto	<u>Man</u>
x dB Bandwidth		103.6 M	IHz	x dB		-26.	00 dB			
MSG						STATUS				
Transmit Freq Erre	77.2	05 MH 11.531 k 103.6 M	Hz	Total P % of OE x dB		er 99	dBm .00 % 00 dB		Auto	Detector Peak▶
MSG						STATUS				

Plot 7-83. 26dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax - 996 Tones (UNII Band 2C) - Ch. 122)



Plot 7-84. 26dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax - 996 Tones (UNII Band 2C) - Ch. 138)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dawa 65 af 540	
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 65 of 519	
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#### 7.3 6dB Bandwidth Measurement – 802.11ax OFDMA §15.407 (e); RSS-Gen [6.7]

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

The bandwidth at 6dB 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 6dB bandwidth.

#### In the 5.725 – 5.850GHz band, the 6dB bandwidth must be $\geq$ 500 kHz.

#### **Test Procedure Used**

ANSI C63.10-2013 – Section 6.9.2 KDB 789033 D02 v02r01 – Section C

#### Test Settings

- The signal analyzers' automatic bandwidth measurement capability was used to perform the 6dB bandwidth measurement. The "X" dB bandwidth parameter was set to X = 6. 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 = 100 kHz
- 3. VBW  $\geq$  3 x RBW
- 4. Detector = Peak
- 5. Trace mode = max hold
- 6. Sweep = auto couple

#### Test Setup

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



Figure 7-2. Test Instrument & Measurement Setup

#### Test Notes

The 6dB Bandwidth measurement for each channel was measured with the RU index showing the highest conducted power.

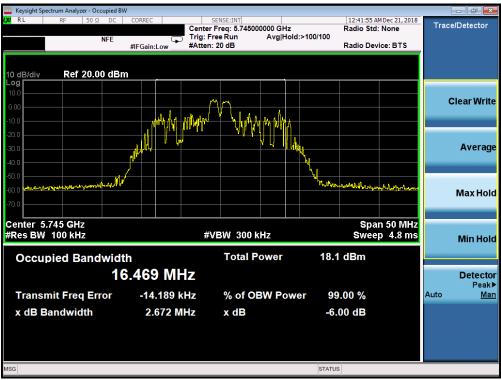
FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dage 66 of 510		
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## SISO Antenna-1 6 dB Bandwidth Measurements (26 Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
	5745	149	ax (20MHz)	26T	MCS0	2.67
e	5785	157	ax (20MHz)	26T	MCS0	2.06
	5825	165	ax (20MHz)	26T	MCS0	2.08
Band	5755	151	ax (40MHz)	26T	MCS0	2.14
	5795	159	ax (40MHz)	26T	MCS0	2.12
	5775	155	ax (80MHz)	26T	MCS0	2.27

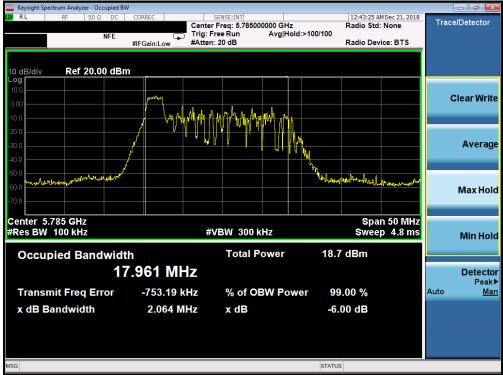
 Table 7-10. Conducted Bandwidth Measurements SISO ANT1 (26 Tones)



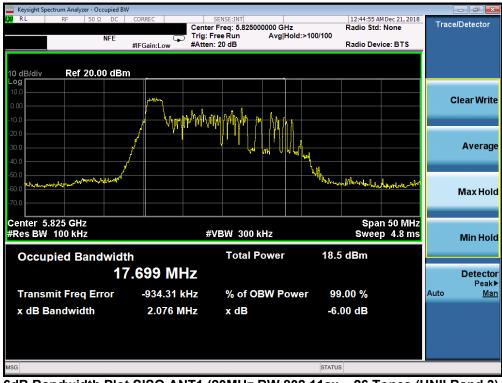
Plot 7-85. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 149)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 67 of 510
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 67 of 519
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Plot 7-86. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 157)



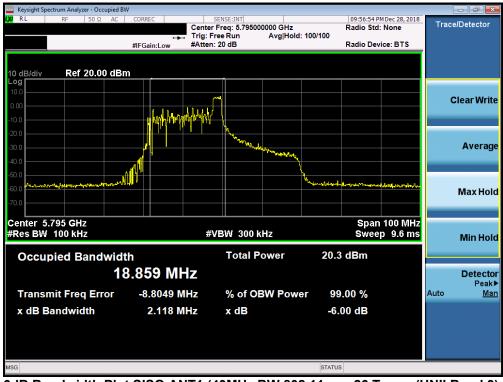
Plot 7-87. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 165)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 68 of 510
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Keysight Spectrum Analyzer - Occupied BW	1				_	- • •
<b>ιχα RL</b> RF 50Ω AC	Center	SENSE:INT Freq: 5.755000000 GHz Free Run Avg Hold : 20 dB	Radio St I: 100/100	PMDec 28, 2018 d: None	Trace	Detector
10 dB/div Ref 20.00 dBm	1					
10.0 0.00 10.0	Malak Jun Malak	h			с	lear Write
-20.0 -30.0 -40.0		Mar Marina				Average
-50.0 -60.0 -70.0			Mushmummer ~~	Nest-wheeseeft-		Max Hold
Center 5.755 GHz #Res BW 100 kHz		VBW 300 kHz	Swe	n 100 MHz ep   9.6 ms		Min Hold
Occupied Bandwidt	<sup>n</sup> ′.816 MHz	Total Power	20.9 dBm			Detector Peak▶
Transmit Freq Error x dB Bandwidth	-10.234 MHz 2.142 MHz	% of OBW Pow x dB	er 99.00 % -6.00 dB		Auto	<u>Man</u>
MSG			STATUS			

Plot 7-88. 6dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 151)



Plot 7-89. 6dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 159)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 60 of 510
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Keysight Spectrum Analyzer - Occupied B					
XIRL RF 50Ω AC	CORREC	SENSE:INT	000 GHz	10:31:44 PM Dec 28 Radio Std: None	Trace/Detector
	T		Avg Hold: 100/100	Radio Device: BT	s
	#IFGain:Low #	Atten: 20 db		Radio Device. D I	<b>-</b>
10 dB/div Ref 20.00 dBr	n				
Log					
10.0			<u>rv</u>		Clear Write
0.00			addition by		
-10.0					
-20.0		مرکار م	, , , , , , , , , , , , , , , , , , ,		Average
-40.0		numwer nin ar ar ar	l l		Average
-50.0					
-60.0 month and the state of the				will from would us	Max Hold
-70.0					Max Hold
Center 5.775 GHz #Res BW 100 kHz		#VBW 300 kH	z	Span 200   Sweep 19.13	
					Min Hold
Occupied Bandwid	th	Total Po	wer 20.9	dBm	
1	7.966 MHz	Z			Detector
Transmit Freq Error	30.114 MHz	z % of OB\	N Power 99	.00 %	Peak≯ Auto Man
x dB Bandwidth	2.270 MHz			00 dB	
	2.270 WH2	2 X UB	-0.	00 aB	
MSG			STATUS	5	
				_	

Plot 7-90. 6dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 155)

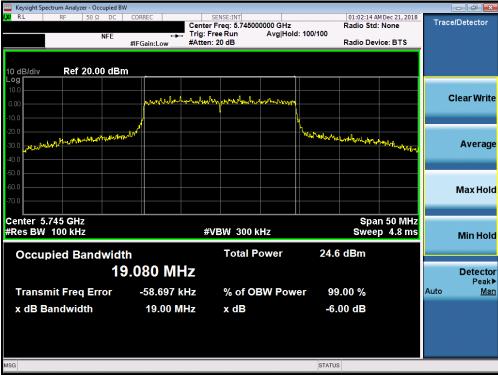
FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 70 of 510
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 70 of 519
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### SISO Antenna-1 6 dB Bandwidth Measurements (242 Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
13	5745	149	ax (20MHz)	242T	MCS0	19.00
Band	5785	157	ax (20MHz)	242T	MCS0	18.99
ä	5825	165	ax (20MHz)	242T	MCS0	18.96

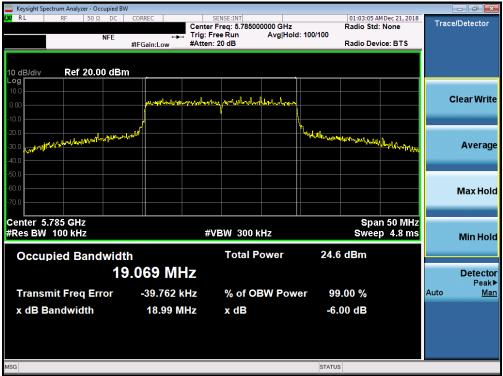
Table 7-11. Conducted Bandwidth Measurements SISO ANT1 (242 Tones)



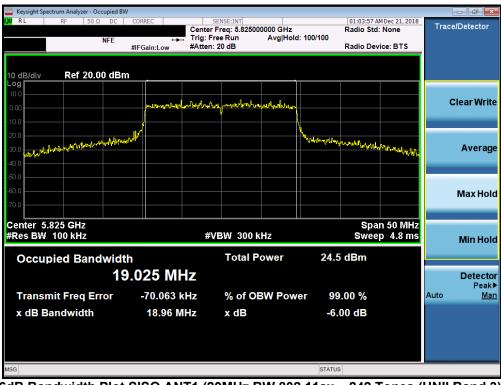
Plot 7-91. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 149)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 71 of 510
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Plot 7-92. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 3) - Ch. 157)



Plot 7-93. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 3) - Ch. 165)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 72 of 510
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 72 of 519
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### SISO Antenna-1 6 dB Bandwidth Measurements (484 Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
Band 3	5755	151	ax (40MHz)	484T	MCS0	37.66
Ba	5795	159	ax (40MHz)	484T	MCS0	36.82

 Table 7-12. Conducted Bandwidth Measurements SISO ANT1 (484 Tones)



Plot 7-94. 6dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax – 484 Tones (UNII Band 3) – Ch. 151)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dega 72 of 510	
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 73 of 519	
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🔤 Keysight Spectrum Analyzer - Occupied BW 👘						[	- 0 ×
LXX RL RF 50Ω AC CO		req: 5.795000000 GHz eRun AvalHolo	F d: 100/100	10:04:30 Pf Radio Std:	1Dec 28, 2018 None	Trace	e/Detector
#IF	Gain:Low #Atten: 2			Radio Dev	ice: BTS		
10 dB/div Ref 20.00 dBm	_						
Log 10.0 0.00 -10.0	Antalaktahatahahahahahahahan	John Martin Martin				c	lear Write
-20.0 -30.0 -40.0 annon from floring for the second	, ,			mandella	Murriel Maples		Average
-50.0 -60.0 -70.0							Max Hold
Center 5.795 GHz #Res BW 100 kHz	#VI	BW 300 kHz Total Power	24.8 0	Swee	100 MHz p 9.6 ms		Min Hold
Occupied Bandwidth 37.4	10 MHz	Total Fower	24.00	авш			Detector Peak▶
Transmit Freq Error	-50.410 kHz	% of OBW Pow	ver 99.0	00 %		Auto	<u>Man</u>
x dB Bandwidth	36.82 MHz	x dB	-6.00	0 dB			
MSG			STATUS				

Plot 7-95. 6dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax – 484 Tones (UNII Band 3) – Ch. 159)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dega 74 of 510	
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 74 of 519	
© 2019 PCTEST Engineering Labo	ratory Inc			V 8 8 11/19/2018	



# SISO Antenna-1 6 dB Bandwidth Measurements (996 Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
Band 3	5775	155	ax (80MHz)	996T	MCS0	77.25

Table 7-13. Conducted Bandwidth Measurements SISO ANT1 (996 Tones)

