Report No.: DDT-R22020803-2E02

Issued Date: Mar. 28, 2022

FCC AND ISED CERTIFICATION TEST REPORT

FOR

Applicant	**:**	Beijing InHand Networks Technology Co., Ltd.
Address	**:**	Room 501, floor 5, building 3, yard 18, ziyue road, chaoyang district, Beijing
Equipment under Test	**:**	InVehicle Gateway
Model No.	**:**	VG710-NRQ3
Trade Mark	**:**	inhand
FCC ID	**:**	2AANYVG7
IC	**:**	11594A-VG7
Manufacturer	**:**	Beijing InHand Networks Technology Co., Ltd.
Address	**:**	Room 501, floor 5, building 3, yard 18, ziyue road, chaoyang district, Beijing

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

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

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

REPORT

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Test Report Declare

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Test Standard Used: FCC Rules and Regulations Part 15 Subpart E, RSS-247 Issue 2 February 2017.

Test procedure used: ANSI C63.10:2013, 789033 D02 General U-NII Test Procedures New Rules v02r01, RSS-Gen Issue 5, Apr. 2018, Amendment 2 (February 2021)

We Declare:

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

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

Report No:	DDT-R22020803-2E02		
Date of Receipt:	Feb. 14, 2022	**Date of Test:**	Feb. 14, 2022 ~ Mar. 15, 2022

Prepared By: ***Approved By:***

Sam Li

Sam Li/Engineer ***Damon Hu/EMC Manager***

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

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	Mar. 28, 2022	

1. Summary of Test Results

The EUT have been tested according to the applicable standards as referenced below.		
Description of Test Item	**Standard**	**Results**
6/26 dB Bandwidth and 99% Bandwidth	FCC 15.407 (e) RSS-247 Clause 6.2 RSS-GEN Clause 6.7	Pass
Maximum Conducted Output Power	FCC 15.407 (a) RSS-247 Clause 6.2	Pass
Power Spectral Density	FCC 15.407 (a) RSS-247 Clause 6.2	Pass
Frequency Stability Measurement	FCC 15.407 (g)	Pass
Spurious Emissions	FCC 15.407 (b) FCC 15.209 FCC 15.205 RSS-247 Clause 6.2 RSS-GEN Clause 8.9	Pass
Band Edge Compliance	FCC 15.407 (b) FCC 15.209 FCC 15.205 RSS-247 Clause 6.2 RSS-GEN Clause 8.9	Pass
Power Line Conducted Emission	FCC 15.207 RSS-GEN Clause 8.8	N/A
Antenna requirement	FCC 15.203 RSS-GEN Clause 6.8	Pass
Dynamic Frequency Selection	FCC 15.407 (h) RSS-247 Clause 6.3	N/A
Note: N/A is an abbreviation for Not Applicable.		

2. General Test Information

2.1. Description of EUT

EUT* Name	:	InVehicle Gateway
Model Number	:	VG710-NRQ3
EUT function description	:	Please reference user manual of this device
Power Supply	:	Input: DC 9-36V
Radio Technology	:	IEEE 802.11a/n/ac
Operation frequency	:	IEEE 802.11a: 5180 MHz - 5240 MHz, 5745 MHz - 5825 MHz IEEE 802.11n HT20: 5180 MHz - 5240 MHz, 5745 MHz - 5825 MHz IEEE 802.11n HT40: 5190 MHz - 5230 MHz, 5755 MHz - 5795 MHz IEEE 802.11ac HT20: 5180 MHz - 5240 MHz, 5745 MHz - 5825 MHz IEEE 802.11ac HT40: 5190 MHz - 5230 MHz, 5755 MHz - 5795 MHz IEEE 802.11ac HT80: 5210 MHz, 5775 MHz
Modulation	:	IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)
Transmitter rate	:	IEEE 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps IEEE 802.11n HT20: 14.4, 28.9, 43.3, 57.8, 86.7, 115.6, 130.0, 144.4 Mbps IEEE 802.11n HT40: 30, 60, 90, 120, 180, 240, 270, 300 Mbps IEEE 802.11ac HT20: 14.4, 28.8, 43.4, 57.8, 86.6, 115.6, 130, 144.4, 173.4 Mbps IEEE 802.11ac HT40: 30, 60, 90, 120, 180, 240, 270, 300, 360, 400 Mbps IEEE 802.11ac HT80: 65, 130, 195, 260, 390, 520, 585, 650, 780, 866.6 Mbps
Antenna Gain	:	Antenna 1: 3 dBi Antenna 2: 3 dBi
Sample Type	:	Series production
Serial Number	:	VF71012345654321

Note1: EUT is the abbreviation of equipment under test.
Note2: For ISED, the 5150-5250 MHz band has been disabled by software.

Antenna information			
	Ant1 gain	Ant2 gain	MIMO
IEEE 802.11a	3	3	/
IEEE 802.11n HT20	3	3	6.01
IEEE 802.11n HT40	3	3	6.01
IEEE 802.11ac VHT20	3	3	6.01
IEEE 802.11ac VHT40	3	3	6.01
IEEE 802.11ac VHT80	3	3	6.01

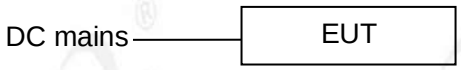
2.2. Accessories of EUT

Accessories	Manufacturer	Model number	Description
DC cable	N/A	N/A	N/A
GNSS antenna	N/A	N/A	N/A
Wi-Fi antenna	N/A	N/A	N/A
Bluetooth antenna	N/A	N/A	N/A
Cellular antenna	N/A	N/A	N/A

2.3. Assistant equipment used for test

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

2.4. Block diagram of EUT configuration for test



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

Tested mode, channel, and data rate information				
Mode	Setting Tx Power	data rate (Mpbs) (see Note)	Channel	Frequency (MHz)
IEEE 802.11a	/	54	Low: CH36	5180
	/	54	Middle: CH40	5200
	/	54	High: CH48	5240
	/	54	Low: CH149	5745
	/	54	Middle: CH157	5785
	/	54	High: CH165	5825
IEEE 802.11n HT20	/	MCS15	Low: CH36	5180
	/	MCS15	Middle: CH40	5200
	/	MCS15	High: CH48	5240
	/	MCS15	Low: CH149	5745
	/	MCS15	Middle: CH157	5785
	/	MCS15	High: CH165	5825
IEEE 802.11n HT40	/	MCS15	Low: CH38	5190
	/	MCS15	Middle: CH46	5230
	/	MCS15	Middle: CH151	5755
	/	MCS15	High: CH159	5795
IEEE 802.11ac HT20	/	MCS15	Low: CH36	5180
	/	MCS15	Middle: CH40	5200
	/	MCS15	High: CH48	5240
	/	MCS15	Low: CH149	5745
	/	MCS15	Middle: CH157	5785
	/	MCS15	High: CH165	5825
IEEE 802.11ac HT40	/	MCS15	Low: CH38	5190
	/	MCS15	Middle: CH46	5230
	/	MCS15	Middle: CH151	5755
	/	MCS15	High: CH159	5795
IEEE 802.11ac HT80	/	MCS15	CH42	5210
	/	MCS15	CH155	5775
Note: According exploratory test, EUT will have maximum output power in those data rate, so those data rate were used for all test.				

2.5. Deviations of test standard

No deviation.

2.6. Test environment conditions

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

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

2.7. Test laboratory

Dongguan Dongdian Testing Service Co., Ltd.
Add.: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808.
Tel.: +86-0769-38826678, http://www.dgddt.com, Email: ddt@dgddt.com.

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01
FCC Designation Number: CN1182, Test Firm Registration Number: 540522
Innovation, Science and Economic Development Canada Site Registration Number: 10288A
Conformity Assessment Body identifier: CN0048
VCCI facility registration number: C-20087, T-20088, R-20123, G-20118

2.8. Measurement uncertainty

Test Item	Uncertainty
Bandwidth	1.1%
Peak Output Power (Conducted) (Spectrum Analyzer)	0.86 dB (10 MHz ≤ f < 3.6 GHz);
	1.38 dB (3.6 GHz ≤ f < 8 GHz)
Peak Output Power (Conducted) (Power Sensor)	0.74 dB
Power Spectral Density	0.74 dB (10 MHz ≤ f < 3.6 GHz);
	1.38 dB (3.6 GHz ≤ f < 8 GHz)
Frequencies Stability	6.7×10^{-8} (Antenna couple method)
	5.5×10^{-8} (Conducted method)
Conducted Spurious Emissions	0.86 dB (10 MHz ≤ f < 3.6 GHz);
	1.40 dB (3.6 GHz ≤ f < 8 GHz)
	1.66 dB (8 GHz ≤ f < 22 GHz)
Uncertainty for Radio Frequency (RBW < 20 kHz)	3×10^{-8}
Temperature	0.4 ℃
Humidity	2 %
Uncertainty for Radiation Emission Test (9 kHz – 30 MHz)	3.44 dB
Uncertainty for Radiation Emission Test (30 MHz - 1 GHz)	4.70 dB (Antenna Polarize: V)
	4.84 dB (Antenna Polarize: H)
Uncertainty for Radiation Emission Test (1 GHz - 40 GHz)	4.10 dB (1 - 6 GHz)
	4.40 dB (6 GHz - 18 GHz)
	3.54 dB (18 GHz - 26 GHz)
	4.30 dB (26 GHz - 40 GHz)
Uncertainty for Power Line Conduction Emission Test	3.32 dB (150 kHz - 30 MHz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

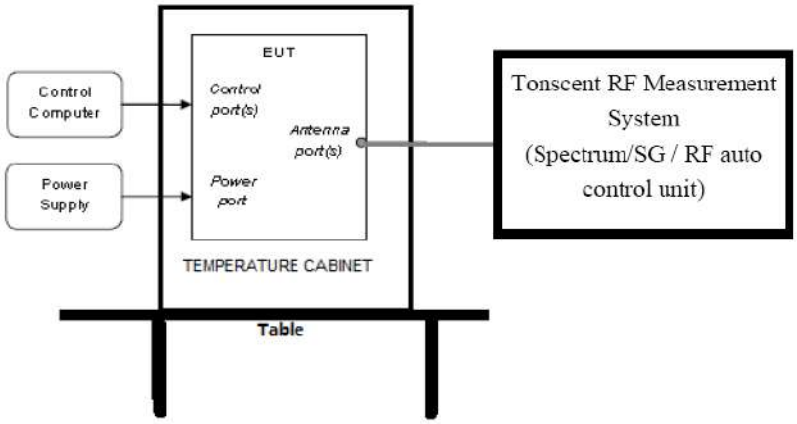
3. Equipment Used During Test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☐**RF Connected Test (Tonscend RF Measurement System 1#)**					
Spectrum analyzer	R&S	FSU26	200071	Sep. 02, 2021	1 Year
Wideband Radio Communication tester	R&S	CMW500	120259	Sep. 02, 2021	1 Year
Vector Signal Generator	Agilent	E8267D	US49060192	Sep. 18, 2021	1 Year
Vector Signal Generator	Agilent	N5182A	MY48180737	Jun. 01, 2021	1 Year
RF Control Unit	Tonsend	JS0806-2	158060010	Jun. 01, 2021	1 Year
Temp&Humi Programmable	ZHIXIANG	ZXGDJS-150 L	ZX170110-A	Jun. 01, 2021	1 Year
Test Software	JS Tonscend	JS1120-3	Ver.2.6.77.0518	N/A	N/A
☒**RF Connected Test (Tonscend RF Measurement System 3#)**					
Signal analyzer	R&S	FSQ26	101272	Jun. 01, 2021	1 Year
Wideband Radio Communication tester	R&S	CMW500	117491	Jun. 01, 2021	1 Year
Vector Signal Generator	Agilent	N5182A	MY19060405	Jun. 01, 2021	1 Year
Vector Signal Generator	Agilent	N5182A	MY48180912	Jun. 01, 2021	1 Year
RF Control Unit	Tonsend	JS0806-2	DDT-ZC01449	Jun. 01, 2021	1 Year
Temp&Humi Programmable	ZHIXIANG	ZXGDJS-150 L	ZX170110-A	Jun. 01, 2021	1 Year
Test Software	JS Tonscend	JS1120-3	Ver.2.6.77.0518	N/A	N/A
☐**RF Connected Test (Tonscend RF Measurement System 4#)**					
MXA SignalAnalyzer	Agilent	N9020A	MY49100362	Sep. 02, 2021	1 Year
Wideband Radio Communication tester	R&S	CMW500	120259	Jun. 01, 2021	1 Year
MXG Vector Signal Generator	Agilent	N5182B	MY59100192	Jun. 01, 2021	1 Year
Vector Signal Generator	Agilent	E8267D	US49060192	Sep. 18, 2021	1 Year
RF Control Unit	Tonsend	JS0806-2	21I8060485	Oct. 18, 2021	1 Year
Temp&Humi Programmable	ZHIXIANG	ZXGDJS-150 L	ZX170110-A	Jun. 01, 2021	1 Year
Test Software	JS Tonscend	JS1120-3	Ver.2.6.88.0330	N/A	N/A
☒**Radiation 3#chamber**					
EMI Test Receiver	R&S	ESU	100472	Jun. 01, 2021	1 Year
Spectrum analyzer	Agilent	E4447A	MY50180031	Jun. 01, 2021	1 Year
Active Loop antenna	Schwarzbeck	FMZB-1519	1519-038	Sep. 19, 2021	1 Year
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	01429	Aug. 07, 2021	1 Year
Double Ridged Horn Antenna	Schwarzbeck	BBHA9120	02108	Jul. 17, 2021	1 Year
Broad Band Horn Antenna	Schwarzbeck	BBHA 9170	790	May 08, 2021	1 Year
Pre-amplifier	COM-POWE R	PAM-118A	18040084	Sep. 02, 2021	1 Year

Pre-amplifier	COM-POWER	PAM-840A	461369	Mar. 15, 2022	1 Year
Test software	Audix	E3	V 6.1.1.1	N/A	N/A
☐**Power Line Conducted Emissions Test 1#**					
Test Receiver	R&S	ESCI	100551	Sep. 02, 2021	1 Year
LISN 1	R&S	ENV216	101109	Sep. 02, 2021	1 Year
LISN 2	R&S	ESH2-Z5	100309	Sep. 02, 2021	1 Year
Pulse Limiter	R&S	ESH3-Z2	101242	Sep. 02, 2021	1 Year
CE Cable 1	HUBSER	N/A	W10.01	Sep. 02, 2021	1 Year
LISN 3	SCHWARZBECK	NSLK 8163	00017	Sep. 02, 2021	1 Year
Test software	Audix	E3	V 6.11111b	N/A	N/A
☐**Power Line Conducted Emissions Test 2#**					
Test Receiver	R&S	ESCI	101028	Sep. 02, 2021	1 Year
LISN 1	R&S	ENV216	101170	Sep. 02, 2021	1 Year
Pulse Limiter	R&S	KH43101	431011801568-12#	Jun. 01, 2021	1 Year
CE Cable 2	HUBSER	RG214-5	N/A	Jun. 01, 2021	1 Year
Test software	Audix	E3	V 6.11111b	N/A	N/A

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

4.1. Block diagram of test setup



4.2. Limits

FCC Part15, Subpart E/ RSS-247		
Test Item	Limit	Frequency Range (MHz)
Bandwidth	26 dB Bandwidth	5150 - 5250
	26 dB Bandwidth	5250 - 5350
	26 dB Bandwidth	For FCC: 5470 - 5725 For IC: 5470 - 5600 5650 - 5725
	Minimum 500 kHz 6 dB Bandwidth	5725 - 5850

4.3. Test procedure

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

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

(2) Allow the trace to stabilize, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 26 dB and 6 dB relative to the maximum level measured in the fundamental emission.

4.4. Test result

99% Bandwidth:

Test Mode	Antenna	Channel	OCB [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11A	Ant1	5180	16.84	5171.520	5188.360	---	Pass
	Ant2	5180	16.84	5171.520	5188.360	---	Pass
	Ant1	5200	16.84	5191.480	5208.320	---	Pass
	Ant2	5200	16.84	5191.520	5208.360	---	Pass
	Ant1	5240	16.84	5231.520	5248.360	---	Pass
	Ant2	5240	16.84	5231.520	5248.360	---	Pass
	Ant1	5745	16.88	5736.480	5753.360	---	Pass
	Ant2	5745	16.84	5736.520	5753.360	---	Pass
	Ant1	5785	16.92	5776.440	5793.360	---	Pass
	Ant2	5785	16.8	5776.560	5793.360	---	Pass
	Ant1	5825	16.88	5816.480	5833.360	---	Pass
	Ant2	5825	16.84	5816.520	5833.360	---	Pass
11N20 MIMO	Ant1	5180	18.12	5170.960	5189.080	---	Pass
	Ant2	5180	18.12	5170.960	5189.080	---	Pass
	Ant1	5200	18.16	5190.880	5209.040	---	Pass
	Ant2	5200	18.08	5190.960	5209.040	---	Pass
	Ant1	5240	18.12	5230.920	5249.040	---	Pass
	Ant2	5240	18.08	5230.960	5249.040	---	Pass
	Ant1	5745	18.16	5735.920	5754.080	---	Pass
	Ant2	5745	18.12	5735.960	5754.080	---	Pass
	Ant1	5785	18.16	5775.920	5794.080	---	Pass
	Ant2	5785	18.12	5775.960	5794.080	---	Pass
	Ant1	5825	18.16	5815.920	5834.080	---	Pass
	Ant2	5825	18.12	5815.960	5834.080	---	Pass
11N40 MIMO	Ant1	5190	37.44	5171.280	5208.720	---	Pass
	Ant2	5190	37.20	5171.440	5208.640	---	Pass
	Ant1	5230	37.44	5211.280	5248.720	---	Pass
	Ant2	5230	37.20	5211.440	5248.640	---	Pass
	Ant1	5755	37.52	5736.280	5773.800	---	Pass
	Ant2	5755	37.20	5736.600	5773.800	---	Pass
	Ant1	5795	37.28	5776.360	5813.640	---	Pass
	Ant2	5795	37.20	5776.600	5813.800	---	Pass
11AC20 MIMO	Ant1	5180	18.04	5170.920	5188.960	---	Pass
	Ant2	5180	17.92	5171.000	5188.920	---	Pass
	Ant1	5200	18.04	5190.920	5208.960	---	Pass
	Ant2	5200	17.92	5191.000	5208.920	---	Pass
	Ant1	5240	18.04	5230.920	5248.960	---	Pass
	Ant2	5240	17.96	5231.000	5248.960	---	Pass
	Ant1	5745	18.04	5735.920	5753.960	---	Pass
	Ant2	5745	17.96	5736.000	5753.960	---	Pass
	Ant1	5785	18.04	5775.920	5793.960	---	Pass
	Ant2	5785	17.96	5776.000	5793.960	---	Pass
	Ant1	5825	18.04	5815.920	5833.960	---	Pass
	Ant2	5825	17.96	5816.000	5833.960	---	Pass
11AC40 MIMO	Ant1	5190	37.36	5171.200	5208.560	---	Pass
	Ant2	5190	37.28	5171.280	5208.560	---	Pass

	Ant1	5230	37.44	5211.200	5248.640	---	Pass
	Ant2	5230	37.36	5211.280	5248.640	---	Pass
	Ant1	5755	37.44	5736.200	5773.640	---	Pass
	Ant2	5755	37.36	5736.360	5773.720	---	Pass
	Ant1	5795	37.36	5776.280	5813.640	---	Pass
	Ant2	5795	37.36	5776.360	5813.720	---	Pass
11AC80 MIMO	Ant1	5210	76.48	5171.600	5248.080	---	Pass
	Ant2	5210	76.48	5171.760	5248.240	---	Pass
	Ant1	5775	76.64	5736.600	5813.240	---	Pass
	Ant2	5775	76.48	5737.080	5813.560	---	Pass

26 dB EBW:

Test Mode	Antenna	Channel	26 dB EBW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11A	Ant1	5180	21.76	5169.00	5190.76	---	Pass
	Ant2	5180	21.48	5169.04	5190.52	---	Pass
	Ant1	5200	21.44	5188.88	5210.32	---	Pass
	Ant2	5200	21.56	5189.00	5210.56	---	Pass
	Ant1	5240	21.52	5229.04	5250.56	---	Pass
	Ant2	5240	21.64	5228.84	5250.48	---	Pass
	Ant1	5745	21.64	5733.80	5755.44	---	Pass
	Ant2	5745	21.52	5734.20	5755.72	---	Pass
	Ant1	5785	21.76	5773.84	5795.60	---	Pass
	Ant2	5785	21.48	5774.08	5795.56	---	Pass
	Ant1	5825	21.64	5813.80	5835.44	---	Pass
	Ant2	5825	21.60	5813.92	5835.52	---	Pass
11N20 MIMO	Ant1	5180	22.80	5168.64	5191.44	---	Pass
	Ant2	5180	22.68	5168.88	5191.56	---	Pass
	Ant1	5200	22.88	5188.52	5211.40	---	Pass
	Ant2	5200	22.40	5189.00	5211.40	---	Pass
	Ant1	5240	23.04	5228.52	5251.56	---	Pass
	Ant2	5240	22.92	5228.72	5251.64	---	Pass
	Ant1	5745	23.00	5733.40	5756.40	---	Pass
	Ant2	5745	22.72	5733.96	5756.68	---	Pass
	Ant1	5785	23.16	5773.44	5796.60	---	Pass
	Ant2	5785	22.48	5774.04	5796.52	---	Pass
	Ant1	5825	22.92	5813.52	5836.44	---	Pass
	Ant2	5825	22.68	5813.96	5836.64	---	Pass
11N40 MIMO	Ant1	5190	44.48	5167.60	5212.08	---	Pass
	Ant2	5190	43.68	5168.16	5211.84	---	Pass
	Ant1	5230	44.72	5207.44	5252.16	---	Pass
	Ant2	5230	43.68	5208.32	5252.00	---	Pass
	Ant1	5755	44.96	5732.36	5777.32	---	Pass
	Ant2	5755	43.52	5733.56	5777.08	---	Pass
	Ant1	5795	44.64	5772.36	5817.00	---	Pass
	Ant2	5795	43.28	5773.96	5817.24	---	Pass
11AC20 MIMO	Ant1	5180	22.24	5168.76	5191.00	---	Pass
	Ant2	5180	22.08	5168.88	5190.96	---	Pass
	Ant1	5200	22.44	5188.64	5211.08	---	Pass
	Ant2	5200	22.28	5188.84	5211.12	---	Pass
	Ant1	5240	22.32	5228.60	5250.92	---	Pass

	Ant2	5240	21.64	5229.08	5250.72	---	Pass
	Ant1	5745	22.44	5733.56	5756.00	---	Pass
	Ant2	5745	22.08	5733.88	5755.96	---	Pass
	Ant1	5785	22.32	5773.76	5796.08	---	Pass
	Ant2	5785	22.36	5773.84	5796.20	---	Pass
	Ant1	5825	22.48	5813.56	5836.04	---	Pass
	Ant2	5825	21.92	5814.16	5836.08	---	Pass
11AC40 MIMO	Ant1	5190	44.88	5167.20	5212.08	---	Pass
	Ant2	5190	44.80	5167.68	5212.48	---	Pass
	Ant1	5230	45.04	5207.20	5252.24	---	Pass
	Ant2	5230	44.80	5207.68	5252.48	---	Pass
	Ant1	5755	45.68	5731.96	5777.64	---	Pass
	Ant2	5755	45.28	5732.60	5777.88	---	Pass
	Ant1	5795	44.96	5772.44	5817.40	---	Pass
	Ant2	5795	44.40	5773.32	5817.72	---	Pass
11AC80 MIMO	Ant1	5210	90.08	5164.72	5254.80	---	Pass
	Ant2	5210	88.64	5165.84	5254.48	---	Pass
	Ant1	5775	90.08	5729.72	5819.80	---	Pass
	Ant2	5775	87.84	5732.60	5820.44	---	Pass

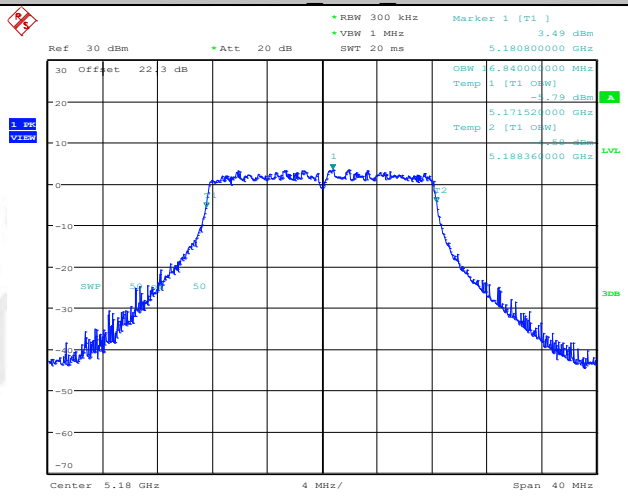
6 dB EBW:

Test Mode	Antenna	Channel	6 dB EBW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11A	Ant1	5745	16.48	5736.72	5753.20	0.5	Pass
	Ant2	5745	16.48	5736.72	5753.20	0.5	Pass
	Ant1	5785	16.48	5776.72	5793.20	0.5	Pass
	Ant2	5785	16.48	5776.72	5793.20	0.5	Pass
	Ant1	5825	16.52	5816.72	5833.24	0.5	Pass
	Ant2	5825	16.52	5816.72	5833.24	0.5	Pass
11N20 MIMO	Ant1	5745	17.72	5736.12	5753.84	0.5	Pass
	Ant2	5745	17.76	5736.08	5753.84	0.5	Pass
	Ant1	5785	17.76	5776.08	5793.84	0.5	Pass
	Ant2	5785	17.80	5776.08	5793.88	0.5	Pass
	Ant1	5825	17.72	5816.12	5833.84	0.5	Pass
	Ant2	5825	17.72	5816.12	5833.84	0.5	Pass
11N40 MIMO	Ant1	5755	36.56	5736.68	5773.24	0.5	Pass
	Ant2	5755	36.48	5736.76	5773.24	0.5	Pass
	Ant1	5795	36.40	5776.76	5813.16	0.5	Pass
	Ant2	5795	36.48	5776.76	5813.24	0.5	Pass
11AC20 MIMO	Ant1	5745	17.72	5736.12	5753.84	0.5	Pass
	Ant2	5745	17.68	5736.12	5753.80	0.5	Pass
	Ant1	5785	17.76	5776.08	5793.84	0.5	Pass
	Ant2	5785	17.64	5776.16	5793.80	0.5	Pass
	Ant1	5825	17.72	5816.12	5833.84	0.5	Pass
	Ant2	5825	17.68	5816.12	5833.80	0.5	Pass
11AC40 MIMO	Ant1	5755	36.48	5736.76	5773.24	0.5	Pass
	Ant2	5755	36.48	5736.76	5773.24	0.5	Pass
	Ant1	5795	36.40	5776.76	5813.16	0.5	Pass
	Ant2	5795	36.48	5776.76	5813.24	0.5	Pass
11AC80 MIMO	Ant1	5775	76.48	5736.76	5813.24	0.5	Pass
	Ant2	5775	76.48	5736.76	5813.24	0.5	Pass

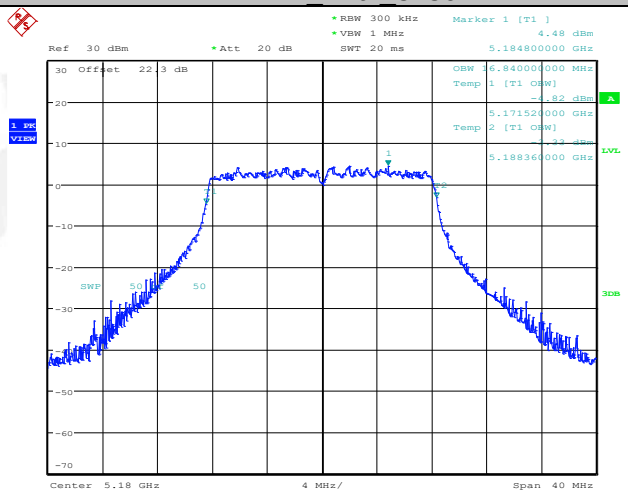
4.5. Original test data

99% Bandwidth:

