

FCC AND IC CERTIFICATION TEST REPORT

FOR

Applicant	:	Harman International Industries, Inc.
Address	:	8500 Balboa Boulevard, Northridge, CA 91329, UNITED STATES
Equipment under Test	:	Wireless Soundbar
Model No.	:	LINK BAR
Trade Mark	:	JBL
FCC ID	:	APIJBLLINKBAR
IC	:	6132A-JBLLINKBAR
Manufacturer	:	Harman International Industries, Inc.
Address	:	8500 Balboa Boulevard, Northridge, CA 91329, UNITED STATES

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

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REPORT

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TEST REPORT DECLARE

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Equipment under Test	:	Wireless Soundbar
Model No	:	LINK BAR
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 C, RSS-247 Issue 2 February 2017.

Test procedure used: ANSI C63.10:2013, 789033 D02 General U-NII Test Procedures New Rules v02r01, RSS-Gen Issue 5, Apr. 2018

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&IC standards.

Report No:	DDT-R18042603-1E5		
Date of Receipt:	Jun. 20, 2018	Date of Test:	Jun. 20, 2018 ~ Jul. 31, 2018

Prepared By:

Sam Li

Sam Li/Engineer

Approved By:



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	Jul. 31, 2018	

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) RSS-247 Clause 6.2	PASS
Maximum Conducted Output Power	FCC 15.407 (a) RSS-247 Clause 6.2	PASS
Power Spectral Density	FCC 15.407 (a) RSS-247 Clause 6.2	PASS
Frequency Stability Measurement	FCC 15.407 (g)	PASS
Emissions in restricted frequency bands	FCC 15.407 (a) FCC 15.209 FCC 15.205 RSS-247 Clause 6.2 RSS-GEN Clause 8.9	PASS
Band Edge Compliance	FCC 15.407 (a) FCC 15.209 FCC 15.205 RSS-247 Clause 6.2 RSS-GEN Clause 8.9	PASS
Power Line Conducted Emission	FCC 15.207 RSS-GEN Clause 8.8	PASS
Antenna requirement	FCC 15.203 RSS-GEN Clause 8.3	PASS
Dynamic Frequency Selection	FCC 15.407 (h) RSS-247 Clause 6.3	PASS

2. General test information

2.1. Description of EUT

EUT* Name	: Wireless Soundbar
Model Number	: LINK BAR
EUT function description	: Please reference user manual of this device
Power supply	: AC 100-240V, 50/60Hz
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, 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: External FPC antenna, maximum PK gain: 4.09dBi Antenna 2: External FPC antenna, maximum PK gain: 4.09dBi The EUT incorporates a MIMO function. Physically, it provides two completed transmitters and receivers(2T2R), two transmit signals are completely uncorrelated, then, Direction gain= $G_{ANT}+10\log(N_{ANT})=7.1\text{dBi}$
Sample Type	: Series production

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

2.2. Accessories of EUT

Description of Accessories	Manufacturer	Model number	Serial No.	Other
HDMI cable	harman/kardon	N/A	N/A	Length: 1.5m, shielded
AC cable	harman/kardon	N/A	N/A	Length: 1.8m without core

2.3. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	EMC Compliance	SN
Notebook	DELL	Latitude D610	FCC DOC	00045-534-136-300
Wireless LAN Access Point	HUAWEI	AP6050	21500829352SC5000371	FCC ID: QISAP6050DN6150DN

2.4. Block diagram of EUT configuration for test



EUT was connected to control to provide by manufacturer which has a standard LAN port connector to connect to Notebook, and the Notebook will run a special test software “rftesttool.EXE” provided by manufacturer to control EUT work in Continuous Tx mode (>98% duty cycle), and select test channel, wireless mode and data rate.

Tested mode, channel, and data rate information				
Mode	Setting Tx Power	data rate (Mbps) (see Note)	Channel	Frequency (MHz)
IEEE 802.11a	10	54	Low: CH36	5180
	10	54	Middle: CH40	5200
	10	54	High: CH48	5240
	10	54	Low: CH52	5260
	10	54	Middle: CH56	5280
	10	54	High: CH64	5320
	10	54	Low: CH100	5500
	10	54	Middle: CH116	5580
	10	54	High: CH140	5700
	10	54	Low: CH149	5745
	10	54	Middle: CH157	5785
	10	54	High: CH165	5825
IEEE 802.11n HT20	10	MCS 7	Low: CH36	5180
	10	MCS 7	Middle: CH40	5200
	10	MCS 7	High: CH48	5240
	10	MCS 7	Low: CH52	5260
	10	MCS 7	Middle: CH56	5280
	10	MCS 7	High: CH64	5320
	10	MCS 7	Low: CH100	5500
	10	MCS 7	Middle: CH116	5580
	10	MCS 7	High: CH140	5700
	10	MCS 7	Low: CH149	5745
	10	MCS 7	Middle: CH157	5785
	10	MCS 7	High: CH165	5825
IEEE 802.11n HT40	9	MCS 7	Low: CH38	5190
	9	MCS 7	Middle: CH46	5230
	9	MCS 7	High: CH54	5270
	9	MCS 7	Low: CH62	5310
	9	MCS 7	Middle: CH102	5510
	9	MCS 7	High: CH110	5550
	9	MCS 7	Low: CH134	5670
	9	MCS 7	Middle: CH151	5755
	9	MCS 7	High: CH159	5795

IEEE 802.11ac HT20	8	MCS 8	Low: CH36	5180
	8	MCS 8	Middle: CH40	5200
	8	MCS 8	High: CH48	5240
	8	MCS 8	Low: CH52	5260
	8	MCS 8	Middle: CH56	5280
	8	MCS 8	High: CH64	5320
	8	MCS 8	Low: CH100	5500
	8	MCS 8	Middle: CH116	5580
	8	MCS 8	High: CH140	5700
	8	MCS 8	Low: CH149	5745
	8	MCS 8	Middle: CH157	5785
	8	MCS 8	High: CH165	5825
IEEE 802.11ac HT40	6	MCS 9	Low: CH38	5190
	6	MCS 9	Middle: CH46	5230
	6	MCS 9	High: CH54	5270
	6	MCS 9	Low: CH62	5310
	6	MCS 9	Middle: CH102	5510
	6	MCS 9	High: CH110	5550
	6	MCS 9	Low: CH134	5670
	6	MCS 9	Middle: CH151	5755
	6	MCS 9	High: CH159	5795
IEEE 802.11ac HT80	5	MCS 9	CH42	5210
	5	MCS 9	CH58	5290
	5	MCS 9	CH106	5530
	5	MCS 9	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:	86-106kPa

2.7. Test laboratory

Dongguan Dongdian Testing Service Co., Ltd

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CNAS Accreditation No. L6451; A2LA Accreditation No. 3870.01

Designation Number: CN1182; Test Firm Registration Number: 540522

Industry Canada site registration number: 10288A-1

2.8. Measurement uncertainty

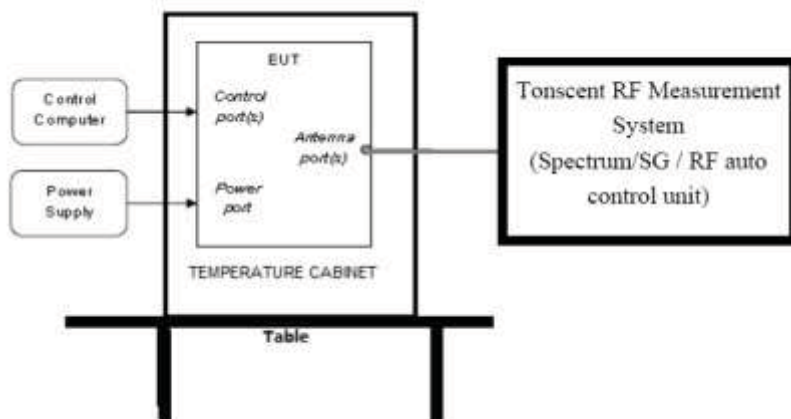
Test Item	Uncertainty
Bandwidth	1.1%
Peak Output Power (Conducted) (Spectrum analyzer)	0.86dB (10 MHz ≤ f < 3.6GHz);
	1.38dB (3.6GHz ≤ f < 8GHz)
Peak Output Power (Conducted) (Power Sensor)	0.74dB
Power Spectral Density	0.74dB (10 MHz ≤ f < 3.6GHz);
	1.38dB (3.6GHz ≤ f < 8GHz)
Frequencies Stability	6.7 × 10 ⁻⁸ (Antenna couple method)
	5.5 × 10 ⁻⁸ (Conducted method)
Conducted spurious emissions	0.86dB (10 MHz ≤ f < 3.6GHz);
	1.40dB (3.6GHz ≤ f < 8GHz)
	1.66dB (8GHz ≤ f < 22GHz)
Uncertainty for radio frequency (RBW<20kHz)	3×10 ⁻⁸
Temperature	0.4℃
Humidity	2%
Uncertainty for Radiation Emission test (30MHz-1GHz)	4.70dB (Antenna Polarize: V)
	4.84dB (Antenna Polarize: H)
Uncertainty for Radiation Emission test (1GHz-40GHz)	4.10dB (1-6GHz)
	4.40dB (6GHz-18GHz)
	3.54dB (18GHz-26GHz)
	4.30dB (26GHz-40GHz)
Uncertainty for Power line conduction emission test	3.32dB (150kHz-30MHz)
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)					
Spectrum analyzer	R&S	FSU26	200071	Oct. 23, 2017	1 Year
Spectrum analyzer	Agilent	E4447A	MY50180031	Jun. 29, 2018	1 Year
Wideband Radio Communication tester	R&S	CMW500	117491	Jun. 29, 2018	1 Year
Vector Signal Generator	Agilent	E8267D	US49060192	Oct. 23, 2017	1 Year
Vector Signal Generator	Agilent	N5182A	MY48180737	Jun. 29, 2018	1 Year
Power Sensor	Agilent	U2021XA	MY55150010	Oct. 21, 2017	1 Year
Power Sensor	Agilent	U2021XA	MY55150011	Oct. 23, 2017	1 Year
DC Power Source	MATRIS	MPS-3005L-3	D813058W	Aug. 18, 2017	1 Year
Attenuator	Mini-Circuits	BW-S10W2	101109	Aug. 18, 2017	1 Year
RF Cable	Micable	C10-01-01-1	100309	Oct. 21, 2017	1 Year
Temp&Humi Programmable	ZHIXIANG	ZXGDJS-150L	ZX170110-A	Oct. 21, 2017	1 Year
Test Software	JS Tonscend	JS1120-3	Ver.2.7	N/A	N/A
Radiated Emission Test Chamber 1#					
EMI Test Receiver	R&S	ESU8	100316	Oct. 21, 2017	1 Year
Spectrum analyzer	Agilent	E4447A	MY50180031	Jun. 29, 2018	1 Year
Trilog Broadband Antenna	Schwarzbeck	VULB9163	9163-462	Nov. 09, 2017	1 Year
Active Loop antenna	Schwarzbeck	FMZB-1519	1519-038	Oct. 17, 2017	1 Year
Double Ridged Horn Antenna	R&S	HF907	100276	Oct. 17, 2017	1 Year
Broad Band Horn Antenna	Schwarzbeck	BBHA 9170	790	Nov. 09, 2017	1 Year
Pre-amplifier	A.H.	PAM-0118	360	Oct. 21, 2017	1 Year
Pre-amplifier	TERA-MW	TRLA-0040G35	101303	Oct. 21, 2017	1 Year
RF Cable	HUBSER	CP-X2+ CP-X1	W11.03+ W12.02	Oct. 21, 2017	1 Year
RF Cable	N/A	SMAJ-SMAJ-1M+11M	17070133+17070131	Nov. 08, 2017	1 Year
MI Cable	HUBSER	C10-01-01-1M	1091629	Oct. 21, 2017	1 Year
Test software	Audix	E3	V 6.11111b	N/A	N/A
Power Line Conducted Emissions Test					
Test Receiver	R&S	ESPI	101761	Oct. 21, 2017	1 Year
LISN 1	R&S	ENV216	101109	Oct. 21, 2017	1 Year
LISN 2	R&S	ESH2-Z5	100309	Oct. 21, 2017	1 Year
Pulse Limiter	R&S	ESH3-Z2	101242	Oct. 21, 2017	1 Year
CE Cable 1	HUBSER	N/A	W10.01	Oct. 21, 2017	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/ RSS-247		
Test Item	Limit	Frequency Range (MHz)
Bandwidth	26 dB Bandwidth	5150-5250
	26 dB Bandwidth	5250-5350
	26 dB Bandwidth	For FCC:5470-5725 For IC:5470-5600 5650-5725
	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 6dB Bandwidth: RBW=100kHz For 26dB Bandwidth: approximately 1% of the emission bandwidth.
VBW	For 6dB Bandwidth: VBW=300kHz For 26dB Bandwidth: >3RBW
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 26dB and 6dB relative to the maximum level measured in the fundamental emission.

4.4. Test Result

Test Mode	Antenna	Channel	99% BW[MHz]	EBW[MHz]	Limit [MHz]	Verdict
11N20MIMO	ANT1	5180	18.06	21.690	---	PASS
11N20MIMO	ANT2	5180	18.06	21.540	---	PASS
11N20MIMO	ANT1	5200	18.09	21.750	---	PASS
11N20MIMO	ANT2	5200	18.03	21.720	---	PASS
11N20MIMO	ANT1	5240	18.06	21.600	---	PASS
11N20MIMO	ANT2	5240	18.09	21.630	---	PASS
11N20MIMO	ANT1	5260	18.06	21.570	---	PASS
11N20MIMO	ANT2	5260	18.00	21.750	---	PASS
11N20MIMO	ANT1	5280	18.06	21.690	---	PASS
11N20MIMO	ANT2	5280	18.06	21.660	---	PASS
11N20MIMO	ANT1	5320	18.09	21.570	---	PASS
11N20MIMO	ANT2	5320	18.09	21.810	---	PASS
11N20MIMO	ANT1	5500	18.12	21.840	---	PASS
11N20MIMO	ANT2	5500	18.06	21.630	---	PASS
11N20MIMO	ANT1	5580	18.03	21.330	---	PASS
11N20MIMO	ANT2	5580	18.03	21.480	---	PASS
11N20MIMO	ANT1	5700	18.06	21.690	---	PASS
11N20MIMO	ANT2	5700	18.06	21.690	---	PASS
11N20MIMO	ANT1	5745	17.67	17.730	0.5	PASS
11N20MIMO	ANT2	5745	17.67	17.730	0.5	PASS
11N20MIMO	ANT1	5785	17.67	17.760	0.5	PASS
11N20MIMO	ANT2	5785	17.67	17.760	0.5	PASS
11N20MIMO	ANT1	5825	17.67	17.760	0.5	PASS
11N20MIMO	ANT2	5825	17.67	17.700	0.5	PASS
11N40MIMO	ANT1	5190	36.42	39.780	---	PASS
11N40MIMO	ANT2	5190	36.42	40.140	---	PASS
11N40MIMO	ANT1	5230	36.42	40.080	---	PASS
11N40MIMO	ANT2	5230	36.48	39.720	---	PASS
11N40MIMO	ANT1	5270	36.42	40.140	---	PASS
11N40MIMO	ANT2	5270	36.36	39.960	---	PASS
11N40MIMO	ANT1	5310	36.48	40.200	---	PASS
11N40MIMO	ANT2	5310	36.48	40.320	---	PASS
11N40MIMO	ANT1	5510	36.48	40.320	---	PASS
11N40MIMO	ANT2	5510	36.48	40.020	---	PASS
11N40MIMO	ANT1	5550	36.48	40.320	---	PASS
11N40MIMO	ANT2	5550	36.54	40.140	---	PASS
11N40MIMO	ANT1	5670	36.48	40.200	---	PASS
11N40MIMO	ANT2	5670	36.42	40.020	---	PASS

11N40MIMO	ANT1	5755	36.18	36.360	0.5	PASS
11N40MIMO	ANT2	5755	36.18	36.420	0.5	PASS
11N40MIMO	ANT1	5795	36.24	36.540	0.5	PASS
11N40MIMO	ANT2	5795	36.24	36.540	0.5	PASS
11AC20MIMO	ANT1	5180	18.15	21.810	---	PASS
11AC20MIMO	ANT2	5180	18.15	21.660	---	PASS
11AC20MIMO	ANT1	5200	18.15	21.720	---	PASS
11AC20MIMO	ANT2	5200	18.15	21.630	---	PASS
11AC20MIMO	ANT1	5240	18.18	21.840	---	PASS
11AC20MIMO	ANT2	5240	18.15	21.660	---	PASS
11AC20MIMO	ANT1	5260	18.12	21.630	---	PASS
11AC20MIMO	ANT2	5260	18.21	21.690	---	PASS
11AC20MIMO	ANT1	5280	18.18	21.810	---	PASS
11AC20MIMO	ANT2	5280	18.21	21.660	---	PASS
11AC20MIMO	ANT1	5320	18.18	21.630	---	PASS
11AC20MIMO	ANT2	5320	18.18	21.510	---	PASS
11AC20MIMO	ANT1	5500	18.18	21.810	---	PASS
11AC20MIMO	ANT2	5500	18.21	21.630	---	PASS
11AC20MIMO	ANT1	5580	18.18	21.720	---	PASS
11AC20MIMO	ANT2	5580	18.21	21.660	---	PASS
11AC20MIMO	ANT1	5700	18.15	21.750	---	PASS
11AC20MIMO	ANT2	5700	18.15	21.810	---	PASS
11AC20MIMO	ANT1	5745	17.67	17.700	0.5	PASS
11AC20MIMO	ANT2	5745	17.67	17.700	0.5	PASS
11AC20MIMO	ANT1	5785	17.70	17.760	0.5	PASS
11AC20MIMO	ANT2	5785	17.70	17.700	0.5	PASS
11AC20MIMO	ANT1	5825	17.67	17.730	0.5	PASS
11AC20MIMO	ANT2	5825	17.67	17.670	0.5	PASS
11AC40MIMO	ANT1	5190	36.66	40.380	---	PASS
11AC40MIMO	ANT2	5190	36.66	40.620	---	PASS
11AC40MIMO	ANT1	5230	36.66	40.620	---	PASS
11AC40MIMO	ANT2	5230	36.78	40.440	---	PASS
11AC40MIMO	ANT1	5270	36.66	40.380	---	PASS
11AC40MIMO	ANT2	5270	36.66	40.380	---	PASS
11AC40MIMO	ANT1	5310	36.72	40.260	---	PASS
11AC40MIMO	ANT2	5310	36.66	40.260	---	PASS
11AC40MIMO	ANT1	5510	36.66	40.200	---	PASS
11AC40MIMO	ANT2	5510	36.66	40.380	---	PASS
11AC40MIMO	ANT1	5550	36.72	40.440	---	PASS
11AC40MIMO	ANT2	5550	36.66	40.380	---	PASS
11AC40MIMO	ANT1	5670	36.72	40.740	---	PASS

11AC40MIMO	ANT2	5670	36.72	40.560	---	PASS
11AC40MIMO	ANT1	5755	36.24	36.480	0.5	PASS
11AC40MIMO	ANT2	5755	36.24	36.480	0.5	PASS
11AC40MIMO	ANT1	5795	36.30	36.540	0.5	PASS
11AC40MIMO	ANT2	5795	36.30	36.600	0.5	PASS
11AC80MIMO	ANT1	5210	75.96	81.840	---	PASS
11AC80MIMO	ANT2	5210	75.84	81.840	---	PASS
11AC80MIMO	ANT1	5290	75.72	82.080	---	PASS
11AC80MIMO	ANT2	5290	75.84	81.840	---	PASS
11AC80MIMO	ANT1	5530	75.84	84.840	---	PASS
11AC80MIMO	ANT2	5530	75.96	81.960	---	PASS
11AC80MIMO	ANT1	5775	75.48	76.080	0.5	PASS
11AC80MIMO	ANT2	5775	75.60	75.720	0.5	PASS
11AMIMO	ANT1	5180	16.74	21.240	---	PASS
11AMIMO	ANT2	5180	17.28	21.810	---	PASS
11AMIMO	ANT1	5200	16.77	21.240	---	PASS
11AMIMO	ANT2	5200	16.74	21.210	---	PASS
11AMIMO	ANT1	5240	16.74	21.360	---	PASS
11AMIMO	ANT2	5240	16.74	21.210	---	PASS
11AMIMO	ANT1	5260	16.74	21.240	---	PASS
11AMIMO	ANT2	5260	16.74	21.240	---	PASS
11AMIMO	ANT1	5280	16.77	21.210	---	PASS
11AMIMO	ANT2	5280	16.77	21.210	---	PASS
11AMIMO	ANT1	5320	16.74	21.180	---	PASS
11AMIMO	ANT2	5320	16.74	21.180	---	PASS
11AMIMO	ANT1	5500	16.74	21.300	---	PASS
11AMIMO	ANT2	5500	16.77	21.180	---	PASS
11AMIMO	ANT1	5580	16.74	21.330	---	PASS
11AMIMO	ANT2	5580	16.74	21.270	---	PASS
11AMIMO	ANT1	5700	16.77	21.300	---	PASS
11AMIMO	ANT2	5700	16.77	21.300	---	PASS
11AMIMO	ANT1	5745	16.44	16.440	0.5	PASS
11AMIMO	ANT2	5745	16.44	16.440	0.5	PASS
11AMIMO	ANT1	5785	16.44	16.350	0.5	PASS
11AMIMO	ANT2	5785	16.44	16.440	0.5	PASS
11AMIMO	ANT1	5825	16.44	16.440	0.5	PASS
11AMIMO	ANT2	5825	16.44	16.440	0.5	PASS

11N20MIMO ANT1 5180

Ref: 25 dBm *Att: 20 dB *RBW 300 kHz Delta 3 [T1] -0.20 dB
*VBW 1 MHz SWT 20 ms 21.690000000 MHz

Offset: 5 dB

Marker 1 [T1] -24.32 dBm 5.169140000 GHz

Marker 2 [T1] -4.16 dBm 5.181230000 GHz

Temp 1 [T1 ONW] -1.87 dBm 5.170940000 GHz

Temp 2 [T1 ONW] -1.80 dBm 5.170940000 GHz

OL: -21.44 dBm

Center: 5.18 GHz 3 MHz/ Span: 30 MHz

Date: 24.JUN.2018 15:10:22

11N20MIMO ANT2 5180

Ref: 25 dBm *Att: 20 dB *RBW 300 kHz Delta 3 [T1] -0.10 dB
*VBW 1 MHz SWT 20 ms 21.540000000 MHz

Offset: 5 dB

Marker 1 [T1] -22.04 dBm 5.169200000 GHz

Marker 2 [T1] -4.13 dBm 5.177180000 GHz

Temp 1 [T1 ONW] -4.51 dBm 5.170900000 GHz

Temp 2 [T1 ONW] -3.63 dBm 5.170900000 GHz

OL: -21.87 dBm

Center: 5.18 GHz 3 MHz/ Span: 30 MHz

Date: 24.JUN.2018 15:12:44

11N20MIMO ANT1 5200

Ref: 25 dBm *Att: 20 dB *RBW 300 kHz Delta 3 [T1] -0.63 dB
*VBW 1 MHz SWT 20 ms 21.750000000 MHz

Offset: 5 dB

Marker 1 [T1] -23.19 dBm 5.169170000 GHz

Marker 2 [T1] -3.53 dBm 5.205130000 GHz

Temp 1 [T1 ONW] -4.87 dBm 5.180500000 GHz

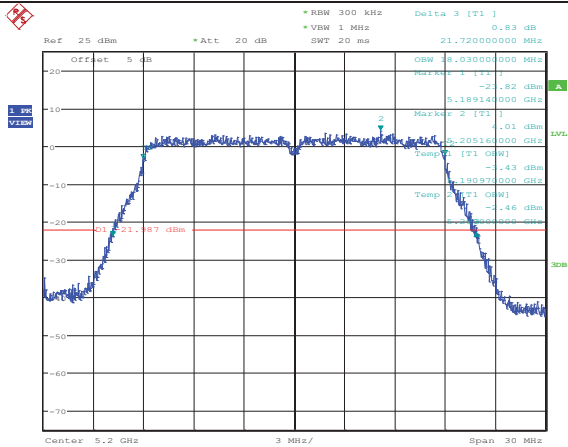
Temp 2 [T1 ONW] -4.37 dBm 5.180500000 GHz

OL: -22.65 dBm

Center: 5.2 GHz 3 MHz/ Span: 30 MHz

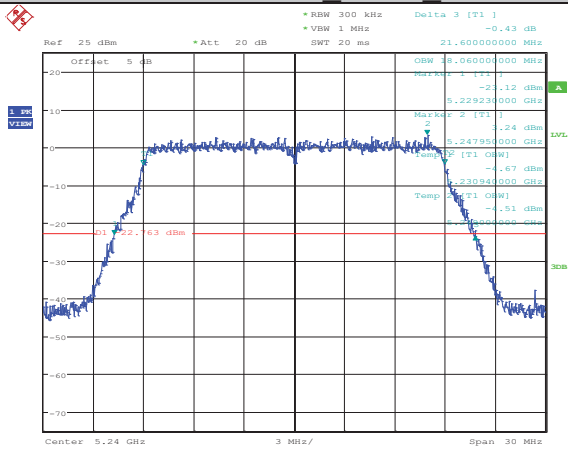
Date: 24.JUN.2018 15:15:31

11N20MIMO ANT2 5200



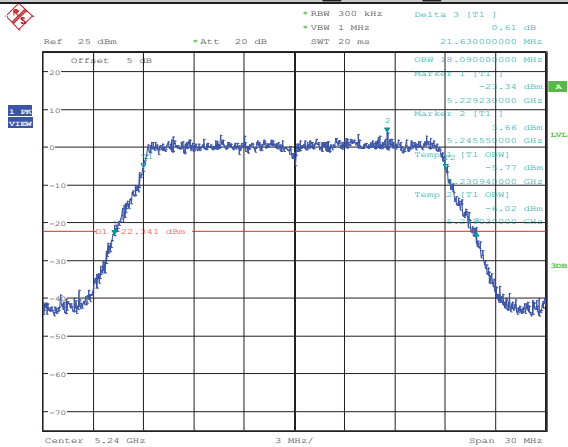
Date: 24.JUN.2018 15:17:42

11N20MIMO ANT1 5240



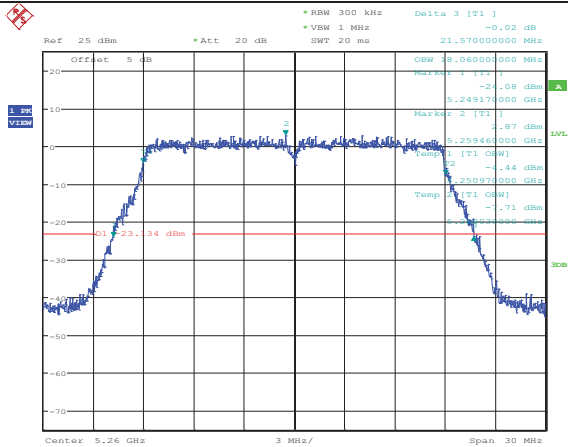
Date: 24.JUN.2018 15:20:10

11N20MIMO ANT2 5240



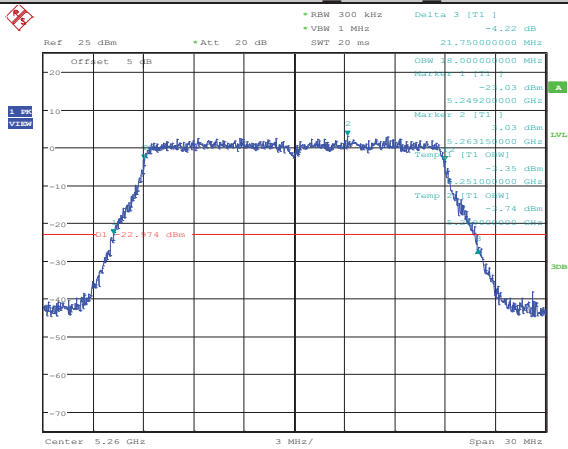
Date: 24.JUN.2018 15:22:18

11N20MIMO ANT1 5260



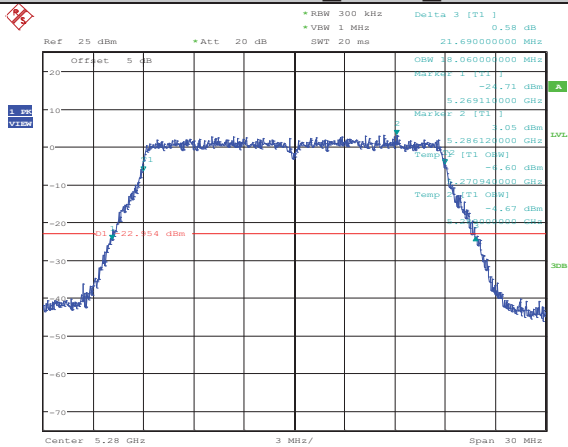
Date: 24.JUN.2018 15:27:45

11N20MIMO ANT2 5260



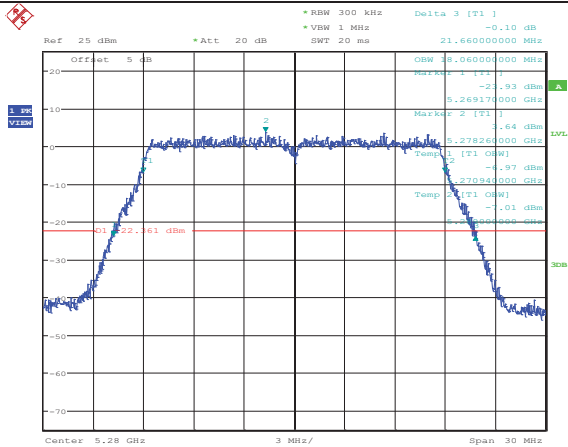
Date: 24.JUN.2018 15:29:55

11N20MIMO ANT1 5280



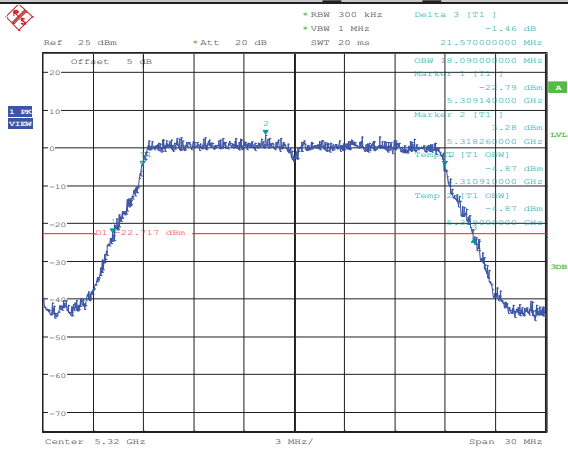
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11N20MIMO ANT2 5280



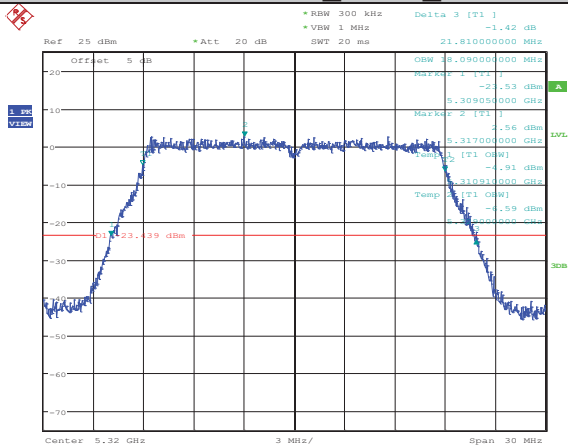
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11N20MIMO ANT1 5320



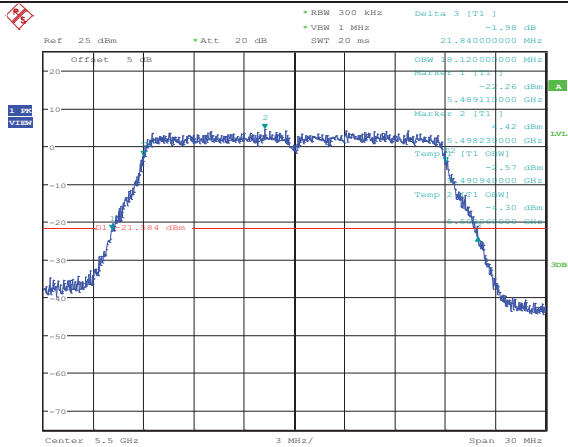
Date: 24.JUN.2018 15:37:40

11N20MIMO ANT2 5320



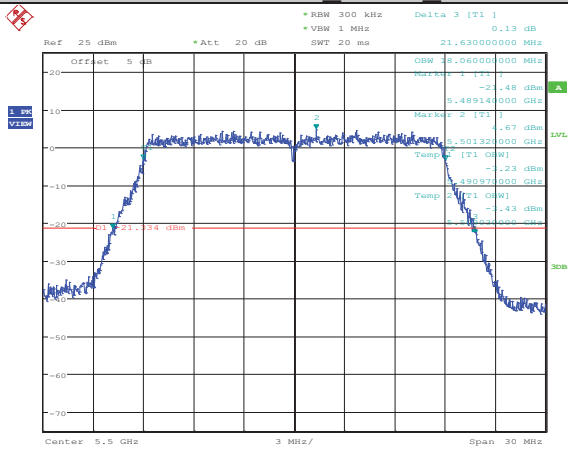
Date: 24.JUN.2018 15:40:06

11N20MIMO ANT1 5500



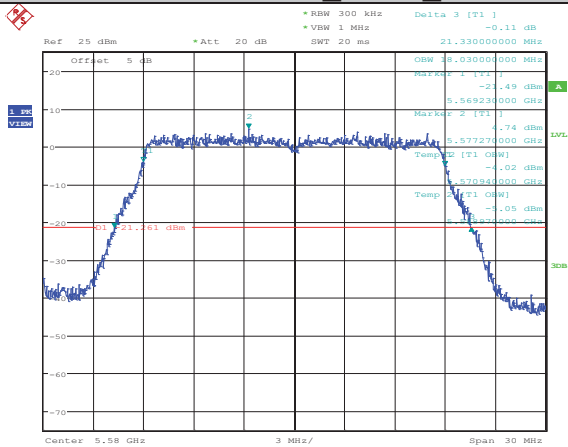
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11N20MIMO ANT2 5500



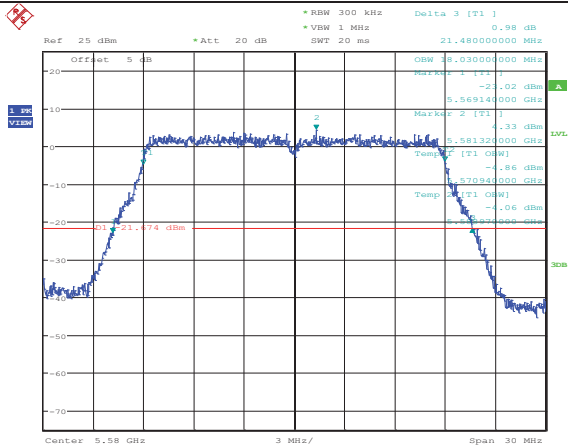
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11N20MIMO ANT1 5580



