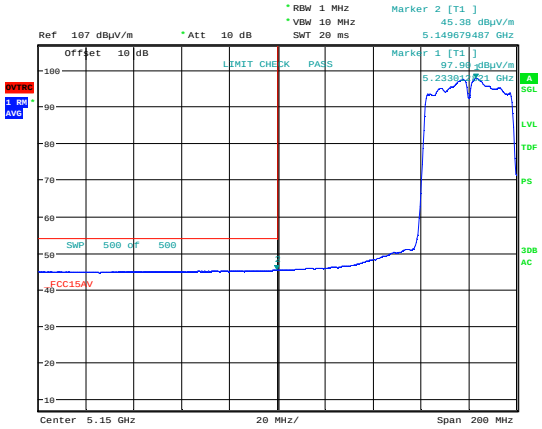
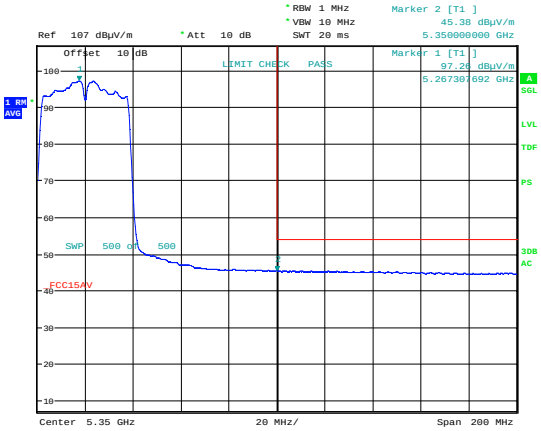