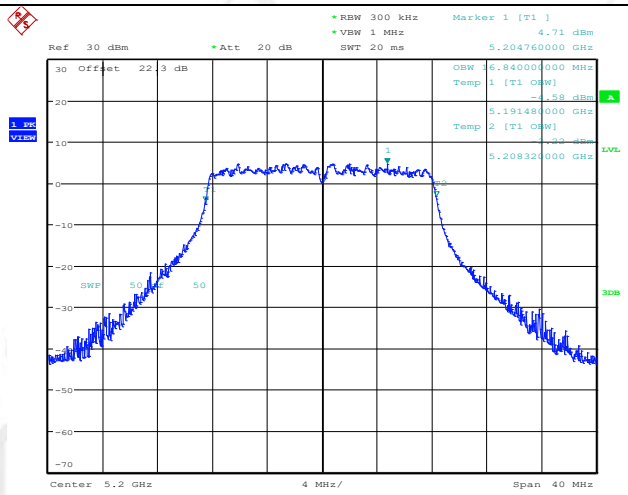
11A_Ant1_5180



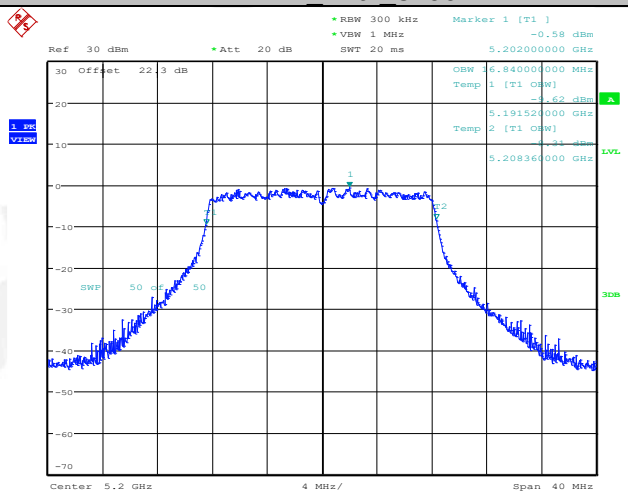
11A_Ant2_5180



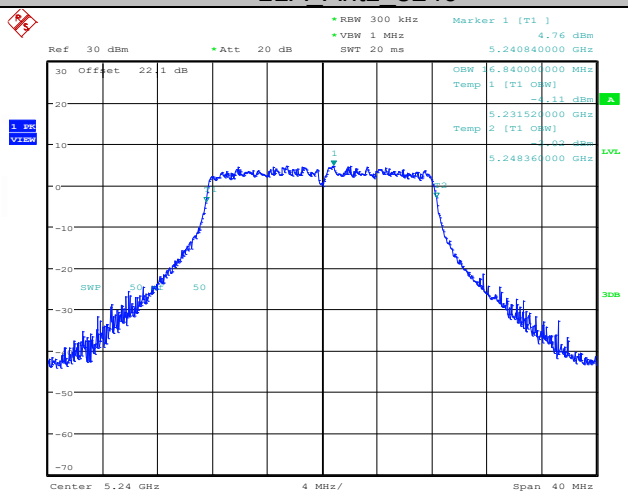
11A_Ant1_5200



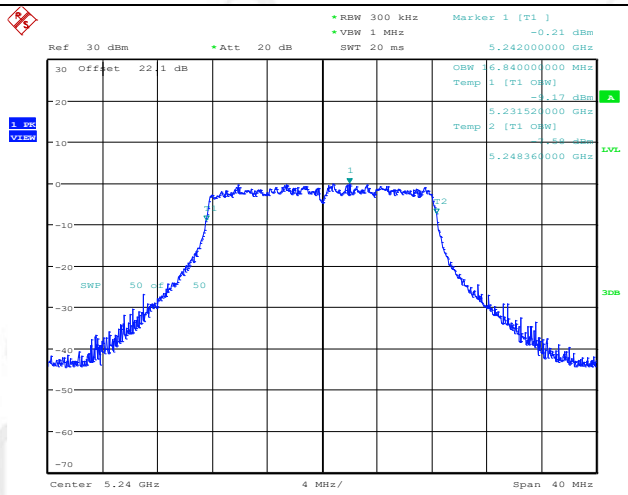
11A_Ant2_5200



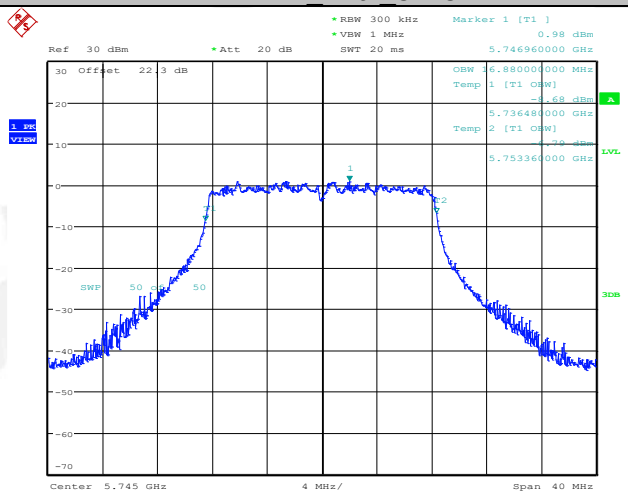
11A_Ant1_5240



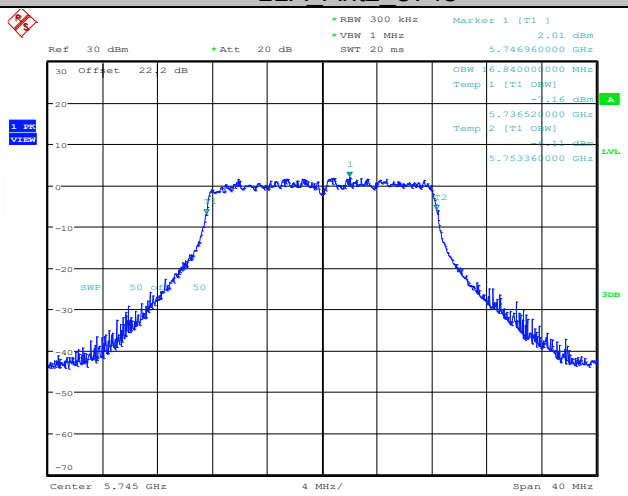
11A_Ant2_5240



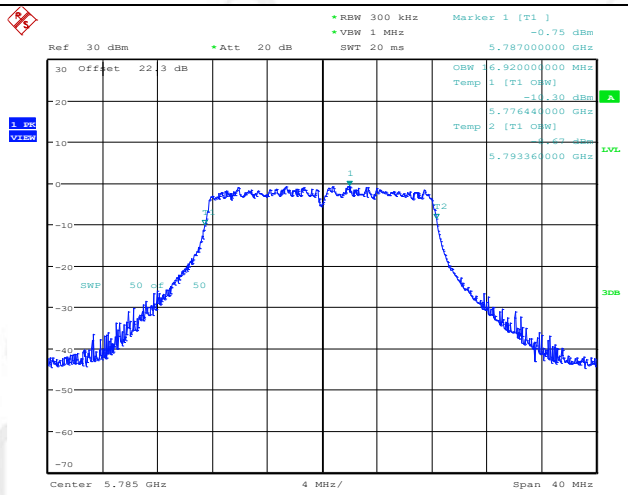
11A_Ant1_5745



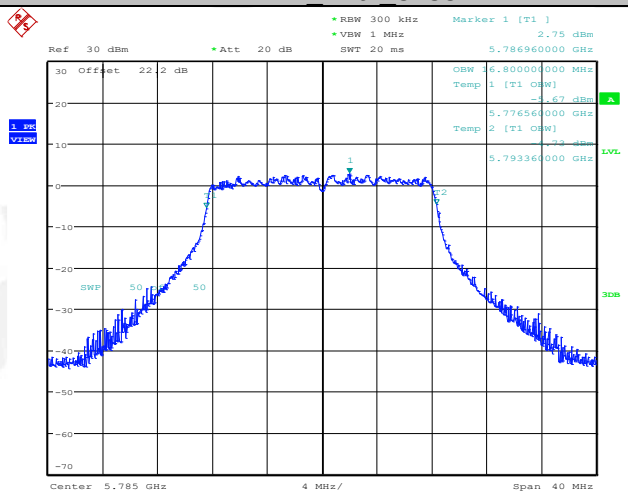
11A_Ant2_5745



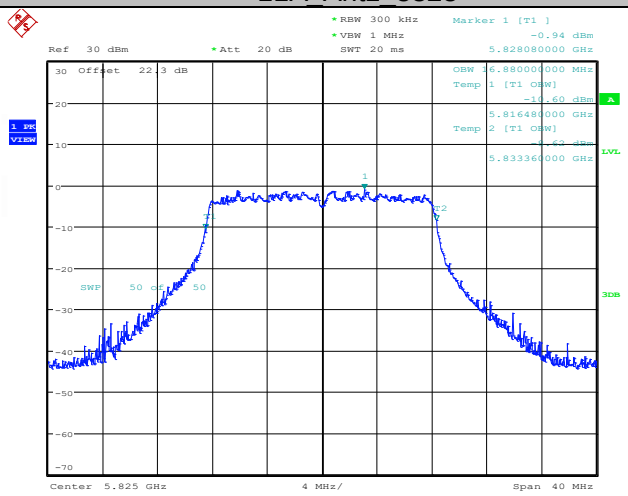
11A_Ant1_5785



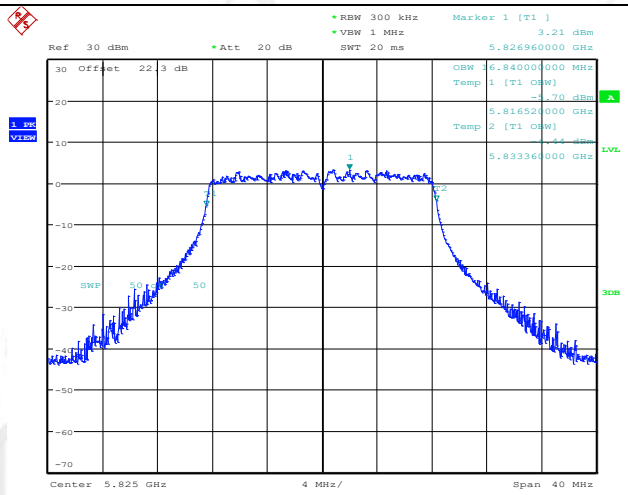
11A_Ant2_5785



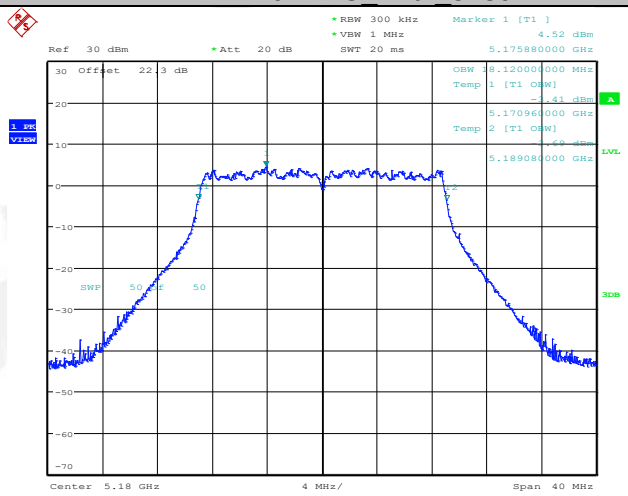
11A_Ant1_5825



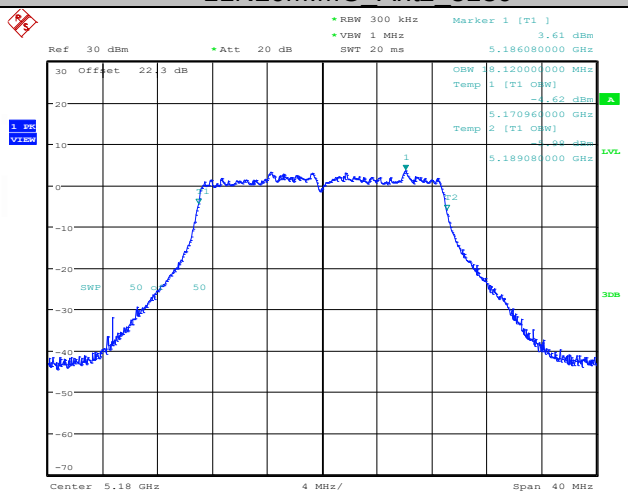
11A_Ant2_5825



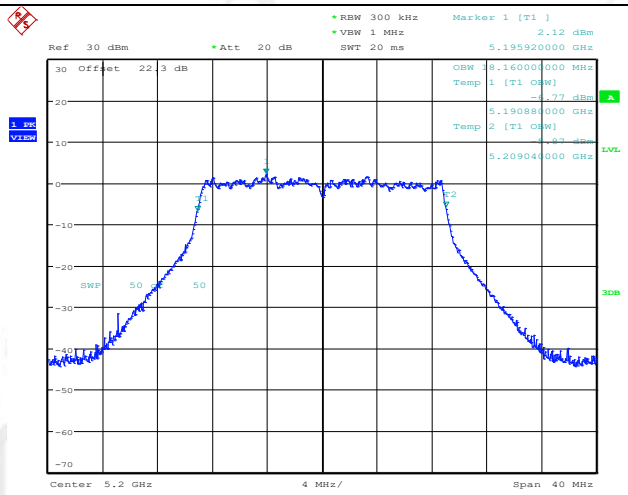
11N20MIMO_Ant1_5180



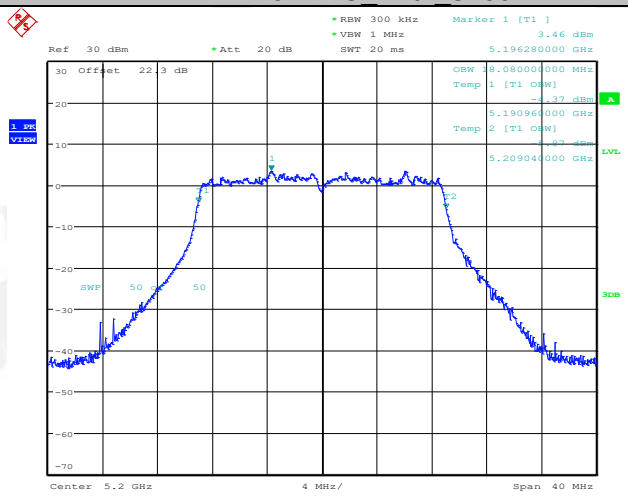
11N20MIMO_Ant2_5180



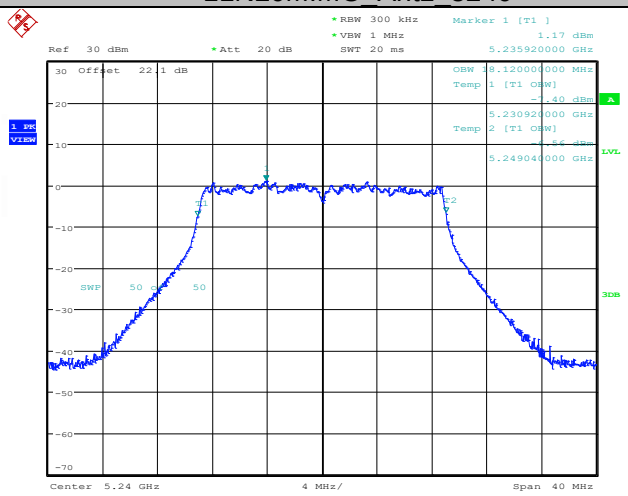
11N20MIMO_Ant1_5200



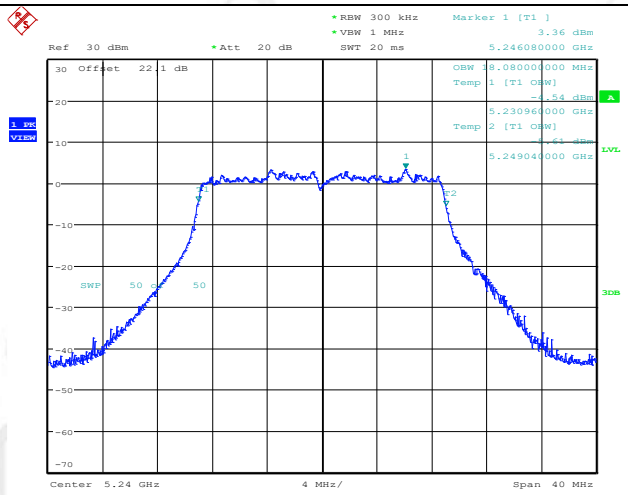
11N20MIMO_Ant2_5200



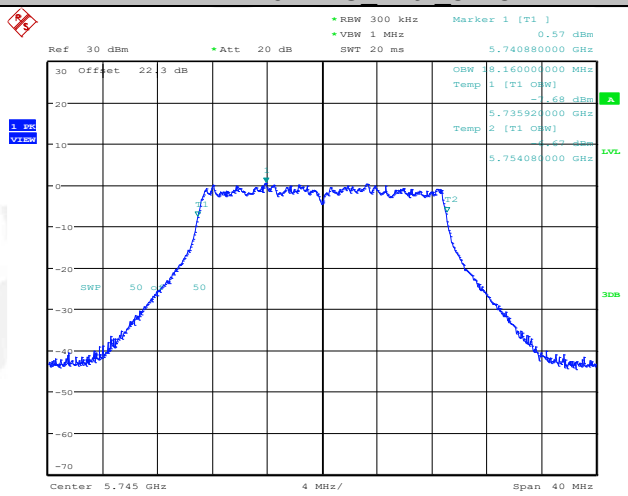
11N20MIMO_Ant1_5240



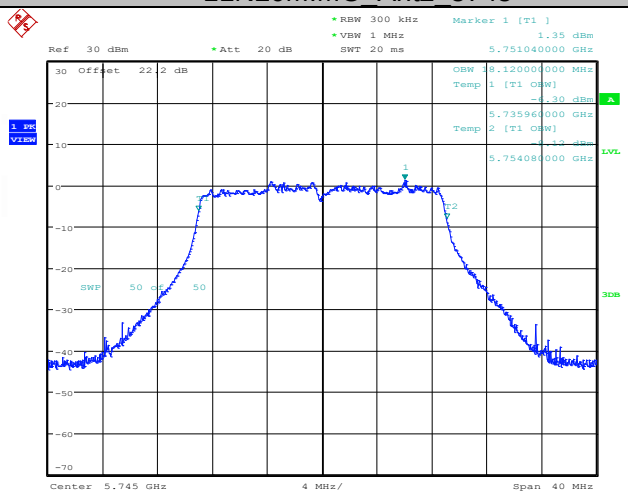
11N20MIMO_Ant2_5240



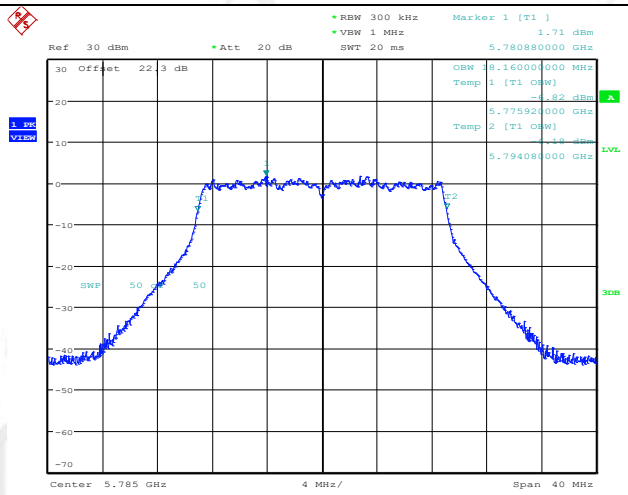
11N20MIMO_Ant1_5745



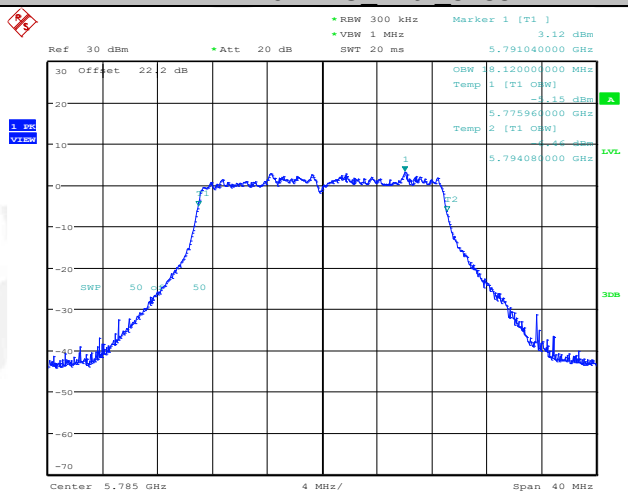
11N20MIMO_Ant2_5745



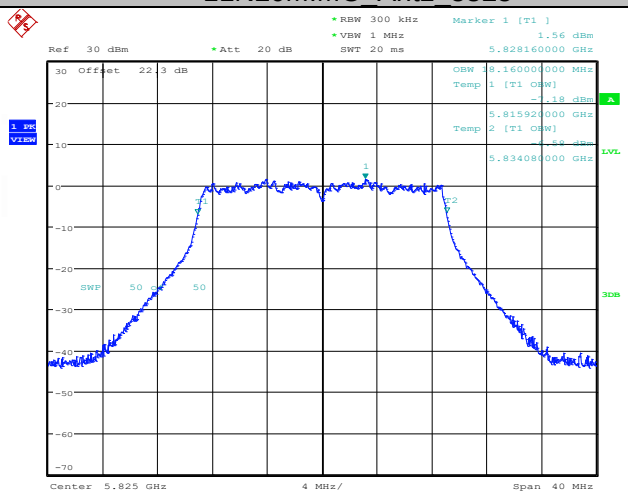
11N20MIMO_Ant1_5785



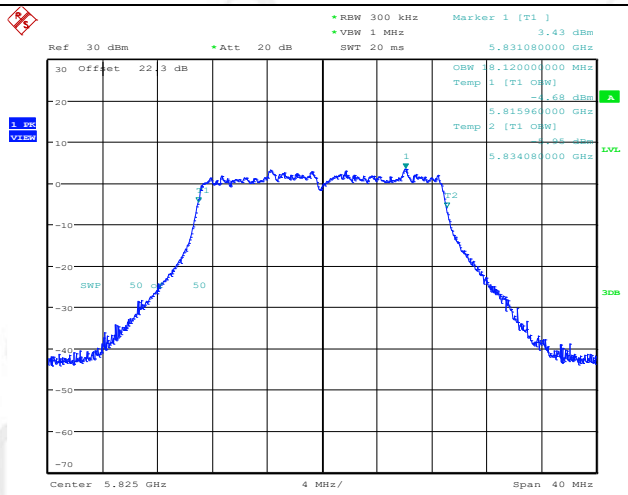
11N20MIMO_Ant2_5785



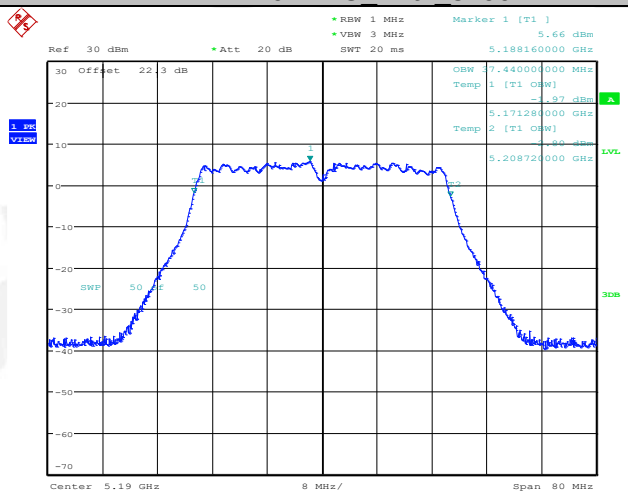
11N20MIMO_Ant1_5825



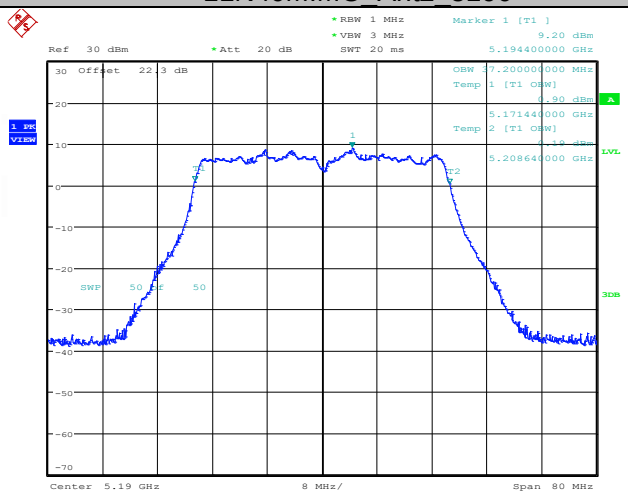
11N20MIMO_Ant2_5825



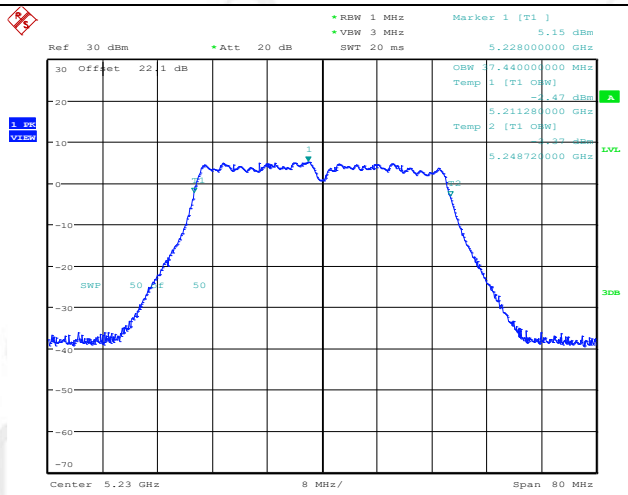
11N40MIMO_Ant1_5190



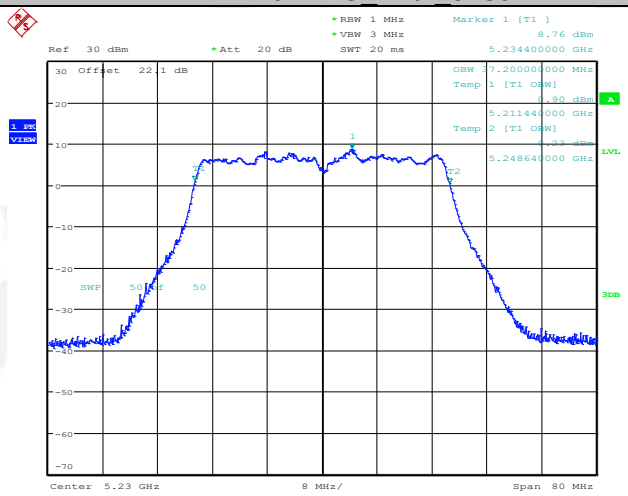
11N40MIMO_Ant2_5190



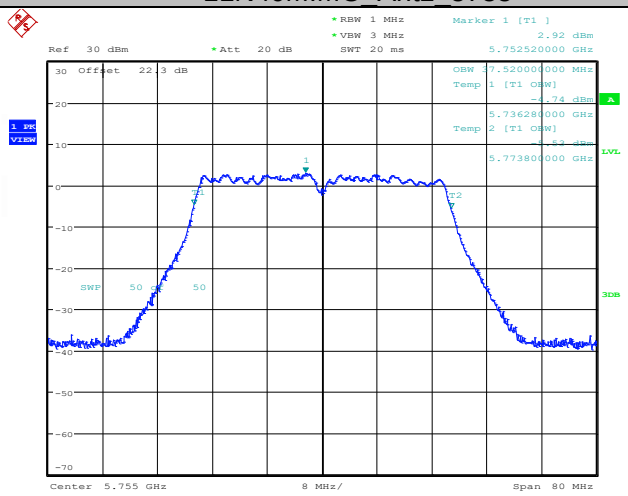
11N40MIMO_Ant1_5230



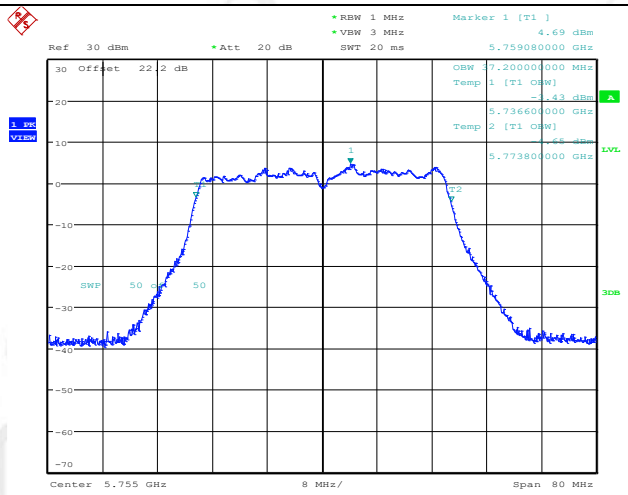
11N40MIMO_Ant2_5230



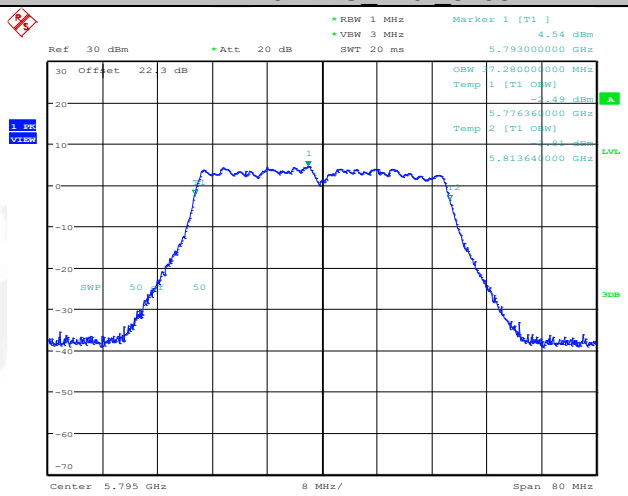
11N40MIMO_Ant1_5755



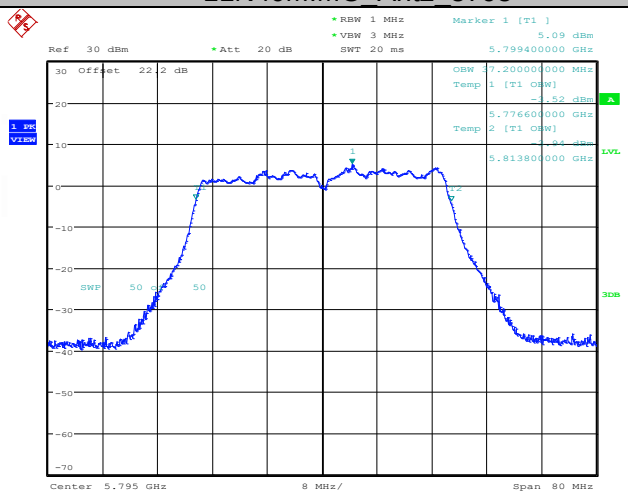
11N40MIMO_Ant2_5755



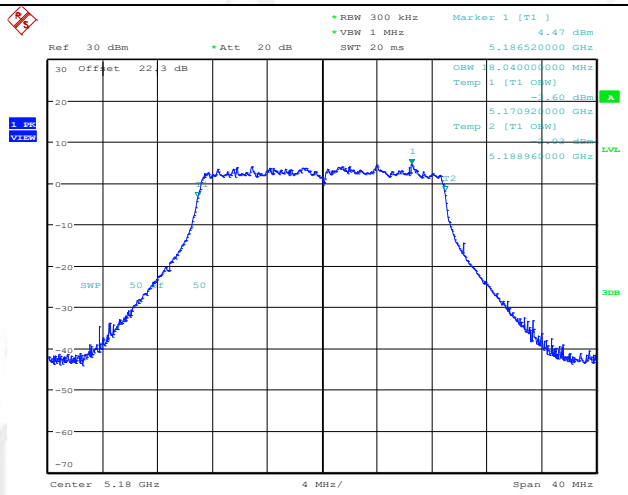
11N40MIMO_Ant1_5795



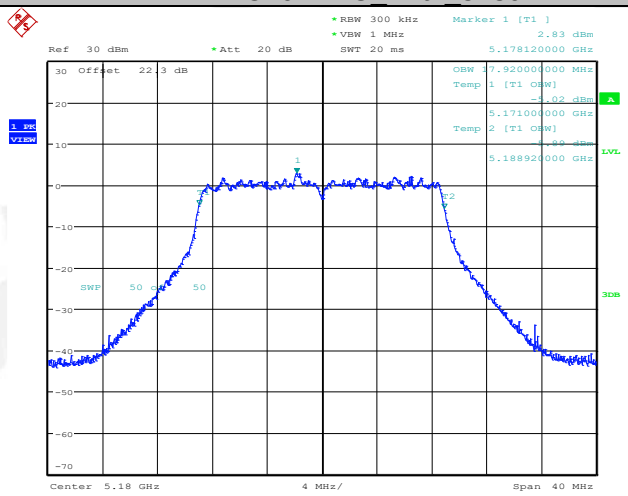
11N40MIMO_Ant2_5795



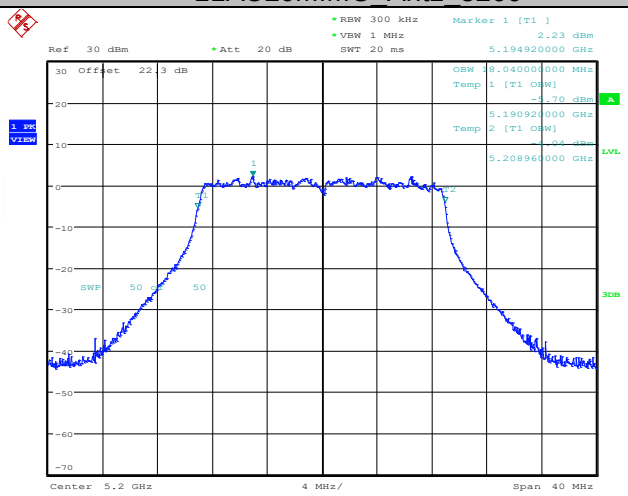
11AC20MIMO_Ant1_5180



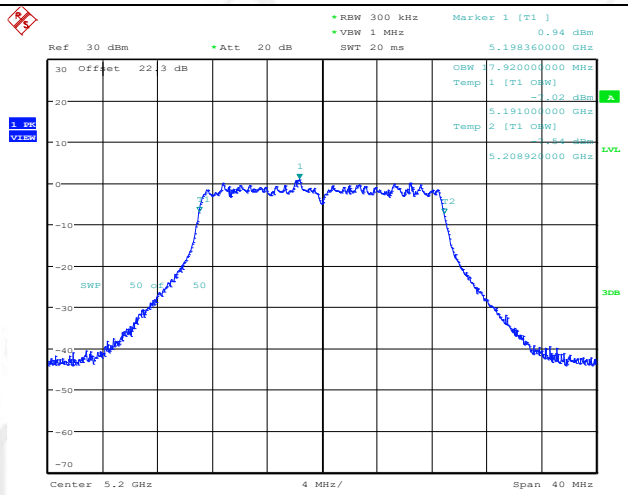
11AC20MIMO_Ant2_5180



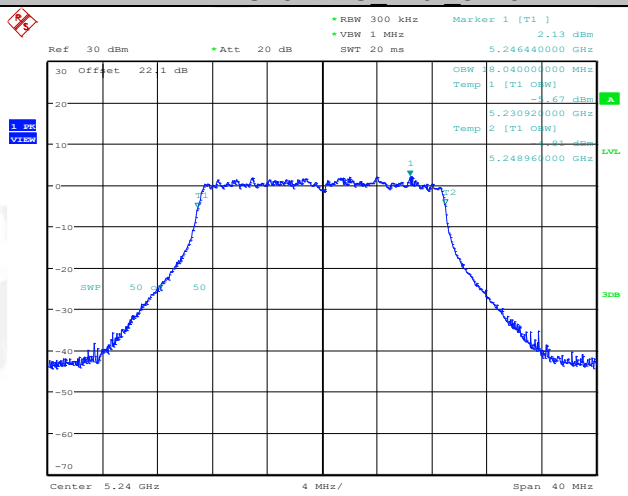
11AC20MIMO_Ant1_5200



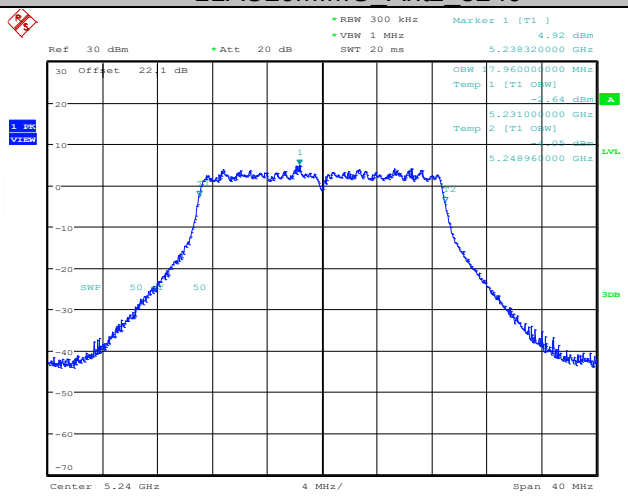
11AC20MIMO_Ant2_5200



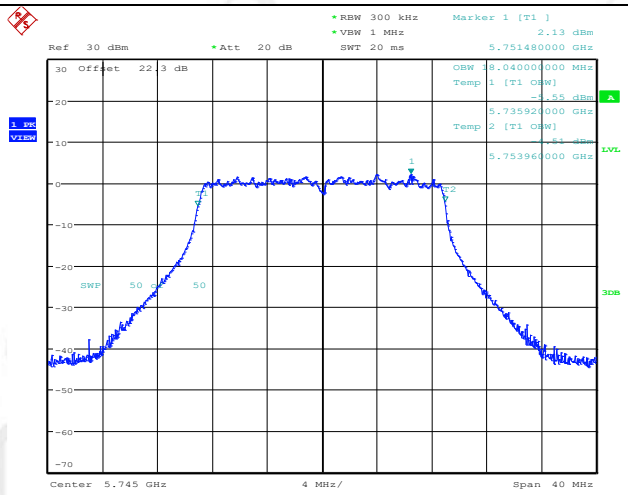
11AC20MIMO_Ant1_5240



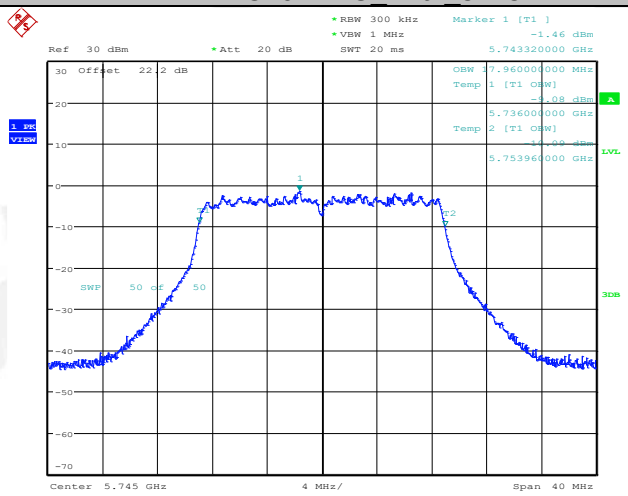
11AC20MIMO_Ant2_5240



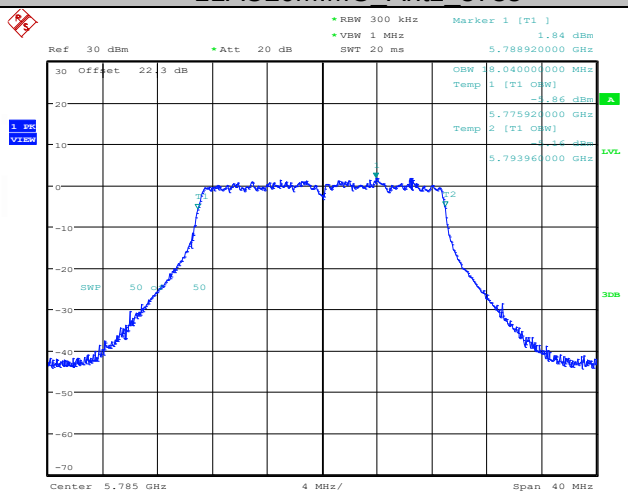
11AC20MIMO_Ant1_5745



11AC20MIMO_Ant2_5745



11AC20MIMO_Ant1_5785



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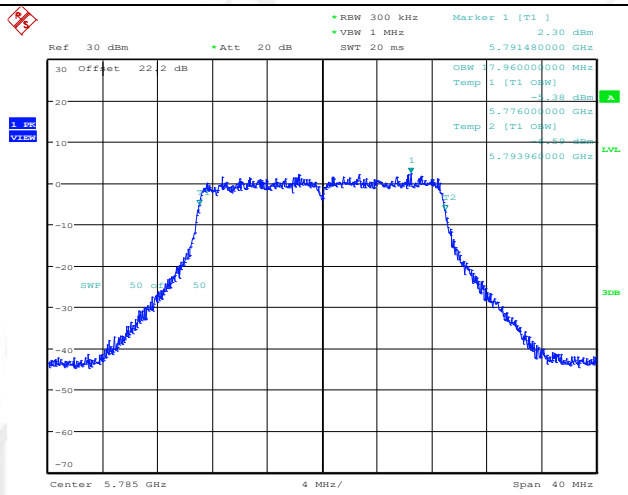
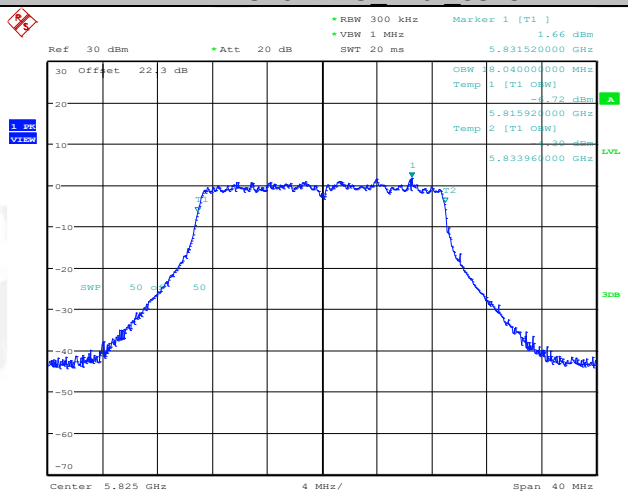


11AC20MIMO_Ant1_5825



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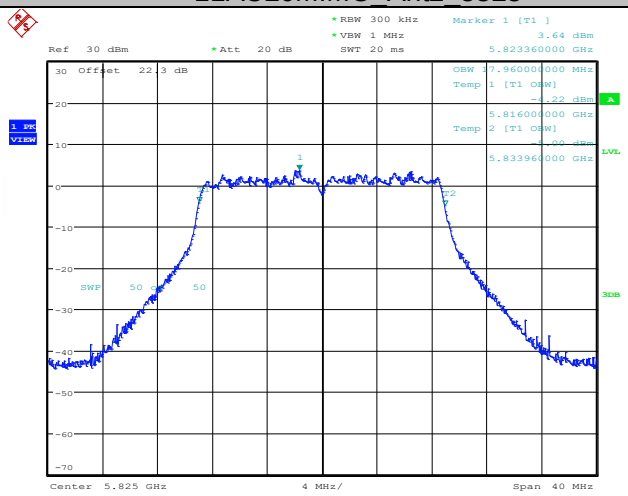
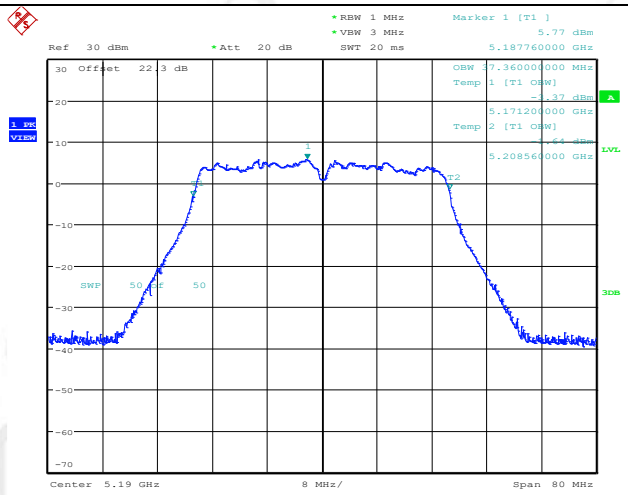


11AC40MIMO_Ant1_5190



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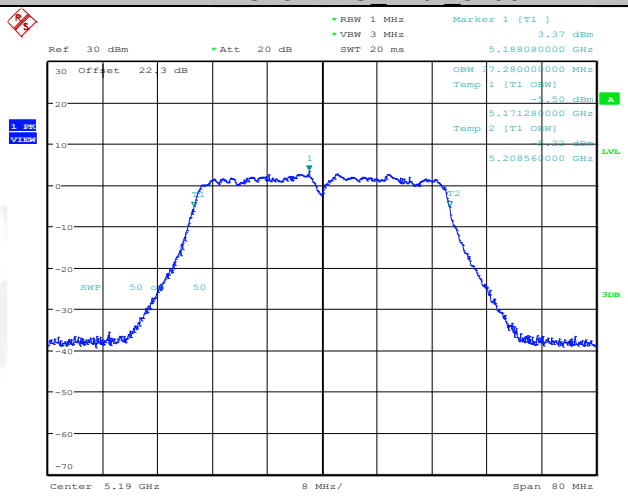
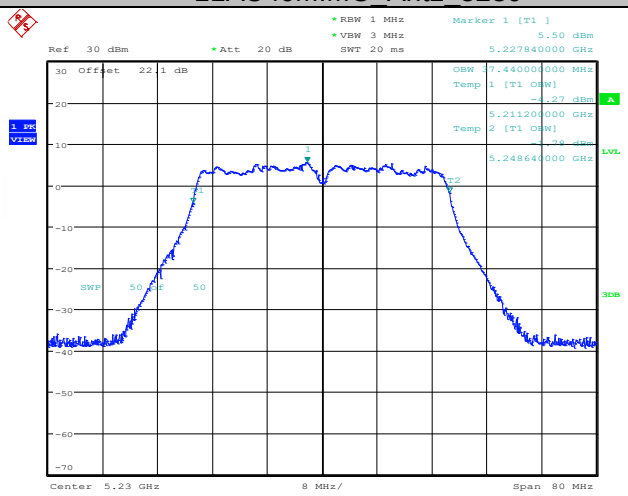
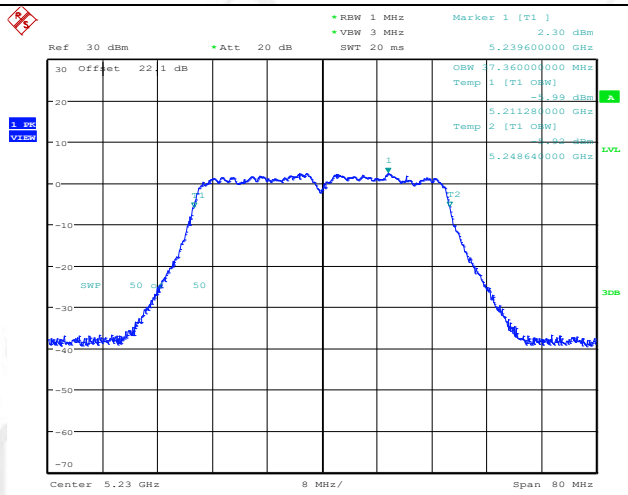


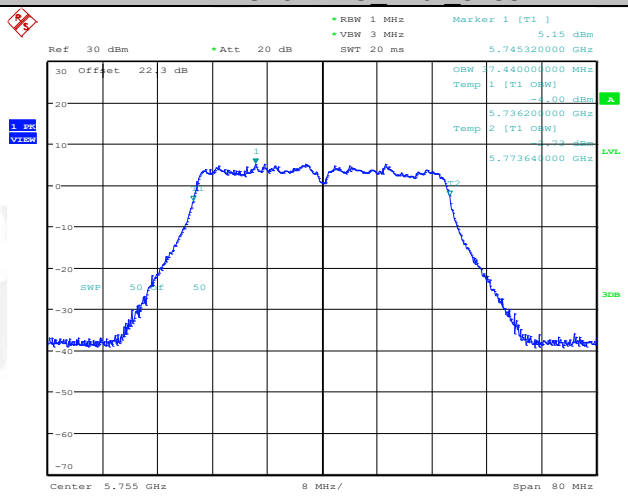
11AC40MIMO_Ant1_5230



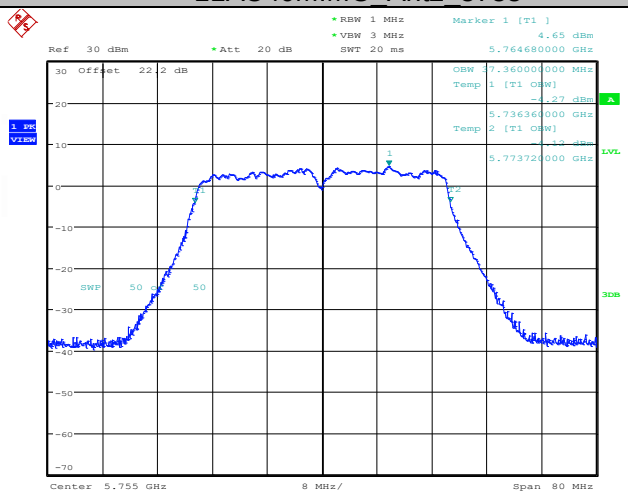
11AC40MIMO_Ant2_5230



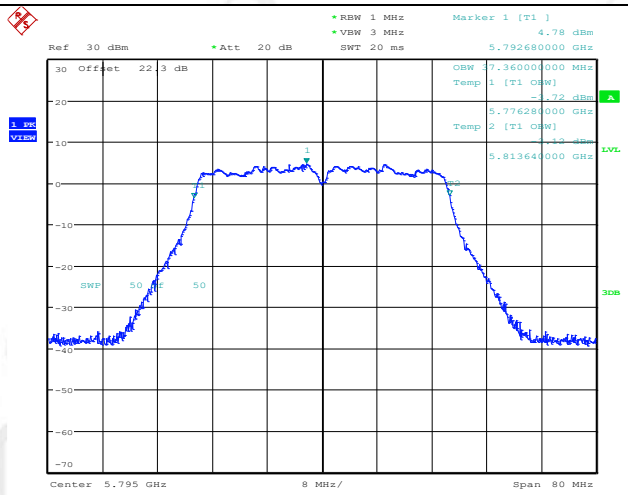
11AC40MIMO_Ant1_5755



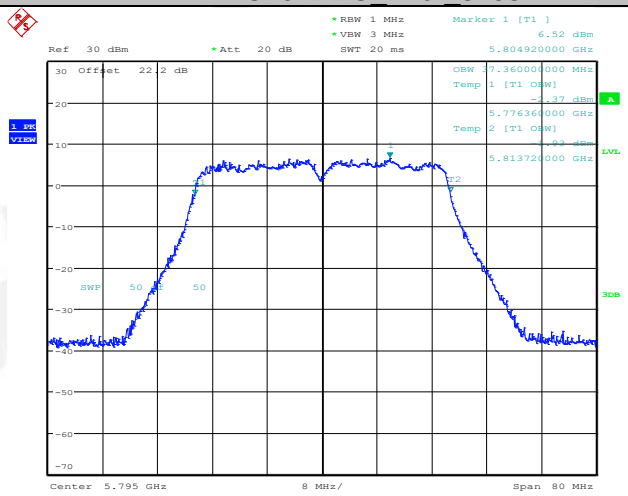
11AC40MIMO_Ant2_5755



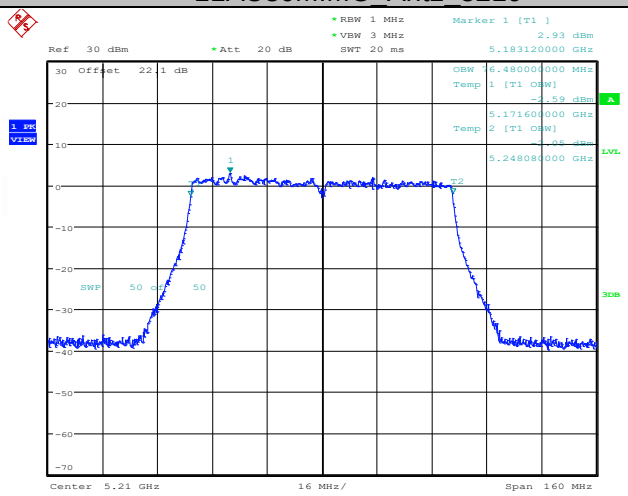
11AC40MIMO_Ant1_5795



11AC40MIMO_Ant2_5795



11AC80MIMO_Ant1_5210



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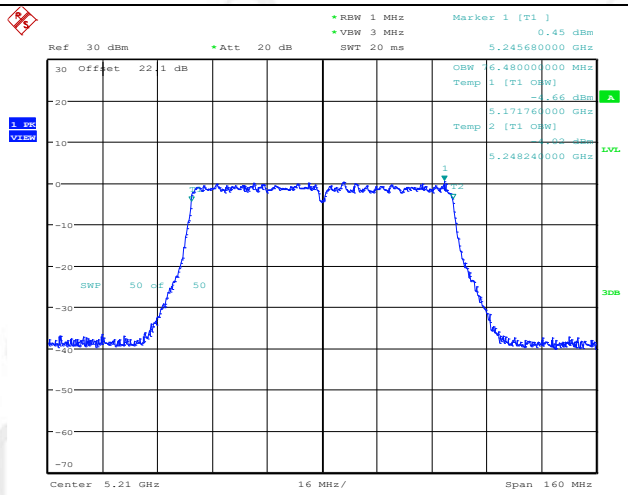

