TEST REPORT

Product Name : Wireless Router
Model Number : SR3000, SR3000-lite, SR3000-5G, SR3000-5G-lite
FCC ID : 2AL9D-SR3000

Prepared for	:	Flyingvoice Network Technology Co., Ltd
Address	:	Room 01-02, Floor 18, Building 1, Nanshan Zhiyuan, Chongwen Park, Taoyuan Street, Nanshan District, Shenzhen, China
Prepared by	:	EMTEK (SHENZHEN) CO., LTD.
Address	:	Building 69, Majialong Industry Zone,Nanshan District, Shenzhen, Guangdong, China Tel: (0755) 26954280 Fax: (0755) 26954282
Report Number	:	ENS2403220173W00102R
Date(s) of Tests	:	April 17, 2024 to May 31, 2024
Date of issue	:	June 4, 2024

1 TEST RESULT CERTIFICATION

Applicant	:	Flyingvoice Network Technology Co., Ltd
Address	:	Room 01-02, Floor 18, Building 1, Nanshan Zhiyuan, Chongwen Park, Taoyuan Street, Nanshan District, Shenzhen, China
Manufacturer	:	Flyingvoice Network Technology Co., Ltd
Address	:	Room 01-02, Floor 18, Building 1, Nanshan Zhiyuan, Chongwen Park, Taoyuan Street, Nanshan District, Shenzhen, China
EUT	:	Wireless Router
Model Name	:	SR3000, SR3000-lite, SR3000-5G, SR3000-5G-lite
Trademark	:	FLYINGVOICE

Measurement Procedure Used:

APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
FCC 47 CFR Part 2, Subpart J FCC 47 CFR Part 15, Subpart E	**PASS**
IC RSS-GEN, Issue 5(04-2018)+A1(03-2019)+A2(02-2021) IC RSS-247 Issue 2(02-2017)	**PASS**

The above equipment was tested by EMTEK (SHENZHEN) CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 2, Part 15.407, IC RSS-247 Issue 2 and IC RSS-GEN, Issue 5.

The test results of this report relate only to the tested sample identified in this report.

Date of Test : April 17, 2024 to May 31, 2024

Prepared by : Una Yu /Editor

Reviewer : Joe Xia /Supervisor

Approve & Authorized Signer : Lisa Wang/Manager

EMTEK (SHENZHEN) CO., LTD. TESTING

Modified History

Version	Report No.	Revision Date	Summary
Ver.1.0	ENS2403220173W00102R	/	Original Report

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2 EUT TECHNICAL DESCRIPTION

Characteristics	Description
Product:	Wireless Router
Model Number:	SR3000, SR3000-lite, SR3000-5G, SR3000-5G-lite (Note: All models are identical in circuitry and electrical, mechanical and physical construction; the difference are appearance and model for trading purpose.Mode SR3000 was Chosen final test.)
Sample Number:	2#
Wifi Type:	Wifi 5G with 5150MHz-5250MHz Band Wifi 5G with 5250MHz-5350MHz Band Wifi 5G with 5470MHz-5725MHz Band Wifi 5G with 5725MHz-5850MHz Band
WLAN Supported:	802.11a/n/ac/ax
Data Rate :	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n: MCS0-MCS15 802.11ac: MCS0-MCS9 802.11ax: MCS0-MCS11
Modulation:	OFDM with BPSK/QPSK/16QAM/64QAM for 802.11a/n OFDM with BPSK/QPSK/16QAM/64QAM/256QAM for 802.11ac OFDM with BPSK/QPSK/16QAM/64QAM/256QAM/1024QAM for 802.11ax
Frequency Range:	UNII-1: 5150MHz-5250MHz Band 5180-5240MHz for 802.11a/n(HT20)/ac(VHT20)/ax(HE20) 5190-5230MHz for 802.11n(HT40)/ac(VHT40)/ax(HE40) 5210MHz for 802.11ac(VHT80)/ax(HE80)
	UNII-2A: 5250MHz-5350MHz Band 5260-5320MHz for 802.11a/n(HT20)/ac(VHT20)/ax(HE20) 5270-5310MHz for 802.11n(HT40)/ac(VHT40)/ax(HE40) 5290MHz for 802.11ac(VHT80)/ax(HE80) 5250MHz for 802.11ac(VHT160)/ax(HE160)
	UNII-2C: 5470MHz-5725MHz Band 5500-5700MHz for 802.11a/n(HT20)/ac(VHT20)/ax(HE20) 5510-5670MHz for 802.11n(HT40)/ac(VHT40)/ax(HE40) 5530MHz for 802.11ac(VHT80)/ax(HE80) 5570MHz for 802.11ac(VHT160)/ax(HE160)
	UNII-3 with 5725MHz-5850MHz Band 5745-5825MHz for 802.11a/n(HT20)/ac(VHT20)/ax(HE20) 5755-5795MHz for 802.11n(HT40)/ac(VHT40)/ax(HE40) 5775MHz for 802.11ac(VHT80)/ax(HE80);
TPC Function:	Applicable
Antenna Port:	☒ Antenna port 3 ☒ Antenna port 4
Antenna Type:	PCB Antenna

Antenna Gain:	ANT 3: 5.20 dBi ANT 4: 5.00 dBi
Power Supply:	DC 12V from Adapter
Adapter:	Model:GQ24-120200-AX Input: AC100-240V, 50Hz/60Hz 1.0A Max. Oootput:12.0V, 2.0A, 24.0W
Test Voltage:	AC 120V/60Hz
Date of Received:	April 17, 2024
Temperature Range:	0°C ~ +50C
FVIN:	SR3000-MAIN-V1_4
Note: 1.For more details, please refer to the User's manual of the EUT.	

3 SUMMARY OF TEST RESULT

FCC PartClause	IC Part Clause	Test Parameter	Verdict	Remark
15.407 (a) 15.407 (e) 2.1049	RSS-247, 6.2 RSS-Gen 6.7	99% , 6dB and 26dB Bandwidth	PASS	
15.407 (a)	RSS-247, 6.2	Maximum Conducted Output Power	PASS	
15.407 (a)	RSS-247, 6.2	PeakPower Spectral Density	PASS	
15.407 (b) 15.209 15.205	RSS-247, 6.2 RSS-Gen 8.9 RSS-Gen 8.10 RSS-Gen 6.13	RadiatedSpurious Emission	PASS	
15.207	RSS-Gen 8.8	Power Line Conducted Emission	PASS	
15.407(a) 15.203	RSS-Gen 6.8	Antenna Application	PASS	
NOTE1:N/A (Not Applicable) NOTE2:According to FCC OET KDB 789033, the report use radiated measurements in the restricted frequency bands. In addition, the radiated test is also performed to ensure the emissions emanating from the device cabinet also comply with the applicable limits.				

RELATED SUBMITTAL(S) / GRANT(S):

This submittal(s) (test report) is intended for **FCC ID:2AL9D-SR3000** filing to comply with Section 15.407 of the FCC Part 15, Subpart C Rules.

4 TEST METHODOLOGY

4.1 GENERAL DESCRIPTION OF APPLIED STANDARDS

According to its specifications, the EUT must comply with the requirements of the following standards:
FCC 47 CFR Part 2, Subpart J
FCC 47 CFR Part 15, Subpart E
IC RSS-GEN, Issue 5(04-2018)+A1(03-2019)+A2(02-2021)
IC RSS-247 Issue 2(02-2017)
FCC KDB 662911 D01 Multiple Transmitter Output v02r01
FCC KDB 789033 D2 General UNII Test Procedures New Rules v02r01

4.2 MEASUREMENT EQUIPMENT USED

Conducted Emission Test Equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
EMI Test Receiver	Rohde & Schwarz	ESCI	101384	2024/5/11	1Year
AMN	Rohde & Schwarz	ENV216	101161	2024/5/10	1Year

For Spurious Emissions Test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
EMI Test Receiver	Rohde & Schwarz	ESU 26	100154	2024/5/10	1Year
Pre-Amplifie	Lunar EM	LNA30M3G-25	J10100000070	2024/5/10	1Year
Bilog Antenna	Schwarzbeck	VULB9163	660	2023/5/16	2 Year
Horn antenna	Schwarzbeck	BBHA9120D	9120D-1177	2023/5/12	2 Year
Pre-Amplifie	SKET	LNPA_0118G-45	SK2019051801	2024/5/10	1Year
Loop Antenna	Schwarzbeck	FMZB1519	1519-012	2023/5/12	2 Year
Spectrum Analyzer	Rohde & Schwarz	FSV40	100967	2024/5/10	1Year
Horn antenna	Schwarzbeck	BBHA9170	9170-399	2023/5/12	2 Year
Band reject Filter(50dB)	WI/DE	WRCGV-2400(2400-2485MHz)	2	2024/5/10	1 Year

For other test items:

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
Signal Analyzer	Agilent	N9010A	MY53470879	2024/5/10	1Year
Vector Signal Generater	Agilent	N5182B	MY53050878	2024/5/10	1Year
Analog Signal Generator	Agilent	N5171B	MY53050553	2024/5/10	1Year
RF Control Unit(Power Meter)	Tonscend	JS0806-2	\	2024/5/10	1Year
Temperature&Humidity Chamber	ESPEC	EL-02KA	12107166	2024/5/10	1Year

4.3 DESCRIPTION OF TEST MODES

The EUT has been tested under its typical operating condition.
The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.
The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.
Test of channel included the lowest and middle and highest frequency to perform the test, then record on this report.
Those data rates (802.11a: 54 Mbps; 802.11n(HT20): MCS0; 802.11ac(VHT20): MCS0; 802.11ax(HE20): MCS0; 802.11n(HT40): MCS0; 802.11ac(VHT40): MCS0;802.11ax(HE40): MCS0; 802.11ac(VHT80): MCS0; 802.11ax(HE80): MCS;802.11ac(VHT160): MCS0; 802.11ax(HE160): MCS)were used for all test.

Pre-defined engineering program for regulatory testing used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

☒ Wifi 5G with U-NII - 1
Frequency and Channel list for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220		
40	5200	48	5240		

Frequency and Channel list for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	46	5230		

Frequency and Channel list for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
42	5210				

Test Frequency and Channel for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	40	5200	48	5240

Test Frequency and channel for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	N/A	N/A	46	5230

Test Frequency and channel for 802.11ac (VHT80), 802.11ax (HE80):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
42	5210	N/A	N/A	N/A	N/A

☒ Wifi 5G with U-NII -2A

Frequency and Channel list 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
52	5260	60	5300		
56	5280	64	5320		

Frequency and Channel list for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
54	5270				
62	5310				

Frequency and Channel list for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
58	5290				

Frequency and Channel list for 802.11ac (VHT160), 802.11ax (HE160):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
50	5250				

Test Frequency and Channel for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
52	5260	56	5280	64	5320

Test Frequency and channel for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
54	5270	N/A	N/A	62	5310

Test Frequency and channel for 802.11ac (VHT80), 802.11ax (HE80):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
58	5290				

Test Frequency and channel fo 802.11ac (VHT160), 802.11ax (HE160):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
50	5250				

☒ Wifi 5G with U-NII -2C

Frequency and Channel list for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5500	116	5580	132	5660
104	5520	120	5600	136	5680
108	5540	124	5620	140	5700
112	5560	128	5640		

Frequency and Channel list for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
102	5510	118	5590	134	5670
110	5550	126	5630		

Frequency and Channel list for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
106	5530	122	5610		

Frequency and Channel list for 802.11ac (VHT160), 802.11ax(HE160):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
114	5570				

Test Frequency and Channel for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5500	120	5600	140	5700

Test Frequency and channel for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
102	5510			134	5670

Test Frequency and channel for 802.11ac (VHT80), 802.11ax (HE80):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
106	5530				

Test Frequency and channel for 802.11ac (VHT160), 802.11ax(HE160):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
114	5570				

☒ Wifi 5G with U-NII -3

Frequency and Channel list for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	157	5785	165	5825
153	5765	161	5805		

Frequency and Channel list for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795		

Frequency and Channel list for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
155	5775				

Test Frequency and Channel for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	157	5785	165	5825

Test Frequency and channel for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	N/A	N/A	159	5795

Test Frequency and channel for 802.11ac (VHT80), 802.11ax (HE80):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
155	5775				

Multi-antenna correlation:

☑	Transmit Signals are Correlated
	Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$ + … + $10^{GN/20}$)2 /N_{ANT}] dBi
☐	All Transmit Signals are Completely Uncorrelated
	Directional gain = 10 log[($10^{G1/10}$ + $10^{G2/10}$ + … + $10^{GN/10}$)/N_{ANT}] dBi

Directional gain = 10 log [($10^{5.20/20}$ + $10^{5.0/20}$)^2/2] dBi=8.11 dBi

5 FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at:

EMTEK (Shenzhen) Co., Ltd.
Building 69, Majialong Industry Zone District, Nanshan District, Shenzhen, China
The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with preselectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, “Radio Interference Measuring Apparatus and Measurement Methods.”

5.3 LABORATORY ACCREDITATIONS AND LISTINGS

Site Description		
EMC Lab.	:	**Accredited by CNAS** The Certificate Registration Number is L2291. The Laboratory has been assessed and proved to be in compliance with CNAS-CL01 (identical to ISO/IEC 17025:2017) **Accredited by FCC** Designation Number: CN1204 Test Firm Registration Number: 882943 **Accredited by A2LA** The Certificate Number is 4321.01. Accredited by Industry Canada The Conformity Assessment Body Identifier is CN0008
Name of Firm	:	EMTEK (SHENZHEN) CO., LTD.
Site Location	:	Building 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China

6 TEST SYSTEM UNCERTAINTY

The following measurement uncertainty levels have been estimated for tests performed on the apparatus:

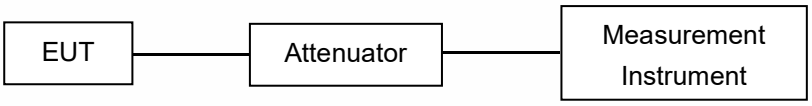
Test Parameter	Measurement Uncertainty
Frequency error	±20Hz
Occupied Bandwidth	±0.5KHz
Transmitter output power	±0.6dB
Conducted spurious emissions	±3.2dB
Radiated spurious emissions	±4.5dB
Temperature	±1.2℃
Humidity	±3%
DC voltages	±0.25V
Time	±1%

Measurement Uncertainty for a level of Confidence of 95%

7 SETUP OF EQUIPMENT UNDER TEST

7.1 RADIO FREQUENCY TEST SETUP

The WLAN component's antenna ports(s) of the EUT are connected to the measurement instrument per an appropriate attenuator. The EUT is controlled by PC/software to emit the specified signals for the purpose of measurements.