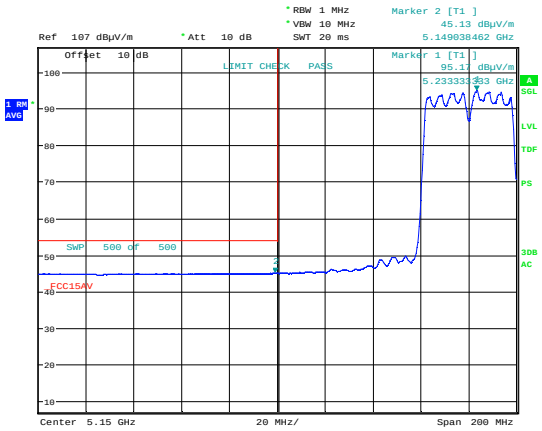
Date: 31.AUG.2022 13:20:28

Band Edge, 5150 MHz, Ch046, 802.11n MCS8 MIMO, Av, Max



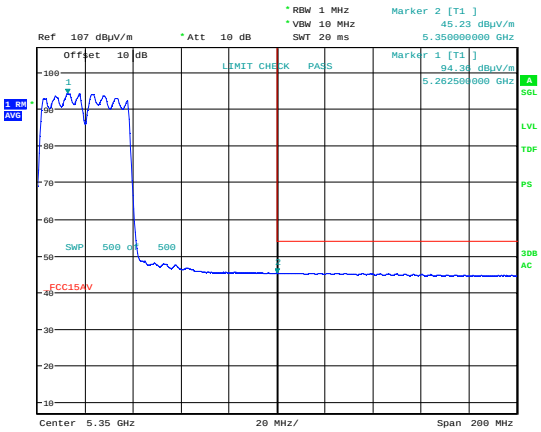
Date: 31.AUG.2022 13:11:19

Band Edge, 5350 MHz, Ch054, 802.11n MCS8 MIMO, Av, Max



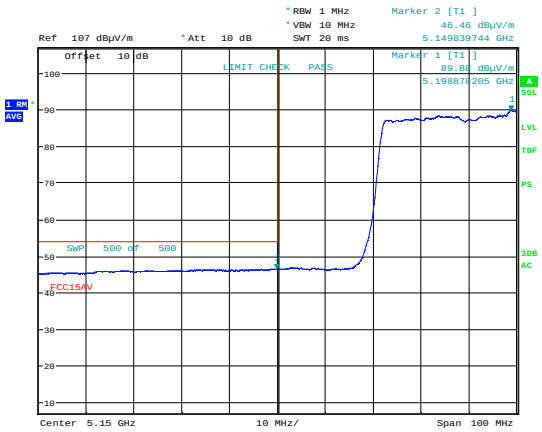
Date: 31.AUG.2022 13:23:49

Band Edge, 5150 MHz, Ch046, 802.11n MCS15 MIMO, Av, Max



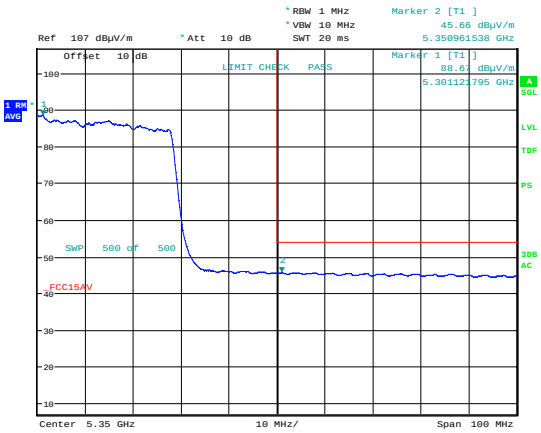
Date: 31.AUG.2022 13:14:54

Band Edge, 5350 MHz, Ch054, 802.11n MCS15 MIMO, Av, Max



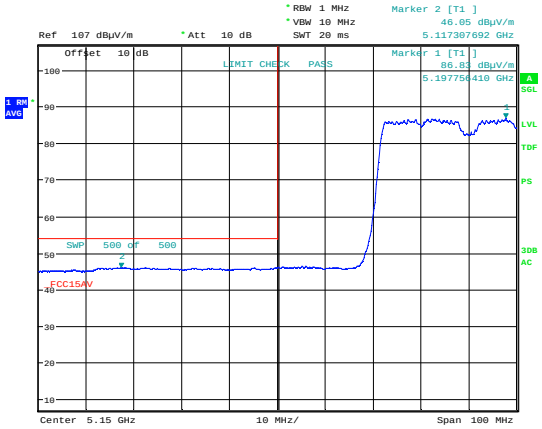
Date: 31.AUG.2022 14:55:58

Band Edge, 5150 MHz, Ch042, 802.11ac MCS0, Av, Max



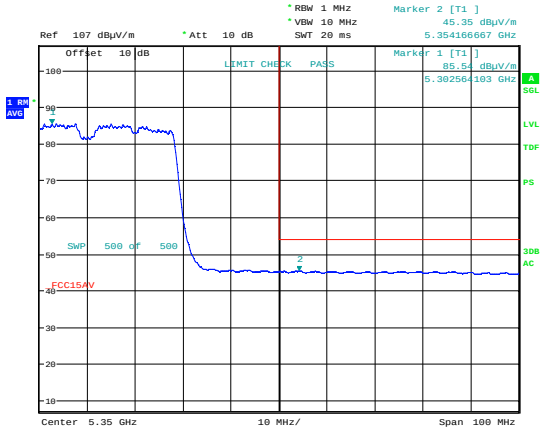
Date: 31.AUG.2022 14:49:20

Band Edge, 5350 MHz, Ch058, 802.11ac MCS0, Av, Max



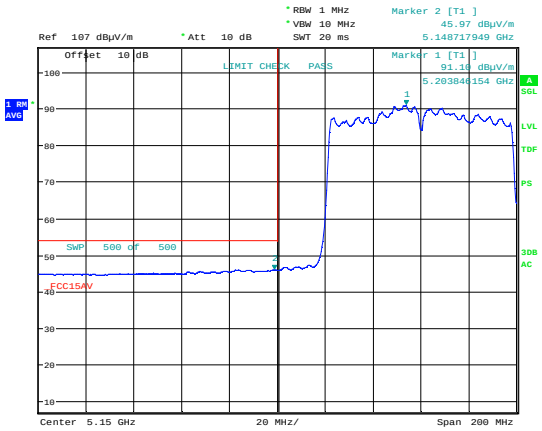
Date: 31.AUG.2022 14:58:51

Band Edge, 5150 MHz, Ch042, 802.11ac MCS9, Av, Max



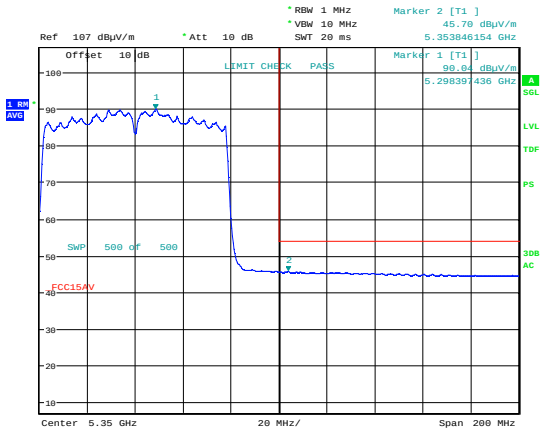
Date: 31.AUG.2022 14:52:26

Band Edge, 5350 MHz, Ch058, 802.11ac MCS9, Av, Max



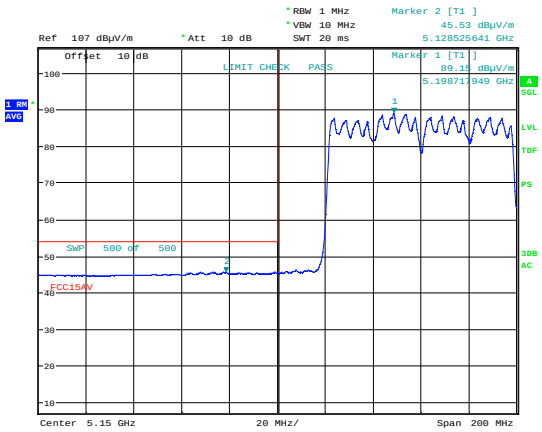
Date: 31.AUG.2022 13:40:40

Band Edge, 5150 MHz, Ch042, 802.11ac MCS0 MIMO, Av, Max



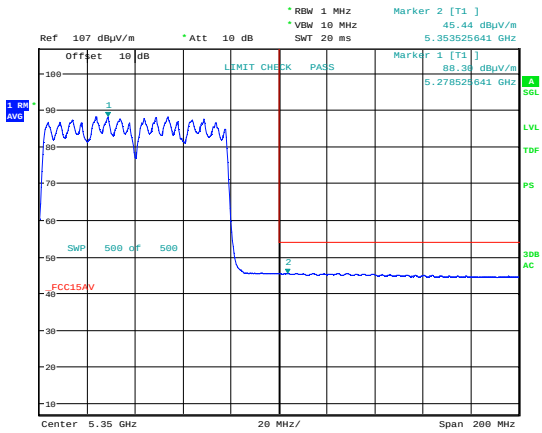
Date: 31.AUG.2022 13:54:54

Band Edge, 5350 MHz, Ch058, 802.11ac MCS0 MIMO, Av, Max



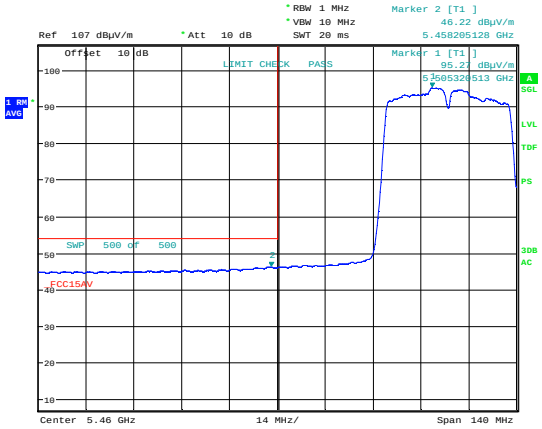
Date: 31.AUG.2022 13:50:12

Band Edge, 5150 MHz, Ch042, 802.11ac MCS9 MIMO, Av, Max



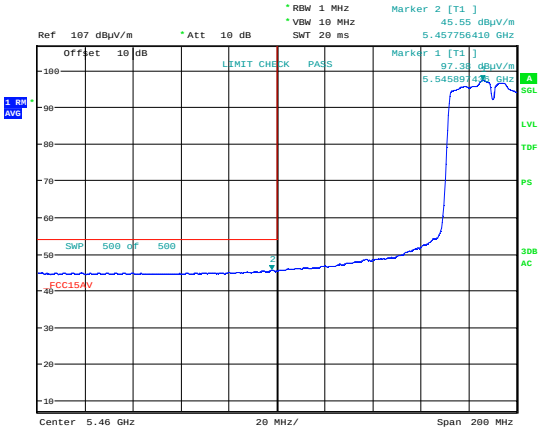
Date: 31.AUG.2022 13:58:48

Band Edge, 5350 MHz, Ch058, 802.11ac MCS9 MIMO, Av, Max



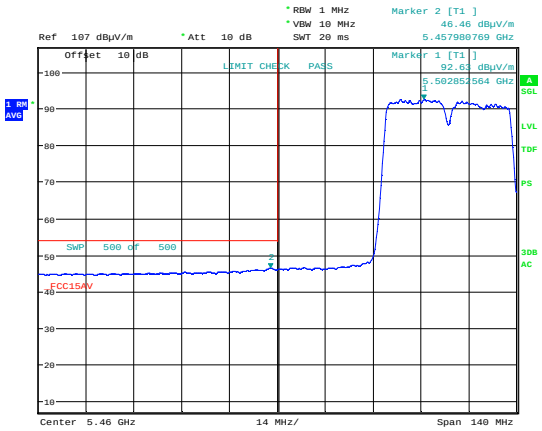
Date: 31.AUG.2022 10:48:10

Band Edge, 5460 MHz, Ch102, 802.11n MCS0, Av, Max



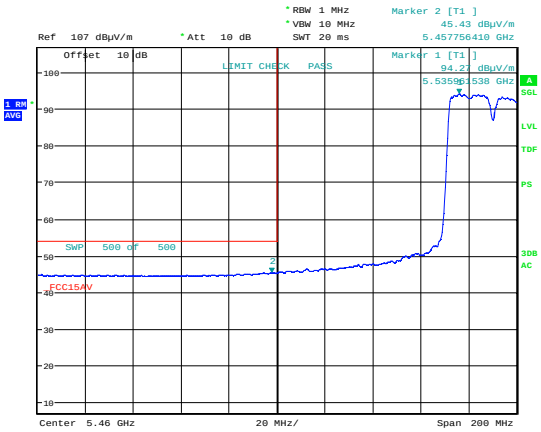
Date: 31.AUG.2022 10:57:19

Band Edge, 5460 MHz, Ch110, 802.11n MCS0, Av, Max



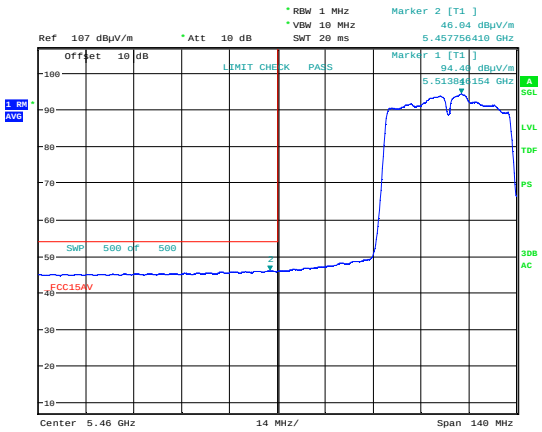
Date: 31.AUG.2022 10:53:04

Band Edge, 5460 MHz, Ch102, 802.11n MCS7, Av, Max



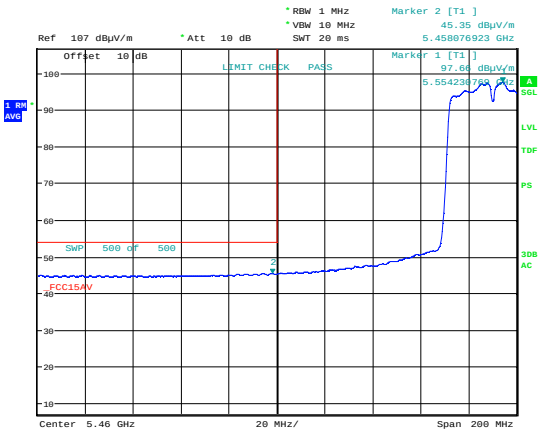
Date: 31.AUG.2022 11:01:27

Band Edge, 5460 MHz, Ch110, 802.11n MCS7, Av, Max



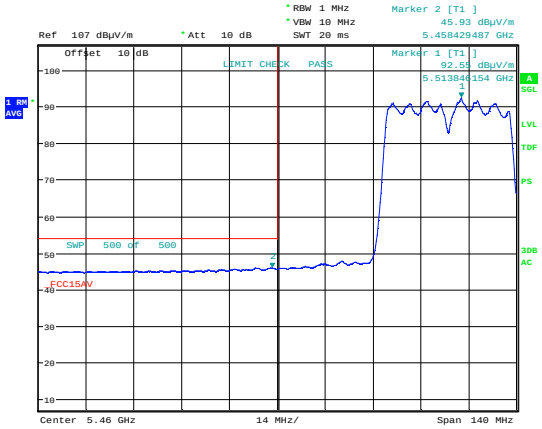
Date: 31.AUG.2022 12:43:03

Band Edge, 5460 MHz, Ch102, 802.11n MCS8 MIMO, Av, Max



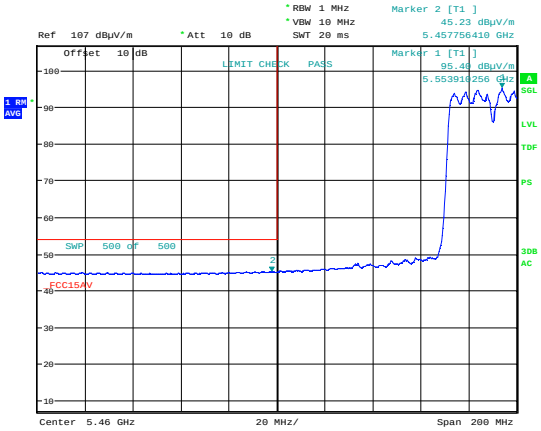
