Report No.: DDT-R21121003-2E04

Issued Date: Mar. 10, 2022

FCC CERTIFICATION TEST REPORT

FOR

Applicant	**:**	Harman International Industries, Inc.
Address	**:**	8500 Balboa Boulevard, Northridge, CA 91329, UNITED STATES
Equipment under Test	**:**	STUDIO MONITOR
Model No.	**:**	4305P
Trade Mark	**:**	JBL
FCC ID	**:**	APIJBL4305P
Manufacturer	**:**	Harman International Industries, Inc.
Address	**:**	8500 Balboa Boulevard, Northridge, CA 91329, UNITED STATES

Issued By: Dongguan Dongdian Testing Service Co., Ltd.

Add.: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808

Tel.: +86-0769-38826678, **E-mail:** ddt@dgddt.com, http://www.dgddt.com

REPORT

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Test Report Declare

Applicant	**:**	Harman International Industries, Inc.
Address	**:**	8500 Balboa Boulevard, Northridge, CA 91329, UNITED STATES
Equipment under Test	**:**	STUDIO MONITOR
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Trade Mark	**:**	JBL
Manufacturer	**:**	Harman International Industries, Inc.
Address	**:**	8500 Balboa Boulevard, Northridge, CA 91329, UNITED STATES

Test Standard Used:

FCC Rules and Regulations Part 15 Subpart E.

Test procedure used: ANSI C63.10:2013, 789033 D02 General U-NII Test Procedures New Rules v02r01, 662911 D01 Multiple Transmitter Output v02r01

We Declare:

The equipment described above is tested by Dongguan Dongdian Testing Service Co., Ltd. and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Dongguan Dongdian Testing Service Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

After test and evaluation, our opinion is that the equipment provided for test compliance with the requirement of the above FCC standards.

Report No:	DDT-R21121003-2E04		
Date of Receipt:	Dec. 13, 2021	**Date of Test:**	Dec. 13, 2021 ~ Mar. 10, 2022

Prepared By:

Johnny Wang

Johnny Wang/Engineer

Approved By:

DONGGUAN DONGDIAN TESTING SERVICE CO., LTD. APPROVED

Damon Hu/EMC Manager

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Dongguan Dongdian Testing Service Co., Ltd.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	Mar. 10, 2022	

1. Summary of Test Results

The EUT have been tested according to the applicable standards as referenced below.		
Description of Test Item	**Standard**	**Results**
6/26db Bandwidth and 99% Bandwidth	FCC 15.407 (e)	Pass
Maximum Conducted Output Power	FCC 15.407 (a)	Pass
Power Spectral Density	FCC 15.407 (a)	Pass
Frequency Stability Measurement	FCC 15.407 (g)	Pass
Emissions in restricted frequency bands	FCC 15.407 (a) FCC 15.209 FCC 15.205	Pass
Band Edge Compliance	FCC 15.407 (a) FCC 15.209 FCC 15.205	Pass
Power Line Conducted Emission	FCC 15.207	Pass
Antenna requirement	FCC 15.203	Pass
Dynamic Frequency Selection	FCC 15.407 (h)	Pass

2. General test information

2.1. Description of EUT

EUT* Name	:	STUDIO MONITOR
Model Number	:	4305P
EUT function description	:	Please reference user manual of this device
Power Supply	:	Input: 100-240V ~ 50/60Hz 1.5A
Radio Technology	:	IEEE 802.11a/n/ac
FCC Operation frequency	:	IEEE 802.11a: 5180MHz-5240MHz, 5260MHz-5320MHz, 5500MHz-5700MHz, 5745MHz-5825MHz IEEE 802.11n HT20: 5180MHz-5240MHz, 5260MHz-5320MHz, 5500MHz-5700MHz, 5745MHz-5825MHz IEEE 802.11n HT40: 5190MHz-5230MHz, 5270MHz-5310MHz, 5510MHz-5670MHz, 5755MHz-5755MHz IEEE 802.11ac HT20: 5180MHz-5240MHz, 5260MHz-5320MHz,5500MHz-5700MHz, 5745MHz-5825MHz IEEE 802.11ac HT40: 5190MHz-5230MHz, 5270MHz-5310MHz, 5510MHz-5670MHz, 5755MHz-5755MHz IEEE 802.11ac HT80: 5210MHz, 5290MHz, 5530MHz,5610MHz, 5775MHz
Modulation	:	IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20, HT40: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)
Transmitter rate	:	IEEE 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps IEEE 802.11n HT20: 14.4, 28.9, 43.3, 57.8, 86.7, 115.6, 130.0, 144.4 Mbps IEEE 802.11n HT40: 30, 60, 90, 120, 180, 240, 270, 300 Mbps IEEE 802.11ac HT20: 14.4, 28.8, 43.4, 57.8, 86.6, 115.6, 130, 144.4, 173.4 Mbps IEEE 802.11ac HT40: 30, 60, 90, 120, 180, 240, 270, 300, 360, 400 Mbps IEEE 802.11ac HT80: 65, 130, 195, 260, 390, 520, 585, 650, 780, 866.6 Mbps
Antenna Type	:	Antenna 1: FPC antenna, Maximum PK gain: 3.45 dBi Antenna 2: FPC antenna, Maximum PK gain: 3.42 dBi
Sample Type	:	Series production
Serial number	:	821121003-01 for conductive 821121003-01 for radiation

Note: EUT is the ab. of equipment under test.

Antenna information			
	Ant1 gain	Ant2 gain	MIMO
IEEE 802.11a	3.45	3.42	/
IEEE 802.11n HT20	3.45	3.42	6.45
IEEE 802.11n HT40	3.45	3.42	6.45
IEEE 802.11ac VHT20	3.45	3.42	6.45
IEEE 802.11ac VHT40	3.45	3.42	6.45
IEEE 802.11ac VHT80	3.45	3.42	6.45

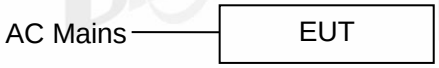
2.2. Accessories of EUT

Description of Accessories	Manufacturer	Model number	Description	Remark
LAN cable	Harman	N/A	N/A	Length: 3.00m, shielded, with two magnetic rings
Remote control	Harman	N/A	N/A	N/A
AC cable	Harman	N/A	N/A	Length: 1.80m,

2.3. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	EMC Compliance	SN
N/A	N/A	N/A	N/A	N/A

2.4. Block diagram of EUT configuration for test



Test software: Putty.exe
The test software was used to control EUT work in Continuous Tx mode, and select test channel, wireless mode as below table.

Tested mode, channel, and data rate information				
Mode	Setting Tx Power	data rate (Mpbs) (see Note)	Channel	Frequency (MHz)
IEEE 802.11a	/	6	Low: CH36	5180
	/	6	Middle: CH40	5200
	/	6	High: CH48	5240
	/	6	Low: CH52	5260
	/	6	Middle: CH56	5280
	/	6	High: CH64	5320
	/	6	Low: CH100	5500
	/	6	Middle: CH116	5580
	/	6	High: CH140	5700
	/	6	Low: CH149	5745
	/	6	Middle: CH157	5785
	/	6	High: CH165	5825
IEEE 802.11n HT20	/	MCS 0	Low: CH36	5180
	/	MCS 0	Middle: CH40	5200
	/	MCS 0	High: CH48	5240
	/	MCS 0	Low: CH52	5260
	/	MCS 0	Middle: CH56	5280
	/	MCS 0	High: CH64	5320
	/	MCS 0	Low: CH100	5500
	/	MCS 0	Middle: CH116	5580

	/	MCS 0	High: CH140	5700
	/	MCS 0	Low: CH149	5745
	/	MCS 0	Middle: CH157	5785
	/	MCS 0	High: CH165	5825
IEEE 802.11n HT40	/	MCS 0	Low: CH38	5190
	/	MCS 0	Middle: CH46	5230
	/	MCS 0	High: CH54	5270
	/	MCS 0	Low: CH62	5310
	/	MCS 0	Middle: CH102	5510
	/	MCS 0	High: CH110	5550
	/	MCS 0	Low: CH134	5670
	/	MCS 0	Middle: CH151	5755
	/	MCS 0	High: CH159	5795
IEEE 802.11ac HT20	/	MCS 0	Low: CH36	5180
	/	MCS 0	Middle: CH40	5200
	/	MCS 0	High: CH48	5240
	/	MCS 0	Low: CH52	5260
	/	MCS 0	Middle: CH56	5280
	/	MCS 0	High: CH64	5320
	/	MCS 0	Low: CH100	5500
	/	MCS 0	Middle: CH116	5580
	/	MCS 0	High: CH140	5700
	/	MCS 0	Low: CH149	5745
	/	MCS 0	Middle: CH157	5785
	/	MCS 0	High: CH165	5825
IEEE 802.11ac HT40	/	MCS 0	Low: CH38	5190
	/	MCS 0	Middle: CH46	5230
	/	MCS 0	High: CH54	5270
	/	MCS 0	Low: CH62	5310
	/	MCS 0	Middle: CH102	5510
	/	MCS 0	High: CH110	5550
	/	MCS 0	Low: CH134	5670
	/	MCS 0	Middle: CH151	5755
	/	MCS 0	High: CH159	5795
IEEE 802.11ac HT80	/	MCS 0	CH42	5210
	/	MCS 0	CH58	5290
	/	MCS 0	CH106	5530
	/	MCS 0	CH122	5610
	/	MCS 0	CH155	5775
Note: According exploratory test, EUT will have maximum output power in those data rate, so those data rate were used for all test.				

2.5. Deviations of test standard

No Deviation.

2.6. Test environment conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature range:	21-25℃
Humidity range:	40-75%
Pressure range:	86-106 kPa

2.7. Test laboratory

Dongguan Dongdian Testing Service Co., Ltd.

Add.: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808

Tel.: +86-0769-38826678, http://www.dgddt.com, Email: ddt@dgddt.com

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

VCCI facility registration number: C-20087, T-20088, R-20123, G-20118

2.8. Measurement uncertainty

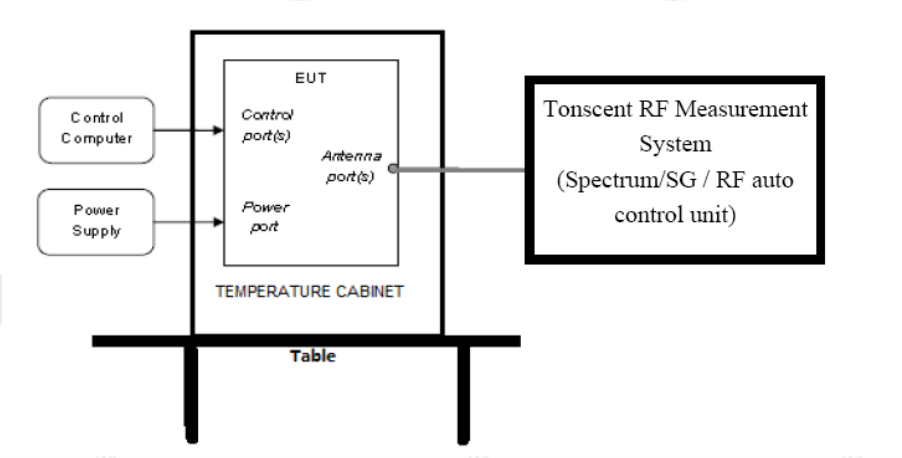
Test Item	Uncertainty
Bandwidth	1.1%
Peak Output Power (Conducted) (Spectrum analyzer)	0.86 dB (10 MHz ≤ f < 3.6 GHz);
	1.38 dB (3.6 GHz ≤ f < 8 GHz)
Peak Output Power (Conducted) (Power Sensor)	0.74 dB
Power Spectral Density	0.74 dB (10 MHz ≤ f < 3.6 GHz);
	1.38 dB (3.6 GHz ≤ f < 8 GHz)
Frequencies Stability	6.7×10^{-8} (Antenna couple method)
	5.5×10^{-8} (Conducted method)
Conducted spurious emissions	0.86 dB (10 MHz ≤ f < 3.6GHz);
	1.40 dB (3.6 GHz ≤ f < 8 GHz)
	1.66 dB (8 GHz≤ f < 22 GHz)
Uncertainty for radio frequency (RBW<20kHz)	3×10^{-8}
Temperature	0.4℃
Humidity	2%
Uncertainty for Radiation Emission test (30MHz-1GHz)	4.70 dB (Antenna Polarize: V)
	4.84 dB (Antenna Polarize: H)
Uncertainty for Radiation Emission test (1GHz-40GHz)	4.10 dB (1-6 GHz)
	4.40 dB (6 GHz-18 GHz)
	3.54 dB (18 GHz-26 GHz)
	4.30 dB (26 GHz-40 GHz)
Uncertainty for Power line conduction emission test	3.32 dB (150 kHz-30 MHz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

