

Produkte
 Products

Prüfbericht-Nr.: <i>Test report no.:</i>	50310407 001	Auftrags-Nr.: <i>Order no.:</i>	2381 09482	Seite 1 von 268 Page 1 of 268
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	N/A	Auftragsdatum <i>Order date:</i>	2019.07.25	
Auftraggeber: <i>Client:</i>	KCodes Corporation 7F., No.252 Sec.1, Neihsu Rd. Neihsu Dist., Taipei, Taiwan			
Prüfgegenstand: <i>Test item:</i>	Wireless USB Device			
Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i>	KC612ac; WB112ac			
Auftrags-Inhalt: <i>Order content:</i>	FCC Part 15E / ISSED RSS-247 Issue 2 Test report (Wi-Fi 5GHz)			
Prüfgrundlage: <i>Test specification:</i>	FCC 47CFR Part 15: Subpart E Section 15.407(U-NII) ISSED RSS-247 Issue 2 Feb 2017			
Wareneingangsdatum: <i>Date of sample receipt:</i>	2019.10.14			
Prüfmuster-Nr.: <i>Test sample no.:</i>	A001002320-006			
Prüfzeitraum: <i>Testing period:</i>	2019.10.14 - 2020.03.13			
Ort der Prüfung: <i>Place of testing:</i>	EMC/RF Laboratory Taipei			
Prüflaboratorium: <i>Testing laboratory:</i>	TUV Rheinland Taiwan Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
überprüft von: <i>reviewed by:</i>	 Mars Y. J. Lin		genehmigt von: <i>authorized by:</i>	 Ryan W. T. Chen
Datum: 2020.03.17 <i>Date:</i>			Datum: 2020.03.17 <i>Date:</i>	
Stellung / Position:	Project Engineer		Stellung / Position:	Project Manager
Sonstiges / Other:	KC612ac and WB112ac use the same RF Chip.			
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>	Prüfmuster vollständig und unbeschädigt Test item complete and undamaged			
* Legende:	1 = sehr gut P(ass) = entspricht o.g. Prüfgrundlage(n)	2 = gut	3 = befriedigend F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	4 = ausreichend N/A = nicht anwendbar
* Legend:	1 = very good P(ass) = passed a.m. test specification(s)	2 = good	3 = satisfactory F(ail) = failed a.m. test specification(s)	4 = sufficient N/A = not applicable
5 = mangelhaft N/T = nicht getestet				
5 = poor N/T = not tested				
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

TEST SUMMARY

5.1.1 ANTENNA REQUIREMENT*RESULT: Passed***5.1.2 DUTY CYCLE***RESULT: Passed***5.1.3 MAXIMUM CONDUCTED AVERAGE OUTPUT POWER***RESULT: Passed***5.1.4 26dB & 99% BANDWIDTH***RESULT: Passed***5.1.5 6dB BANDWIDTH***RESULT: Passed***5.1.6 POWER DENSITY***RESULT: Passed***5.1.7 FREQUENCY STABILITY MEASUREMENT***RESULT: Passed***5.1.8 SPURIOUS EMISSION***RESULT: Passed***5.1.9 DYNAMIC FREQUENCY SELECTION***RESULT: Passed***5.2.1 MAINS CONDUCTED EMISSIONS***RESULT: Passed***6.1.1 ELECTROMAGNETIC FIELDS***RESULT: Passed*

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1. General Remarks

1.1 Complementary Materials

These attachments are integral parts of this test report:

Appendix P: Photo Documentation internal view
(File Name: 50310406 001, 50310407 001 Appendix P)

Appendix D: Test Result of Radiated Emissions
(File Name: 50310407 001 Appendix D)

Test Specifications

Table 1: Applied Standard and Test Levels

Radio
FCC CFR47 Part 15: Subpart E Section 15.407 FCC 47CFR Part 2: Subpart J Section 2.1091 ANSI C63.10:2013 ISED RSS-247 Issue 2 Feb 2017 ISED RSS-Gen Issue 5 Apr 2018 ISED RSS-102 Issue 5 Mar 2015 KDB789033 D02 General UNII Test Procedures New Rules v02r01 KDB662911 D01 Multiple Transmitter Output v02r01 KDB662911 D02 MIMO with Cross Polarized Antenna v01 KDB447498 D01 General RF Exposure Guidance v06 KDB905462 D02 UNII DFS Compliance Procedures New Rules v02 KDB905462 D03 UNII Clients Without Radar Detection New Rules v01r02

1.2 Decision rule of conformity

The decision rule of conformity of this test report is following the requirements of the requested standard in the quotation, and agreed among testing laboratory and manufacturer (applicant) to exclude the consideration of Measurement Uncertainty, unless it is required by the specific standard.

2. Test Sites

2.1 Test Laboratory

TUV Rheinland Taiwan Ltd.
Taipei Testing Laboratories

11F. No.758, Sec. 4, Bade Rd., Songshan Dist.
Taipei City 105
Taiwan (R.O.C.)

2.2 Test Facility

TUV Rheinland Taiwan Ltd.

AC Mains Conduction:
11F. No.758, Sec. 4, Bade Rd., Songshan Dist.
Taipei City 105
Taiwan (R.O.C.)
FCC Registration No.: 180491
IC Canada Registration No.: 9465A

Conducted Test / Radiated Test:
No. 458-18, Sec 2, Fenliao., Linkou Dist.
New Taipei City 244
Taiwan (R.O.C.)
FCC Registration No.: 226631
IC Canada Registration No.: 25563

TAF Accredited NCC Test Lab. No.:3567
TAF ISO17025 Certification effective period: 6th-May-2019 to 05th-May-2022



Testing Laboratory
3567

2.3 List of Test and Measurement Instruments

Table 2: List of Test and Measurement Equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESR7	102108	2019/4/17	2020/4/16
Spectrum Analyzer	R&S	FSV40	101112	2019/10/15	2020/10/15
Pre-Amplifier	Agilent	8447D	2944A10772	2020/2/14	2021/2/13
Pre-Amplifier	EMCI	EMC051845SE	980633	2020/2/07	2021/2/06
Pre-Amplifier	EMCI	EMC184045SE	980657	2020/2/07	2021/2/06
Bilog Antenna	SCHWARZBECK	VULB-9168	00951	2020/1/14	2021/1/13
Horn Antenna	ETS-Lindgren	3117	00218930	2020/12/27	2021/12/26
Horn Antenna	SCHWARZBECK	BBHA 9170	00887	2019/4/12	2020/4/11
Loop Antenna	EMCI	LPA600	287	2019/12/20	2020/12/19
Test Software	Audix	e3	Ver. 9	N/A	N/A
Test Cable	HUBER+SUHNER	SUCOFLEX 104EA_9k~18G	800056/4EA	2019/4/18	2020/4/17
Test Cable	HUBER+SUHNER	SUCOFLEX 104_9k~18G	804680/4	2019/4/18	2020/4/17
Test Cable	HUBER+SUHNER	SUCOFLEX 104_9k~18G	MY37202/4	2019/4/18	2020/4/17
Test Cable	HUBER+SUHNER	SUCOFLEX 102EA_1G~40G	800898/2EA	2019/4/18	2020/4/17
Test Cable	HUBER+SUHNER	SUCOFLEX 102EA_1G~40G	800901/2EA	2019/4/18	2020/4/17
Test Cable	HUBER+SUHNER	SUCOFLEX 102EA_1G~40G	801027/2EA	2019/4/18	2020/4/17
Thermo Chamber	Giant Force	GHT-150-40-CP-SD	MAA1902-010	2020/2/1	2021/2/1
Signal Generator	R&S	SMB100A03	181335	2020/1/23	2021/1/23
Power Meter	Anritsu	ML2495A	1901008	2019/4/29	2020/4/28
Power Sensor	Anritsu	MA2411B	1725269	2019/4/29	2020/4/28
EXG-B RF Analog Signal Generator	Agilent	N5171B	MY53050377	2019/04/22	2020/04/21
MXG-B RF Vector Signal Generator	Agilent	N5182B	MY53050524	2019/04/22	2020/04/21
Two-Line V-Network (for EUT)	Rohde & Schwarz	ENV216	101243	2019/06/23	2020/06/23
Two-Line V-Network	Rohde & Schwarz	ENV216	101262	2019/07/16	2020/07/16
Telecom ISN 4 Line	Fischer Custom Communications	FFCC-TLISN- T4-02-09	101168	2020/02/03	2021/02/03
Impedance Stabilization Network	TESEQ	ISN T800	51949	2020/02/25	2021/02/25
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	0357.8810.54- 102102-HN	2019/07/25	2020/07/25
Test Software	Audix	e3	Ver. 9	N/A	N/A

2.4 Traceability

All measurement equipment calibrations are traceable to NML(Taiwan)/NIST(USA) or where calibration is performed outside Taiwan, to equivalent nationally recognized standards organizations.

2.5 Calibration

Equipment requiring calibration is calibrated periodically in a suitably accredited Calibration Lab. Additionally all equipment is verified for proper performance on a regular schedule using in house standards or comparisons.

2.6 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements .

Table 3: Emission Measurement Uncertainty

Parameter	Uncertainty
Radio Frequency	± 0.1 ppm
RF power, conducted	± 1.5 dB
RF power density, conducted	± 3 dB
spurious emissions, conducted	± 3 dB
all emissions, radiated	± 6 dB
Temperature	± 1 °C
Humidity	± 5 %
DC and low frequency voltages	±3 %

3. General Product Information

3.1 Product Function and Intended Use

The EUT is a Wireless USB Device. It contains a WiFi 5G compatible module enabling the user to communicate data through a Wireless interface.
For details refer to the User Guide, Data Sheet and Block Diagram.

3.2 System Details and Ratings

Table 4: Basic Information of EUT

Item	EUT information
Kind of Equipment/Test Item	Wireless USB Device
Type Identification	KC612ac, WB112ac
Brand Name	Kcodes
FCC ID	U9XKCODES-612

Table 5: Technical Specification of EUT

Technical Specification	Value
Operating Frequencies	Band 1: 5180~5240MHz Band 2: 5260~5320MHz Band 3: 5500~5700MHz Band 4: 5745~5825MHz
Channel Spacing	10 MHz
Channel number	24 for 20MHz bandwidth ; 11 for 40MHz bandwidth ; 5 for 80MHz bandwidth ;
Operation Voltage	110 - 240Vac / 50 - 60Hz
Modulation	802.11a/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM,
Antenna gain	2.0 dBi
Product Type	802.11a: WLAN (2TX, 2RX) 802.11n: WLAN (2TX, 2RX) 802.11ac: WLAN (2TX, 2RX)
Beamforming Mode	No support
Operation Mode	Client device without DFS detection

Table 6: Channel Frequency Table

Band	Channel	Frequency (MHz)	Bandwidth 20M	Bandwidth 40M	Bandwidth 80M
U-NII-1 (Band 1)	36	5180	V		
	38	5190		V	
	40	5200	V		
	42	5210			V
	44	5220	V		
	46	5230		V	
	48	5240	V		
U-NII-2A (Band 2)	52	5260	V		
	54	5270		V	
	56	5280	V		
	58	5290			V
	60	5300	V		
	62	5310		V	
	64	5320	V		
U-NII-2C (Band 3)	100	5500	V		
	102	5510		V	
	104	5520	V		
	106	5530			V
	108	5540	V		
	110	5550		V	
	112	5560	V		
	116	5580	V		
	118	5590		V	
	120	5600	V		
	122	5610			V
	124	5620	V		
	126	5630		V	
	128	5640	V		
	132	5660	V		
	134	5670		V	
	136	5680	V		
	140	5700	V		
U-NII-3 (Band 4)	149	5745	V		
	151	5755		V	
	153	5765	V		
	155	5775			V
	157	5785	V		
	159	5795		V	
	161	5805	V		
	165	5825	V		

For ISSED, the channels 118 to 128 are don't use.

3.3 Independent Operation Modes

Basic operation modes are:

- A. Transmitting
- B. Receiving
- C. Normal Link

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Block Diagram.

3.5 Submitted Documents

- Block Diagram
- Instruction Manual
- Rating Label
- Technical Description

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The test modes were adapted accordingly in reference to the instructions for use.

During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Table 7: Table for Parameters of Test Software Setting for FCC

UNII Band	NCB: 20MHz			NCB: 40MHz		NCB: 80MHz	
	Channel	Mode		Channel	Mode	Channel	Mode
		802.11a	802.11an		802.11an		802.11ac
		Setting	Setting		Setting		Setting
Band 1	36	25/25	25/25	38	22/22	42	18/18
	40	25/25	25/25	46	25/25		
	48	25/25	25/25				
Band 2	52	25/25	25/25	54	21/21	58	17/17
	60	25/25	25/25	62	25/25		
	64	25/25	25/25				
Band 3	100	25/25	25/25	102	13/13	106	16/16
	116	25/25	25/25	110	25/25	112	25/25
	140	25/25	25/25	134	25/25		
Band 4	149	26/26	26/26	151	26/26	155	26/26
	157	26/26	26/26	159	26/26		
	165	26/25	26/25				

Based on evaluation, 802.11an is in worst mode, 802.11ac20 and 802.11ac40 are cover by 802.11an20 and 802.11an40.

Table 8: Table for Parameters of Test Software Setting for ISED

UNII Band	NCB: 20MHz			NCB: 40MHz		NCB: 80MHz	
	Channel	Mode		Channel	Mode	Channel	Mode
		802.11a	802.11an		802.11an		802.11ac
		Setting	Setting		Setting		Setting
Band 1	36	14/14	13/13	38	20/20	42	18/18
	40	14/14	13/13	46	20/20		
	48	14/14	13/13				
Band 2	52	25/25	25/25	54	21/21	58	17/17
	60	25/25	25/25	62	25/25		
	64	25/25	25/25				
Band 3	100	25/25	25/25	102	13/13	106	16/16
	116	25/25	25/25	110	25/25		
	140	25/25	25/25	134	25/25		
Band 4	149	26/26	26/26	151	26/26	155	26/26
	157	26/26	26/26	159	26/26		
	165	26/25	26/25				

4.2 Test Operation and Test Software

Setup for testing: Test samples are provided with LAN interface which makes it possible to control them through a test software installed on a notebook computer.

This software MT76xxE_AP.exe was running on the laptop computer connected to the EUT. It was used to enable the operation modes listed in section 3.3 as appropriate.

The samples were used as follows:
Sample number: A001002320-006

The modulation and bandwidth are similar for 802.11n mode for 20MHz/40MHz and 802.11ac mode for 20MHz/40MHz, therefore investigated worst case to representative mode in test report.

Full test was applied on all test modes, but only worst case was shown.

IEEE 802.11a mode:

Band 1 Channel Low (5180MHz), Channel Mid (5200MHz) and Channel High (5240MHz) with 6Mbps data rate were chosen for full testing.

Band 2 Channel Low (5260MHz), Channel Mid (5300MHz) and Channel High (5320MHz) with 6Mbps data rate were chosen for full testing.

Band 3 Channel Low (5500MHz), Channel Mid (5580MHz) and Channel High (5700MHz) with 6Mbps data rate were chosen for full testing.

Band 4 Channel Low (5745MHz), Channel Mid (5785MHz) and Channel High (5825MHz) with 6Mbps data rate were chosen for full testing.

IEEE 802.11an HT20 mode:

Band 1 Channel Low (5180MHz), Channel Mid (5200MHz) and Channel High (5240MHz) with MCS0/NSS1 data rate were chosen for full testing.

Band 2 Channel Low (5260MHz), Channel Mid (5300MHz) and Channel High (5320MHz) with MCS0/NSS1 data rate were chosen for full testing.

Band 3 Channel Low (5500MHz), Channel Mid (5580MHz) and Channel High (5700MHz) with MCS0/NSS1 data rate were chosen for full testing.

Band 4 Channel Low (5745MHz), Channel Mid (5785MHz) and Channel High (5825MHz) with MCS0/NSS1 data rate were chosen for full testing.

IEEE 802.11an HT40 mode:

Band 1 Channel Low (5190MHz) and Channel High (5230MHz) with MCS0/NSS1 data rate were chosen for full testing.

Band 2 Channel Low (5270MHz) and Channel High (5310MHz) with MCS0/NSS1 data rate were chosen for full testing.

Band 3 Channel Low (5510MHz), Channel Mid (5550MHz) and Channel High (5670MHz) with MCS0/NSS1 data rate were chosen for full testing.

Band 4 Channel Low (5755MHz) and Channel High (5795MHz) with MCS0/NSS1 data rate were chosen for full testing.

IEEE 802.11ac VHT80 mode:

Band 1 Channel Low (5120MHz) with MCS0/NSS1 data rate were chosen for full testing.

Band 2 Channel Low (5290MHz) with MCS0/NSS1 data rate were chosen for full testing.

Band 3 Channel Low (5530MHz) and Channel High (5610MHz) with MCS0/NSS1 data rate were chosen for full testing.

Band 4 Channel Low (5775MHz) with MCS0/NSS1 data rate were chosen for full testing.

4.3 Special Accessories and Auxiliary Equipment

The product has been tested together with the following additional accessories:

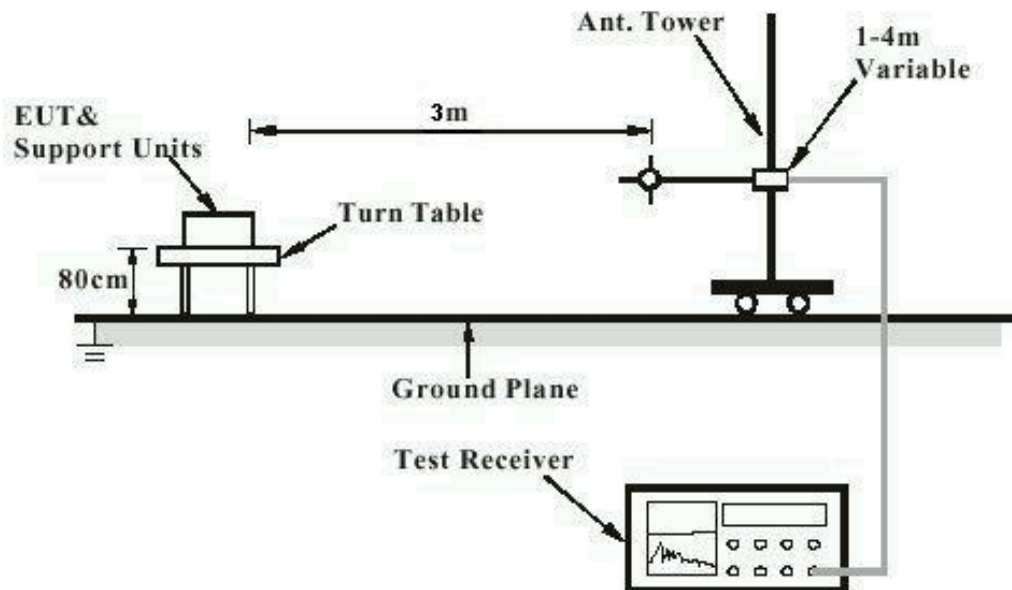
Kind of Equipment	Manufacturer	Model Name	S/N
Adapter	ADAPTER TECH.	ATS012T-W050E	N/A

4.4 Countermeasures to achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Constructional Data Form or the Technical Construction File. No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test



Note: Measurements above 1 GHz are done with a table height of 1.5m

Diagram of Measurement Equipment Configuration for Mains Conduction Measurement (if applicable)

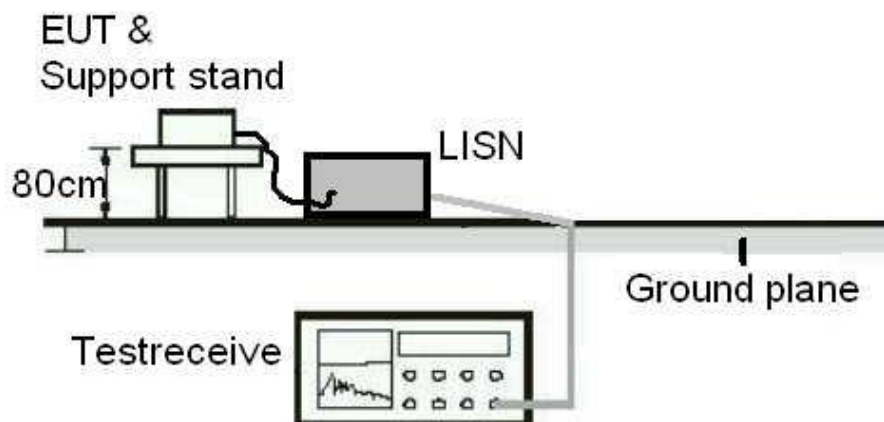
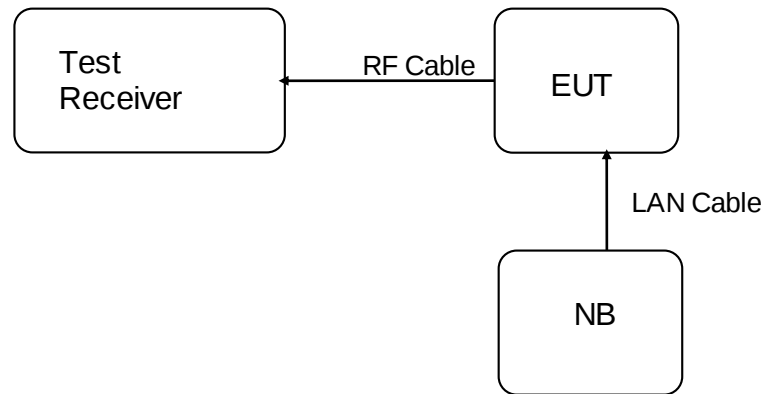
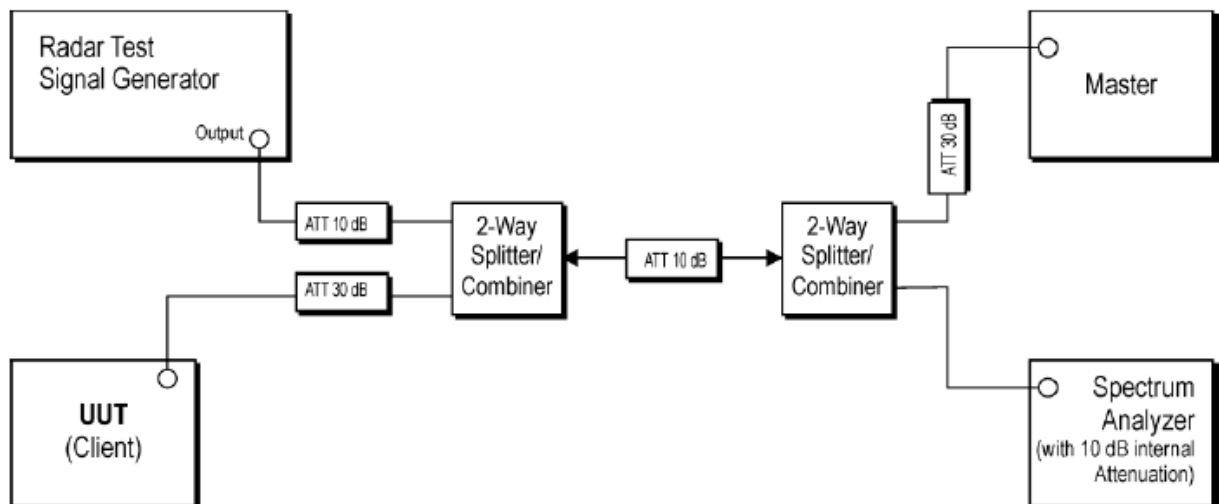


Diagram of Measurement Equipment Configuration for Conducted Transmitter Measurement

Diagram of Measurement Configuration for DFS Test


5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Passed**

Test standard : FCC Part 15.407(a), Part 15.203,
ISED RSS-Gen 6.8, KDB662911 D02

Requirement : use of approved antennas only with directional gains that
do not exceed 6 dBi

According to the manufacturer declaration, the EUT has an antenna with a directional gain of 2.0dBi. The antenna is a printed trace with no possibility of replacement with a non-approved antenna by the end-user. Therefore, the EUT is considered to comply with this provision.

Refer to EUT photo for details.

5.1.2 Duty Cycle

RESULT:
Passed

Test standard : KDB 789033 Zero-Span Spectrum Analyzer Method,
 ISSED RSS-Gen Zero-Span Spectrum Analyzer
 Method
 Limit : None; for reporting purposes only
 Kind of test site : Shielded room / Conducted room

Test setup

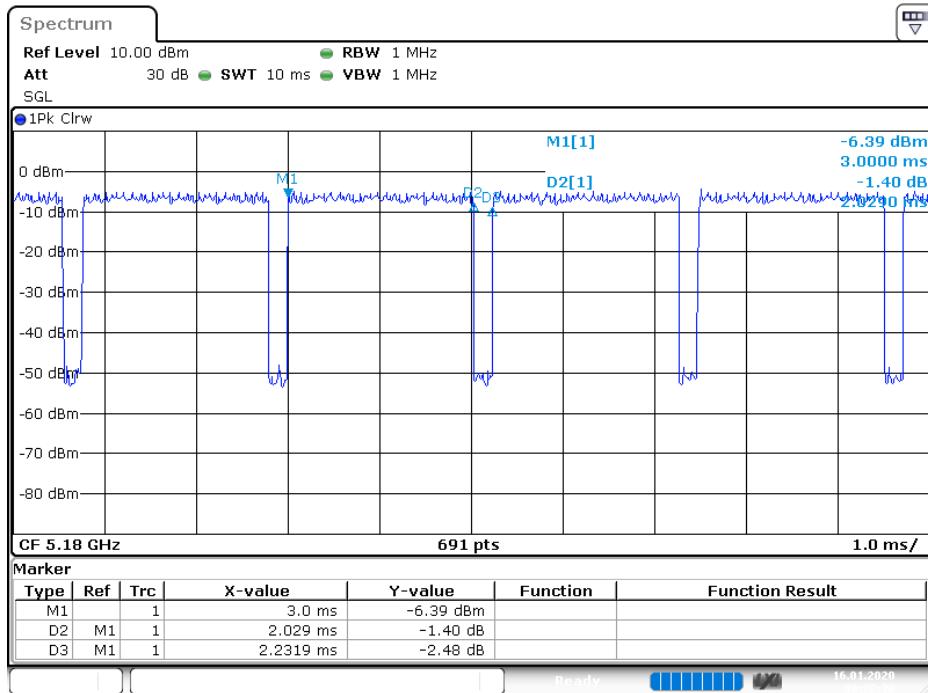
Operation Mode : A
 Test Channel : Each operation mode of band 1 of low channel

Table 9: Test result of Duty Cycle

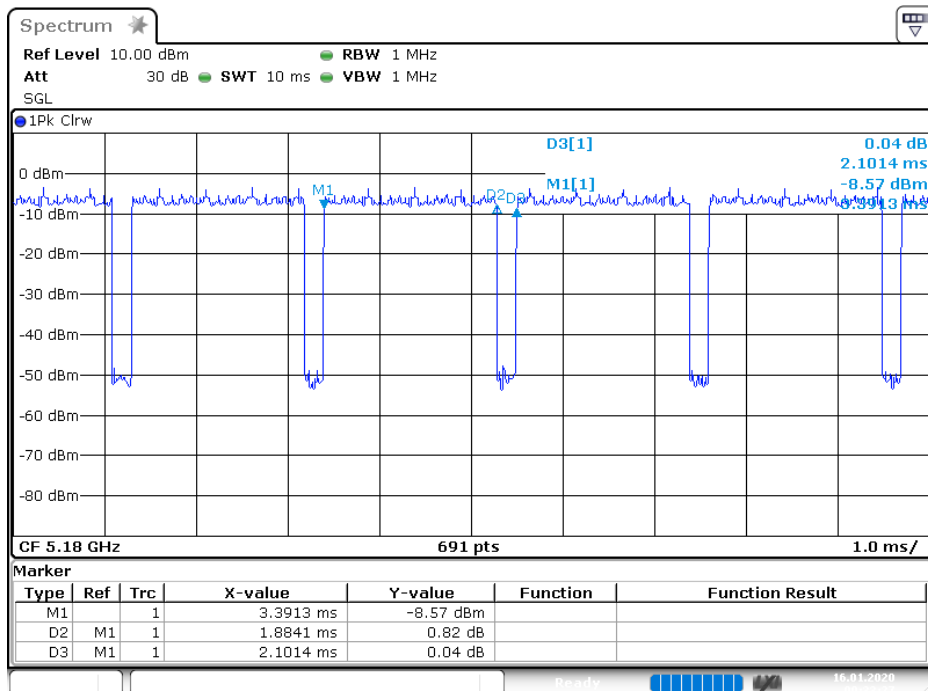
Mode	On Time(ms)	On+Off Time(ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
802.11a	2.029	2.2319	90.91	0.41	0.49
802.11an HT20	1.8841	2.1014	89.66	0.47	0.53
802.11an HT40	0.8985	1.1376	78.98	1.02	1.11
802.11ac VHT80	0.4202	0.6608	63.60	1.97	2.38

The duty factor is $10\log(1/(\text{Duty Cycle (\%)} / 100))$.
 Duty factor and 1/T minimum VBW used in radiated test items.
 Test results listed in section 5.1.3 (Output Power) and 5.1.6 (PSD) have been corrected by duty cycle.

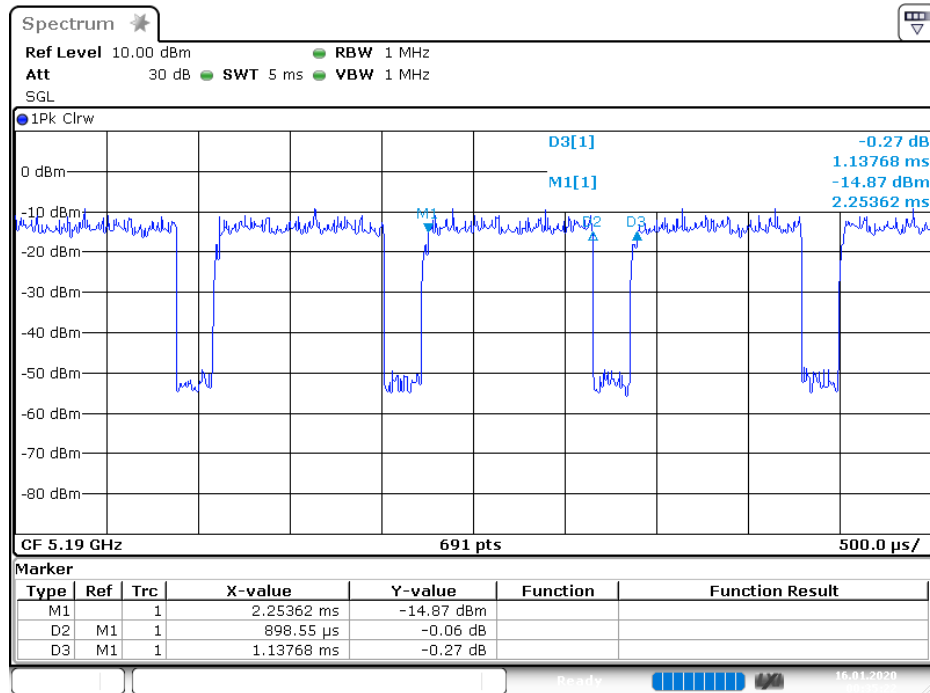
Test Plot of Duty Cycle

802.11a


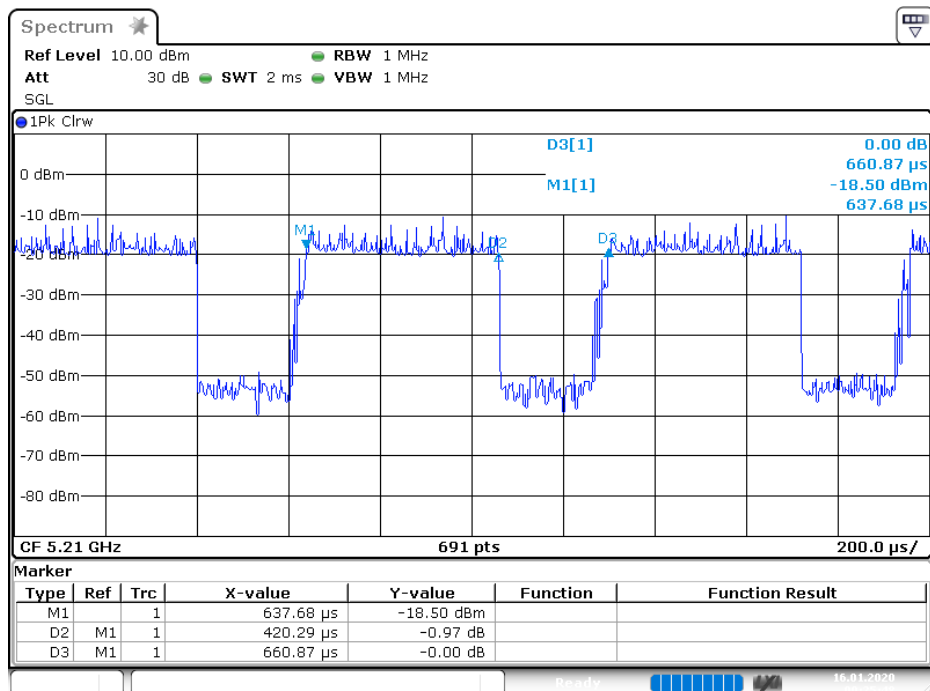
Date: 16.JAN.2020 00:22:30

802.11an HT20


Date: 16.JAN.2020 00:33:27

802.11an HT40


Date: 16.JAN.2020 00:35:23

802.11ac VHT80


Date: 16.JAN.2020 00:25:49

5.1.3 Maximum Conducted Average Output Power

RESULT:**Passed**

Test standard	:	FCC Part 15.407(a), ISED RSS-247 6.2
Basic standard	:	ANSI C63.10:2013
Kind of test site	:	Shielded room

Test setup

Test Channel	:	FCC refer to the Table 7 ISED refer to the Table 8
Operation Mode	:	A
Ambient temperature	:	20-24 °C
Relative humidity	:	50-65 %
Atmospheric pressure	:	100-103 kPa

FCC Limit

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

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

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

ISED Limit

For the 5.15-5.25GHz, the maximum e.i.r.p. shall not exceed 200 mW or $10 + 10 \log_{10}B$, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz.

For the 5.25-5.35 GHz, the maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10}B$, dBm, whichever is less. B is the 99% emission bandwidth in megahertz.

The maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log_{10}B$, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

For the band 5.47-5.6GHz and 5.65-5.725GHz, the maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10}B$, dBm, whichever is less.

The maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log_{10}B$, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

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

Table 10: Test result of Average Output Power for FCC

Mode	Channel Frequency (MHz)	Average Output Power			Limit (dBm)
		Ant 1 (dBm)	Ant 2 (dBm)	Total (dBm)	
802.11a	5180	15.37	15.68	18.54	24.00
	5200	15.98	15.94	18.97	24.00
	5240	15.77	15.97	18.88	24.00
	5260	15.78	16.24	19.03	24.00
	5300	15.83	15.95	18.90	24.00
	5320	16.11	15.93	19.03	24.00
	5500	15.62	15.56	18.60	24.00
	5580	14.85	14.64	17.76	24.00
	5700	14.76	14.02	17.42	24.00
	5745	14.94	13.28	17.20	30.00
	5785	14.43	13.58	17.04	30.00
	5825	14.51	12.75	16.73	30.00
802.11an HT20	5180	16.21	16.14	19.19	24.00
	5200	16.69	16.92	19.82	24.00
	5240	16.64	17.01	19.84	24.00
	5260	16.52	17.00	19.78	24.00
	5300	16.98	17.03	20.02	24.00
	5320	17.21	16.83	20.03	24.00
	5500	16.15	16.31	19.24	24.00
	5580	16.02	15.31	18.69	24.00
	5700	15.79	14.71	18.29	24.00
	5745	15.69	14.44	18.12	30.00
	5785	15.52	14.28	17.95	30.00
	5825	15.61	13.66	17.75	30.00
802.11an HT40	5190	15.18	15.44	18.32	24.00
	5230	15.56	16.35	18.98	24.00
	5270	14.76	15.03	17.91	24.00
	5310	17.04	17.15	20.11	24.00
	5510	9.77	10.17	12.98	24.00
	5550	16.67	16.54	19.62	24.00
	5670	15.49	15.72	18.62	24.00
	5755	15.98	14.23	18.20	30.00
	5795	15.70	14.43	18.12	30.00
802.11ac VHT80	5210	13.22	13.85	16.56	24.00
	5290	13.16	13.00	16.09	24.00
	5530	11.61	12.05	14.85	24.00
	5610	15.64	15.31	18.49	24.00
	5775	15.75	14.41	18.14	30.00

Table 11: Test result of Average Output Power for ISED

Mode	Channel Frequency (MHz)	Conducted Average Output Power			Conducted Limit (dBm)	EIRP Power (dBm)	EIRP Limit (dBm)
		Ant 1 (dBm)	Ant 2 (dBm)	Total (dBm)			
802.11a	5180	9.23	9.43	12.34	-	14.34	22.24
	5200	9.41	10.19	12.83	-	14.83	22.26
	5240	9.83	9.90	12.88	-	14.88	22.25
	5260	15.78	16.24	19.03	23.29	21.03	29.29
	5300	15.83	15.95	18.90	23.29	20.90	29.29
	5320	16.11	15.93	19.03	23.26	21.03	29.26
	5500	15.62	15.56	18.60	23.29	20.60	29.29
	5580	14.85	14.64	17.76	23.28	19.76	29.28
	5700	14.76	14.02	17.42	23.29	19.42	29.29
	5745	14.94	13.28	17.20	30.00	-	-
	5785	14.43	13.58	17.04	30.00	-	-
	5825	14.51	12.75	16.73	30.00	-	-
802.11an HT20	5180	9.64	10.31	13.00	-	15.00	22.48
	5200	10.18	10.35	13.28	-	15.28	22.45
	5240	10.12	10.80	13.48	-	15.48	22.48
	5260	16.52	17.00	19.78	23.50	21.78	29.50
	5300	16.98	17.03	20.02	23.51	22.02	29.51
	5320	17.21	16.83	20.03	23.50	22.03	29.50
	5500	16.15	16.31	19.24	23.50	21.24	29.50
	5580	16.02	15.31	18.69	23.48	20.69	29.48
	5700	15.79	14.71	18.29	23.52	20.29	29.52
	5745	15.69	14.44	18.12	30.00	-	-
	5785	15.52	14.28	17.95	30.00	-	-
	5825	15.61	13.66	17.75	30.00	-	-
802.11an HT40	5190	13.27	13.67	16.48	-	18.48	23.00
	5230	13.12	13.49	16.32	-	18.32	23.00
	5270	14.76	15.03	17.91	24.00	19.91	30.00
	5310	17.04	17.15	20.11	24.00	22.11	30.00
	5510	9.77	10.17	12.98	24.00	14.98	30.00
	5550	16.67	16.54	19.62	24.00	21.62	30.00
	5670	15.49	15.72	18.62	24.00	20.62	30.00
	5755	15.98	14.23	18.20	30.00	-	-
	5795	15.70	14.43	18.12	30.00	-	-
802.11ac VHT80	5210	13.22	13.85	16.56	-	18.56	23.00
	5290	13.16	13.00	16.09	24.00	18.09	30.00
	5530	11.61	12.05	14.85	24.00	16.85	30.00
	5775	15.75	14.41	18.14	30.00	-	-

For 802.11a 5180MHz, the EIRP limit is using $10 \text{ dBm} + 10 \log(B)$, where B is the 16.74MHz, So, the EIRP limit equal 22.24dBm.

For 802.11a 5200MHz, the EIRP limit is using $10 \text{ dBm} + 10 \log(B)$, where B is the 16.82MHz, So, the EIRP limit equal 22.26dBm.

For 802.11a 5240MHz, the EIRP limit is using $10 \text{ dBm} + 10 \log(B)$, where B is the 16.78MHz, So, the EIRP limit equal 22.25dBm.

For 802.11a 5260MHz, the Conducted power limit is $11 \text{ dBm} + 10 \log(B)$ and the EIRP limit is $17 \text{ dBm} + 10 \log(B)$, where B is the 16.93MHz, So, the Conducted limit equal 23.29dBm and the EIRP limit equal 29.29dBm.

For 802.11a 5300MHz, the Conducted power limit is $11 \text{ dBm} + 10 \log(B)$ and the EIRP limit is $17 \text{ dBm} + 10 \log(B)$, where B is the 16.96MHz, So, the Conducted limit equal 23.29dBm and the EIRP limit equal 29.29dBm.

For 802.11a 5320MHz, the Conducted power limit is $11 \text{ dBm} + 10 \log(B)$ and the EIRP limit is $17 \text{ dBm} + 10 \log(B)$, where B is the 16.84MHz, So, the Conducted limit equal 23.26dBm and the EIRP limit equal 29.26dBm.

For 802.11a 5500MHz, the Conducted power limit is $11 \text{ dBm} + 10 \log(B)$ and the EIRP limit is $17 \text{ dBm} + 10 \log(B)$, where B is the 16.93MHz, So, the Conducted limit equal 23.29dBm and the EIRP limit equal 29.29dBm.

For 802.11a 5580MHz, the Conducted power limit is $11 \text{ dBm} + 10 \log(B)$ and the EIRP limit is $17 \text{ dBm} + 10 \log(B)$, where B is the 16.90MHz, So, the Conducted limit equal 23.28dBm and the EIRP limit equal 29.28dBm.

For 802.11a 5700MHz, the Conducted power limit is $11 \text{ dBm} + 10 \log(B)$ and the EIRP limit is $17 \text{ dBm} + 10 \log(B)$, where B is the 16.96MHz, So, the Conducted limit equal 23.29dBm and the EIRP limit equal 29.29dBm.

For 802.11an HT20 5180MHz, the EIRP limit is using $10 \text{ dBm} + 10 \log(B)$, where B is the 17.70MHz, So, the EIRP limit equal 22.48dBm.

For 802.11an HT20 5200MHz, the EIRP limit is using $10 \text{ dBm} + 10 \log(B)$, where B is the 17.56MHz, So, the EIRP limit equal 22.45dBm.

For 802.11an HT20 5240MHz, the EIRP limit is using $10 \text{ dBm} + 10 \log(B)$, where B is the 17.70MHz, So, the EIRP limit equal 22.48dBm.

For 802.11an HT20 5260MHz, the Conducted power limit is $11 \text{ dBm} + 10 \log(B)$ and the EIRP limit is $17 \text{ dBm} + 10 \log(B)$, where B is the 17.80MHz, So, the Conducted limit equal 23.50dBm and the EIRP limit equal 29.50dBm.

For 802.11an HT20 5300MHz, the Conducted power limit is $11 \text{ dBm} + 10 \log(B)$ and the EIRP limit is $17 \text{ dBm} + 10 \log(B)$, where B is the 17.83MHz, So, the Conducted limit equal 23.51dBm and the EIRP limit equal 29.51dBm.

For 802.11an HT20 5320MHz, the Conducted power limit is $11 \text{ dBm} + 10 \log(B)$ and the EIRP limit is $17 \text{ dBm} + 10 \log(B)$, where B is the 17.77MHz, So, the Conducted limit equal 23.50dBm and the EIRP limit equal 29.50dBm.

For 802.11an HT20 5500MHz, the Conducted power limit is $11 \text{ dBm} + 10 \log(B)$ and the EIRP limit is $17 \text{ dBm} + 10 \log(B)$, where B is the 17.77MHz, So, the Conducted limit equal 23.50dBm and the EIRP limit equal 29.50dBm.

For 802.11an HT20 5580MHz, the Conducted power limit is $11 \text{ dBm} + 10 \log(B)$ and the EIRP limit is $17 \text{ dBm} + 10 \log(B)$, where B is the 17.71MHz, So, the Conducted limit equal 23.48dBm and the EIRP limit equal 29.48dBm.

For 802.11an HT20 5700MHz, the Conducted power limit is $11 \text{ dBm} + 10 \log(B)$ and the EIRP limit is $17 \text{ dBm} + 10 \log(B)$, where B is the 17.86MHz, So, the Conducted limit equal 23.52dBm and the EIRP limit equal 29.52dBm.

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Test Report No.**Seite 27 von 268**
Page 27 of 268**5.1.4 26dB & 99% Bandwidth****RESULT:****Passed**

Test standard	:	FCC Part 15.407(a), ISED RSS-247 6.2
Basic standard	:	ANSI C63.10:2013
Kind of test site	:	Conducted room

Test setup

Test Channel	:	FCC refer to the Table 7 ISED refer to the Table 8
Operation Mode	:	A

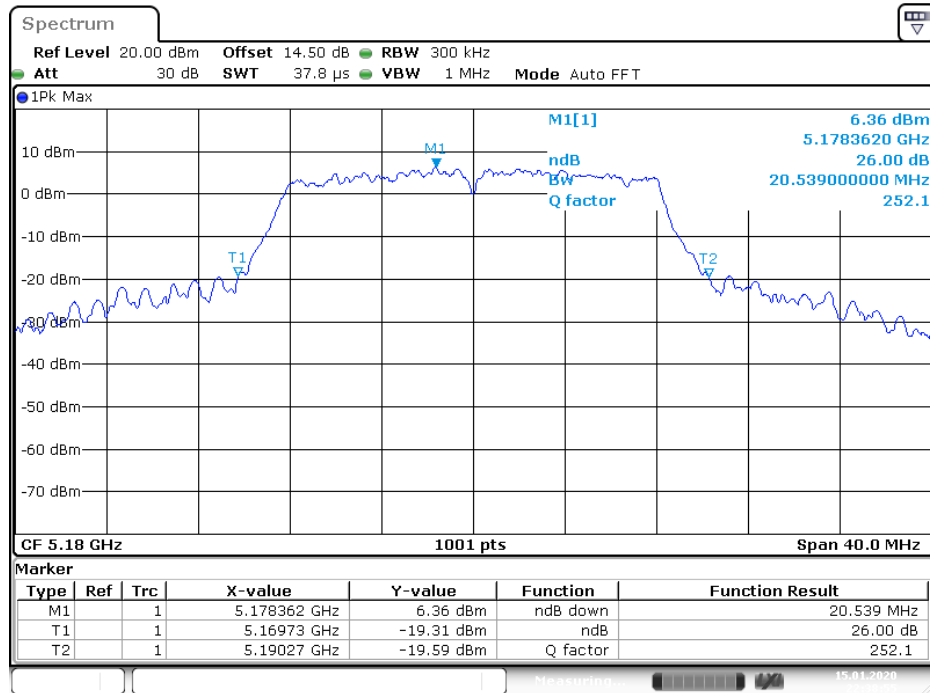
Table 12: Test result of 26dB & 99% Bandwidth for FCC

Mode	Channel Frequency (MHz)	26dB Bandwidth (MHz)		99% Bandwidth (MHz)	
		TX 1	TX 2	TX 1	TX 2
802.11a	5180	20.54	20.46	16.84	16.99
	5200	20.18	20.42	17.02	16.99
	5240	20.22	20.18	16.96	16.96
	5260	20.14	20.42	16.93	16.99
	5300	20.14	20.34	16.99	16.96
	5320	20.54	20.06	16.84	16.96
	5500	20.66	20.30	16.96	16.93
	5580	20.22	20.66	16.90	16.90
	5700	20.98	21.06	16.96	17.05
	5745			16.50	16.54
	5785			16.50	16.58
	5825			16.50	16.54
802.11an HT20	5180	21.14	21.58	17.86	17.86
	5200	21.78	21.30	17.89	17.92
	5240	21.01	21.78	17.86	17.83
	5260	22.42	21.42	17.80	17.86
	5300	21.22	21.86	17.86	17.83
	5320	21.30	21.70	17.77	17.86
	5500	20.86	21.38	17.77	17.86
	5580	20.98	21.22	17.71	17.83
	5700	21.70	21.66	17.86	17.89
	5745			17.94	17.94
	5785			17.86	18.18
	5825			17.90	18.42
802.11an HT40	5190	41.40	41.56	36.36	36.20
	5230	43.16	42.04	36.76	36.52
	5270	41.72	41.48	36.36	36.28
	5310	42.04	41.96	36.68	36.52
	5510	41.48	41.16	36.28	36.28
	5550	42.20	43.00	36.52	36.60
	5670	42.12	53.79	36.52	36.92
	5755			36.84	37.00
	5795			37.00	37.00
802.11ac VHT80	5210	81.52	81.68	75.12	75.12
	5290	81.68	81.68	75.12	75.12
	5530	81.52	81.36	75.12	75.12
	5610	81.84	88.23	75.44	75.44
	5775			75.92	75.60

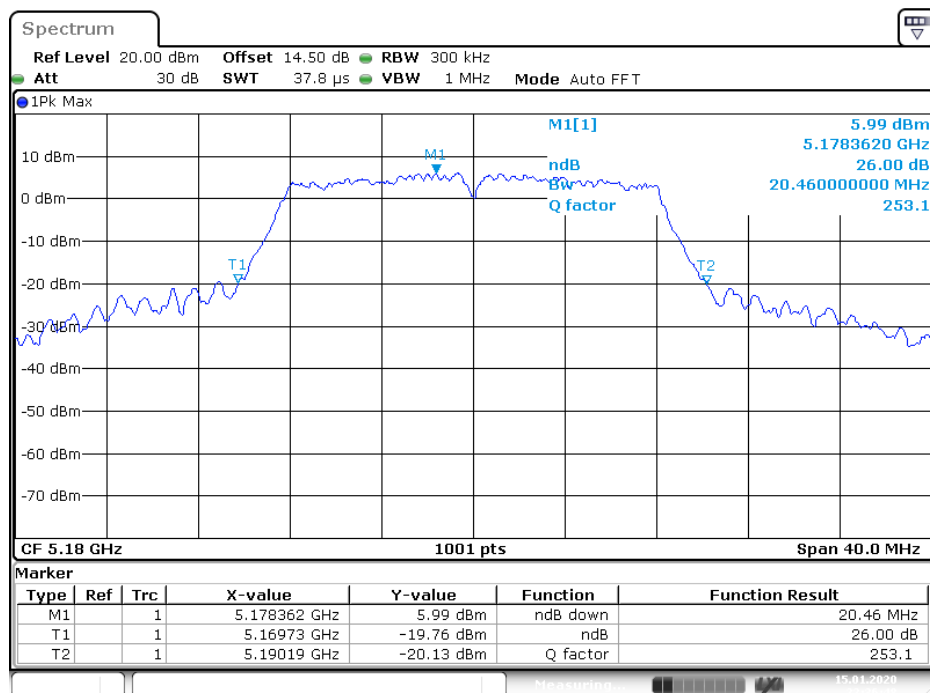
Table 13: Test result of 26dB & 99% Bandwidth for ISED

Mode	Channel Frequency (MHz)	26dB Bandwidth (MHz)		99% Bandwidth (MHz)	
		TX 1	TX 2	TX 1	TX 2
802.11a	5180	19.86	20.10	16.74	16.90
	5200	20.22	20.14	16.90	16.82
	5240	20.18	20.22	16.78	16.78
	5260	20.14	20.42	16.93	16.99
	5300	20.14	20.34	16.99	16.96
	5320	20.54	20.06	16.84	16.96
	5500	20.66	20.30	16.96	16.93
	5580	20.22	20.66	16.90	16.90
	5700	20.98	21.06	16.96	17.05
	5745			16.50	16.54
	5785			16.50	16.58
	5825			16.50	16.54
802.11an HT20	5180	20.38	20.38	17.70	17.70
	5200	20.46	20.34	17.70	17.66
	5240	20.30	20.38	17.70	17.70
	5260	22.42	21.42	17.80	17.86
	5300	21.22	21.86	17.86	17.83
	5320	21.30	21.70	17.77	17.86
	5500	20.86	21.38	17.77	17.86
	5580	20.98	21.22	17.71	17.83
	5700	21.70	21.66	17.86	17.89
	5745			17.94	17.94
	5785			17.86	18.18
	5825			17.90	18.42
802.11an HT40	5190	41.78	41.56	36.36	36.36
	5230	41.40	41.56	36.44	36.36
	5270	41.72	41.48	36.36	36.28
	5310	42.04	41.96	36.68	36.52
	5510	41.48	41.16	36.28	36.28
	5550	42.20	43.00	36.52	36.60
	5670	42.12	53.79	36.52	36.92
	5755			36.84	37.00
	5795			37.00	37.00
802.11ac VHT80	5210	81.52	81.68	75.12	75.12
	5290	81.68	81.68	75.12	75.12
	5530	81.52	81.36	75.12	75.12
	5775			75.92	75.60

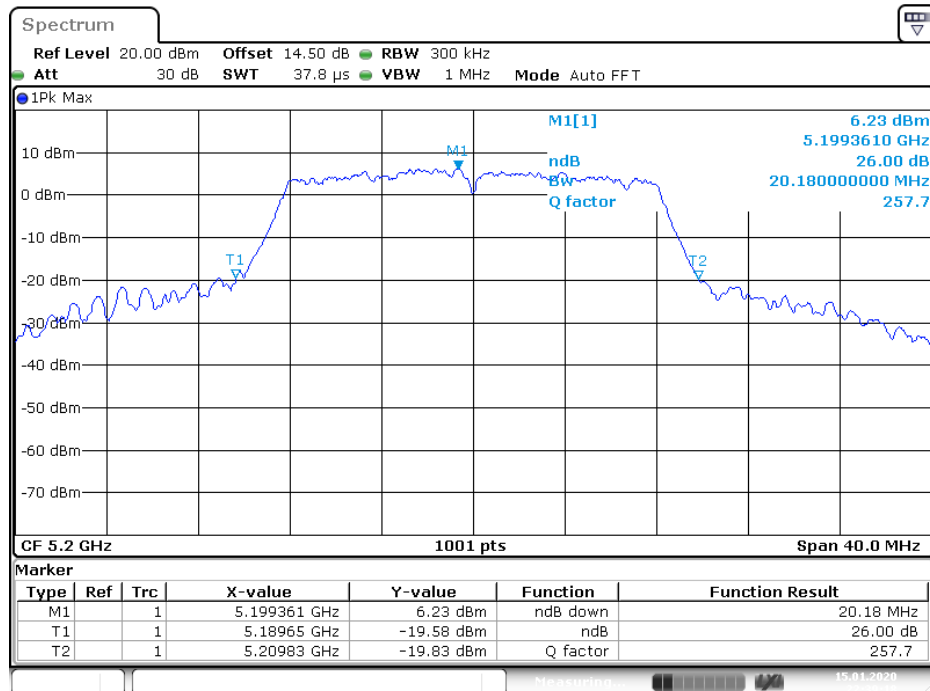
Test Plot of 26dB Bandwidth for FCC

802.11a 5180MHz, TX1


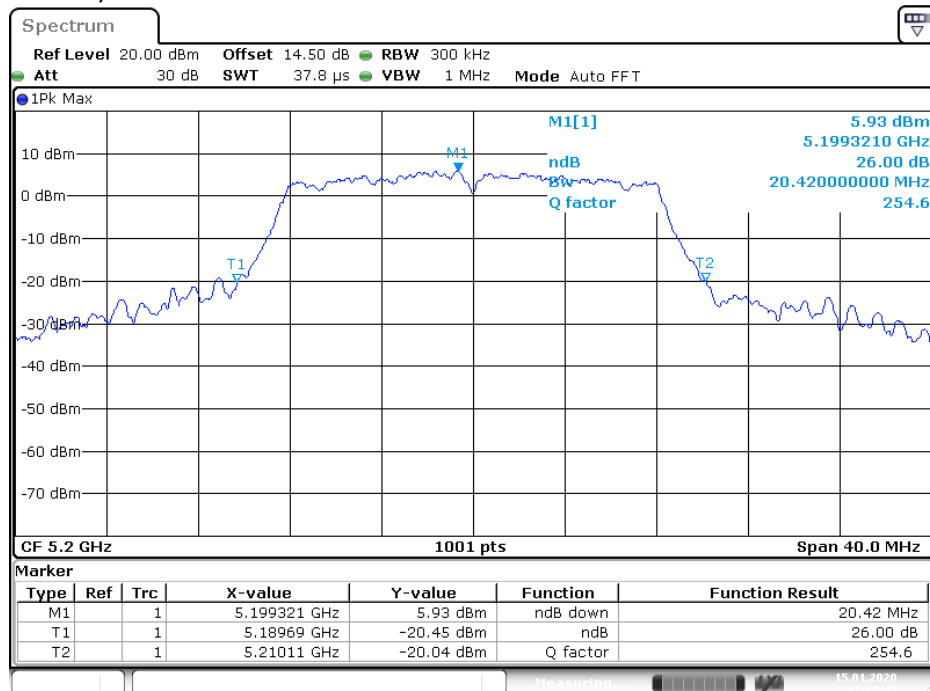
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802.11a 5180MHz, TX2


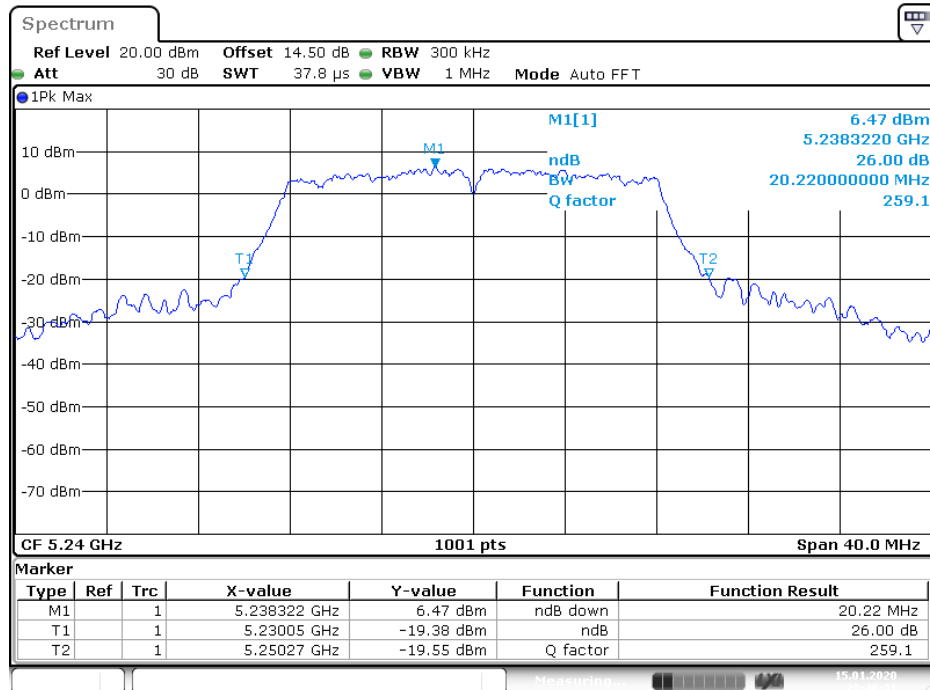
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802.11a 5200MHz, TX1


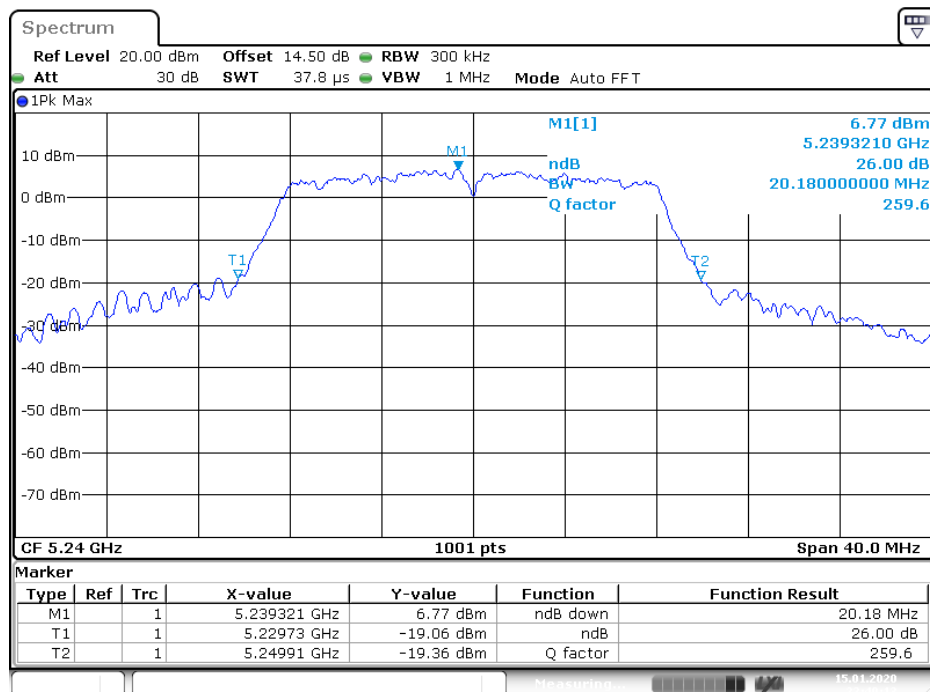
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802.11a 5200MHz, TX2