Date: 31.AUG.2022 12:54:10

Band Edge, 5460 MHz, Ch110, 802.11n MCS8 MIMO, Av, Max



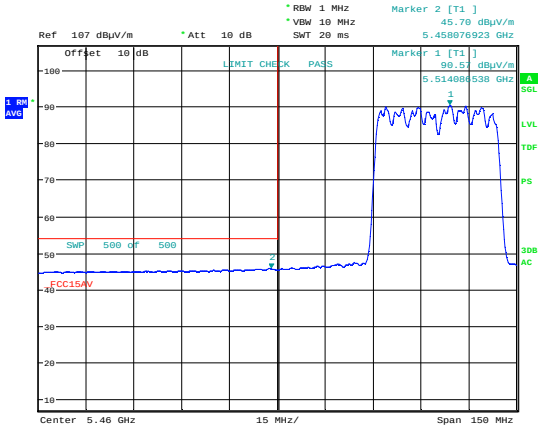
Date: 31.AUG.2022 12:47:42

Band Edge, 5460 MHz, Ch102, 802.11n MCS15 MIMO, Av, Max



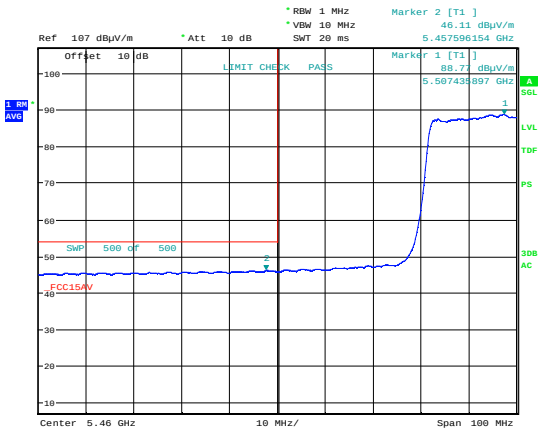
Date: 31.AUG.2022 12:59:37

Band Edge, 5460 MHz, Ch110, 802.11n MCS15 MIMO, Av, Max



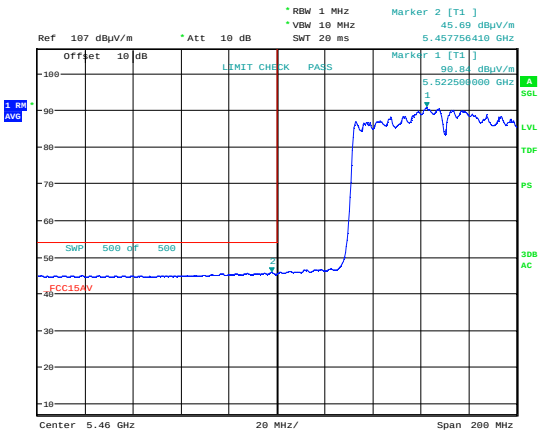
Date: 31.AUG.2022 16:19:32

Band Edge, 5460 MHz, Ch102, 802.11ax MCS11 MIMO, Av, Max



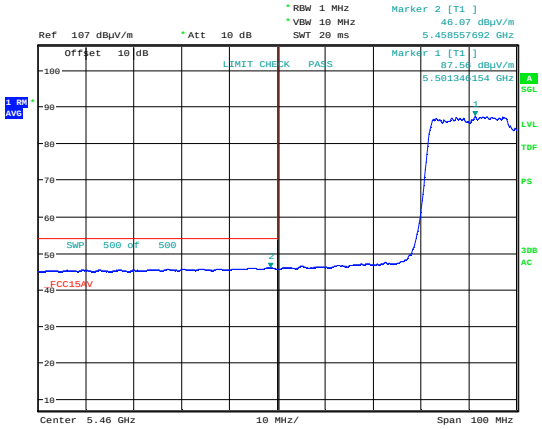
Date: 31.AUG.2022 14:41:55

Band Edge, 5460 MHz, Ch106, 802.11ac MCS0, Av, Max



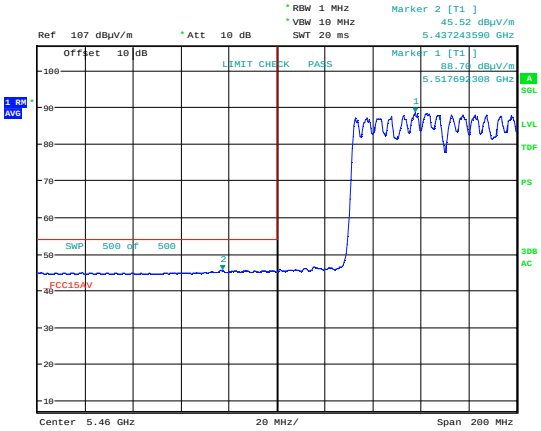
Date: 31.AUG.2022 14:04:52

Band Edge, 5460 MHz, Ch106, 802.11ac MCS0 MIMO, Av, Max



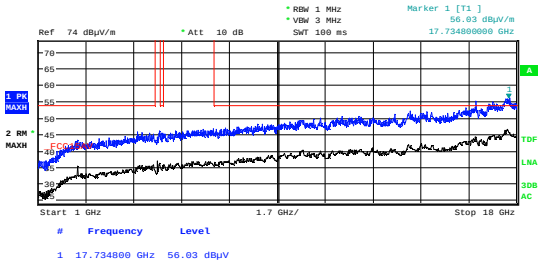
Date: 31.AUG.2022 14:45:34

Band Edge, 5460 MHz, Ch106, 802.11ac MCS9, Av, Max

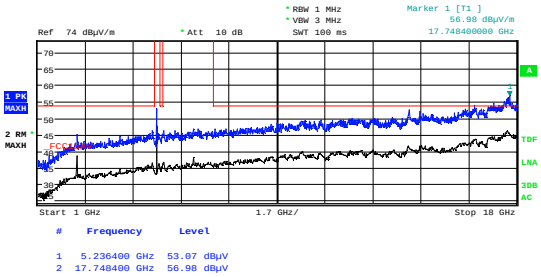


Date: 31.AUG.2022 14:08:12

Band Edge, 5460 MHz, Ch106, 802.11ac MCS9 MIMO, Av, Max



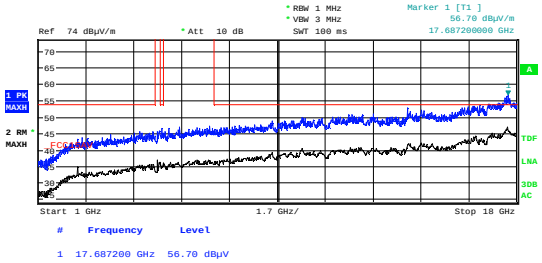
Date: 1.SEP.2022 14:22:07



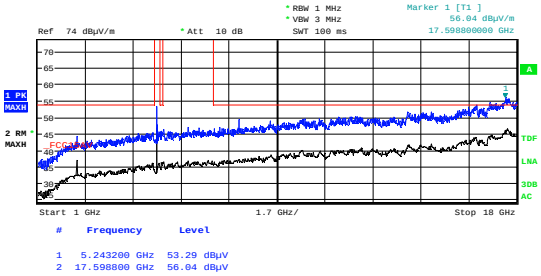
Date: 1.SEP.2022 14:20:12

Radiated Emissions 1-18 GHz, Ch048, 802.11a 6M, Ant 0, HP

VP



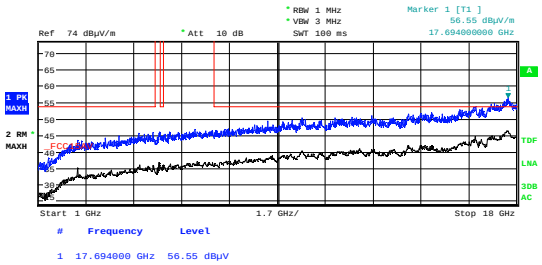
Date: 1.SEP.2022 14:26:42



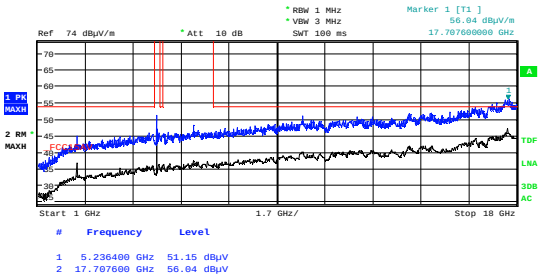
Date: 1.SEP.2022 14:24:47

Radiated Emissions 1-18 GHz, Ch048, 802.11a 6M, Ant 1, HP

VP



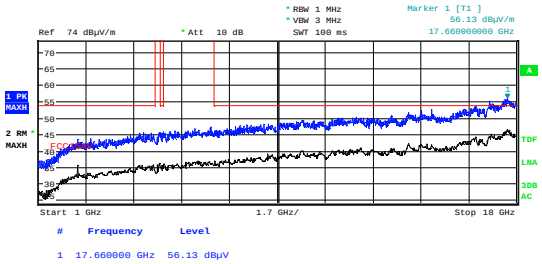
Date: 1.SEP.2022 14:32:29



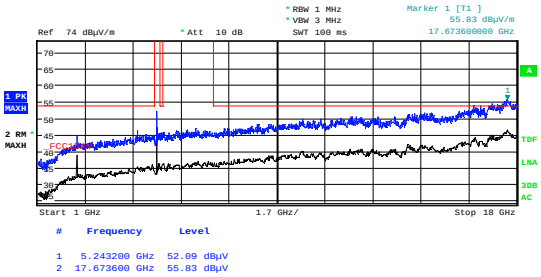
Date: 1.SEP.2022 14:30:33

Radiated Emissions 1-18 GHz, Ch048, 802.11n MCS0, Ant 0, HP

VP

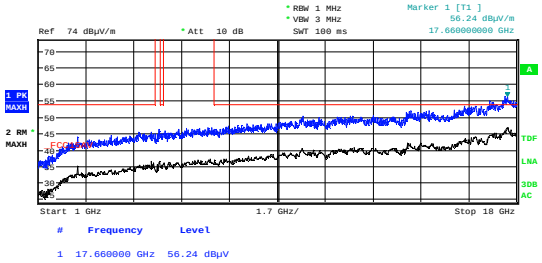


Date: 1.SEP.2022 14:37:25

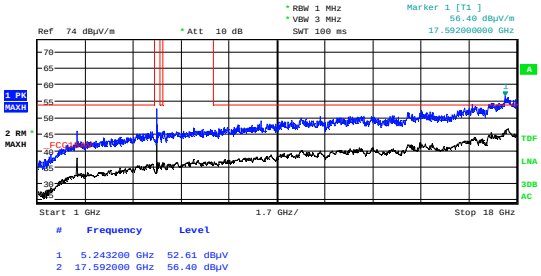


Date: 1.SEP.2022 14:35:29

Radiated Emissions 1-18 GHz, Ch048, 802.11n MCS0, Ant 1, HP VP

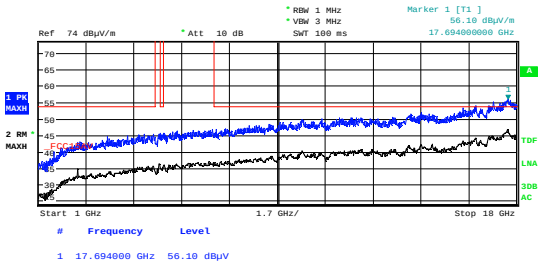


Date: 1.SEP.2022 14:43:38

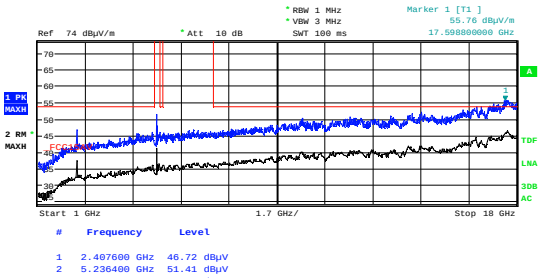


Date: 1.SEP.2022 14:41:43

Radiated Emissions 1-18 GHz, Ch048, 802.11n MCS8, MIMO, HP VP

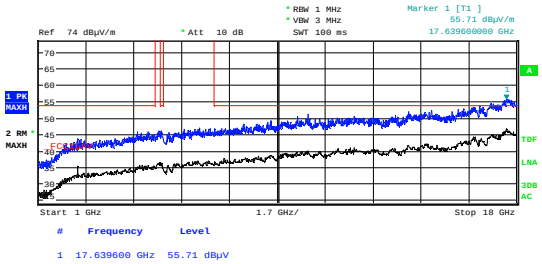


Date: 1.SEP.2022 14:50:58

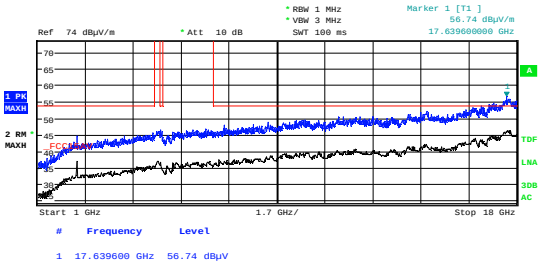


Date: 1.SEP.2022 14:49:03

