



REPORT No.: SZ25070108W04

TEST REPORT

APPLICANT : Anker Innovations Limited

PRODUCT NAME : soundcore Nebula X1 Pro

MODEL NAME : D2151

BRAND NAME : soundcore

FCC ID : 2AOKB-D2151

STANDARD(S) : 47 CFR Part 15 Subpart E

RECEIPT DATE : 2025-07-11

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Change History		
Version	Date	Reason for change
1.0	2025-09-10	First edition



1. Summary of Test Result

No.	Section	Description	Test Date	Test Engineer	Result	Remark
1	15.203	Antenna Requirement	N/A	N/A	PASS	/
2	ANSI C63.10	Duty Cycle of the Test Signal	Aug. 05&06, 2025	Zhu Peihong	PASS	/
3	15.407(a)	Maximum Conducted Output Power	Aug. 05&06, 2025	Zhu Peihong	PASS	/
4	15.407(a) (e)	Emission Bandwidth	Aug. 05&06, 2025	Zhu Peihong	PASS	/
5	15.407(a)	Peak Power Spectral Density	Aug. 05&06, 2025	Zhu Peihong	PASS	/
6	15.407(g)	Frequency Stability	Aug. 16, 2025	Zhu Peihong	PASS	/
7	15.407(h)	DFS	Apr. 16, 2024	Zhu Peihong	PASS	/
8	15.207	Conducted Emission	Aug. 07, 2025	Wang Yapeng	PASS	/
9	15.407(b)	Restricted Frequency Bands	Aug. 01&06, 2025	Gao Jianrou	PASS	/
10	15.407(b)	Radiated Emission	Aug. 01&02, 2025	Gao Jianrou	PASS	/

Note 1: The tests of Conducted Emission and Radiated Emission were performed according to the method of measurements prescribed in ANSI C63.10-2020.

Note 2: These RF tests were performed according to the method of measurements prescribed in KDB 789033 D02 v02r01.

Note 3: These RF tests were performed according to the method of measurements prescribed in KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02.

Note 4: Any additions, deviation, or exclusions from the method shall be noted in the “Remark”.



1.1. Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 15 Subpart E Radio Frequency Devices



1.2. Test Equipment List

1.2.1 Conducted Test Equipment

Equipment	Serial No.	Type	Manufacturer	Cal. Date	Due Date
EXA Signal Analyzer	MY53470836	N9010A	Agilent	2024.02.19	2025.02.18
USB Wideband Power Sensor	MY54180008	U2021XA	Agilent	2024.09.11	2025.09.10
Temperature Chamber	12108015	DTL-003S101	YOMA	2024.09.11	2025.09.10
RF Cable (30MHz-26GHz)	CB01	RF01	Morlab	N/A	N/A
SMA Connector	CN01	RF03	HUBER-SUHNER	N/A	N/A
Attenuator	MTJ6004-10	10dB	MTJ cooperation	N/A	N/A

1.2.2 Conducted Emission Test Equipment

Equipment	Serial No.	Type	Manufacturer	Cal. Date	Due Date
Receiver	101052	ESPI	R&S	2025.05.15	2026.05.14
LISN	103131	ENV 216	R&S	2025.03.20	2026.03.19
Pulse Limiter (10dB)	VTSD 9561 F-B #206	VTSD 9561-F	R&S	2025.05.13	2026.05.12
RF Coaxial Cable (DC-100MHz)	EMC-CE-00514	N/A	N/A	2025.05.06	2026.05.05

1.2.3 List of Software Used

Description	Manufacturer	Software Version
Test System	MaiWei	2.0.0.0
JS32-RE	Tonscend	5.0.0
TS+ -[JS32-CE]	Tonscend	2.5.0.0

**1.2.4 Radiated Test Equipment**

Equipment	Serial No.	Type	Manufacturer	Cal. Date	Due Date
Signal Analyzer	MY56060145	N9020A	Agilent	2025.05.13	2026.05.12
Test Antenna - Bi-Log	9163-274	VULB 9163	Schwarzbeck	2025.06.28	2026.06.27
Test Antenna - Loop	1519-022	FMZB1519	Schwarzbeck	2025.05.16	2026.05.15
Test Antenna – Horn	9120D-963	BBHA 9120D	Schwarzbeck	2025.05.16	2026.05.15
Test Antenna – Horn	BBHA9170 #773	BBHA9170	Schwarzbeck	2025.06.20	2026.06.19
Preamplifier (10MHz-6GHz)	46732	S10M100L38 02	LUCIX CORP.	2025.05.13	2026.05.12
Preamplifier (2GHz-18GHz)	61171/61172	S020180L32 03	LUCIX CORP.	2025.05.13	2026.05.12
Preamplifier (18GHz-40GHz)	DS77209	DCLNA0118-40C-S	Decentest	2025.05.13	2026.05.12
RF Coaxial Cable (DC-18GHz)	MRE001	PE330	Pasternack	2025.05.13	2026.05.12
RF Coaxial Cable (DC-18GHz)	MRE002	CLU18	Pasternack	2025.05.13	2026.05.12
RF Coaxial Cable (DC-18GHz)	MRE003	CLU18	Pasternack	2025.05.13	2026.05.12
RF Coaxial Cable (DC-40GHz)	22290045	QA360-40-KK-0.5	Qualwave	2024.09.11	2025.09.10
RF Coaxial Cable (DC-40GHz)	22290046	QA360-40-KKF-2	Qualwave	2024.09.11	2025.09.10
RF Coaxial Cable (DC-18GHz)	22120181	QA500-18-NN-5	Qualwave	2024.09.11	2025.09.10
Anechoic Chamber	N/A	9m*6m*6m	CRT	2025.06.21	2028.06.20
Anechoic Chamber	N/A	9m*6m*6m	CRT	2022.11.30	2025.11.29



1.3. Measurement Uncertainty

Test Items	Uncertainty	Remark
Peak Output Power	$\pm 2.22\text{dB}$	Confidence levels of 95%
Power Spectral Density	$\pm 2.22\text{dB}$	Confidence levels of 95%
Bandwidth	$\pm 5\%$	Confidence levels of 95%
Restricted Frequency Bands	$\pm 5\%$	Confidence levels of 95%
Radiated Emission	$\pm 2.95\text{dB}$	Confidence levels of 95%
Conducted Emission	$\pm 2.44\text{dB}$	Confidence levels of 95%

1.4. Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Laboratory Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
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FCC Designation Number:	CN1192
FCC Test Firm Registration Number:	226174

2. General Description

2.1. Information of Applicant and Manufacturer

Applicant:	Anker Innovations Limited
Applicant Address:	Unit 56, 8th Floor, Tower 2, Admiralty Centre, 18 Harcourt Road, Hong Kong
Manufacturer:	Anker Innovations Limited
Manufacturer Address:	Unit 56, 8th Floor, Tower 2, Admiralty Centre, 18 Harcourt Road, Hong Kong

2.2. Information of EUT

Product Name:	soundcore Nebula X1 Pro		
Sample No.:	2#, 3#, 5#		
Hardware Version:	V5		
Software Version:	V11.0.46		
Module Type:	☒ MTK7663; ☐ RTL8711; ☐ ATS3031 (The product includes three modules.)		
Modulation Technology:	OFDM		
Modulation Mode:	802.11a, 802.11n (HT20), 802.11n (HT40) 802.11ac (VHT20), 802.11ac (VHT40), 802.11ac (VHT80)		
Operating Frequency Range:	5180MHz-5240MHz; 5260MHz-5320MHz; 5500MHz-5720MHz; 5745MHz-5825MHz		
DFS Function:	☒ Slave without radar detection ☐ Slave with radar detection ☐ Master		
TPC Function:	☐ With TPC ☒ Without TPC		
Antenna Type:	PIFA Antenna		
Antenna Gain (dBi):	ANT 1	ANT 2	Directional Gain Note 2
	6.30	5.43	8.89

Note 1: The EUT supports a MIMO function. Physically, the EUT provides two completed transmitters and two receivers for 802.11n and 802.11ac modulation mode.

Modulation Mode:	TX Function
802.11a	1TX
802.11n/ac	2TX



Note 2: Directional gain is calculated based on KDB 662911 D01

KDB 662911 D01 Directional Gain Calculation			
Clause	Type	Correlation	Calculation formula
F.2.a	Equal G_{ANT} & Power	☐ (i). Correlated	$G_{ANT} + 10\log(N_{ANT})$
		☐ (ii). Uncorrelated	G_{ANT}
F.2.d	Unequal G_{ANT} & Equal Power	☒ (i). Correlated	$10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/N_{ANT}]$
		☐ (ii). Uncorrelated	$10\log[(10^{G1/10} + 10^{G2/10} + \dots + 10^{GN/10})/N_{ANT}]$

Where G_{ANT} is the antenna gain in dBi, N_{ANT} is the number of outputs.

Note 3: All radiation test items for 802.11n and 802.11ac modulation mode operate at MIMO mode during the test. Other modulation modes operate at SISO mode, both of the two antennas were tested separately, we only recorded the worst test result(ANT2) in this report.

Note 4: The EUT description presented in the report are provided by applicant and/or manufacturer, and the test laboratory is not responsible for the accuracy of the information. For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

2.3.Channel List of EUT

(U-NII-1) 5180MHz-5240MHz				
Bandwidth	Channel	Frequency (MHz)	Channel	Frequency (MHz)
20MHz	36	5180	40	5200
	44	5220	48	5240
40MHz	38	5190	46	5230
80MHz	42	5210		
(U-NII-2A) 5260MHz-5320MHz				
Bandwidth	Channel	Frequency (MHz)	Channel	Frequency (MHz)
20MHz	52	5260	56	5280
	60	5300	64	5320
40MHz	54	5270	62	5310
80MHz	58	5290		
(U-NII-2C) 5500MHz-5720MHz				
Bandwidth	Channel	Frequency (MHz)	Channel	Frequency (MHz)
20MHz	100	5500	105	5520
	108	5540	112	5560
	116	5580	120	5600
	124	5620	128	5640
	132	5660	136	5680
	140	5700	144	5720
40MHz	102	5510	110	5550
	118	5590	126	5630
	134	5670	142	5710
80MHz	106	5530	122	5610
	138	5690		
(U-NII-3) 5745MHz-5825MHz				
Bandwidth	Channel	Frequency (MHz)	Channel	Frequency (MHz)
20MHz	149	5745	153	5765
	157	5785	161	5805
	165	5825		
40MHz	151	5775	159	5795
80MHz	155	5775		

Note 1: The black bold channels were selected for test.

2.4. Test Configuration of EUT

2.4.1. Modulation Type and Data Rate of EUT

Mode	Bandwidth (MHz)	Modulation Technology	Modulation Type	Data Rate
802.11a	20	OFDM	BPSK	6/9/12/18/24/36/48/54 Mbps
			QPSK	
			16QAM	
			64QAM	
802.11n	20/40 (HT20/40)	OFDM	BPSK	MCS0~MCS7
			QPSK	
			16QAM	
			64QAM	
802.11ac	20/40/80 (VHT20/40/80)	OFDM	BPSK	MCS0~MCS9
			QPSK	
			16QAM	
			64QAM	
			256QAM	

Note1: The worst-case mode (bold face) in all data rates has been determined during the pre-scan, only the test data of the worst-case were recorded in this report.

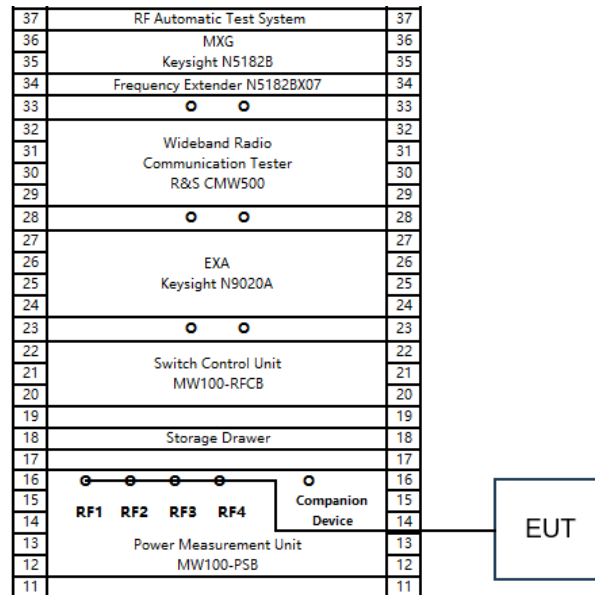
Note2: The RF signal transmission of EUT is controlled by the build-in engineering mode which is provided by the manufacturer. The recorded power setting value is the maximum that the engineering mode has configuration during testing.

2.5. Test Conditions

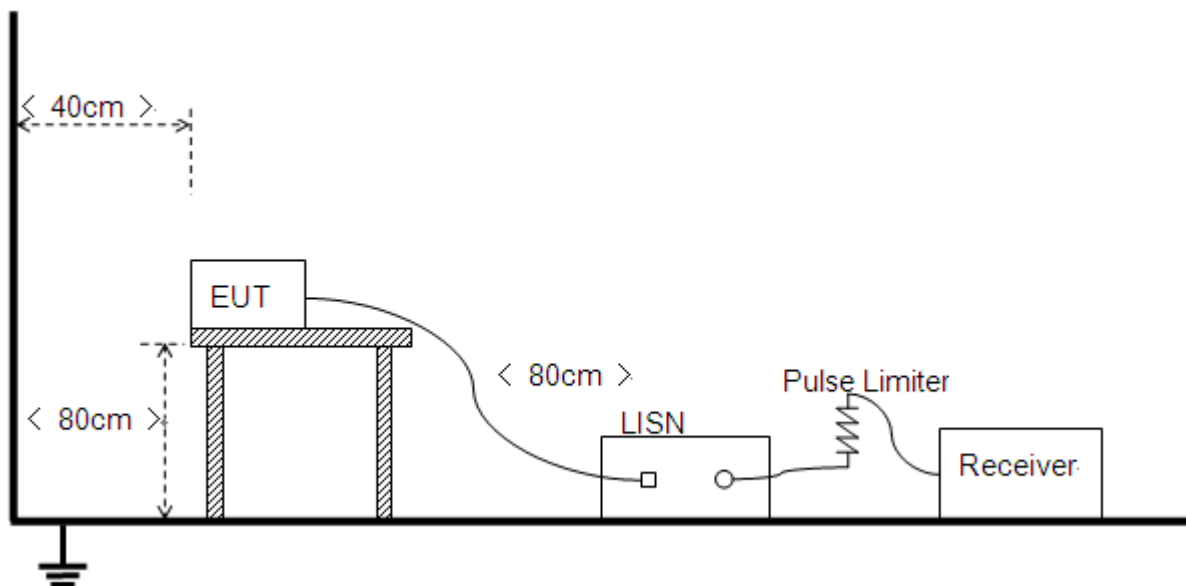
Temperature (°C):	15-35
Relative Humidity (%):	30-60
Atmospheric Pressure (kPa):	86-106

2.6. Test Setup Layout Diagram

2.6.1. Conducted Measurement

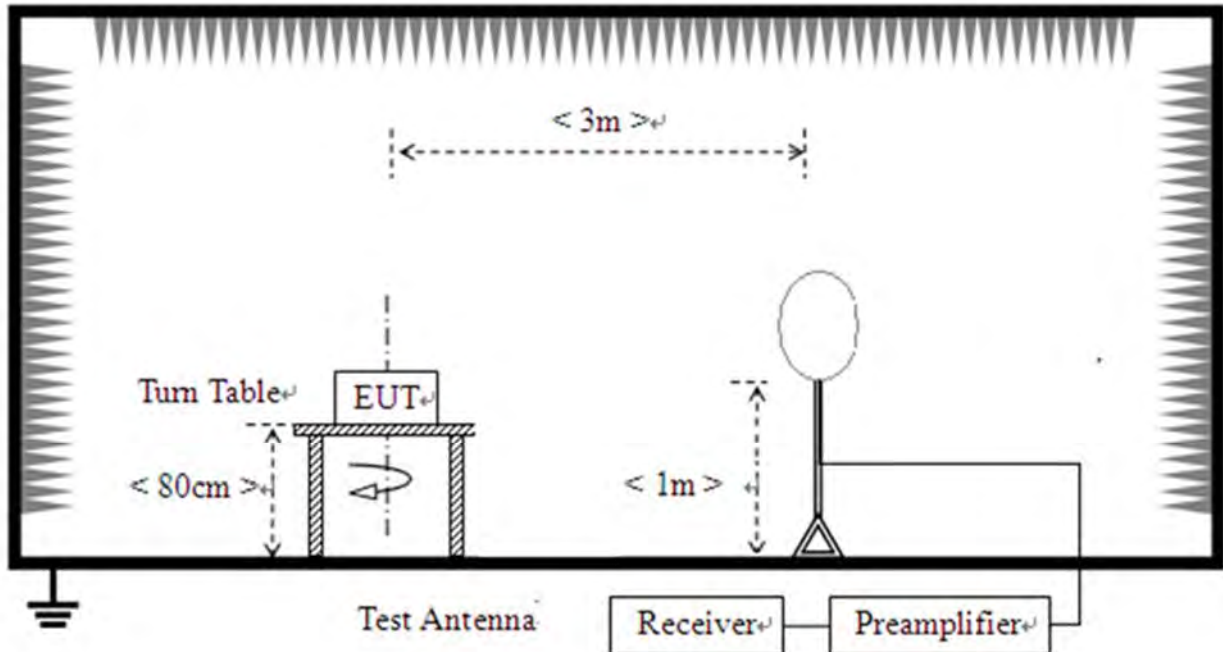


2.6.2. Conducted Emission Measurement

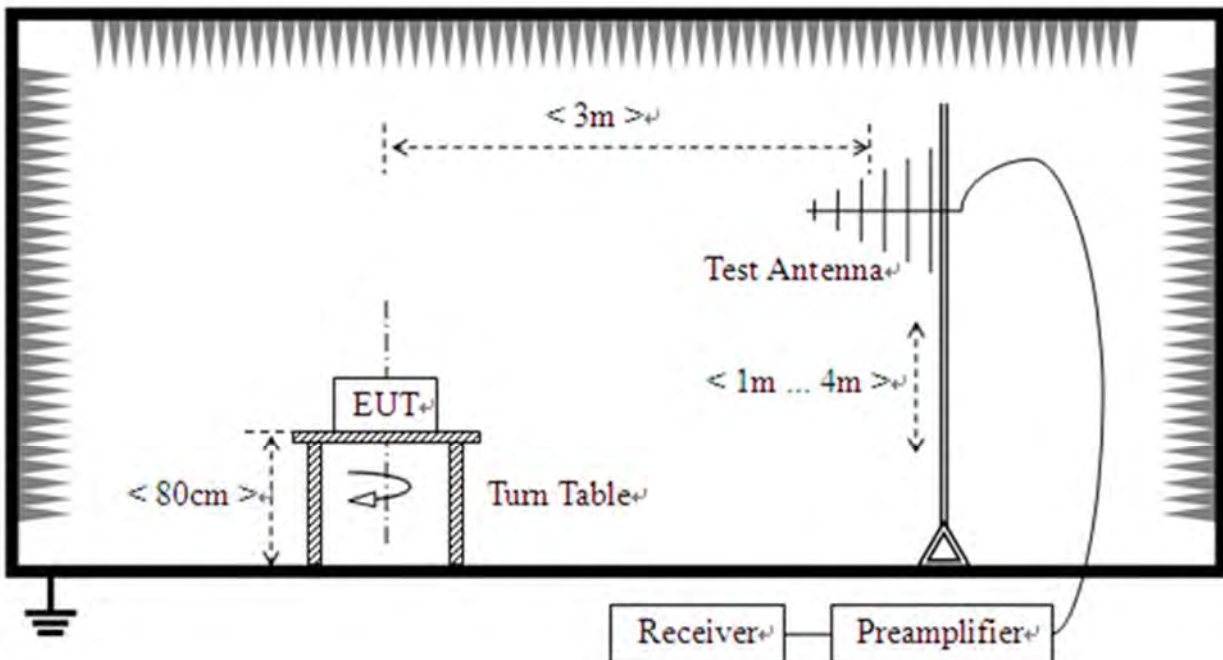


2.6.3.Radiation Measurement

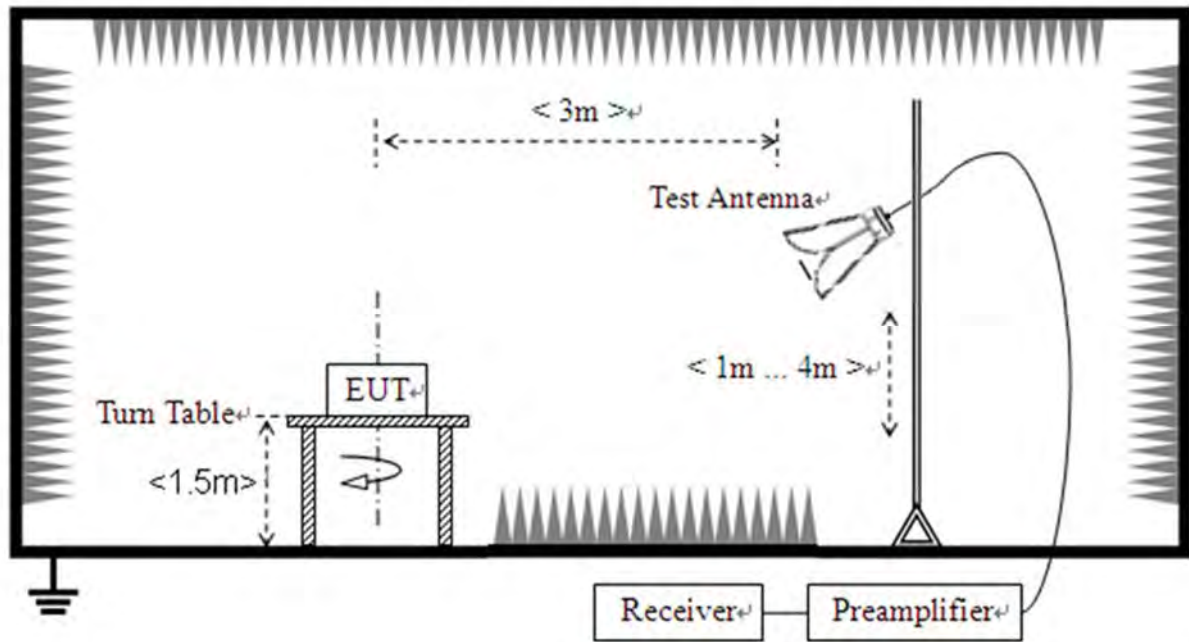
1) For radiated emissions from 9kHz to 30MHz



2) For radiated emissions from 30MHz to 1GHz



3) For radiated emissions above 1GHz





3. Test Results

3.1. Antenna Requirement

3.1.1. Requirement

According to FCC 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall 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.