7.2 RADIO FREQUENCY TEST SETUP

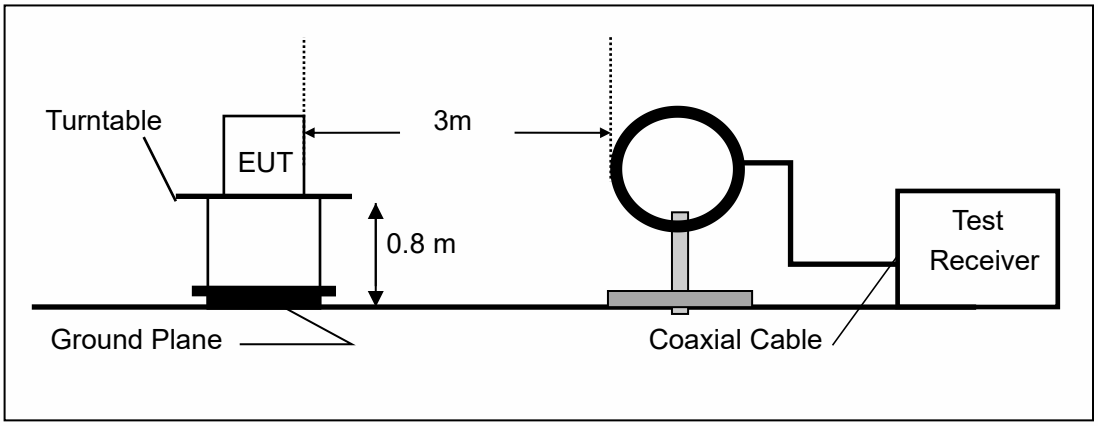
The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.10. The test distance is 3m.The setup is according to the requirements in Section 13.1.4.1 of ANSI C63.10-2013and CAN/CSA-CEI/IEC CISPR 22.

Below 30MHz：
The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna (loop antenna). The Antenna should be positioned with its plane vertical at the specified distance from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. The center of the loop shall be 1 m above the ground. For certain applications, the loop antenna plane may also need to be positioned horizontally at the specified distance from the EUT.

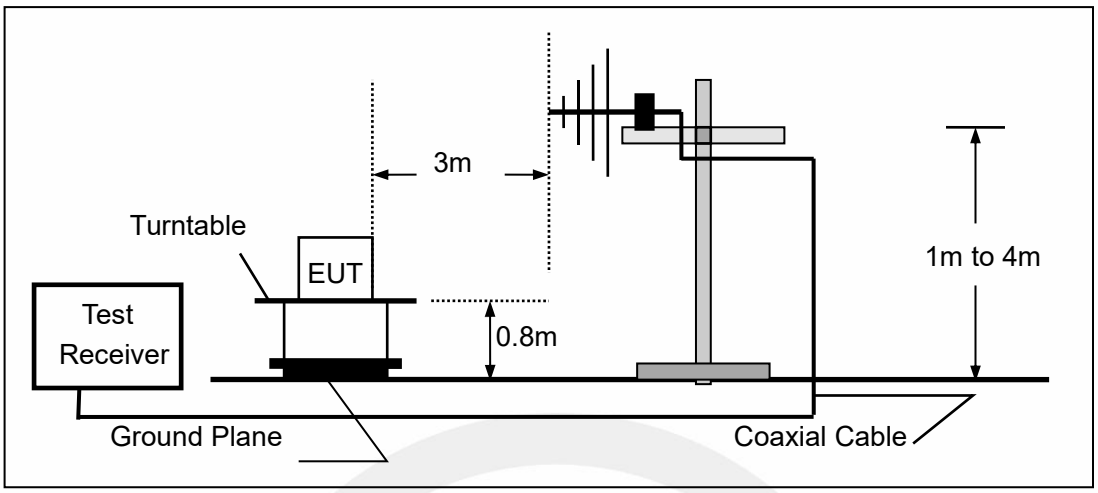
Above 30MHz：
The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).

Above 1GHz：
(Note: the FCC's permission to use 1.5m as an alternative per TCBC Conf call of Dec. 2, 2014.)
The EUT is placed on a turntable 1.5 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).

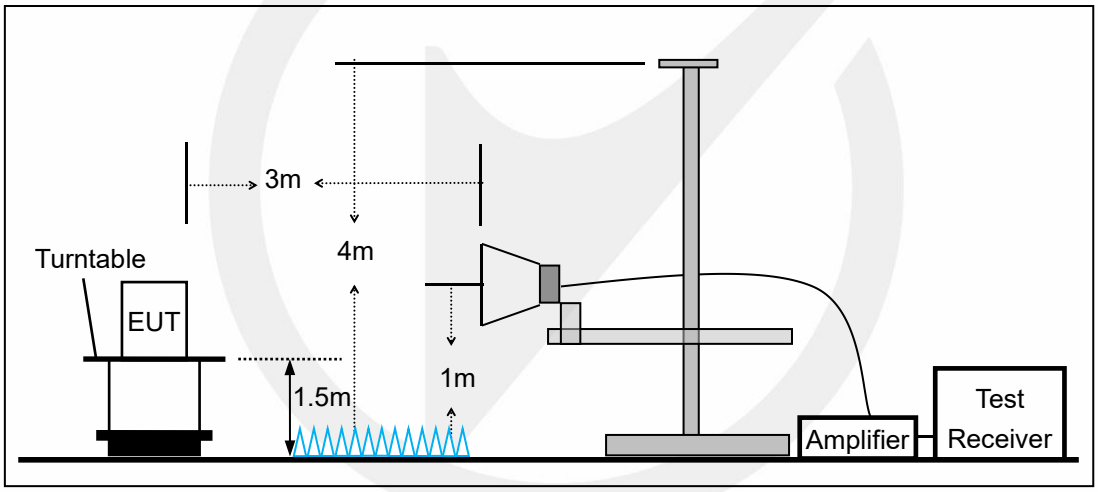
(a) Radiated Emission Test Set-Up, Frequency Below 30MHz



(b)Radiated Emission Test Set-Up, Frequency Below 1000MHz



(c) Radiated Emission Test Set-Up, Frequency above 1000MHz

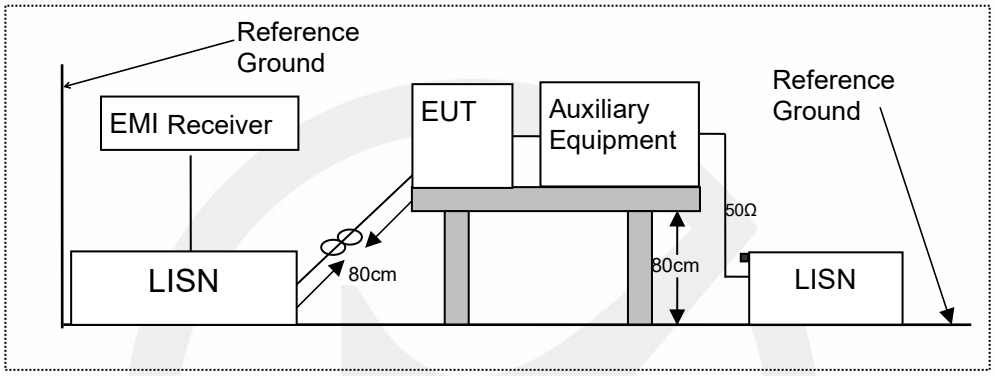


7.3 CONDUCTED EMISSION TEST SETUP

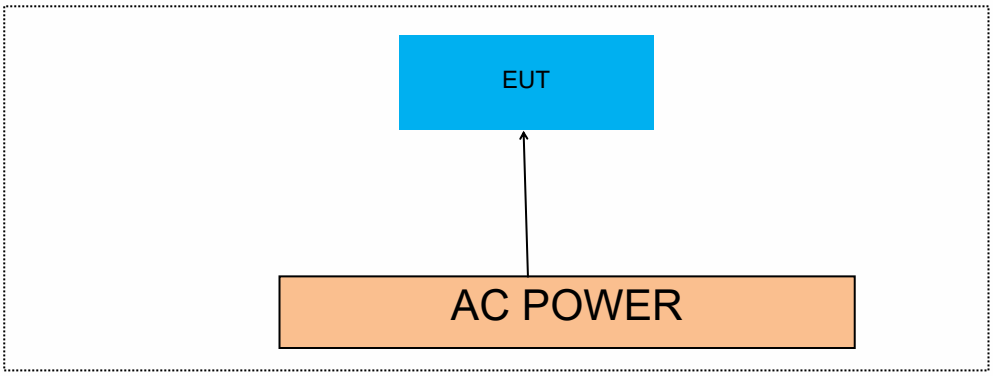
The mains cable of the EUT (maybe per AC/DC Adapter) must be connected to LISN. The LISN shall be placed 0.8 m from the boundary of EUT and bonded to a ground reference plane for LISN mounted on top of the ground reference plane. This distance is between the closest points of the LISN and the EUT. All other units of the EUT and associated equipment shall be at least 0.8m from the LISN.

Ground connections, where required for safety purposes, shall be connected to the reference ground point of the LISN and, where not otherwise provided or specified by the manufacturer, shall be of same length as the mains cable and run parallel to the mains connection at a separation distance of not more than 0.1 m.

According to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode.



7.4 BLOCK DIAGRAM CONFIGURATION OF TEST SYSTEM



7.5 SUPPORT EQUIPMENT

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

Auxiliary Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
/	/	/	/

Notes:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.

2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

8 TEST REQUIREMENTS

8.1 BANDWIDTHMEASUREMENT

8.1.1 Applicable Standard

According to FCC Part 15.407(a)(1) for UNIIBand I
According to FCC Part 15.407(a)(2) for UNIIBand II-A and UNIIBand II-C
According to FCC Part 15.407(a)(3) for UNIIBand III
According toFCC Part 15.407(e) for UNIIBand III
According to 789033 D02 SectionII(C)
According to 789033 D02 SectionII(D)
According to RSS-Gen6.6, RSS 247, 6.2

8.1.2 Conformance Limit

The 26dB bandwidth is used to determine the conducted power limits.
Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

8.1.3 Test Configuration

Test according to clause 7.1 radio frequency test setup

8.1.4 Test Procedure

According to 789033 D02 v02r01 section C&D, the following is the measurement procedure.

1. Emission Bandwidth (EBW)
a) Set RBW = approximately 1% of the emission bandwidth.
b) Set the 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 maximum 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. Minimum Emission Bandwidth for the band 5.725-5.85 GHz
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 the video bandwidth (VBW) $\geqslant$ 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.
Note: The automatic bandwidth measurement capability of a spectrum analyzer or EMI receiver may be employed if it implements the functionality described above.

D. 99 Percent Occupied Bandwidth
The 99-percent occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5 % of the total mean power of the given emission. Measurement of the 99-percent occupied bandwidth is required only as a condition for using the optional band-edge measurement techniques described in section II.G.3.d). Measurements of 99-percent occupied bandwidth may also optionally be used in lieu of the EBW to 789033 D02 v01r02 General UNII Test Procedures New Rules v01 define the minimum frequency range over which the spectrum is integrated when measuring maximum conducted output power as described in section II.E.

However, the EBW must be measured to determine bandwidth dependent limits on maximum conducted output power in accordance with 15.407(a).

The following procedure shall be used for measuring (99 %) power bandwidth:
1. Set center frequency to the nominal EUT channel center frequency.
2. Set span = 1.5 times to 5.0 times the OBW.
3. Set RBW = 1 % to 5 % of the OBW
4. Set VBW ≥ 3 • RBW
5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
6. Use the 99 % power bandwidth function of the instrument (if available).
7. If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

8.1.5 Test Results

Temperature:	25°C
Relative Humidity:	45%
ATM Pressure:	1011 mbar

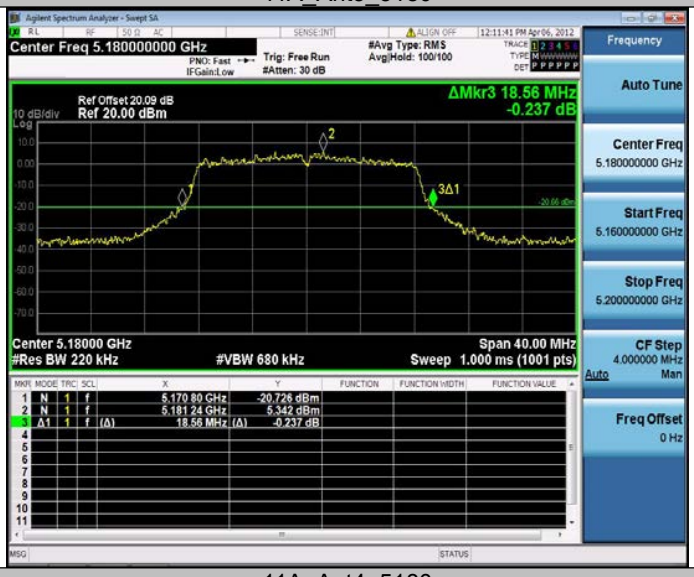
Note: N/A

TestMode	Antenna	Frequency [MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant3	5180	18.560	5170.800	5189.360	---	---
	Ant4	5180	18.640	5170.720	5189.360	---	---
	Ant3	5200	18.520	5190.840	5209.360	---	---
	Ant4	5200	19.840	5189.800	5209.640	---	---
	Ant3	5240	19.920	5229.920	5249.840	---	---
	Ant4	5240	19.640	5229.800	5249.440	---	---
	Ant3	5260	18.480	5250.720	5269.200	---	---
	Ant4	5260	18.400	5250.840	5269.240	---	---
	Ant3	5280	19.760	5269.800	5289.560	---	---
	Ant4	5280	19.640	5269.720	5289.360	---	---
	Ant3	5320	19.160	5310.440	5329.600	---	---
	Ant4	5320	18.880	5310.600	5329.480	---	---
	Ant3	5500	19.560	5489.760	5509.320	---	---
	Ant4	5500	18.680	5490.560	5509.240	---	---
	Ant3	5580	19.600	5569.720	5589.320	---	---
	Ant4	5580	18.600	5570.800	5589.400	---	---
	Ant3	5700	19.240	5690.160	5709.400	---	---
	Ant4	5700	18.400	5690.920	5709.320	---	---
	Ant3	5745	19.760	5734.680	5754.440	---	---
	Ant4	5745	19.240	5735.520	5754.760	---	---
	Ant3	5785	18.800	5775.480	5794.280	---	---
	Ant4	5785	19.560	5774.800	5794.360	---	---
	Ant3	5825	18.880	5815.560	5834.440	---	---
	Ant4	5825	19.240	5815.040	5834.280	---	---
11N20MIMO	Ant3	5180	20.080	5169.880	5189.960	---	---
	Ant4	5180	20.280	5169.800	5190.080	---	---
	Ant3	5200	20.600	5189.560	5210.160	---	---
	Ant4	5200	19.760	5190.160	5209.920	---	---
	Ant3	5240	20.640	5229.800	5250.440	---	---
	Ant4	5240	20.280	5229.840	5250.120	---	---
	Ant3	5260	19.520	5250.320	5269.840	---	---
	Ant4	5260	20.000	5249.920	5269.920	---	---
	Ant3	5280	20.000	5270.040	5290.040	---	---
	Ant4	5280	19.640	5270.200	5289.840	---	---
	Ant3	5320	19.720	5310.080	5329.800	---	---
	Ant4	5320	20.200	5309.840	5330.040	---	---
	Ant3	5500	20.480	5489.920	5510.400	---	---
	Ant4	5500	19.720	5490.200	5509.920	---	---
	Ant3	5580	19.840	5570.080	5589.920	---	---
	Ant4	5580	20.400	5569.880	5590.280	---	---
	Ant3	5700	20.040	5690.160	5710.200	---	---
	Ant4	5700	20.160	5689.920	5710.080	---	---
	Ant3	5745	19.840	5735.080	5754.920	---	---
	Ant4	5745	20.320	5735.080	5755.400	---	---