Radiated Emissions 1-18 GHz, Ch048, 802.11ax MCS0, MIMO, HP VP



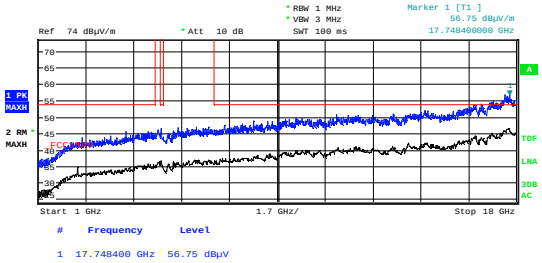
Date: 1.SEP.2022 15:18:19



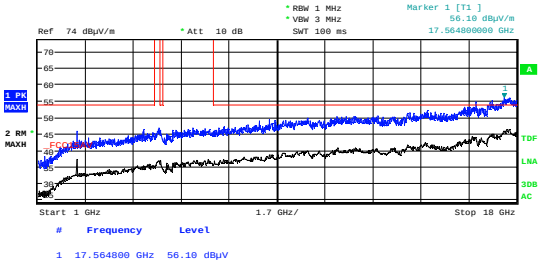
Date: 1.SEP.2022 15:16:24

Radiated Emissions 1-18 GHz, Ch116, 802.11a 6M, Ant 0, HP

VP



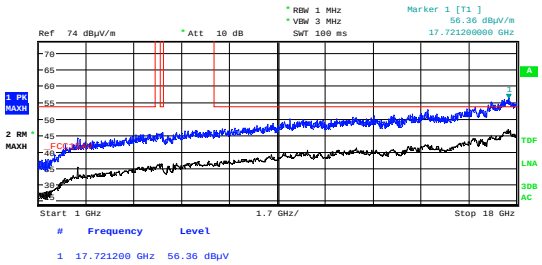
Date: 1.SEP.2022 15:24:31



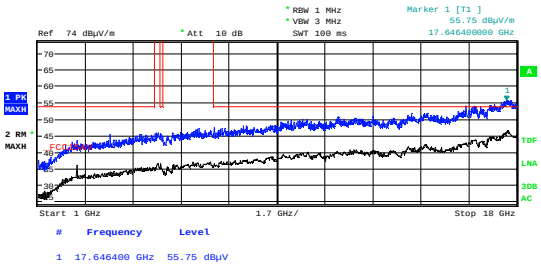
Date: 1.SEP.2022 15:22:36

Radiated Emissions 1-18 GHz, Ch116, 802.11a 6M, Ant 1, HP

VP



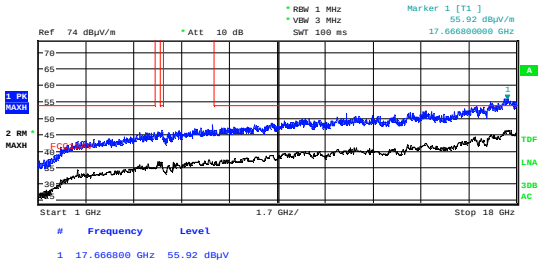
Date: 1.SEP.2022 15:31:53



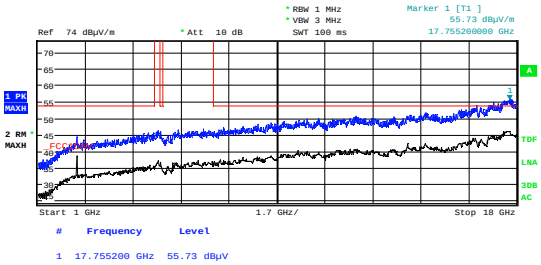
Date: 1.SEP.2022 15:29:58

Radiated Emissions 1-18 GHz, Ch116, 802.11n MCS8, MIMO, HP

VP

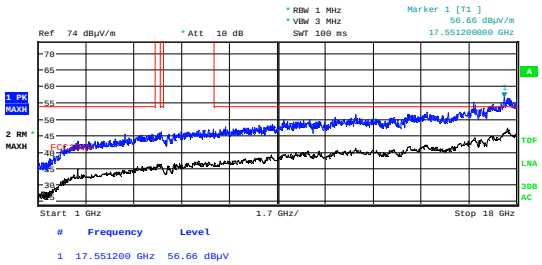


Date: 1.SEP.2022 16:02:12

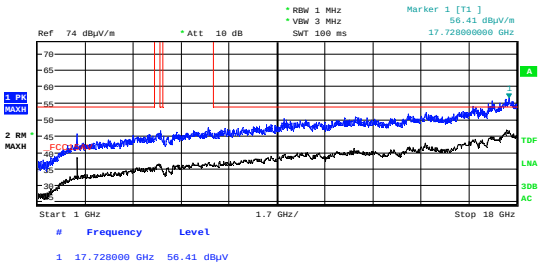


Date: 1.SEP.2022 16:00:17

Radiated Emissions 1-18 GHz, Ch116, 802.11ax MCS0, Ant0, HP VP

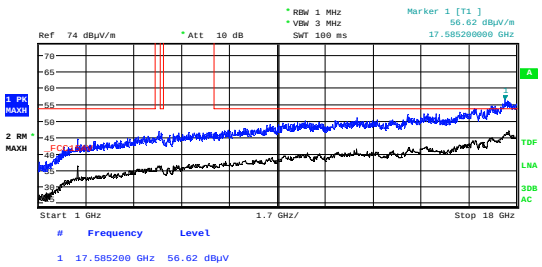


Date: 1.SEP.2022 16:06:54

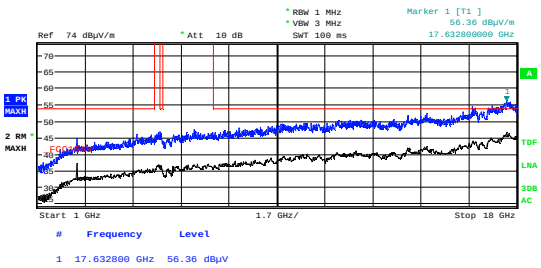


Date: 1.SEP.2022 16:04:58

Radiated Emissions 1-18 GHz, Ch116, 802.11ax MCS0, Ant1, HP VP

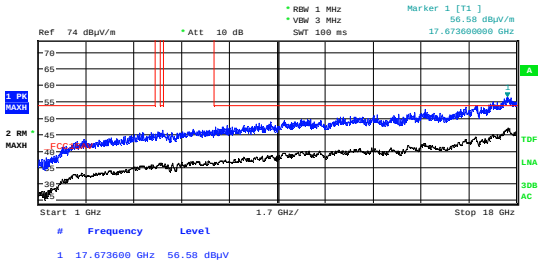


Date: 1.SEP.2022 15:54:15

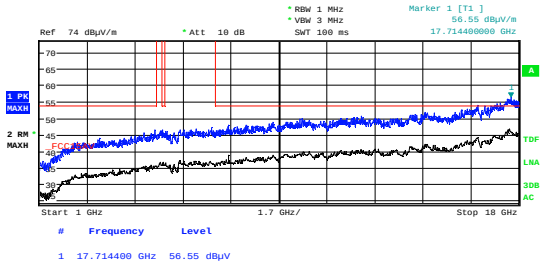


Date: 1.SEP.2022 15:52:20

Radiated Emissions 1-18 GHz, Ch116, 802.11ax MCS0, MIMO, HP VP



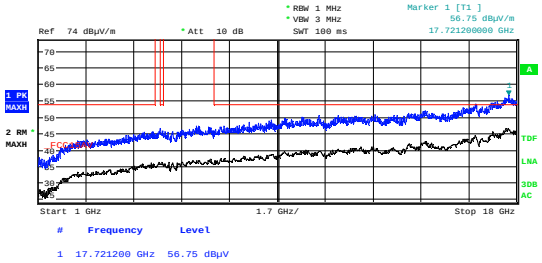
Date: 7.SEP.2022 12:37:07



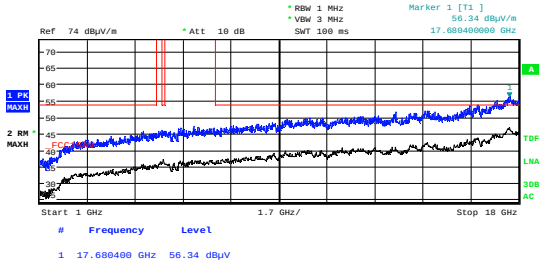
Date: 7.SEP.2022 12:35:12

Radiated Emissions 1-18 GHz, Ch157, 802.11a 6M, Ant 0, HP

VP



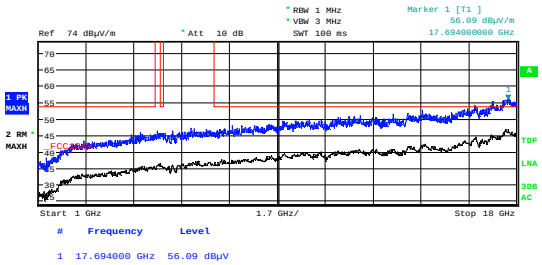
Date: 7.SEP.2022 12:43:33



Date: 7.SEP.2022 12:41:38

Radiated Emissions 1-18 GHz, Ch157, 802.11a 6M, Ant 1, HP

VP



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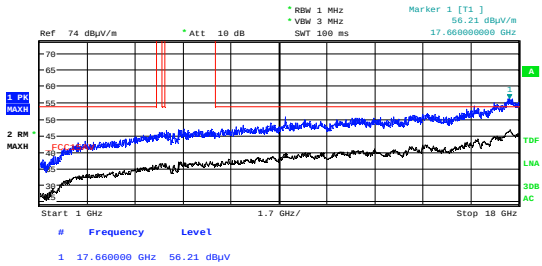
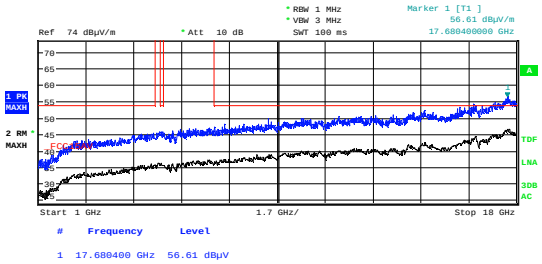


Date: 7.SEP.2022 12:50:22

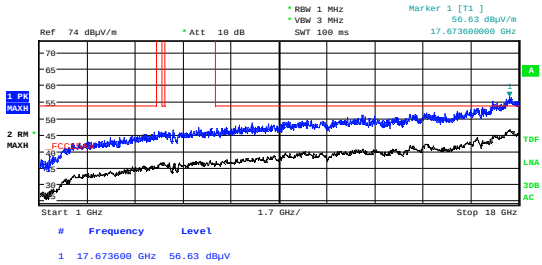
Radiated Emissions 1-18 GHz, Ch157, 802.11n MCS0, Ant 0, HP

VP



Date: 7.SEP.2022 12:57:00

Radiated Emissions 1-18 GHz, Ch157, 802.11n MCS0, Ant 1, HP



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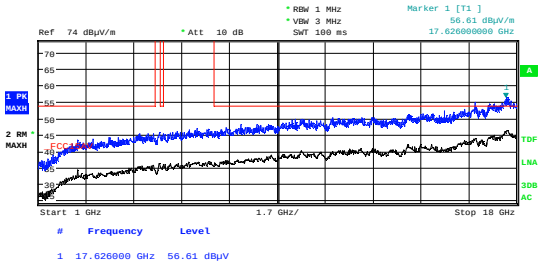
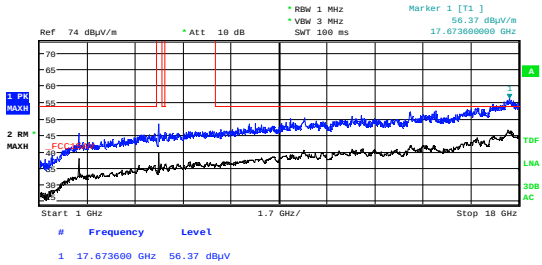
VP