3. Equipment used during test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☒RF Connected Test (Tonscend RF Measurement System 4#)					
MXA Signal Analyzer	Agilent	N9020A	MY49100362	Sep. 02, 2021	1 Year
Wideband Radio Communication tester	R&S	CMW500	120259	Jun. 01, 2021	1 Year
MXG Vector Signal Generator	Agilent	N5182B	MY59100192	Jun. 01, 2021	1 Year
Vector Signal Generator	Agilent	E8267D	US49060192	Sep. 18, 2021	1 Year
RF Control Unit	Tonsend	JS0806-2	21I8060485	Oct. 18, 2021	1 Year
Temp&Humi Programmable	ZHIXIANG	ZXGDJS-150L	ZX170110-A	Jun. 01, 2021	1 Year
Test Software	JS Tonscend	JS1120-3	Ver.2.6.88.0330	N/A	N/A
☒Radiation 3#chamber					
EMI Test Receiver	R&S	ESU	100472	Jun. 01, 2021	1 Year
Spectrum analyzer	Agilent	E4447A	MY50180031	Jun. 01, 2021	1 Year
Active Loop antenna	Schwarzbeck	FMZB-1519	1519-038	Sep. 19, 2021	1 Year
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	01429	Aug. 07, 2021	1 Year
Double Ridged Horn Antenna	Schwarzbeck	BBHA9120	02108	Jul. 17, 2021	1 Year
Broad Band Horn Antenna	Schwarzbeck	BBHA 9170	790	May 08, 2021	1 Year
Pre-amplifier	COM-POWER	PAM-118A	18040084	Sep. 02, 2021	1 Year
Pre-amplifier	COM-POWER	PAM-840A	461369	Mar. 15, 2021	1 Year
Test software	Audix	E3	V 6.1.1.1	N/A	N/A
☒Power Line Conducted Emissions Test 1#					
Test Receiver	R&S	ESCI	100551	Sep. 02, 2021	1 Year
LISN 1	R&S	ENV216	101109	Sep. 02, 2021	1 Year
LISN 2	R&S	ESH2-Z5	100309	Sep. 02, 2021	1 Year
Pulse Limiter	R&S	ESH3-Z2	101242	Sep. 02, 2021	1 Year
CE Cable 1	HUBSER	N/A	W10.01	Sep. 02, 2021	1 Year
LISN 3	SCHWARZBECK	NSLK 8163	00017	Sep. 02, 2021	1 Year
Test software	Audix	E3	V 6.11111b	N/A	N/A

4. 26dB Bandwidth, 6dB Bandwidth and 99% Bandwidth

4.1. Block diagram of test setup



4.2. Limits

FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
Bandwidth	26 dB Bandwidth	5150-5250
	26 dB Bandwidth	5250-5350
	26 dB Bandwidth	5470-5725
	Minimum 500kHz 6dB Bandwidth	5725-5850

4.3. Test Procedure

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	For 6 dB Bandwidth: RBW=100 kHz For 26 dB Bandwidth: approximately 1% of the emission bandwidth.
VBW	For 6 dB Bandwidth: VBW=300 kHz For 26 dB Bandwidth: >3 RBW
Trace	Max hold
Sweep	Auto couple

(2) Allow the trace to stabilize, 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 26 dB and 6 dB relative to the maximum level measured in the fundamental emission.

4.4. Test Result

Test Mode	Antenna	Channel	OCB [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11A	Ant1	5180	16.642	5171.689	5188.331	---	Pass
	Ant2	5180	16.650	5171.751	5188.401	---	Pass
	Ant1	5200	16.729	5191.650	5208.379	---	Pass
	Ant2	5200	16.634	5191.665	5208.299	---	Pass
	Ant1	5240	16.660	5231.650	5248.310	---	Pass
	Ant2	5240	16.649	5231.724	5248.373	---	Pass
	Ant1	5260	16.881	5251.626	5268.507	---	Pass
	Ant2	5260	16.698	5251.651	5268.349	---	Pass
	Ant1	5280	16.697	5271.655	5288.352	---	Pass
	Ant2	5280	16.720	5271.628	5288.348	---	Pass
	Ant1	5320	16.718	5311.615	5328.333	---	Pass
	Ant2	5320	16.698	5311.645	5328.343	---	Pass
	Ant1	5500	16.772	5491.603	5508.375	---	Pass
	Ant2	5500	16.667	5491.626	5508.293	---	Pass
	Ant1	5580	16.720	5571.579	5588.299	---	Pass
	Ant2	5580	16.704	5571.614	5588.318	---	Pass
	Ant1	5700	16.890	5691.521	5708.411	---	Pass
	Ant2	5700	16.633	5691.630	5708.263	---	Pass
	Ant1	5745	16.677	5736.635	5753.312	---	Pass
	Ant2	5745	16.837	5736.579	5753.416	---	Pass
	Ant1	5785	16.787	5776.685	5793.472	---	Pass
	Ant2	5785	16.688	5776.648	5793.336	---	Pass
	Ant1	5825	16.769	5816.594	5833.363	---	Pass
	Ant2	5825	16.763	5816.676	5833.439	---	Pass
11N20MIMO	Ant1	5180	17.653	5171.243	5188.896	---	Pass
	Ant2	5180	17.703	5171.221	5188.924	---	Pass
	Ant1	5200	17.912	5191.028	5208.940	---	Pass
	Ant2	5200	17.958	5191.047	5209.005	---	Pass
	Ant1	5240	17.860	5231.099	5248.959	---	Pass
	Ant2	5240	17.826	5231.061	5248.887	---	Pass
	Ant1	5260	17.892	5250.997	5268.889	---	Pass
	Ant2	5260	17.875	5251.033	5268.908	---	Pass
	Ant1	5280	17.836	5271.103	5288.939	---	Pass
	Ant2	5280	17.838	5271.081	5288.919	---	Pass
	Ant1	5320	17.874	5310.999	5328.873	---	Pass
	Ant2	5320	17.896	5311.067	5328.963	---	Pass
	Ant1	5500	17.878	5491.017	5508.895	---	Pass
	Ant2	5500	17.947	5491.016	5508.963	---	Pass
	Ant1	5580	17.826	5571.005	5588.831	---	Pass
	Ant2	5580	17.910	5570.990	5588.900	---	Pass
	Ant1	5700	17.954	5690.983	5708.937	---	Pass
	Ant2	5700	17.973	5691.051	5709.024	---	Pass
	Ant1	5745	17.967	5736.024	5753.991	---	Pass
	Ant2	5745	17.820	5736.089	5753.909	---	Pass
	Ant1	5785	17.814	5776.109	5793.923	---	Pass
	Ant2	5785	17.825	5776.081	5793.906	---	Pass
	Ant1	5825	17.796	5816.119	5833.915	---	Pass

	Ant2	5825	17.979	5816.031	5834.010	---	Pass
11N40MIMO	Ant1	5190	36.637	5171.738	5208.375	---	Pass
	Ant2	5190	36.801	5171.653	5208.454	---	Pass
	Ant1	5230	36.945	5211.685	5248.630	---	Pass
	Ant2	5230	36.843	5211.689	5248.532	---	Pass
	Ant1	5270	36.830	5251.678	5288.508	---	Pass
	Ant2	5270	36.846	5251.631	5288.477	---	Pass
	Ant1	5310	36.760	5291.707	5328.467	---	Pass
	Ant2	5310	36.880	5291.594	5328.474	---	Pass
	Ant1	5510	36.744	5491.792	5528.536	---	Pass
	Ant2	5510	36.797	5491.628	5528.425	---	Pass
	Ant1	5550	36.830	5531.647	5568.477	---	Pass
	Ant2	5550	36.814	5531.664	5568.478	---	Pass
	Ant1	5670	36.901	5651.596	5688.497	---	Pass
	Ant2	5670	36.750	5651.651	5688.401	---	Pass
	Ant1	5755	37.036	5736.541	5773.577	---	Pass
	Ant2	5755	36.869	5736.551	5773.420	---	Pass
	Ant1	5795	36.897	5776.519	5813.416	---	Pass
	Ant2	5795	36.576	5776.727	5813.303	---	Pass
11AC20MIMO	Ant1	5180	17.898	5171.044	5188.942	---	Pass
	Ant2	5180	17.882	5171.029	5188.911	---	Pass
	Ant1	5200	17.941	5191.035	5208.976	---	Pass
	Ant2	5200	17.890	5191.025	5208.915	---	Pass
	Ant1	5240	17.934	5231.032	5248.966	---	Pass
	Ant2	5240	18.043	5230.881	5248.924	---	Pass
	Ant1	5260	17.833	5251.144	5268.977	---	Pass
	Ant2	5260	17.891	5251.025	5268.916	---	Pass
	Ant1	5280	17.896	5271.015	5288.911	---	Pass
	Ant2	5280	17.928	5271.006	5288.934	---	Pass
	Ant1	5320	18.104	5310.925	5329.029	---	Pass
	Ant2	5320	18.042	5310.950	5328.992	---	Pass
	Ant1	5500	17.888	5491.025	5508.913	---	Pass
	Ant2	5500	17.865	5491.065	5508.930	---	Pass
	Ant1	5580	17.926	5571.066	5588.992	---	Pass
	Ant2	5580	17.722	5571.118	5588.840	---	Pass
	Ant1	5700	17.888	5691.003	5708.891	---	Pass
	Ant2	5700	17.944	5690.984	5708.928	---	Pass
	Ant1	5745	17.907	5736.020	5753.927	---	Pass
	Ant2	5745	17.925	5736.046	5753.971	---	Pass
	Ant1	5785	17.817	5775.987	5793.804	---	Pass
	Ant2	5785	17.830	5776.077	5793.907	---	Pass
	Ant1	5825	18.041	5815.991	5834.032	---	Pass
	Ant2	5825	18.020	5815.990	5834.010	---	Pass
11AC40MIMO	Ant1	5190	36.843	5171.565	5208.408	---	Pass
	Ant2	5190	36.725	5171.634	5208.359	---	Pass
	Ant1	5230	36.780	5211.684	5248.464	---	Pass
	Ant2	5230	36.729	5211.663	5248.392	---	Pass
	Ant1	5270	36.808	5251.566	5288.374	---	Pass
	Ant2	5270	36.888	5251.627	5288.515	---	Pass
	Ant1	5310	36.809	5291.737	5328.546	---	Pass
	Ant2	5310	36.895	5291.637	5328.532	---	Pass

	Ant1	5510	37.025	5491.605	5528.630	---	Pass
	Ant2	5510	36.733	5491.693	5528.426	---	Pass
	Ant1	5550	36.879	5531.597	5568.476	---	Pass
	Ant2	5550	36.706	5531.681	5568.387	---	Pass
	Ant1	5670	36.982	5651.464	5688.446	---	Pass
	Ant2	5670	36.874	5651.516	5688.390	---	Pass
	Ant1	5755	37.014	5736.362	5773.376	---	Pass
	Ant2	5755	36.856	5736.520	5773.376	---	Pass
	Ant1	5795	36.938	5776.549	5813.487	---	Pass
	Ant2	5795	36.816	5776.561	5813.377	---	Pass
11AC80MIMO	Ant1	5210	76.134	5172.116	5248.250	---	Pass
	Ant2	5210	76.466	5171.907	5248.373	---	Pass
	Ant1	5290	76.393	5251.942	5328.335	---	Pass
	Ant2	5290	76.462	5251.867	5328.329	---	Pass
	Ant1	5530	76.125	5492.099	5568.224	---	Pass
	Ant2	5530	76.104	5492.170	5568.274	---	Pass
	Ant1	5610	76.909	5571.683	5648.592	---	Pass
	Ant2	5610	76.744	5571.761	5648.505	---	Pass
	Ant1	5775	76.392	5736.967	5813.359	---	Pass
	Ant2	5775	76.645	5736.658	5813.303	---	Pass

Test Mode	Antenna	Channel	26db EBW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11A	Ant1	5180	21.360	5169.320	5190.680	---	Pass
	Ant2	5180	21.240	5169.360	5190.600	---	Pass
	Ant1	5200	21.360	5189.240	5210.600	---	Pass
	Ant2	5200	20.960	5189.520	5210.480	---	Pass
	Ant1	5240	21.320	5229.400	5250.720	---	Pass
	Ant2	5240	21.400	5229.240	5250.640	---	Pass
	Ant1	5260	21.120	5249.440	5270.560	---	Pass
	Ant2	5260	21.200	5249.400	5270.600	---	Pass
	Ant1	5280	21.240	5269.360	5290.600	---	Pass
	Ant2	5280	21.040	5269.560	5290.600	---	Pass
	Ant1	5320	21.120	5309.440	5330.560	---	Pass
	Ant2	5320	21.080	5309.400	5330.480	---	Pass
	Ant1	5500	21.400	5489.280	5510.680	---	Pass
	Ant2	5500	21.280	5489.400	5510.680	---	Pass
	Ant1	5580	21.440	5569.280	5590.720	---	Pass
	Ant2	5580	21.080	5569.480	5590.560	---	Pass
	Ant1	5700	21.320	5689.280	5710.600	---	Pass
	Ant2	5700	20.800	5689.600	5710.400	---	Pass
	Ant1	5745	21.200	5734.400	5755.600	---	Pass
	Ant2	5745	21.160	5734.320	5755.480	---	Pass
	Ant1	5785	21.280	5774.480	5795.760	---	Pass
	Ant2	5785	21.400	5774.280	5795.680	---	Pass
	Ant1	5825	21.200	5814.440	5835.640	---	Pass
	Ant2	5825	21.320	5814.440	5835.760	---	Pass
11N20MIMO	Ant1	5180	21.520	5169.320	5190.840	---	Pass
	Ant2	5180	21.280	5169.320	5190.600	---	Pass
	Ant1	5200	21.680	5189.200	5210.880	---	Pass
	Ant2	5200	21.440	5189.360	5210.800	---	Pass