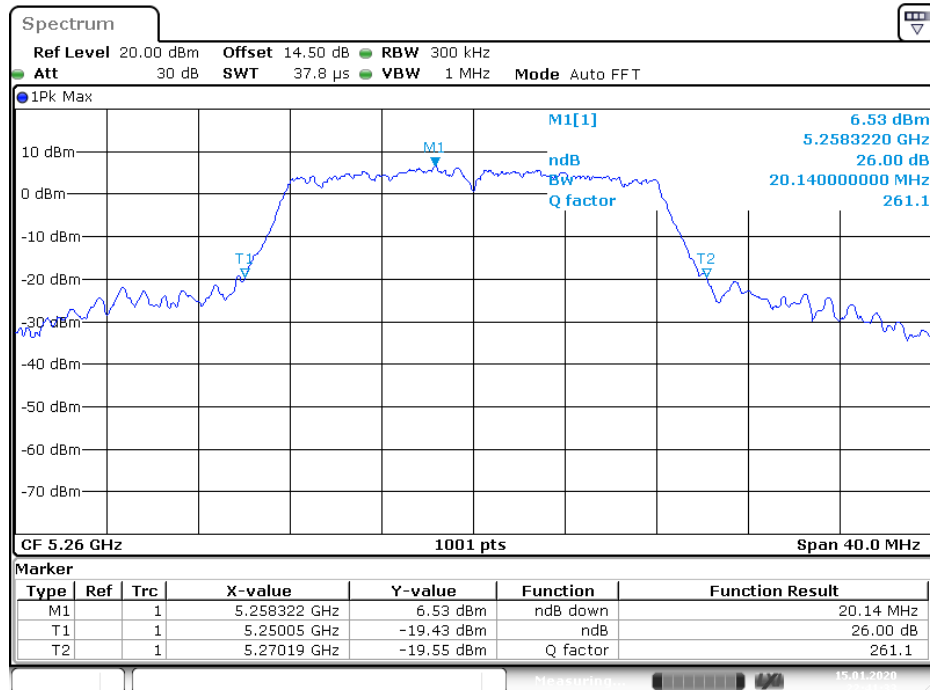
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802.11a 5240MHz, TX1


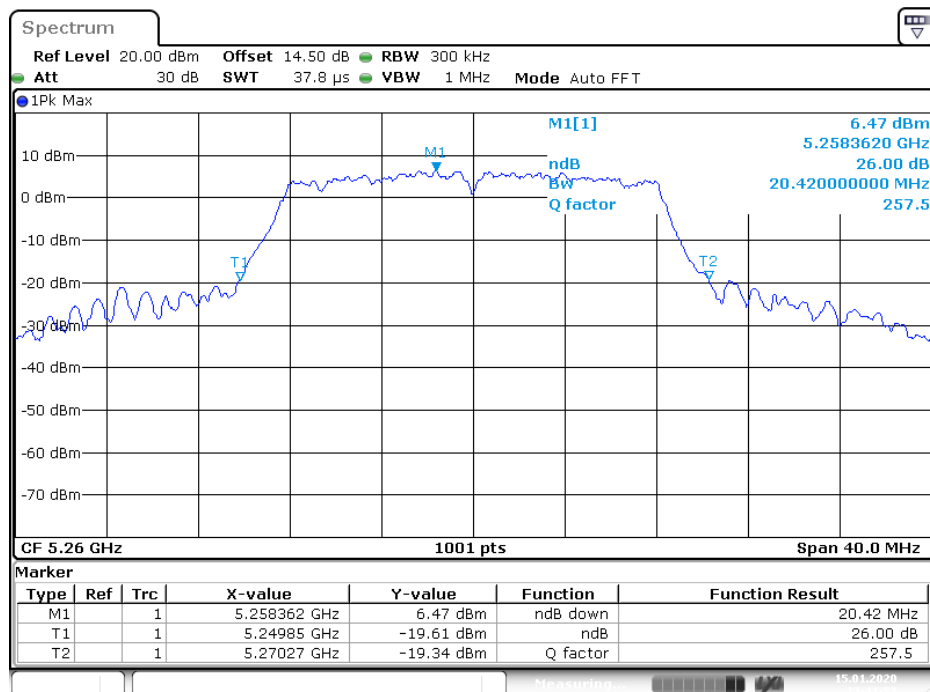
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802.11a 5240MHz, TX2


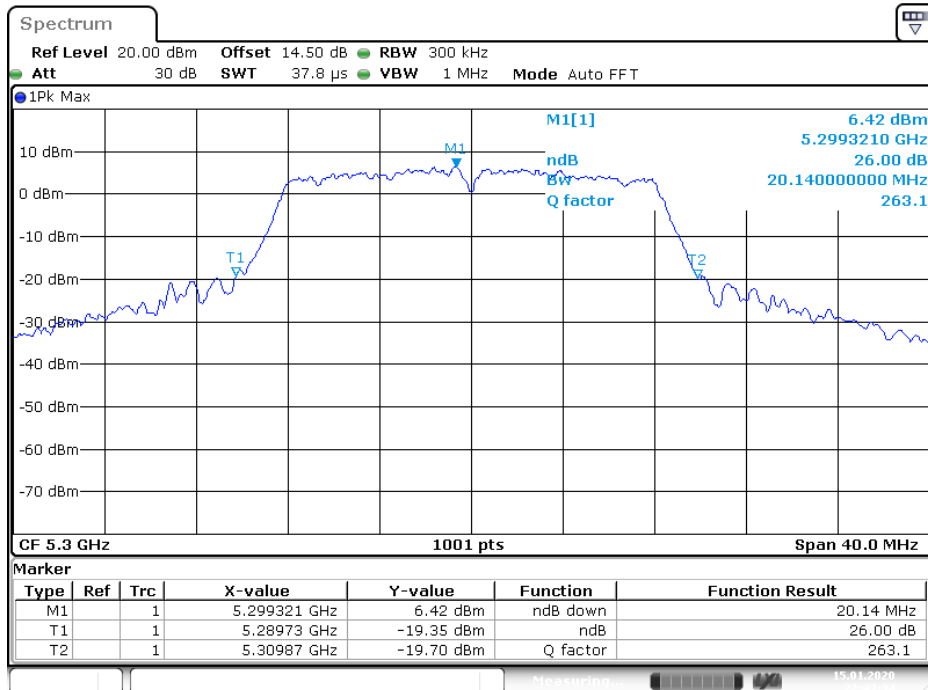
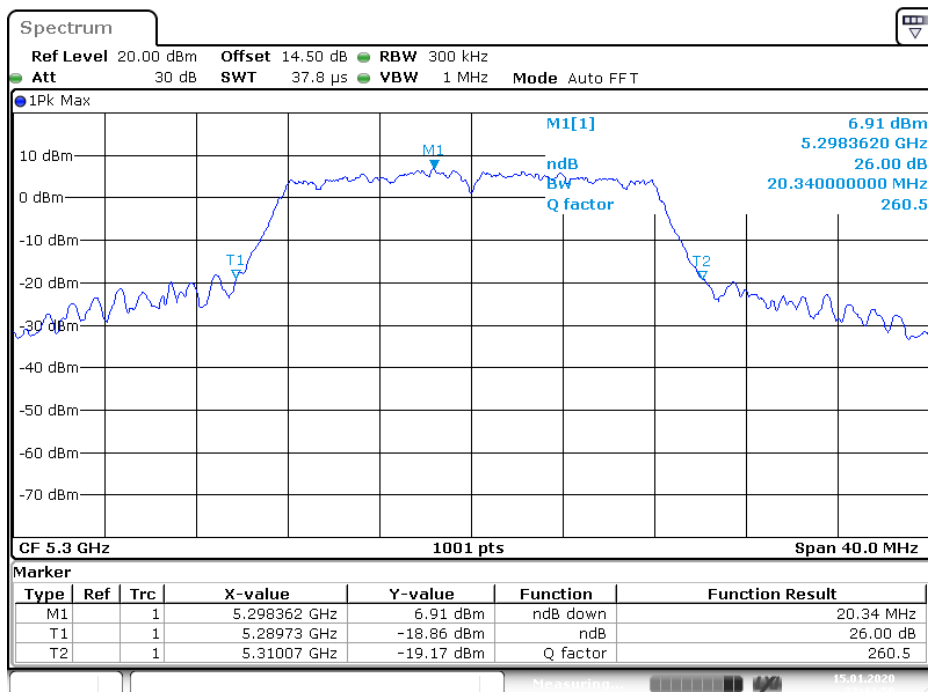
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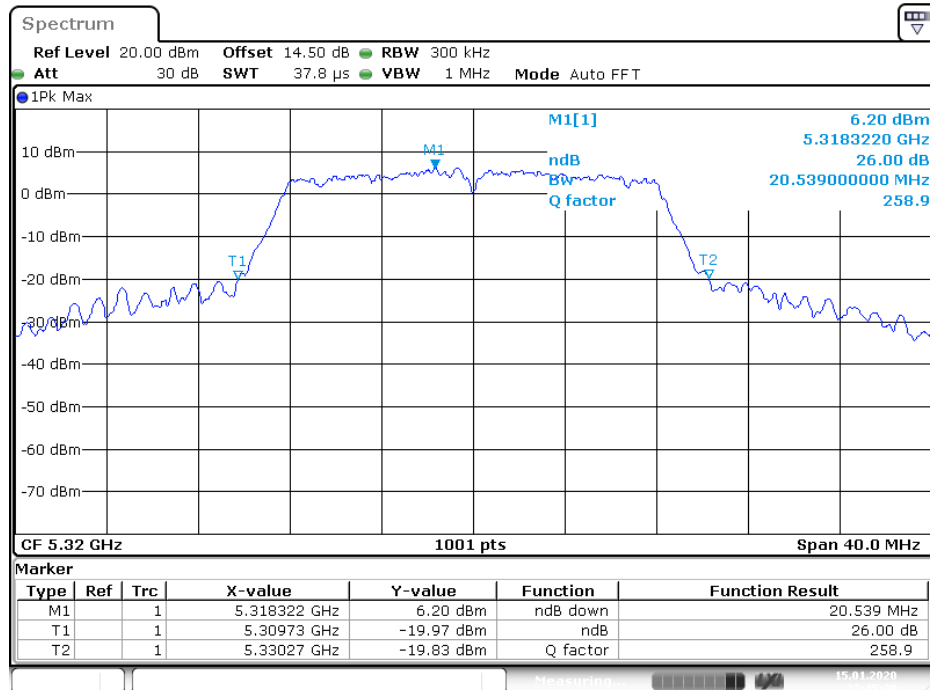
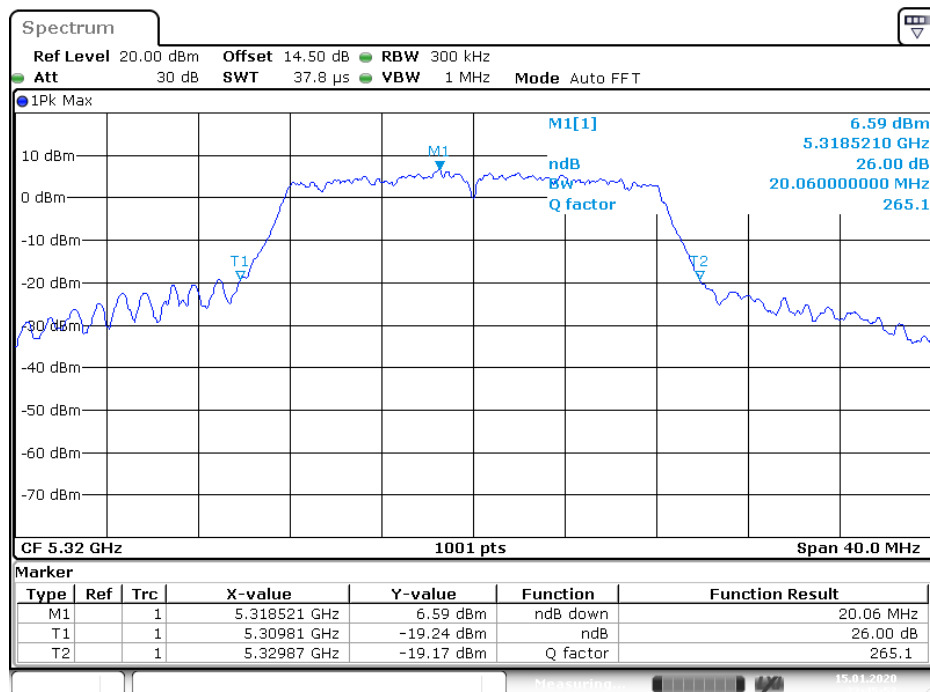
802.11a 5260MHz, TX1


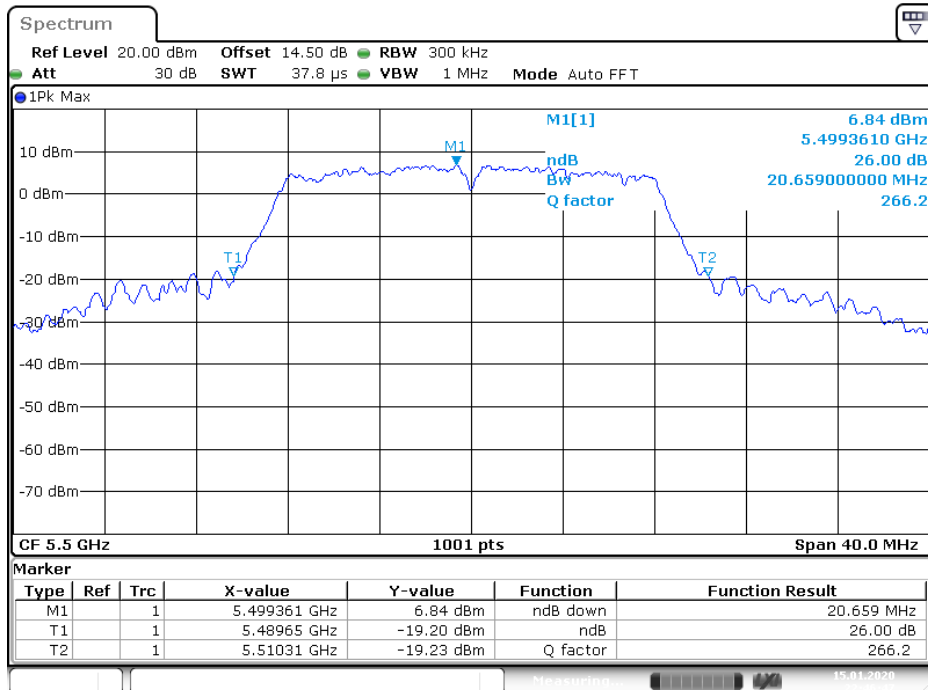
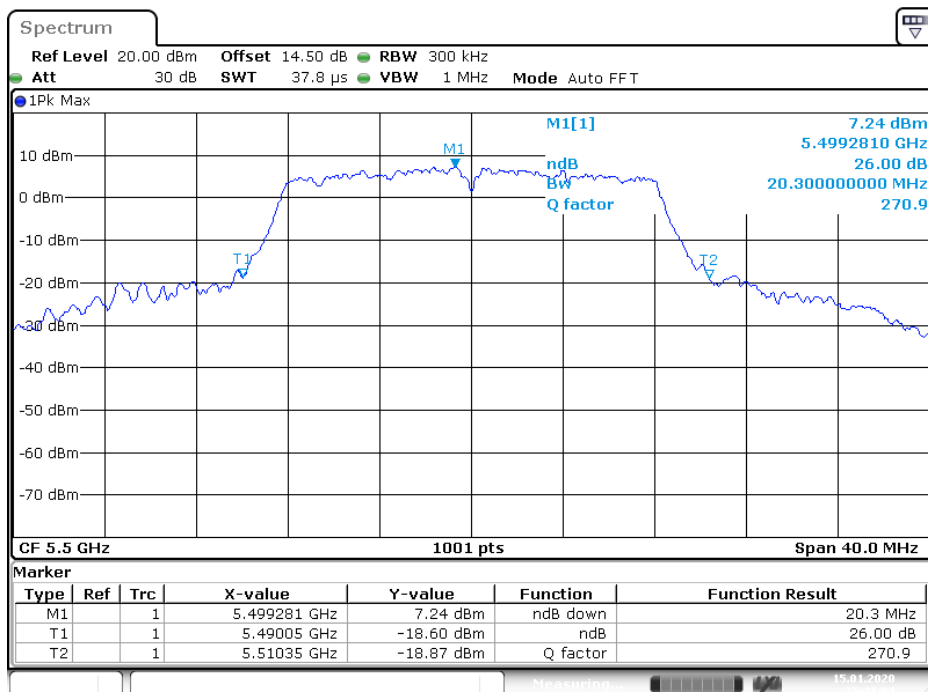
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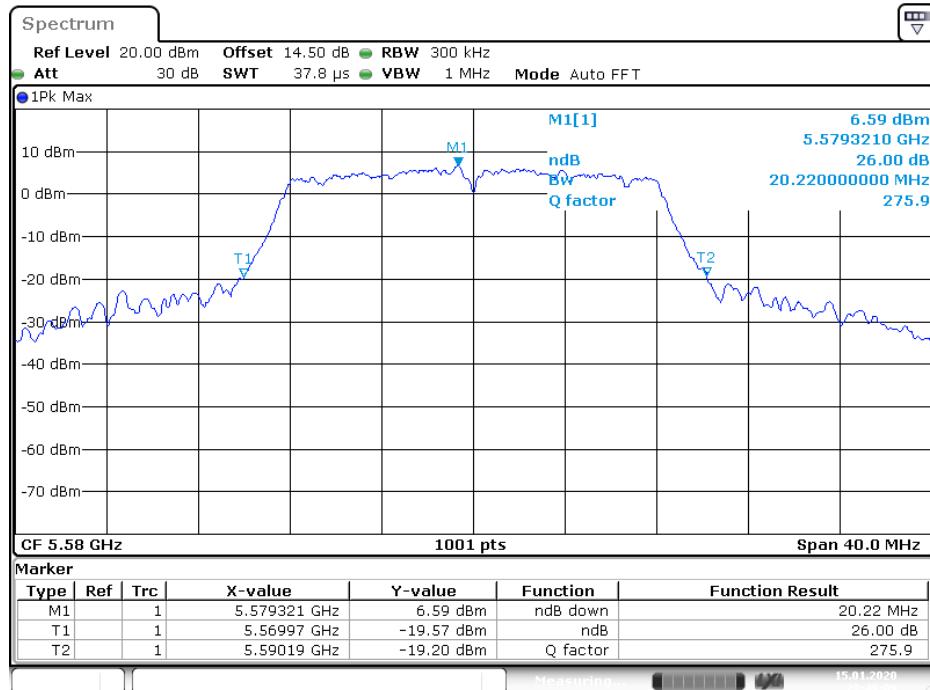
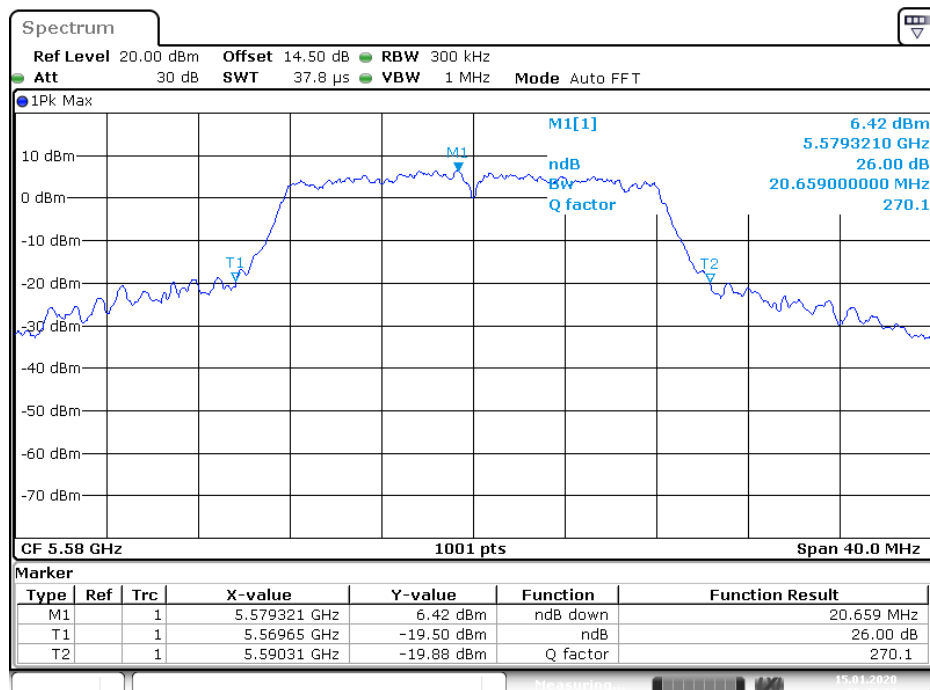
802.11a 5260MHz, TX2


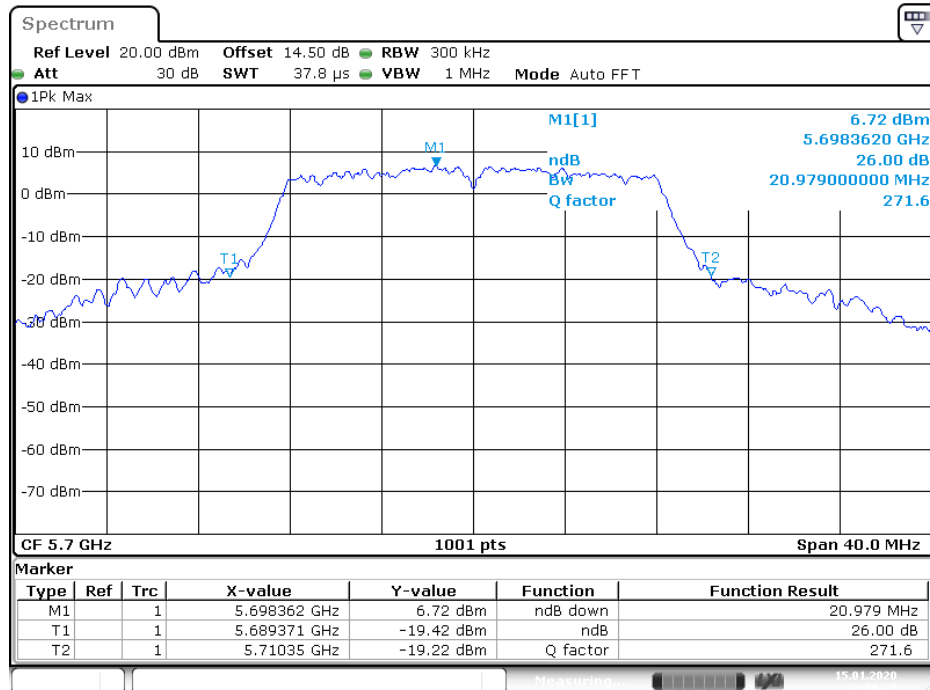
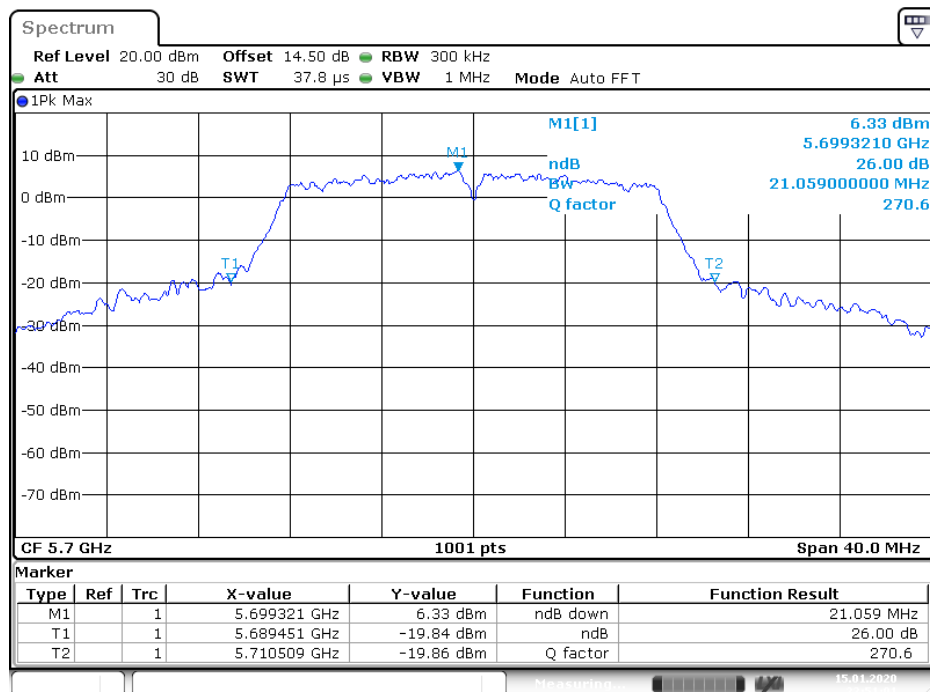
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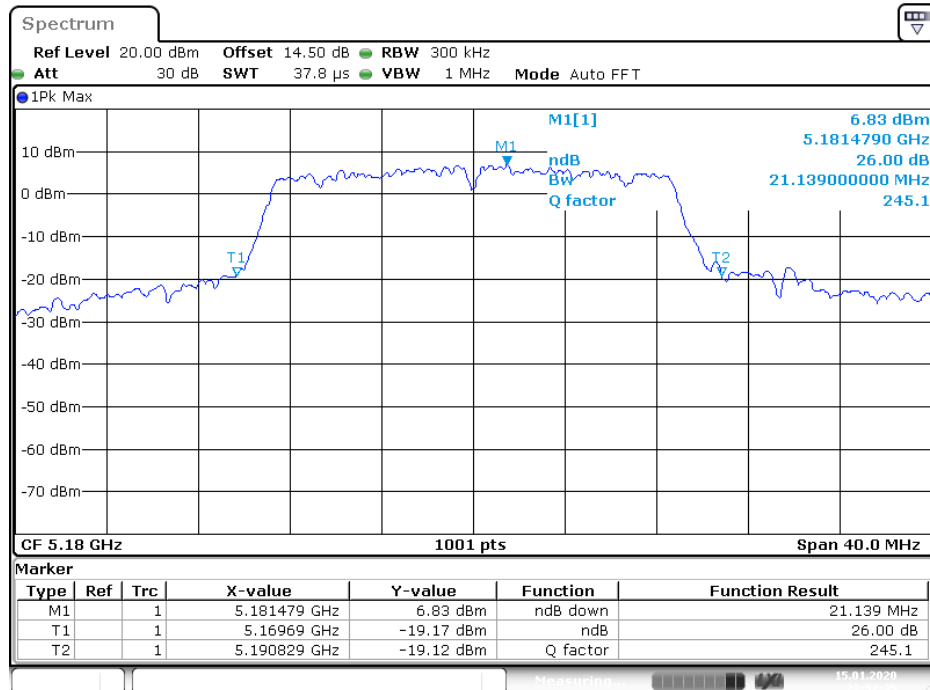
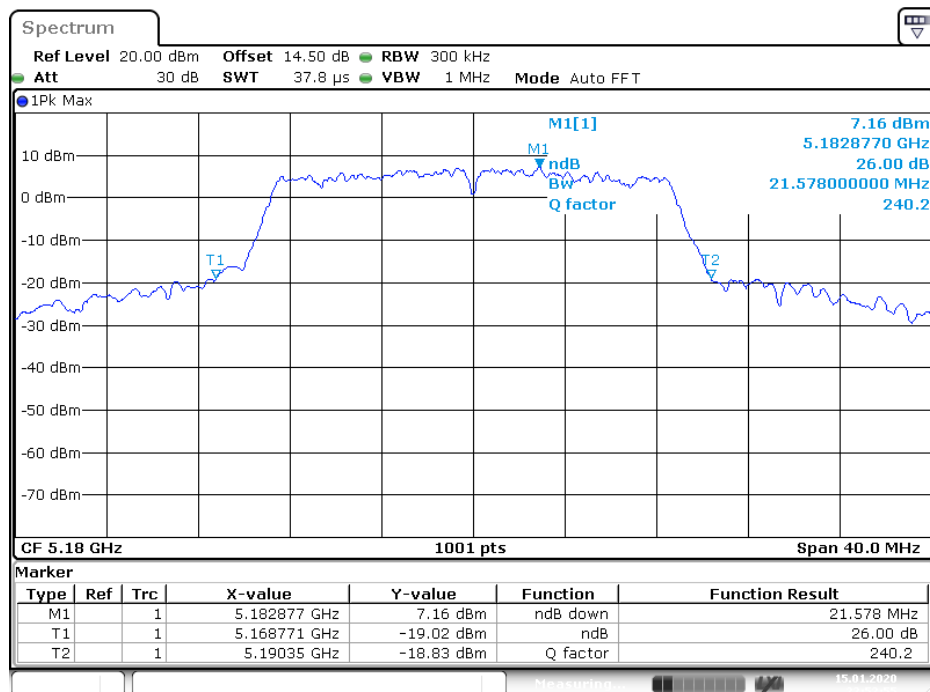
802.11a 5300MHz, TX1

802.11a 5300MHz, TX2


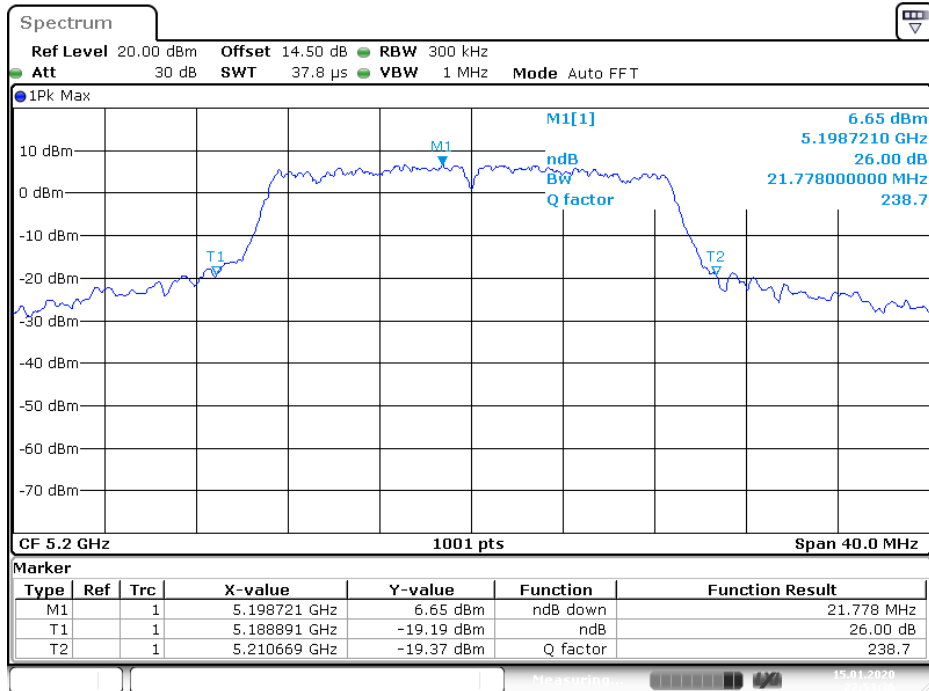
802.11a 5320MHz, TX1

802.11a 5320MHz, TX2


802.11a 5500MHz, TX1

802.11a 5500MHz, TX2


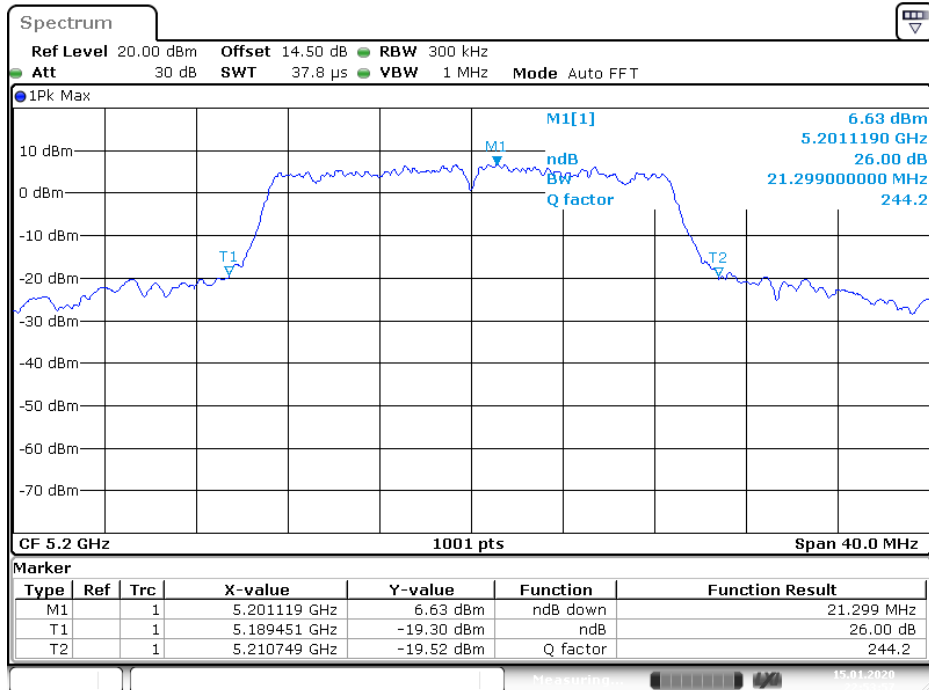
802.11a 5580MHz, TX1

802.11a 5580MHz, TX2


802.11a 5700MHz, TX1

802.11a 5700MHz, TX2


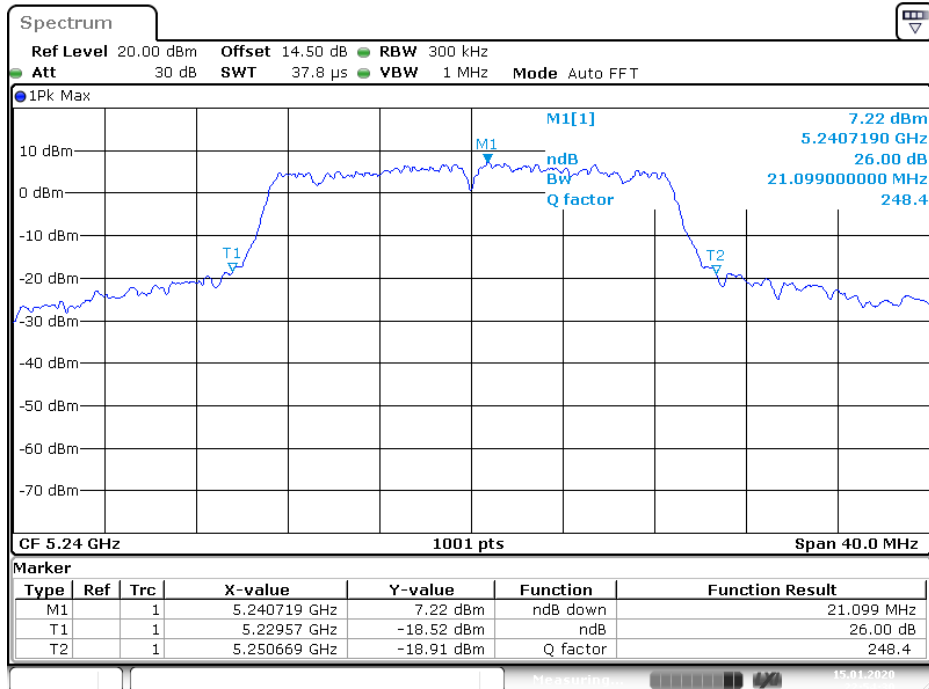
802.11an HT20 5180MHz, TX1

802.11an HT20 5180MHz, TX2


802.11an HT20 5200MHz, TX1


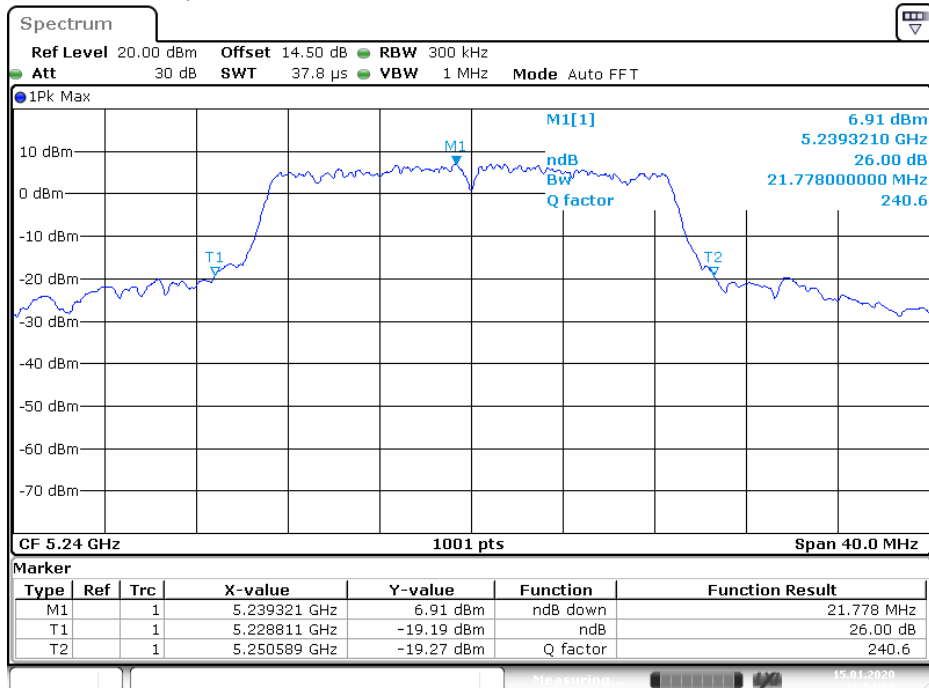
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802.11an HT20 5200MHz, TX2


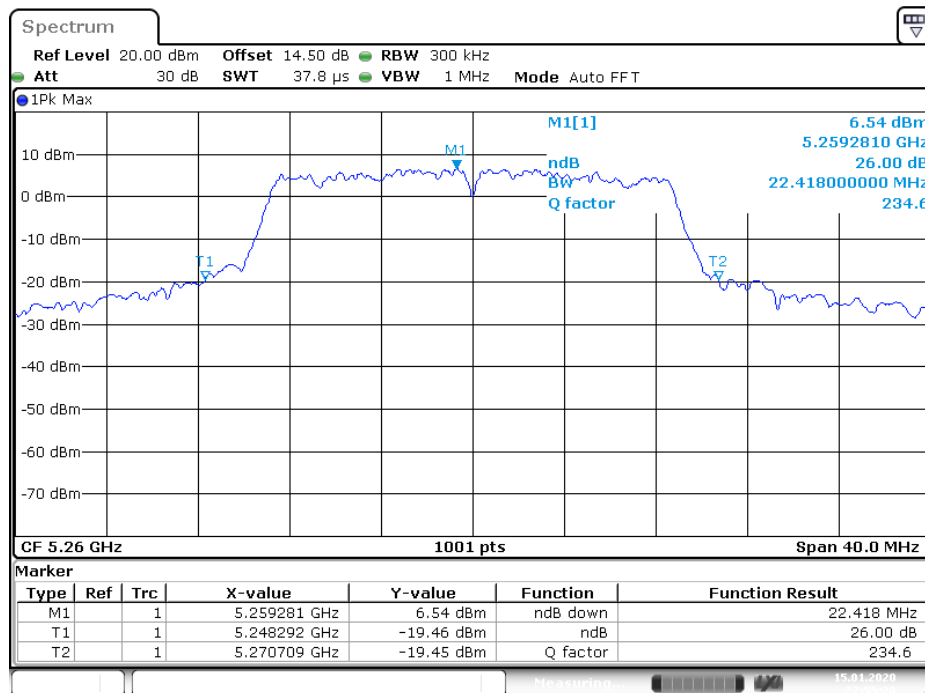
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802.11an HT20 5240MHz, TX1


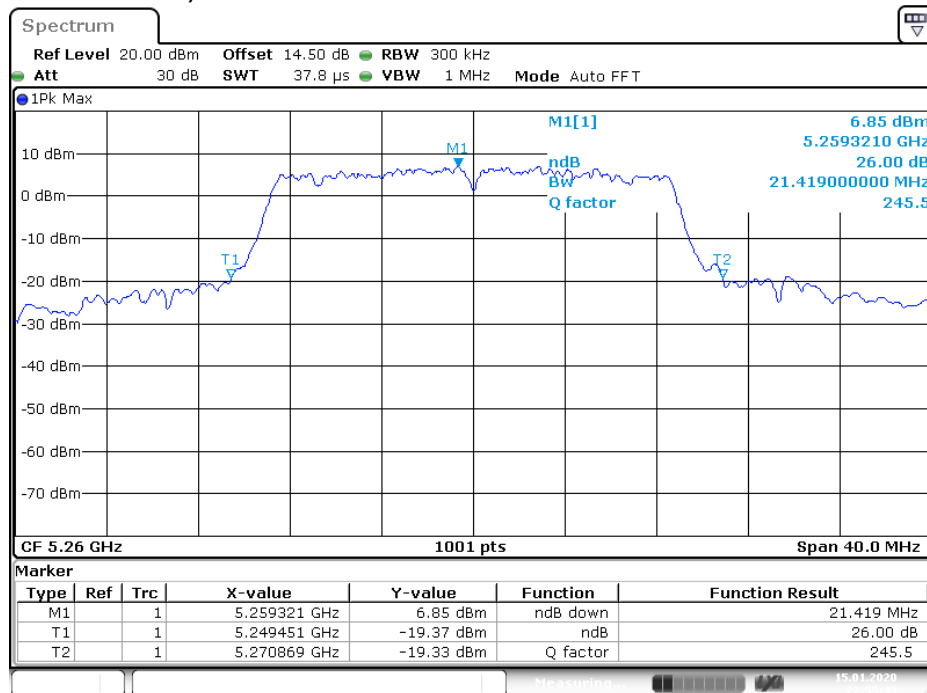
Date: 15.JAN.2020 22:54:30

802.11an HT20 5240MHz, TX2


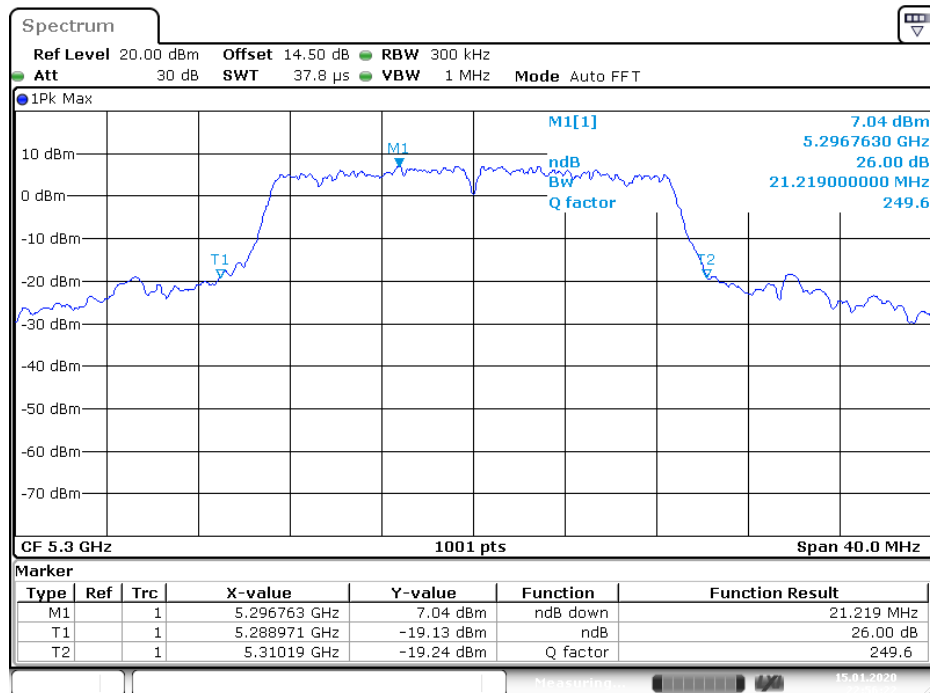
Date: 15.JAN.2020 22:54:50

802.11an HT20 5260MHz, TX1


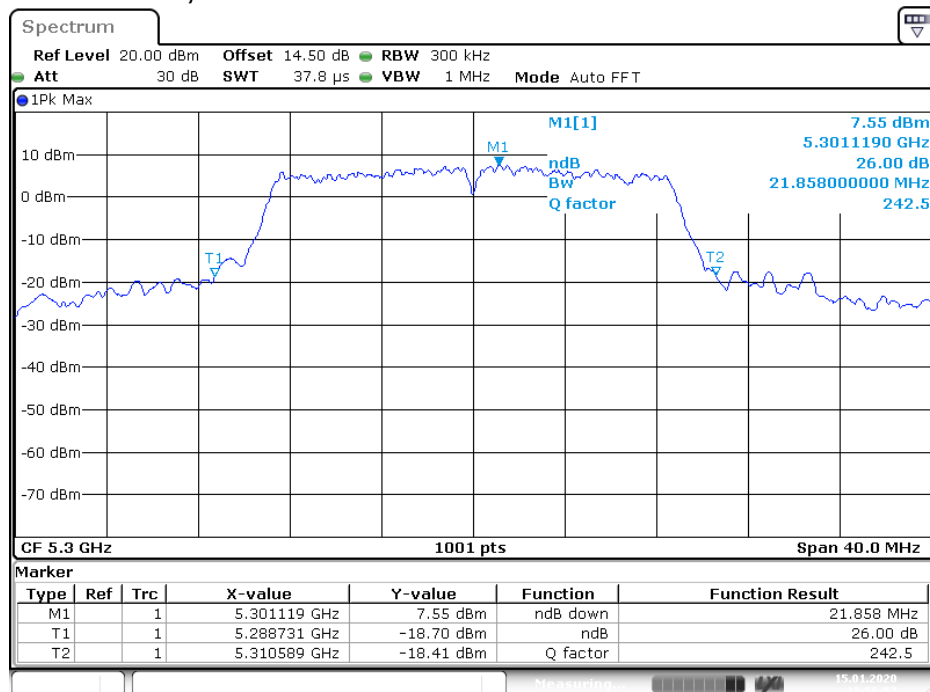
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802.11an HT20 5260MHz, TX2


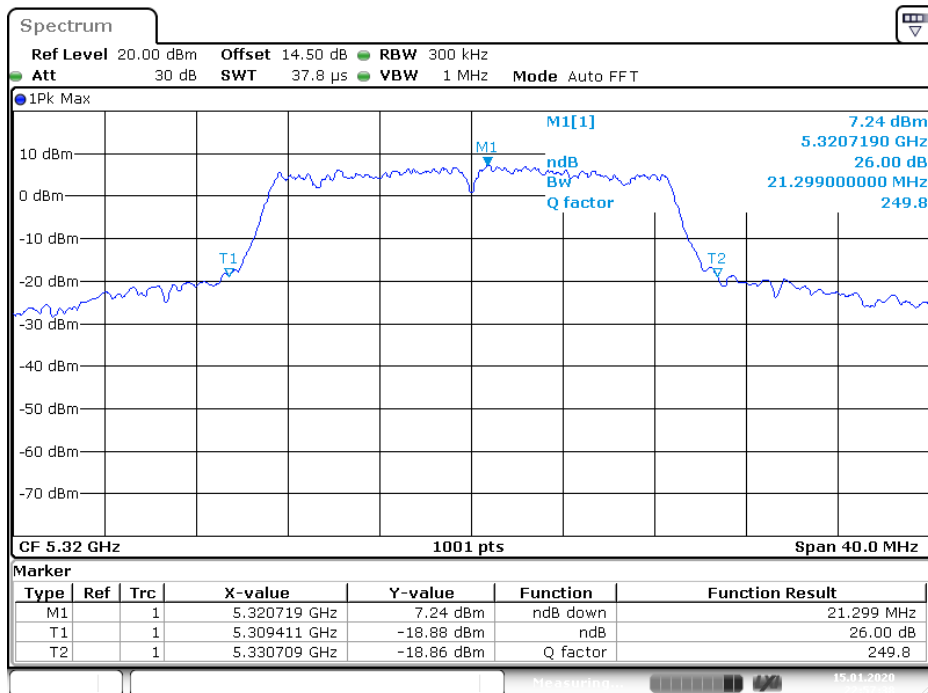
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802.11an HT20 5300MHz, TX1


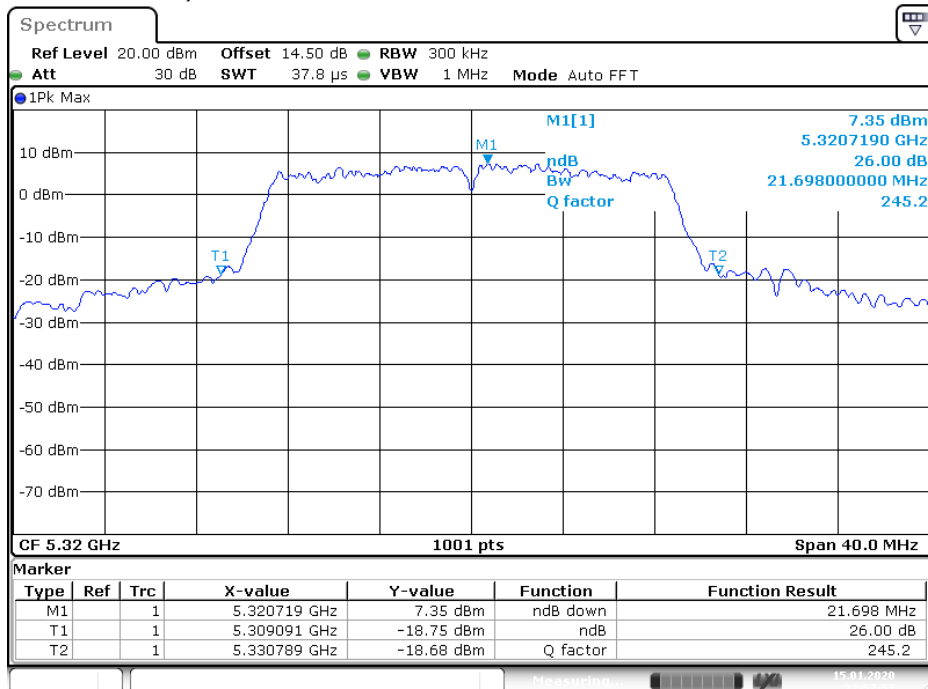
Date: 15.JAN.2020 22:56:22

802.11an HT20 5300MHz, TX2


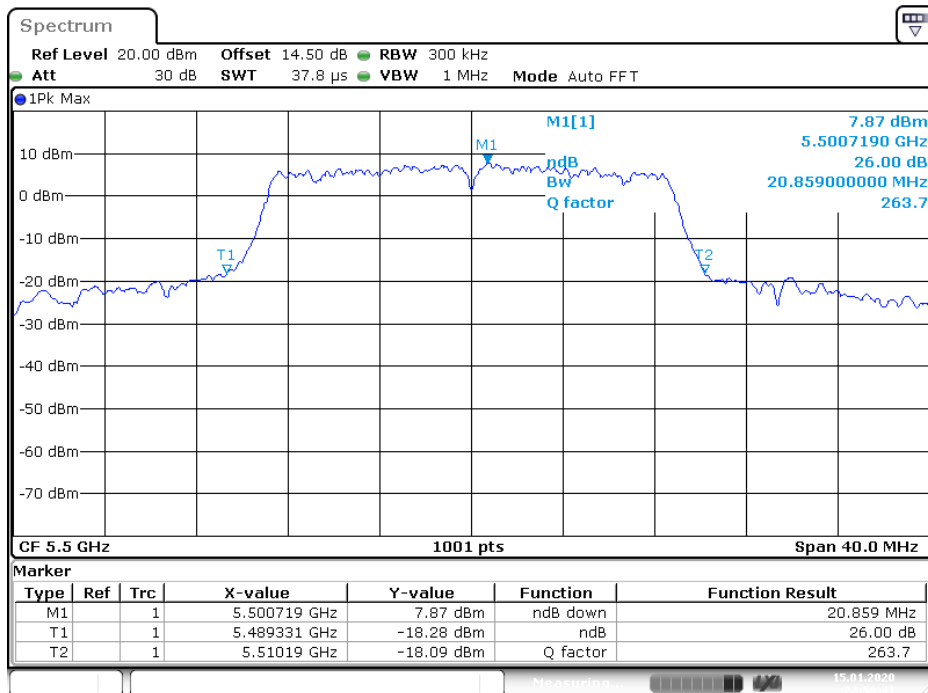
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802.11an HT20 5320MHz, TX1


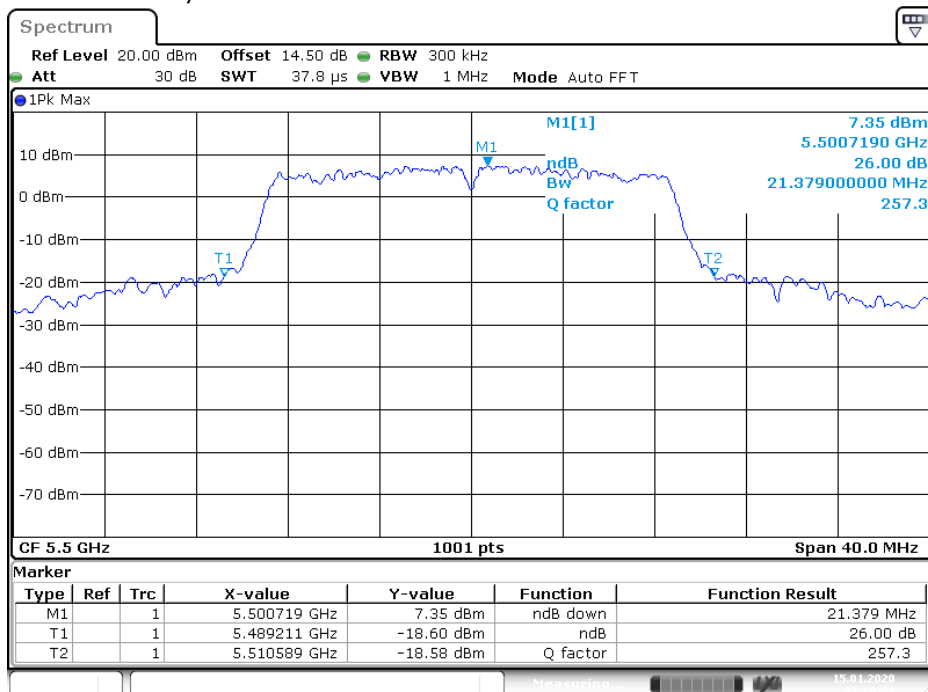
Date: 15.JAN.2020 22:57:38

802.11an HT20 5320MHz, TX2


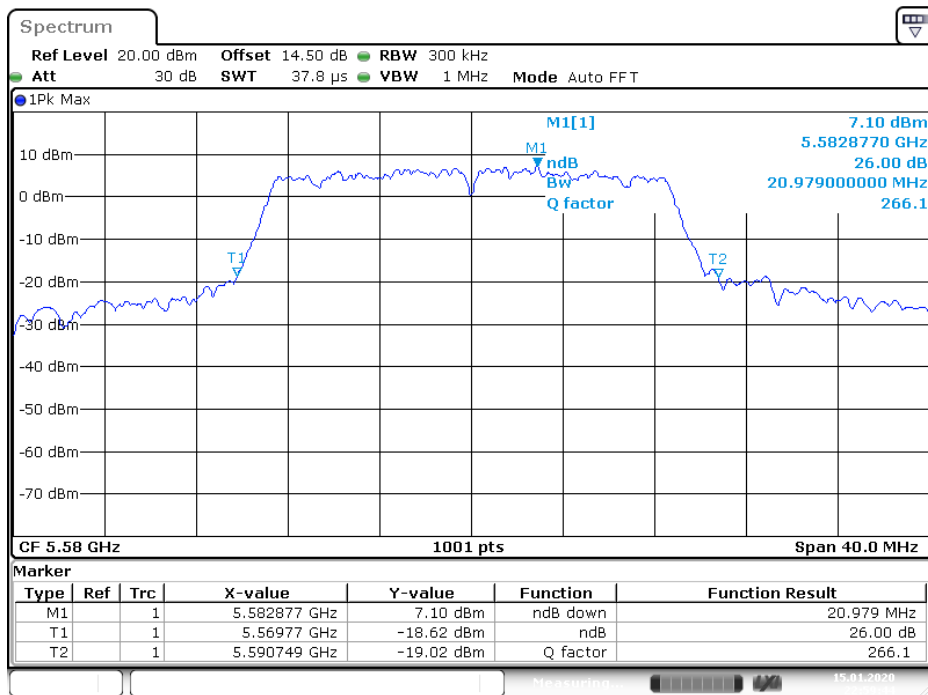
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802.11an HT20 5500MHz, TX1


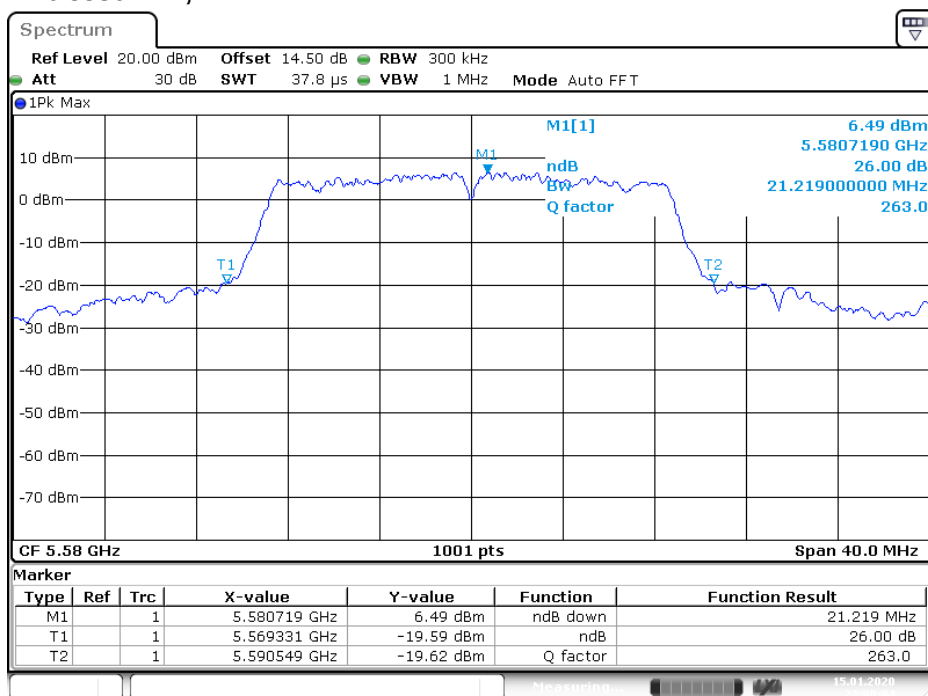
Date: 15.JAN.2020 22:58:42

802.11an HT20 5500MHz, TX2


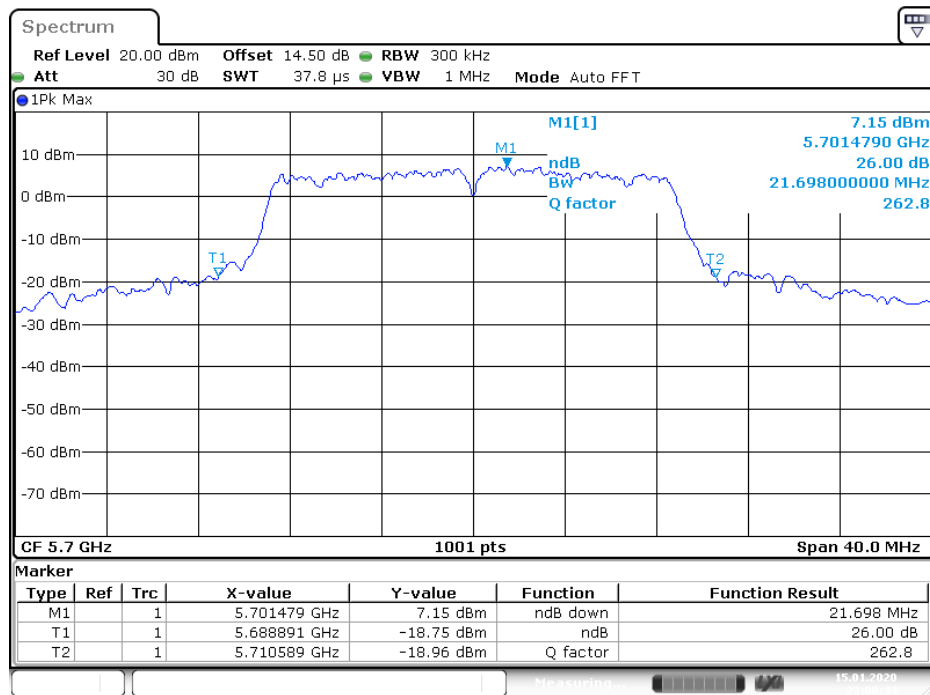
Date: 15.JAN.2020 22:59:01

802.11an HT20 5580MHz, TX1


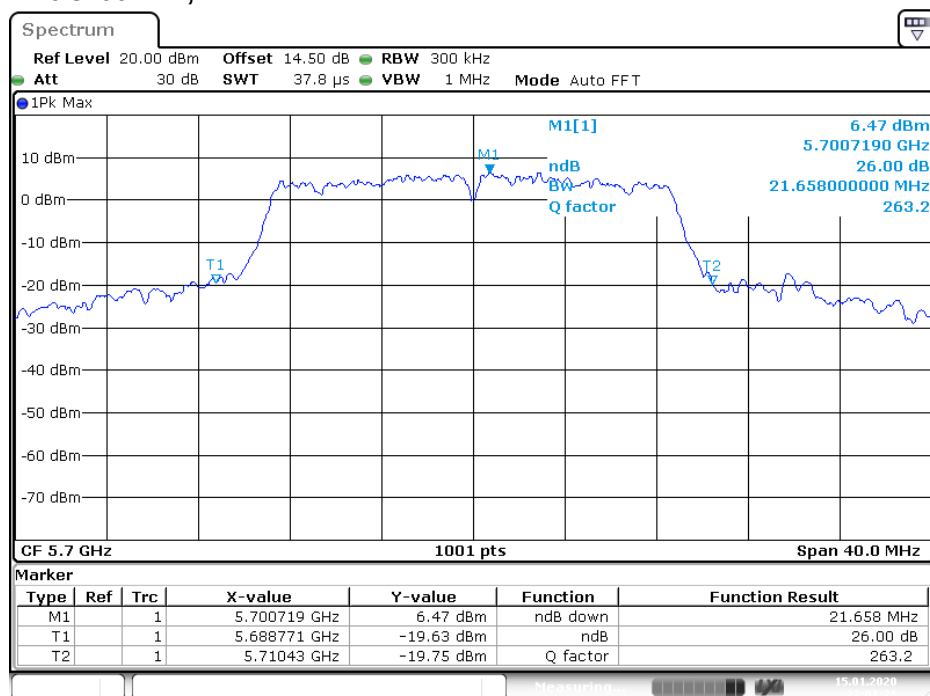
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802.11an HT20 5580MHz, TX2