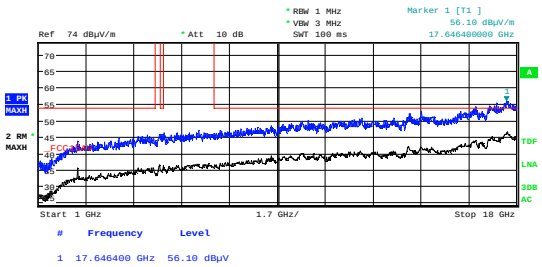
Date: 1.SEP.2022 14:58:39

Radiated Emissions 1-18 GHz, Ch046, 802.11ax MCS0, MIMO, HP



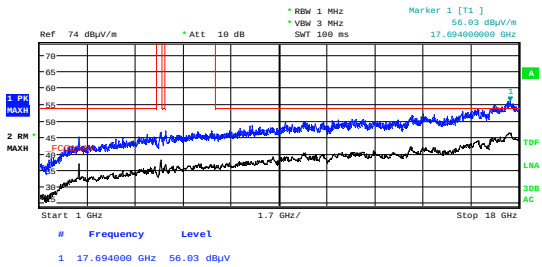
Date: 1.SEP.2022 14:56:43

VP



Date: 1.SEP.2022 15:07:39

Radiated Emissions 1-18 GHz, Ch058, 802.11ax MCS0, MIMO, HP



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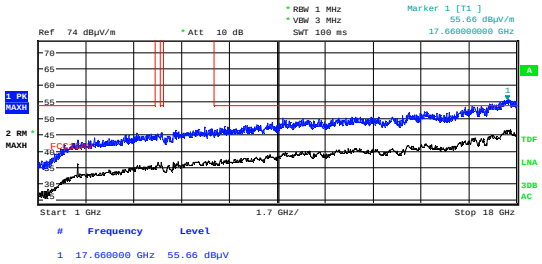
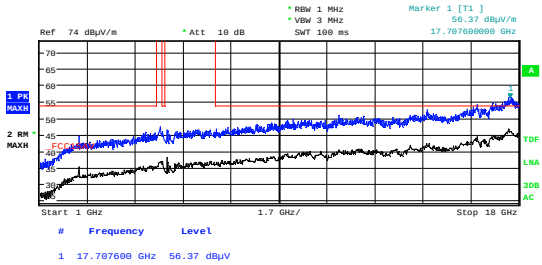


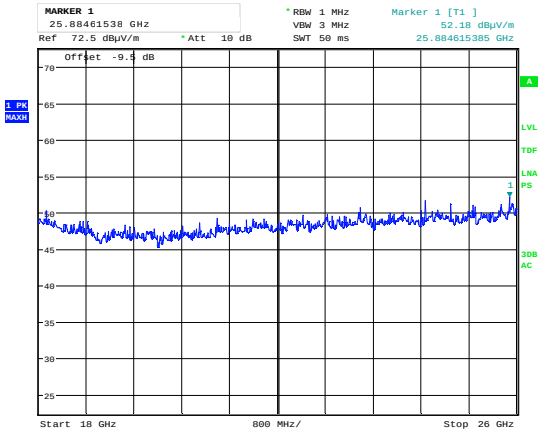
Date: 1.SEP.2022 15:38:57

Radiated Emissions 1-18 GHz, Ch110, 802.11ac MCS0, MIMO, HP



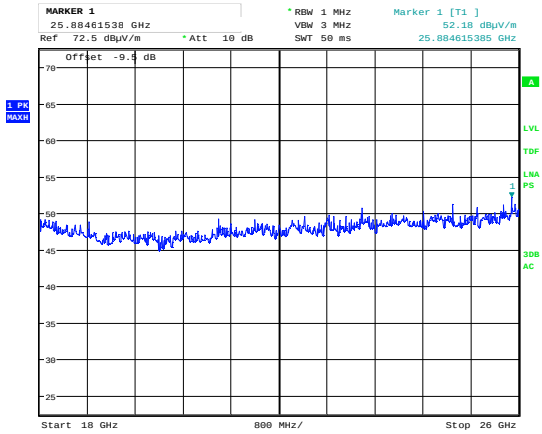
Date: 1.SEP.2022 15:37:02

VP



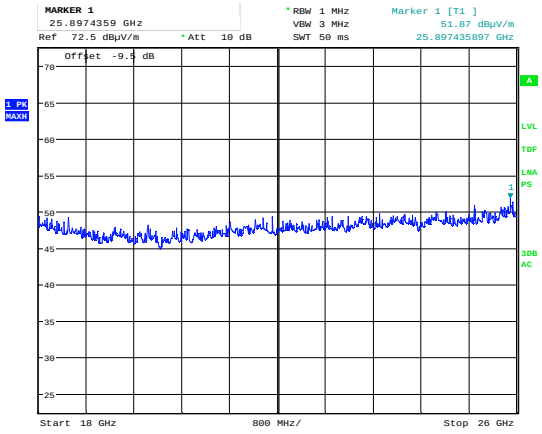
Date: 8.SEP.2022 13:20:47

Pre-scan 18-26 GHz, Ch048, 802.11a 6M, Ant0, HP, @1m



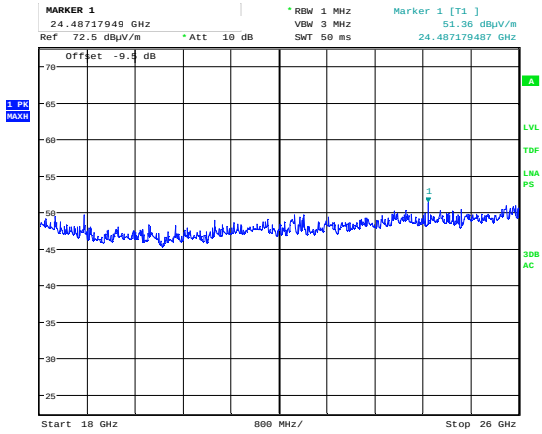
Date: 8.SEP.2022 13:20:09

VP



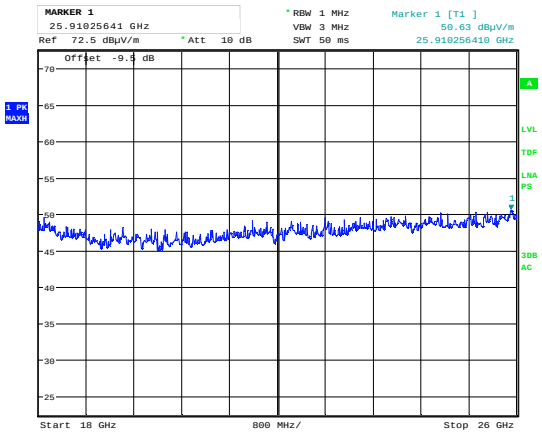
Date: 8.SEP.2022 13:26:36

Pre-scan 18-26 GHz, Ch048, 802.11a 6M, Ant1, HP, @1m



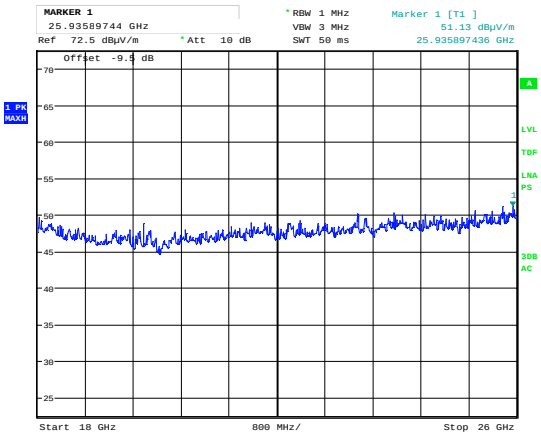
Date: 8.SEP.2022 13:27:25

VP



Date: 8.SEP.2022 13:38:27

Pre-scan 18-26 GHz, Ch048, 802.11n MCS8 MIMO, HP, @1m



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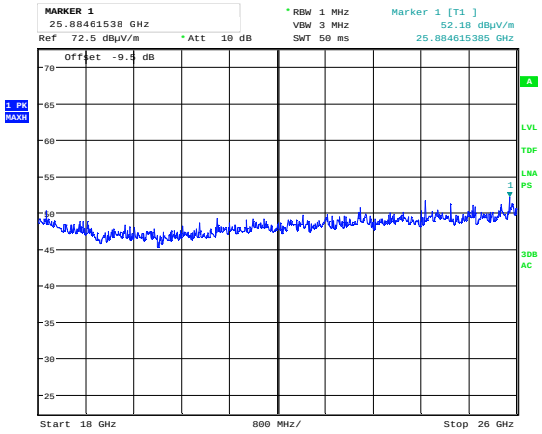
VP



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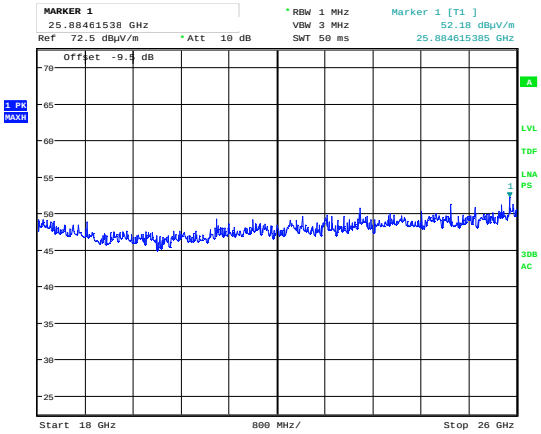
Pre-scan 18-26 GHz, Ch116, 802.11a 6M, Ant0, HP, @1m



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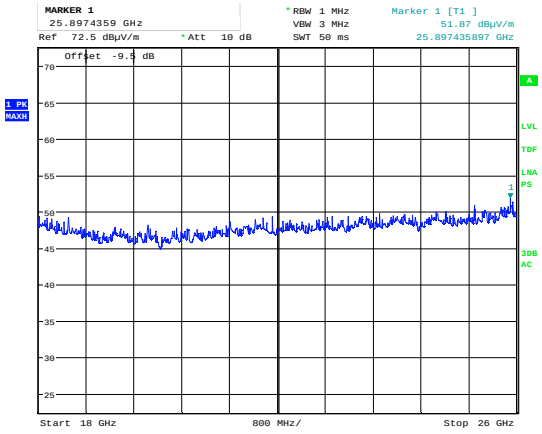
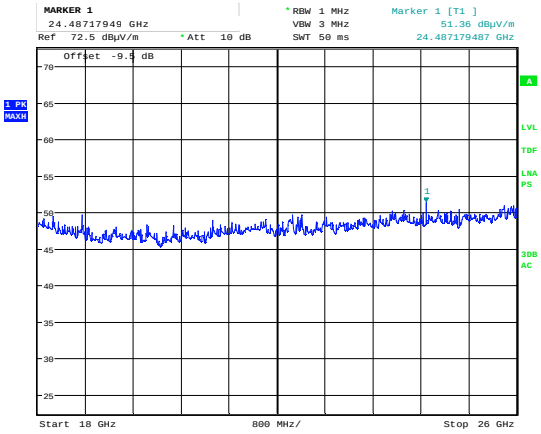