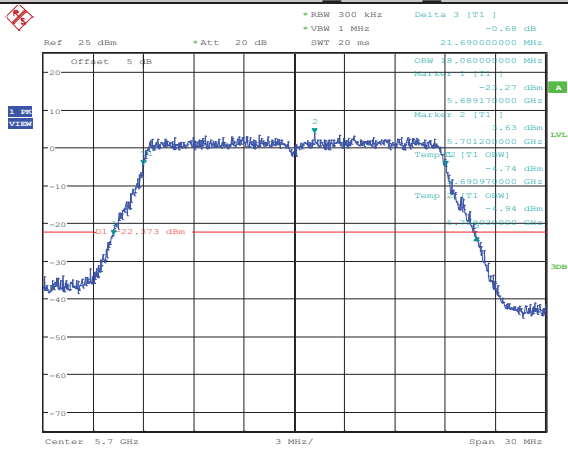
Date: 24.JUN.2018 15:49:01

11N20MIMO ANT2 5580



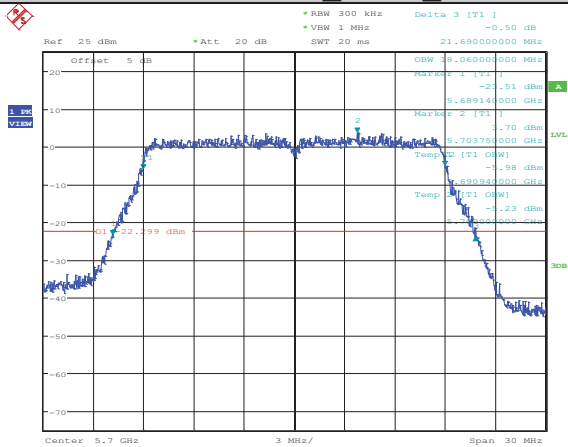
Date: 24.JUN.2018 15:51:10

11N20MIMO ANT1 5700



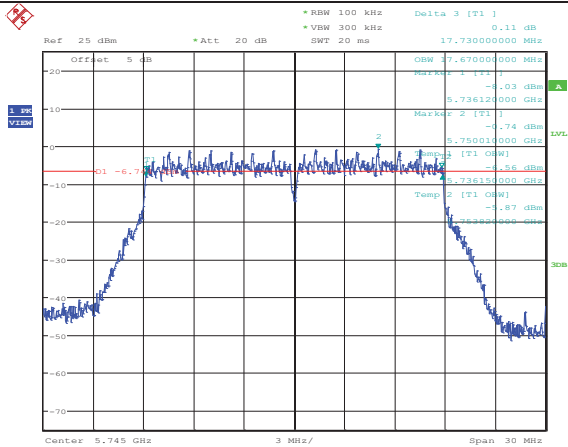
Date: 24.JUN.2018 15:53:36

11N20MIMO ANT2 5700



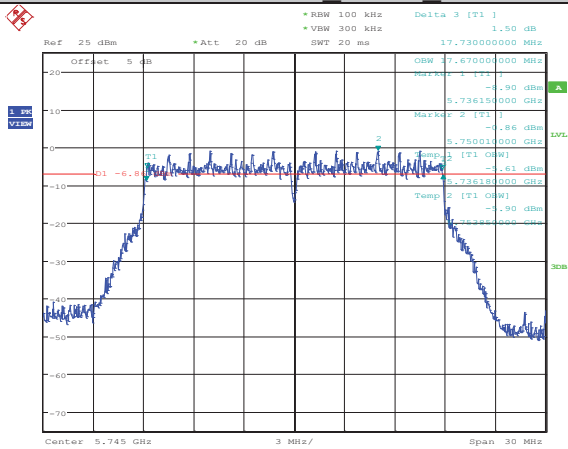
Date: 24.JUN.2018 15:55:48

11N20MIMO ANT1 5745



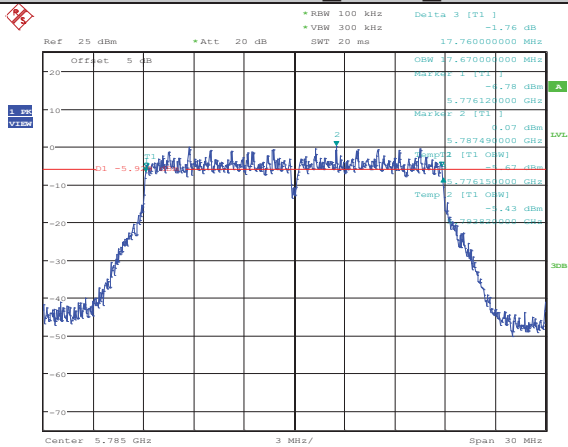
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11N20MIMO ANT2 5745



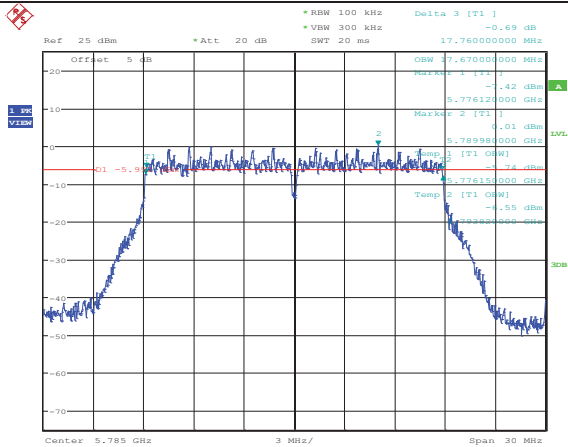
Date: 24.JUN.2018 16:01:01

11N20MIMO ANT1 5785



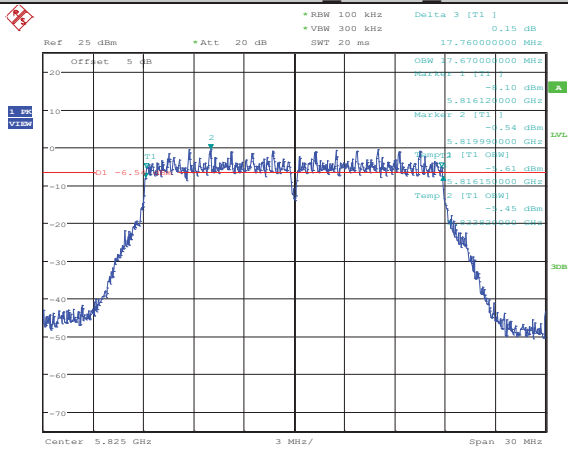
Date: 24.JUN.2018 16:03:36

11N20MIMO ANT2 5785



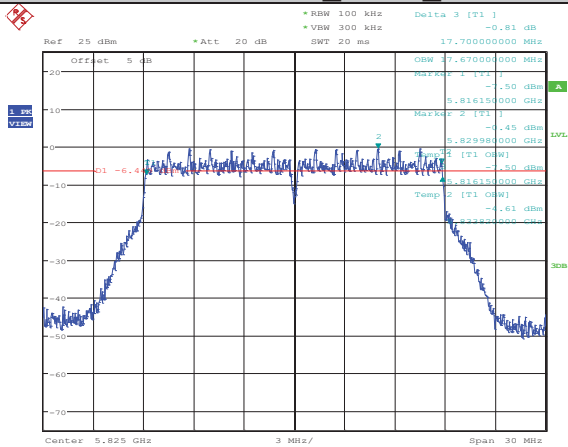
Date: 24.JUN.2018 16:06:07

11N20MIMO ANT1 5825



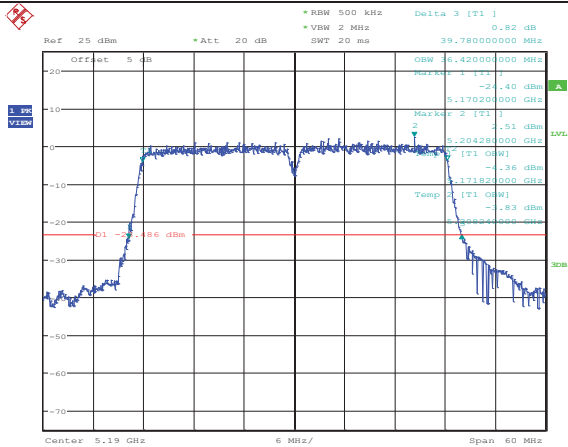
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11N20MIMO ANT2 5825



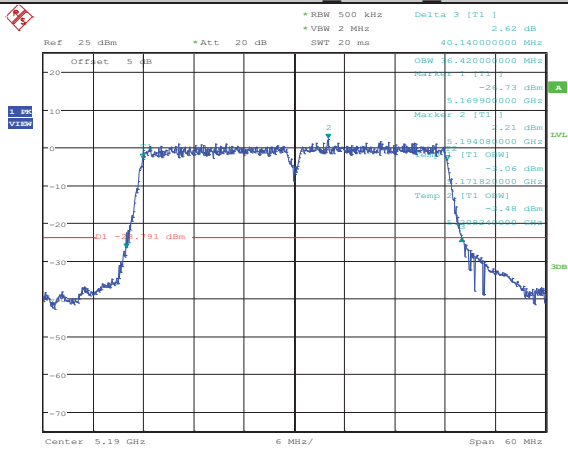
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11N40MIMO ANT1 5190



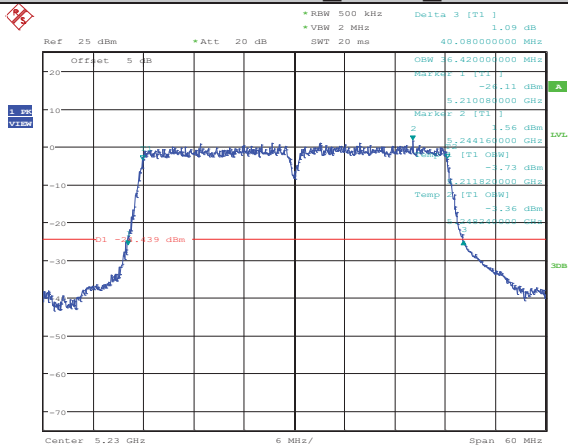
Date: 24.JUN.2018 16:19:28

11N40MIMO ANT2 5190



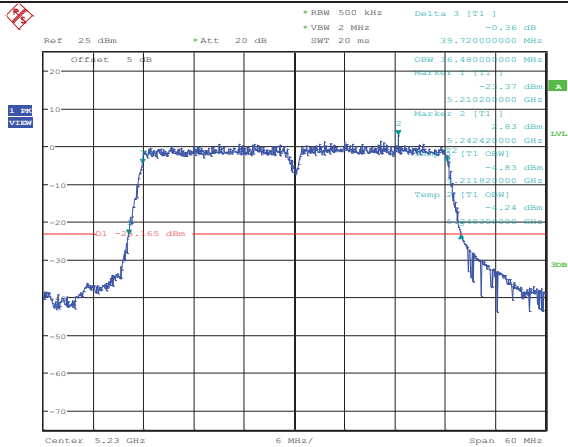
Date: 24.JUN.2018 16:21:51

11N40MIMO ANT1 5230



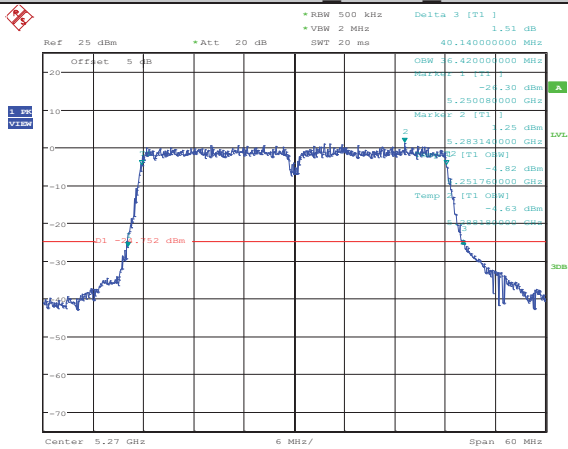
Date: 24.JUN.2018 16:28:33

11N40MIMO ANT2 5230



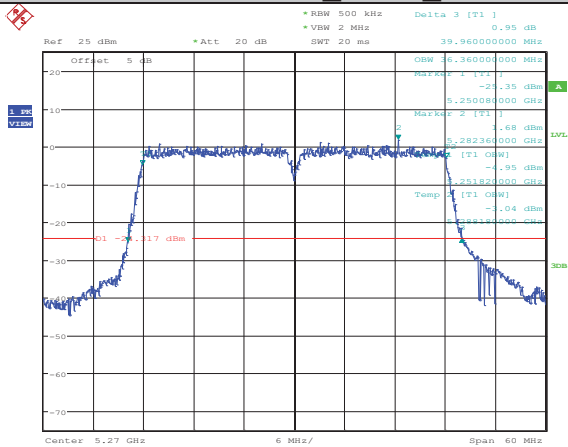
Date: 24.JUN.2018 16:30:42

11N40MIMO ANT1 5270



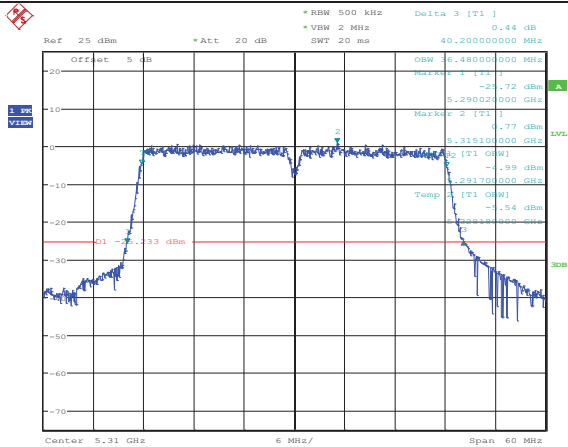
Date: 24.JUN.2018 16:33:29

11N40MIMO ANT2 5270



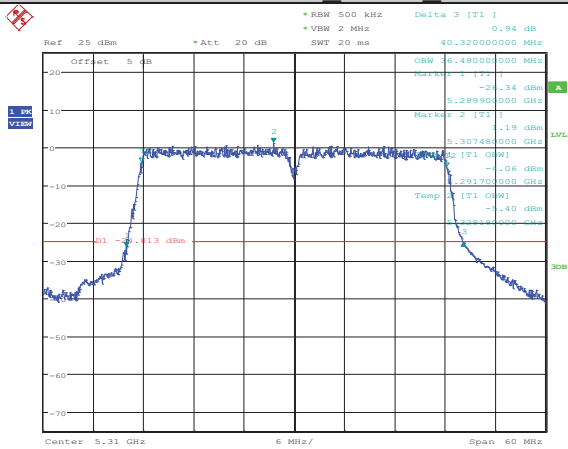
Date: 24.JUN.2018 16:35:38

11N40MIMO ANT1 5310



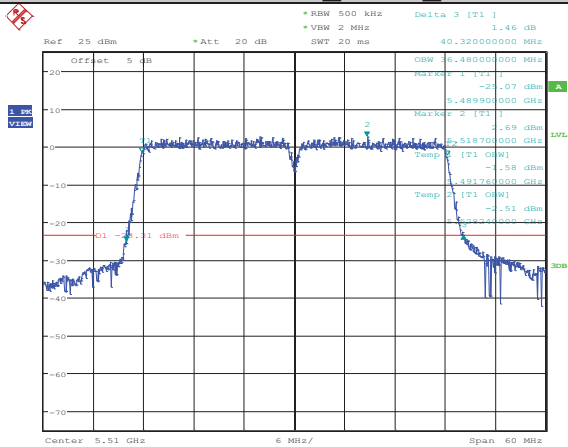
Date: 24.JUN.2018 16:38:13

11N40MIMO ANT2 5310



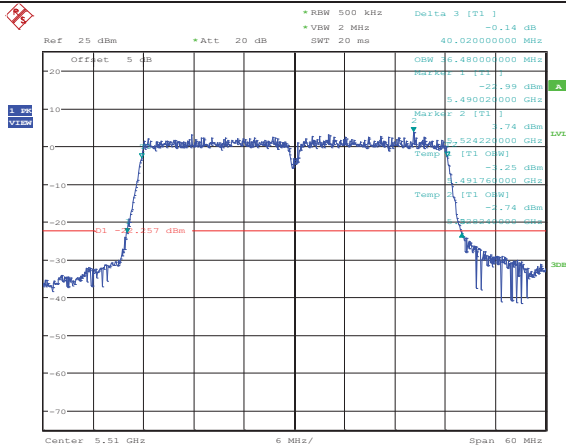
Date: 24.JUN.2018 16:40:37

11N40MIMO ANT1 5510



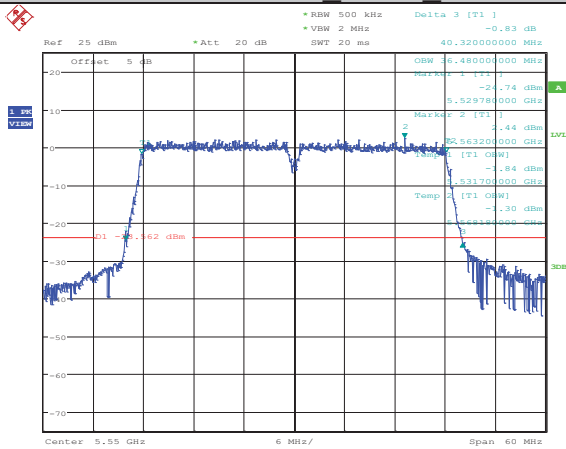
Date: 24.JUN.2018 16:43:44

11N40MIMO ANT2 5510



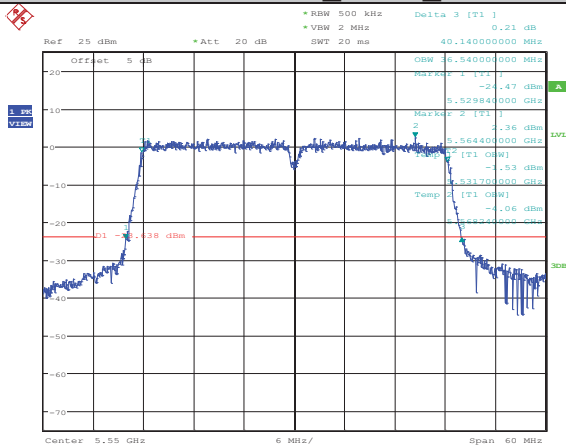
Date: 24.JUN.2018 18:10:09

11N40MIMO ANT1 5550



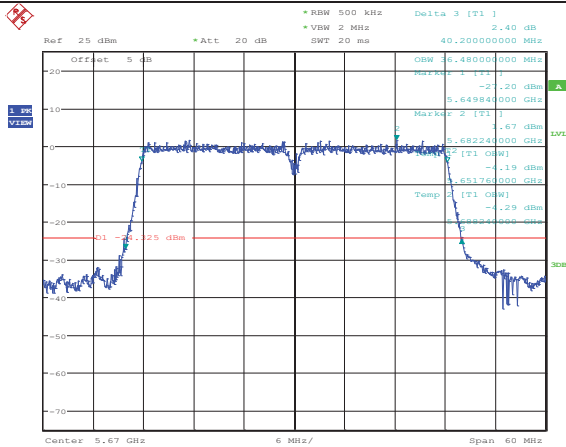
Date: 24.JUN.2018 18:13:07

11N40MIMO ANT2 5550



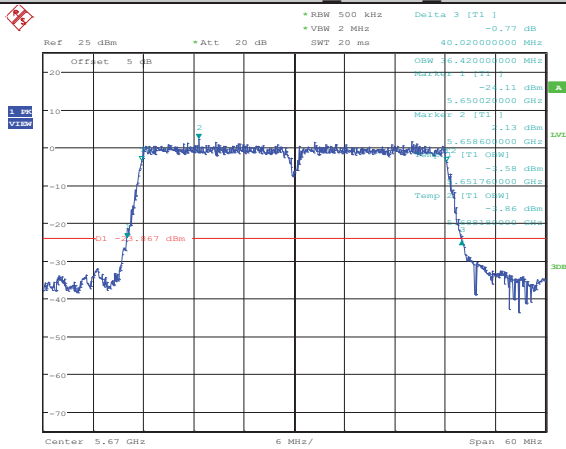
Date: 24.JUN.2018 18:15:16

11N40MIMO ANT1 5670



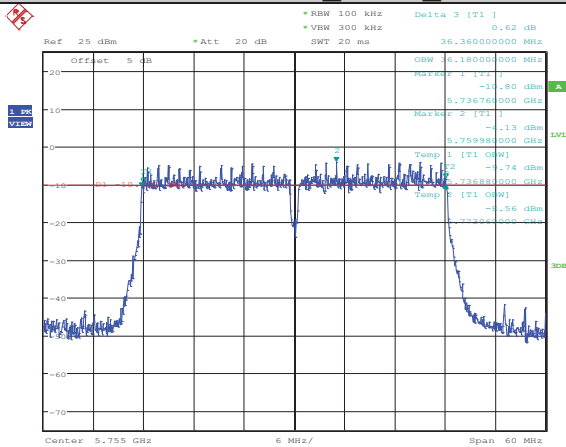
Date: 24.JUN.2018 18:17:44

11N40MIMO ANT2 5670



Date: 24.JUN.2018 18:19:53

11N40MIMO ANT1 5755



Date: 24.JUN.2018 18:22:27

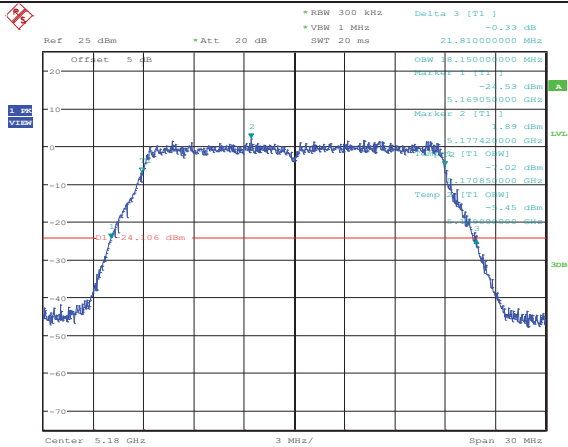
11N40MIMO ANT2 5755



Date: 24.JUN.2018 18:27:00

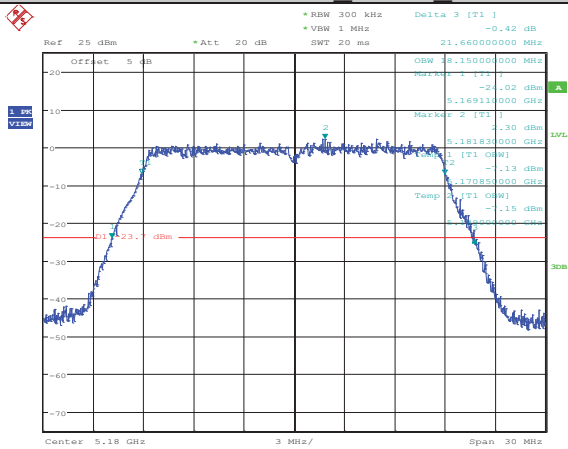
Date: 24.JUN.2018 18:30:08

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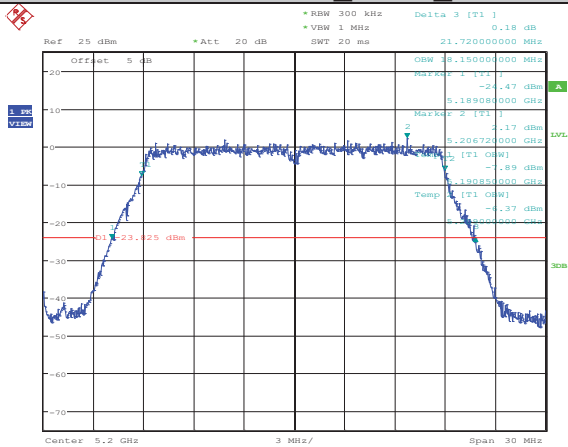
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11AC20MIMO ANT2 5180



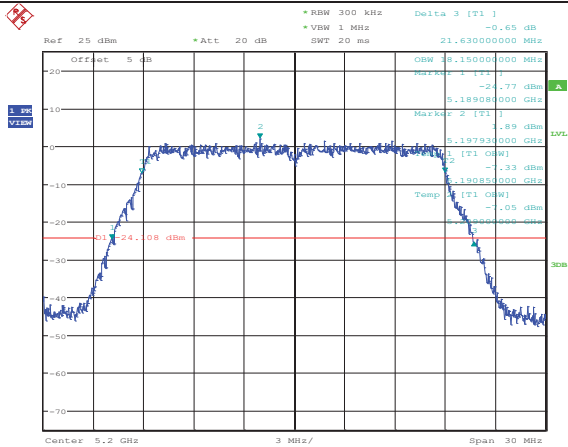
Date: 24.JUN.2018 18:36:23

11AC20MIMO ANT1 5200



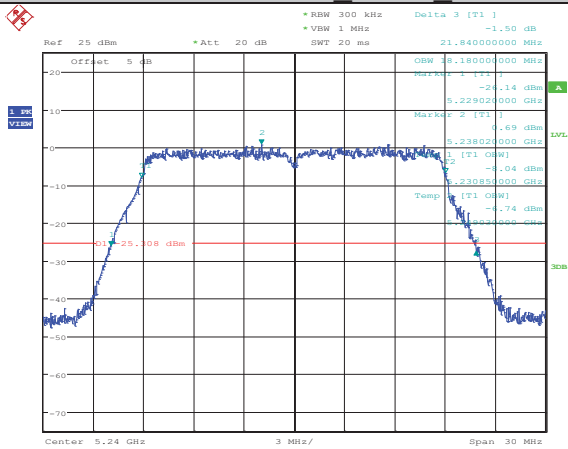
Date: 24.JUN.2018 18:43:23

11AC20MIMO ANT2 5200



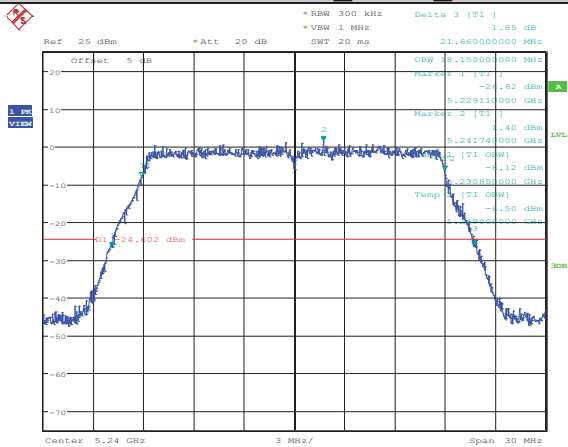
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11AC20MIMO ANT1 5240



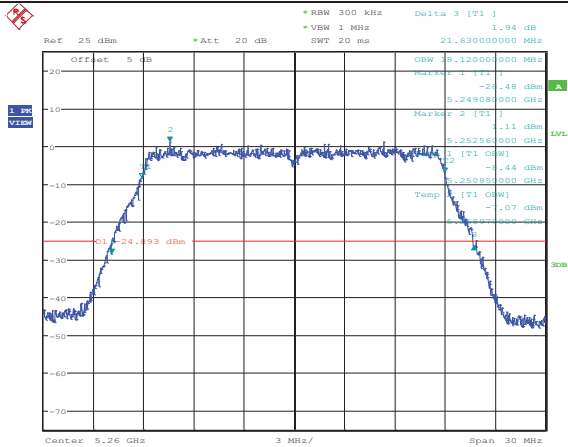
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11AC20MIMO ANT2 5240



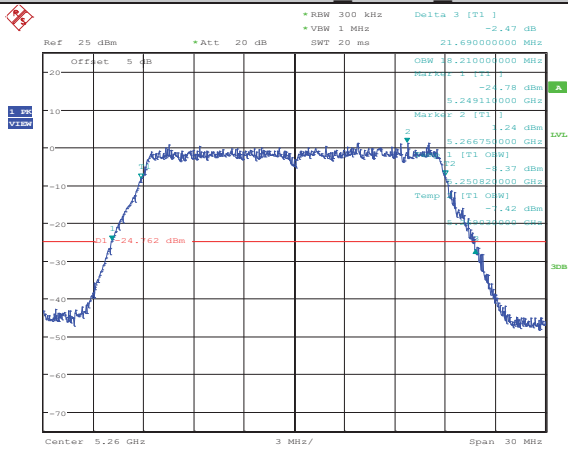
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11AC20MIMO ANT1 5260



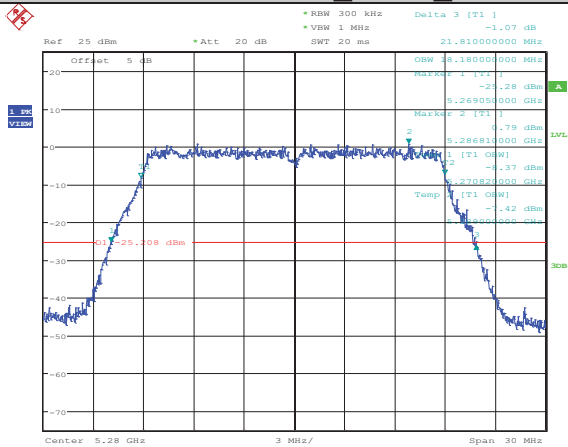
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11AC20MIMO ANT2 5260