	Ant3	5785	20.280	5775.080	5795.360	---	---
	Ant4	5785	20.120	5774.920	5795.040	---	---
	Ant3	5825	20.280	5815.200	5835.480	---	---
	Ant4	5825	20.040	5815.000	5835.040	---	---
11N40MIMO	Ant3	5190	39.200	5170.320	5209.520	---	---
	Ant4	5190	39.600	5170.240	5209.840	---	---
	Ant3	5230	38.960	5210.720	5249.680	---	---
	Ant4	5230	39.200	5210.480	5249.680	---	---
	Ant3	5270	39.120	5250.640	5289.760	---	---
	Ant4	5270	38.960	5250.560	5289.520	---	---
	Ant3	5310	39.760	5290.000	5329.760	---	---
	Ant4	5310	38.960	5290.560	5329.520	---	---
	Ant3	5510	39.600	5490.000	5529.600	---	---
	Ant4	5510	39.280	5490.400	5529.680	---	---
	Ant3	5550	39.520	5530.240	5569.760	---	---
	Ant4	5550	39.360	5530.320	5569.680	---	---
	Ant3	5670	39.200	5650.560	5689.760	---	---
	Ant4	5670	39.440	5650.240	5689.680	---	---
	Ant3	5755	39.440	5735.320	5774.760	---	---
	Ant4	5755	38.800	5735.640	5774.440	---	---
	Ant3	5795	39.360	5775.240	5814.600	---	---
	Ant4	5795	39.200	5775.160	5814.360	---	---
11AC20MIMO	Ant3	5180	20.240	5169.880	5190.120	---	---
	Ant4	5180	20.640	5169.520	5190.160	---	---
	Ant3	5200	20.600	5189.920	5210.520	---	---
	Ant4	5200	20.240	5189.840	5210.080	---	---
	Ant3	5240	20.400	5229.720	5250.120	---	---
	Ant4	5240	20.600	5229.520	5250.120	---	---
	Ant3	5260	20.040	5249.960	5270.000	---	---
	Ant4	5260	19.800	5250.160	5269.960	---	---
	Ant3	5280	20.040	5270.160	5290.200	---	---
	Ant4	5280	20.560	5269.600	5290.160	---	---
	Ant3	5320	20.000	5310.080	5330.080	---	---
	Ant4	5320	20.600	5309.400	5330.000	---	---
	Ant3	5500	20.640	5489.920	5510.560	---	---
	Ant4	5500	19.960	5489.920	5509.880	---	---
	Ant3	5580	19.880	5569.960	5589.840	---	---
	Ant4	5580	20.280	5569.960	5590.240	---	---
	Ant3	5700	19.640	5690.240	5709.880	---	---
	Ant4	5700	20.280	5689.920	5710.200	---	---
	Ant3	5745	20.680	5734.800	5755.480	---	---
	Ant4	5745	20.480	5735.000	5755.480	---	---
	Ant3	5785	20.440	5774.720	5795.160	---	---
	Ant4	5785	20.280	5774.920	5795.200	---	---
	Ant3	5825	20.720	5814.600	5835.320	---	---
	Ant4	5825	20.360	5814.920	5835.280	---	---
11AC40MIMO	Ant3	5190	39.520	5170.160	5209.680	---	---
	Ant4	5190	39.520	5170.160	5209.680	---	---
	Ant3	5230	39.520	5210.480	5250.000	---	---
	Ant4	5230	39.760	5210.240	5250.000	---	---
	Ant3	5270	39.680	5250.400	5290.080	---	---
	Ant4	5270	38.720	5250.640	5289.360	---	---
	Ant3	5310	39.520	5290.240	5329.760	---	---
	Ant4	5310	39.600	5290.080	5329.680	---	---
	Ant3	5510	39.360	5490.400	5529.760	---	---

	Ant4	5510	39.120	5490.480	5529.600	---	---
	Ant3	5550	39.520	5530.240	5569.760	---	---
	Ant4	5550	39.200	5530.320	5569.520	---	---
	Ant3	5670	39.600	5650.240	5689.840	---	---
	Ant4	5670	39.840	5650.080	5689.920	---	---
	Ant3	5755	39.760	5735.240	5775.000	---	---
	Ant4	5755	38.800	5735.720	5774.520	---	---
	Ant3	5795	39.520	5775.160	5814.680	---	---
	Ant4	5795	39.280	5775.480	5814.760	---	---
11AC80MIMO	Ant3	5210	81.760	5169.360	5251.120	---	---
	Ant4	5210	80.800	5169.680	5250.480	---	---
	Ant3	5290	81.120	5249.360	5330.480	---	---
	Ant4	5290	80.640	5249.840	5330.480	---	---
	Ant3	5530	81.440	5489.360	5570.800	---	---
	Ant4	5530	81.440	5489.200	5570.640	---	---
	Ant3	5610	80.640	5569.680	5650.320	---	---
	Ant4	5610	80.800	5569.680	5650.480	---	---
	Ant3	5775	80.480	5734.360	5814.840	---	---
	Ant4	5775	80.160	5735.000	5815.160	---	---
11AC160MIMO	Ant3	5250	162.560	5169.040	5331.600	---	---
	Ant4	5250	163.840	5168.720	5332.560	---	---
	Ant3	5250_UNII-1	80.96	5169.040	5250	---	---
	Ant4	5250_UNII-1	81.28	5168.720	5250	---	---
	Ant3	5250_UNII-2A	81.6	5250	5331.600	---	---
	Ant4	5250_UNII-2A	82.56	5250	5332.560	---	---
	Ant3	5570	161.920	5489.360	5651.280	---	---
	Ant4	5570	161.920	5489.040	5650.960	---	---
11AX20MIMO	Ant3	5180	20.320	5169.920	5190.240	---	---
	Ant4	5180	20.320	5169.880	5190.200	---	---
	Ant3	5200	20.760	5189.600	5210.360	---	---
	Ant4	5200	20.520	5189.720	5210.240	---	---
	Ant3	5240	20.720	5229.760	5250.480	---	---
	Ant4	5240	20.960	5229.440	5250.400	---	---
	Ant3	5260	20.520	5249.840	5270.360	---	---
	Ant4	5260	20.360	5249.880	5270.240	---	---
	Ant3	5280	20.360	5269.840	5290.200	---	---
	Ant4	5280	20.440	5269.760	5290.200	---	---
	Ant3	5320	20.560	5309.800	5330.360	---	---
	Ant4	5320	20.360	5309.920	5330.280	---	---
	Ant3	5500	20.920	5489.480	5510.400	---	---
	Ant4	5500	20.360	5489.840	5510.200	---	---
	Ant3	5580	20.480	5569.760	5590.240	---	---
	Ant4	5580	20.720	5569.560	5590.280	---	---
	Ant3	5700	20.320	5689.920	5710.240	---	---
	Ant4	5700	21.240	5689.480	5710.720	---	---
	Ant3	5745	20.640	5734.560	5755.200	---	---
	Ant4	5745	20.120	5735.040	5755.160	---	---
	Ant3	5785	21.000	5774.360	5795.360	---	---
	Ant4	5785	20.600	5774.680	5795.280	---	---
	Ant3	5825	20.360	5814.960	5835.320	---	---
	Ant4	5825	20.360	5814.720	5835.080	---	---
11AX40MIMO	Ant3	5190	39.840	5170.000	5209.840	---	---
	Ant4	5190	39.680	5170.240	5209.920	---	---
	Ant3	5230	40.080	5210.080	5250.160	---	---
	Ant4	5230	39.840	5210.000	5249.840	---	---

	Ant3	5270	39.680	5250.240	5289.920	---	---
	Ant4	5270	40.000	5249.840	5289.840	---	---
	Ant3	5310	39.840	5290.000	5329.840	---	---
	Ant4	5310	39.760	5290.080	5329.840	---	---
	Ant3	5510	39.840	5490.160	5530.000	---	---
	Ant4	5510	40.240	5489.840	5530.080	---	---
	Ant3	5550	40.080	5529.920	5570.000	---	---
	Ant4	5550	39.680	5530.240	5569.920	---	---
	Ant3	5670	39.600	5650.080	5689.680	---	---
	Ant4	5670	39.920	5650.160	5690.080	---	---
	Ant3	5755	40.000	5735.000	5775.000	---	---
	Ant4	5755	40.160	5734.920	5775.080	---	---
	Ant3	5795	40.080	5775.000	5815.080	---	---
	Ant4	5795	40.160	5774.920	5815.080	---	---
11AX80MIMO	Ant3	5210	82.080	5168.720	5250.800	---	---
	Ant4	5210	81.920	5169.200	5251.120	---	---
	Ant3	5290	80.000	5250.000	5330.000	---	---
	Ant4	5290	80.480	5250.000	5330.480	---	---
	Ant3	5530	80.480	5490.000	5570.480	---	---
	Ant4	5530	80.960	5489.360	5570.320	---	---
	Ant3	5610	81.120	5569.200	5650.320	---	---
	Ant4	5610	80.800	5569.680	5650.480	---	---
	Ant3	5775	80.960	5734.360	5815.320	---	---
	Ant4	5775	80.640	5734.840	5815.480	---	---
11AX160MIMO	Ant3	5250	161.920	5169.040	5330.960	---	---
	Ant4	5250	163.520	5168.400	5331.920	---	---
	Ant3	5250_UNII-1	80.96	5169.040	5250	---	---
	Ant4	5250_UNII-1	81.6	5168.400	5250	---	---
	Ant3	5250_UNII-2A	80.96	5250	5330.960	---	---
	Ant4	5250_UNII-2A	81.92	5250	5331.920	---	---
	Ant3	5570	163.200	5488.720	5651.920	---	---
	Ant4	5570	163.520	5488.400	5651.920	---	---

11A_Ant3_5180

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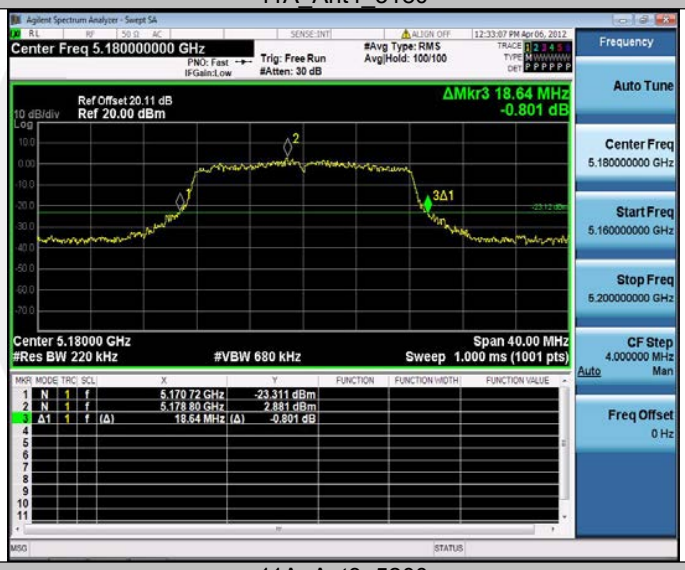
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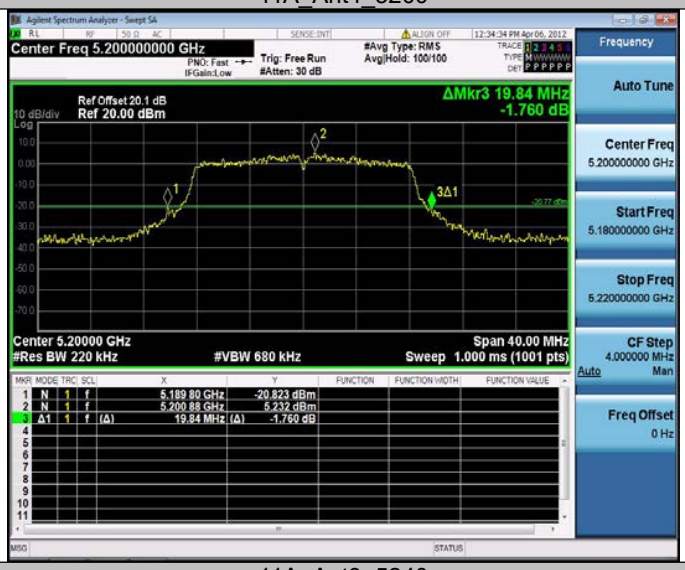
11A_Ant4_5200

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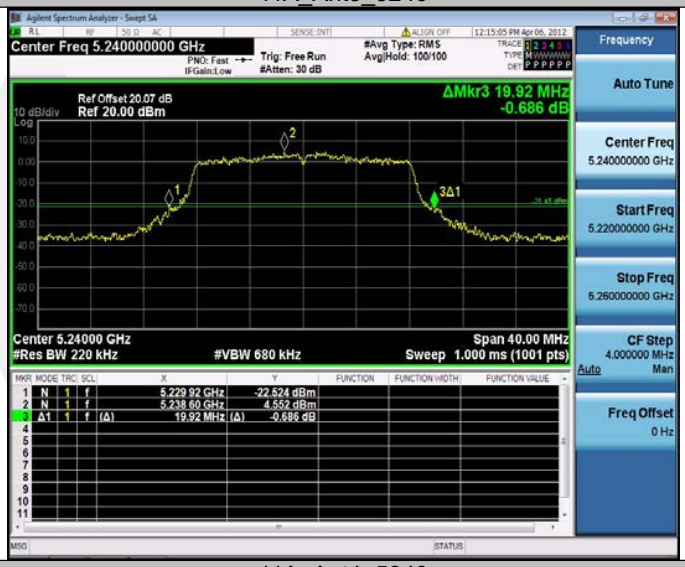
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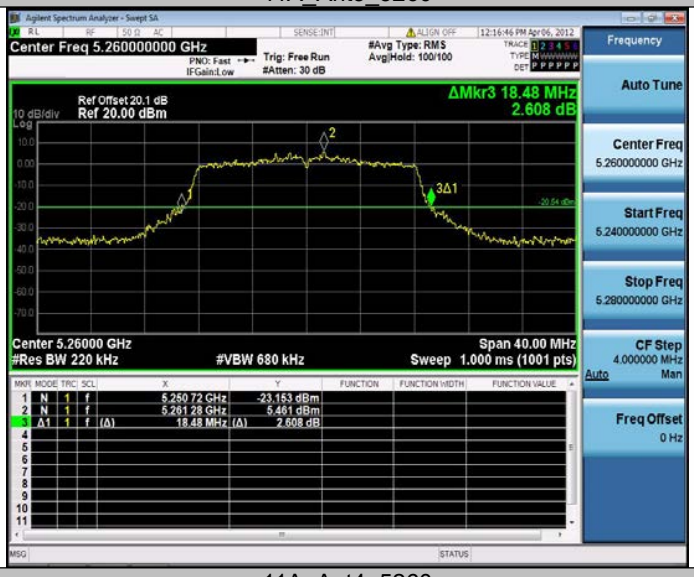