Date: 8.SEP.2022 13:26:36

Pre-scan 18-26 GHz, Ch116, 802.11a 6M, Ant1, HP, @1m



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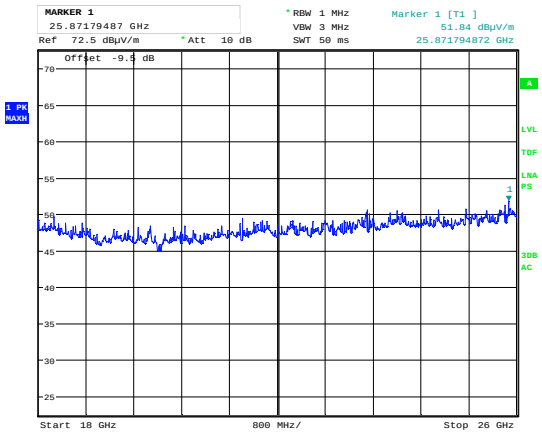
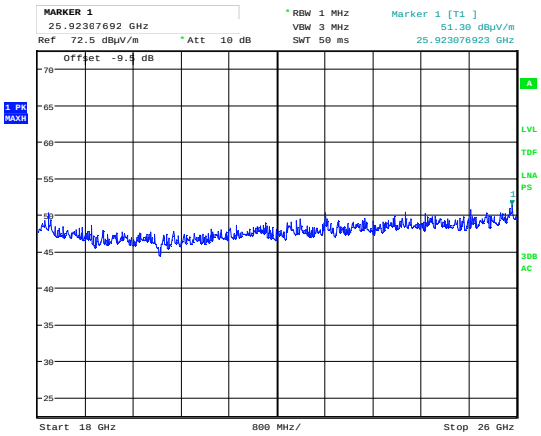
VP



Date: 8.SEP.2022 13:22:05

Pre-scan 18-26 GHz, Ch116, 802.11n MCS0, Ant0, HP, @1m



Date: 8.SEP.2022 13:22:52

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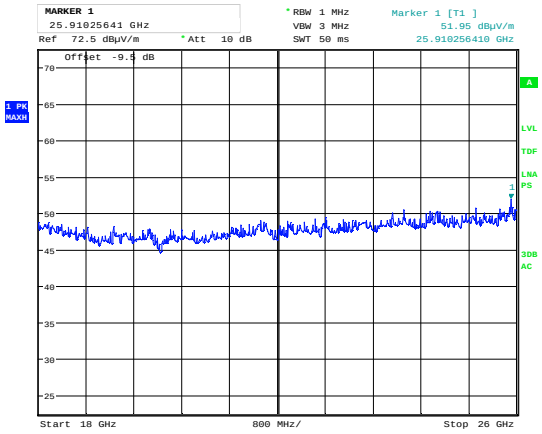
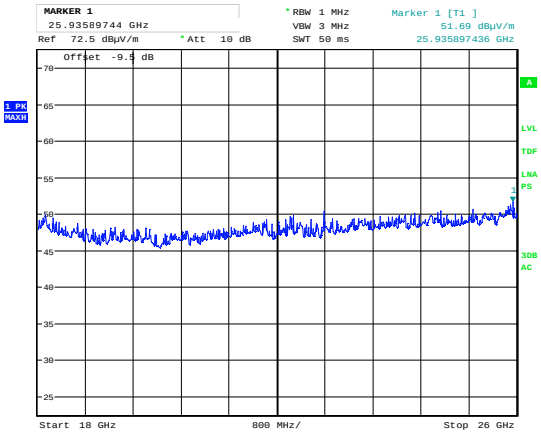


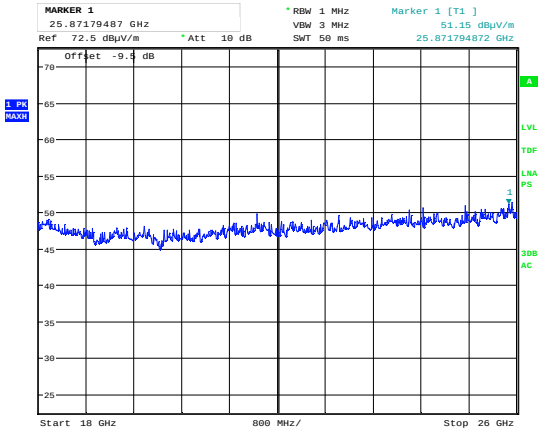
Date: 8.SEP.2022 13:25:22

Pre-scan 18-26 GHz, Ch116, 802.11n MCS0, Ant1, HP, @1m



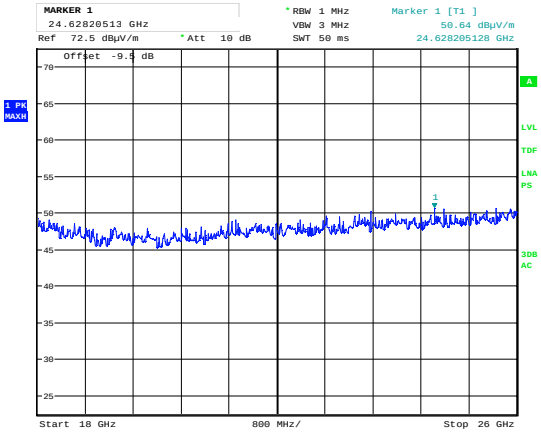
Date: 8.SEP.2022 13:24:32

VP



Date: 8.SEP.2022 13:40:00

Pre-scan 18-26 GHz, Ch116, 802.11n MCS8 MIMO, HP, @1m



Date: 8.SEP.2022 13:40:48

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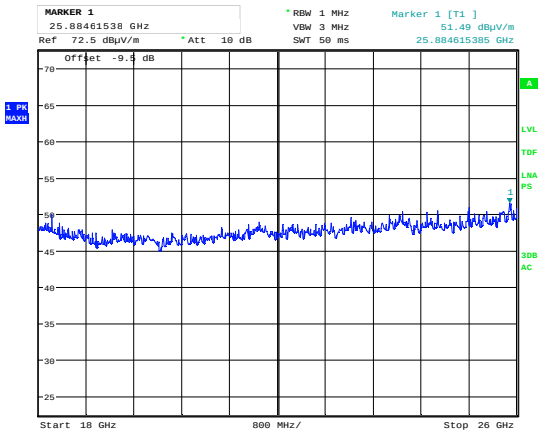
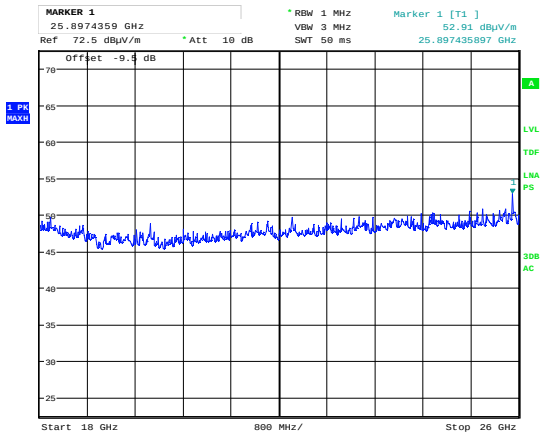