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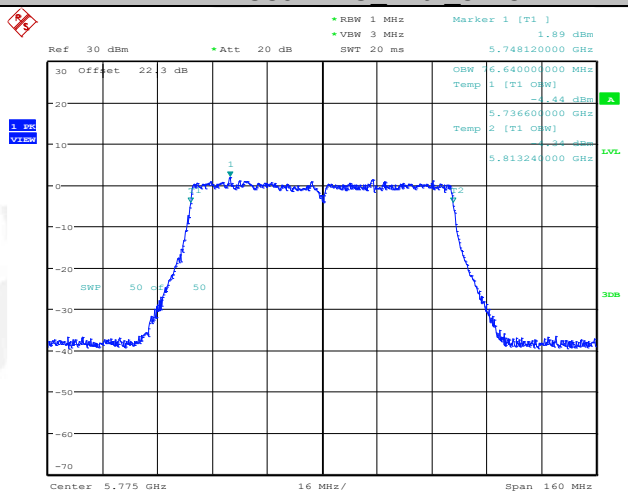

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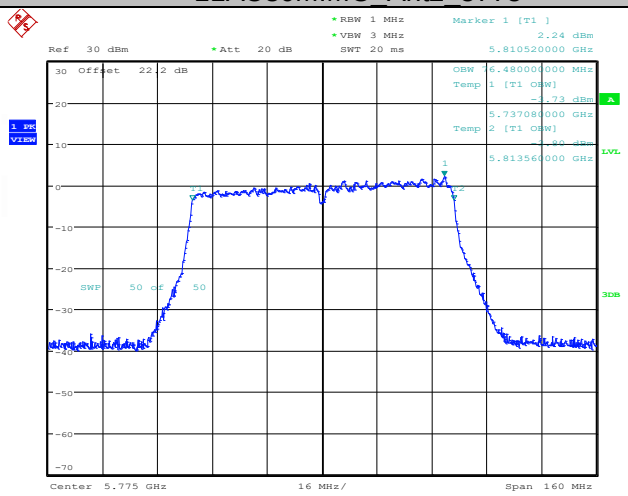

26 dB EBW:

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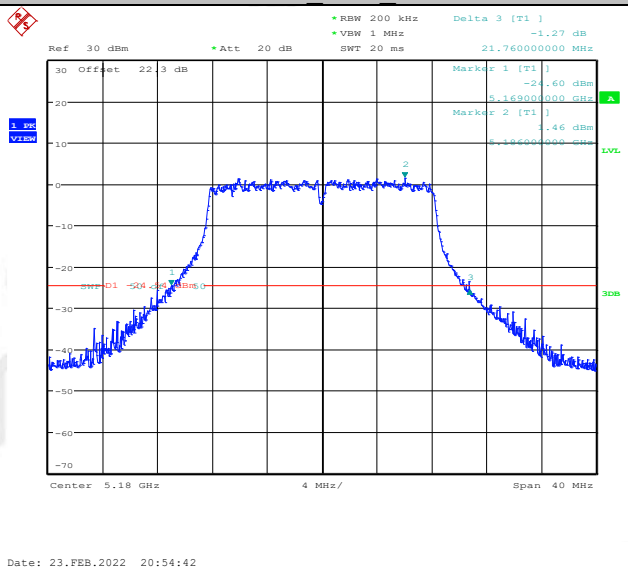
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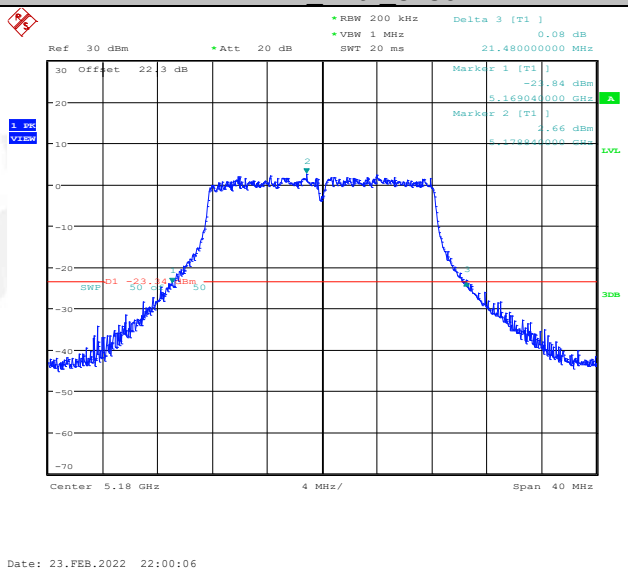
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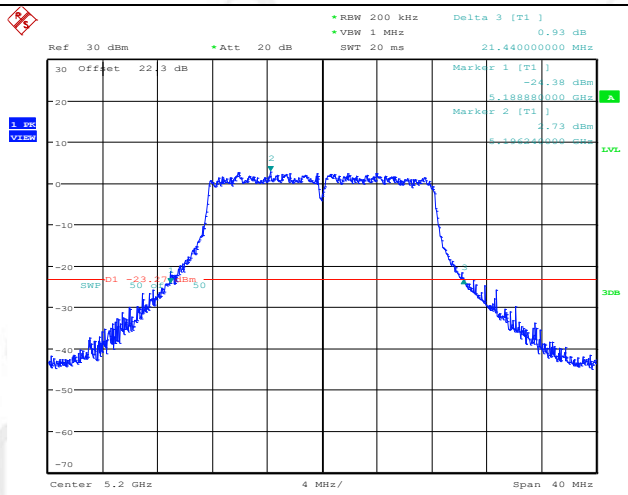

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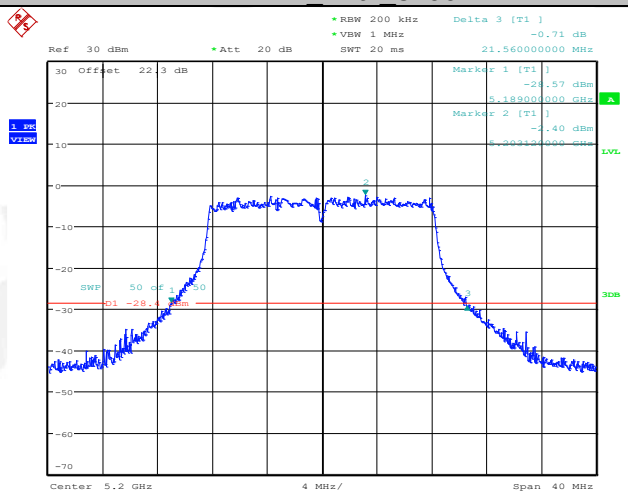

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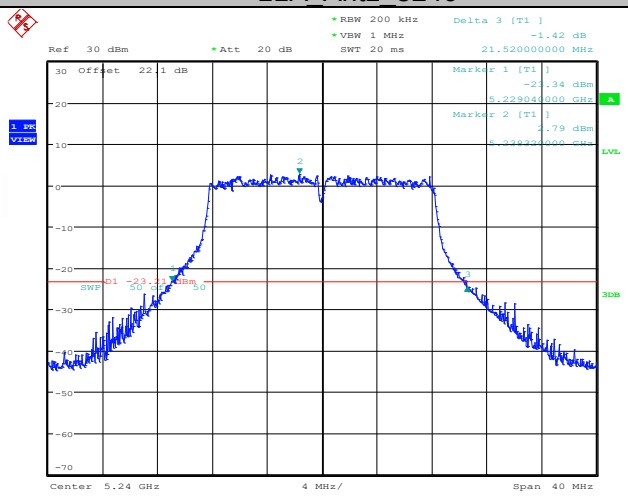

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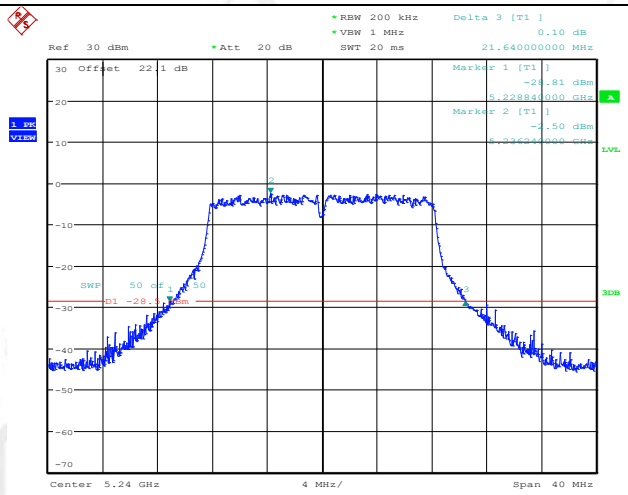

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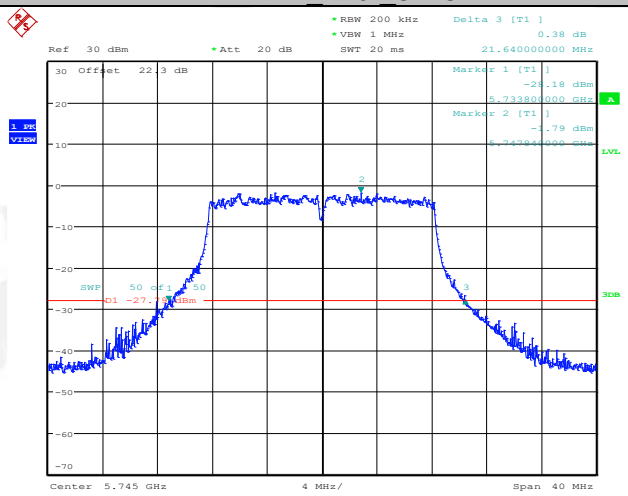

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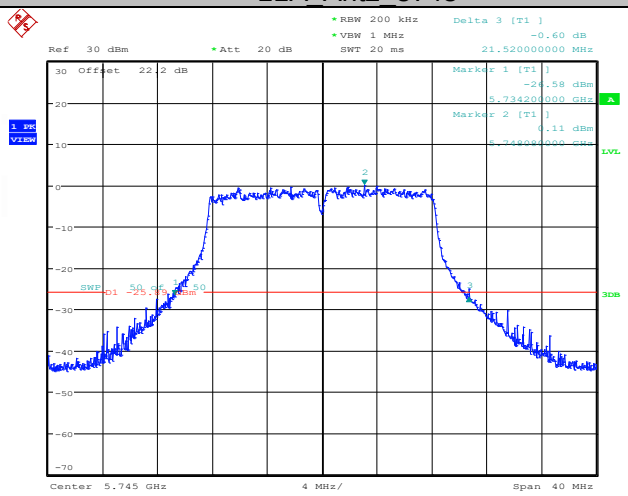

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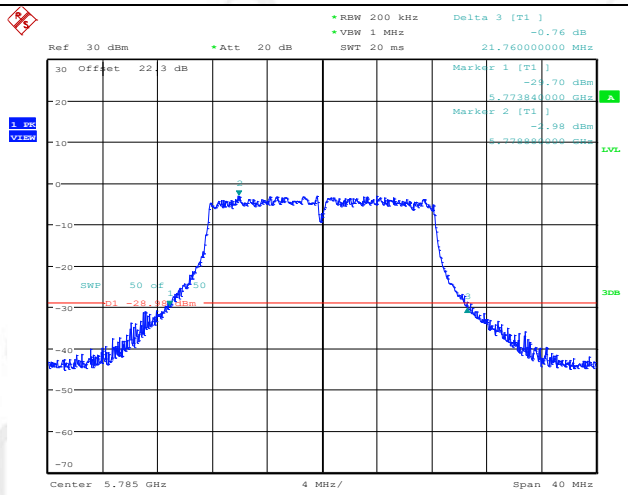

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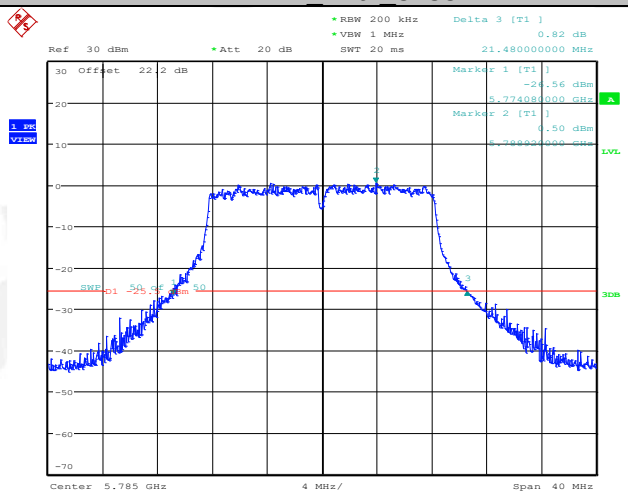

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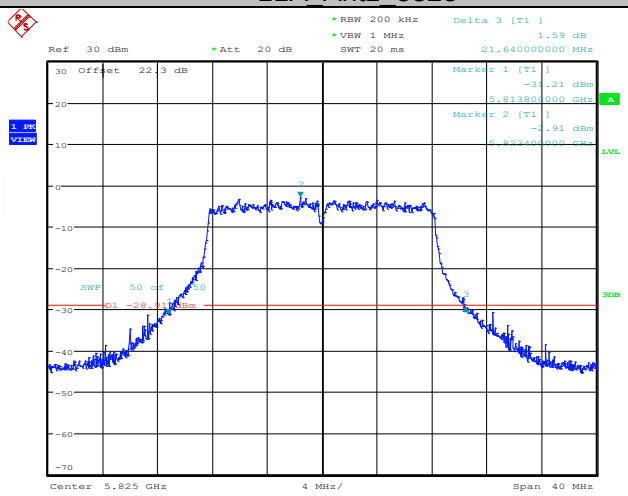

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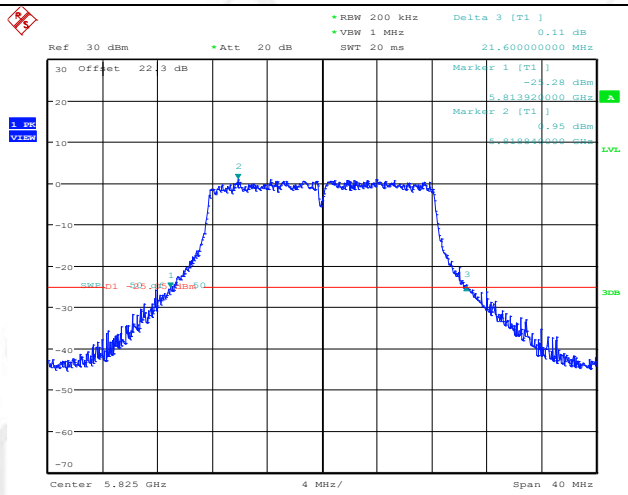

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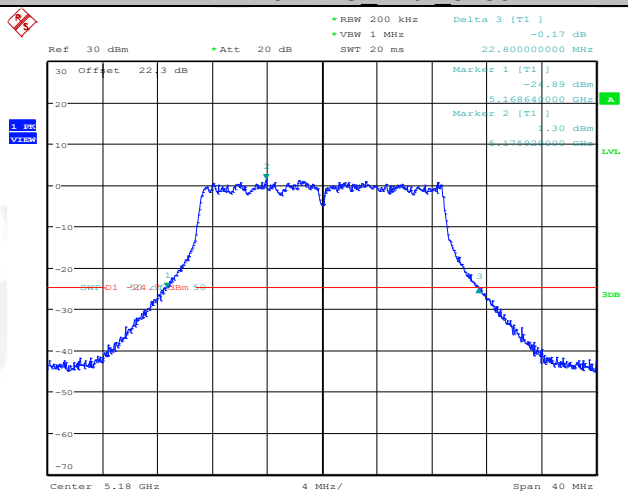

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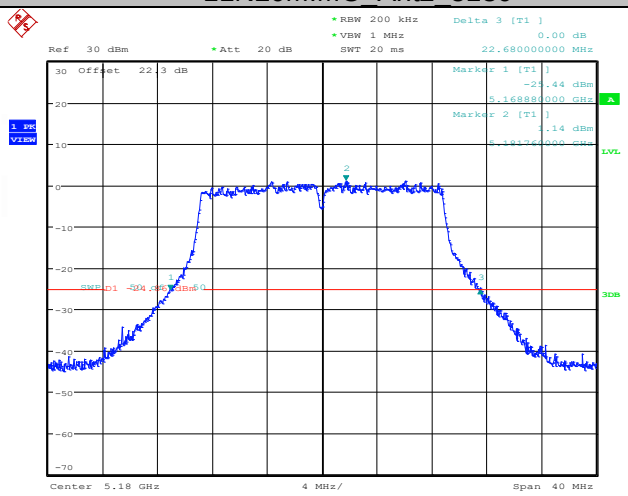

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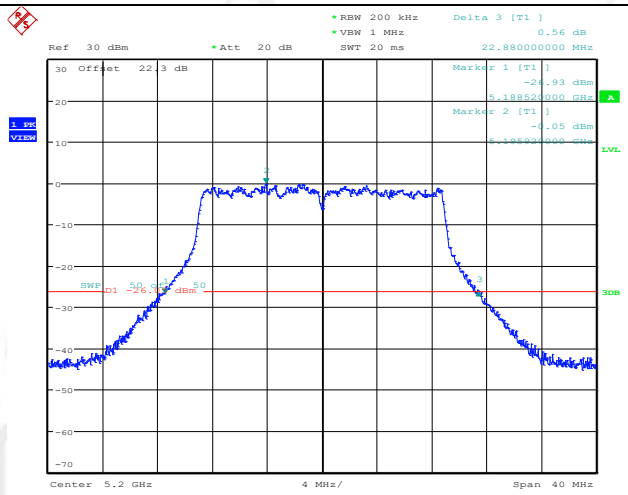

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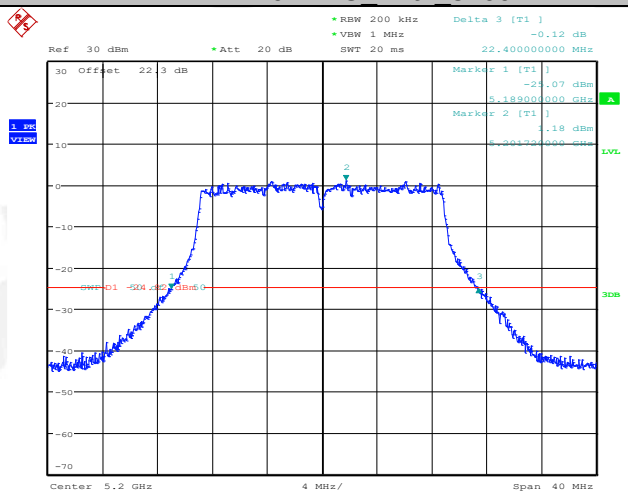

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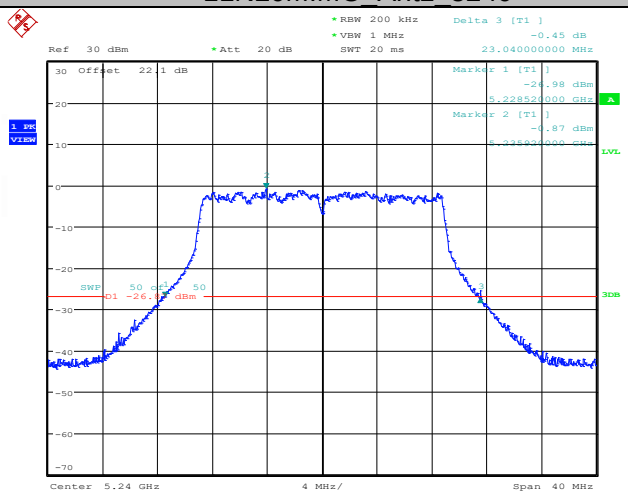

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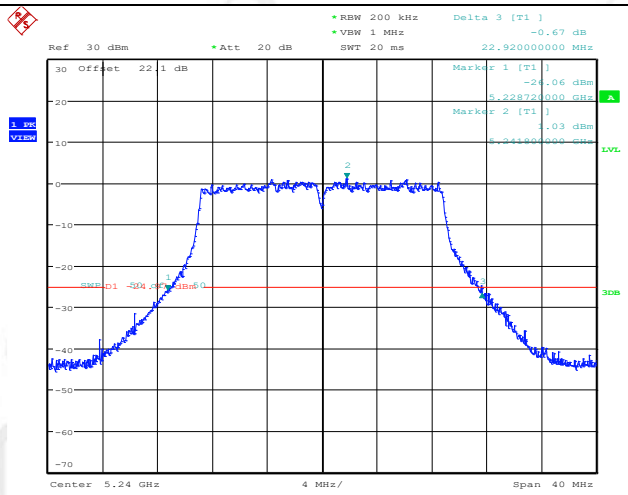

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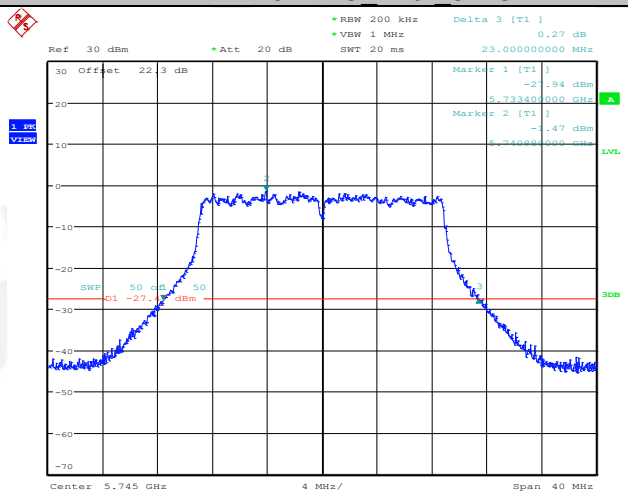

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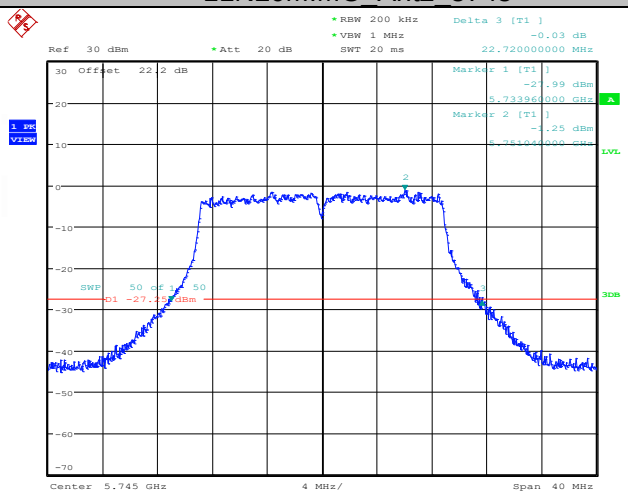

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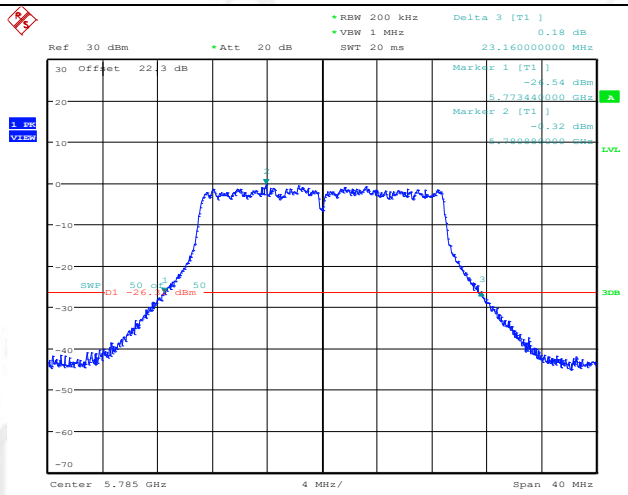

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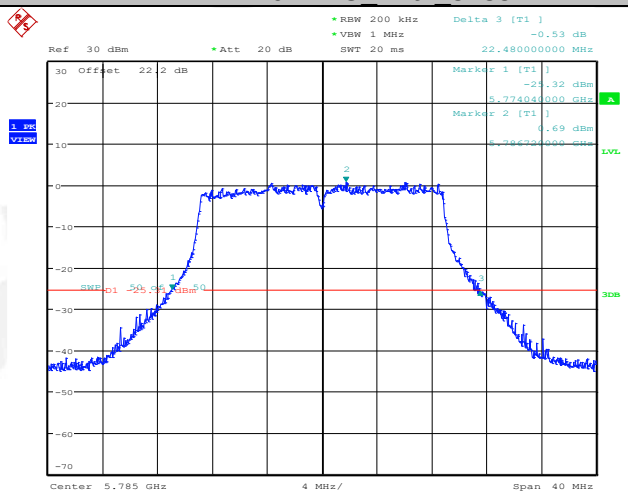

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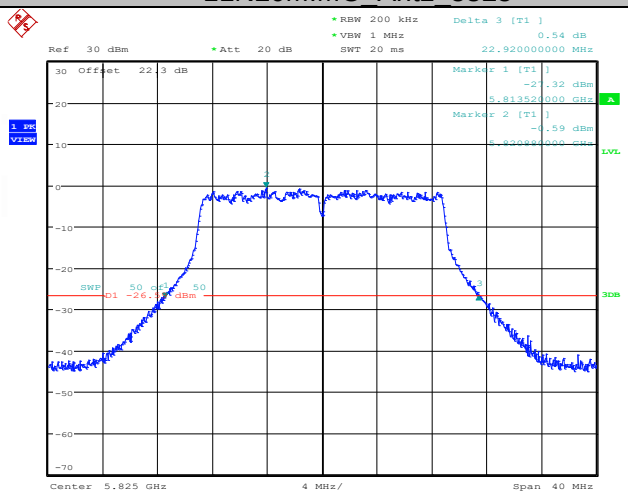

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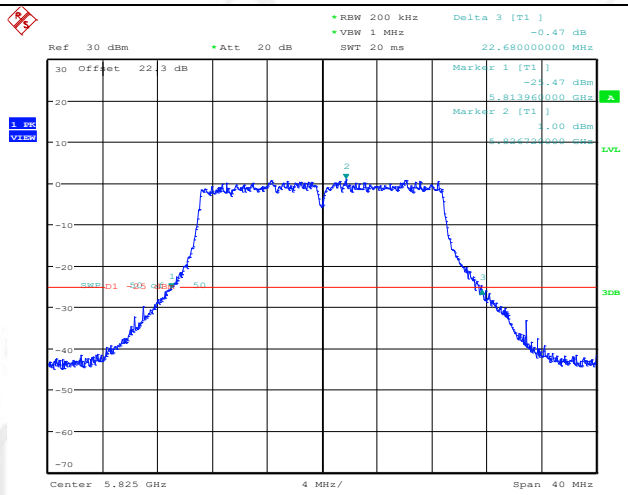

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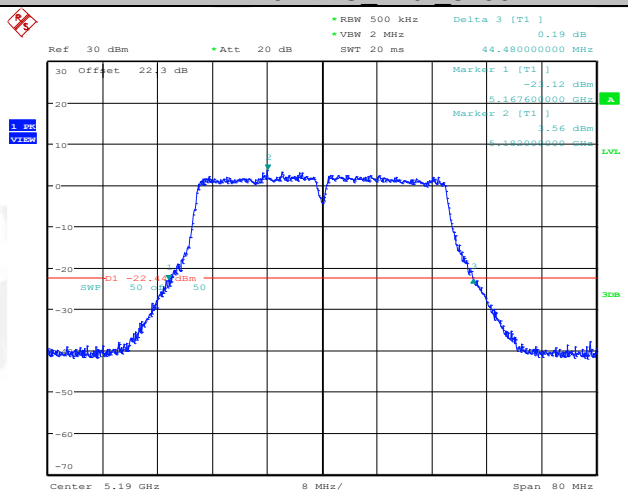
11N40MIMO_Ant1_5190



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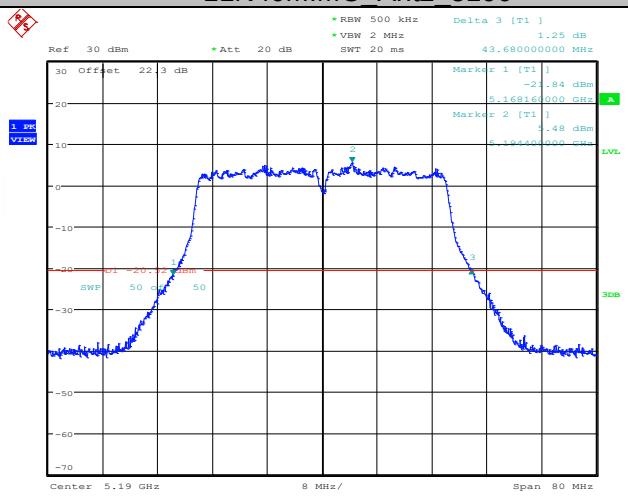

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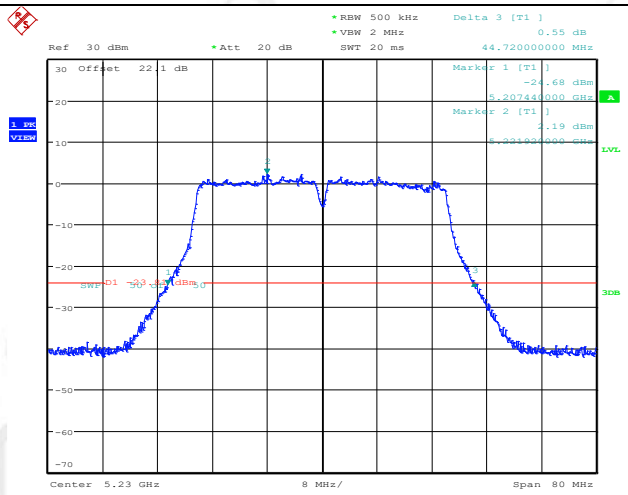

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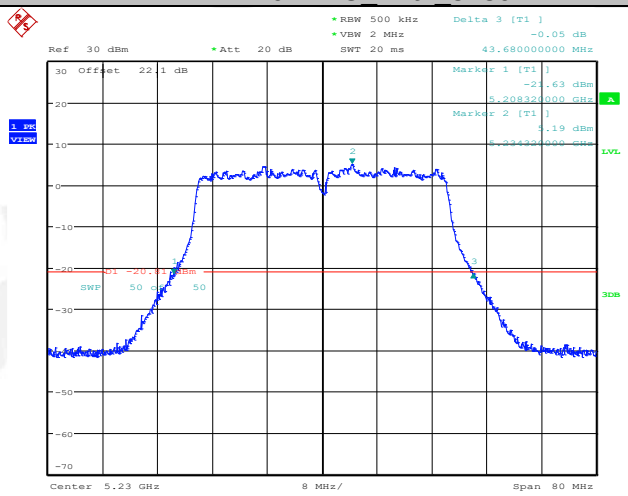

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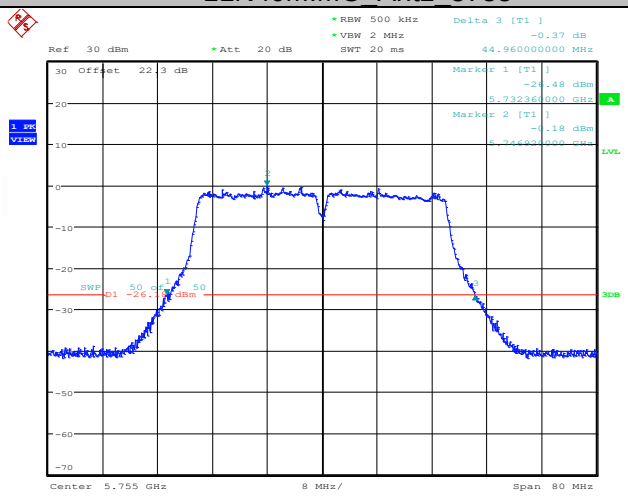

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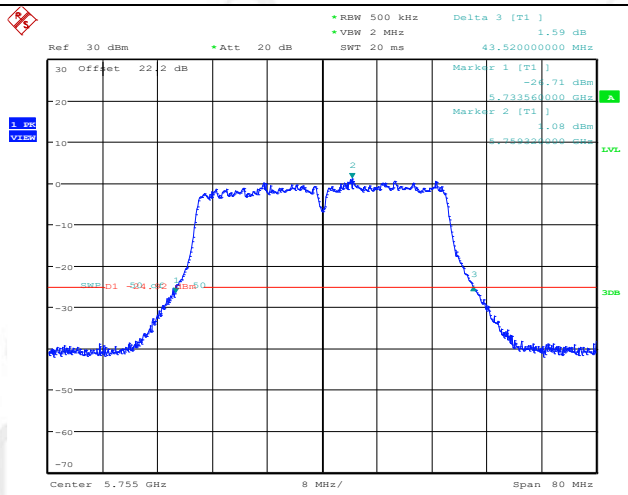

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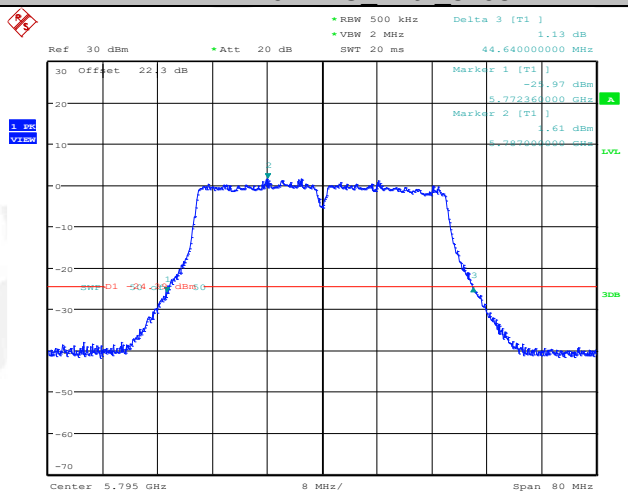

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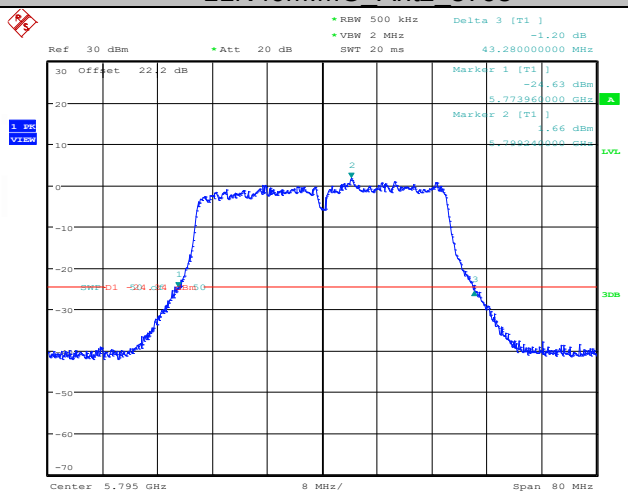

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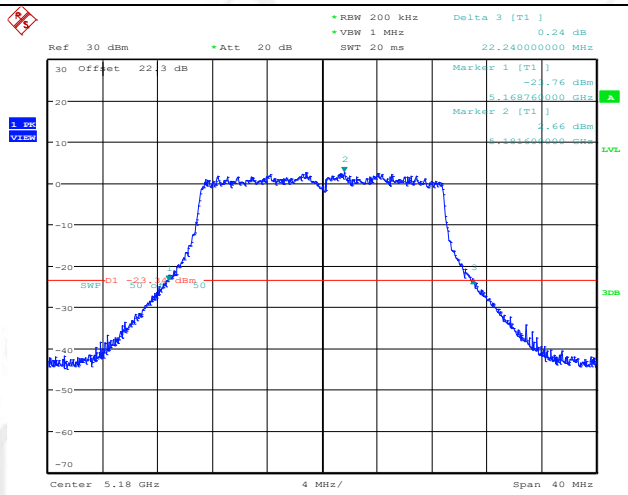

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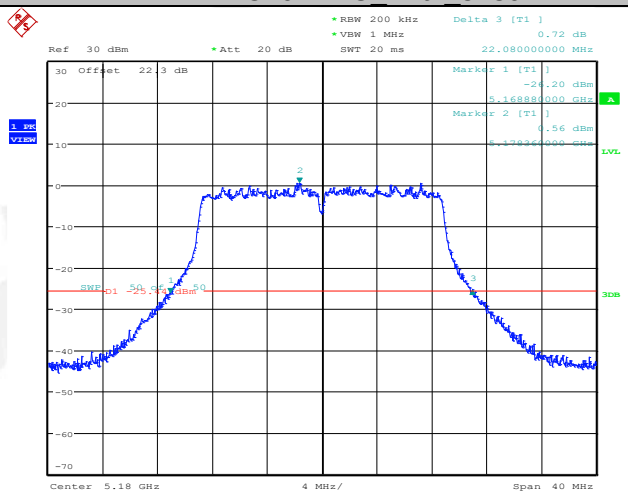

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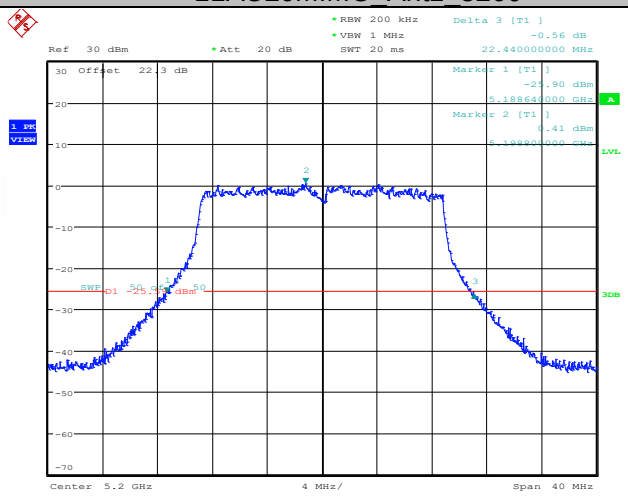

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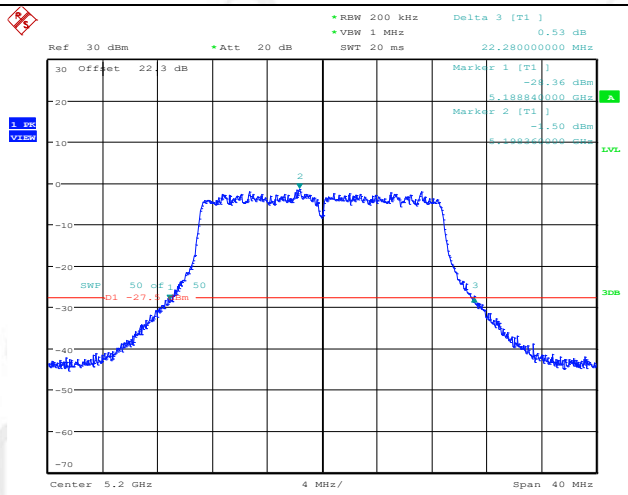

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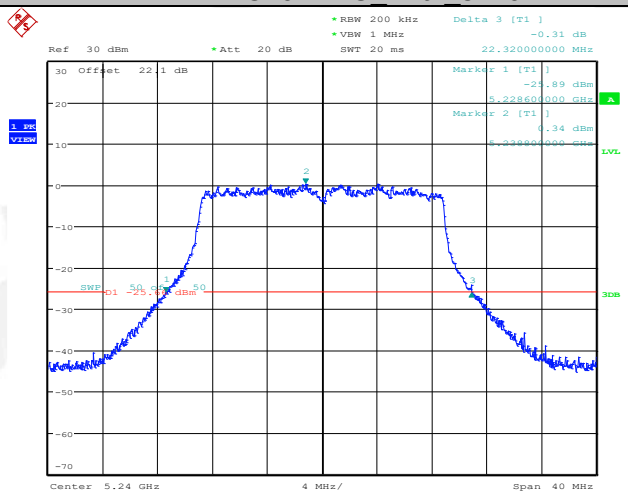