	Ant1	5240	21.400	5229.400	5250.800	---	Pass
	Ant2	5240	21.320	5229.360	5250.680	---	Pass
	Ant1	5260	21.480	5249.320	5270.800	---	Pass
	Ant2	5260	21.480	5249.240	5270.720	---	Pass
	Ant1	5280	21.280	5269.280	5290.560	---	Pass
	Ant2	5280	21.480	5269.280	5290.760	---	Pass
	Ant1	5320	21.320	5309.400	5330.720	---	Pass
	Ant2	5320	21.480	5309.240	5330.720	---	Pass
	Ant1	5500	21.400	5489.320	5510.720	---	Pass
	Ant2	5500	21.480	5489.240	5510.720	---	Pass
	Ant1	5580	21.360	5569.280	5590.640	---	Pass
	Ant2	5580	21.480	5569.240	5590.720	---	Pass
	Ant1	5700	21.640	5689.160	5710.800	---	Pass
	Ant2	5700	21.480	5689.320	5710.800	---	Pass
	Ant1	5745	21.480	5734.320	5755.800	---	Pass
	Ant2	5745	21.520	5734.240	5755.760	---	Pass
	Ant1	5785	21.040	5774.440	5795.480	---	Pass
	Ant2	5785	21.440	5774.320	5795.760	---	Pass
	Ant1	5825	21.480	5814.200	5835.680	---	Pass
	Ant2	5825	21.560	5814.080	5835.640	---	Pass
11N40MIMO	Ant1	5190	39.840	5170.160	5210.000	---	Pass
	Ant2	5190	39.760	5170.000	5209.760	---	Pass
	Ant1	5230	40.000	5210.080	5250.080	---	Pass
	Ant2	5230	39.680	5210.080	5249.760	---	Pass
	Ant1	5270	39.680	5250.160	5289.840	---	Pass
	Ant2	5270	39.600	5250.160	5289.760	---	Pass
	Ant1	5310	40.160	5290.080	5330.240	---	Pass
	Ant2	5310	39.680	5290.160	5329.840	---	Pass
	Ant1	5510	40.000	5490.160	5530.160	---	Pass
	Ant2	5510	39.680	5490.160	5529.840	---	Pass
	Ant1	5550	39.920	5530.000	5569.920	---	Pass
	Ant2	5550	39.520	5530.240	5569.760	---	Pass
	Ant1	5670	39.760	5650.240	5690.000	---	Pass
	Ant2	5670	39.680	5650.240	5689.920	---	Pass
	Ant1	5755	39.840	5735.160	5775.000	---	Pass
	Ant2	5755	39.840	5735.080	5774.920	---	Pass
	Ant1	5795	39.840	5775.080	5814.920	---	Pass
	Ant2	5795	39.840	5775.080	5814.920	---	Pass
11AC20MIMO	Ant1	5180	21.520	5169.200	5190.720	---	Pass
	Ant2	5180	21.400	5169.280	5190.680	---	Pass
	Ant1	5200	21.520	5189.280	5210.800	---	Pass
	Ant2	5200	21.320	5189.280	5210.600	---	Pass
	Ant1	5240	21.320	5229.320	5250.640	---	Pass
	Ant2	5240	21.320	5229.280	5250.600	---	Pass
	Ant1	5260	21.520	5249.280	5270.800	---	Pass
	Ant2	5260	21.320	5249.280	5270.600	---	Pass
	Ant1	5280	21.240	5269.280	5290.520	---	Pass
	Ant2	5280	21.200	5269.320	5290.520	---	Pass
	Ant1	5320	21.480	5309.320	5330.800	---	Pass
	Ant2	5320	21.480	5309.240	5330.720	---	Pass
	Ant1	5500	21.520	5489.280	5510.800	---	Pass

	Ant2	5500	21.440	5489.280	5510.720	---	Pass
	Ant1	5580	21.520	5569.280	5590.800	---	Pass
	Ant2	5580	21.440	5569.240	5590.680	---	Pass
	Ant1	5700	21.280	5689.240	5710.520	---	Pass
	Ant2	5700	21.200	5689.320	5710.520	---	Pass
	Ant1	5745	21.520	5734.280	5755.800	---	Pass
	Ant2	5745	21.360	5734.240	5755.600	---	Pass
	Ant1	5785	21.400	5774.280	5795.680	---	Pass
	Ant2	5785	21.520	5774.240	5795.760	---	Pass
	Ant1	5825	21.400	5814.280	5835.680	---	Pass
	Ant2	5825	21.240	5814.360	5835.600	---	Pass
11AC40MIMO	Ant1	5190	40.480	5169.760	5210.240	---	Pass
	Ant2	5190	40.480	5169.680	5210.160	---	Pass
	Ant1	5230	40.240	5209.840	5250.080	---	Pass
	Ant2	5230	40.320	5209.840	5250.160	---	Pass
	Ant1	5270	40.400	5249.760	5290.160	---	Pass
	Ant2	5270	40.400	5249.760	5290.160	---	Pass
	Ant1	5310	40.400	5289.760	5330.160	---	Pass
	Ant2	5310	40.080	5289.920	5330.000	---	Pass
	Ant1	5510	40.480	5489.760	5530.240	---	Pass
	Ant2	5510	40.080	5490.000	5530.080	---	Pass
	Ant1	5550	40.480	5529.760	5570.240	---	Pass
	Ant2	5550	39.760	5530.080	5569.840	---	Pass
	Ant1	5670	40.320	5649.840	5690.160	---	Pass
	Ant2	5670	39.680	5650.080	5689.760	---	Pass
	Ant1	5755	40.480	5734.680	5775.160	---	Pass
	Ant2	5755	39.840	5734.920	5774.760	---	Pass
	Ant1	5795	40.400	5774.680	5815.080	---	Pass
	Ant2	5795	40.080	5774.920	5815.000	---	Pass
11AC80MIMO	Ant1	5210	80.640	5170.000	5250.640	---	Pass
	Ant2	5210	80.640	5169.680	5250.320	---	Pass
	Ant1	5290	80.480	5249.840	5330.320	---	Pass
	Ant2	5290	80.320	5250.000	5330.320	---	Pass
	Ant1	5530	80.640	5489.840	5570.480	---	Pass
	Ant2	5530	80.160	5490.160	5570.320	---	Pass
	Ant1	5610	80.640	5570.000	5650.640	---	Pass
	Ant2	5610	80.000	5570.160	5650.160	---	Pass
	Ant1	5775	81.280	5734.200	5815.480	---	Pass
	Ant2	5775	80.160	5735.000	5815.160	---	Pass

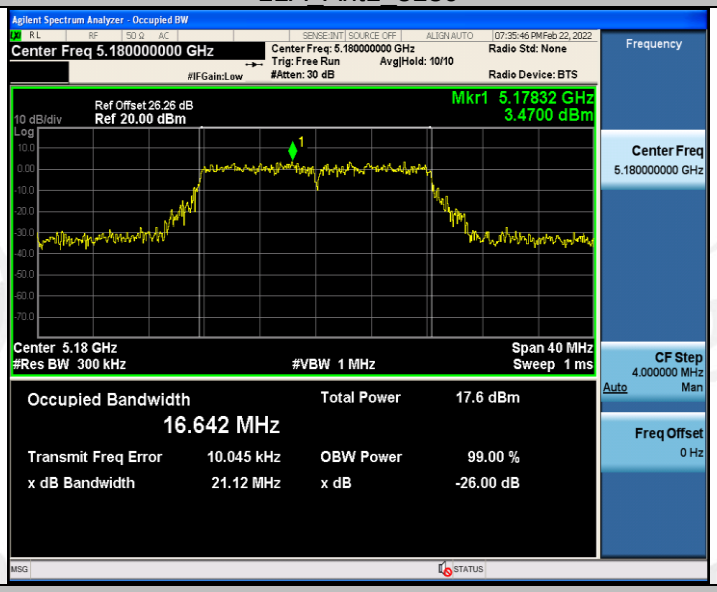
Test Mode	Antenna	Channel	6db EBW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11A	Ant1	5745	16.520	5736.760	5753.280	0.5	Pass
	Ant2	5745	16.440	5736.760	5753.200	0.5	Pass
	Ant1	5785	16.440	5776.760	5793.200	0.5	Pass
	Ant2	5785	16.440	5776.760	5793.200	0.5	Pass
	Ant1	5825	16.440	5816.760	5833.200	0.5	Pass
	Ant2	5825	16.440	5816.800	5833.240	0.5	Pass
11N20MIMO	Ant1	5745	17.600	5736.200	5753.800	0.5	Pass
	Ant2	5745	17.640	5736.160	5753.800	0.5	Pass
	Ant1	5785	17.720	5776.120	5793.840	0.5	Pass

	Ant2	5785	17.640	5776.160	5793.800	0.5	Pass
	Ant1	5825	17.680	5816.160	5833.840	0.5	Pass
	Ant2	5825	17.640	5816.160	5833.800	0.5	Pass
11N40MIMO	Ant1	5755	36.480	5736.760	5773.240	0.5	Pass
	Ant2	5755	36.480	5736.760	5773.240	0.5	Pass
	Ant1	5795	36.240	5776.840	5813.080	0.5	Pass
	Ant2	5795	36.400	5776.760	5813.160	0.5	Pass
11AC20MIMO	Ant1	5745	17.720	5736.120	5753.840	0.5	Pass
	Ant2	5745	17.680	5736.160	5753.840	0.5	Pass
	Ant1	5785	17.640	5776.160	5793.800	0.5	Pass
	Ant2	5785	17.680	5776.160	5793.840	0.5	Pass
	Ant1	5825	17.680	5816.160	5833.840	0.5	Pass
	Ant2	5825	17.680	5816.200	5833.880	0.5	Pass
11AC40MIMO	Ant1	5755	36.400	5736.760	5773.160	0.5	Pass
	Ant2	5755	36.320	5736.840	5773.160	0.5	Pass
	Ant1	5795	36.400	5776.760	5813.160	0.5	Pass
	Ant2	5795	36.000	5776.840	5812.840	0.5	Pass
11AC80MIMO	Ant1	5775	76.160	5736.760	5812.920	0.5	Pass
	Ant2	5775	76.480	5736.760	5813.240	0.5	Pass

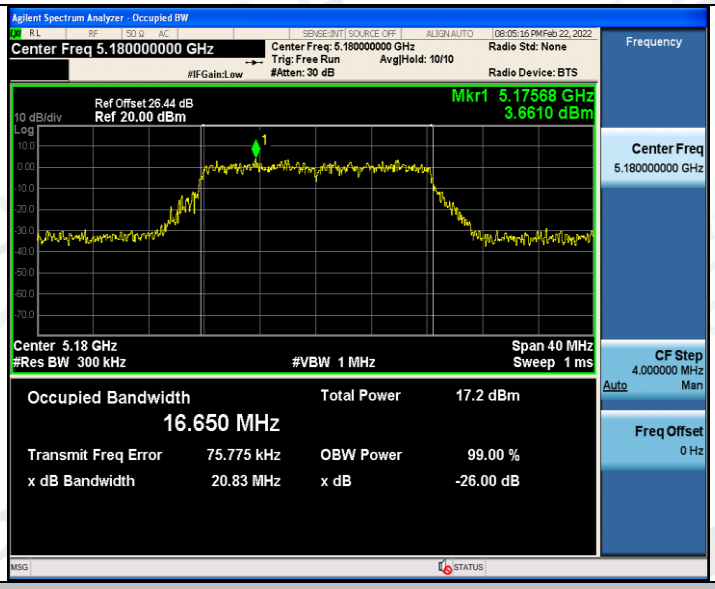
4.5. Original test data

99% OBW:

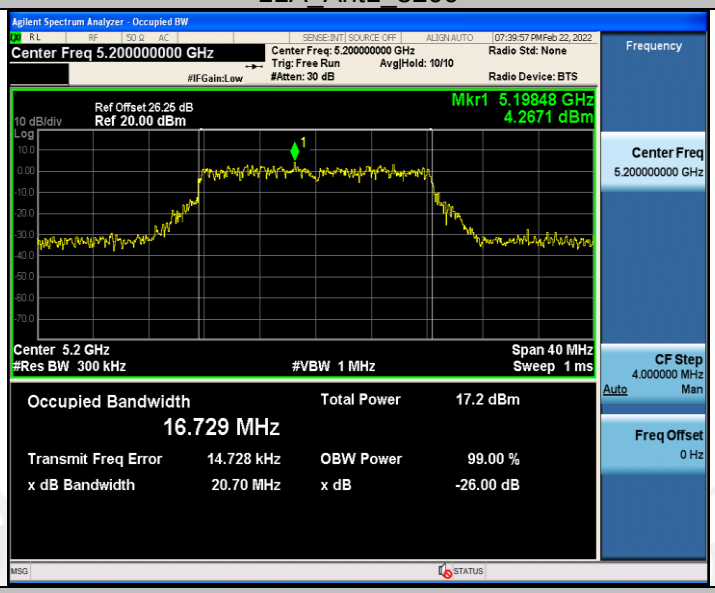
11A_Ant1_5180



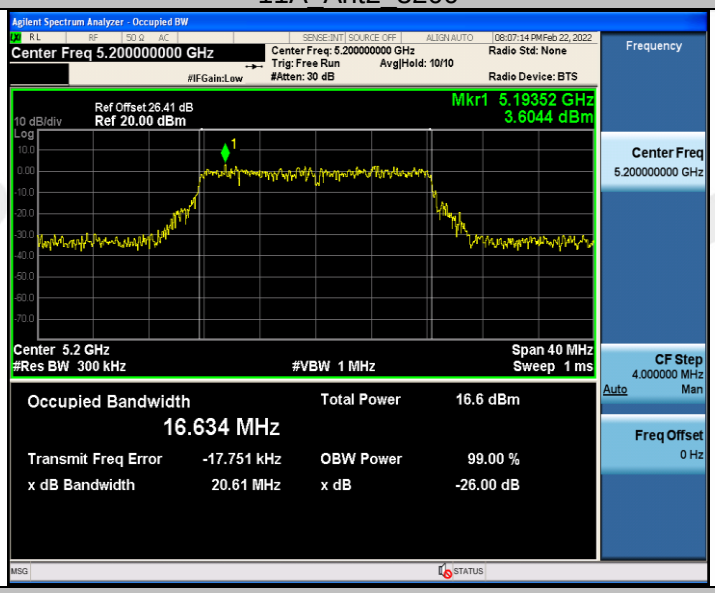
11A_Ant2_5180



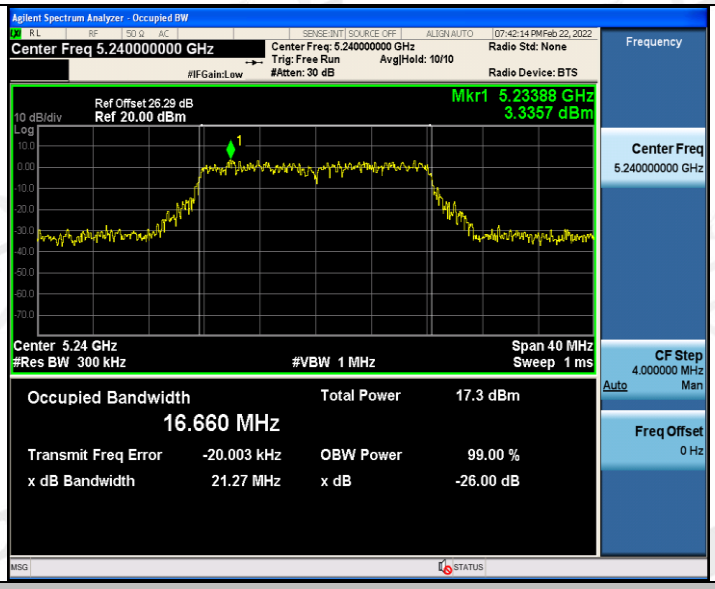
11A_Ant1_5200



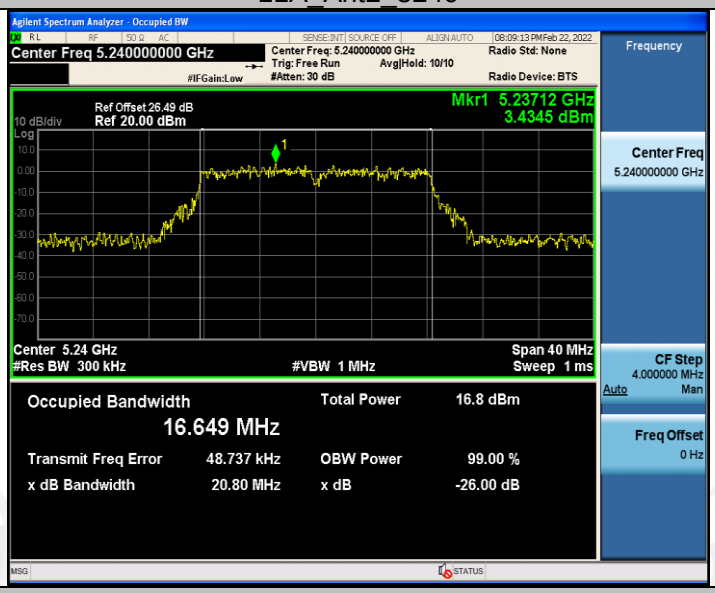
11A_Ant2_5200



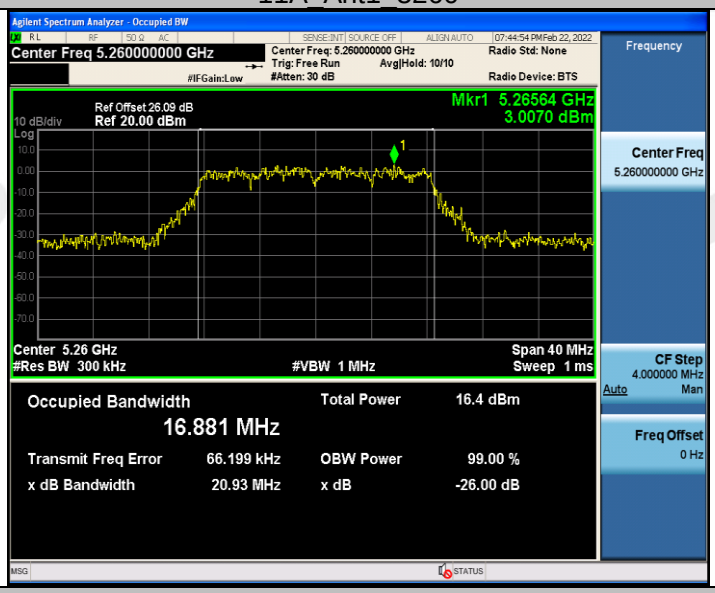
11A_Ant1_5240



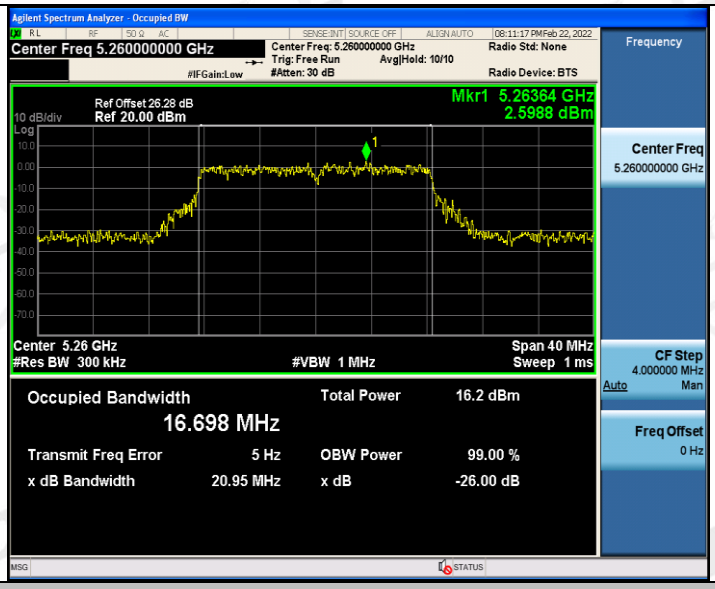
11A_Ant2_5240



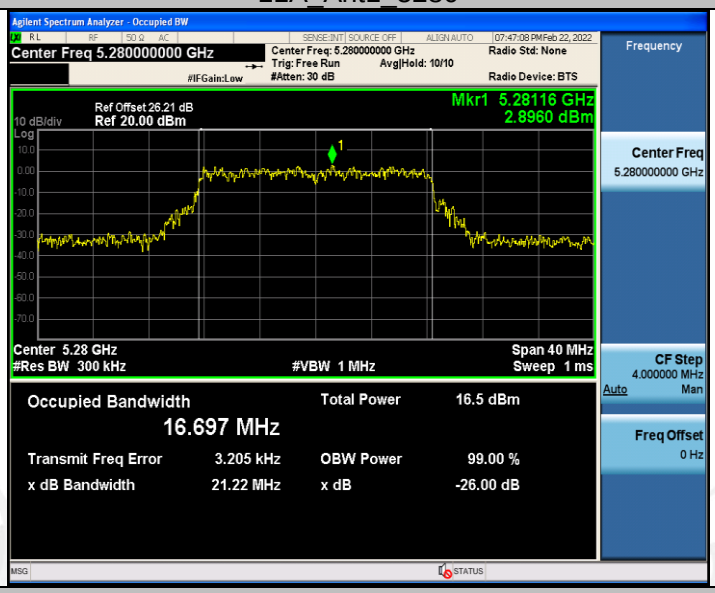
11A_Ant1_5260



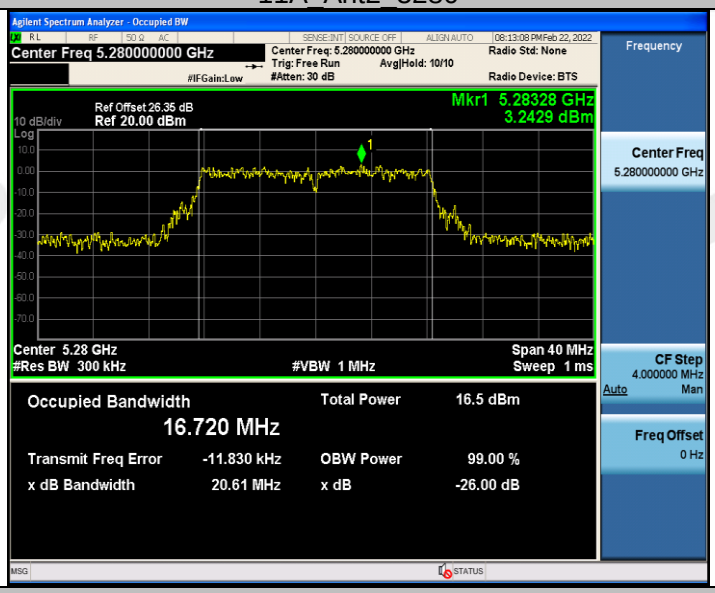
11A_Ant2_5260



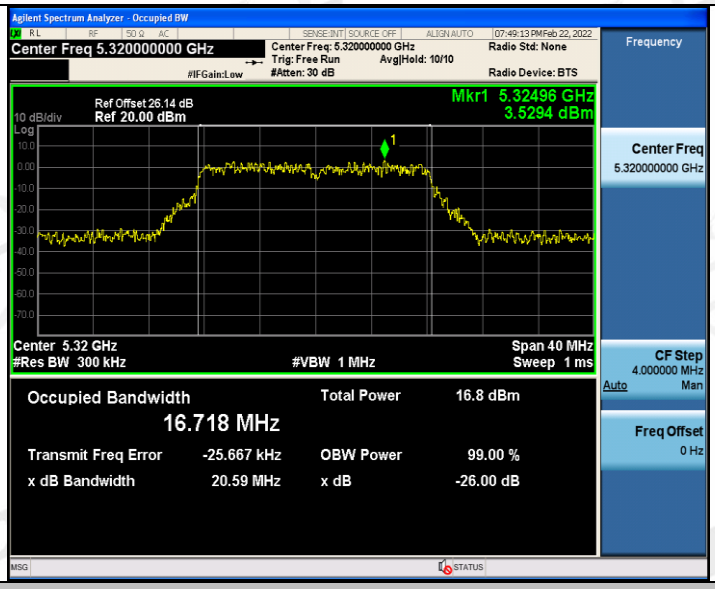
11A_Ant1_5280



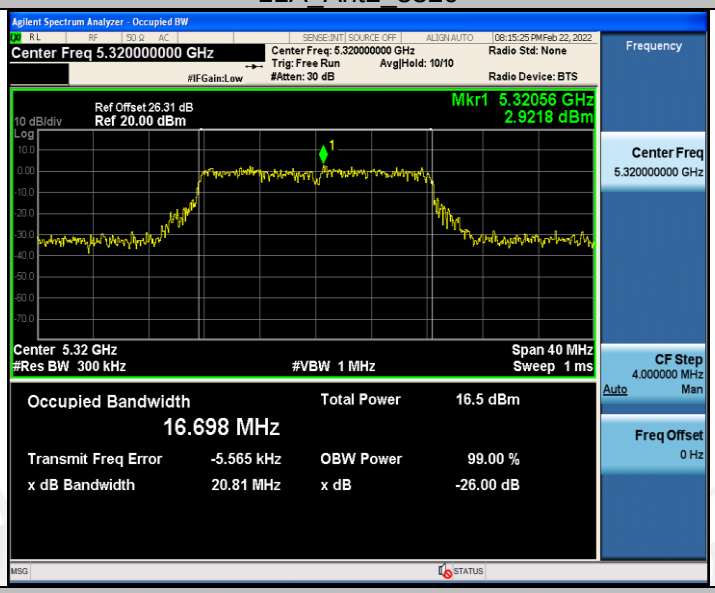
11A_Ant2_5280



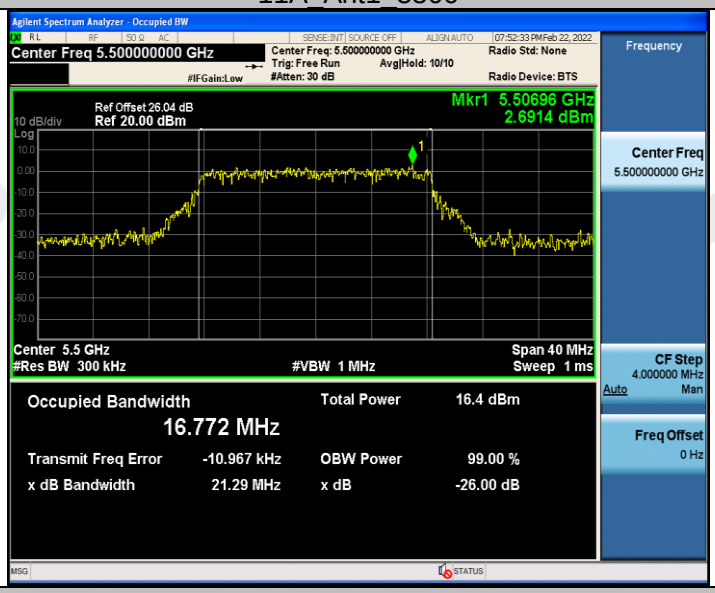