3.1.2. Test Result

Antenna location	Antenna Type	Coupling Method
☒ Internal ☐ External	☒ FPC Antenna ☐ Spring Antenna ☐ Ceramic Antenna ☐ Integrated Antenna ☐ Dipole Antenna ☐ PCB Antenna ☐ PIFA Antenna ☐ On-board antenna	☒ I-PEX Connector ☐ SMA Connector ☐ RP-SMA Connector ☐ Metal Shrapnel ☐ Layout



3.2. Duty Cycle of Test Signal

3.2.1. Requirement

Preferably, all measurements of maximum conducted (average) output power will be performed with the EUT transmitting continuously (i.e., with a duty cycle of greater than or equal to 98%). When continuous operation cannot be realized, then the use of sweep triggering/signal gating techniques can be used to ensure that measurements are made only during transmissions at the maximum power control level. Such sweep triggering/signal gating techniques will require knowledge of the minimum transmission duration (T) over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation. Sweep triggering/signal gating techniques can then be used if the measurement/sweep time of the analyzer can be set such that it does not exceed T at any time that data are being acquired (i.e., no transmitter OFF-time is to be considered).

When continuous transmission cannot be achieved and sweep triggering/signal gating cannot be implemented, alternative procedures are provided that can be used to measure the average power; however, they will require an additional measurement of the transmitter duty cycle (D). Within this sub clause, the duty cycle refers to the fraction of time over which the transmitter is ON and is transmitting at its maximum power control level. The duty cycle is considered to be constant if variations are less than $\pm 2\%$; otherwise, the duty cycle is considered to be non constant.

3.2.2. Test Result

Refer to Annex A.1 in this report.

3.3. Maximum Conducted Output Power

3.3.1. Requirement

(1) For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250mW provided the maximum antenna gain does not exceed 6dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250mW or $11\text{dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

If transmitting antennas of directional gain greater than 6dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

(4) According to KDB662911D01 Measure-and-sum technique, the conducted emission level (e.g., transmit power or power in specified bandwidth) is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically to determine the total emission level from the device. Summing is performed in units that are directly proportional to power.

3.3.2. Test Procedures

Based on method PM-G in Section II.E.3.b) of KDB 789033 D02.

3.3.3. Test Setup Layout

Refer to chapter 2.6.1 in this report.

3.3.4. Test Result

Refer to Annex A.2 in this report.



3.4. Emission Bandwidth

3.4.1. Requirement

For purposes of this subpart the emission bandwidth shall be determined by measuring the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 26 dB down relative to the maximum level of the modulated carrier. Determination of the emissions bandwidth is based on the use of measurement instrumentation employing a peak detector function with an instrument resolution bandwidth approximately equal to 1.0 percent of the emission bandwidth of the device under measurement. Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

3.4.1. Test Procedures

1. KDB 789033 Section C) 1) Emission Bandwidth was used in order to prove compliance
 - a) Set RBW = approximately 1% of the emission bandwidth.
 - b) Set VBW > RBW.
 - c) Detector = Peak.
 - d) Trace mode = max hold.
 - e) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
2. KDB 789033 Section C) 2) minimum emission bandwidth for the band 5.725-5.85GHz was used in order to prove compliance.

Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.715-5.85 GHz. The following procedure shall be used for measuring this bandwidth:

 - a) Set RBW = 100 kHz.
 - b) Set video bandwidth (VBW) $\geq 3 \times$ RBW.
 - c) Detector = Peak.
 - d) Trace mode = max hold.
 - e) Sweep = auto couple.
 - f) Allow the trace to stabilize.
 - g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.



3.4.2. Test Setup Layout

Refer to chapter 2.6.1 in this report.

3.4.3. Test Result

Refer to Annex A.3 in this report.

3.5. Peak Power Spectral Density

3.5.1. Requirement

- (1) For client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11dBm in any 1 megahertz band.
- (2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11dBm in any 1 megahertz band.
- (3) For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30dBm in any 500kHz band.

If transmitting antennas of directional gain greater than 6dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

- (4) According to KDB662911D01 Measure-and-sum technique, the conducted emission level (e.g., transmit power or power in specified bandwidth) is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically to determine the total emission level from the device. Summing is performed in units that are directly proportional to power.

3.5.2. Test Procedures

KDB 789033 Section F) Maximum Power Spectral Density (PSD) Method SA-3 was used in order to prove compliance

- 1) Set span to encompass the entire 26-dB emission bandwidth
- 2) Set RBW = 1MHz. Set VBW $\geq$ 3MHz
- 3) Number of points in sweep $\geq$ 2 Span / RBW. Sweep time = auto
- 4) Detector = Average
- 5) Trace mode=Max hold

Record the max value

3.5.3. Test Setup Layout

Refer to chapter 2.6.1 in this report.

3.5.4. Test Result

Refer to Annex A.4 in this report.



3.6. Frequency Stability

3.6.1. Requirement

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

3.6.2. Test Procedures

The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between 5°C to 40°C. The temperature was incremented by 10° intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded. Data for the worst case channel is shown below.

3.6.3. Test Result

Refer to Annex A.5 in this report.

3.7. Dynamic Frequency Selection

3.7.1. Requirement

According to FCC section 15.407(h), (1) Transmit power control (TPC). U-NII devices operating in the 5.25-5.35 GHz band and the 5.47-5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW. (2) Radar Detection Function of Dynamic Frequency Selection (DFS). U-NII devices operating with any part of its 26 dB emission bandwidth in the 5.25-5.35 GHz and 5.47-5.725 GHz bands shall employ a DFS radar detection mechanism to detect the presence of radar systems and to avoid co-channel operation with radar systems. Operators shall only use equipment with a DFS mechanism that is turned on when operating in these bands. The device must sense for radar signals at 100 percent of its emission bandwidth. The minimum DFS detection threshold for devices with a maximum e.i.r.p. of 200 mW to 1 W is -64 dBm. For devices that operate with less than 200 mW e.i.r.p. and a power spectral density of less than 10 dBm in a 1 MHz band, the minimum detection threshold is -62 dBm. The detection threshold is the received power averaged over 1 microsecond referenced to a 0 dBi antenna. For the initial channel setting, the manufacturers shall be permitted to provide for either random channel selection or manual channel selection.

A U-NII network will employ a DFS function to detect signals from radar systems and to avoid co-channel operation with these systems. This applies to the 5250-5350 MHz and/or 5470-5725 MHz bands.¹

Within the context of the operation of the DFS function, a U-NII device will operate in either Master Mode or Client Mode. U-NII devices operating in Client Mode can only operate in a network controlled by a U-NII device operating in Master Mode.²

Tables 1 and 2 shown below summarize the information contained in sections 5.1.1 and 5.1.2.

Table 1: Applicability of DFS Requirements Prior to Use of a Channel

Requirement	Operational Mode		
	Master	Client Without Radar Detection	Client With Radar Detection
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode
-------------	------------------



	Master	Client Without Radar Detection
DFS Detection Threshold	Yes	Not required
Channel Closing Transmission Time	Yes	Yes
Channel Move Time	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required

Additional requirements for devices with multiple bandwidth modes	Master Device or Client with Radar Detection	Client Without Radar Detection
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required
Note: Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.		

The operational behavior and individual DFS requirements that are associated with these modes are as follows:

Master Devices

- The Master Device will use DFS in order to detect Radar Waveforms with received signal strength above the DFS Detection Threshold in the 5250 – 5350 MHz and 5470 – 5725 MHz bands. DFS is not required in the 5150 – 5250 MHz or 5725 – 5825 MHz bands.
- Before initiating a network on a Channel, the Master Device will perform a Channel Availability Check for specified time duration (Channel Availability Check Time) to ensure that there is no radar system operating on the Channel, using DFS described under subsection a) above.
- The Master Device initiates a U-NII network by transmitting control signals that will enable other U-NII devices to Associate with the Master Device.
- During normal operation, the Master Device will monitor the Channel (In-Service Monitoring) to ensure that there is no radar system operating on the Channel, using DFS described under a).
- If the Master Device has detected a Radar Waveform during In-Service Monitoring as described under d), the Operating Channel of the U-NII network is no longer an Available Channel. The Master Device will instruct all associated Client Device(s) to stop transmitting on this Channel within the Channel Move Time. The transmissions during the Channel Move Time will be limited to the Channel Closing Transmission Time.
- Once the Master Device has detected a Radar Waveform it will not utilize the Channel for the duration of the Non-Occupancy Period. 3.



g) If the Master Device delegates the In-Service Monitoring to a Client Device, then the combination will be tested to the requirements described under d) through f) above.

Client Devices

a) A Client Device will not transmit before having received appropriate control signals from a Master Device.

b) A Client Device will stop all its transmissions whenever instructed by a Master Device to which it is associated and will meet the Channel Move Time and Channel Closing Transmission Time requirements. The Client Device will not resume any transmissions until it has again received control signals from a Master Device.

c) If a Client Device is performing In-Service Monitoring and detects a Radar Waveform above the DFS Detection Threshold, it will inform the Master Device. This is equivalent to the Master Device detecting the Radar Waveform and d) through f) of section 5.1.1 apply.

d) Irrespective of Client Device or Master Device detection the Channel Move Time and Channel Closing Transmission Time requirements remain the same.

e) The client test frequency must be monitored to ensure no transmission of any type has occurred for 30 minutes. Note: If the client moves with the master, the device is considered compliant if nothing appears in the client non-occupancy period test. For devices that shut down (rather than moving channels), no beacons should appear.

DFS Detection Thresholds

Table 3 below provides the DFS Detection Thresholds for Master Devices as well as Client Devices incorporating In-Service Monitoring.

Table 3: DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP $\geq$ 200 mill watt	-64 dBm
EIRP < 200 mill watt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 mill watt that do not meet the power spectral density requirement	-64 dBm
Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna. Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response. Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.	

Response Requirements

Table 4 provides the response requirements for Master and Client Devices incorporating DFS.

Table 4: DFS Response Requirement Values

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.

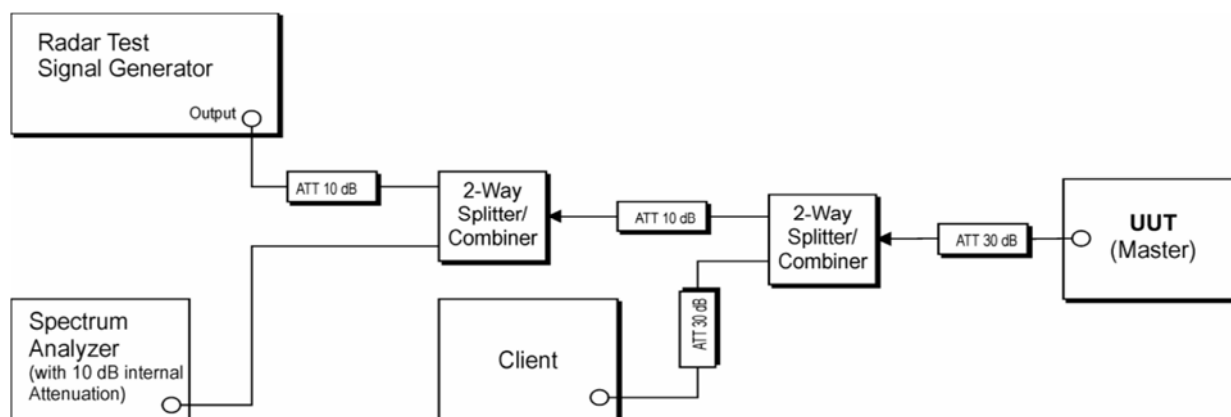
Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

3.7.2.Test Description

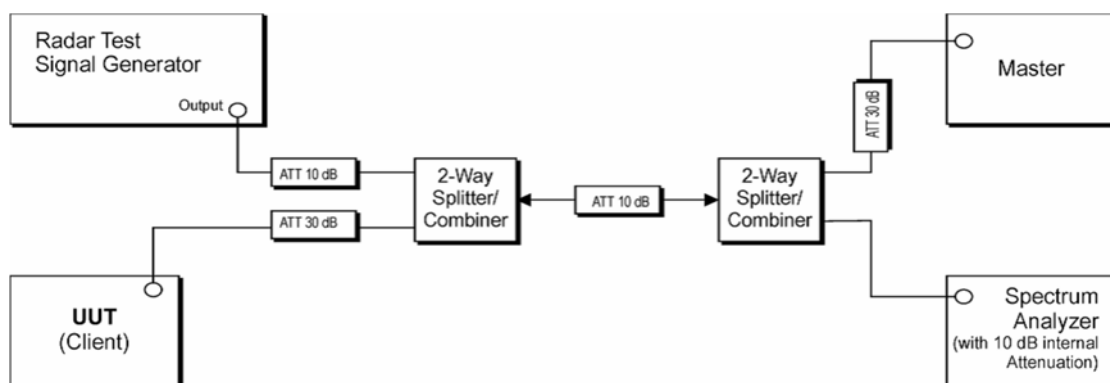
According to Section 7.2 of KDB 905462 D02 V01R01

1. Setup for Master with injection at the Master



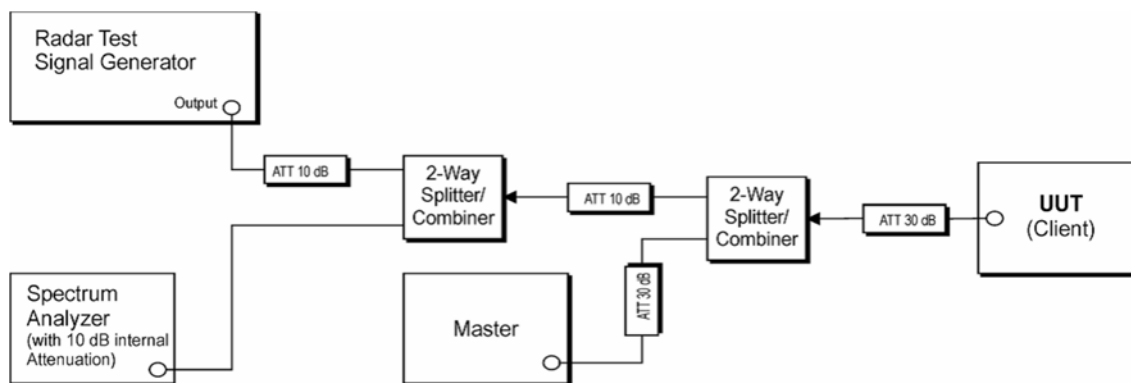
(Example Conducted Setup where UUT is a Master and Radar Test Waveforms are injected into the Master)

2. Setup for Client with injection at the Master



(Example Conducted Setup where UUT is a Client and Radar Test Waveforms are injected into the Master)

3. Setup for Client with injection at the Client



(Example Conducted Setup where UUT is a Client and Radar Test Waveforms are injected into the Client)

3.7.3.Information of Companion Device

Product Name:	Router
Manufacturer:	ASUS
FCC ID:	MSQ-RTAXJF00
Device Type:	Master Device
Operating Mode:	Master Mode
Serial No:	M3IAJF201046
Antenna Gain:	2.0dBi

3.7.4.Test Result

Refer to Annex A.6 in this report.

3.8. Conducted Emission

3.8.1. Requirement

According to FCC section 15.207, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150kHz to 30MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 Ω line impedance stabilization network (LISN).

Frequency Range (MHz)	Conducted Limit (dB μ V)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

Note:

- (a) The lower limit shall apply at the band edges.
- (b) The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50MHz.

3.8.2. Test Procedures

The Table-top EUT was placed upon a non-metallic table 0.8m above the horizontal metal reference ground plane. EUT was connected to LISN and LISN was connected to reference Ground Plane. EUT was 80cm from LISN. The set-up and test methods were according to ANSI C63.10.

3.8.3. Test Setup Layout

Refer to chapter 2.6.2 in this report.

3.8.4. Test Result

Refer to Annex A.7 in this report.

3.9. Restricted Frequency Bands

3.9.1. Requirement

The peak emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) For transmitters operating in the 5.15–5.25 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of -27dBm/MHz.
- (2) For transmitters operating in the 5.25–5.35 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of -27dBm/MHz.
- (3) For transmitters operating in the 5.47–5.725 GHz band: all emissions outside of the 5.47–5.725 GHz band shall not exceed an EIRP of -27dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band:
 - (i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

The following formula is used to convert the equipment isotropic radiated power(e.i.r.p.) to field strength (dBμV/m);

$$E = 1000000 \times \sqrt{30P} / 3 \mu\text{V/m}$$

where P is the EIRP in Watts

Therefore: -27 dBm/MHz = 68.23 dBuV/m



Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209. According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength ($\mu\text{V/m}$)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

For Above 1000MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), also should comply with the radiated emission limits specified in Section 15.209(a)(above table).

3.9.2.Test Procedures

The EUT is located in a 3m Semi-Anechoic Chamber; the antenna factors, cable loss and so on of the site as factors are calculated to correct the reading.

KDB 789033 Section H) 3)5)6(d)) was used in order to prove compliance

For the Test Antenna:

Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength.

3.9.3.Test Setup Layout

Refer to chapter 2.6.3 in this report.

3.9.4.Test Result

Refer to Annex A.8 in this report.

3.10. Radiated Emission

3.10.1.Requirement

The peak emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) For transmitters operating in the 5.15–5.25 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of -27dBm/MHz.
- (2) For transmitters operating in the 5.25–5.35 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of -27dBm/MHz.
- (3) For transmitters operating in the 5.47–5.725 GHz band: all emissions outside of the 5.47–5.725 GHz band shall not exceed an EIRP of -27dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.

The following formula is used to convert the equipment isotropic radiated power(e.i.r.p.) to field strength (dBμV/m);

$$E = 1000000 \times \sqrt{30P} / 3 \mu\text{V/m}$$

where P is the EIRP in Watts

Therefore: -27 dBm/MHz = 68.23 dBuV/m

Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209. According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

For Above 1000MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), also should comply with the radiated emission limits specified in Section 15.209(a)(above table).

3.10.2.Test Procedures

The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz; 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For measurements below 30MHz, the emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9kHz-90 kHz, 110kHz-490 kHz. Radiated emission limits in these two bands are based on measurements employing an average detector.

For measurements below 1GHz the resolution bandwidth is set to 100kHz for peak detection measurements or 120kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1GHz the resolution bandwidth is set to 1MHz, the video band width is set to 3MHz for peak measurements and as applicable for average measurements.

The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions. For measurements above 1 GHz, keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response.

3.10.3.Test Setup Layout

Refer to chapter 2.6.3 in this report.

3.10.4.Test Result

Refer to Annex A.9 in this report.