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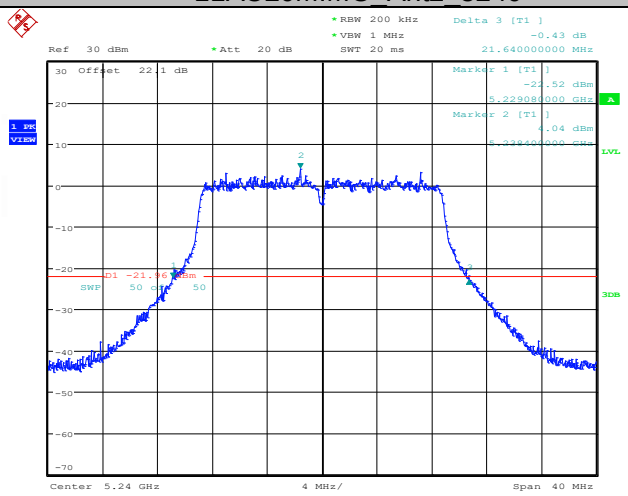

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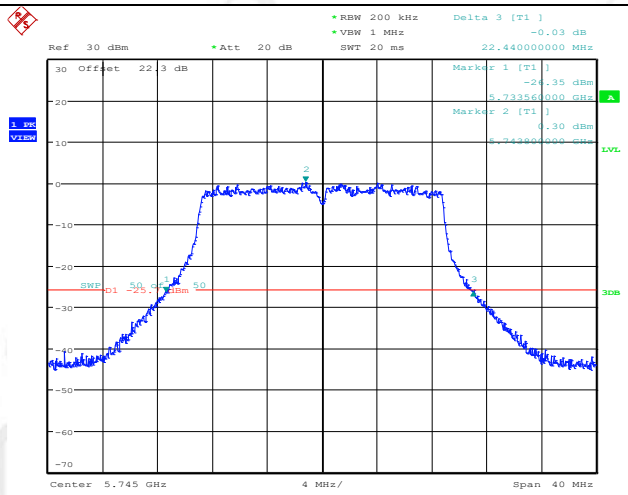

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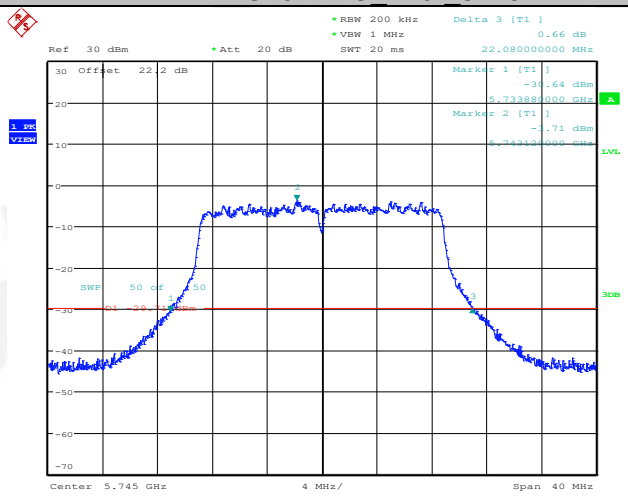

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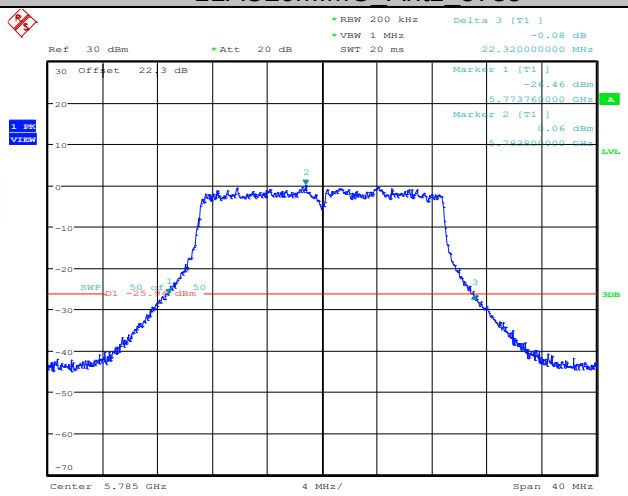

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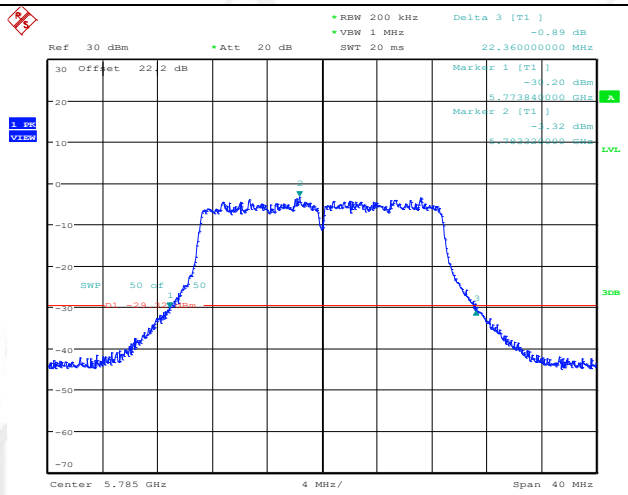

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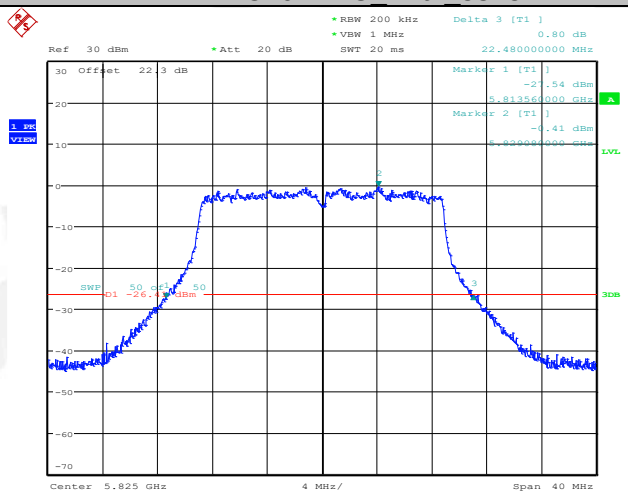

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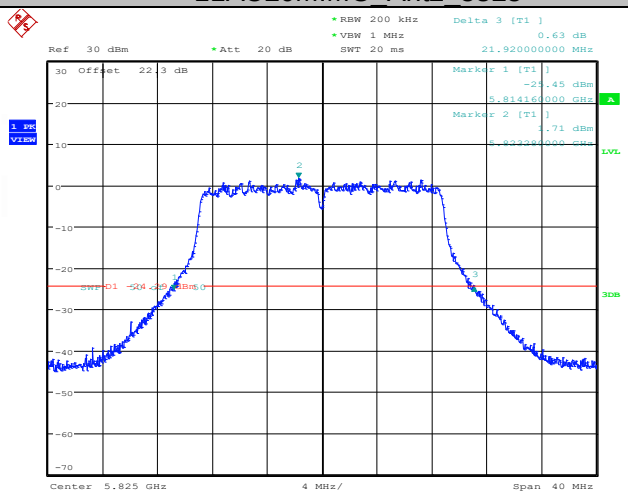

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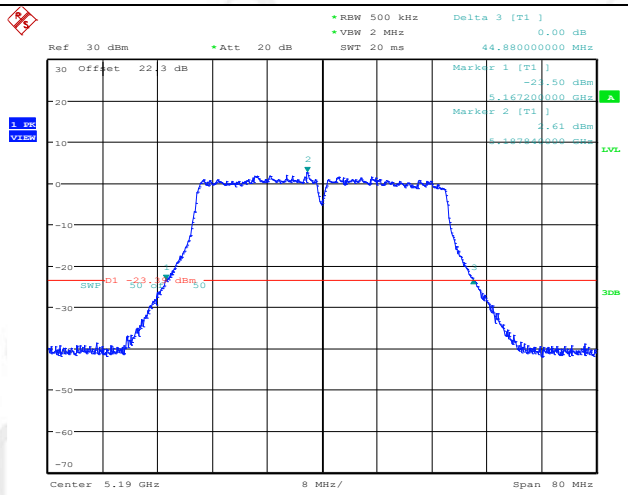

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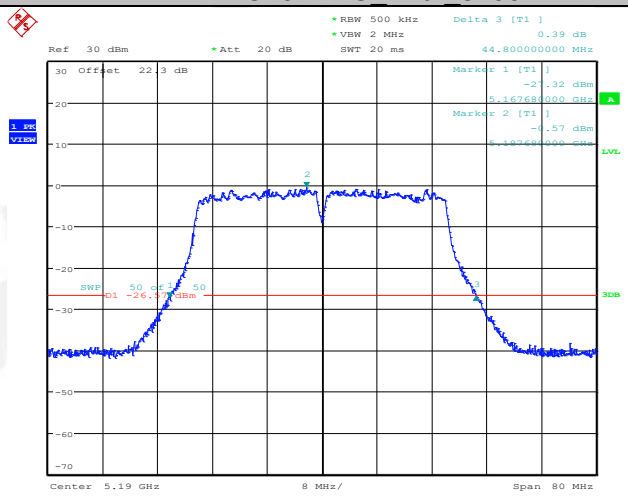

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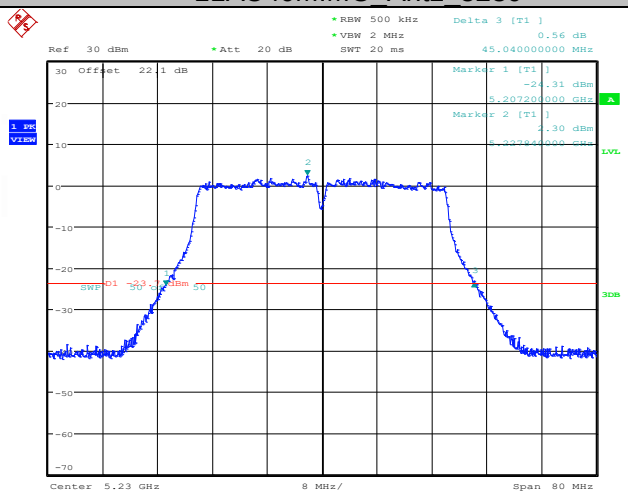

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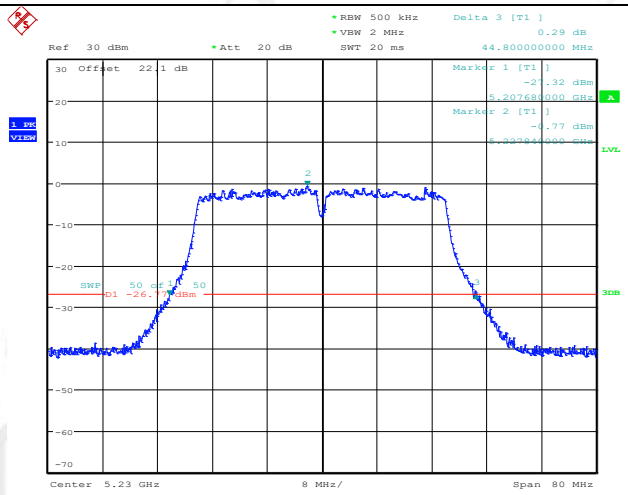

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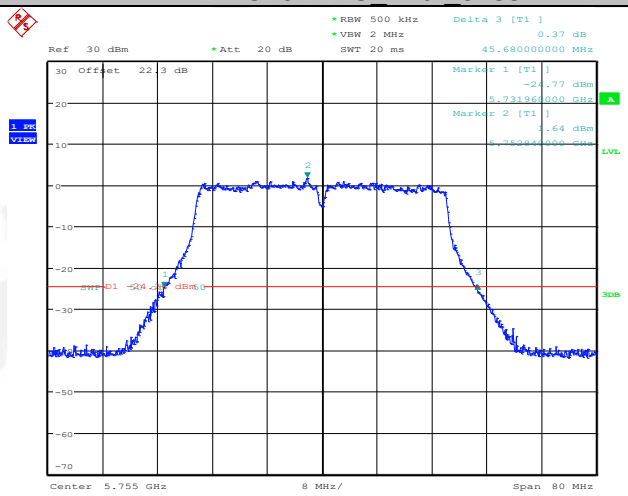

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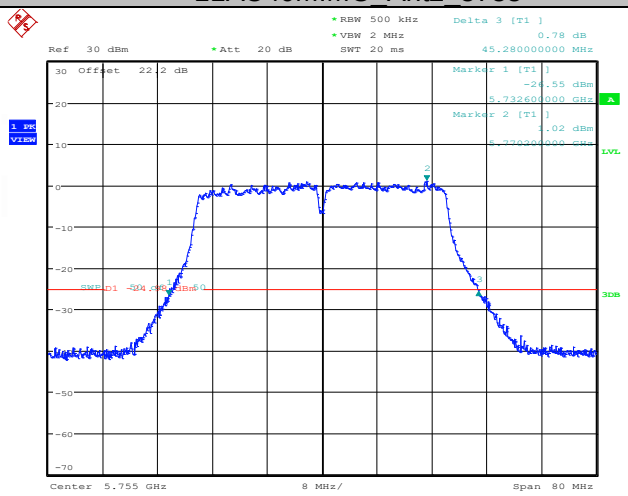

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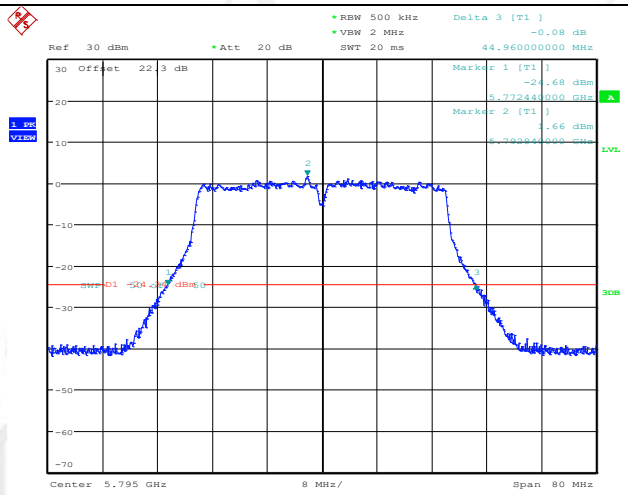
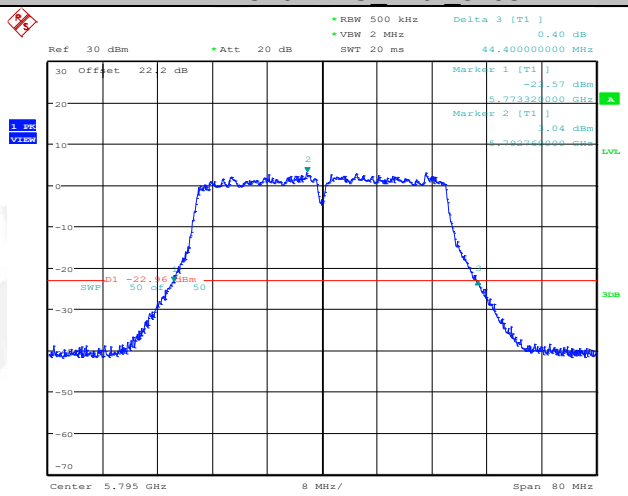
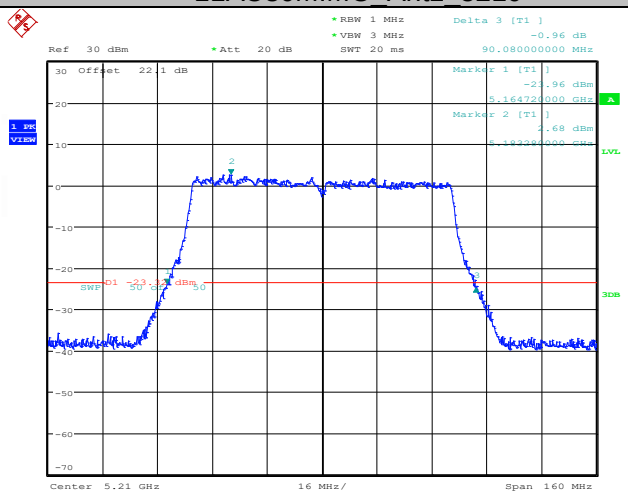


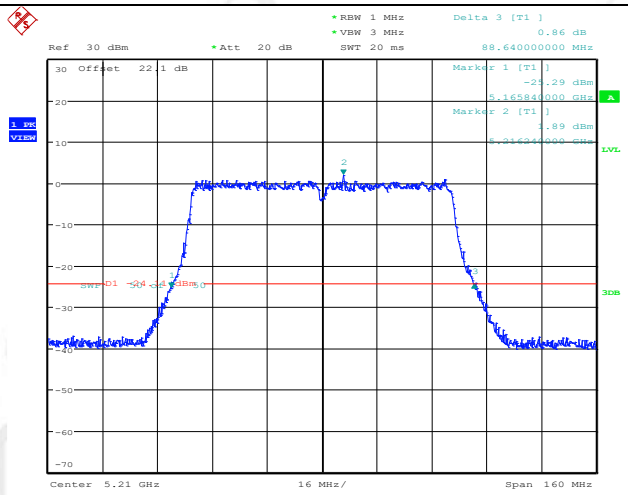
11AC40MIMO_Ant2_5795



11AC80MIMO_Ant1_5210



11AC80MIMO_Ant2_5210



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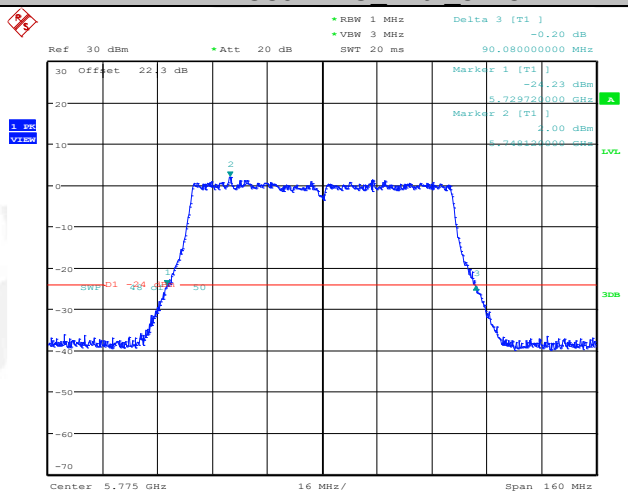
11AC80MIMO_Ant1_5775



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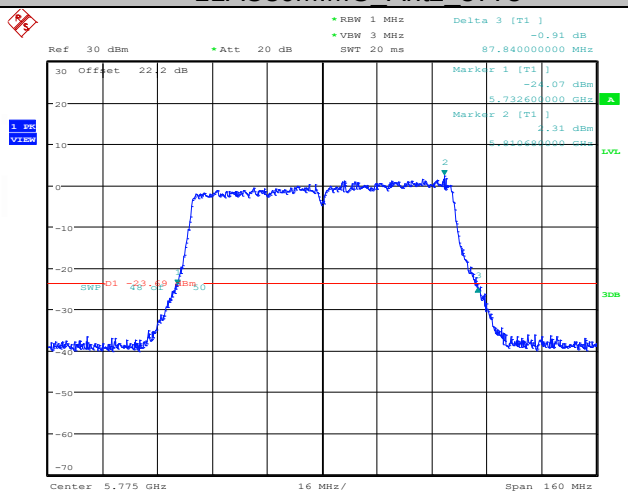
11AC80MIMO_Ant2_5775



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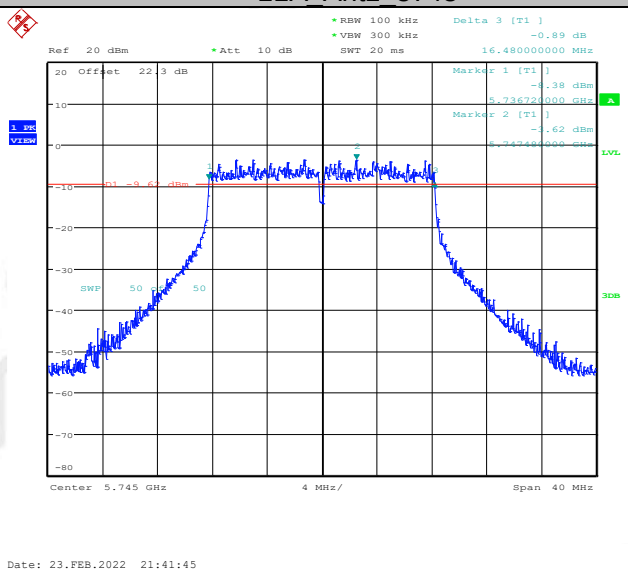
6 dB EBW:

11A_Ant1_5745
 Date: 23.FEB.2022 21:41:45
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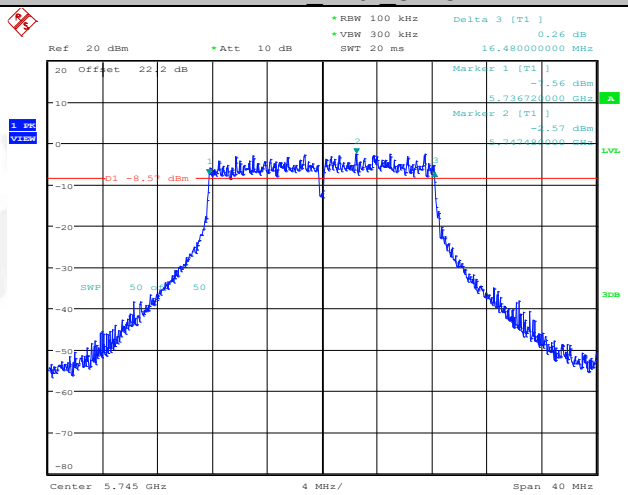
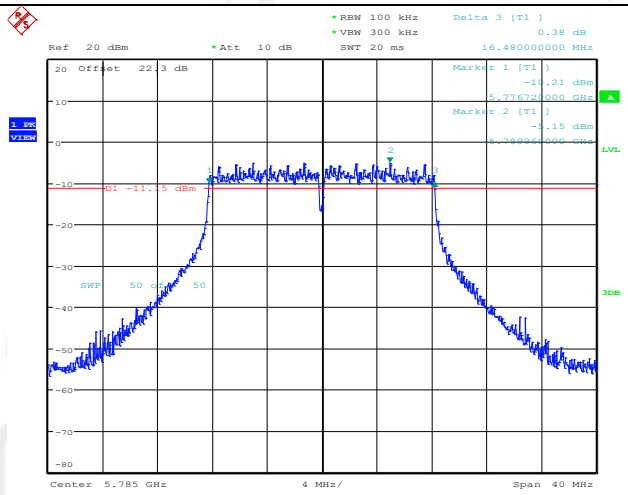
 Date: 23.FEB.2022 22:10:34
11A_Ant1_5785



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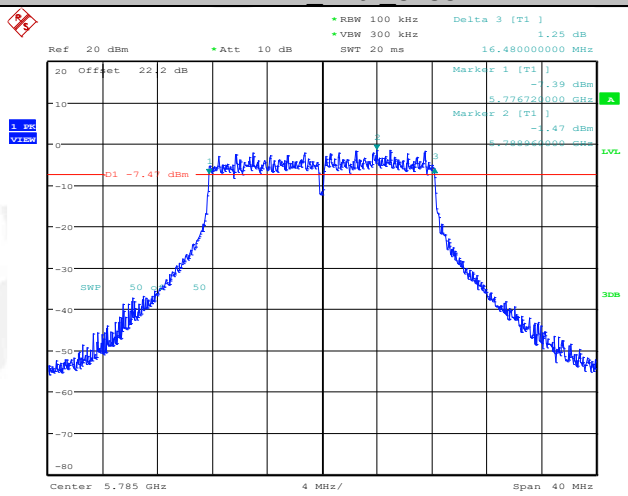
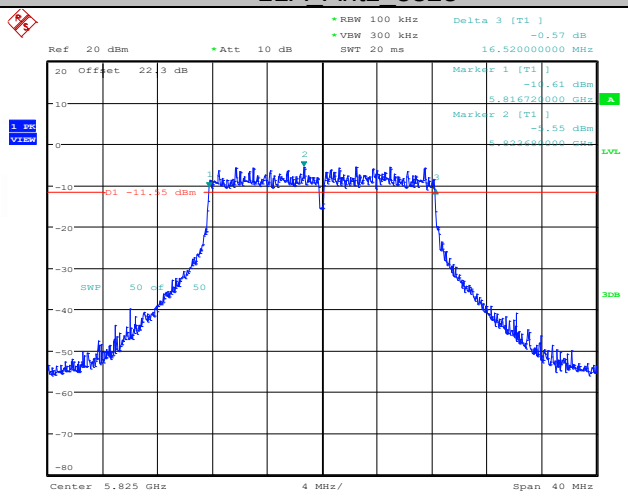
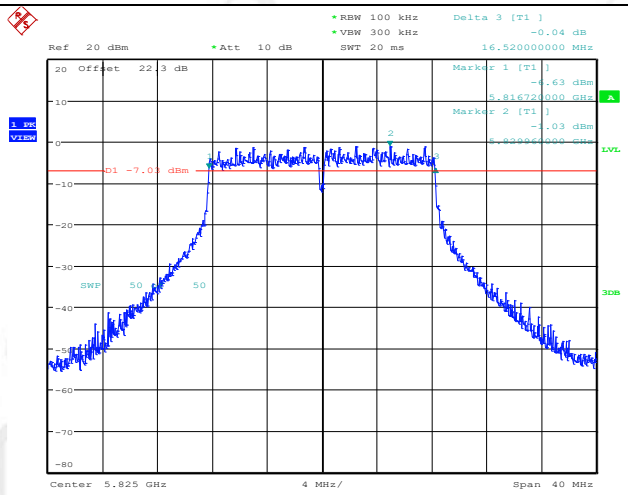


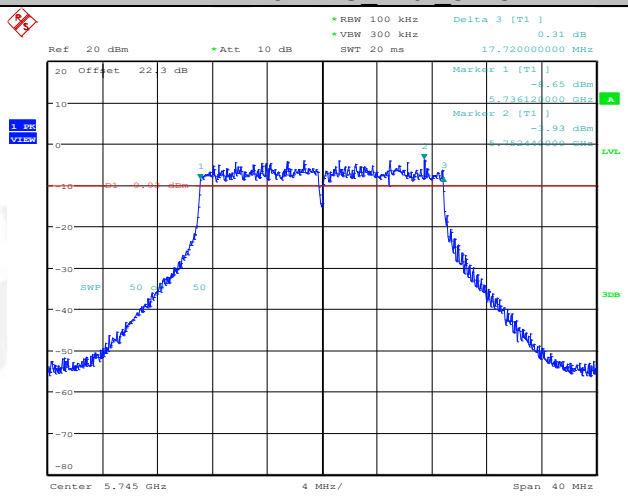
11A_Ant1_5825



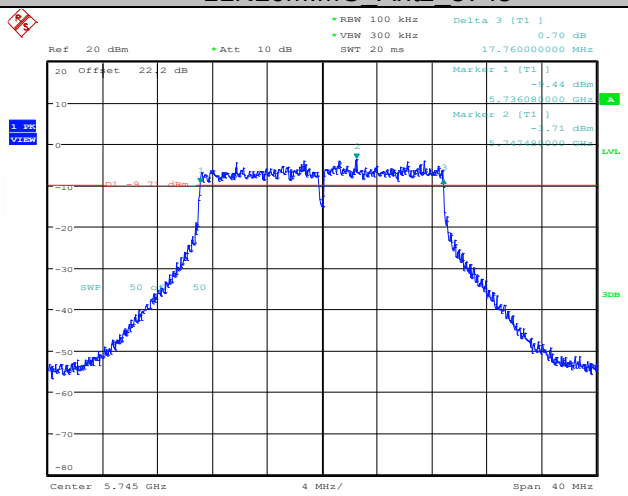
11A_Ant2_5825



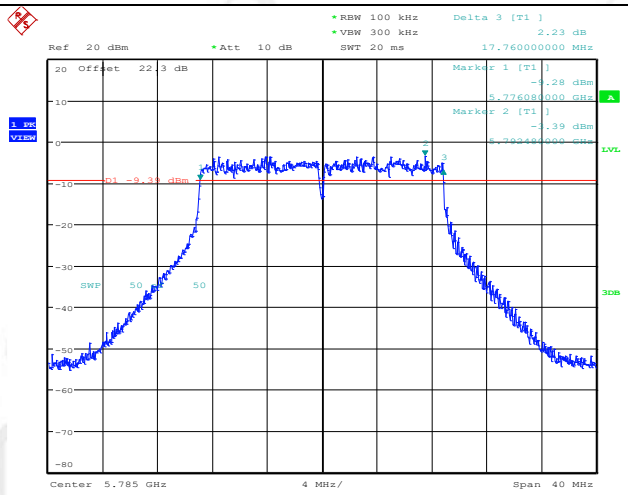
11N20MIMO_Ant1_5745



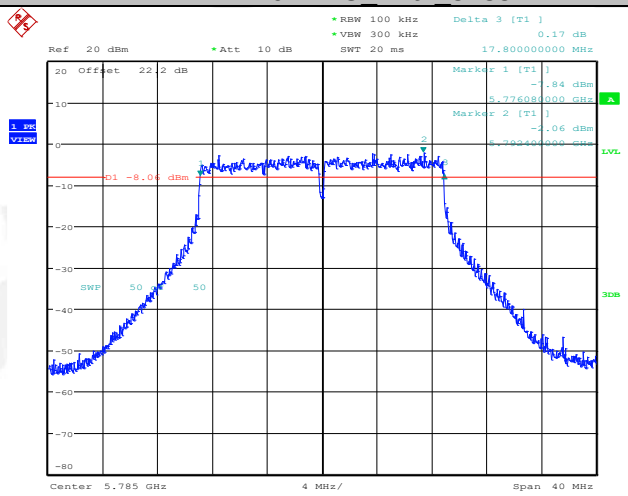
11N20MIMO_Ant2_5745



11N20MIMO_Ant1_5785



11N20MIMO_Ant2_5785



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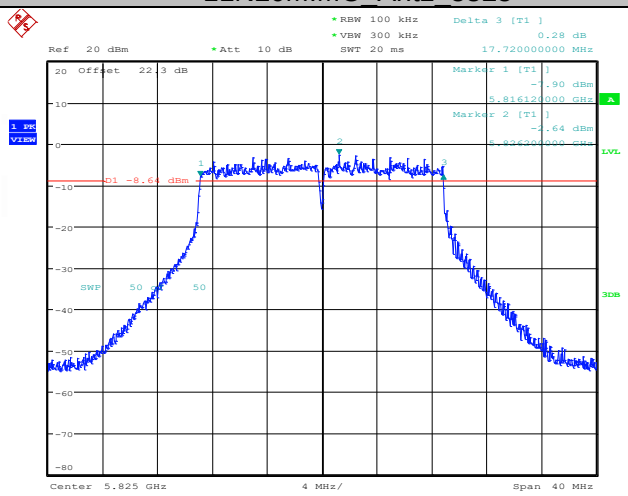
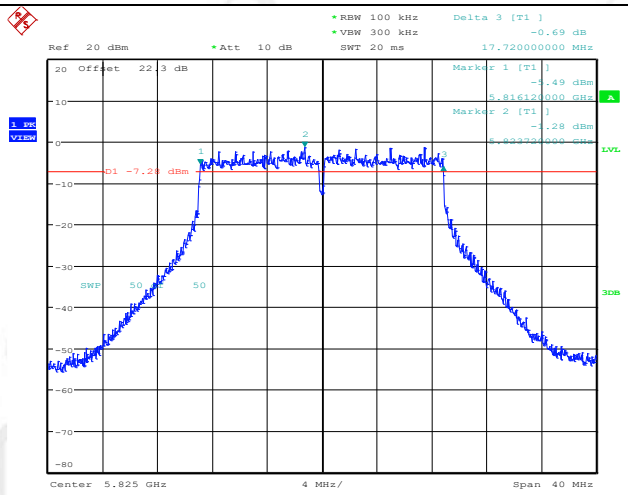


11N20MIMO_Ant2_5825



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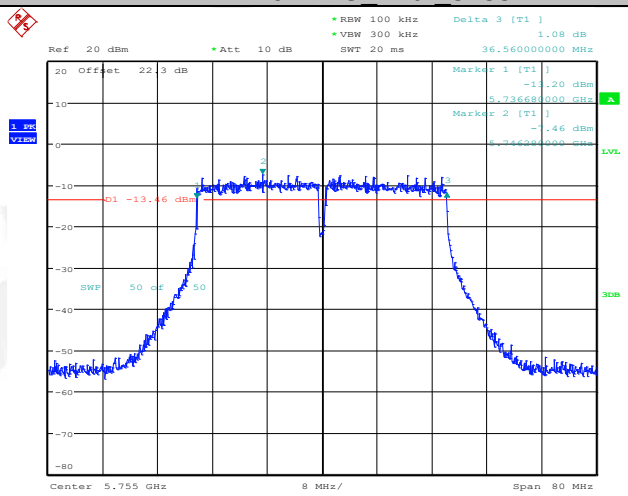
11N40MIMO_Ant1_5755



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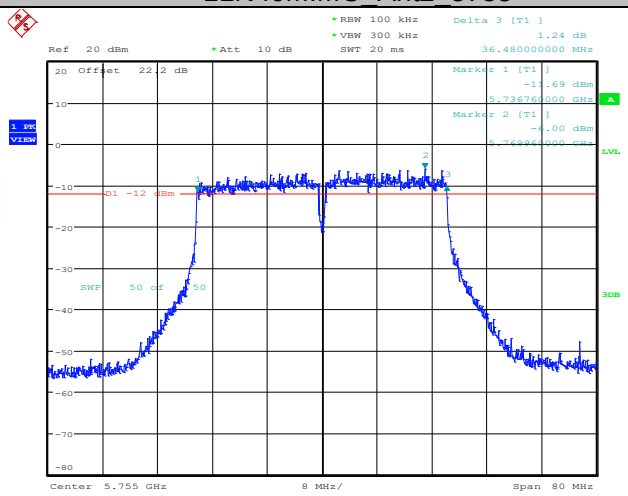
11N40MIMO_Ant2_5755



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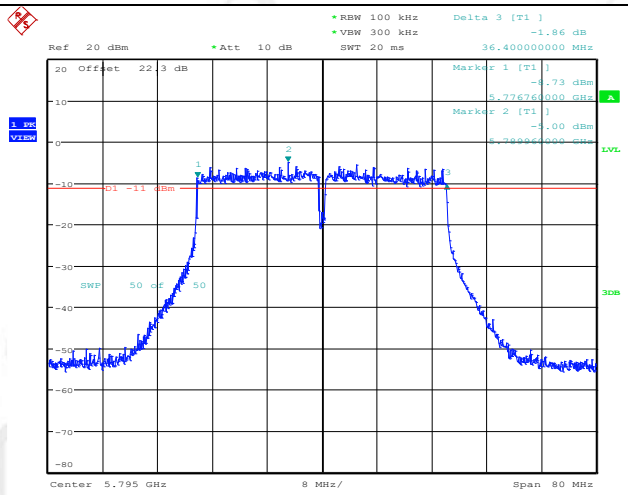
11N40MIMO_Ant1_5795



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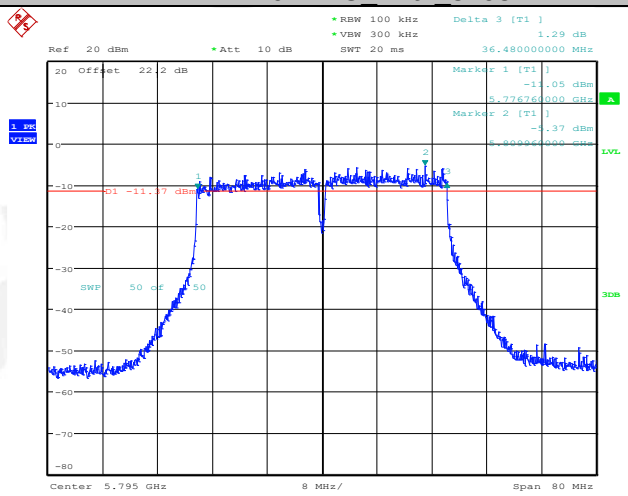

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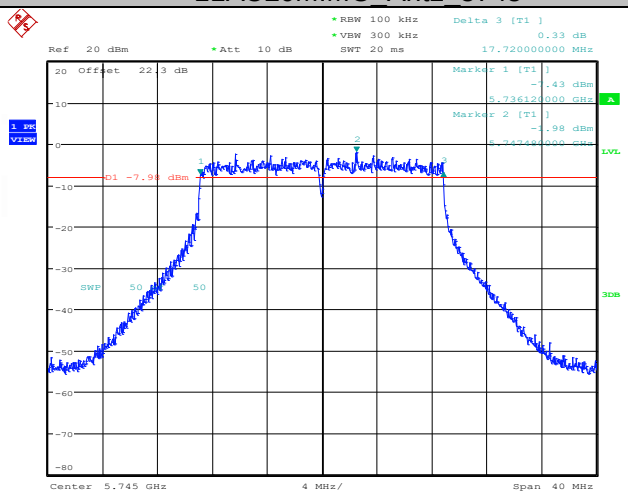

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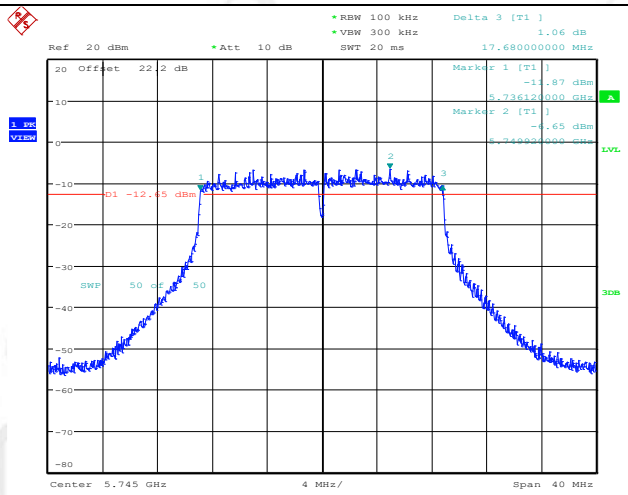
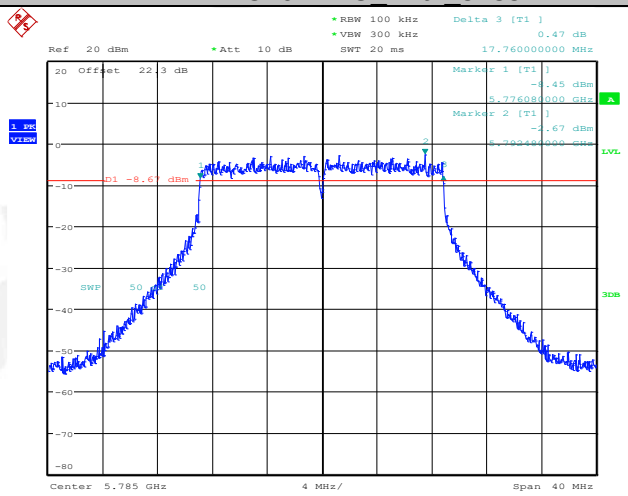