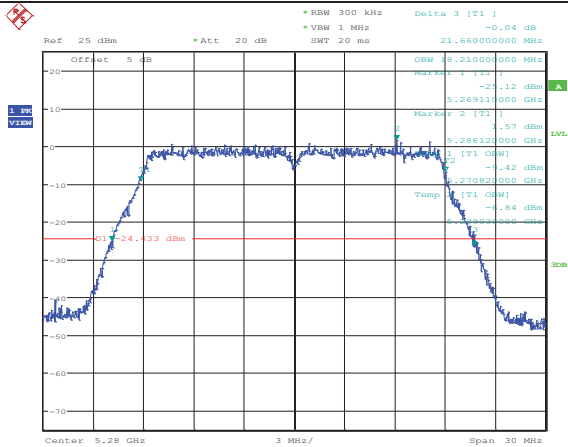
Date: 24.JUN.2018 18:57:17

11AC20MIMO ANT1 5280



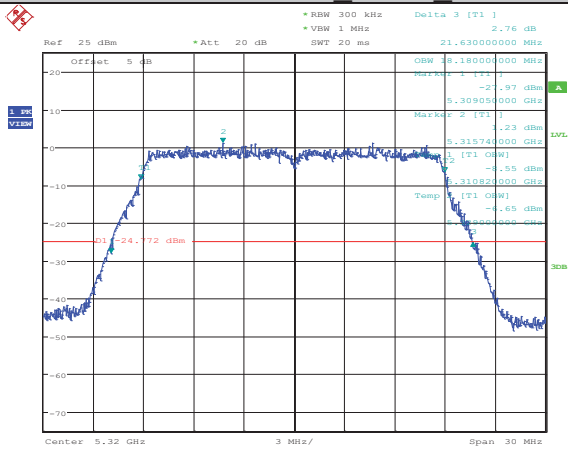
Date: 24.JUN.2018 19:00:04

11AC20MIMO ANT2 5280



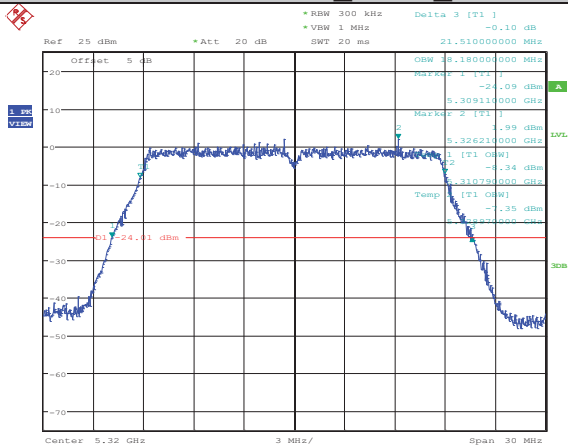
Date: 24.JUN.2018 19:02:31

11AC20MIMO ANT1 5320



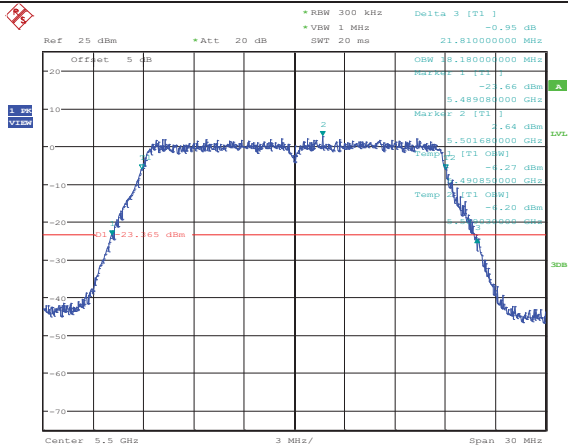
Date: 24.JUN.2018 19:05:04

11AC20MIMO ANT2 5320



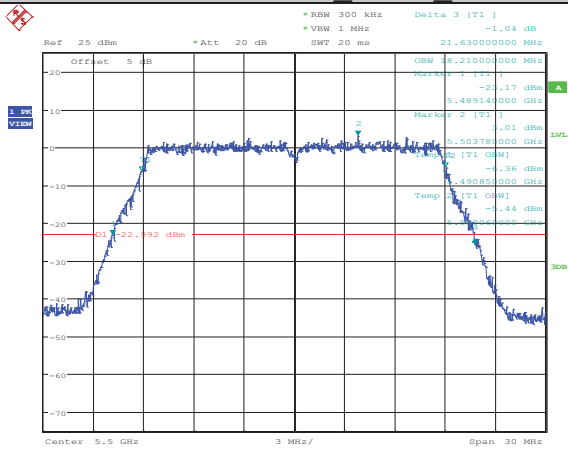
Date: 24.JUN.2018 19:07:28

11AC20MIMO ANT1 5500



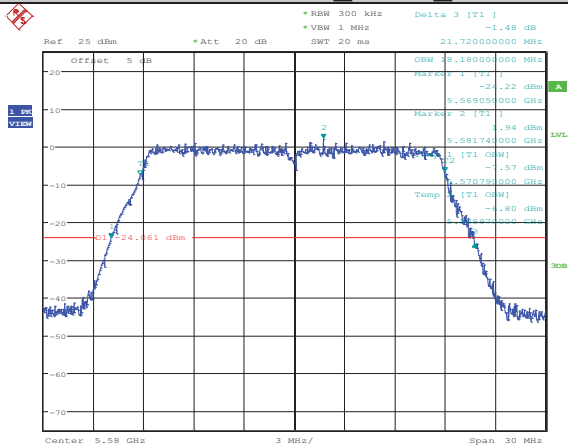
Date: 24.JUN.2018 19:10:17

11AC20MIMO ANT2 5500



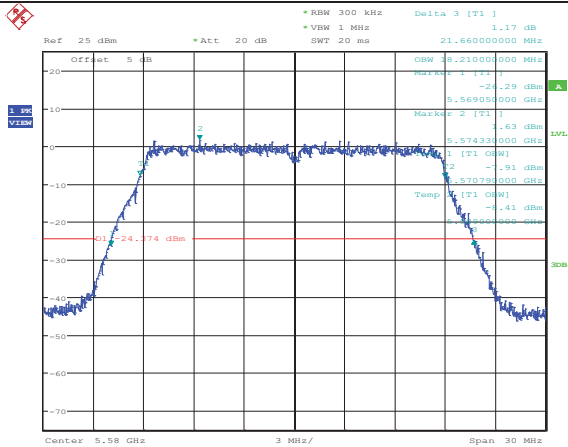
Date: 24.JUN.2018 19:12:42

11AC20MIMO ANT1 5580



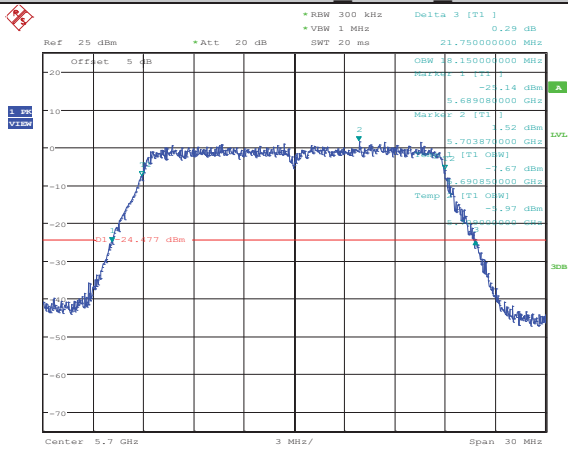
Date: 24.JUN.2018 19:16:25

11AC20MIMO ANT2 5580



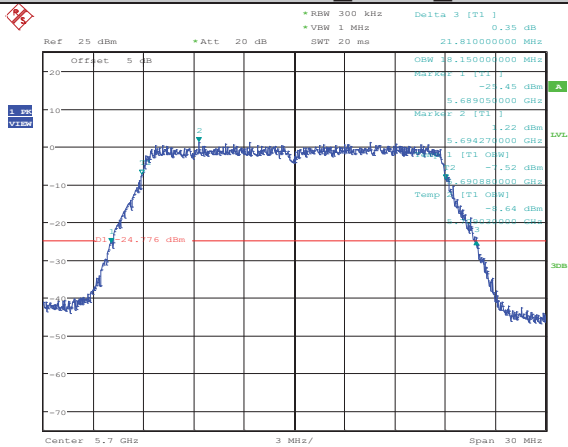
Date: 24.JUN.2018 19:18:38

11AC20MIMO ANT1 5700



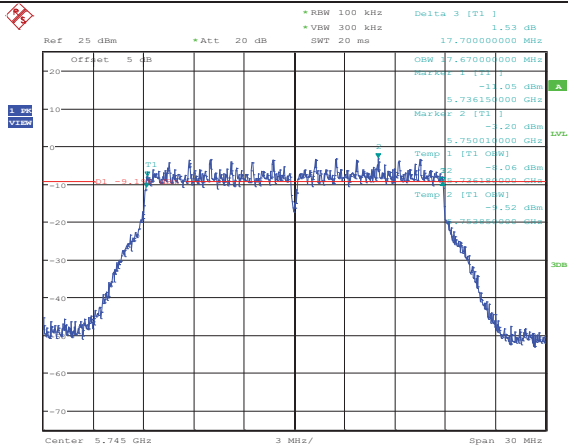
Date: 24.JUN.2018 19:21:03

11AC20MIMO ANT2 5700



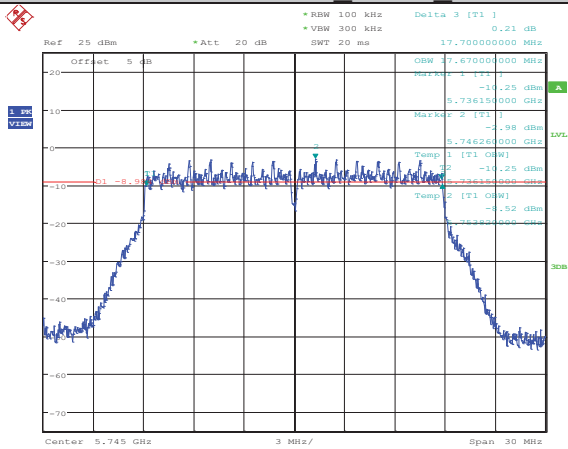
Date: 24.JUN.2018 19:23:43

11AC20MIMO ANT1 5745



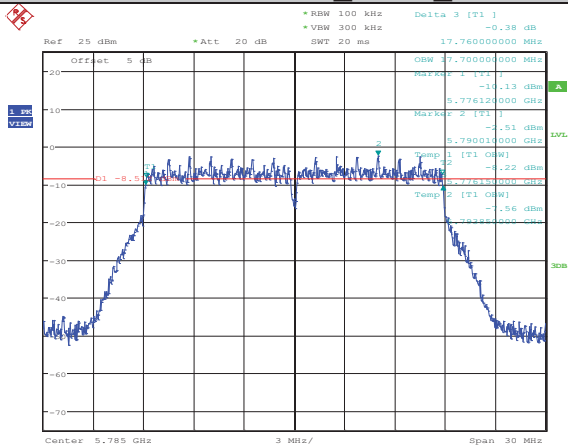
Date: 24.JUN.2018 19:26:33

11AC20MIMO ANT2 5745



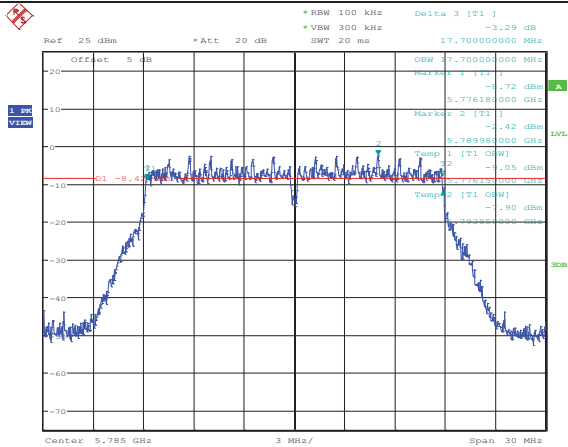
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11AC20MIMO ANT1 5785



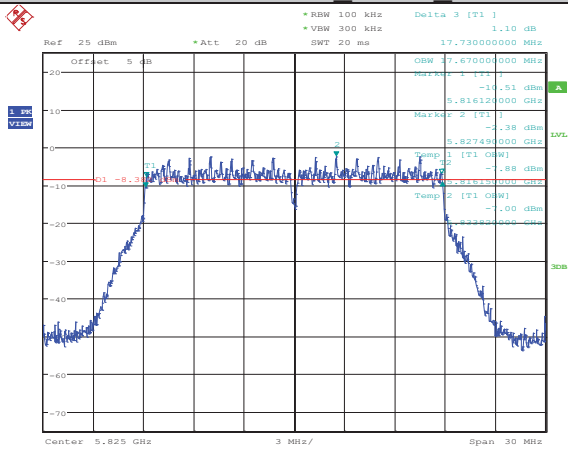
Date: 24.JUN.2018 19:31:30

11AC20MIMO ANT2 5785



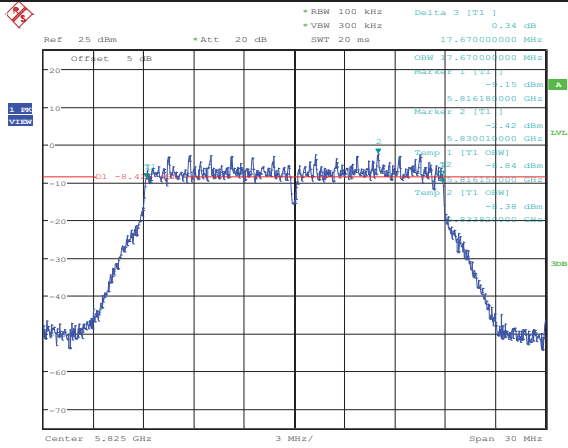
Date: 24.JUN.2018 19:34:00

11AC20MIMO ANT1 5825



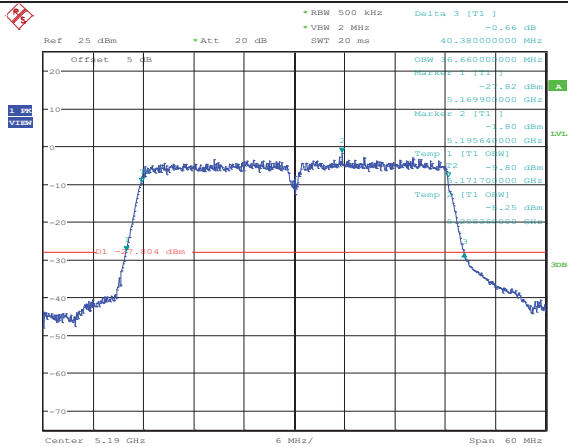
Date: 24.JUN.2018 19:36:27

11AC20MIMO ANT2 5825



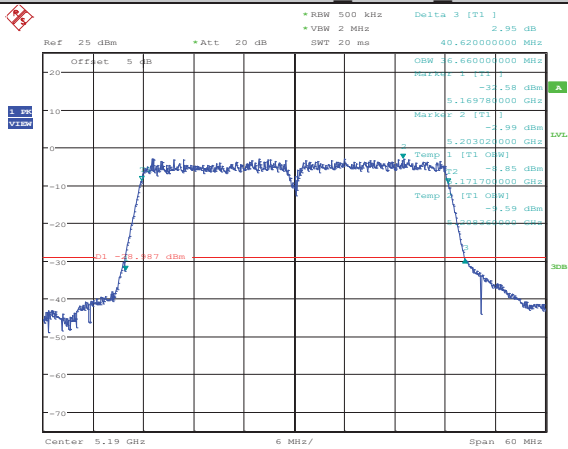
Date: 24.JUN.2018 19:38:51

11AC40MIMO ANT1 5190



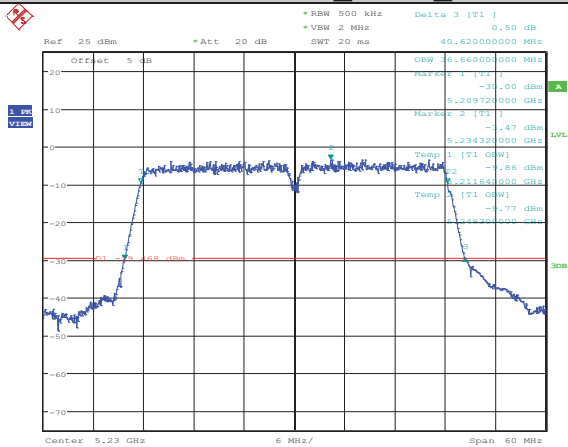
Date: 25.JUN.2018 08:07:04

11AC40MIMO ANT2 5190



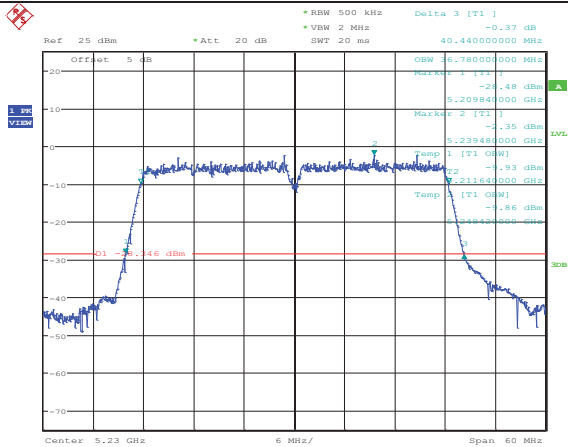
Date: 25.JUN.2018 08:09:39

11AC40MIMO ANT1 5230



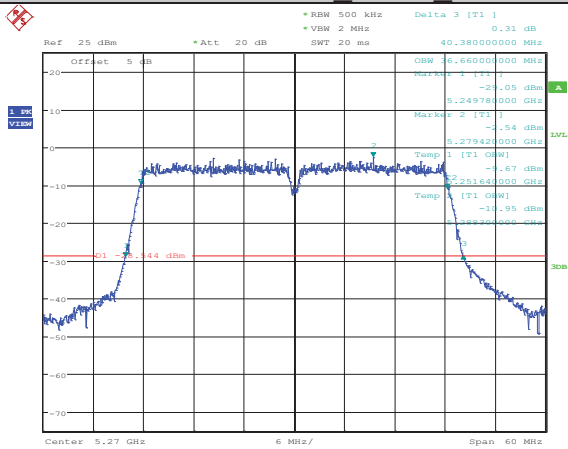
Date: 25.JUN.2018 08:12:22

11AC40MIMO ANT2 5230



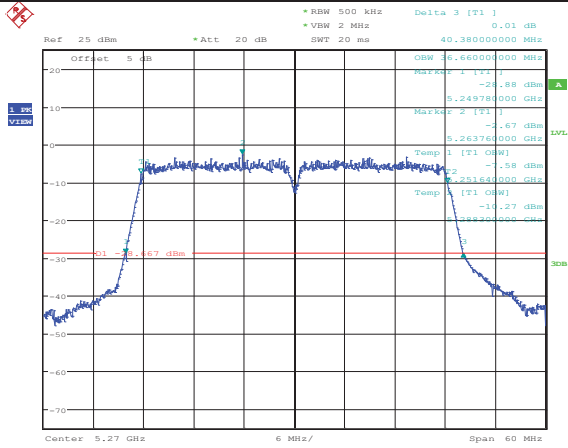
Date: 25.JUN.2018 08:14:35

11AC40MIMO ANT1 5270



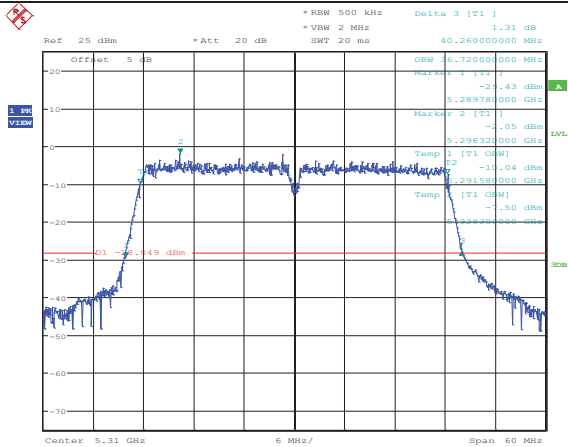
Date: 25.JUN.2018 08:17:26

11AC40MIMO ANT2 5270



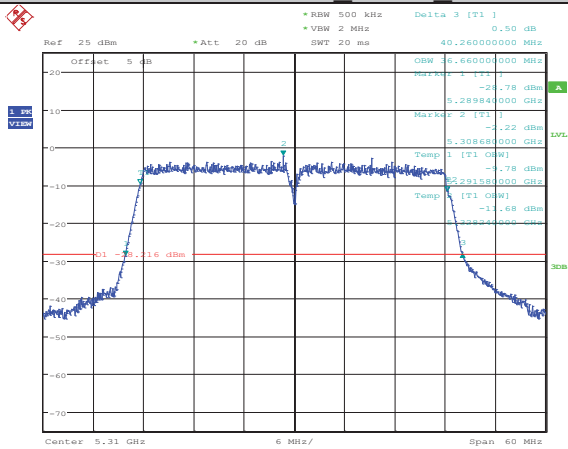
Date: 25.JUN.2018 08:19:38

11AC40MIMO ANT1 5310



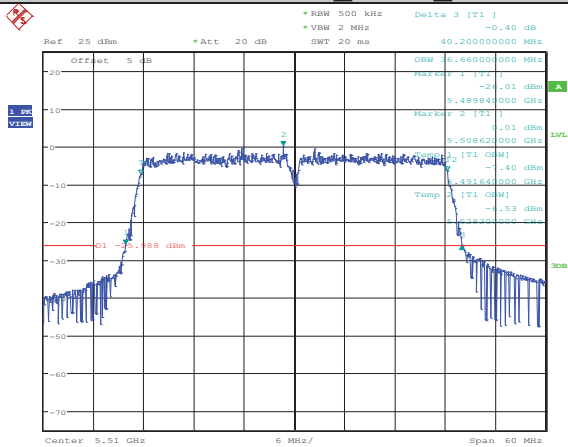
Date: 25.JUN.2018 08:22:10

11AC40MIMO ANT2 5310



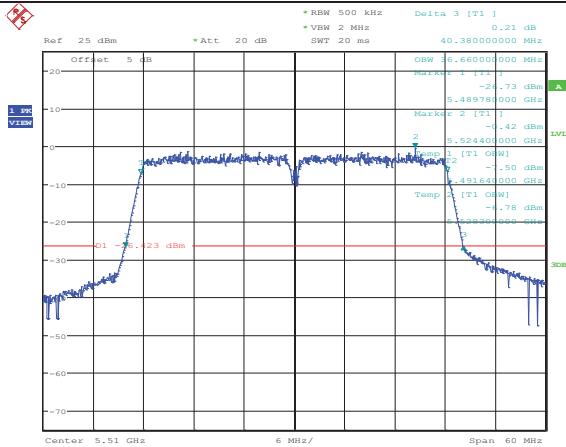
Date: 25.JUN.2018 08:24:40

11AC40MIMO ANT1 5510



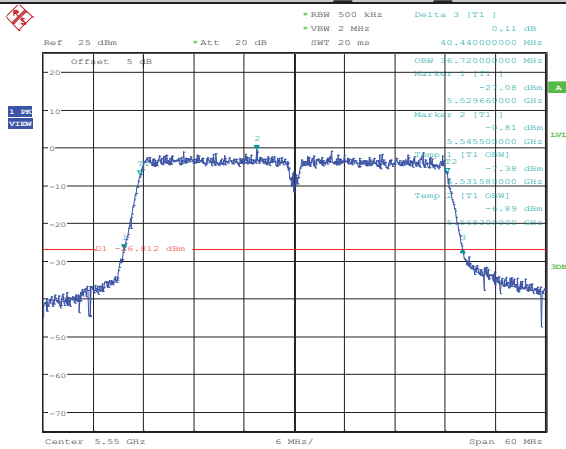
Date: 25.JUN.2018 08:27:31

11AC40MIMO ANT2 5510



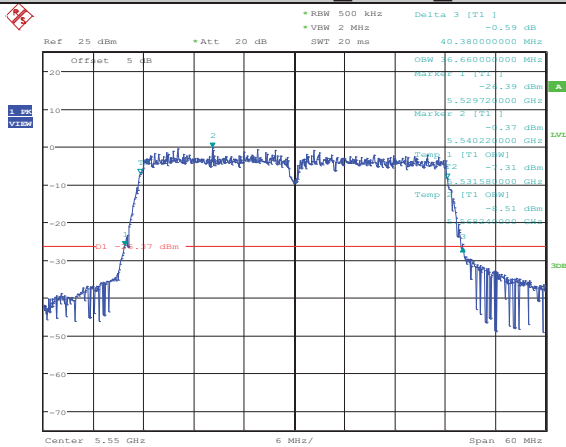
Date: 25.JUN.2018 08:30:11

11AC40MIMO ANT1 5550



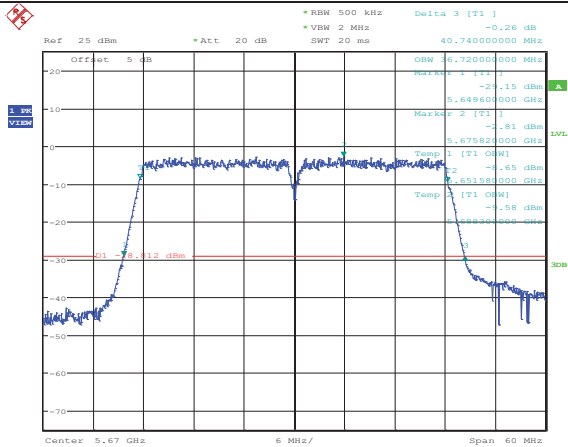
Date: 25.JUN.2018 08:33:09

11AC40MIMO ANT2 5550



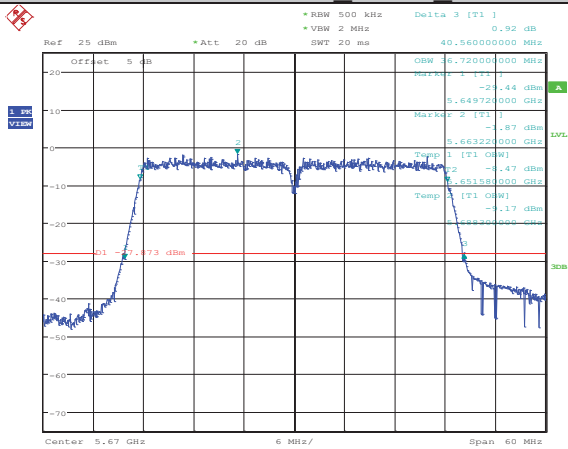
Date: 25.JUN.2018 08:35:22

11AC40MIMO ANT1 5670



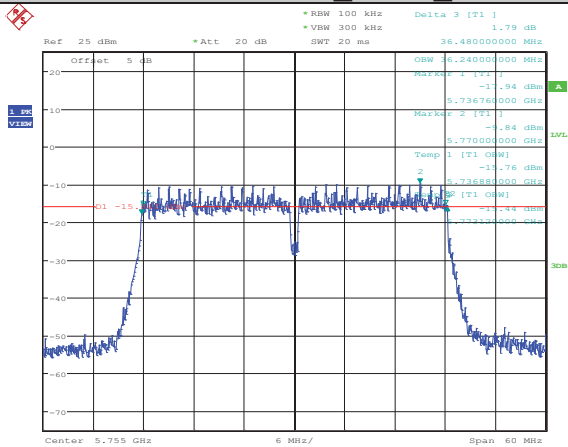
Date: 25.JUN.2018 08:37:49

11AC40MIMO ANT2 5670



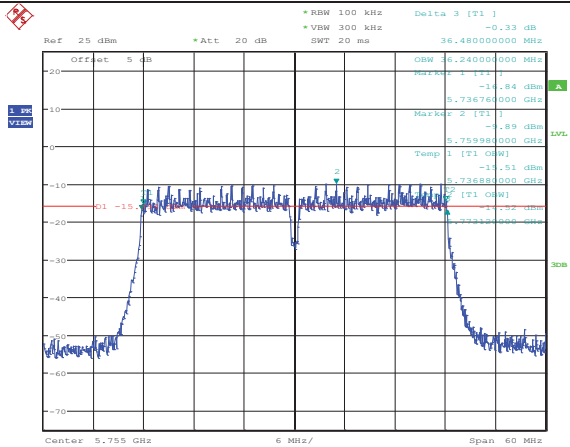
Date: 25.JUN.2018 08:40:03

11AC40MIMO ANT1 5755



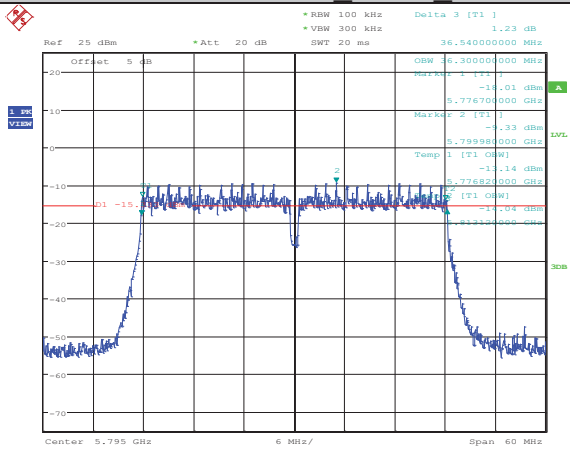
Date: 25.JUN.2018 08:42:38

11AC40MIMO ANT2 5755



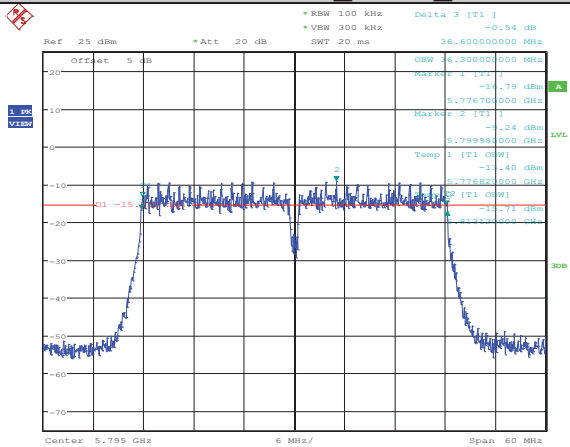
Date: 25.JUN.2018 08:44:53

11AC40MIMO ANT1 5795



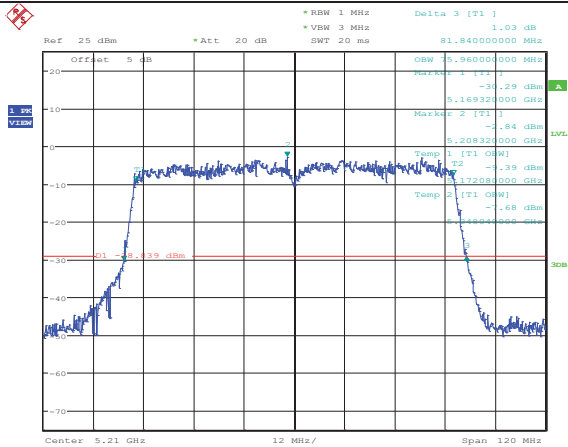
Date: 25.JUN.2018 08:50:07

11AC40MIMO ANT2 5795



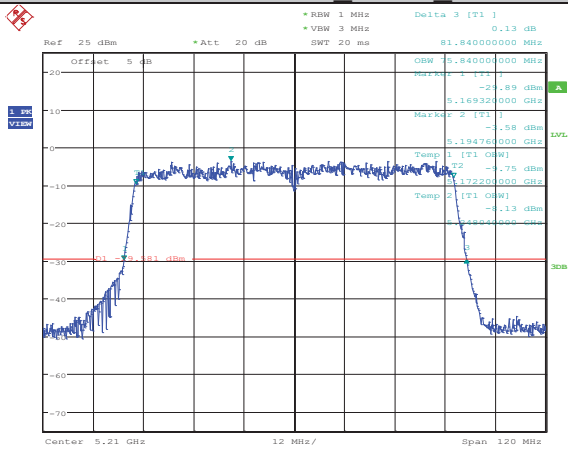
Date: 25.JUN.2018 08:52:23

11AC80MIMO ANT1 5210



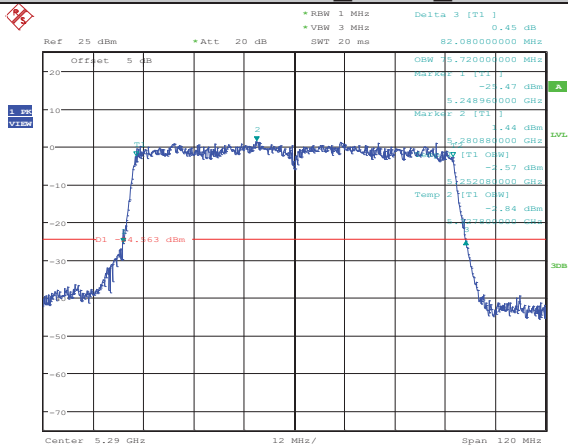
Date: 25.JUN.2018 08:56:50

11AC80MIMO ANT2 5210



Date: 25.JUN.2018 08:59:19

11AC80MIMO ANT1 5290



Date: 25.JUN.2018 09:02:46

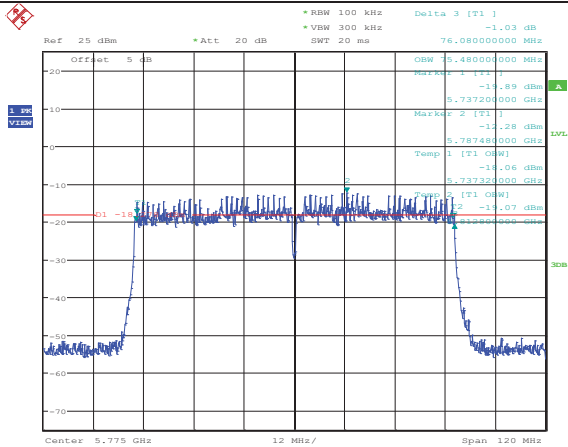
11AC80MIMO ANT2 5290



Date: 25.JUN.2018 09:09:57

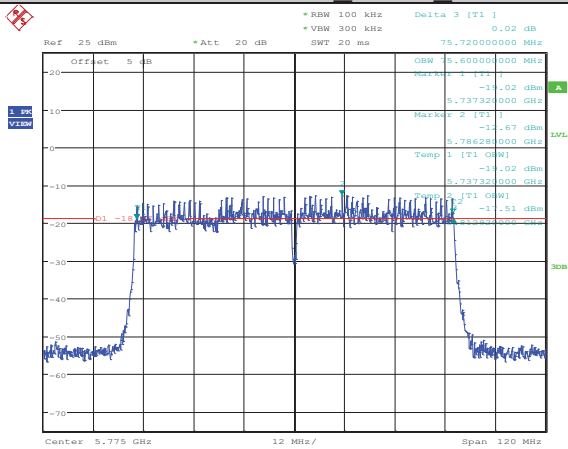
Date: 25.JUN.2018 09:12:49

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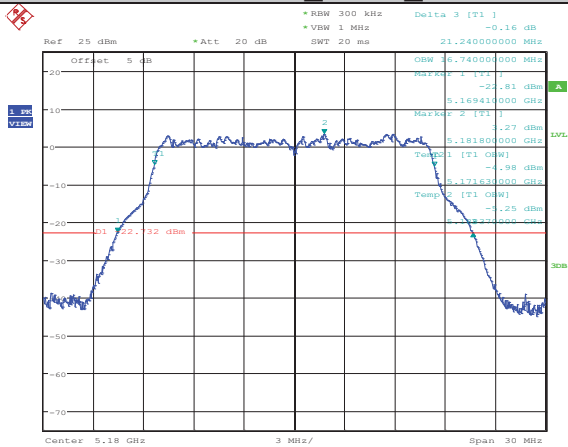
Date: 25.JUN.2018 09:15:51