🔤 Keysight S	pectrum Analyze	r - Occu	upied BW												
L <mark>XI</mark> RL	RF	50 Ω	AC	CORF	REC			SENSE		0000 GHz		10:36:34 P Radio Std	M Dec 28, 2018	Trac	e/Detector
						++	Tailan F	ree R	un		d: 100/100	Radio Dev			
				#IFG	ain:Lo	N	#Atten	: 20 0				Radio Dev	ICE: DIS		
10 dB/div	Ref 2	0.00	) dBm												
10.0															
0.00									an llan	ւկերերը				(	Clear Write
-10.0				{	ww		, NIA PALANANA	n an	a an	<sub>╋┉</sub> ╢⋫╉╢┝╶┵┥╎ <sub>╋</sub> ╽					
-20.0															
-30.0			1.04	Lu /							N. Males and	and the would			Average
-40.0 Ind .	Annahaland	plun,	Man Lynn	MnA							In sector we	a Martin Law aligh	tally with work		
-50.0															
-60.0															Max Hold
-70.0															
Center :	5.775 GHz											Span	200 MHz		
	/ 100 kHz						#	٧BW	/ 300 k	Hz			19.13 ms		Min Hold
0.000	uniad Da		a di al fil					-	otal P	ower	24 1	3 dBm			
Occu	ipied Ba	Ina							Utal F	Ower	24.	JUBIII			
			/6	6.8	78	NF	1Z								Detector Peak►
Trans	mit Freq	Erro	or		19.0	92 k	Hz	%	6 of OE	3W Pow	ver 99	9.00 %		Auto	Man
x dB l	Bandwidt	th			77.2	5 M	Hz	x	dB		-6	.00 dB			
MSG											STATU	s			
				-				-							

Plot 7-96. 6dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ax – 996 Tones (UNII Band 3) – Ch. 155)

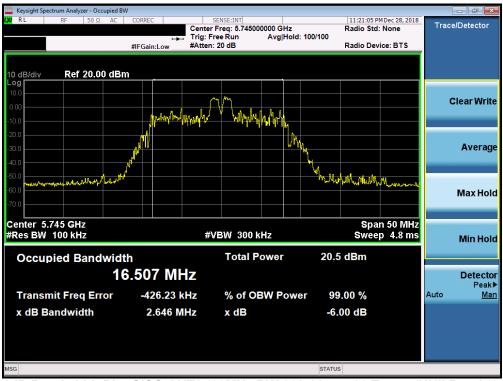
FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager					
Test Report S/N:	Test Dates:	EUT Type:		Daga 75 of 510					
1M1811260212-15.A3L	11/9/2018 - 1/22/2019 Portable Handset			Page 75 of 519					
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### SISO Antenna-2 6 dB Bandwidth Measurements (26 Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
	5745	149	ax (20MHz)	26T	MCS0	2.65
e	5785	157	ax (20MHz)	26T	MCS0	2.67
	5825	165	ax (20MHz)	26T	MCS0	2.70
Band	5755	151	ax (40MHz)	26T	MCS0	2.18
	5795	159	ax (40MHz)	26T	MCS0	2.16
	5775	155	ax (80MHz)	26T	MCS0	2.17

 Table 7-14. Conducted Bandwidth Measurements SISO ANT2 (26 Tones)



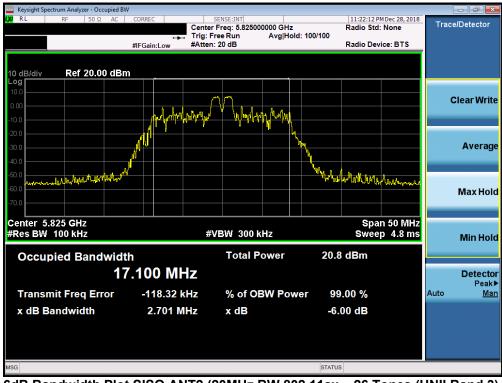
Plot 7-97. 6dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 149)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-98. 6dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 157)



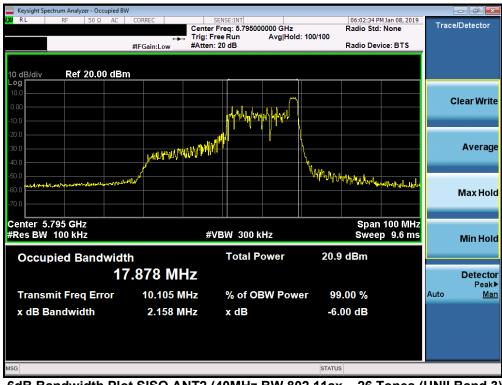
Plot 7-99. 6dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 165)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N: Test Dates:		EUT Type:		Daga 77 of 510	
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Plot 7-100. 6dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 151)



Plot 7-101. 6dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 159)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Daga 79 of 510	
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 78 of 519	
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🔤 Keysight Spectrum Ana										_	- • ×
LXI RL RF	50 Ω	AC CO	RREC	Center Freq: 5.775000000 GHz				06:39:02 P Radio Std	MJan 08, 2019 : None	Trace	e/Detector
		#1	Gain:Low	Trig: Fr #Atten:		Avg Hold	: 100/100	Radio Dev	vice: BTS		
		#11	Gain.Low	m teteri.	20 00			radio ber			
	f 20.00	dBm									
Log 10.0											
0.00										c	lear Write
-10.0						when the					
-20.0											Average
-30.0				Allow Martin 1994	al and the second		1				Average
-40.0			Party Walling	ARAT PARTY .			W.	<b>h</b>			
-60.0 -60.0	whenman	whether have been a started where					destradified	Maryment	House Houlins		Max Hold
-70.0											
Center 5.775 G	Hz							Span	200 MHz		
#Res BW/100 k	Hz			#V	BW 300 k	Hz			19.13 ms		Min Hold
Occupied	Bandy	vidth			Total P	ower	20.0	dBm			
			07 N	IH7							Detector
<b>T</b>					0/ - C OF		- 00	00.0/		0	Peak▶
Transmit Fre		or	30.090			SW Powe		.00 %		Auto	Man
x dB Bandw	idth		2.166	MHz	x dB		-6.0	00 dB			
MSG							STATUS				
· · · · ·											

Plot 7-102. 6dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 70 of 510
1M1811260212-15.A3L	11/9/2018 - 1/22/2019	Portable Handset		Page 79 of 519
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### SISO Antenna-2 6 dB Bandwidth Measurements (242 Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
3	5745	149	ax (20MHz)	242T	MCS0	18.97
Band	5785	157	ax (20MHz)	242T	MCS0	19.04
ä	5825	165	ax (20MHz)	242T	MCS0	19.01

Table 7-15. Conducted Bandwidth Measurements SISO ANT2 (242 Tones)



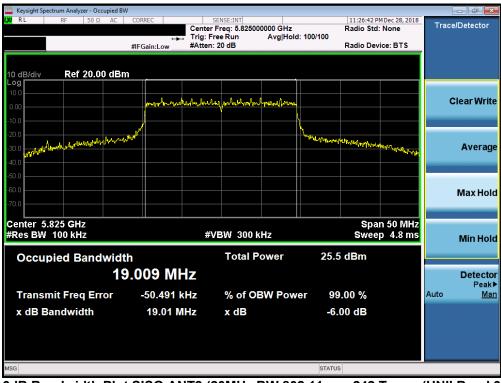
Plot 7-103. 6dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 149)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Daga 90 of 510	
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Keysight Spectrum Analyzer - Occupied I	BW						
<mark>(X)</mark> RL RF 50Ω AC	CORREC	SENSE:INT Center Freq: 5.785000	000 GHz	11:26:22 PM Radio Std:	Dec 28, 2018	Trace	/Detector
		Trig: Free Run	Avg Hold: 100/100				
	#IFGain:Low	#Atten: 20 dB		Radio Devi	ce: BTS		
10 dB/div Ref 20.00 dB	m						
Log 10.0							
0.00	mohowith	molow of produced	whather			C	lear Write
-10.0							
	NP		λ,				
1 May market Market	Mar		harrowthat	ullowed all a startly	studio -		Average
SOLO WINE AND					- white when		Average
-40.0							
-50.0							
-60.0							Max Hold
-70.0							
Center 5.785 GHz				Snar	n 50 MHz		
#Res BW 100 kHz		#VBW_300 k	Hz		0 4.8 ms		Min Hold
Occupied Bandwid	lth	Total Po	ower 25.7	7 dBm			
1	9.030 MH	7					Detector
							Peak▶
Transmit Freq Error	-41.721 k⊦	z % of OE	W Power 99	9.00 %		Auto	<u>Man</u>
x dB Bandwidth	19.04 MH	z xdB	-6.	00 dB			
MSG			STATU	s			
			oraro				

Plot 7-104. 6dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 3) - Ch. 157)



Plot 7-105. 6dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 3) - Ch. 165)

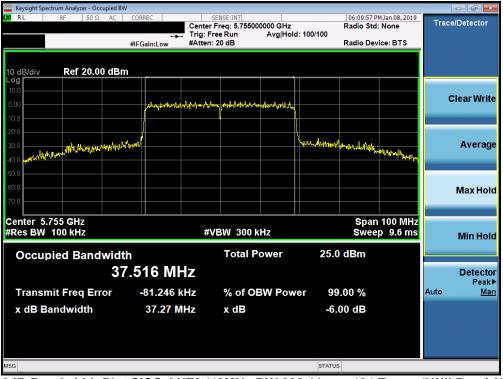
FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dago 91 of 510	
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### SISO Antenna-2 6 dB Bandwidth Measurements (484 Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
Band 3	5755	151	ax (40MHz)	484T	MCS0	37.27
Ba	5795	159	ax (40MHz)	484T	MCS0	37.01

 Table 7-16. Conducted Bandwidth Measurements SISO ANT2 (484 Tones)



Plot 7-106. 6dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 3) – Ch. 151)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 92 of 510
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🔤 Keysight Spectrum Analyzer - Occup	bied BW						- • ×
LX/ RL RF 50 Ω	AC CORREC	SENSE:INT Center Freg: 5.7950000	00 GHz	06:10:18 P	MJan 08, 2019	Trace	e/Detector
		Trig: Free Run	Avg Hold: 100/100				
	#IFGain:Low	#Atten: 20 dB		Radio Dev	ice: BTS		
10 dB/div Ref 20.00	dBm						
Log 10.0							
0.00	Le a La da A		1.4.1			(	Clear Write
			THE REPORT				
-10.0							
-20.0	March Walt		myhollystation				A
h. Math Artifution and an	fisheevel			manul for w	WWWWWWWWW		Average
-40.0 44							
-50.0							
-60.0							Max Hold
-70.0							
				<b>A</b>			
Center 5.795 GHz #Res BW 100 kHz		#VBW 300 kH	7		100 MHz p 9.6 ms		
TOO KIIZ		#VDVV JOOKII	2	owee	p 9.0 ms		Min Hold
Occupied Bandw	vidth	Total Pov	wer 25.4	dBm		_	
	37.520 MH	-					Detector
	37.320 WIR	Z					Detector Peak▶
Transmit Freq Erro	r -95.674 kH	z % of OBV	V Power 99	.00 %		Auto	Man
x dB Bandwidth	37.01 MH	z xdB	-6.	00 dB			
MSG			STATUS				
Mod			STATUS	·			

Plot 7-107. 6dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 3) – Ch. 159)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 82 of 510
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# SISO Antenna-2 6 dB Bandwidth Measurements (996 Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
Band 3	5775	155	ax (80MHz)	996T	MCS0	77.57

Table 7-17. Conducted Bandwidth Measurements SISO ANT2 (996 Tones)

	rum Analyzer - C											
L <mark>XI</mark> RL	RF 50	ΩA	AC COF	RREC	Cen	SENSE:INT ter Freg: 5.77500	00000 GHz		06:43:58 P Radio Std	M Jan 08, 2019	Trac	e/Detector
					+++ Trig	: Free Run		d: 100/100				
			#IF(	Gain:Low	#Att	en: 20 dB			Radio Dev	ice: BTS		
10 dB/div Log	Ref 20.	00 d	IBm	<b>.</b>								
10.0												
0.00				MANT	M KL an AlfALIAN	William Indeling Alder						Clear Write
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Plot 7-108. 6dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 3) – Ch. 155)

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# 7.4 UNII Output Power Measurement – 802.11ax OFDMA §15.407(a.1.iv) §15.407(a.2) §15.407(a.3); RSS-247 [6.2]

#### **Test Overview and Limits**

A transmitter antenna terminal of the EUT is connected to the input of an RF pulse power sensor. Measurement is made using a broadband average power meter 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.

In the 5.15 – 5.25GHz band, the maximum permissible conducted output power is 250mW (23.98dBm). For ISED operation, the maximum e.i.r.p. shall not exceed the lesser of 200 mW(23.01dBm) or  $10 + 10 \log 10(17.33) = 22.39dBm$ .

In the 5.25 – 5.35GHz band, the maximum permissible conducted output power is the lesser of 250mW (23.98dBm) and 11 dBm +  $10\log_{10}(26dB BW) = 11 dBm + 10\log_{10}(17.68) = 23.47dBm$ . For ISED operation, the maximum e.i.r.p. shall not exceed the lesser of 1.0 W(30dBm) or 17 + 10 log10(17.68) = 29.47dBm.

In the 5.47 – 5.725GHz band, the maximum permissible conducted output power is the lesser of 250mW (23.98dBm) and 11 dBm +  $10\log_{10}(26dB BW) = 11 dBm + 10\log_{10}(15.12) = 22.80dBm$ . For ISED operation, the maximum e.i.r.p. shall not exceed the lesser of 1.0 W(30dBm) or 17 + 10 log10(15.12) = 28.80dBm.