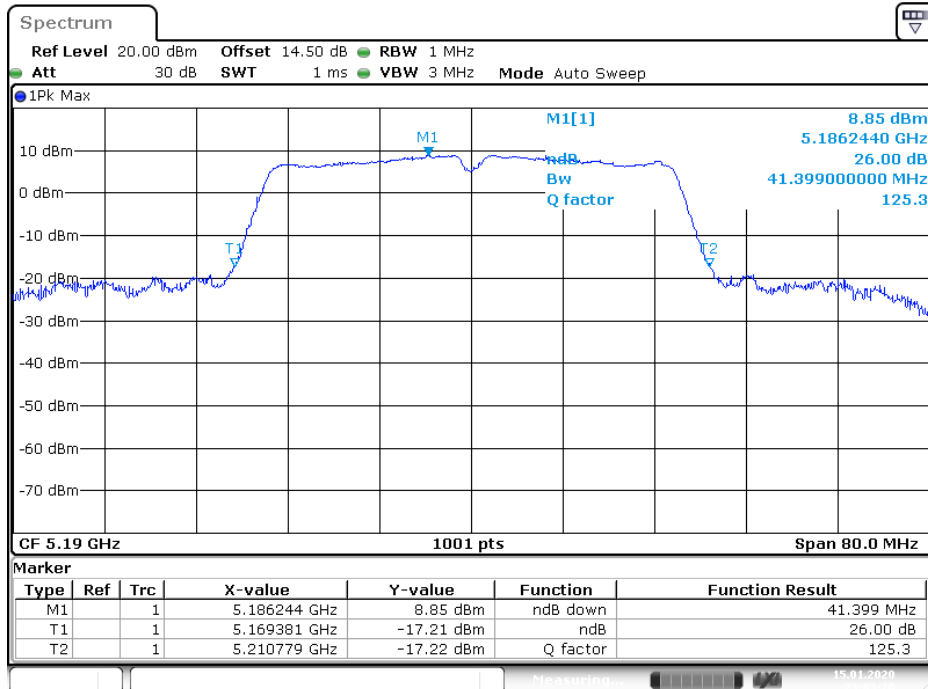
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802.11an HT20 5700MHz, TX1


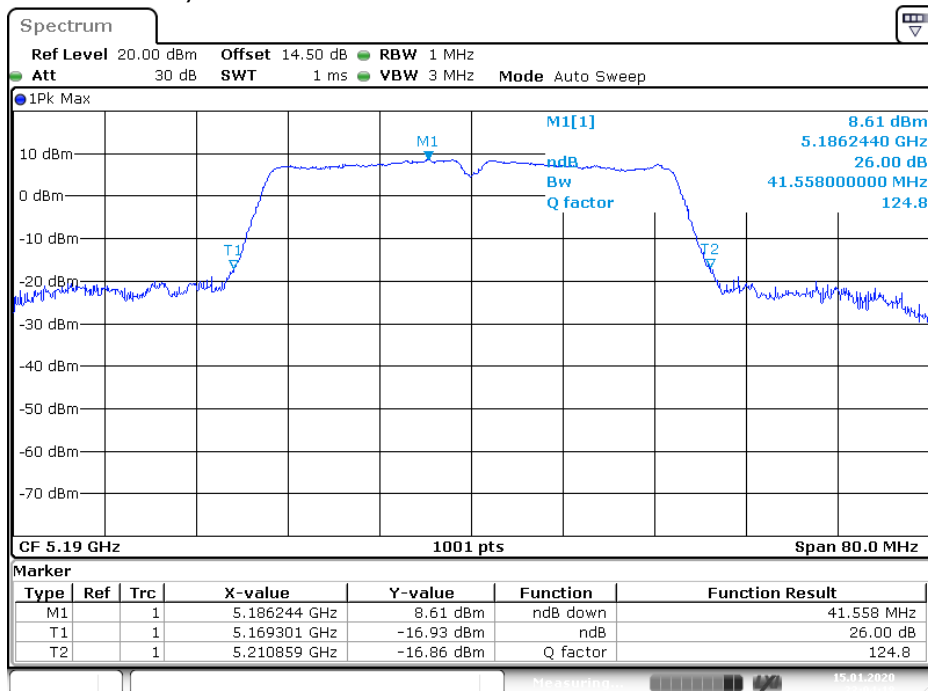
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802.11an HT20 5700MHz, TX2


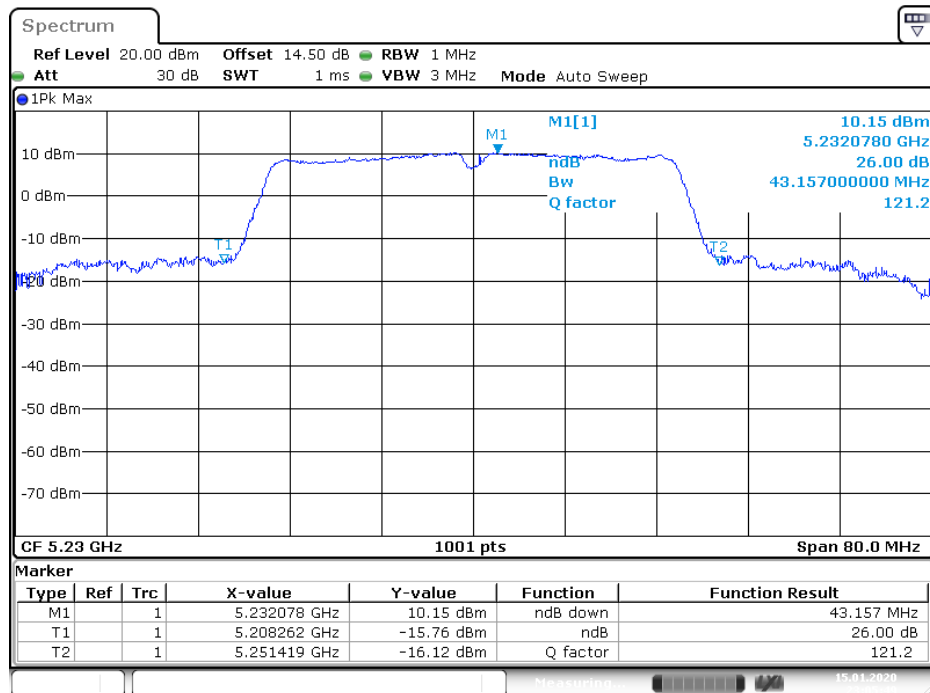
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802.11an HT40 5190MHz, TX1


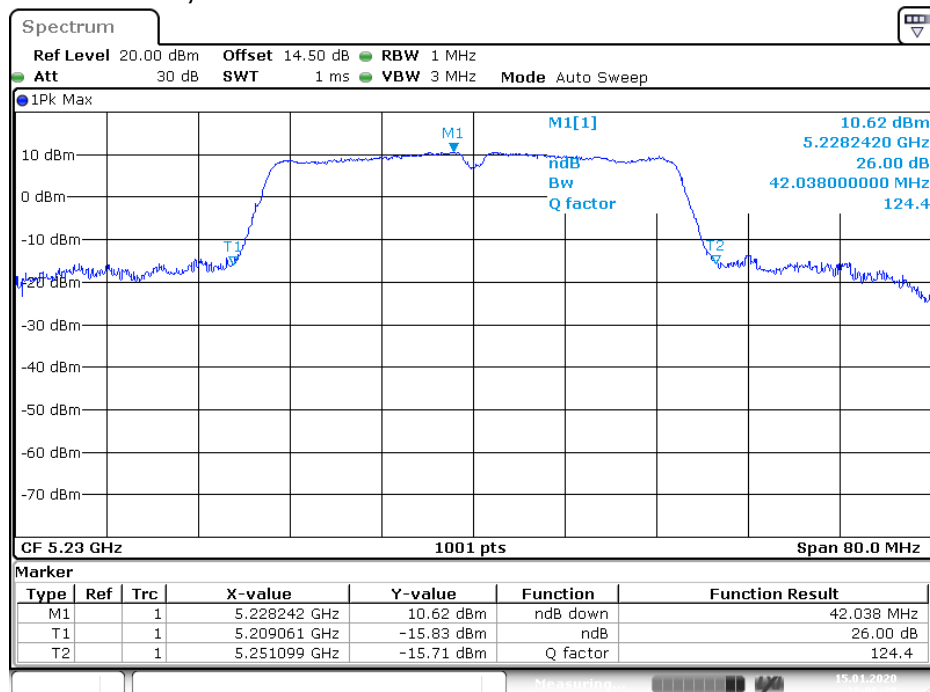
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802.11an HT40 5190MHz, TX2


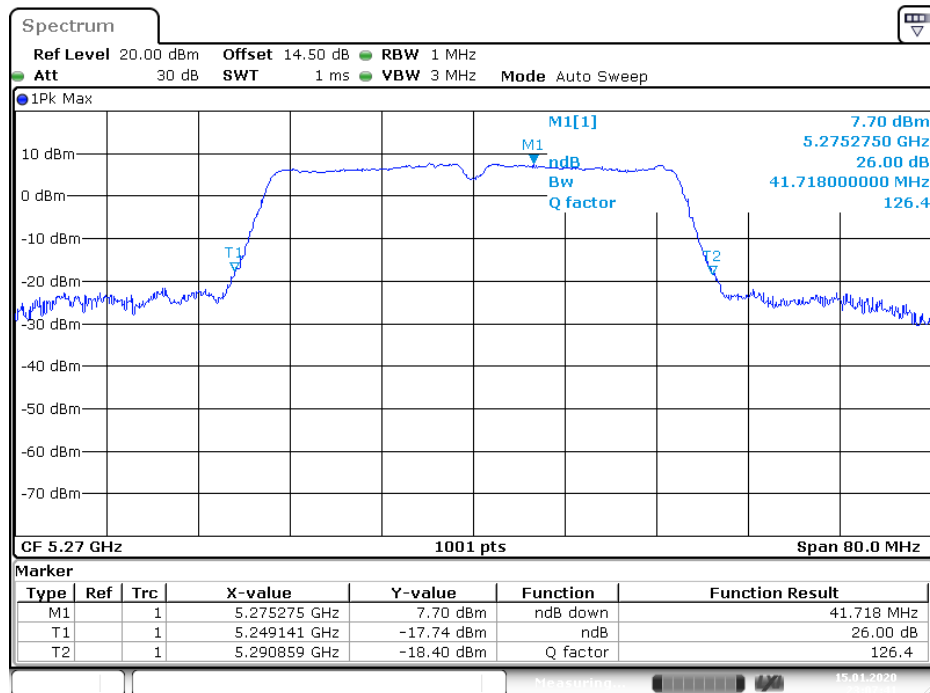
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802.11an HT40 5230MHz, TX1


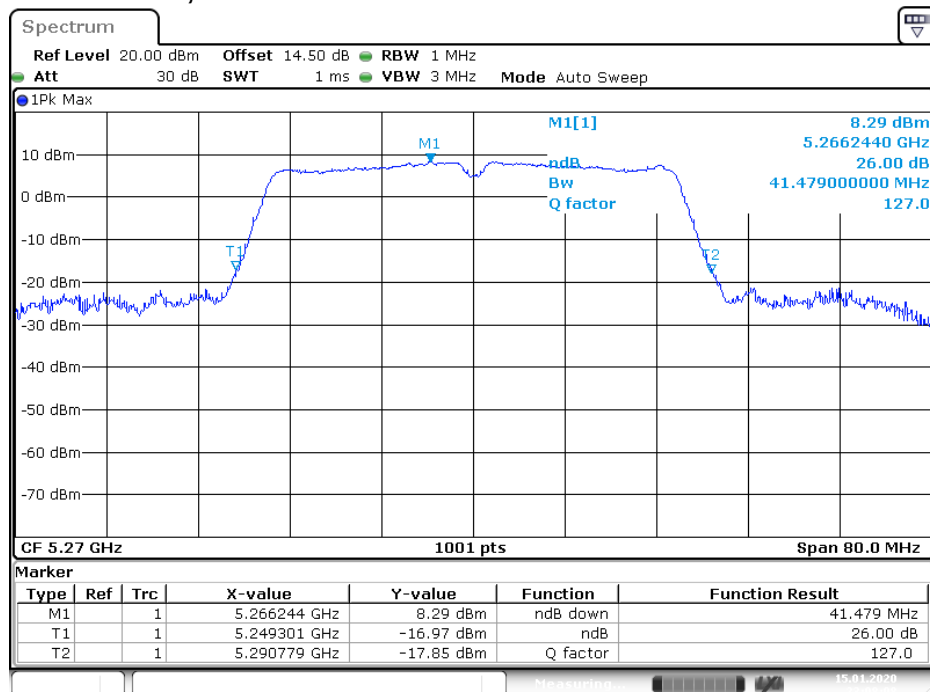
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802.11an HT40 5230MHz, TX2


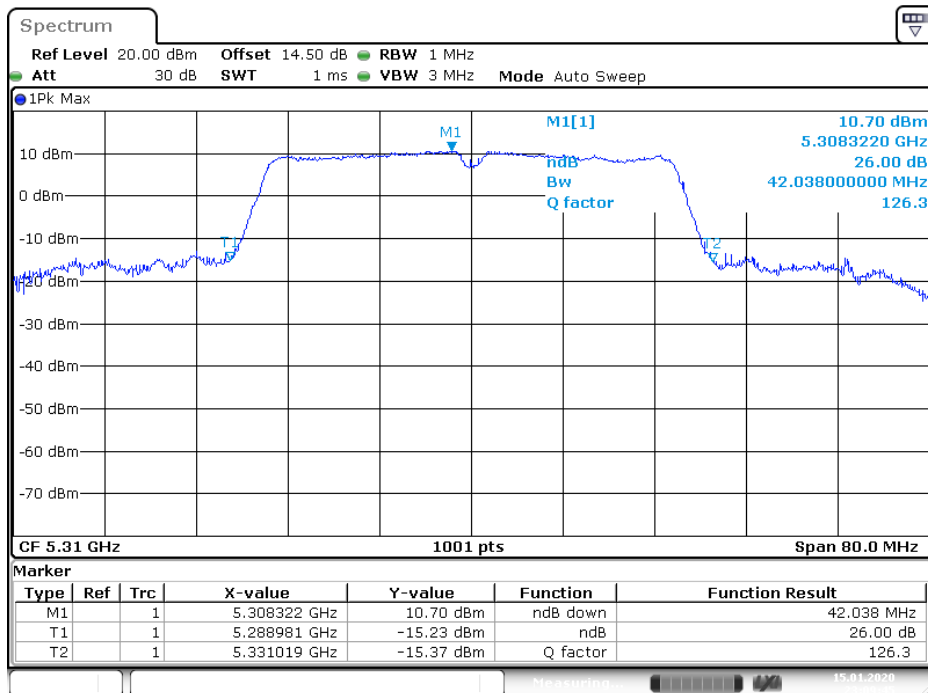
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802.11an HT40 5270MHz, TX1


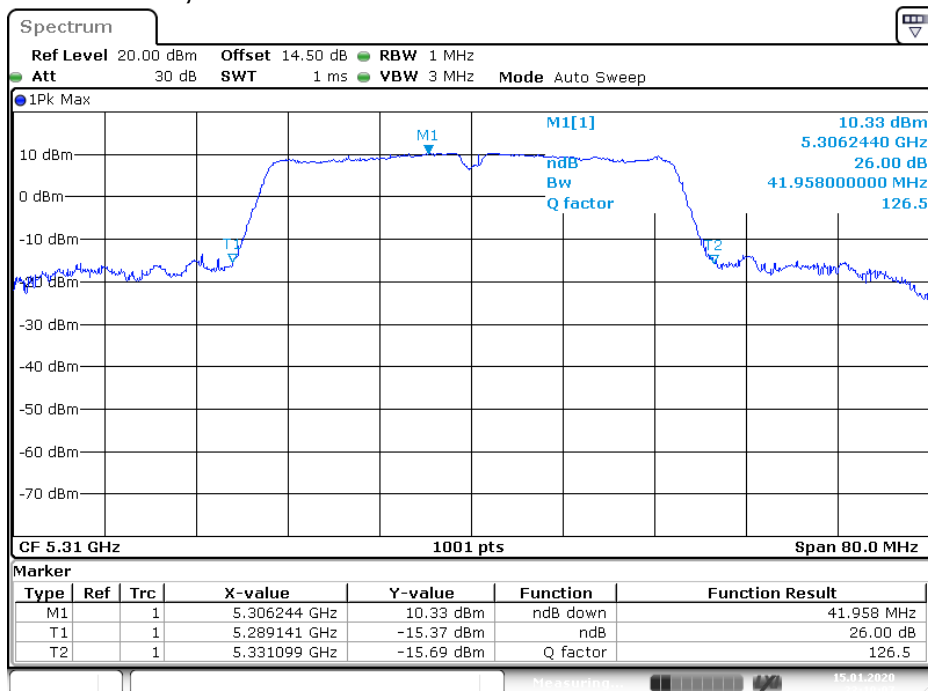
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802.11an HT40 5270MHz, TX2


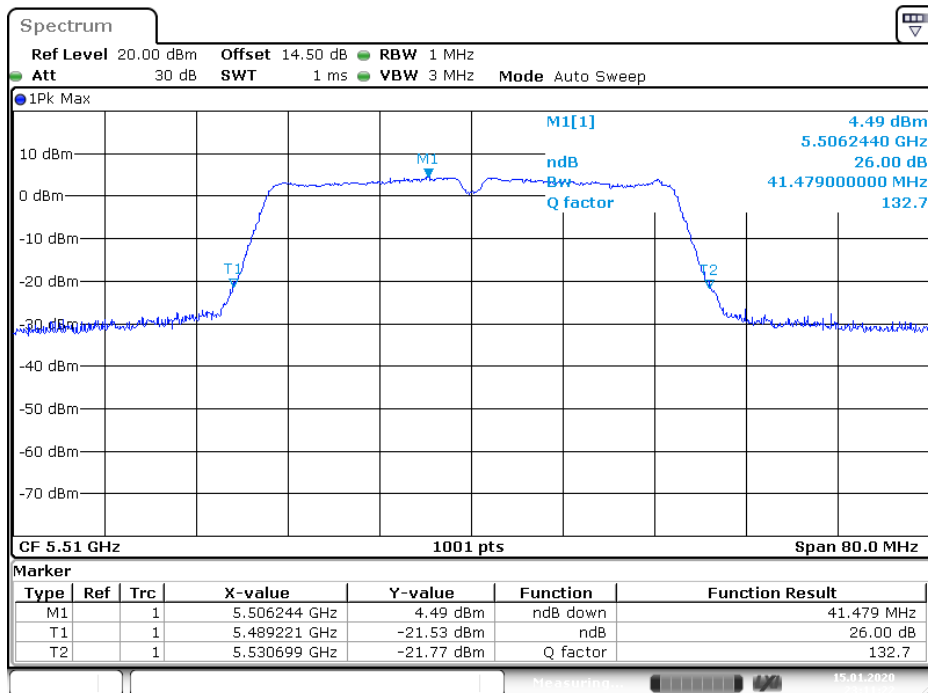
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802.11an HT40 5310MHz, TX1


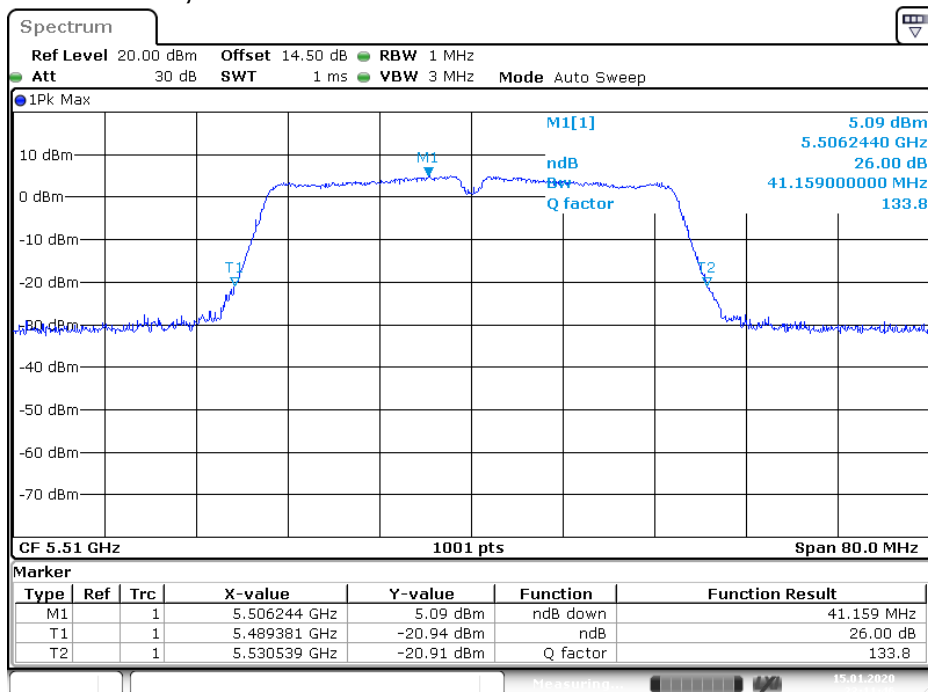
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802.11an HT40 5310MHz, TX2


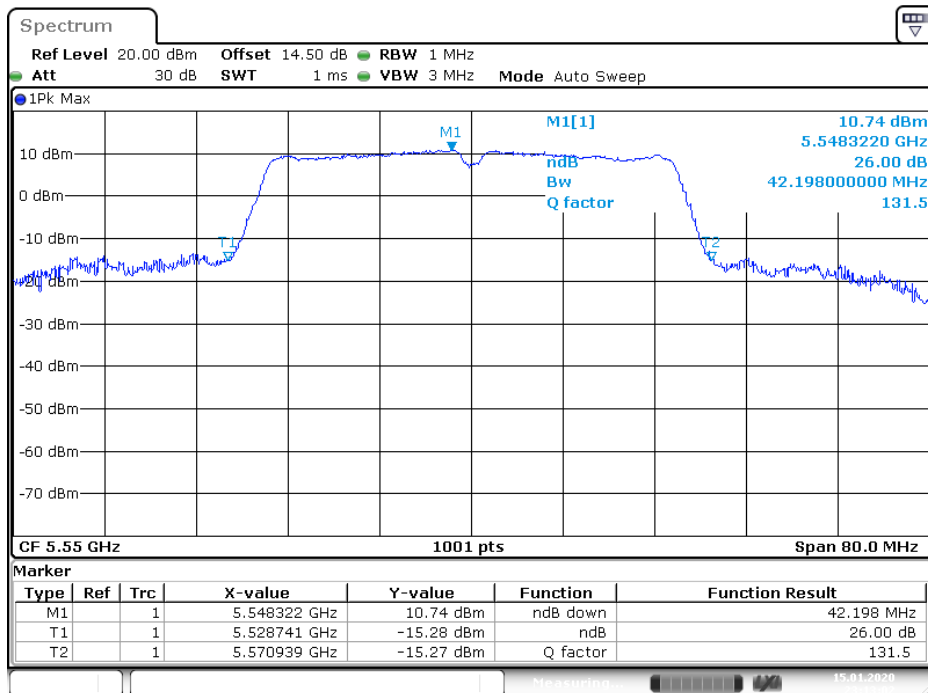
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802.11an HT40 5510MHz, TX1


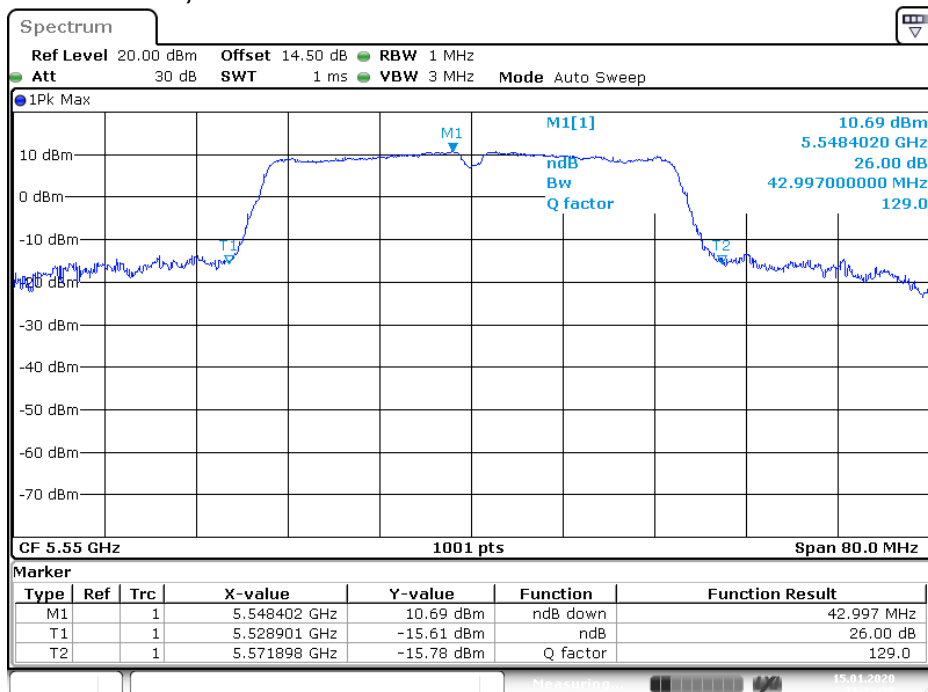
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802.11an HT40 5510MHz, TX2


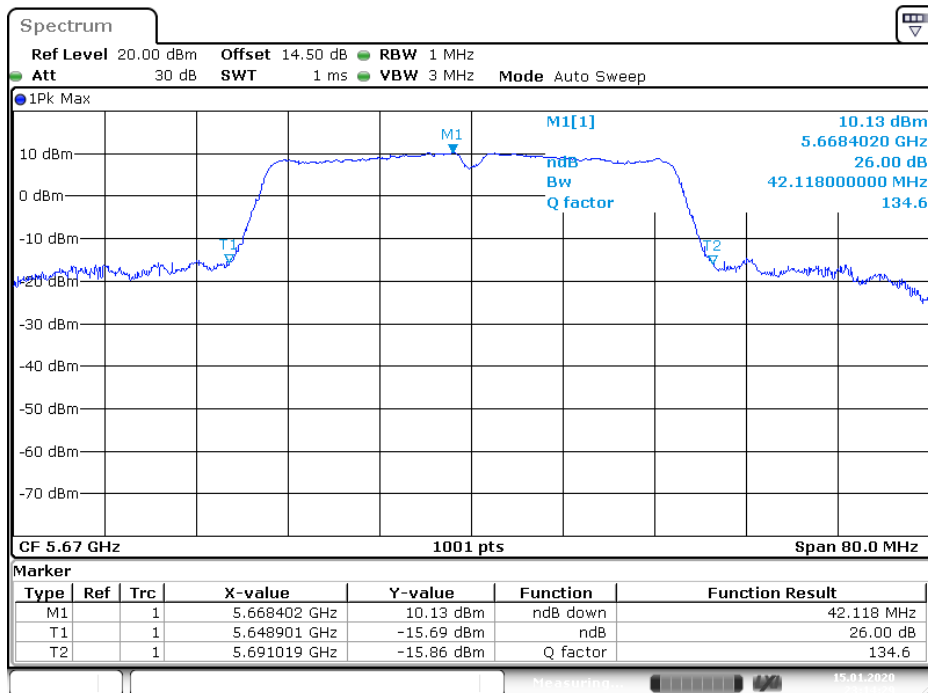
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802.11an HT40 5550MHz, TX1


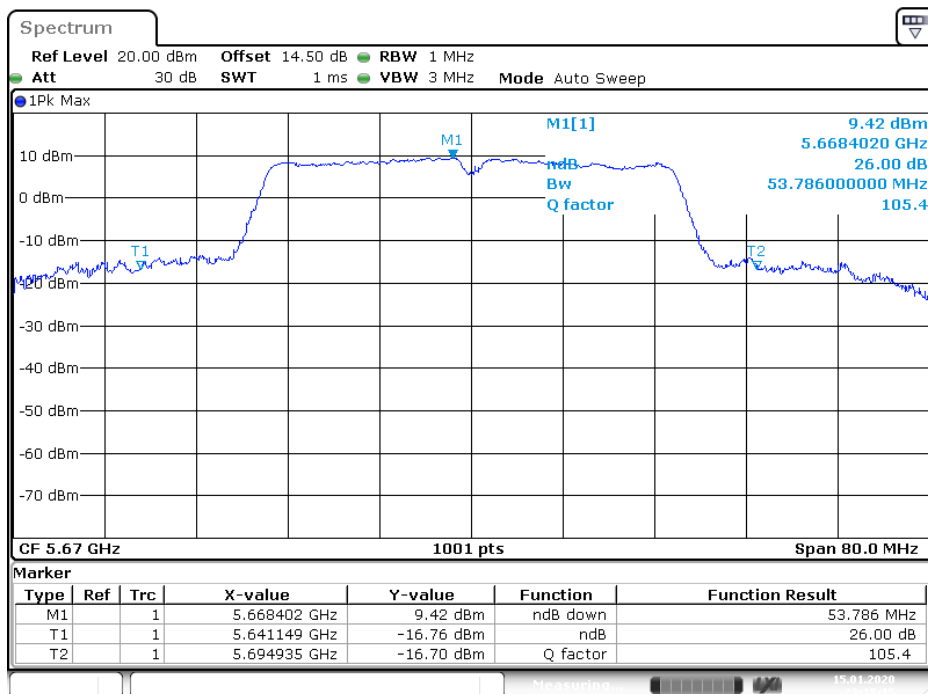
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802.11an HT40 5550MHz, TX2


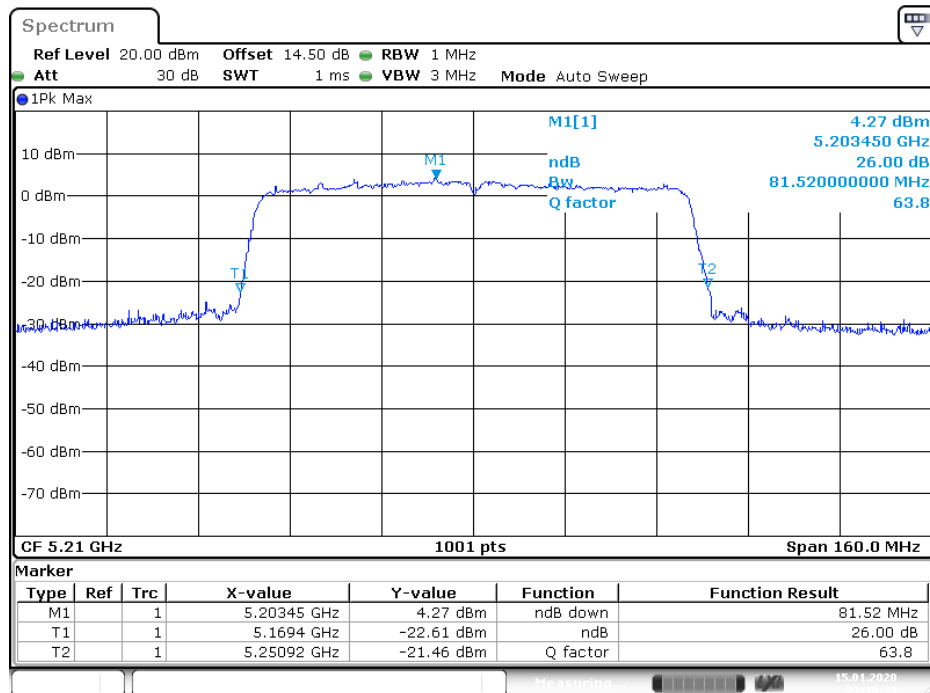
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802.11an HT40 5670MHz, TX1


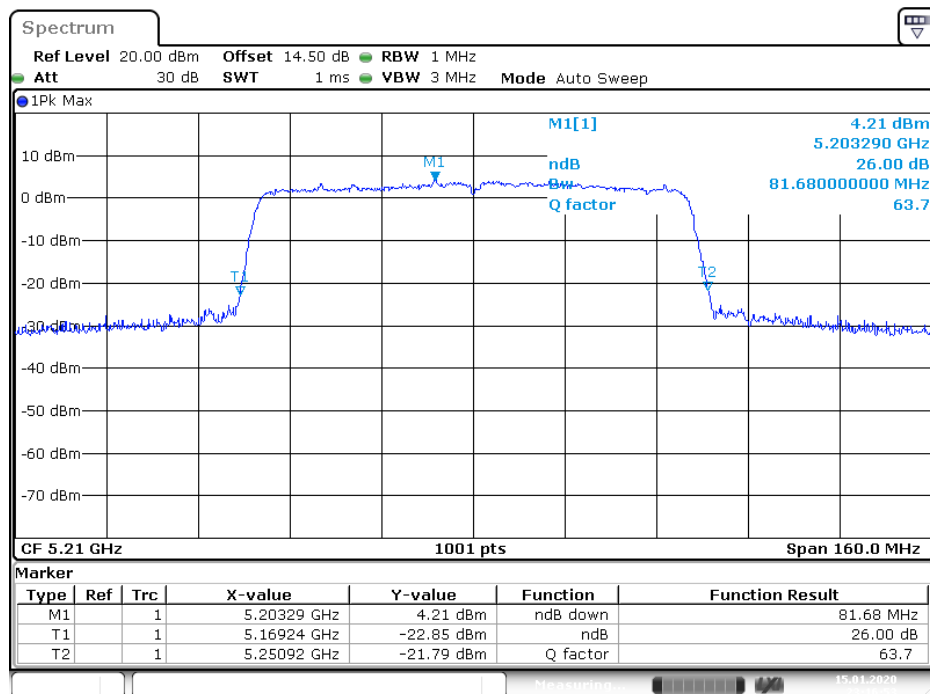
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802.11an HT40 5670MHz, TX2


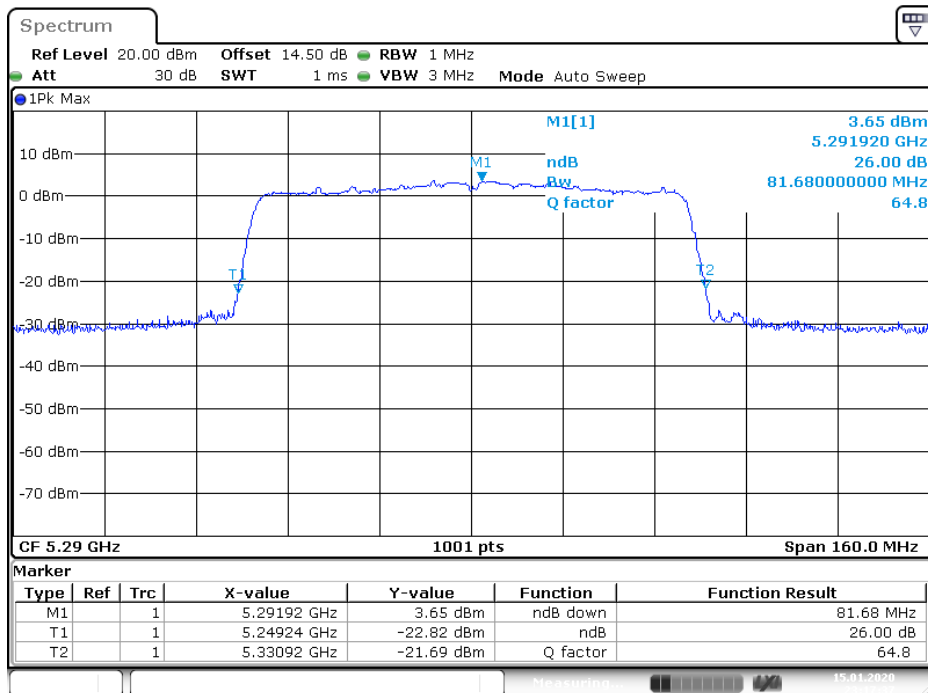
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802.11ac VHT80 5210MHz, TX1


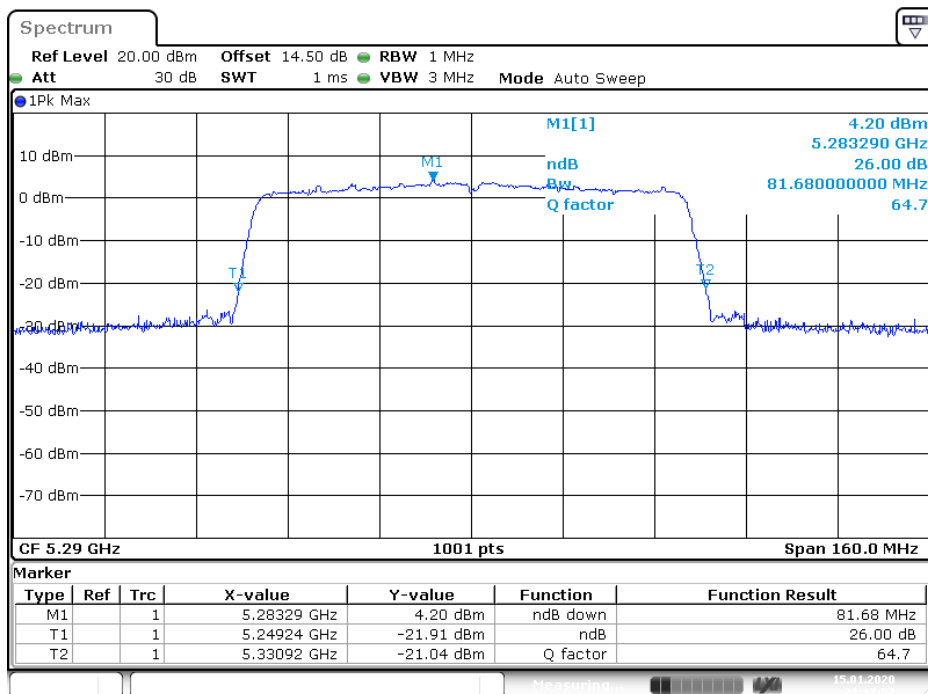
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802.11ac VHT80 5210MHz, TX2


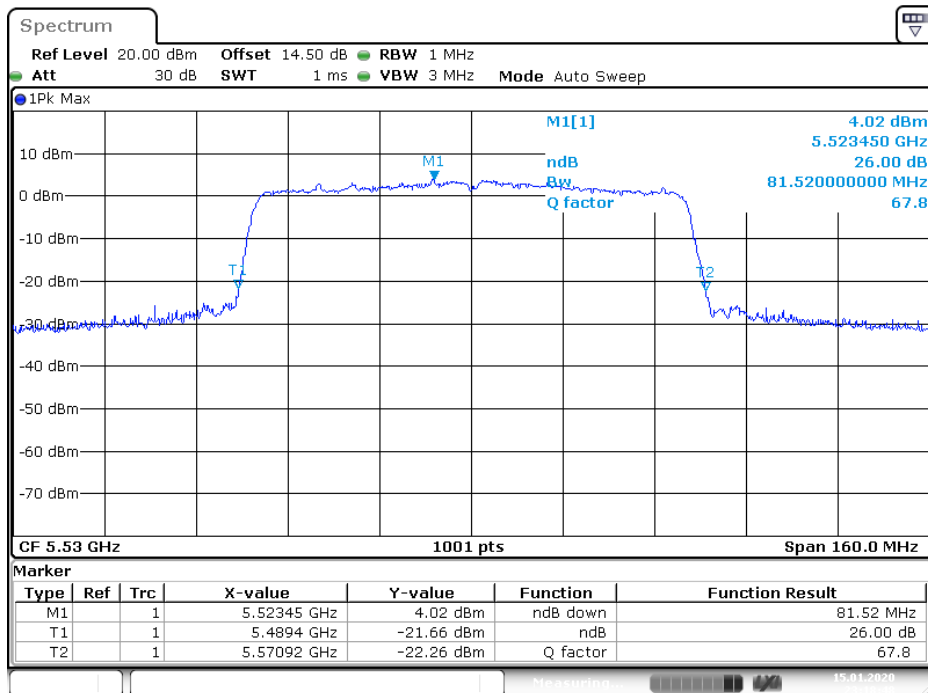
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802.11ac VHT80 5290MHz, TX1


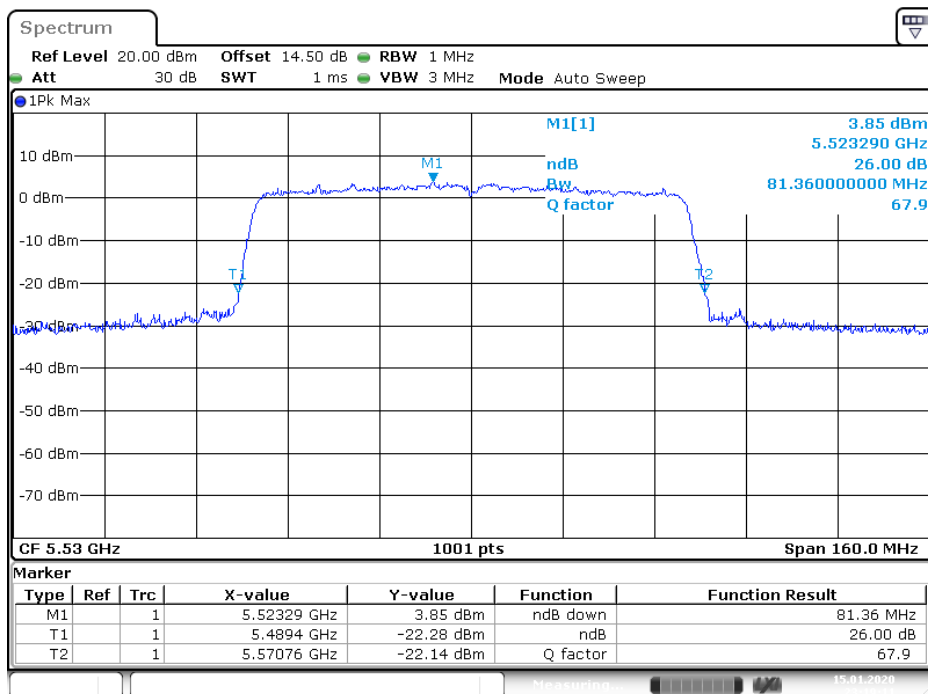
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802.11ac VHT80 5290MHz, TX2


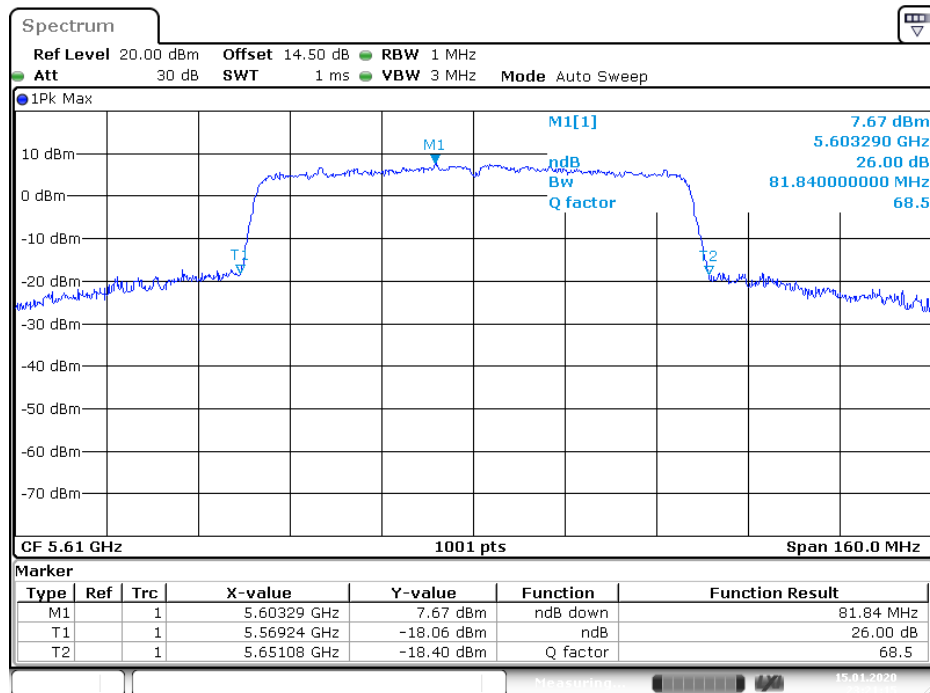
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802.11ac VHT80 5530MHz, TX1


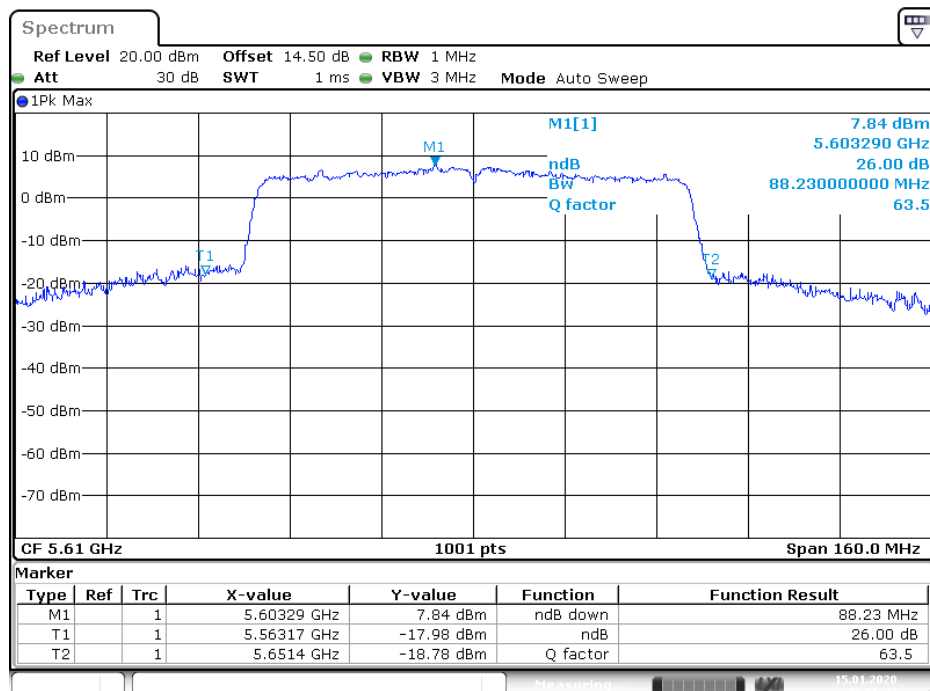
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802.11ac VHT80 5530MHz, TX2


Date: 15.JAN.2020 23:19:11

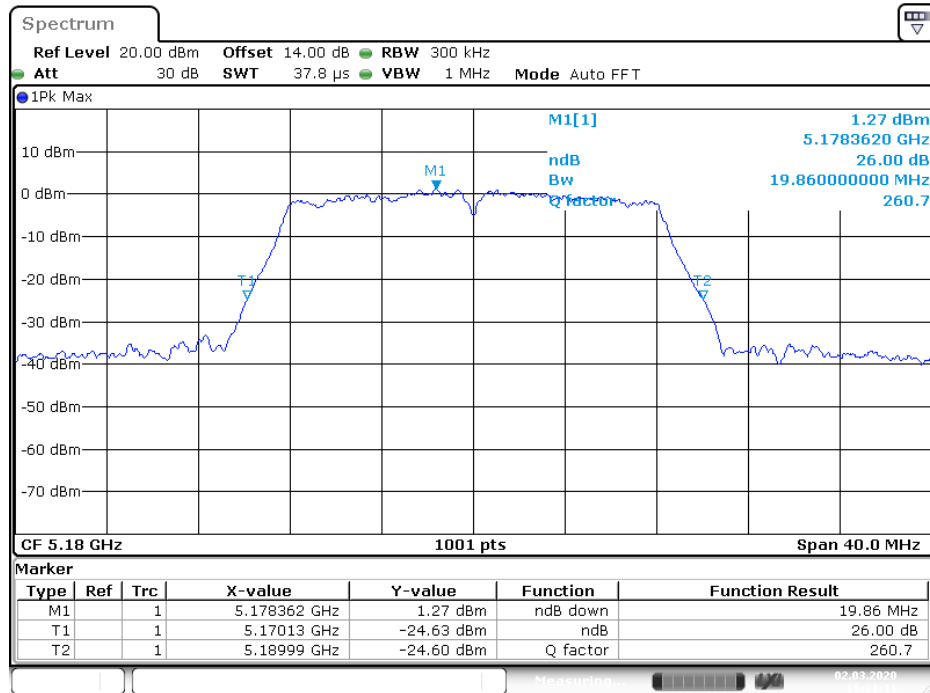
802.11ac VHT80 5610MHz, TX1


Date: 15.JAN.2020 23:21:16

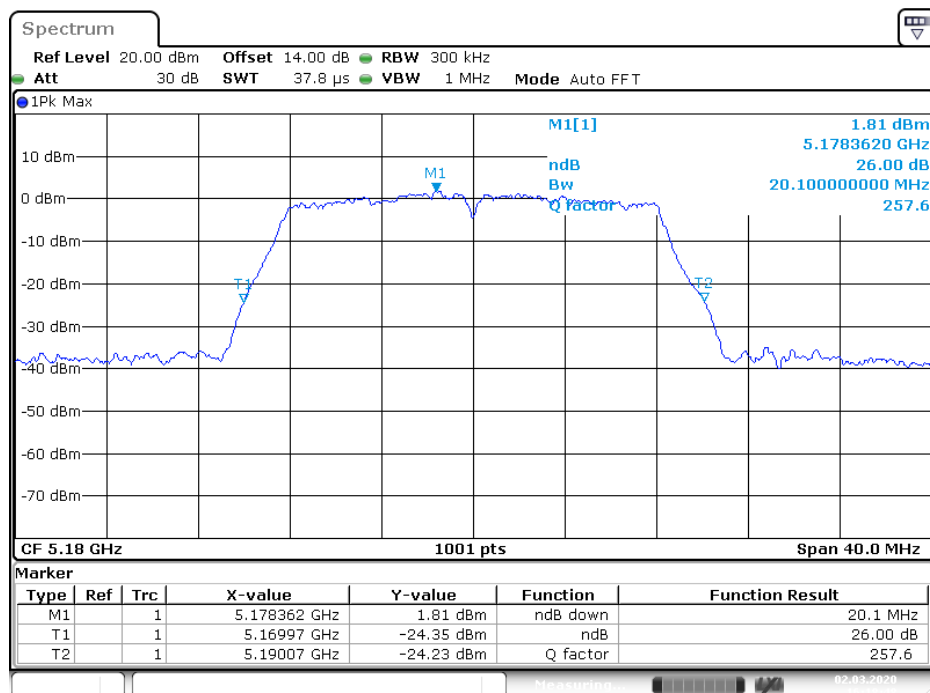
802.11ac VHT80 5610MHz, TX2


Date: 15.JAN.2020 23:21:37

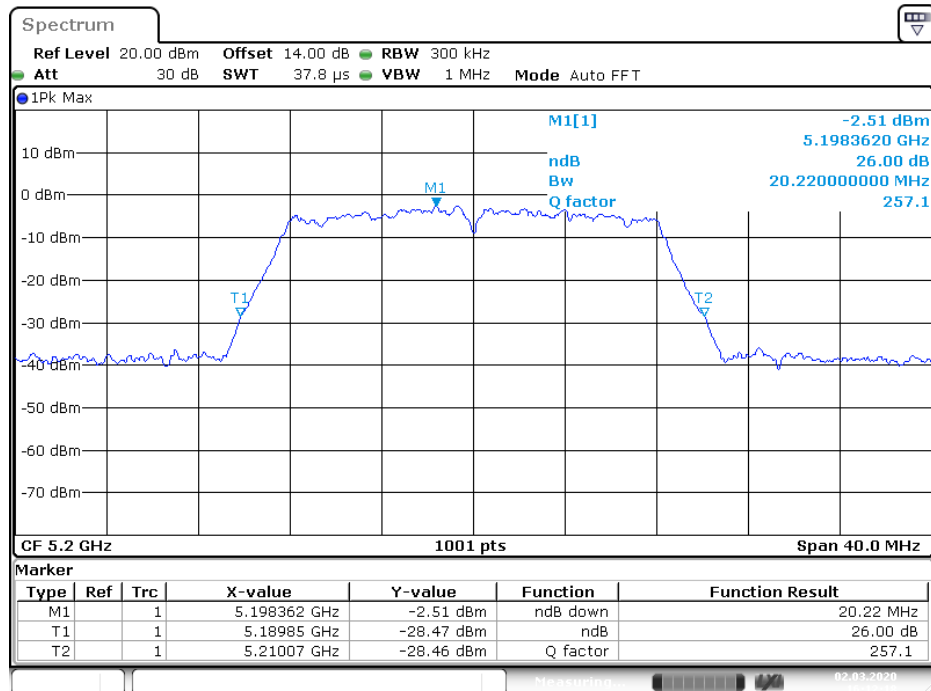
Test Plot of 26dB Bandwidth for ISED

802.11a 5180MHz, TX1


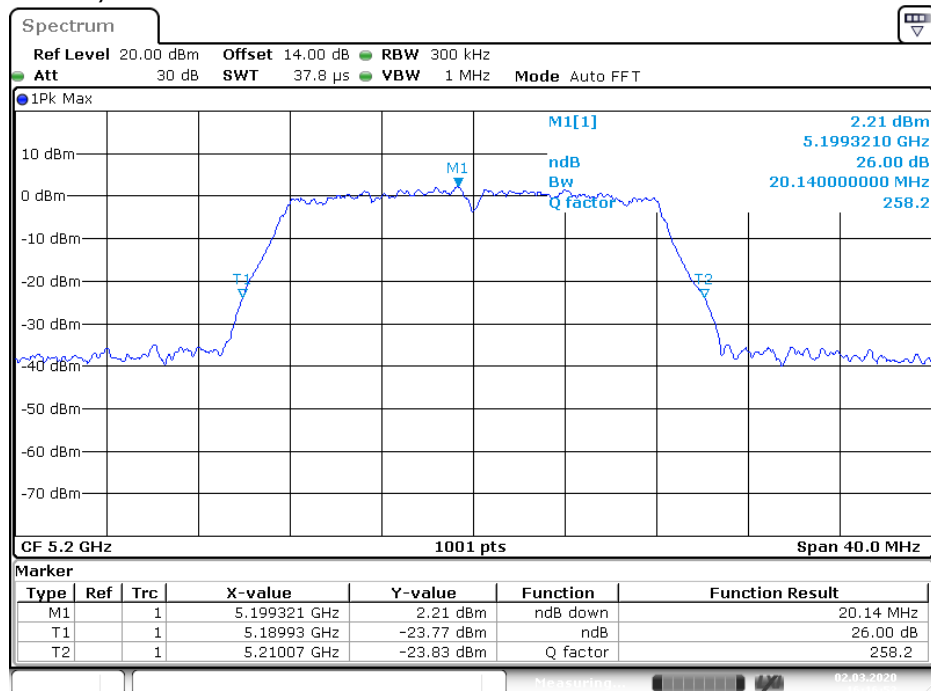
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802.11a 5180MHz, TX2


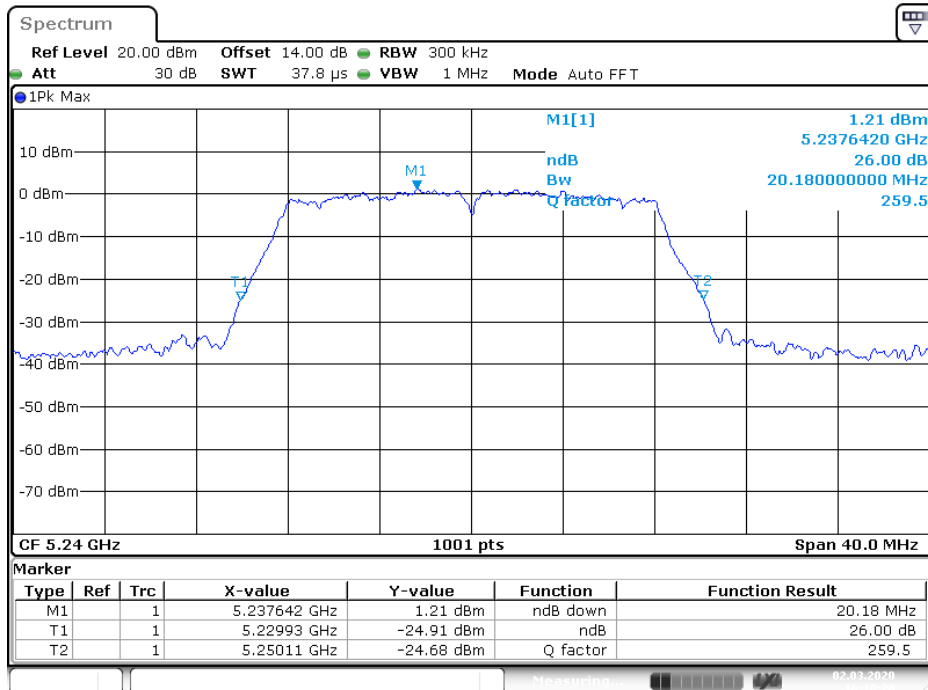
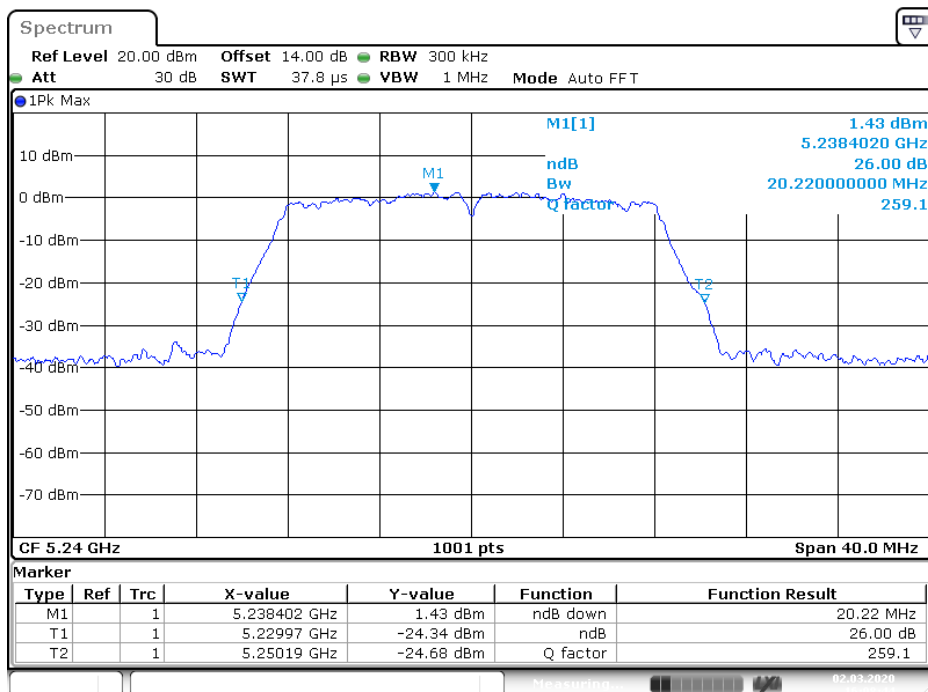
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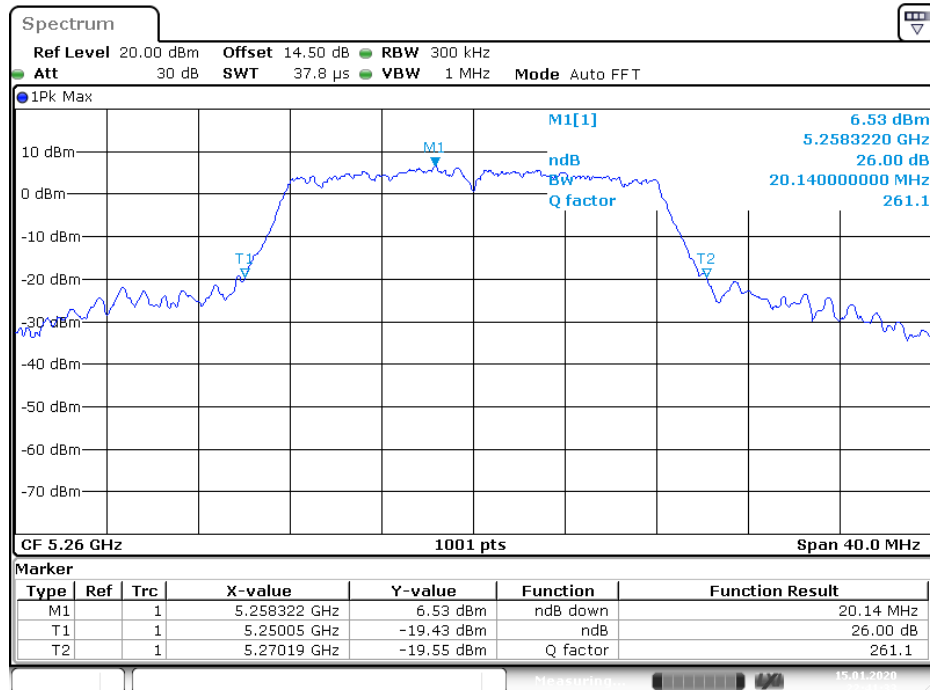
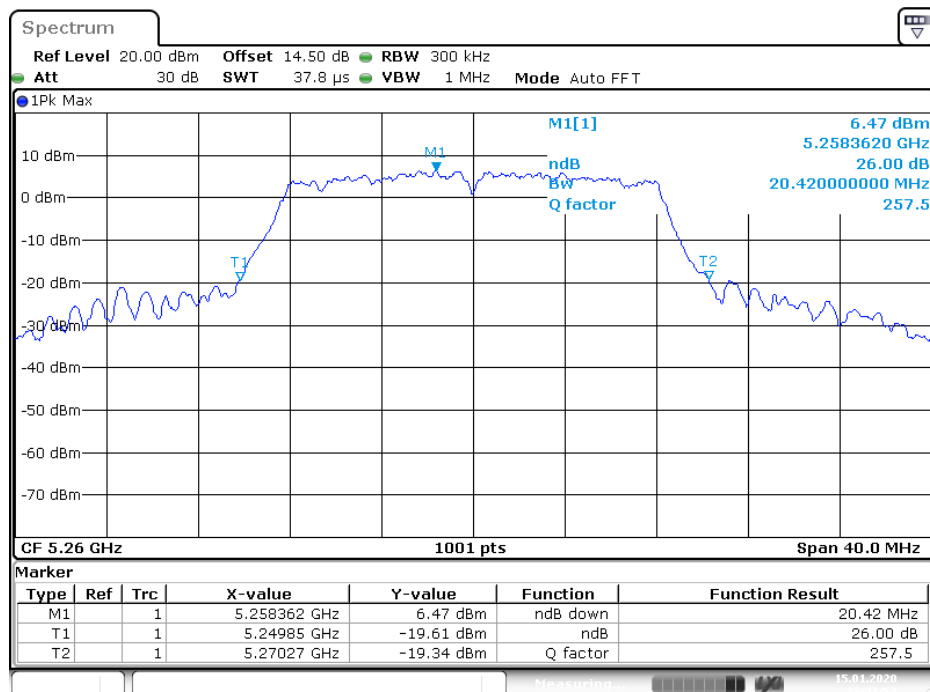
802.11a 5200MHz, TX1