11AC20MIMO_Ant1_5785



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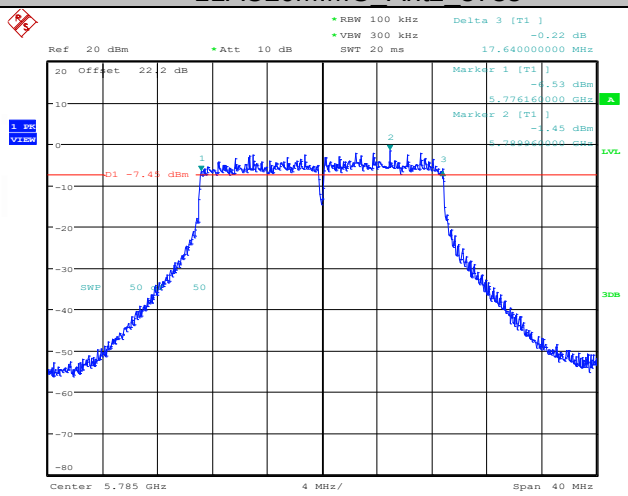
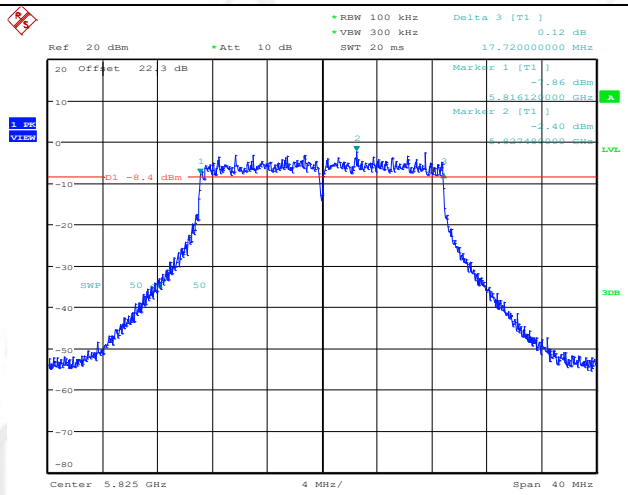


11AC20MIMO_Ant1_5825



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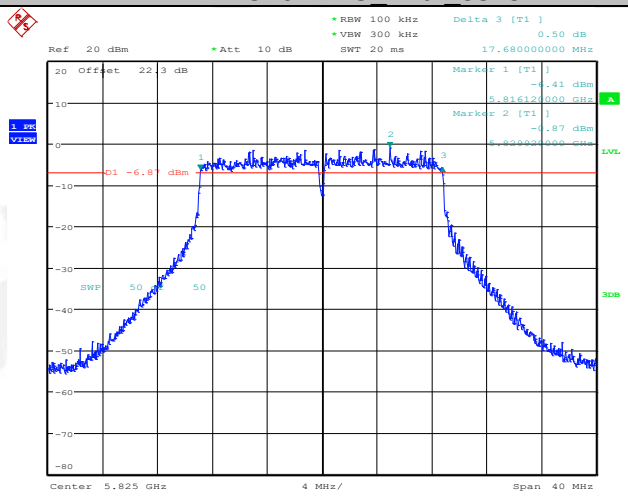
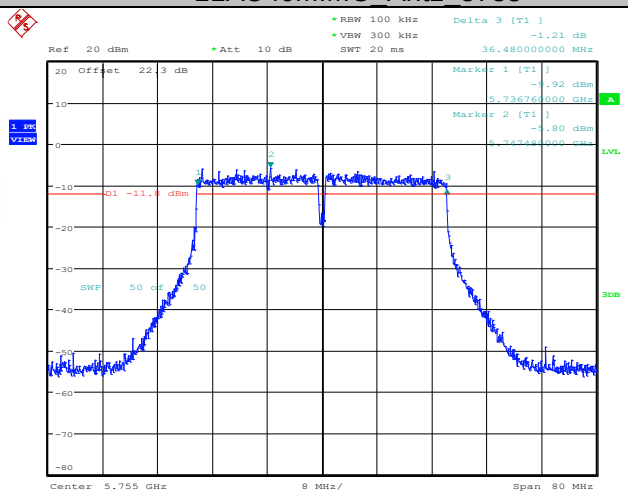
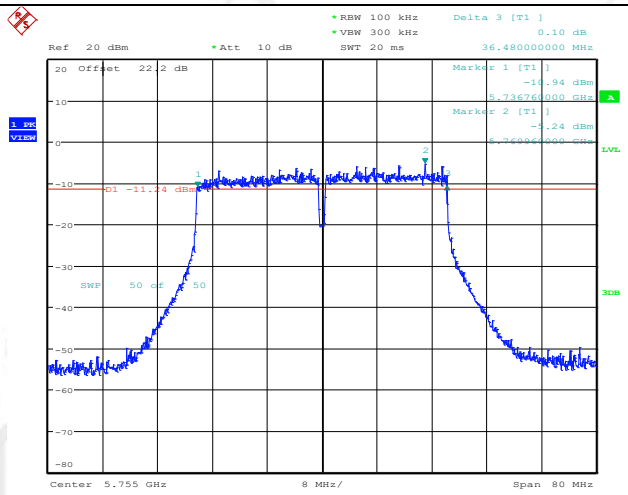


11AC40MIMO_Ant1_5755



11AC40MIMO_Ant2_5755



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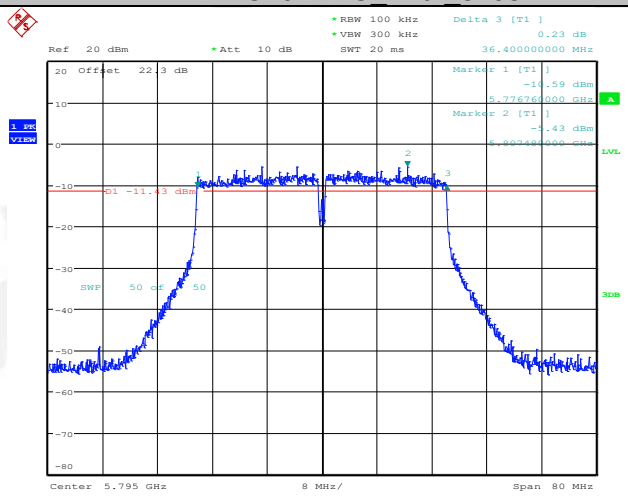

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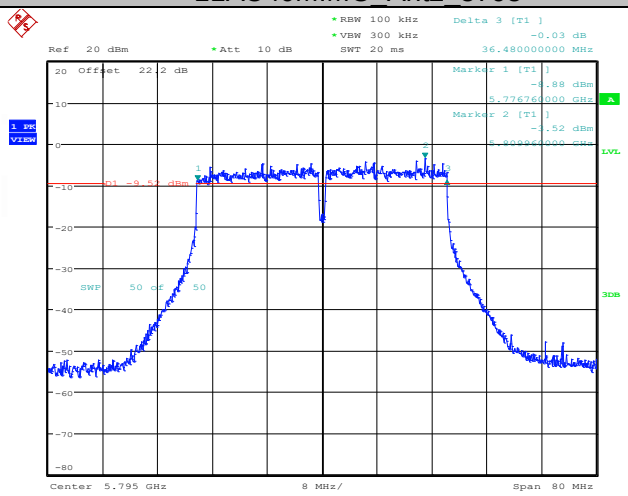
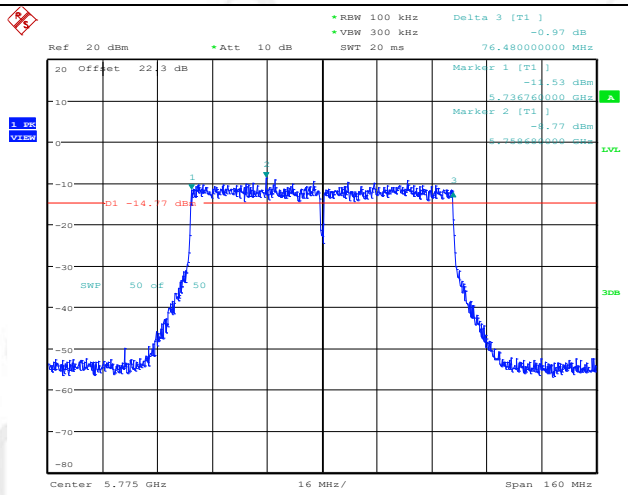


11AC80MIMO_Ant1_5775



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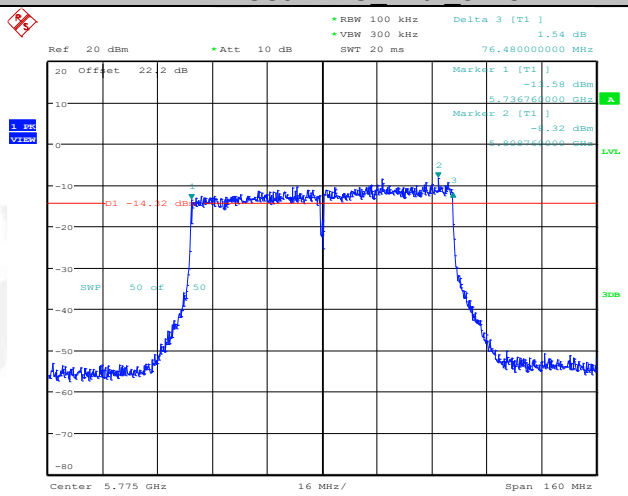
11AC80MIMO_Ant2_5775



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5. Maximum Output Power

5.1. Block diagram of test setup

Same as section 4.1

5.2. Limits

FCC Part15, Subpart E/ RSS-247		
Test Item	Limit	Frequency Range (MHz)
Conducted Output Power	For FCC outdoor devices: 1 W (30 dBm) For FCC client devices: 250 mW (24 dBm)	5150 - 5250
	For RSS: e.i.r.p. power: not exceed 200 mW (23 dBm) or 10 + 10 $\log_{10}$ B	
	For FCC/ISED: 250 mW (24 dBm) or 11 + 10 $\log_{10}$ B	5250 - 5350
	For RSS: e.i.r.p. power: not exceed 1.0 W (30 dBm) or 17 + 10 $\log_{10}$ B	
	For FCC/ISED: 250 mW (24 dBm) or 11 + 10 $\log_{10}$ B	For FCC:5470 - 5725 For ISED:5470 - 5600 5650 - 5725
	For RSS: e.i.r.p. power: not exceed 1.0 W (30 dBm) or 17 + 10 $\log_{10}$ B	
	1 Watt (30 dBm)	5725 - 5850
Note: For FCC: B=26 bandwidth; For ISED: B=99% bandwidth.		

5.3. Test procedure

(1) Connect each EUT's antenna output to Power Sensor by RF cable and attenuator

(2) Add each antenna port's results to get the total output power of EUT.

5.4. Test result

Test Mode	Antenna	Channel	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	11.58	≤30.00	Pass
	Ant2	5180	7.20	≤30.00	Pass
	Ant1	5200	17.83	≤30.00	Pass
	Ant2	5200	7.68	≤30.00	Pass
	Ant1	5240	17.02	≤30.00	Pass
	Ant2	5240	8.26	≤30.00	Pass
	Ant1	5745	8.11	≤30.00	Pass
	Ant2	5745	9.98	≤30.00	Pass
	Ant1	5785	7.12	≤30.00	Pass
	Ant2	5785	10.63	≤30.00	Pass
	Ant1	5825	6.77	≤30.00	Pass
	Ant2	5825	11.28	≤30.00	Pass
11N20MIMO	Ant1	5180	11.92	≤30.00	Pass
	Ant2	5180	11.27	≤30.00	Pass
	total	5180	14.62	≤30.00	Pass
	Ant1	5200	9.83	≤30.00	Pass

	Ant2	5200	11.32	≤30.00	Pass
	total	5200	13.65	≤30.00	Pass
	Ant1	5240	9.33	≤30.00	Pass
	Ant2	5240	11.54	≤30.00	Pass
	total	5240	13.58	≤30.00	Pass
	Ant1	5745	8.53	≤30.00	Pass
	Ant2	5745	9.07	≤30.00	Pass
	total	5745	11.82	≤30.00	Pass
	Ant1	5785	9.61	≤30.00	Pass
	Ant2	5785	11.03	≤30.00	Pass
	total	5785	13.39	≤30.00	Pass
	Ant1	5825	9.47	≤30.00	Pass
	Ant2	5825	11.18	≤30.00	Pass
	total	5825	13.42	≤30.00	Pass
11N40MIMO	Ant1	5190	11.09	≤30.00	Pass
	Ant2	5190	13.62	≤30.00	Pass
	total	5190	15.55	≤30.00	Pass
	Ant1	5230	10.84	≤30.00	Pass
	Ant2	5230	13.60	≤30.00	Pass
	total	5230	15.45	≤30.00	Pass
	Ant1	5755	8.32	≤30.00	Pass
	Ant2	5755	8.11	≤30.00	Pass
	total	5755	11.23	≤30.00	Pass
	Ant1	5795	9.75	≤30.00	Pass
	Ant2	5795	9.36	≤30.00	Pass
	total	5795	12.57	≤30.00	Pass
11AC20 MIMO	Ant1	5180	12.58	≤30.00	Pass
	Ant2	5180	10.33	≤30.00	Pass
	total	5180	14.61	≤30.00	Pass
	Ant1	5200	10.45	≤30.00	Pass
	Ant2	5200	8.42	≤30.00	Pass
	total	5200	12.56	≤30.00	Pass
	Ant1	5240	10.55	≤30.00	Pass
	Ant2	5240	12.63	≤30.00	Pass
	total	5240	14.72	≤30.00	Pass
	Ant1	5745	10.02	≤30.00	Pass
	Ant2	5745	6.24	≤30.00	Pass
	total	5745	11.54	≤30.00	Pass
	Ant1	5785	9.67	≤30.00	Pass
	Ant2	5785	10.61	≤30.00	Pass
	total	5785	13.18	≤30.00	Pass
	Ant1	5825	9.29	≤30.00	Pass
	Ant2	5825	11.24	≤30.00	Pass
	total	5825	13.38	≤30.00	Pass
11AC40 MIMO	Ant1	5190	10.76	≤30.00	Pass
	Ant2	5190	8.41	≤30.00	Pass
	total	5190	12.75	≤30.00	Pass
	Ant1	5230	10.90	≤30.00	Pass
	Ant2	5230	8.17	≤30.00	Pass
	total	5230	12.76	≤30.00	Pass
	Ant1	5755	8.63	≤30.00	Pass

	Ant2	5755	9.90	≤30.00	Pass
	total	5755	12.32	≤30.00	Pass
	Ant1	5795	9.67	≤30.00	Pass
	Ant2	5795	11.45	≤30.00	Pass
	total	5795	13.66	≤30.00	Pass
11AC80 MIMO	Ant1	5210	10.91	≤30.00	Pass
	Ant2	5210	9.13	≤30.00	Pass
	total	5210	13.12	≤30.00	Pass
	Ant1	5775	9.67	≤30.00	Pass
	Ant2	5775	9.58	≤30.00	Pass
	total	5775	12.64	≤30.00	Pass

6. Power Spectral Density

6.1. Block diagram of test setup

Same with 4.1

6.2. Limits

FCC Part15, Subpart E/ RSS-247		
Test Item	Limit	Frequency Range (MHz)
Power Spectral Density	For FCC: Other than Mobile and portable: 17 dBm/MHz Mobile and portable client devices: 11 dBm/MHz	5150 - 5250
	For RSS e.i.r.p: 10 dBm/MHz	
	11 dBm/MHz	5250 - 5350
	11 dBm/MHz	For FCC: 5470 - 5725 For ISED: 5470 - 5600, 5650 - 5725
	30 dBm/500 kHz	5725 - 5850

6.3. Test procedure

The transmitter output was connected to a spectrum analyzer. Power density was measured by spectrum analyzer with 1 MHz RBW and 3 MHz VBW.
Connect the UUT to the spectrum analyser and use the following settings:

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

Center Frequency	The centre frequency of the channel under test
Detector	RMS
RBW	1 MHz
VBW	≥3 × RBW
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

5725 MHz - 5850 MHz

Center Frequency	The centre frequency of the channel under test
Detector	RMS
RBW	500 kHz
VBW	≥3 × RBW
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

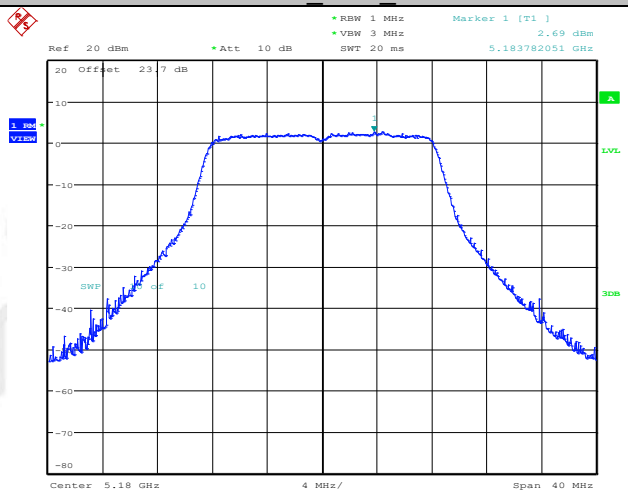
6.4. Test result

Test Mode	Antenna	Channel	Result [dBm/MHz]	Limit [dBm/MHz]	Verdict
11A	Ant1	5180	2.69	≤17.00	Pass
	Ant2	5180	-1.61	≤17.00	Pass
	Ant1	5200	3.87	≤17.00	Pass
	Ant2	5200	-1.53	≤17.00	Pass
	Ant1	5240	0.3	≤17.00	Pass
	Ant2	5240	-1.2	≤17.00	Pass
	Ant1	5745	-1.49	≤30.00	Pass
	Ant2	5745	-3.64	≤30.00	Pass
	Ant1	5785	-2.17	≤30.00	Pass
	Ant2	5785	-1.36	≤30.00	Pass
	Ant1	5825	-2.2	≤30.00	Pass
	Ant2	5825	-1.25	≤30.00	Pass
11N20MIMO	Ant1	5180	1.52	≤17.00	Pass
	Ant2	5180	0.45	≤17.00	Pass
	total	5180	4.03	≤17.00	Pass
	Ant1	5200	-0.49	≤17.00	Pass
	Ant2	5200	0.59	≤17.00	Pass
	total	5200	3.09	≤17.00	Pass
	Ant1	5240	-1.11	≤17.00	Pass
	Ant2	5240	0.56	≤17.00	Pass
	total	5240	2.82	≤17.00	Pass
	Ant1	5745	-4.79	≤30.00	Pass
	Ant2	5745	-4.87	≤30.00	Pass
	total	5745	-1.82	≤30.00	Pass
	Ant1	5785	-0.56	≤30.00	Pass
	Ant2	5785	0.29	≤30.00	Pass
	total	5785	2.90	≤30.00	Pass
	Ant1	5825	-0.88	≤30.00	Pass
	Ant2	5825	0.39	≤30.00	Pass
	total	5825	2.81	≤30.00	Pass
11N40MIMO	Ant1	5190	-2.4	≤17.00	Pass
	Ant2	5190	0.43	≤17.00	Pass
	total	5190	2.25	≤17.00	Pass
	Ant1	5230	-2.93	≤17.00	Pass
	Ant2	5230	-0.53	≤17.00	Pass
	total	5230	1.44	≤17.00	Pass
	Ant1	5755	-5.97	≤30.00	Pass
	Ant2	5755	-7.53	≤30.00	Pass
	total	5755	-3.67	≤30.00	Pass
	Ant1	5795	-6.02	≤30.00	Pass
	Ant2	5795	-6.39	≤30.00	Pass
	total	5795	-3.19	≤30.00	Pass
11AC20 MIMO	Ant1	5180	2.53	≤17.00	Pass
	Ant2	5180	0.24	≤17.00	Pass
	total	5180	4.54	≤17.00	Pass
	Ant1	5200	0.43	≤17.00	Pass
	Ant2	5200	-1.56	≤17.00	Pass
	total	5200	2.56	≤17.00	Pass

	Ant1	5240	0.14	≤17.00	Pass
	Ant2	5240	2.04	≤17.00	Pass
	total	5240	4.20	≤17.00	Pass
	Ant1	5745	-2.21	≤30.00	Pass
	Ant2	5745	-5.91	≤30.00	Pass
	total	5745	-0.67	≤30.00	Pass
	Ant1	5785	-2.66	≤30.00	Pass
	Ant2	5785	0.95	≤30.00	Pass
	total	5785	2.52	≤30.00	Pass
	Ant1	5825	-2.72	≤30.00	Pass
	Ant2	5825	-1.12	≤30.00	Pass
	total	5825	1.16	≤30.00	Pass
11AC40 MIMO	Ant1	5190	-1.67	≤17.00	Pass
	Ant2	5190	-4.45	≤17.00	Pass
	total	5190	0.17	≤17.00	Pass
	Ant1	5230	-2.3	≤17.00	Pass
	Ant2	5230	-5.08	≤17.00	Pass
	total	5230	-0.46	≤17.00	Pass
	Ant1	5755	-4.55	≤30.00	Pass
	Ant2	5755	-5.58	≤30.00	Pass
	total	5755	-2.02	≤30.00	Pass
	Ant1	5795	-5.45	≤30.00	Pass
	Ant2	5795	-5.07	≤30.00	Pass
	total	5795	-2.25	≤30.00	Pass
11AC80 MIMO	Ant1	5210	-5.32	≤17.00	Pass
	Ant2	5210	-7.57	≤17.00	Pass
	total	5210	-3.29	≤17.00	Pass
	Ant1	5775	-9.15	≤30.00	Pass
	Ant2	5775	-8.67	≤30.00	Pass
	total	5775	-5.89	≤30.00	Pass

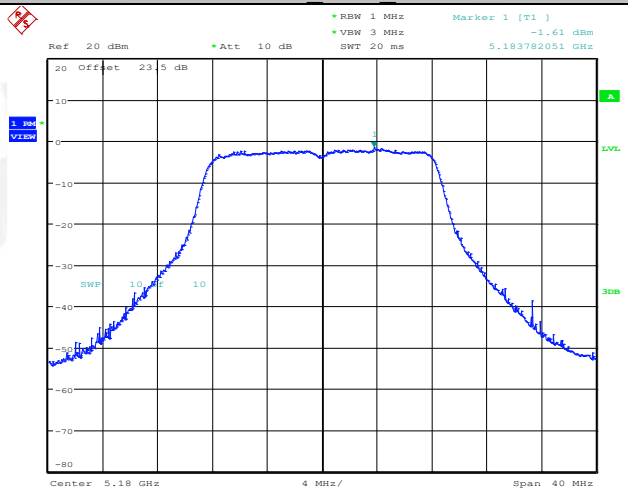
6.5. Original test data

11A_Ant1_5180



Date: 23.FEB.2022 21:01:16

11A_Ant2_5180



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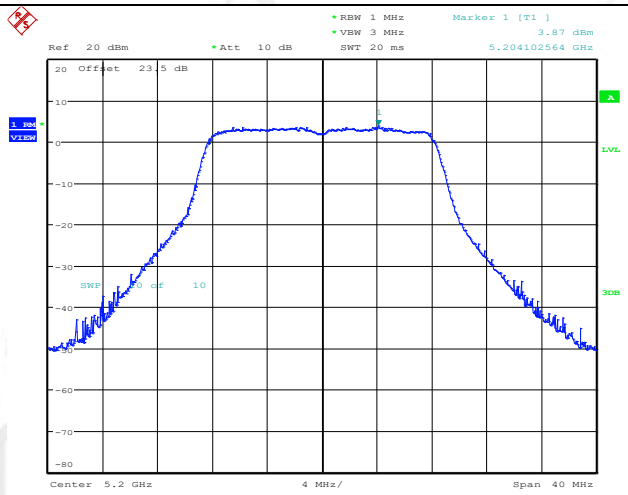
11A_Ant1_5200



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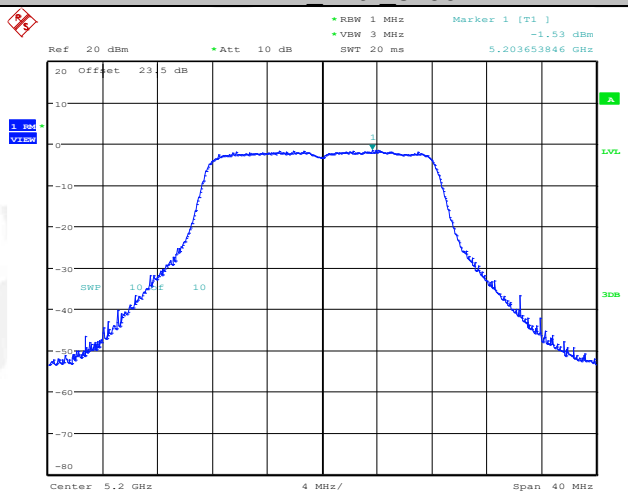

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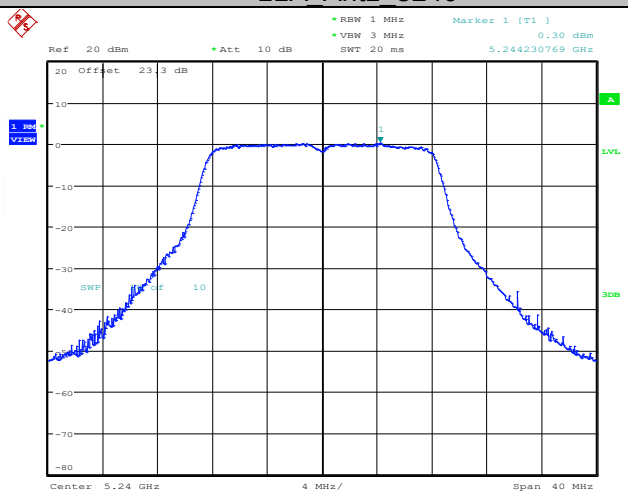

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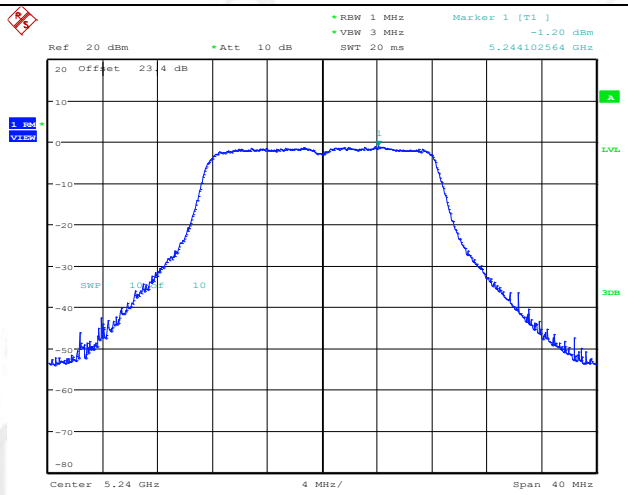

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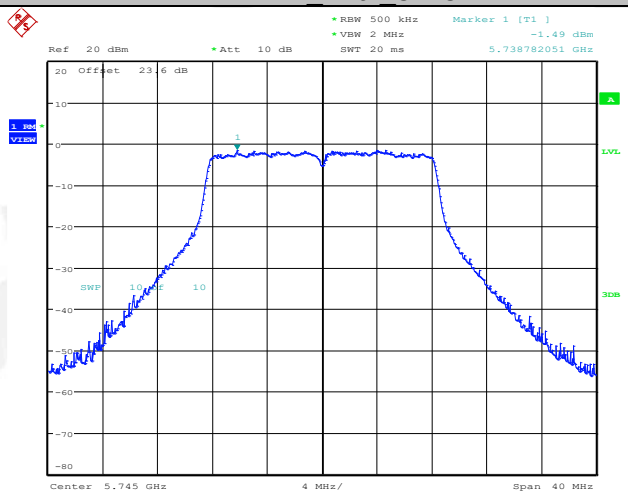

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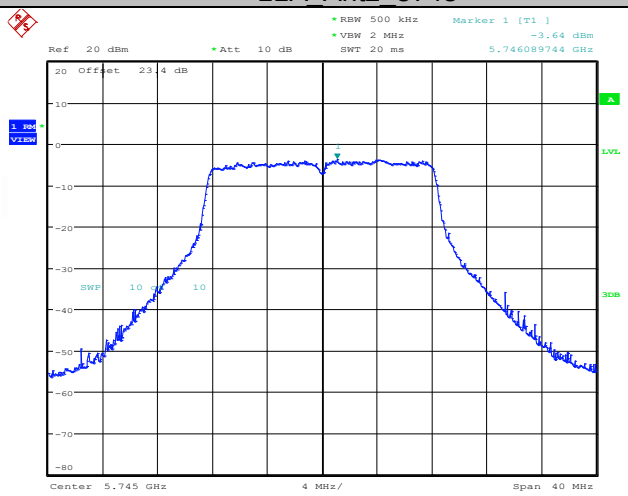
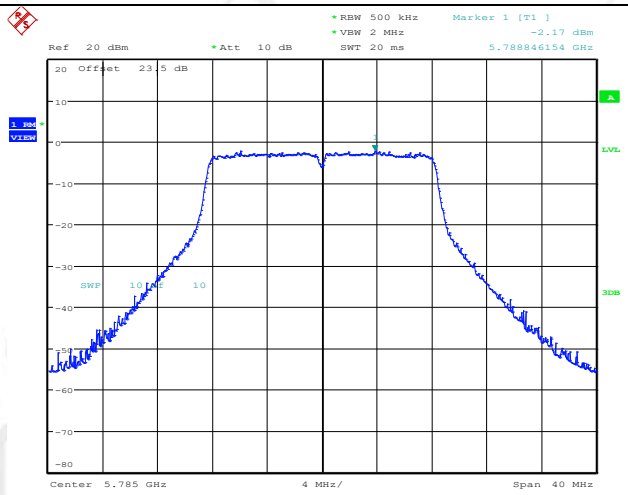


11A_Ant1_5785



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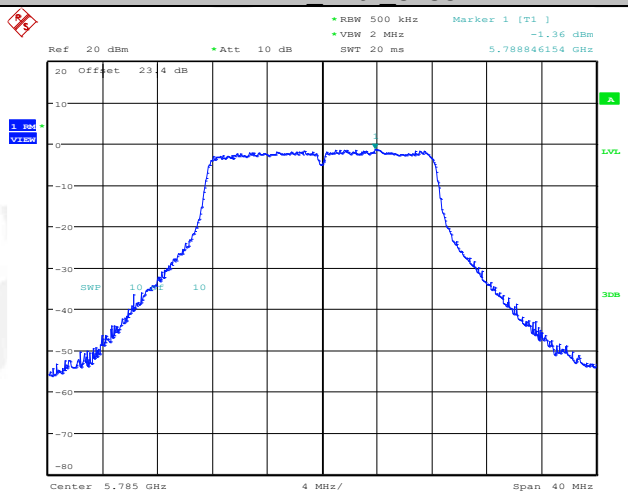

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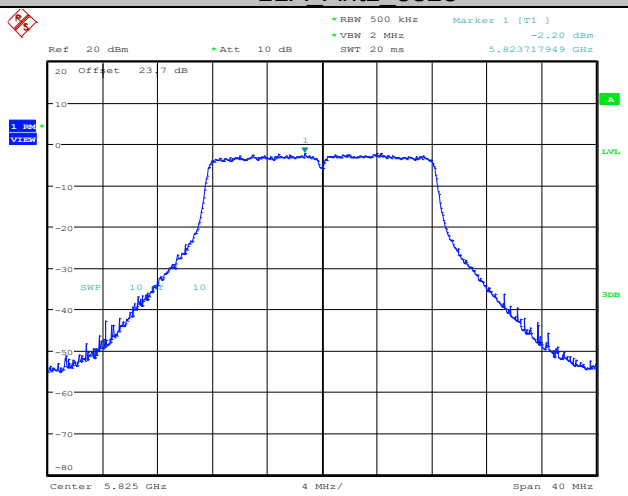

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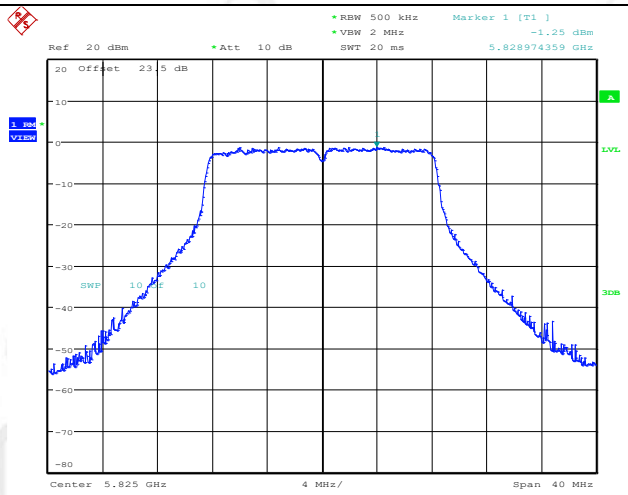

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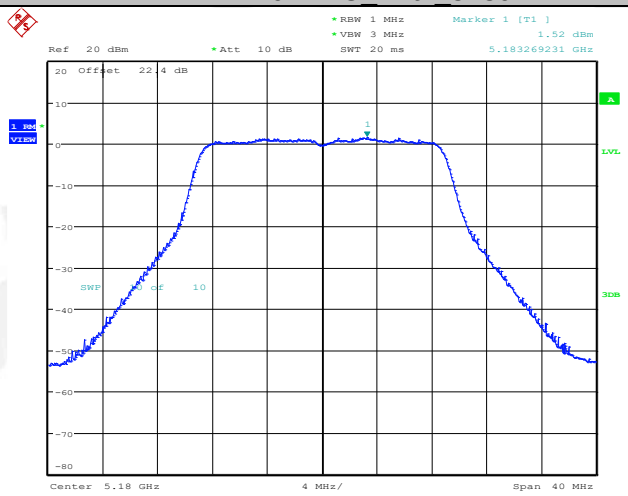

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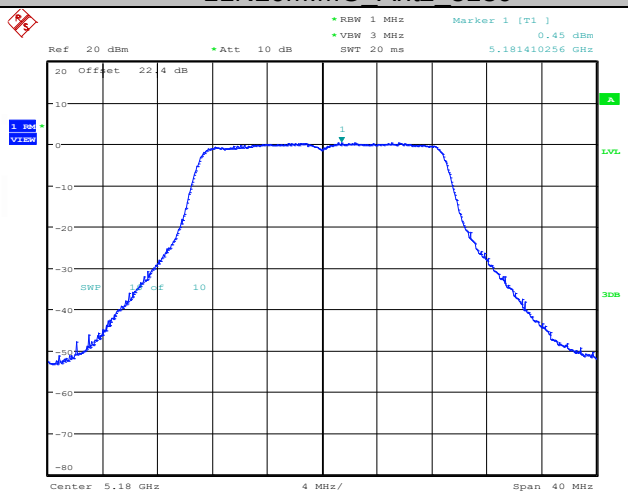

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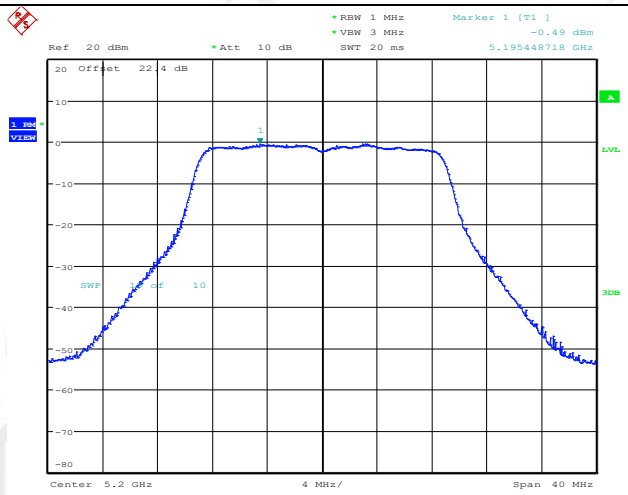

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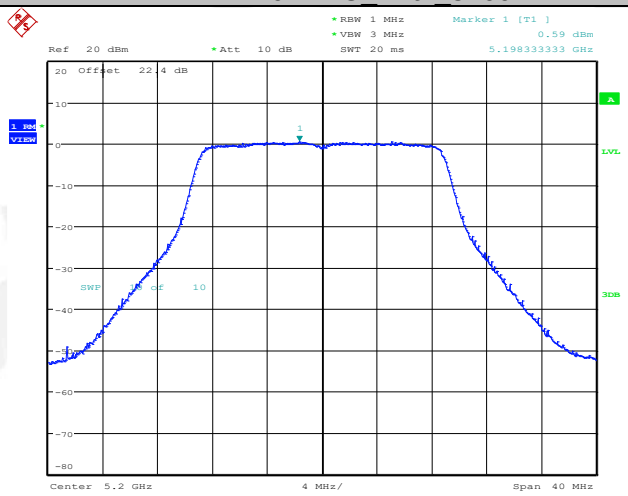

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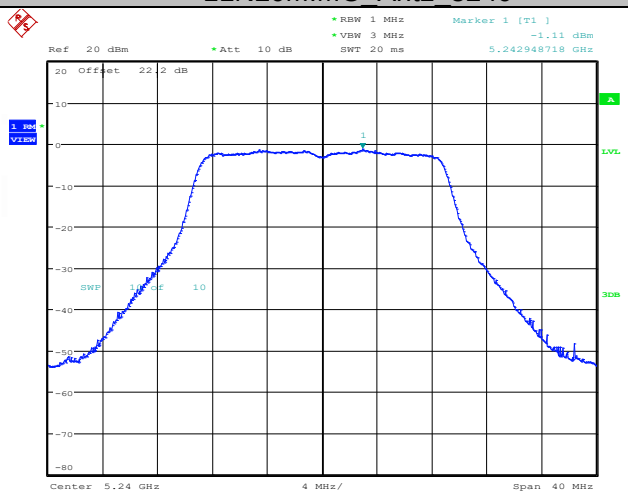

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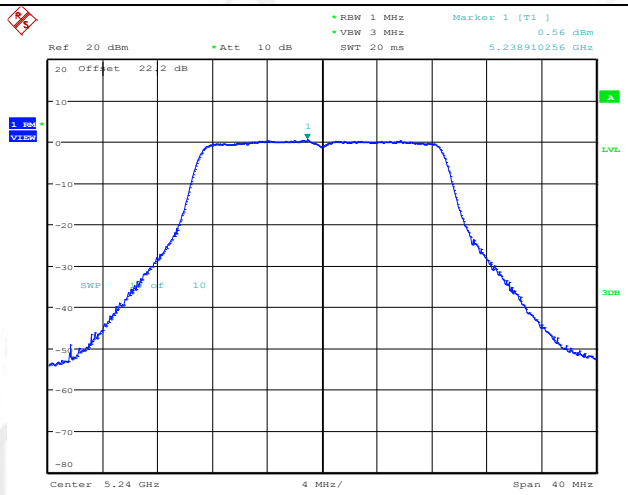

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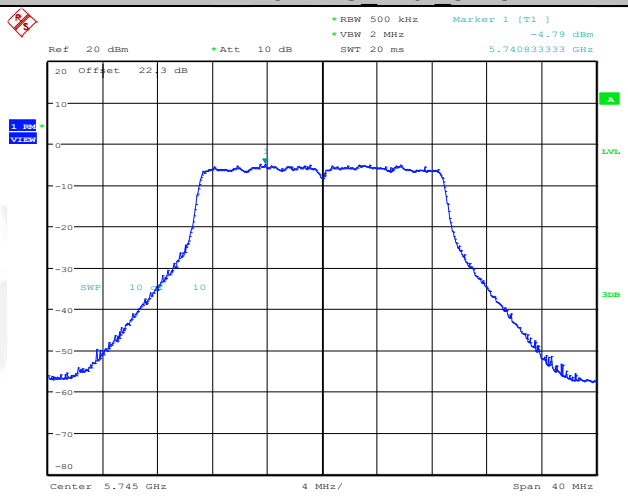

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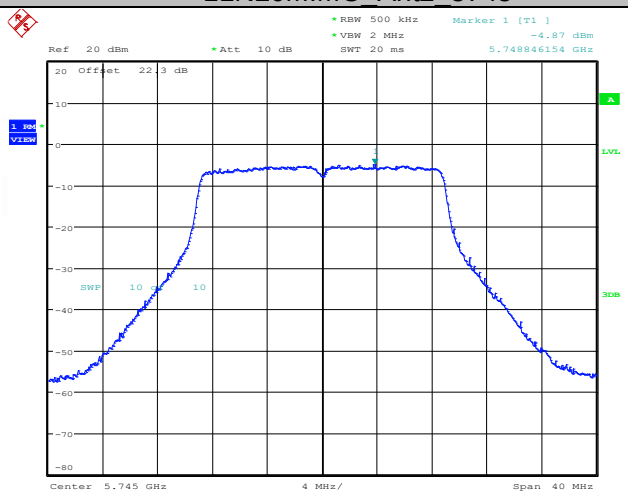