In the 5.725 – 5.850GHz band, the maximum permissible conducted output power is 1W (30dBm). For ISED operation, the maximum e.i.r.p. is 36 dBm.

#### Test Procedure Used

ANSI C63.10-2013 – Section 12.3.3.2 Method PM-G KDB 789033 D02 v02r01 – Section E)3)b) Method PM-G ANSI C63.10-2013 – Section 14.2 Measure-and-Sum Technique KDB 662911 v02r01 – Section E)1) Measure-and-Sum Technique

#### **Test Settings**

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter. The trace was averaged over 100 traces to obtain the final measured average power.

#### <u>Test Setup</u>

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



Figure 7-3. Test Instrument & Measurement Setup

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# SISO Antenna-1 Conducted Output Power Measurements (26 Tones)

th)	Freq [MHz]	Freq [MHz] Channel Deter		Tones	RU Index			Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
wid					0	4	8	[dBm]	Margin [dB]	[]	[and all a		
<u> </u>	5180	36	AVG	26T	10.93	10.84	10.77	23.98	-13.05	-8.61	2.32	22.39	-20.07
and	5200	40	AVG	26T	10.58	10.89	10.74	23.98	-13.09	-8.61	2.28	22.39	-20.11
a	5240	48	AVG	26T	10.51	10.99	10.81	23.98	-12.99	-7.66	3.33	22.39	-19.06
B	5260	52	AVG	26T	10.53	10.98	10.72	23.47	-12.49	-7.28	3.70	29.47	-25.77
부	5280	56	AVG	26T	10.58	10.88	10.76	23.47	-12.59	-7.28	3.60	29.47	-25.87
∖⊒	5320	64	AVG	26T	10.84	10.70	10.98	23.47	-12.49	-7.54	3.44	29.47	-26.03
(20M	5500	100	AVG	26T	10.87	10.63	10.49	22.80	-11.93	-7.38	3.49	28.80	-25.31
	5600	120	AVG	26T	10.69	10.86	10.59	22.80	-11.94	-7.38	3.48	28.80	-25.32
F	5720	144	AVG	26T	10.72	10.86	10.62	22.80	-11.94	-7.38	3.48	28.80	-25.32
t d	5745	149	AVG	26T	10.44	10.57	10.56	30.00	-19.43	-8.25	2.32	-	-
5G	5785	157	AVG	26T	10.81	10.70	10.43	30.00	-19.19	-8.25	2.56	-	-
	5825	165	AVG	26T	10.66	10.45	10.15	30.00	-19.34	-7.47	3.19	-	-

Table 7-18. SISO ANT1 20MHz BW (UNII) Maximum Conducted Output Power (26 Tones)

	Freq [MHz]	Channel	Detector	Tones		RU Index		Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
N					0	8	17	[dBm]	Margin [dB]	[abi]	Lapud	Ennie [GB/II]	margin [ab]
I I C	5190	38	AVG	26T	10.93	10.66	10.48	23.98	-13.05	-8.61	2.32	22.39	-20.07
₹ ₹	5230	46	AVG	26T	10.53	10.75	10.53	23.98	-13.23	-7.66	3.09	22.39	-19.30
(40 vic	5270	54	AVG	26T	10.99	10.55	10.61	23.47	-12.48	-7.28	3.71	29.47	-25.76
	5310	62	AVG	26T	10.57	10.80	10.72	23.47	-12.67	-7.54	3.26	29.47	-26.21
ы т	5510	102	AVG	26T	10.97	10.66	10.72	22.80	-11.83	-7.38	3.59	28.80	-25.21
C m	5590	118	AVG	26T	10.59	10.71	10.71	22.80	-12.09	-7.38	3.33	28.80	-25.47
_ ت	5710	142	AVG	26T	10.81	10.89	10.83	22.80	-11.91	-8.25	2.64	28.80	-26.16
	5755	151	AVG	26T	10.98	10.57	10.74	30.00	-19.02	-8.25	2.73	-	-
	5795	159	AVG	26T	10.52	10.57	10.52	30.00	-19.43	-12.88	-2.31	-	-

Table 7-19. SISO ANT1 40MHz BW (UNII) Maximum Conducted Output Power (26 Tones)

	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
Ϋ́ς					0	18	36	[dBm]	Margin [dB]	[abi]	Lapud	Ennie [GBin]	margin [ab]
e e	5210	42	AVG	26T	10.98	10.70	10.67	23.98	-13.00	-7.66	3.32	22.39	-19.07
<u>8</u> (8	5290	58	AVG	26T	10.88	10.60	10.62	23.47	-12.59	-7.54	3.34	29.47	-26.13
Hz	5530	106	AVG	26T	10.54	10.80	10.62	22.80	-12.00	-7.38	3.42	28.80	-25.38
5GF Bai	5610	122	AVG	26T	10.57	10.63	10.57	22.80	-12.17	-7.38	3.25	28.80	-25.55
	5690	138	AVG	26T	10.69	10.75	10.65	22.80	-12.05	-7.38	3.37	28.80	-25.43
	5775	155	AVG	26T	10.45	10.52	10.55	30.00	-19.45	-8.25	2.30	-	-

Table 7-20. SISO ANT1 80MHz BW (UNII) Maximum Conducted Output Power (26 Tones)

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# SISO Antenna-1 Conducted Output Power Measurements (52 Tones)

th)	Freq [MHz]	Freq [MHz] Channel Deter		Tones				Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
wid					37	39	40	[dBm]	Margin [dB]	[			
<u> </u>	5180	36	AVG	52T	12.72	12.97	12.97	23.98	-11.01	-8.61	4.36	22.39	-18.03
and	5200	40	AVG	52T	12.85	12.54	12.39	23.98	-11.13	-8.61	4.24	22.39	-18.15
a	5240	48	AVG	52T	12.90	12.68	12.56	23.98	-11.08	-7.66	5.24	22.39	-17.15
B	5260	52	AVG	52T	12.74	12.56	12.33	23.47	-10.73	-7.28	5.46	29.47	-24.01
부	5280	56	AVG	52T	12.83	12.61	12.46	23.47	-10.64	-7.28	5.55	29.47	-23.92
Ē	5320	64	AVG	52T	12.52	12.68	12.60	23.47	-10.79	-7.54	5.14	29.47	-24.33
(20M	5500	100	AVG	52T	12.53	12.77	12.65	22.80	-10.03	-7.38	5.39	28.80	-23.41
	5600	120	AVG	52T	12.85	12.98	12.84	22.80	-9.82	-7.38	5.60	28.80	-23.20
F	5720	144	AVG	52T	12.88	12.51	12.37	22.80	-9.92	-7.38	5.50	28.80	-23.30
5	5745	149	AVG	52T	12.40	12.47	12.42	30.00	-17.53	-8.25	4.22	-	-
5G	5785	157	AVG	52T	12.34	12.71	12.46	30.00	-17.29	-8.25	4.46	-	-
	5825	165	AVG	52T	12.81	12.46	12.34	30.00	-17.19	-7.47	5.34	-	-

Table 7-21. SISO ANT1 20MHz BW (UNII) Maximum Conducted Output Power (52 Tones)

	Freq [MHz]	Channel	Detector	Tones		RU Index		Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
N					37	40	44	[dBm]	Margin [dB]	[abi]	Lapud	Ennie [GBin]	margin [ab]
ΞI	5190	38	AVG	52T	12.66	12.83	12.84	23.98	-11.14	-8.61	4.23	22.39	-18.16
d Z	5230	46	AVG	52T	12.56	12.64	12.65	23.98	-11.33	-7.66	4.99	22.39	-17.40
(40 wie	5270	54	AVG	52T	12.82	12.61	12.83	23.47	-10.64	-7.28	5.55	29.47	-23.92
	5310	62	AVG	52T	12.87	12.82	12.97	23.47	-10.50	-7.54	5.43	29.47	-24.04
aH	5510	102	AVG	52T	12.51	12.57	12.85	22.80	-9.95	-7.38	5.47	28.80	-23.33
Сm	5590	118	AVG	52T	12.66	12.67	12.75	22.80	-10.05	-7.38	5.37	28.80	-23.43
ີ <del>ເ</del> ບ	5710	142	AVG	52T	12.92	12.80	12.88	22.80	-9.88	-8.25	4.67	28.80	-24.13
	5755	151	AVG	52T	12.89	12.78	12.96	30.00	-17.04	-8.25	4.71	-	-
	5795	159	AVG	52T	12.46	12.84	12.64	30.00	-17.16	-12.88	-0.04	-	-

Table 7-22. SISO ANT1 40MHz BW (UNII) Maximum Conducted Output Power (52 Tones)

	Freq [MHz]	Channel	Detector	Tones		RU Index		Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
Ξ.					37	44	52	[dBm]	Margin [dB]	[abi]	Lapud	Ennie [GB/II]	margin [ab]
dt O	5210	42	AVG	52T	12.80	12.89	12.51	23.98	-11.09	-7.66	5.23	22.39	-17.16
<u>8</u> (8	5290	58	AVG	52T	12.59	12.91	12.75	23.47	-10.56	-7.54	5.37	29.47	-24.10
Hz	5530	106	AVG	52T	12.50	12.84	12.56	22.80	-9.96	-7.38	5.46	28.80	-23.34
5GF Bai	5610	122	AVG	52T	12.55	12.97	12.60	22.80	-9.83	-7.38	5.59	28.80	-23.21
	5690	138	AVG	52T	12.74	12.96	12.69	22.80	-9.84	-7.38	5.58	28.80	-23.22
	5775	155	AVG	52T	12.70	12.72	12.88	30.00	-17.12	-8.25	4.63	-	-

Table 7-23. SISO ANT1 80MHz BW (UNII) Maximum Conducted Output Power (52 Tones)

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# SISO Antenna-1 Conducted Output Power Measurements (106 Tones)

th)	Freq [MHz]	Channel	Detector	Tones	RU I	ndex	Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
<u>io</u>					53	54	[dBm]	Margin [dB]	[]	[]		
andwid	5180	36	AVG	106T	14.68	14.85	23.98	-9.13	-8.61	6.24	22.39	-16.15
	5200	40	AVG	106T	14.73	14.89	23.98	-9.09	-8.61	6.28	22.39	-16.11
a	5240	48	AVG	106T	14.50	14.57	23.98	-9.41	-7.66	6.91	22.39	-15.48
B	5260	52	AVG	106T	14.78	14.90	23.47	-8.57	-7.28	7.62	29.47	-21.85
۲ ۲	5280	56	AVG	106T	14.85	14.96	23.47	-8.51	-7.28	7.68	29.47	-21.79
	5320	64	AVG	106T	14.69	14.63	23.47	-8.78	-7.54	7.15	29.47	-22.32
MO	5500	100	AVG	106T	14.72	14.82	22.80	-7.98	-7.38	7.44	28.80	-21.36
5	5600	120	AVG	106T	14.90	14.98	22.80	-7.82	-7.38	7.60	28.80	-21.20
Ηz	5720	144	AVG	106T	14.95	14.95	22.80	-7.85	-7.38	7.57	28.80	-21.23
5	5745	149	AVG	106T	14.43	14.33	30.00	-15.57	-8.25	6.18	-	-
56	5785	157	AVG	106T	14.52	14.51	30.00	-15.48	-8.25	6.27	-	-
	5825	165	AVG	106T	14.28	14.29	30.00	-15.71	-7.47	6.82	-	-

Table 7-24. SISO ANT1 20MHz BW (UNII) Maximum Conducted Output Power (106 Tones)

	Freq [MHz]	Channel	Detector	Tones		RU Index		Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
N					53	54	56	[dBm]	Margin [dB]	[abi]	Lapud	Ennie [GBin]	margin [ab]
E E	5190	38	AVG	106T	14.45	14.82	14.47	23.98	-9.16	-8.61	6.21	22.39	-16.18
₹₹	5230	46	AVG	106T	14.78	14.47	14.82	23.98	-9.16	-7.66	7.16	22.39	-15.23
(40 wic	5270	54	AVG	106T	14.48	14.60	14.60	23.47	-8.87	-7.28	7.32	29.47	-22.15
) z	5310	62	AVG	106T	14.59	14.75	14.68	23.47	-8.72	-7.54	7.21	29.47	-22.26
яπ	5510	102	AVG	106T	14.74	14.94	14.54	22.80	-7.86	-7.38	7.56	28.80	-21.24
C m	5590	118	AVG	106T	14.80	14.91	14.47	22.80	-7.89	-7.38	7.53	28.80	-21.27
Ū.	5710	142	AVG	106T	14.95	14.58	14.62	22.80	-7.85	-8.25	6.70	28.80	-22.10
	5755	151	AVG	106T	14.51	14.72	14.54	30.00	-15.28	-8.25	6.47	-	-
	5795	159	AVG	106T	14.59	14.71	14.68	30.00	-15.29	-12.88	1.83	-	-