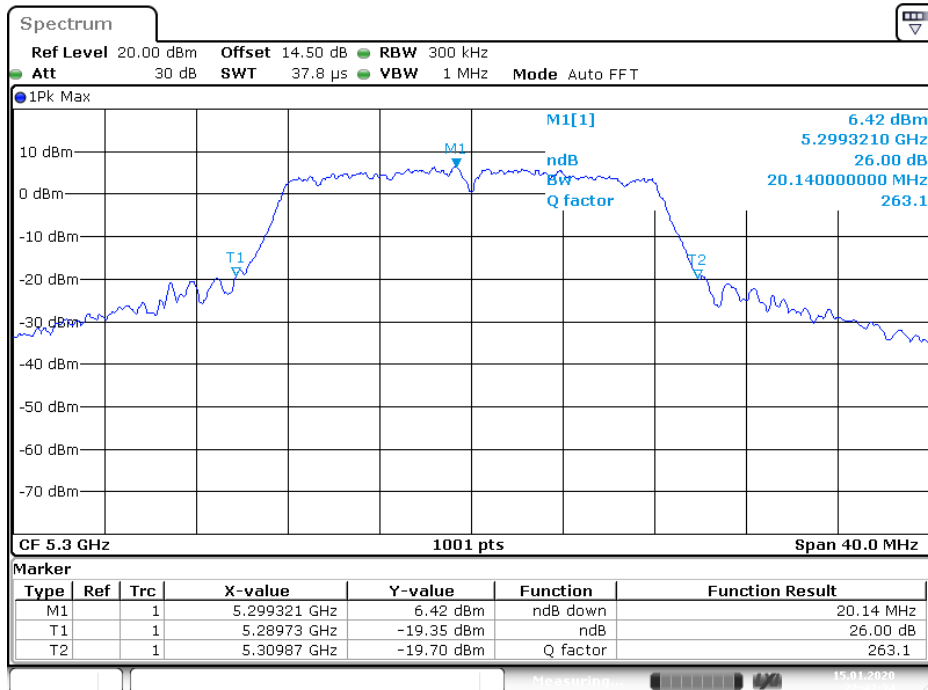
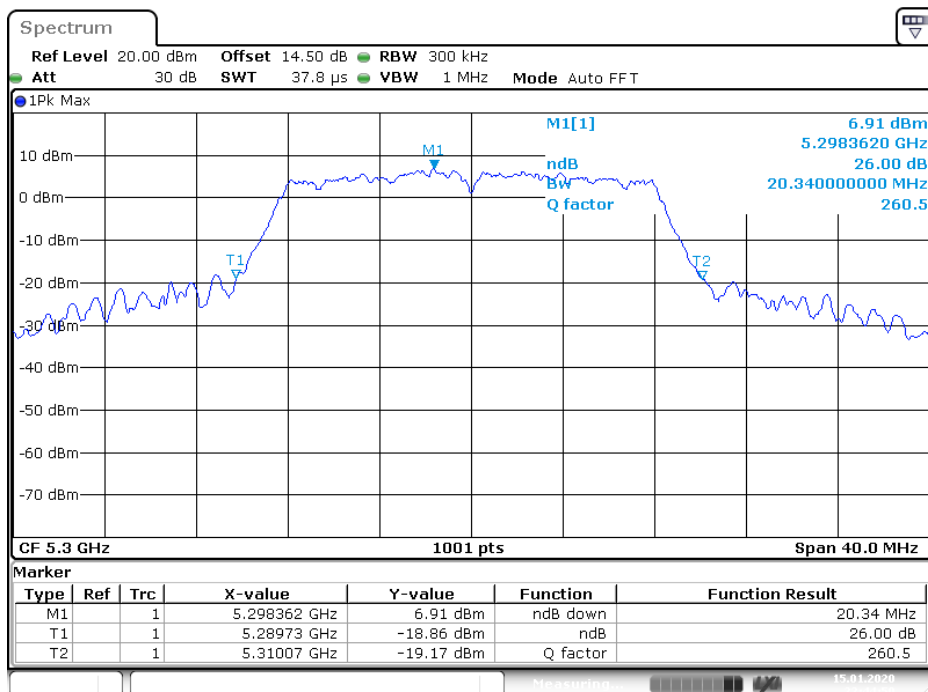
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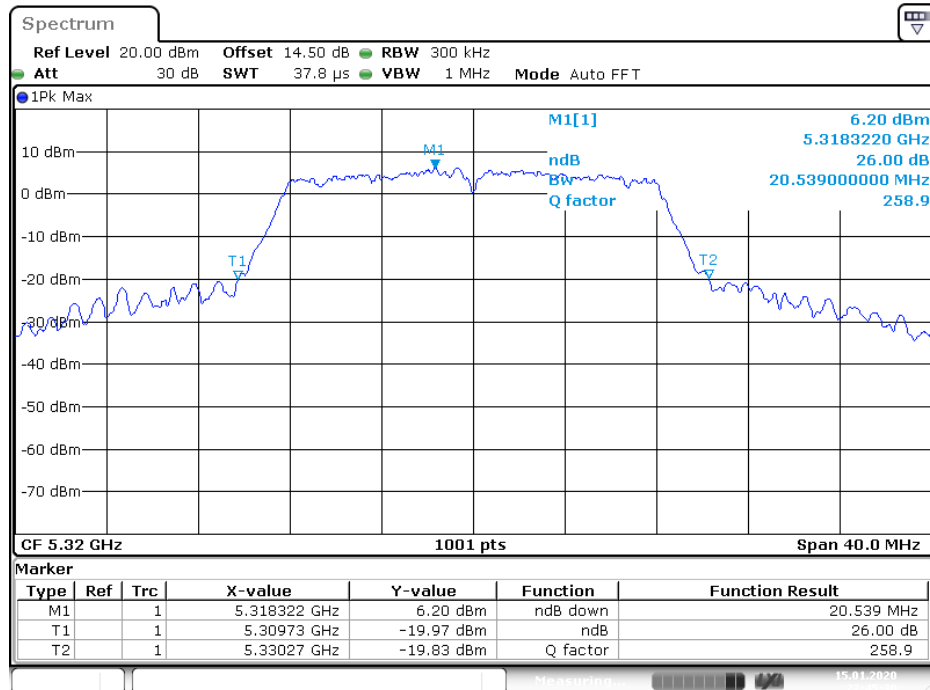
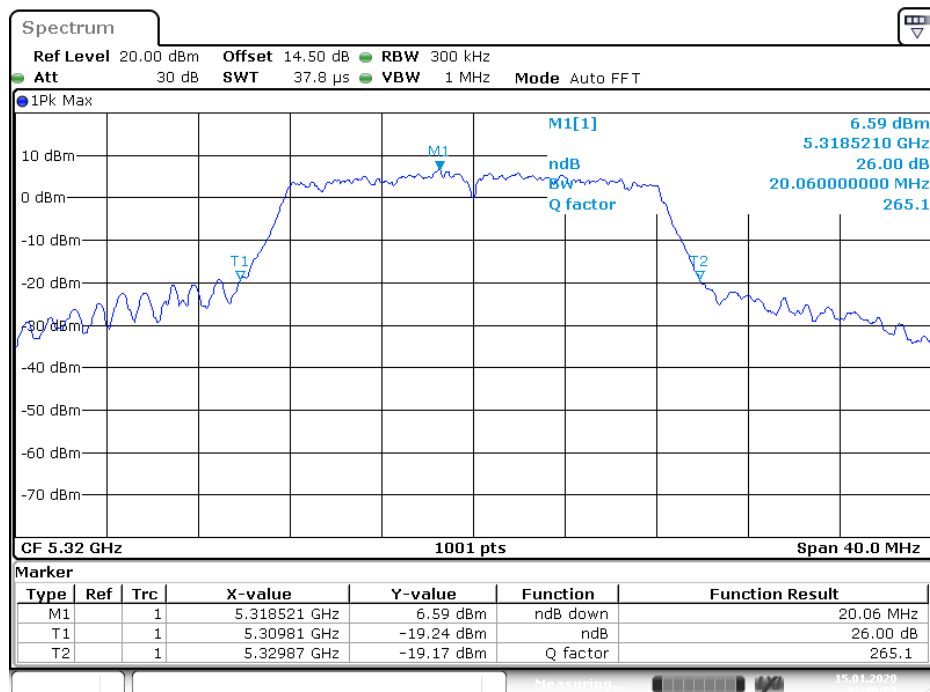
802.11a 5200MHz, TX2


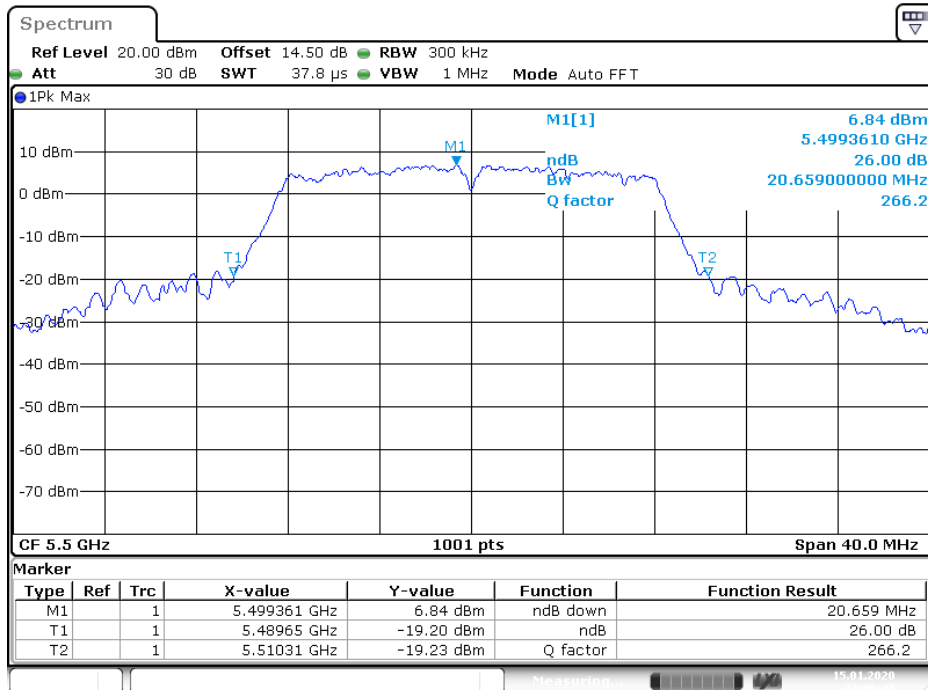
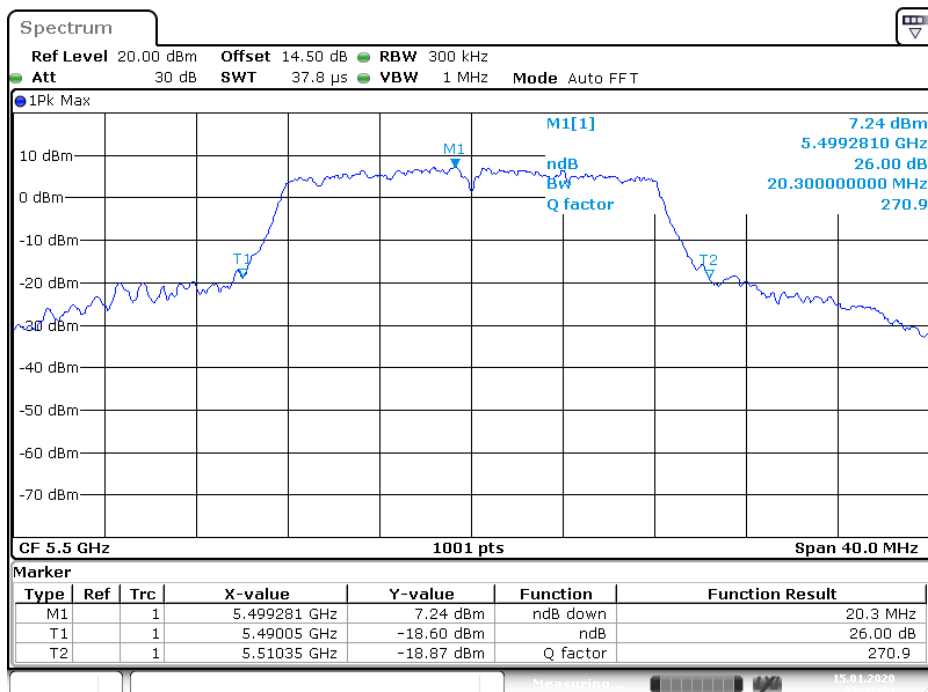
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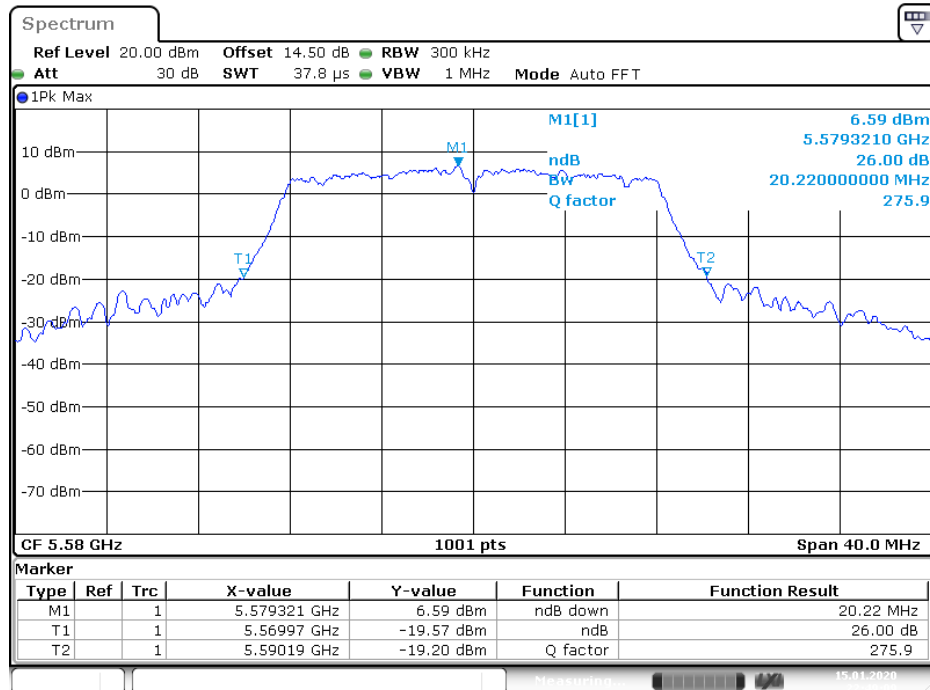
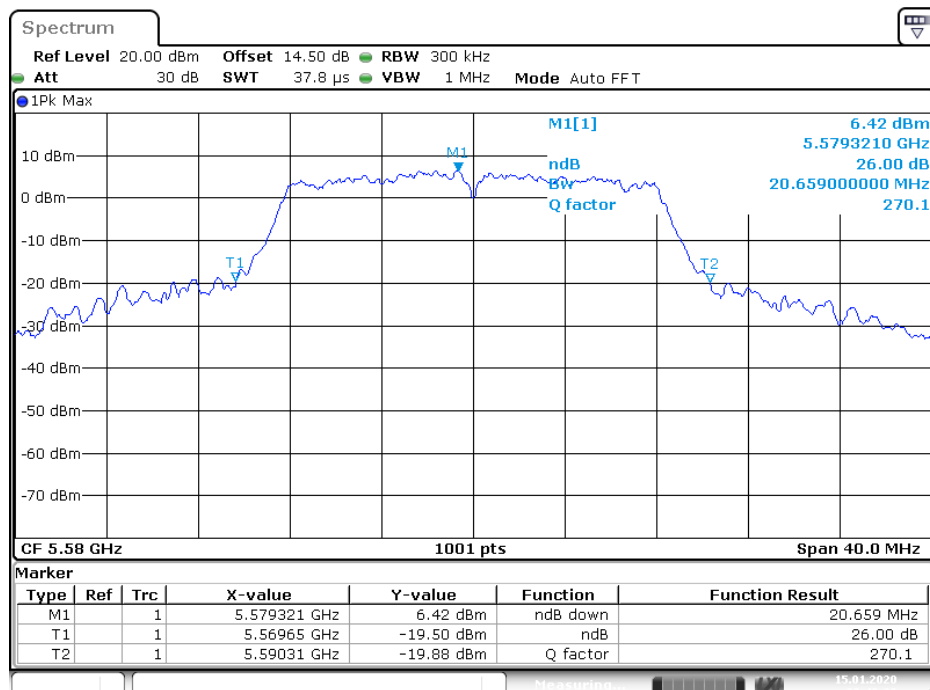
802.11a 5240MHz, TX1

802.11a 5240MHz, TX2


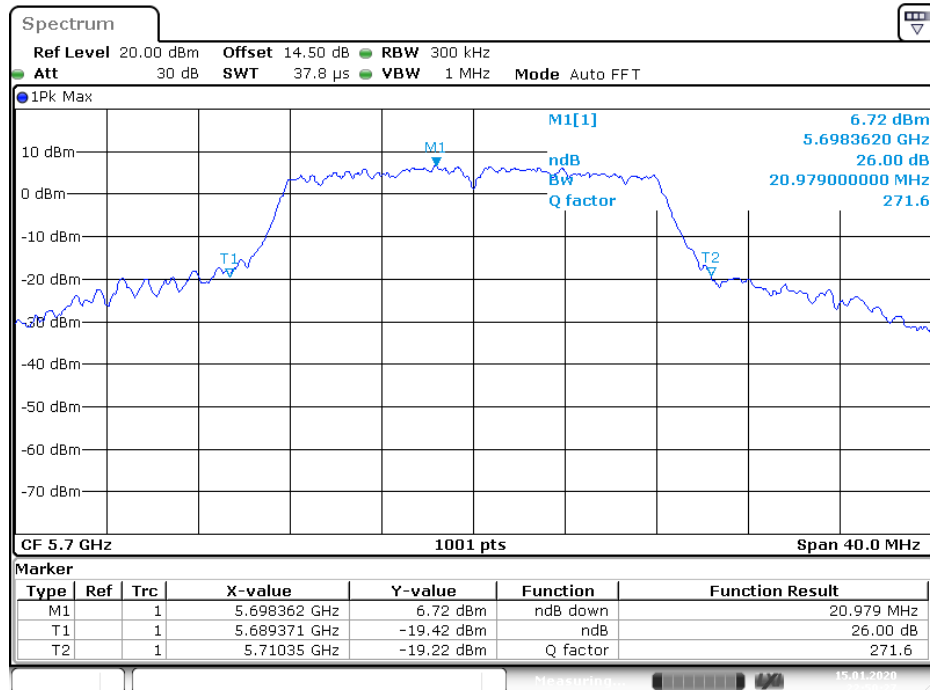
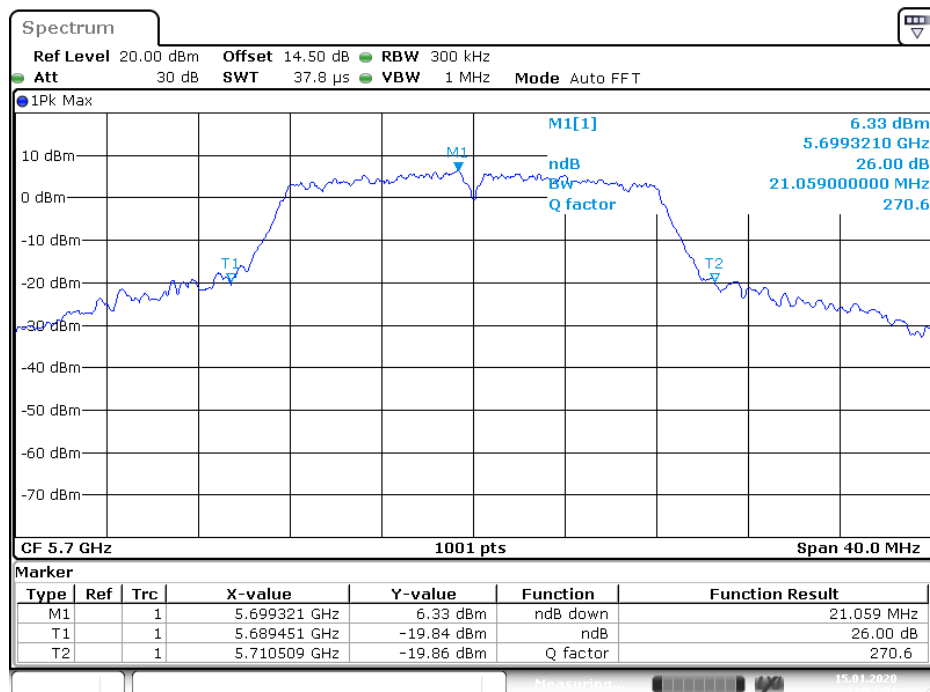
802.11a 5260MHz, TX1

802.11a 5260MHz, TX2


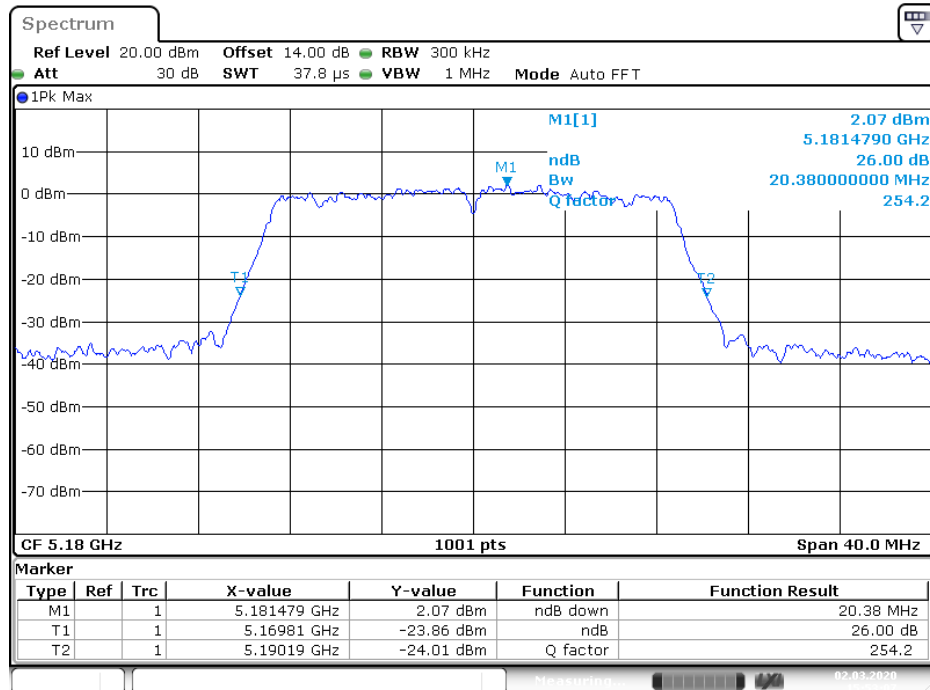
802.11a 5300MHz, TX1

802.11a 5300MHz, TX2


802.11a 5320MHz, TX1

802.11a 5320MHz, TX2


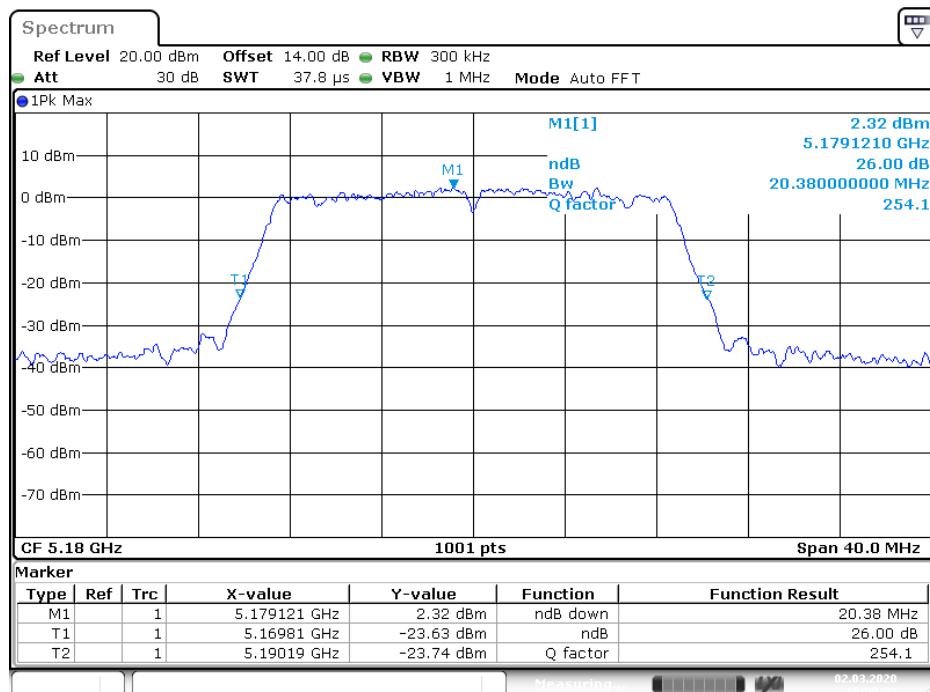
802.11a 5500MHz, TX1

802.11a 5500MHz, TX2


802.11a 5580MHz, TX1

802.11a 5580MHz, TX2


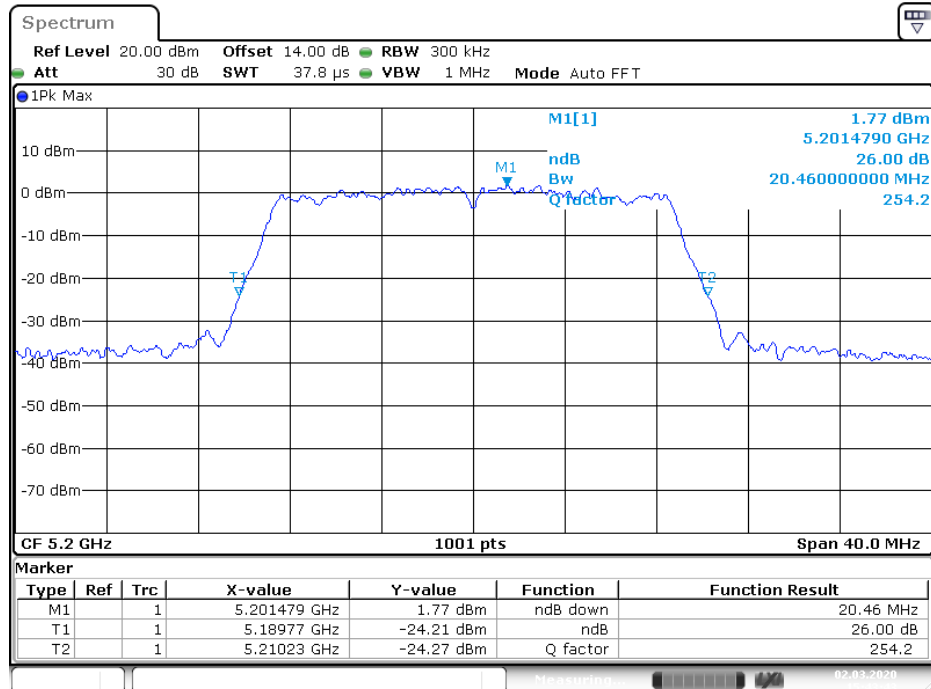
802.11a 5700MHz, TX1

802.11a 5700MHz, TX2


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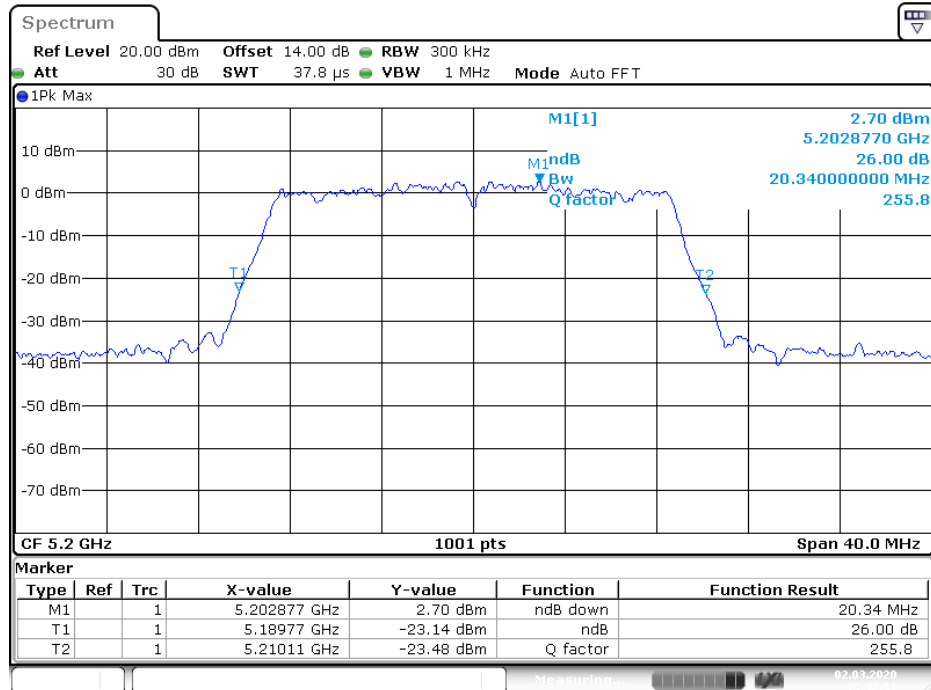
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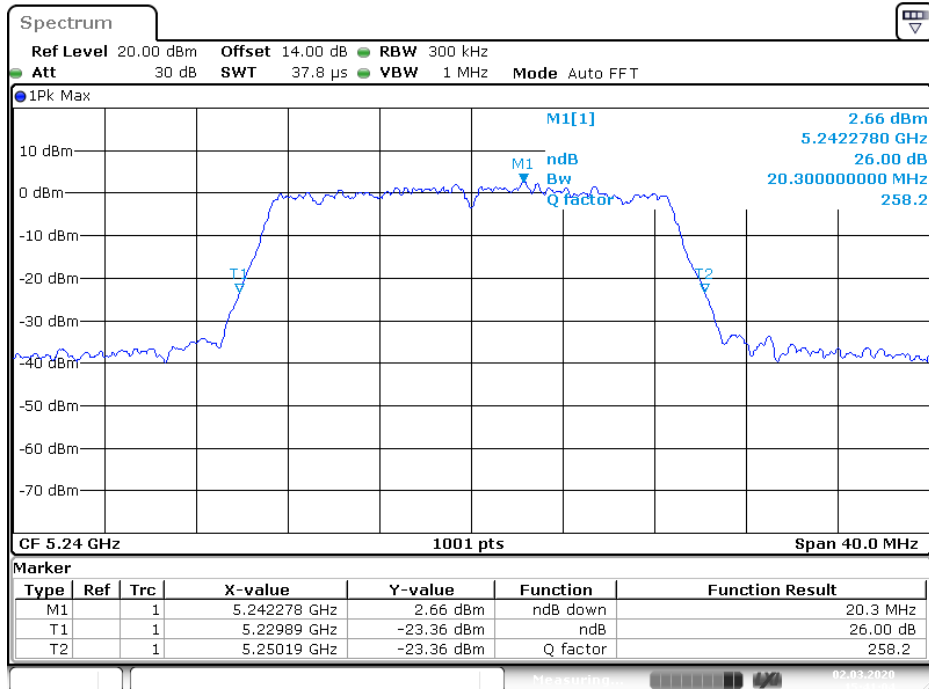
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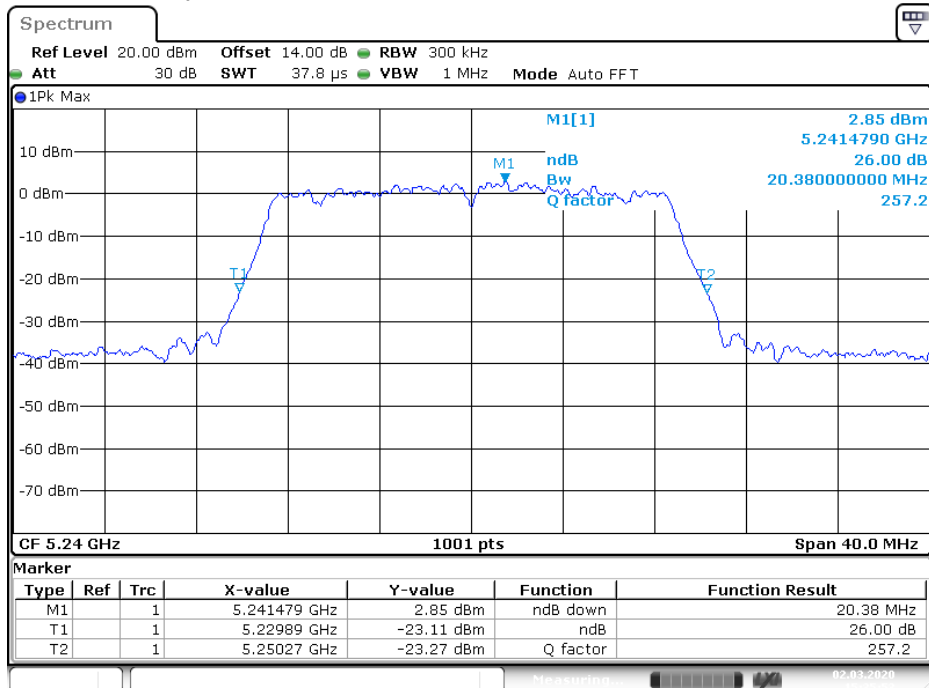
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802.11an HT20 5200MHz, TX2


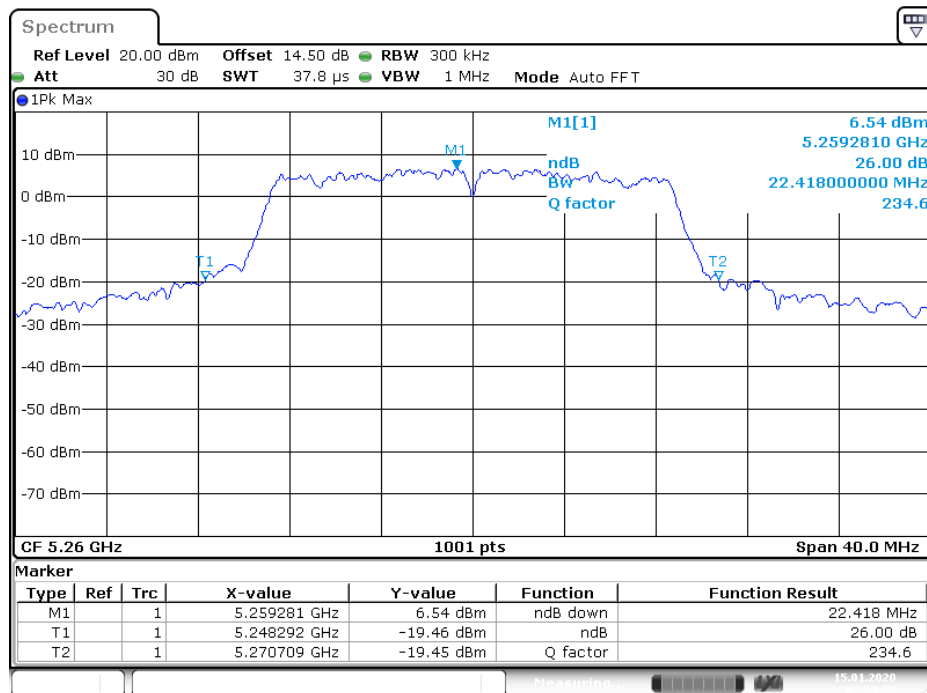
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802.11an HT20 5240MHz, TX1


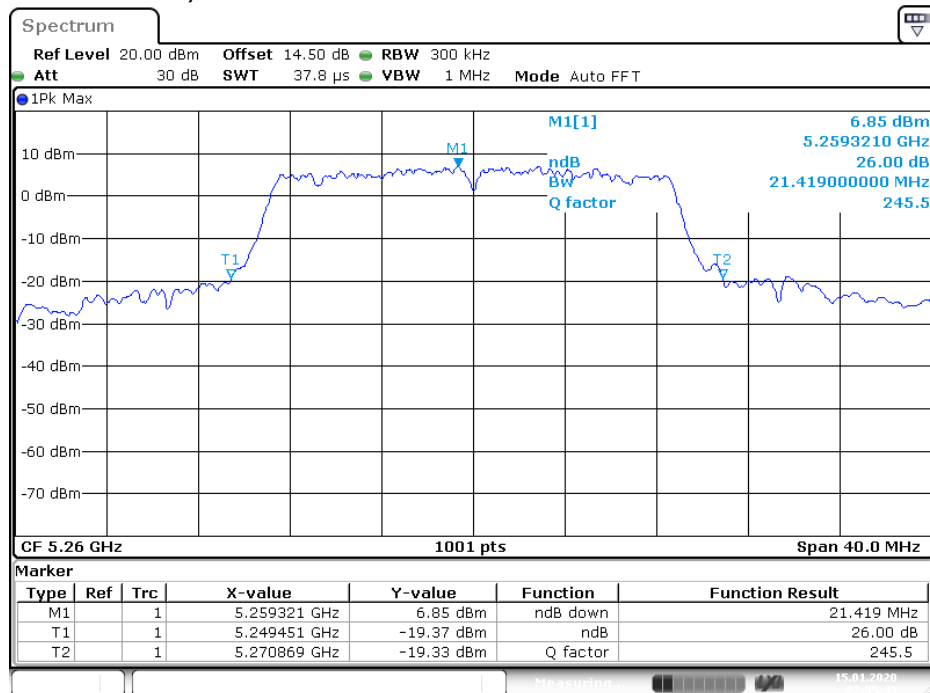
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802.11an HT20 5240MHz, TX2


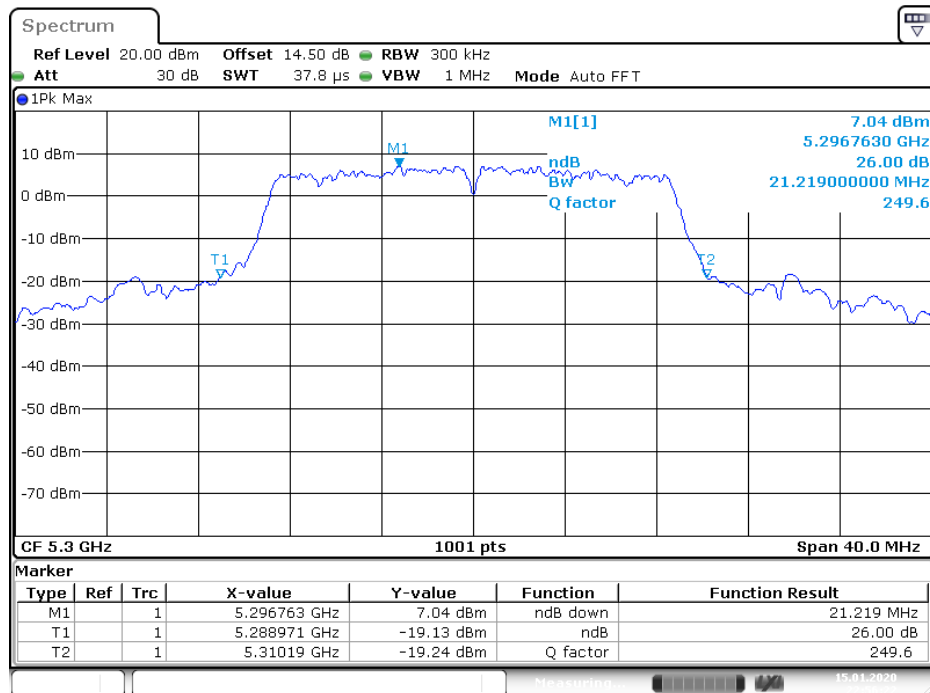
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802.11an HT20 5260MHz, TX1


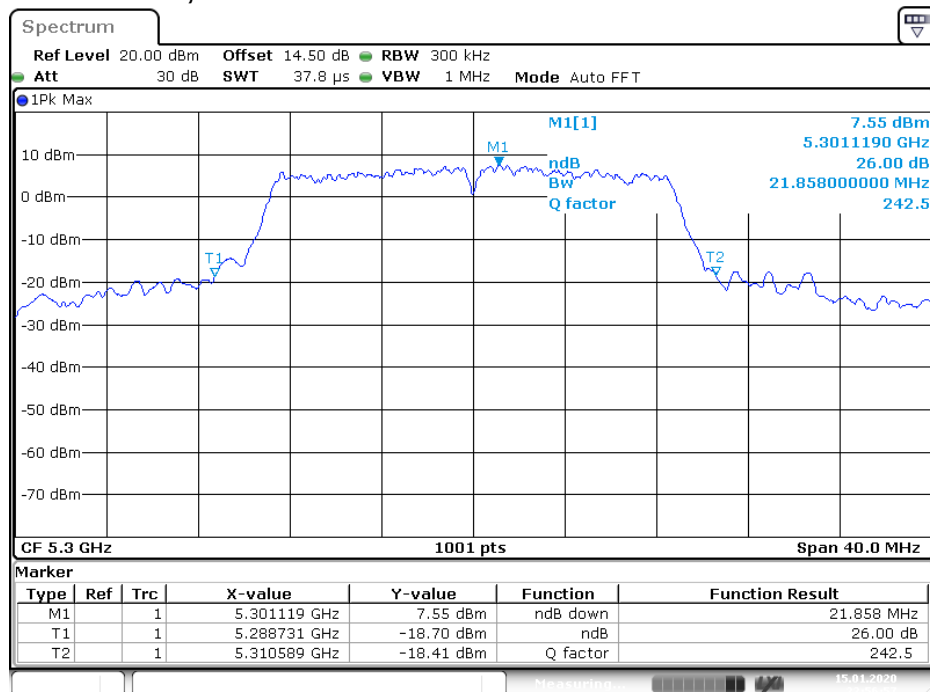
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802.11an HT20 5260MHz, TX2


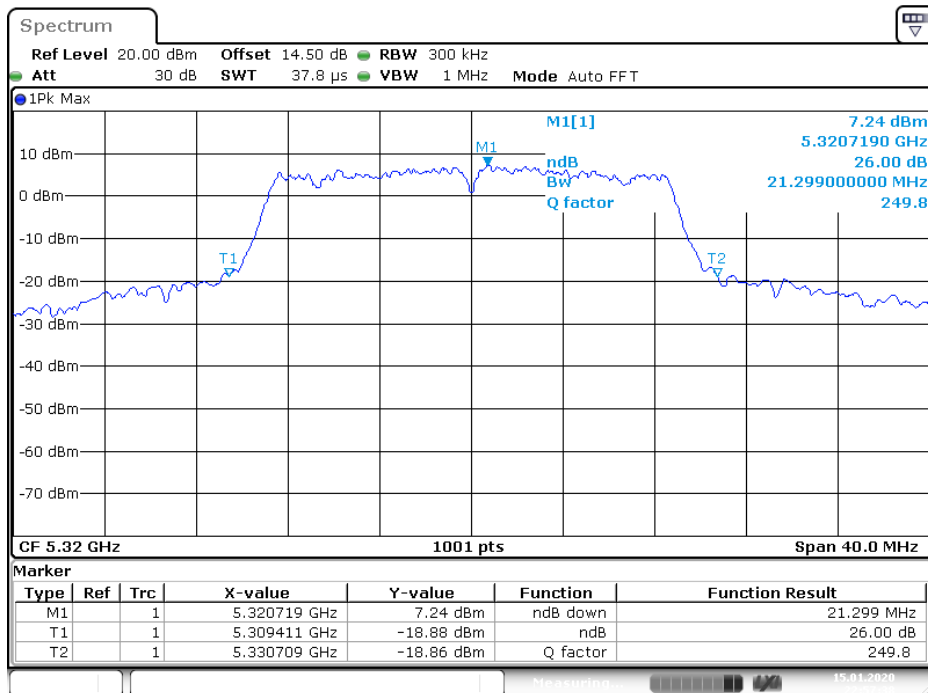
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802.11an HT20 5300MHz, TX1


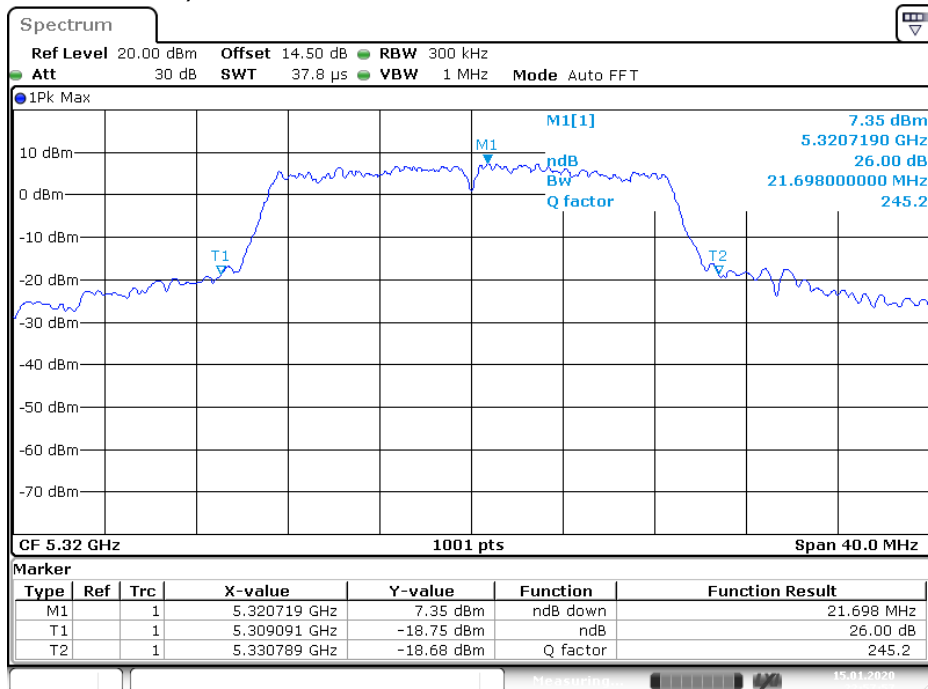
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802.11an HT20 5300MHz, TX2


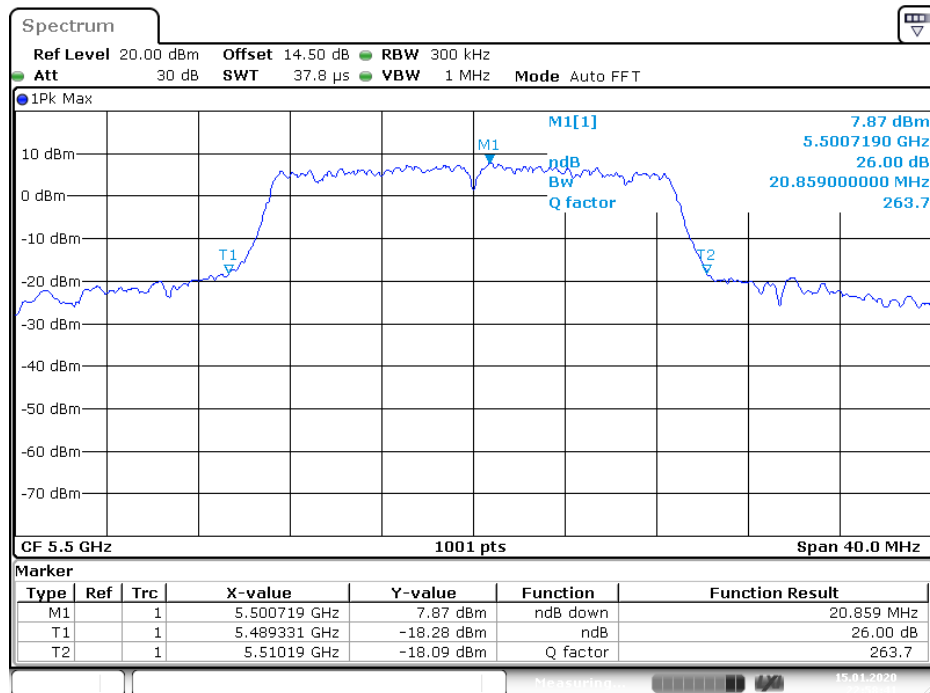
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802.11an HT20 5320MHz, TX1


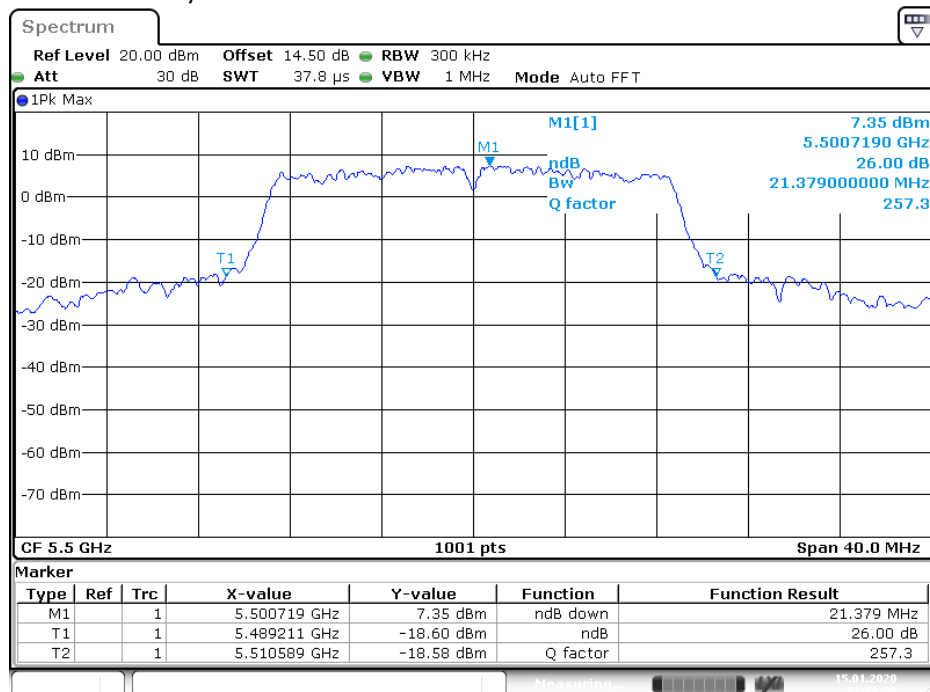
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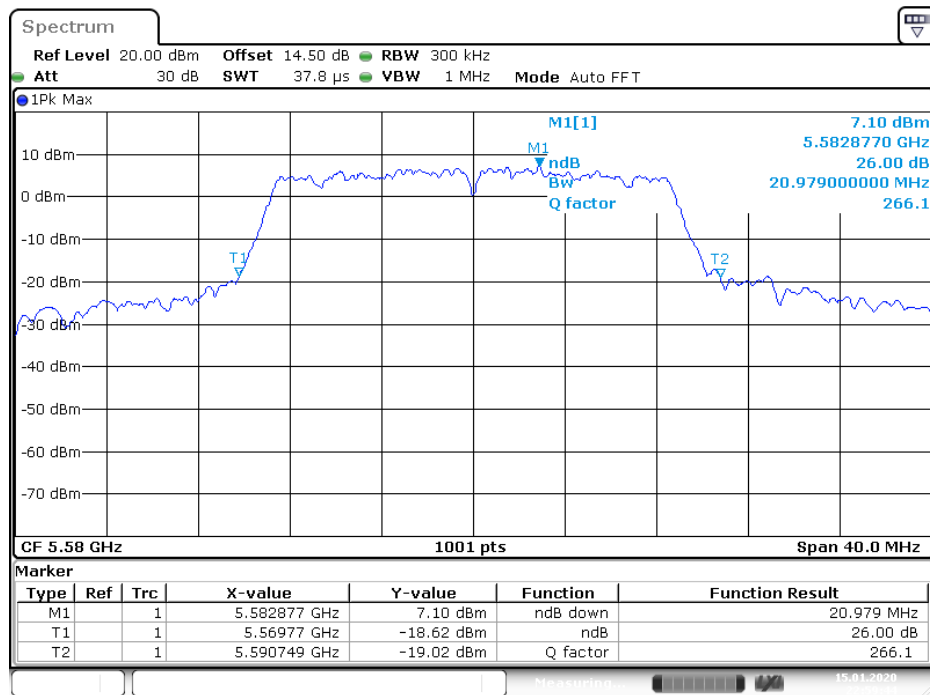
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802.11an HT20 5500MHz, TX1


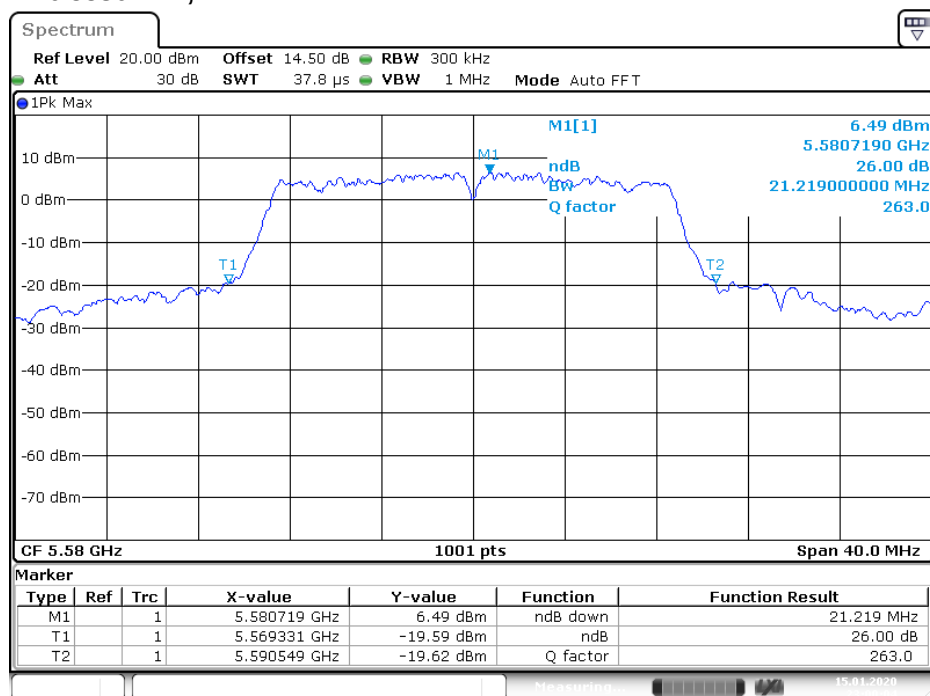
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802.11an HT20 5500MHz, TX2


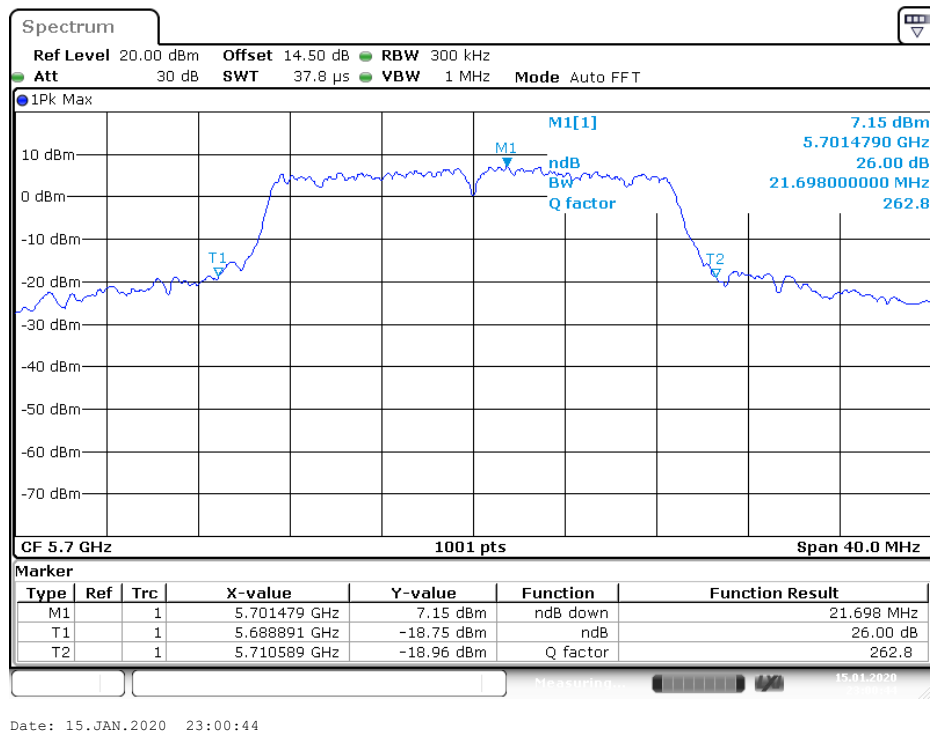
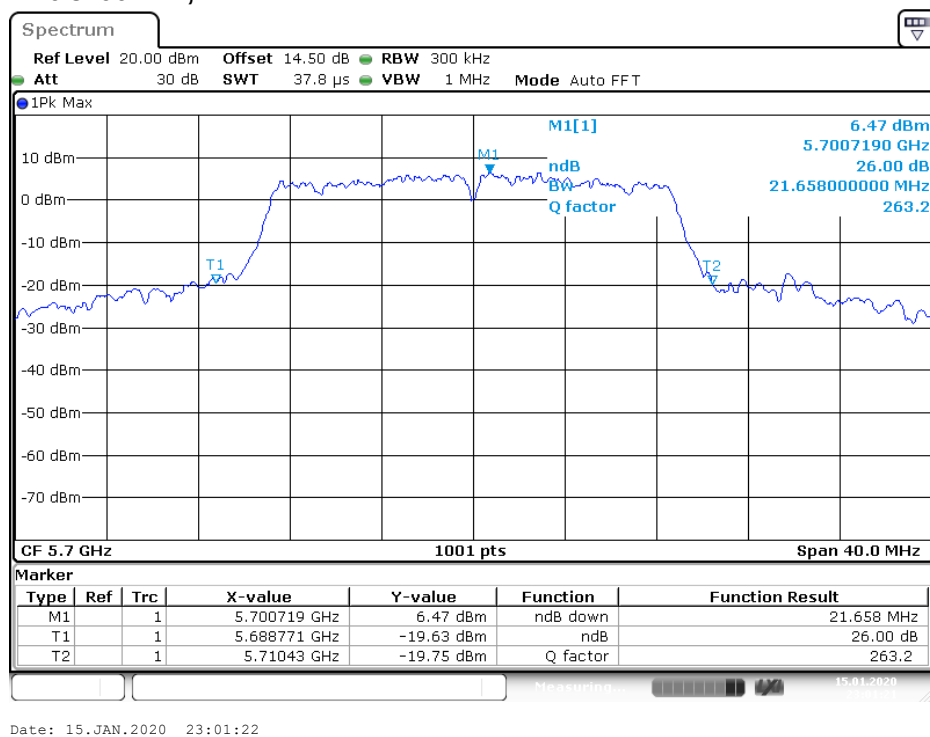
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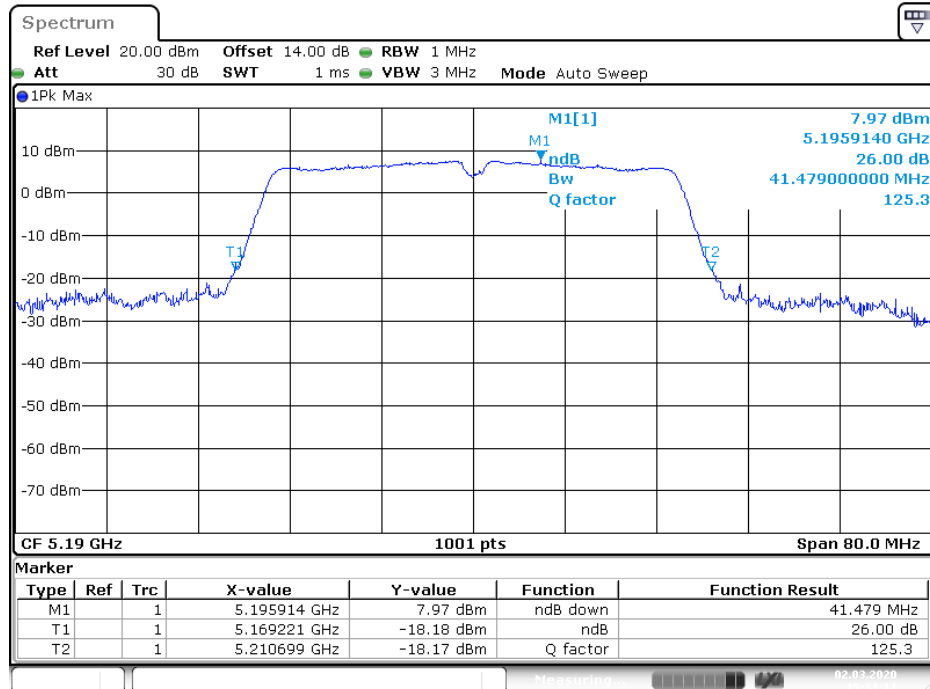
802.11an HT20 5580MHz, TX1