11A_Ant1_5320



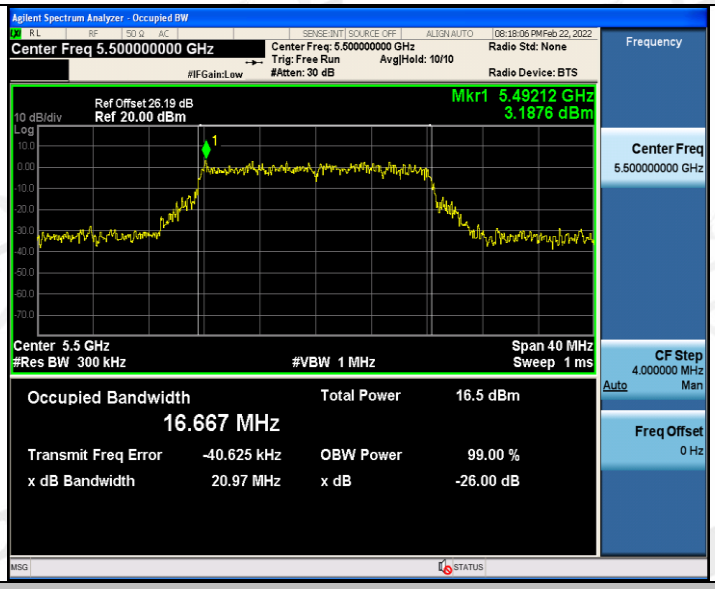
11A_Ant2_5320



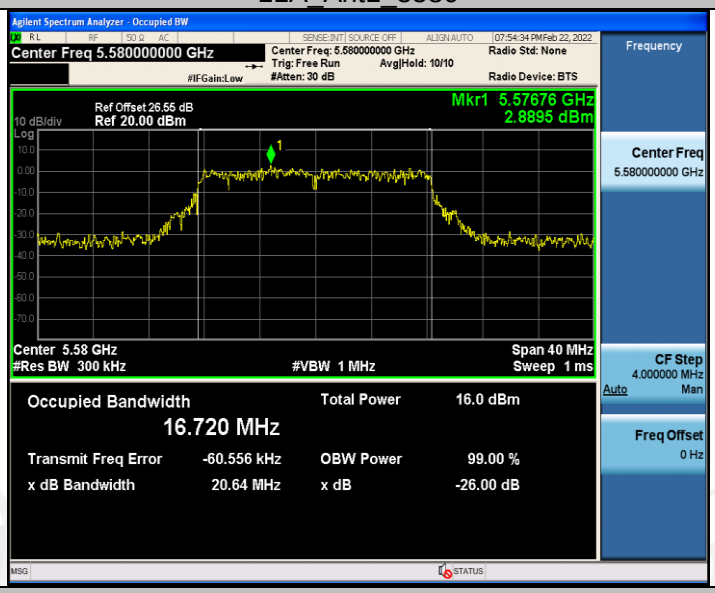
11A_Ant1_5500



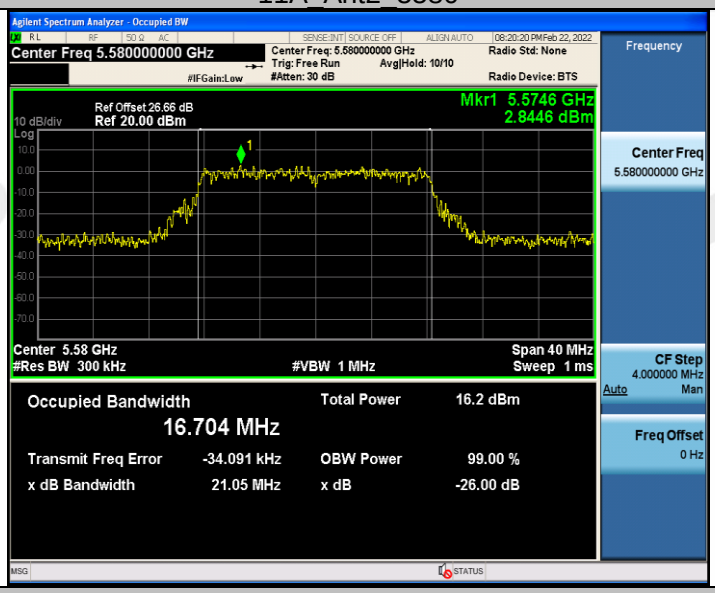
11A_Ant2_5500



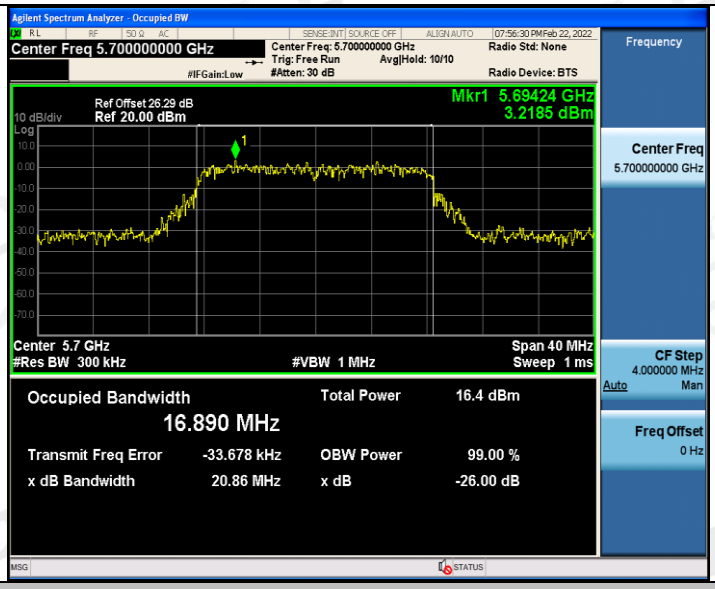
11A_Ant1_5580



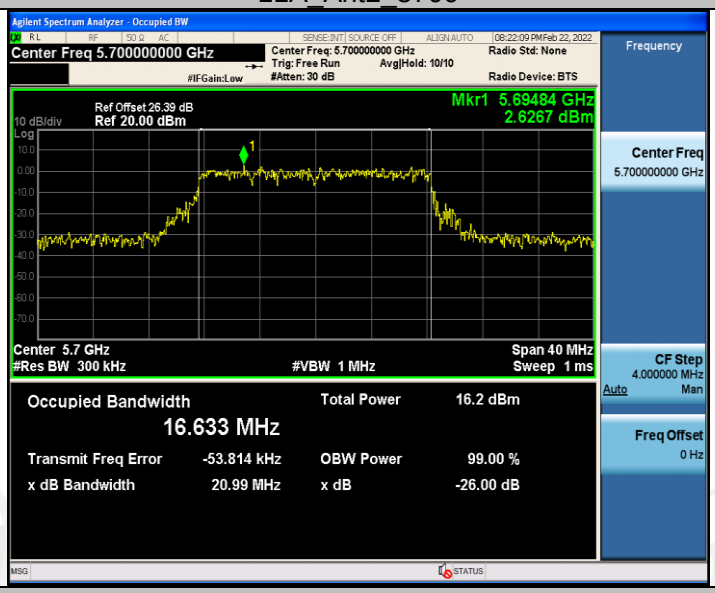
11A_Ant2_5580



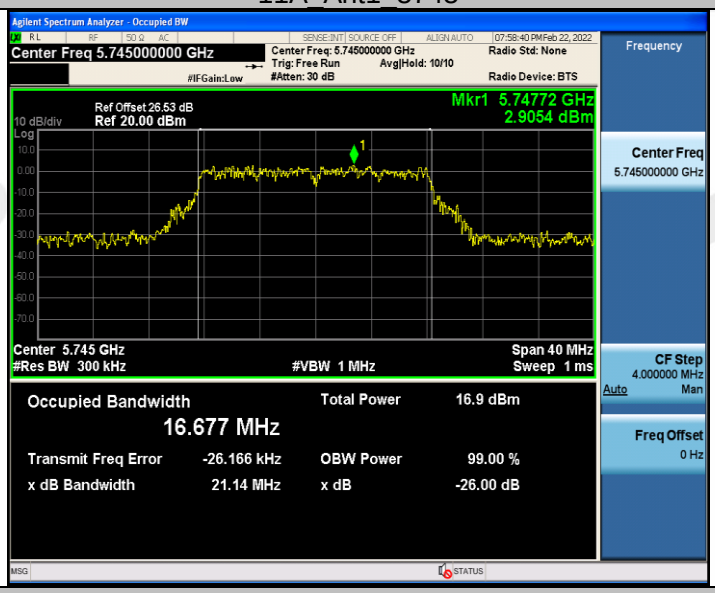
11A_Ant1_5700



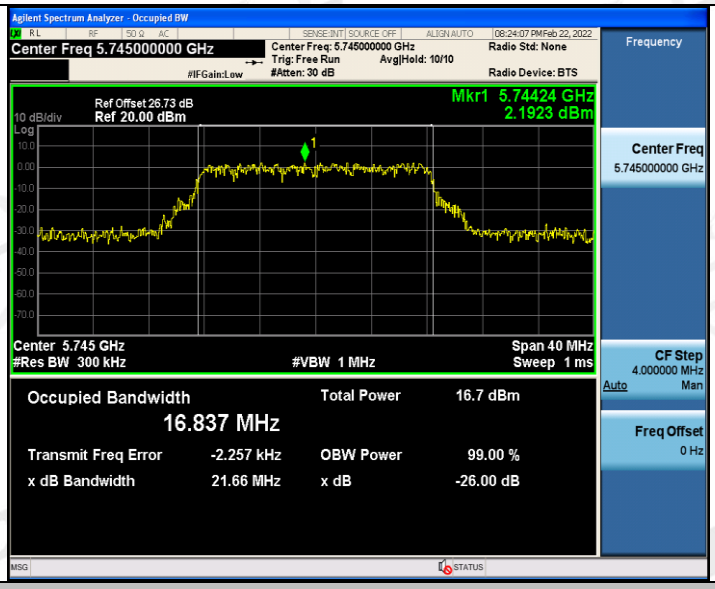
11A_Ant2_5700



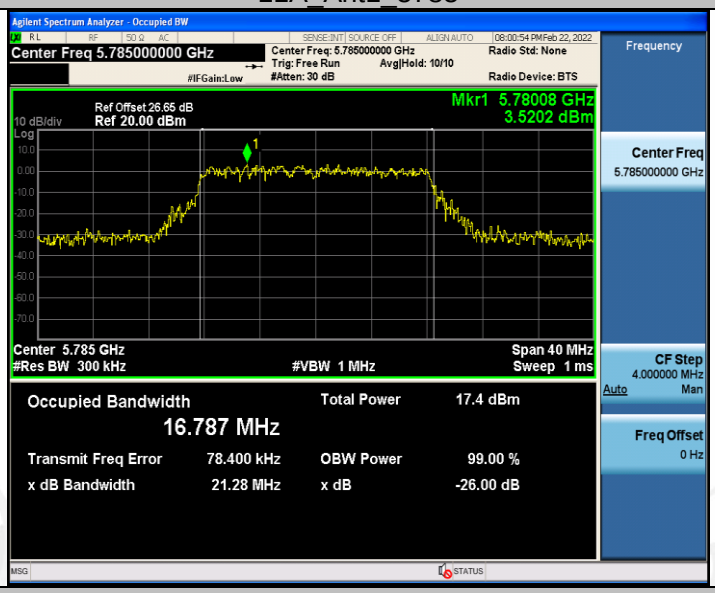
11A_Ant1_5745



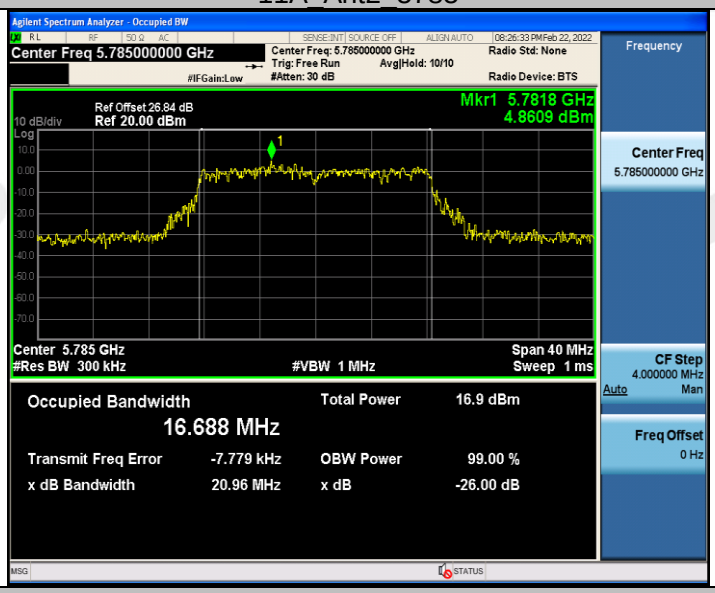
11A_Ant2_5745



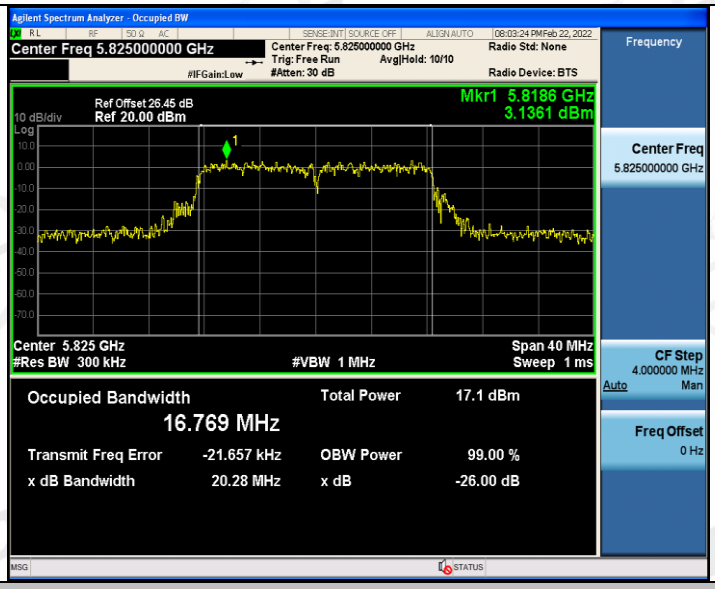
11A_Ant1_5785



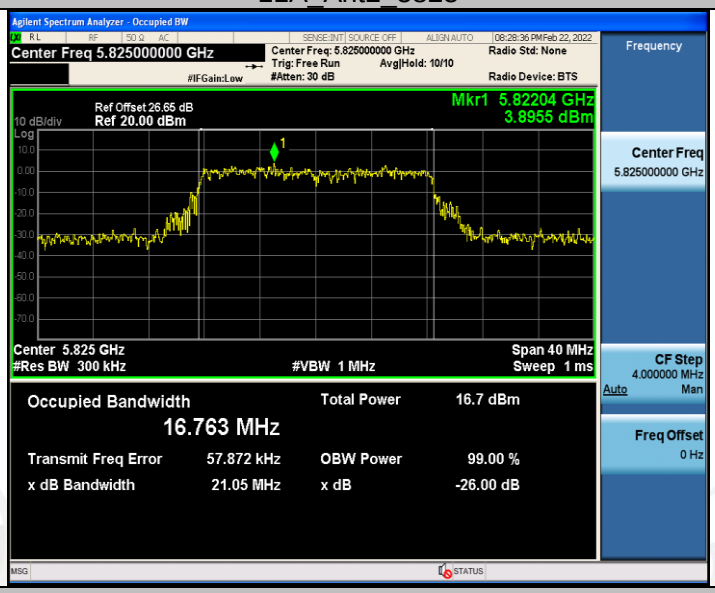