#### Table 7-25. SISO ANT1 40MHz BW (UNII) Maximum Conducted Output Power (106 Tones)

	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
Ϋ́ Ξ					53	56	60	[dBm]	Margin [dB]	[abi]	Lapud	Ennie [GBin]	margin [ab]
(80MH width)	5210	42	AVG	106T	14.47	14.82	14.59	23.98	-9.16	-7.66	7.16	22.39	-15.23
	5290	58	AVG	106T	14.55	14.99	14.38	23.47	-8.48	-7.54	7.45	29.47	-22.02
Hz	5530	106	AVG	106T	14.49	14.86	14.60	22.80	-7.94	-7.38	7.48	28.80	-21.32
5GF Bai	5610	122	AVG	106T	14.60	14.83	14.62	22.80	-7.97	-7.38	7.45	28.80	-21.35
	5690	138	AVG	106T	14.65	14.99	14.70	22.80	-7.81	-7.38	7.61	28.80	-21.19
	5775	155	AVG	106T	14.71	14.65	14.78	30.00	-15.22	-8.25	6.53	-	-

Table 7-26. SISO ANT1 80MHz BW (UNII) Maximum Conducted Output Power (106 Tones)

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# SISO Antenna-1 Conducted Output Power Measurements (242 Tones)

andwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index	Conducted Power Limit	Conducted Power	Ant. Gain	Max e.i.r.p.	Max e.i.r.p.	e.i.r.p.	
id					61	[dBm]	Margin [dB]	[dBi]	[dBm]	Limit [dBm]	Margin [dB]	
<u> </u>	5180	36	AVG	242T	14.68	23.98	-9.30	-8.61	6.07	22.39	-16.32	
р С	5200	40	AVG	242T	17.46	23.98	-6.52	-8.61	8.85	22.39	-13.54	
a	5240	48	AVG	242T	17.52	23.98	-6.46	-7.66	9.86	22.39	-12.53	
B	5260	52	AVG	242T	17.64	23.47	-5.83	-7.28	10.36	29.47	-19.11	
H	5280	56	AVG	242T	17.65	23.47	-5.82	-7.28	10.37	29.47	-19.10	
Ξ	5320	64	AVG	242T	15.51	23.47	-7.96	-7.54	7.97	29.47	-21.50	
(20M	5500	100	AVG	242T	17.68	22.80	-5.12	-7.38	10.30	28.80	-18.50	
3	5600	120	AVG	242T	17.85	22.80	-4.95	-7.38	10.47	28.80	-18.33	
F	5720	144	AVG	242T	17.86	22.80	-4.94	-7.38	10.48	28.80	-18.32	
ъ С	5745	149	AVG	242T	17.60	30.00	-12.40	-8.25	9.35	-	-	
50	5785	157	AVG	242T	17.67	30.00	-12.33	-8.25	9.42	-	-	
	5825	165		242T	17.47	30.00	-12.53	-7.47	10.00	-	-	

Table 7-27. SISO ANT1 20MHz BW (UNII) Maximum Conducted Output Power (242 Tones)

	Freq [MHz]	Channel	Detector	Tones	RUI	ndex	Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
N					61	62	[dBm]	Margin [dB]	[abi]	Lapud	Ennie [GB/II]	margin [ab]
Р Н Ч	5190	38	AVG	242T	12.87	12.71	23.98	-11.11	-8.61	4.26	22.39	-18.13
Ę₽	5230	46	AVG	242T	16.49	16.48	23.98	-7.49	-7.66	8.83	22.39	-13.56
(40   wic	5270	54	AVG	242T	16.67	16.59	23.47	-6.80	-7.28	9.39	29.47	-20.08
	5310	62	AVG	242T	13.66	13.56	23.47	-9.81	-7.54	6.12	29.47	-23.35
Hz	5510	102	AVG	242T	14.58	14.74	22.80	-8.06	-7.38	7.36	28.80	-21.44
Сm	5590	118	AVG	242T	16.84	16.85	22.80	-5.95	-7.38	9.47	28.80	-19.33
ບ -	5710	142	AVG	242T	16.97	16.98	22.80	-5.82	-8.25	8.73	28.80	-20.07
	5755	151	AVG	242T	16.68	16.84	30.00	-13.16	-8.25	8.59	-	-
	5795	159	AVG	242T	16.55	16.58	30.00	-13.42	-12.88	3.70	-	-

Table 7-28. SISO ANT1 40MHz BW (UNII) Maximum Conducted Output Power (242 Tones)

	Freq [MHz]	Channel	Detector	Tones		RU Index		Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
Ŧ c						62	64	[dBm]	Margin [dB]	[ubi]	[ubiii]	Chine [GDin]	mar gin [db]
dth of	5210	42	AVG	242T	11.89	11.60	11.98	23.98	-12.00	-7.66	4.32	22.39	-18.07
<u>ē</u> <u>š</u>	5290	58	AVG	242T	12.10	12.30	12.07	23.47	-11.17	-7.54	4.76	29.47	-24.71
5GHz Band	5530	106	AVG	242T	12.06	12.38	12.12	22.80	-10.42	-7.38	5.00	28.80	-23.80
B B C	5610	122	AVG	242T	15.85	15.99	15.94	22.80	-6.81	-7.38	8.61	28.80	-20.19
	5690	138	AVG	242T	15.36	15.68	15.42	22.80	-7.12	-7.38	8.30	28.80	-20.50
	5775	155	AVG	242T	15.51	15.79	15.56	30.00	-14.21	-8.25	7.54	-	-

Table 7-29. SISO ANT1 80MHz BW (UNII) Maximum Conducted Output Power (242 Tones)

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# SISO Antenna-1 Conducted Output Power Measurements (484 Tones)

	Freq [MHz]	Channel	Detector	Tones	RU Index	Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]	
N					65	[dBm]	Margin [dB]	[]	[]		····· 3··· [····]	
I I C	5190	38	AVG	484T	12.61	23.98	-11.37	-8.61	4.00	22.39	-18.39	
ξĘ	5230	46	AVG	484T	16.75	23.98	-7.23	-7.66	9.09	22.39	-13.30	
(40M widt	5270	54	AVG	484T	16.47	23.47	-7.00	-7.28	9.19	29.47	-20.28	
	5310	62	AVG	484T	13.69	23.47	-9.78	-7.54	6.15	29.47	-23.32	
Hz	5510	102	AVG	484T	14.80	22.80	-8.00	-7.38	7.42	28.80	-21.38	
B, SG	5590	118	AVG	484T	16.76	22.80	-6.04	-7.38	9.38	28.80	-19.42	
LC)	5710	142	AVG	484T	16.92	22.80	-5.88	-8.25	8.67	28.80	-20.13	
	5755	151	AVG	484T	16.96	30.00	-13.04	-8.25	8.71	-	-	
	5795	159	AVG	484T	16.88	30.00	-13.12	-12.88	4.00	-	-	

Table 7-30. SISO ANT1 40MHz BW (UNII) Maximum Conducted Output Power (484 Tones)

	Freq [MHz]	Channel	Detector	Tones	RUI	ndex	Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
E €					65	66	[dBm]	Margin [dB]	[abi]	Lapud	Ennie [GBnij	
dt S	5210	42	AVG	484T	11.62	11.76	23.98	-12.22	-7.66	4.10	22.39	-18.29
<u>8</u> (8	5290	58	AVG	484T	12.26	12.38	23.47	-11.09	-7.54	4.84	29.47	-24.63
ΞΞ	5530	106	AVG	484T	11.96	12.01	22.80	-10.79	-7.38	4.63	28.80	-24.17
Ba Ba	5610	122	AVG	484T	15.63	15.71	22.80	-7.09	-7.38	8.33	28.80	-20.47
	5690	138	AVG	484T	15.72	15.85	22.80	-6.95	-7.38	8.47	28.80	-20.33
	5775	155	AVG	484T	15.65	15.86	30.00	-14.14	-8.25	7.61	-	-

Table 7-31. SISO ANT1 80MHz BW (UNII) Maximum Conducted Output Power (484 Tones)

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# SISO Antenna-1 Conducted Output Power Measurements (996 Tones)

	N	Channel	Detector	Tones	RU Index	Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					67	[dBm]	Margin [dB]				
(80MH width)	5210	42	AVG	996T	11.63	23.98	-12.35	-7.66	3.97	22.39	-18.42
	5290	58	AVG	996T	12.32	23.47	-11.15	-7.54	4.78	29.47	-24.69
E E	5530	106	AVG	996T	11.91	22.80	-10.89	-7.38	4.53	28.80	-24.27
5G Ba	5610	122	AVG	996T	15.50	22.80	-7.30	-7.38	8.12	28.80	-20.68
	5690	138	AVG	996T	15.61	22.80	-7.19	-7.38	8.23	28.80	-20.57
	5775	155	AVG	996T	15.73	30.00	-14.27	-8.25	7.48	-	-

Table 7-32. SISO ANT1 80MHz BW (UNII) Maximum Conducted Output Power (996 Tones)

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# SISO Antenna-2 Conducted Output Power Measurements (26 Tones)

th)	Freq [MHz] Channel Detector		Tones		RU Index	-	Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]	
id					0	4	8	[dBm]	Margin [dB]	13			
3	5180	36	AVG	26T	10.92	10.85	10.67	23.98	-13.06	-7.68	3.24	22.39	-19.15
andwid	5200	40	AVG	26T	10.90	10.80	10.52	23.98	-13.08	-7.68	3.22	22.39	-19.17
al	5240	48	AVG	26T	10.70	10.90	10.82	23.98	-13.08	-7.38	3.52	22.39	-18.87
B	5260	52	AVG	26T	10.99	10.76	10.46	23.47	-12.48	-7.13	3.86	29.47	-25.61
P T	5280	56	AVG	26T	10.50	10.90	10.67	23.47	-12.57	-7.13	3.77	29.47	-25.70
Ē	5320	64	AVG	26T	10.74	10.95	10.74	23.47	-12.52	-8.10	2.85	29.47	-26.62
(20M	5500	100	AVG	26T	10.80	10.97	10.71	22.80	-11.83	-7.54	3.43	28.80	-25.37
2	5600	120	AVG	26T	10.63	10.87	10.36	22.80	-11.93	-7.54	3.33	28.80	-25.47
P P	5720	144	AVG	26T	10.83	10.95	10.65	22.80	-11.85	-7.32	3.63	28.80	-25.17
5	5745	149	AVG	26T	10.65	10.92	10.51	30.00	-19.08	-7.32	3.60	-	-
5G	5785	157	AVG	26T	10.92	10.96	10.77	30.00	-19.04	-7.32	3.64	-	-
	5825	165	AVG	26T	10.78	10.90	10.73	30.00	-19.10	-8.67	2.23	-	-

Table 7-33. SISO ANT2 20MHz BW (UNII) Maximum Conducted Output Power (26 Tones)

	Freq [MHz]	I [MHz] Channel Detecto	Detector	Tones		RU Index		Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
N					0	8	17	[dBm]	Margin [dB]	[abi]	Lapud	Ennie [GBin]	margin [ab]
I I I	5190	38	AVG	26T	10.86	10.56	10.46	23.98	-13.12	-7.68	3.18	22.39	-19.21
₹₹	5230	46	AVG	26T	10.92	10.65	10.64	23.98	-13.06	-7.38	3.54	22.39	-18.85
40 Vic	5270	54	AVG	26T	10.83	10.92	10.78	23.47	-12.55	-7.13	3.79	29.47	-25.68
	5310	62	AVG	26T	10.94	10.95	10.95	23.47	-12.52	-8.10	2.85	29.47	-26.62
a H	5510	102	AVG	26T	10.83	10.65	10.86	22.80	-11.94	-7.54	3.32	28.80	-25.48
C m	5590	118	AVG	26T	10.68	10.79	10.86	22.80	-11.94	-7.54	3.32	28.80	-25.48
_ ت	5710	142	AVG	26T	10.61	10.98	10.54	22.80	-11.82	-7.32	3.66	28.80	-25.14
	5755	151	AVG	26T	10.60	10.67	10.65	30.00	-19.33	-7.32	3.35	-	-
	5795	159	AVG	26T	10.76	10.84	10.86	30.00	-19.14	-8.67	2.19	-	-

Table 7-34. SISO ANT2 40MHz BW (UNII) Maximum Conducted Output Power (26 Tones)