Date: 15.JAN.2020 22:59:44

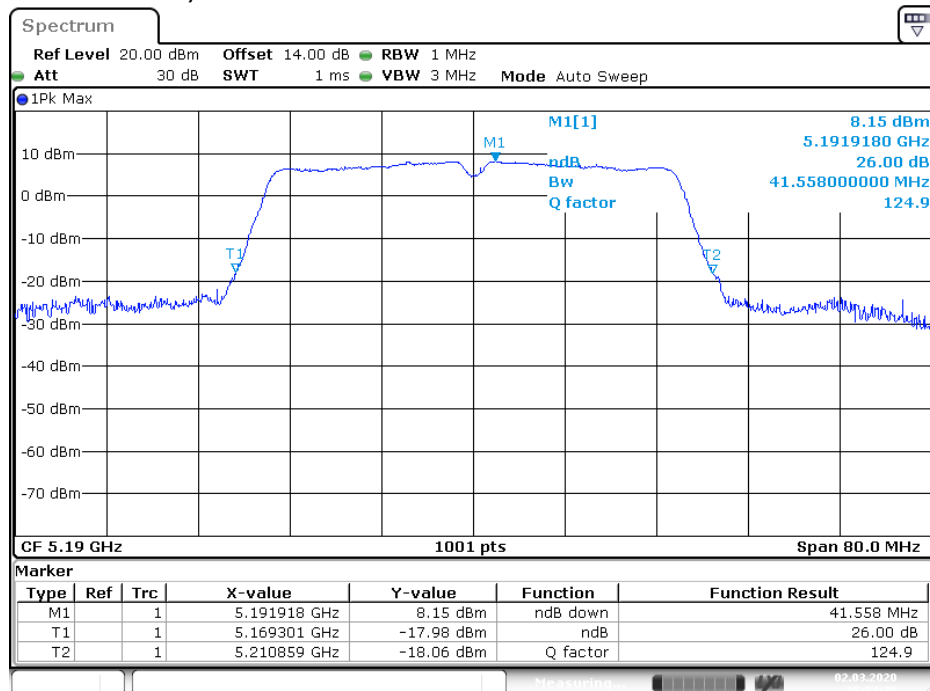
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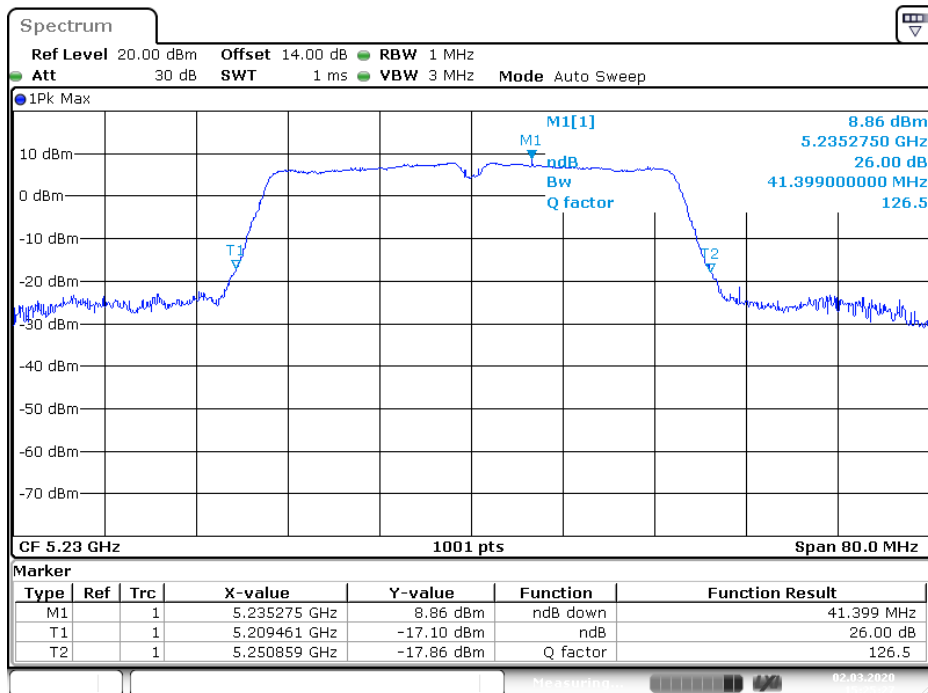
802.11an HT20 5700MHz, TX1

802.11an HT20 5700MHz, TX2


802.11an HT40 5190MHz, TX1


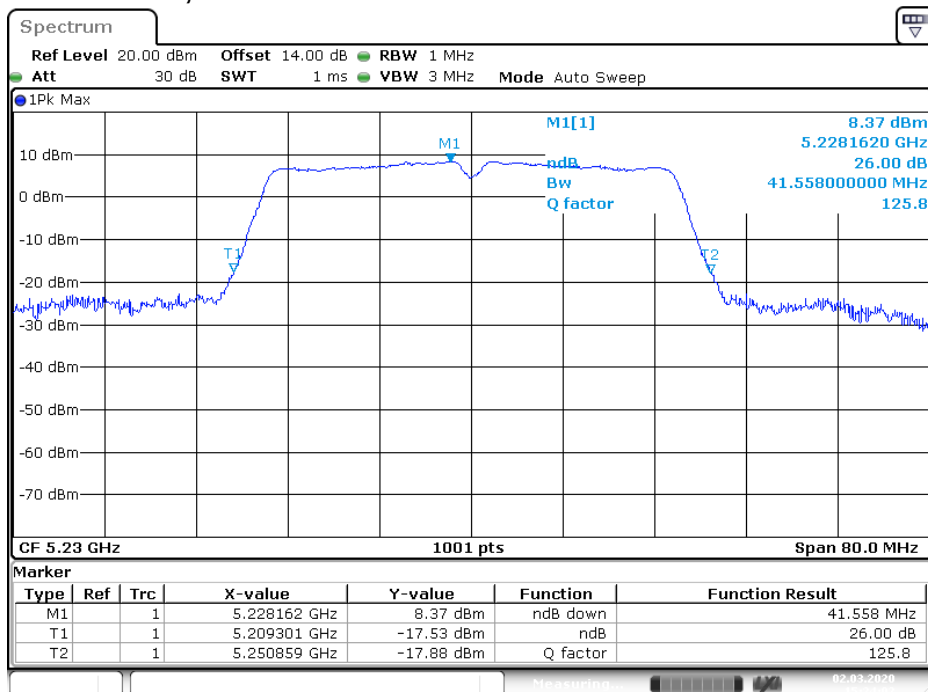
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802.11an HT40 5190MHz, TX2


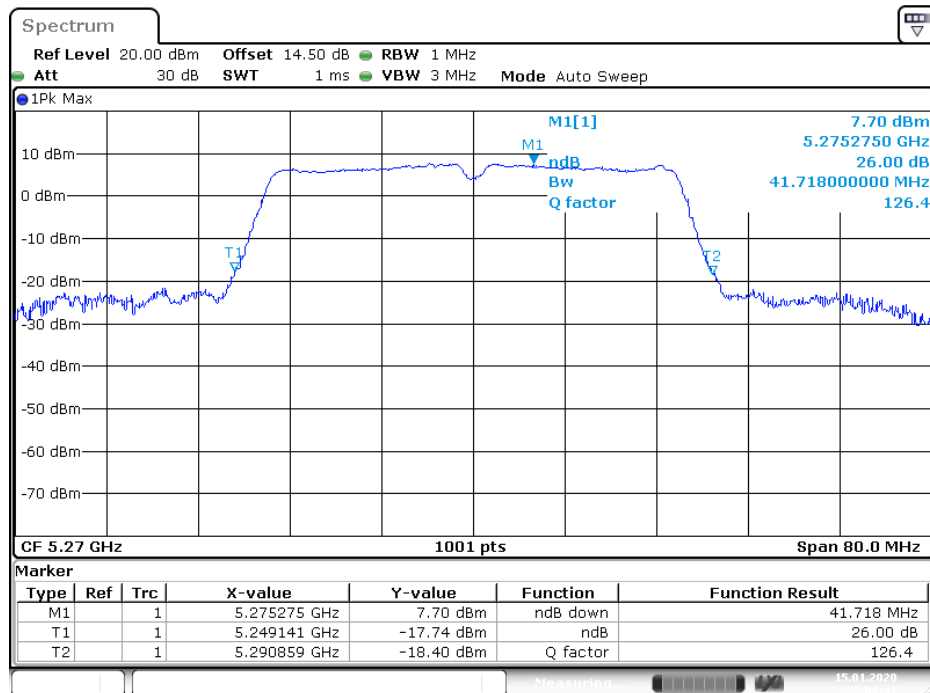
Date: 2.MAR.2020 15:34:36

802.11an HT40 5230MHz, TX1


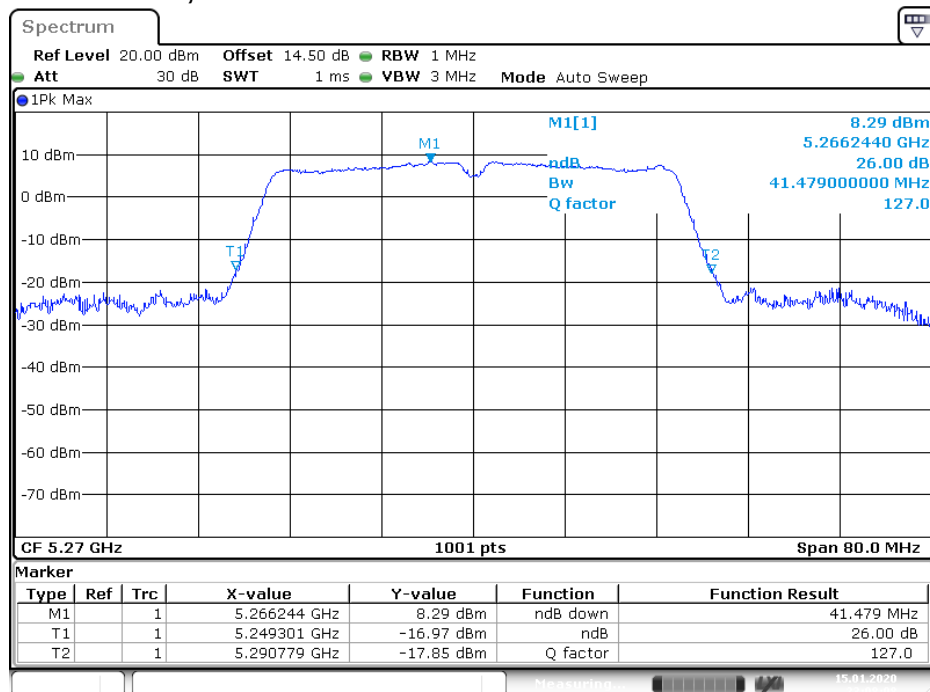
Date: 2.MAR.2020 15:25:27

802.11an HT40 5230MHz, TX2


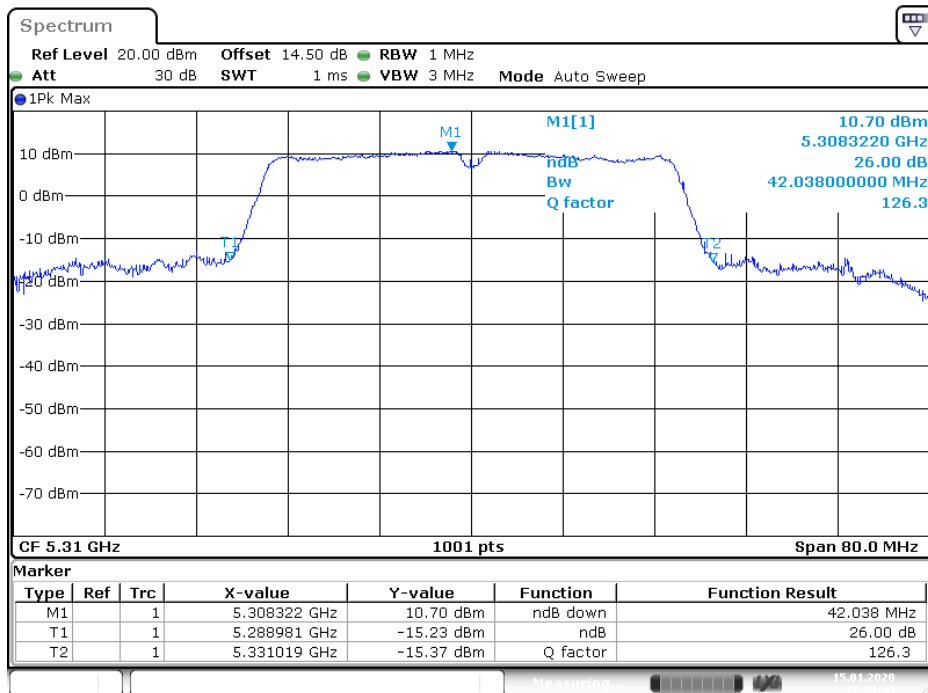
Date: 2.MAR.2020 15:24:02

802.11an HT40 5270MHz, TX1


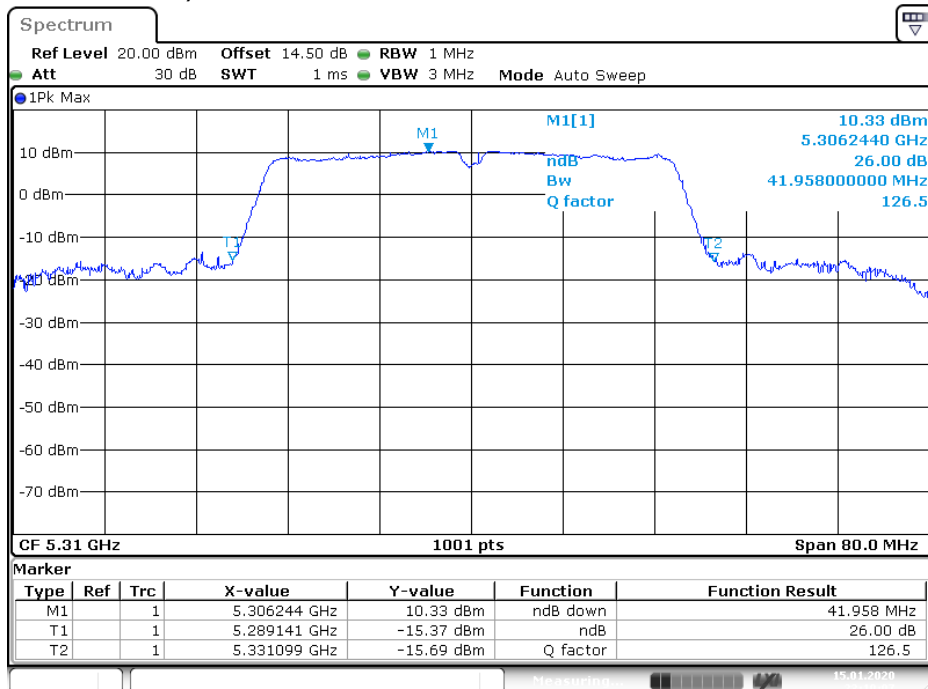
Date: 15.JAN.2020 23:07:42

802.11an HT40 5270MHz, TX2


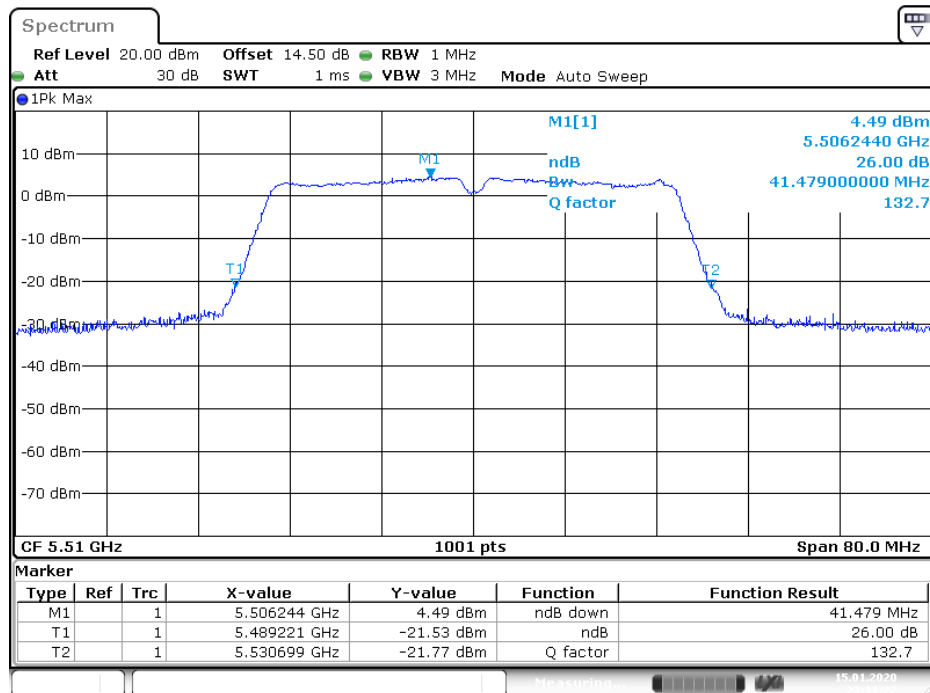
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802.11an HT40 5310MHz, TX1


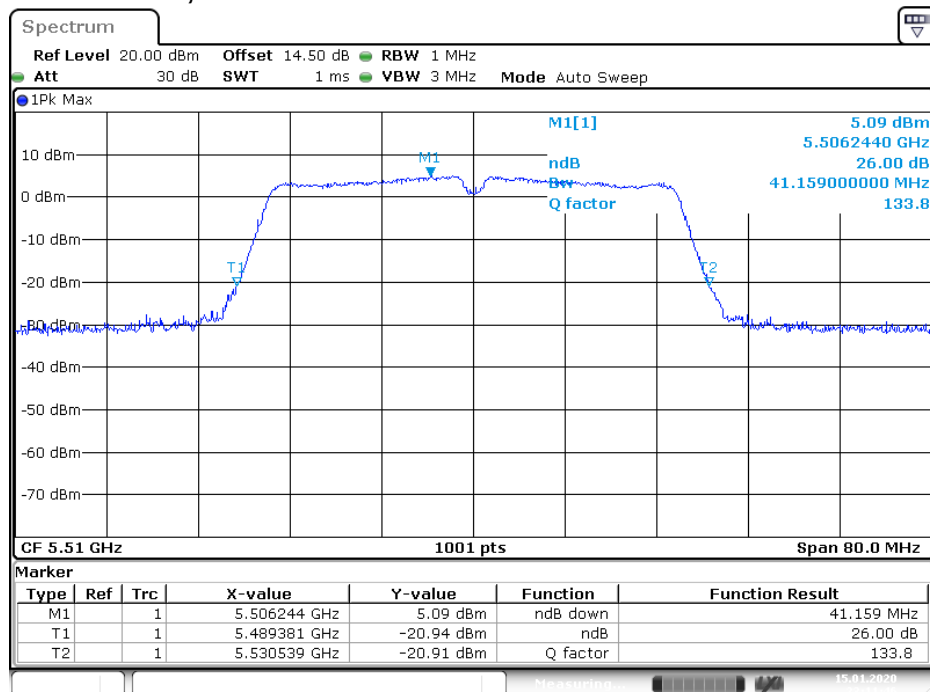
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802.11an HT40 5310MHz, TX2


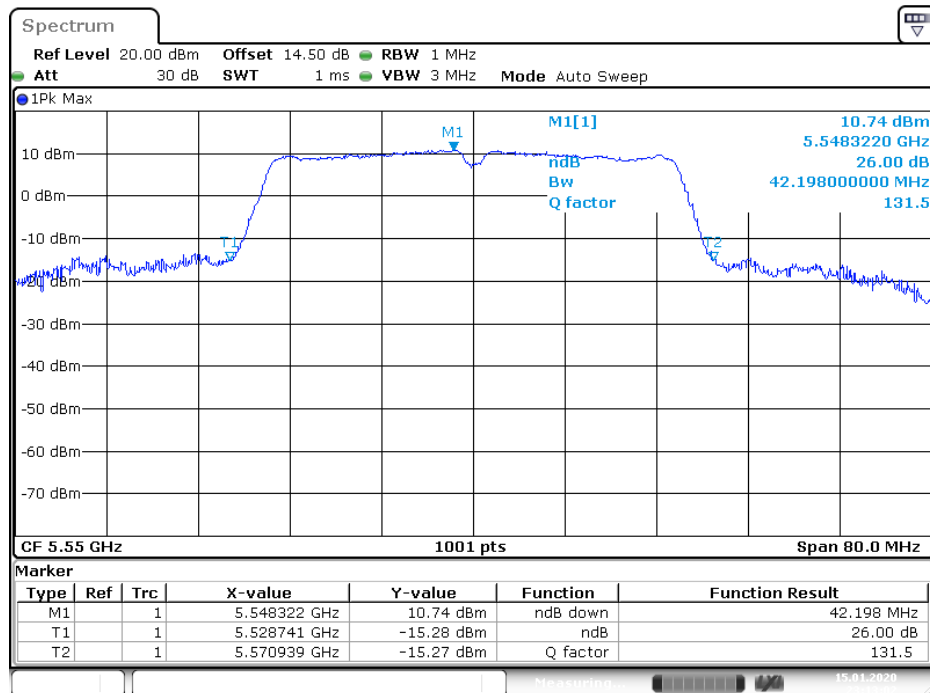
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802.11an HT40 5510MHz, TX1


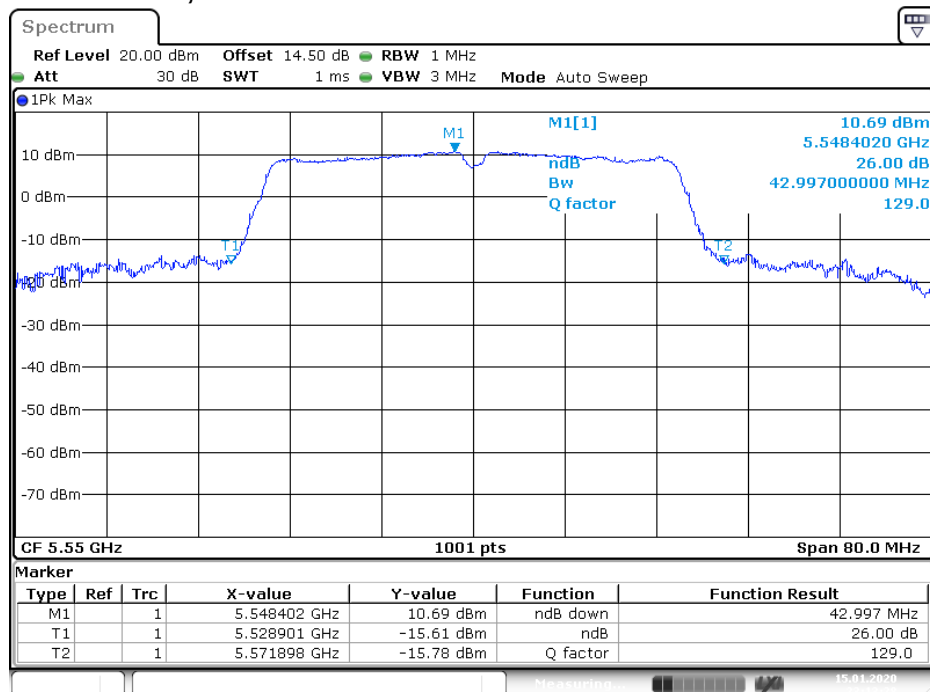
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802.11an HT40 5510MHz, TX2


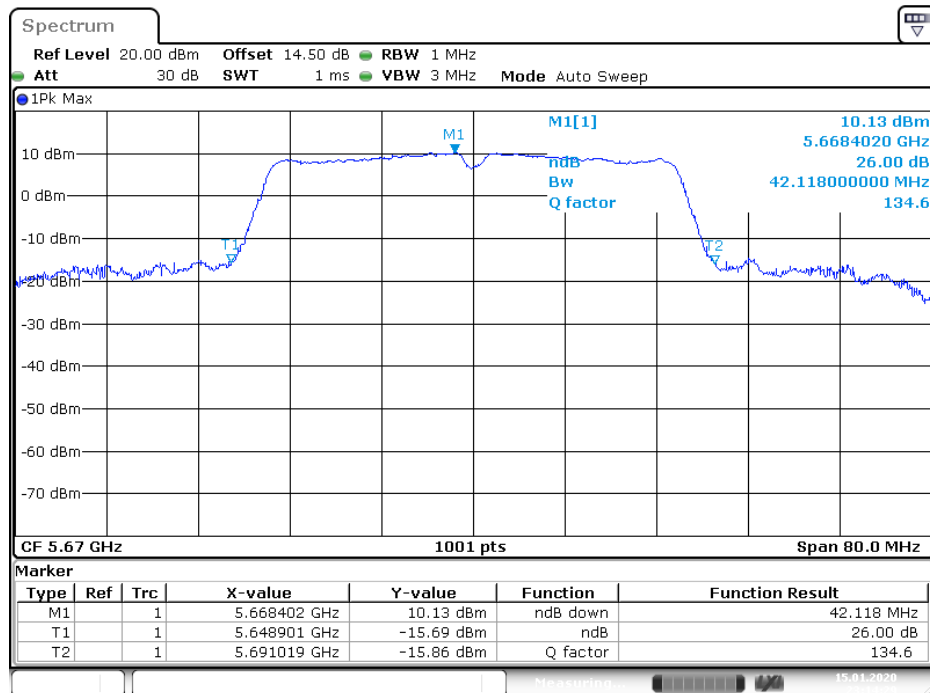
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802.11an HT40 5550MHz, TX1


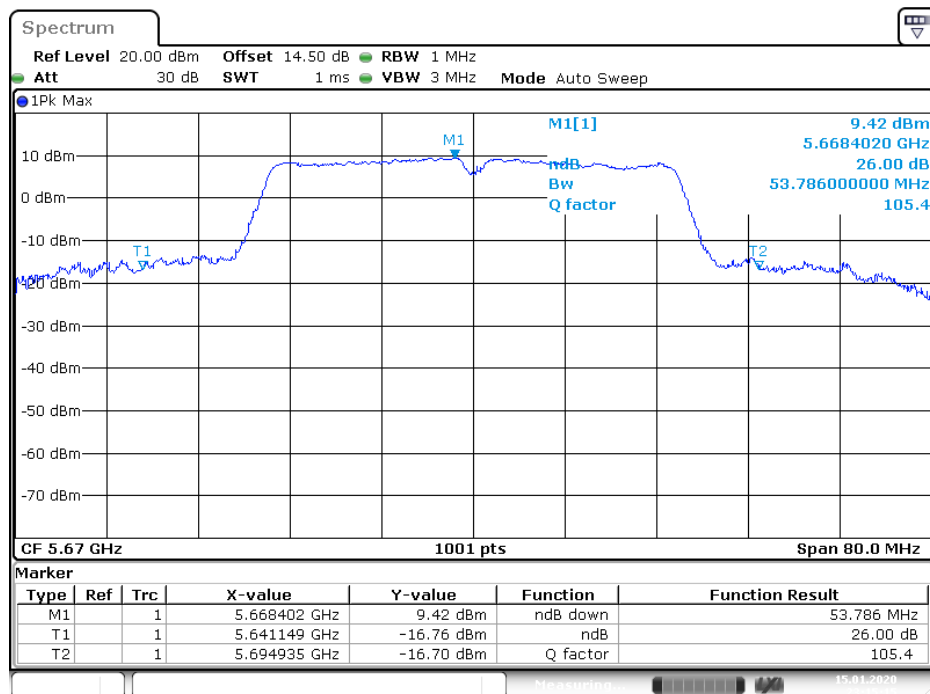
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802.11an HT40 5550MHz, TX2


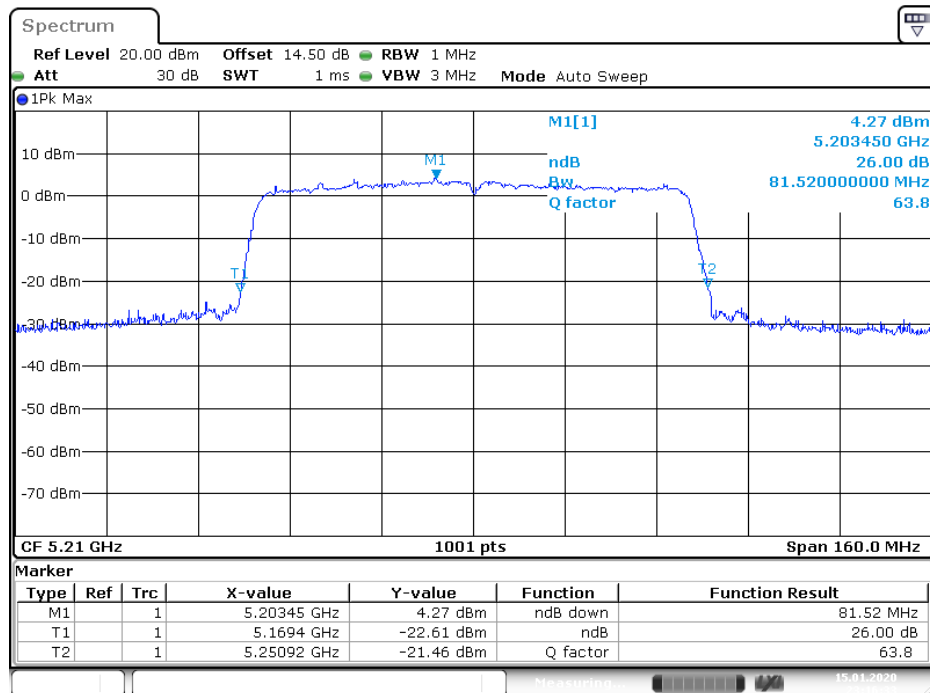
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802.11an HT40 5670MHz, TX1


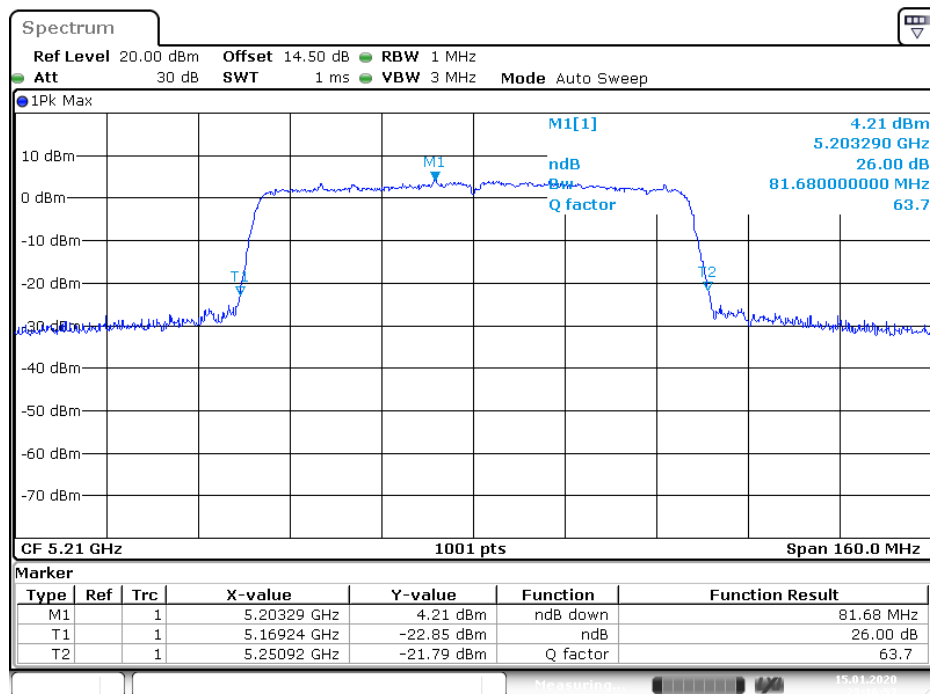
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802.11an HT40 5670MHz, TX2


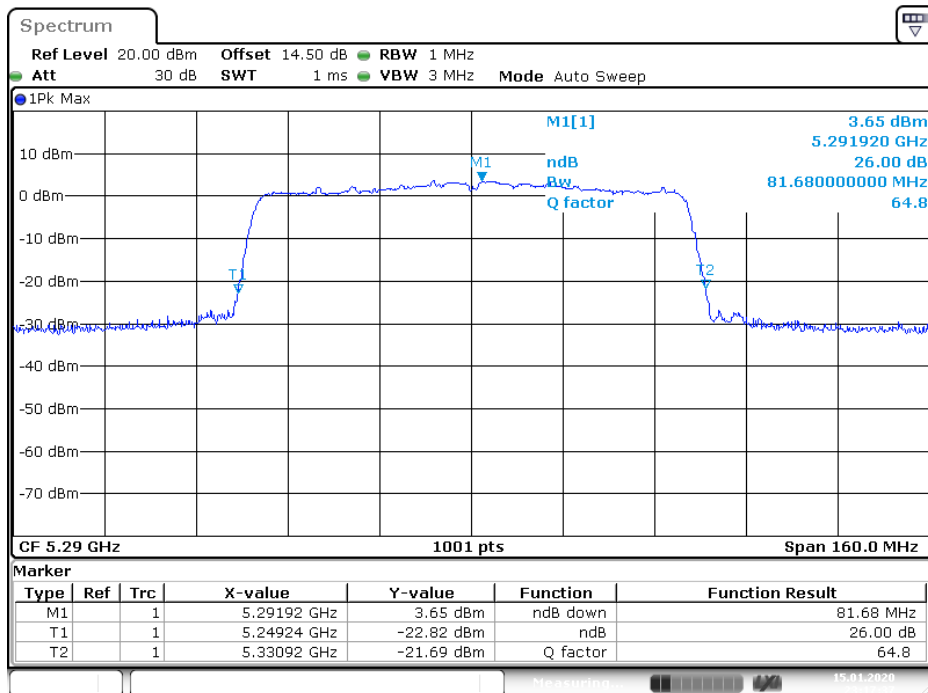
Date: 15.JAN.2020 23:15:16

802.11ac VHT80 5210MHz, TX1


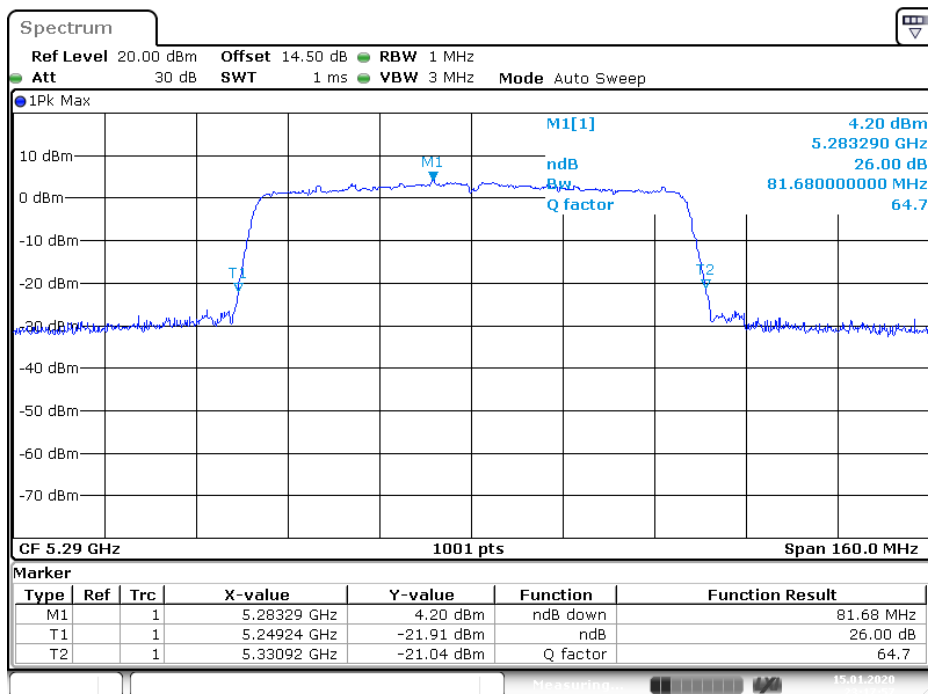
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802.11ac VHT80 5210MHz, TX2


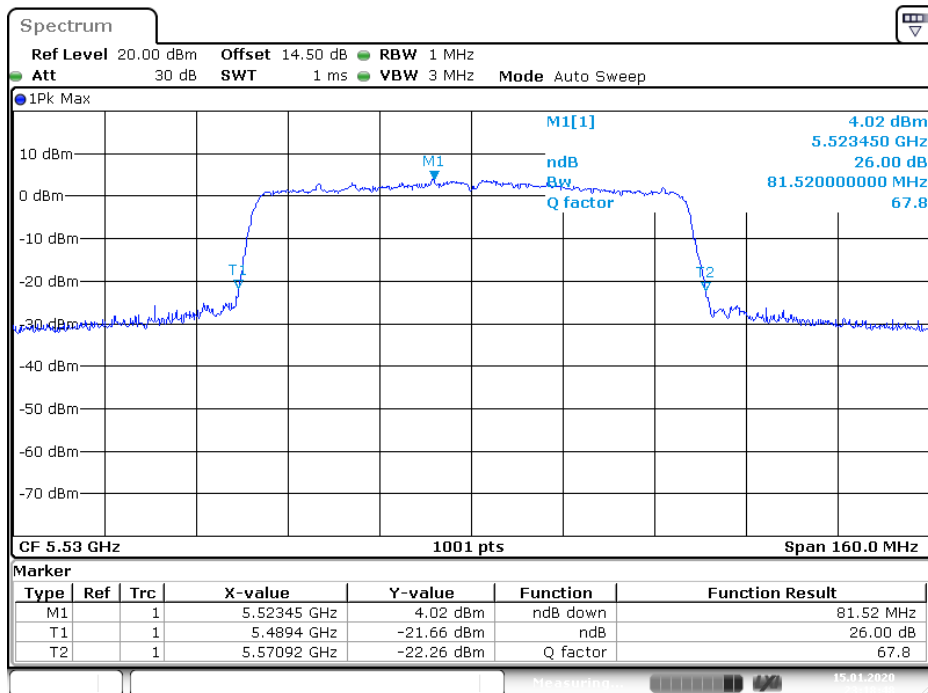
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802.11ac VHT80 5290MHz, TX1


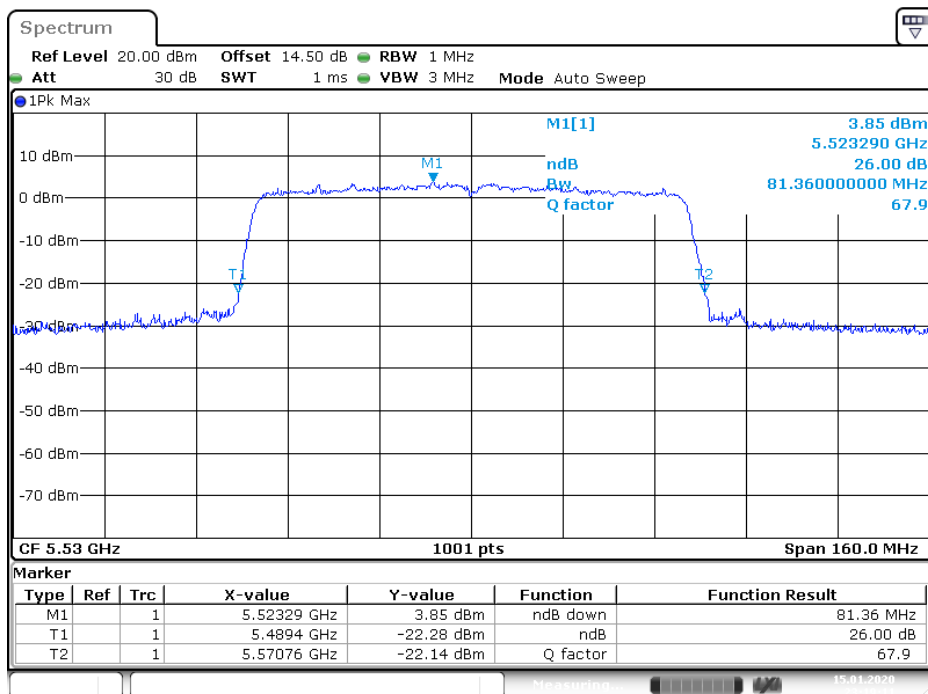
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802.11ac VHT80 5290MHz, TX2


Date: 15.JAN.2020 23:17:57

802.11ac VHT80 5530MHz, TX1


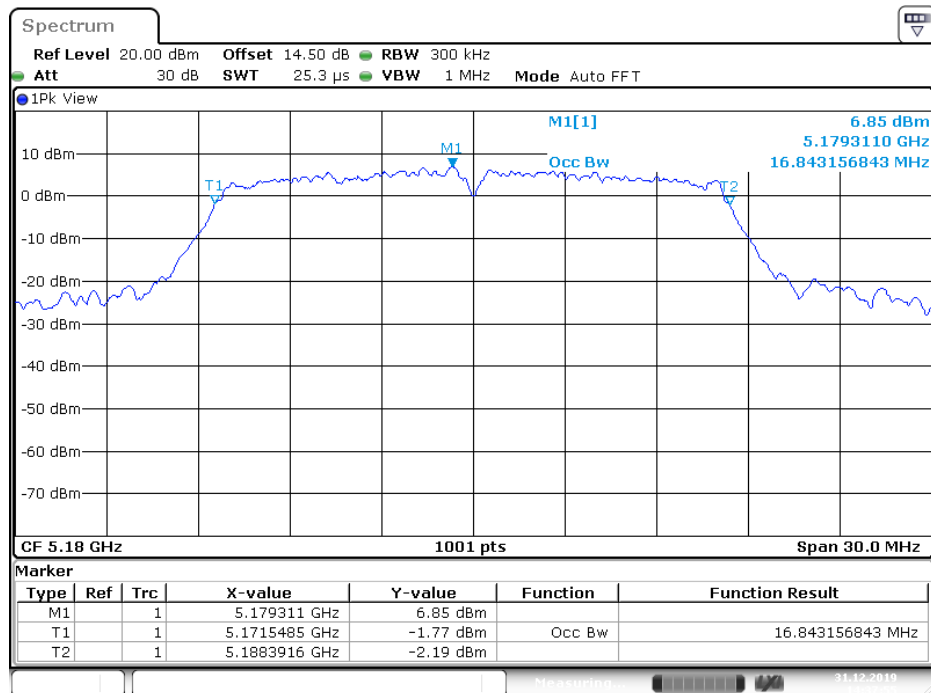
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802.11ac VHT80 5530MHz, TX2


Date: 15.JAN.2020 23:19:11

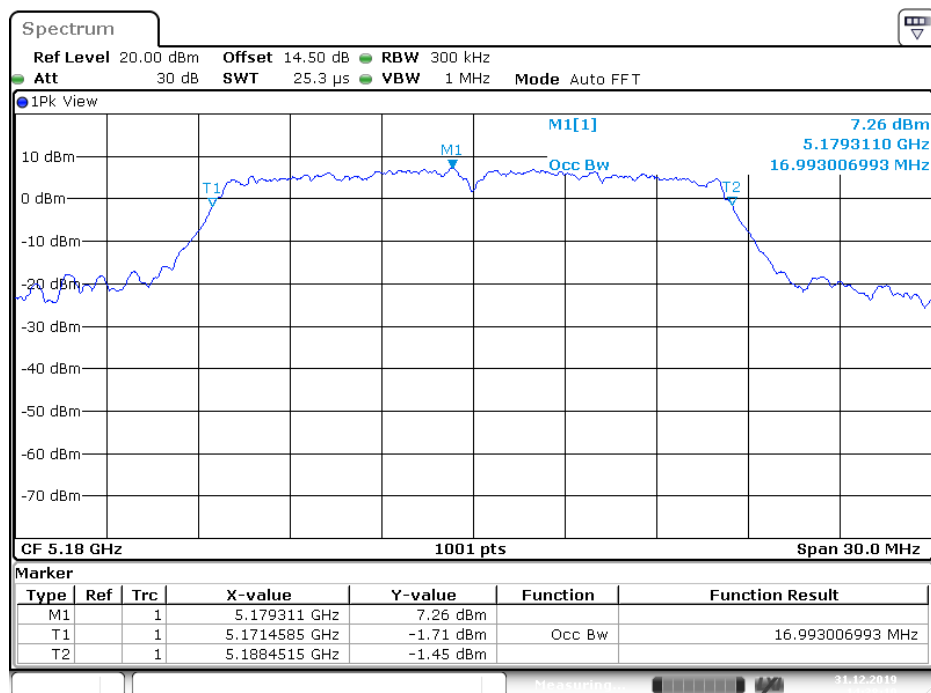
The Plot of 99% Bandwidth for FCC

802.11a 5180MHz, TX1

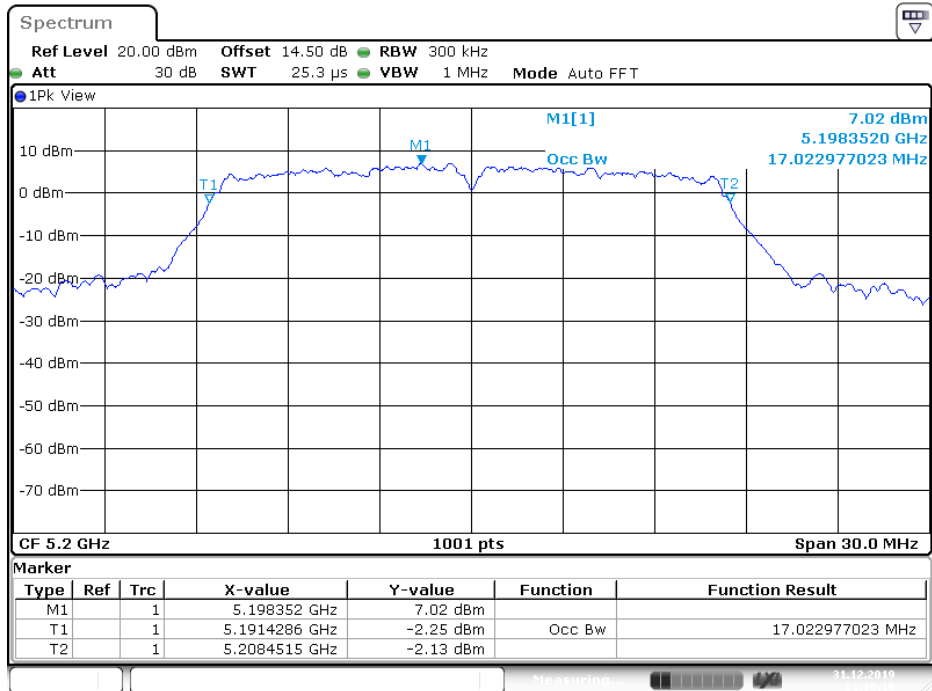


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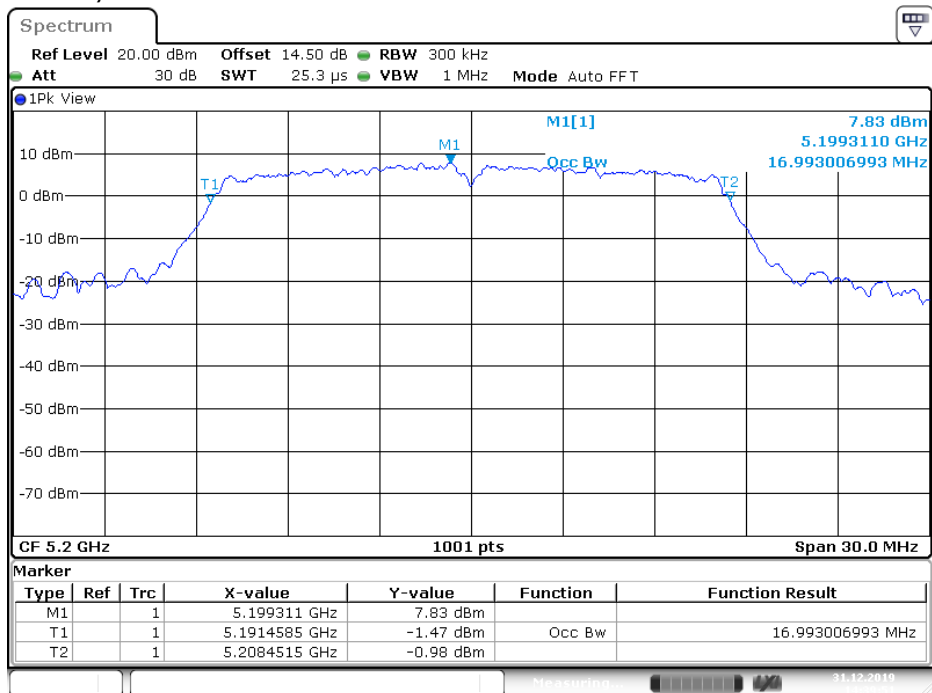
802.11a 5180MHz, TX2



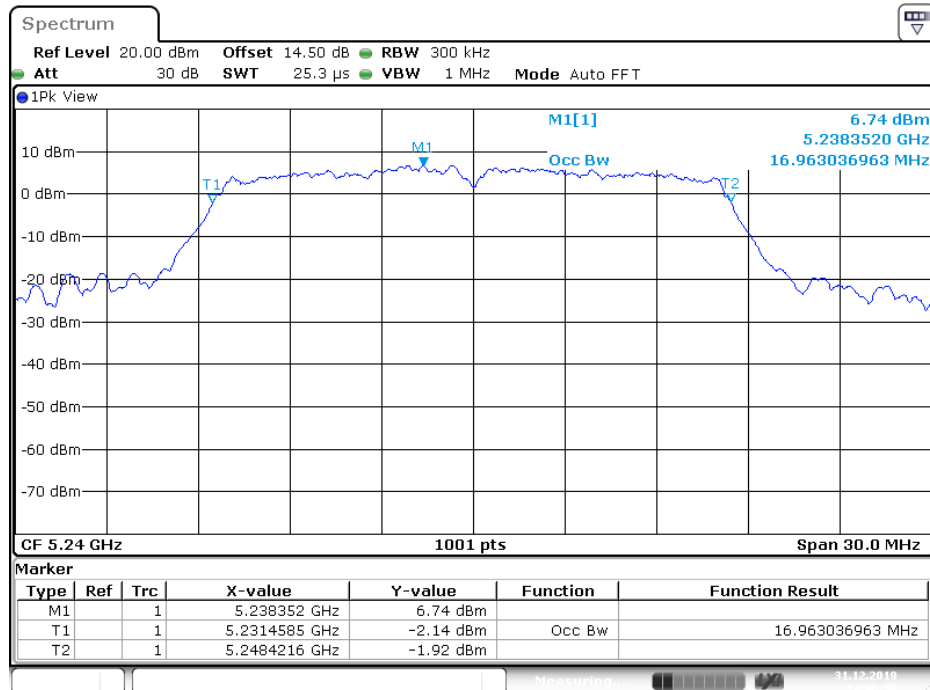
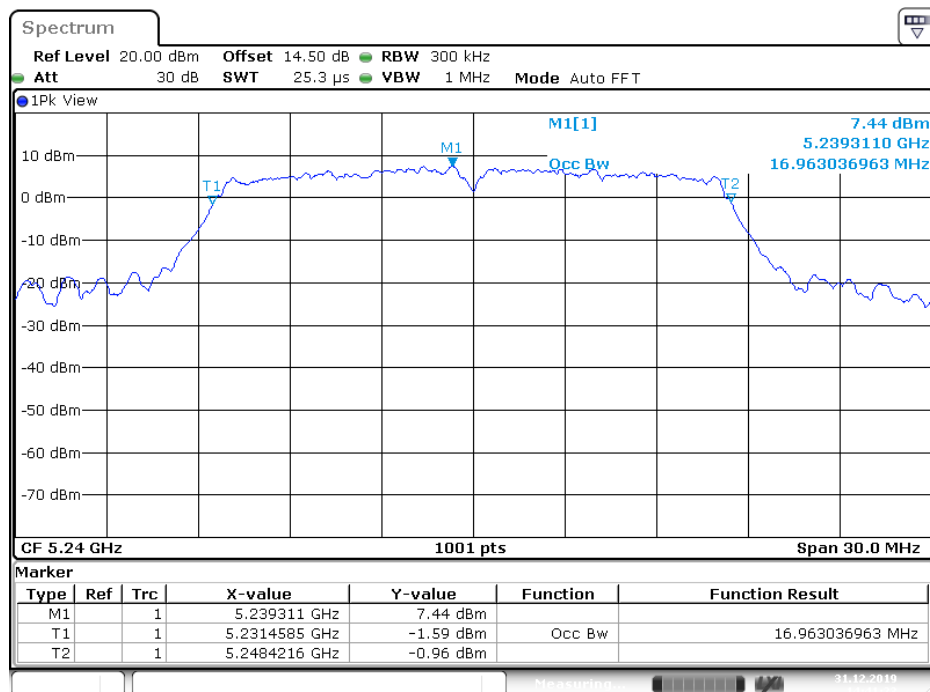
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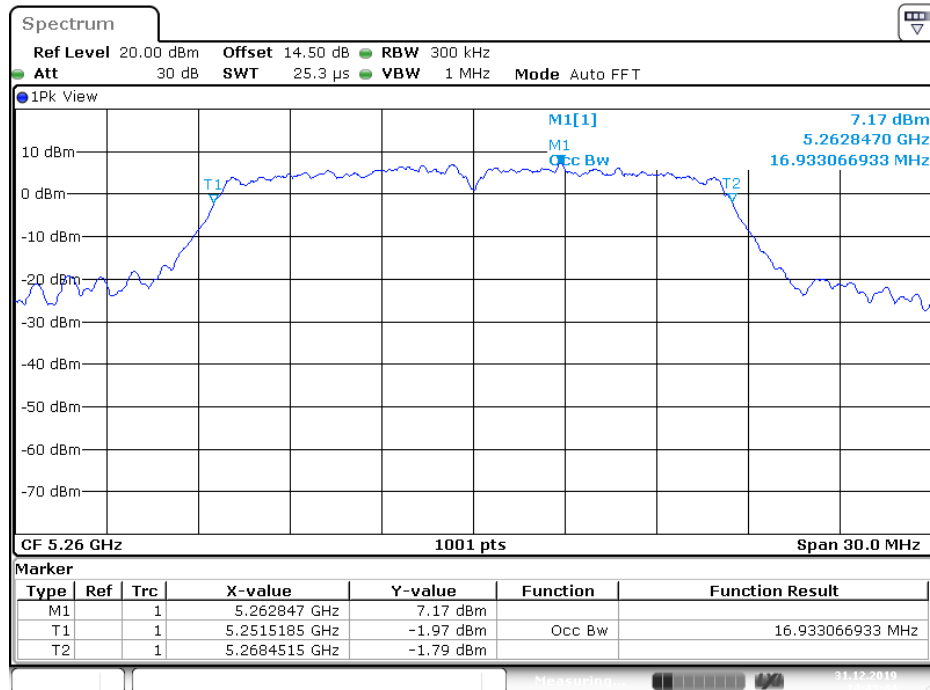
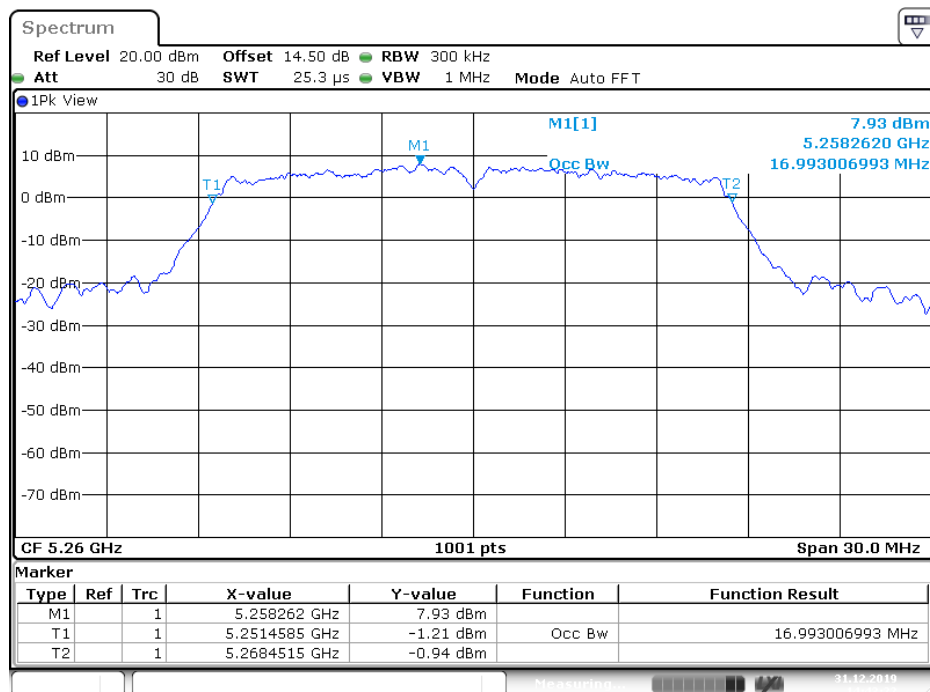
802.11a 5200MHz, TX1