Annex A Test Data and Result

A.1. Duty Cycle of Test Signal

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a SISO	5180	Ant1	95.89	0.18	0.71
NVNT	a SISO	5220	Ant1	95.83	0.18	0.72
NVNT	a SISO	5240	Ant1	95.89	0.18	0.71
NVNT	a SISO	5260	Ant1	95.83	0.18	0.72
NVNT	a SISO	5300	Ant1	95.83	0.18	0.72
NVNT	a SISO	5320	Ant1	95.89	0.18	0.71
NVNT	a SISO	5500	Ant1	95.83	0.18	0.72
NVNT	a SISO	5580	Ant1	95.83	0.18	0.72
NVNT	a SISO	5700	Ant1	95.89	0.18	0.71
NVNT	a SISO	5745	Ant1	97.22	0.12	0.71
NVNT	a SISO	5785	Ant1	95.83	0.18	0.72
NVNT	a SISO	5825	Ant1	95.83	0.18	0.72
NVNT	a SISO	5180	Ant2	97.22	0.12	0.71
NVNT	a SISO	5220	Ant2	95.83	0.18	0.72
NVNT	a SISO	5240	Ant2	97.22	0.12	0.71
NVNT	a SISO	5260	Ant2	95.83	0.18	0.72
NVNT	a SISO	5300	Ant2	95.89	0.18	0.71
NVNT	a SISO	5320	Ant2	95.83	0.18	0.72
NVNT	a SISO	5500	Ant2	95.83	0.18	0.72
NVNT	a SISO	5580	Ant2	95.89	0.18	0.71
NVNT	a SISO	5700	Ant2	95.89	0.18	0.71
NVNT	a SISO	5745	Ant2	95.83	0.18	0.72
NVNT	a SISO	5785	Ant2	95.83	0.18	0.72
NVNT	a SISO	5825	Ant2	95.83	0.18	0.72
NVNT	n20 SISO	5180	Ant1	95.59	0.2	0.77
NVNT	n20 SISO	5220	Ant1	95.59	0.2	0.77
NVNT	n20 SISO	5240	Ant1	97.01	0.13	0.77
NVNT	n20 SISO	5260	Ant1	97.01	0.13	0.77
NVNT	n20 SISO	5300	Ant1	97.01	0.13	0.77
NVNT	n20 SISO	5320	Ant1	95.59	0.2	0.77
NVNT	n20 SISO	5500	Ant1	95.59	0.2	0.77
NVNT	n20 SISO	5580	Ant1	95.59	0.2	0.77



NVNT	n20 SISO	5700	Ant1	97.01	0.13	0.77
NVNT	n20 SISO	5745	Ant1	95.59	0.2	0.77
NVNT	n20 SISO	5785	Ant1	95.59	0.2	0.77
NVNT	n20 SISO	5825	Ant1	95.59	0.2	0.77
NVNT	n20 SISO	5180	Ant2	97.01	0.13	0.77
NVNT	n20 SISO	5220	Ant2	95.59	0.2	0.77
NVNT	n20 SISO	5240	Ant2	95.59	0.2	0.77
NVNT	n20 SISO	5260	Ant2	95.59	0.2	0.77
NVNT	n20 SISO	5300	Ant2	95.59	0.2	0.77
NVNT	n20 SISO	5320	Ant2	95.59	0.2	0.77
NVNT	n20 SISO	5500	Ant2	95.59	0.2	0.77
NVNT	n20 SISO	5580	Ant2	97.01	0.13	0.77
NVNT	n20 SISO	5700	Ant2	95.59	0.2	0.77
NVNT	n20 SISO	5745	Ant2	97.01	0.13	0.77
NVNT	n20 SISO	5785	Ant2	97.01	0.13	0.77
NVNT	n20 SISO	5825	Ant2	97.01	0.13	0.77
NVNT	n20 MIMO	5180	Sum	97.01	0.13	0.77
NVNT	n20 MIMO	5220	Sum	95.59	0.2	0.77
NVNT	n20 MIMO	5240	Sum	95.59	0.2	0.77
NVNT	n20 MIMO	5260	Sum	95.59	0.2	0.77
NVNT	n20 MIMO	5300	Sum	95.59	0.2	0.77
NVNT	n20 MIMO	5320	Sum	95.59	0.2	0.77
NVNT	n20 MIMO	5500	Sum	95.59	0.2	0.77
NVNT	n20 MIMO	5580	Sum	95.59	0.2	0.77
NVNT	n20 MIMO	5700	Sum	95.59	0.2	0.77
NVNT	n20 MIMO	5745	Sum	95.59	0.2	0.77
NVNT	n20 MIMO	5785	Sum	95.59	0.2	0.77
NVNT	n20	5825	Sum	97.01	0.13	0.77



	MIMO					
NVNT	n40 SISO	5190	Ant1	94.29	0.26	1.52
NVNT	n40 SISO	5230	Ant1	91.43	0.39	1.56
NVNT	n40 SISO	5270	Ant1	94.29	0.26	1.52
NVNT	n40 SISO	5310	Ant1	91.43	0.39	1.56
NVNT	n40 SISO	5510	Ant1	94.29	0.26	1.52
NVNT	n40 SISO	5550	Ant1	91.43	0.39	1.56
NVNT	n40 SISO	5670	Ant1	94.29	0.26	1.52
NVNT	n40 SISO	5755	Ant1	91.43	0.39	1.56
NVNT	n40 SISO	5795	Ant1	94.29	0.26	1.52
NVNT	n40 SISO	5190	Ant2	94.29	0.26	1.52
NVNT	n40 SISO	5230	Ant2	91.43	0.39	1.56
NVNT	n40 SISO	5270	Ant2	94.29	0.26	1.52
NVNT	n40 SISO	5310	Ant2	94.29	0.26	1.52
NVNT	n40 SISO	5510	Ant2	91.43	0.39	1.56
NVNT	n40 SISO	5550	Ant2	91.43	0.39	1.56
NVNT	n40 SISO	5670	Ant2	94.29	0.26	1.52
NVNT	n40 SISO	5755	Ant2	91.43	0.39	1.56
NVNT	n40 SISO	5795	Ant2	94.29	0.26	1.52
NVNT	n40 MIMO	5190	Sum	91.43	0.39	1.56
NVNT	n40 MIMO	5230	Sum	94.29	0.26	1.52
NVNT	n40 MIMO	5270	Sum	91.43	0.39	1.56
NVNT	n40 MIMO	5310	Sum	94.29	0.26	1.52
NVNT	n40 MIMO	5510	Sum	91.43	0.39	1.56
NVNT	n40 MIMO	5550	Sum	91.43	0.39	1.56
NVNT	n40 MIMO	5670	Sum	91.43	0.39	1.56
NVNT	n40 MIMO	5755	Sum	91.43	0.39	1.56
NVNT	n40 MIMO	5795	Sum	91.43	0.39	1.56
NVNT	ac20 SISO	5180	Ant1	95.65	0.19	0.76



NVNT	ac20 SISO	5220	Ant1	97.06	0.13	0.76
NVNT	ac20 SISO	5240	Ant1	95.59	0.2	0.77
NVNT	ac20 SISO	5260	Ant1	95.59	0.2	0.77
NVNT	ac20 SISO	5300	Ant1	95.59	0.2	0.77
NVNT	ac20 SISO	5320	Ant1	95.59	0.2	0.77
NVNT	ac20 SISO	5500	Ant1	97.06	0.13	0.76
NVNT	ac20 SISO	5580	Ant1	95.65	0.19	0.76
NVNT	ac20 SISO	5700	Ant1	95.65	0.19	0.76
NVNT	ac20 SISO	5745	Ant1	95.59	0.2	0.77
NVNT	ac20 SISO	5785	Ant1	95.59	0.2	0.77
NVNT	ac20 SISO	5825	Ant1	95.65	0.19	0.76
NVNT	ac20 SISO	5180	Ant2	97.06	0.13	0.76
NVNT	ac20 SISO	5220	Ant2	95.59	0.2	0.77
NVNT	ac20 SISO	5240	Ant2	95.59	0.2	0.77
NVNT	ac20 SISO	5260	Ant2	95.59	0.2	0.77
NVNT	ac20 SISO	5300	Ant2	95.59	0.2	0.77
NVNT	ac20 SISO	5320	Ant2	95.59	0.2	0.77
NVNT	ac20 SISO	5500	Ant2	97.06	0.13	0.76
NVNT	ac20 SISO	5580	Ant2	97.06	0.13	0.76
NVNT	ac20	5700	Ant2	95.59	0.2	0.77



	SISO					
NVNT	ac20 SISO	5745	Ant2	97.06	0.13	0.76
NVNT	ac20 SISO	5785	Ant2	95.59	0.2	0.77
NVNT	ac20 SISO	5825	Ant2	95.65	0.19	0.76
NVNT	ac20 MIMO	5180	Sum	95.65	0.19	0.76
NVNT	ac20 MIMO	5220	Sum	97.06	0.13	0.76
NVNT	ac20 MIMO	5240	Sum	95.65	0.19	0.76
NVNT	ac20 MIMO	5260	Sum	95.59	0.2	0.77
NVNT	ac20 MIMO	5300	Sum	97.06	0.13	0.76
NVNT	ac20 MIMO	5320	Sum	95.59	0.2	0.77
NVNT	ac20 MIMO	5500	Sum	97.06	0.13	0.76
NVNT	ac20 MIMO	5580	Sum	95.59	0.2	0.77
NVNT	ac20 MIMO	5700	Sum	95.65	0.19	0.76
NVNT	ac20 MIMO	5745	Sum	97.06	0.13	0.76
NVNT	ac20 MIMO	5785	Sum	95.59	0.2	0.77
NVNT	ac20 MIMO	5825	Sum	97.06	0.13	0.76
NVNT	ac40 SISO	5190	Ant1	91.43	0.39	1.56
NVNT	ac40 SISO	5230	Ant1	91.43	0.39	1.56
NVNT	ac40 SISO	5270	Ant1	94.29	0.26	1.52
NVNT	ac40 SISO	5310	Ant1	94.29	0.26	1.52



NVNT	ac40 SISO	5510	Ant1	94.29	0.26	1.52
NVNT	ac40 SISO	5550	Ant1	91.43	0.39	1.56
NVNT	ac40 SISO	5670	Ant1	91.67	0.38	1.52
NVNT	ac40 SISO	5755	Ant1	91.43	0.39	1.56
NVNT	ac40 SISO	5795	Ant1	91.43	0.39	1.56
NVNT	ac40 SISO	5190	Ant2	94.29	0.26	1.52
NVNT	ac40 SISO	5230	Ant2	91.67	0.38	1.52
NVNT	ac40 SISO	5270	Ant2	91.43	0.39	1.56
NVNT	ac40 SISO	5310	Ant2	91.43	0.39	1.56
NVNT	ac40 SISO	5510	Ant2	94.29	0.26	1.52
NVNT	ac40 SISO	5550	Ant2	91.43	0.39	1.56
NVNT	ac40 SISO	5670	Ant2	91.67	0.38	1.52
NVNT	ac40 SISO	5755	Ant2	91.43	0.39	1.56
NVNT	ac40 SISO	5795	Ant2	91.43	0.39	1.56
NVNT	ac40 MIMO	5190	Sum	91.43	0.39	1.56
NVNT	ac40 MIMO	5230	Sum	91.43	0.39	1.56
NVNT	ac40 MIMO	5270	Sum	94.29	0.26	1.52
NVNT	ac40 MIMO	5310	Sum	94.29	0.26	1.52
NVNT	ac40 MIMO	5510	Sum	91.43	0.39	1.56
NVNT	ac40	5550	Sum	94.29	0.26	1.52



	MIMO					
NVNT	ac40 MIMO	5670	Sum	91.43	0.39	1.56
NVNT	ac40 MIMO	5755	Sum	91.67	0.38	1.52
NVNT	ac40 MIMO	5795	Sum	94.29	0.26	1.52
NVNT	ac80 SISO	5210	Ant1	84.21	0.75	3.13
NVNT	ac80 SISO	5290	Ant1	84.21	0.75	3.13
NVNT	ac80 SISO	5530	Ant1	84.21	0.75	3.13
NVNT	ac80 SISO	5610	Ant1	89.47	0.48	2.94
NVNT	ac80 SISO	5775	Ant1	84.21	0.75	3.13
NVNT	ac80 SISO	5210	Ant2	84.21	0.75	3.13
NVNT	ac80 SISO	5290	Ant2	84.21	0.75	3.13
NVNT	ac80 SISO	5530	Ant2	88.89	0.51	3.12
NVNT	ac80 SISO	5610	Ant2	84.21	0.75	3.13
NVNT	ac80 SISO	5775	Ant2	88.89	0.51	3.13
NVNT	ac80 MIMO	5210	Sum	88.89	0.51	3.13
NVNT	ac80 MIMO	5290	Sum	88.89	0.51	3.13
NVNT	ac80 MIMO	5530	Sum	89.47	0.48	2.94
NVNT	ac80 MIMO	5610	Sum	84.21	0.75	3.13
NVNT	ac80 MIMO	5775	Sum	84.21	0.75	3.13

**A.2. Maximum Conducted Output Power**

Condition	Mode	Frequency (MHz)	Antenna	Total Conducted Power (dBm)	Total Conducted Power (W)	Limit Conducted (dBm)	Verdict
NVNT	a SISO	5180	Ant1	13.18	0.0208	23.7	Pass
NVNT	a SISO	5220	Ant1	12.73	0.01875	23.7	Pass
NVNT	a SISO	5240	Ant1	12.43	0.0175	23.7	Pass
NVNT	a SISO	5260	Ant1	12.64	0.01837	23.7	Pass
NVNT	a SISO	5300	Ant1	12.37	0.01726	23.7	Pass
NVNT	a SISO	5320	Ant1	12.18	0.01652	23.68	Pass
NVNT	a SISO	5500	Ant1	12.89	0.01945	23.7	Pass
NVNT	a SISO	5580	Ant1	13.01	0.02	23.7	Pass
NVNT	a SISO	5700	Ant1	12.77	0.01892	23.68	Pass
NVNT	a SISO	5745	Ant1	13.46	0.02218	29.7	Pass
NVNT	a SISO	5785	Ant1	13.09	0.02037	29.7	Pass
NVNT	a SISO	5825	Ant1	12.92	0.01959	29.7	Pass
NVNT	a SISO	5180	Ant2	13.08	0.02032	24	Pass
NVNT	a SISO	5220	Ant2	13.44	0.02208	24	Pass
NVNT	a SISO	5240	Ant2	13.29	0.02133	24	Pass
NVNT	a SISO	5260	Ant2	13.11	0.02046	24	Pass
NVNT	a SISO	5300	Ant2	12.73	0.01875	24	Pass
NVNT	a SISO	5320	Ant2	13	0.01995	24	Pass
NVNT	a SISO	5500	Ant2	12.04	0.016	24	Pass
NVNT	a SISO	5580	Ant2	12.49	0.01774	24	Pass
NVNT	a SISO	5700	Ant2	12.93	0.01963	24	Pass
NVNT	a SISO	5745	Ant2	13.45	0.02213	30	Pass
NVNT	a SISO	5785	Ant2	13.21	0.02094	30	Pass
NVNT	a SISO	5825	Ant2	13.04	0.02014	30	Pass
NVNT	n20 SISO	5180	Ant1	11.15	0.01303	23.7	Pass
NVNT	n20 SISO	5220	Ant1	11.02	0.01265	23.7	Pass
NVNT	n20 SISO	5240	Ant1	10.62	0.01153	23.7	Pass
NVNT	n20 SISO	5260	Ant1	11	0.01259	23.7	Pass
NVNT	n20 SISO	5300	Ant1	10.67	0.01167	23.7	Pass
NVNT	n20 SISO	5320	Ant1	10.43	0.01104	23.7	Pass
NVNT	n20 SISO	5500	Ant1	11	0.01259	23.7	Pass
NVNT	n20 SISO	5580	Ant1	11.17	0.01309	23.7	Pass
NVNT	n20 SISO	5700	Ant1	11.08	0.01282	23.7	Pass



NVNT	n20 SISO	5745	Ant1	10.84	0.01213	29.7	Pass
NVNT	n20 SISO	5785	Ant1	10.4	0.01096	29.7	Pass
NVNT	n20 SISO	5825	Ant1	10.07	0.01016	29.7	Pass
NVNT	n20 SISO	5180	Ant2	11.9	0.01549	24	Pass
NVNT	n20 SISO	5220	Ant2	11.87	0.01538	24	Pass
NVNT	n20 SISO	5240	Ant2	11.61	0.01449	24	Pass
NVNT	n20 SISO	5260	Ant2	11.34	0.01361	24	Pass
NVNT	n20 SISO	5300	Ant2	11.08	0.01282	24	Pass
NVNT	n20 SISO	5320	Ant2	11.28	0.01343	24	Pass
NVNT	n20 SISO	5500	Ant2	10.12	0.01028	24	Pass
NVNT	n20 SISO	5580	Ant2	10.76	0.01191	24	Pass
NVNT	n20 SISO	5700	Ant2	11.18	0.01312	24	Pass
NVNT	n20 SISO	5745	Ant2	11.54	0.01426	30	Pass
NVNT	n20 SISO	5785	Ant2	11.2	0.01318	30	Pass
NVNT	n20 SISO	5825	Ant2	10.85	0.01216	30	Pass
NVNT	n20 MIMO	5180	Ant1	10.6	0.01148	23.7	Pass
NVNT	n20 MIMO	5180	Ant2	11.06	0.01276	24	Pass
NVNT	n20 MIMO	5180	Sum	13.85	0.02425	21.11	Pass
NVNT	n20 MIMO	5220	Ant1	9.81	0.00957	23.7	Pass
NVNT	n20 MIMO	5220	Ant2	10.79	0.01199	24	Pass
NVNT	n20 MIMO	5220	Sum	13.34	0.02157	21.11	Pass
NVNT	n20 MIMO	5240	Ant1	9.44	0.00879	23.7	Pass
NVNT	n20 MIMO	5240	Ant2	10.57	0.0114	24	Pass
NVNT	n20 MIMO	5240	Sum	13.05	0.02019	21.11	Pass
NVNT	n20 MIMO	5260	Ant1	9.68	0.00929	23.7	Pass
NVNT	n20 MIMO	5260	Ant2	10.47	0.01114	24	Pass
NVNT	n20 MIMO	5260	Sum	13.1	0.02043	21.11	Pass
NVNT	n20 MIMO	5300	Ant1	9.43	0.00877	23.7	Pass
NVNT	n20 MIMO	5300	Ant2	10.08	0.01019	24	Pass
NVNT	n20 MIMO	5300	Sum	12.78	0.01896	21.11	Pass
NVNT	n20 MIMO	5320	Ant1	9.17	0.00826	23.7	Pass
NVNT	n20 MIMO	5320	Ant2	10.25	0.01059	24	Pass
NVNT	n20 MIMO	5320	Sum	12.75	0.01885	21.11	Pass
NVNT	n20 MIMO	5500	Ant1	10.15	0.01035	23.7	Pass
NVNT	n20 MIMO	5500	Ant2	10.37	0.01089	24	Pass
NVNT	n20 MIMO	5500	Sum	13.27	0.02124	21.11	Pass
NVNT	n20 MIMO	5580	Ant1	10.67	0.01167	23.7	Pass
NVNT	n20 MIMO	5580	Ant2	10.96	0.01247	24	Pass



NVNT	n20 MIMO	5580	Sum	13.83	0.02414	21.11	Pass
NVNT	n20 MIMO	5700	Ant1	10.79	0.01199	23.7	Pass
NVNT	n20 MIMO	5700	Ant2	11.19	0.01315	24	Pass
NVNT	n20 MIMO	5700	Sum	14.01	0.02515	21.11	Pass
NVNT	n20 MIMO	5745	Ant1	10.27	0.01064	29.7	Pass
NVNT	n20 MIMO	5745	Ant2	10.99	0.01256	30	Pass
NVNT	n20 MIMO	5745	Sum	13.65	0.0232	27.11	Pass
NVNT	n20 MIMO	5785	Ant1	9.55	0.00902	29.7	Pass
NVNT	n20 MIMO	5785	Ant2	10.49	0.01119	30	Pass
NVNT	n20 MIMO	5785	Sum	13.06	0.02021	27.11	Pass
NVNT	n20 MIMO	5825	Ant1	9.44	0.00879	29.7	Pass
NVNT	n20 MIMO	5825	Ant2	10.42	0.01102	30	Pass
NVNT	n20 MIMO	5825	Sum	12.97	0.01981	27.11	Pass
NVNT	n40 SISO	5190	Ant1	10.36	0.01086	23.7	Pass
NVNT	n40 SISO	5230	Ant1	9.61	0.00914	23.7	Pass
NVNT	n40 SISO	5270	Ant1	9.75	0.00944	23.7	Pass
NVNT	n40 SISO	5310	Ant1	9.45	0.00881	23.7	Pass
NVNT	n40 SISO	5510	Ant1	10.07	0.01016	23.7	Pass
NVNT	n40 SISO	5550	Ant1	10.28	0.01067	23.7	Pass
NVNT	n40 SISO	5670	Ant1	10.36	0.01086	23.7	Pass
NVNT	n40 SISO	5755	Ant1	9.76	0.00946	29.7	Pass
NVNT	n40 SISO	5795	Ant1	9.28	0.00847	29.7	Pass
NVNT	n40 SISO	5190	Ant2	9.39	0.00869	24	Pass
NVNT	n40 SISO	5230	Ant2	9.55	0.00902	24	Pass
NVNT	n40 SISO	5270	Ant2	9.4	0.00871	24	Pass
NVNT	n40 SISO	5310	Ant2	9.02	0.00798	24	Pass
NVNT	n40 SISO	5510	Ant2	9.1	0.00813	24	Pass
NVNT	n40 SISO	5550	Ant2	9.46	0.00883	24	Pass
NVNT	n40 SISO	5670	Ant2	10.34	0.01081	24	Pass
NVNT	n40 SISO	5755	Ant2	9.85	0.00966	30	Pass
NVNT	n40 SISO	5795	Ant2	9.5	0.00891	30	Pass
NVNT	n40 MIMO	5190	Ant1	9.24	0.00839	23.7	Pass
NVNT	n40 MIMO	5190	Ant2	10.22	0.01052	24	Pass
NVNT	n40 MIMO	5190	Sum	12.77	0.01891	21.11	Pass
NVNT	n40 MIMO	5230	Ant1	8.9	0.00776	23.7	Pass
NVNT	n40 MIMO	5230	Ant2	9.63	0.00918	24	Pass
NVNT	n40 MIMO	5230	Sum	12.29	0.01695	21.11	Pass
NVNT	n40 MIMO	5270	Ant1	8.72	0.00745	23.7	Pass