	Freq [MHz]	Channel	Detector	Tones		RU Index		Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
Ξ.					0	18	36	[dBm]	Margin [dB]	[abi]	Lapud	Ennie [GB/II]	margin [ab]
e es	5210	42	AVG	26T	10.50	10.60	10.60	23.98	-13.38	-7.68	2.92	22.39	-19.47
<u>8</u> (8	5290	58	AVG	26T	10.80	10.61	10.95	23.47	-12.52	-7.13	3.82	29.47	-25.65
Hz	5530	106	AVG	26T	10.97	10.93	10.78	22.80	-11.83	-7.54	3.43	28.80	-25.37
5GF Bai	5610	122	AVG	26T	10.98	10.86	10.94	22.80	-11.82	-7.54	3.44	28.80	-25.36
	5690	138	AVG	26T	10.61	10.97	10.49	22.80	-11.83	-7.54	3.43	28.80	-25.37
	5775	155	AVG	26T	10.71	10.93	10.96	30.00	-19.04	-7.32	3.64	-	-

Table 7-35. SISO ANT2 80MHz BW (UNII) Maximum Conducted Output Power (26 Tones)

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# SISO Antenna-2 Conducted Output Power Measurements (52 Tones)

th)	Freq [MHz]	Channel	Detector	Tones		RU Index	-	Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
widt					37	39	40	[dBm]	Margin [dB]	1			
<u> </u>	5180	36	AVG	52T	12.62	12.90	12.69	23.98	-11.08	-7.68	5.22	22.39	-17.17
and	5200	40	AVG	52T	12.67	12.84	12.83	23.98	-11.14	-7.68	5.16	22.39	-17.23
a	5240	48	AVG	52T	12.88	12.59	12.55	23.98	-11.10	-7.38	5.50	22.39	-16.89
<u>m</u>	5260	52	AVG	52T	12.78	12.85	12.73	23.47	-10.62	-7.13	5.72	29.47	-23.75
Ł	5280	56	AVG	52T	12.83	12.53	12.47	23.47	-10.64	-7.13	5.70	29.47	-23.77
Ē	5320	64	AVG	52T	12.96	12.71	12.61	23.47	-10.51	-8.10	4.86	29.47	-24.61
(20M	5500	100	AVG	52T	12.93	12.93	12.84	22.80	-9.87	-7.54	5.39	28.80	-23.41
	5600	120	AVG	52T	12.82	12.82	12.64	22.80	-9.98	-7.54	5.28	28.80	-23.52
Ηz	5720	144	AVG	52T	12.90	12.93	12.78	22.80	-9.87	-7.32	5.61	28.80	-23.19
t d	5745	149	AVG	52T	12.69	12.76	12.60	30.00	-17.24	-7.32	5.44	-	-
5G	5785	157	AVG	52T	12.74	12.99	12.81	30.00	-17.01	-7.32	5.67	-	-
	5825	165	AVG	52T	12.72	12.85	12.71	30.00	-17.15	-8.67	4.18	-	-

Table 7-36. SISO ANT2 20MHz BW (UNII) Maximum Conducted Output Power (52 Tones)

	Freq [MHz]	Channel	Detector	Tones		RU Index		Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
N					37	40	44	[dBm]	Margin [dB]	[abi]	Lapud	Ennie [GBin]	margin [ab]
I I C	5190	38	AVG	52T	12.68	12.55	12.83	23.98	-11.15	-7.68	5.15	22.39	-17.24
₹₹	5230	46	AVG	52T	12.87	12.78	12.99	23.98	-10.99	-7.38	5.61	22.39	-16.78
(40 Wie	5270	54	AVG	52T	12.76	12.70	12.68	23.47	-10.71	-7.13	5.63	29.47	-23.84
	5310	62	AVG	52T	12.51	12.71	12.77	23.47	-10.70	-8.10	4.67	29.47	-24.80
aH	5510	102	AVG	52T	12.72	12.88	12.95	22.80	-9.85	-7.54	5.41	28.80	-23.39
C m	5590	118	AVG	52T	12.89	12.82	12.78	22.80	-9.91	-7.54	5.35	28.80	-23.45
_ ت	5710	142	AVG	52T	12.68	12.58	12.69	22.80	-10.11	-7.32	5.37	28.80	-23.43
	5755	151	AVG	52T	12.91	12.89	12.89	30.00	-17.09	-7.32	5.59	-	-
	5795	159	AVG	52T	12.85	12.79	12.89	30.00	-17.11	-8.67	4.22	-	-

Table 7-37. SISO ANT2 40MHz BW (UNII) Maximum Conducted Output Power (52 Tones)

	Freq [MHz]	Channel	Detector	Tones		RU Index		Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
Ϋ́ Ξ					37	44	52	[dBm]	Margin [dB]	[abi]	Lapud	Ennie [GB/II]	
Gt	5210	42	AVG	52T	12.63	12.64	12.85	23.98	-11.13	-7.68	5.17	22.39	-17.22
(8) 1 (8)	5290	58	AVG	52T	12.42	12.65	12.66	23.47	-10.81	-7.13	5.53	29.47	-23.94
Hz	5530	106	AVG	52T	12.75	12.98	12.68	22.80	-9.82	-7.54	5.44	28.80	-23.36
5G Ba	5610	122	AVG	52T	12.52	12.74	12.42	22.80	-10.06	-7.54	5.20	28.80	-23.60
	5690	138	AVG	52T	12.58	12.74	12.52	22.80	-10.06	-7.54	5.20	28.80	-23.60
	5775	155	AVG	52T	12.68	12.61	12.72	30.00	-17.28	-7.32	5.40	-	-

Table 7-38. SISO ANT2 80MHz BW (UNII) Maximum Conducted Output Power (52 Tones)

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# SISO Antenna-2 Conducted Output Power Measurements (106 Tones)

th)	Freq [MHz]	Channel	Detector	Tones	RU I	ndex	Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
<u>io</u>					53	54	[dBm]	Margin [dB]	[]	[]		
andwid	5180	36	AVG	106T	14.62	14.77	23.98	-9.21	-7.68	7.09	22.39	-15.30
Ê	5200	40	AVG	106T	14.62	14.71	23.98	-9.27	-7.68	7.03	22.39	-15.36
gal	5240	48	AVG	106T	14.76	14.87	23.98	-9.11	-7.38	7.49	22.39	-14.90
Ω Ν	5260	52	AVG	106T	14.82	14.76	23.47	-8.65	-7.13	7.69	29.47	-21.78
ΗZ	5280	56	AVG	106T	14.83	14.96	23.47	-8.51	-7.13	7.83	29.47	-21.64
Ξ	5320	64	AVG	106T	14.99	14.67	23.47	-8.48	-8.10	6.89	29.47	-22.58
(20M	5500	100	AVG	106T	14.93	14.85	22.80	-7.87	-7.54	7.39	28.80	-21.41
C	5600	120	AVG	106T	14.68	14.51	22.80	-8.12	-7.54	7.14	28.80	-21.66
Hz	5720	144	AVG	106T	14.69	14.72	22.80	-8.08	-7.32	7.40	28.80	-21.40
5	5745	149	AVG	106T	14.74	14.53	30.00	-15.26	-7.32	7.42	-	-
56	5785	157	AVG	106T	14.83	14.68	30.00	-15.17	-7.32	7.51	-	-
	5825	165	AVG	106T	14.65	14.61	30.00	-15.35	-8.67	5.98	-	-

Table 7-39. SISO ANT2 20MHz BW (UNII) Maximum Conducted Output Power (106 Tones)

	Freq [MHz]	Channel	Detector	Tones		RU Index		Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
N					53	54	56	[dBm]	Margin [dB]	[abi]	Lapud	Ennie [GBin]	margin [ab]
I I	5190	38	AVG	106T	14.76	14.88	14.87	23.98	-9.10	-7.68	7.20	22.39	-15.19
₹₹	5230	46	AVG	106T	14.53	14.75	14.60	23.98	-9.23	-7.38	7.37	22.39	-15.02
(40 wic	5270	54	AVG	106T	14.52	14.73	14.52	23.47	-8.74	-7.13	7.60	29.47	-21.87
	5310	62	AVG	106T	14.54	14.73	14.51	23.47	-8.74	-8.10	6.63	29.47	-22.84
Hz anc	5510	102	AVG	106T	14.50	14.66	14.68	22.80	-8.12	-7.54	7.14	28.80	-21.66
В В	5590	118	AVG	106T	14.53	14.59	14.38	22.80	-8.21	-7.54	7.05	28.80	-21.75
LC)	5710	142	AVG	106T	14.89	14.90	14.72	22.80	-7.90	-7.32	7.58	28.80	-21.22
	5755	151	AVG	106T	14.83	14.66	14.86	30.00	-15.14	-7.32	7.54	-	-
	5795	159	AVG	106T	14.54	14.62	14.44	30.00	-15.38	-8.67	5.95	-	-

#### Table 7-40. SISO ANT2 40MHz BW (UNII) Maximum Conducted Output Power (106 Tones)

	Freq [MHz]	Channel	Detector	Tones		RU Index		Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
Ϋ́ Ξ					53	56	60	[dBm]	Margin [dB]	[abi]	Lapud	Ennie [GBnij	
(80MH width)	5210	42	AVG	106T	14.74	14.74	14.98	23.98	-9.00	-7.68	7.30	22.39	-15.09
	5290	58	AVG	106T	14.58	14.64	14.81	23.47	-8.66	-7.13	7.68	29.47	-21.79
Hz	5530	106	AVG	106T	14.81	14.64	14.79	22.80	-7.99	-7.54	7.27	28.80	-21.53
5GH Bai	5610	122	AVG	106T	14.77	14.86	14.55	22.80	-7.94	-7.54	7.32	28.80	-21.48
	5690	138	AVG	106T	14.72	14.95	14.59	22.80	-7.85	-7.54	7.41	28.80	-21.39
	5775	155	AVG	106T	14.79	14.61	14.76	30.00	-15.21	-7.32	7.47	-	-

Table 7-41. SISO ANT2 80MHz BW (UNII) Maximum Conducted Output Power (106 Tones)

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## SISO Antenna-2 Conducted Output Power Measurements (242 Tones)

th)	Freq [MHz]	Channel	Detector	Tones	RU Index	Conducted Power Limit	Conducted Power	Ant. Gain	Max e.i.r.p.	Max e.i.r.p.	e.i.r.p.
andwidth)					61	[dBm]	Margin [dB]	[dBi]	[dBm]	Limit [dBm]	Margin [dB]
<u> </u>	5180	36	AVG	242T	14.74	23.98	-9.24	-7.68	7.06	22.39	-15.33
рс	5200	40	AVG	242T	17.71	23.98	-6.27	-7.68	10.03	22.39	-12.36
al	5240	48	AVG	242T	17.89	23.98	-6.09	-7.38	10.51	22.39	-11.88
Ô	5260	52	AVG	242T	17.50	23.47	-5.97	-7.13	10.37	29.47	-19.10
F	5280	56	AVG	242T	17.58	23.47	-5.89	-7.13	10.45	29.47	-19.02
Ē	5320	64	AVG	242T	15.89	23.47	-7.58	-8.10	7.79	29.47	-21.68
(201	5500	100	AVG	242T	17.59	22.80	-5.21	-7.54	10.05	28.80	-18.75
	5600	120	AVG	242T	17.68	22.80	-5.12	-7.54	10.14	28.80	-18.66
F	5720	144	AVG	242T	17.71	22.80	-5.09	-7.32	10.39	28.80	-18.41
<u>–</u>	5745	149	AVG	242T	17.70	30.00	-12.30	-7.32	10.38	-	-
<b>5</b> G	5785	157	AVG	242T	17.83	30.00	-12.17	-7.32	10.51	-	-
	5825	165		242T	17.69	30.00	-12.31	-8.67	9.02	-	-

Table 7-42. SISO ANT2 20MHz BW (UNII) Maximum Conducted Output Power (242 Tones)

	Freq [MHz]	Channel	Detector	Tones	RUI	ndex	Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
N					61	62	[dBm]	Margin [dB]	[abi]	[ubiii]	Ennie [GBnij	margin [ab]
HZ H	5190	38	AVG	242T	12.73	12.67	23.98	-11.25	-7.68	5.05	22.39	-17.34
d S	5230	46	AVG	242T	16.73	16.72	23.98	-7.25	-7.38	9.35	22.39	-13.04
(40M Iwidth	5270	54	AVG	242T	16.48	16.64	23.47	-6.83	-7.13	9.51	29.47	-19.96
	5310	62	AVG	242T	13.91	13.81	23.47	-9.56	-8.10	5.81	29.47	-23.66
Hz and	5510	102	AVG	242T	14.72	14.99	22.80	-7.81	-7.54	7.45	28.80	-21.35
U M	5590	118	AVG	242T	16.65	16.78	22.80	-6.02	-7.54	9.24	28.80	-19.56
<u>ں</u>	5710	142	AVG	242T	16.86	16.81	22.80	-5.94	-7.32	9.54	28.80	-19.26
	5755	151	AVG	242T	16.97	16.99	30.00	-13.01	-7.32	9.67	-	-
	5795	159	AVG	242T	16.65	16.81	30.00	-13.19	-8.67	8.14	-	-