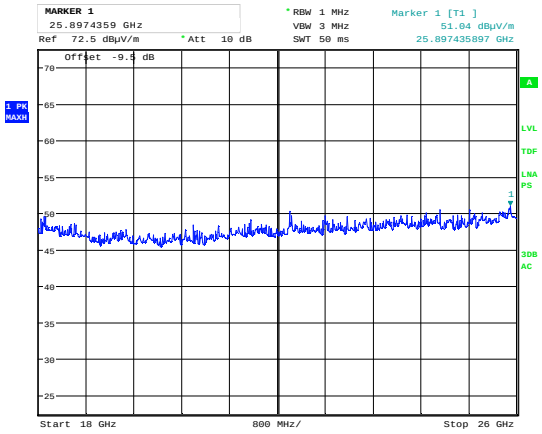
Date: 8.SEP.2022 13:50:32

Pre-scan 18-26 GHz, Ch116, 802.11ax MCS11 MIMO, HP, @1m



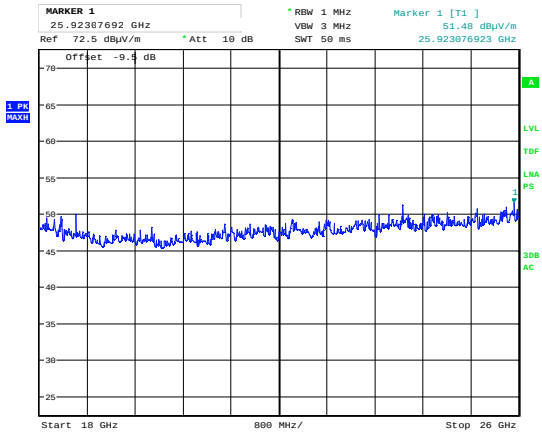
Date: 8.SEP.2022 13:51:27

VP



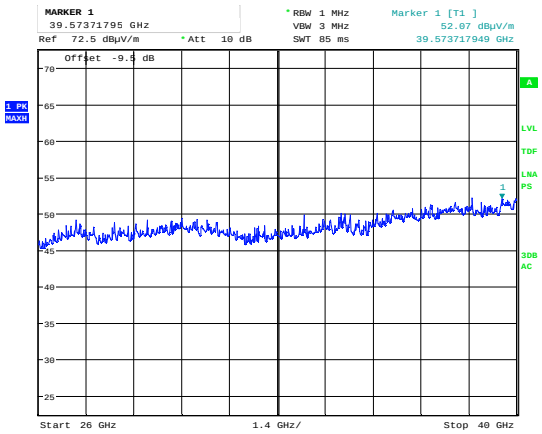
Date: 8.SEP.2022 13:37:06

Pre-scan 18-26 GHz, Ch157, 802.11n MCS8 MIMO, HP, @1m



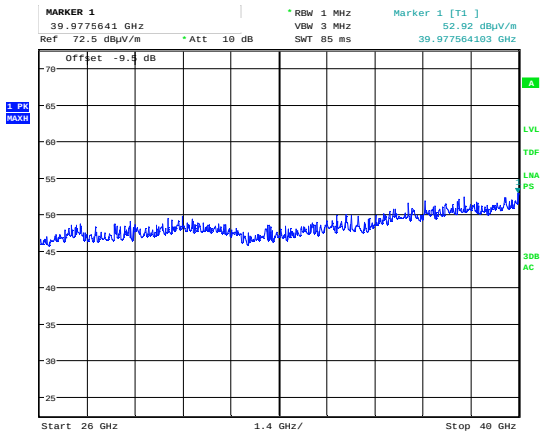
Date: 8.SEP.2022 13:36:24

VP



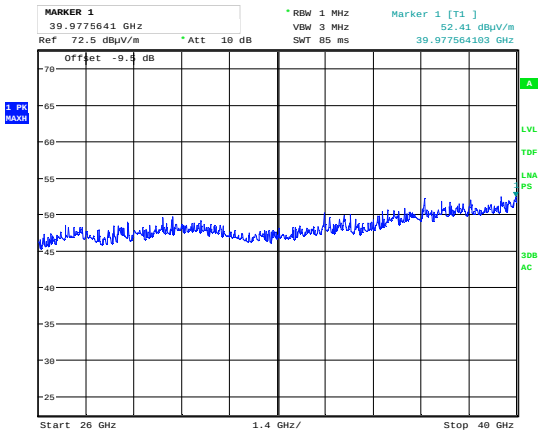
Date: 8.SEP.2022 14:35:08

Pre-scan 26-40 GHz, Ch048, 802.11a 6M, Ant0, HP, @1m



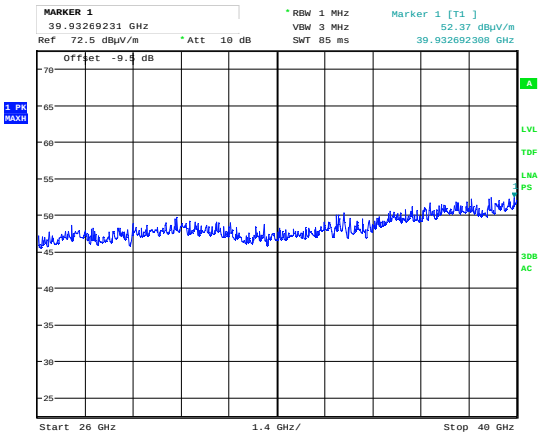
Date: 8.SEP.2022 14:34:24

VP



Date: 8.SEP.2022 14:36:15

Pre-scan 26-40 GHz, Ch048, 802.11a 6M, Ant1, HP, @1m



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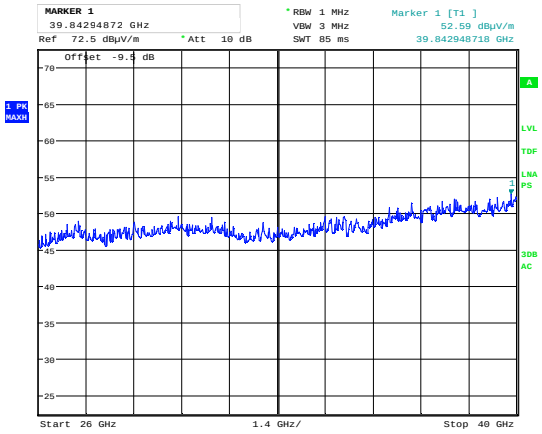

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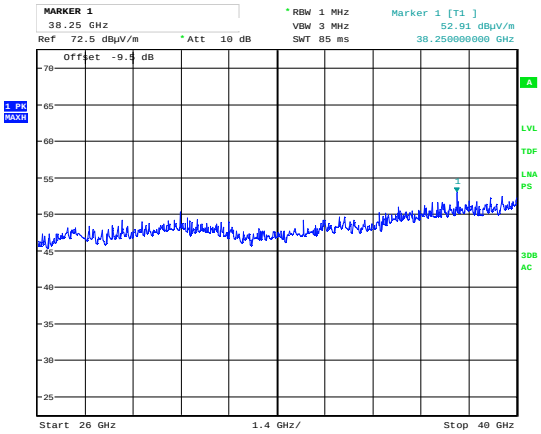
Pre-scan 26-40 GHz, Ch116, 802.11a 6M, Ant0, HP, @1m



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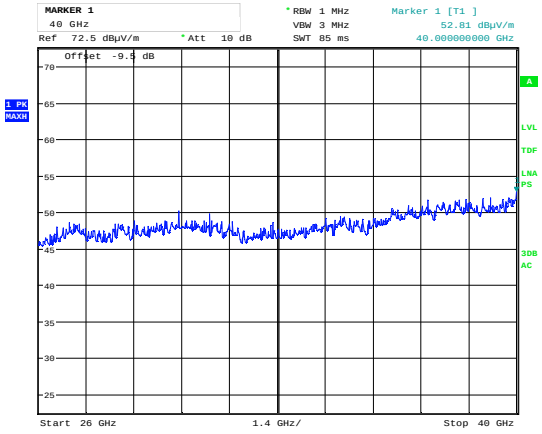

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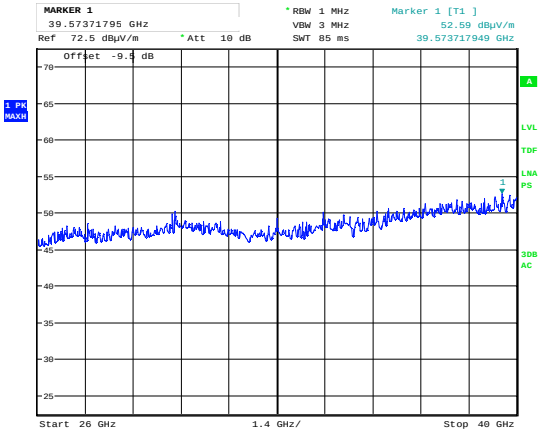

Date: 8.SEP.2022 14:32:23

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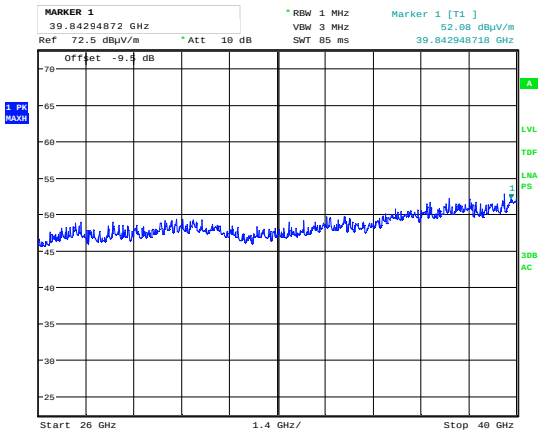
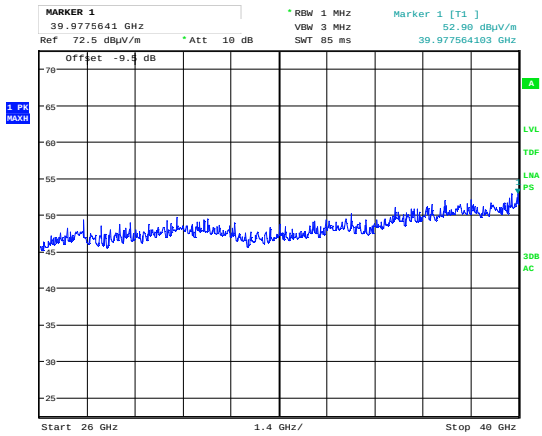


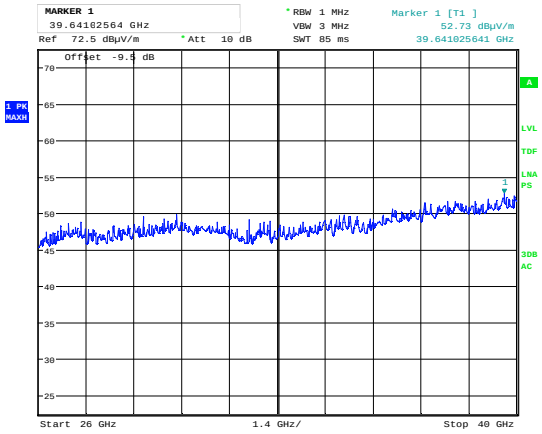
Date: 8.SEP.2022 14:39:26

Pre-scan 26-40 GHz, Ch157, 802.11a 6M, Ant0, HP, @1m



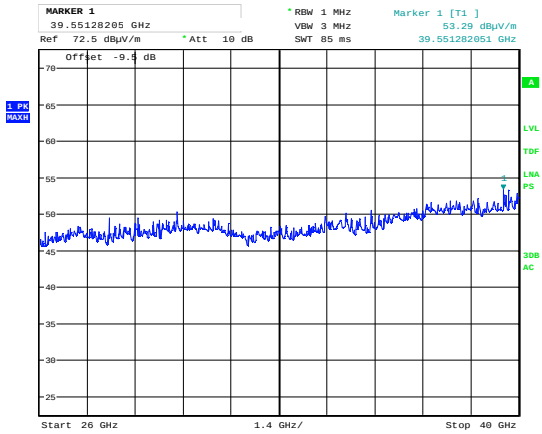
Date: 8.SEP.2022 14:38:36

VP



Date: 8.SEP.2022 14:40:37

Pre-scan 26-40 GHz, Ch157, 802.11a 6M, Ant1, HP, @1m



Date: 8.SEP.2022 14:41:21

VP

4.10 Dynamic Frequency Selection

FCC 15.407(h)(2)

ISED RSS-247, Issue 2, Clause 6.3

Test Results: Complies

Measurement Data:

	Measured values	
	Frequency Band 2	**Frequency Band 3**
Channel Move Time	**2.096 sec**	**2.042 sec**
Non-occupancy Period	**>30 min**	**>30 min**

The tested EUT is a slave or client device without radar detection capabilities. The EUT does not have ad-hoc or direct mode.

The test was performed by setting up a link between the EUT and the access point on the test channel and then applying a radar signal at a RF level of -50dBm to the Master device while the channel was monitored on the Spectrum Analyzer.

The EUT moves channel with the Master Device. See plots that illustrate Channel Move Time and Non-Occupancy Time in the frequency bands 5250 - 5350 MHz and 5470 – 5725 MHz.

The test was performed conducted according to KDB 848637.

FCC Radar Type 3 with Pulse Width 10µs, PRI 200µs and 18 pulses per burst was used (FCC 06-96 A1). Only one burst was used for each test since the Access point with DFS detected the radar every time.

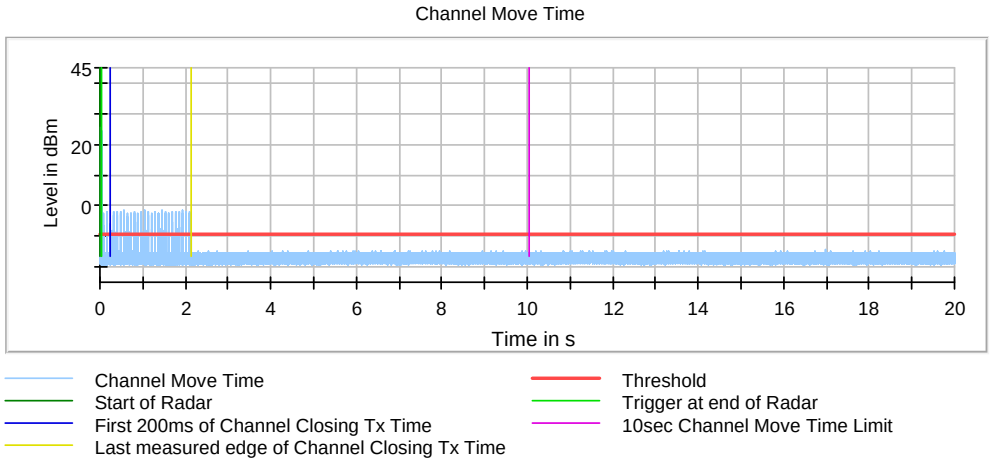
The test was performed with a Linksys WRT3200ACM wireless router (FCC ID: Q87-WRT3200ACM).