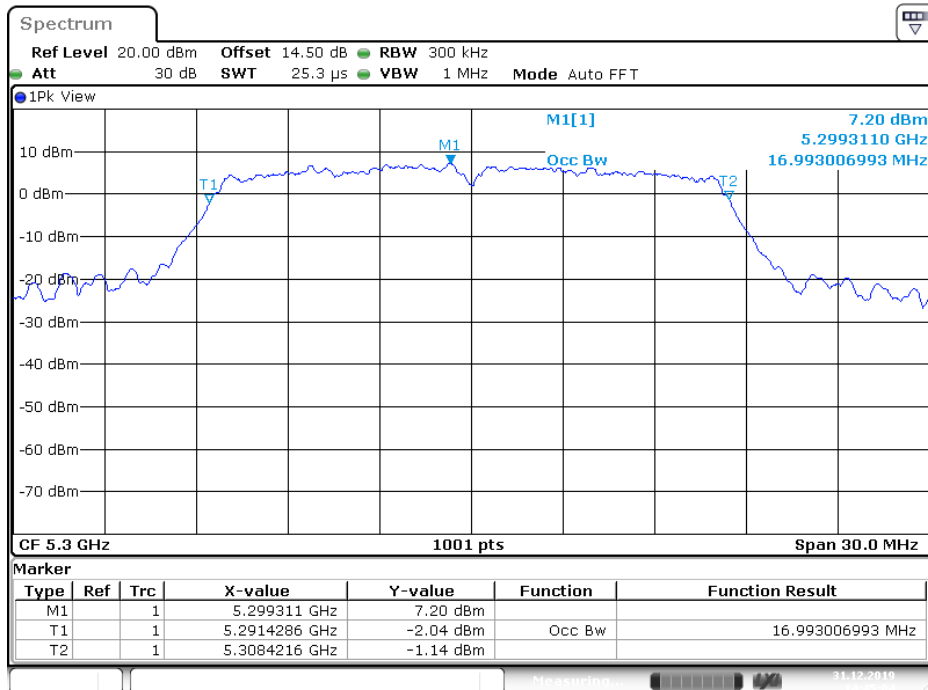
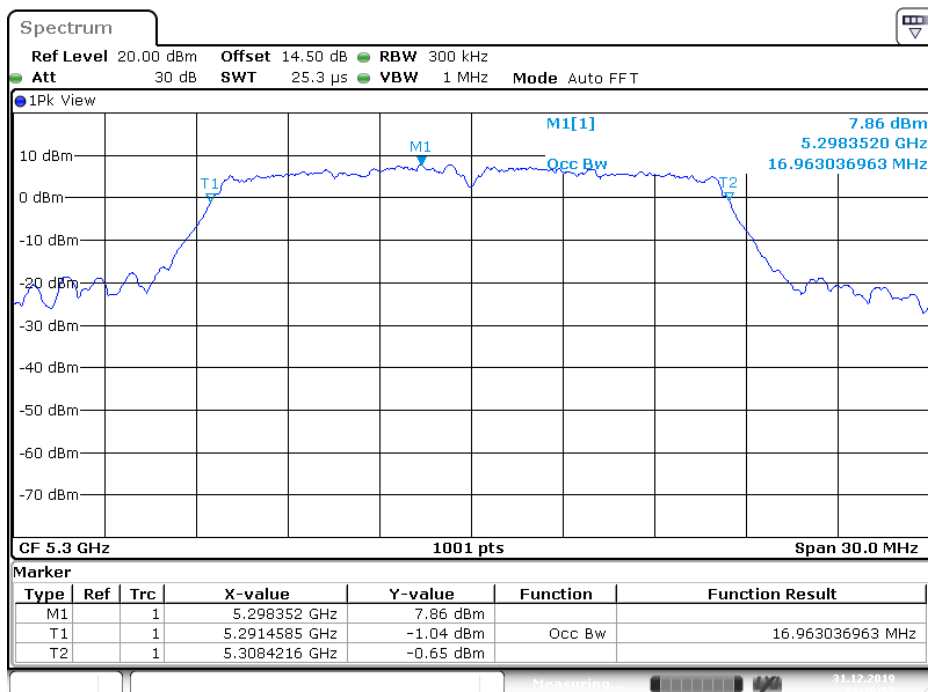
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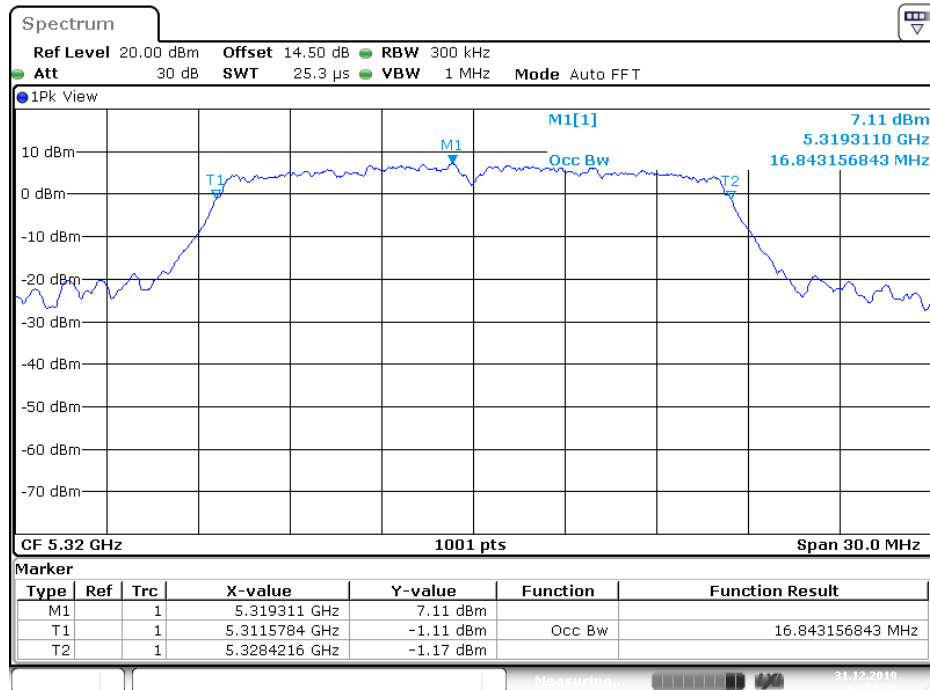
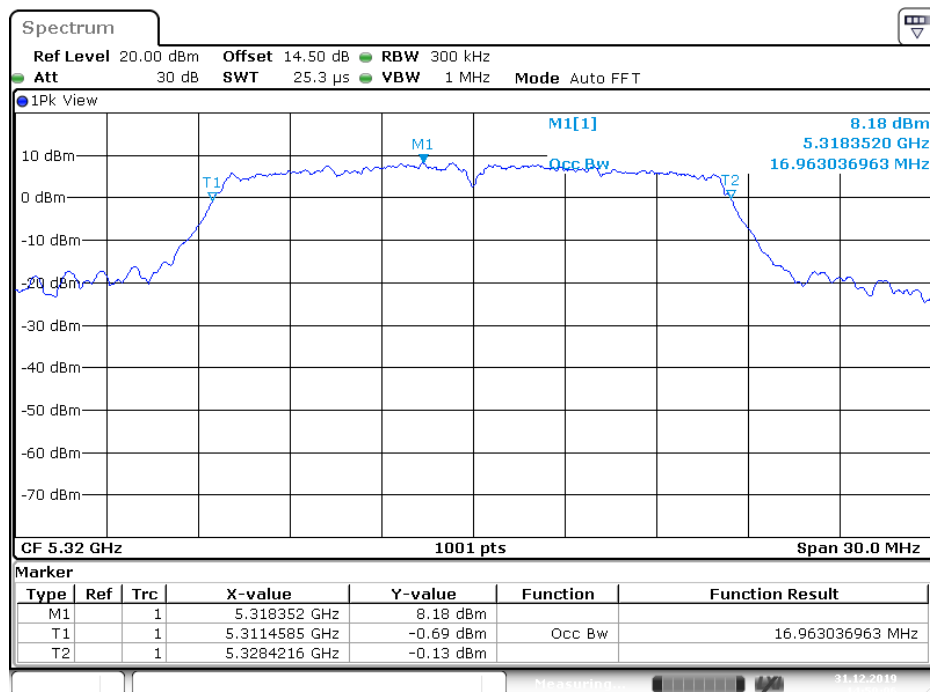
802.11a 5200MHz, TX2


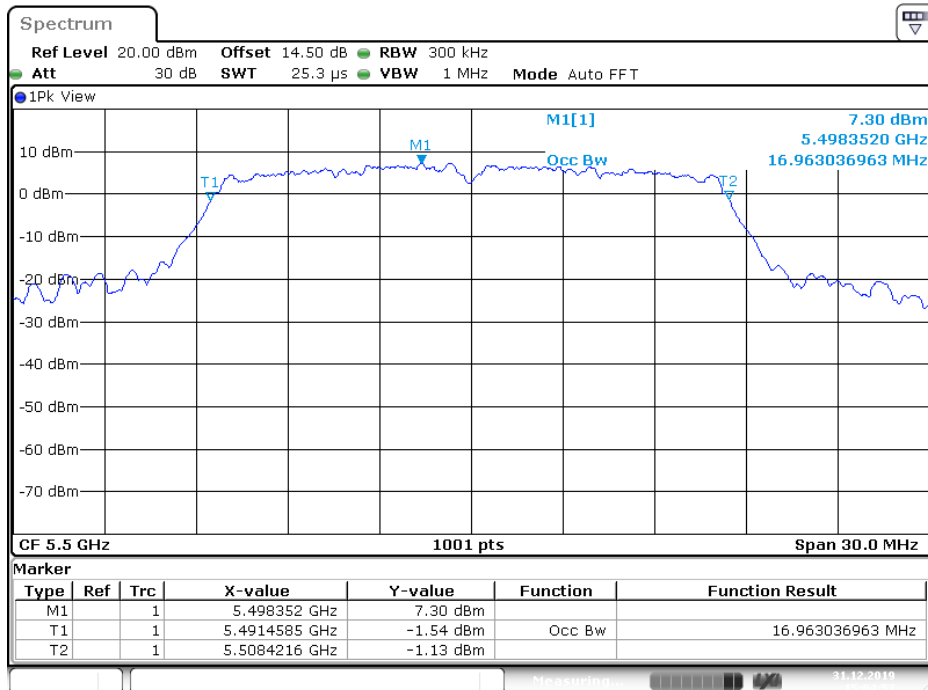
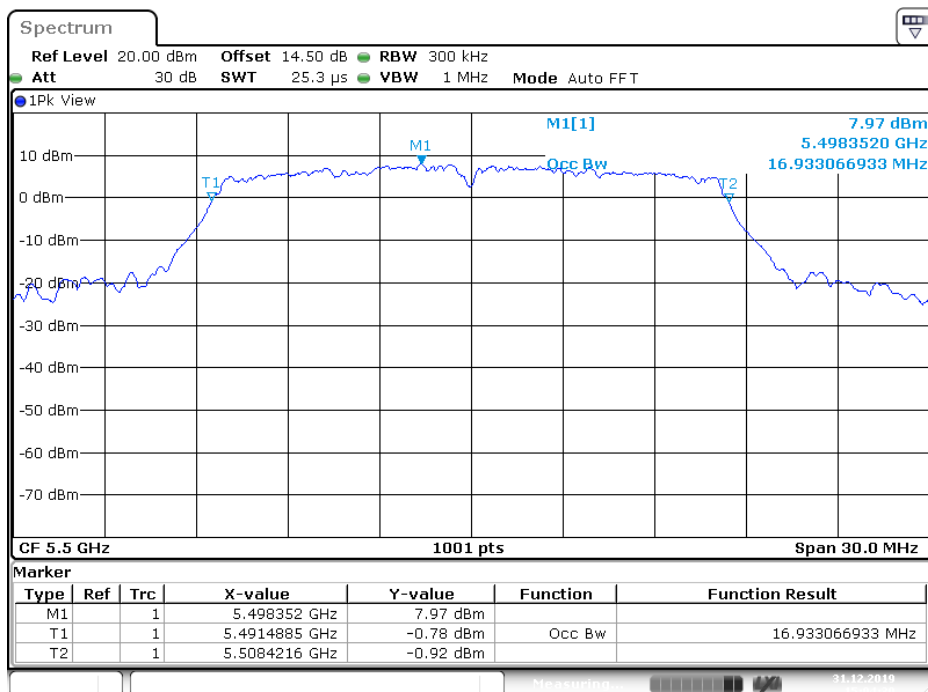
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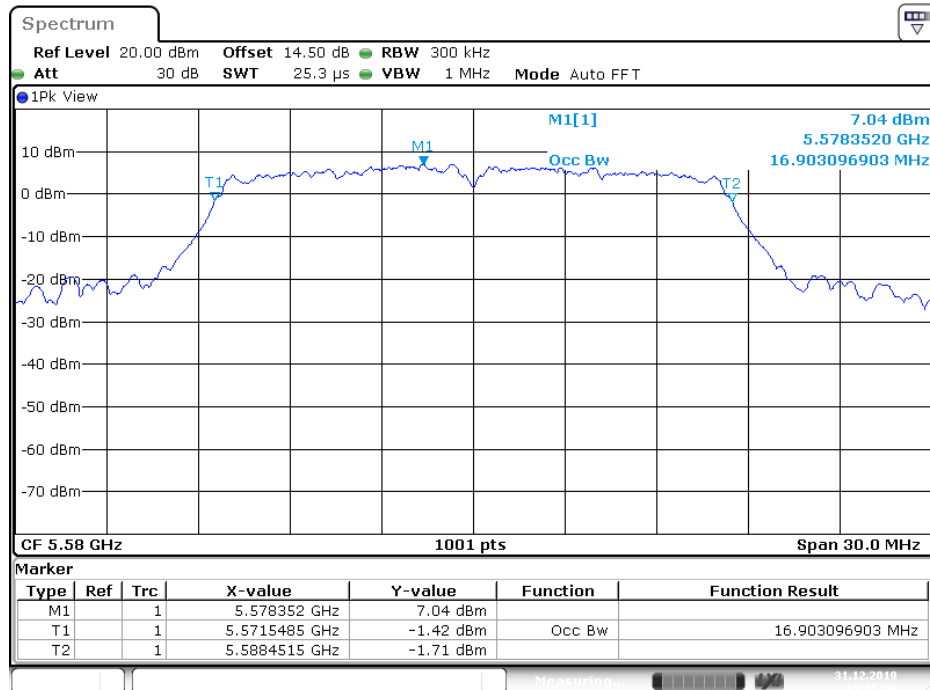
802.11a 5240MHz, TX1

802.11a 5240MHz, TX2


802.11a 5260MHz, TX1

802.11a 5260MHz, TX2


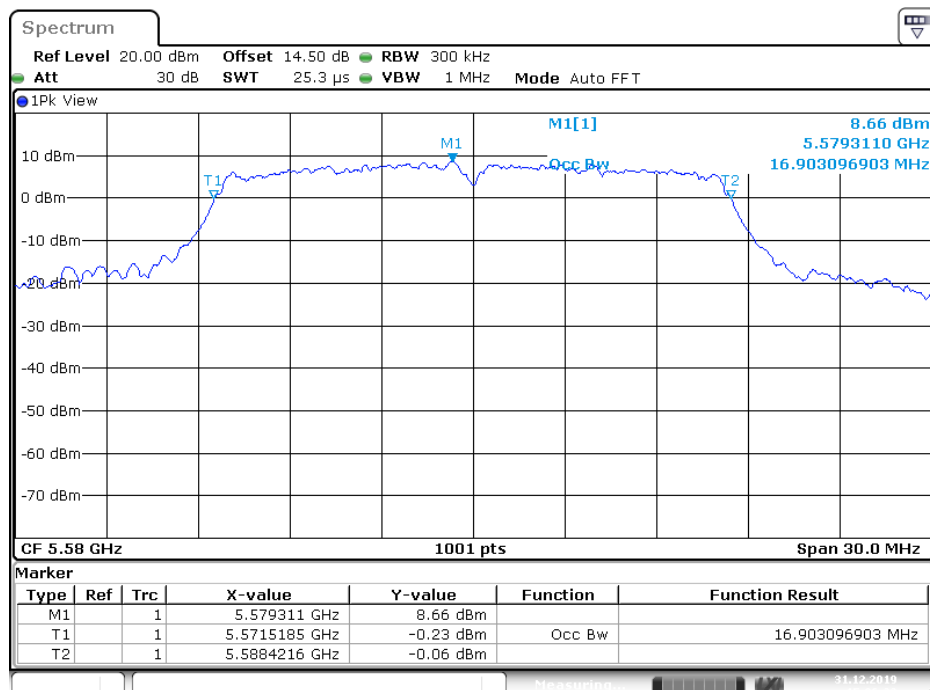
802.11a 5300MHz, TX1

802.11a 5300MHz, TX2


802.11a 5320MHz, TX1

802.11a 5320MHz, TX2


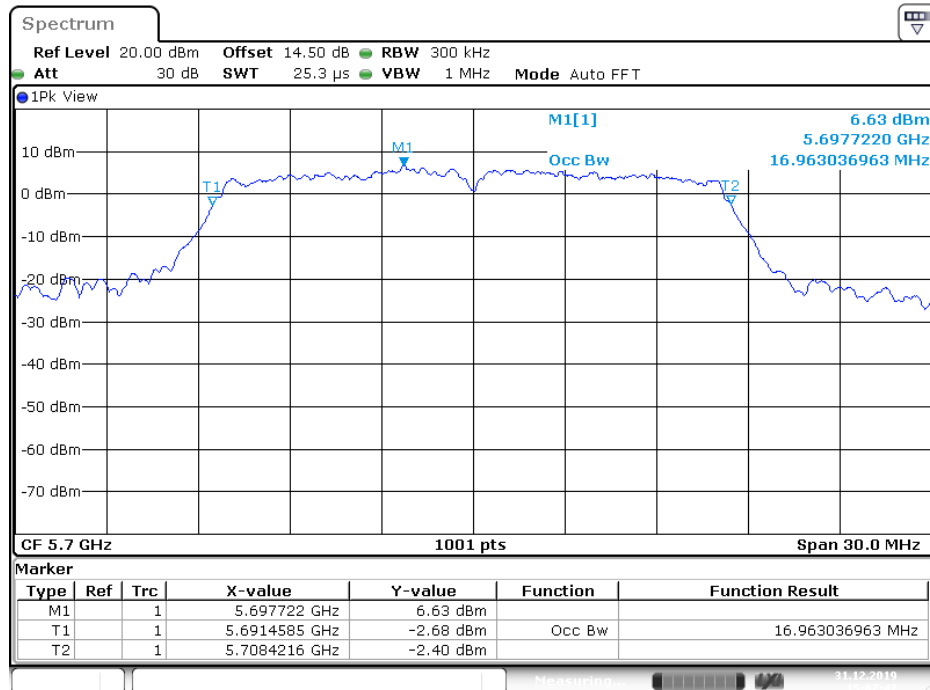
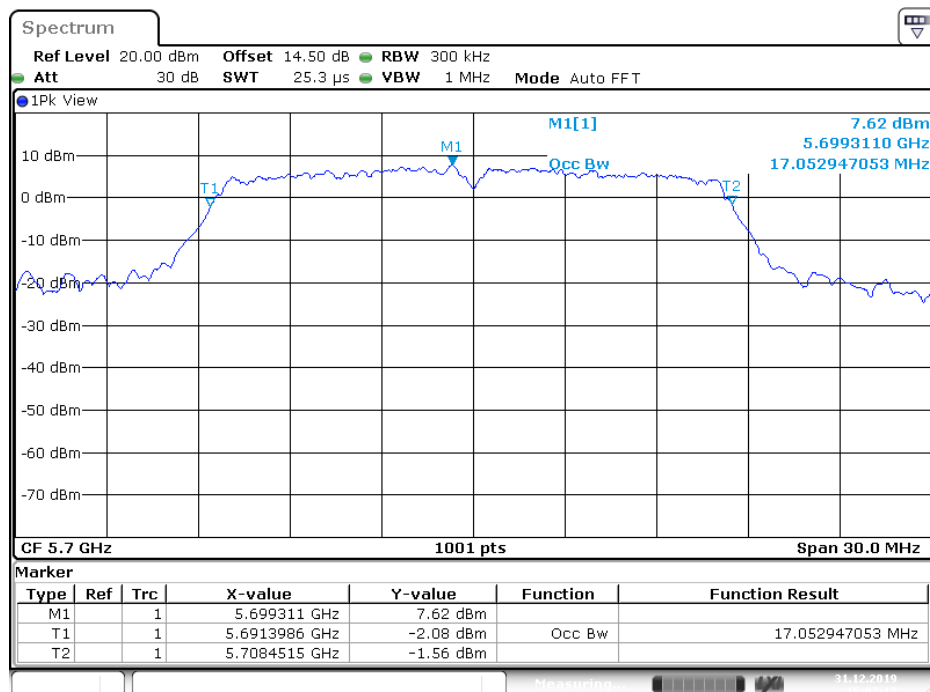
802.11a 5500MHz, TX1

802.11a 5500MHz, TX2


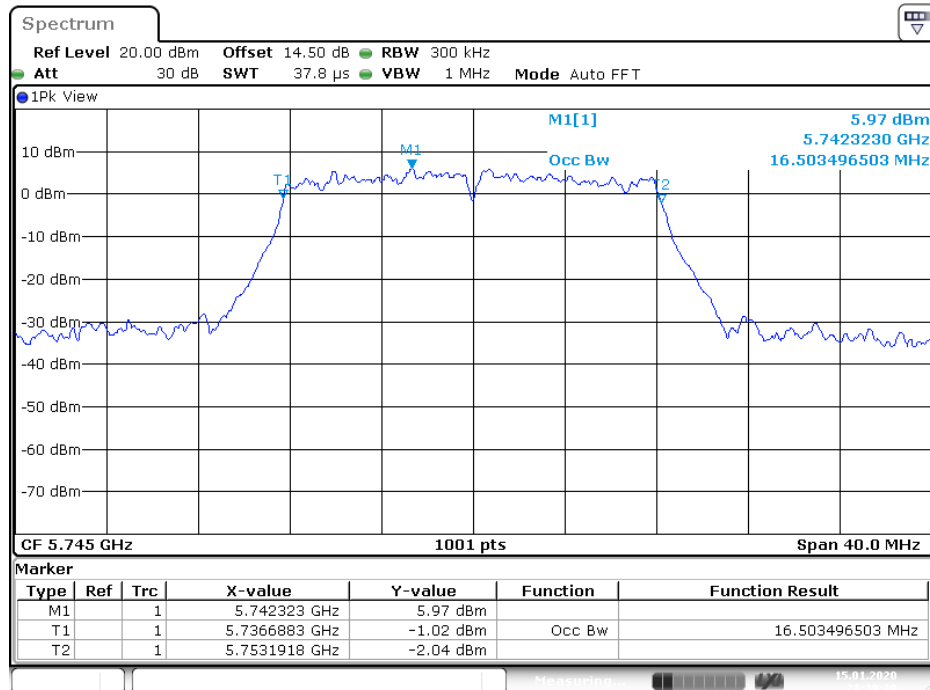
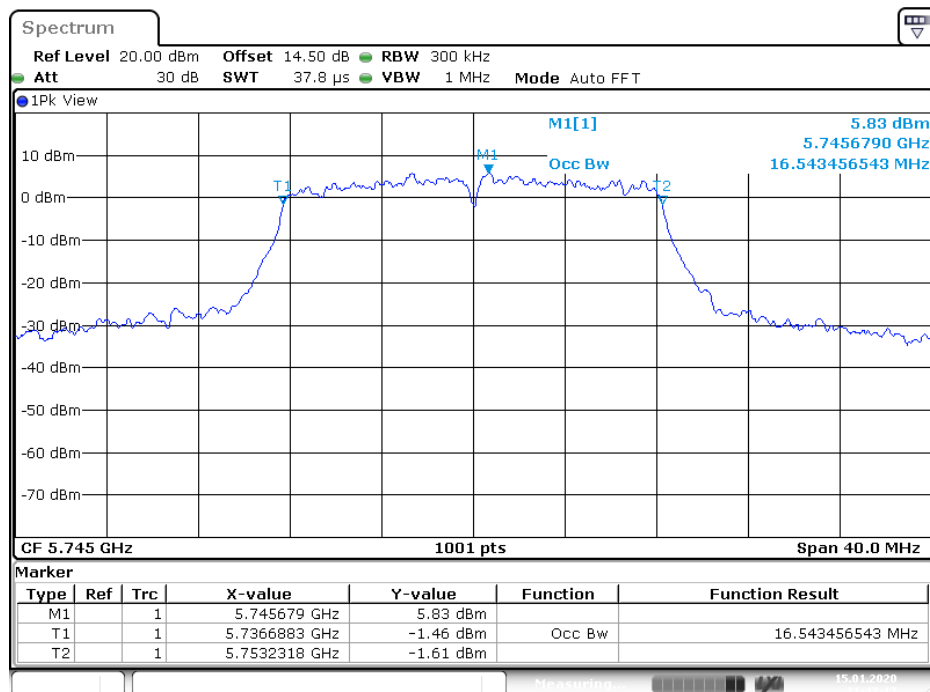
802.11a 5580MHz, TX1


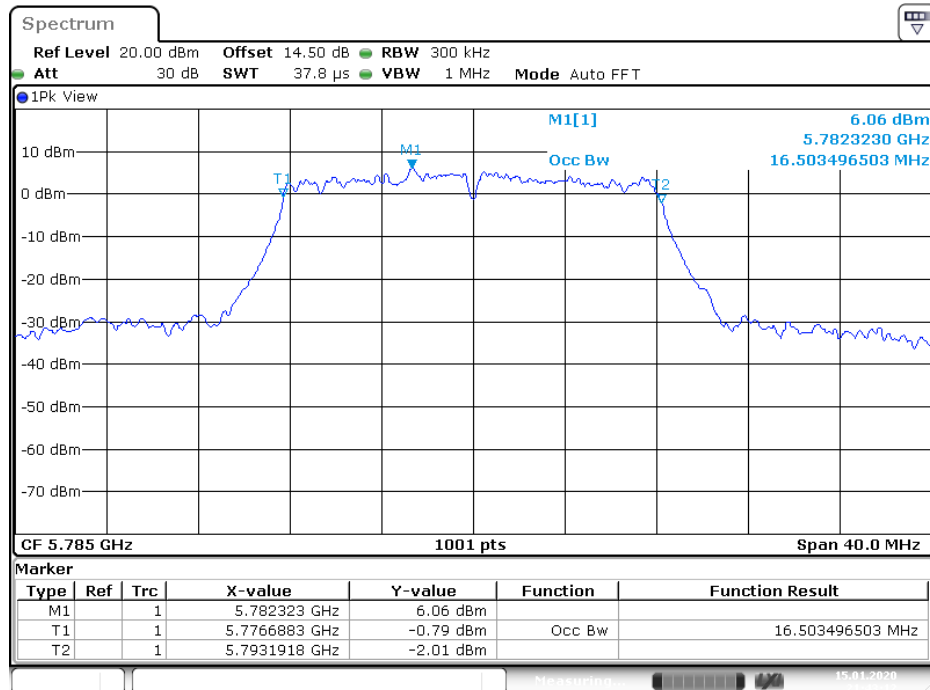
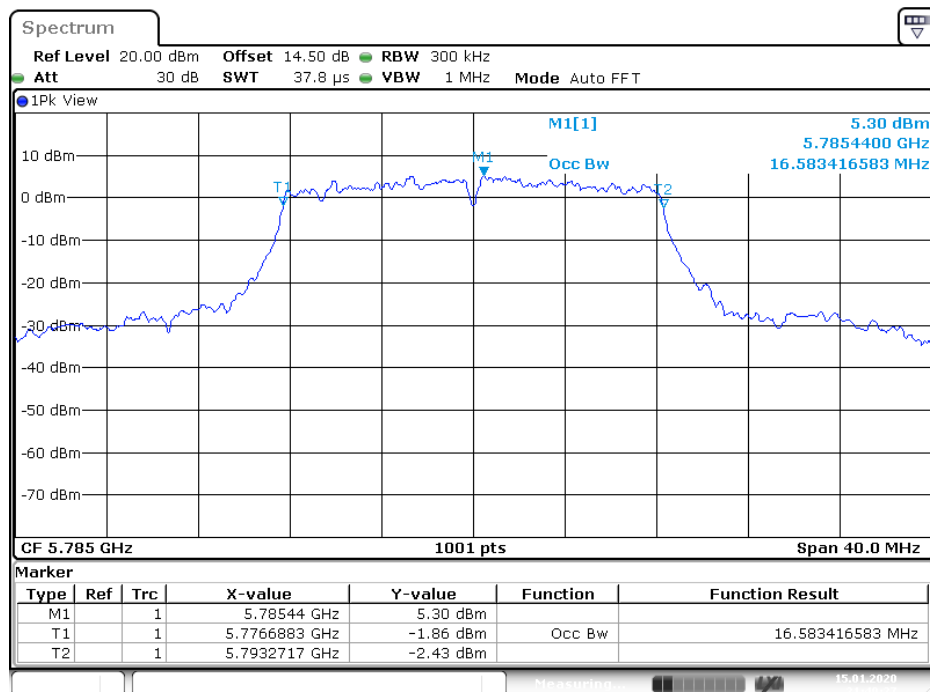
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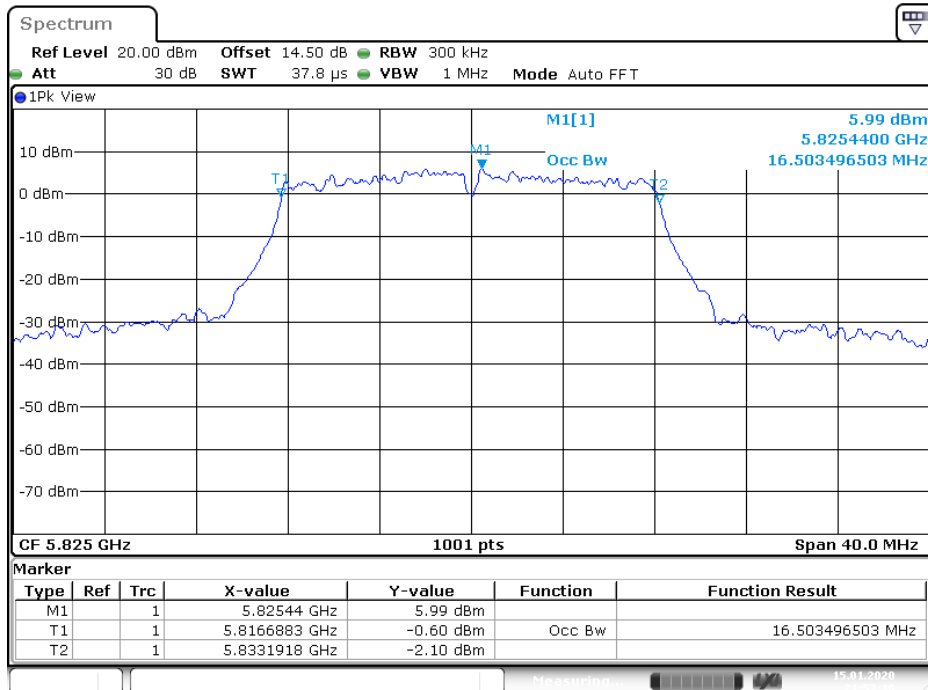
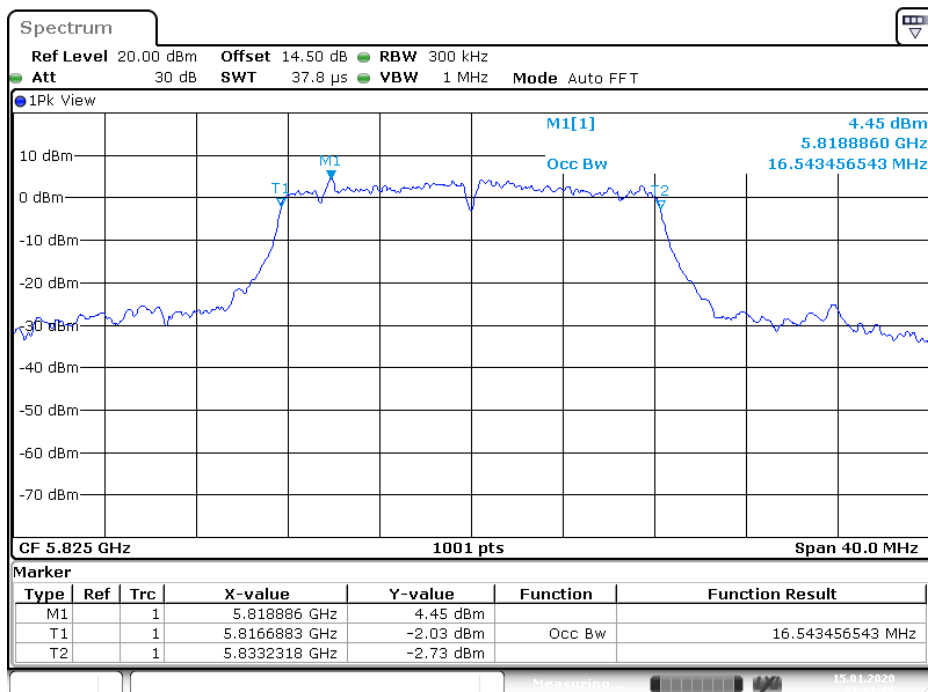
802.11a 5580MHz, TX2


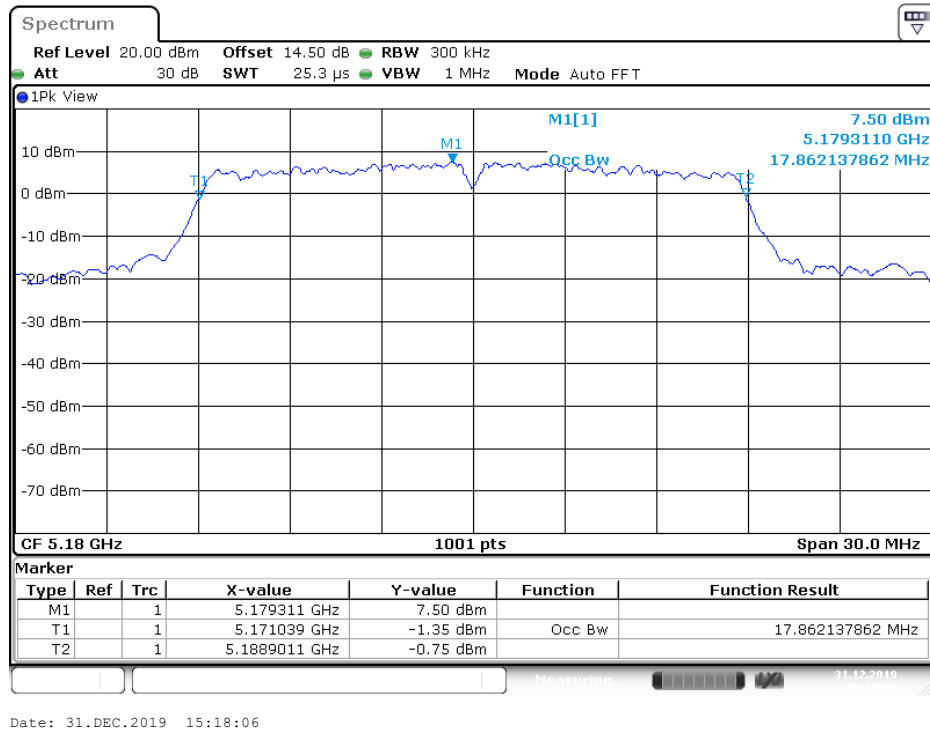
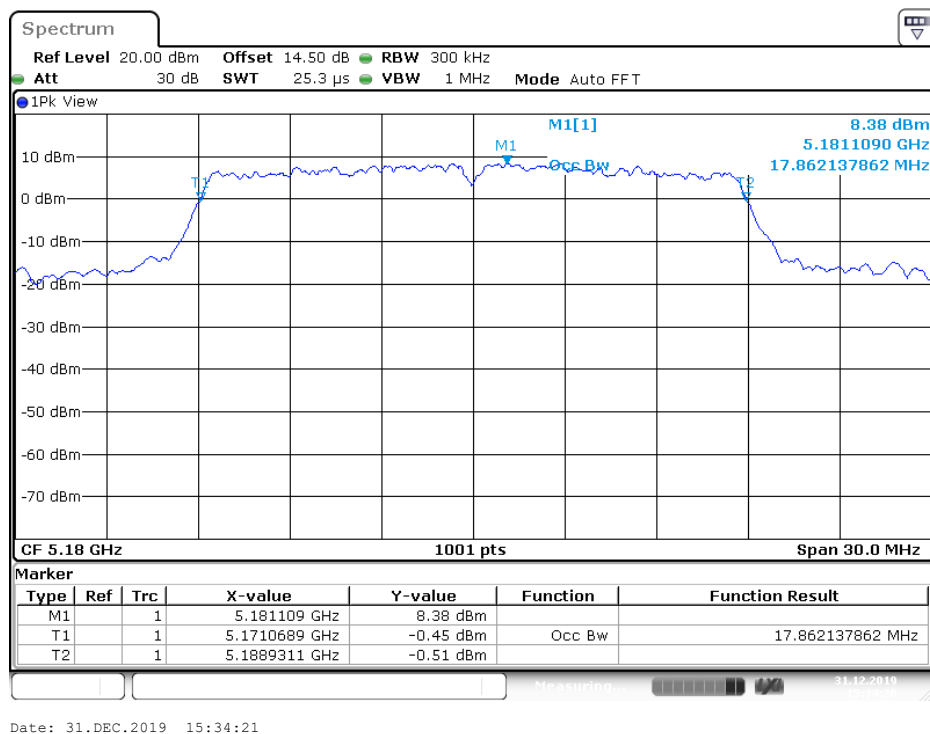
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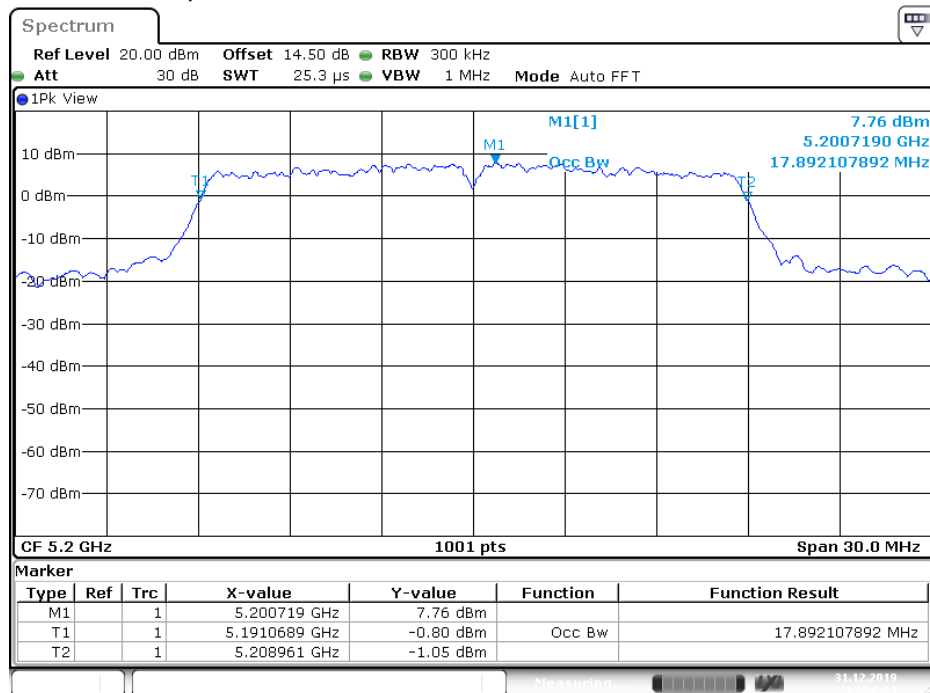
802.11a 5700MHz, TX1

802.11a 5700MHz, TX2


802.11a 5745MHz, TX1

802.11a 5745MHz, TX2


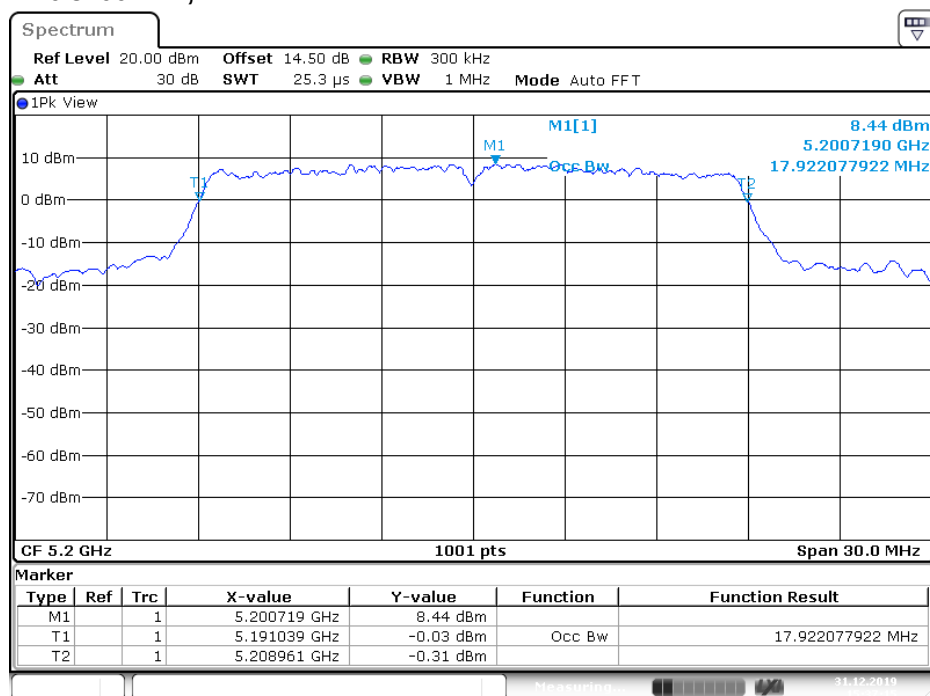
802.11a 5785MHz, TX1

802.11a 5785MHz, TX2


802.11a 5825MHz, TX1

802.11a 5825MHz, TX2


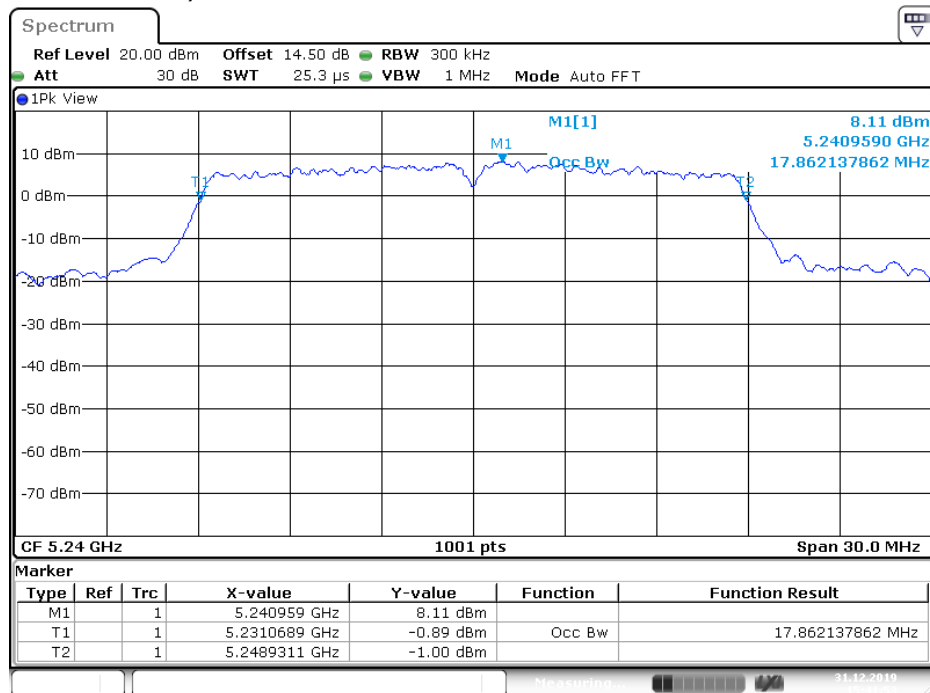
802.11an HT20 5180MHz, TX1

802.11an HT20 5180MHz, TX2


802.11an HT20 5200MHz, TX1


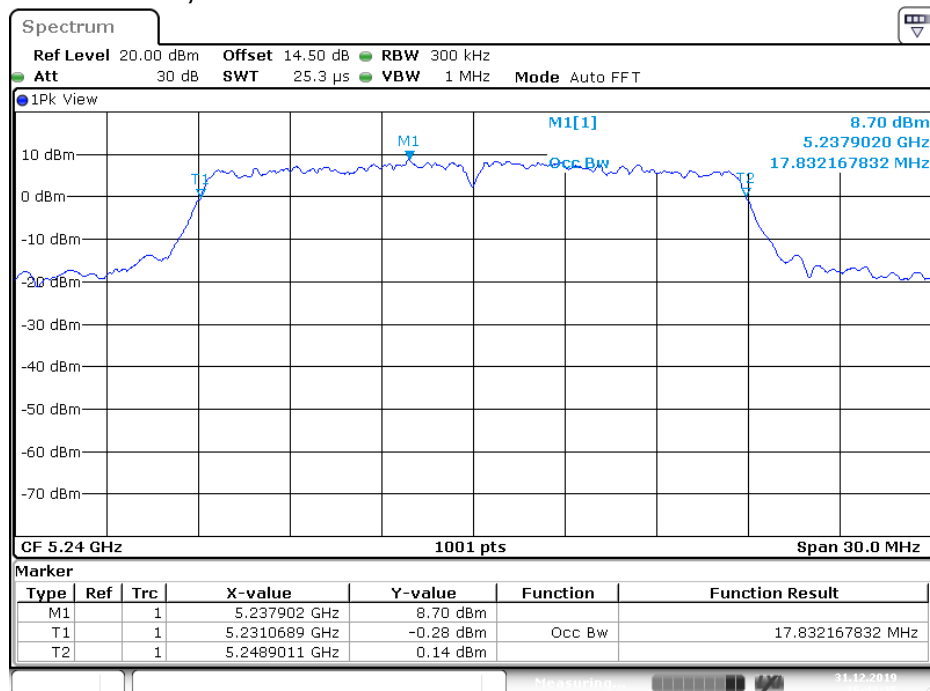
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802.11an HT20 5200MHz, TX2


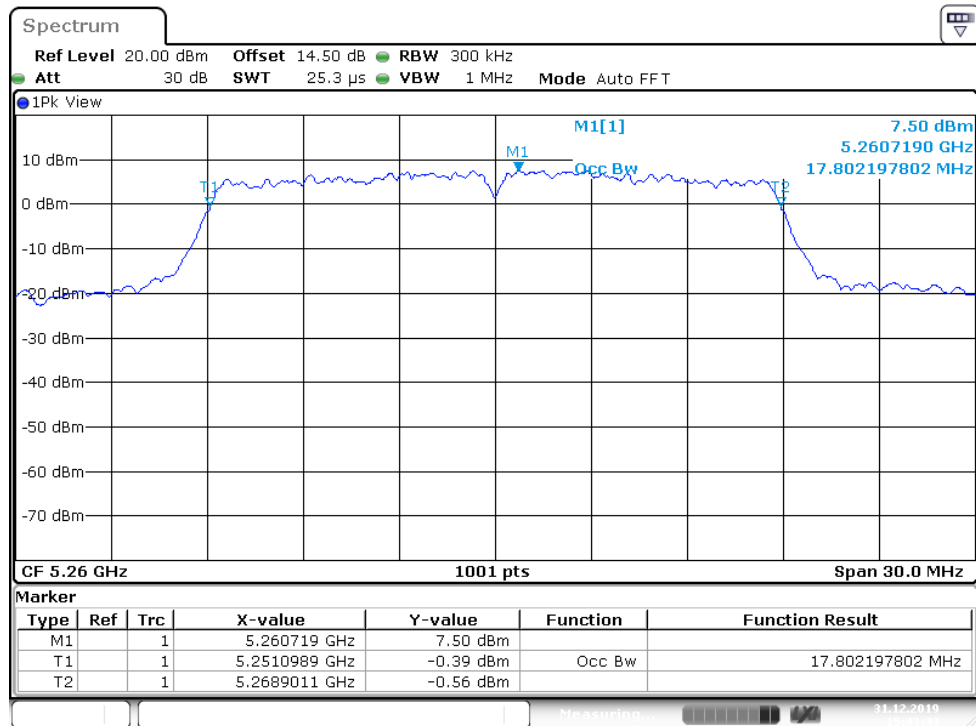
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802.11an HT20 5240MHz, TX1


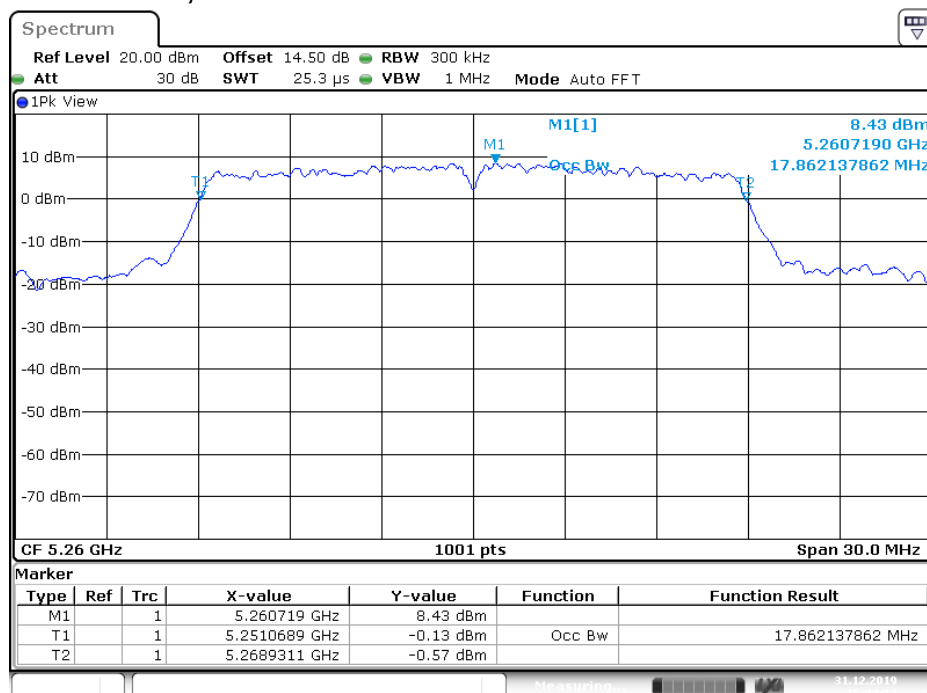
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802.11an HT20 5240MHz, TX2


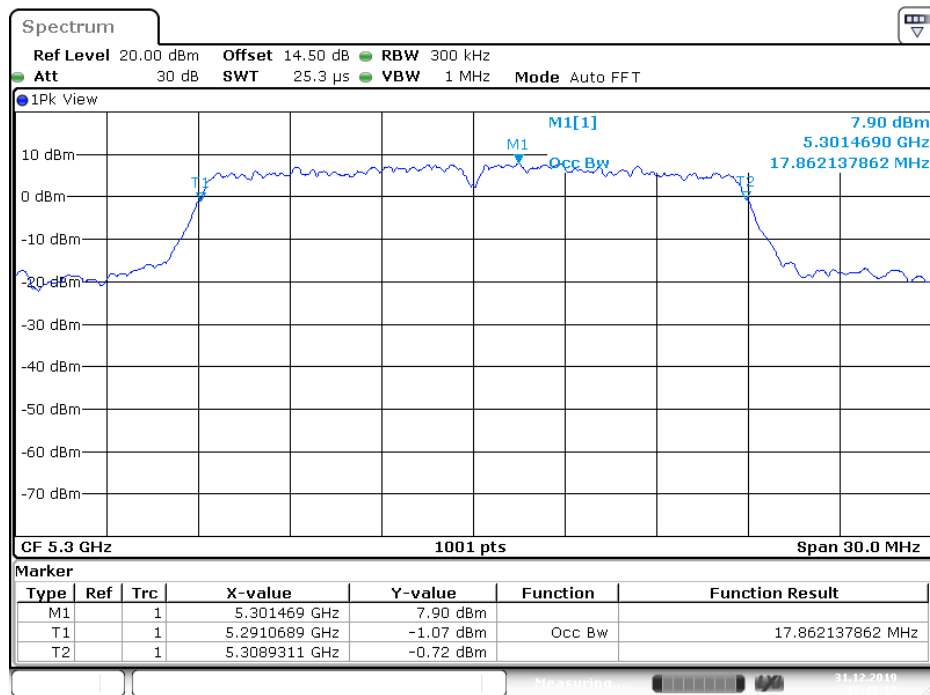
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802.11an HT20 5260MHz, TX1


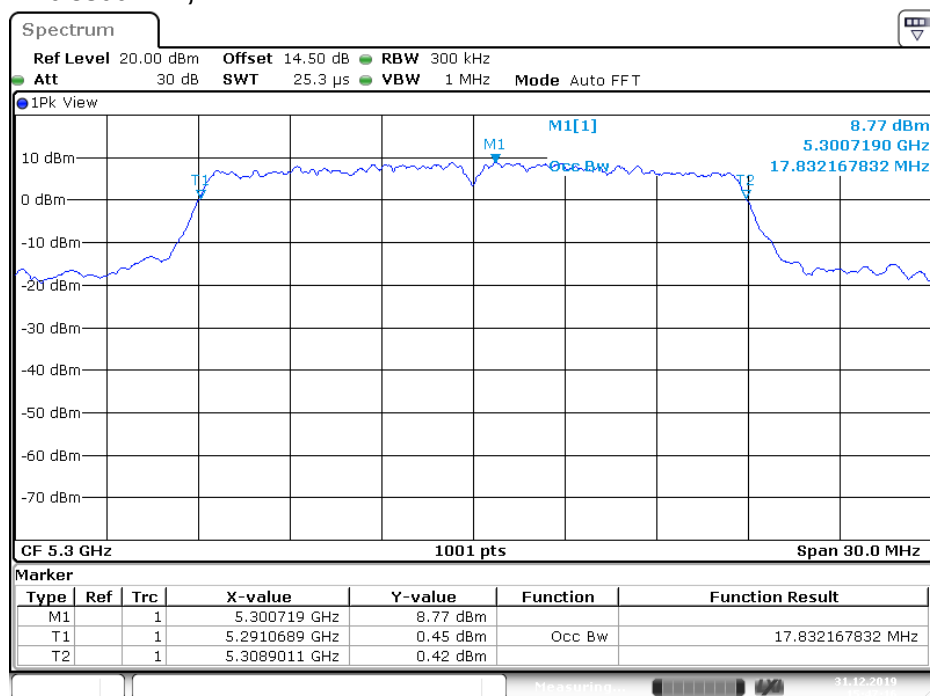
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802.11an HT20 5260MHz, TX2


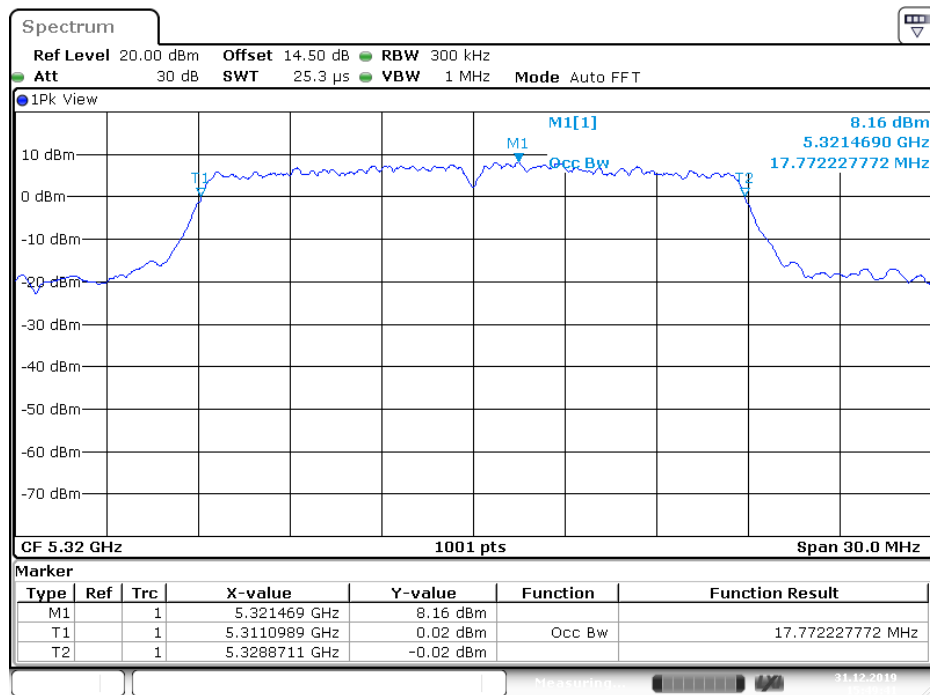
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802.11an HT20 5300MHz, TX1


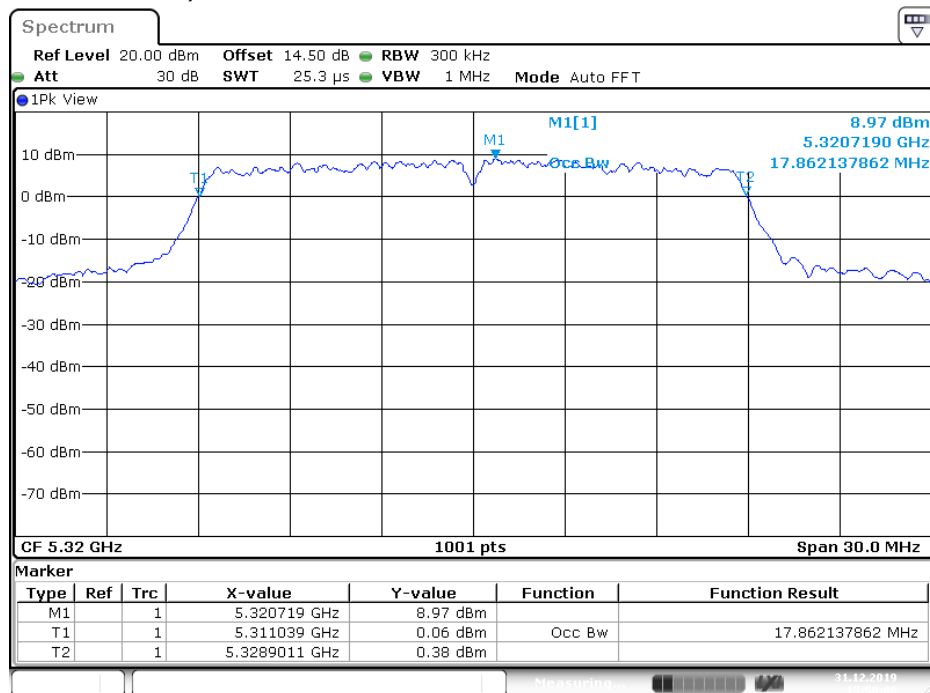
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802.11an HT20 5300MHz, TX2


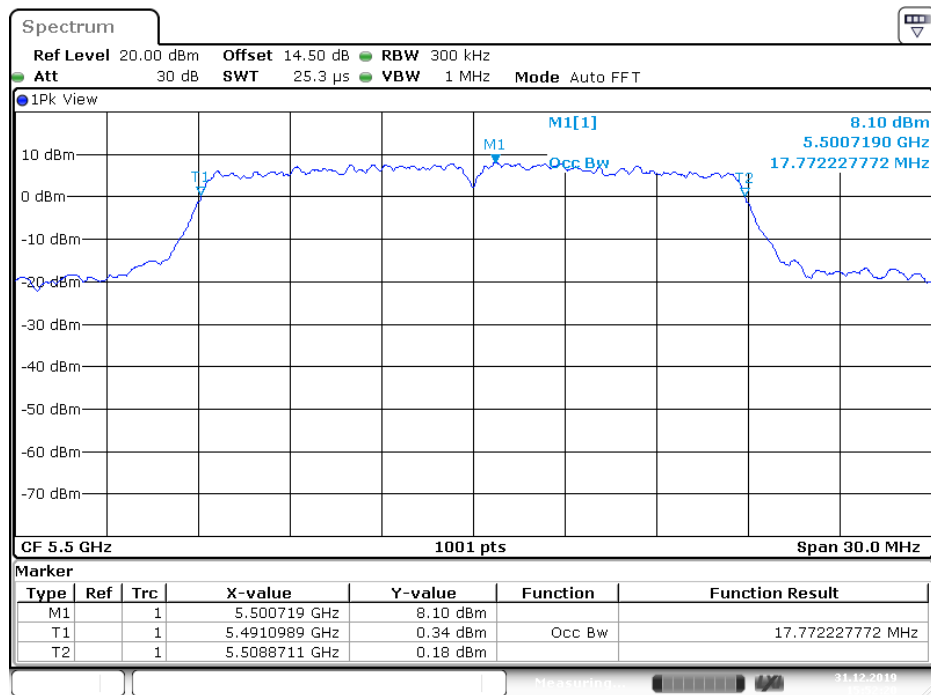
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802.11an HT20 5320MHz, TX1