11AC80MIMO ANT2 5775



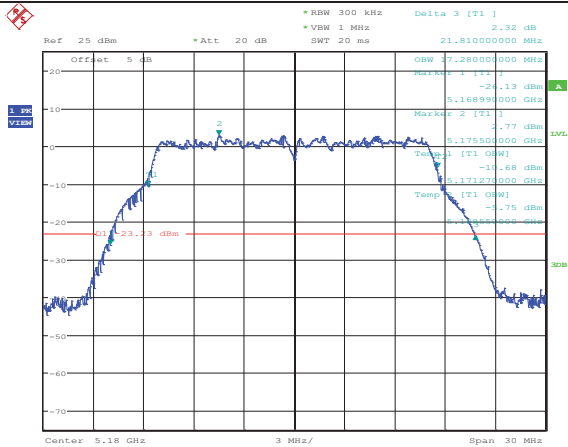
Date: 25.JUN.2018 09:18:48

11AMIMO ANT1 5180



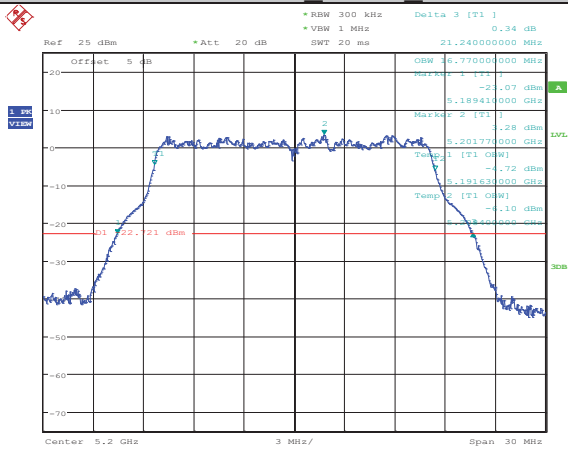
Date: 24.JUN.2018 13:23:35

11AMIMO ANT2 5180



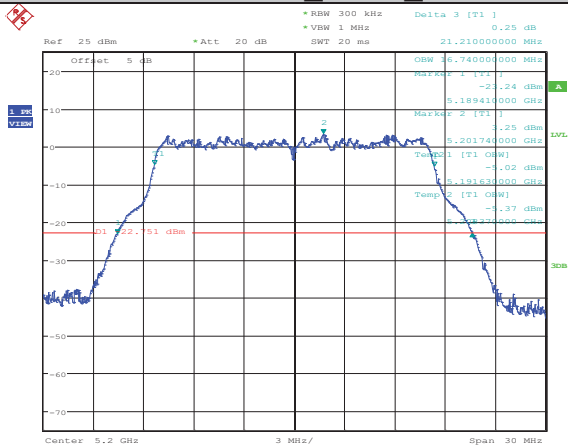
Date: 24.JUN.2018 13:20:49

11AMIMO ANT1 5200



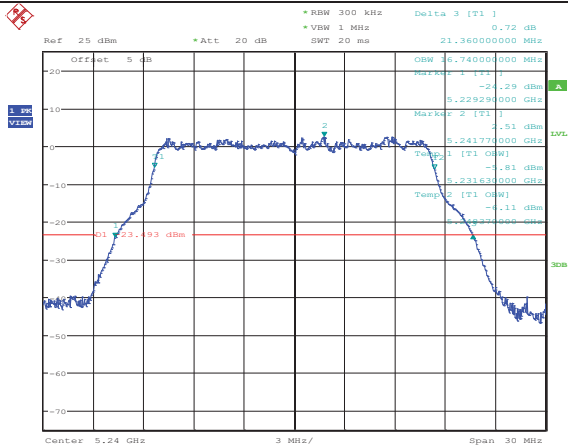
Date: 24.JUN.2018 13:51:36

11AMIMO ANT2 5200



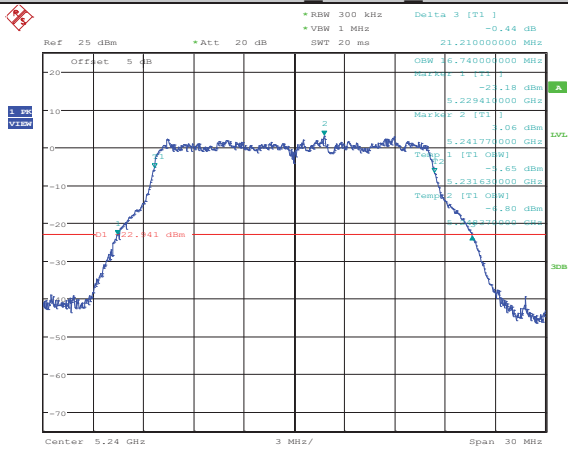
Date: 24.JUN.2018 13:53:43

11AMIMO ANT1 5240



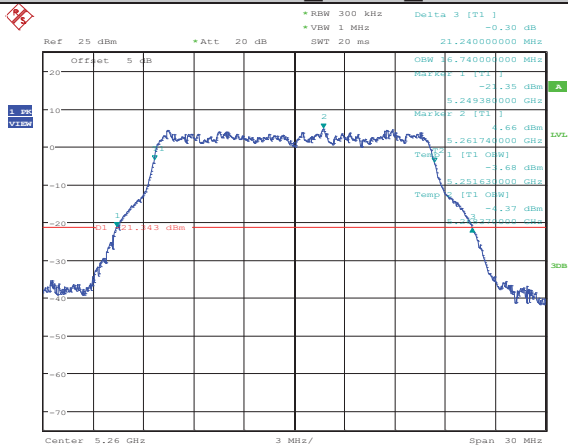
Date: 24.JUN.2018 13:56:40

11AMIMO ANT2 5240



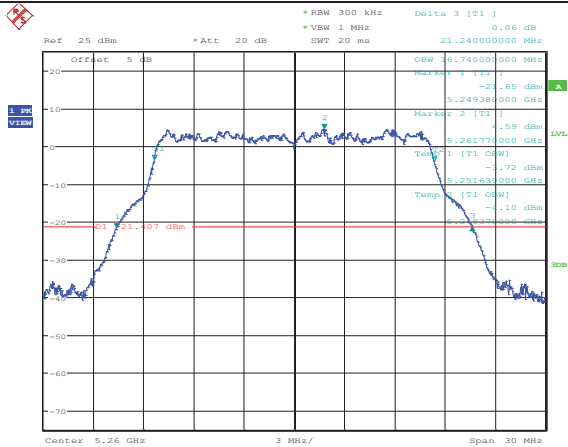
Date: 24.JUN.2018 13:58:57

11AMIMO ANT1 5260



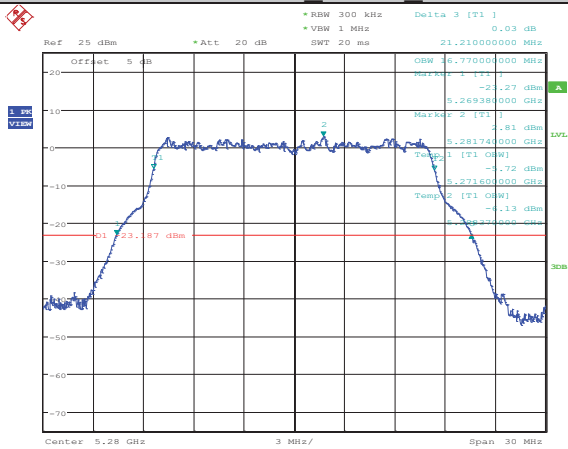
Date: 24.JUN.2018 14:11:05

11AMIMO ANT2 5260



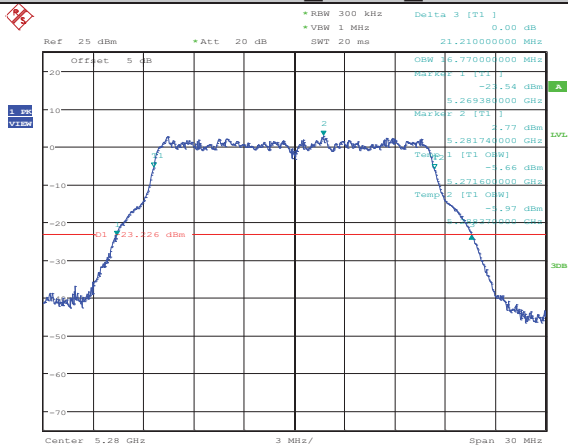
Date: 24.JUN.2018 14:13:17

11AMIMO ANT1 5280



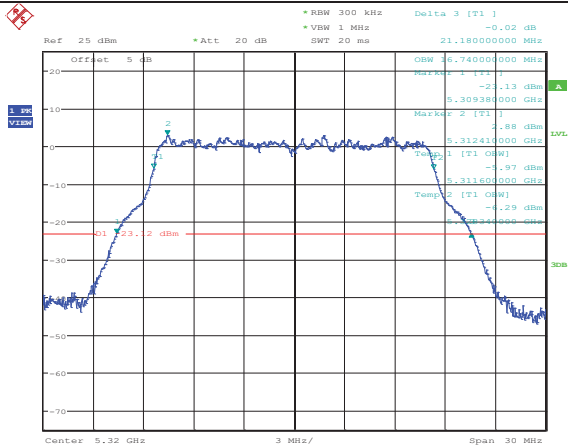
Date: 24.JUN.2018 14:17:28

11AMIMO ANT2 5280



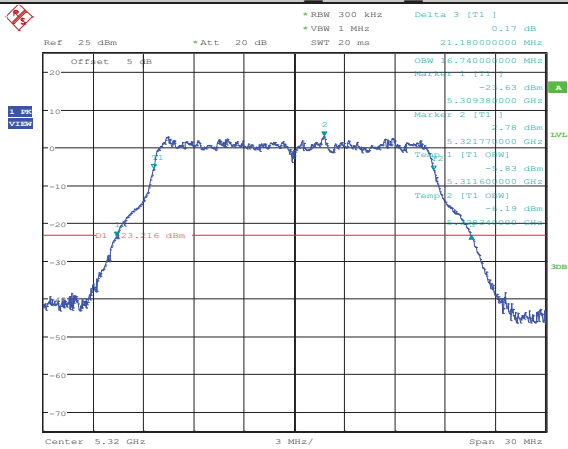
Date: 24.JUN.2018 14:20:20

11AMIMO ANT1 5320



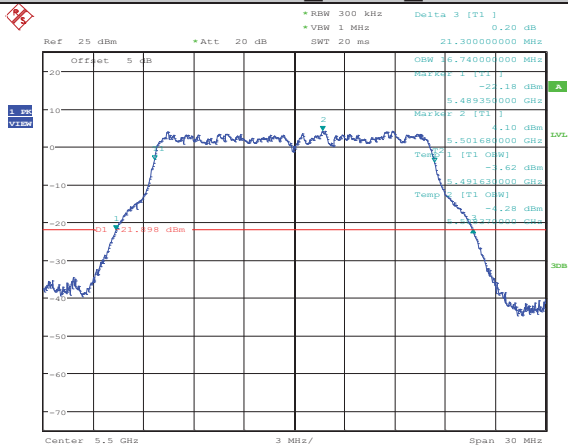
Date: 24.JUN.2018 14:23:27

11AMIMO ANT2 5320



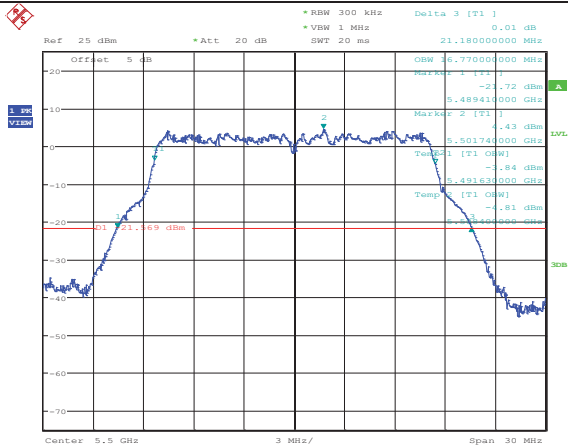
Date: 24.JUN.2018 14:25:57

11AMIMO ANT1 5500



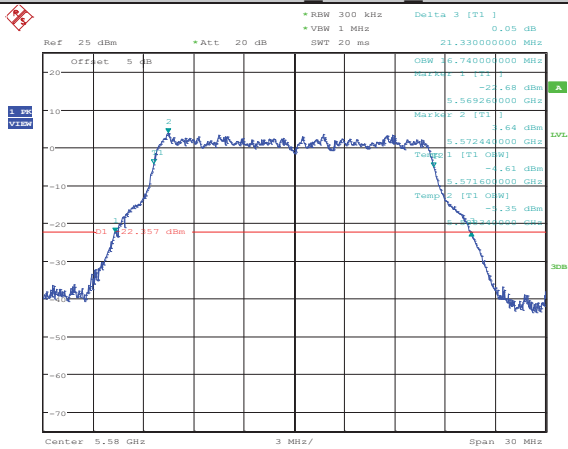
Date: 24.JUN.2018 14:29:06

11AMIMO ANT2 5500



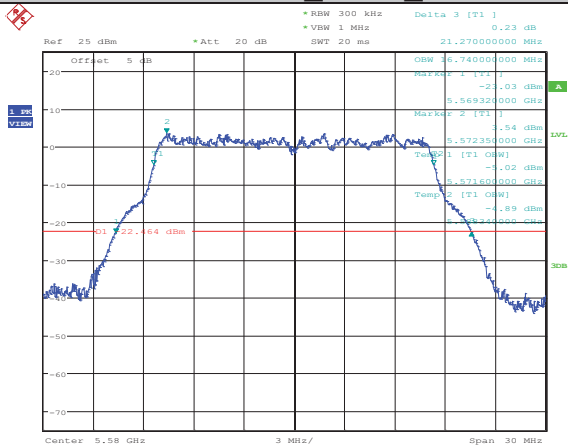
Date: 24.JUN.2018 14:31:27

11AMIMO ANT1 5580



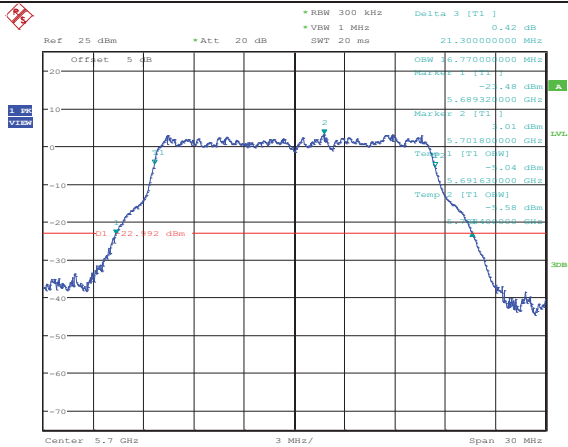
Date: 24.JUN.2018 14:37:06

11AMIMO ANT2 5580



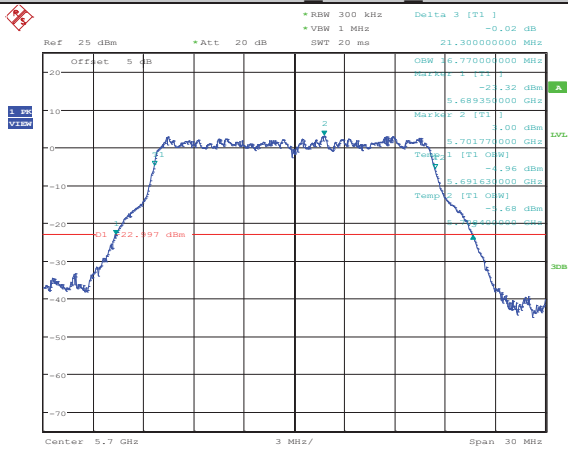
Date: 24.JUN.2018 14:39:53

11AMIMO ANT1 5700



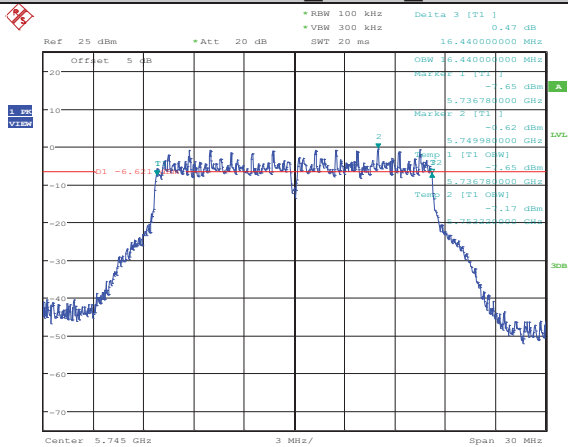
Date: 24.JUN.2018 14:42:53

11AMIMO ANT2 5700



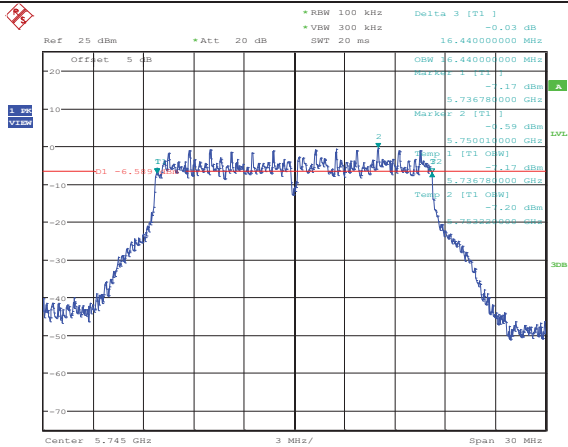
Date: 24.JUN.2018 14:45:29

11AMIMO ANT1 5745



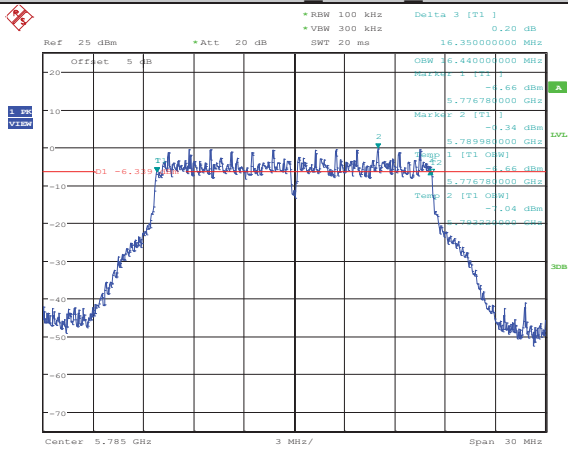
Date: 24.JUN.2018 14:48:32

11AMIMO ANT2 5745



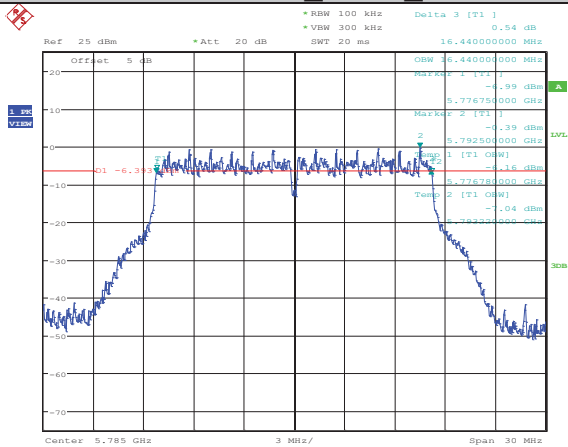
Date: 24.JUN.2018 14:50:50

11AMIMO ANT1 5785



Date: 24.JUN.2018 14:53:47

11AMIMO ANT2 5785



Date: 24.JUN.2018 14:58:54

11AMIMO ANT1 5825



11AMIMO ANT2 5825



5. Maximum Output Power

5.1. Block diagram of test setup

Same as section 4.1

5.2. Limits

FCC Part15, Subpart E/ RSS-247		
Test Item	Limit	Frequency Range (MHz)
Conducted Output Power	For FCC client devices: 250mW (24dBm)	5150-5250
	For RSS: e.i.r.p. power: not exceed 200 mW(23dBm) or $10 + 10 \log_{10} B$	
	For FCC: 250mW (24dBm) or $11 + 10 \log_{10} B$	5250-5350
	For RSS: e.i.r.p. power: not exceed 1.0 W(30dBm) or $17 + 10 \log_{10} B$	
	For FCC: 250mW (24dBm) or $11 + 10 \log_{10} B$	For FCC:5470-5725 For IC:5470-5600 5650-5725
	For RSS: e.i.r.p. power: not exceed 1.0 W(30dBm) or $17 + 10 \log_{10} B$	
	1 Watt (30dBm)	5725-5850
Note: 1. For FCC: B=26 bandwidth; For ISCED: B=99% bandwidth. 2. For 802.11a, 802.11n and 802.11ac, the EUT incorporates a MIMO function. The Antenna directional gain is 7.1dBi. The Output Power limit is the above limits-(7.1-6) (For ISCED e.i.r.p. power only for 5725-5850 Band)		

5.3. Test Procedure

- (1) Connect each EUT's antenna output to Spectrum Analyzer by RF cable and attenuator
- (2) Add each antenna port's results to get the total output power of EUT.

5.4. Test Result

Test Mode	Test Channel	Ant	Output Power [dBm]	EIRP [dBm]	FCC LIMIT	ISED LIMIT
11N20MIMO	ANT1	5180	13.97	18.06	22.9	22.55
11N20MIMO	ANT2	5180	14.07	18.16	22.9	22.55
11N20MIMO	total	5180	17.03	21.12	22.9	22.55
11N20MIMO	ANT1	5200	13.88	17.97	22.9	22.55
11N20MIMO	ANT2	5200	13.97	18.06	22.9	22.55
11N20MIMO	total	5200	16.94	21.03	22.9	22.55
11N20MIMO	ANT1	5240	13.04	17.13	22.9	22.55
11N20MIMO	ANT2	5240	12.98	17.07	22.9	22.55
11N20MIMO	total	5240	16.02	20.11	22.9	22.55
11N20MIMO	ANT1	5260	13.29	17.38	22.9	29.55

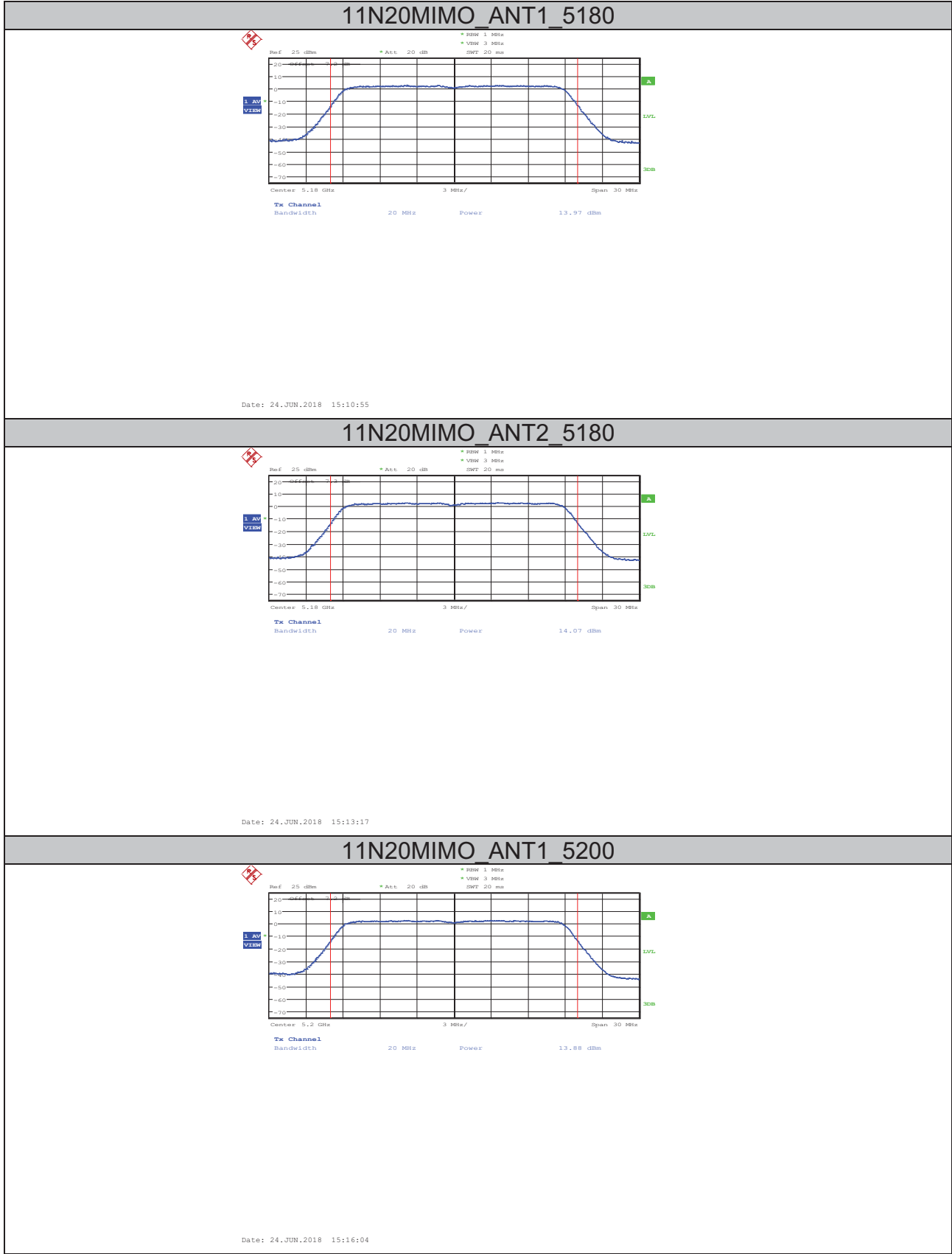
11N20MIMO	ANT2	5260	13.27	17.36	22.9	29.55
11N20MIMO	total	5260	16.29	20.38	22.9	29.55
11N20MIMO	ANT1	5280	13.41	17.50	22.9	29.55
11N20MIMO	ANT2	5280	13.40	17.49	22.9	29.55
11N20MIMO	total	5280	16.42	20.51	22.9	29.55
11N20MIMO	ANT1	5320	13.07	17.16	22.9	29.55
11N20MIMO	ANT2	5320	13.07	17.16	22.9	29.55
11N20MIMO	total	5320	16.08	20.17	22.9	29.55
11N20MIMO	ANT1	5500	14.65	18.74	22.9	29.55
11N20MIMO	ANT2	5500	14.65	18.74	22.9	29.55
11N20MIMO	total	5500	17.66	21.75	22.9	29.55
11N20MIMO	ANT1	5580	14.02	18.11	22.9	29.55
11N20MIMO	ANT2	5580	13.93	18.02	22.9	29.55
11N20MIMO	total	5580	16.99	21.08	22.9	29.55
11N20MIMO	ANT1	5700	13.68	17.77	22.9	29.55
11N20MIMO	ANT2	5700	13.65	17.74	22.9	29.55
11N20MIMO	total	5700	16.68	20.77	22.9	29.55
11N20MIMO	ANT1	5745	13.36	17.45	28.9	28.9
11N20MIMO	ANT2	5745	13.32	17.41	28.9	28.9
11N20MIMO	total	5745	16.35	20.44	28.9	28.9
11N20MIMO	ANT1	5785	14.04	18.13	28.9	28.9
11N20MIMO	ANT2	5785	14.01	18.10	28.9	28.9
11N20MIMO	total	5785	17.04	21.13	28.9	28.9
11N20MIMO	ANT1	5825	13.75	17.84	28.9	28.9
11N20MIMO	ANT2	5825	13.59	17.68	28.9	28.9
11N20MIMO	total	5825	16.68	20.77	28.9	28.9
11N40MIMO	ANT1	5190	13.39	17.48	22.9	23
11N40MIMO	ANT2	5190	13.49	17.58	22.9	23
11N40MIMO	total	5190	16.45	20.54	22.9	23
11N40MIMO	ANT1	5230	13.15	17.24	22.9	23
11N40MIMO	ANT2	5230	13.04	17.13	22.9	23
11N40MIMO	total	5230	16.11	20.20	22.9	23
11N40MIMO	ANT1	5270	12.86	16.95	22.9	30
11N40MIMO	ANT2	5270	13.08	17.17	22.9	30
11N40MIMO	total	5270	15.98	20.07	22.9	30
11N40MIMO	ANT1	5310	12.84	16.93	22.9	30
11N40MIMO	ANT2	5310	12.83	16.92	22.9	30
11N40MIMO	total	5310	15.85	19.94	22.9	30
11N40MIMO	ANT1	5510	14.93	19.02	22.9	30
11N40MIMO	ANT2	5510	14.94	19.03	22.9	30

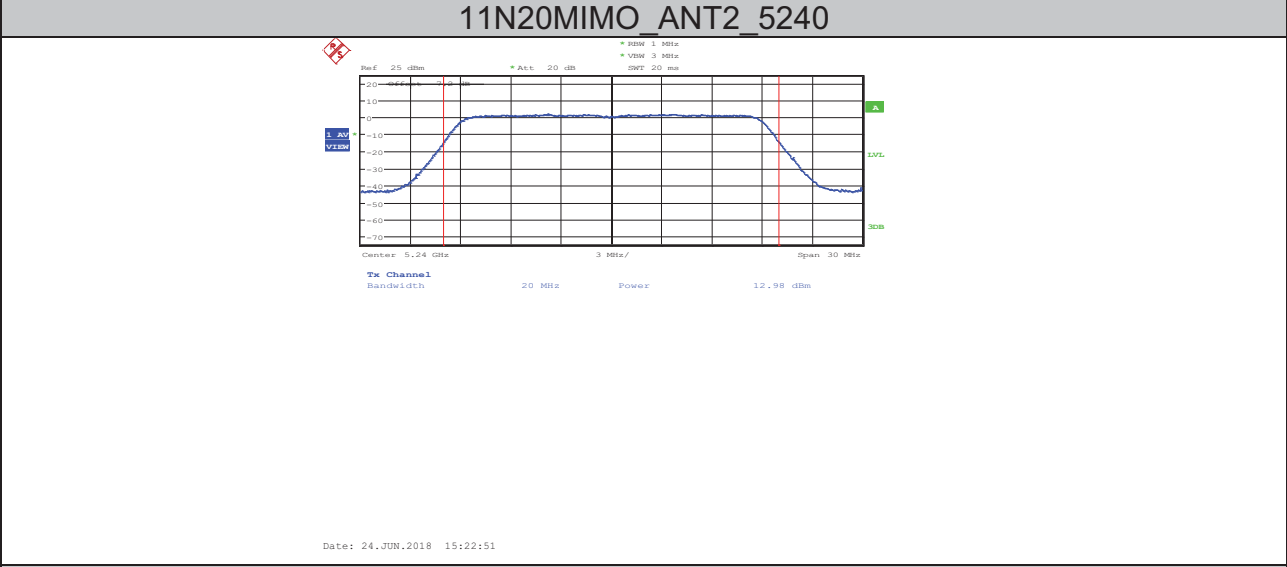
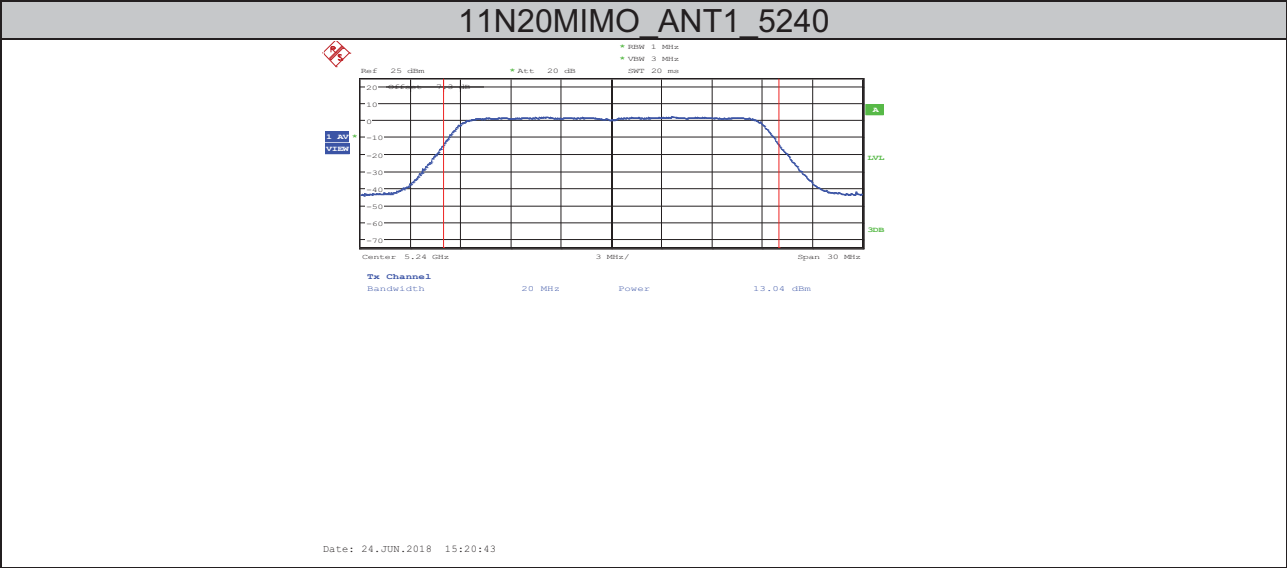
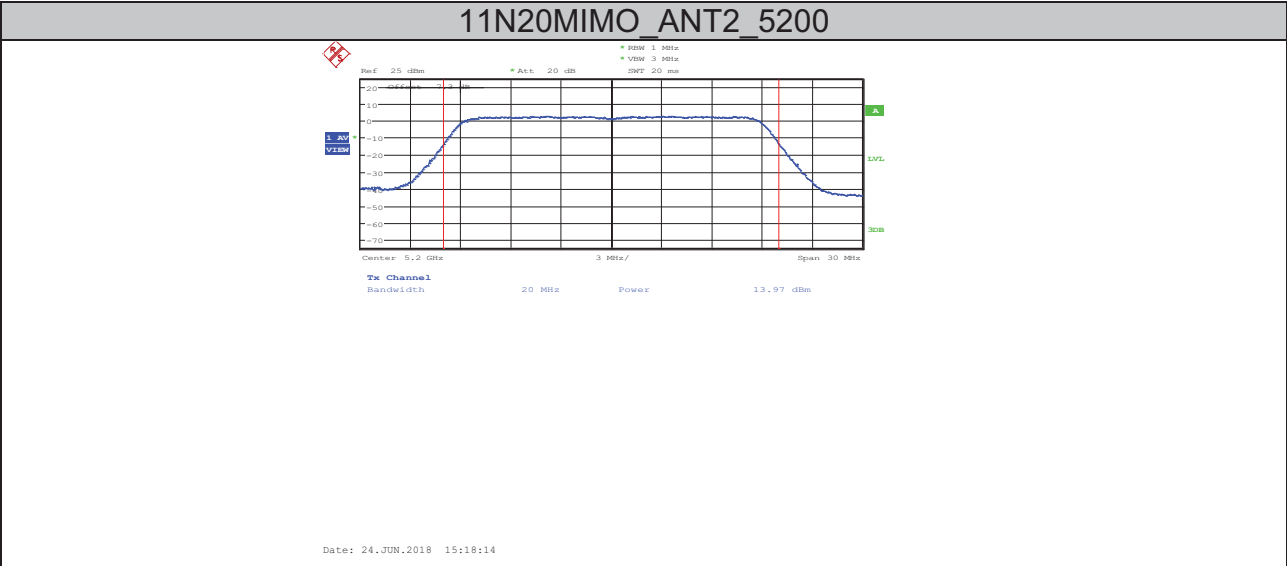
11N40MIMO	total	5510	17.95	22.04	22.9	30
11N40MIMO	ANT1	5550	14.25	18.34	22.9	30
11N40MIMO	ANT2	5550	14.21	18.30	22.9	30
11N40MIMO	total	5550	17.24	21.33	22.9	30
11N40MIMO	ANT1	5670	13.55	17.64	22.9	30
11N40MIMO	ANT2	5670	13.44	17.53	22.9	30
11N40MIMO	total	5670	16.51	20.60	22.9	30
11N40MIMO	ANT1	5755	13.76	17.85	28.9	28.9
11N40MIMO	ANT2	5755	13.76	17.85	28.9	28.9
11N40MIMO	total	5755	16.77	20.86	28.9	28.9
11N40MIMO	ANT1	5795	13.83	17.92	28.9	28.9
11N40MIMO	ANT2	5795	13.83	17.92	28.9	28.9
11N40MIMO	total	5795	16.84	20.93	28.9	28.9
11AC20MIMO	ANT1	5180	12.25	16.34	22.9	22.58
11AC20MIMO	ANT2	5180	12.17	16.26	22.9	22.58
11AC20MIMO	total	5180	15.22	19.31	22.9	22.58
11AC20MIMO	ANT1	5200	11.98	16.07	22.9	22.58
11AC20MIMO	ANT2	5200	12.01	16.10	22.9	22.58
11AC20MIMO	total	5200	15.01	19.10	22.9	22.58
11AC20MIMO	ANT1	5240	11.20	15.29	22.9	22.58
11AC20MIMO	ANT2	5240	11.22	15.31	22.9	22.58
11AC20MIMO	total	5240	14.22	18.31	22.9	22.58
11AC20MIMO	ANT1	5260	11.08	15.17	22.9	29.58
11AC20MIMO	ANT2	5260	10.92	15.01	22.9	29.58
11AC20MIMO	total	5260	14.01	18.10	22.9	29.58
11AC20MIMO	ANT1	5280	10.99	15.08	22.9	29.58
11AC20MIMO	ANT2	5280	11.06	15.15	22.9	29.58
11AC20MIMO	total	5280	14.04	18.13	22.9	29.58
11AC20MIMO	ANT1	5320	11.11	15.20	22.9	29.58
11AC20MIMO	ANT2	5320	11.06	15.15	22.9	29.58
11AC20MIMO	total	5320	14.10	18.19	22.9	29.58
11AC20MIMO	ANT1	5500	12.73	16.82	22.9	29.58
11AC20MIMO	ANT2	5500	12.83	16.92	22.9	29.58
11AC20MIMO	total	5500	15.79	19.88	22.9	29.58
11AC20MIMO	ANT1	5580	11.82	15.91	22.9	29.58
11AC20MIMO	ANT2	5580	11.88	15.97	22.9	29.58
11AC20MIMO	total	5580	14.86	18.95	22.9	29.58
11AC20MIMO	ANT1	5700	11.65	15.74	22.9	29.58
11AC20MIMO	ANT2	5700	11.65	15.74	22.9	29.58
11AC20MIMO	total	5700	14.66	18.75	22.9	29.58