11A_Ant2_5785



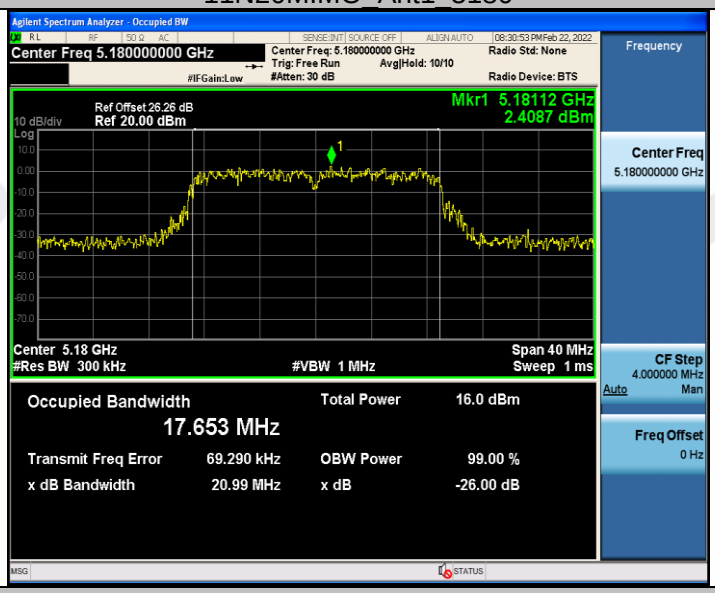
11A_Ant1_5825



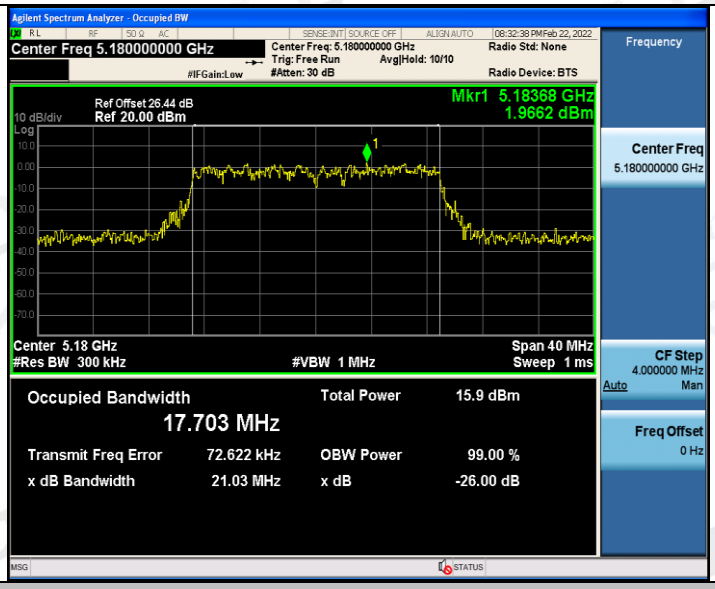
11A_Ant2_5825



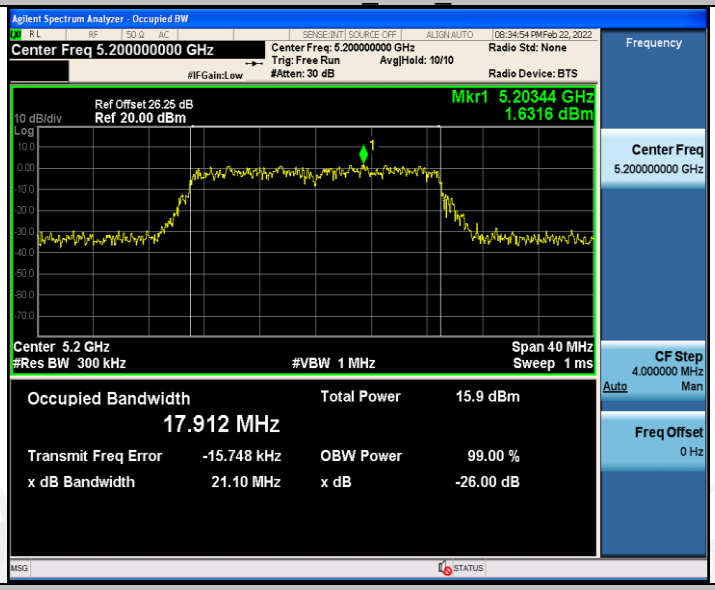
11N20MIMO_Ant1_5180



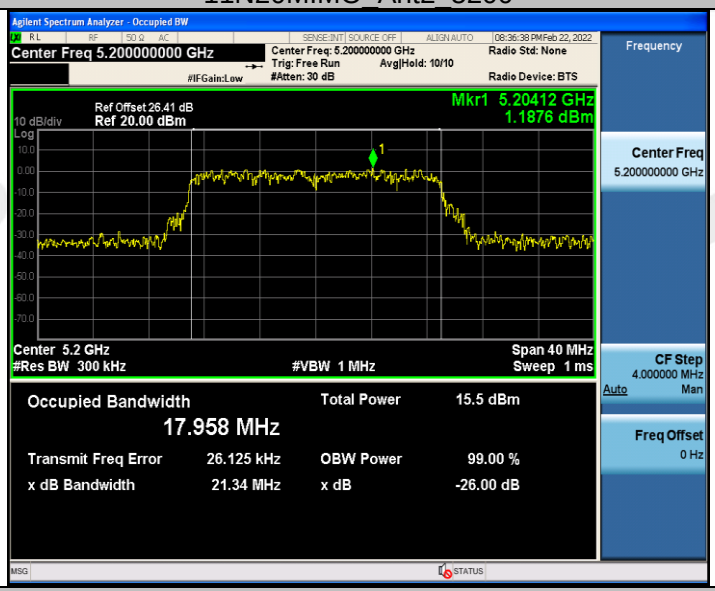
11N20MIMO_Ant2_5180



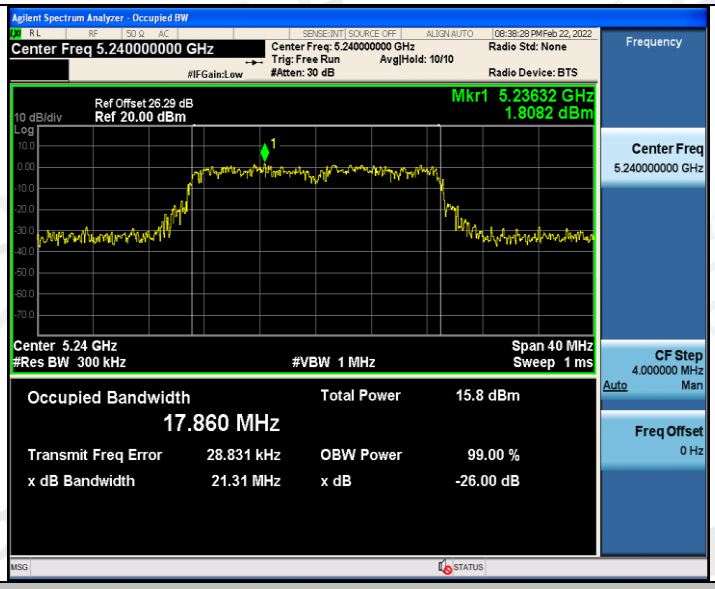
11N20MIMO_Ant1_5200



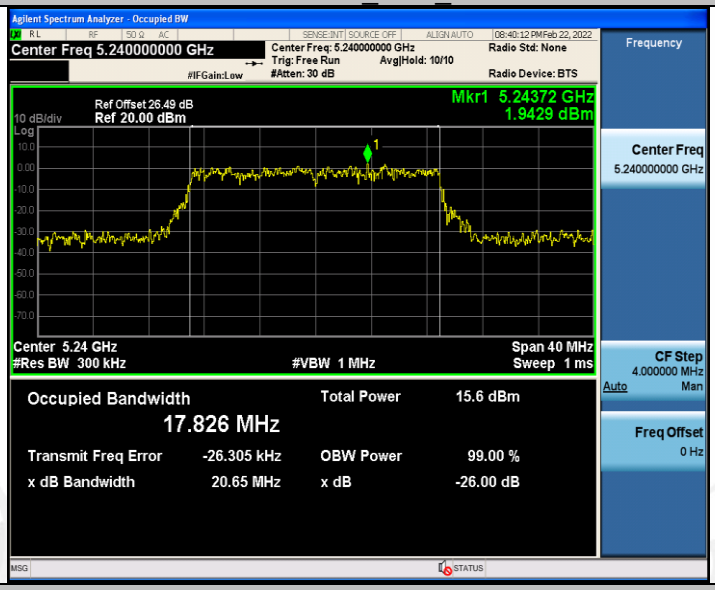
11N20MIMO_Ant2_5200



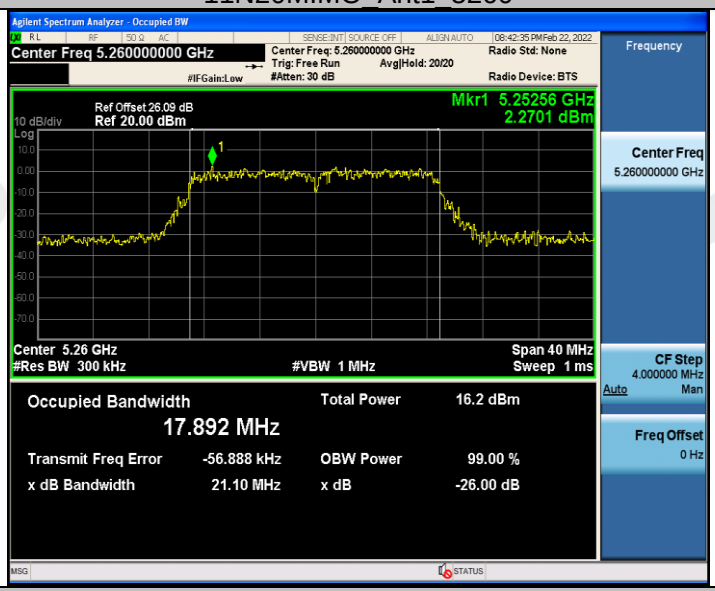
11N20MIMO_Ant1_5240



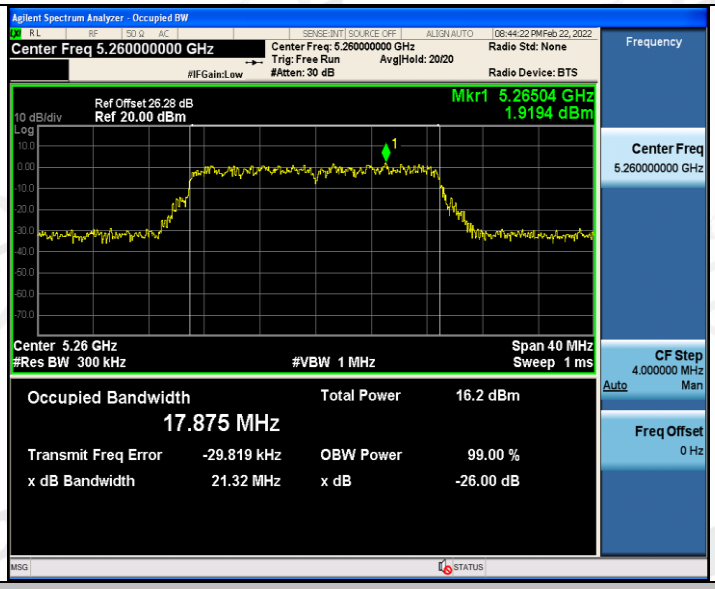
11N20MIMO_Ant2_5240



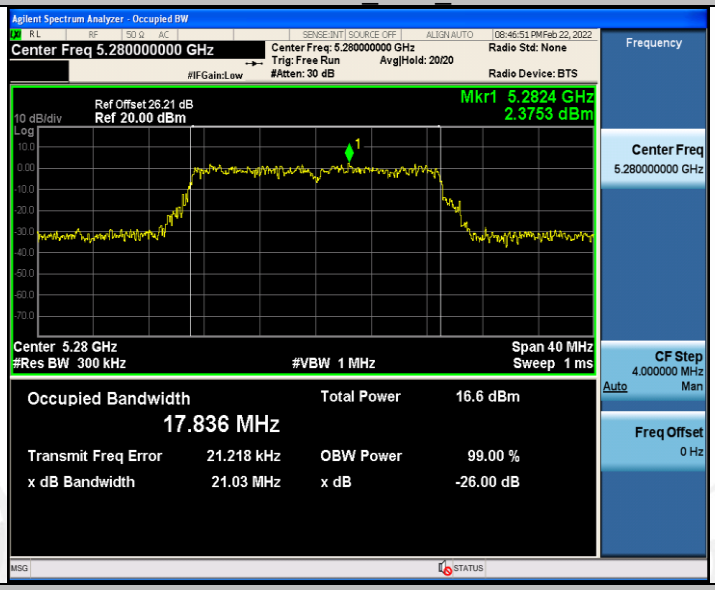
11N20MIMO_Ant1_5260



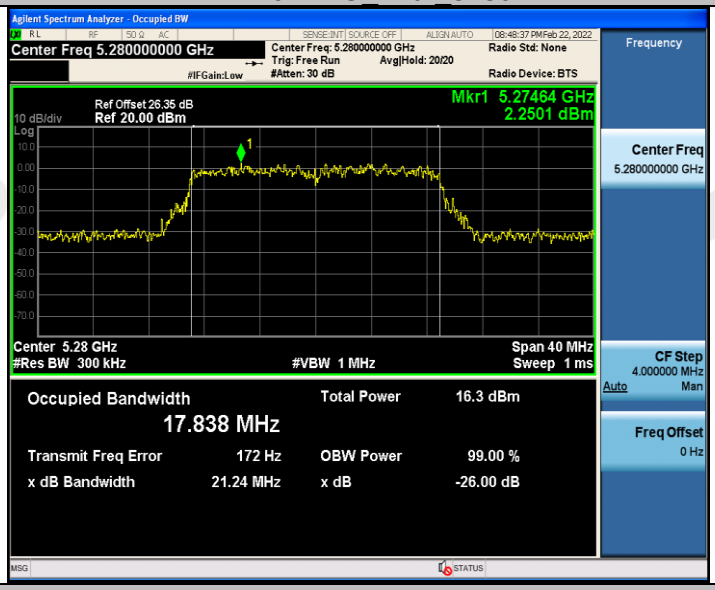