NVNT	n40 MIMO	5270	Ant2	9.44	0.00879	24	Pass
NVNT	n40 MIMO	5270	Sum	12.11	0.01624	21.11	Pass
NVNT	n40 MIMO	5310	Ant1	8.61	0.00726	23.7	Pass
NVNT	n40 MIMO	5310	Ant2	9.03	0.008	24	Pass
NVNT	n40 MIMO	5310	Sum	11.84	0.01526	21.11	Pass
NVNT	n40 MIMO	5510	Ant1	9.32	0.00855	23.7	Pass
NVNT	n40 MIMO	5510	Ant2	9.07	0.00807	24	Pass
NVNT	n40 MIMO	5510	Sum	12.21	0.01662	21.11	Pass
NVNT	n40 MIMO	5550	Ant1	9.51	0.00893	23.7	Pass
NVNT	n40 MIMO	5550	Ant2	9.55	0.00902	24	Pass
NVNT	n40 MIMO	5550	Sum	12.54	0.01795	21.11	Pass
NVNT	n40 MIMO	5670	Ant1	9.73	0.0094	23.7	Pass
NVNT	n40 MIMO	5670	Ant2	10.55	0.01135	24	Pass
NVNT	n40 MIMO	5670	Sum	13.17	0.02075	21.11	Pass
NVNT	n40 MIMO	5755	Ant1	9.3	0.00851	29.7	Pass
NVNT	n40 MIMO	5755	Ant2	9.81	0.00957	30	Pass
NVNT	n40 MIMO	5755	Sum	12.57	0.01808	27.11	Pass
NVNT	n40 MIMO	5795	Ant1	9.38	0.00867	29.7	Pass
NVNT	n40 MIMO	5795	Ant2	10.14	0.01033	30	Pass
NVNT	n40 MIMO	5795	Sum	12.79	0.019	27.11	Pass
NVNT	ac20 SISO	5180	Ant1	11.1	0.01288	23.7	Pass
NVNT	ac20 SISO	5220	Ant1	11.04	0.01271	23.7	Pass
NVNT	ac20 SISO	5240	Ant1	10.68	0.01169	23.7	Pass
NVNT	ac20 SISO	5260	Ant1	11	0.01259	23.7	Pass
NVNT	ac20 SISO	5300	Ant1	10.57	0.0114	23.7	Pass
NVNT	ac20 SISO	5320	Ant1	10.35	0.01084	23.7	Pass
NVNT	ac20 SISO	5500	Ant1	10.96	0.01247	23.7	Pass
NVNT	ac20 SISO	5580	Ant1	11.2	0.01318	23.7	Pass
NVNT	ac20 SISO	5700	Ant1	11.11	0.01291	23.7	Pass
NVNT	ac20 SISO	5745	Ant1	10.84	0.01213	29.7	Pass
NVNT	ac20 SISO	5785	Ant1	10.43	0.01104	29.7	Pass
NVNT	ac20 SISO	5825	Ant1	10.07	0.01016	29.7	Pass
NVNT	ac20 SISO	5180	Ant2	10.74	0.01186	24	Pass
NVNT	ac20 SISO	5220	Ant2	10.63	0.01156	24	Pass
NVNT	ac20 SISO	5240	Ant2	10.33	0.01079	24	Pass
NVNT	ac20 SISO	5260	Ant2	10.25	0.01059	24	Pass
NVNT	ac20 SISO	5300	Ant2	9.94	0.00986	24	Pass
NVNT	ac20 SISO	5320	Ant2	10.08	0.01019	24	Pass



NVNT	ac20 SISO	5500	Ant2	10.06	0.01014	24	Pass
NVNT	ac20 SISO	5580	Ant2	10.82	0.01208	24	Pass
NVNT	ac20 SISO	5700	Ant2	11.26	0.01337	24	Pass
NVNT	ac20 SISO	5745	Ant2	10.68	0.01169	30	Pass
NVNT	ac20 SISO	5785	Ant2	10.31	0.01074	30	Pass
NVNT	ac20 SISO	5825	Ant2	10.14	0.01033	30	Pass
NVNT	ac20 MIMO	5180	Ant1	10.92	0.01236	23.7	Pass
NVNT	ac20 MIMO	5180	Ant2	11.14	0.013	24	Pass
NVNT	ac20 MIMO	5180	Sum	14.04	0.02536	21.11	Pass
NVNT	ac20 MIMO	5220	Ant1	10.05	0.01012	23.7	Pass
NVNT	ac20 MIMO	5220	Ant2	10.96	0.01247	24	Pass
NVNT	ac20 MIMO	5220	Sum	13.54	0.02259	21.11	Pass
NVNT	ac20 MIMO	5240	Ant1	9.77	0.00948	23.7	Pass
NVNT	ac20 MIMO	5240	Ant2	10.71	0.01178	24	Pass
NVNT	ac20 MIMO	5240	Sum	13.28	0.02126	21.11	Pass
NVNT	ac20 MIMO	5260	Ant1	10	0.01	23.7	Pass
NVNT	ac20 MIMO	5260	Ant2	10.52	0.01127	24	Pass
NVNT	ac20 MIMO	5260	Sum	13.28	0.02127	21.11	Pass
NVNT	ac20 MIMO	5300	Ant1	9.49	0.00889	23.7	Pass
NVNT	ac20 MIMO	5300	Ant2	10.23	0.01054	24	Pass
NVNT	ac20 MIMO	5300	Sum	12.89	0.01944	21.11	Pass
NVNT	ac20 MIMO	5320	Ant1	9.32	0.00855	23.7	Pass
NVNT	ac20 MIMO	5320	Ant2	10.41	0.01099	24	Pass
NVNT	ac20 MIMO	5320	Sum	12.91	0.01954	21.11	Pass
NVNT	ac20 MIMO	5500	Ant1	10.47	0.01114	23.7	Pass
NVNT	ac20 MIMO	5500	Ant2	10.58	0.01143	24	Pass
NVNT	ac20 MIMO	5500	Sum	13.54	0.02257	21.11	Pass
NVNT	ac20 MIMO	5580	Ant1	10.87	0.01222	23.7	Pass
NVNT	ac20 MIMO	5580	Ant2	11.09	0.01285	24	Pass
NVNT	ac20 MIMO	5580	Sum	13.99	0.02507	21.11	Pass
NVNT	ac20 MIMO	5700	Ant1	10.98	0.01253	23.7	Pass
NVNT	ac20 MIMO	5700	Ant2	11.32	0.01355	24	Pass
NVNT	ac20 MIMO	5700	Sum	14.16	0.02608	21.11	Pass
NVNT	ac20 MIMO	5745	Ant1	10.49	0.01119	29.7	Pass
NVNT	ac20 MIMO	5745	Ant2	11.02	0.01265	30	Pass
NVNT	ac20 MIMO	5745	Sum	13.77	0.02384	27.11	Pass
NVNT	ac20 MIMO	5785	Ant1	9.85	0.00966	29.7	Pass
NVNT	ac20 MIMO	5785	Ant2	10.63	0.01156	30	Pass



NVNT	ac20 MIMO	5785	Sum	13.27	0.02122	27.11	Pass
NVNT	ac20 MIMO	5825	Ant1	9.7	0.00933	29.7	Pass
NVNT	ac20 MIMO	5825	Ant2	10.56	0.01138	30	Pass
NVNT	ac20 MIMO	5825	Sum	13.16	0.02071	27.11	Pass
NVNT	ac40 SISO	5190	Ant1	10.38	0.01091	23.7	Pass
NVNT	ac40 SISO	5230	Ant1	9.62	0.00916	23.7	Pass
NVNT	ac40 SISO	5270	Ant1	9.74	0.00942	23.7	Pass
NVNT	ac40 SISO	5310	Ant1	9.43	0.00877	23.7	Pass
NVNT	ac40 SISO	5510	Ant1	10.21	0.0105	23.7	Pass
NVNT	ac40 SISO	5550	Ant1	10.4	0.01096	23.7	Pass
NVNT	ac40 SISO	5670	Ant1	10.44	0.01107	23.7	Pass
NVNT	ac40 SISO	5755	Ant1	9.72	0.00938	29.7	Pass
NVNT	ac40 SISO	5795	Ant1	9.16	0.00824	29.7	Pass
NVNT	ac40 SISO	5190	Ant2	9.85	0.00966	24	Pass
NVNT	ac40 SISO	5230	Ant2	9.58	0.00908	24	Pass
NVNT	ac40 SISO	5270	Ant2	9.52	0.00895	24	Pass
NVNT	ac40 SISO	5310	Ant2	9	0.00794	24	Pass
NVNT	ac40 SISO	5510	Ant2	9.05	0.00804	24	Pass
NVNT	ac40 SISO	5550	Ant2	9.6	0.00912	24	Pass
NVNT	ac40 SISO	5670	Ant2	10.27	0.01064	24	Pass
NVNT	ac40 SISO	5755	Ant2	9.9	0.00977	30	Pass
NVNT	ac40 SISO	5795	Ant2	9.64	0.0092	30	Pass
NVNT	ac40 MIMO	5190	Ant1	9.44	0.00879	23.7	Pass
NVNT	ac40 MIMO	5190	Ant2	10.31	0.01074	24	Pass
NVNT	ac40 MIMO	5190	Sum	12.91	0.01953	21.11	Pass
NVNT	ac40 MIMO	5230	Ant1	9.02	0.00798	23.7	Pass
NVNT	ac40 MIMO	5230	Ant2	9.72	0.00938	24	Pass
NVNT	ac40 MIMO	5230	Sum	12.4	0.01736	21.11	Pass
NVNT	ac40 MIMO	5270	Ant1	8.82	0.00762	23.7	Pass
NVNT	ac40 MIMO	5270	Ant2	9.74	0.00942	24	Pass
NVNT	ac40 MIMO	5270	Sum	12.31	0.01704	21.11	Pass
NVNT	ac40 MIMO	5310	Ant1	8.73	0.00746	23.7	Pass
NVNT	ac40 MIMO	5310	Ant2	9.22	0.00836	24	Pass
NVNT	ac40 MIMO	5310	Sum	11.99	0.01582	21.11	Pass
NVNT	ac40 MIMO	5510	Ant1	9.42	0.00875	23.7	Pass
NVNT	ac40 MIMO	5510	Ant2	9.15	0.00822	24	Pass
NVNT	ac40 MIMO	5510	Sum	12.3	0.01697	21.11	Pass
NVNT	ac40 MIMO	5550	Ant1	9.62	0.00916	23.7	Pass



NVNT	ac40 MIMO	5550	Ant2	9.71	0.00935	24	Pass
NVNT	ac40 MIMO	5550	Sum	12.68	0.01852	21.11	Pass
NVNT	ac40 MIMO	5670	Ant1	9.75	0.00944	23.7	Pass
NVNT	ac40 MIMO	5670	Ant2	10.68	0.01169	24	Pass
NVNT	ac40 MIMO	5670	Sum	13.25	0.02114	21.11	Pass
NVNT	ac40 MIMO	5755	Ant1	9.5	0.00891	29.7	Pass
NVNT	ac40 MIMO	5755	Ant2	9.97	0.00993	30	Pass
NVNT	ac40 MIMO	5755	Sum	12.75	0.01884	27.11	Pass
NVNT	ac40 MIMO	5795	Ant1	8.9	0.00776	29.7	Pass
NVNT	ac40 MIMO	5795	Ant2	9.64	0.0092	30	Pass
NVNT	ac40 MIMO	5795	Sum	12.3	0.01697	27.11	Pass
NVNT	ac80 SISO	5210	Ant1	8.69	0.0074	23.7	Pass
NVNT	ac80 SISO	5290	Ant1	8.32	0.00679	23.7	Pass
NVNT	ac80 SISO	5530	Ant1	9.17	0.00826	23.7	Pass
NVNT	ac80 SISO	5610	Ant1	9.33	0.00857	23.7	Pass
NVNT	ac80 SISO	5775	Ant1	8.32	0.00679	29.7	Pass
NVNT	ac80 SISO	5210	Ant2	8.67	0.00736	24	Pass
NVNT	ac80 SISO	5290	Ant2	8.08	0.00643	24	Pass
NVNT	ac80 SISO	5530	Ant2	8.22	0.00664	24	Pass
NVNT	ac80 SISO	5610	Ant2	8.84	0.00766	24	Pass
NVNT	ac80 SISO	5775	Ant2	8.46	0.00701	30	Pass
NVNT	ac80 MIMO	5210	Ant1	8.32	0.00679	23.7	Pass
NVNT	ac80 MIMO	5210	Ant2	8.79	0.00757	24	Pass
NVNT	ac80 MIMO	5210	Sum	11.57	0.01436	21.11	Pass
NVNT	ac80 MIMO	5290	Ant1	7.84	0.00608	23.7	Pass
NVNT	ac80 MIMO	5290	Ant2	8.16	0.00655	24	Pass
NVNT	ac80 MIMO	5290	Sum	11.01	0.01263	21.11	Pass
NVNT	ac80 MIMO	5530	Ant1	8.56	0.00718	23.7	Pass
NVNT	ac80 MIMO	5530	Ant2	8.28	0.00673	24	Pass
NVNT	ac80 MIMO	5530	Sum	11.43	0.01391	21.11	Pass
NVNT	ac80 MIMO	5610	Ant1	8.82	0.00762	23.7	Pass
NVNT	ac80 MIMO	5610	Ant2	9.02	0.00798	24	Pass
NVNT	ac80 MIMO	5610	Sum	11.93	0.0156	21.11	Pass
NVNT	ac80 MIMO	5775	Ant1	7.97	0.00627	29.7	Pass
NVNT	ac80 MIMO	5775	Ant2	8.48	0.00705	30	Pass
NVNT	ac80 MIMO	5775	Sum	11.24	0.01331	27.11	Pass

Note: Directional gain = $10\log[(10^{G0/20} + 10^{G1/20})^2/2] = 8.89\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $24 - (8.89 - 6) = 21.11\text{dBm}$ for 5.18-5.24GHz, 5.260-5.320GHz, 5.500-5.720GHz band and reduced to $30 - (8.89 - 6) = 27.11\text{dBm}$ for 5.745-5.825GHz band.

**A.3. Emission Bandwidth**

Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)
NVNT	a SISO	5180	Ant1	20.04
NVNT	a SISO	5220	Ant1	20.91
NVNT	a SISO	5240	Ant1	23.16
NVNT	a SISO	5260	Ant1	22.61
NVNT	a SISO	5300	Ant1	23.02
NVNT	a SISO	5320	Ant1	19.88
NVNT	a SISO	5500	Ant1	20.02
NVNT	a SISO	5580	Ant1	20
NVNT	a SISO	5700	Ant1	19.87
NVNT	a SISO	5180	Ant2	19.99
NVNT	a SISO	5220	Ant2	20.23
NVNT	a SISO	5240	Ant2	20.08
NVNT	a SISO	5260	Ant2	20.21
NVNT	a SISO	5300	Ant2	20.24
NVNT	a SISO	5320	Ant2	19.97
NVNT	a SISO	5500	Ant2	20.12
NVNT	a SISO	5580	Ant2	20.19
NVNT	a SISO	5700	Ant2	20.02
NVNT	n20 SISO	5180	Ant1	20.35
NVNT	n20 SISO	5220	Ant1	20.51
NVNT	n20 SISO	5240	Ant1	20.45
NVNT	n20 SISO	5260	Ant1	20.48
NVNT	n20 SISO	5300	Ant1	20.49
NVNT	n20 SISO	5320	Ant1	20.49
NVNT	n20 SISO	5500	Ant1	20.39
NVNT	n20 SISO	5580	Ant1	20.44
NVNT	n20 SISO	5700	Ant1	20.43
NVNT	n20 SISO	5180	Ant2	20.14
NVNT	n20 SISO	5220	Ant2	19.99
NVNT	n20 SISO	5240	Ant2	20.29
NVNT	n20 SISO	5260	Ant2	20.21
NVNT	n20 SISO	5300	Ant2	20.25
NVNT	n20 SISO	5320	Ant2	20.07
NVNT	n20 SISO	5500	Ant2	20.12
NVNT	n20 SISO	5580	Ant2	20.23
NVNT	n20 SISO	5700	Ant2	20.32



NVNT	n20 MIMO	5180	Ant1	20.38
NVNT	n20 MIMO	5180	Ant2	20.14
NVNT	n20 MIMO	5220	Ant1	20.26
NVNT	n20 MIMO	5220	Ant2	19.72
NVNT	n20 MIMO	5240	Ant1	20.42
NVNT	n20 MIMO	5240	Ant2	19.89
NVNT	n20 MIMO	5260	Ant1	20.51
NVNT	n20 MIMO	5260	Ant2	19.87
NVNT	n20 MIMO	5300	Ant1	20.32
NVNT	n20 MIMO	5300	Ant2	19.87
NVNT	n20 MIMO	5320	Ant1	20.35
NVNT	n20 MIMO	5320	Ant2	19.84
NVNT	n20 MIMO	5500	Ant1	20.39
NVNT	n20 MIMO	5500	Ant2	19.86
NVNT	n20 MIMO	5580	Ant1	20.39
NVNT	n20 MIMO	5580	Ant2	19.85
NVNT	n20 MIMO	5700	Ant1	20.54
NVNT	n20 MIMO	5700	Ant2	20
NVNT	n40 SISO	5190	Ant1	41.05
NVNT	n40 SISO	5230	Ant1	40.96
NVNT	n40 SISO	5270	Ant1	41.14
NVNT	n40 SISO	5310	Ant1	40.88
NVNT	n40 SISO	5510	Ant1	40.95
NVNT	n40 SISO	5550	Ant1	40.98
NVNT	n40 SISO	5670	Ant1	40.92
NVNT	n40 SISO	5190	Ant2	41.01
NVNT	n40 SISO	5230	Ant2	40.68
NVNT	n40 SISO	5270	Ant2	41
NVNT	n40 SISO	5310	Ant2	41.18
NVNT	n40 SISO	5510	Ant2	40.7
NVNT	n40 SISO	5550	Ant2	40.69
NVNT	n40 SISO	5670	Ant2	40.88
NVNT	n40 MIMO	5190	Ant1	41.21
NVNT	n40 MIMO	5190	Ant2	40.56
NVNT	n40 MIMO	5230	Ant1	40.95
NVNT	n40 MIMO	5230	Ant2	39.59
NVNT	n40 MIMO	5270	Ant1	41.19
NVNT	n40 MIMO	5270	Ant2	39.86



NVNT	n40 MIMO	5310	Ant1	40.5
NVNT	n40 MIMO	5310	Ant2	39.78
NVNT	n40 MIMO	5510	Ant1	41.02
NVNT	n40 MIMO	5510	Ant2	40.15
NVNT	n40 MIMO	5550	Ant1	40.61
NVNT	n40 MIMO	5550	Ant2	40.28
NVNT	n40 MIMO	5670	Ant1	40.57
NVNT	n40 MIMO	5670	Ant2	40.32
NVNT	ac20 SISO	5180	Ant1	20.35
NVNT	ac20 SISO	5220	Ant1	20.39
NVNT	ac20 SISO	5240	Ant1	20.43
NVNT	ac20 SISO	5260	Ant1	20.61
NVNT	ac20 SISO	5300	Ant1	20.45
NVNT	ac20 SISO	5320	Ant1	20.4
NVNT	ac20 SISO	5500	Ant1	20.48
NVNT	ac20 SISO	5580	Ant1	20.36
NVNT	ac20 SISO	5700	Ant1	20.55
NVNT	ac20 SISO	5180	Ant2	20.44
NVNT	ac20 SISO	5220	Ant2	20.37
NVNT	ac20 SISO	5240	Ant2	20.35
NVNT	ac20 SISO	5260	Ant2	20.33
NVNT	ac20 SISO	5300	Ant2	20.31
NVNT	ac20 SISO	5320	Ant2	20.47
NVNT	ac20 SISO	5500	Ant2	20.36
NVNT	ac20 SISO	5580	Ant2	20.45
NVNT	ac20 SISO	5700	Ant2	20.48
NVNT	ac20 MIMO	5180	Ant1	20.35
NVNT	ac20 MIMO	5180	Ant2	19.8
NVNT	ac20 MIMO	5220	Ant1	20.45
NVNT	ac20 MIMO	5220	Ant2	19.91
NVNT	ac20 MIMO	5240	Ant1	20.5
NVNT	ac20 MIMO	5240	Ant2	19.84
NVNT	ac20 MIMO	5260	Ant1	20.28
NVNT	ac20 MIMO	5260	Ant2	19.82
NVNT	ac20 MIMO	5300	Ant1	20.34
NVNT	ac20 MIMO	5300	Ant2	19.76
NVNT	ac20 MIMO	5320	Ant1	20.3
NVNT	ac20 MIMO	5320	Ant2	19.9