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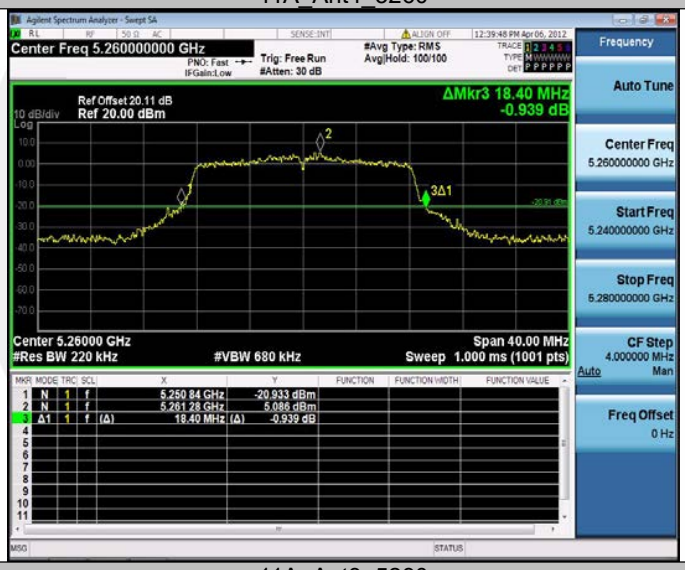

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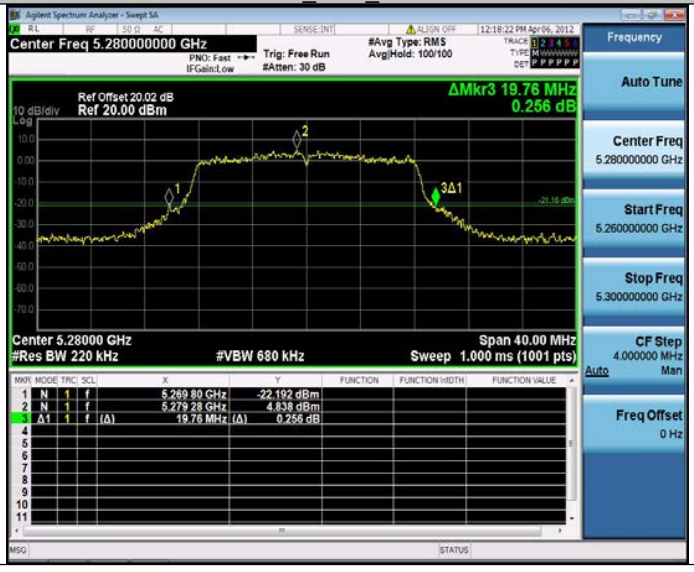

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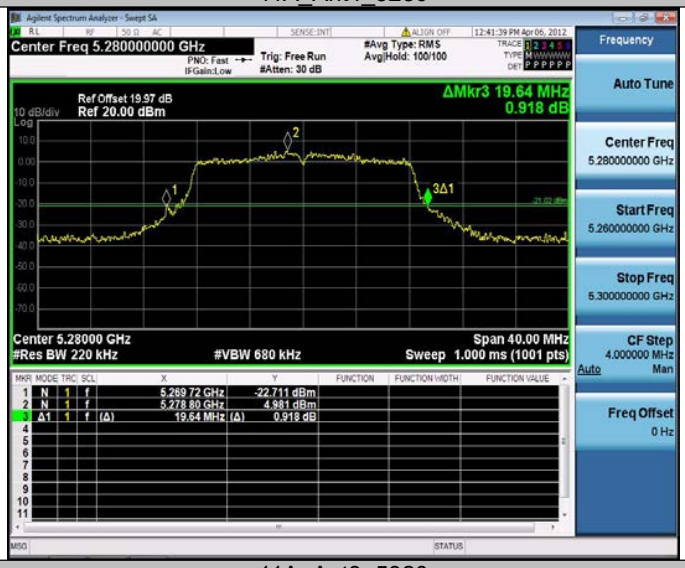
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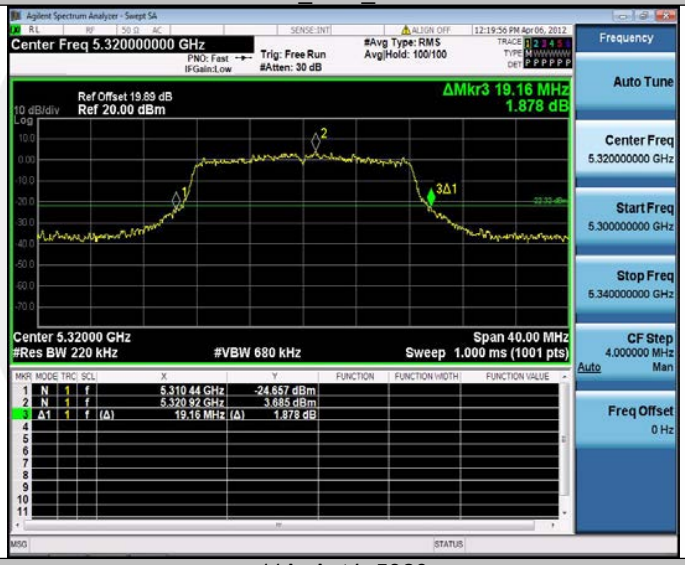
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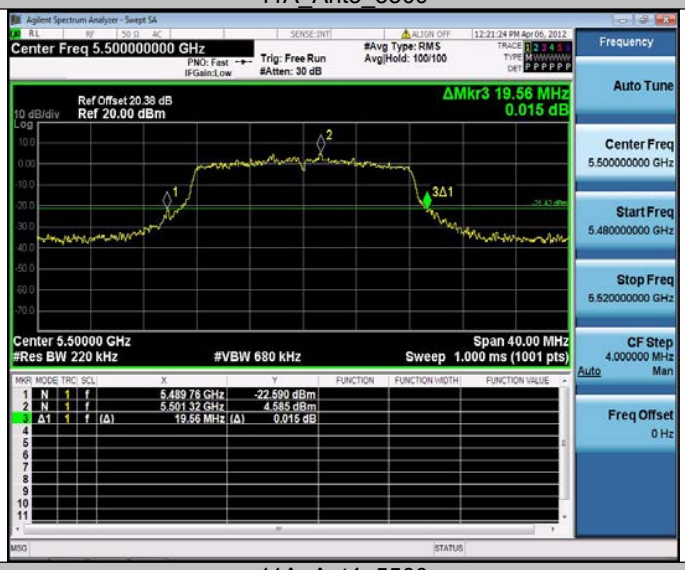
11A_Ant3_5500

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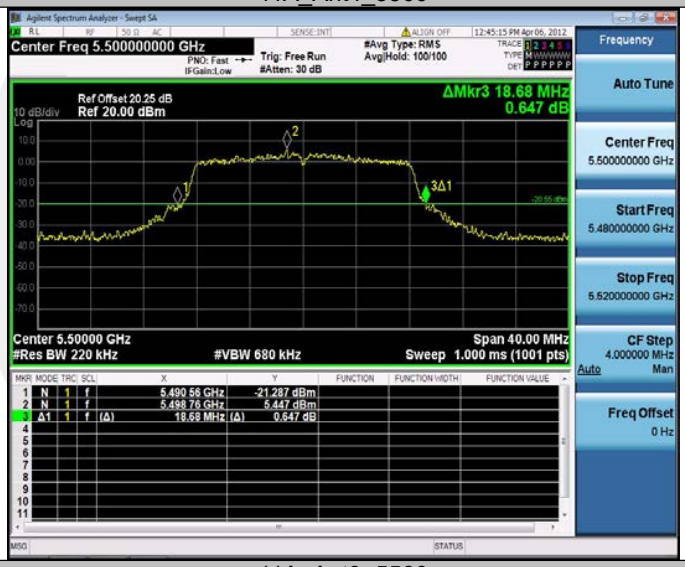
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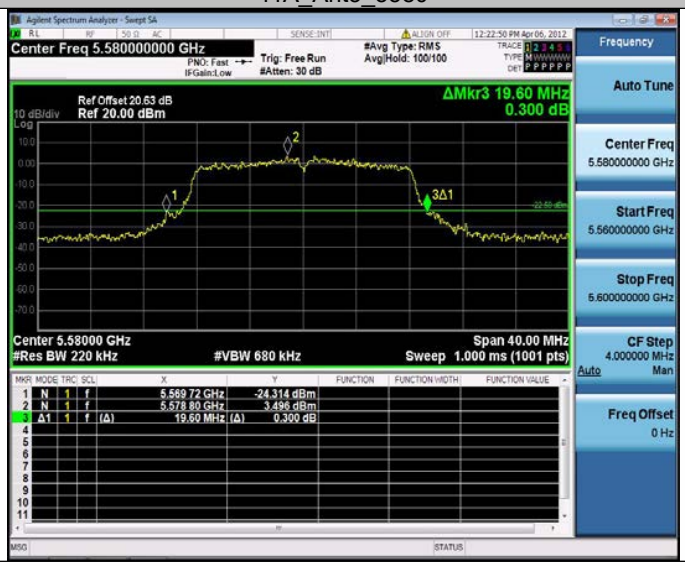

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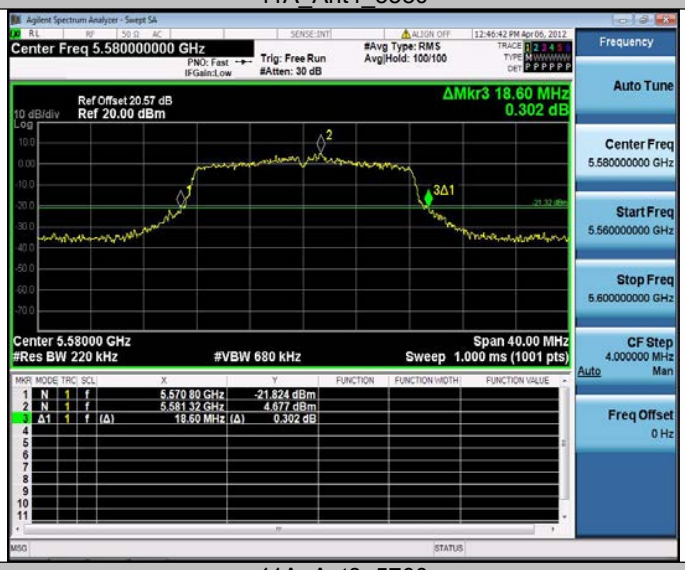
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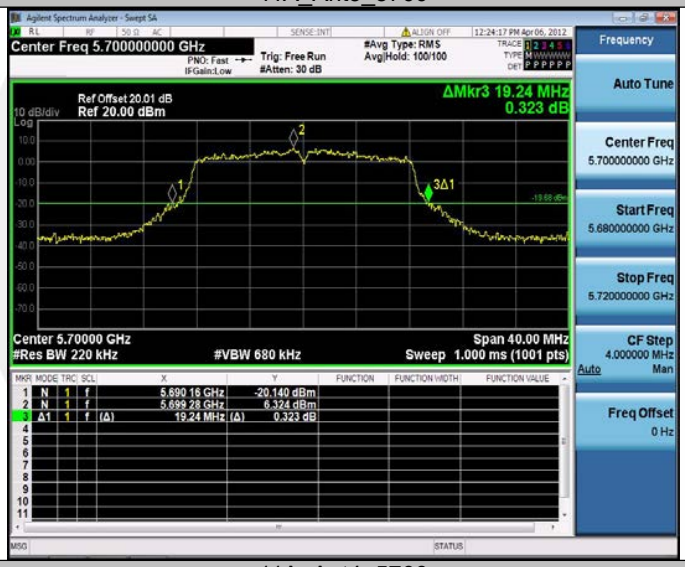
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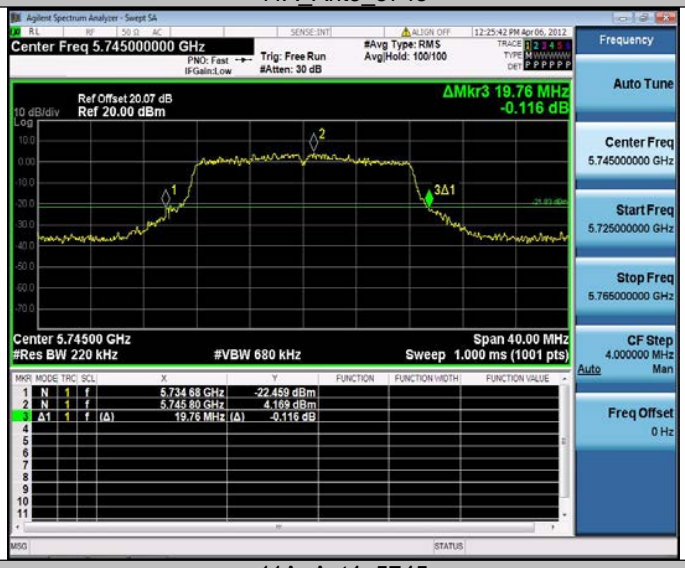
11A_Ant3_5745

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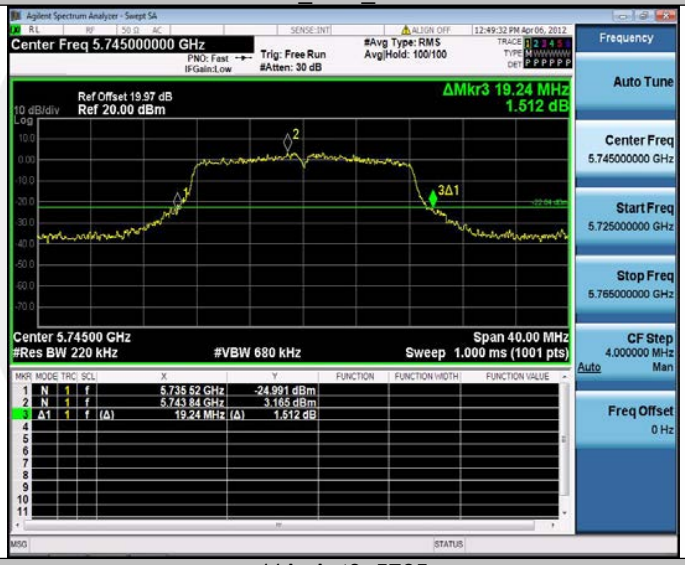
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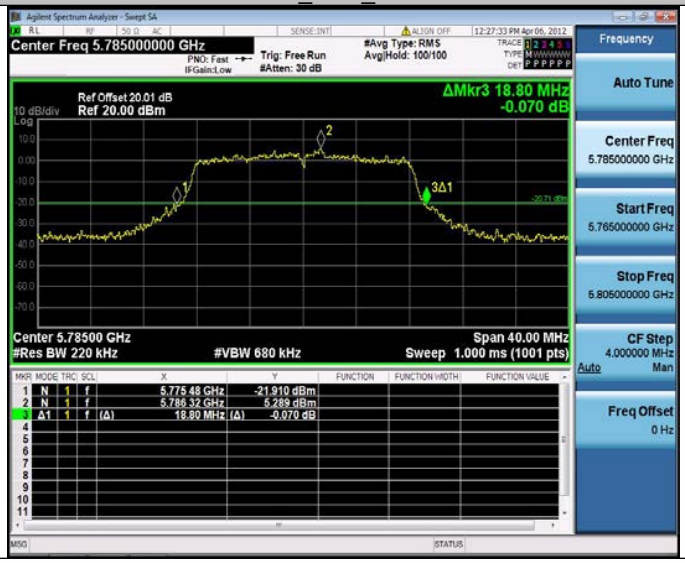