11N20MIMO_Ant2_5260



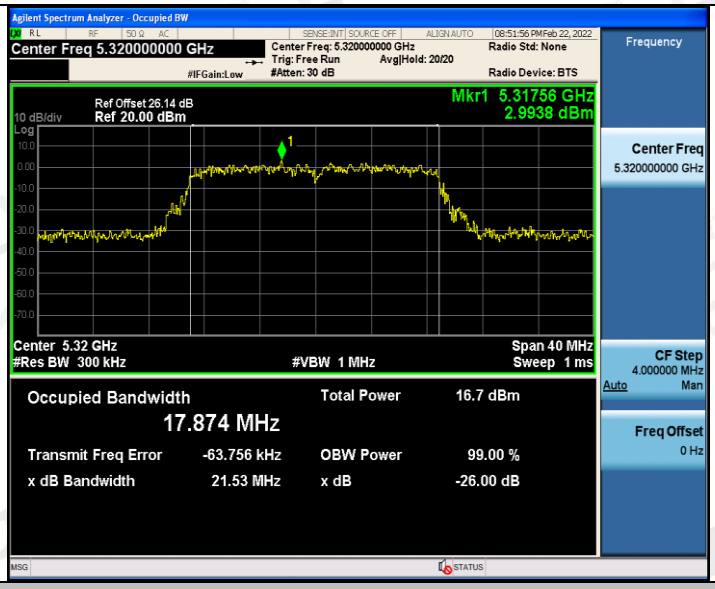
11N20MIMO_Ant1_5280



11N20MIMO_Ant2_5280



11N20MIMO_Ant1_5320



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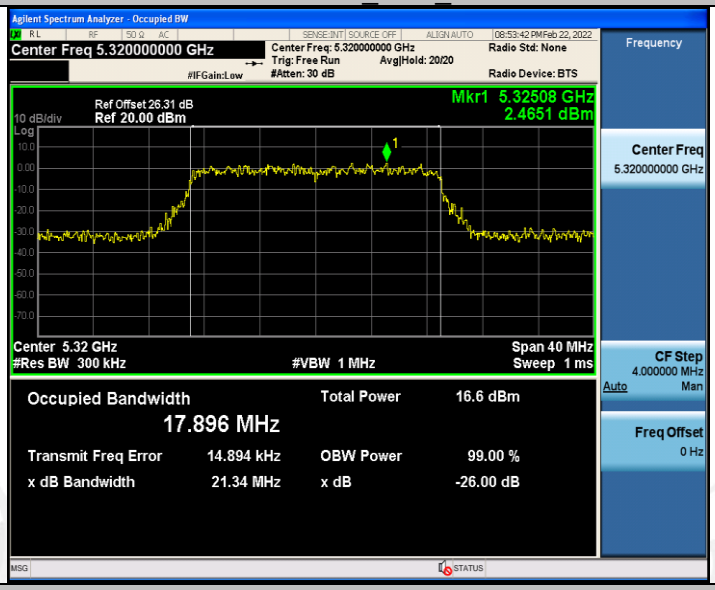
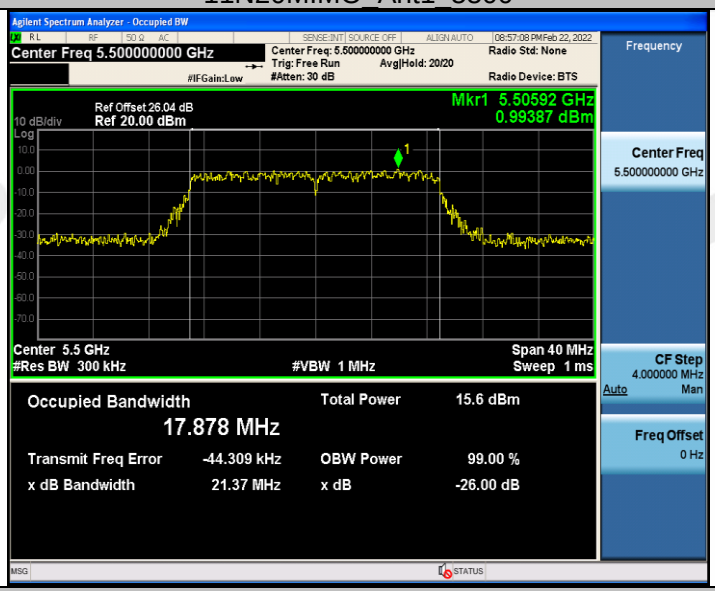
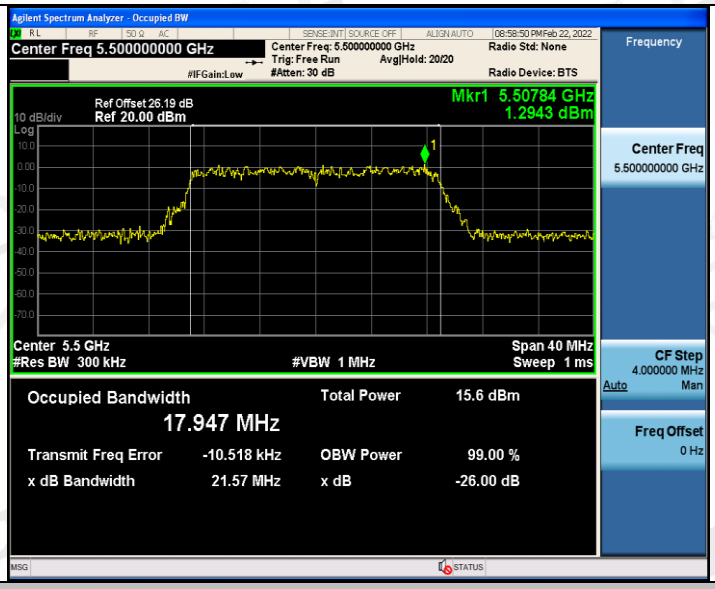


11N20MIMO_Ant1_5500



11N20MIMO_Ant2_5500



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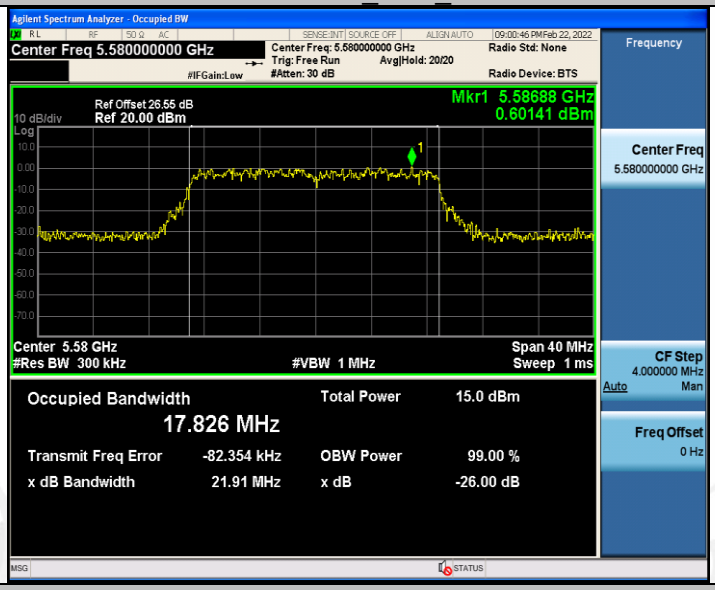

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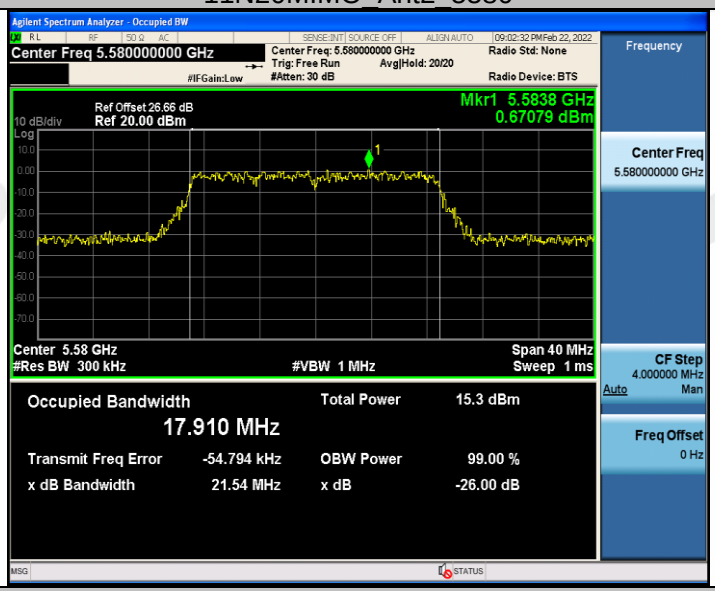
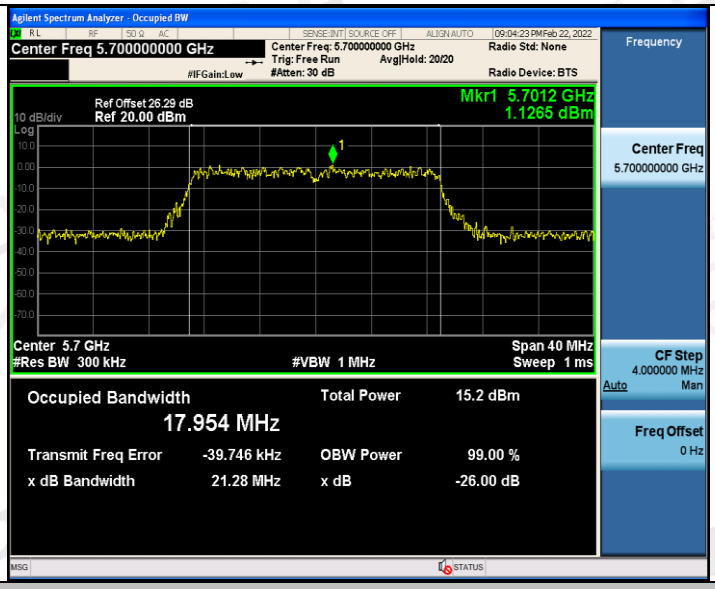
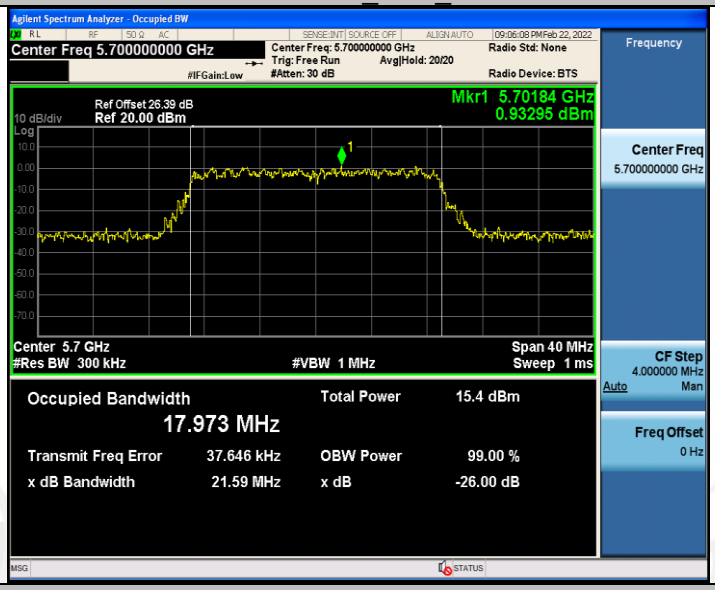