NVNT	ac20 MIMO	5500	Ant1	20.42
NVNT	ac20 MIMO	5500	Ant2	20
NVNT	ac20 MIMO	5580	Ant1	20.57
NVNT	ac20 MIMO	5580	Ant2	20.07
NVNT	ac20 MIMO	5700	Ant1	20.34
NVNT	ac20 MIMO	5700	Ant2	19.88
NVNT	ac40 SISO	5190	Ant1	40.8
NVNT	ac40 SISO	5230	Ant1	40.58
NVNT	ac40 SISO	5270	Ant1	40.75
NVNT	ac40 SISO	5310	Ant1	40.72
NVNT	ac40 SISO	5510	Ant1	40.75
NVNT	ac40 SISO	5550	Ant1	40.97
NVNT	ac40 SISO	5670	Ant1	40.57
NVNT	ac40 SISO	5190	Ant2	40.95
NVNT	ac40 SISO	5230	Ant2	40.87
NVNT	ac40 SISO	5270	Ant2	40.73
NVNT	ac40 SISO	5310	Ant2	40.56
NVNT	ac40 SISO	5510	Ant2	40.54
NVNT	ac40 SISO	5550	Ant2	40.8
NVNT	ac40 SISO	5670	Ant2	40.51
NVNT	ac40 MIMO	5190	Ant1	40.8
NVNT	ac40 MIMO	5190	Ant2	40.14
NVNT	ac40 MIMO	5230	Ant1	40.84
NVNT	ac40 MIMO	5230	Ant2	39.93
NVNT	ac40 MIMO	5270	Ant1	40.73
NVNT	ac40 MIMO	5270	Ant2	39.88
NVNT	ac40 MIMO	5310	Ant1	40.83
NVNT	ac40 MIMO	5310	Ant2	39.98
NVNT	ac40 MIMO	5510	Ant1	40.36
NVNT	ac40 MIMO	5510	Ant2	40.06
NVNT	ac40 MIMO	5550	Ant1	41.08
NVNT	ac40 MIMO	5550	Ant2	40.03
NVNT	ac40 MIMO	5670	Ant1	40.94
NVNT	ac40 MIMO	5670	Ant2	39.9
NVNT	ac80 SISO	5210	Ant1	81.57
NVNT	ac80 SISO	5290	Ant1	81.6
NVNT	ac80 SISO	5530	Ant1	81.52
NVNT	ac80 SISO	5610	Ant1	81.53



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NVNT	ac80 SISO	5210	Ant2	81.46
NVNT	ac80 SISO	5290	Ant2	81.99
NVNT	ac80 SISO	5530	Ant2	81.56
NVNT	ac80 SISO	5610	Ant2	81.41
NVNT	ac80 MIMO	5210	Ant1	81.53
NVNT	ac80 MIMO	5210	Ant2	80.27
NVNT	ac80 MIMO	5290	Ant1	81.57
NVNT	ac80 MIMO	5290	Ant2	80.08
NVNT	ac80 MIMO	5530	Ant1	81.7
NVNT	ac80 MIMO	5530	Ant2	80.39
NVNT	ac80 MIMO	5610	Ant1	81.86
NVNT	ac80 MIMO	5610	Ant2	80.19



Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	a SISO	5745	Ant1	15.05	0.5	Pass
NVNT	a SISO	5785	Ant1	15.49	0.5	Pass
NVNT	a SISO	5825	Ant1	13.89	0.5	Pass
NVNT	a SISO	5745	Ant2	15.02	0.5	Pass
NVNT	a SISO	5785	Ant2	14.46	0.5	Pass
NVNT	a SISO	5825	Ant2	14.41	0.5	Pass
NVNT	n20 SISO	5745	Ant1	13.62	0.5	Pass
NVNT	n20 SISO	5785	Ant1	15.11	0.5	Pass
NVNT	n20 SISO	5825	Ant1	15.11	0.5	Pass
NVNT	n20 SISO	5745	Ant2	15.07	0.5	Pass
NVNT	n20 SISO	5785	Ant2	14.12	0.5	Pass
NVNT	n20 SISO	5825	Ant2	13.87	0.5	Pass
NVNT	n20 MIMO	5745	Ant1	16.88	0.5	Pass
NVNT	n20 MIMO	5745	Ant2	15.11	0.5	Pass
NVNT	n20 MIMO	5785	Ant1	15.08	0.5	Pass
NVNT	n20 MIMO	5785	Ant2	15.03	0.5	Pass
NVNT	n20 MIMO	5825	Ant1	15.08	0.5	Pass
NVNT	n20 MIMO	5825	Ant2	15.65	0.5	Pass
NVNT	n40 SISO	5755	Ant1	35.12	0.5	Pass
NVNT	n40 SISO	5795	Ant1	35.1	0.5	Pass
NVNT	n40 SISO	5755	Ant2	33.76	0.5	Pass
NVNT	n40 SISO	5795	Ant2	35.12	0.5	Pass
NVNT	n40 MIMO	5755	Ant1	35.1	0.5	Pass
NVNT	n40 MIMO	5755	Ant2	35.1	0.5	Pass
NVNT	n40 MIMO	5795	Ant1	35.12	0.5	Pass
NVNT	n40 MIMO	5795	Ant2	35.09	0.5	Pass
NVNT	ac20 SISO	5745	Ant1	12.97	0.5	Pass
NVNT	ac20 SISO	5785	Ant1	13.8	0.5	Pass
NVNT	ac20 SISO	5825	Ant1	16.87	0.5	Pass
NVNT	ac20 SISO	5745	Ant2	14.45	0.5	Pass
NVNT	ac20 SISO	5785	Ant2	13.88	0.5	Pass
NVNT	ac20 SISO	5825	Ant2	13.13	0.5	Pass
NVNT	ac20 MIMO	5745	Ant1	15.05	0.5	Pass
NVNT	ac20 MIMO	5745	Ant2	16.29	0.5	Pass
NVNT	ac20 MIMO	5785	Ant1	14.99	0.5	Pass



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NVNT	ac20 MIMO	5785	Ant2	13.78	0.5	Pass
NVNT	ac20 MIMO	5825	Ant1	16.28	0.5	Pass
NVNT	ac20 MIMO	5825	Ant2	16.28	0.5	Pass
NVNT	ac40 SISO	5755	Ant1	35.12	0.5	Pass
NVNT	ac40 SISO	5795	Ant1	35.08	0.5	Pass
NVNT	ac40 SISO	5755	Ant2	35.04	0.5	Pass
NVNT	ac40 SISO	5795	Ant2	35.11	0.5	Pass
NVNT	ac40 MIMO	5755	Ant1	35.04	0.5	Pass
NVNT	ac40 MIMO	5755	Ant2	35.09	0.5	Pass
NVNT	ac40 MIMO	5795	Ant1	32.61	0.5	Pass
NVNT	ac40 MIMO	5795	Ant2	35.05	0.5	Pass
NVNT	ac80 SISO	5775	Ant1	75.1	0.5	Pass
NVNT	ac80 SISO	5775	Ant2	75.11	0.5	Pass
NVNT	ac80 MIMO	5775	Ant1	75.11	0.5	Pass
NVNT	ac80 MIMO	5775	Ant2	73.85	0.5	Pass

Test Graphs

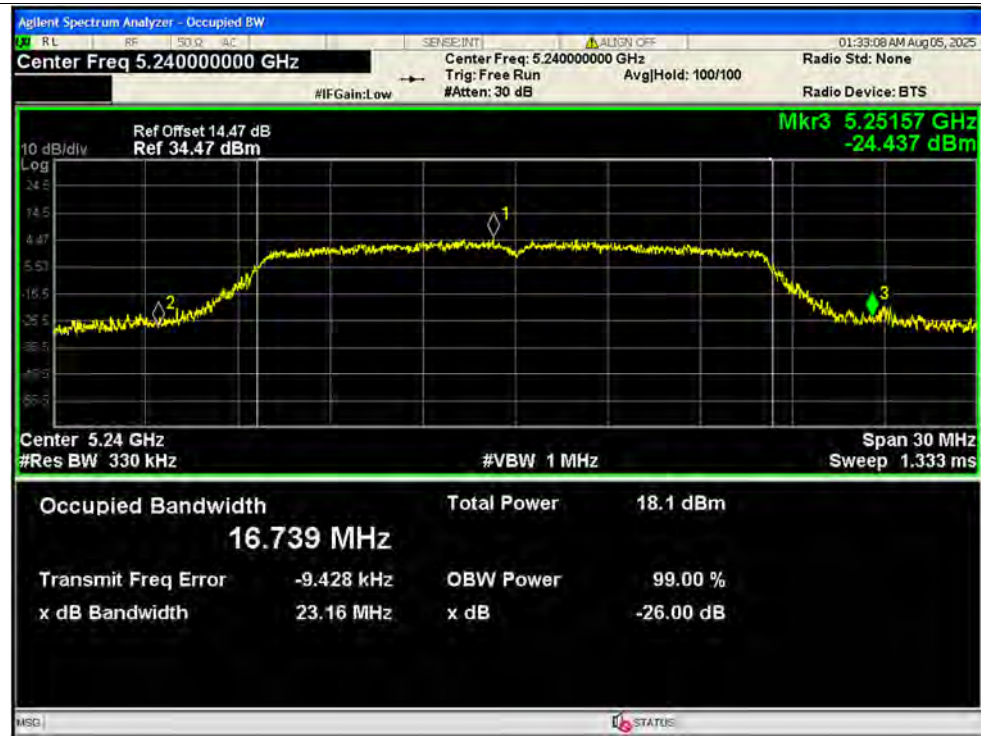
-26dB Bandwidth NVNT a 5180MHz Ant1 SISO



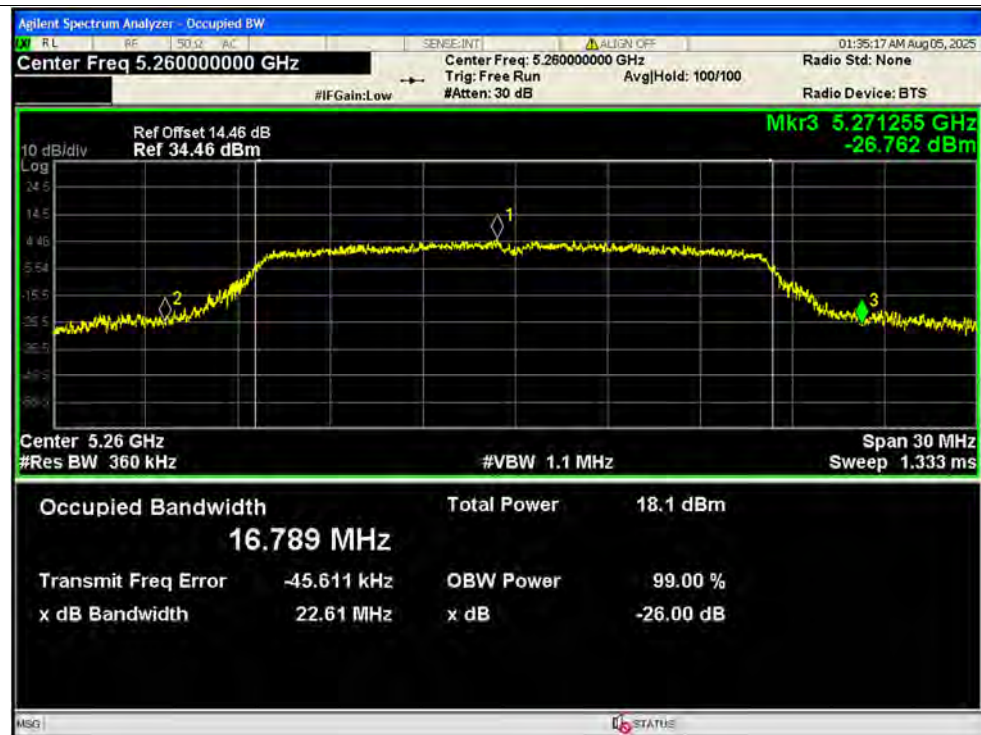
-26dB Bandwidth NVNT a 5220MHz Ant1 SISO



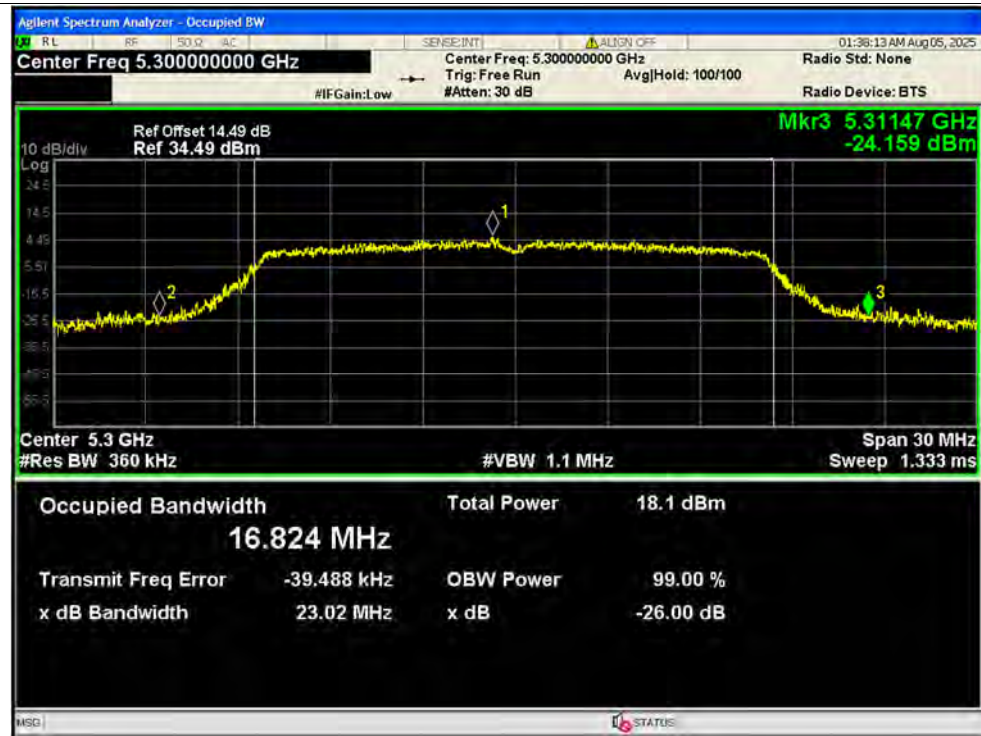
-26dB Bandwidth NVNT a 5240MHz Ant1 SISO



-26dB Bandwidth NVNT a 5260MHz Ant1 SISO



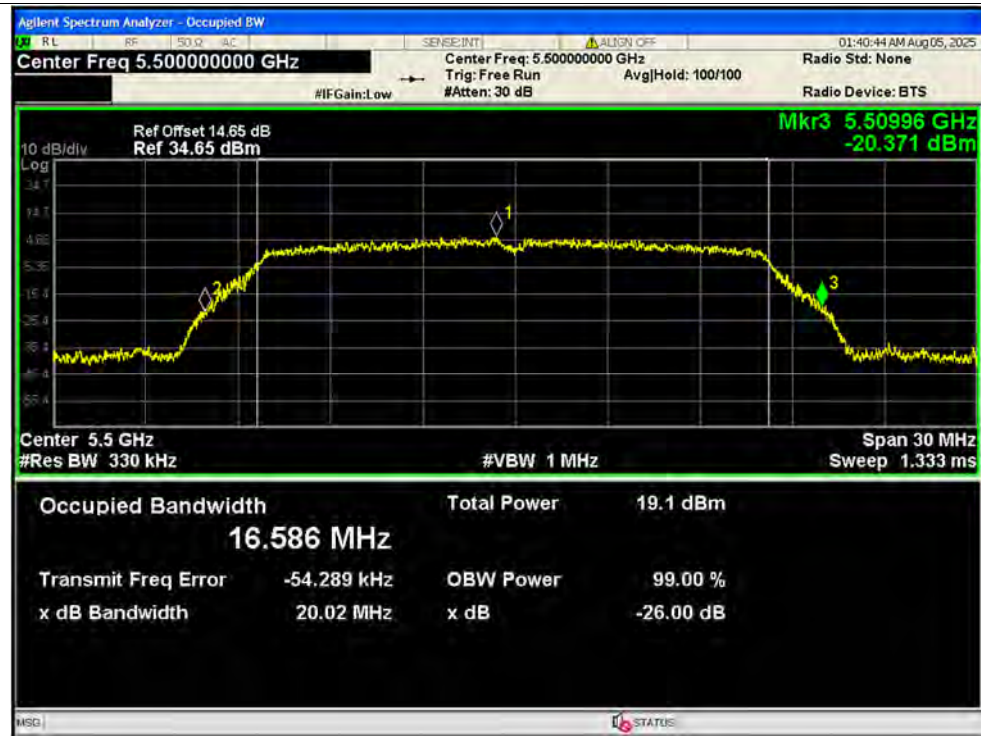
-26dB Bandwidth NVNT a 5300MHz Ant1 SISO



-26dB Bandwidth NVNT a 5320MHz Ant1 SISO



-26dB Bandwidth NVNT a 5500MHz Ant1 SISO



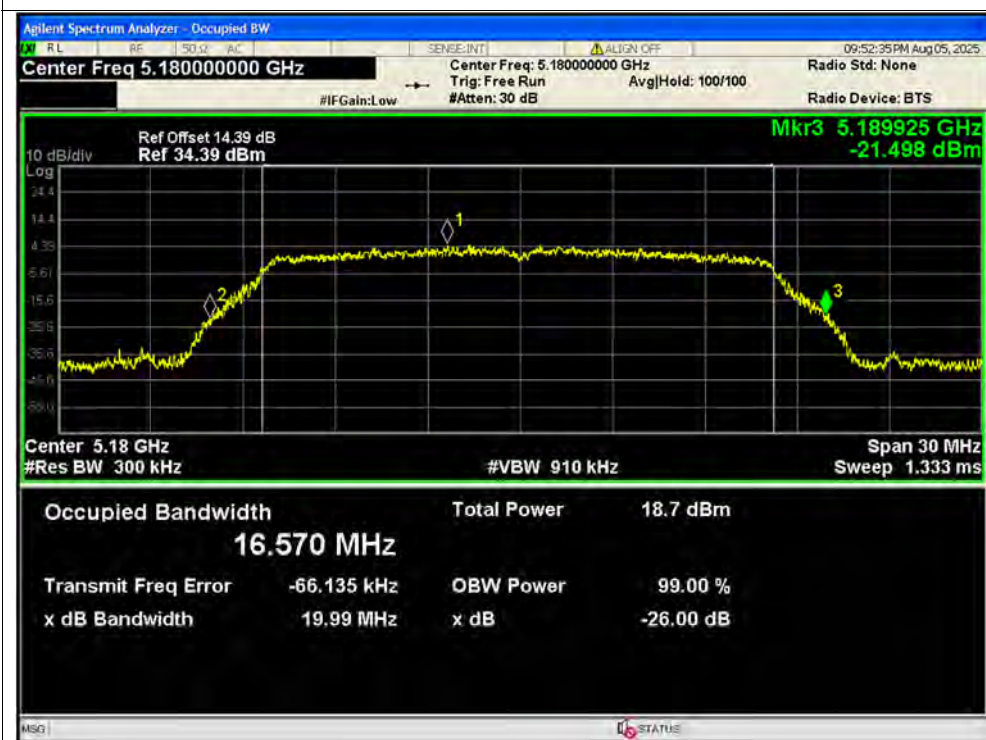
-26dB Bandwidth NVNT a 5580MHz Ant1 SISO