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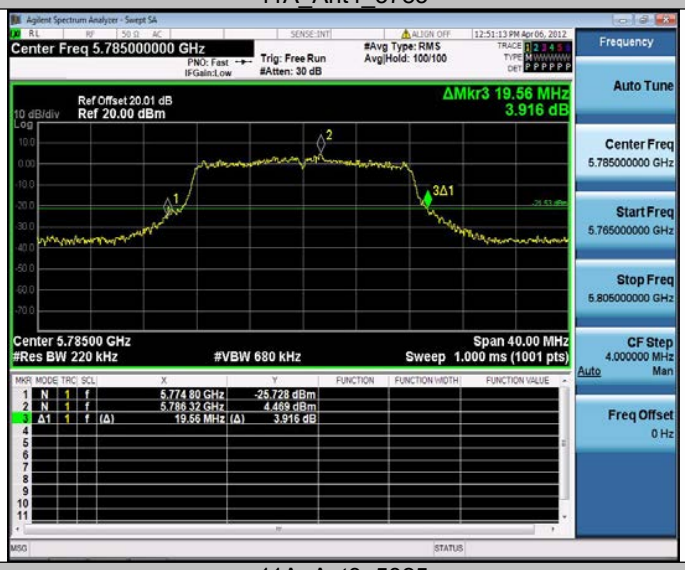
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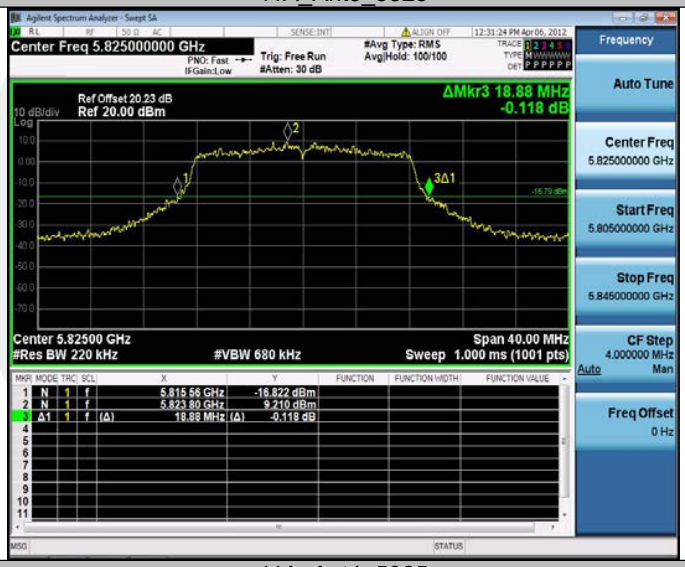
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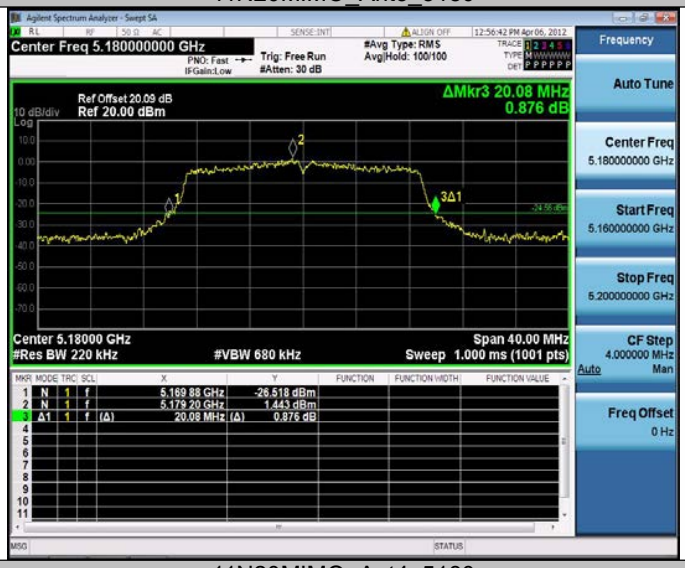
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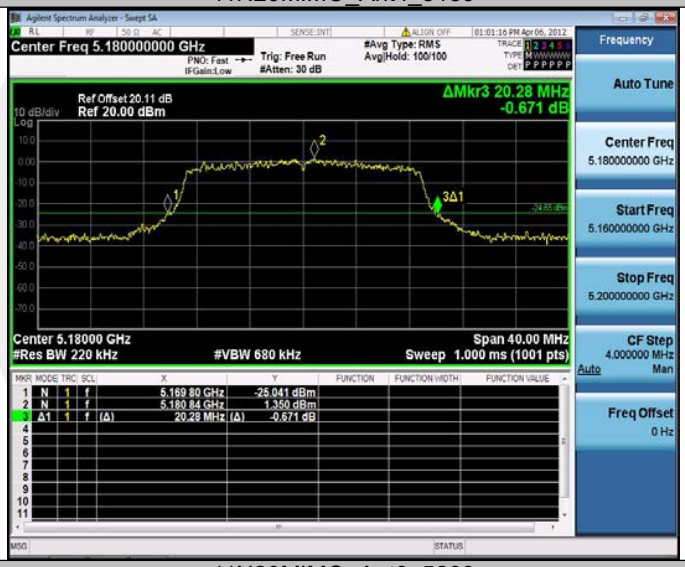
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11N20MIMO_Ant4_5200

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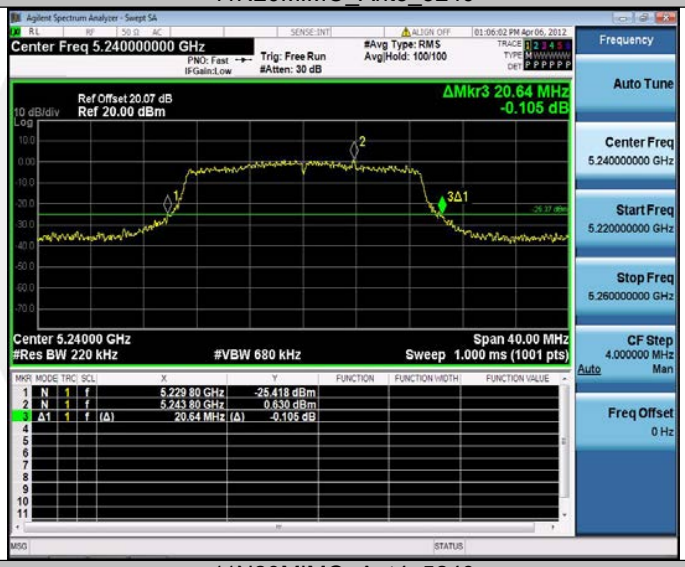
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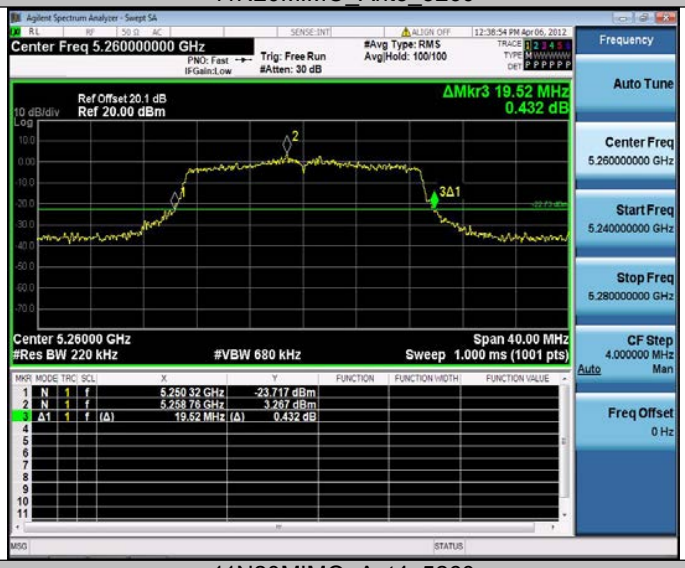
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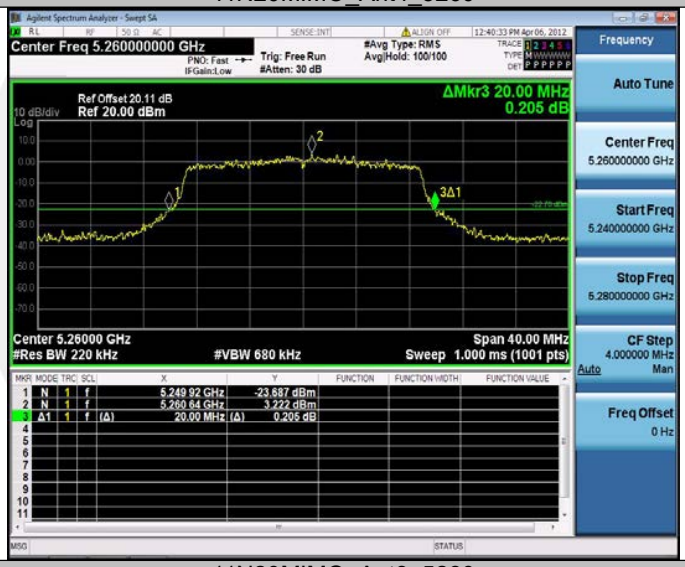
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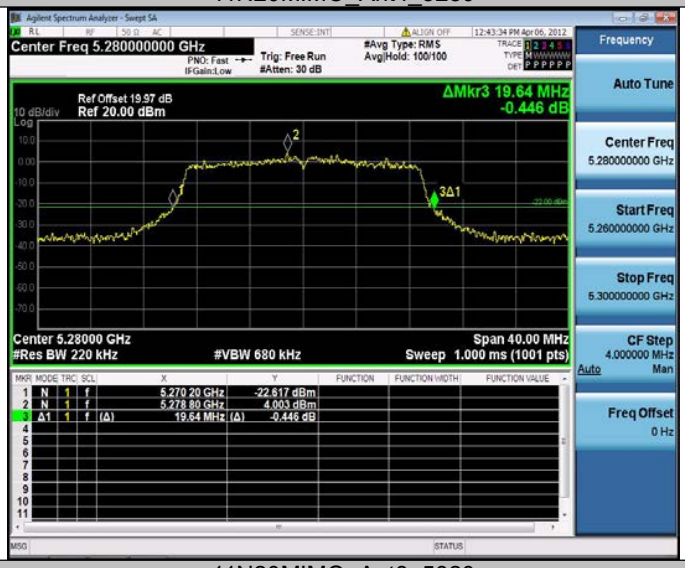
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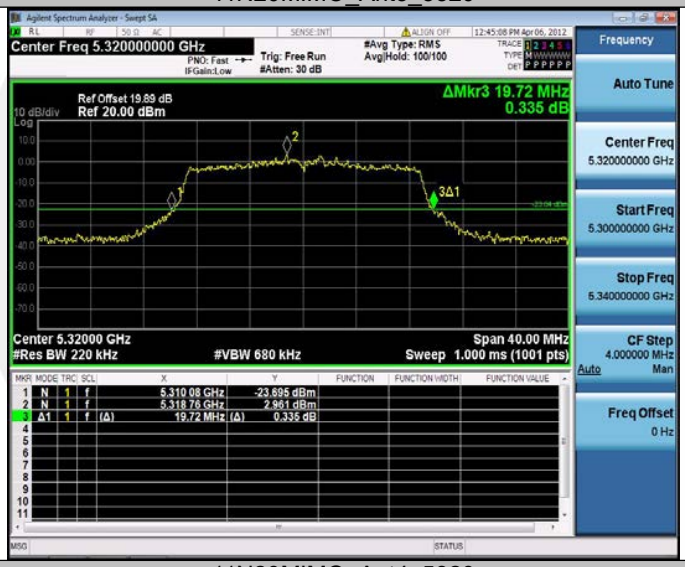
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11N20MIMO_Ant3_5500