Requirements

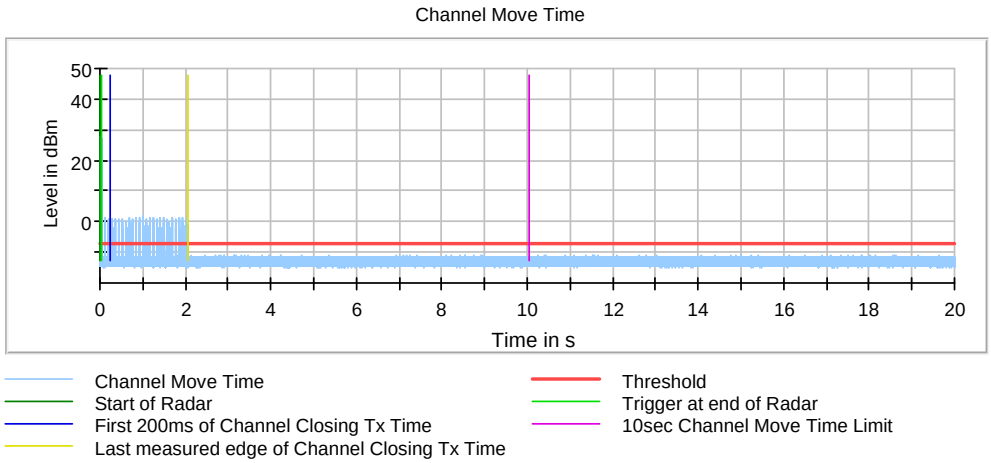
FCC 15.407(h)(2), IC RSS-247, Issue 1, Clause 6.3 (2):

Channel Move Time: After a radar's presence is detected, all transmissions shall cease on the operating channel within 10 seconds. Transmissions during this period shall consist of normal traffic for a maximum of 200 ms after detection of the radar signal. In addition, intermittent management and control signals can be sent during the remaining time to facilitate vacating the operating channel.

Non-occupancy Period: A channel that has been flagged as containing a radar system, either by a channel availability check or in-service monitoring, is subject to a non-occupancy period of at least 30 minutes. The non-occupancy period starts at the time when the radar system is detected.



Channel Closing Time, Band 2



Channel Closing Time, Band 3

5 Measurement Uncertainty

Measurement Uncertainty Values		
Test Item		**Uncertainty**
Output Power		±0.5 dB
Power Spectral Density		±0.5 dB
Out of Band Emissions, Conducted	**< 3.6 GHz**	±0.6 dB
	> 3.6 GHz	±0.9 dB
Spurious Emissions, Radiated	**< 1 GHz**	±2.5 dB
	> 1 GHz	±2.2 dB
Emission Bandwidth		±4 %
Power Line Conducted Emissions		+2.9 / -4.1 dB
Spectrum Mask Measurements	**Frequency**	±5 %
	Amplitude	±1.0 dB
Frequency Error		±0.6 ppm
Temperature Uncertainty		±1 °C

All uncertainty values are expanded standard uncertainty to give a confidence level of 95%, based on coverage factor k=2

6 LIST OF TEST EQUIPMENT

To facilitate inclusion on each page of the test equipment used for related tests, each item of test equipment and ancillaries are identified (numbered) by the Test Laboratory.

No.	Model number	Description	Manufacturer	Ref. no.	Cal. date	Cal. Due
1	FSW43	Spectrum Analyzer	Rohde & Schwarz	LR 1690	2022-01	2023-01
2	ESU40	Measuring Receiver	Rohde & Schwarz	LR 1639	2022-01	2023-01
3	6810-17B	Attenuator	Suhner	LR 1669	2022-05	2023-05
4	L01G18G1	LowPass Filter (1 GHz)	Microwave Circuits	LR 1768	COU	
5	VULB 9163	BiLog Antenna	Schwarzbech	LR 1616	2021-05	2024-05
6	317	Preamplifier	Sonoma Inst.	LR 1687	2022-08	2023-08
7	8449A	Pre-amplifier	Hewlett Packard	LR 1322	2022-08	2023-08
8	3117-PA	Horn Antenna +PreAmp	EMCO	LR 1717	2022-08	2023-08
9	Model 638	Antenna Horn	Narda	LR 1480	N/A	
10	N0452501	BandStop Filter (5.3 GHz)	Microwave Circuits	LR 1775	COU	
11	N0555983	BandStop Filter (5.5 GHz)	Microwave Circuits	LR 1774	COU	
12	N0257881	BandStop Filter (5.8 GHz)	Microwave Circuits	LR 1764	COU	
14	Model 87 V	Multimeter	Fluke	LR 1600	2022-03	2024-03
15	6812B	AC Power Source	Agilent	LR 1515	2022-11	2024-11
16	ENV216	Two Line V-Network	Rohde & Schwarz	LR 1665	2021-12	2023-12
17	ESCI3	Measuring Receiver	Rohde & Schwarz	N-4259	2021-10	2023-10
18	Model V637	Horn Antenna	Narda	LR 099	N/A	
19	JS4-20004000	Preamplifier	Miteq	LR 1591	2022-08	2023-08
20	ST18/SMA/N/36	RF Cable	Suhner	LR 1627	COU	
21	OSP-B157W8	Peak Power Meters	Rohde & Schwarz	LR 1793	2022-02	2023-02
22	OSP-B157WX	Switch Unit	Rohde & Schwarz	LR 1806	2022-08	2023-08
23	ST18/SMA/N/36	RF Cable	Suhner	LR 1627	COU	
24	SF102/1000MM	RF Cable	Suhner	SN 50113/2	COU	
25	SF102/2000MM	RF Cable	Suhner	SN 500100/2	COU	

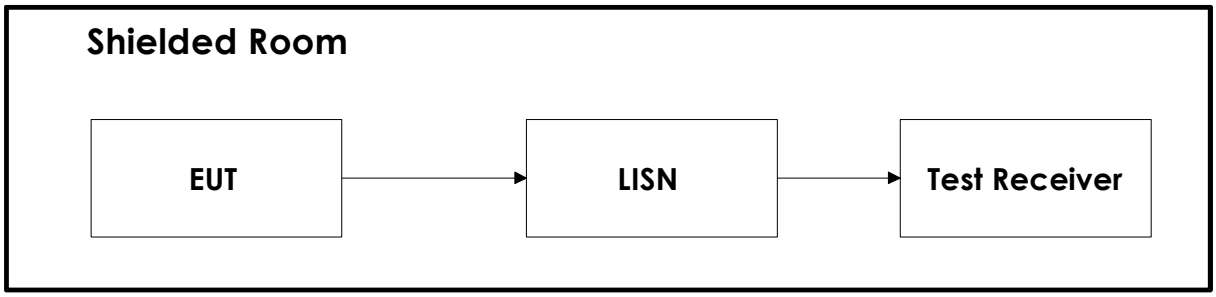
Note: COU – calibrate on use; N/A – Not Applicable

The software listed below has been used for one or more tests.

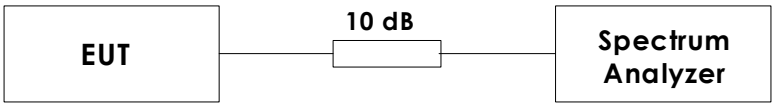
No.	Manufacturer	Name	Version	Comment
1	Rohde & Schwarz	EMC32	10.50.40	EMC test software
2	Nemko AS	RSPlot	1.0.8.0	Screen capture from R&S Spectrum Analyzers
3	Rohde & Schwarz	WMS	10.40.00	Radio Test Software

7 BLOCK DIAGRAM

7.1 Power Line Conducted Emission

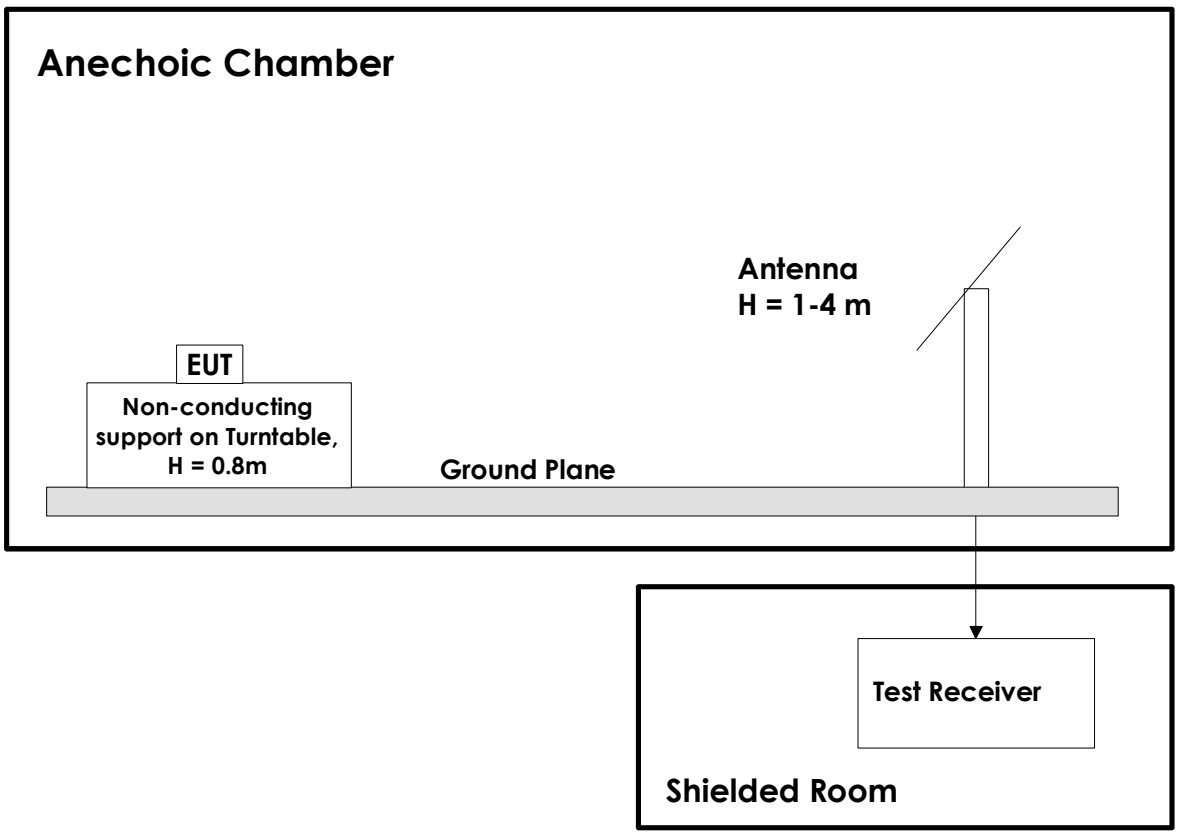


7.2 Conducted Tests



This test set-up is used for all Conducted tests. For the Frequency Stability test the EUT was placed in a climatic chamber.

7.3 Test Site Radiated Emission



This test setup is used for all radiated emissions tests. Measuring distance is 3m for all frequencies.

Emissions above 1 GHz are measured with a Spectrum Analyzer and Horn Antenna.

All measurements at 1GHz and above were performed with turntable height 1.5m and with the ground plane covered by absorbers.

A pre-amplifier is used for all measurements, and High-Pass filter is used for all harmonics.