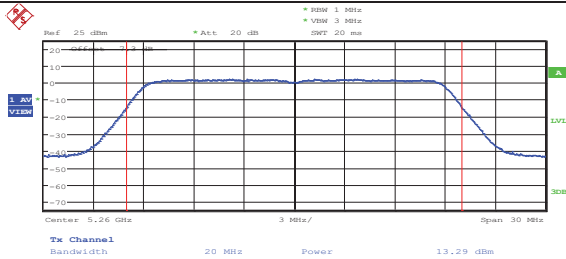
11AC20MIMO	ANT1	5745	11.08	15.17	28.9	28.9
11AC20MIMO	ANT2	5745	11.20	15.29	28.9	28.9
11AC20MIMO	total	5745	14.15	18.24	28.9	28.9
11AC20MIMO	ANT1	5785	11.82	15.91	28.9	28.9
11AC20MIMO	ANT2	5785	11.80	15.89	28.9	28.9
11AC20MIMO	total	5785	14.82	18.91	28.9	28.9
11AC20MIMO	ANT1	5825	11.87	15.96	28.9	28.9
11AC20MIMO	ANT2	5825	11.96	16.05	28.9	28.9
11AC20MIMO	total	5825	14.93	19.02	28.9	28.9
11AC40MIMO	ANT1	5190	9.43	13.52	22.9	23
11AC40MIMO	ANT2	5190	9.57	13.66	22.9	23
11AC40MIMO	total	5190	12.51	16.60	22.9	23
11AC40MIMO	ANT1	5230	8.88	12.97	22.9	23
11AC40MIMO	ANT2	5230	8.86	12.95	22.9	23
11AC40MIMO	total	5230	11.88	15.97	22.9	23
11AC40MIMO	ANT1	5270	8.74	12.83	22.9	30
11AC40MIMO	ANT2	5270	8.70	12.79	22.9	30
11AC40MIMO	total	5270	11.73	15.82	22.9	30
11AC40MIMO	ANT1	5310	8.77	12.86	22.9	30
11AC40MIMO	ANT2	5310	8.60	12.69	22.9	30
11AC40MIMO	total	5310	11.70	15.79	22.9	30
11AC40MIMO	ANT1	5510	11.09	15.18	22.9	30
11AC40MIMO	ANT2	5510	10.98	15.07	22.9	30
11AC40MIMO	total	5510	14.05	18.14	22.9	30
11AC40MIMO	ANT1	5550	10.96	15.05	22.9	30
11AC40MIMO	ANT2	5550	10.96	15.05	22.9	30
11AC40MIMO	total	5550	13.97	18.06	22.9	30
11AC40MIMO	ANT1	5670	9.95	14.04	22.9	30
11AC40MIMO	ANT2	5670	10.00	14.09	22.9	30
11AC40MIMO	total	5670	12.99	17.08	22.9	30
11AC40MIMO	ANT1	5755	8.34	12.43	28.9	28.9
11AC40MIMO	ANT2	5755	8.28	12.37	28.9	28.9
11AC40MIMO	total	5755	11.32	15.41	28.9	28.9
11AC40MIMO	ANT1	5795	9.08	13.17	28.9	28.9
11AC40MIMO	ANT2	5795	9.07	13.16	28.9	28.9
11AC40MIMO	total	5795	12.09	16.18	28.9	28.9
11AC80MIMO	ANT1	5210	9.20	13.29	22.9	23
11AC80MIMO	ANT2	5210	9.11	13.20	22.9	23
11AC80MIMO	total	5210	12.17	16.26	22.9	23
11AC80MIMO	ANT1	5290	14.28	18.37	22.9	30

11AC80MIMO	ANT2	5290	10.52	14.61	22.9	30
11AC80MIMO	total	5290	15.81	19.90	22.9	30
11AC80MIMO	ANT1	5530	10.29	14.38	22.9	30
11AC80MIMO	ANT2	5530	10.31	14.40	22.9	30
11AC80MIMO	total	5530	13.31	17.40	22.9	30
11AC80MIMO	ANT1	5775	9.04	13.13	28.9	28.9
11AC80MIMO	ANT2	5775	9.13	13.22	28.9	28.9
11AC80MIMO	total	5775	12.10	16.19	28.9	28.9
11AMIMO	ANT1	5180	13.42	17.51	22.9	22.24
11AMIMO	ANT2	5180	13.40	17.49	22.9	22.24
11AMIMO	total	5180	16.42	20.51	22.9	22.24
11AMIMO	ANT1	5200	13.41	17.50	22.9	22.24
11AMIMO	ANT2	5200	13.21	17.30	22.9	22.24
11AMIMO	total	5200	16.32	20.41	22.9	22.24
11AMIMO	ANT1	5240	12.86	16.95	22.9	22.24
11AMIMO	ANT2	5240	12.92	17.01	22.9	22.24
11AMIMO	total	5240	15.90	19.99	22.9	22.24
11AMIMO	ANT1	5260	14.63	18.72	22.9	29.24
11AMIMO	ANT2	5260	14.81	18.90	22.9	29.24
11AMIMO	total	5260	17.73	21.82	22.9	29.24
11AMIMO	ANT1	5280	12.95	17.04	22.9	29.24
11AMIMO	ANT2	5280	12.85	16.94	22.9	29.24
11AMIMO	total	5280	15.91	20.00	22.9	29.24
11AMIMO	ANT1	5320	12.85	16.94	22.9	29.24
11AMIMO	ANT2	5320	12.95	17.04	22.9	29.24
11AMIMO	total	5320	15.91	20.00	22.9	29.24
11AMIMO	ANT1	5500	14.51	18.60	22.9	29.24
11AMIMO	ANT2	5500	14.52	18.61	22.9	29.24
11AMIMO	total	5500	17.53	21.62	22.9	29.24
11AMIMO	ANT1	5580	13.81	17.90	22.9	29.24
11AMIMO	ANT2	5580	13.69	17.78	22.9	29.24
11AMIMO	total	5580	16.76	20.85	22.9	29.24
11AMIMO	ANT1	5700	13.27	17.36	22.9	29.24
11AMIMO	ANT2	5700	13.25	17.34	22.9	29.24
11AMIMO	total	5700	16.27	20.36	22.9	29.24
11AMIMO	ANT1	5745	13.12	17.21	28.9	28.9
11AMIMO	ANT2	5745	13.02	17.11	28.9	28.9
11AMIMO	total	5745	16.08	20.17	28.9	28.9
11AMIMO	ANT1	5785	13.55	17.64	28.9	28.9
11AMIMO	ANT2	5785	13.44	17.53	28.9	28.9

11AMIMO	total	5785	16.51	20.60	28.9	28.9
11AMIMO	ANT1	5825	13.56	17.65	28.9	28.9
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11AMIMO	total	5825	16.52	20.61	28.9	28.9

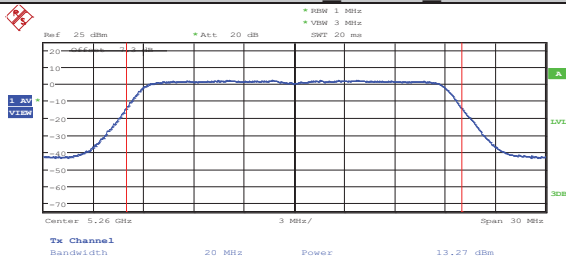






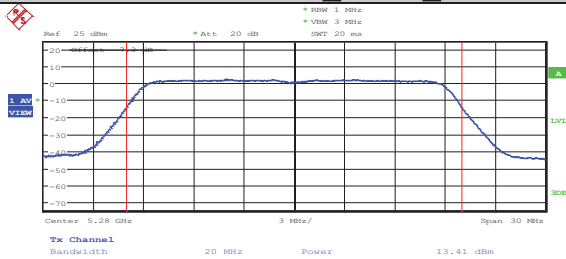
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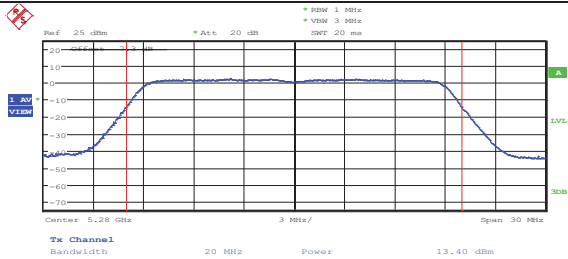
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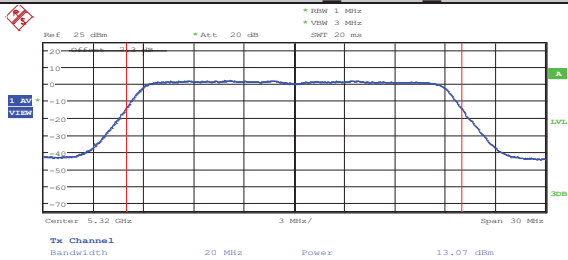
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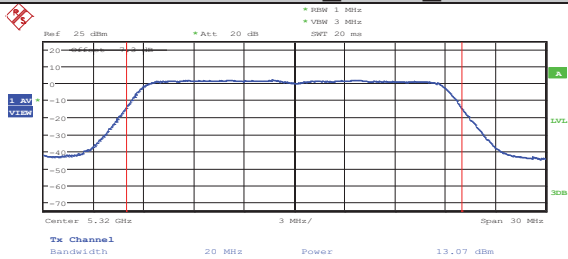
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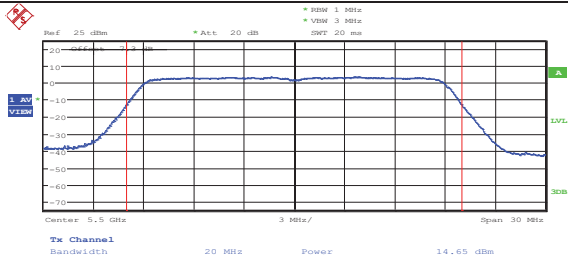
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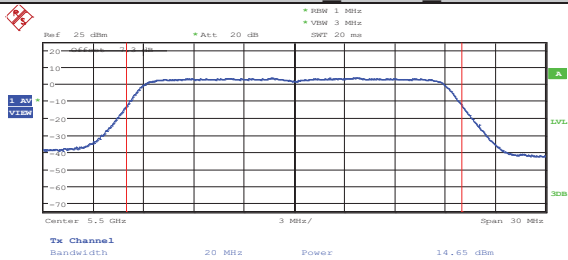
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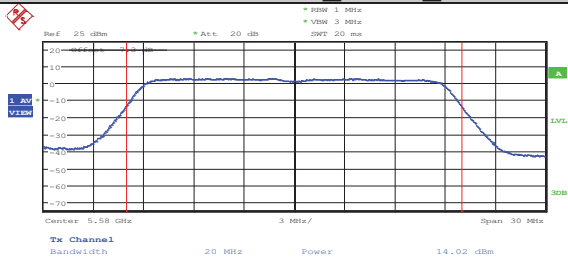
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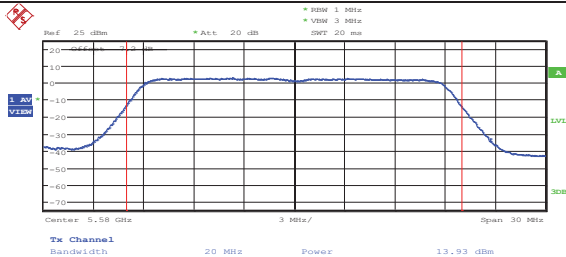
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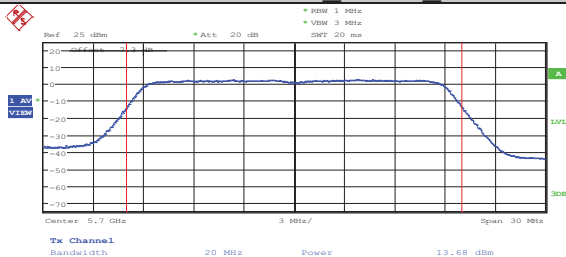
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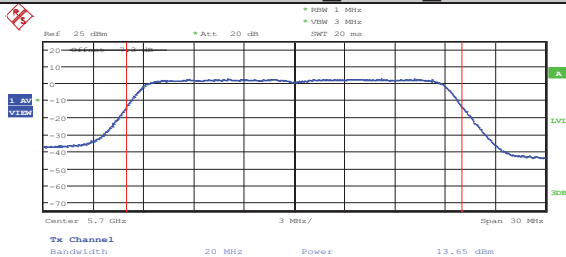
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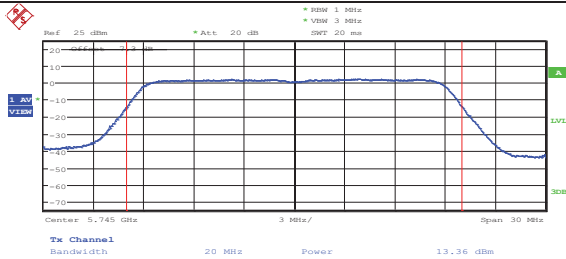
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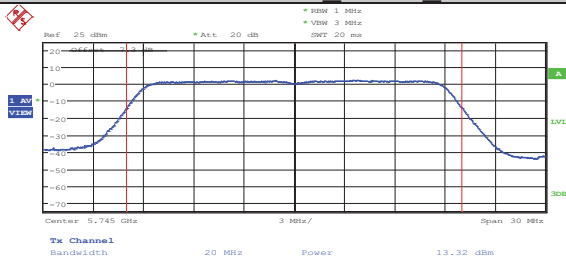
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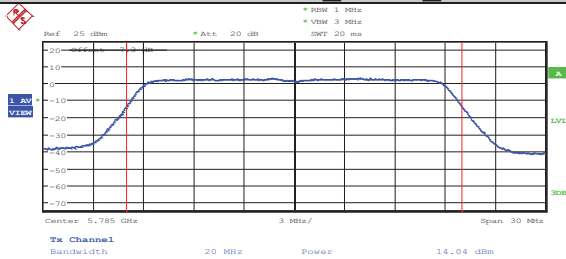
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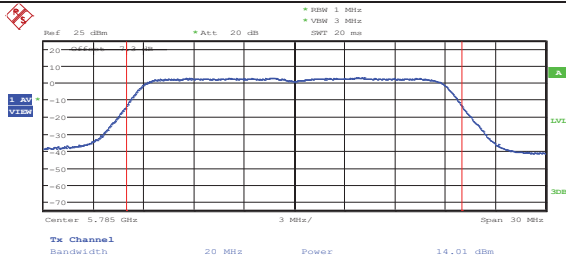
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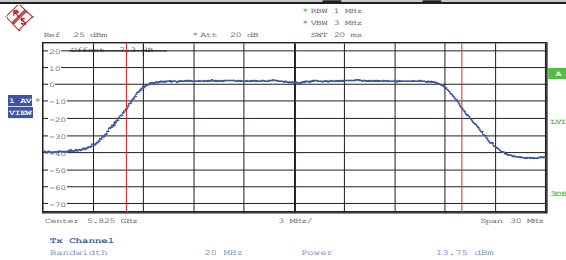
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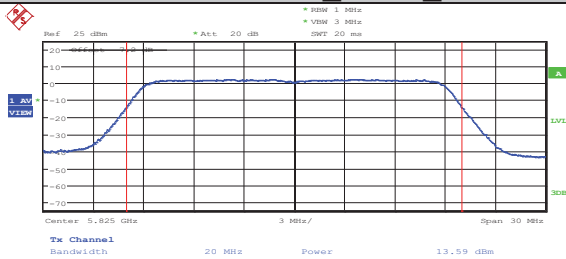
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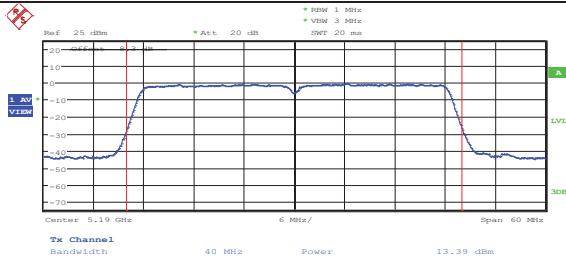
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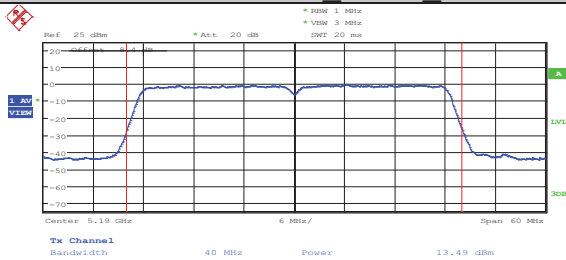
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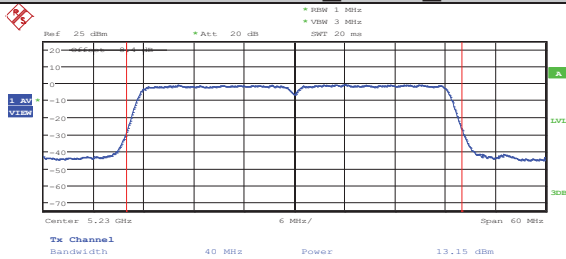
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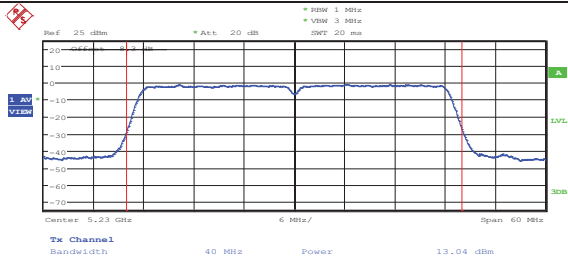
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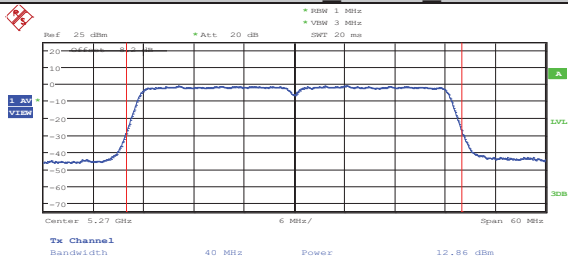
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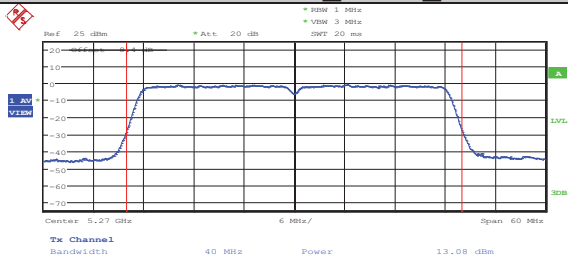
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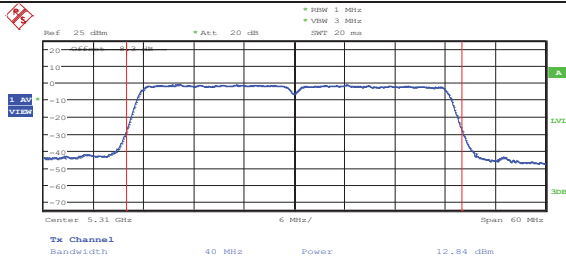
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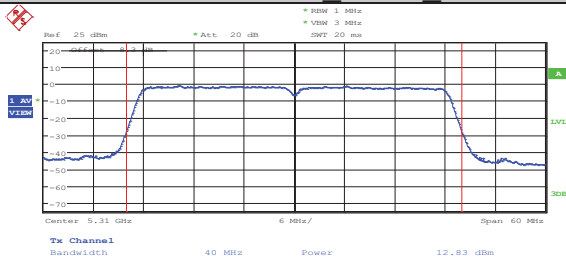
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11N40MIMO_ANT1_5310



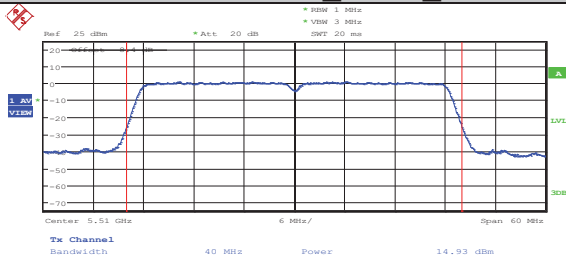
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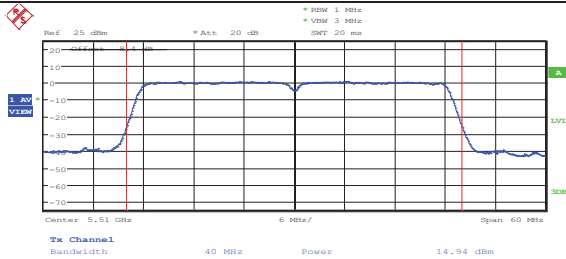
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11N40MIMO_ANT1_5510



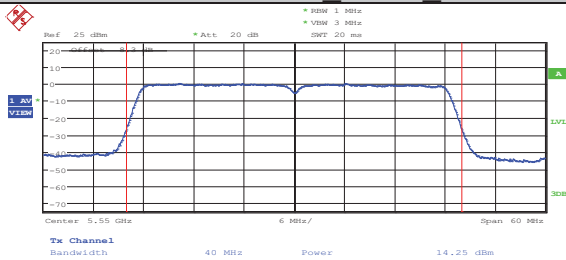
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11N40MIMO_ANT2_5510



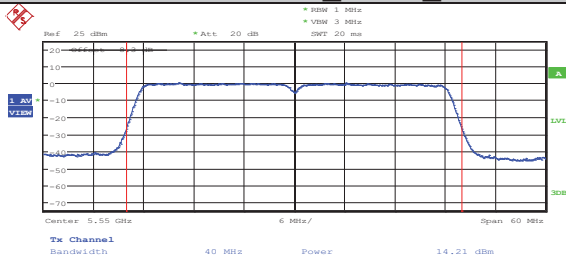
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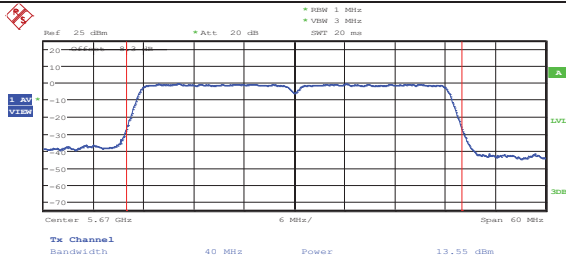
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11N40MIMO_ANT2_5550



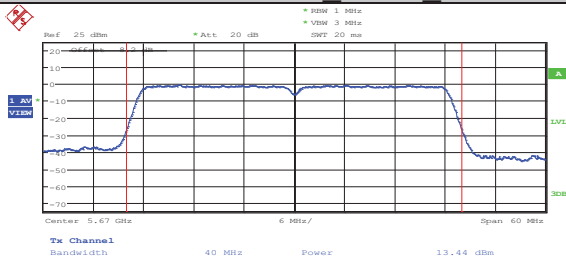
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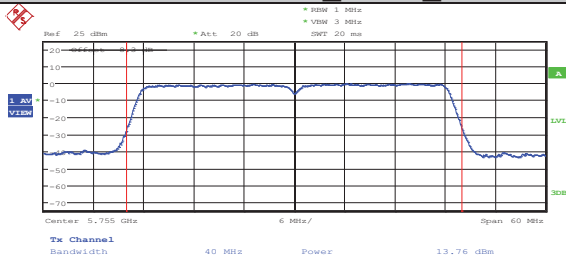
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11N40MIMO_ANT2_5670



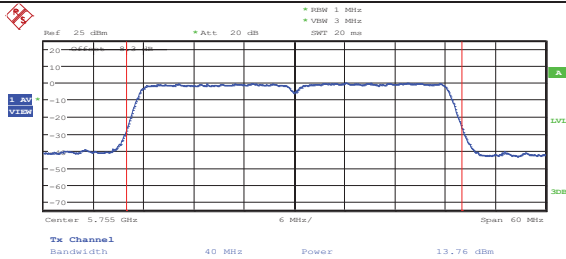
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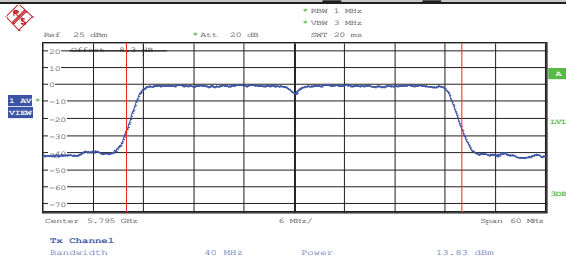
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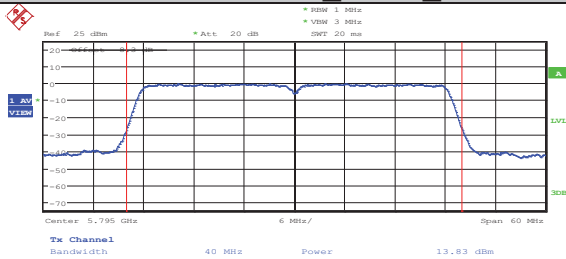
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11N40MIMO ANT1 5795



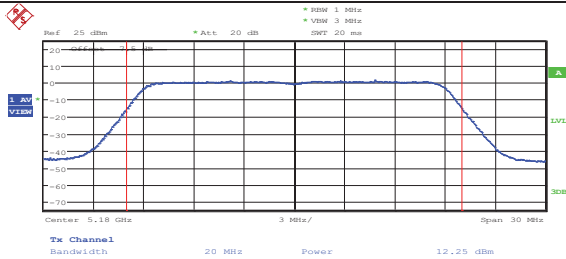
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11N40MIMO ANT2 5795



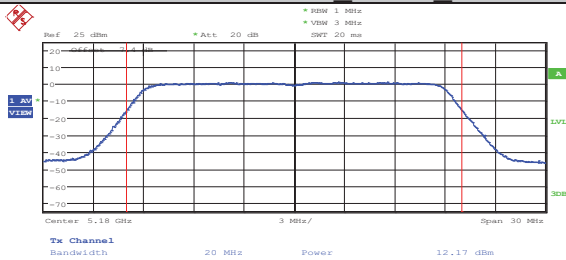
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11AC20MIMO ANT1 5180



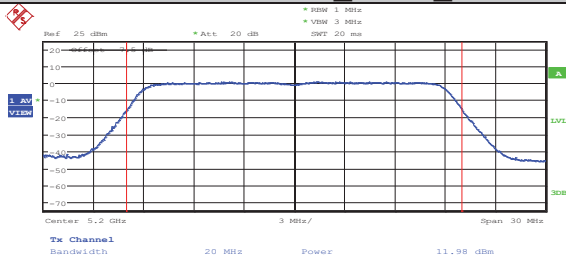
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11AC20MIMO_ANT2_5180



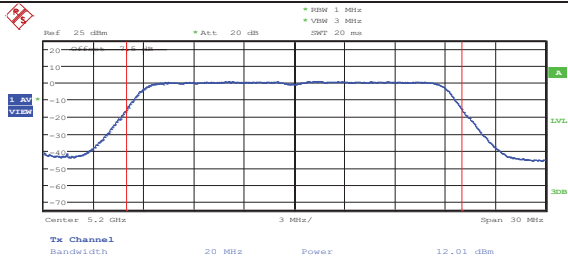
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11AC20MIMO_ANT1_5200



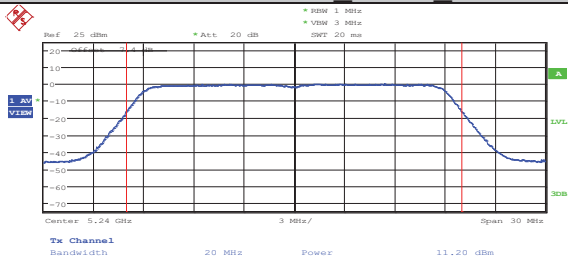
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11AC20MIMO_ANT2_5200



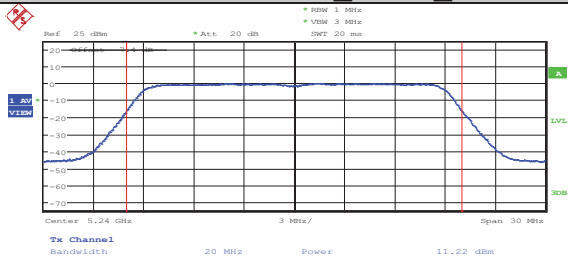
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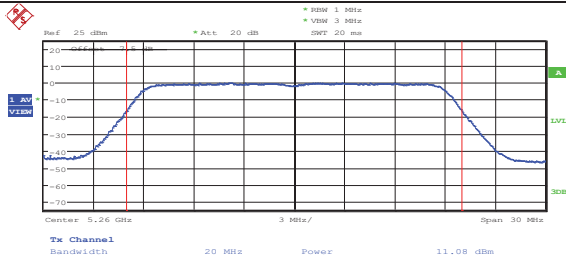
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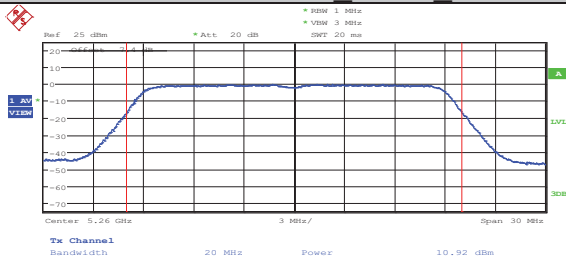
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11AC20MIMO_ANT1_5260



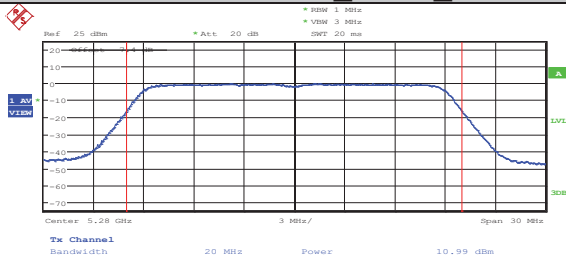
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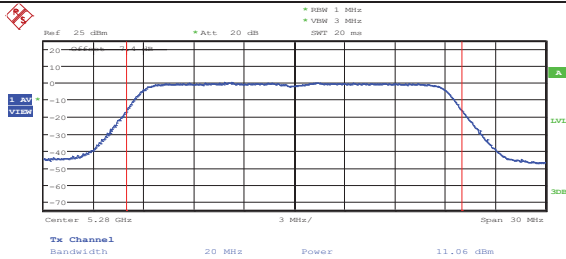
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11AC20MIMO_ANT1_5280