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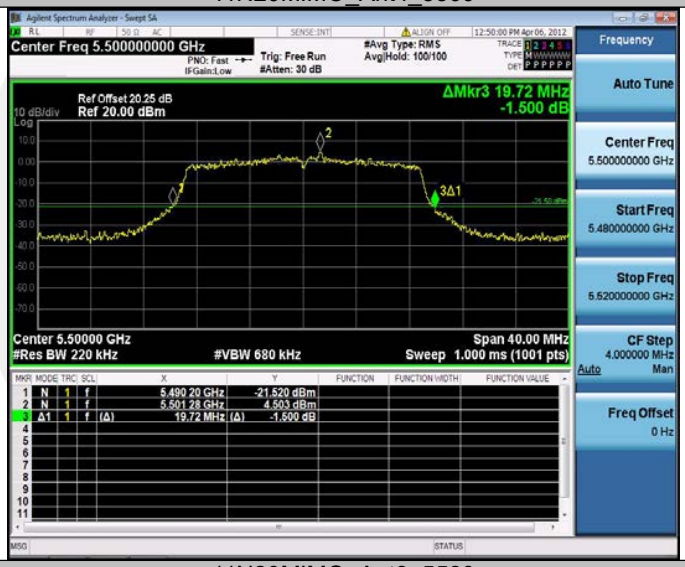
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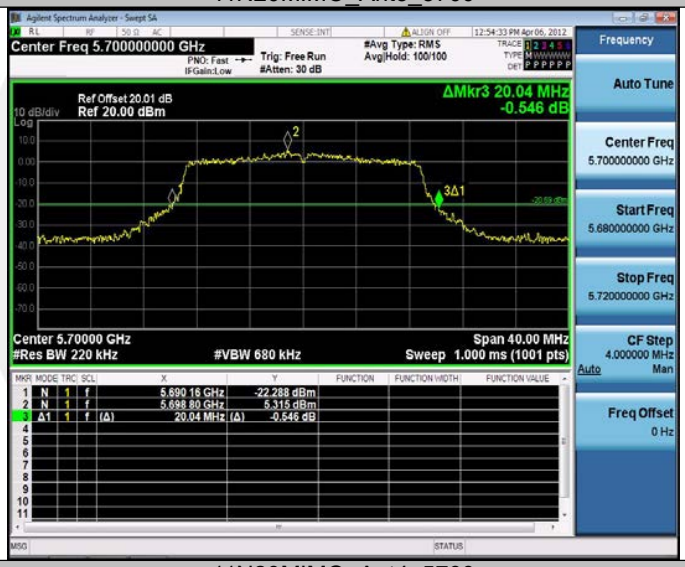
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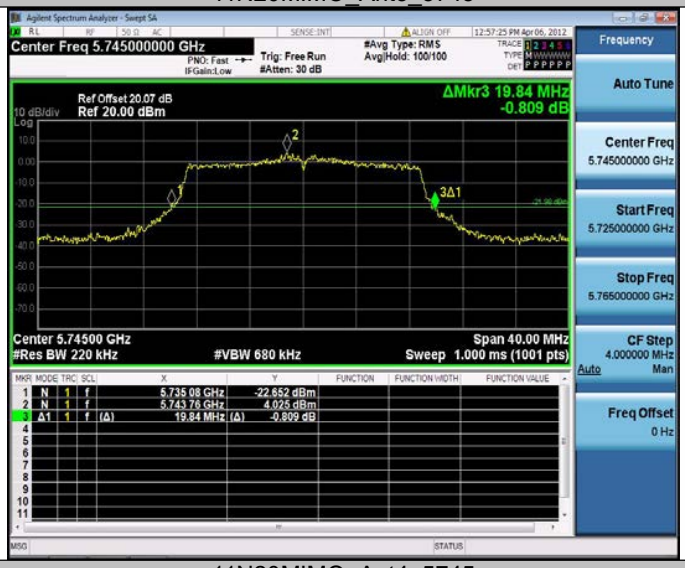
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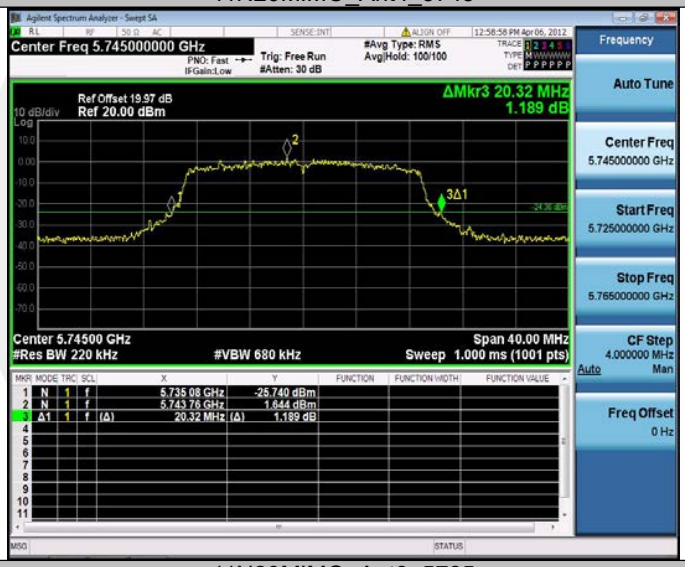
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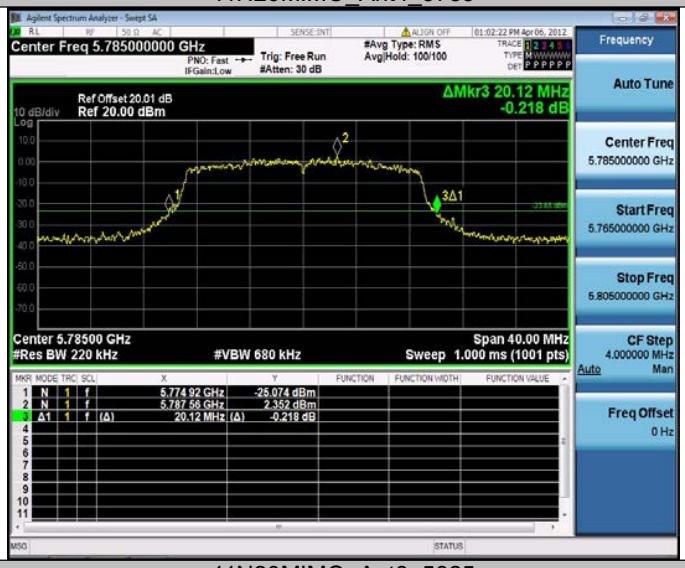
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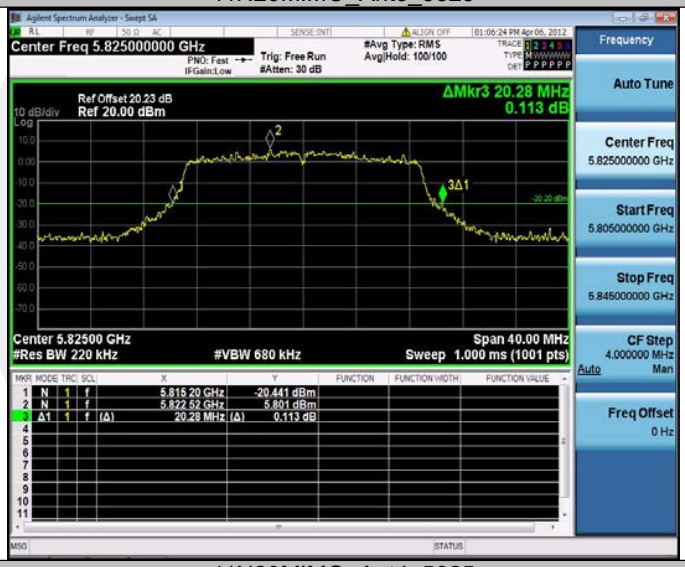
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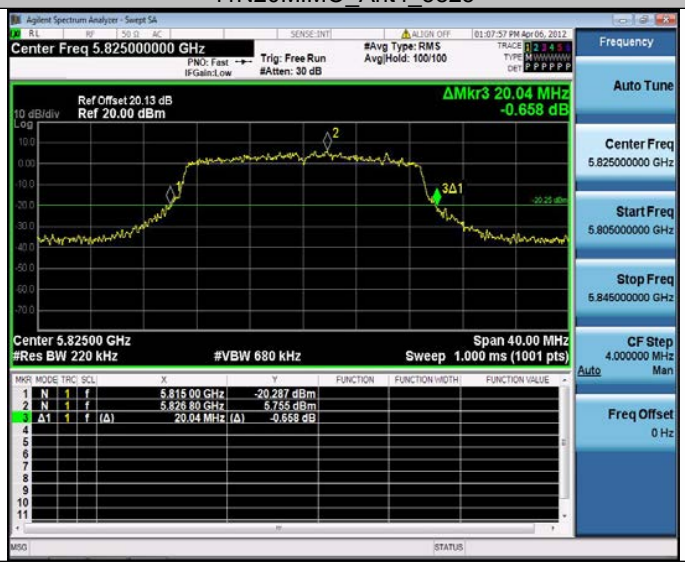

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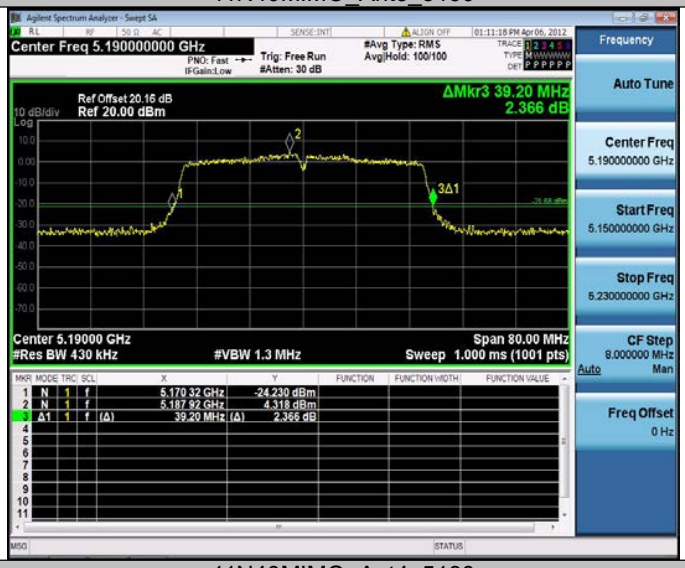
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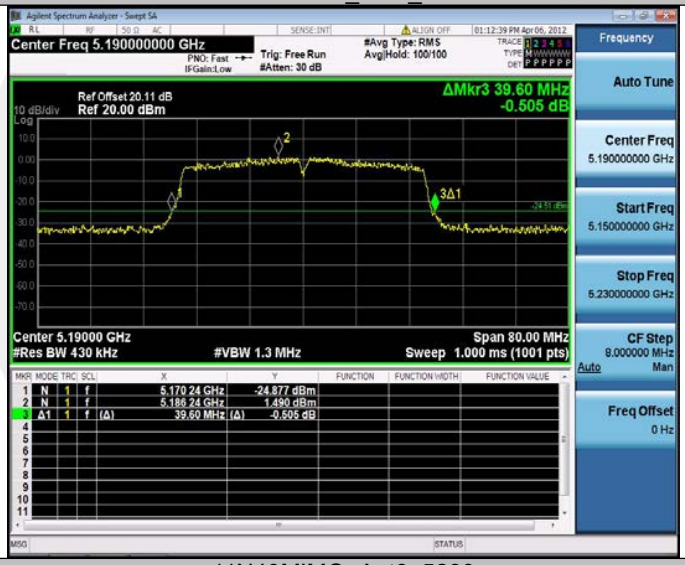
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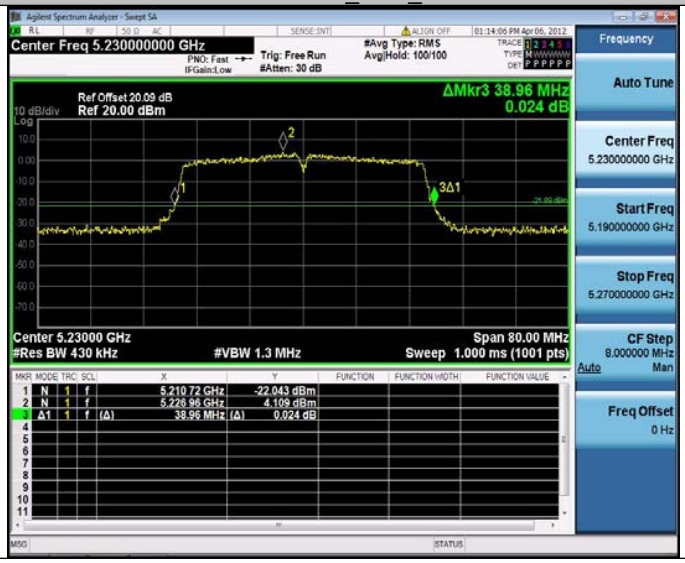

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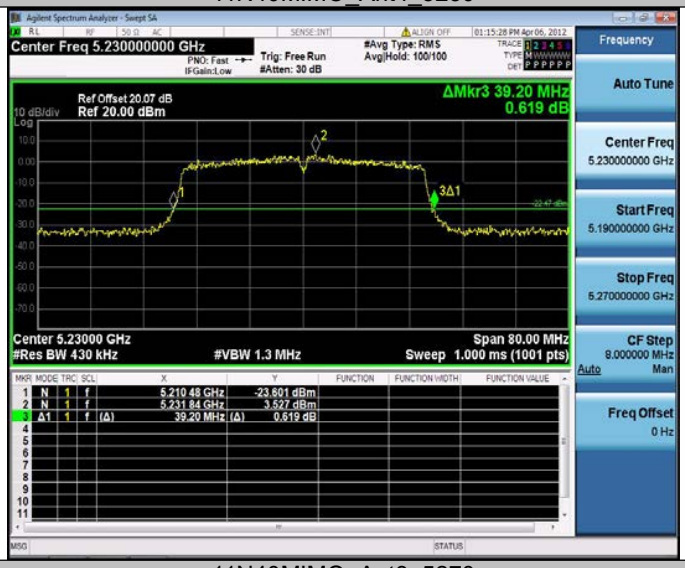
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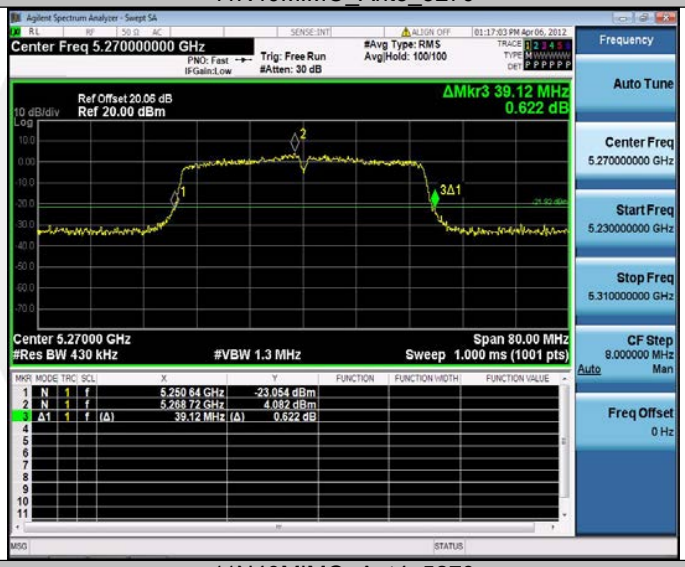
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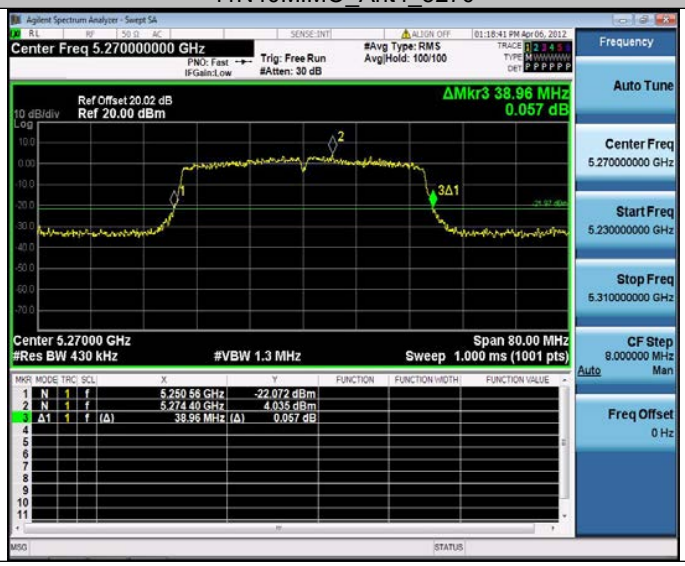