-26dB Bandwidth NVNT a 5700MHz Ant1 SISO



-26dB Bandwidth NVNT a 5180MHz Ant2 SISO



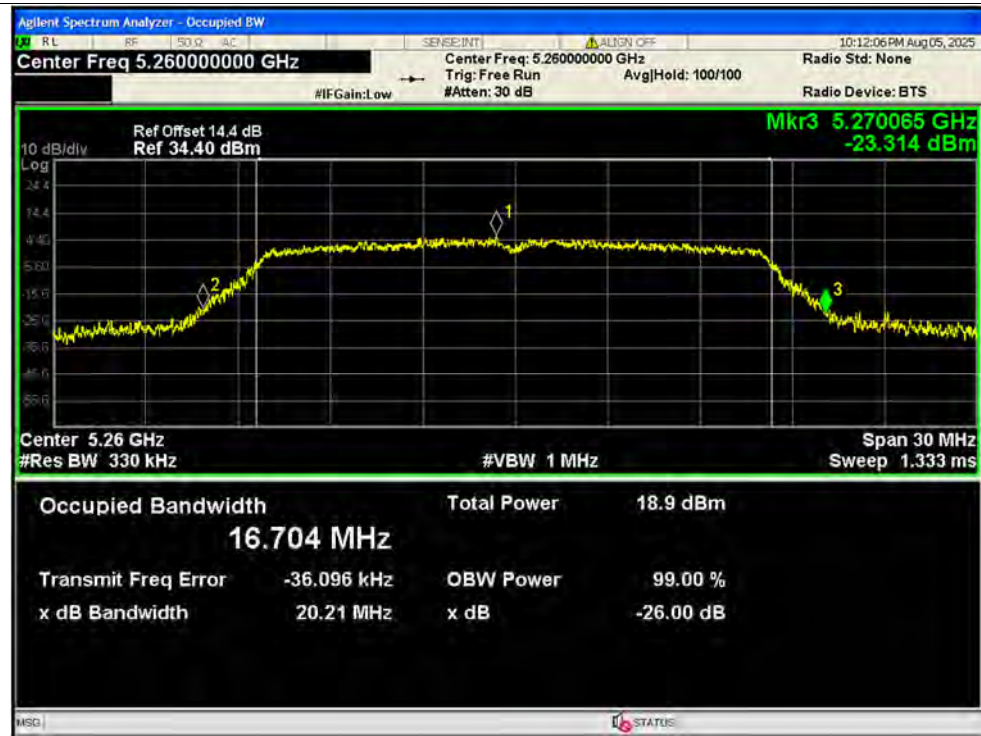
-26dB Bandwidth NVNT a 5220MHz Ant2 SISO



-26dB Bandwidth NVNT a 5240MHz Ant2 SISO



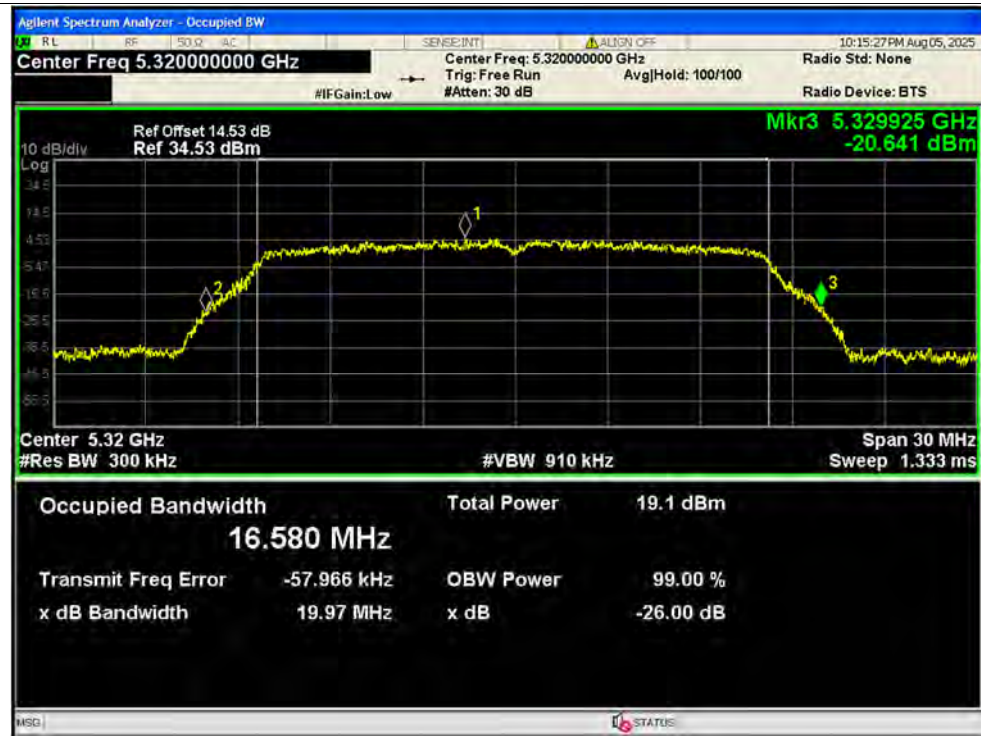
-26dB Bandwidth NVNT a 5260MHz Ant2 SISO



-26dB Bandwidth NVNT a 5300MHz Ant2 SISO



-26dB Bandwidth NVNT a 5320MHz Ant2 SISO



-26dB Bandwidth NVNT a 5500MHz Ant2 SISO



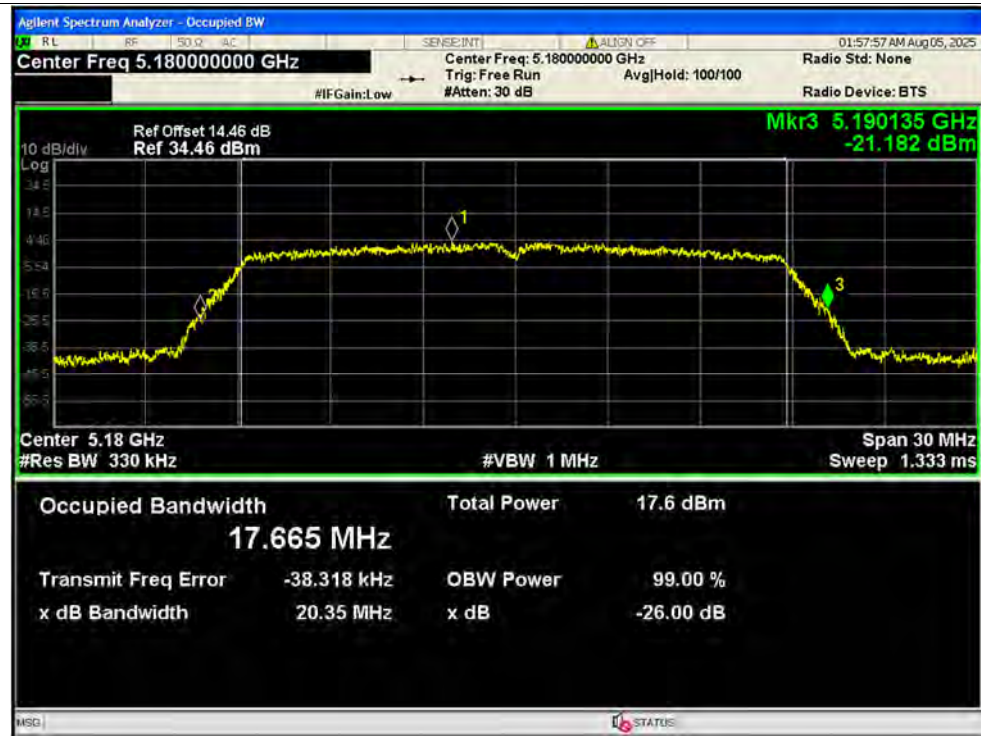
-26dB Bandwidth NVNT a 5580MHz Ant2 SISO



-26dB Bandwidth NVNT a 5700MHz Ant2 SISO



-26dB Bandwidth NVNT n20 5180MHz Ant1 SISO



-26dB Bandwidth NVNT n20 5220MHz Ant1 SISO



-26dB Bandwidth NVNT n20 5240MHz Ant1 SISO



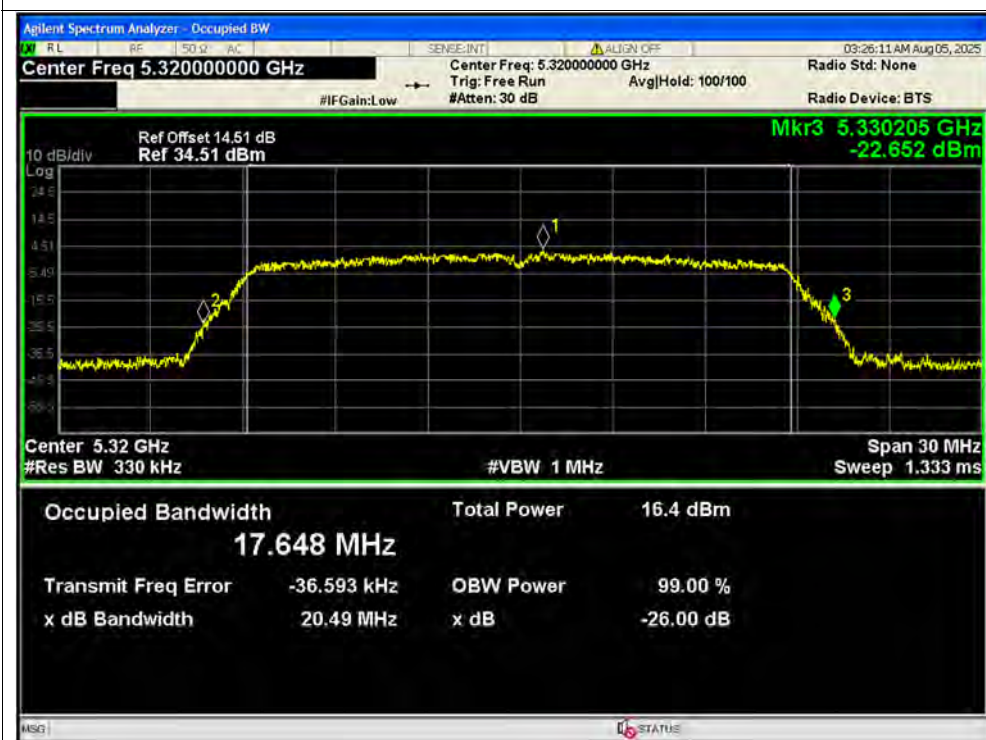
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-26dB Bandwidth NVNT n20 5300MHz Ant1 SISO



-26dB Bandwidth NVNT n20 5320MHz Ant1 SISO



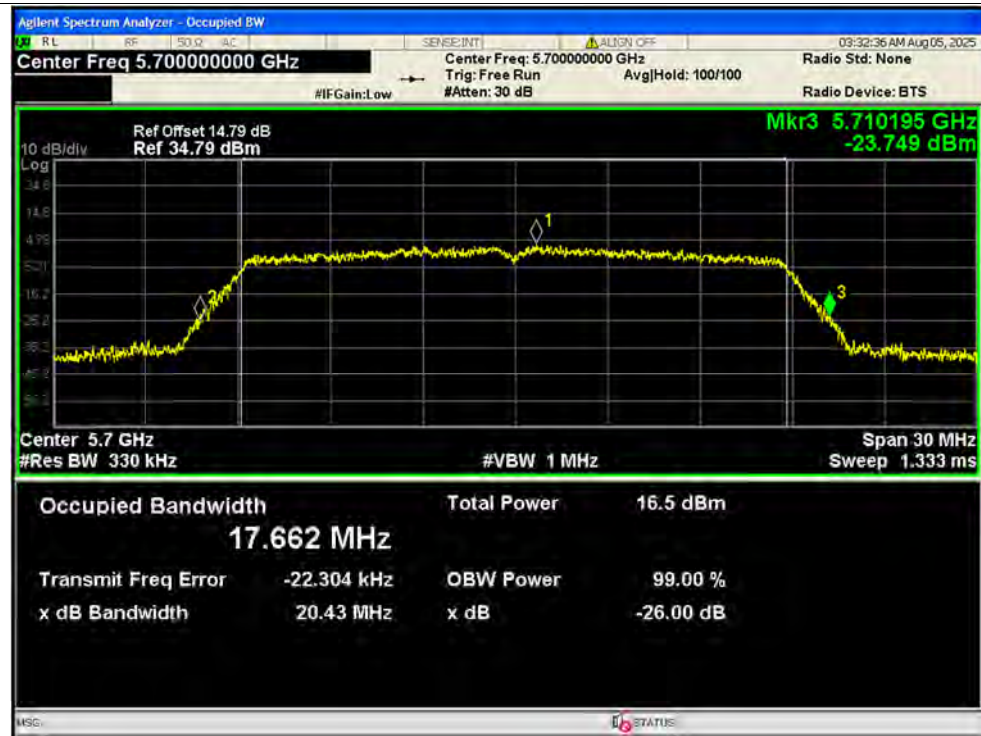
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-26dB Bandwidth NVNT n20 5580MHz Ant1 SISO



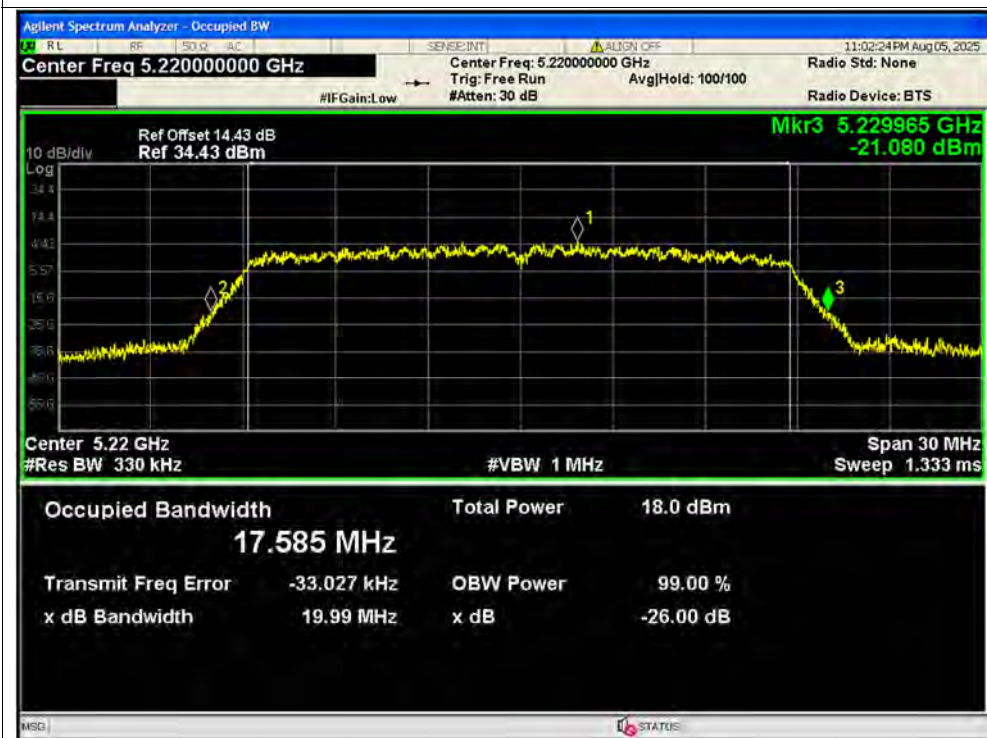
-26dB Bandwidth NVNT n20 5700MHz Ant1 SISO



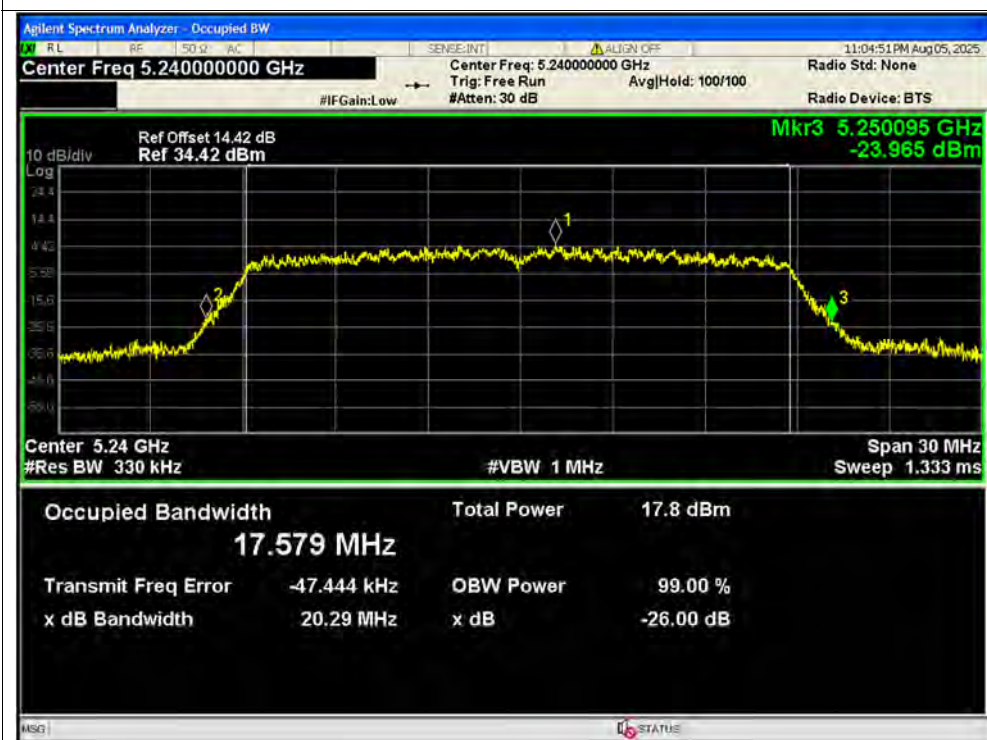
-26dB Bandwidth NVNT n20 5180MHz Ant2 SISO



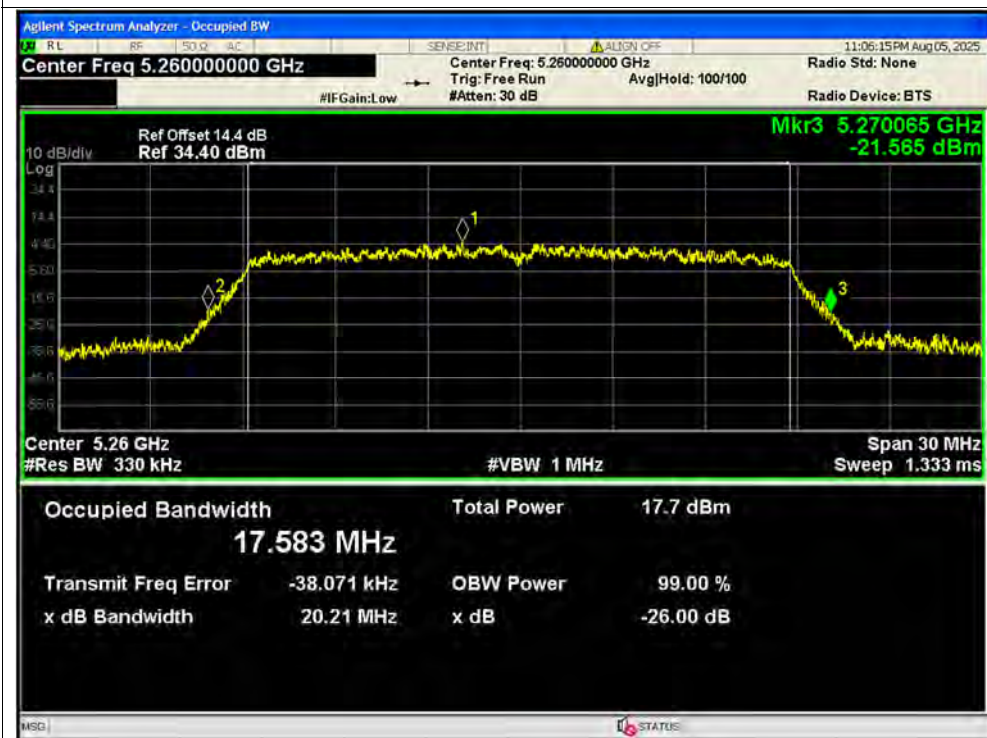
-26dB Bandwidth NVNT n20 5220MHz Ant2 SISO