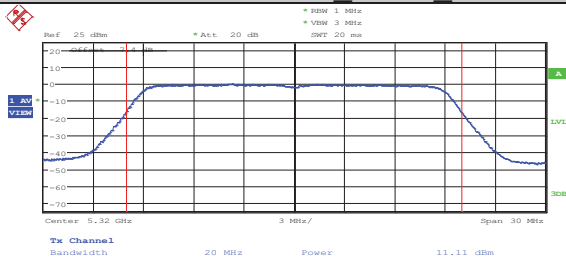
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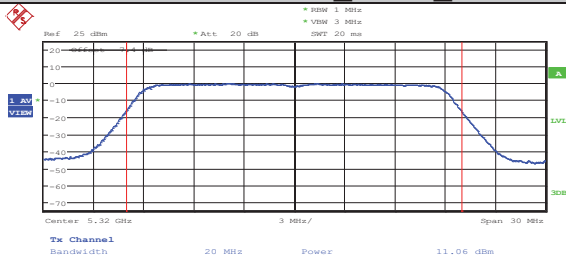
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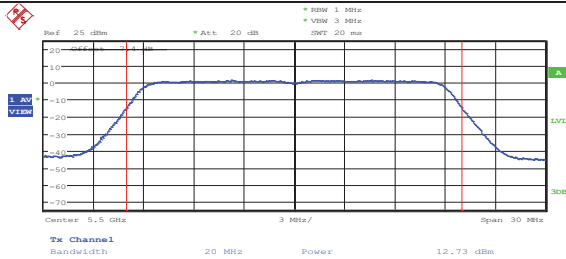
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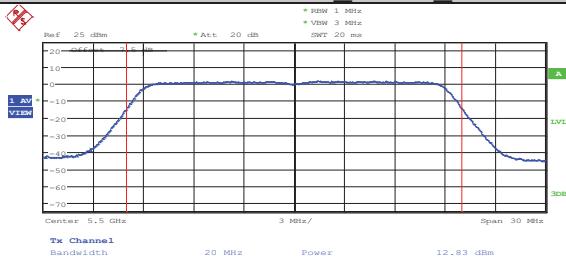
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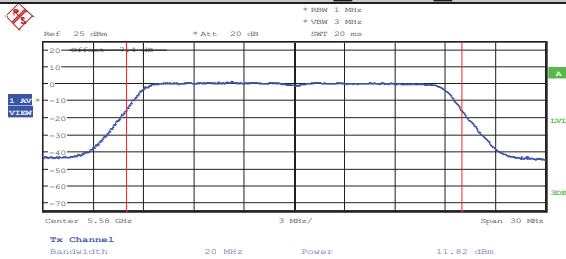
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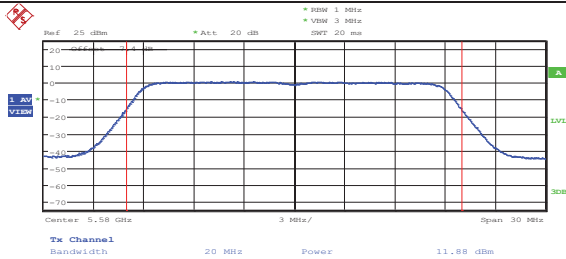
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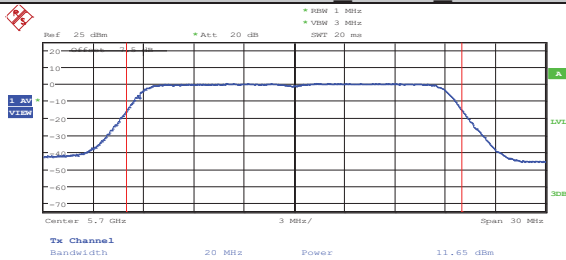
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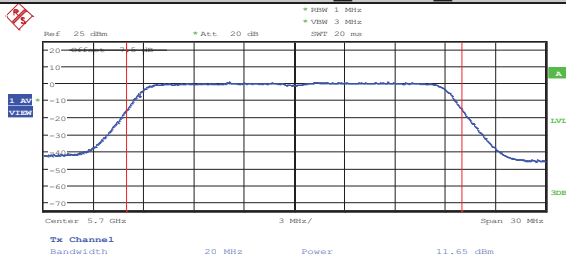
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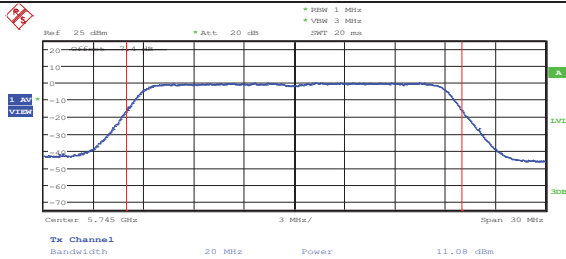
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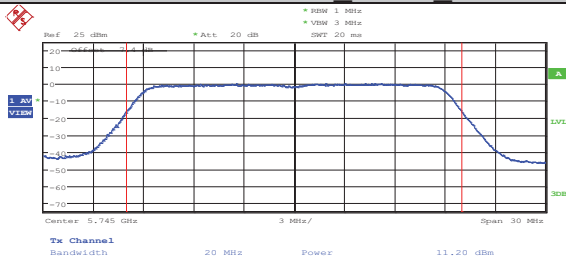
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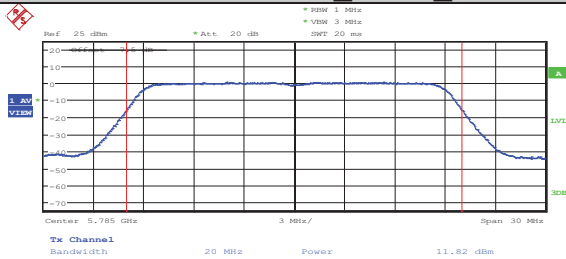
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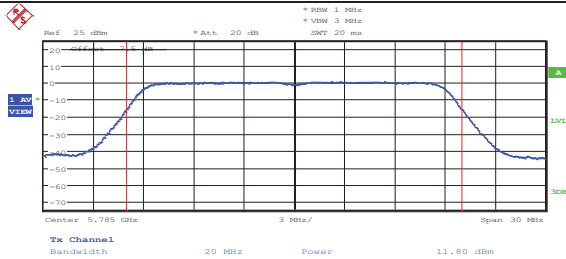
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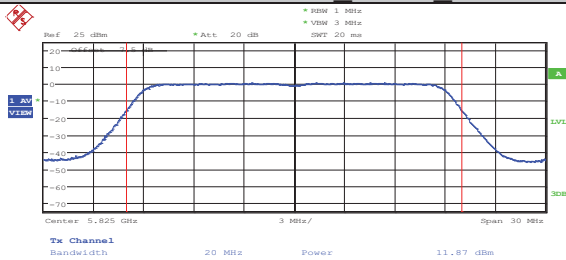
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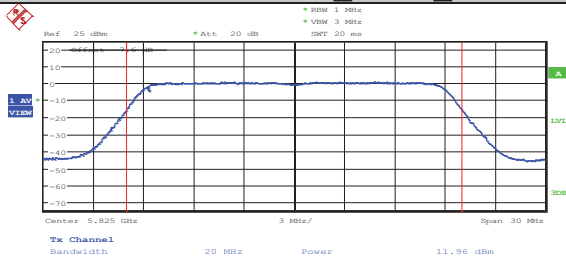
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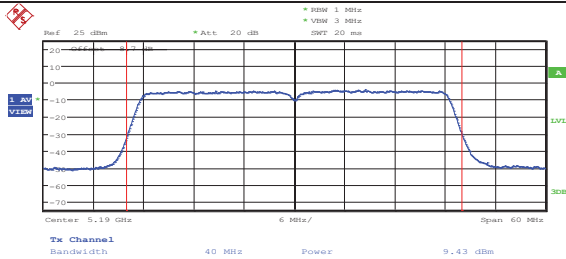
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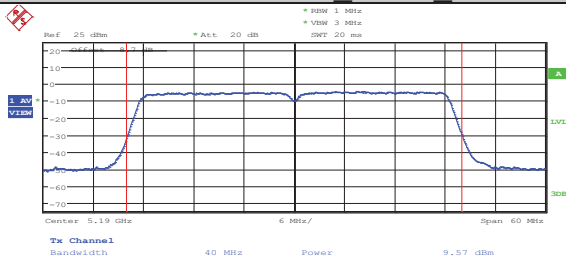
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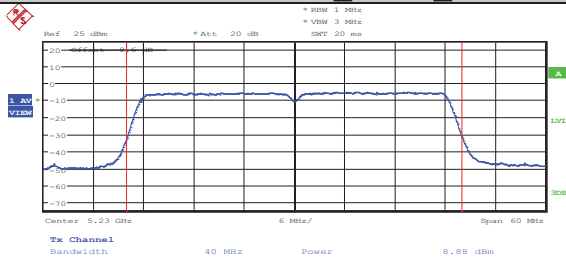
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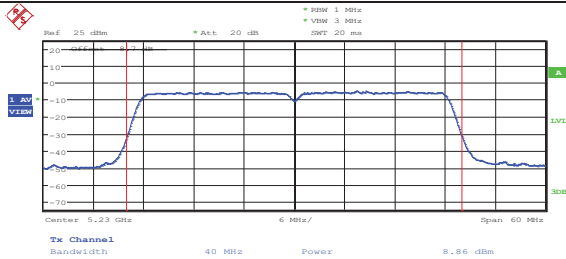
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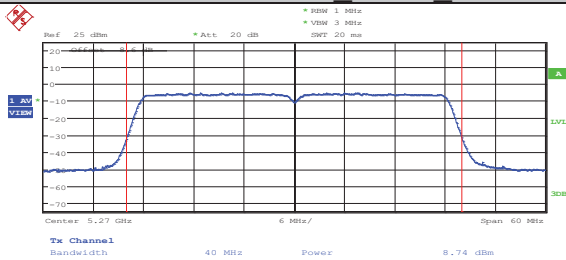
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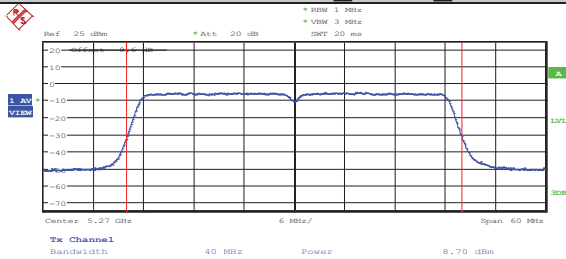
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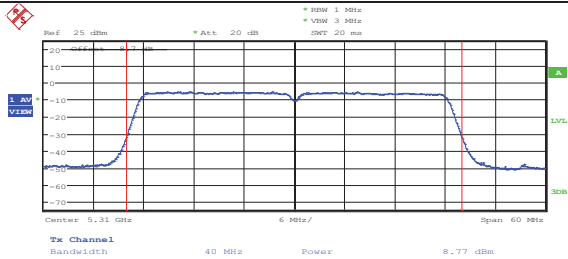
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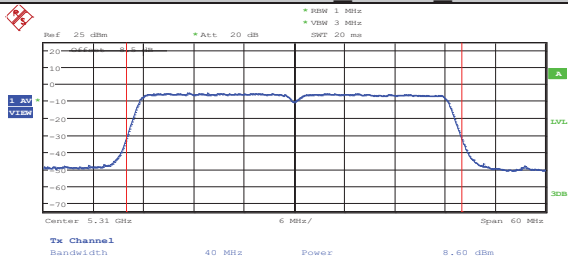
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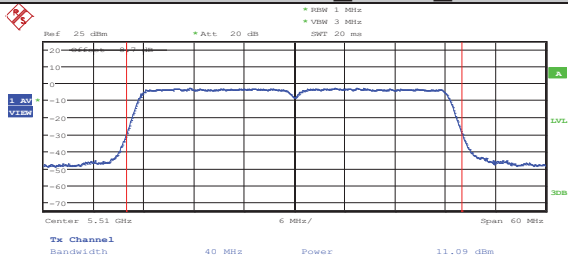
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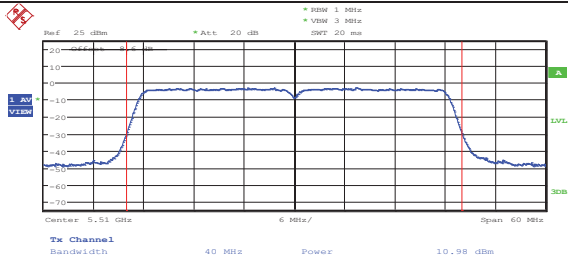
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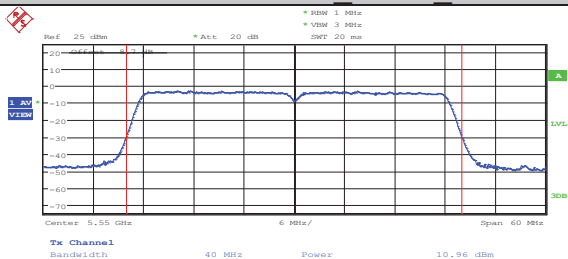
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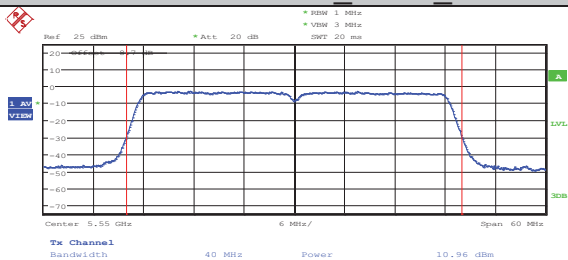
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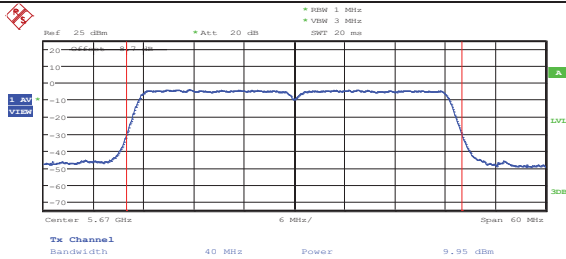
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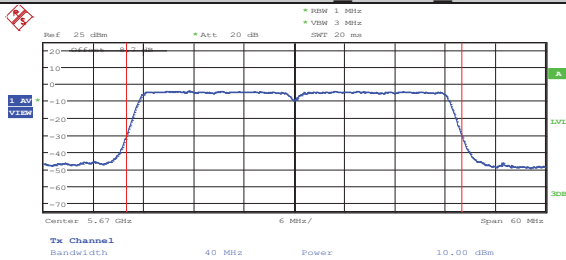
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11AC40MIMO_ANT1_5670



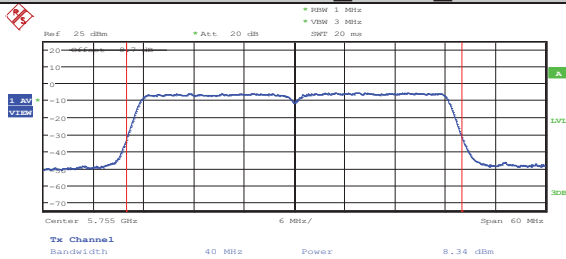
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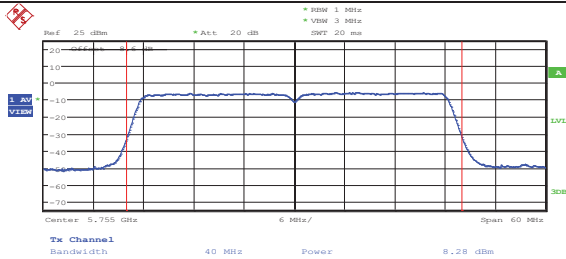
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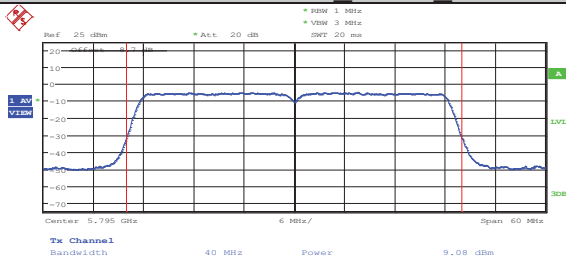
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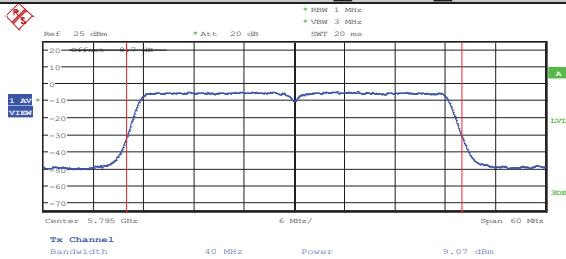
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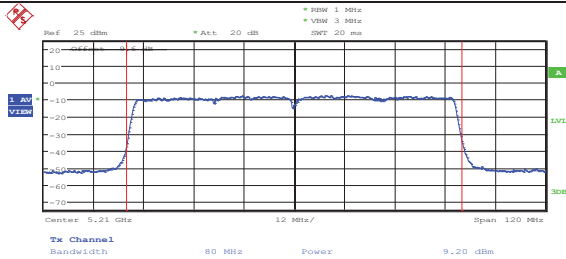
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11AC40MIMO_ANT2_5795



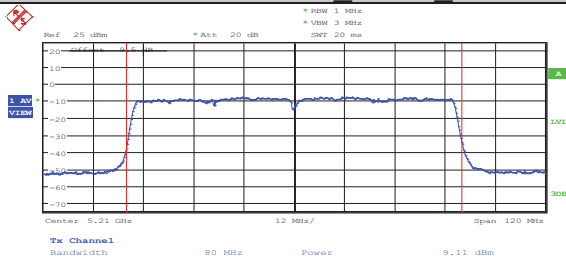
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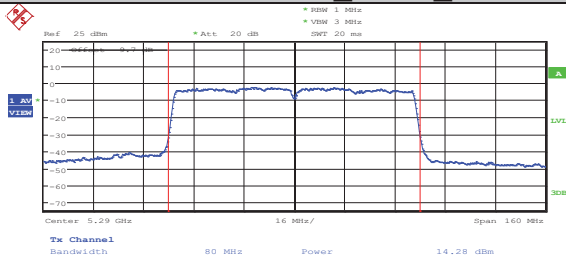
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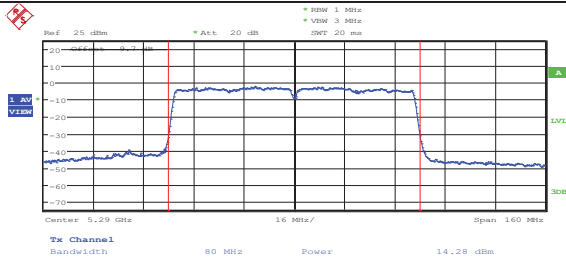
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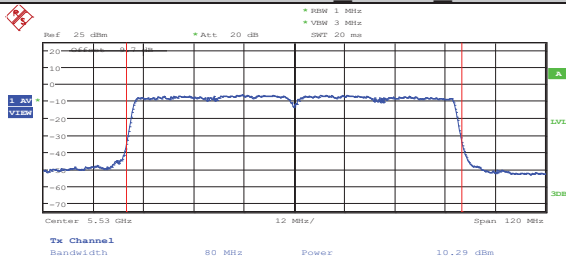
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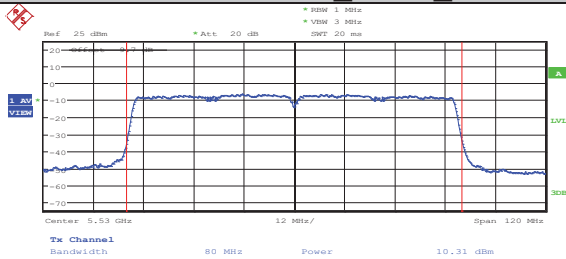
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11AC80MIMO_ANT1_5530



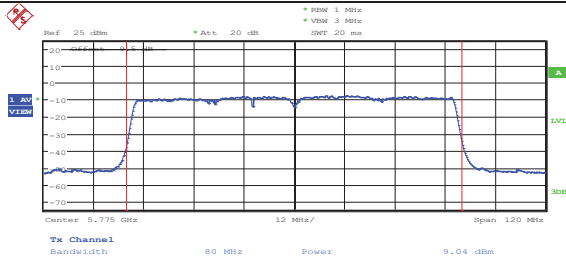
Date: 25.JUN.2018 09:10:50

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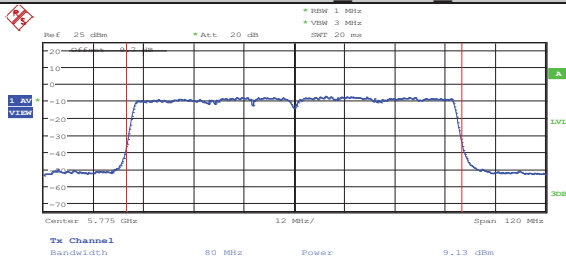
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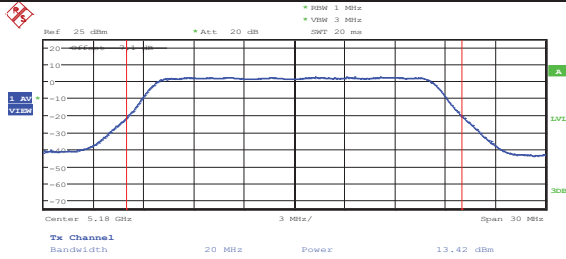
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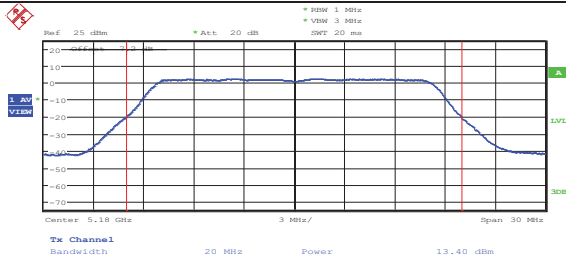
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11AMIMO_ANT1_5180



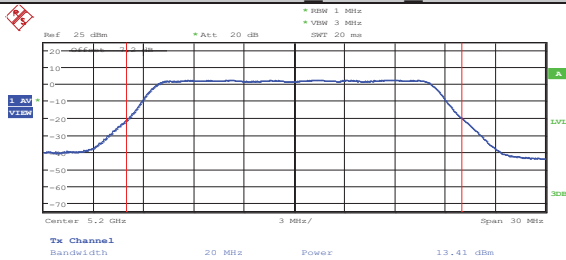
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11AMIMO_ANT2_5180



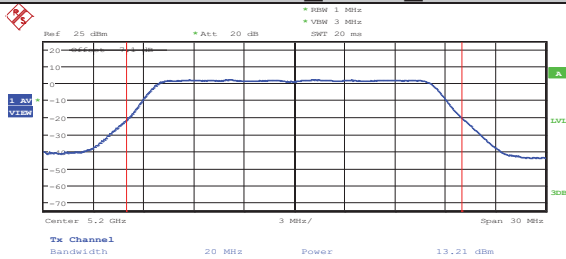
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11AMIMO ANT1_5200



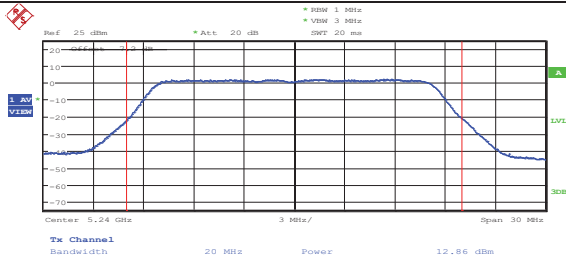
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11AMIMO ANT2_5200



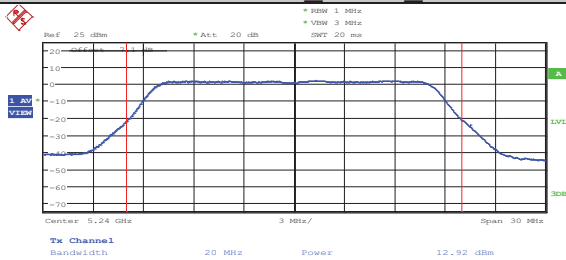
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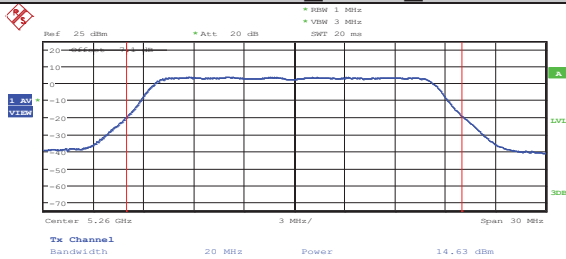
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11AMIMO ANT2 5240



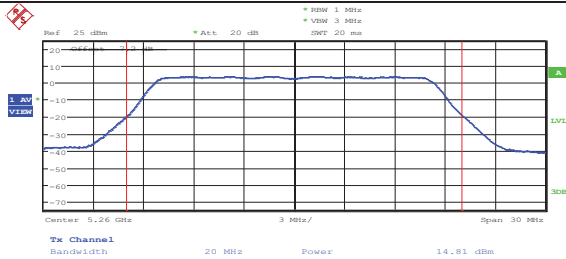
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11AMIMO ANT1 5260



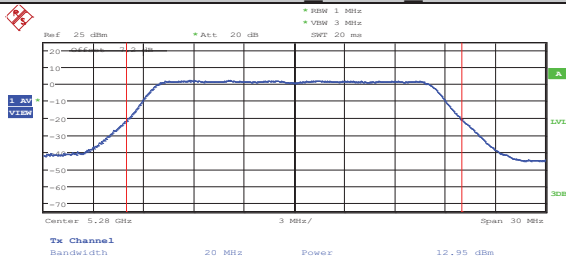
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11AMIMO ANT2 5260



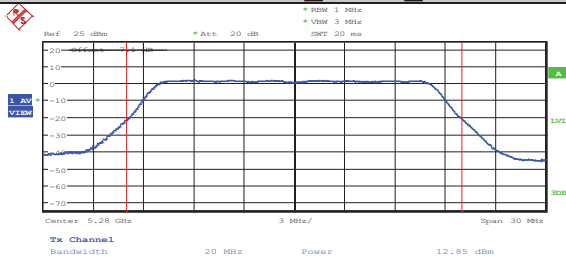
Date: 24.JUN.2018 14:13:49

11AMIMO ANT1_5280



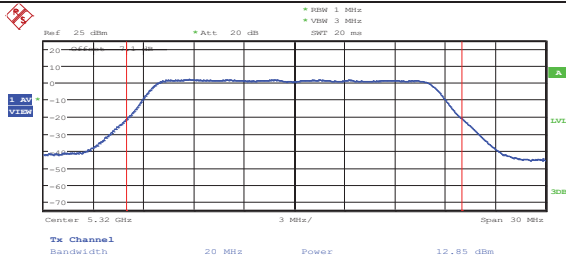
Date: 24.JUN.2018 14:18:01

11AMIMO ANT2_5280



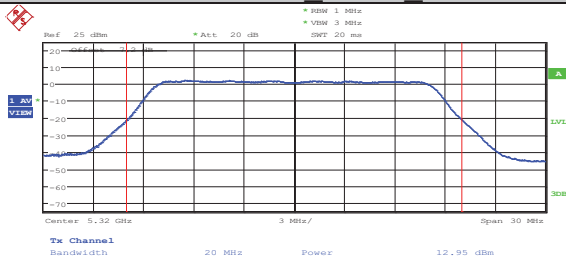
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11AMIMO ANT1_5320



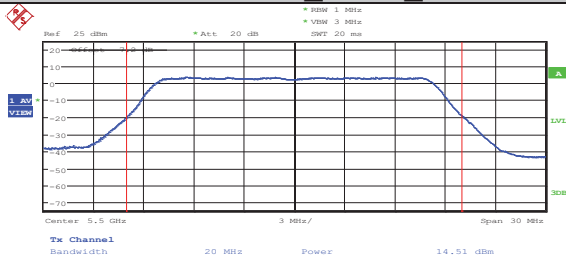
Date: 24.JUN.2018 14:23:59

11AMIMO ANT2_5320



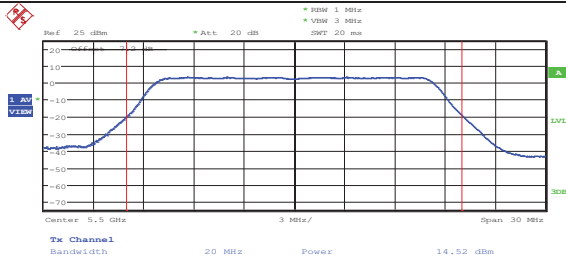
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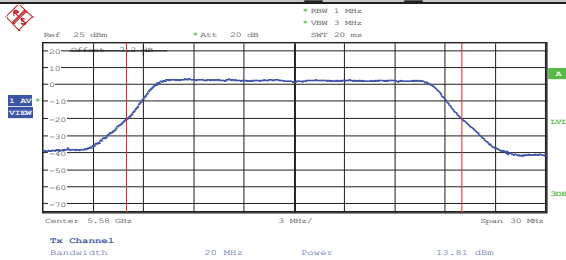
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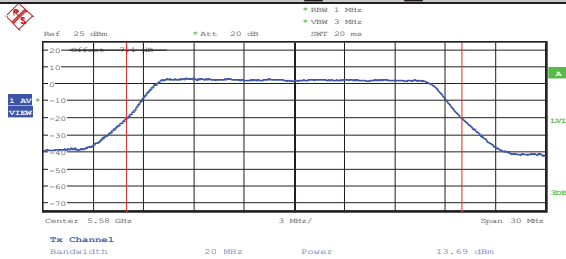
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11AMIMO ANT1 5580



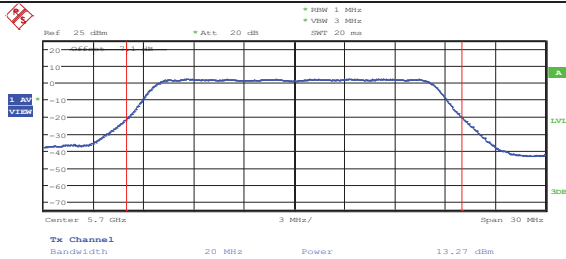
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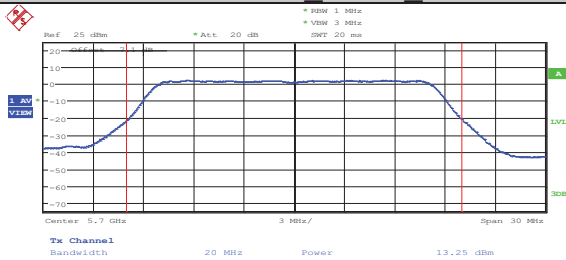
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11AMIMO ANT1 5700



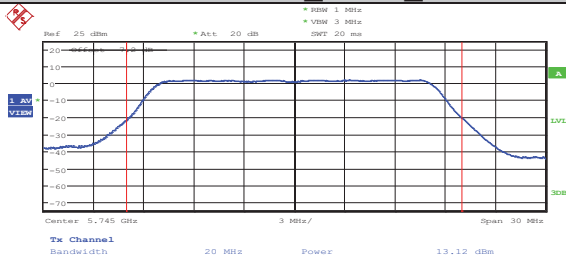
Date: 24.JUN.2018 14:43:25

11AMIMO ANT2 5700



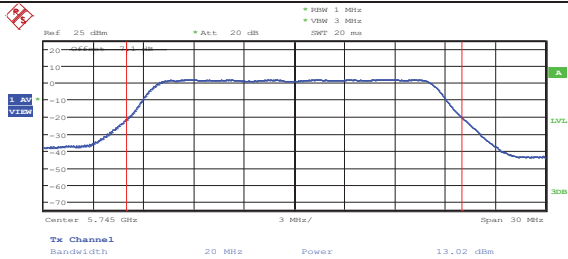
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11AMIMO ANT1 5745



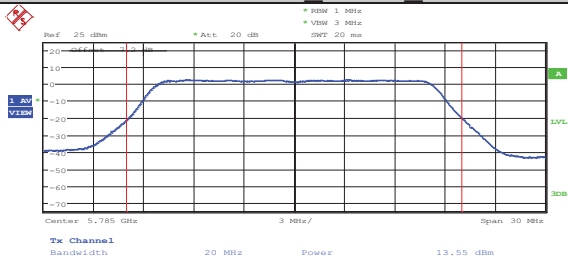
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11AMIMO ANT2 5745



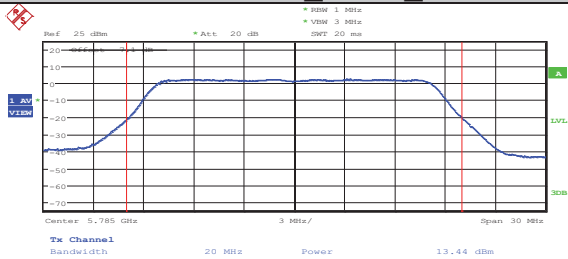
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11AMIMO ANT1_5785



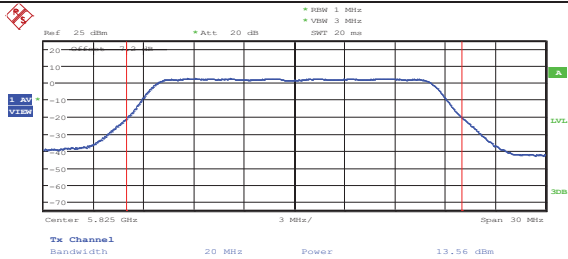
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11AMIMO ANT2_5785



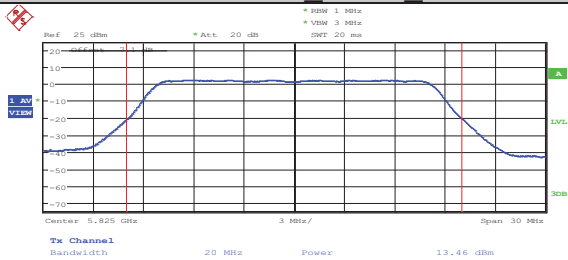
Date: 24.JUN.2018 14:59:18

11AMIMO ANT1_5825



Date: 24.JUN.2018 15:01:49

11AMIMO ANT2 5825



Date: 24.JUN.2018 15:04:14

6. Power Spectral Density

6.1. Block diagram of test setup

Same with 4.1

6.2. Limits

FCC Part15, Subpart E/ RSS-247		
Test Item	Limit	Frequency Range (MHz)
Power Spectral Density	For FCC: Other than Mobile and portable:17dBm/MHz Mobile and portable:11dBm/MHz	5150-5250
	For RSS eirp:10dBm/MHz	
	11dBm/MHz	5250-5350
	11dBm/MHz	For FCC:5470-5725 For IC:5470-5600 5650-5725
	30dBm/500kHz	5725-5850
Note: For 802.11a, 802.11n and 802.11ac, the EUT incorporates a MIMO function. The Antenna directional gain is 7.1dBi. The Output Power limit is the above limits-(7.1-6)		

6.3. Test Procedure

The transmitter output was connected to a spectrum analyzer. Power density was measured by spectrum analyzer with 1MHz RBW and 3MHz VBW.

Connect the UUT to the spectrum analyser and use the following settings:

5150MHz~5250MHz, 5250MHz~5350MHz, 5470MHz~5725MHz

Center Frequency	The centre frequency of the channel under test
Detector	RMS
RBW	1MHz
VBW	$\geq 3 \times \text{RBW}$
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

5725MHz-5850MHz

Center Frequency	The centre frequency of the channel under test
Detector	RMS
RBW	500kHz
VBW	$\geq 3 \times \text{RBW}$
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

Note:

1. For UNII-3, according to KDB publication 789033 D02 General U-NII Test Procedures New Rules v02r01, section II.F.5., it is acceptable to set RBW at 1MHz and VBW at 3MHz if the spectrum analyzer does not have 500kHz RBW.

2. The value measured with RBW=1MHz is to be added with $10\log(500\text{kHz}/1\text{MHz})$ which is - 3dB. For example, if the measured value is +10dBm using RBW=1MHz (that is +10dBm/MHz), then the converted value will be +7dBm/500kHz.

Allow trace to fully stabilize and use the peak marker function to determine the maximum amplitude level within the RBW.