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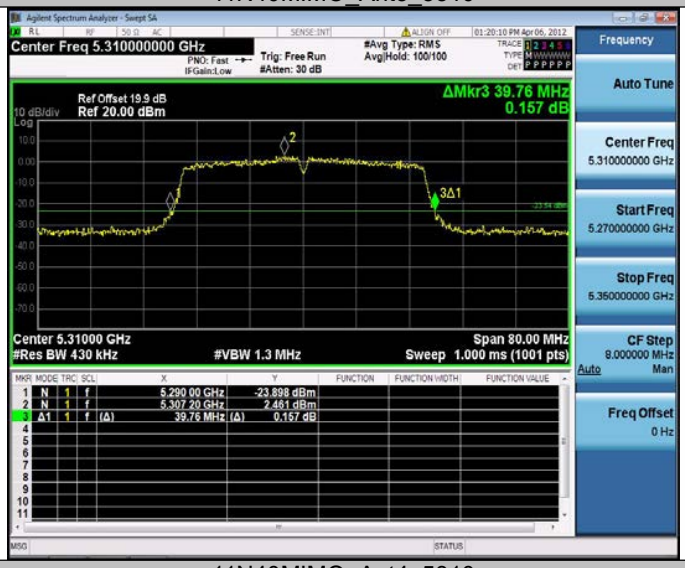
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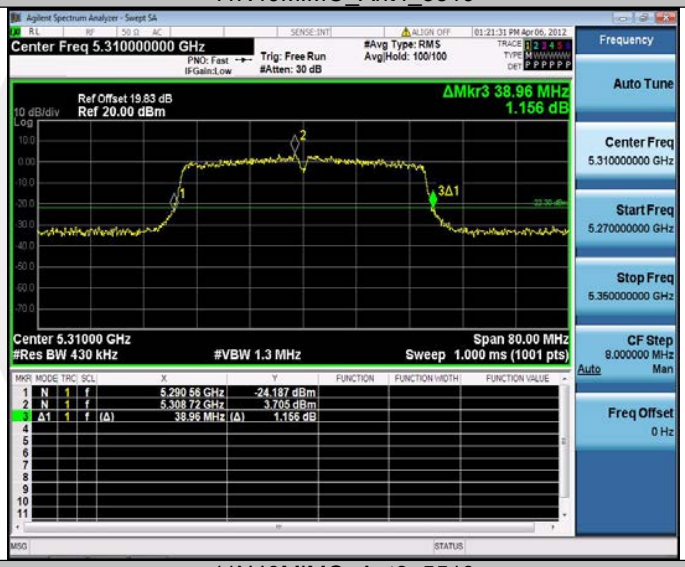
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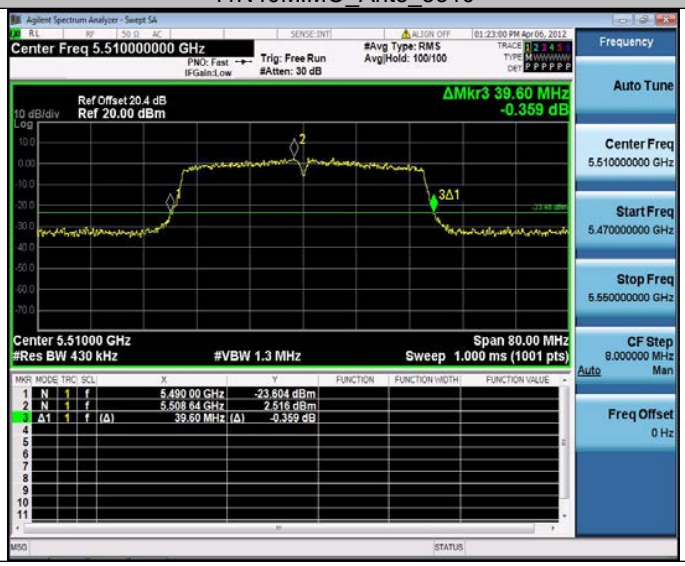

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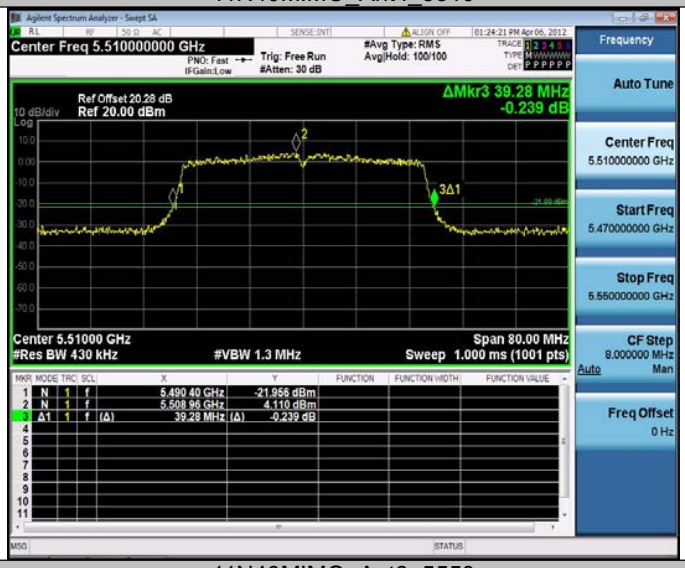
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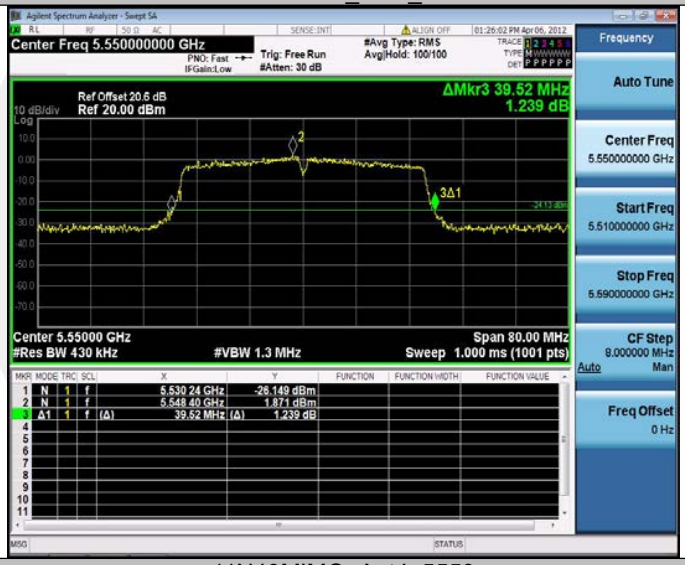
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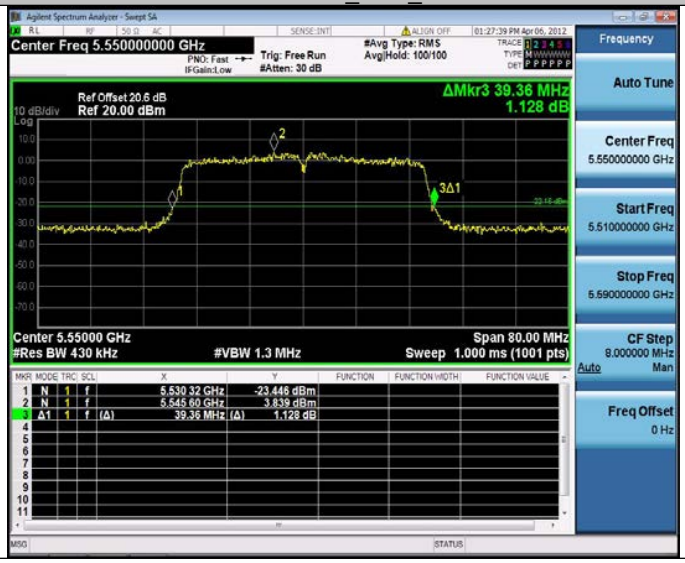

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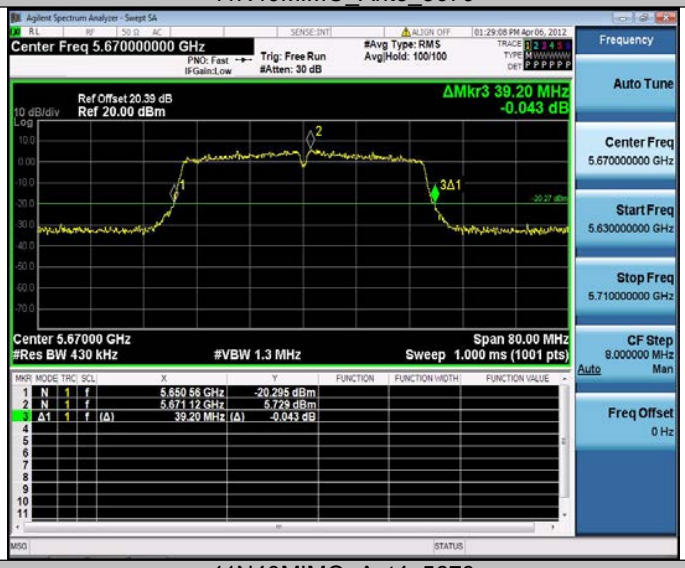
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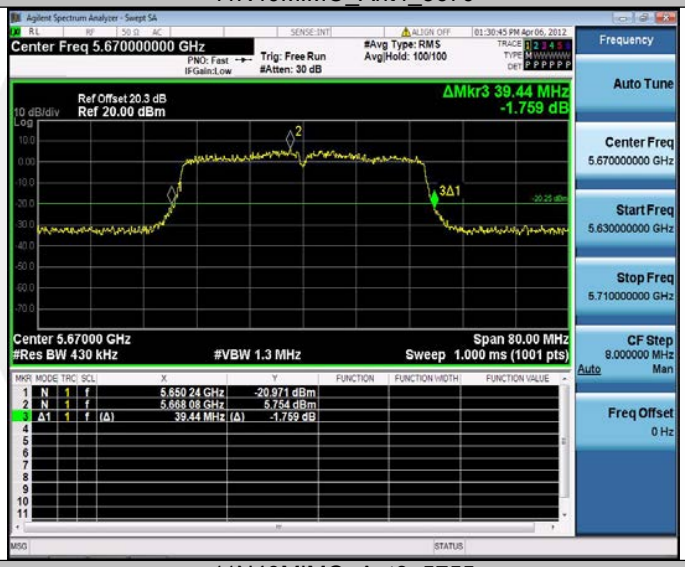
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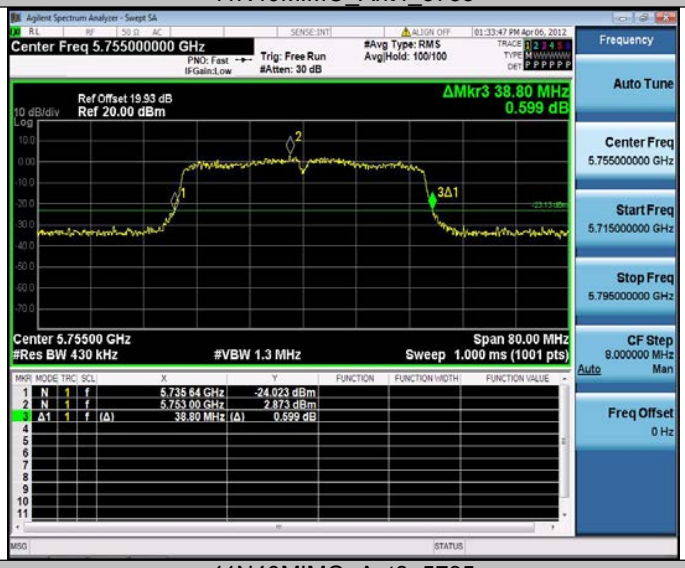
11N40MIMO_Ant4_5755

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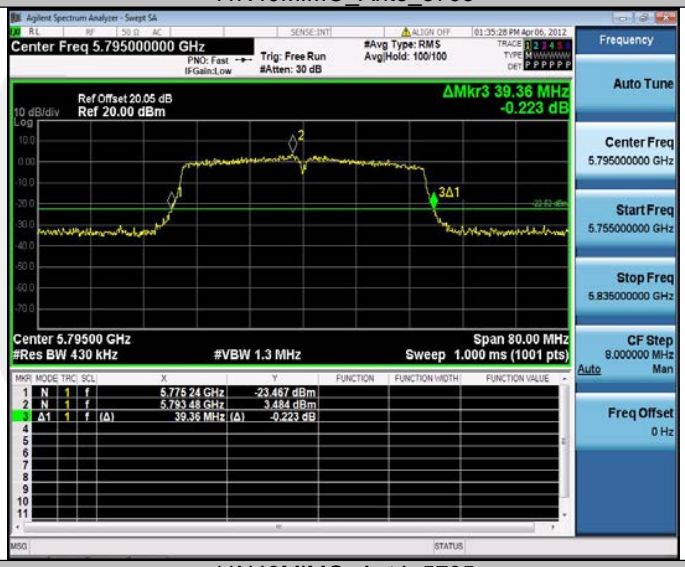
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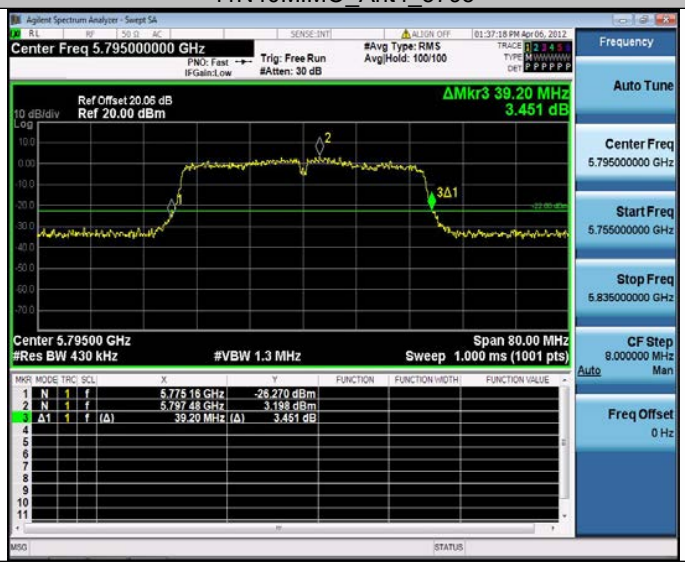