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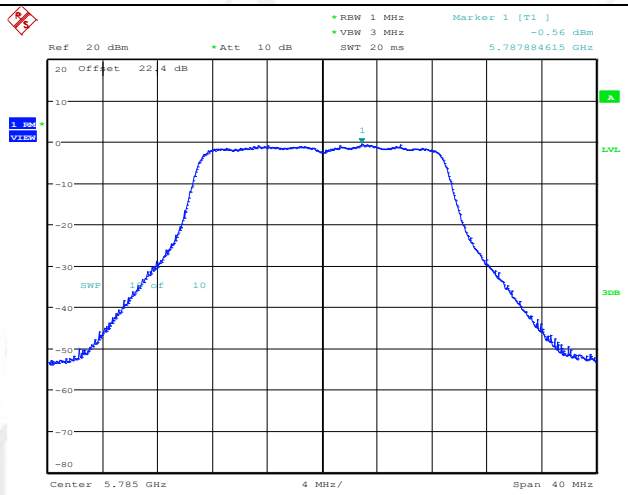

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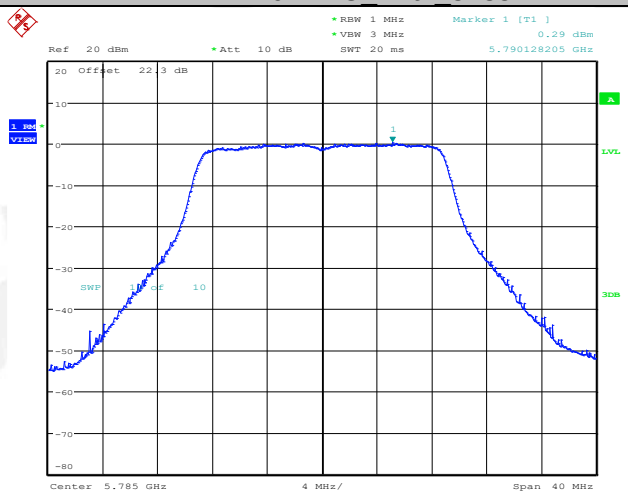

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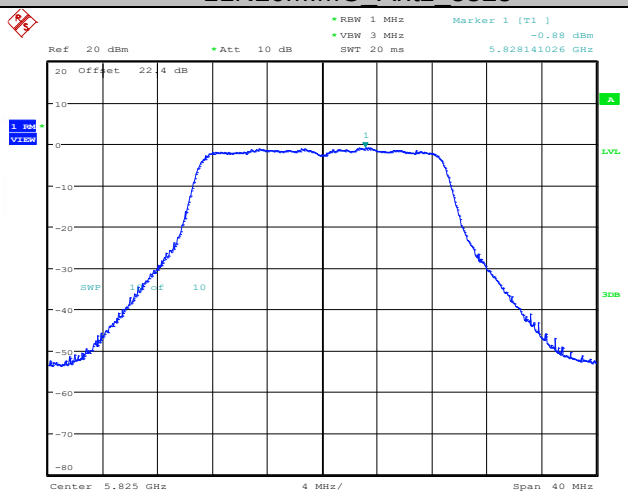

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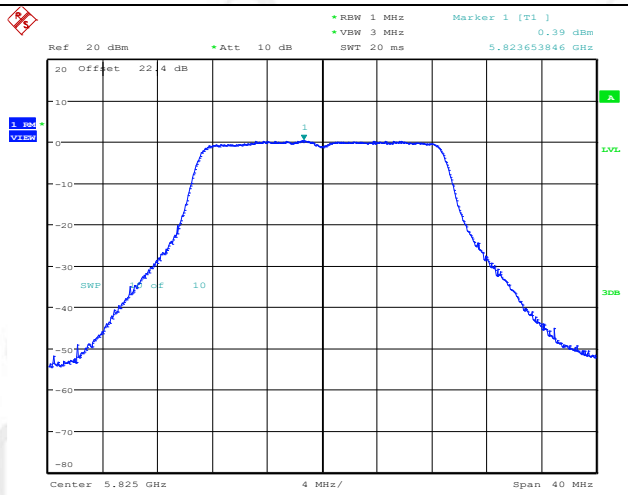

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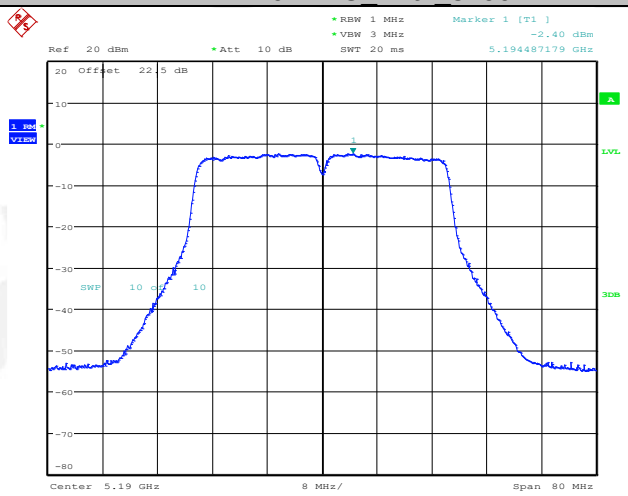

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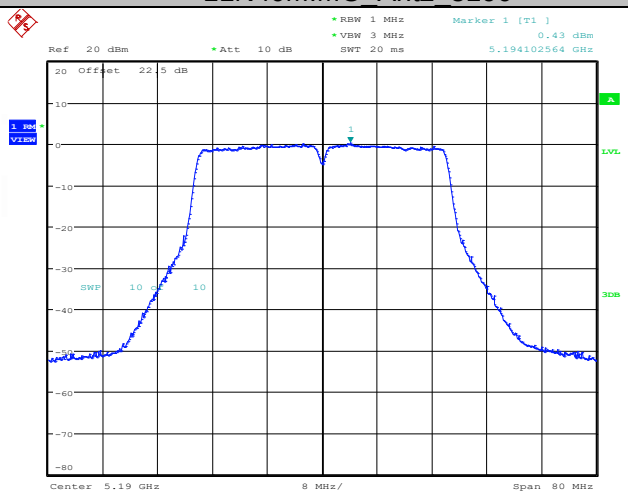

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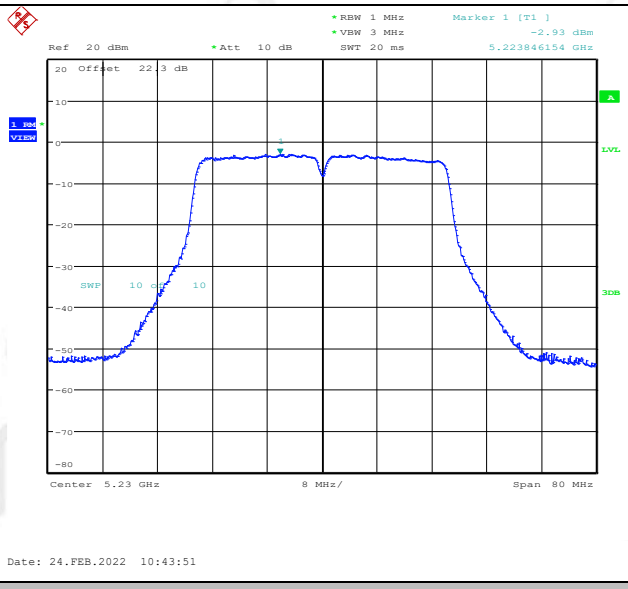

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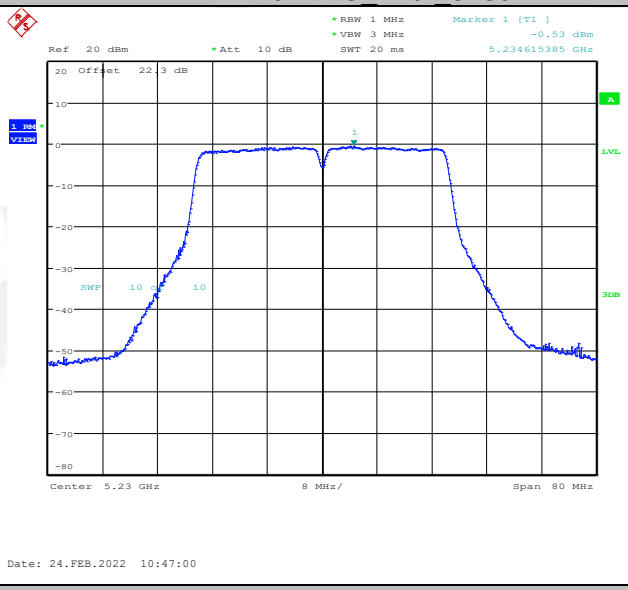

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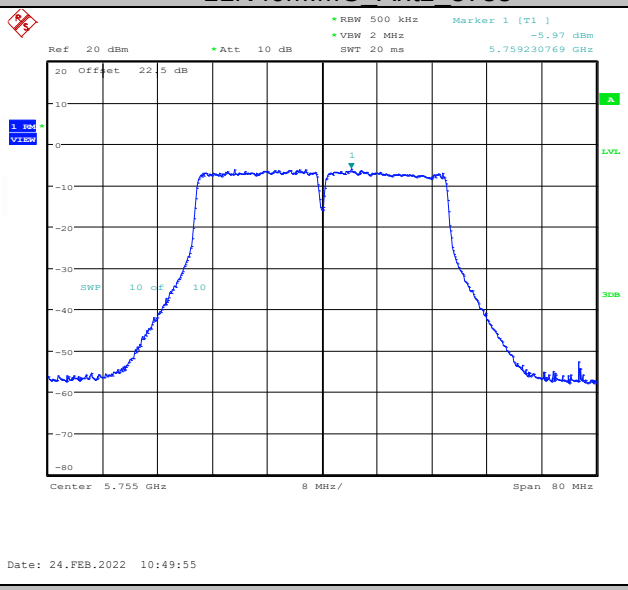

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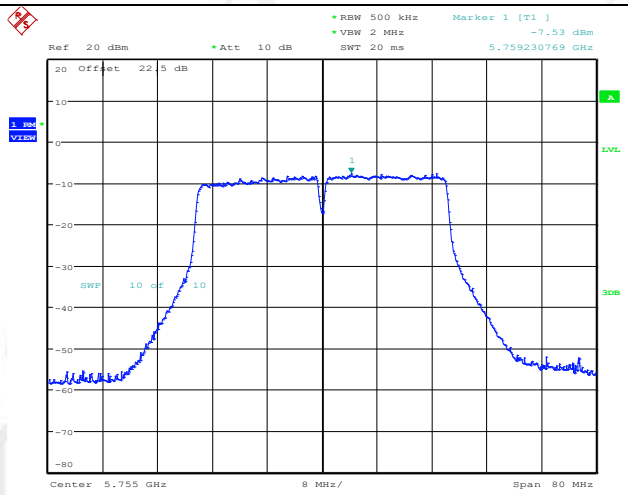

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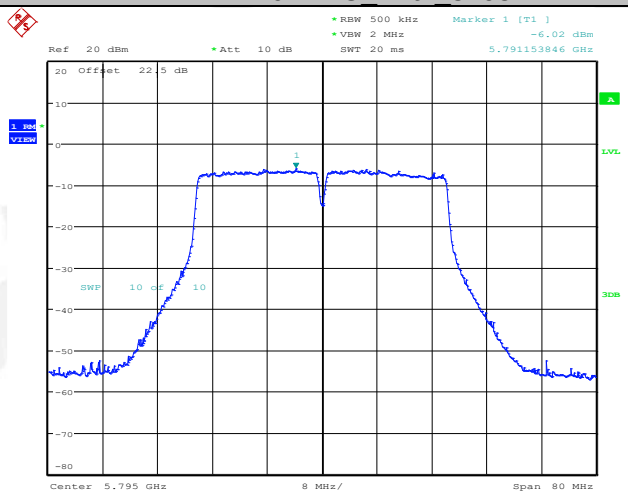

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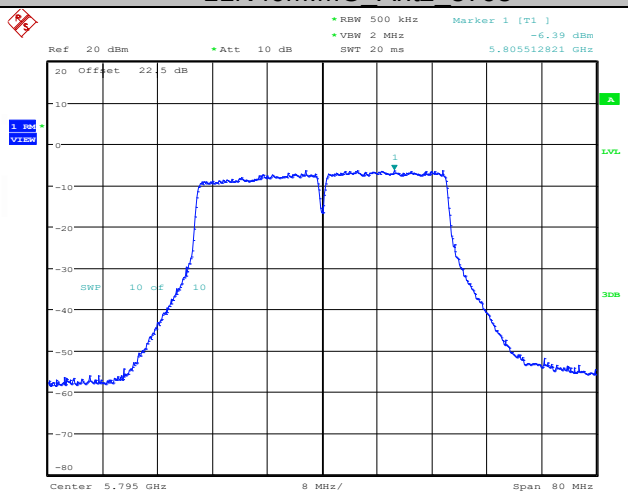

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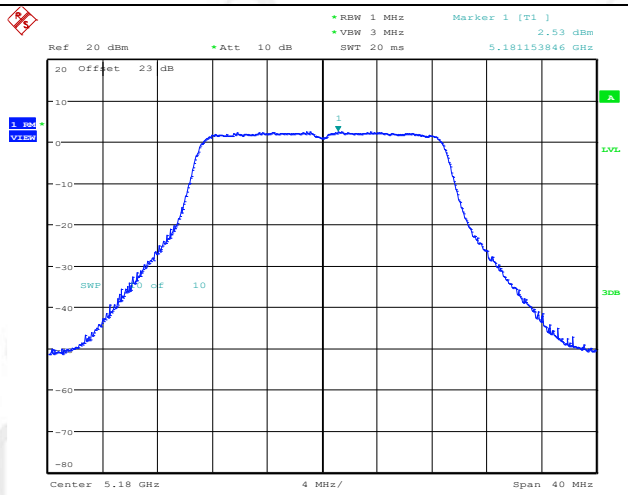

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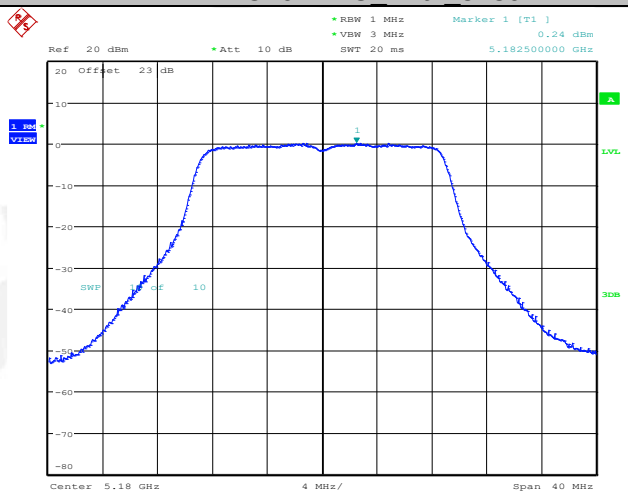

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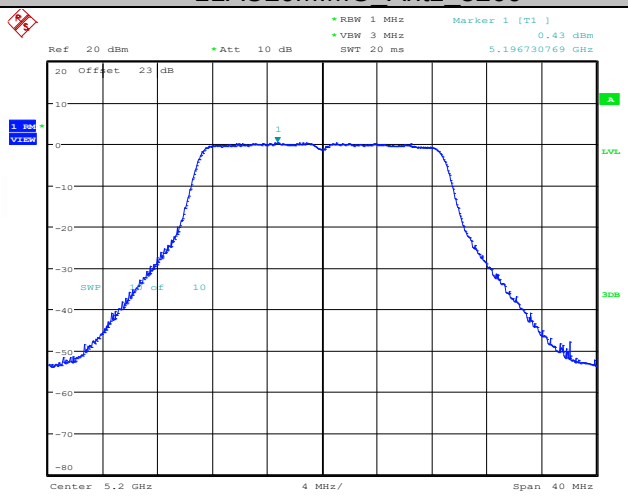

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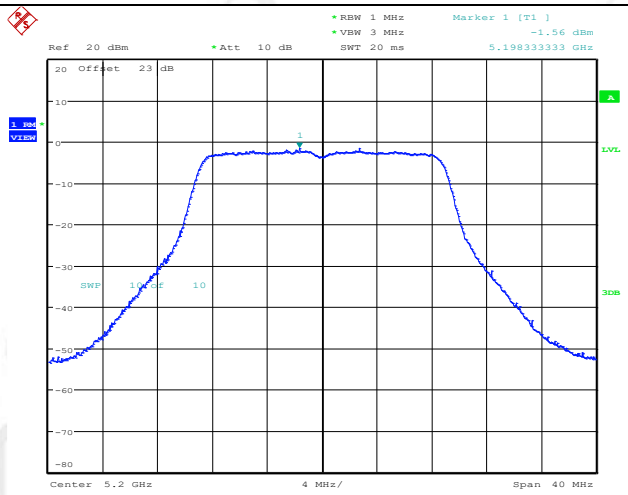

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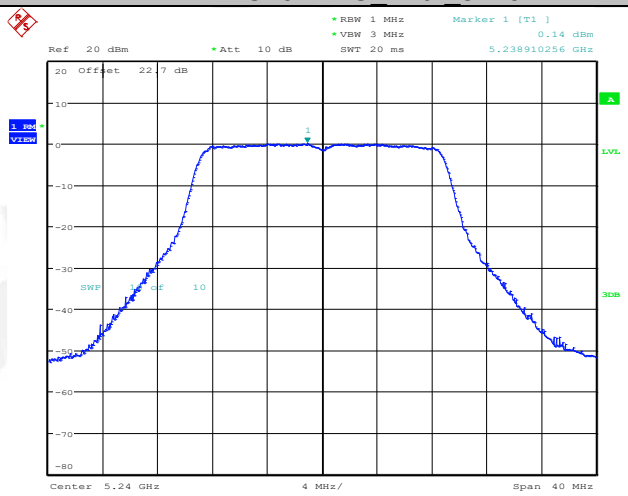

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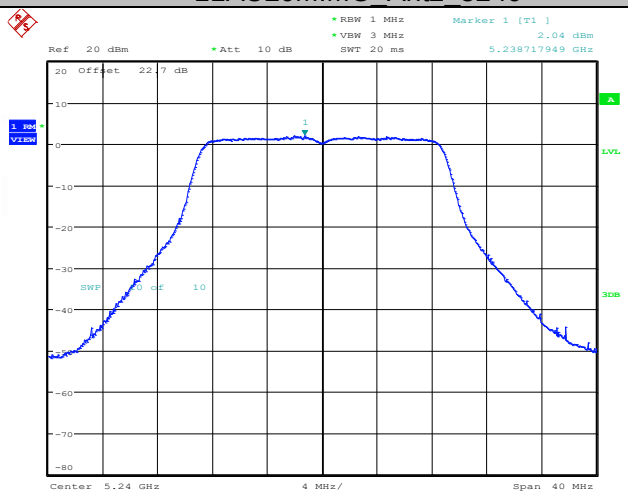

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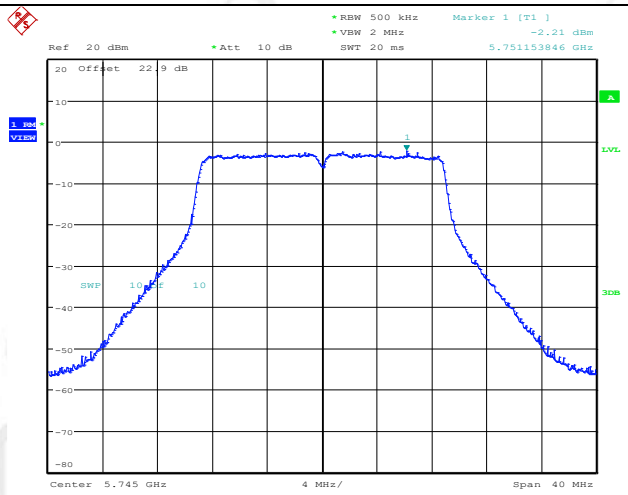

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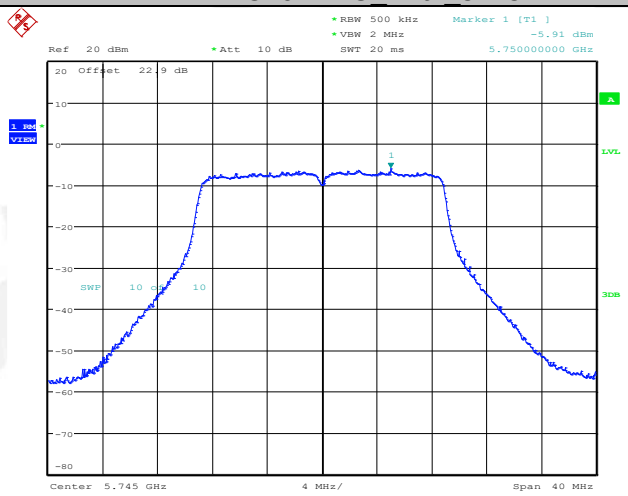

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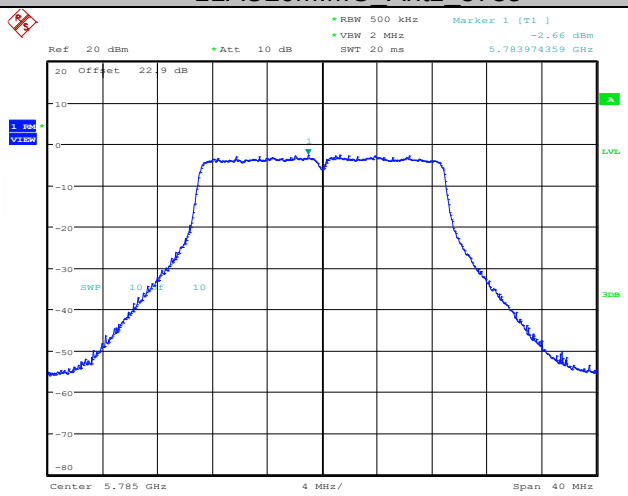

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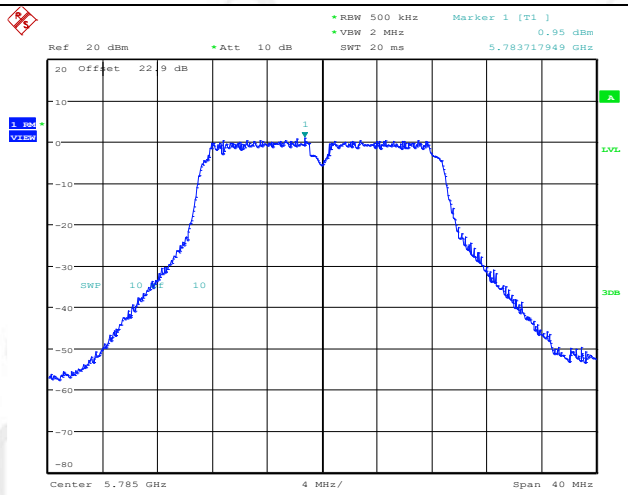

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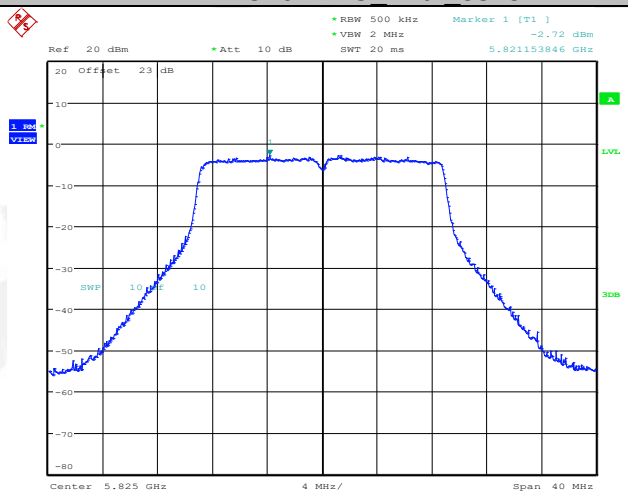

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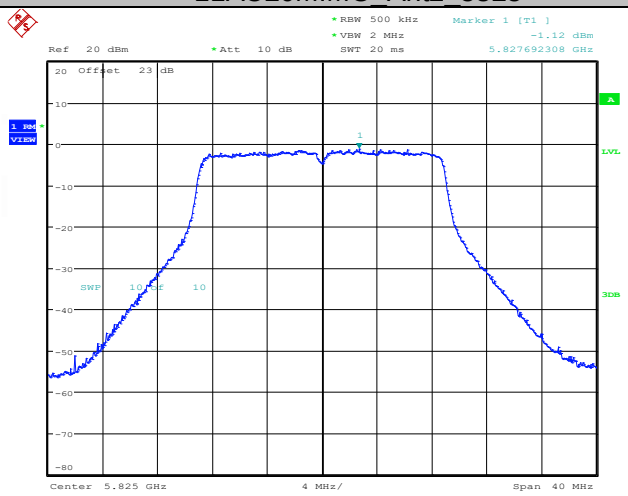

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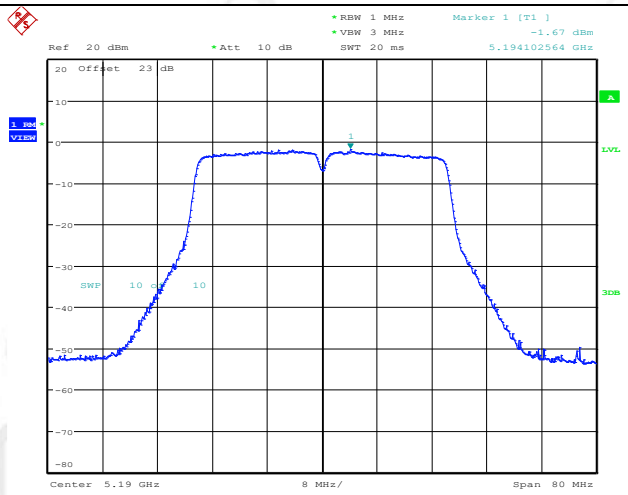

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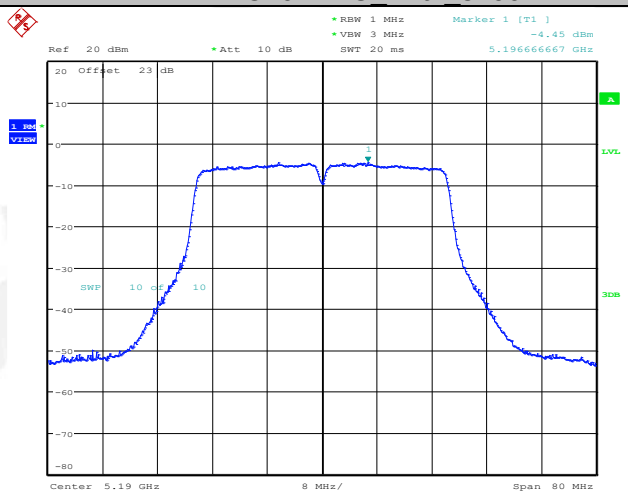

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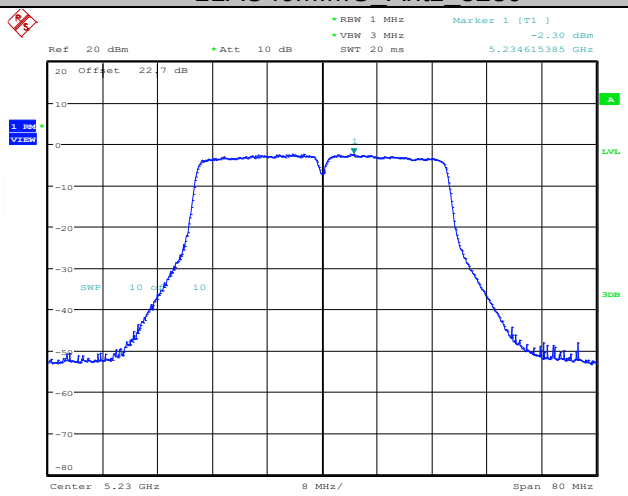

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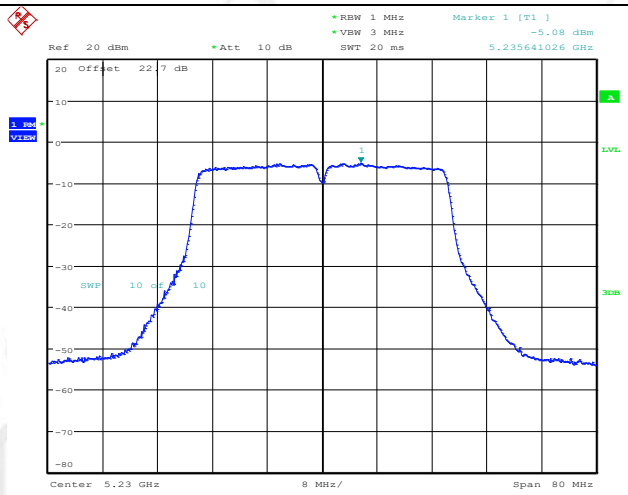

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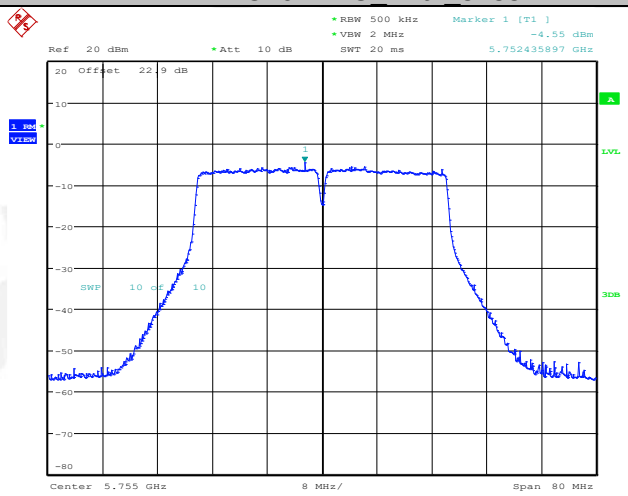

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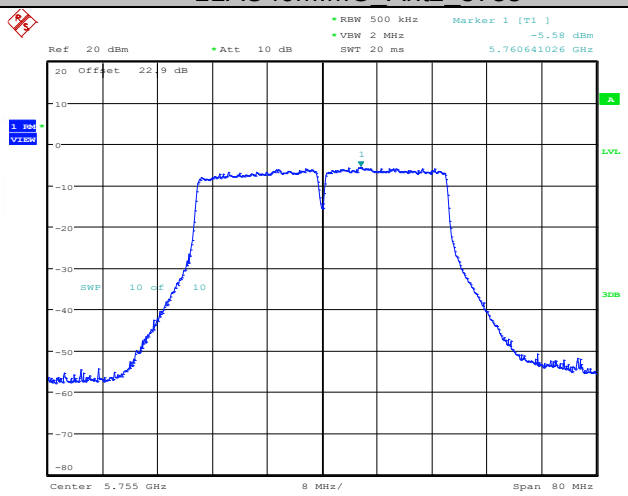

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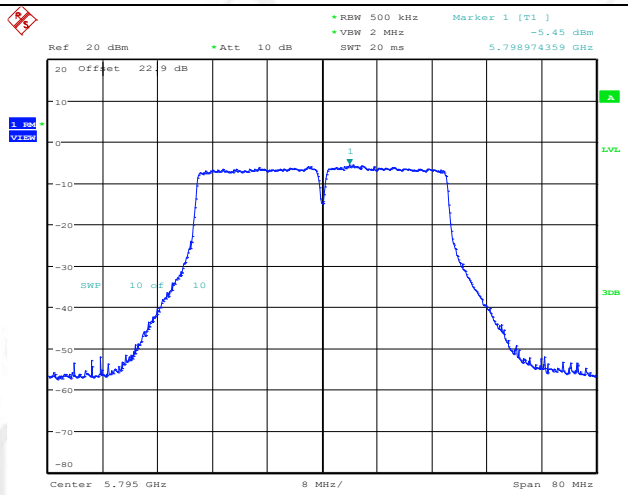

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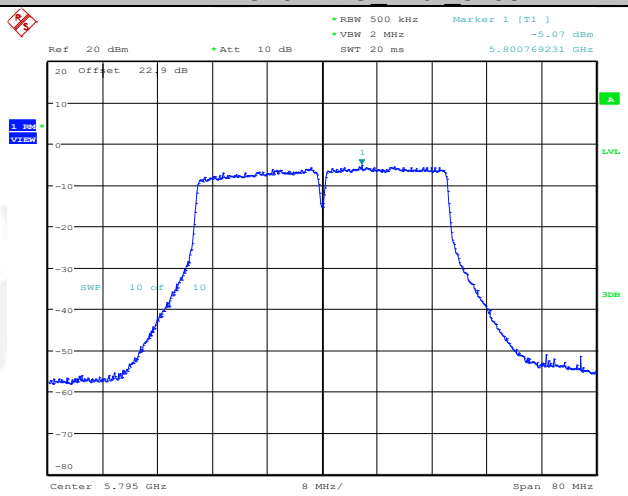

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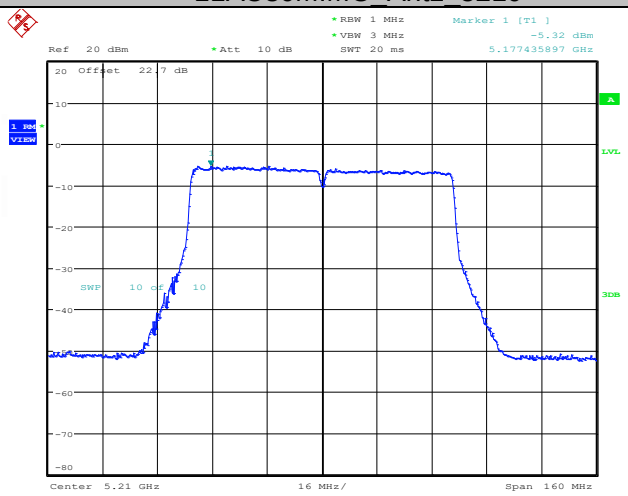
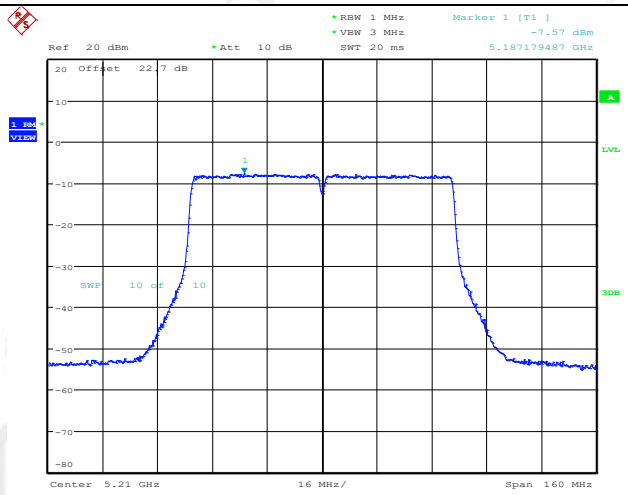


11AC80MIMO_Ant2_5210



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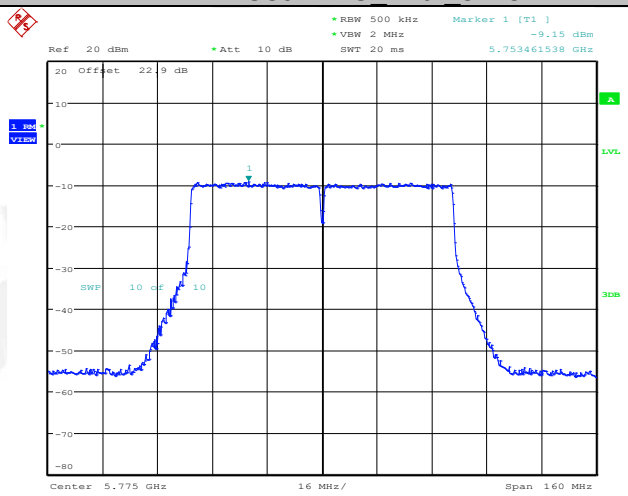
11AC80MIMO_Ant1_5775



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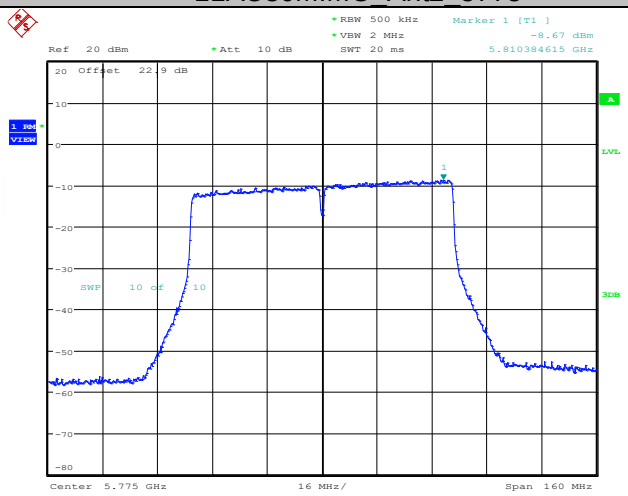
11AC80MIMO_Ant2_5775



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7. Frequency Stability Measurement

7.1. Limit of frequency stability

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

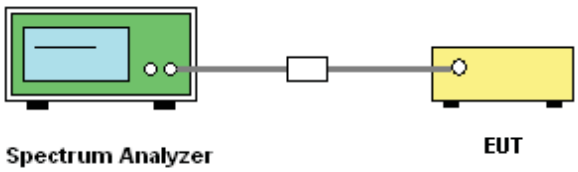
7.2. Measuring instruments

The measuring equipment is listed in the section 4 of this test report.