6.4. Test Result

(5150-5250)

Test Mode	Ant	Test Channel	PSD [dBm/MHz]	PSD eirp [dBm/MHz]	FCC Limit [dBm/MHz]	ISED Limit [dBm/MHz]
11N20MIMO	ANT1	5180	2.92	7.01	9.9	10
11N20MIMO	ANT2	5180	2.88	6.97	9.9	10
11N20MIMO	total	5180	5.91	10.00	9.9	10
11N20MIMO	ANT1	5200	2.95	7.04	9.9	10
11N20MIMO	ANT2	5200	2.69	6.78	9.9	10
11N20MIMO	total	5200	5.83	9.92	9.9	10
11N20MIMO	ANT1	5240	2.01	6.10	9.9	10
11N20MIMO	ANT2	5240	2.05	6.14	9.9	10
11N20MIMO	total	5240	5.04	9.13	9.9	10
11N40MIMO	ANT1	5190	-0.4	3.69	9.9	10
11N40MIMO	ANT2	5190	-0.35	3.74	9.9	10
11N40MIMO	total	5190	2.64	6.73	9.9	10
11N40MIMO	ANT1	5230	-1.1	2.99	9.9	10
11N40MIMO	ANT2	5230	-0.71	3.38	9.9	10
11N40MIMO	total	5230	2.11	6.20	9.9	10
11AC20MIMO	ANT1	5180	1.17	5.26	9.9	10
11AC20MIMO	ANT2	5180	1.15	5.24	9.9	10
11AC20MIMO	total	5180	4.17	8.26	9.9	10
11AC20MIMO	ANT1	5200	0.83	4.92	9.9	10
11AC20MIMO	ANT2	5200	0.88	4.97	9.9	10
11AC20MIMO	total	5200	3.87	7.96	9.9	10
11AC20MIMO	ANT1	5240	0.06	4.15	9.9	10
11AC20MIMO	ANT2	5240	0.15	4.24	9.9	10
11AC20MIMO	total	5240	3.12	7.21	9.9	10
11AC40MIMO	ANT1	5190	-4.07	0.02	9.9	10
11AC40MIMO	ANT2	5190	-4.46	-0.37	9.9	10
11AC40MIMO	total	5190	-1.25	2.84	9.9	10
11AC40MIMO	ANT1	5230	-4.95	-0.86	9.9	10

11AC40MIMO	ANT2	5230	-5.04	-0.95	9.9	10
11AC40MIMO	total	5230	-1.98	2.11	9.9	10
11AC80MIMO	ANT1	5210	-7.45	-3.36	9.9	10
11AC80MIMO	ANT2	5210	-7.67	-3.58	9.9	10
11AC80MIMO	total	5210	-4.55	-0.46	9.9	10
11AMIMO	ANT1	5180	2.46	6.55	9.9	10
11AMIMO	ANT2	5180	2.38	6.47	9.9	10
11AMIMO	total	5180	5.43	9.52	9.9	10
11AMIMO	ANT1	5200	2.25	6.34	9.9	10
11AMIMO	ANT2	5200	2.33	6.42	9.9	10
11AMIMO	total	5200	5.3	9.39	9.9	10
11AMIMO	ANT1	5240	1.85	5.94	9.9	10
11AMIMO	ANT2	5240	2.09	6.18	9.9	10
11AMIMO	total	5240	4.98	9.07	9.9	10

(5250-5350, 5470-5725, 5725-5850)

Test Mode	Test Channel	Ant	PSD [dBm/MHz]	Limit [dBm/MHz]	Verdict
11N20MIMO	5260	ANT1	2.28	9.9	PASS
11N20MIMO	5260	ANT2	2.23	9.9	PASS
11N20MIMO	5260	total	5.27	9.9	PASS
11N20MIMO	5280	ANT1	2.37	9.9	PASS
11N20MIMO	5280	ANT2	2.32	9.9	PASS
11N20MIMO	5280	total	5.36	9.9	PASS
11N20MIMO	5320	ANT1	1.97	9.9	PASS
11N20MIMO	5320	ANT2	2.16	9.9	PASS
11N20MIMO	5320	total	5.08	9.9	PASS
11N20MIMO	5500	ANT1	3.52	9.9	PASS
11N20MIMO	5500	ANT2	3.49	9.9	PASS
11N20MIMO	5500	total	6.52	9.9	PASS
11N20MIMO	5580	ANT1	2.91	9.9	PASS
11N20MIMO	5580	ANT2	2.88	9.9	PASS
11N20MIMO	5580	total	5.91	9.9	PASS
11N20MIMO	5700	ANT1	2.52	9.9	PASS
11N20MIMO	5700	ANT2	2.50	9.9	PASS
11N20MIMO	5700	total	5.52	9.9	PASS
11N40MIMO	5270	ANT1	-1.07	9.9	PASS
11N40MIMO	5270	ANT2	-0.96	9.9	PASS
11N40MIMO	5270	total	2.00	9.9	PASS
11N40MIMO	5310	ANT1	-0.90	9.9	PASS
11N40MIMO	5310	ANT2	-1.24	9.9	PASS

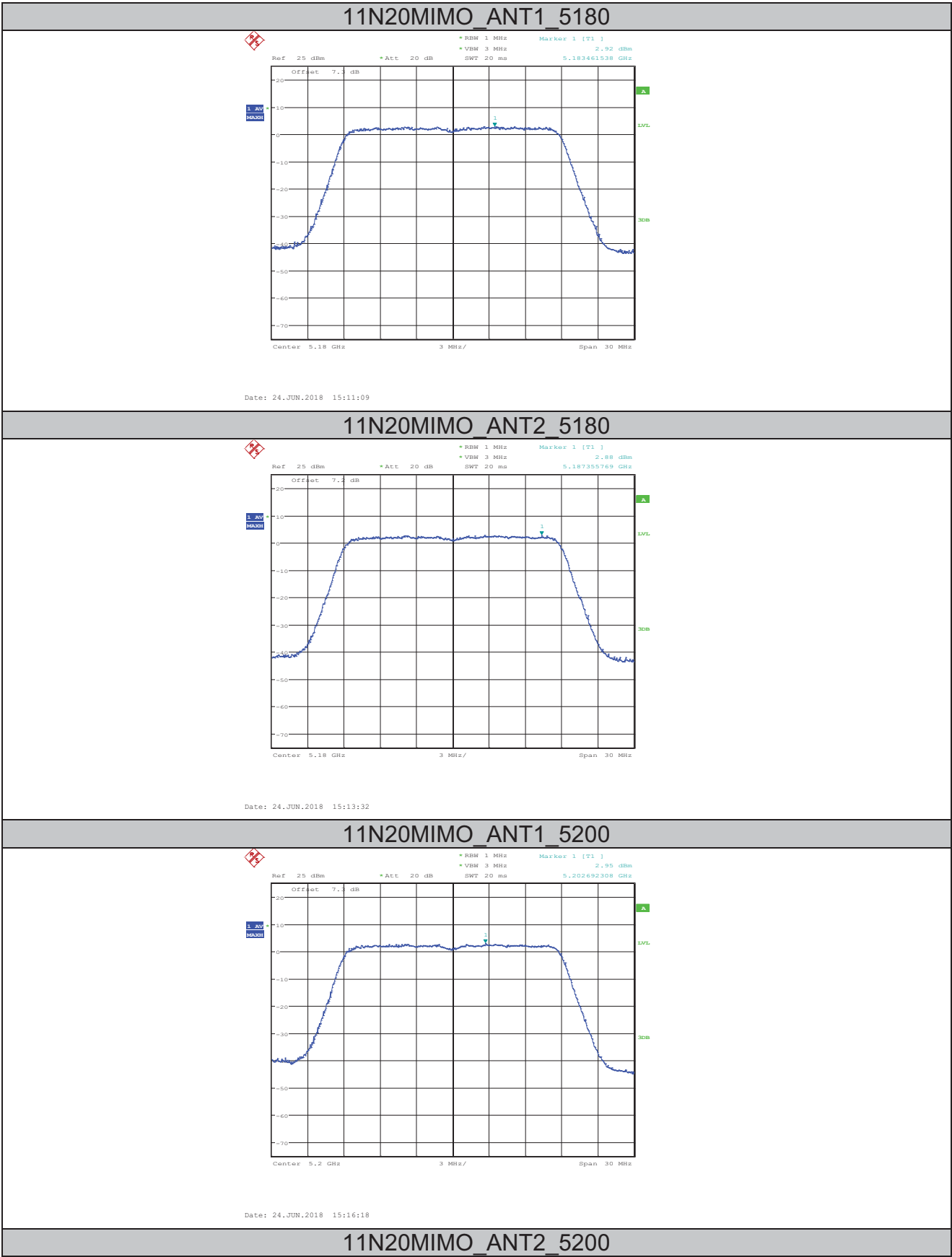
11N40MIMO	5310	total	1.94	9.9	PASS
11N40MIMO	5510	ANT1	0.68	9.9	PASS
11N40MIMO	5510	ANT2	0.79	9.9	PASS
11N40MIMO	5510	total	3.75	9.9	PASS
11N40MIMO	5550	ANT1	0.14	9.9	PASS
11N40MIMO	5550	ANT2	0.21	9.9	PASS
11N40MIMO	5550	total	3.19	9.9	PASS
11N40MIMO	5670	ANT1	-0.61	9.9	PASS
11N40MIMO	5670	ANT2	-0.66	9.9	PASS
11N40MIMO	5670	total	2.38	9.9	PASS
11AC20MIMO	5260	ANT1	-0.21	9.9	PASS
11AC20MIMO	5260	ANT2	-0.18	9.9	PASS
11AC20MIMO	5260	total	2.82	9.9	PASS
11AC20MIMO	5280	ANT1	0.12	9.9	PASS
11AC20MIMO	5280	ANT2	-0.03	9.9	PASS
11AC20MIMO	5280	total	3.06	9.9	PASS
11AC20MIMO	5320	ANT1	0.07	9.9	PASS
11AC20MIMO	5320	ANT2	0.14	9.9	PASS
11AC20MIMO	5320	total	3.12	9.9	PASS
11AC20MIMO	5500	ANT1	1.53	9.9	PASS
11AC20MIMO	5500	ANT2	1.64	9.9	PASS
11AC20MIMO	5500	total	4.60	9.9	PASS
11AC20MIMO	5580	ANT1	0.55	9.9	PASS
11AC20MIMO	5580	ANT2	0.69	9.9	PASS
11AC20MIMO	5580	total	3.63	9.9	PASS
11AC20MIMO	5700	ANT1	0.39	9.9	PASS
11AC20MIMO	5700	ANT2	0.33	9.9	PASS
11AC20MIMO	5700	total	3.37	9.9	PASS
11AC40MIMO	5270	ANT1	-5.38	9.9	PASS
11AC40MIMO	5270	ANT2	-5.38	9.9	PASS
11AC40MIMO	5270	total	-2.37	9.9	PASS
11AC40MIMO	5310	ANT1	-5.36	9.9	PASS
11AC40MIMO	5310	ANT2	-5.18	9.9	PASS
11AC40MIMO	5310	total	-2.26	9.9	PASS
11AC40MIMO	5510	ANT1	-3.00	9.9	PASS
11AC40MIMO	5510	ANT2	-2.94	9.9	PASS
11AC40MIMO	5510	total	0.04	9.9	PASS
11AC40MIMO	5550	ANT1	-2.95	9.9	PASS
11AC40MIMO	5550	ANT2	-3.18	9.9	PASS
11AC40MIMO	5550	total	-0.05	9.9	PASS

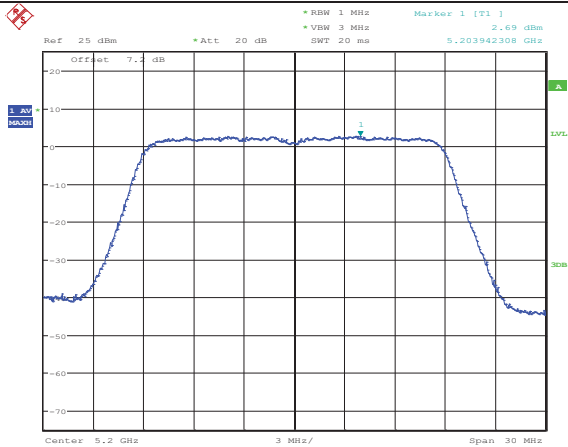
11AC40MIMO	5670	ANT1	-4.22	9.9	PASS
11AC40MIMO	5670	ANT2	-4.18	9.9	PASS
11AC40MIMO	5670	total	-1.19	9.9	PASS
11AC80MIMO	5290	ANT1	-2.44	9.9	PASS
11AC80MIMO	5290	ANT2	-6.46	9.9	PASS
11AC80MIMO	5290	total	-0.99	9.9	PASS
11AC80MIMO	5530	ANT1	-6.5	9.9	PASS
11AC80MIMO	5530	ANT2	-6.52	9.9	PASS
11AC80MIMO	5530	total	-3.50	9.9	PASS
11AMIMO	5260	ANT1	3.84	9.9	PASS
11AMIMO	5260	ANT2	3.79	9.9	PASS
11AMIMO	5260	total	6.83	9.9	PASS
11AMIMO	5280	ANT1	1.91	9.9	PASS
11AMIMO	5280	ANT2	2.01	9.9	PASS
11AMIMO	5280	total	4.97	9.9	PASS
11AMIMO	5320	ANT1	2.15	9.9	PASS
11AMIMO	5320	ANT2	2.26	9.9	PASS
11AMIMO	5320	total	5.22	9.9	PASS
11AMIMO	5500	ANT1	3.48	9.9	PASS
11AMIMO	5500	ANT2	3.41	9.9	PASS
11AMIMO	5500	total	6.46	9.9	PASS
11AMIMO	5580	ANT1	3.11	9.9	PASS
11AMIMO	5580	ANT2	2.96	9.9	PASS
11AMIMO	5580	total	6.05	9.9	PASS
11AMIMO	5700	ANT1	2.51	9.9	PASS
11AMIMO	5700	ANT2	2.48	9.9	PASS
11AMIMO	5700	total	5.51	9.9	PASS

Test Mode	Test Channel	Ant	PSD [dBm/500kHz]	Limit [dBm/500kHz]	Verdict
11N20MIMO	5745	ANT1	0.23	28.9	PASS
11N20MIMO	5745	ANT2	0.16	28.9	PASS
11N20MIMO	5745	total	3.21	28.9	PASS
11N20MIMO	5785	ANT1	0.88	28.9	PASS
11N20MIMO	5785	ANT2	0.67	28.9	PASS
11N20MIMO	5785	total	3.79	28.9	PASS
11N20MIMO	5825	ANT1	0.75	28.9	PASS
11N20MIMO	5825	ANT2	0.51	28.9	PASS
11N20MIMO	5825	total	3.64	28.9	PASS
11N40MIMO	5755	ANT1	-2.19	28.9	PASS

11N40MIMO	5755	ANT2	-1.77	28.9	PASS
11N40MIMO	5755	total	1.04	28.9	PASS
11N40MIMO	5795	ANT1	-1.99	28.9	PASS
11N40MIMO	5795	ANT2	-2.24	28.9	PASS
11N40MIMO	5795	total	0.9	28.9	PASS
11AC20MIMO	5745	ANT1	-2.03	28.9	PASS
11AC20MIMO	5745	ANT2	-1.87	28.9	PASS
11AC20MIMO	5745	total	1.06	28.9	PASS
11AC20MIMO	5785	ANT1	-1.61	28.9	PASS
11AC20MIMO	5785	ANT2	-1.54	28.9	PASS
11AC20MIMO	5785	total	1.44	28.9	PASS
11AC20MIMO	5825	ANT1	-1.33	28.9	PASS
11AC20MIMO	5825	ANT2	-1.28	28.9	PASS
11AC20MIMO	5825	total	1.71	28.9	PASS
11AC40MIMO	5755	ANT1	-7.69	28.9	PASS
11AC40MIMO	5755	ANT2	-7.43	28.9	PASS
11AC40MIMO	5755	total	-4.55	28.9	PASS
11AC40MIMO	5795	ANT1	-7.28	28.9	PASS
11AC40MIMO	5795	ANT2	-7.11	28.9	PASS
11AC40MIMO	5795	total	-4.18	28.9	PASS
11AC80MIMO	5775	ANT1	-7.66	28.9	PASS
11AC80MIMO	5775	ANT2	-7.64	28.9	PASS
11AC80MIMO	5775	total	-4.64	28.9	PASS
11AMIMO	5745	ANT1	-0.3	28.9	PASS
11AMIMO	5745	ANT2	-0.2	28.9	PASS
11AMIMO	5745	total	2.76	28.9	PASS
11AMIMO	5785	ANT1	0.3	28.9	PASS
11AMIMO	5785	ANT2	0.31	28.9	PASS
11AMIMO	5785	total	3.32	28.9	PASS
11AMIMO	5825	ANT1	0.29	28.9	PASS
11AMIMO	5825	ANT2	0.02	28.9	PASS
11AMIMO	5825	total	3.17	28.9	PASS

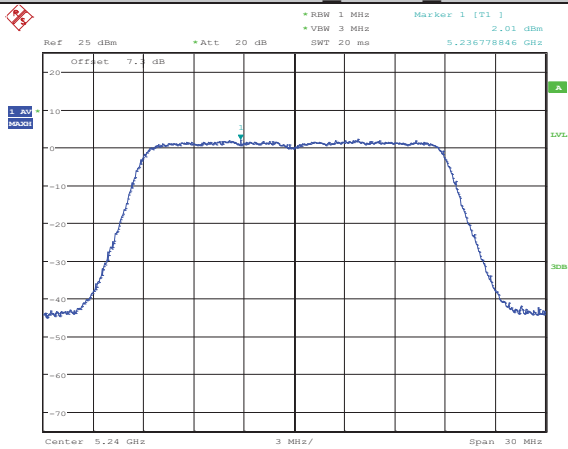
6.5. Original test data





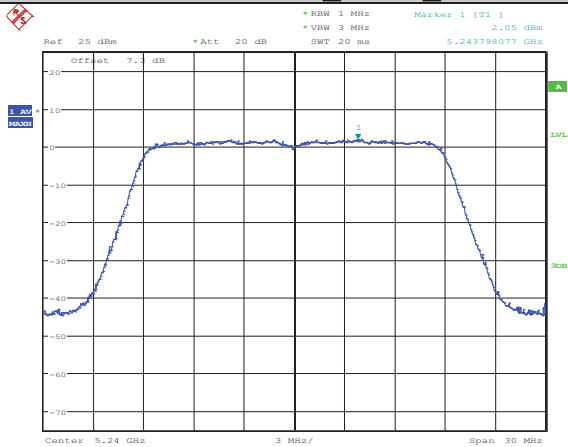
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11N20MIMO ANT1 5240



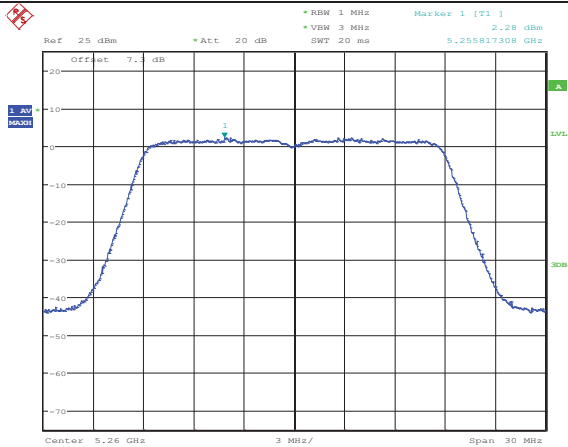
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11N20MIMO ANT2 5240



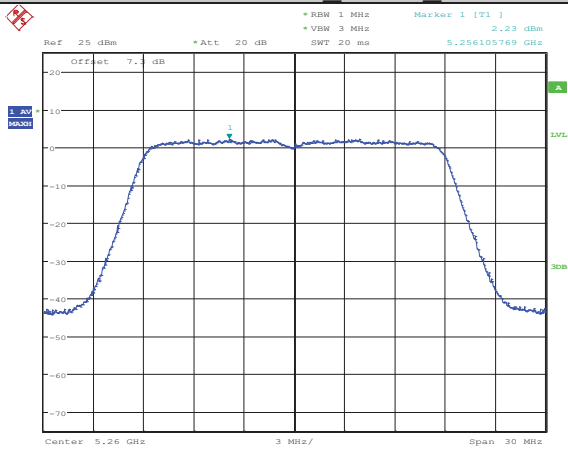
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11N20MIMO ANT1 5260



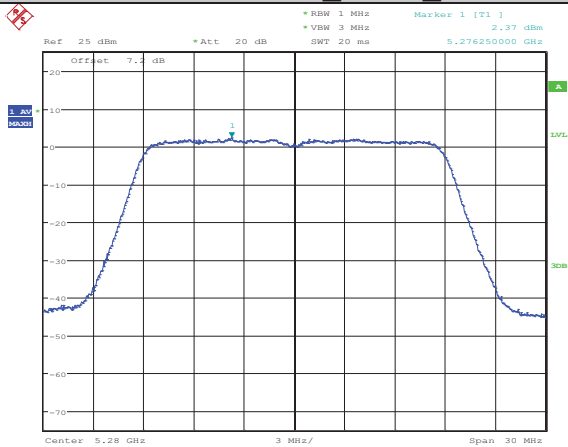
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11N20MIMO ANT2 5260



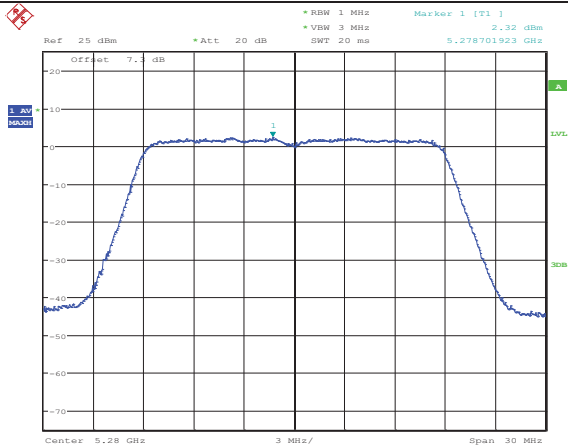
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11N20MIMO ANT1 5280



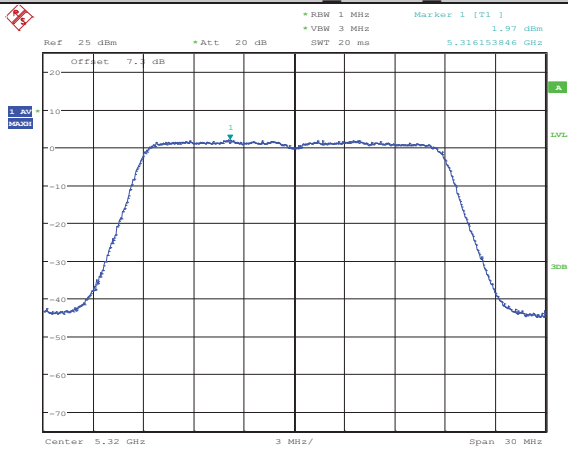
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11N20MIMO ANT2 5280



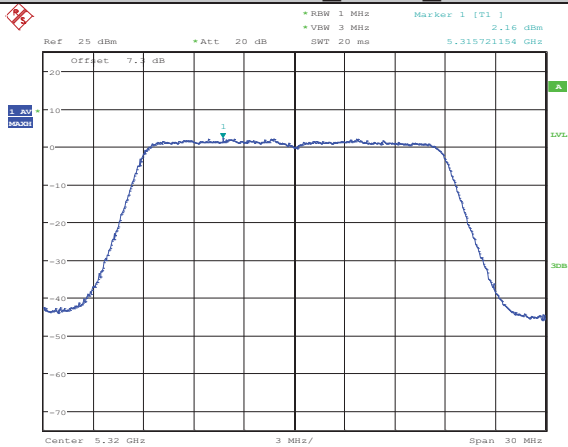
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11N20MIMO ANT1 5320



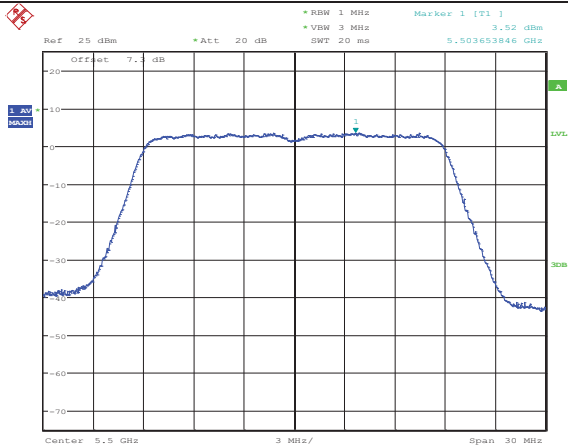
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11N20MIMO ANT2 5320



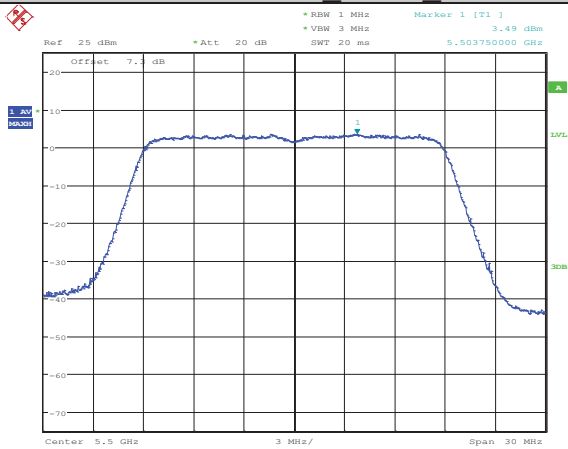
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11N20MIMO ANT1 5500



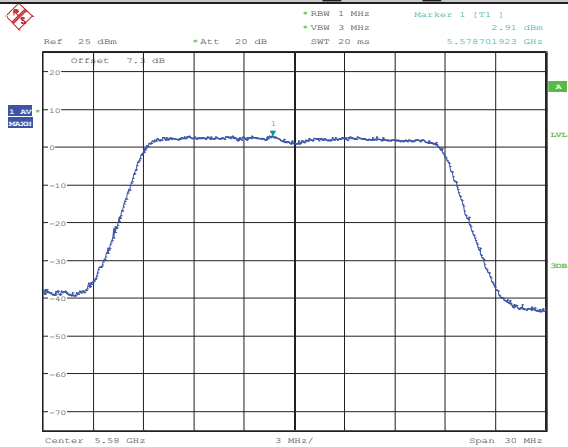
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11N20MIMO ANT2 5500



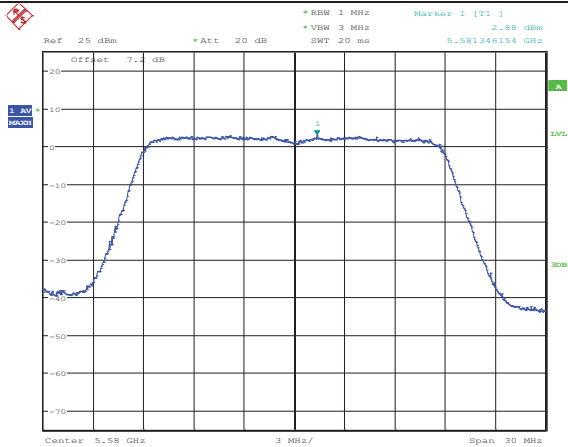
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11N20MIMO ANT1 5580



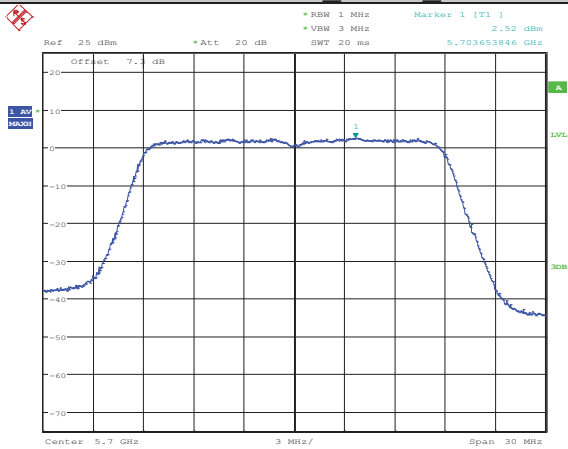
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11N20MIMO ANT2 5580



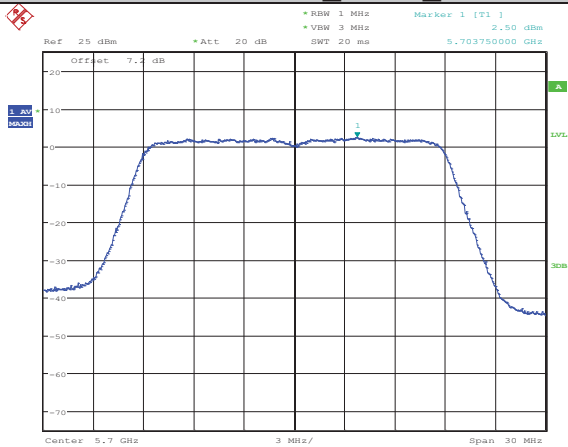
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11N20MIMO ANT1 5700



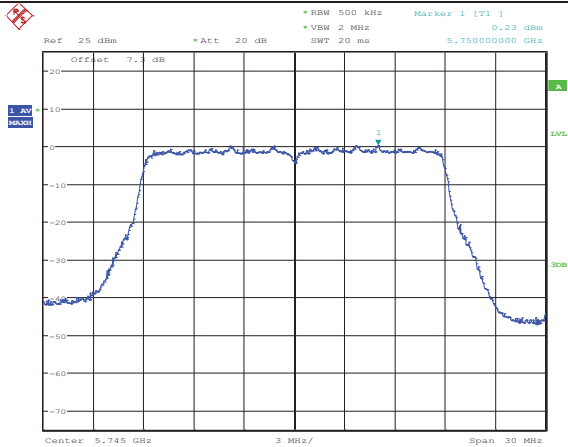
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11N20MIMO ANT2 5700



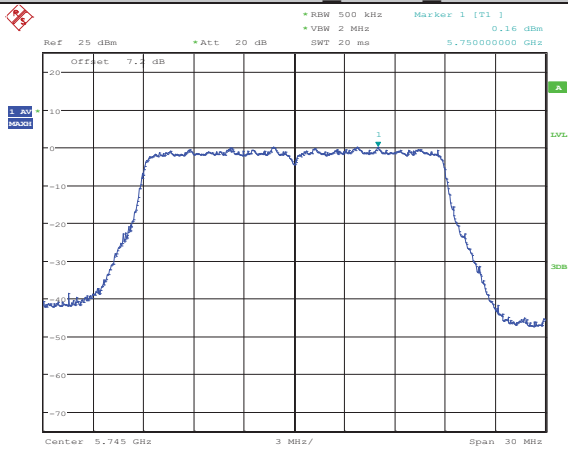
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11N20MIMO ANT1 5745



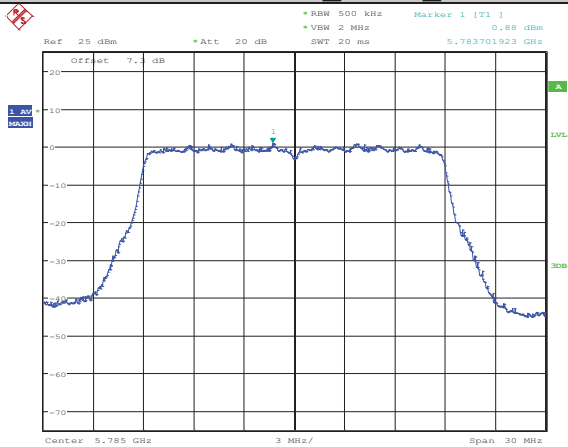
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11N20MIMO ANT2 5745



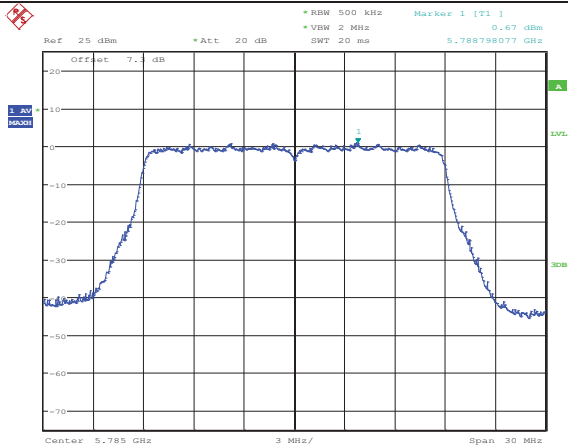
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11N20MIMO ANT1 5785



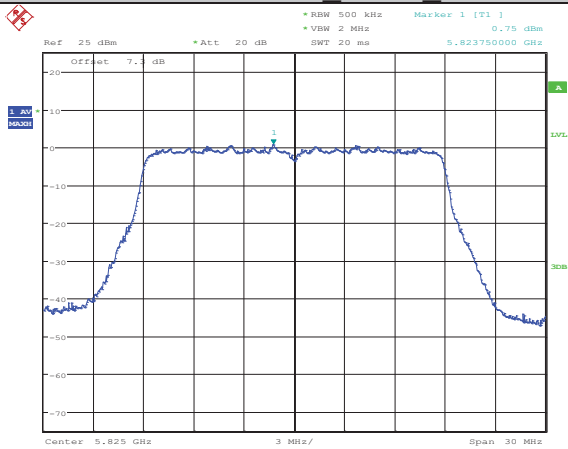
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11N20MIMO ANT2 5785



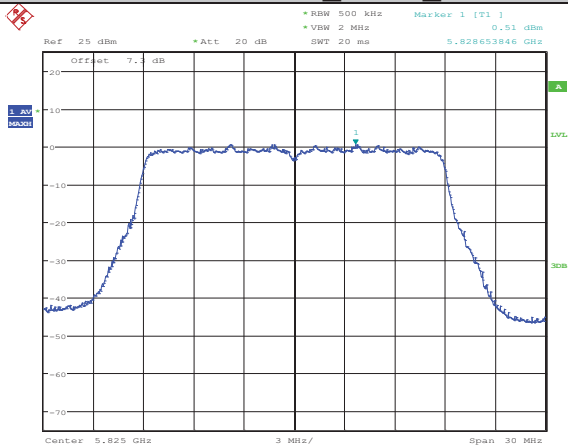
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11N20MIMO ANT1 5825



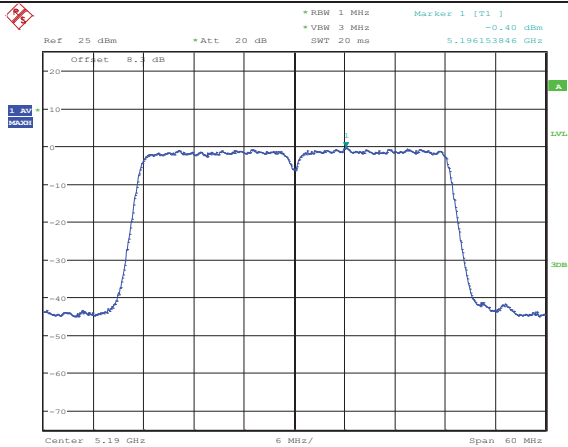
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11N20MIMO ANT2 5825



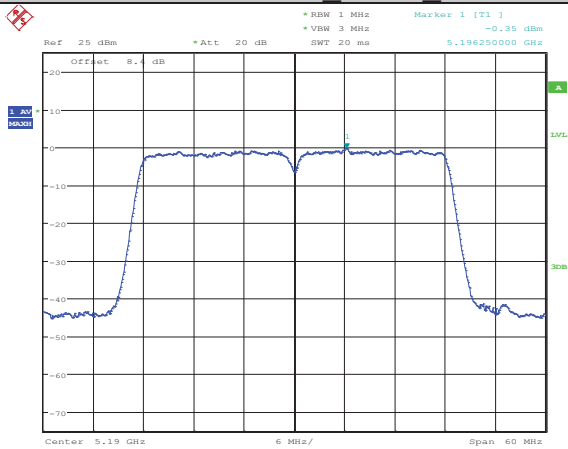
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11N40MIMO ANT1 5190



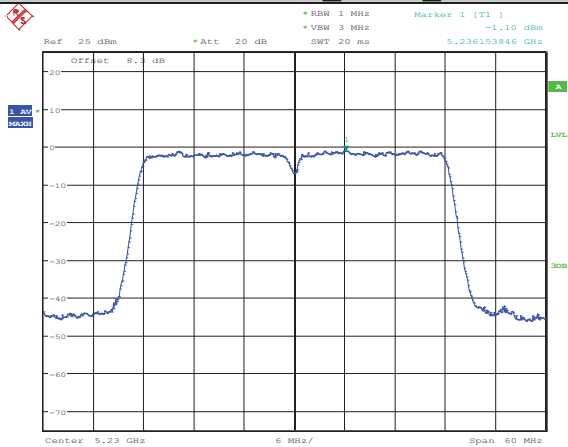
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11N40MIMO ANT2 5190



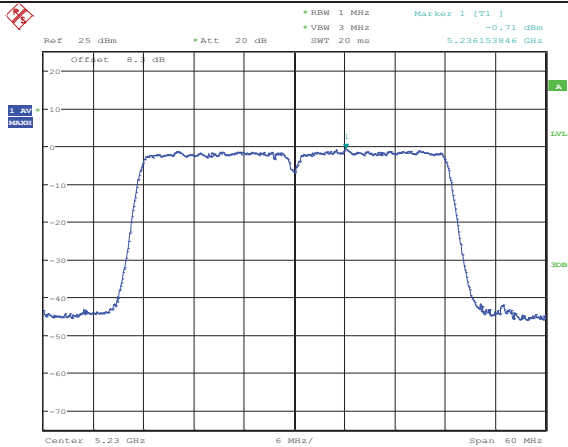
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11N40MIMO ANT1 5230



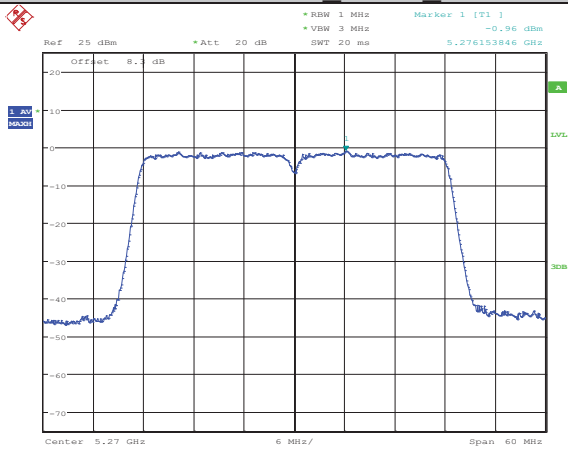
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11N40MIMO ANT2 5230



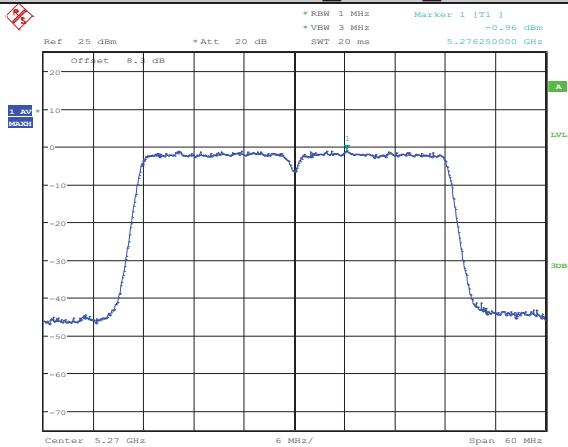
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11N40MIMO ANT1 5270