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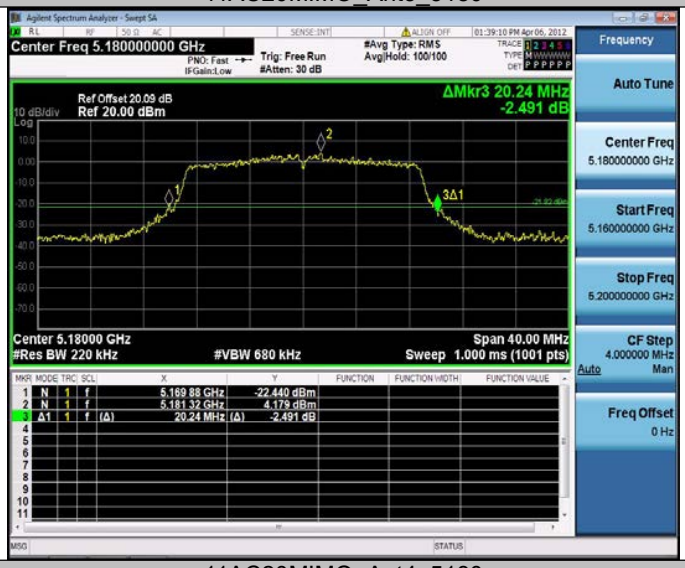
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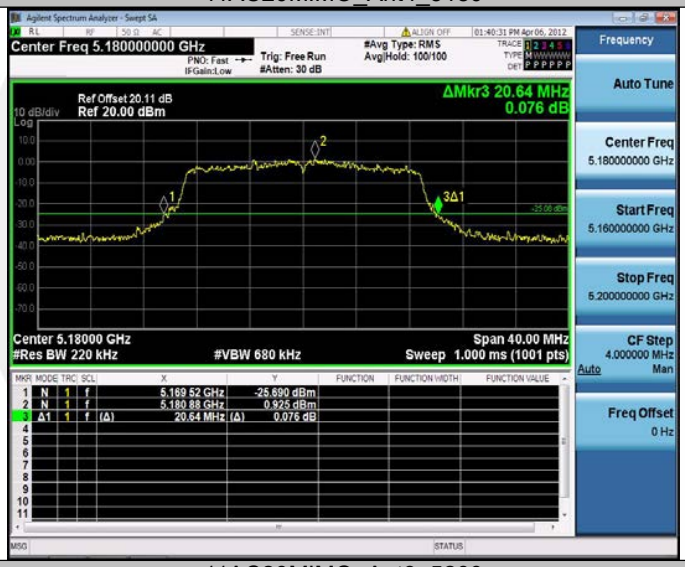
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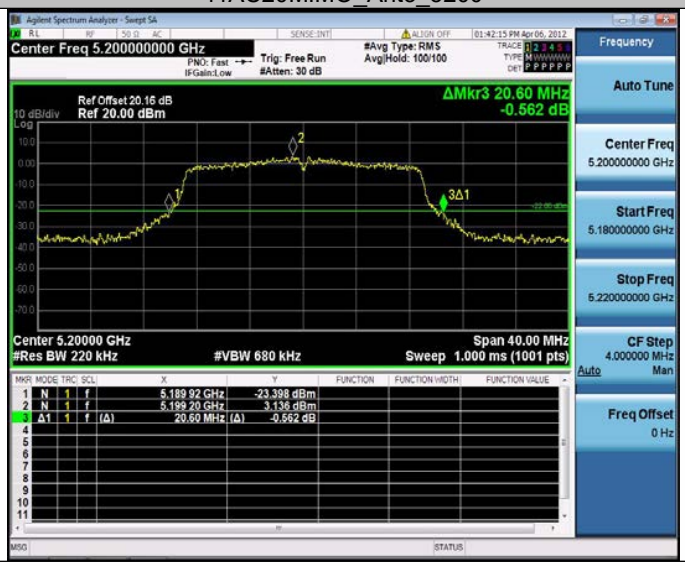

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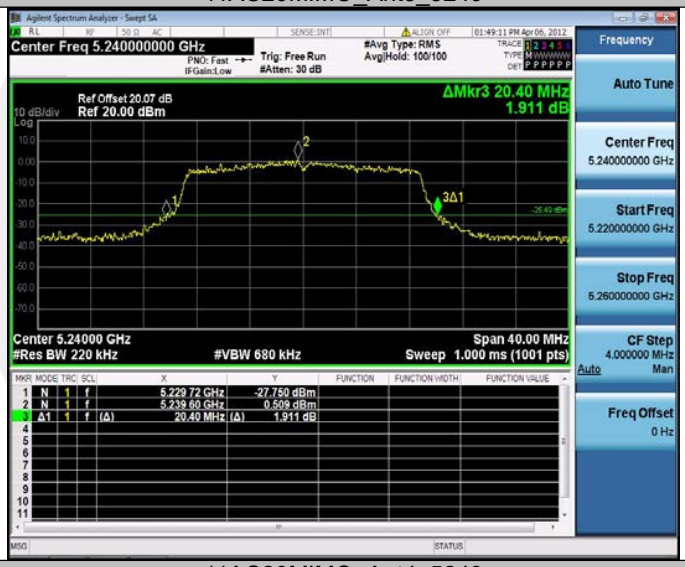
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11AC20MIMO_Ant3_5260

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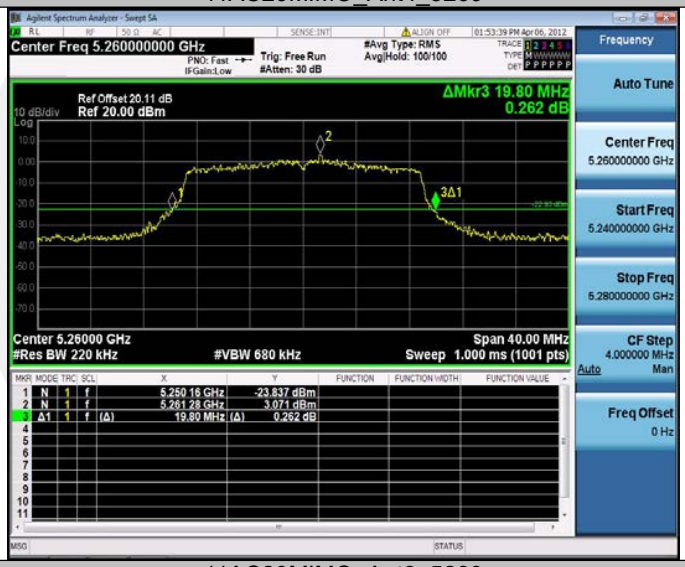
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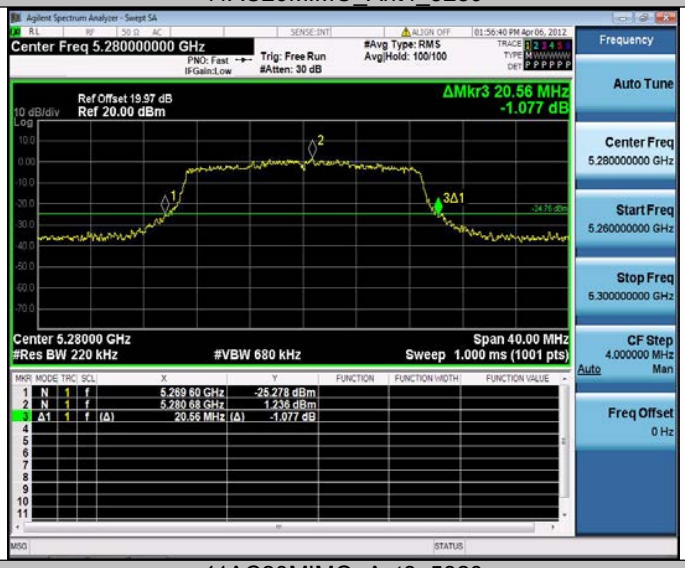
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11AC20MIMO_Ant3_5500

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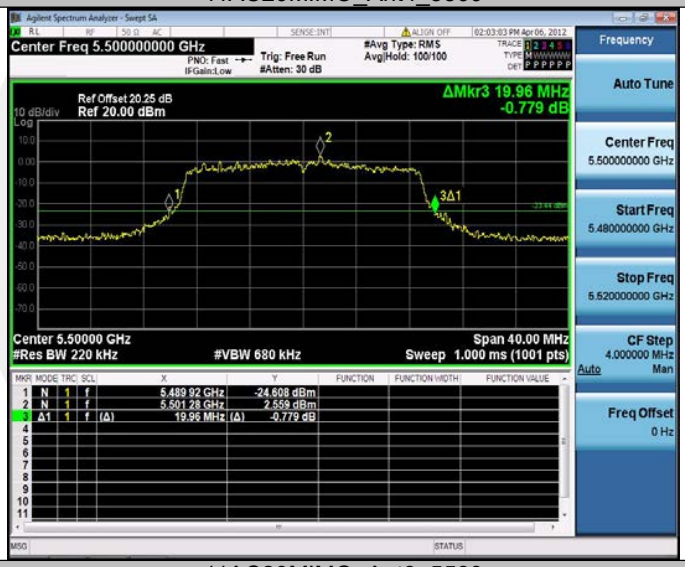
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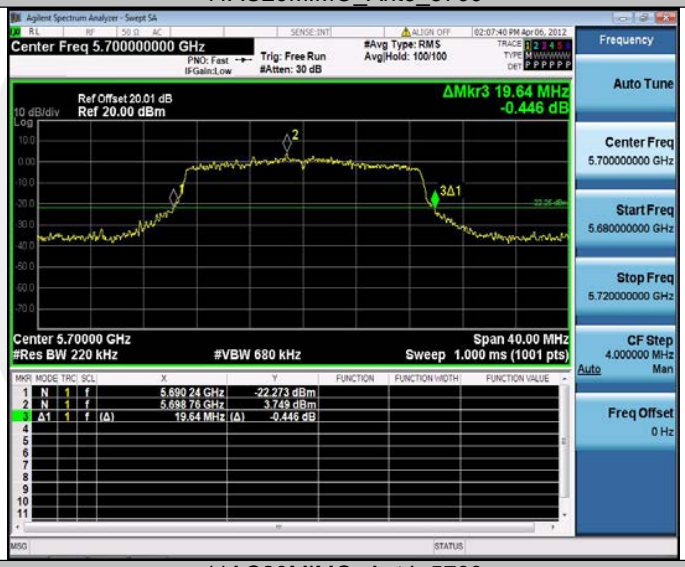
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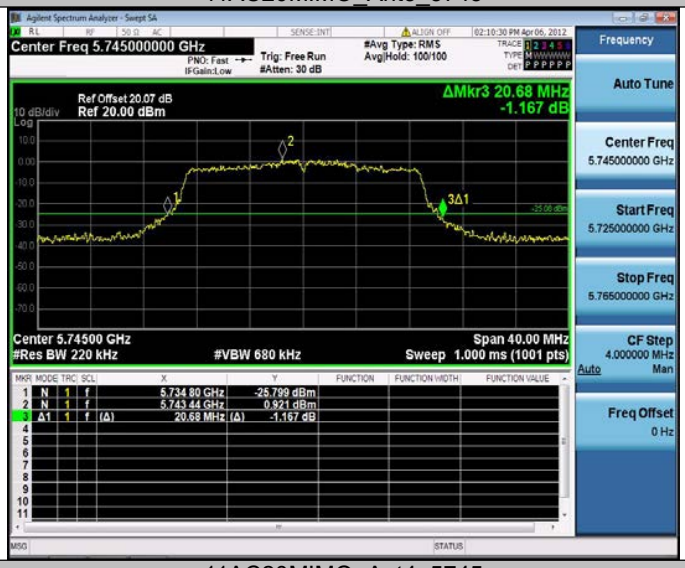
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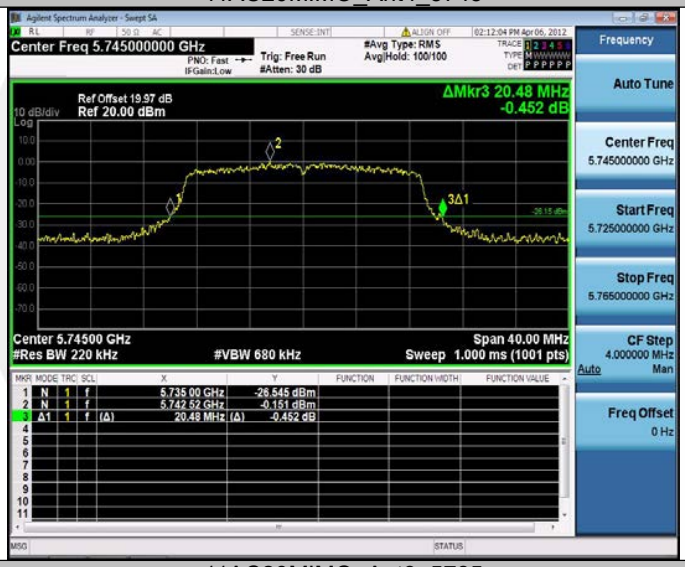
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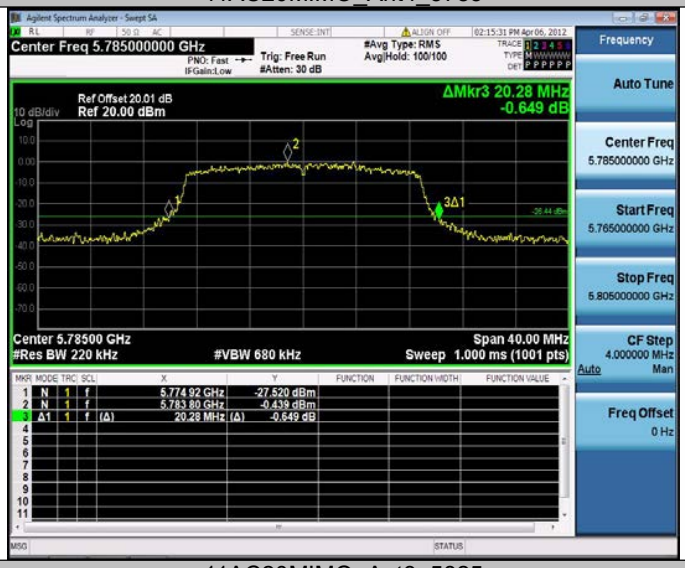
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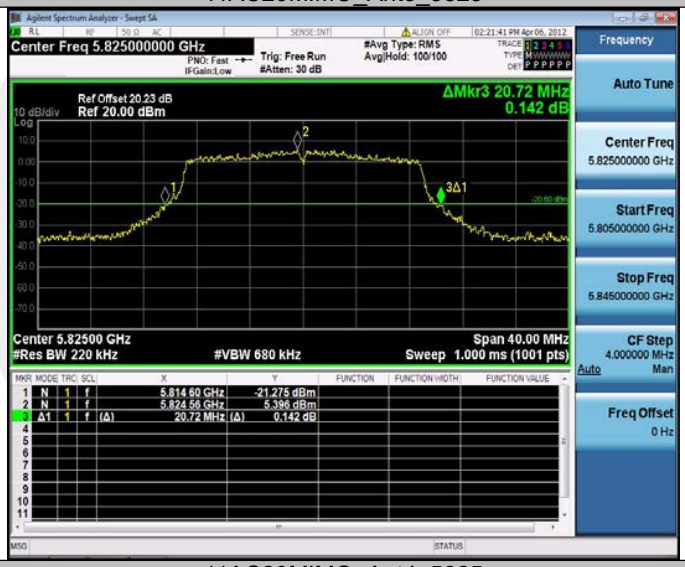
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