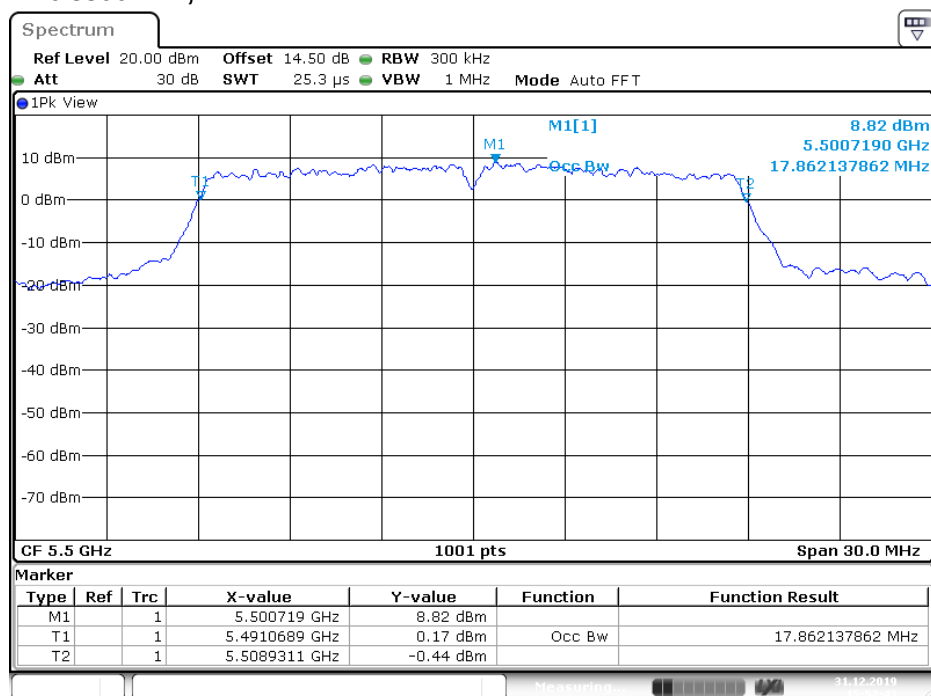
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802.11an HT20 5320MHz, TX2


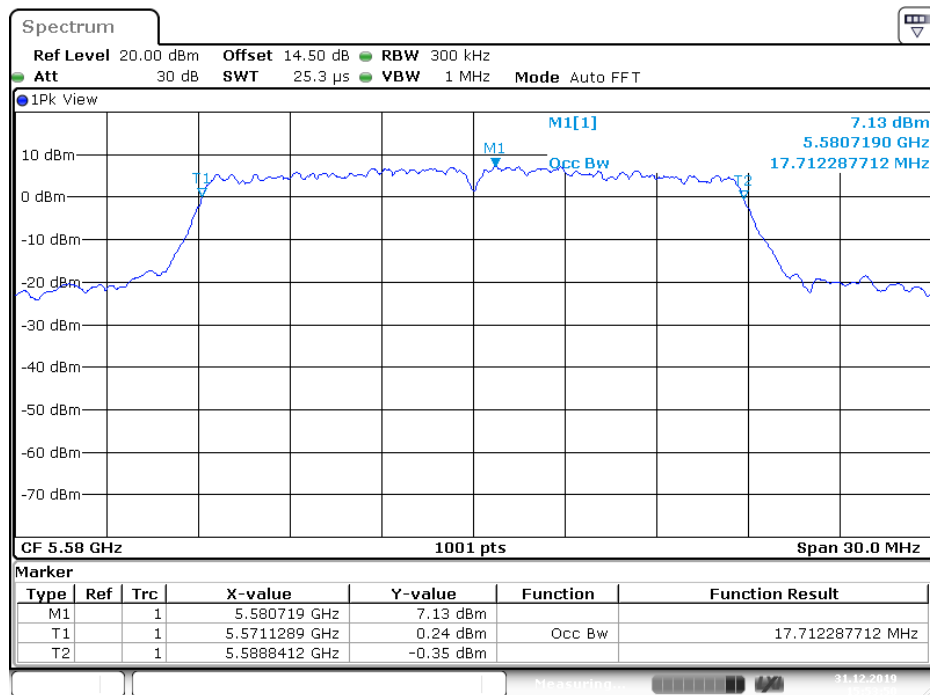
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802.11ac HT20 5500MHz, TX1


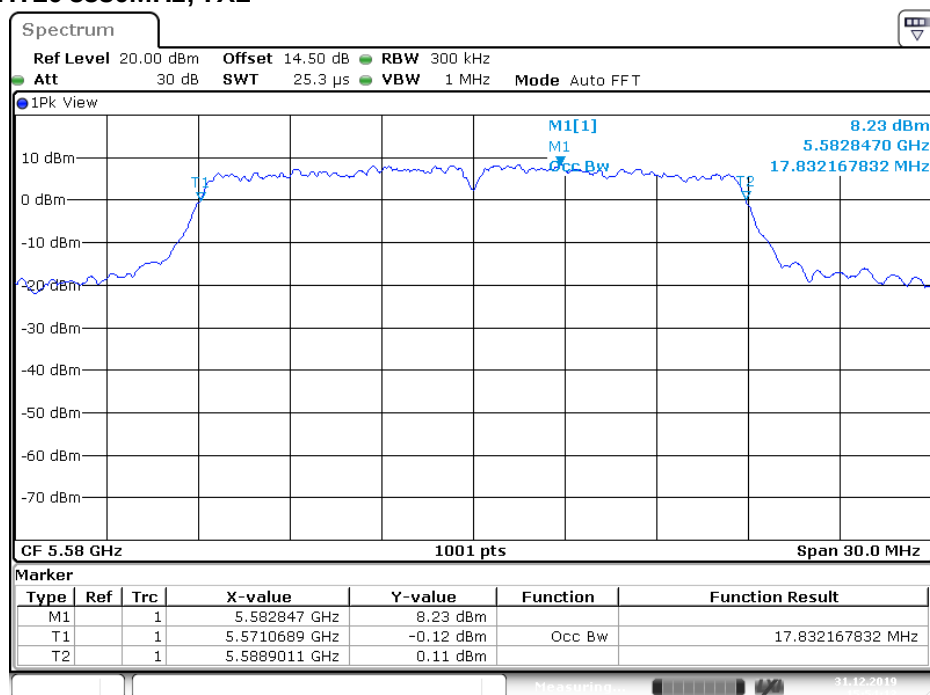
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802.11an HT20 5500MHz, TX2


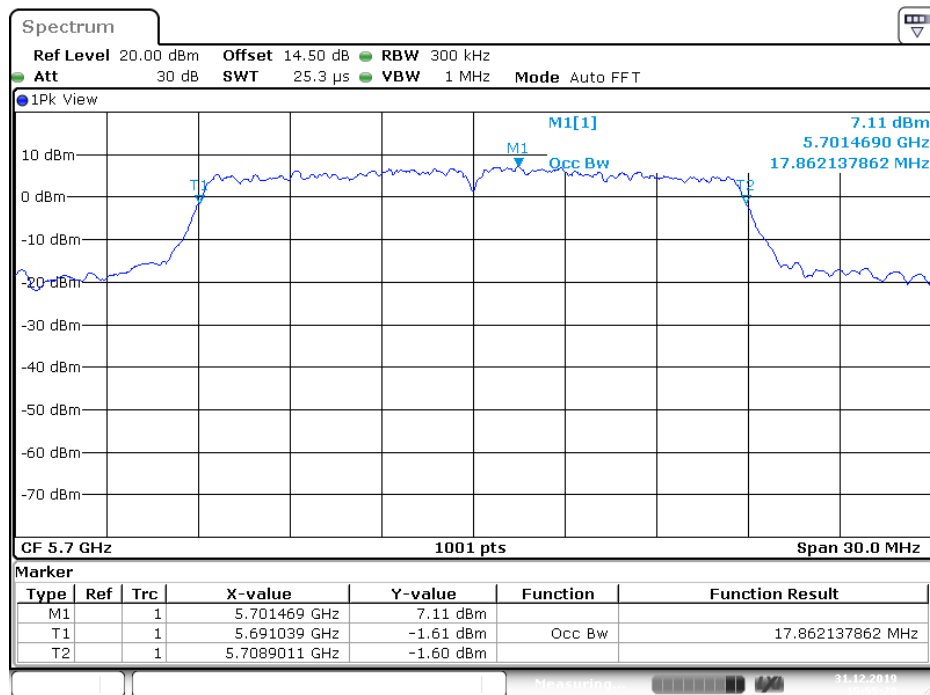
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802.11an HT20 5580MHz, TX1


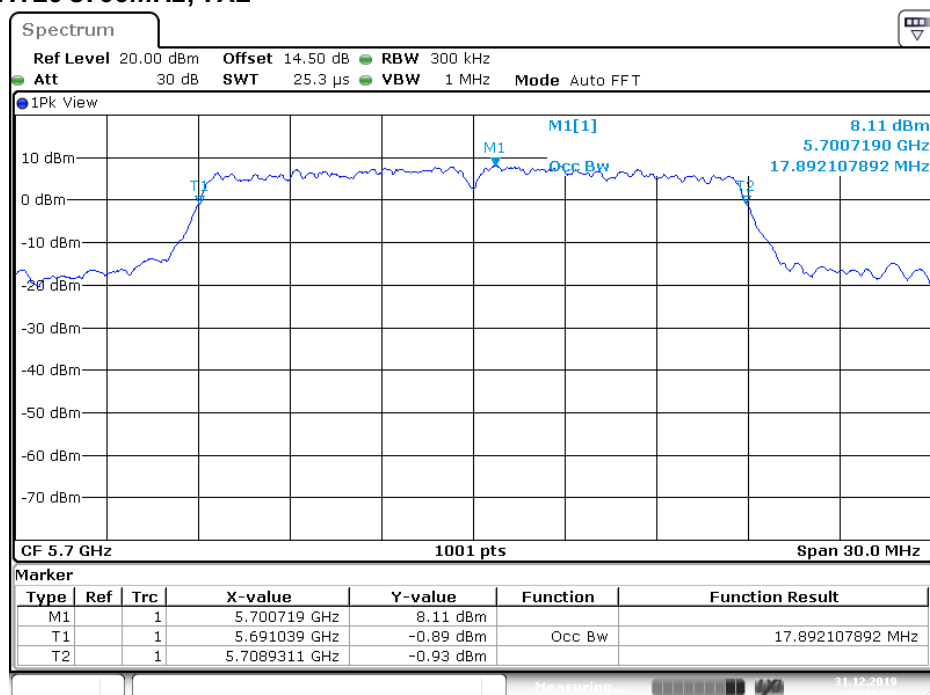
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802.11an HT20 5580MHz, TX2


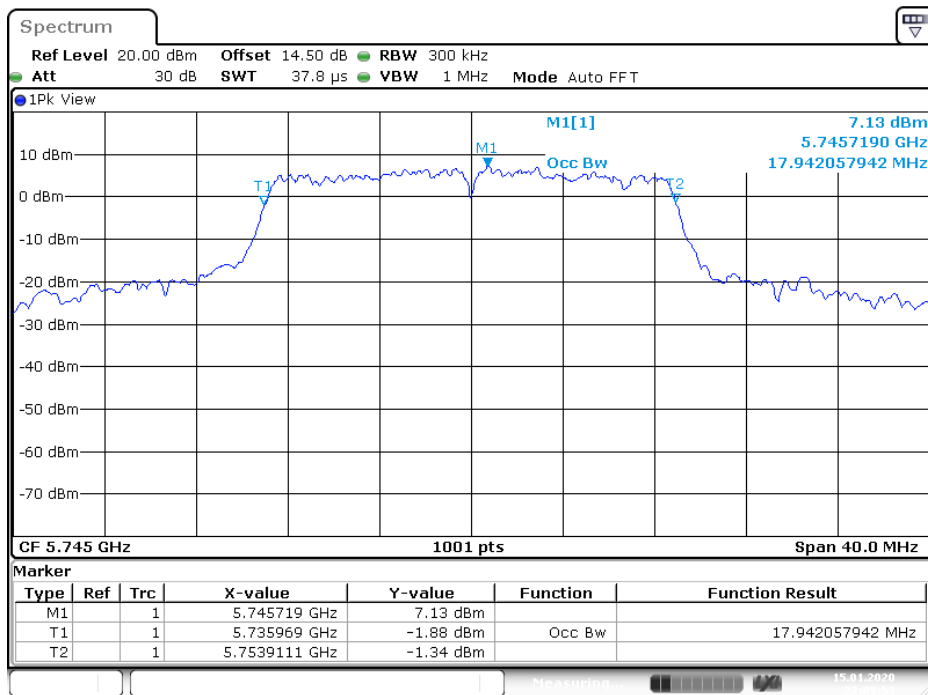
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802.11an HT20 5700MHz, TX1


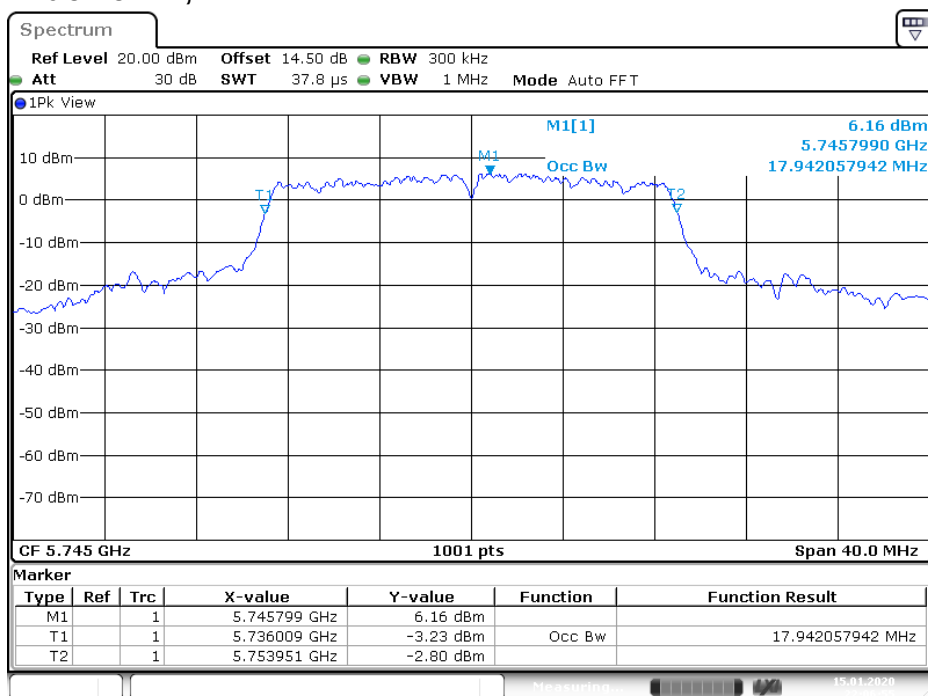
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802.11an HT20 5700MHz, TX2


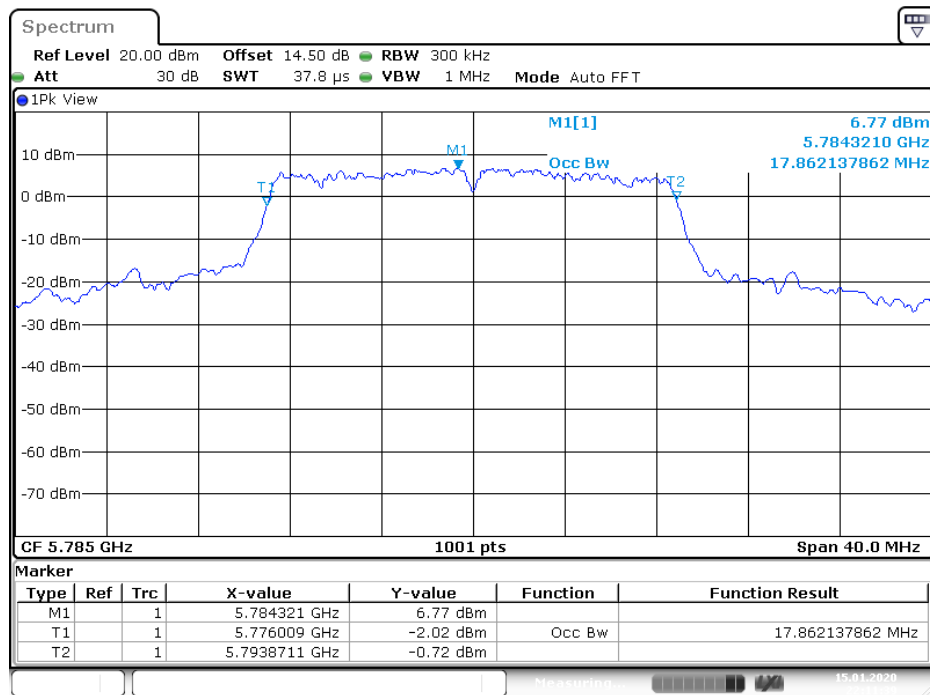
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802.11an HT20 5745MHz, TX1


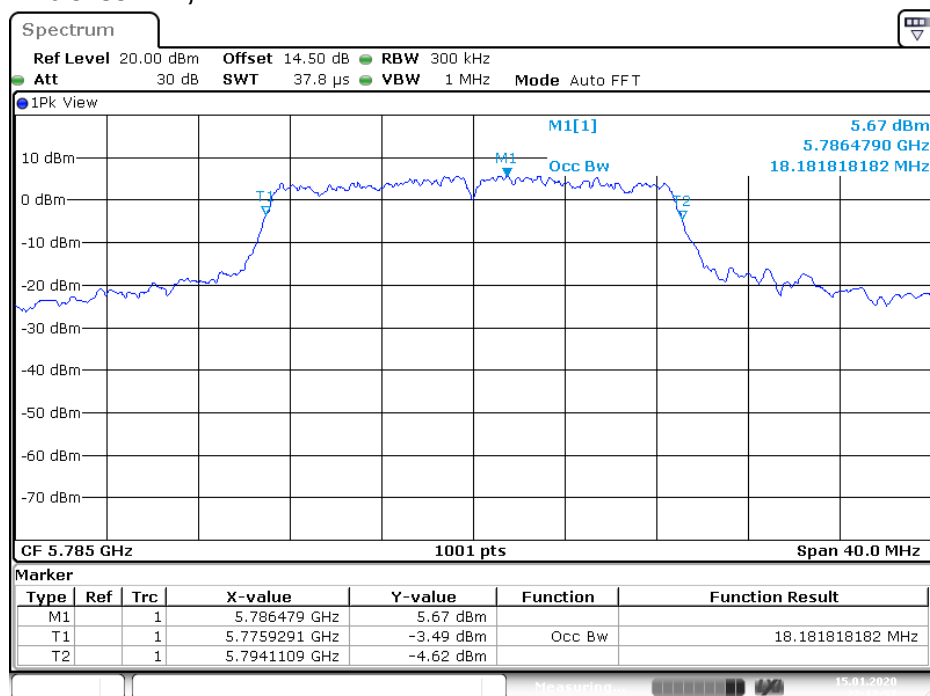
Date: 15.JAN.2020 22:09:54

802.11an HT20 5745MHz, TX2


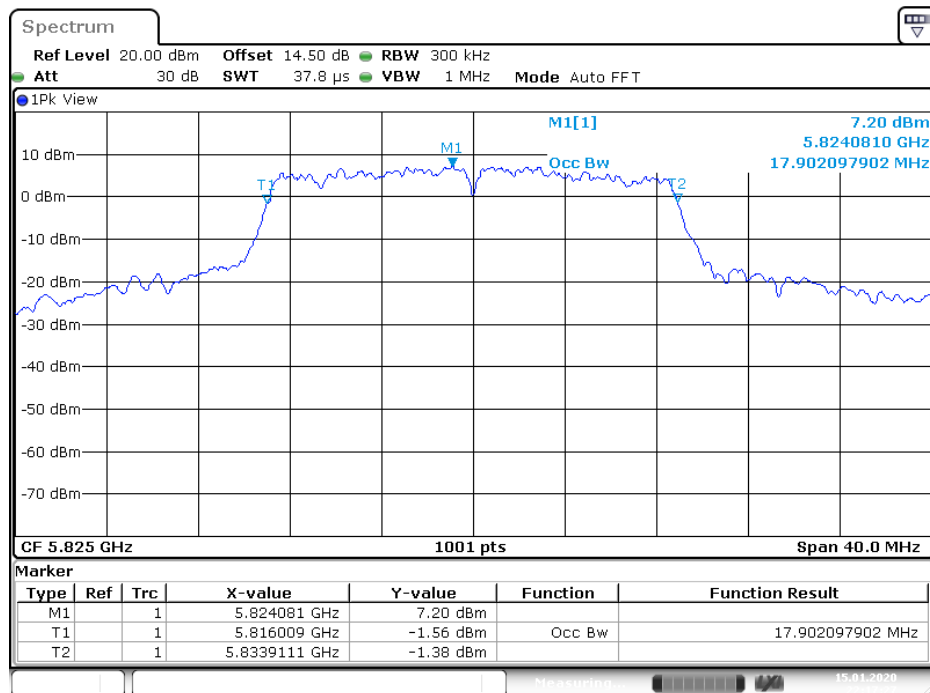
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802.11an HT20 5785MHz, TX1


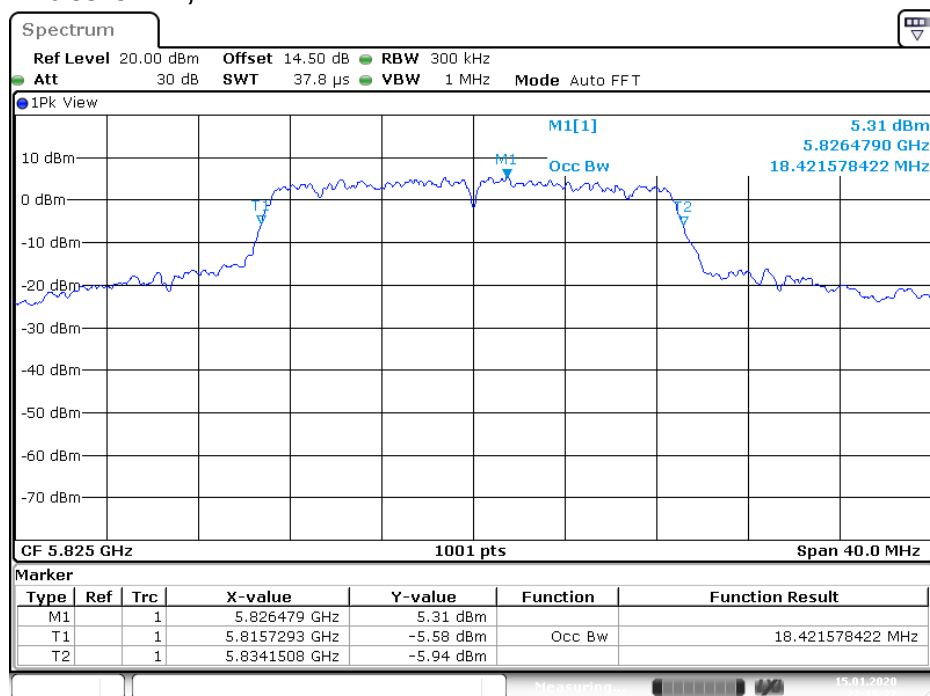
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802.11an HT20 5785MHz, TX2


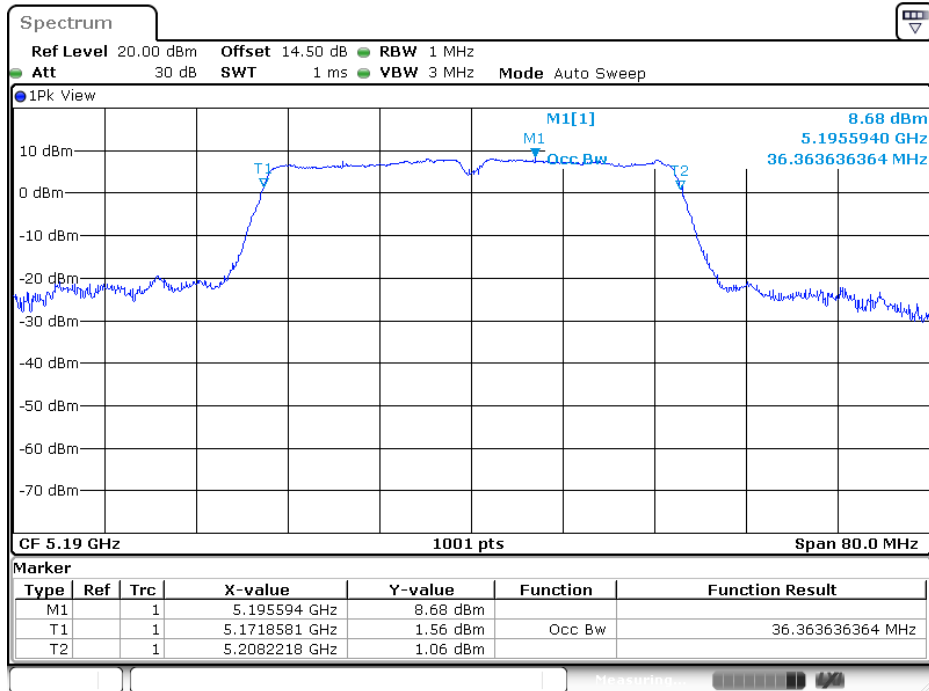
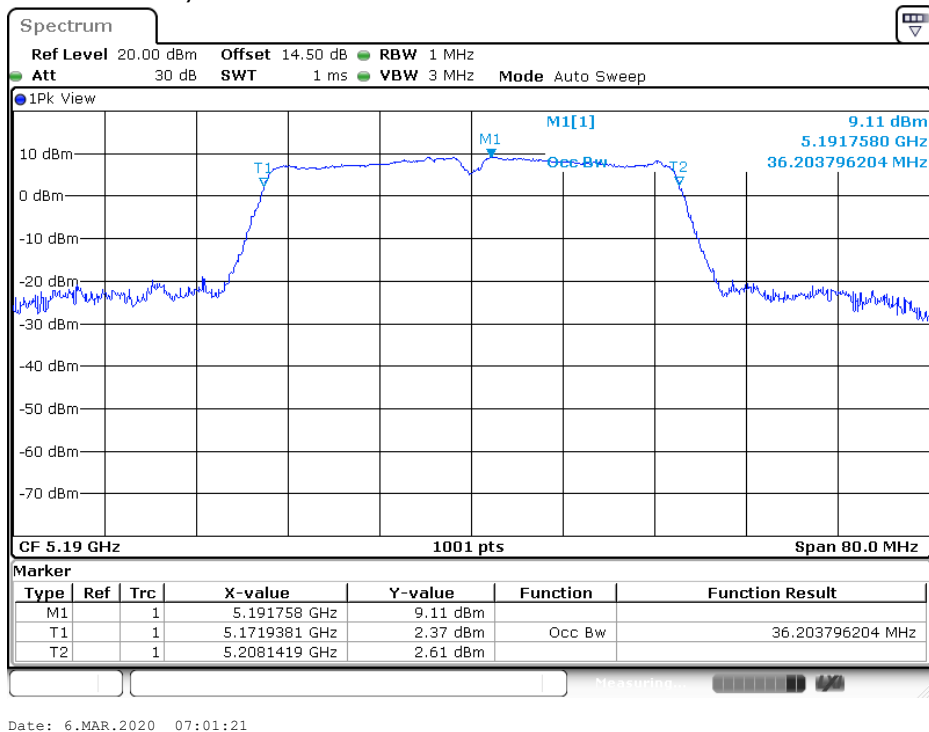
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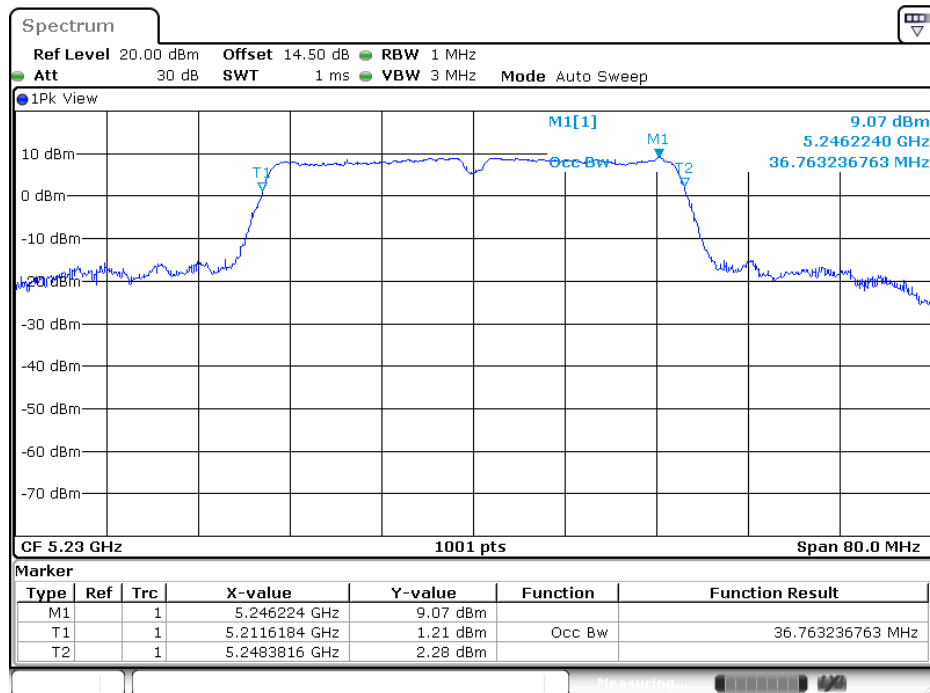
802.11an HT20 5825MHz, TX1


Date: 15.JAN.2020 22:17:27

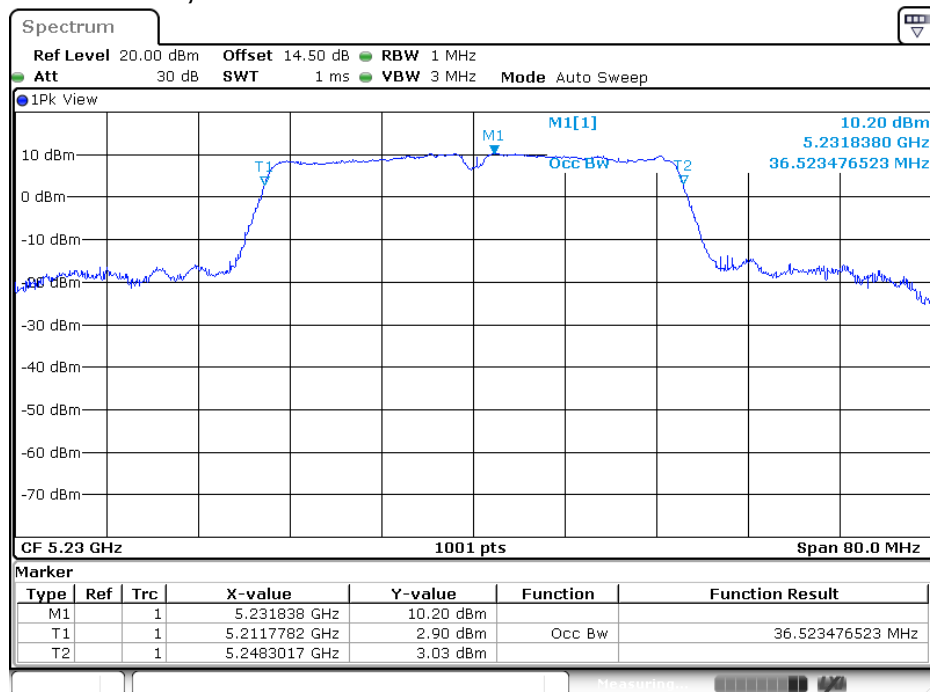
802.11an HT20 5825MHz, TX2


Date: 15.JAN.2020 22:18:28

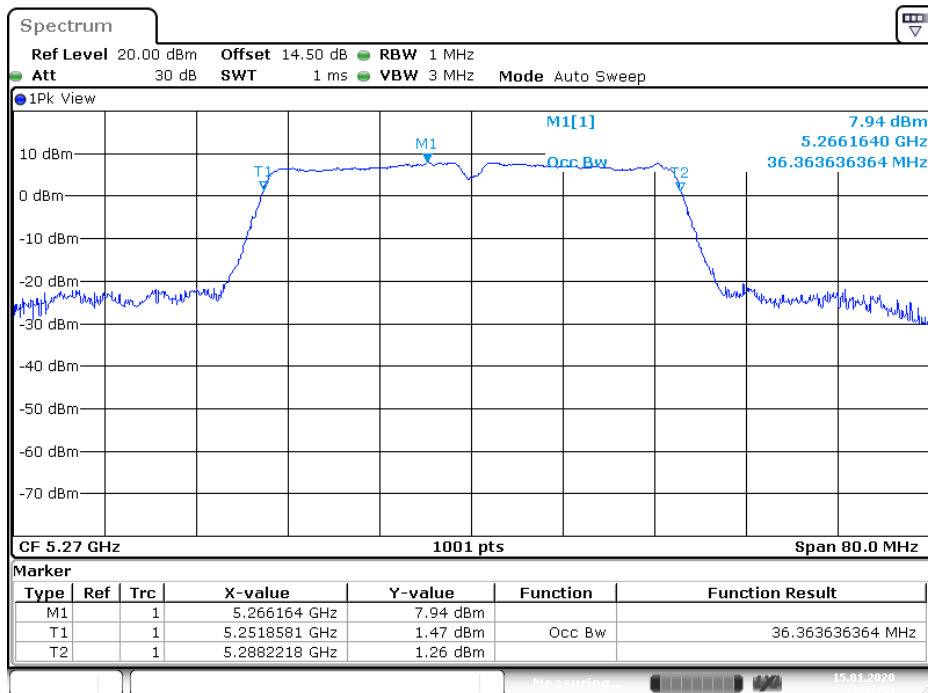
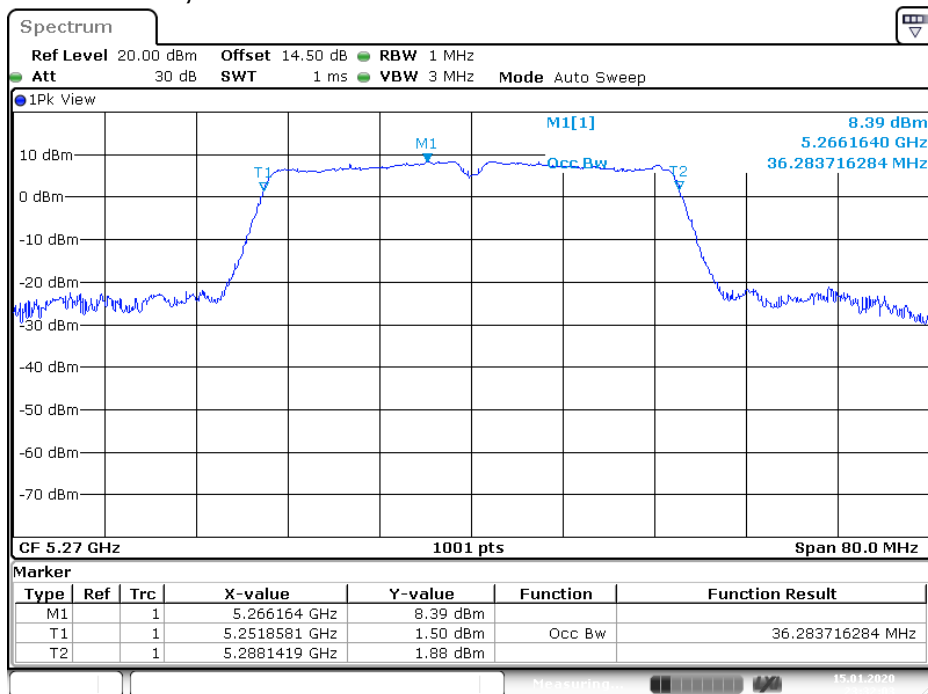
802.11an HT40 5190MHz, TX1

802.11an HT40 5190MHz, TX2


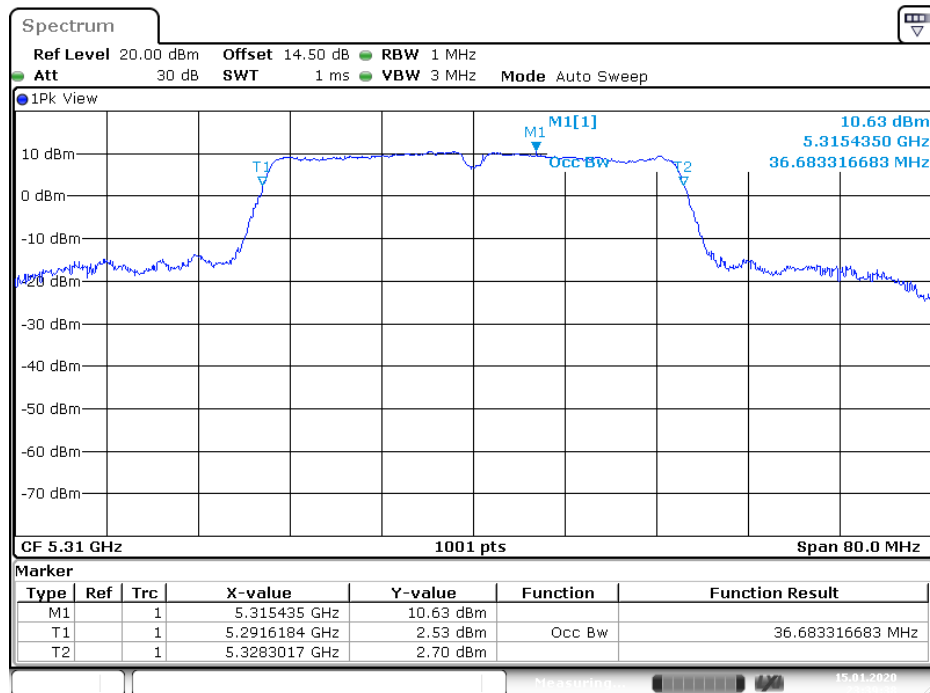
802.11an HT40 5230MHz, TX1


Date: 6.MAR.2020 07:02:33

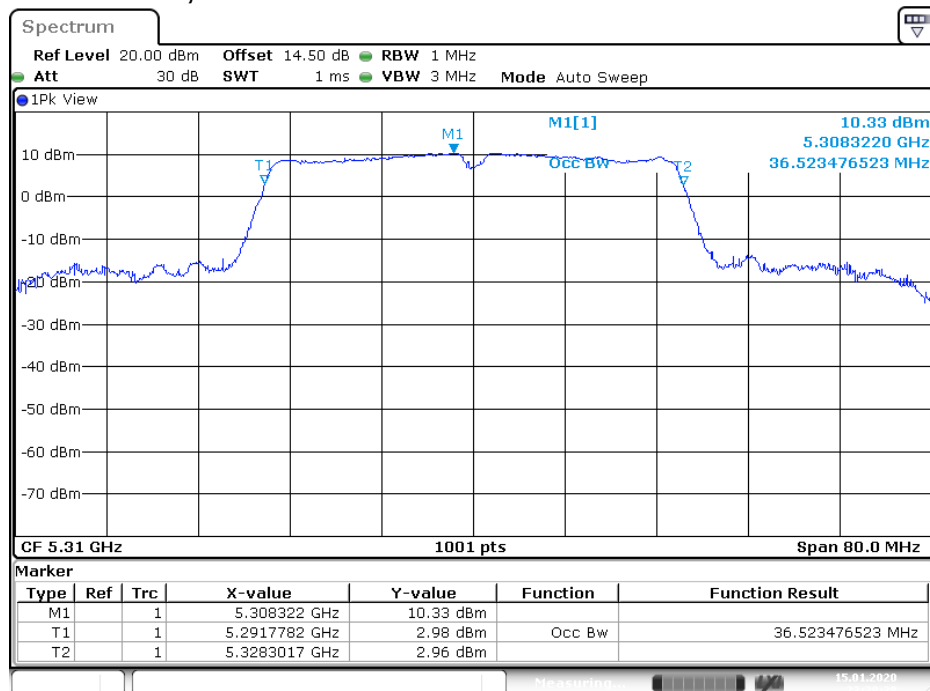
802.11an HT40 5230MHz, TX2


Date: 6.MAR.2020 07:02:54

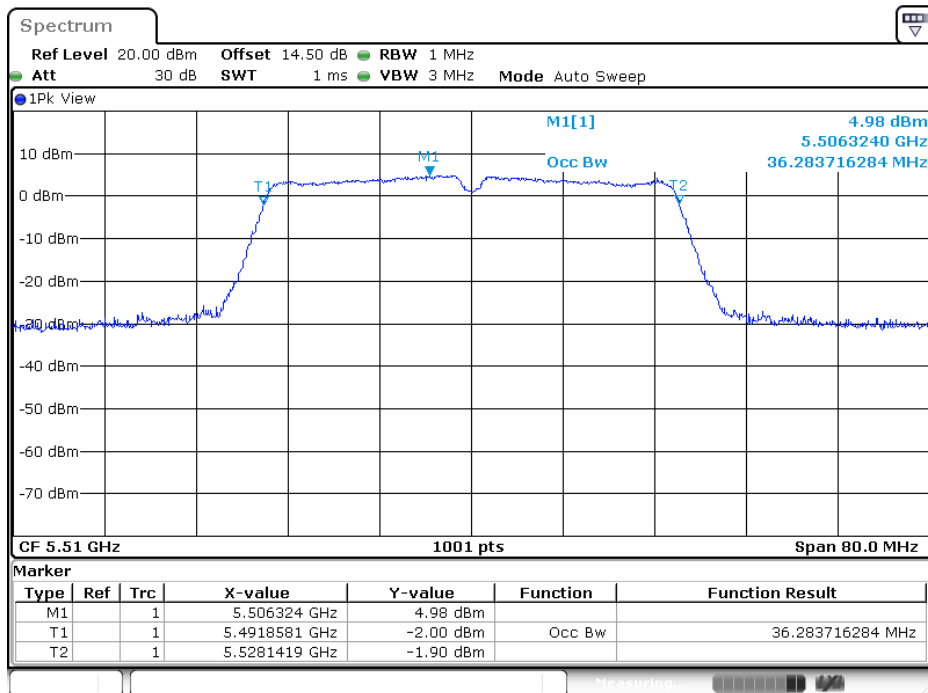
802.11an HT40 5270MHz, TX1

802.11an HT40 5270MHz, TX2


802.11an HT40 5310MHz, TX1


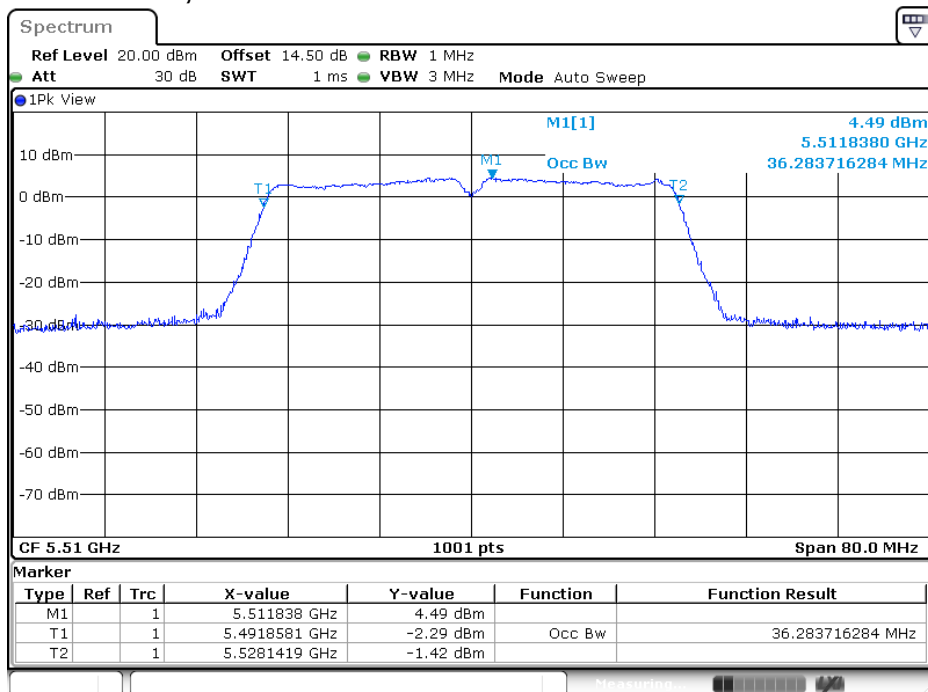
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802.11an HT40 5310MHz, TX2