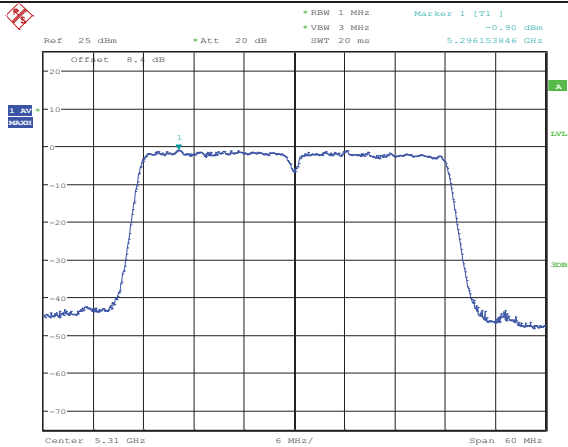
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11N40MIMO ANT2 5270



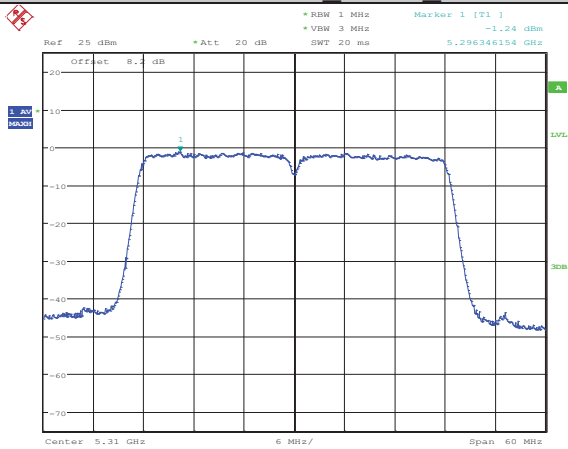
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11N40MIMO ANT1 5310



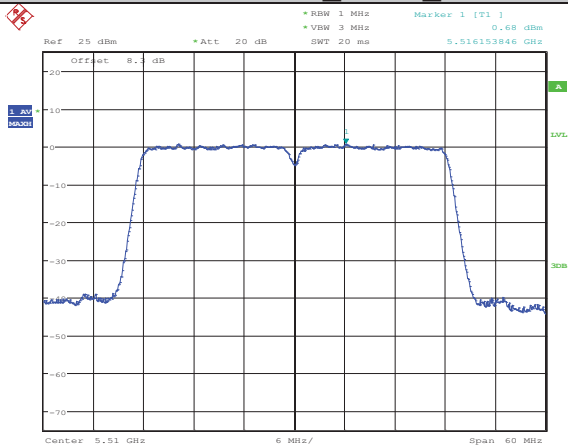
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11N40MIMO ANT2 5310



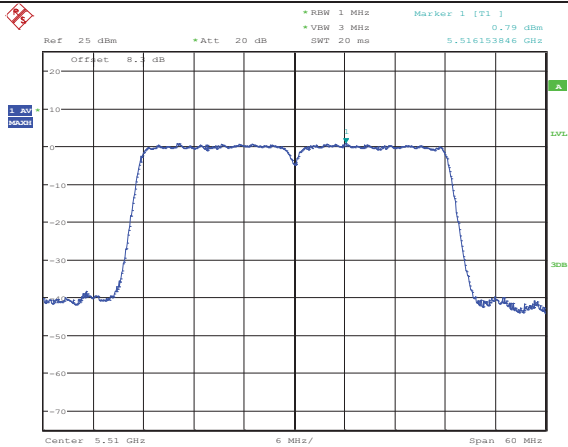
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11N40MIMO ANT1 5510



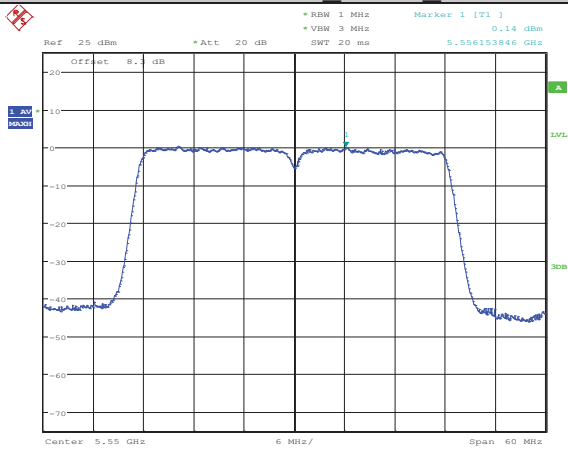
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11N40MIMO ANT2 5510



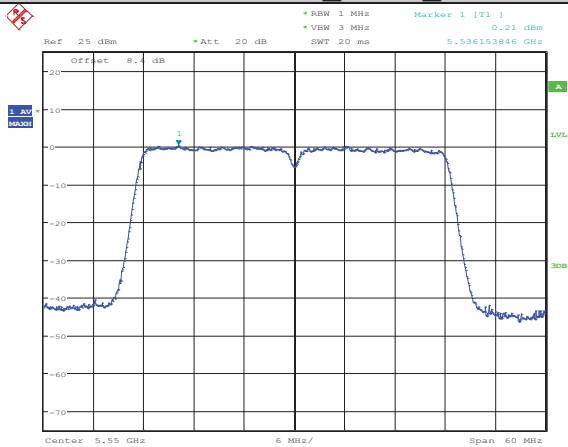
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11N40MIMO ANT1 5550



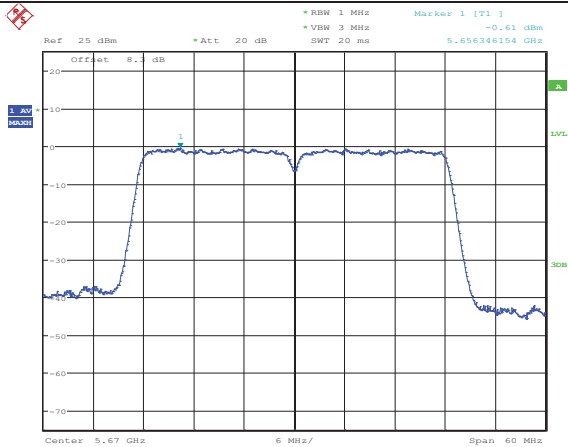
Date: 24.JUN.2018 18:13:55

11N40MIMO ANT2 5550



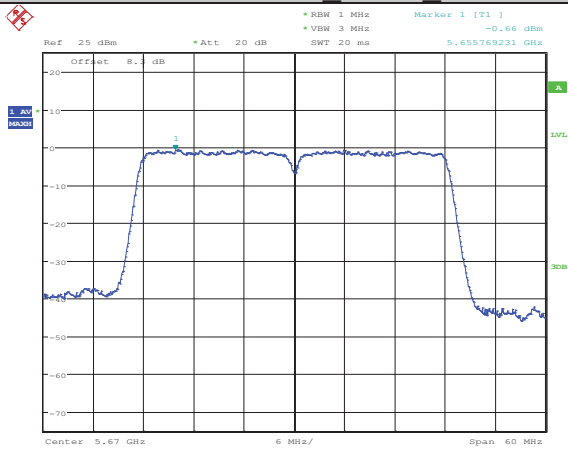
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11N40MIMO ANT1 5670



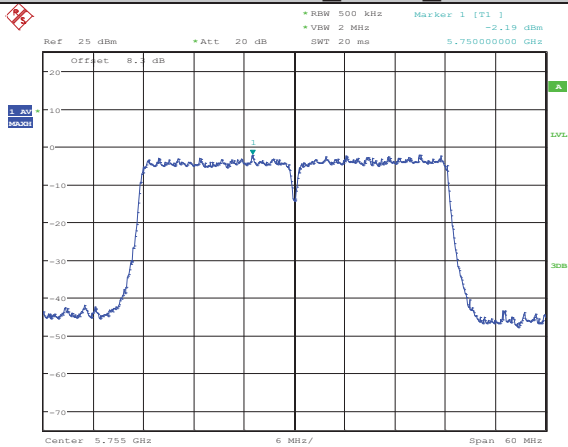
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11N40MIMO ANT2 5670



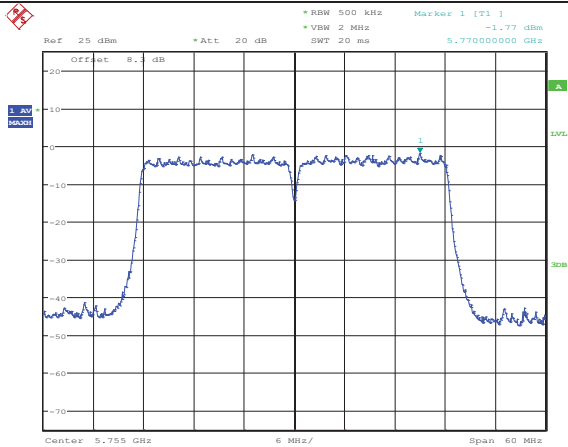
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11N40MIMO ANT1 5755



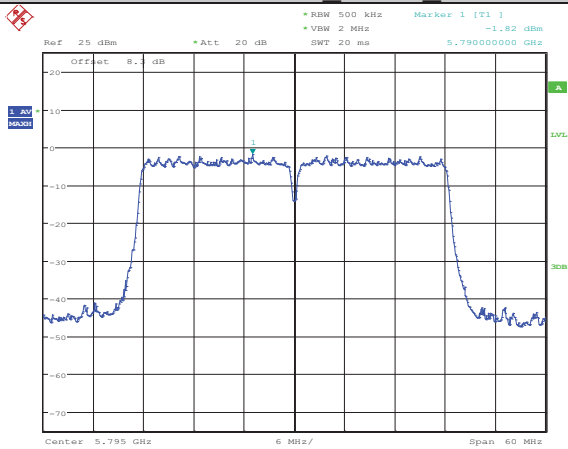
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11N40MIMO ANT2 5755



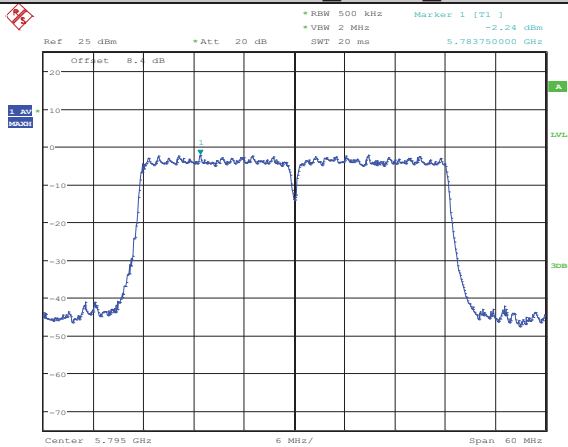
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11N40MIMO ANT1 5795



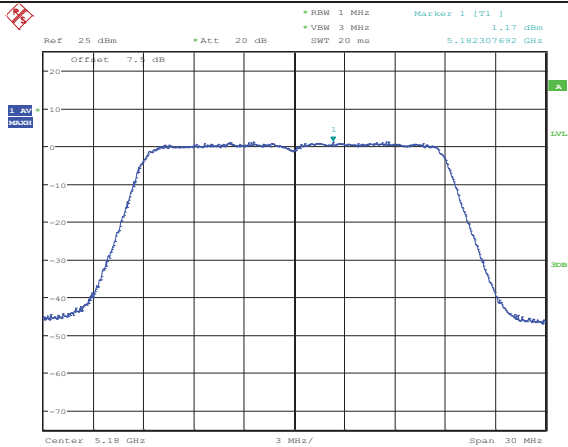
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11N40MIMO ANT2 5795



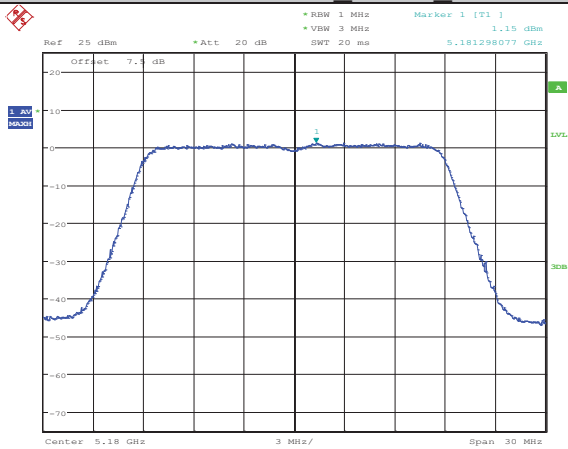
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11AC20MIMO ANT1 5180



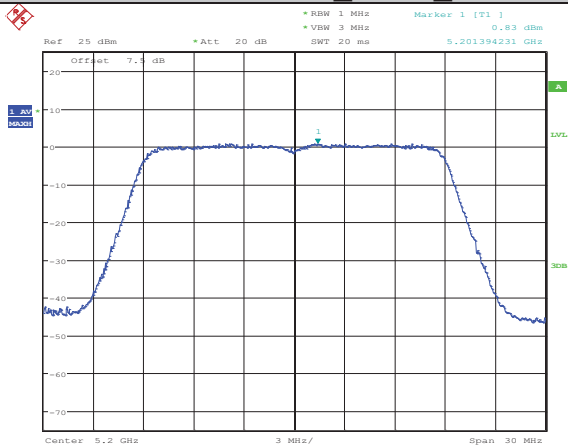
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11AC20MIMO ANT2 5180



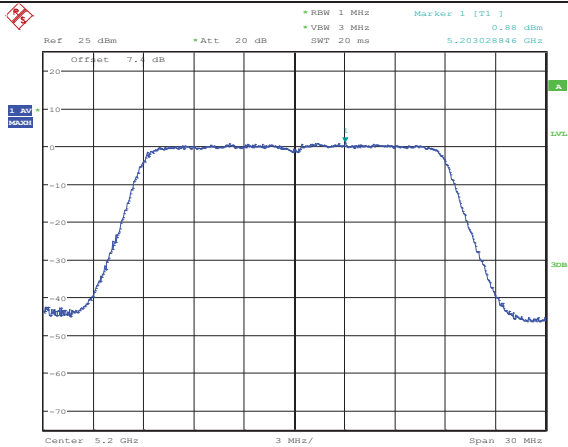
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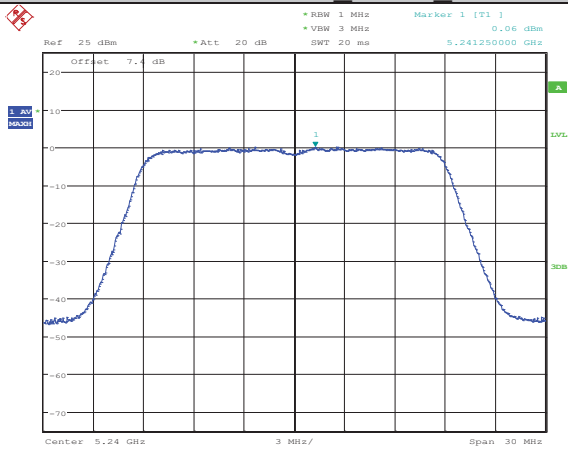
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11AC20MIMO ANT2 5200



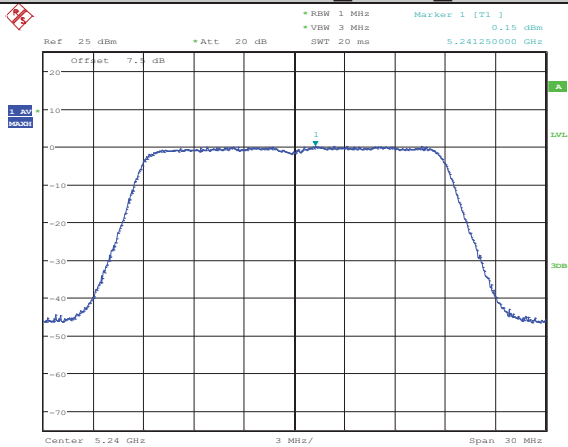
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11AC20MIMO ANT1 5240



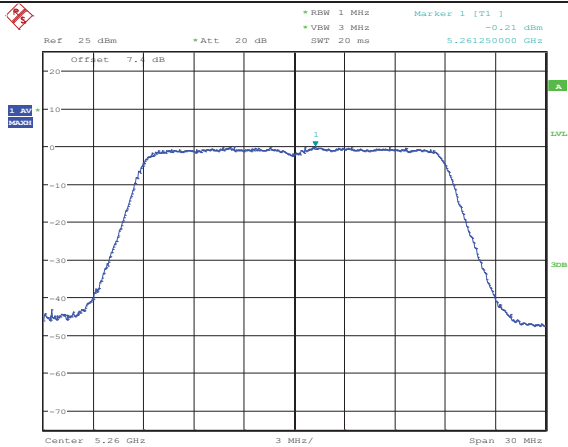
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11AC20MIMO ANT2 5240



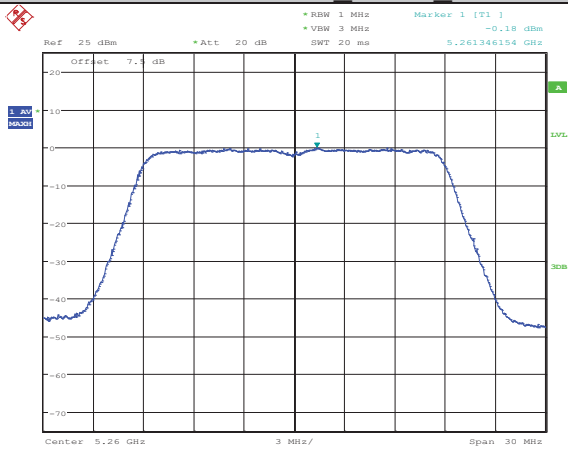
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11AC20MIMO ANT1 5260



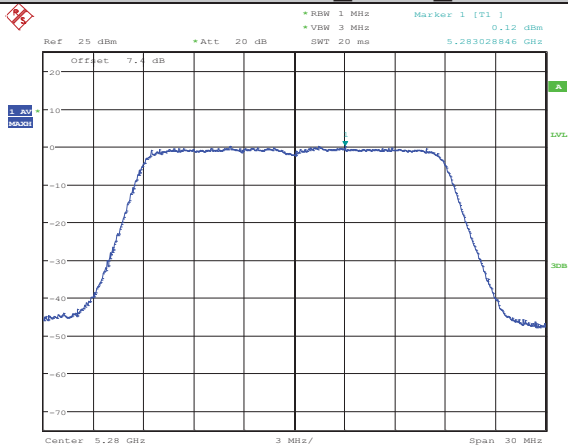
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11AC20MIMO ANT2 5260



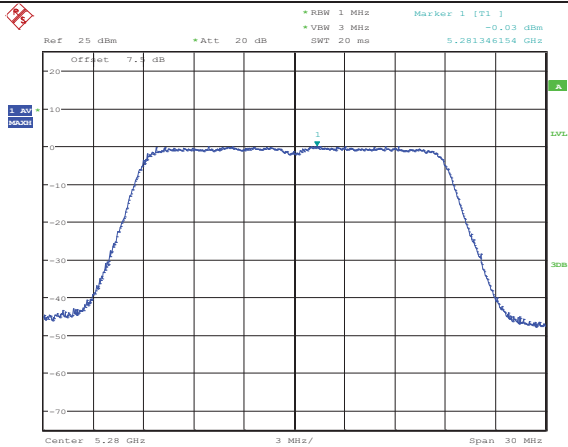
Date: 24.JUN.2018 18:58:05

11AC20MIMO ANT1 5280



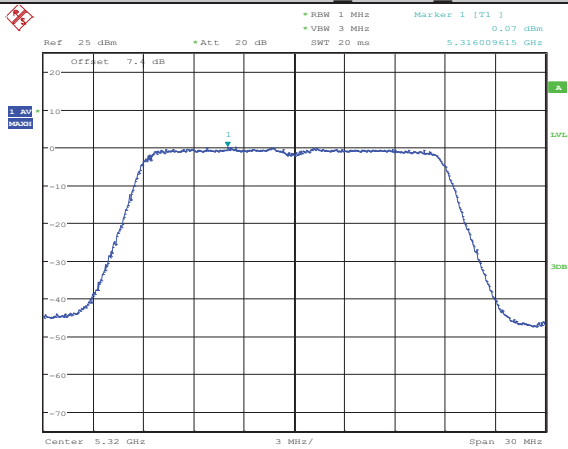
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11AC20MIMO ANT2 5280



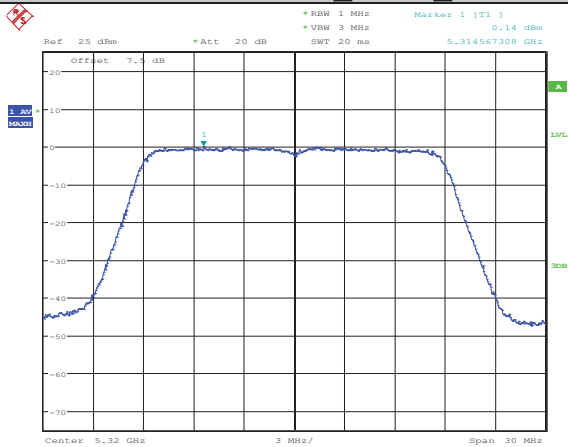
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11AC20MIMO ANT1 5320



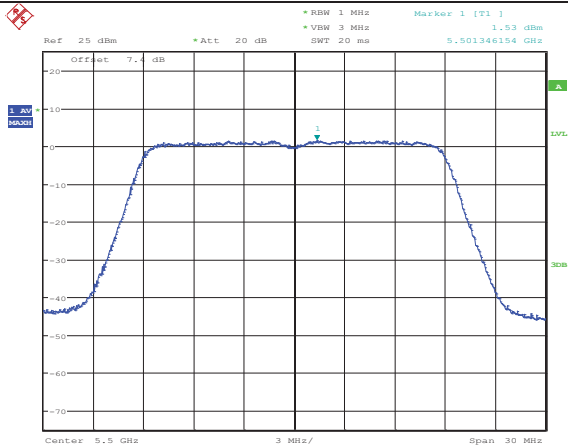
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11AC20MIMO ANT2 5320



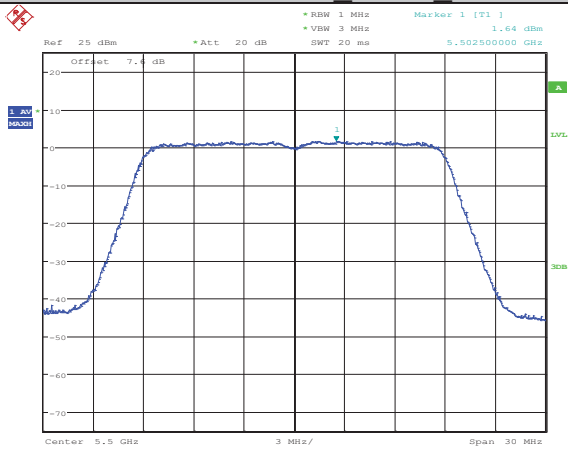
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11AC20MIMO ANT1 5500



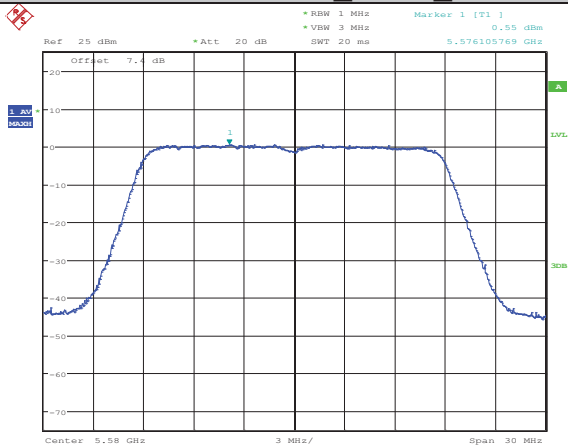
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11AC20MIMO ANT2 5500



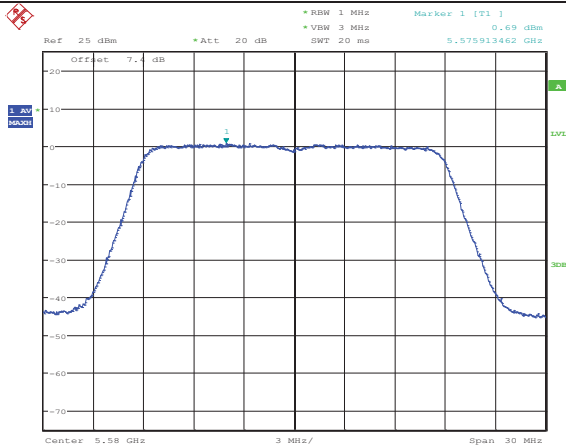
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11AC20MIMO ANT1 5580



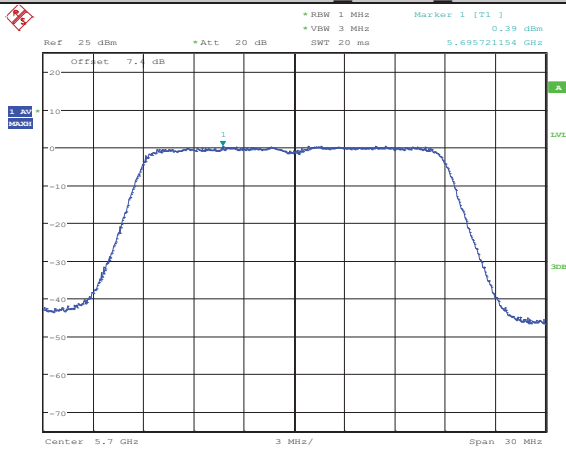
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11AC20MIMO ANT2 5580



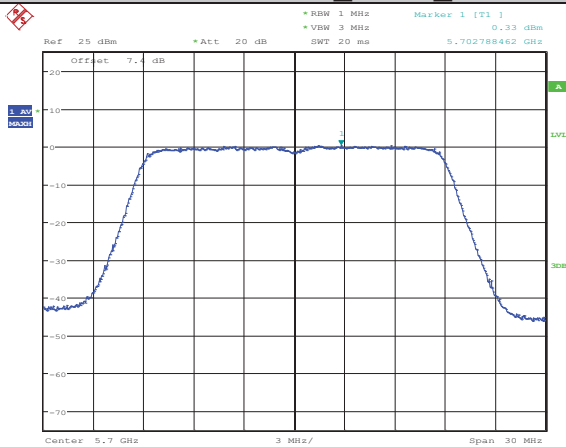
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11AC20MIMO ANT1 5700



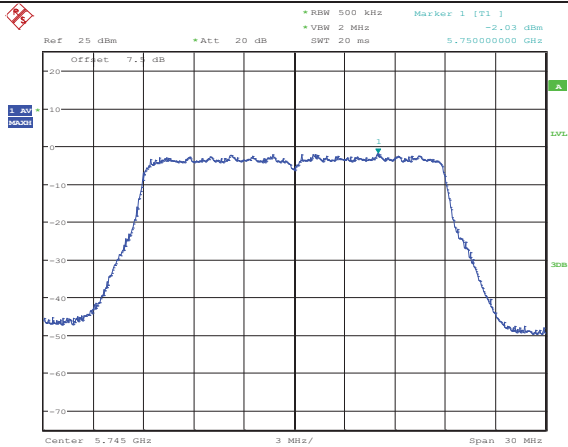
Date: 24.JUN.2018 19:21:51

11AC20MIMO ANT2 5700



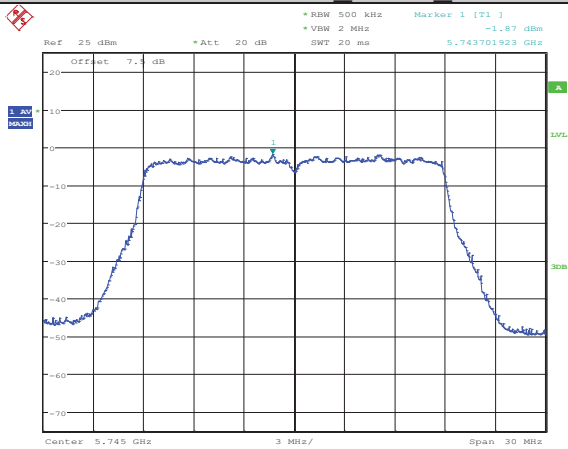
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11AC20MIMO ANT1 5745



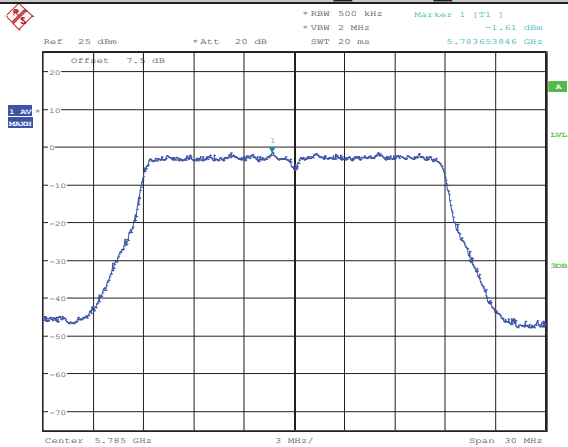
Date: 24.JUN.2018 19:27:13

11AC20MIMO ANT2 5745



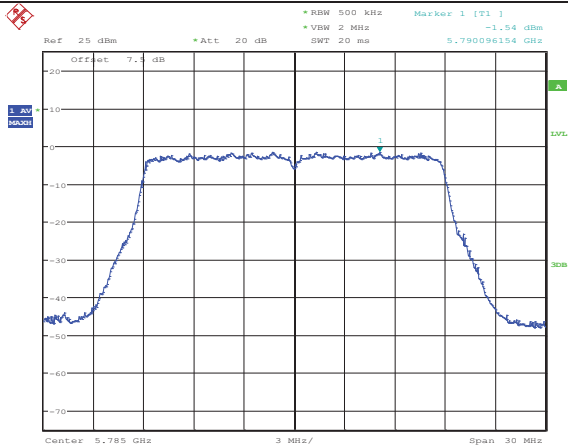
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11AC20MIMO ANT1 5785



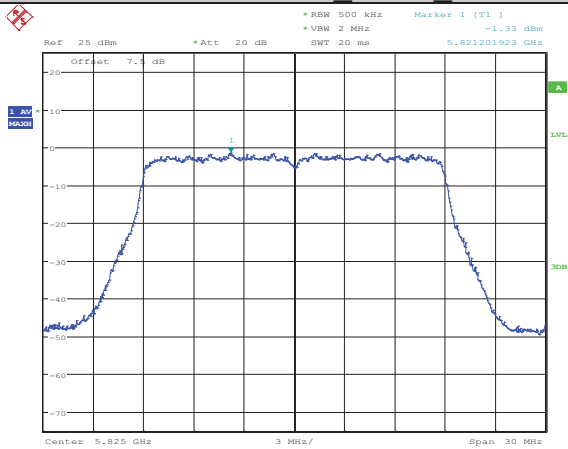
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11AC20MIMO ANT2 5785



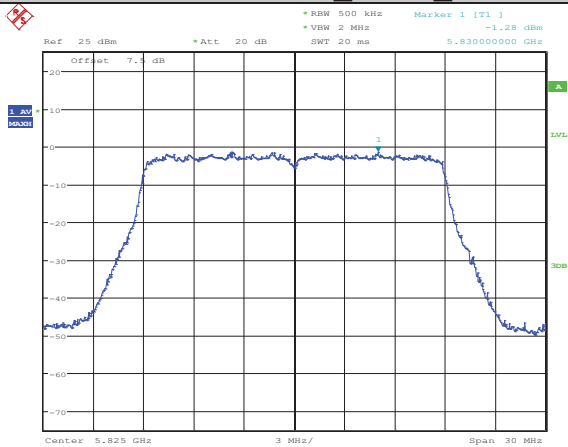
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11AC20MIMO ANT1 5825



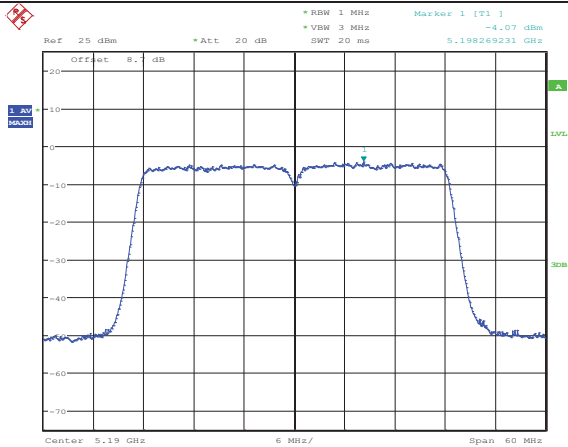
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11AC20MIMO ANT2 5825



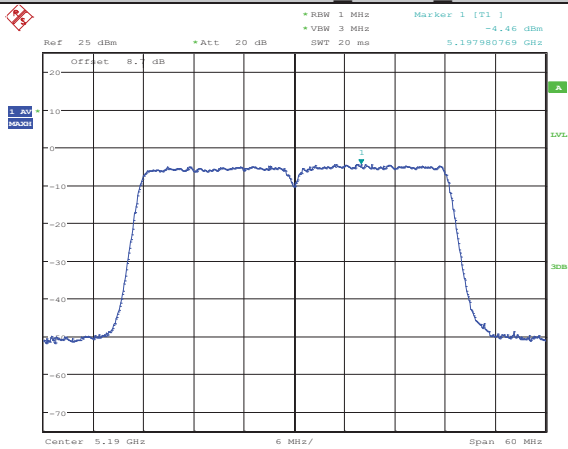
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11AC40MIMO ANT1 5190



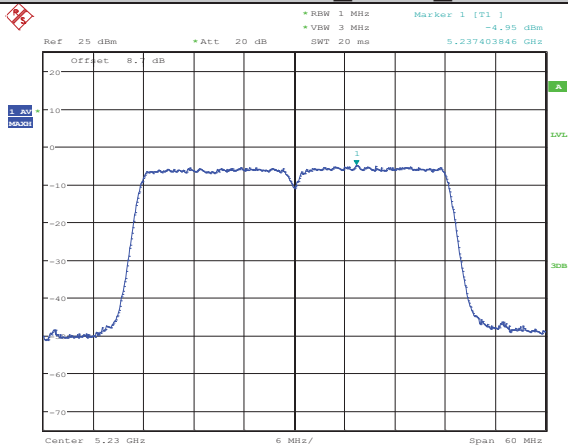
Date: 25.JUN.2018 08:07:53

11AC40MIMO ANT2 5190



Date: 25.JUN.2018 08:10:28

11AC40MIMO ANT1 5230



Date: 25.JUN.2018 08:13:10

11AC40MIMO ANT2 5230