Table 7-43. SISO ANT2 40MHz BW (UNII) Maximum Conducted Output Power (242 Tones)

	Freq [MHz]	Channel	Detector	Tones		RU Index		Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
Ť c					61	62	64	[dBm]	Margin [dB]	[abi]	[ubiii]	Chine [GDin]	margin [ab]
oMH dth)	5210	42	AVG	242T	11.77	11.50	11.79	23.98	-12.19	-7.68	4.11	22.39	-18.28
<u>8</u> 8	5290	58	AVG	242T	12.13	12.20	12.17	23.47	-11.27	-7.13	5.07	29.47	-24.40
5GHz Band	5530	106	AVG	242T	12.23	12.48	12.45	22.80	-10.32	-7.54	4.94	28.80	-23.86
B 20	5610	122	AVG	242T	15.99	15.57	15.48	22.80	-6.81	-7.54	8.45	28.80	-20.35
	5690	138	AVG	242T	15.88	15.74	15.84	22.80	-6.92	-7.54	8.34	28.80	-20.46
	5775	155	AVG	242T	15.89	15.71	15.49	30.00	-14.11	-7.32	8.57	-	-

Table 7-44. SISO ANT2 80MHz BW (UNII) Maximum Conducted Output Power (242 Tones)

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# SISO Antenna-2 Conducted Output Power Measurements (484 Tones)

N	Freq [MHz]	Channel	Detector	Tones	RU Index	Conducted Power Limit [dBm]	Conducted Power Margin [dB]	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
I I C	5190	38	AVG	484T	12.47	23.98	-11.51	-7.68	4.79	22.39	-17.60
Ę	5230	46	AVG	484T	16.43	23.98	-7.55	-7.38	9.05	22.39	-13.34
(40M width	5270	54	AVG	484T	16.81	23.47	-6.66	-7.13	9.68	29.47	-19.79
	5310	62	AVG	484T	13.43	23.47	-10.04	-8.10	5.33	29.47	-24.14
Hz and	5510	102	AVG	484T	14.50	22.80	-8.30	-7.54	6.96	28.80	-21.84
5G B	5590	118	AVG	484T	16.43	22.80	-6.37	-7.54	8.89	28.80	-19.91
Ŋ	5710	142	AVG	484T	16.56	22.80	-6.24	-7.32	9.24	28.80	-19.56
	5755	151	AVG	484T	16.59	30.00	-13.41	-7.32	9.27	-	-
	5795	159	AVG	484T	16.94	30.00	-13.06	-8.67	8.27	-	-

Table 7-45. SISO ANT2 40MHz BW (UNII) Maximum Conducted Output Power (484 Tones)

	Freq [MHz]	Channel	Detector	Tones	RUI	ndex	Conducted Power Limit	Conducted Power	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
E €					65	66	[dBm]	Margin [dB]	[abi]	Lapud	Ennie [GB/II]	margin [ab]
dt S	5210	42	AVG	484T	11.85	11.95	23.98	-12.03	-7.68	4.27	22.39	-18.12
<u>8</u> (8	5290	58	AVG	484T	12.15	12.29	23.47	-11.18	-7.13	5.16	29.47	-24.31
ΞΞ	5530	106	AVG	484T	11.96	12.07	22.80	-10.73	-7.54	4.53	28.80	-24.27
Ba Ba	5610	122	AVG	484T	15.78	15.96	22.80	-6.84	-7.54	8.42	28.80	-20.38
	5690	138	AVG	484T	15.94	15.96	22.80	-6.84	-7.54	8.42	28.80	-20.38
	5775	155	AVG	484T	15.65	15.66	30.00	-14.34	-7.32	8.34	-	-

Table 7-46. SISO ANT2 80MHz BW (UNII) Maximum Conducted Output Power (484 Tones)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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# SISO Antenna-2 Conducted Output Power Measurements (996 Tones)

Hz (I	Freq [MHz]	Channel	Detector	Tones	RU Index 67	Conducted Power Limit [dBm]	Conducted Power Margin [dB]	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
: (80MH dwidth)	5210	42	AVG	996T	11.85	23.98	-12.13	-7.68	4.17	22.39	-18.22
08 1 vi	5290	58	AVG	996T	12.23	23.47	-11.24	-7.13	5.10	29.47	-24.37
E E	5530	106	AVG	996T	12.14	22.80	-10.66	-7.54	4.60	28.80	-24.20
5G B	5610	122	AVG	996T	15.63	22.80	-7.17	-7.54	8.09	28.80	-20.71
	5690	138	AVG	996T	15.59	22.80	-7.21	-7.54	8.05	28.80	-20.75
	5775	155	AVG	996T	15.92	30.00	-14.08	-7.32	8.60	-	-

Table 7-47. SISO ANT2 80MHz BW (UNII) Maximum Conducted Output Power (996 Tones)

FCC ID: A3LSMG9700	ort S/N: Test Dates: EU	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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## MIMO Conducted Output Power Measurements (26 Tones)

									RU Index					Conducted	Conducted	Directional			
Freq [	[MHz]	Channel	Detector	Tones		0			4			8		Power Limit	Power	Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	lapul	Canal Copyright	margin [ub]
518	80	36	AVG	26T	8.13	7.48	10.83	7.87	7.47	10.68	7.75	7.47	10.62	23.98	-13.15	-5.12	5.71	22.39	-16.68
520	00	40	AVG	26T	7.87	7.88	10.89	7.96	7.63	10.81	7.68	7.33	10.52	23.98	-13.09	-5.12	5.76	22.39	-16.63
524	40	48	AVG	26T	7.75	7.55	10.66	7.96	7.80	10.89	7.88	7.55	10.73	23.98	-13.09	-4.51	6.38	22.39	-16.01
526	60	52	AVG	26T	7.87	7.66	10.78	7.89	7.57	10.74	7.89	7.30	10.62	23.47	-12.69	-4.19	6.58	29.47	-22.89
528	80	56	AVG	26T	7.97	7.89	10.94	7.95	7.53	10.76	7.85	7.46	10.67	23.47	-12.53	-4.19	6.75	29.47	-22.72
533	20	64	AVG	26T	7.86	7.58	10.73	7.82	7.40	10.63	7.59	7.08	10.35	23.47	-12.74	-4.81	5.93	29.47	-23.54
550	00	100	AVG	26T	7.33	7.58	10.47	7.45	7.88	10.68	7.18	7.54	10.37	22.80	-12.12	-4.45	6.23	28.80	-22.57
560	00	120	AVG	26T	7.49	7.86	10.69	7.62	7.91	10.78	7.58	7.65	10.63	22.80	-12.02	-4.45	6.33	28.80	-22.47
572	20	144	AVG	26T	7.64	7.91	10.79	7.26	7.92	10.61	7.65	7.96	10.82	22.80	-11.98	-4.34	6.48	28.80	-22.32
574	45	149	AVG	26T	7.55	7.89	10.73	7.16	7.82	10.51	7.38	7.76	10.58	30.00	-19.27	-4.76	5.97	-	-
578	85	157	AVG	26T	7.45	7.90	10.69	7.15	7.90	10.55	7.41	7.65	10.54	30.00	-19.31	-4.76	5.93	-	-
582	25	165	AVG	26T	7.21	7.65	10.45	7.11	7.89	10.53	7.25	7.15	10.21	30.00	-19.47	-5.04	5.49	-	-

#### Table 7-48. MIMO 20MHz BW (UNII) Maximum Conducted Output Power (26 Tones)

									RU Index					Conducted	Conducted	Directional			
	Freq [MHz]	Channel	Detector	Tones		0			8			17		Power Limit		Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
N					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	Lapud	cana (abing	mar gin [ab]
ΞΞ	5190	38	AVG	26T	7.49	7.38	10.45	7.88	7.43	10.67	7.67	7.65	10.67	23.98	-13.31	-5.12	5.55	22.39	-16.84
id N	5230	46	AVG	26T	7.64	7.24	10.45	7.99	7.41	10.72	7.83	7.58	10.72	23.98	-13.26	-4.51	6.21	22.39	-16.18
4 ≥	5270	54	AVG	26T	7.67	7.24	10.47	7.81	7.29	10.57	7.71	7.25	10.50	23.47	-12.90	-4.19	6.38	29.47	-23.09
с, ф	5310	62	AVG	26T	7.77	7.48	10.64	7.92	7.62	10.78	7.79	7.41	10.61	23.47	-12.69	-4.81	5.97	29.47	-23.50
Ξ'n	5510	102	AVG	26T	7.72	7.95	10.85	7.72	7.97	10.86	7.97	7.99	10.99	22.80	-11.81	-4.45	6.54	28.80	-22.26
Оñ	5590	118	AVG	26T	7.88	7.95	10.93	7.59	7.90	10.76	7.22	7.77	10.51	22.80	-11.87	-4.45	6.48	28.80	-22.32
ŝ	5710	142	AVG	26T	7.48	7.81	10.66	7.53	7.56	10.56	7.54	7.86	10.71	22.80	-12.09	-4.76	5.95	28.80	-22.85
	5755	151	AVG	26T	7.43	7.99	10.73	7.38	7.97	10.70	7.46	7.98	10.74	30.00	-19.26	-4.76	5.98	-	-
	5795	159	AVG	26T	7.41	7.84	10.64	7.56	7.98	10.79	7.47	7.86	10.68	30.00	-19.21	-5.21	5.58	-	-

#### Table 7-49. MIMO 40MHz BW (UNII) Maximum Conducted Output Power (26 Tones)

									RU Index					Conducted	Conducted	Directional			
	Freq [MHz]	Channel	Detector	Tones		0			18			36		Power Limit	Power	Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
Ϋ́ς					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	[ubiij	Canac [CDDing	margin [db]
OMH: idth)	5210	42	AVG	26T	7.99	7.78	10.90	7.70	7.55	10.64	7.80	7.50	10.66	23.98	-13.08	-4.66	6.24	22.39	-16.15
z (801 Idwid	5290	58	AVG	26T	7.96	7.58	10.78	7.68	7.37	10.54	7.80	7.48	10.65	23.47	-12.69	-4.32	6.46	29.47	-23.01
ΞΞ	5530	106	AVG	26T	7.58	7.84	10.72	7.50	7.97	10.75	7.53	7.99	10.78	22.80	-12.02	-4.45	6.33	28.80	-22.47
B, SG	5610	122	AVG	26T	7.75	7.66	10.72	7.59	7.65	10.63	7.73	7.90	10.83	22.80	-11.97	-4.45	6.38	28.80	-22.42
	5690	138	AVG	26T	7.16	7.75	10.48	7.65	7.89	10.78	7.64	7.90	10.78	22.80	-12.02	-4.45	6.33	28.80	-22.47
	5775	155	AVG	26T	7.22	7.78	10.52	7.70	7.97	10.85	7.39	7.96	10.69	30.00	-19.15	-4.76	6.09	-	-

Table 7-50. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (26 Tones)

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## MIMO Conducted Output Power Measurements (52 Tones)

									RU Index					Conducted	Conducted	Directional			
F	Freq [MHz]	Channel	Detector	Tones		37			39			40		Power Limit	Power	Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	lapul	chine [doin]	margin [ub]
	5180	36	AVG	52T	9.65	9.31	12.49	9.89	9.51	12.71	9.94	9.37	12.67	23.98	-11.26	-5.12	7.59	22.39	-14.80
	5200	40	AVG	52T	9.78	9.54	12.67	9.94	9.61	12.79	9.88	9.54	12.72	23.98	-11.19	-5.12	7.67	22.39	-14.72
	5240	48	AVG	52T	9.83	9.48	12.67	9.87	9.68	12.79	9.99	9.62	12.82	23.98	-11.16	-4.51	8.31	22.39	-14.08
	5260	52	AVG	52T	9.73	9.53	12.64	9.98	9.58	12.79	9.96	9.52	12.76	23.47	-10.68	-4.19	8.60	29.47	-20.87
	5280	56	AVG	52T	9.79	9.38	12.60	9.99	9.67	12.84	9.89	9.55	12.73	23.47	-10.63	-4.19	8.65	29.47	-20.82
	5320	64	AVG	52T	9.93	9.77	12.86	9.74	9.32	12.55	9.73	9.25	12.51	23.47	-10.61	-4.81	8.06	29.47	-21.41
	5500	100	AVG	52T	9.30	9.68	12.50	9.53	9.74	12.65	9.40	9.65	12.54	22.80	-10.15	-4.45	8.20	28.80	-20.60
	5600	120	AVG	52T	9.70	9.97	12.85	9.80	9.92	12.87	9.70	9.95	12.84	22.80	-9.93	-4.45	8.42	28.80	-20.38
	5720	144	AVG	52T	9.20	9.76	12.50	9.36	9.73	12.56	9.24	9.59	12.43	22.80	-10.24	-4.34	8.22	28.80	-20.58
	5745	149	AVG	52T	9.15	9.73	12.46	9.09	9.64	12.38	9.30	9.87	12.60	30.00	-17.40	-4.76	7.84	-	-
	5785	157	AVG	52T	9.44	9.99	12.73	9.56	9.80	12.69	9.41	9.85	12.65	30.00	-17.27	-4.76	7.97	-	-
	5825	165	AVG	52T	9.21	9.90	12.58	9.49	9.93	12.73	9.22	9.99	12.63	30.00	-17.27	-5.04	7.69	-	-