7.3. Test procedures

(1) To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
(2) The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10 dB lower than the measured peak value.
(3) The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

7.4. Test setup



7.5. Test result

Voltage								
Test Mode	Ant	CH	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5180	NV	NT	-20000.00	-3.861004	20	Pass
			LV	NT	-20000.00	-3.861004	20	Pass
			HV	NT	-60000.00	-11.583012	20	Pass
	Ant2	5180	NV	NT	-40000.00	-7.722008	20	Pass
			LV	NT	-20000.00	-3.861004	20	Pass
			HV	NT	-20000.00	-3.861004	20	Pass
	Ant1	5200	NV	NT	-60000.00	-11.538462	20	Pass
			LV	NT	-20000.00	-3.846154	20	Pass
			HV	NT	-40000.00	-7.692308	20	Pass
	Ant2	5200	NV	NT	-40000.00	-7.692308	20	Pass
			LV	NT	-60000.00	-11.538462	20	Pass
			HV	NT	-40000.00	-7.692308	20	Pass
	Ant1	5240	NV	NT	-40000.00	-7.633588	20	Pass
			LV	NT	-20000.00	-3.816794	20	Pass
			HV	NT	-40000.00	-7.633588	20	Pass

	Ant2	5240	NV	NT	-40000.00	-7.633588	20	Pass
			LV	NT	-40000.00	-7.633588	20	Pass
			HV	NT	-20000.00	-3.816794	20	Pass
	Ant1	5745	NV	NT	-40000.00	-6.962576	20	Pass
			LV	NT	-40000.00	-6.962576	20	Pass
			HV	NT	-40000.00	-6.962576	20	Pass
	Ant2	5745	NV	NT	-20000.00	-3.481288	20	Pass
			LV	NT	-40000.00	-6.962576	20	Pass
			HV	NT	-40000.00	-6.962576	20	Pass
	Ant1	5785	NV	NT	-40000.00	-6.914434	20	Pass
			LV	NT	-40000.00	-6.914434	20	Pass
			HV	NT	-20000.00	-3.457217	20	Pass
	Ant2	5785	NV	NT	-40000.00	-6.914434	20	Pass
			LV	NT	-40000.00	-6.914434	20	Pass
			HV	NT	-20000.00	-3.457217	20	Pass
	Ant1	5825	NV	NT	-40000.00	-6.866953	20	Pass
			LV	NT	-40000.00	-6.866953	20	Pass
			HV	NT	-20000.00	-3.433476	20	Pass
	Ant2	5825	NV	NT	-40000.00	-6.866953	20	Pass
			LV	NT	-40000.00	-6.866953	20	Pass
			HV	NT	-20000.00	-3.433476	20	Pass
11N20 MIMO	Ant1	5180	NV	NT	-60000.00	-11.583012	20	Pass
			LV	NT	-40000.00	-7.722008	20	Pass
			HV	NT	-40000.00	-7.722008	20	Pass
	Ant2	5180	NV	NT	-40000.00	-7.722008	20	Pass
			LV	NT	-40000.00	-7.722008	20	Pass
			HV	NT	-40000.00	-7.722008	20	Pass
	Ant1	5200	NV	NT	-40000.00	-7.692308	20	Pass
			LV	NT	-40000.00	-7.692308	20	Pass
			HV	NT	-40000.00	-7.692308	20	Pass
	Ant2	5200	NV	NT	-40000.00	-7.692308	20	Pass
			LV	NT	-60000.00	-11.538462	20	Pass
			HV	NT	-60000.00	-11.538462	20	Pass
	Ant1	5240	NV	NT	-40000.00	-7.633588	20	Pass
			LV	NT	-40000.00	-7.633588	20	Pass
			HV	NT	-40000.00	-7.633588	20	Pass
	Ant2	5240	NV	NT	-40000.00	-7.633588	20	Pass
			LV	NT	-40000.00	-7.633588	20	Pass
			HV	NT	-40000.00	-7.633588	20	Pass
	Ant1	5745	NV	NT	-40000.00	-6.962576	20	Pass
			LV	NT	-40000.00	-6.962576	20	Pass
			HV	NT	-40000.00	-6.962576	20	Pass
	Ant2	5745	NV	NT	-20000.00	-3.481288	20	Pass
			LV	NT	-40000.00	-6.962576	20	Pass
			HV	NT	-20000.00	-3.481288	20	Pass
	Ant1	5785	NV	NT	-20000.00	-3.457217	20	Pass
			LV	NT	-20000.00	-3.457217	20	Pass
			HV	NT	-40000.00	-6.914434	20	Pass
	Ant2	5785	NV	NT	-20000.00	-3.457217	20	Pass
			LV	NT	-20000.00	-3.457217	20	Pass
			HV	NT	-20000.00	-3.457217	20	Pass

	Ant1	5825	NV	NT	-40000.00	-6.866953	20	Pass
			LV	NT	-60000.00	-10.300429	20	Pass
			HV	NT	-20000.00	-3.433476	20	Pass
	Ant2	5825	NV	NT	-60000.00	-10.300429	20	Pass
			LV	NT	-60000.00	-10.300429	20	Pass
			HV	NT	-60000.00	-10.300429	20	Pass
11N40 MIMO	Ant1	5190	NV	NT	-40000.00	-7.707129	20	Pass
			LV	NT	-40000.00	-7.707129	20	Pass
			HV	NT	-40000.00	-7.707129	20	Pass
	Ant2	5190	NV	NT	-40000.00	-7.707129	20	Pass
			LV	NT	-40000.00	-7.707129	20	Pass
			HV	NT	-40000.00	-7.707129	20	Pass
	Ant1	5230	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-40000.00	-7.648184	20	Pass
	Ant2	5230	NV	NT	-40000.00	-7.648184	20	Pass
			LV	NT	-40000.00	-7.648184	20	Pass
			HV	NT	-40000.00	-7.648184	20	Pass
	Ant1	5755	NV	NT	-40000.00	-6.950478	20	Pass
			LV	NT	-40000.00	-6.950478	20	Pass
			HV	NT	-80000.00	-13.900956	20	Pass
	Ant2	5755	NV	NT	-40000.00	-6.950478	20	Pass
			LV	NT	-40000.00	-6.950478	20	Pass
			HV	NT	-40000.00	-6.950478	20	Pass
	Ant1	5795	NV	NT	-40000.00	-6.902502	20	Pass
			LV	NT	-40000.00	-6.902502	20	Pass
			HV	NT	-40000.00	-6.902502	20	Pass
	Ant2	5795	NV	NT	-40000.00	-6.902502	20	Pass
			LV	NT	-40000.00	-6.902502	20	Pass
			HV	NT	-40000.00	-6.902502	20	Pass
11AC20 MIMO	Ant1	5180	NV	NT	-60000.00	-11.583012	20	Pass
			LV	NT	-60000.00	-11.583012	20	Pass
			HV	NT	-40000.00	-7.722008	20	Pass
	Ant2	5180	NV	NT	-40000.00	-7.722008	20	Pass
			LV	NT	-20000.00	-3.861004	20	Pass
			HV	NT	-40000.00	-7.722008	20	Pass
	Ant1	5200	NV	NT	-40000.00	-7.692308	20	Pass
			LV	NT	-40000.00	-7.692308	20	Pass
			HV	NT	-40000.00	-7.692308	20	Pass
	Ant2	5200	NV	NT	-40000.00	-7.692308	20	Pass
			LV	NT	-60000.00	-11.538462	20	Pass
			HV	NT	-40000.00	-7.692308	20	Pass
	Ant1	5240	NV	NT	-60000.00	-11.450382	20	Pass
			LV	NT	-40000.00	-7.633588	20	Pass
			HV	NT	-40000.00	-7.633588	20	Pass
	Ant2	5240	NV	NT	-40000.00	-7.633588	20	Pass
			LV	NT	-40000.00	-7.633588	20	Pass
			HV	NT	-40000.00	-7.633588	20	Pass
	Ant1	5745	NV	NT	-40000.00	-6.962576	20	Pass
			LV	NT	-40000.00	-6.962576	20	Pass
			HV	NT	-40000.00	-6.962576	20	Pass

	Ant2	5745	NV	NT	-40000.00	-6.962576	20	Pass
			LV	NT	-60000.00	-10.443864	20	Pass
			HV	NT	-60000.00	-10.443864	20	Pass
	Ant1	5785	NV	NT	-40000.00	-6.914434	20	Pass
			LV	NT	-40000.00	-6.914434	20	Pass
			HV	NT	-40000.00	-6.914434	20	Pass
	Ant2	5785	NV	NT	-40000.00	-6.914434	20	Pass
			LV	NT	-60000.00	-10.371651	20	Pass
			HV	NT	-60000.00	-10.371651	20	Pass
	Ant1	5825	NV	NT	-40000.00	-6.866953	20	Pass
			LV	NT	-60000.00	-10.300429	20	Pass
			HV	NT	-40000.00	-6.866953	20	Pass
	Ant2	5825	NV	NT	-60000.00	-10.300429	20	Pass
			LV	NT	-40000.00	-6.866953	20	Pass
			HV	NT	-40000.00	-6.866953	20	Pass
11AC40 MIMO	Ant1	5190	NV	NT	-40000.00	-7.707129	20	Pass
			LV	NT	-40000.00	-7.707129	20	Pass
			HV	NT	-40000.00	-7.707129	20	Pass
	Ant2	5190	NV	NT	-40000.00	-7.707129	20	Pass
			LV	NT	-40000.00	-7.707129	20	Pass
			HV	NT	-40000.00	-7.707129	20	Pass
	Ant1	5230	NV	NT	-40000.00	-7.648184	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-40000.00	-7.648184	20	Pass
	Ant2	5230	NV	NT	0.00	0.000000	20	Pass
			LV	NT	-40000.00	-7.648184	20	Pass
			HV	NT	-80000.00	-15.296367	20	Pass
	Ant1	5755	NV	NT	0.00	0.000000	20	Pass
			LV	NT	-40000.00	-6.950478	20	Pass
			HV	NT	-40000.00	-6.950478	20	Pass
	Ant2	5755	NV	NT	-40000.00	-6.950478	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-80000.00	-13.900956	20	Pass
	Ant1	5795	NV	NT	-40000.00	-6.902502	20	Pass
			LV	NT	-40000.00	-6.902502	20	Pass
			HV	NT	-40000.00	-6.902502	20	Pass
	Ant2	5795	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-40000.00	-6.902502	20	Pass
11AC80 MIMO	Ant1	5210	NV	NT	-80000.00	-15.355086	20	Pass
			LV	NT	-80000.00	-15.355086	20	Pass
			HV	NT	-80000.00	-15.355086	20	Pass
	Ant2	5210	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-80000.00	-15.355086	20	Pass
	Ant1	5775	NV	NT	-80000.00	-13.852814	20	Pass
			LV	NT	-80000.00	-13.852814	20	Pass
			HV	NT	-80000.00	-13.852814	20	Pass
	Ant2	5775	NV	NT	-80000.00	-13.852814	20	Pass
			LV	NT	-80000.00	-13.852814	20	Pass
			HV	NT	-80000.00	-13.852814	20	Pass

Temperature								
Test Mode	Ant	CH	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5180	NV	-30	-20000.00	-3.861004	20	Pass
			NV	-20	-40000.00	-7.722008	20	Pass
			NV	-10	-40000.00	-7.722008	20	Pass
			NV	0	0.00	0.000000	20	Pass
			NV	10	-40000.00	-7.722008	20	Pass
			NV	20	-20000.00	-3.861004	20	Pass
			NV	30	-40000.00	-7.722008	20	Pass
			NV	40	-20000.00	-3.861004	20	Pass
			NV	50	-20000.00	-3.861004	20	Pass
	Ant2	5180	NV	-30	-40000.00	-7.722008	20	Pass
			NV	-20	-60000.00	-11.583012	20	Pass
			NV	-10	-40000.00	-7.722008	20	Pass
			NV	0	-40000.00	-7.722008	20	Pass
			NV	10	-60000.00	-11.583012	20	Pass
			NV	20	-40000.00	-7.722008	20	Pass
			NV	30	-40000.00	-7.722008	20	Pass
			NV	40	-40000.00	-7.722008	20	Pass
			NV	50	-40000.00	-7.722008	20	Pass
	Ant1	5200	NV	-30	-40000.00	-7.692308	20	Pass
			NV	-20	-60000.00	-11.538462	20	Pass
			NV	-10	-20000.00	-3.846154	20	Pass
			NV	0	-40000.00	-7.692308	20	Pass
			NV	10	-60000.00	-11.538462	20	Pass
			NV	20	-40000.00	-7.692308	20	Pass
			NV	30	-20000.00	-3.846154	20	Pass
			NV	40	-40000.00	-7.692308	20	Pass
			NV	50	-40000.00	-7.692308	20	Pass
	Ant2	5200	NV	-30	-40000.00	-7.692308	20	Pass
			NV	-20	-40000.00	-7.692308	20	Pass
			NV	-10	-20000.00	-3.846154	20	Pass
			NV	0	-40000.00	-7.692308	20	Pass
			NV	10	-40000.00	-7.692308	20	Pass
			NV	20	-40000.00	-7.692308	20	Pass
			NV	30	-40000.00	-7.692308	20	Pass
			NV	40	-40000.00	-7.692308	20	Pass
			NV	50	-20000.00	-3.846154	20	Pass
	Ant1	5240	NV	-30	-40000.00	-7.633588	20	Pass
			NV	-20	-20000.00	-3.816794	20	Pass
			NV	-10	-20000.00	-3.816794	20	Pass
			NV	0	-40000.00	-7.633588	20	Pass
			NV	10	-20000.00	-3.816794	20	Pass
			NV	20	-40000.00	-7.633588	20	Pass
			NV	30	-40000.00	-7.633588	20	Pass
			NV	40	-40000.00	-7.633588	20	Pass
			NV	50	-40000.00	-7.633588	20	Pass
	Ant2	5240	NV	-30	-40000.00	-7.633588	20	Pass
			NV	-20	-40000.00	-7.633588	20	Pass
			NV	-10	-40000.00	-7.633588	20	Pass

			NV	0	-20000.00	-3.816794	20	Pass
			NV	10	-40000.00	-7.633588	20	Pass
			NV	20	-40000.00	-7.633588	20	Pass
			NV	30	-60000.00	-11.450382	20	Pass
			NV	40	-40000.00	-7.633588	20	Pass
			NV	50	-20000.00	-3.816794	20	Pass
	Ant1	5745	NV	-30	-40000.00	-6.962576	20	Pass
			NV	-20	-40000.00	-6.962576	20	Pass
			NV	-10	-40000.00	-6.962576	20	Pass
			NV	0	-40000.00	-6.962576	20	Pass
			NV	10	-20000.00	-3.481288	20	Pass
			NV	20	-40000.00	-6.962576	20	Pass
			NV	30	-40000.00	-6.962576	20	Pass
			NV	40	-40000.00	-6.962576	20	Pass
			NV	50	-40000.00	-6.962576	20	Pass
	Ant2	5745	NV	-30	-20000.00	-3.481288	20	Pass
			NV	-20	-40000.00	-6.962576	20	Pass
			NV	-10	-40000.00	-6.962576	20	Pass
			NV	0	-40000.00	-6.962576	20	Pass
			NV	10	-20000.00	-3.481288	20	Pass
			NV	20	-40000.00	-6.962576	20	Pass
			NV	30	-60000.00	-10.443864	20	Pass
			NV	40	-40000.00	-6.962576	20	Pass
			NV	50	-40000.00	-6.962576	20	Pass
	Ant1	5785	NV	-30	-40000.00	-6.914434	20	Pass
			NV	-20	-40000.00	-6.914434	20	Pass
			NV	-10	-60000.00	-10.371651	20	Pass
			NV	0	-60000.00	-10.371651	20	Pass
			NV	10	-60000.00	-10.371651	20	Pass
			NV	20	-40000.00	-6.914434	20	Pass
			NV	30	-40000.00	-6.914434	20	Pass
			NV	40	-40000.00	-6.914434	20	Pass
			NV	50	-40000.00	-6.914434	20	Pass
	Ant2	5785	NV	-30	-40000.00	-6.914434	20	Pass
			NV	-20	-20000.00	-3.457217	20	Pass
			NV	-10	-20000.00	-3.457217	20	Pass
			NV	0	-20000.00	-3.457217	20	Pass
			NV	10	-60000.00	-10.371651	20	Pass
			NV	20	-40000.00	-6.914434	20	Pass
			NV	30	-40000.00	-6.914434	20	Pass
			NV	40	-40000.00	-6.914434	20	Pass
			NV	50	-20000.00	-3.457217	20	Pass
	Ant1	5825	NV	-30	-20000.00	-3.433476	20	Pass
			NV	-20	-40000.00	-6.866953	20	Pass
			NV	-10	-40000.00	-6.866953	20	Pass
			NV	0	-20000.00	-3.433476	20	Pass
			NV	10	-40000.00	-6.866953	20	Pass
			NV	20	-40000.00	-6.866953	20	Pass
			NV	30	-40000.00	-6.866953	20	Pass
			NV	40	-40000.00	-6.866953	20	Pass
			NV	50	-20000.00	-3.433476	20	Pass

	Ant2	5825	NV	-30	-20000.00	-3.433476	20	Pass
			NV	-20	-40000.00	-6.866953	20	Pass
			NV	-10	-20000.00	-3.433476	20	Pass
			NV	0	-40000.00	-6.866953	20	Pass
			NV	10	-20000.00	-3.433476	20	Pass
			NV	20	-40000.00	-6.866953	20	Pass
			NV	30	-40000.00	-6.866953	20	Pass
			NV	40	-20000.00	-3.433476	20	Pass
			NV	50	-40000.00	-6.866953	20	Pass
11N20 MIMO	Ant1	5180	NV	-30	-40000.00	-7.722008	20	Pass
			NV	-20	-20000.00	-3.861004	20	Pass
			NV	-10	-20000.00	-3.861004	20	Pass
			NV	0	0.00	0.000000	20	Pass
			NV	10	-40000.00	-7.722008	20	Pass
			NV	20	-40000.00	-7.722008	20	Pass
			NV	30	-20000.00	-3.861004	20	Pass
			NV	40	-40000.00	-7.722008	20	Pass
			NV	50	-60000.00	-11.583012	20	Pass
	Ant2	5180	NV	-30	-40000.00	-7.722008	20	Pass
			NV	-20	-60000.00	-11.583012	20	Pass
			NV	-10	-40000.00	-7.722008	20	Pass
			NV	0	-20000.00	-3.861004	20	Pass
			NV	10	-40000.00	-7.722008	20	Pass
			NV	20	-40000.00	-7.722008	20	Pass
			NV	30	-20000.00	-3.861004	20	Pass
			NV	40	-60000.00	-11.583012	20	Pass
			NV	50	-60000.00	-11.583012	20	Pass
	Ant1	5200	NV	-30	-40000.00	-7.692308	20	Pass
			NV	-20	-40000.00	-7.692308	20	Pass
			NV	-10	-60000.00	-11.538462	20	Pass
			NV	0	-60000.00	-11.538462	20	Pass
			NV	10	-40000.00	-7.692308	20	Pass
			NV	20	-40000.00	-7.692308	20	Pass
			NV	30	-40000.00	-7.692308	20	Pass
			NV	40	-60000.00	-11.538462	20	Pass
			NV	50	-40000.00	-7.692308	20	Pass
	Ant2	5200	NV	-30	-20000.00	-3.846154	20	Pass
			NV	-20	-20000.00	-3.846154	20	Pass
			NV	-10	-40000.00	-7.692308	20	Pass
			NV	0	-40000.00	-7.692308	20	Pass
			NV	10	-40000.00	-7.692308	20	Pass
			NV	20	-60000.00	-11.538462	20	Pass
			NV	30	-40000.00	-7.692308	20	Pass
			NV	40	-40000.00	-7.692308	20	Pass
			NV	50	-20000.00	-3.846154	20	Pass
	Ant1	5240	NV	-30	-60000.00	-11.450382	20	Pass
			NV	-20	-40000.00	-7.633588	20	Pass
			NV	-10	-40000.00	-7.633588	20	Pass
			NV	0	-20000.00	-3.816794	20	Pass
			NV	10	-40000.00	-7.633588	20	Pass
			NV	20	-40000.00	-7.633588	20	Pass

			NV	30	-40000.00	-7.633588	20	Pass
			NV	40	-40000.00	-7.633588	20	Pass
			NV	50	-40000.00	-7.633588	20	Pass
	Ant2	5240	NV	-30	-60000.00	-11.450382	20	Pass
			NV	-20	-40000.00	-7.633588	20	Pass
			NV	-10	-40000.00	-7.633588	20	Pass
			NV	0	-40000.00	-7.633588	20	Pass
			NV	10	-20000.00	-3.816794	20	Pass
			NV	20	-60000.00	-11.450382	20	Pass
			NV	30	-60000.00	-11.450382	20	Pass
			NV	40	-60000.00	-11.450382	20	Pass
			NV	50	-40000.00	-7.633588	20	Pass
	Ant1	5745	NV	-30	-20000.00	-3.481288	20	Pass
			NV	-20	-20000.00	-3.481288	20	Pass
			NV	-10	-20000.00	-3.481288	20	Pass
			NV	0	-40000.00	-6.962576	20	Pass
			NV	10	0.00	0.000000	20	Pass
			NV	20	-40000.00	-6.962576	20	Pass
			NV	30	-20000.00	-3.481288	20	Pass
			NV	40	-20000.00	-3.481288	20	Pass
			NV	50	0.00	0.000000	20	Pass
	Ant2	5745	NV	-30	-40000.00	-6.962576	20	Pass
			NV	-20	-20000.00	-3.481288	20	Pass
			NV	-10	-20000.00	-3.481288	20	Pass
			NV	0	-20000.00	-3.481288	20	Pass
			NV	10	-40000.00	-6.962576	20	Pass
			NV	20	-20000.00	-3.481288	20	Pass
			NV	30	-20000.00	-3.481288	20	Pass
			NV	40	0.00	0.000000	20	Pass
			NV	50	-20000.00	-3.481288	20	Pass
	Ant1	5785	NV	-30	-40000.00	-6.914434	20	Pass
			NV	-20	-40000.00	-6.914434	20	Pass
			NV	-10	-40000.00	-6.914434	20	Pass
			NV	0	-40000.00	-6.914434	20	Pass
			NV	10	-40000.00	-6.914434	20	Pass
			NV	20	-40000.00	-6.914434	20	Pass
			NV	30	-40000.00	-6.914434	20	Pass
			NV	40	-20000.00	-3.457217	20	Pass
			NV	50	-20000.00	-3.457217	20	Pass
	Ant2	5785	NV	-30	-20000.00	-3.457217	20	Pass
			NV	-20	-40000.00	-6.914434	20	Pass
			NV	-10	0.00	0.000000	20	Pass
			NV	0	-40000.00	-6.914434	20	Pass
			NV	10	-20000.00	-3.457217	20	Pass
			NV	20	-20000.00	-3.457217	20	Pass
			NV	30	-20000.00	-3.457217	20	Pass
			NV	40	-20000.00	-3.457217	20	Pass
			NV	50	-20000.00	-3.457217	20	Pass
	Ant1	5825	NV	-30	-60000.00	-10.300429	20	Pass
			NV	-20	-40000.00	-6.866953	20	Pass
			NV	-10	-60000.00	-10.300429	20	Pass

			NV	0	-40000.00	-6.866953	20	Pass
			NV	10	-40000.00	-6.866953	20	Pass
			NV	20	-60000.00	-10.300429	20	Pass
			NV	30	-40000.00	-6.866953	20	Pass
			NV	40	-40000.00	-6.866953	20	Pass
			NV	50	-40000.00	-6.866953	20	Pass
	Ant2	5825	NV	-30	-60000.00	-10.300429	20	Pass
			NV	-20	-60000.00	-10.300429	20	Pass
			NV	-10	-40000.00	-6.866953	20	Pass
			NV	0	-40000.00	-6.866953	20	Pass
			NV	10	-40000.00	-6.866953	20	Pass
			NV	20	-60000.00	-10.300429	20	Pass
			NV	30	-60000.00	-10.300429	20	Pass
			NV	40	-60000.00	-10.300429	20	Pass
			NV	50	-40000.00	-6.866953	20	Pass
11N40 MIMO	Ant1	5190	NV	-30	-40000.00	-7.707129	20	Pass
			NV	-20	0.00	0.000000	20	Pass
			NV	-10	-40000.00	-7.707129	20	Pass
			NV	0	-40000.00	-7.707129	20	Pass
			NV	10	-40000.00	-7.707129	20	Pass
			NV	20	-40000.00	-7.707129	20	Pass
			NV	30	-40000.00	-7.707129	20	Pass
			NV	40	-40000.00	-7.707129	20	Pass
			NV	50	-40000.00	-7.707129	20	Pass
	Ant2	5190	NV	-30	-40000.00	-7.707129	20	Pass
			NV	-20	-40000.00	-7.707129	20	Pass
			NV	-10	-40000.00	-7.707129	20	Pass
			NV	0	-40000.00	-7.707129	20	Pass
			NV	10	-40000.00	-7.707129	20	Pass
			NV	20	0.00	0.000000	20	Pass
			NV	30	-40000.00	-7.707129	20	Pass
			NV	40	-40000.00	-7.707129	20	Pass
			NV	50	-40000.00	-7.707129	20	Pass
	Ant1	5230	NV	-30	-40000.00	-7.648184	20	Pass
			NV	-20	-40000.00	-7.648184	20	Pass
			NV	-10	-40000.00	-7.648184	20	Pass
			NV	0	-40000.00	-7.648184	20	Pass
			NV	10	-40000.00	-7.648184	20	Pass
			NV	20	-40000.00	-7.648184	20	Pass
			NV	30	-40000.00	-7.648184	20	Pass
			NV	40	-40000.00	-7.648184	20	Pass
			NV	50	-40000.00	-7.648184	20	Pass
	Ant2	5230	NV	-30	-40000.00	-7.648184	20	Pass
			NV	-20	-40000.00	-7.648184	20	Pass
			NV	-10	-40000.00	-7.648184	20	Pass
			NV	0	-40000.00	-7.648184	20	Pass
			NV	10	-40000.00	-7.648184	20	Pass
			NV	20	-40000.00	-7.648184	20	Pass
			NV	30	-40000.00	-7.648184	20	Pass
			NV	40	-40000.00	-7.648184	20	Pass
			NV	50	-40000.00	-7.648184	20	Pass

	Ant1	5755	NV	-30	-40000.00	-6.950478	20	Pass
			NV	-20	-40000.00	-6.950478	20	Pass
			NV	-10	-40000.00	-6.950478	20	Pass
			NV	0	-40000.00	-6.950478	20	Pass
			NV	10	-40000.00	-6.950478	20	Pass
			NV	20	-40000.00	-6.950478	20	Pass
			NV	30	-40000.00	-6.950478	20	Pass
			NV	40	-40000.00	-6.950478	20	Pass
			NV	50	-40000.00	-6.950478	20	Pass
	Ant2	5755	NV	-30	-40000.00	-6.950478	20	Pass
			NV	-20	-40000.00	-6.950478	20	Pass
			NV	-10	-40000.00	-6.950478	20	Pass
			NV	0	-40000.00	-6.950478	20	Pass
			NV	10	-40000.00	-6.950478	20	Pass
			NV	20	-40000.00	-6.950478	20	Pass
			NV	30	-40000.00	-6.950478	20	Pass
			NV	40	-40000.00	-6.950478	20	Pass
			NV	50	-40000.00	-6.950478	20	Pass
	Ant1	5795	NV	-30	0.00	0.000000	20	Pass
			NV	-20	0.00	0.000000	20	Pass
			NV	-10	-40000.00	-6.902502	20	Pass
			NV	0	-40000.00	-6.902502	20	Pass
			NV	10	-40000.00	-6.902502	20	Pass
			NV	20	-40000.00	-6.902502	20	Pass
			NV	30	-40000.00	-6.902502	20	Pass
			NV	40	-40000.00	-6.902502	20	Pass
			NV	50	-40000.00	-6.902502	20	Pass
	Ant2	5795	NV	-30	-40000.00	-6.902502	20	Pass
			NV	-20	-40000.00	-6.902502	20	Pass
			NV	-10	-40000.00	-6.902502	20	Pass
			NV	0	-40000.00	-6.902502	20	Pass
			NV	10	-40000.00	-6.902502	20	Pass
			NV	20	-40000.00	-6.902502	20	Pass
			NV	30	-40000.00	-6.902502	20	Pass
			NV	40	-40000.00	-6.902502	20	Pass
			NV	50	-40000.00	-6.902502	20	Pass
11AC20 MIMO	Ant1	5180	NV	-30	-40000.00	-7.722008	20	Pass
			NV	-20	-40000.00	-7.722008	20	Pass
			NV	-10	-60000.00	-11.583012	20	Pass
			NV	0	-80000.00	-15.444015	20	Pass
			NV	10	-60000.00	-11.583012	20	Pass
			NV	20	-60000.00	-11.583012	20	Pass
			NV	30	-40000.00	-7.722008	20	Pass
			NV	40	-20000.00	-3.861004	20	Pass
			NV	50	-60000.00	-11.583012	20	Pass
	Ant2	5180	NV	-30	-40000.00	-7.722008	20	Pass
			NV	-20	-60000.00	-11.583012	20	Pass
			NV	-10	-40000.00	-7.722008	20	Pass
			NV	0	-40000.00	-7.722008	20	Pass
			NV	10	-40000.00	-7.722008	20	Pass
			NV	20	-40000.00	-7.722008	20	Pass

			NV	30	-20000.00	-3.861004	20	Pass
			NV	40	-60000.00	-11.583012	20	Pass
			NV	50	-60000.00	-11.583012	20	Pass
	Ant1	5200	NV	-30	-60000.00	-11.538462	20	Pass
			NV	-20	-40000.00	-7.692308	20	Pass
			NV	-10	-60000.00	-11.538462	20	Pass
			NV	0	-40000.00	-7.692308	20	Pass
			NV	10	-40000.00	-7.692308	20	Pass
			NV	20	-40000.00	-7.692308	20	Pass
			NV	30	-60000.00	-11.538462	20	Pass
			NV	40	-60000.00	-11.538462	20	Pass
			NV	50	-60000.00	-11.538462	20	Pass
	Ant2	5200	NV	-30	-60000.00	-11.538462	20	Pass
			NV	-20	-60000.00	-11.538462	20	Pass
			NV	-10	-60000.00	-11.538462	20	Pass
			NV	0	-40000.00	-7.692308	20	Pass
			NV	10	-40000.00	-7.692308	20	Pass
			NV	20	-40000.00	-7.692308	20	Pass
			NV	30	-40000.00	-7.692308	20	Pass
			NV	40	-60000.00	-11.538462	20	Pass
			NV	50	-40000.00	-7.692308	20	Pass
	Ant1	5240	NV	-30	-40000.00	-7.633588	20	Pass
			NV	-20	-40000.00	-7.633588	20	Pass
			NV	-10	-40000.00	-7.633588	20	Pass
			NV	0	-40000.00	-7.633588	20	Pass
			NV	10	-40000.00	-7.633588	20	Pass
			NV	20	-40000.00	-7.633588	20	Pass
			NV	30	-40000.00	-7.633588	20	Pass
			NV	40	-40000.00	-7.633588	20	Pass
			NV	50	-60000.00	-11.450382	20	Pass
	Ant2	5240	NV	-30	-60000.00	-11.450382	20	Pass
			NV	-20	-60000.00	-11.450382	20	Pass
			NV	-10	-60000.00	-11.450382	20	Pass
			NV	0	-60000.00	-11.450382	20	Pass
			NV	10	-60000.00	-11.450382	20	Pass
			NV	20	-40000.00	-7.633588	20	Pass
			NV	30	-60000.00	-11.450382	20	Pass
			NV	40	-40000.00	-7.633588	20	Pass
			NV	50	-40000.00	-7.633588	20	Pass
	Ant1	5745	NV	-30	-40000.00	-6.962576	20	Pass
			NV	-20	-20000.00	-3.481288	20	Pass
			NV	-10	-40000.00	-6.962576	20	Pass
			NV	0	-40000.00	-6.962576	20	Pass
			NV	10	-20000.00	-3.481288	20	Pass
			NV	20	-40000.00	-6.962576	20	Pass
			NV	30	-40000.00	-6.962576	20	Pass
			NV	40	-40000.00	-6.962576	20	Pass
			NV	50	-40000.00	-6.962576	20	Pass
	Ant2	5745	NV	-30	-40000.00	-6.962576	20	Pass
			NV	-20	-60000.00	-10.443864	20	Pass
			NV	-10	-40000.00	-6.962576	20	Pass

			NV	0	-40000.00	-6.962576	20	Pass
			NV	10	-40000.00	-6.962576	20	Pass
			NV	20	-40000.00	-6.962576	20	Pass
			NV	30	-40000.00	-6.962576	20	Pass
			NV	40	-40000.00	-6.962576	20	Pass
			NV	50	-60000.00	-10.443864	20	Pass
	Ant1	5785	NV	-30	-40000.00	-6.914434	20	Pass
			NV	-20	-40000.00	-6.914434	20	Pass
			NV	-10	-40000.00	-6.914434	20	Pass
			NV	0	-40000.00	-6.914434	20	Pass
			NV	10	-40000.00	-6.914434	20	Pass
			NV	20	-40000.00	-6.914434	20	Pass
			NV	30	-40000.00	-6.914434	20	Pass
			NV	40	-40000.00	-6.914434	20	Pass
			NV	50	-40000.00	-6.914434	20	Pass
	Ant2	5785	NV	-30	-40000.00	-6.914434	20	Pass
			NV	-20	-40000.00	-6.914434	20	Pass
			NV	-10	-60000.00	-10.371651	20	Pass
			NV	0	-60000.00	-10.371651	20	Pass
			NV	10	-60000.00	-10.371651	20	Pass
			NV	20	-60000.00	-10.371651	20	Pass
			NV	30	-40000.00	-6.914434	20	Pass
			NV	40	-40000.00	-6.914434	20	Pass
			NV	50	-40000.00	-6.914434	20	Pass
	Ant1	5825	NV	-30	-40000.00	-6.866953	20	Pass
			NV	-20	-60000.00	-10.300429	20	Pass
			NV	-10	-40000.00	-6.866953	20	Pass
			NV	0	-40000.00	-6.866953	20	Pass
			NV	10	-40000.00	-6.866953	20	Pass
			NV	20	-60000.00	-10.300429	20	Pass
			NV	30	-60000.00	-10.300429	20	Pass
			NV	40	-40000.00	-6.866953	20	Pass
			NV	50	-40000.00	-6.866953	20	Pass
	Ant2	5825	NV	-30	-60000.00	-10.300429	20	Pass
			NV	-20	-60000.00	-10.300429	20	Pass
			NV	-10	-40000.00	-6.866953	20	Pass
			NV	0	-60000.00	-10.300429	20	Pass
			NV	10	-60000.00	-10.300429	20	Pass
			NV	20	-40000.00	-6.866953	20	Pass
			NV	30	-60000.00	-10.300429	20	Pass
			NV	40	-40000.00	-6.866953	20	Pass
			NV	50	-60000.00	-10.300429	20	Pass
11AC40 MIMO	Ant1	5190	NV	-30	40000.00	7.707129	20	Pass
			NV	-20	-40000.00	-7.707129	20	Pass
			NV	-10	-40000.00	-7.707129	20	Pass
			NV	0	-40000.00	-7.707129	20	Pass
			NV	10	-40000.00	-7.707129	20	Pass
			NV	20	-40000.00	-7.707129	20	Pass
			NV	30	-40000.00	-7.707129	20	Pass
			NV	40	-40000.00	-7.707129	20	Pass
			NV	50	0.00	0.000000	20	Pass

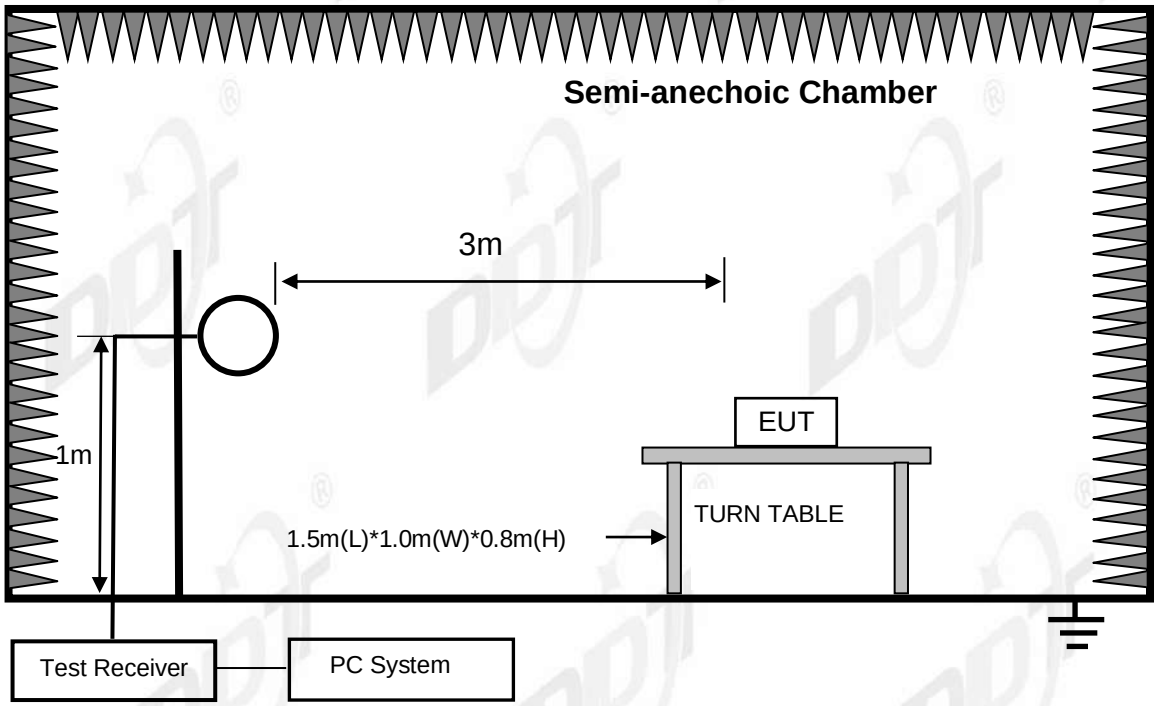
	Ant2	5190	NV	-30	-40000.00	-7.707129	20	Pass
			NV	-20	-40000.00	-7.707129	20	Pass
			NV	-10	-40000.00	-7.707129	20	Pass
			NV	0	-40000.00	-7.707129	20	Pass
			NV	10	-80000.00	-15.414258	20	Pass
			NV	20	-40000.00	-7.707129	20	Pass
			NV	30	-40000.00	-7.707129	20	Pass
			NV	40	-40000.00	-7.707129	20	Pass
			NV	50	-40000.00	-7.707129	20	Pass
	Ant1	5230	NV	-30	0.00	0.000000	20	Pass
			NV	-20	0.00	0.000000	20	Pass
			NV	-10	-40000.00	-7.648184	20	Pass
			NV	0	-40000.00	-7.648184	20	Pass
			NV	10	-40000.00	-7.648184	20	Pass
			NV	20	0.00	0.000000	20	Pass
			NV	30	0.00	0.000000	20	Pass
			NV	40	-40000.00	-7.648184	20	Pass
			NV	50	-40000.00	-7.648184	20	Pass
	Ant2	5230	NV	-30	-40000.00	-7.648184	20	Pass
			NV	-20	-40000.00	-7.648184	20	Pass
			NV	-10	-40000.00	-7.648184	20	Pass
			NV	0	-40000.00	-7.648184	20	Pass
			NV	10	-40000.00	-7.648184	20	Pass
			NV	20	-40000.00	-7.648184	20	Pass
			NV	30	-40000.00	-7.648184	20	Pass
			NV	40	0.00	0.000000	20	Pass
			NV	50	-40000.00	-7.648184	20	Pass
	Ant1	5755	NV	-30	-40000.00	-6.950478	20	Pass
			NV	-20	-40000.00	-6.950478	20	Pass
			NV	-10	-40000.00	-6.950478	20	Pass
			NV	0	0.00	0.000000	20	Pass
			NV	10	-40000.00	-6.950478	20	Pass
			NV	20	-80000.00	-13.900956	20	Pass
			NV	30	-40000.00	-6.950478	20	Pass
			NV	40	-40000.00	-6.950478	20	Pass
			NV	50	-40000.00	-6.950478	20	Pass
	Ant2	5755	NV	-30	-40000.00	-6.950478	20	Pass
			NV	-20	-40000.00	-6.950478	20	Pass
			NV	-10	-40000.00	-6.950478	20	Pass
			NV	0	-40000.00	-6.950478	20	Pass
			NV	10	0.00	0.000000	20	Pass
			NV	20	0.00	0.000000	20	Pass
			NV	30	-40000.00	-6.950478	20	Pass
			NV	40	-40000.00	-6.950478	20	Pass
			NV	50	-40000.00	-6.950478	20	Pass
	Ant1	5795	NV	-30	-40000.00	-6.902502	20	Pass
			NV	-20	-40000.00	-6.902502	20	Pass
			NV	-10	-40000.00	-6.902502	20	Pass
			NV	0	-40000.00	-6.902502	20	Pass
			NV	10	-40000.00	-6.902502	20	Pass
			NV	20	-40000.00	-6.902502	20	Pass

			NV	30	0.00	0.000000	20	Pass
			NV	40	0.00	0.000000	20	Pass
			NV	50	-40000.00	-6.902502	20	Pass
	Ant2	5795	NV	-30	-40000.00	-6.902502	20	Pass
			NV	-20	-40000.00	-6.902502	20	Pass
			NV	-10	-40000.00	-6.902502	20	Pass
			NV	0	-40000.00	-6.902502	20	Pass
			NV	10	0.00	0.000000	20	Pass
			NV	20	-80000.00	-13.805004	20	Pass
			NV	30	-40000.00	-6.902502	20	Pass
			NV	40	0.00	0.000000	20	Pass
			NV	50	-40000.00	-6.902502	20	Pass
11AC80 MIMO	Ant1	5210	NV	-30	-80000.00	-15.355086	20	Pass
			NV	-20	0.00	0.000000	20	Pass
			NV	-10	-80000.00	-15.355086	20	Pass
			NV	0	-80000.00	-15.355086	20	Pass
			NV	10	0.00	0.000000	20	Pass
			NV	20	-80000.00	-15.355086	20	Pass
			NV	30	-80000.00	-15.355086	20	Pass
			NV	40	-80000.00	-15.355086	20	Pass
			NV	50	0.00	0.000000	20	Pass
	Ant2	5210	NV	-30	0.00	0.000000	20	Pass
			NV	-20	-80000.00	-15.355086	20	Pass
			NV	-10	-80000.00	-15.355086	20	Pass
			NV	0	-80000.00	-15.355086	20	Pass
			NV	10	0.00	0.000000	20	Pass
			NV	20	-80000.00	-15.355086	20	Pass
			NV	30	-80000.00	-15.355086	20	Pass
			NV	40	0.00	0.000000	20	Pass
			NV	50	-80000.00	-15.355086	20	Pass
	Ant1	5775	NV	-30	-80000.00	-13.852814	20	Pass
			NV	-20	-80000.00	-13.852814	20	Pass
			NV	-10	-80000.00	-13.852814	20	Pass
			NV	0	-80000.00	-13.852814	20	Pass
			NV	10	0.00	0.000000	20	Pass
			NV	20	0.00	0.000000	20	Pass
			NV	30	-80000.00	-13.852814	20	Pass
			NV	40	-80000.00	-13.852814	20	Pass
			NV	50	-80000.00	-13.852814	20	Pass
	Ant2	5775	NV	-30	0.00	0.000000	20	Pass
			NV	-20	-80000.00	-13.852814	20	Pass
			NV	-10	0.00	0.000000	20	Pass
			NV	0	-80000.00	-13.852814	20	Pass
			NV	10	-80000.00	-13.852814	20	Pass
			NV	20	0.00	0.000000	20	Pass
			NV	30	-80000.00	-13.852814	20	Pass
			NV	40	0.00	0.000000	20	Pass
			NV	50	-80000.00	-13.852814	20	Pass

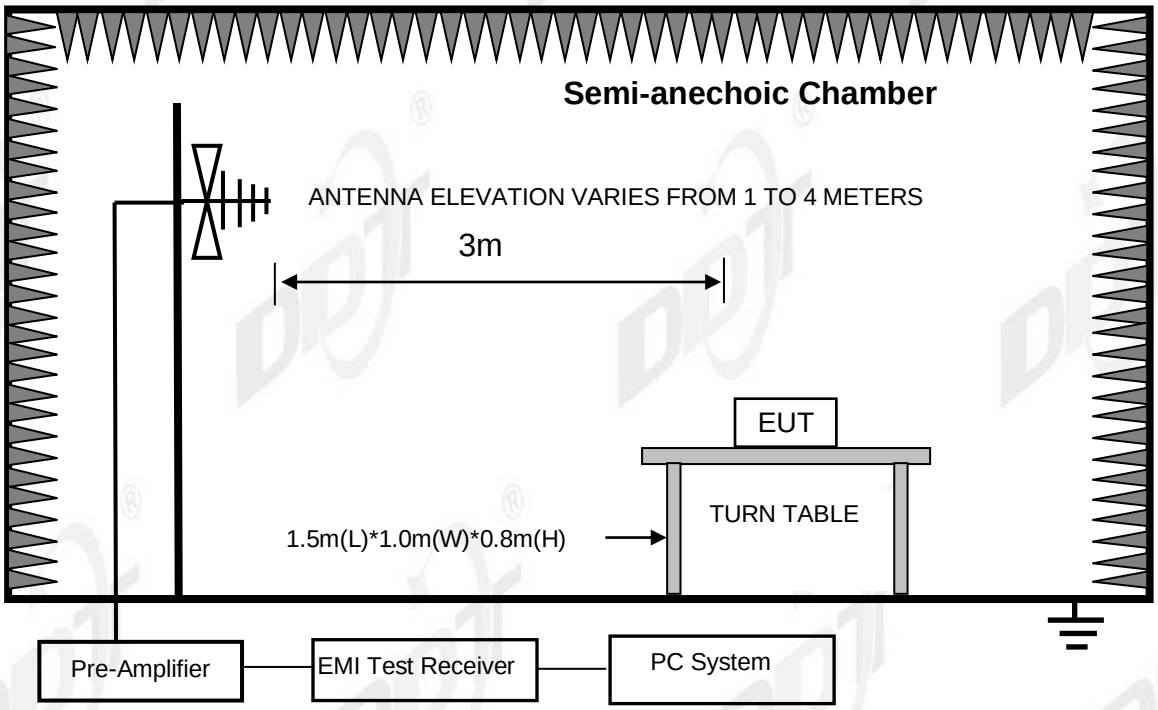
8. Spurious Emissions

8.1. Block diagram of test setup

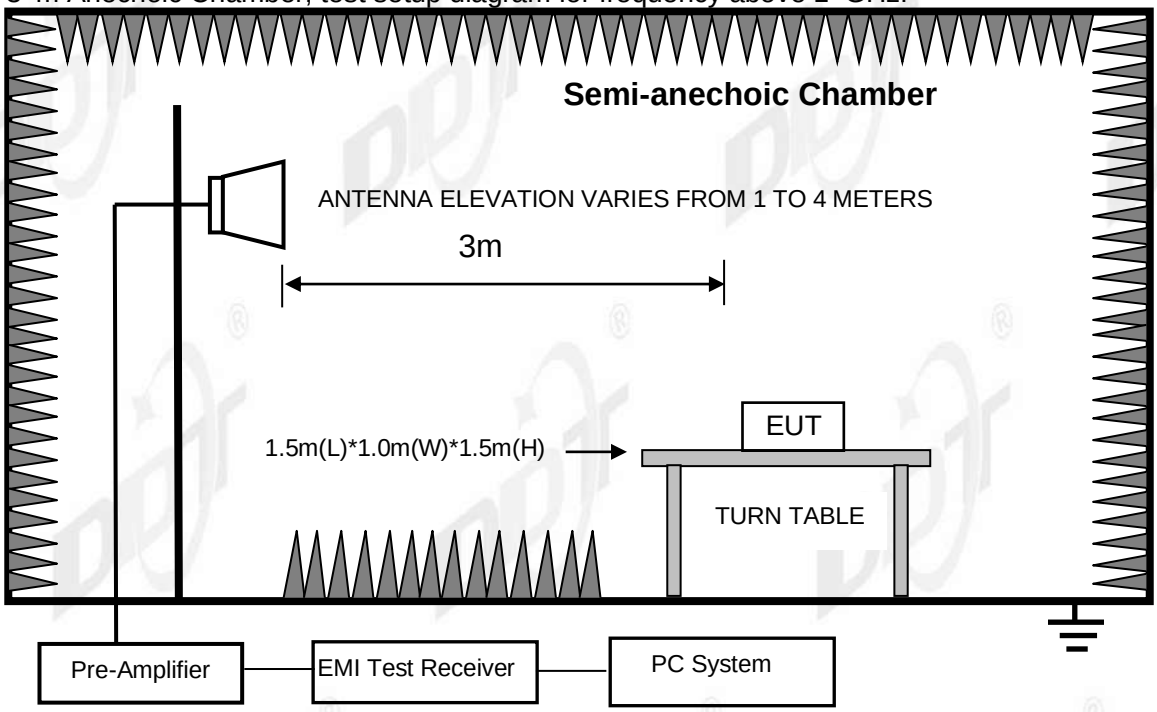
In 3 m Anechoic Chamber, test setup diagram for 9 kHz - 30 MHz:



In 3 m Anechoic Chamber, test setup diagram for 30 MHz - 1 GHz:



In 3 m Anechoic Chamber, test setup diagram for frequency above 1 GHz:



Note: For harmonic emissions test an appropriate high pass filter was inserted in the input port of AMP.