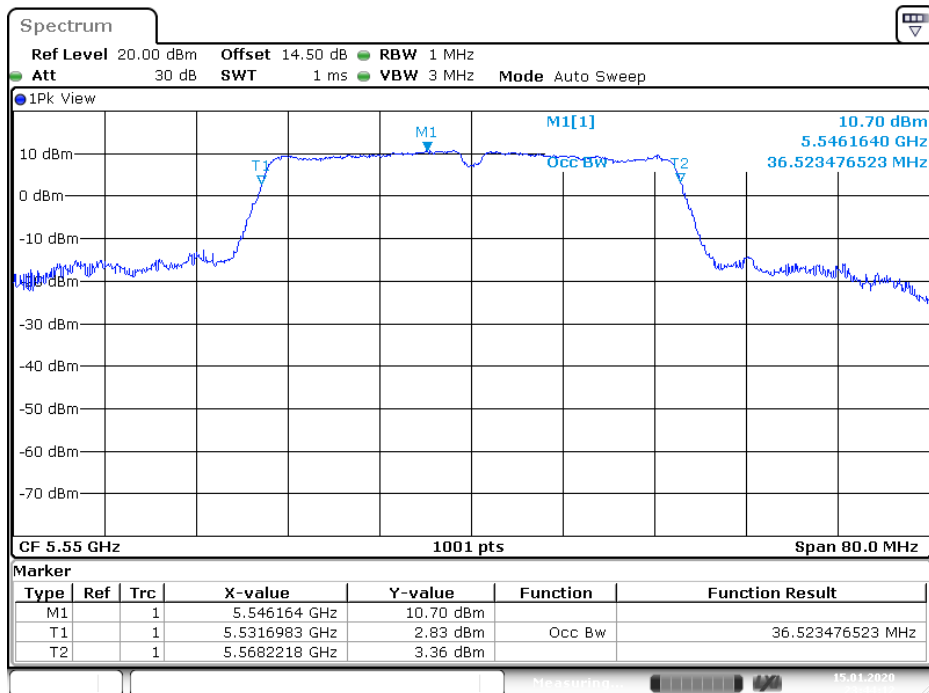
Date: 15.JAN.2020 23:38:39

802.11an HT40 5510MHz, TX1


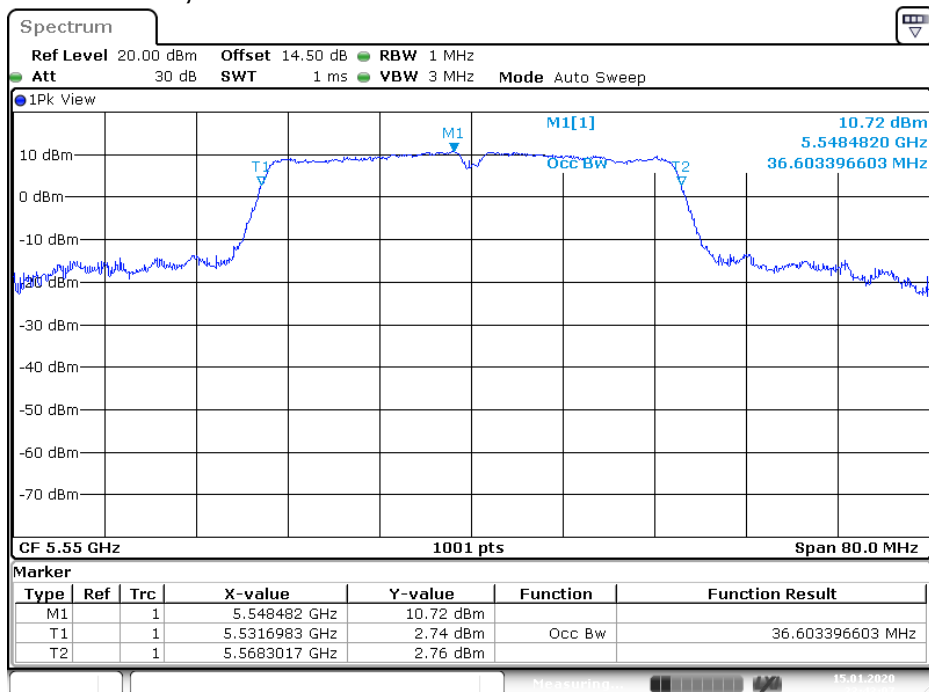
Date: 6.MAR.2020 07:04:28

802.11an HT40 5510MHz, TX2


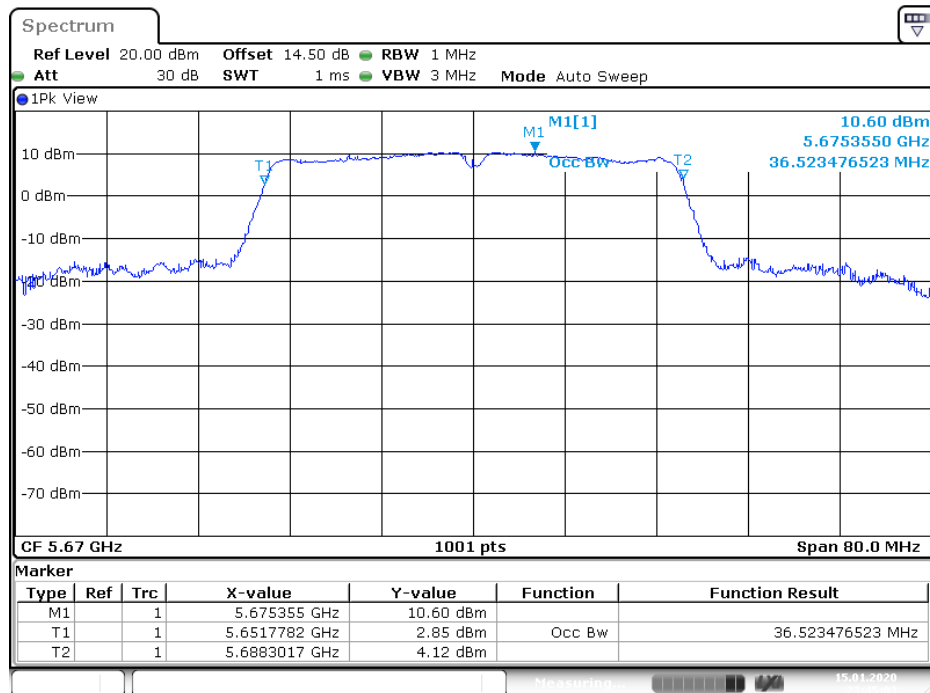
Date: 6.MAR.2020 07:04:02

802.11an HT40 5550MHz, TX1


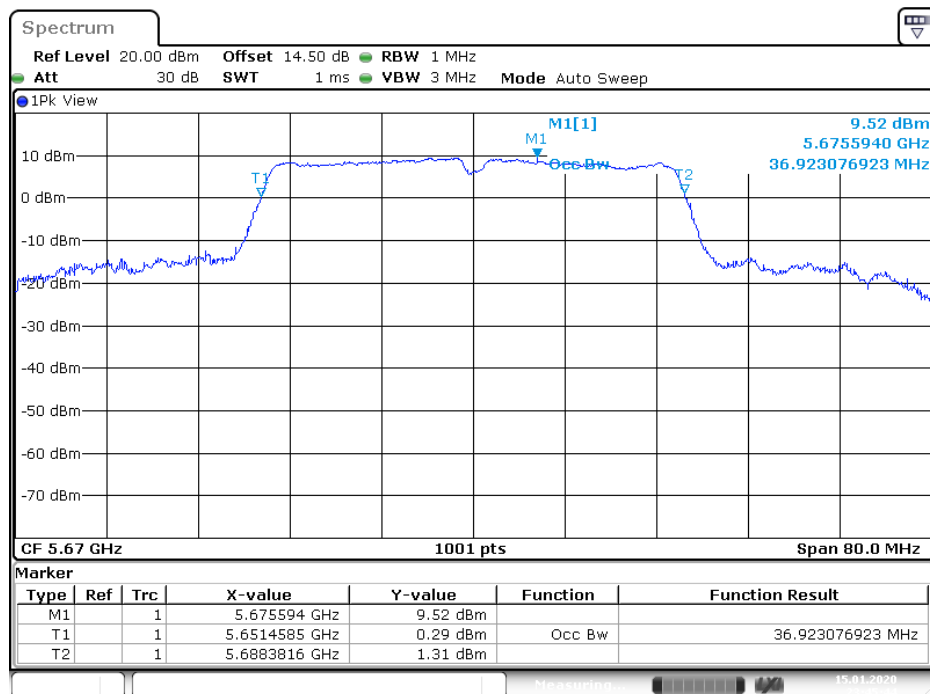
Date: 15.JAN.2020 23:44:12

802.11an HT40 5550MHz, TX2


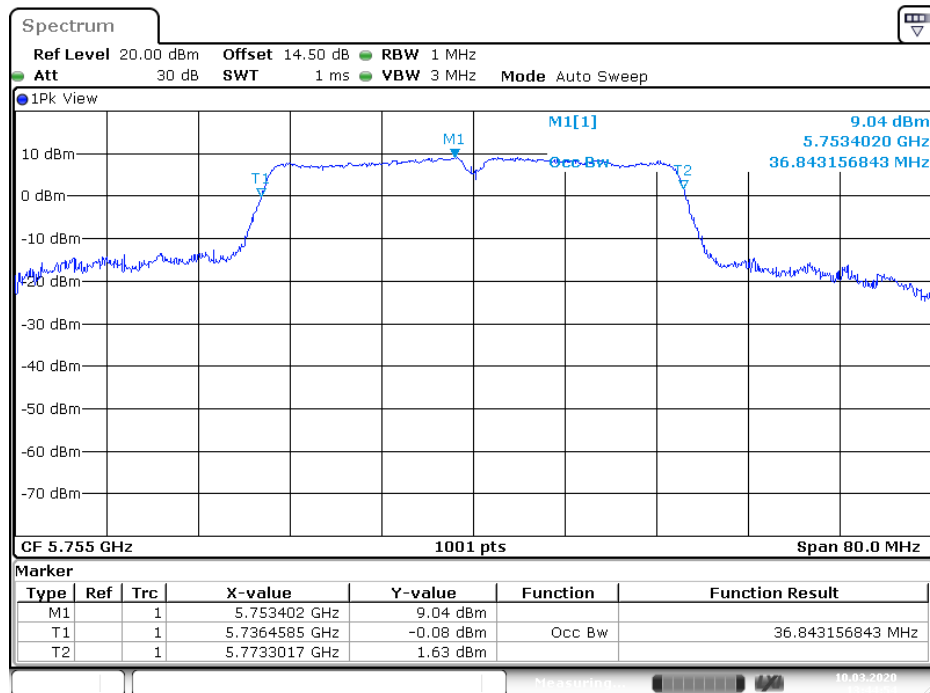
Date: 15.JAN.2020 23:43:07

802.11an HT40 5670MHz, TX1


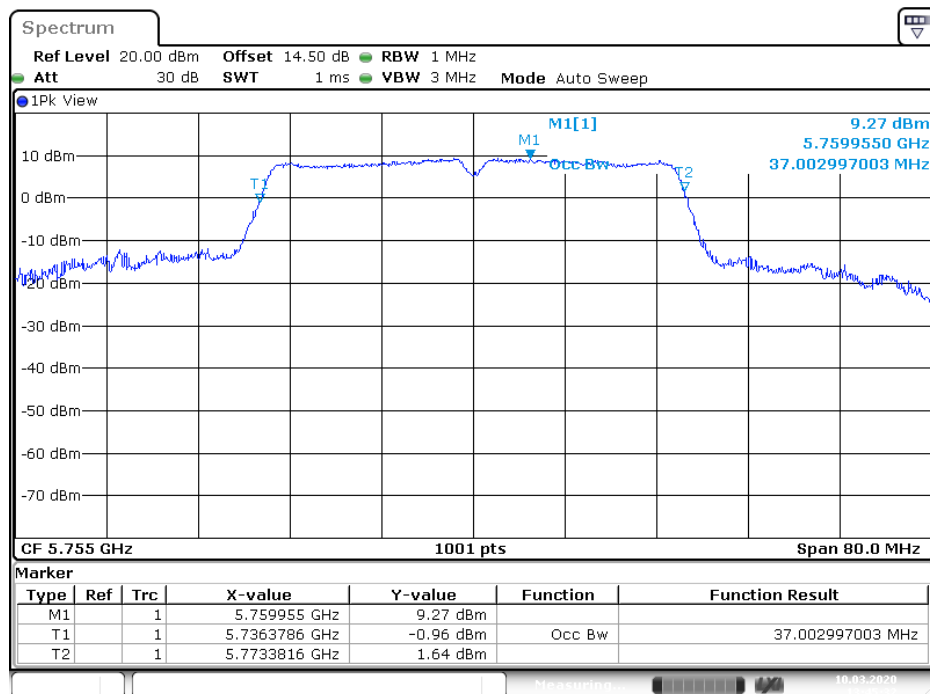
Date: 15.JAN.2020 23:45:04

802.11an HT40 5670MHz, TX2


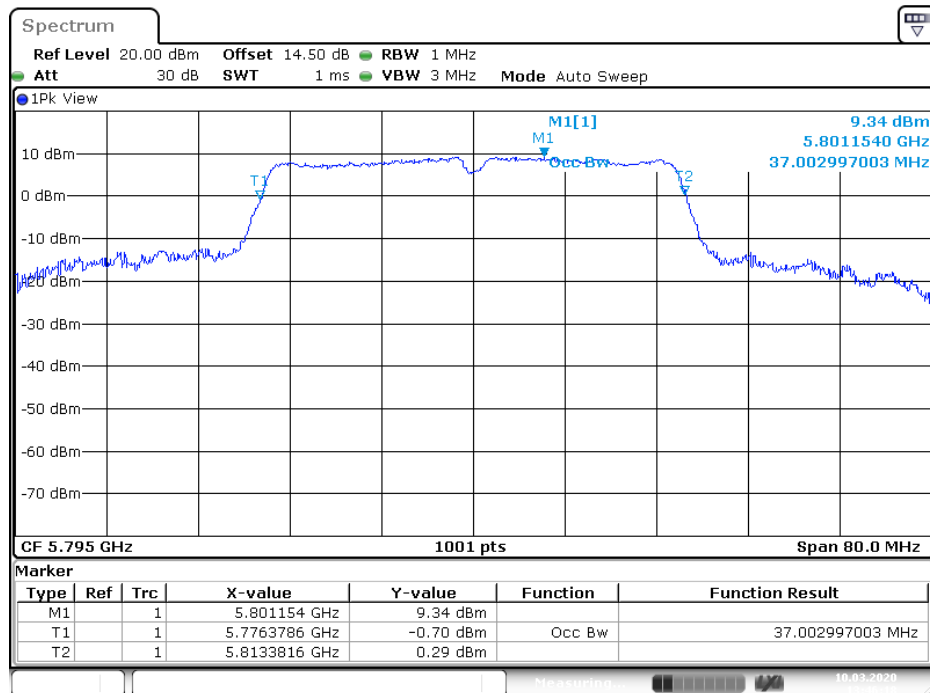
Date: 15.JAN.2020 23:45:45

802.11an HT40 5755MHz, TX1


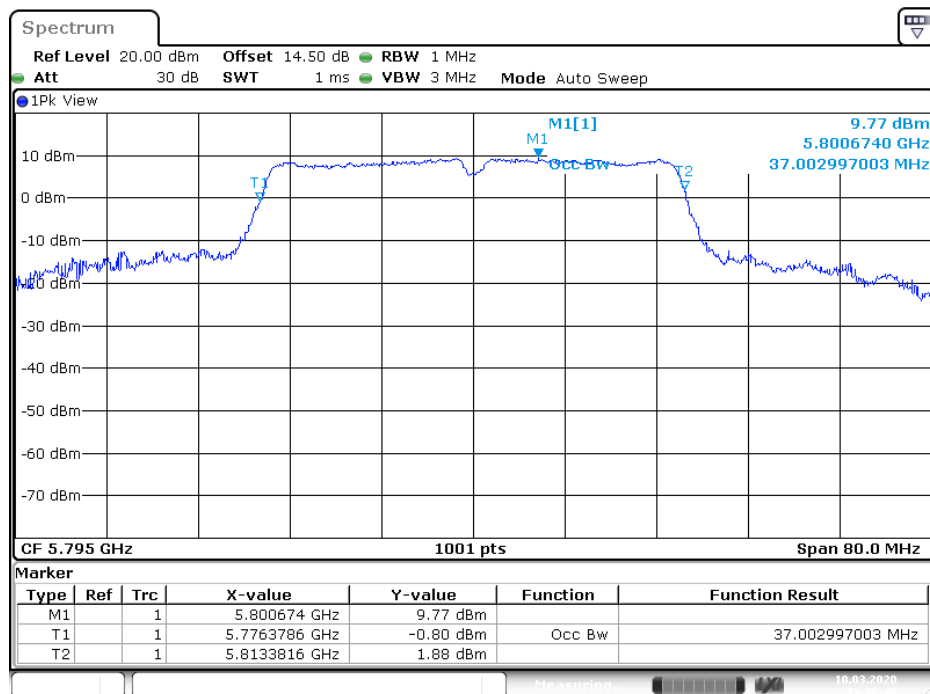
Date: 10.MAR.2020 13:44:54

802.11an HT40 5755MHz, TX2


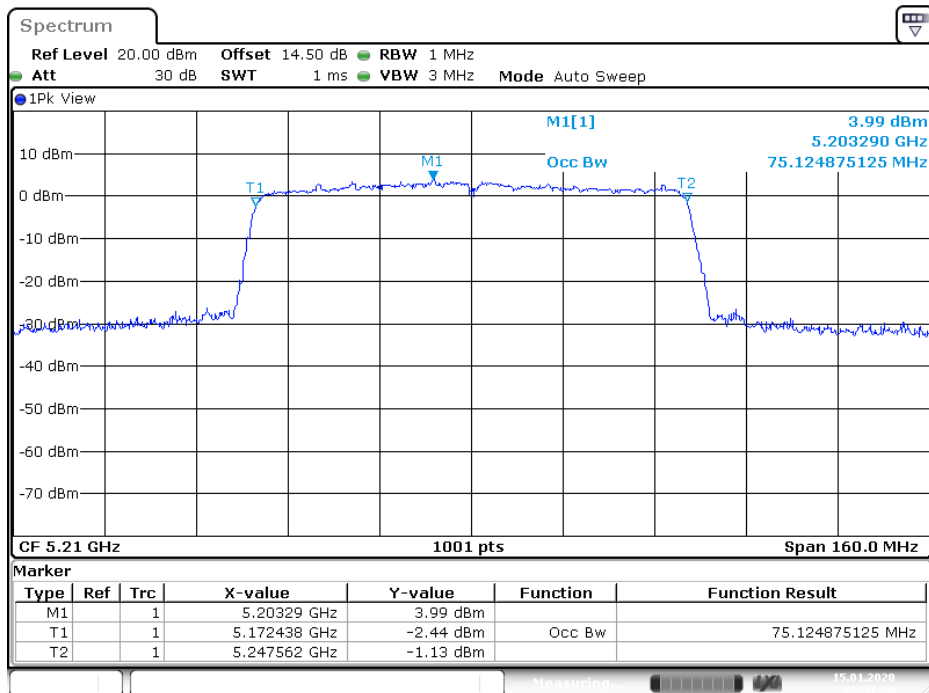
Date: 10.MAR.2020 13:45:32

802.11an HT40 5795MHz, TX1


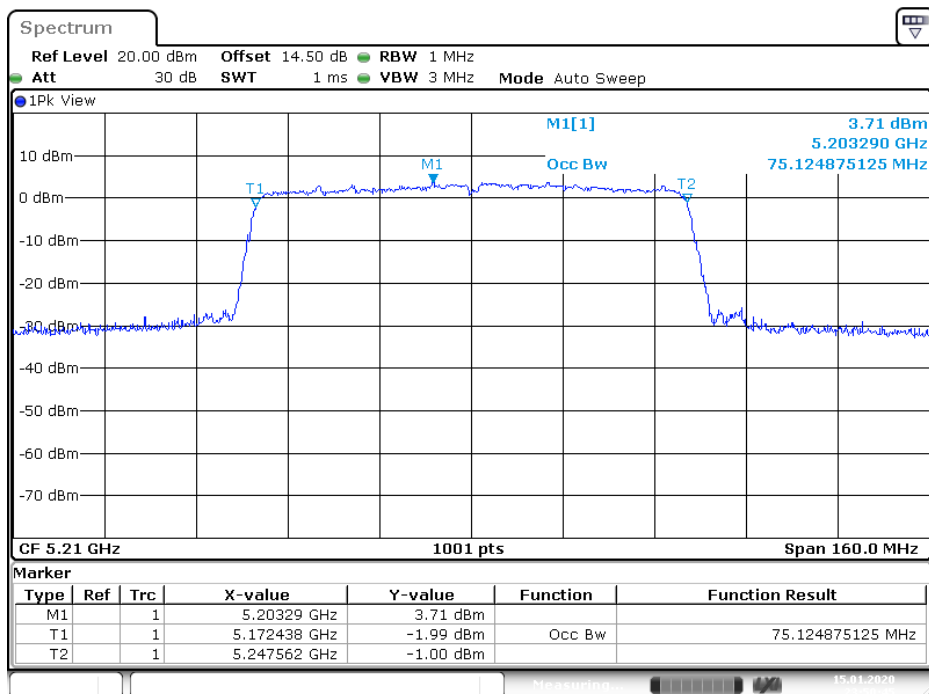
Date: 10.MAR.2020 13:46:18

802.11an HT40 5795MHz, TX2


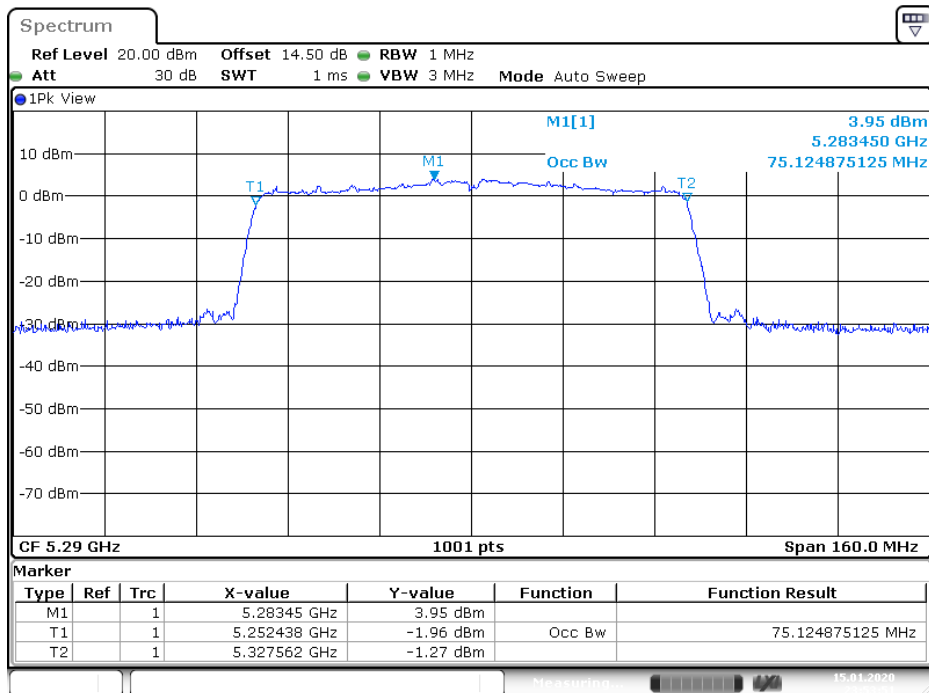
Date: 10.MAR.2020 13:46:40

802.11ac VHT80 5210MHz, TX1


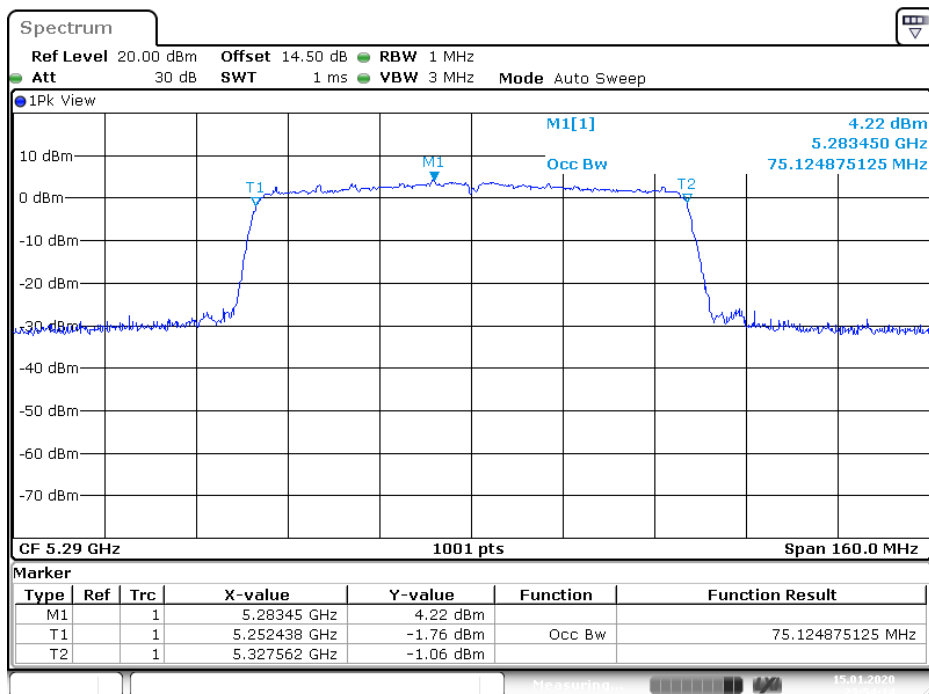
Date: 15.JAN.2020 23:51:28

802.11ac VHT80 5210MHz, TX2


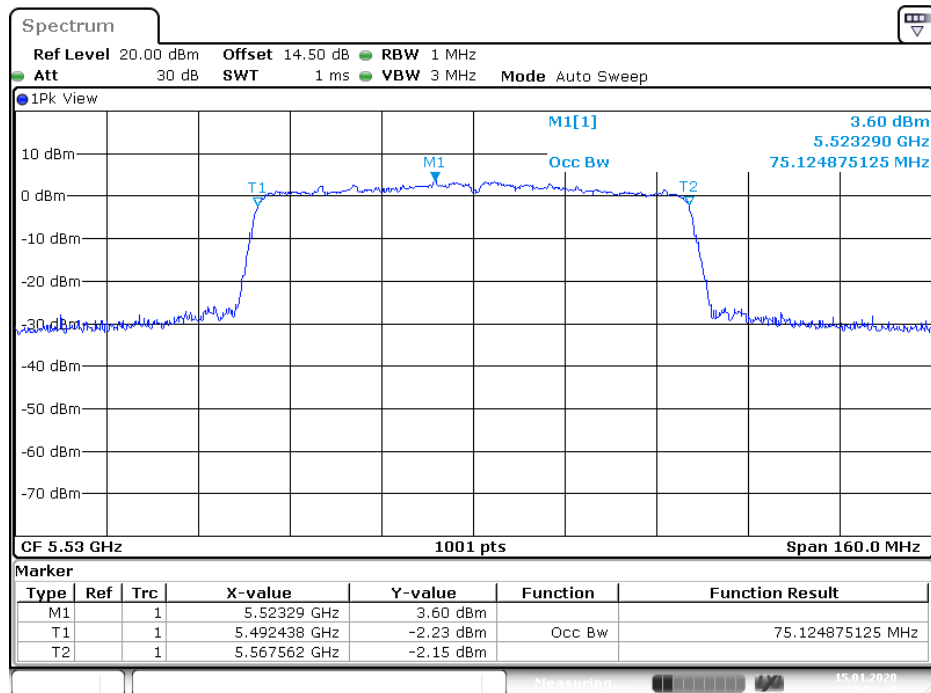
Date: 15.JAN.2020 23:50:45

802.11ac VHT80 5290MHz, TX1


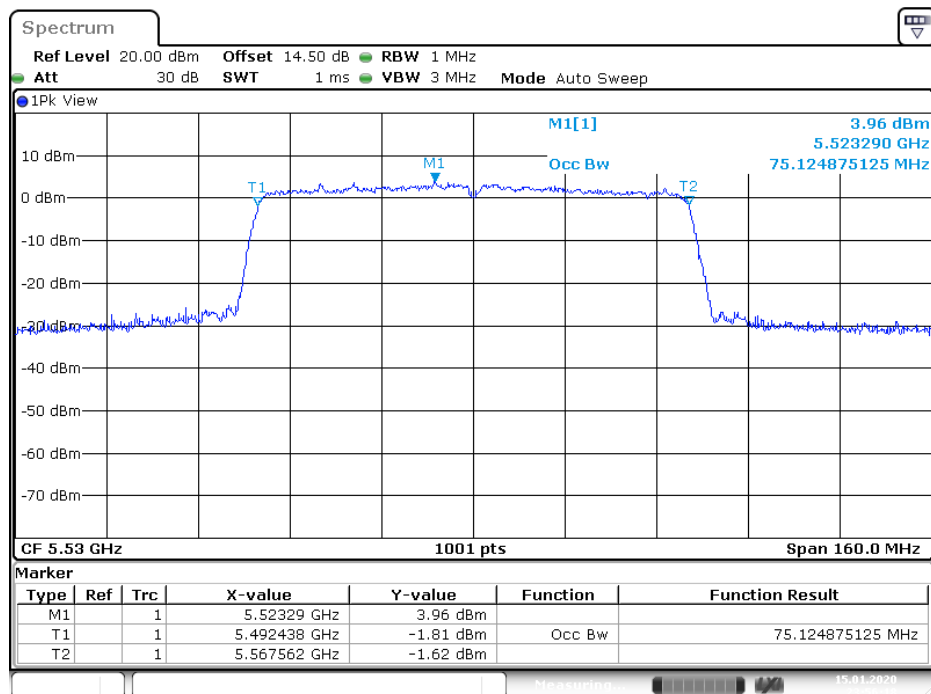
Date: 15.JAN.2020 23:53:51

802.11ac VHT80 5290MHz, TX2


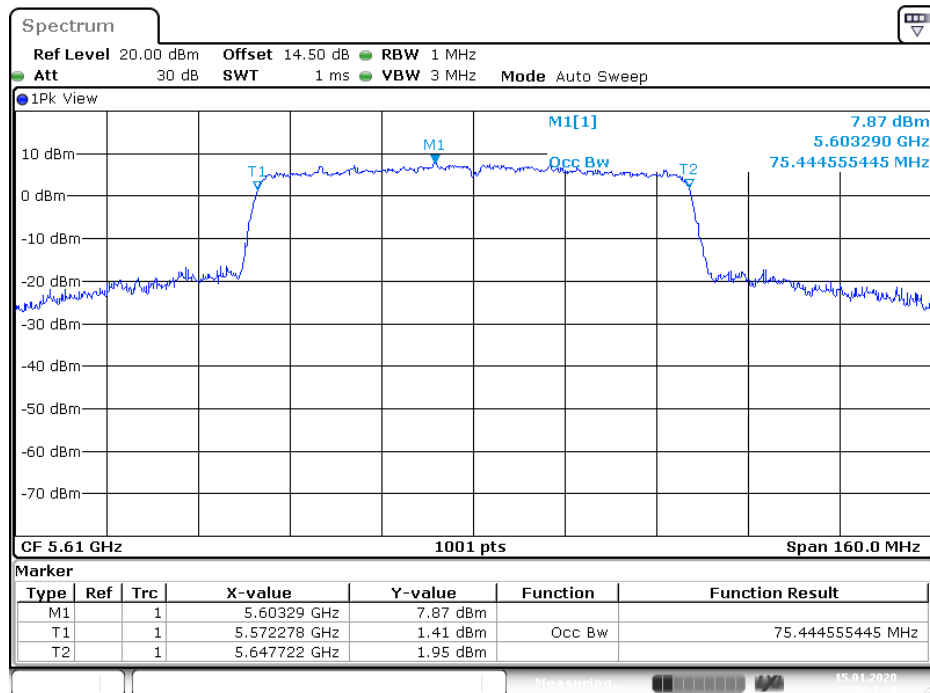
Date: 15.JAN.2020 23:54:14

802.11ac VHT80 5530MHz, TX1


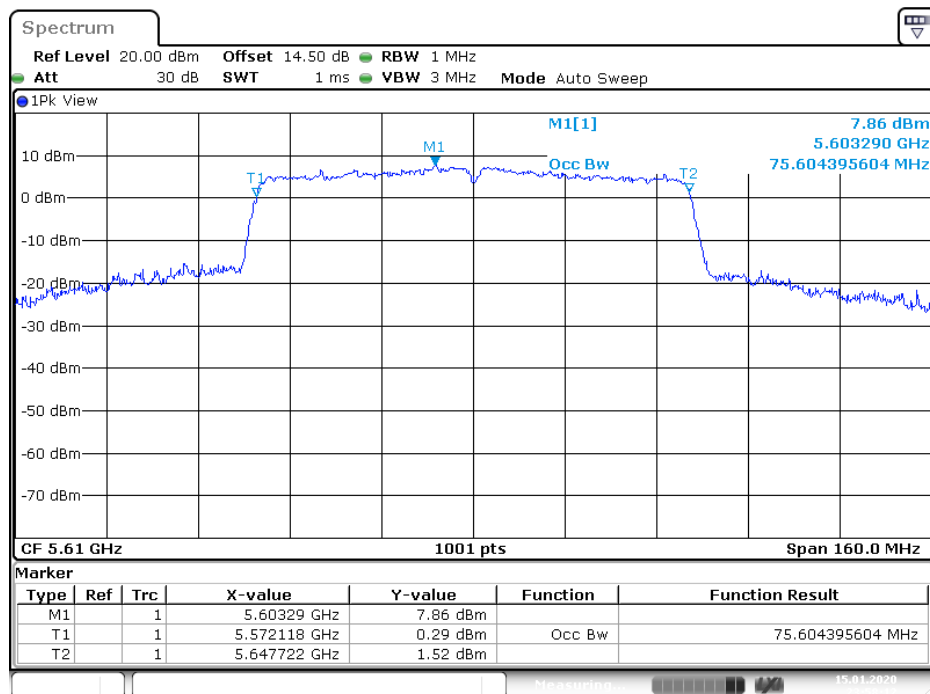
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802.11ac VHT80 5530MHz, TX2


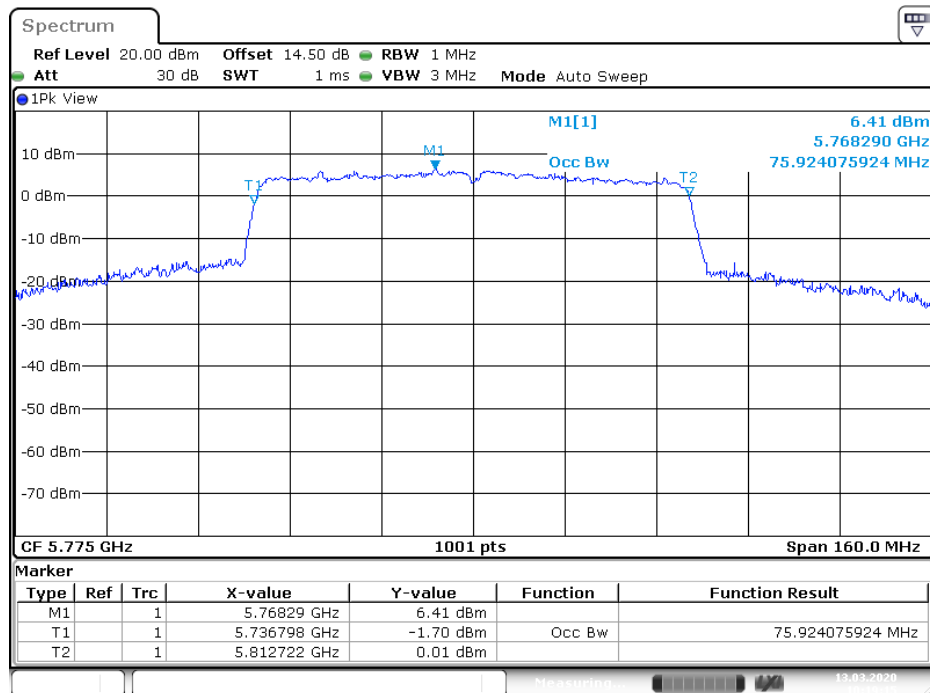
Date: 15.JAN.2020 23:56:18

802.11ac VHT80 5610MHz, TX1


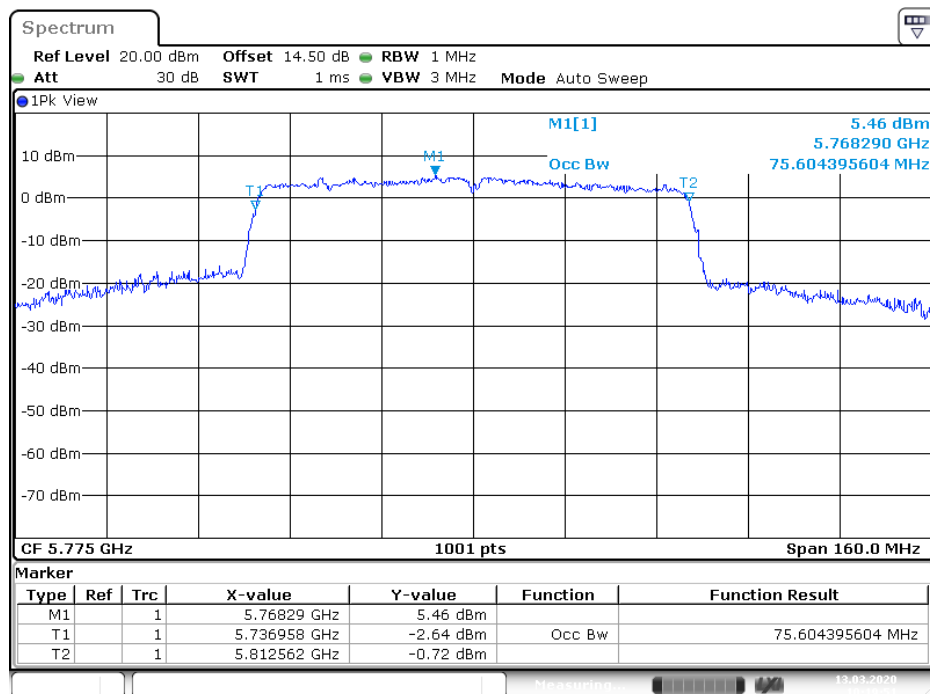
Date: 15.JAN.2020 23:57:29

802.11ac VHT80 5610MHz, TX2


Date: 15.JAN.2020 23:58:12

802.11ac VHT80 5775MHz, TX1


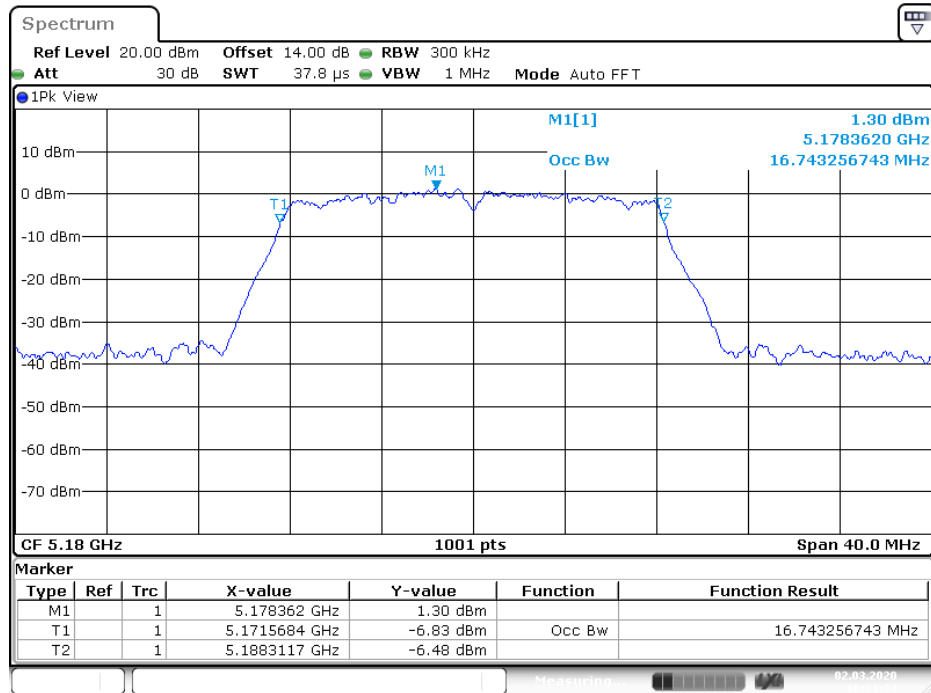
Date: 13.MAR.2020 10:19:15

802.11ac VHT80 5775MHz, TX2


Date: 13.MAR.2020 10:19:51

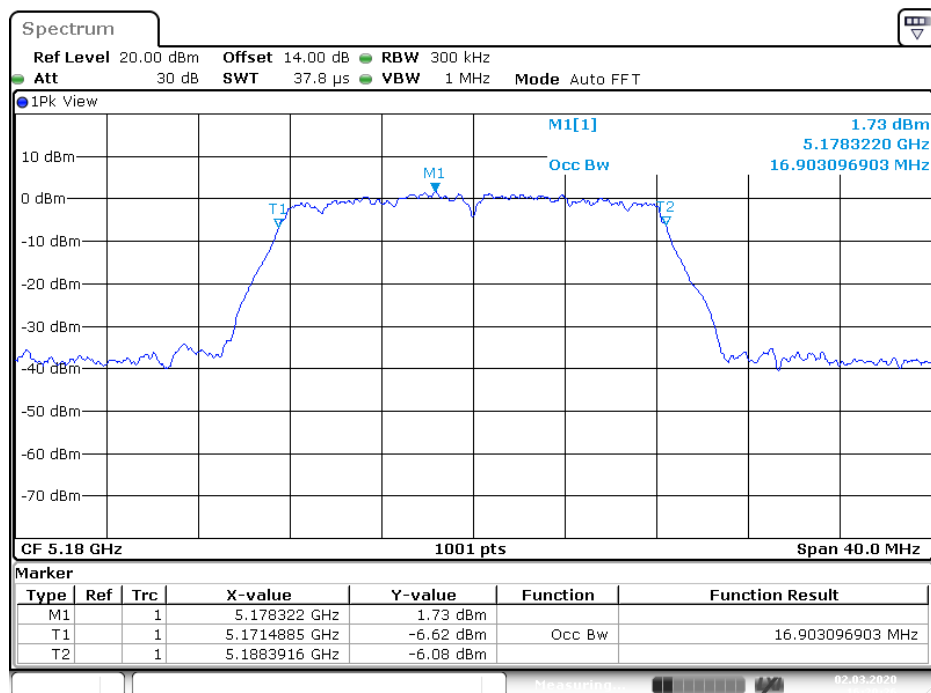
The Plot of 99% Bandwidth for ISED

802.11a 5180MHz, TX1

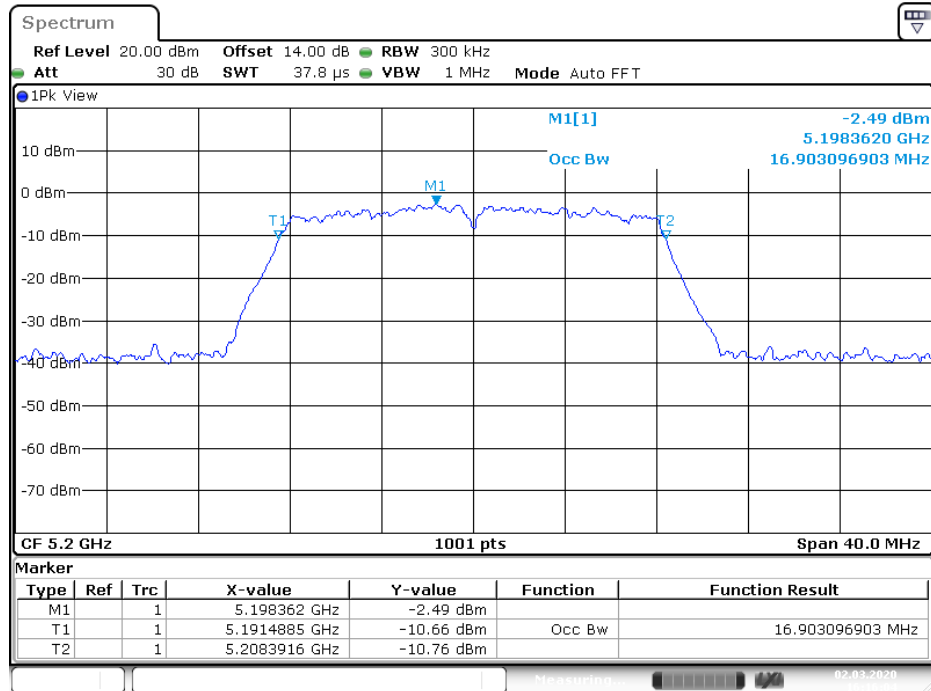


Date: 2.MAR.2020 16:21:34

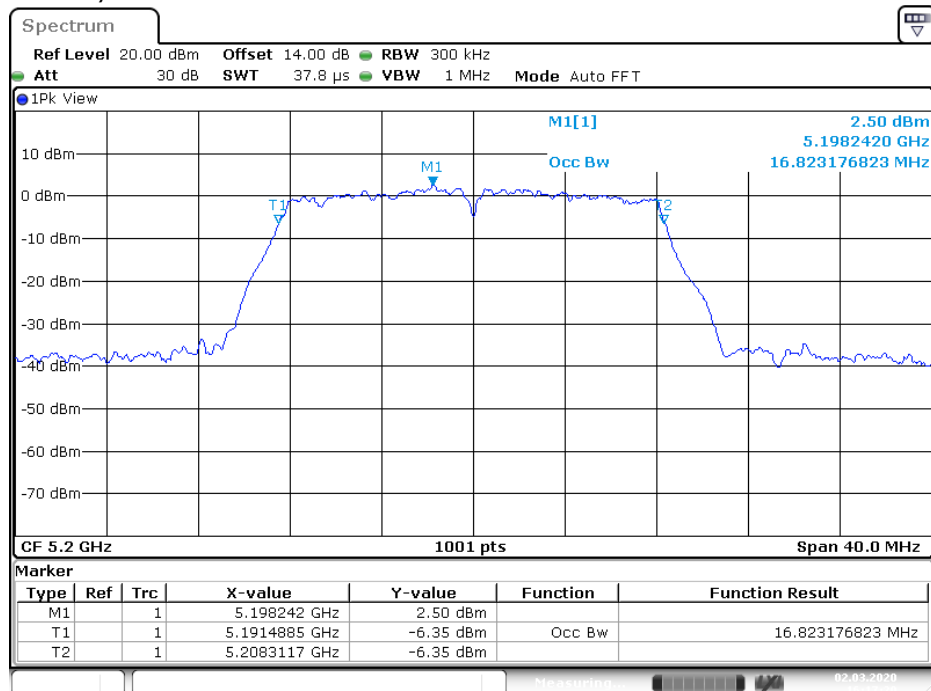
802.11a 5180MHz, TX2



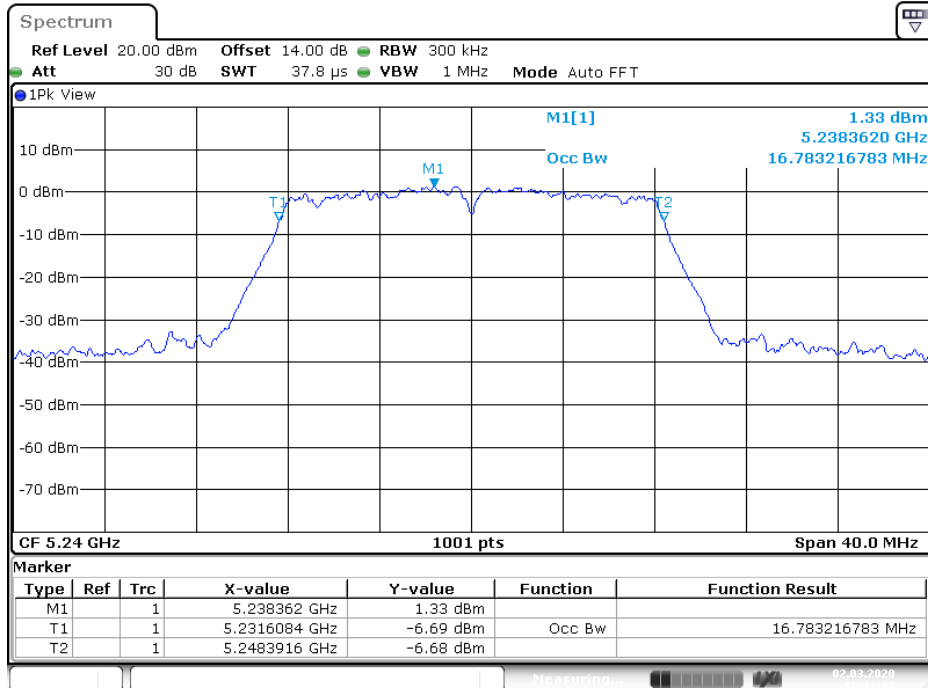
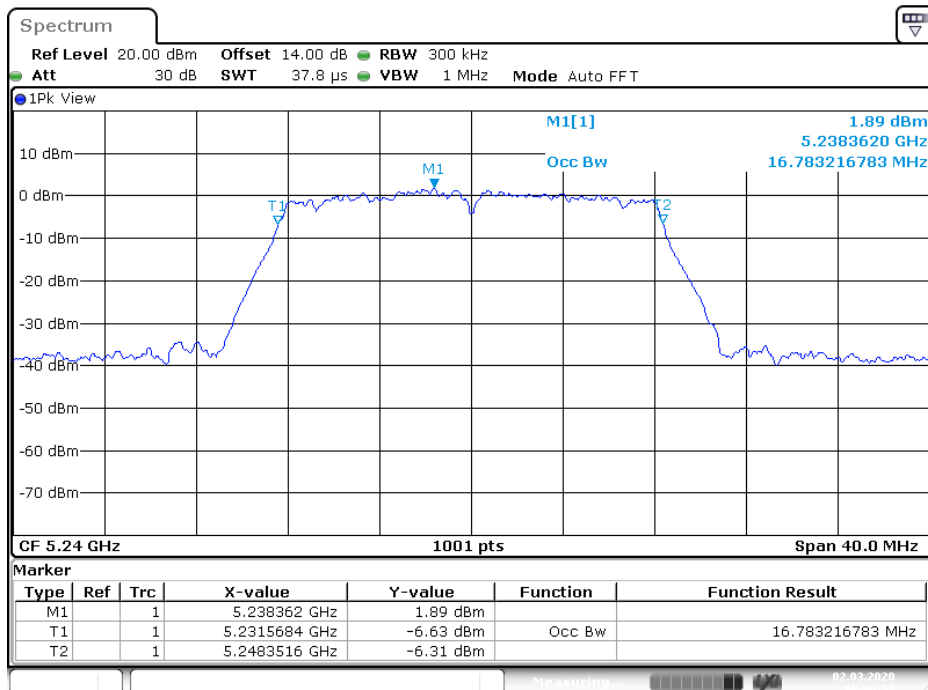
Date: 2.MAR.2020 16:20:27

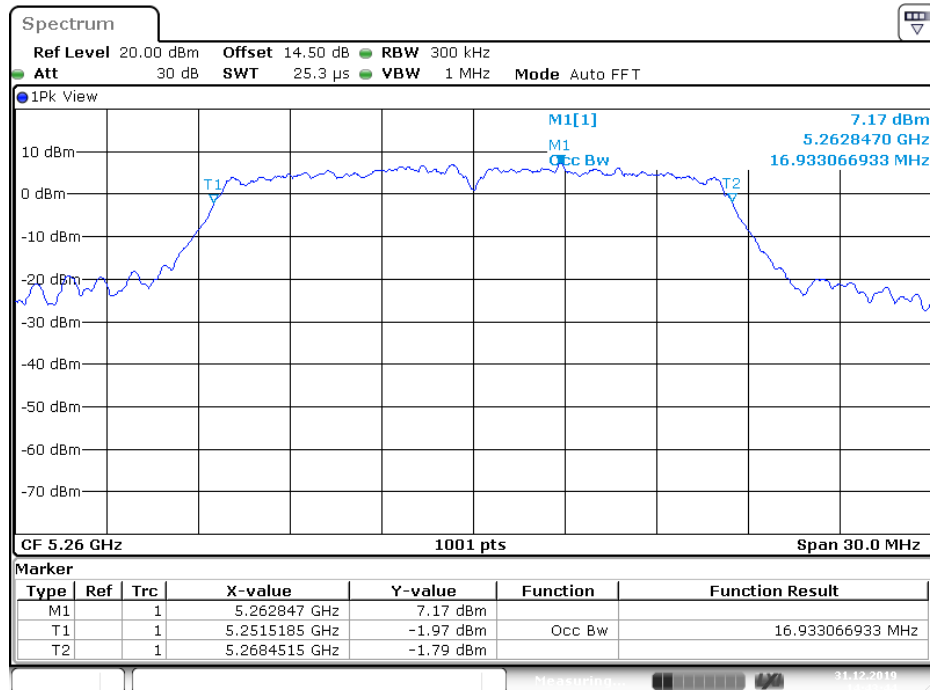
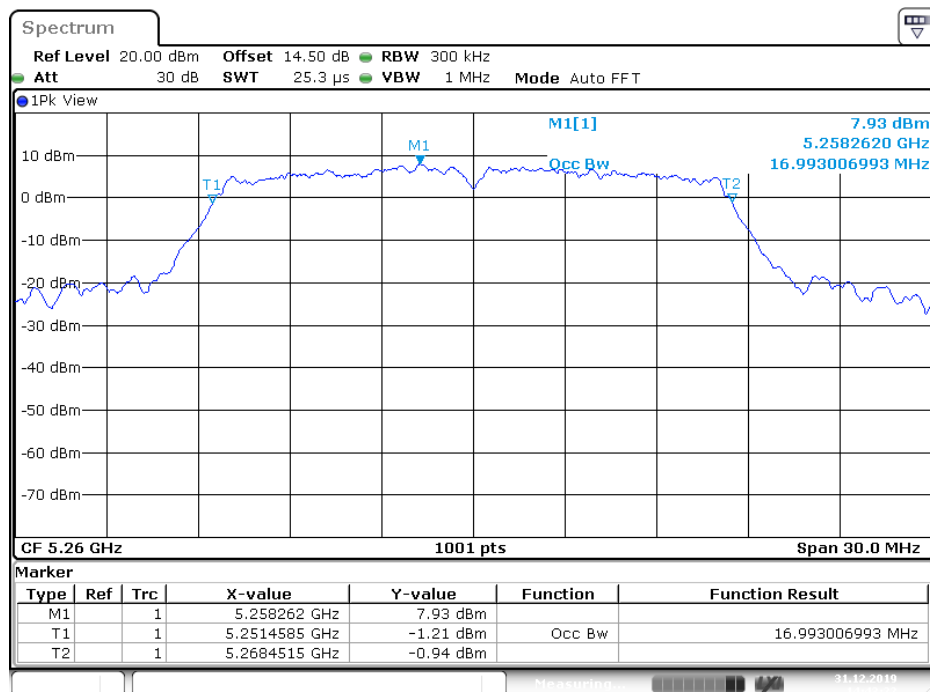
802.11a 5200MHz, TX1


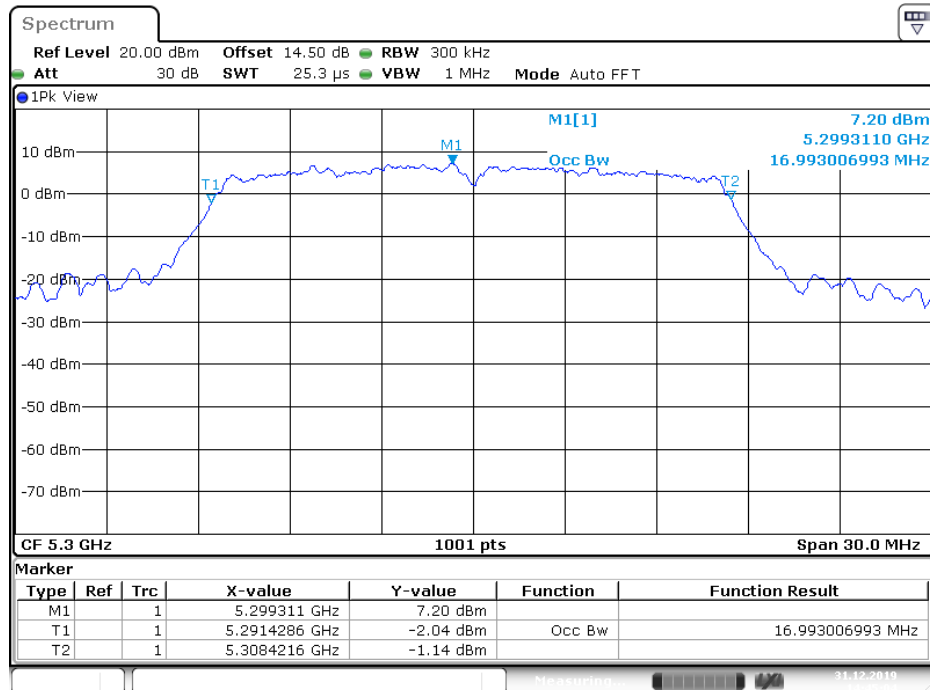
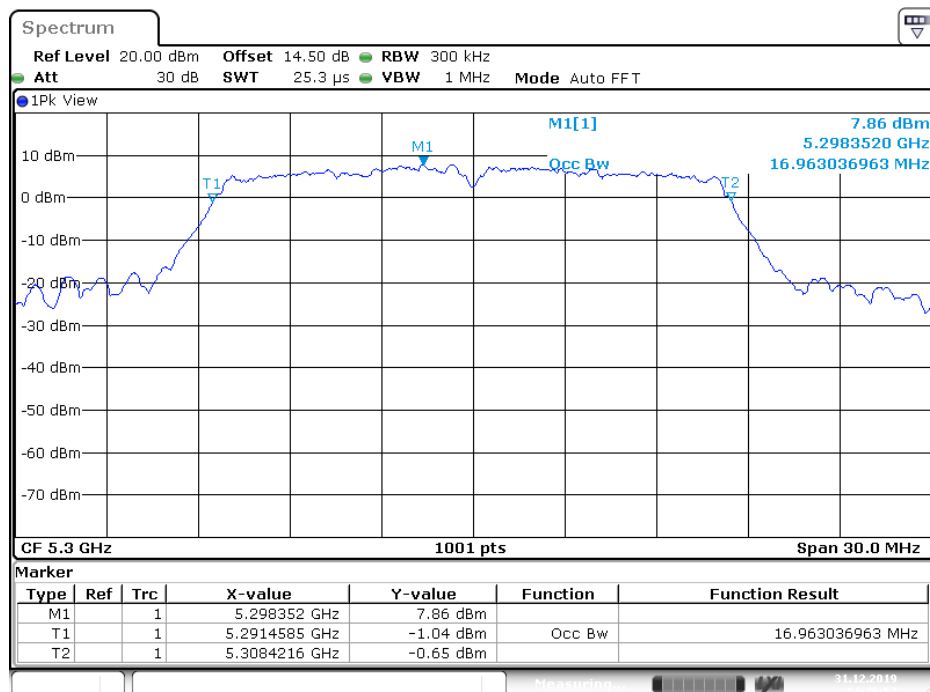
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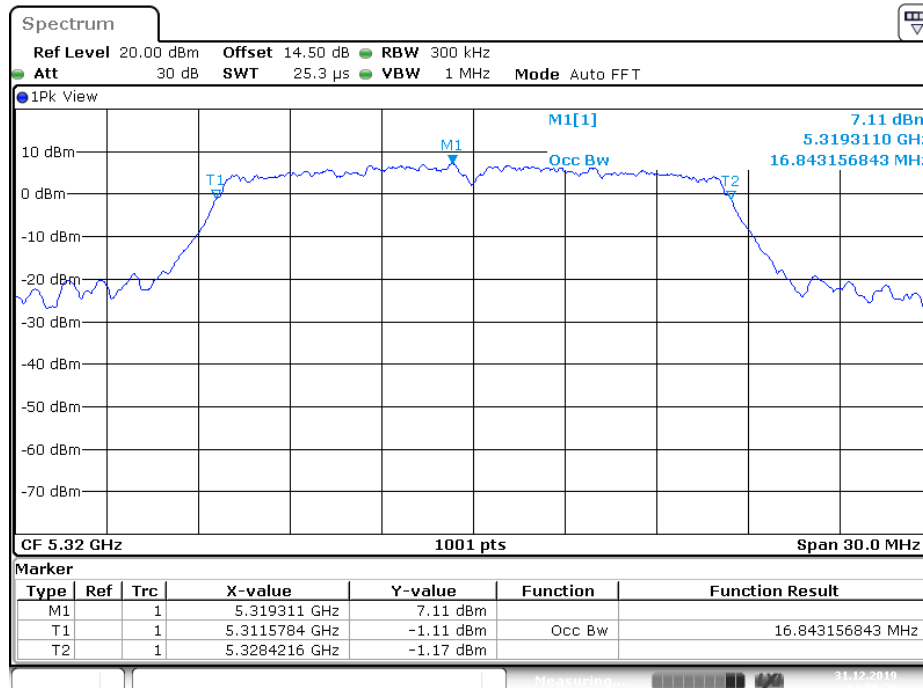
802.11a 5200MHz, TX2


Date: 2.MAR.2020 16:17:21

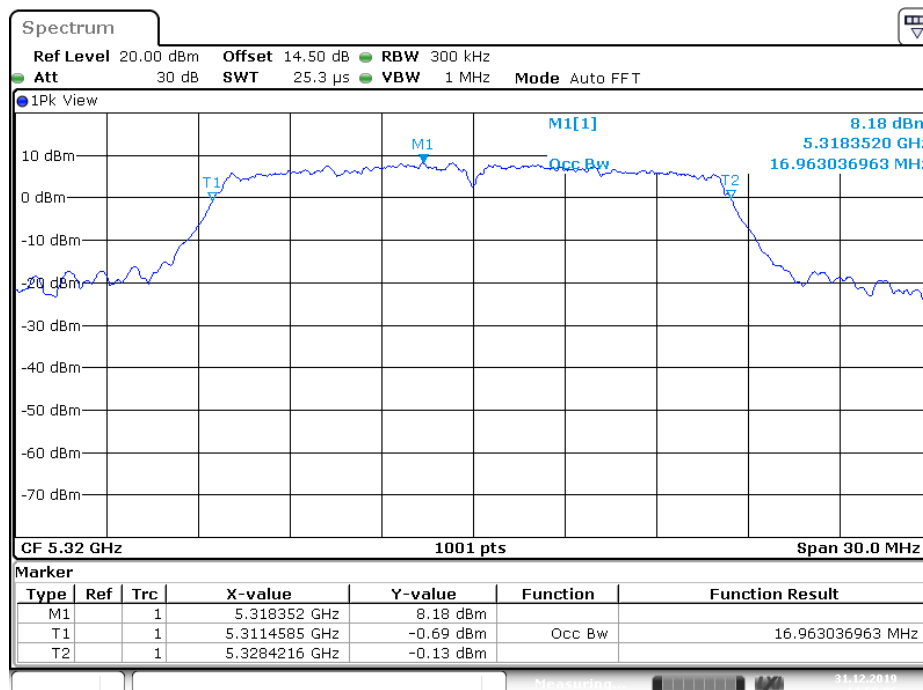
802.11a 5240MHz, TX1

802.11a 5240MHz, TX2


802.11a 5260MHz, TX1

802.11a 5260MHz, TX2


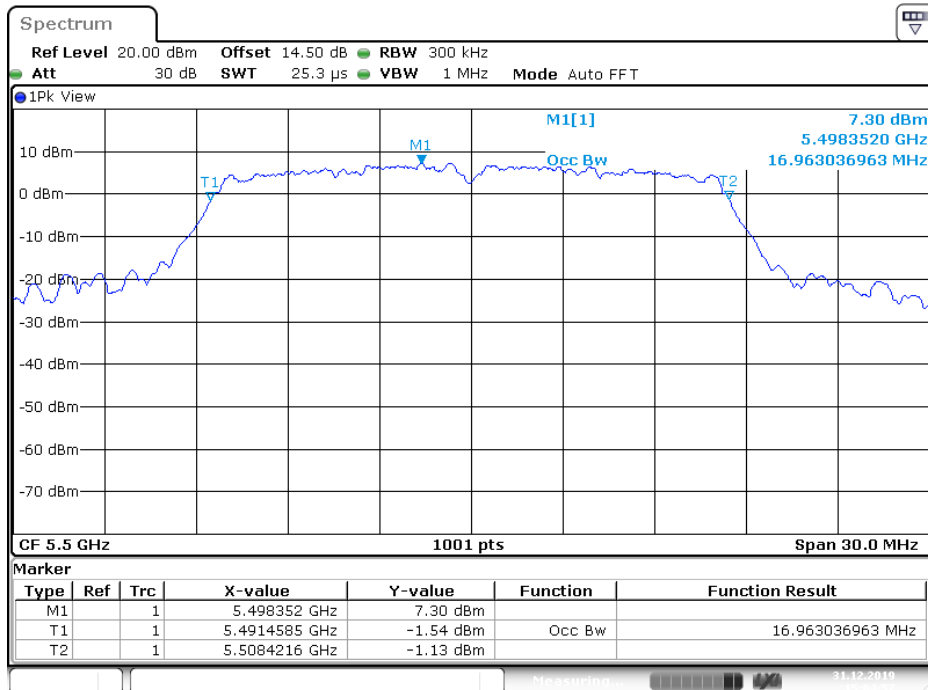
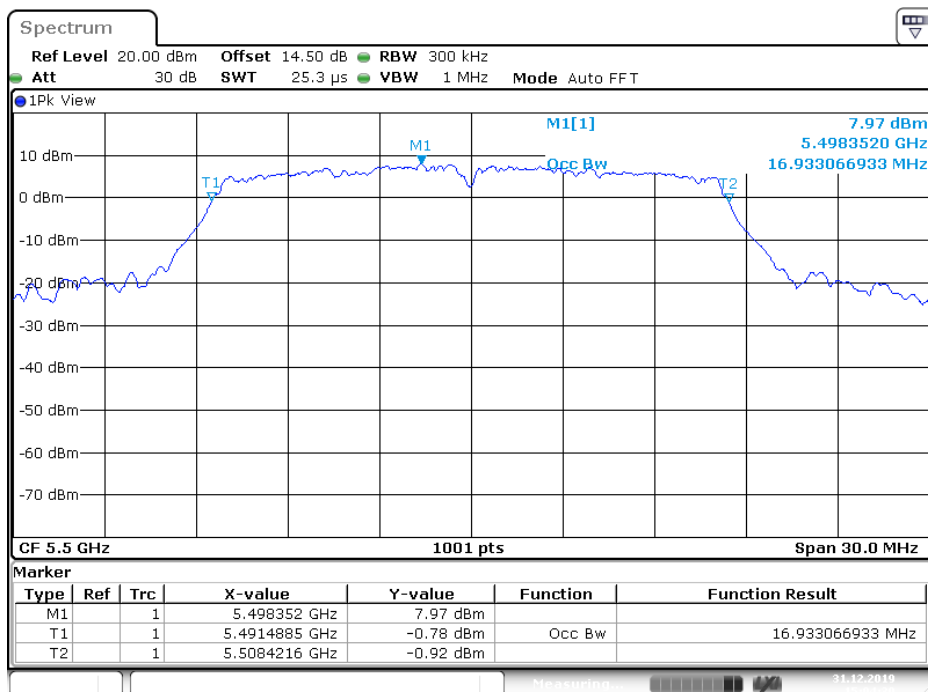
802.11a 5300MHz, TX1

802.11a 5300MHz, TX2


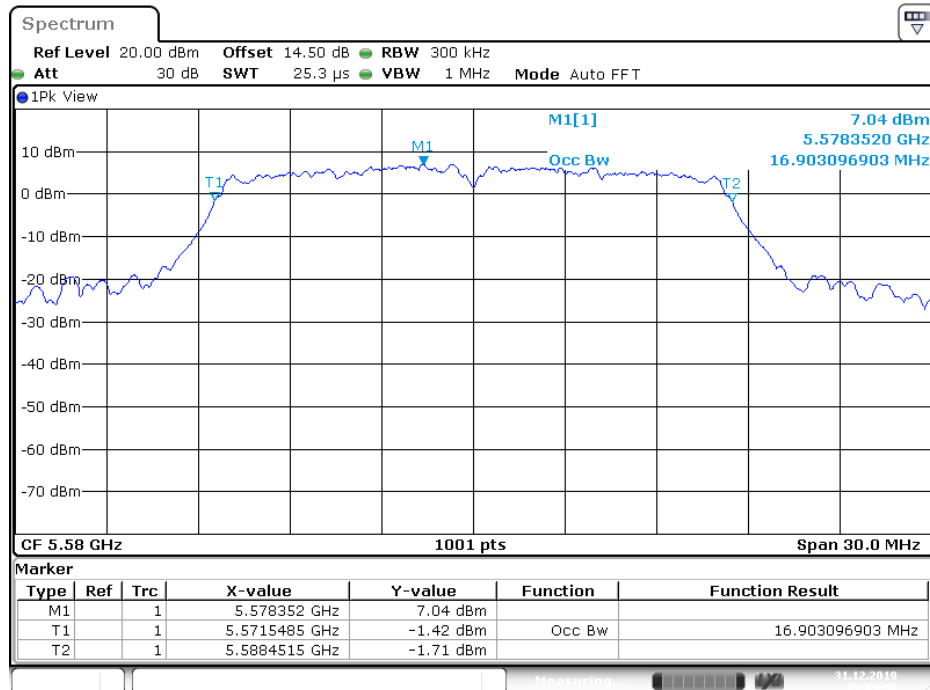
802.11a 5320MHz, TX1


Date: 31.DEC.2019 14:59:29

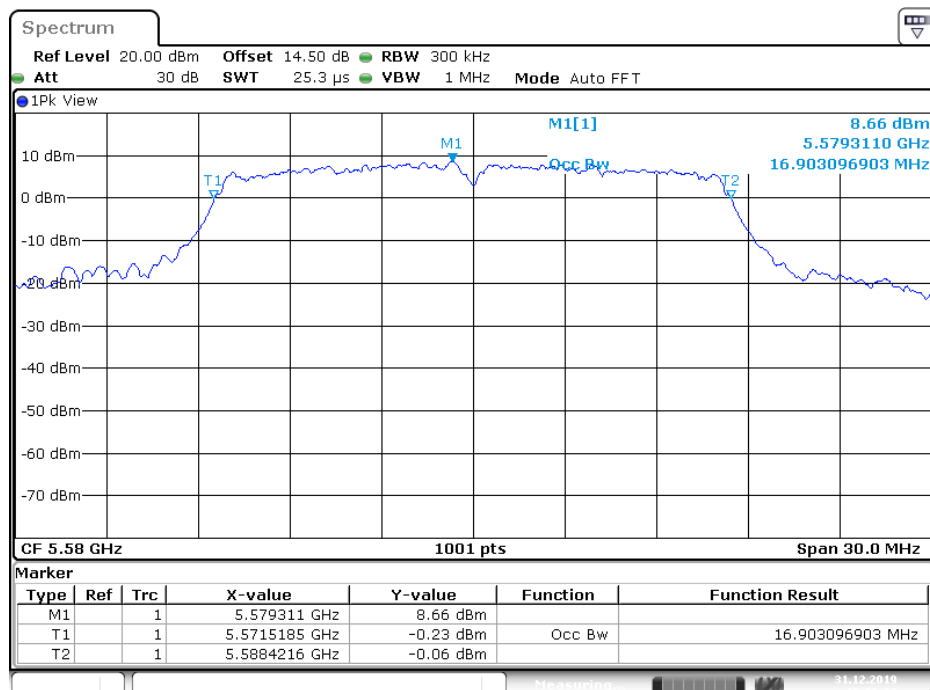
802.11a 5320MHz, TX2


Date: 31.DEC.2019 14:59:06

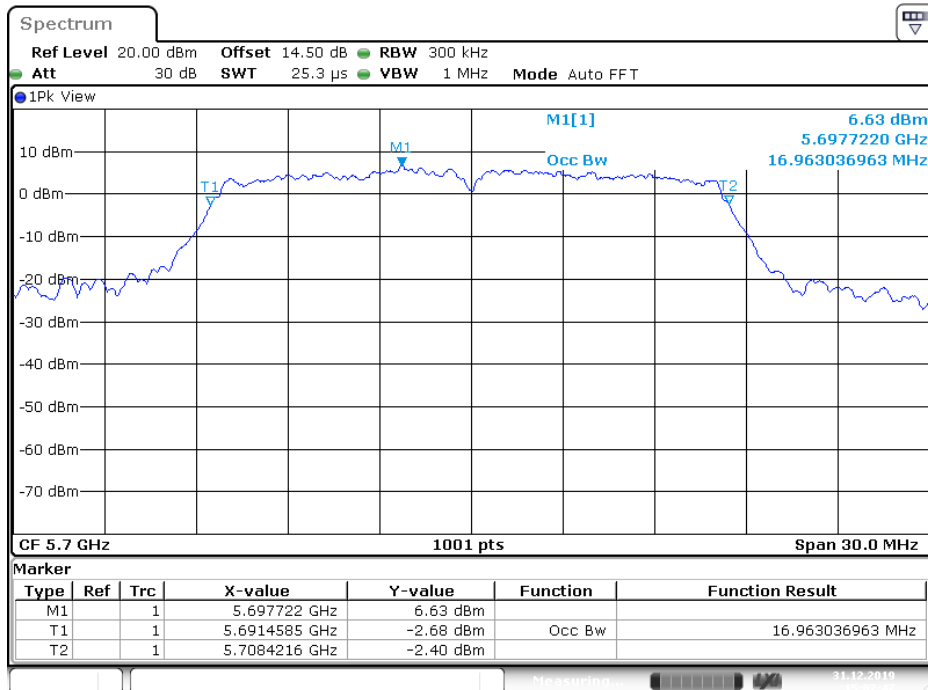
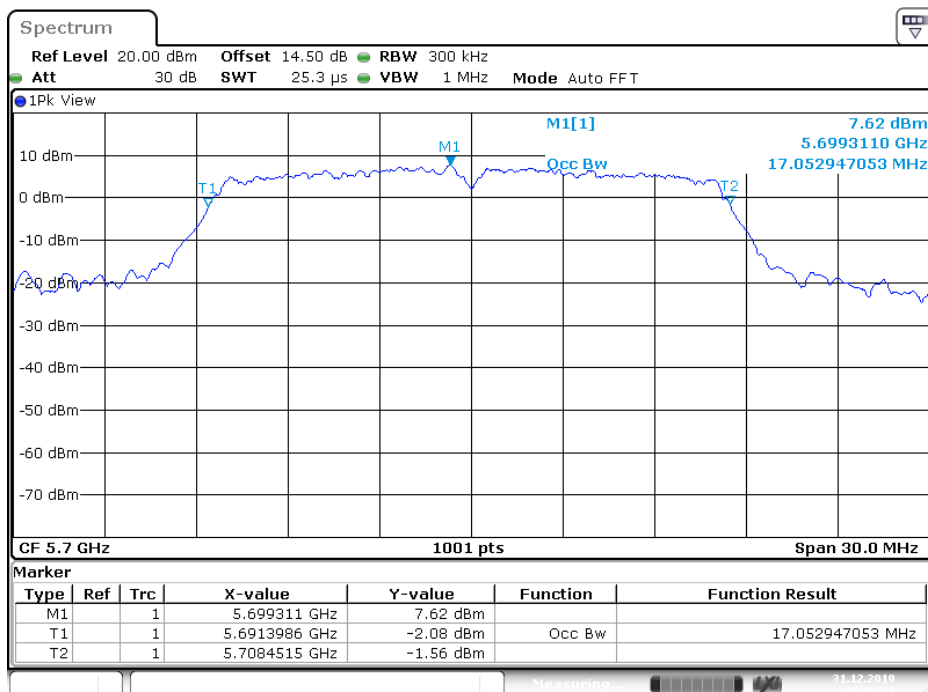
802.11a 5500MHz, TX1

802.11a 5500MHz, TX2


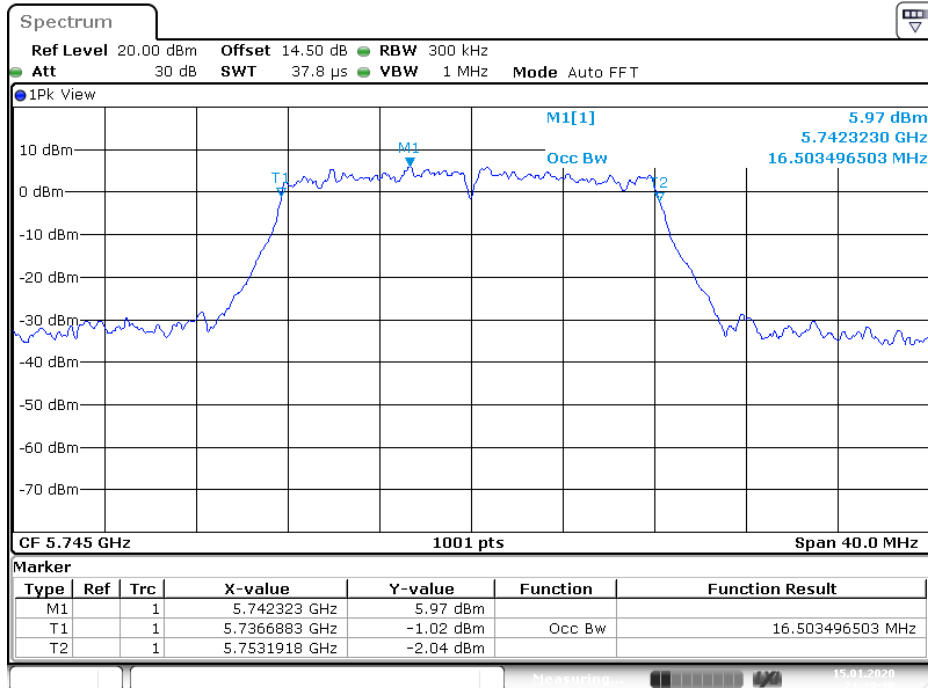
802.11a 5580MHz, TX1


Date: 31.DEC.2019 15:05:58

802.11a 5580MHz, TX2


Date: 31.DEC.2019 15:06:23

802.11a 5700MHz, TX1

802.11a 5700MHz, TX2


802.11a 5745MHz, TX1

802.11a 5745MHz, TX2