#### Table 7-51. MIMO 20MHz BW (UNII) Maximum Conducted Output Power (52 Tones)

									RU Index					Conducted	Conducted	Directional			
	Freq [MHz]	Channel	Detector	Tones		37			40			44		Power Limit		Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin (dB)
N					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	Lapud	cana (abing	margin [ab]
ĨΩ.	5190	38	AVG	52T	9.95	9.87	12.92	9.81	9.30	12.57	9.61	9.67	12.65	23.98	-11.06	-5.12	7.80	22.39	-14.59
돌풍	5230	46	AVG	52T	9.38	9.20	12.30	9.84	9.82	12.84	9.46	9.81	12.65	23.98	-11.14	-4.51	8.33	22.39	-14.06
₹ <del>\$</del>	5270	54	AVG	52T	9.50	9.94	12.74	9.39	9.85	12.64	9.52	9.92	12.73	23.47	-10.73	-4.19	8.55	29.47	-20.92
Ň	5310	62	AVG	52T	9.43	9.61	12.53	9.21	9.97	12.62	9.43	9.81	12.63	23.47	-10.84	-4.81	7.82	29.47	-21.65
Ξœ	5510	102	AVG	52T	8.86	8.78	11.83	8.46	8.56	11.52	8.70	8.80	11.76	22.80	-10.97	-4.45	7.38	28.80	-21.42
Сm	5590	118	AVG	52T	9.42	9.74	12.59	9.55	9.98	12.78	9.49	9.76	12.64	22.80	-10.02	-4.45	8.33	28.80	-20.47
ŝ	5710	142	AVG	52T	9.60	9.98	12.80	9.59	9.88	12.75	9.76	9.92	12.85	22.80	-9.95	-4.76	8.09	28.80	-20.71
	5755	151	AVG	52T	9.15	9.82	12.51	9.20	9.67	12.45	9.18	9.99	12.61	30.00	-17.39	-4.76	7.85	-	-
	5795	159	AVG	52T	9.17	9.97	12.60	9.17	9.85	12.53	9.29	9.76	12.54	30.00	-17.40	-5.21	7.39	-	-

#### Table 7-52. MIMO 40MHz BW (UNII) Maximum Conducted Output Power (52 Tones)

									RU Index					Conducted	Conducted	Directional			
	Freq [MHz]	Channel	Detector	Tones		37			44			52		Power Limit	Power	Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin (dR)
iz (80MHz ndwidth)					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	[ubiij	Canac [Coonig	margin [db]
dt O	5210	42	AVG	52T	9.53	9.80	12.68	9.47	9.89	12.70	9.61	9.89	12.76	23.98	-11.22	-4.66	8.10	22.39	-14.29
8) M	5290	58	AVG	52T	9.23	9.54	12.40	9.32	9.75	12.55	9.44	9.94	12.71	23.47	-10.76	-4.32	8.39	29.47	-21.08
<b>T B</b>	5530	106	AVG	52T	9.84	9.68	12.77	9.84	9.76	12.81	9.41	9.57	12.50	22.80	-9.99	-4.45	8.36	28.80	-20.44
5 a	5610	122	AVG	52T	9.37	9.49	12.44	9.86	9.74	12.81	9.40	9.42	12.42	22.80	-9.99	-4.45	8.36	28.80	-20.44
	5690	138	AVG	52T	9.45	9.48	12.48	9.89	9.67	12.79	9.46	9.41	12.45	22.80	-10.01	-4.45	8.34	28.80	-20.46
	5775	155	AVG	52T	9.42	9.87	12.66	9.42	9.50	12.47	9.12	9.47	12.31	30.00	-17.34	-4.76	7.90	-	-

Table 7-53. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (52 Tones)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 00 of 510
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## MIMO Conducted Output Power Measurements (106 Tones)

						RU I	Index			Conducted	Conducted	Directional			
Freq [MHz]	Channel	Detector	Tones		53			54		Power Limit	Power	Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
				ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	[ubii]	Cinic [dbing	man gin [ab]
5180	36	AVG	106T	11.85	11.32	14.60	11.98	11.44	14.73	23.98	-9.25	-5.12	9.61	22.39	-12.78
5200	40	AVG	106T	11.85	11.42	14.65	11.99	11.55	14.79	23.98	-9.19	-5.12	9.66	22.39	-12.73
5240	48	AVG	106T	11.91	11.48	14.71	11.89	11.52	14.72	23.98	-9.26	-4.51	10.21	22.39	-12.18
5260	52	AVG	106T	11.86	11.34	14.62	11.93	11.30	14.64	23.47	-8.83	-4.19	10.44	29.47	-19.03
5280	56	AVG	106T	11.91	11.31	14.63	11.98	11.44	14.73	23.47	-8.74	-4.19	10.53	29.47	-18.94
5320	64	AVG	106T	11.64	11.27	14.47	11.75	11.34	14.56	23.47	-8.91	-4.81	9.75	29.47	-19.72
5500	100	AVG	106T	11.46	11.79	14.64	11.37	11.70	14.55	22.80	-8.16	-4.45	10.19	28.80	-18.61
5600	120	AVG	106T	11.60	11.96	14.79	11.61	11.81	14.72	22.80	-8.01	-4.45	10.34	28.80	-18.46
5720	144	AVG	106T	11.68	11.99	14.85	11.71	11.83	14.78	22.80	-7.95	-4.34	10.51	28.80	-18.29
5745	149	AVG	106T	11.39	11.91	14.67	11.35	11.73	14.55	30.00	-15.33	-4.76	9.91	-	-
5785	157	AVG	106T	11.45	11.80	14.64	11.49	11.69	14.60	30.00	-15.36	-4.76	9.88	-	-
5825	165	AVG	106T	11.20	11.78	14.51	11.30	11.81	14.57	30.00	-15.43	-5.04	9.53	-	-

Table 7-54. MIMO 20MHz BW (UNII) Maximum Conducted Output Power (106 Tones)

									RU Index					Conducted	Conducted	Directional			
	Freq [MHz]	Channel	Detector	Tones		53			54			56		Power Limit	Power	Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
N					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	Lapud	cana (abing	margin [ab]
ΞĒ	5190	38	AVG	106T	11.63	11.61	14.63	11.21	11.34	14.29	11.23	11.24	14.25	23.98	-9.35	-5.12	9.51	22.39	-12.88
N III	5230	46	AVG	106T	11.58	11.74	14.67	11.53	11.87	14.71	11.21	11.60	14.42	23.98	-9.27	-4.51	10.20	22.39	-12.19
- <del></del>	5270	54	AVG	106T	11.13	11.61	14.39	11.19	11.98	14.61	11.28	11.75	14.53	23.47	-8.86	-4.19	10.42	29.47	-19.05
) pr	5310	62	AVG	106T	11.17	11.82	14.52	11.15	11.89	14.55	11.15	11.85	14.52	23.47	-8.92	-4.81	9.74	29.47	-19.73
a I	5510	102	AVG	106T	11.61	11.87	14.75	11.51	11.72	14.63	11.78	11.99	14.90	22.80	-7.90	-4.45	10.45	28.80	-18.35
Юñ	5590	118	AVG	106T	11.51	11.87	14.70	11.17	11.63	14.42	11.62	11.97	14.81	22.80	-7.99	-4.45	10.36	28.80	-18.44
2 2	5710	142	AVG	106T	11.77	11.94	14.87	11.45	11.84	14.66	11.48	11.81	14.66	22.80	-7.93	-4.76	10.11	28.80	-18.69
	5755	151	AVG	106T	11.19	11.89	14.56	10.95	11.76	14.38	10.87	11.99	14.48	30.00	-15.44	-4.76	9.80	-	-
	5795	159	AVG	106T	10.82	11.97	14.44	11.09	11.99	14.57	11.02	11.87	14.48	30.00	-15.43	-5.21	9.36	-	-

Table 7-55. MIMO 40MHz BW (UNII) Maximum Conducted Output Power (106 Tones)

									RU Index					Conducted	Conducted	Directional			
	Freq [MHz]	Channel	Detector	Tones		53			56			60		Power Limit	Power	Ant. Gain	Max e.i.r.p.	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin (dB)
z (80MHz ndwidth)					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	[abiii]	Emile [dbin]	margin [ab]
dt O	5210	42	AVG	106T	11.33	11.45	14.40	11.23	11.44	14.35	11.52	11.65	14.60	23.98	-9.38	-4.66	9.94	22.39	-12.45
8) <u>N</u>	5290	58	AVG	106T	11.51	11.88	14.71	11.32	11.71	14.53	11.65	11.96	14.82	23.47	-8.65	-4.32	10.50	29.47	-18.97
HZ Buc	5530	106	AVG	106T	11.44	11.38	14.42	11.79	11.87	14.84	11.51	11.64	14.59	22.80	-7.96	-4.45	10.39	28.80	-18.41
5GH Ban	5610	122	AVG	106T	11.51	11.52	14.53	11.88	10.95	14.45	11.52	11.58	14.56	22.80	-8.24	-4.45	10.11	28.80	-18.69
	5690	138	AVG	106T	11.60	11.48	14.55	11.83	11.75	14.80	11.49	11.47	14.49	22.80	-8.00	-4.45	10.35	28.80	-18.45
	5775	155	AVG	106T	10.92	11.72	14.35	11.34	11.99	14.69	11.22	11.97	14.62	30.00	-15.31	-4.76	9.93	-	-
		Tabl	- 7 50						lovim			atad	A 4	H Day	10 - 14	OC To	(maa)		

Table 7-56. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (106 Tones)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 100 of 510
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# MIMO Conducted Output Power Measurements (242 Tones)

<b>~</b>						RU Index		Conducted	Conducted	Directional			
t)	Freq [MHz]	Channel	Detector	Tones		61		Power Limit	Power	Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
widt					ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	Lapud	Enne [GBII]	margin [ab]
<u> </u>	5180	36	AVG	242T	11.79	11.73	14.77	23.98	-9.21	-5.12	9.65	22.39	-12.74
and	5200	40	AVG	242T	14.47	14.34	17.42	23.98	-6.56	-5.12	12.29	22.39	-10.10
a	5240	48	AVG	242T	14.64	14.30	17.48	23.98	-6.50	-4.51	12.98	22.39	-9.41
<u>m</u>	5260	52	AVG	242T	14.20	14.23	17.23	23.47	-6.24	-4.19	13.03	29.47	-16.44
우	5280	56	AVG	242T	14.28	14.26	17.28	23.47	-6.19	-4.19	13.09	29.47	-16.38
Ξ	5320	64	AVG	242T	12.69	12.24	15.48	23.47	-7.99	-4.81	10.68	29.47	-18.79
(20M	5500	100	AVG	242T	14.57	14.14	17.37	22.80	-5.43	-4.45	12.92	28.80	-15.88
	5600	120	AVG	242T	14.70	14.50	17.61	22.80	-5.19	-4.45	13.16	28.80	-15.64
Ηz	5720	144	AVG	242T	14.85	14.56	17.72	22.80	-5.08	-4.34	13.38	28.80	-15.42
5	5745	149	AVG	242T	14.23	14.57	17.41	30.00	-12.59	-4.76	12.65	-	-
5G	5785	157	AVG	242T	14.35	14.64	17.51	30.00	-12.49	-4.76	12.75	-	-
	5825	165	AVG	242T	14.13	14.72	17.45	30.00	-12.55	-5.04	12.41	-	-

#### Table 7-57. MIMO 20MHz BW (UNII) Maximum Conducted Output Power (242 Tones)

							RU I	ndex			Conducted	Conducted	Directional			
	Freq [MHz]	Channel	Detector	Tones		61			62		Power Limit	Power	Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
N					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	[ubiii]	Cinic [ubin]	Margin [ab]
ΞÎ	5190	38	AVG	242T	9.90	9.78	12.85	9.89	9.85	12.88	23.98	-11.10	-5.12	7.76	22.39	-14.63
ξĘ	5230	46	AVG	242T	13.28	13.46	16.38	13.25	13.77	16.53	23.98	-7.45	-4.51	12.02	22.39	-10.37
4 ž	5270	54	AVG	242T	13.42	13.93	16.69	13.34	13.99	16.69	23.47	-6.78	-4.19	12.50	29.47	-16.97
м б	5310	62	AVG	242T	11.04	10.66	13.86	11.05	10.69	13.88	23.47	-9.59	-4.81	9.07	29.47	-20.40
a II	5510	102	AVG	242T	11.72	11.94	14.84	11.66	11.77	14.73	22.80	-7.96	-4.45	10.39	28.80	-18.41
Юm	5590	118	AVG	242T	13.41	13.82	16.63	13.42	13.95	16.70	22.80	-6.10	-4.45	12.25	28.80	-16.55
_ ت	5710	142	AVG	242T	13.51	13.72	16.63	13.40	13.94	16.69	22.80	-6.11	-4.76	11.93	28.80	-16.87
	5755	151	AVG	242T	13.34	13.90	16.64	13.42	13.92	16.69	30.00	-13.31	-4.76	11.93	-	-
	5795	159	AVG	242T	13.17	13.72	16.46	13.28	13.87	16.60	30.00	-13.40	-5.21	11.39	-	-