-26dB Bandwidth NVNT n20 5240MHz Ant2 SISO



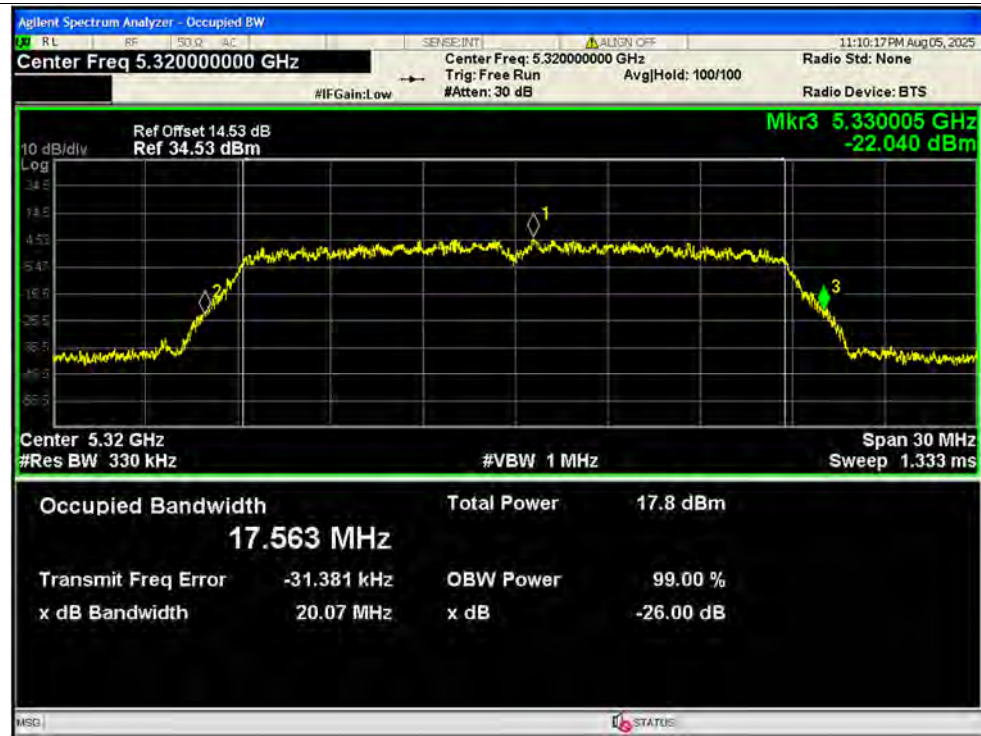
-26dB Bandwidth NVNT n20 5260MHz Ant2 SISO



-26dB Bandwidth NVNT n20 5300MHz Ant2 SISO



-26dB Bandwidth NVNT n20 5320MHz Ant2 SISO



-26dB Bandwidth NVNT n20 5500MHz Ant2 SISO



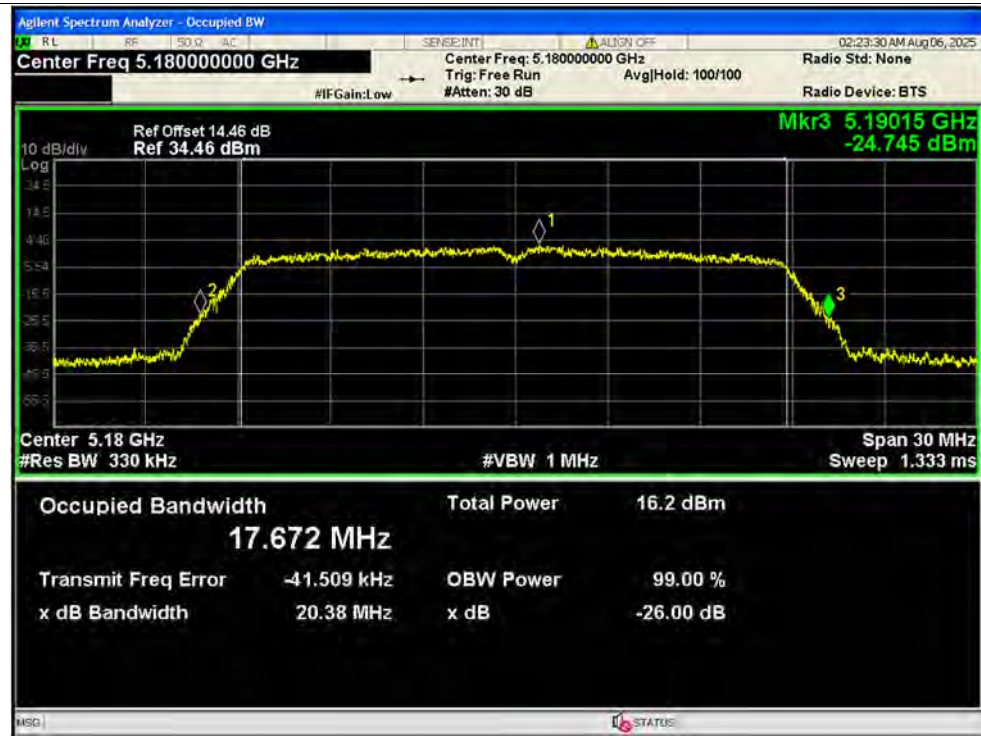
-26dB Bandwidth NVNT n20 5580MHz Ant2 SISO



-26dB Bandwidth NVNT n20 5700MHz Ant2 SISO



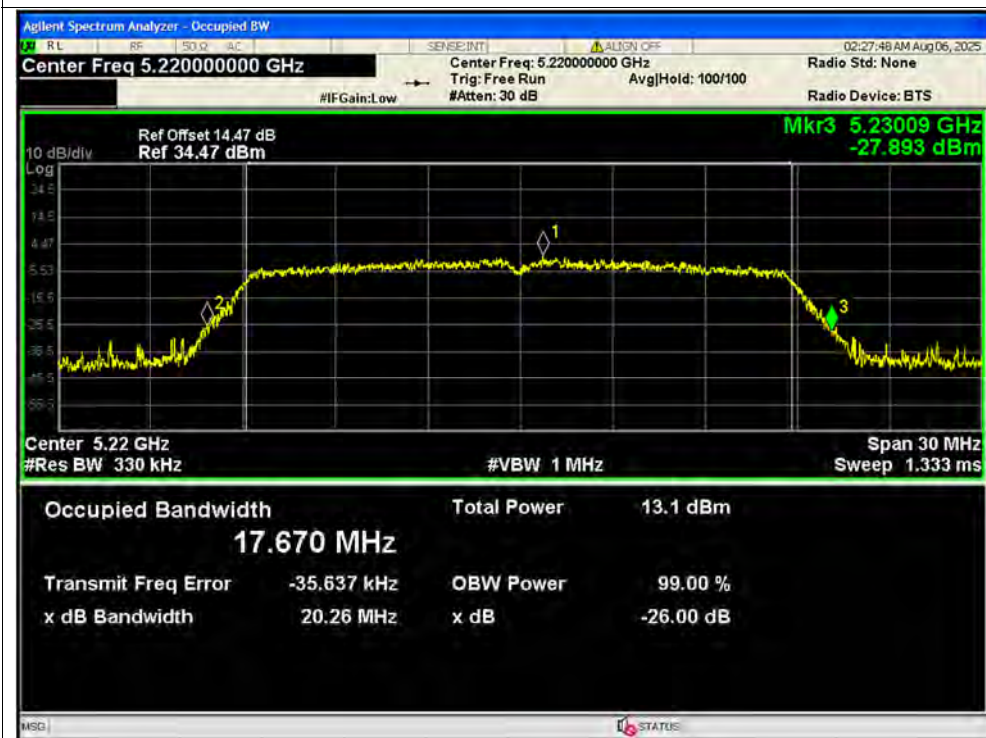
-26dB Bandwidth NVNT n20 5180MHz Ant1 MIMO



-26dB Bandwidth NVNT n20 5180MHz Ant2 MIMO



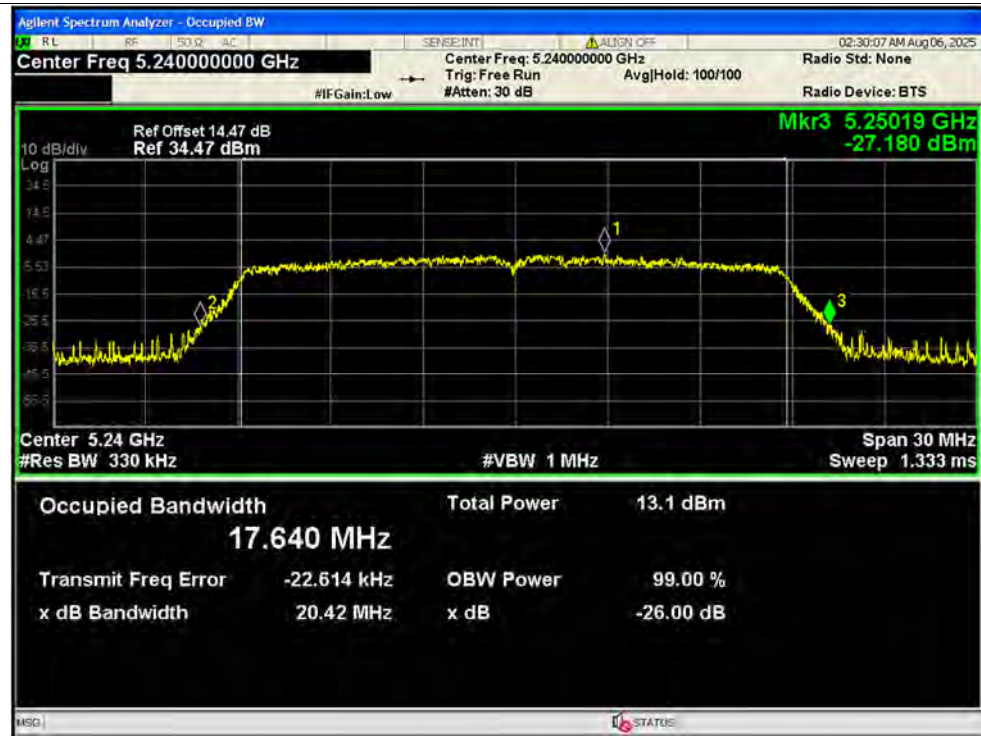
-26dB Bandwidth NVNT n20 5220MHz Ant1 MIMO



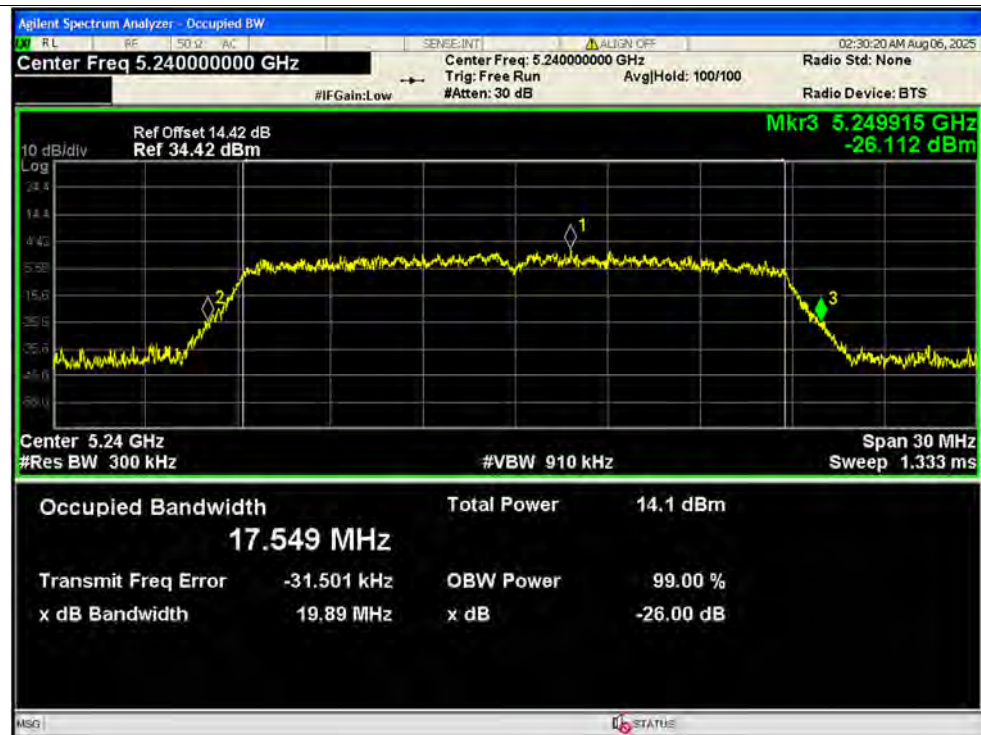
-26dB Bandwidth NVNT n20 5220MHz Ant2 MIMO



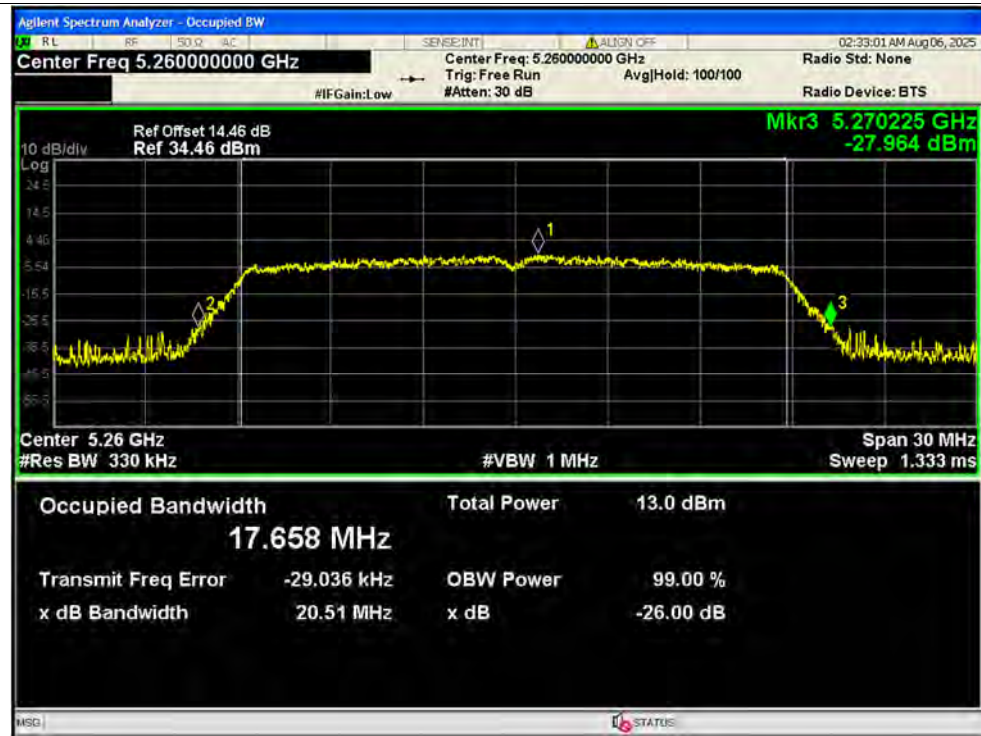
-26dB Bandwidth NVNT n20 5240MHz Ant1 MIMO



-26dB Bandwidth NVNT n20 5240MHz Ant2 MIMO



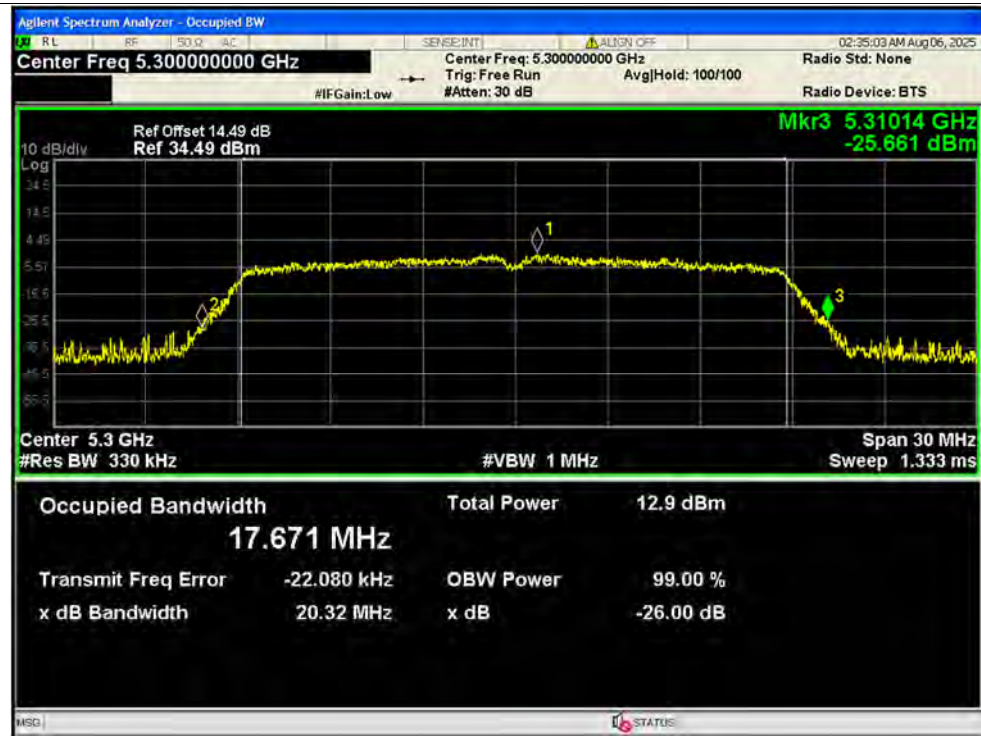
-26dB Bandwidth NVNT n20 5260MHz Ant1 MIMO



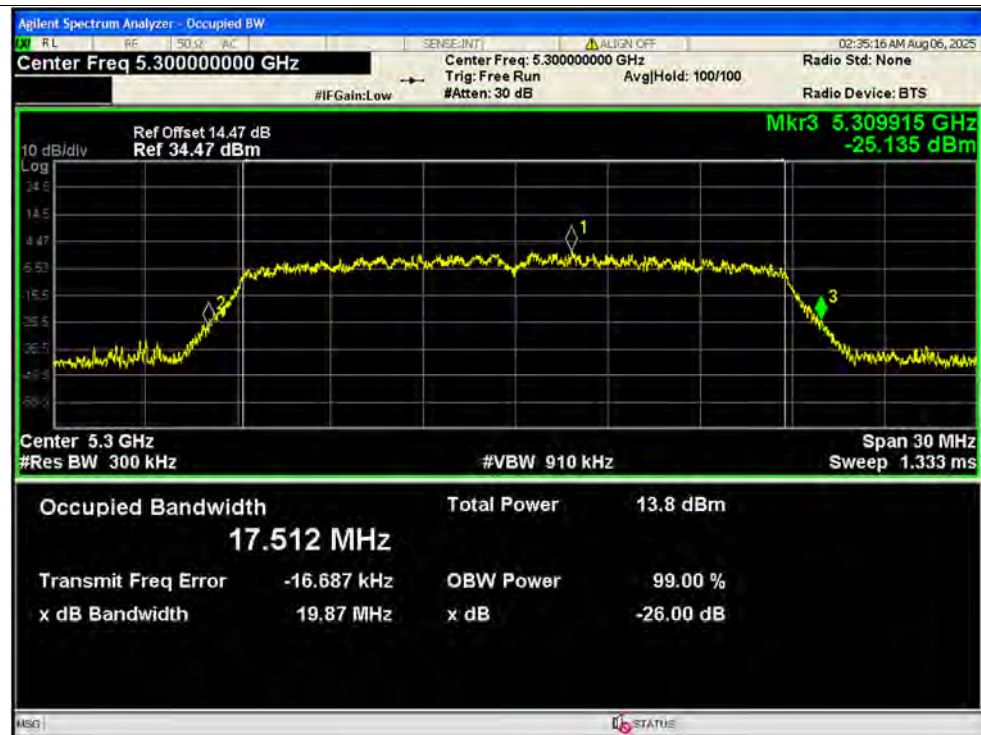
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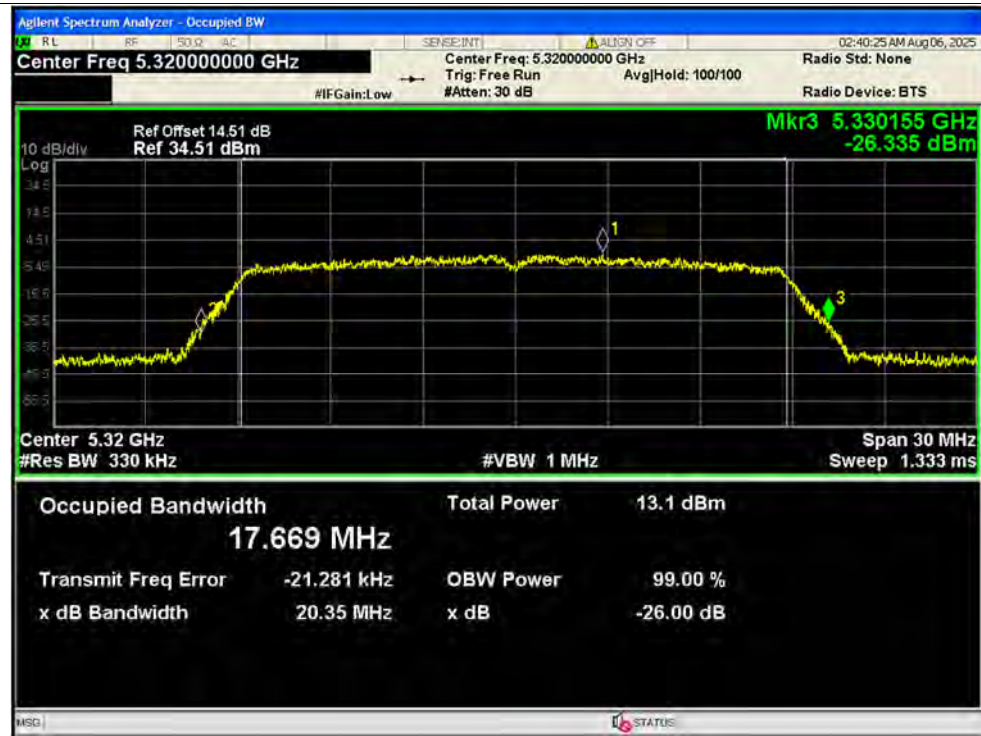
-26dB Bandwidth NVNT n20 5300MHz Ant1 MIMO