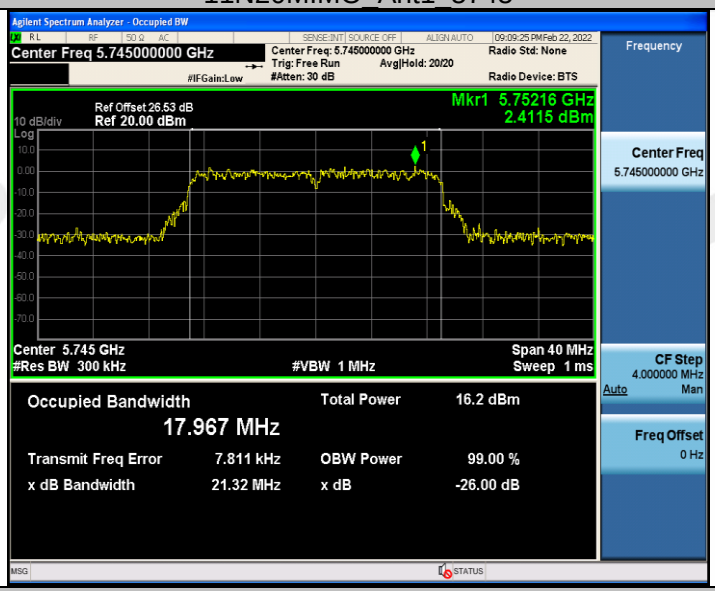
11N20MIMO_Ant1_5700



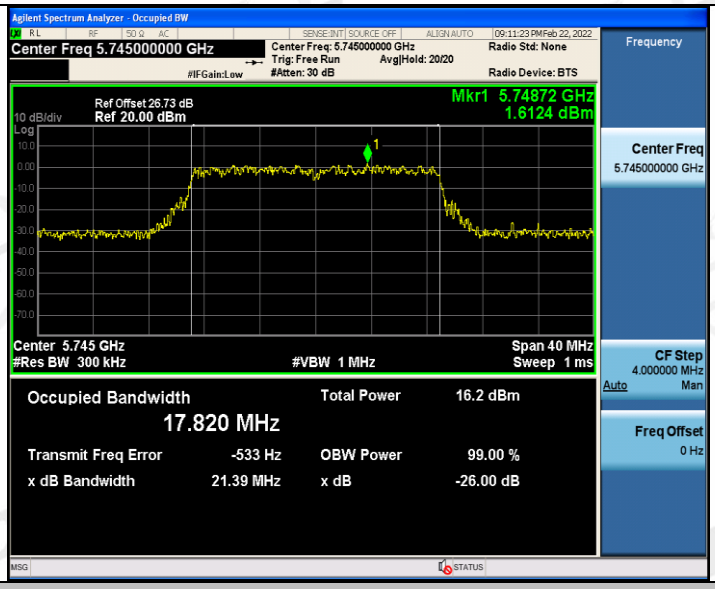
11N20MIMO_Ant2_5700



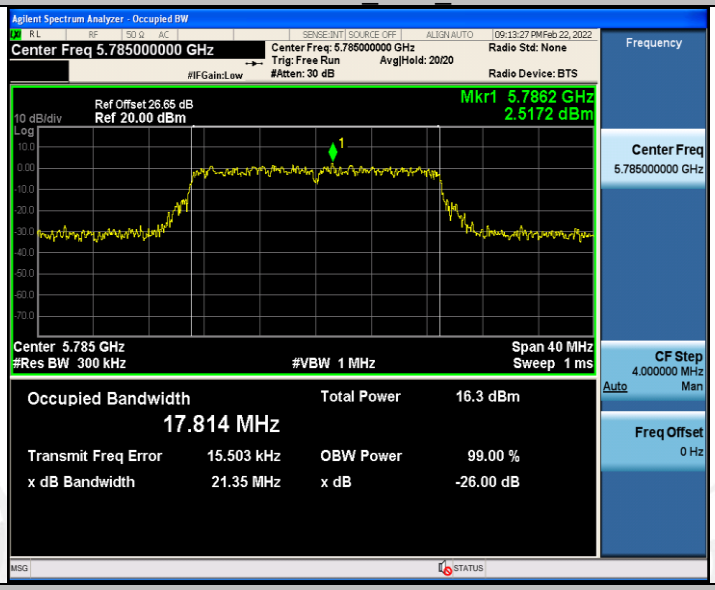
11N20MIMO_Ant1_5745



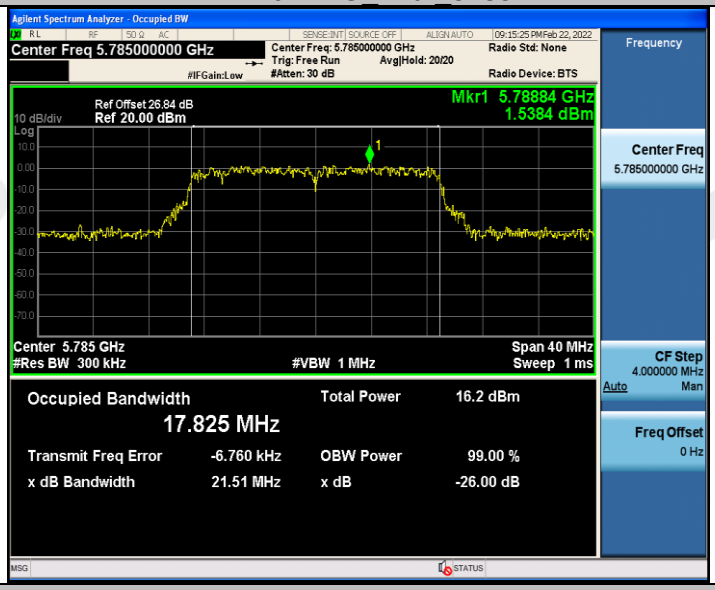
11N20MIMO_Ant2_5745



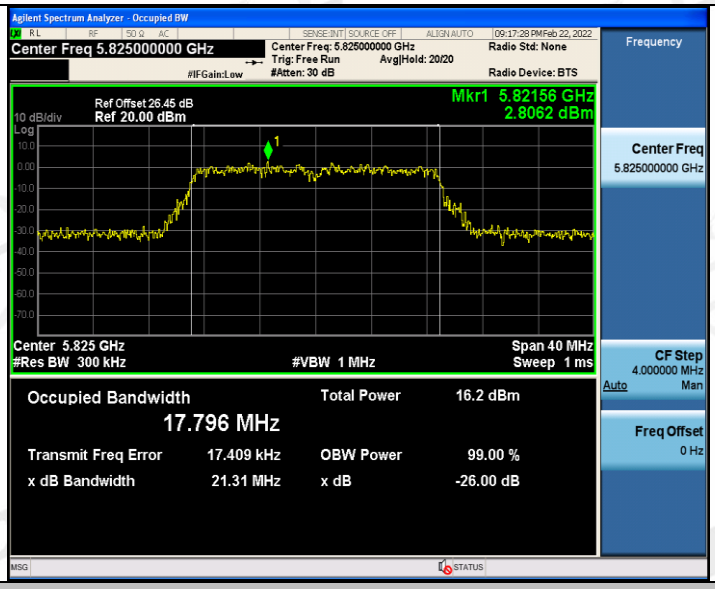
11N20MIMO_Ant1_5785



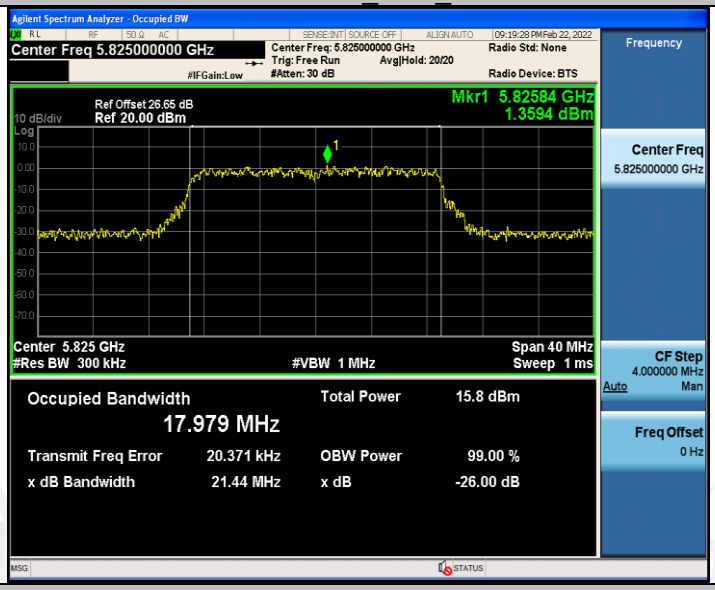
11N20MIMO_Ant2_5785



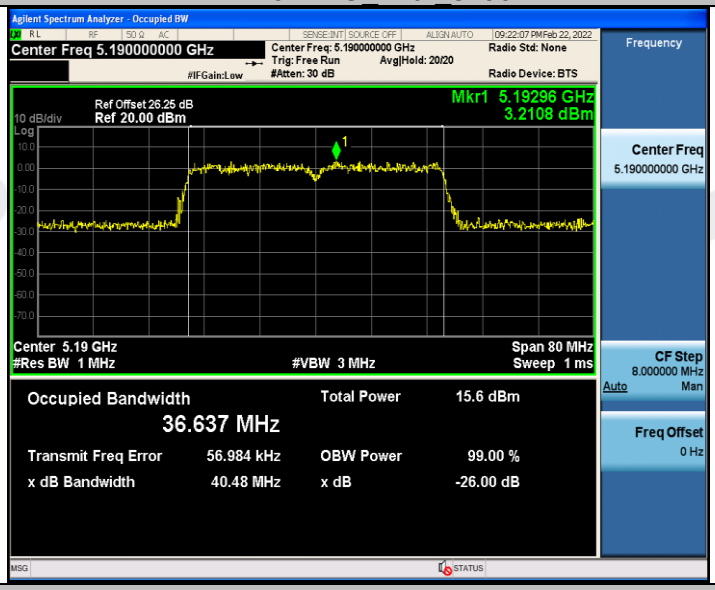
11N20MIMO_Ant1_5825



11N20MIMO_Ant2_5825



11N40MIMO_Ant1_5190



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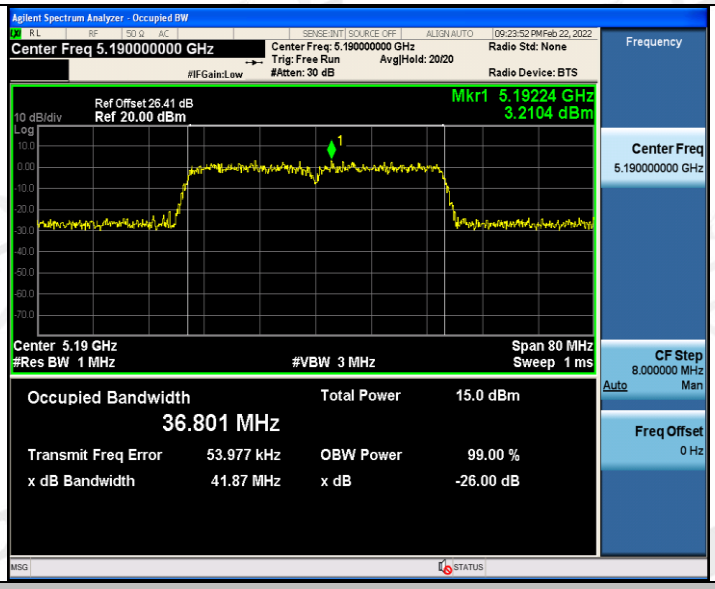
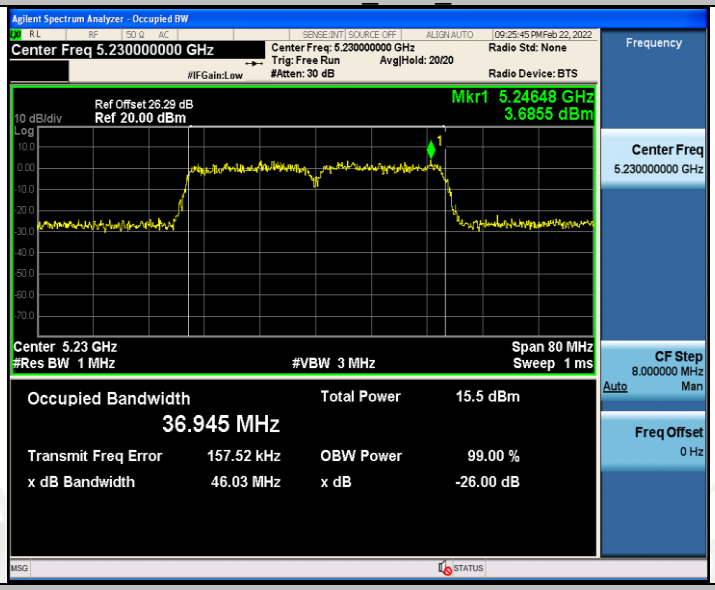


11N40MIMO_Ant1_5230



11N40MIMO_Ant2_5230

11N40MIMO_Ant1_5270