Table 7-58. MIMO 40MHz BW (UNII) Maximum Conducted Output Power (242 Tones)

									RU Index					Conducted	Conducted	Directional			
	Freq [MHz]	Channel	Detector	Tones		61			62			64		Power Limit	Power	Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
Ϋ́ς					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	[ubiii]	Ennie (GBing	margin [db]
동형	5210	42	AVG	242T	8.72	8.63	11.69	8.81	8.99	11.91	8.63	8.98	11.82	23.98	-12.07	-4.66	7.25	22.39	-15.14
8 ivi	5290	58	AVG	242T	8.70	9.14	11.94	9.56	9.09	12.34	8.84	9.31	12.09	23.47	-11.13	-4.32	8.02	29.47	-21.45
포즐	5530	106	AVG	242T	9.23	9.48	12.37	9.07	9.06	12.08	8.96	8.99	11.99	22.80	-10.43	-4.45	7.92	28.80	-20.88
n S g	5610	122	AVG	242T	12.78	12.68	15.74	12.68	12.59	15.65	12.82	12.99	15.92	22.80	-6.88	-4.45	11.47	28.80	-17.33
	5690	138	AVG	242T	12.68	12.62	15.66	12.67	12.40	15.55	12.68	12.71	15.71	22.80	-7.09	-4.45	11.26	28.80	-17.54
	5775	155	AVG	242T	12.13	12.80	15.49	11.99	12.96	15.51	12.30	12.98	15.66	30.00	-14.34	-4.76	10.90	-	-

Table 7-59. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (242 Tones)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 101 of 510
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## MIMO Conducted Output Power Measurements (484 Tones)

						RU Index		Conducted	Conducted	Directional			
	Freq [MHz]	Channel	Detector	Tones		65		Power Limit	Power	Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
N					ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	[ubiii]	Chine [GDin]	margin [ab]
I I I	5190	38	AVG	484T	9.58	9.53	12.57	23.98	-11.41	-5.12	7.45	22.39	-14.94
₹₹	5230	46	AVG	484T	13.07	13.20	16.15	23.98	-7.83	-4.51	11.64	22.39	-10.75
(40 wic	5270	54	AVG	484T	13.14	13.65	16.41	23.47	-7.06	-4.19	12.22	29.47	-17.25
	5310	62	AVG	484T	10.68	10.31	13.51	23.47	-9.96	-4.81	8.70	29.47	-20.77
Hz and	5510	102	AVG	484T	11.76	11.89	14.84	22.80	-7.96	-4.45	10.39	28.80	-18.41
Сm	5590	118	AVG	484T	13.08	13.73	16.43	22.80	-6.37	-4.45	11.98	28.80	-16.82
S	5710	142	AVG	484T	13.60	13.83	16.73	22.80	-6.07	-4.76	11.97	28.80	-16.83
	5755	151	AVG	484T	13.17	13.82	16.52	30.00	-13.48	-4.76	11.76	-	-
	5795	159	AVG	484T	13.00	13.76	16.41	30.00	-13.59	-5.21	11.20	-	-

Table 7-60. MIMO 40MHz BW (UNII) Maximum Conducted Output Power (484 Tones)

			Channel Detector	ector Tones		RU Index					Conducted	Conducted	Directional			
	Freq [MHz]	Channel			65			66		Power Limit Power		Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]	
Ŧ (c					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	[ubiii]		
(80M width	5210	42	AVG	484T	8.71	8.84	11.79	8.44	8.51	11.49	23.98	-12.19	-4.66	7.13	22.39	-15.26
<u>8</u> (8	5290	58	AVG	484T	8.92	9.15	12.05	9.51	9.14	12.34	23.47	-11.13	-4.32	8.02	29.47	-21.45
and	5530	106	AVG	484T	9.44	8.85	12.17	9.00	9.08	12.05	22.80	-10.63	-4.45	7.72	28.80	-21.08
5GH Ban	5610	122	AVG	484T	12.40	12.39	15.41	12.58	12.54	15.57	22.80	-7.23	-4.45	11.12	28.80	-17.68
	5690	138	AVG	484T	12.55	12.19	15.38	12.75	12.34	15.56	22.80	-7.24	-4.45	11.11	28.80	-17.69
	5775	155	AVG	484T	11.96	12.64	15.32	12.08	12.85	15.49	30.00	-14.51	-4.76	10.73	-	-

Table 7-61. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (484 Tones)

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# MIMO Conducted Output Power Measurements (996 Tones)

	Freq [MHz]			Tones		RU Index			Conducted	Directional	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	
		Channel	Detector			67			Power	Ant. Gain			e.i.r.p. Margin [dB]
Ë C					ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	Lapud		
et e	5210	42	AVG	996T	8.53	8.76	11.66	23.98	-12.32	-4.66	7.00	22.39	-15.39
<u>8</u>	5290	58	AVG	996T	8.78	8.97	11.89	23.47	-11.58	-4.32	7.57	29.47	-21.90
and	5530	106	AVG	996T	9.10	8.90	12.01	22.80	-10.79	-4.45	7.56	28.80	-21.24
B, SG	5610	122	AVG	996T	12.45	12.99	15.74	22.80	-7.06	-4.45	11.29	28.80	-17.51
	5690	138	AVG	996T	12.46	12.78	15.63	22.80	-7.17	-4.45	11.18	28.80	-17.62
	5775	155	AVG	996T	11.98	12.97	15.51	30.00	-14.49	-4.76	10.75	-	-

Table 7-62. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (996 Tones)

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Note:

Per ANSI C63.10-2013 and KDB 662911 v02r01 Section E)1), the conducted powers at Antenna 1 and Antenna 2 were first measured separately during MIMO transmission as shown in the section above. The measured values were then summed in linear power units then converted back to dBm.

Per ANSI C63.10-2013 Section 14.4.3, the directional gain is calculated using the following formula, where  $G_N$  is the gain of the nth antenna and  $N_{ANT}$ , the total number of antennas used.

Directional gain =  $10 \log[(10^{G_{1/20}} + 10^{G_{2/20}} + ... + 10^{G_{N/20}})^2 / N_{ANT}] dBi$ 

#### Sample Directional Gain Calculation:

Assuming the antenna gain is -8.61 dBi for Antenna-1 and -7.68 dBi for Antenna-2.

Directional gain = 
$$10 \log[(10^{G_1/20} + 10^{G_2/20} + ... + 10^{G_N/20})^2 / N_{ANT}] dBi$$
  
=  $10 \log[(10^{-8.61/20} + 10^{-7.68/20} / 2] dBi$   
= (-5.12) dBi

#### Sample MIMO Calculation:

Assuming the average conducted output power was measured to be 8.13 dBm for Antenna-1 and 7.48 dBm for Antenna-2.

Antenna 1 + Antenna 2 = MIMO

(8.13 dBm + 7.48 dBm) = (6.50 mW + 5.60 mW) = 12.10 mW = 10.83 dBm

#### Sample e.i.r.p. Calculation:

Assuming the average MIMO conducted power was calculated to be 10.83 dBm with directional gain of -5.12 dBi.

e.i.r.p. (dBm) = Conducted Power (dBm) + Directional gain (dBi)

10.83 dBm + (-5.12) dBi = 5.71 dBm

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#### 7.5 Maximum Power Spectral Density – 802.11ax OFDMA §15.407(a.1.iv) §15.407(a.2) §15.407(a.3); RSS-247 [6.2]

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

The spectrum analyzer was connected to the antenna terminal while the EUT was 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. Method SA-1, as defined in ANSI C63.10-2013 and KDB 789033 D02 v02r01, was used to measure the power spectral density.

# In the 5.15 – 5.25GHz, 5.25 – 5.35GHz, 5.47 – 5.725GHz bands, the maximum permissible power spectral density is 11dBm/MHz.

In the 5.725 – 5.850GHz band, the maximum permissible power spectral density is 30dBm/500kHz.

#### Test Procedure Used

ANSI C63.10-2013 – Section 12.3.2.2 KDB 789033 D02 v02r01 – Section F ANSI C63.10-2013 – Section 14.3.2.2 Measure-and-Sum Technique KDB 662911 v02r01 – Section E)2) Measure-and-Sum Technique

#### Test Settings

- 1. Analyzer was set to the center frequency of the UNII channel under investigation
- 2. Span was set to encompass the entire emission bandwidth of the signal
- 3. RBW = 1MHz
- 4. VBW = 3MHz
- 5. Number of sweep points  $\geq 2 \times (\text{span/RBW})$
- 6. Sweep time = auto
- 7. Detector = power averaging (RMS)
- 8. Trigger was set to free run for all modes
- 9. Trace was averaged over 100 sweeps
- 10. The peak search function of the spectrum analyzer was used to find the peak of the spectrum.

#### Test Setup

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



Figure 7-4. Test Instrument & Measurement Setup

#### Test Notes

The power spectral density for each channel was measured with the RU index showing the highest conducted power

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# SISO Antenna-1 Power Spectral Density Measurements (26 Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
	5180	36	ax (20MHz)	26T	MCS0	8.95	11.00	-2.05
Ļ	5200	40	ax (20MHz)	26T	MCS0	6.69	11.00	-4.31
, pr	5240	48	ax (20MHz)	26T	MCS0	7.64	11.00	-3.36
Band	5190	38	ax (40MHz)	26T	MCS0	9.02	11.00	-1.98
_	5230	46	ax (40MHz)	26T	MCS0	8.51	11.00	-2.49
	5210	42	ax (80MHz)	26T	MCS0	8.47	11.00	-2.53
	5260	52	ax (20MHz)	26T	MCS0	7.14	11.00	-3.86
∢	5280	56	ax (20MHz)	26T	MCS0	7.60	11.00	-3.40
d 2	5320	64	ax (20MHz)	26T	MCS0	8.47	11.00	-2.53
Band 2A	5270	54	ax (40MHz)	26T	MCS0	8.77	11.00	-2.23
ш	5310	62	ax (40MHz)	26T	MCS0	8.43	11.00	-2.57
	5290	58	ax (80MHz)	26T	MCS0	8.55	11.00	-2.45
	5500	100	ax (20MHz)	26T	MCS0	9.36	11.00	-1.64
	5600	120	ax (20MHz)	26T	MCS0	7.49	11.00	-3.51
	5720	144	ax (20MHz)	26T	MCS0	7.60	11.00	-3.40
2C	5510	102	ax (40MHz)	26T	MCS0	9.23	11.00	-1.77
Bnad	5590	118	ax (40MHz)	26T	MCS0	9.50	11.00	-1.50
Bn	5710	142	ax (40MHz)	26T	MCS0	9.13	11.00	-1.87
	5530	106	ax (80MHz)	26T	MCS0	7.33	11.00	-3.67
	5610	122	ax (80MHz)	26T	MCS0	7.58	11.00	-3.42
	5690	138	ax (80MHz)	26T	MCS0	6.29	11.00	-4.71

 Table 7-63. Bands 1, 2A, 2C Conducted Power Spectral Density Measurements SISO ANT1 (26 Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Antenna Gain [dBi]	e.i.r.p. Power Density [dBm/MHz]	ISED Max e.i.r.p. Power Density	Margin [dB]
	5180	36	ax (20MHz)	26T	MCS0	8.95	-8.61	0.34	10.0	-9.66
-	5200	40	ax (20MHz)	26T	MCS0	6.69	-8.61	-1.92	10.0	-11.92
, pu	5240	48	ax (20MHz)	26T	MCS0	7.64	-7.66	-0.02	10.0	-10.02
Bar	5190	38	ax (40MHz)	26T	MCS0	9.02	-8.61	0.41	10.0	-9.59
_	5230	46	ax (40MHz)	26T	MCS0	8.51	-7.66	0.85	10.0	-9.15
	5210	42	ax (80MHz)	26T	MCS0	8.47	-7.66	0.81	10.0	-9.19

Table 7-64. Bands 1 e.r.i.p Conducted Power Spectral Density Measurements (ISED 26 Tones)

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Plot 7-109. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 36)



Plot 7-110. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 40)

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