-26dB Bandwidth NVNT n20 5300MHz Ant2 MIMO



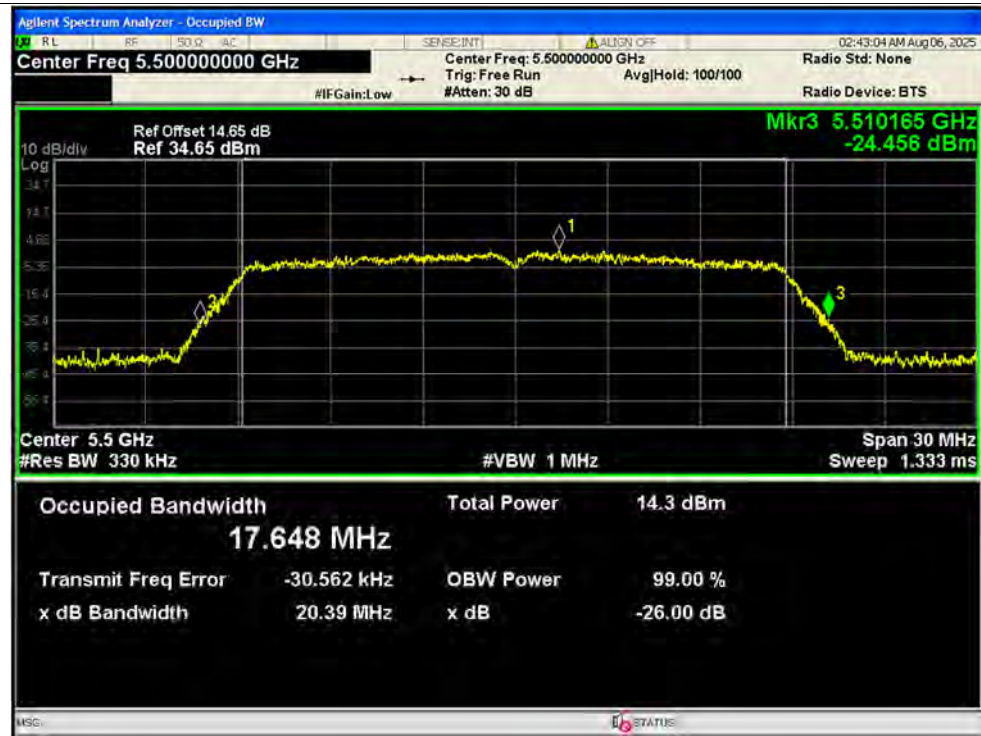
-26dB Bandwidth NVNT n20 5320MHz Ant1 MIMO



-26dB Bandwidth NVNT n20 5320MHz Ant2 MIMO



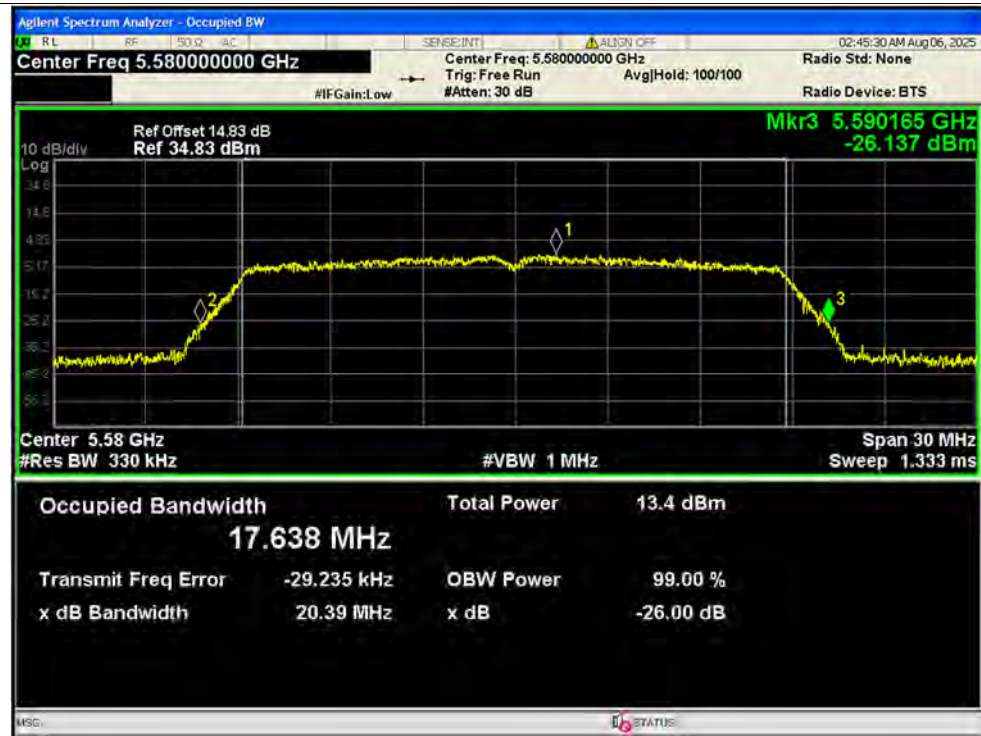
-26dB Bandwidth NVNT n20 5500MHz Ant1 MIMO



-26dB Bandwidth NVNT n20 5500MHz Ant2 MIMO



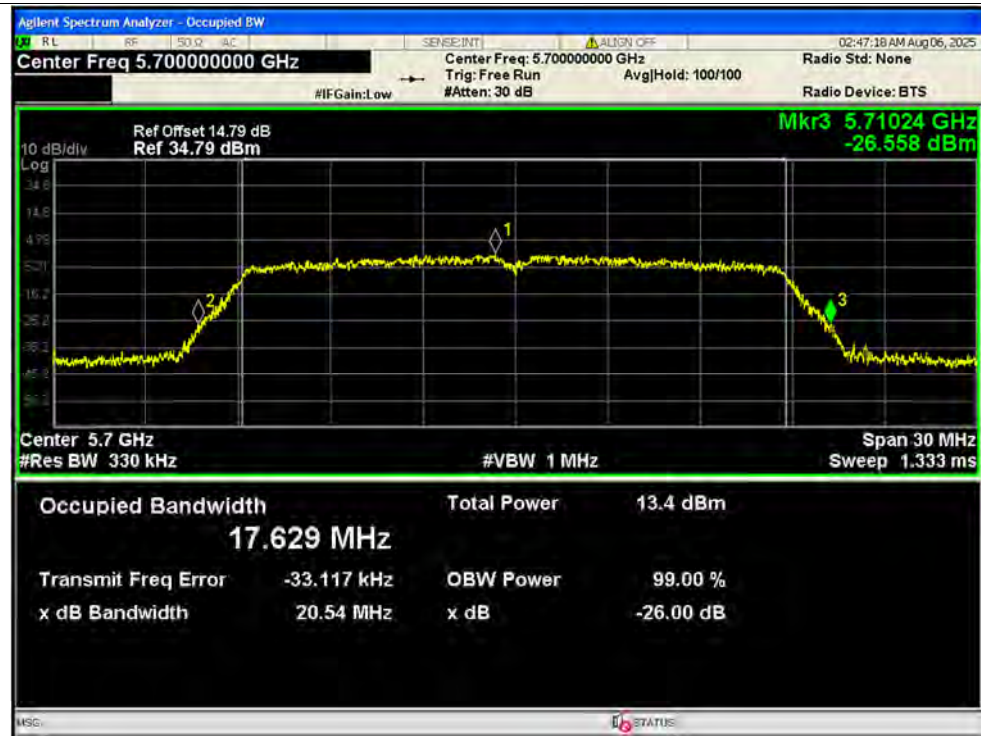
-26dB Bandwidth NVNT n20 5580MHz Ant1 MIMO



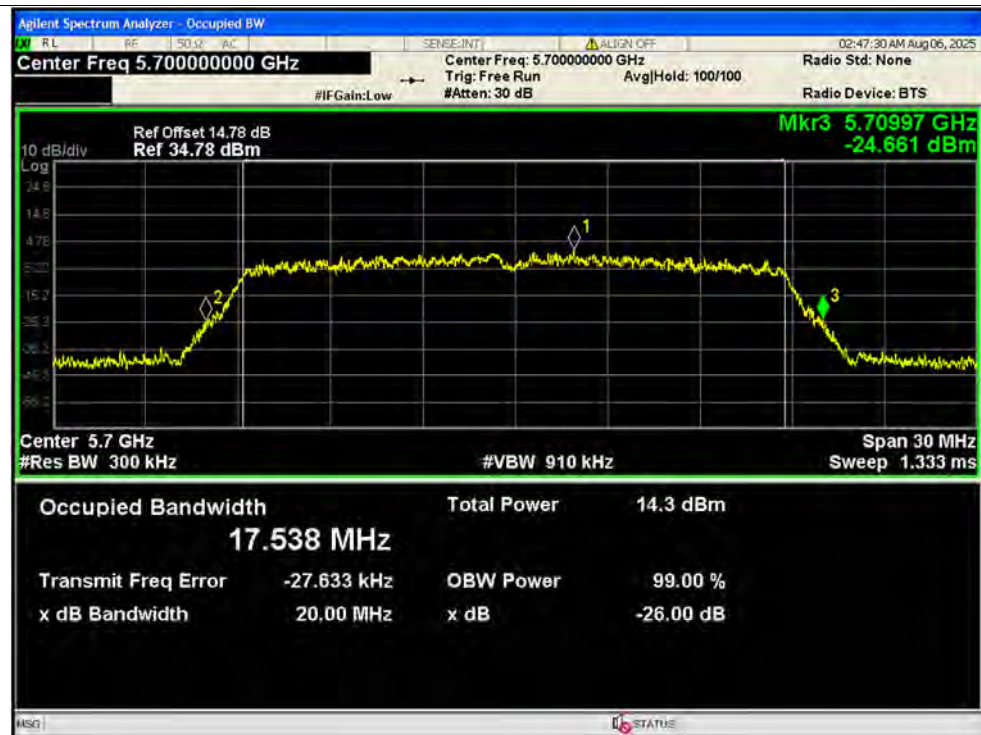
-26dB Bandwidth NVNT n20 5580MHz Ant2 MIMO



-26dB Bandwidth NVNT n20 5700MHz Ant1 MIMO



-26dB Bandwidth NVNT n20 5700MHz Ant2 MIMO



-26dB Bandwidth NVNT n40 5190MHz Ant1 SISO



-26dB Bandwidth NVNT n40 5230MHz Ant1 SISO



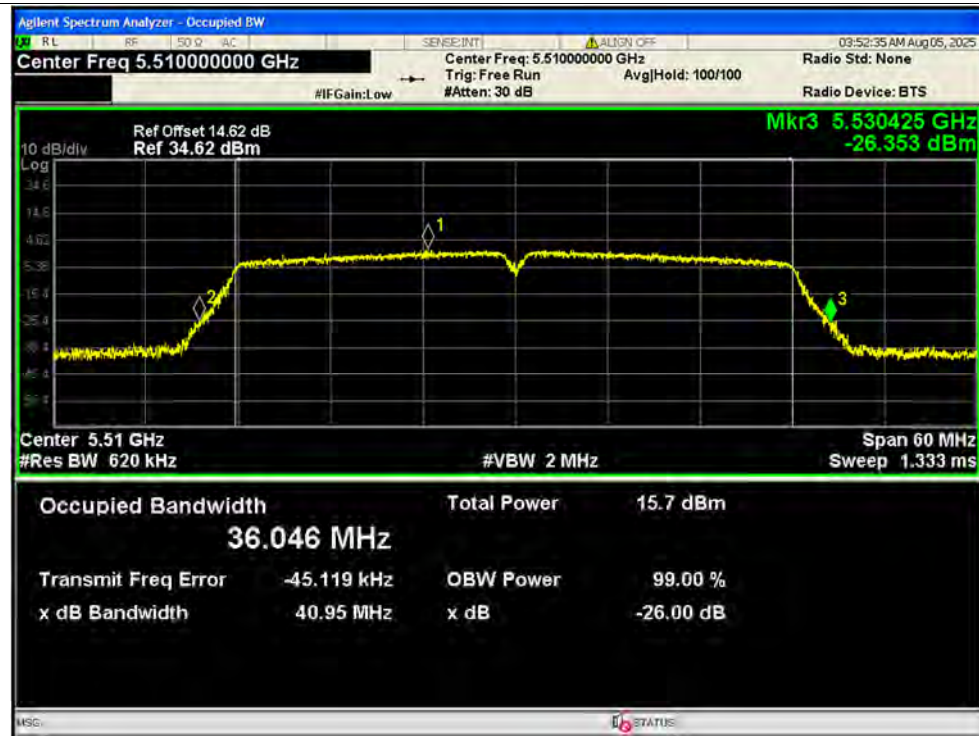
-26dB Bandwidth NVNT n40 5270MHz Ant1 SISO



-26dB Bandwidth NVNT n40 5310MHz Ant1 SISO



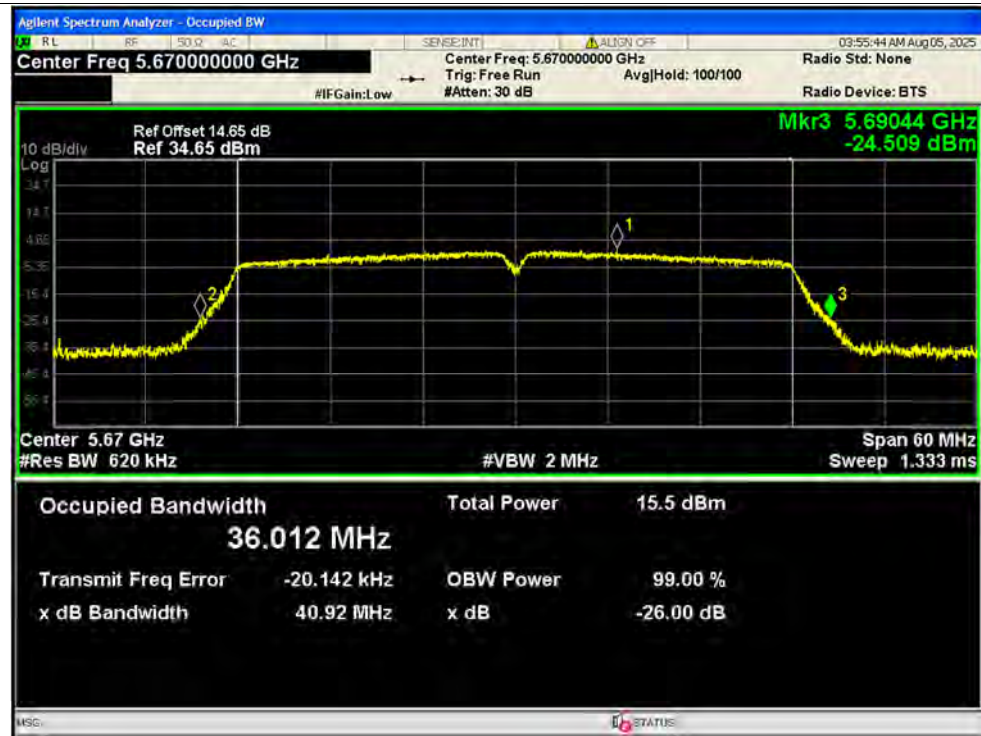
-26dB Bandwidth NVNT n40 5510MHz Ant1 SISO



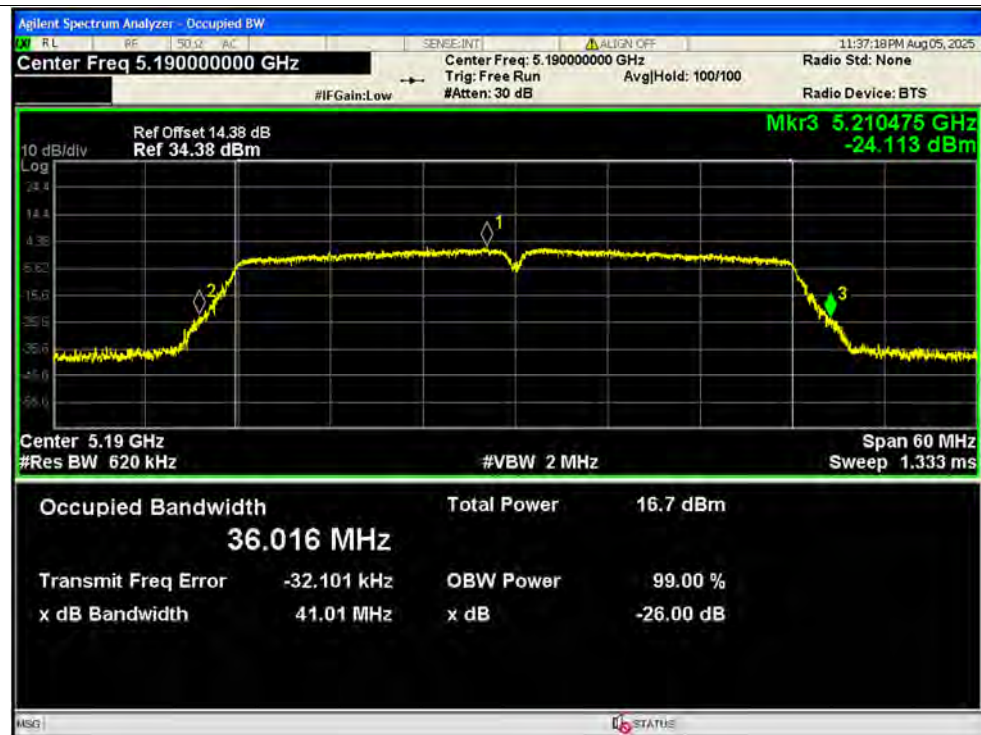
-26dB Bandwidth NVNT n40 5550MHz Ant1 SISO



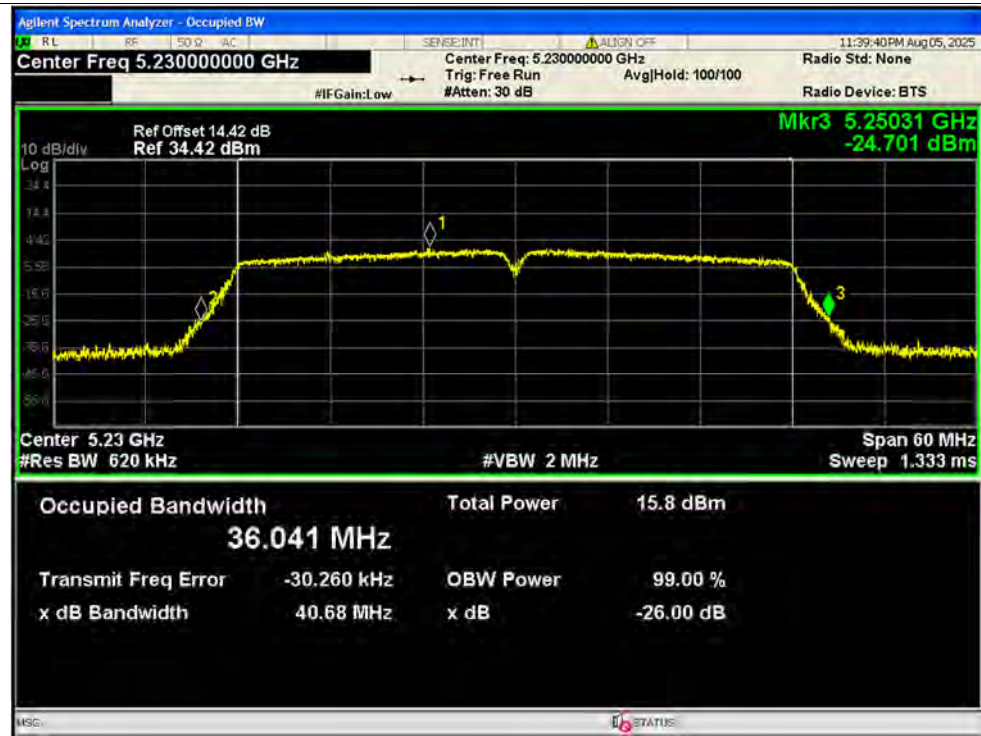
-26dB Bandwidth NVNT n40 5670MHz Ant1 SISO



-26dB Bandwidth NVNT n40 5190MHz Ant2 SISO



-26dB Bandwidth NVNT n40 5230MHz Ant2 SISO



-26dB Bandwidth NVNT n40 5270MHz Ant2 SISO