8.2. Limit

8.2.1 FCC 15.205 Restricted frequency band

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.1772&4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.2072&4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

[1]Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

[2]Above 38.6

8.2.2 RSS-GEN Restricted frequency band*

MHz	MHz	MHz	GHz
0.090 - 0.110	13.36 - 13.41	960 - 1427	9.0 - 9.2
0.495 - 0.505	16.42 - 16.423	1435 - 1626.5	9.3 - 9.5
2.1735 - 2.1905	16.69475 - 16.69525	1645.5 - 1646.5	10.6 - 12.7
3.020 - 3.026	16.80425 - 16.80475	1660 - 1710	13.25 - 13.4
4.125 - 4.128	25.5 - 25.67	1718.8 - 1722.2	14.47 - 14.5
4.17725 - 4.17775	37.5 - 38.25	2200 - 2300	15.35 - 16.2
4.20725 - 4.20775	73 - 74.6	2310 - 2390	17.7 - 21.4
5.677 - 5.683	74.8 - 75.2	2483.5 - 2500	22.01 - 23.12
6.215 - 6.218	108 - 138	2655 - 2900	23.6 - 24.0
6.26775 - 6.26825	149.9 - 150.05	3260 - 3267	31.2 - 31.8
6.31175 - 6.31225	156.52475 - 156.52525	3332 - 3339	36.43 - 36.5
8.291 - 8.294	156.7 - 156.9	3345.8 - 3358	Above 38.6
8.362 - 8.366	162.0125 - 167.17	3500 - 4400	
8.37625 - 8.38675	167.72 - 173.2	4500 - 5150	
8.41425 - 8.41475	240 - 285	5350 - 5460	
12.29 - 12.293	322 - 335.4	7250 - 7750	
12.51975 - 12.52025	399.9 - 410	8025 - 8500	
12.57675 - 12.57725	608 - 614	--	

* Certain frequency bands listed in table 7 and in bands above 38.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to related devices are set out in the 200 and 300 series of RSSs.

8.2.3 FCC 15.209 & RSS-GEN Limit.

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
0.009 ~ 0.490	300	2400/F(kHz)	67.6-20log(F)
0.490 ~ 1.705	30	24000/F(kHz)	87.6-20log(F)
1.705 ~ 30.0	30	30	29.54
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	74.0 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	

Note: (1) The emission limits shown in the above table are based on measurements employing a CISPR QP detector except for the frequency bands 9 - 90 kHz, 110 - 490 kHz and above 1000 MHz. Radiated emissions limits in these three bands are based on measurements employing an average detector.

(2) At frequencies below 30 MHz, measurement may be performed at a distance closer than that specified, and the limit at closer measurement distance can be extrapolated by below formula:

$$Limit_{3m}(dBuV/m) = Limit_{30m}(dBuV/m) + 40Log(30m/3m)$$

8.2.4 Limit for this EUT
All the emissions appearing within 15.205 & RSS-GEN restricted frequency bands shall not exceed the limits shown in 15.209 & RSS-GEN, all the other emissions shall be at least 20 dB below the fundamental emissions or comply with 15.209 limits.

8.3. Test procedure

(1) EUT height should be 0.8 m for below 1 GHz at a semi‐anechoic chamber while EUT height should be 1.5 m for above 1 GHz at full chamber or semi‐anechoic chamber ground with absorbers

(2) Setup EUT and assistant system according clause 2.3 and 8.2

(3) Test antenna was located 3 m from the EUT on an adjustable mast, and the antenna used as below table.

Test frequency range	Test antenna used	Test distance
9 kHz - 30 MHz	Active Loop antenna	3 m
30 MHz - 1 GHz	Trilog Broadband Antenna	3 m
1 GHz - 18 GHz	Double Ridged Horn Antenna (1 GHz - 18 GHz)	3 m
18 GHz - 40 GHz	Horn Antenna (18 GHz - 40 GHz)	1 m

According ANSI C63.10:2013 clause 6.4.4.2 and 6,5.3, for measurements below 30 MHz, the loop antenna was positioned with its plane vertical from the EUT and rotated about its vertical axis for maximum response at each azimuth position around the EUT. And the loop antenna also is positioned with its plane horizontal at the specified distance from the EUT. The center of the loop is 1 m above the ground. For measurement above 30 MHz, the Trilog Broadband Antenna or Horn Antenna was located 3 m from EUT, Measurements were made with the antenna positioned in both the horizontal and vertical planes of Polarization, and the measurement antenna was varied from 1 m to 4 m. in height above the reference ground plane to obtain the maximum signal strength.

(4) Below pre-scan procedure was first performed in order to find prominent frequency spectrum radiated emissions from 9 kHz to 40 GHz:

(a) Scanning the peak frequency spectrum with the antenna specified in step (3), and the EUT was rotated 360 degree, the antenna height was varied from 1 m to 4 m (Except loop antenna, it's fixed 1 m above ground.)

(b) Change work frequency or channel of device if practicable.

(c) Change modulation type of device if practicable.

(d) Change power supply range from 85% to 115% of the rated supply voltage

(e) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions. Spectrum frequency from 9 kHz to 40 GHz (tenth harmonic of fundamental frequency) was investigated, and no any obvious emission were detected from 9

kHz to 30 MHz and 18 GHz to 40 GHz, so below final test was performed with frequency range from 30 MHz to 18 GHz.

(5) For final emissions measurements at each frequency of interest, the EUT was rotated and the antenna height was varied between 1 m and 4 m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10:2013 on Radiated Emission test.

(6) The emissions from 9 kHz to 1 GHz were measured based on CISPR QP detector except for the frequency bands 9 - 90 kHz, 110 - 490 kHz, for emissions from 9 kHz - 90 kHz, 110 kHz - 490 kHz and above 1 GHz were measured based on average detector, for emissions above 1 GHz, peak emissions also be measured and need comply with Peak limit.

(7) The emissions from 9 kHz to 1 GHz, QP or average values were measured with EMI receiver with below RBW

Frequency band	RBW
9 kHz - 150 kHz	200 Hz
150 kHz - 30 MHz	9 kHz
30 MHz - 1 GHz	120 kHz

(8) For emissions above 1 GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1 MHz, VBW is set at 3 MHz for Peak measure, according ANSI C63.10:2013 clause 4.1.4.2.2 procedure for average measure.

8.4. Test result

Pass. (See below detailed test result)

All the emissions except fundamental emission from 9 kHz to 25 GHz were comply with 15.209 & RSS-GEN limit.

Note1: According exploratory test, the emission levels are 20 dB below the limit detected from 9 kHz to 30 MHz and 18 GHz to 40 GHz, so the final test was performed with frequency range from 30 MHz to 18 GHz and recorded in below.

Note2: For emissions below 1 GHz, according exploratory explorer test, when change Tx mode and channel, have no distinct influence on emissions level, so for emissions below 1 GHz, the final test was only performed with EUT working in 11a mode.

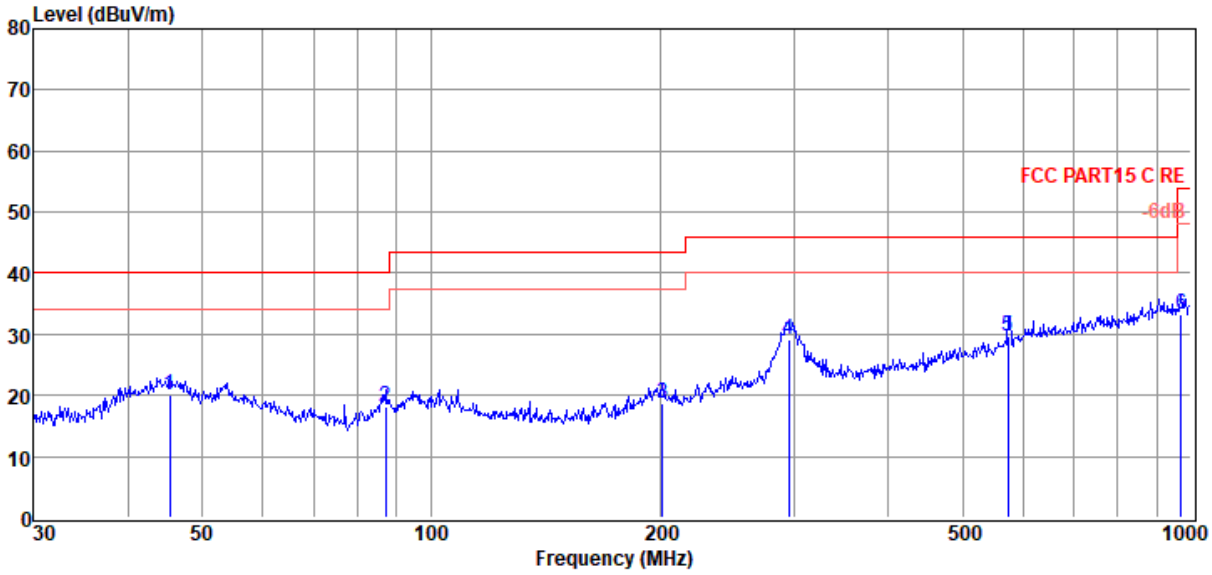
Note3: For emissions above 1 GHz. Scan with 11a mode, 11n HT20, 11n HT40, 11ac HT20, 11ac HT40 and 11ac HT80 mode, ANT 1 and ANT 2, the worst case is 11a ANT 1 mode. All the emissions were comply with 54 dBμV/m for Average value in 15.209, so both for the restricted bands and non-restricted bands, all the emissions were comply with the limit. Other emission levels are attenuated 20 dB below the limit, so it does not record in the report.

Radiated Emission test (below 1 GHz)

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC BELOW 1G.EM6	
Test Date	: 2022-03-02	**Tested By**	: James Gan
EUT	: InVehicle Gateway	**Model Number**	: VG710-NRQ3
Power Supply	: DC 24V	**Test Mode**	: Tx Mode
Condition	: Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2021 VLUB 9163 3#/3m/HORIZONTAL
Memo	:		

Data:
3



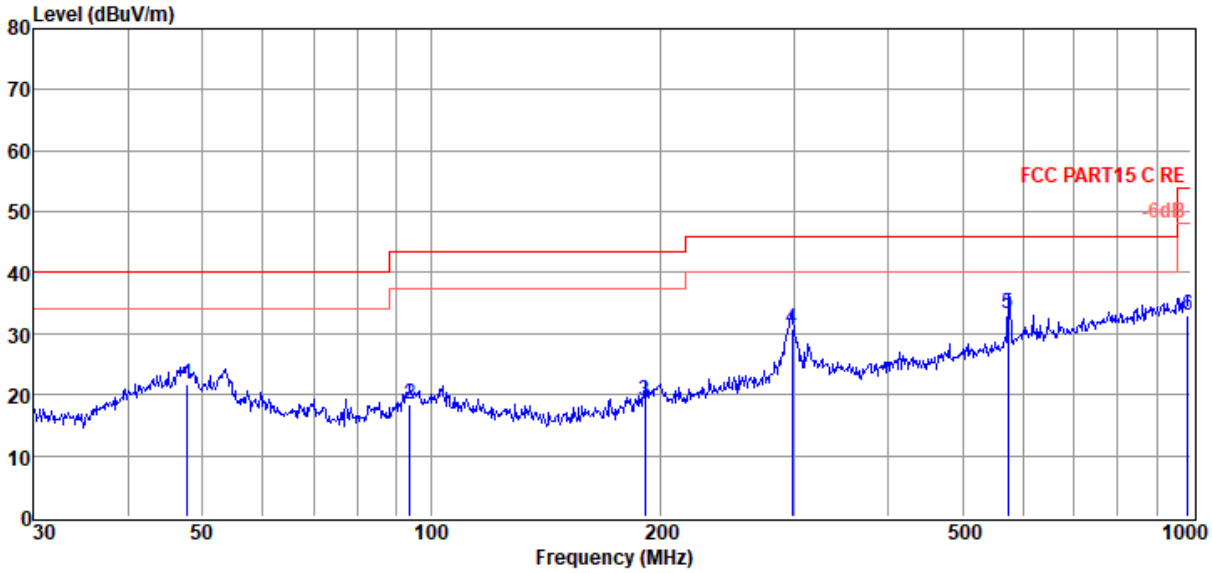
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	45.38	1.42	14.91	3.65	19.98	40.00	-20.02	QP	HORIZONTAL
2	87.11	4.79	9.30	3.92	18.01	40.00	-21.99	QP	HORIZONTAL
3	201.39	2.61	11.59	4.46	18.66	43.50	-24.84	QP	HORIZONTAL
4	295.15	11.31	13.11	4.81	29.23	46.00	-16.77	QP	HORIZONTAL
5	574.63	5.93	18.09	5.66	29.68	46.00	-16.32	QP	HORIZONTAL
6	968.93	4.53	22.18	6.67	33.38	54.00	-20.62	QP	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss.
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC BELOW 1G.EM6	
Test Date	: 2022-03-02	**Tested By**	: James Gan
EUT	: InVehicle Gateway	**Model Number**	: VG710-NRQ3
Power Supply	: DC 24V	**Test Mode**	: Tx Mode
Condition	: Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2021 VLUB 9163 3#/3m/VERTICAL
Memo	:		

Data:
4



Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	47.83	4.68	13.50	3.66	21.84	40.00	-18.16	QP	VERTICAL
2	93.77	3.58	10.95	3.95	18.48	43.50	-25.02	QP	VERTICAL
3	191.07	3.72	10.91	4.42	19.05	43.50	-24.45	QP	VERTICAL
4	298.27	12.79	13.23	4.81	30.83	46.00	-15.17	QP	VERTICAL
5	574.63	9.64	18.09	5.66	33.39	46.00	-12.61	QP	VERTICAL
6	989.54	3.88	22.40	6.78	33.06	54.00	-20.94	QP	VERTICAL

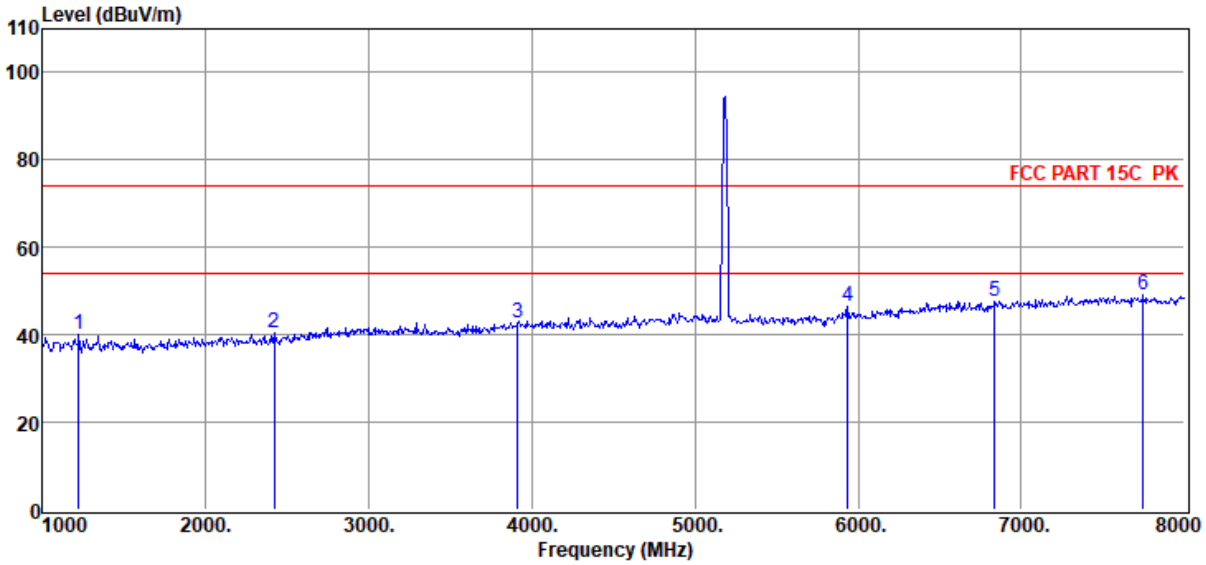
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss.
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

Radiated Emission test (above 1 GHz)

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/HORIZONTAL
Memo	:	11A 5180			

Data: 15



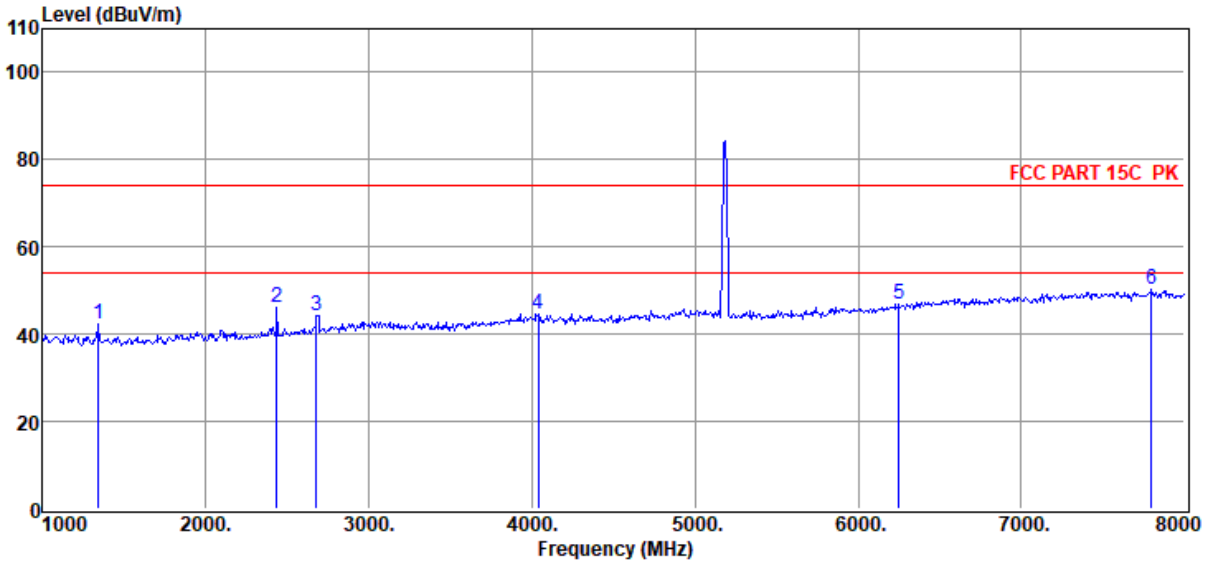
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	1224.00	51.24	25.46	38.24	1.23	0.54	40.23	74.00	-33.77	Peak	HORIZONTAL
2	2421.00	50.30	27.46	39.61	1.72	0.73	40.60	74.00	-33.40	Peak	HORIZONTAL
3	3912.00	49.32	30.80	40.17	2.04	0.85	42.84	74.00	-31.16	Peak	HORIZONTAL
4	5935.00	49.12	33.84	40.49	2.97	1.13	46.57	74.00	-27.43	Peak	HORIZONTAL
5	6838.00	47.85	35.74	39.83	3.10	0.96	47.82	74.00	-26.18	Peak	HORIZONTAL
6	7748.00	47.84	36.70	39.77	3.16	1.12	49.05	74.00	-24.95	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/VERTICAL
Memo	:	11A 5180			

Data: 16



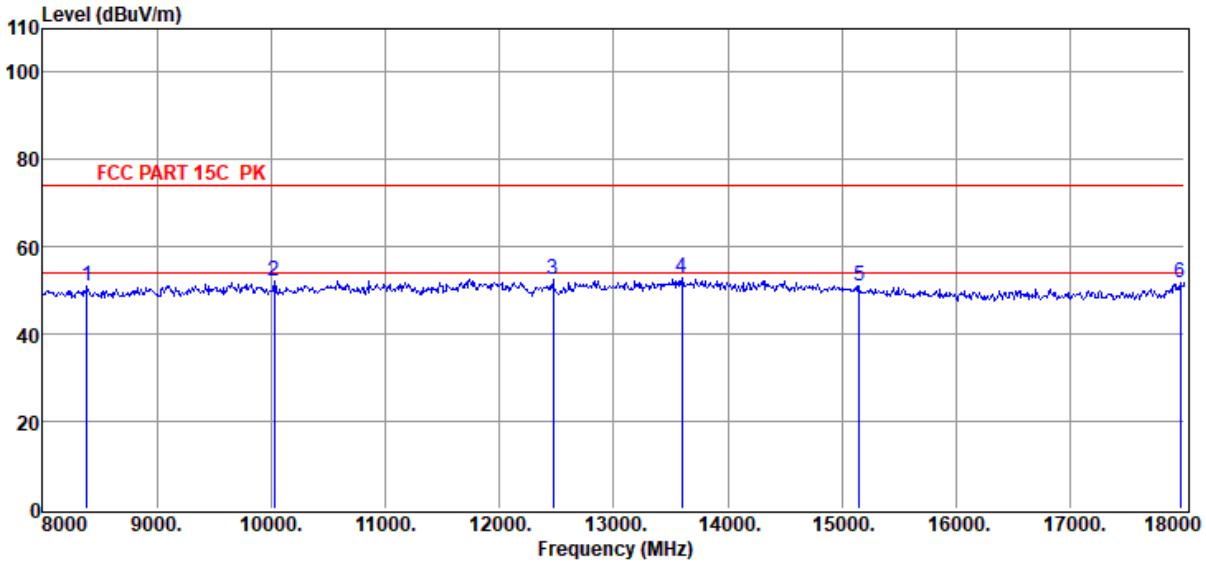
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	1343.00	53.36	25.43	38.41	1.29	0.56	42.23	74.00	-31.77	Peak	VERTICAL
2	2435.00	55.94	27.48	39.62	1.72	0.73	46.25	74.00	-27.75	Peak	VERTICAL
3	2680.00	53.19	28.28	39.74	1.79	0.75	44.27	74.00	-29.73	Peak	VERTICAL
4	4038.00	50.85	31.13	40.21	2.13	0.86	44.76	74.00	-29.24	Peak	VERTICAL
5	6250.00	48.35	34.60	40.30	3.15	1.09	46.89	74.00	-27.11	Peak	VERTICAL
6	7797.00	48.82	36.76	39.78	3.17	1.13	50.10	74.00	-23.90	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/HORIZONTAL
Memo	:	11A 5180			

Data: 17



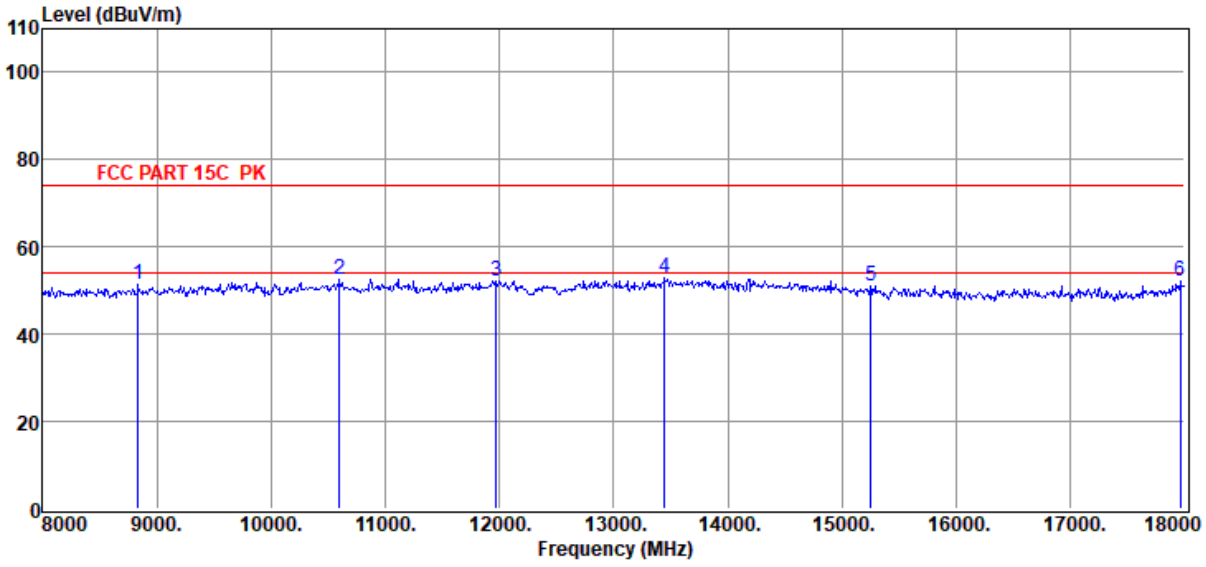
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	8390.00	47.15	37.62	39.84	3.21	2.75	50.89	74.00	-23.11	Peak	HORIZONTAL
2	10030.00	47.55	38.44	40.59	3.67	3.03	52.10	74.00	-21.90	Peak	HORIZONTAL
3	12470.00	47.44	39.01	40.24	3.73	2.50	52.44	74.00	-21.56	Peak	HORIZONTAL
4	13600.00	46.04	39.98	39.98	4.10	2.67	52.81	74.00	-21.19	Peak	HORIZONTAL
5	15150.00	44.34	39.29	39.65	4.50	2.42	50.90	74.00	-23.10	Peak	HORIZONTAL
6	17960.00	42.60	42.25	40.68	4.95	2.64	51.76	74.00	-22.24	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/VERTICAL
Memo	:	11A 5180			

Data: 18



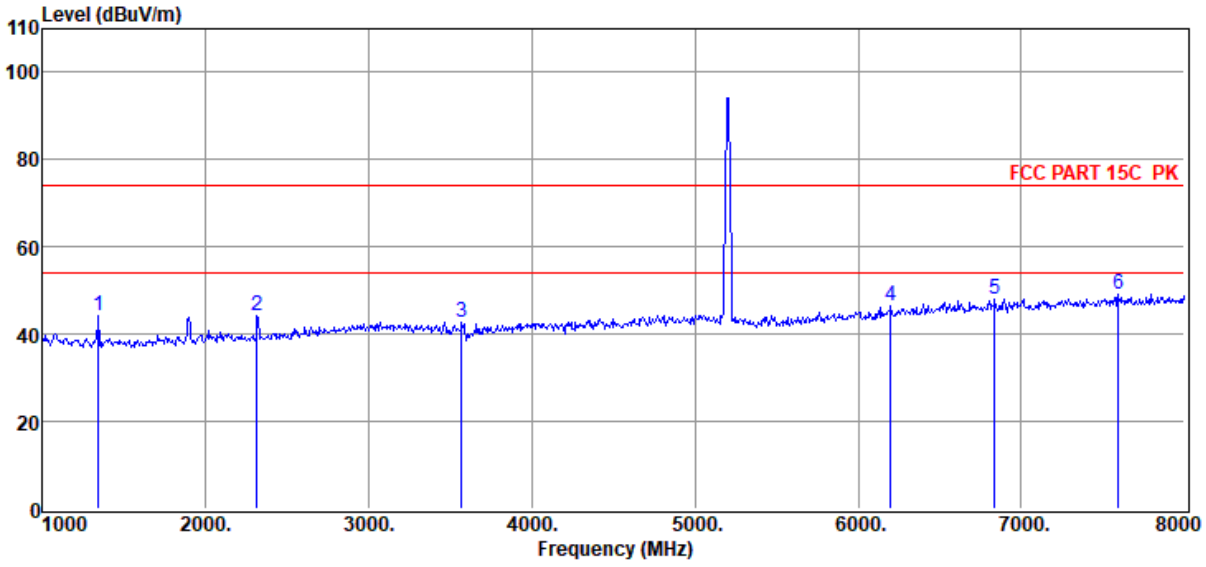
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	8840.00	46.96	38.14	39.88	3.29	2.79	51.30	74.00	-22.70	Peak	VERTICAL
2	10600.00	47.35	39.06	40.36	3.70	2.79	52.54	74.00	-21.46	Peak	VERTICAL
3	11970.00	46.65	39.19	40.10	4.05	2.38	52.17	74.00	-21.83	Peak	VERTICAL
4	13450.00	46.36	39.96	40.09	4.03	2.67	52.93	74.00	-21.07	Peak	VERTICAL
5	15250.00	44.79	39.15	39.67	4.51	2.44	51.22	74.00	-22.78	Peak	VERTICAL
6	17960.00	42.86	42.25	40.68	4.95	2.64	52.02	74.00	-21.98	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-08	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/HORIZONTAL
Memo	:	11A 5200			

Data: 19



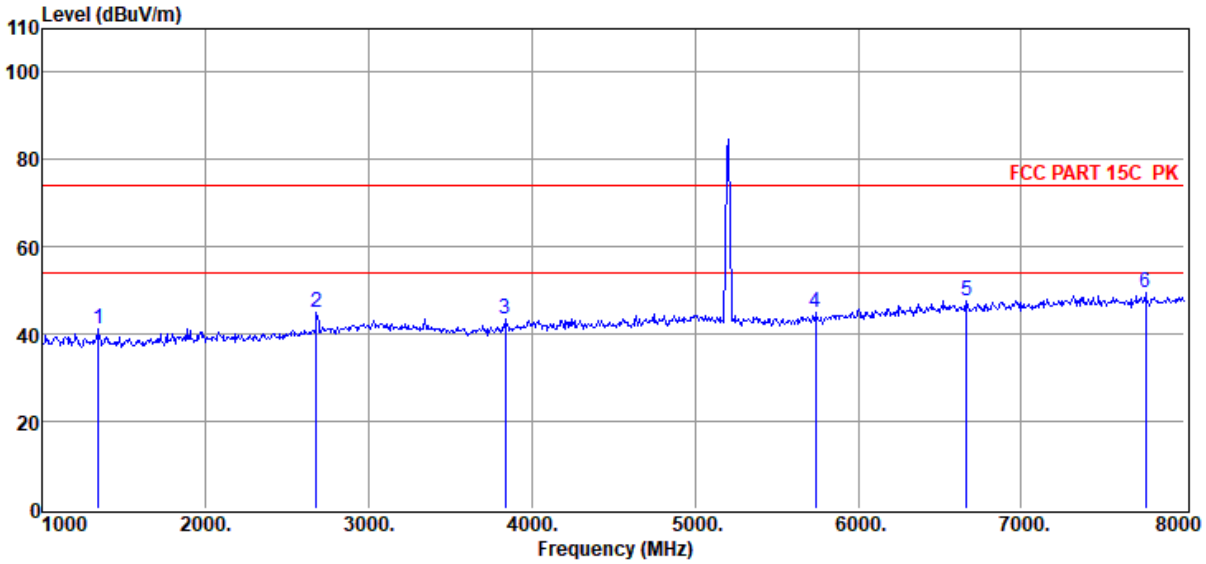
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	1343.00	55.52	25.43	38.41	1.29	0.56	44.39	74.00	-29.61	Peak	HORIZONTAL
2	2316.00	53.94	27.27	39.56	1.69	0.71	44.05	74.00	-29.95	Peak	HORIZONTAL
3	3569.00	50.55	29.63	40.07	1.75	0.83	42.69	74.00	-31.31	Peak	HORIZONTAL
4	6201.00	48.16	34.48	40.34	3.13	1.10	46.53	74.00	-27.47	Peak	HORIZONTAL
5	6838.00	48.16	35.74	39.83	3.10	0.96	48.13	74.00	-25.87	Peak	HORIZONTAL
6	7594.00	48.13	36.51	39.76	3.15	1.08	49.11	74.00	-24.89	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6	
Test Date	: 2022-03-08	**Tested By**	: James Gan
EUT	: InVehicle Gateway	**Model Number**	: VG710-NRQ3
Power Supply	: DC 24V	**Test Mode**	: Tx Mode
Condition	: Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2021 BBHA 9120D 3#/3m/VERTICAL
Memo	: 11A 5200		

Data: 20



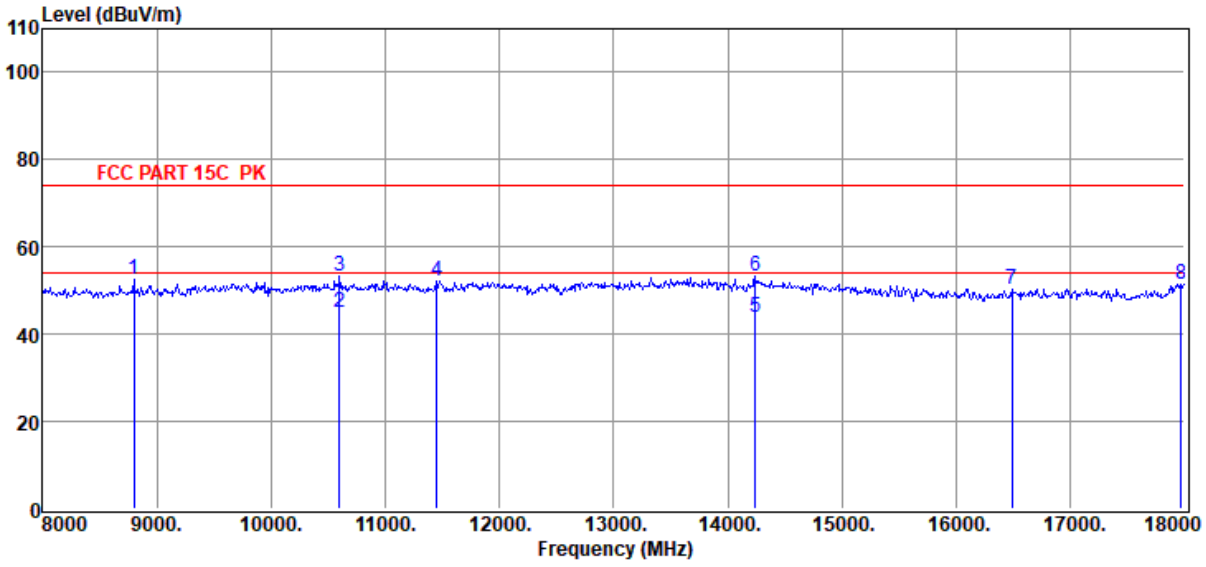
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	1343.00	52.27	25.43	38.41	1.29	0.56	41.14	74.00	-32.86	Peak	VERTICAL
2	2680.00	54.01	28.28	39.74	1.79	0.75	45.09	74.00	-28.91	Peak	VERTICAL
3	3835.00	50.32	30.54	40.15	1.97	0.85	43.53	74.00	-30.47	Peak	VERTICAL
4	5739.00	48.23	33.37	40.47	2.79	1.08	45.00	74.00	-29.00	Peak	VERTICAL
5	6663.00	47.93	35.46	39.97	3.19	1.00	47.61	74.00	-26.39	Peak	VERTICAL
6	7762.00	48.28	36.71	39.78	3.17	1.12	49.50	74.00	-24.50	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-08	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/HORIZONTAL
Memo	:	11A 5200			

Data: 21



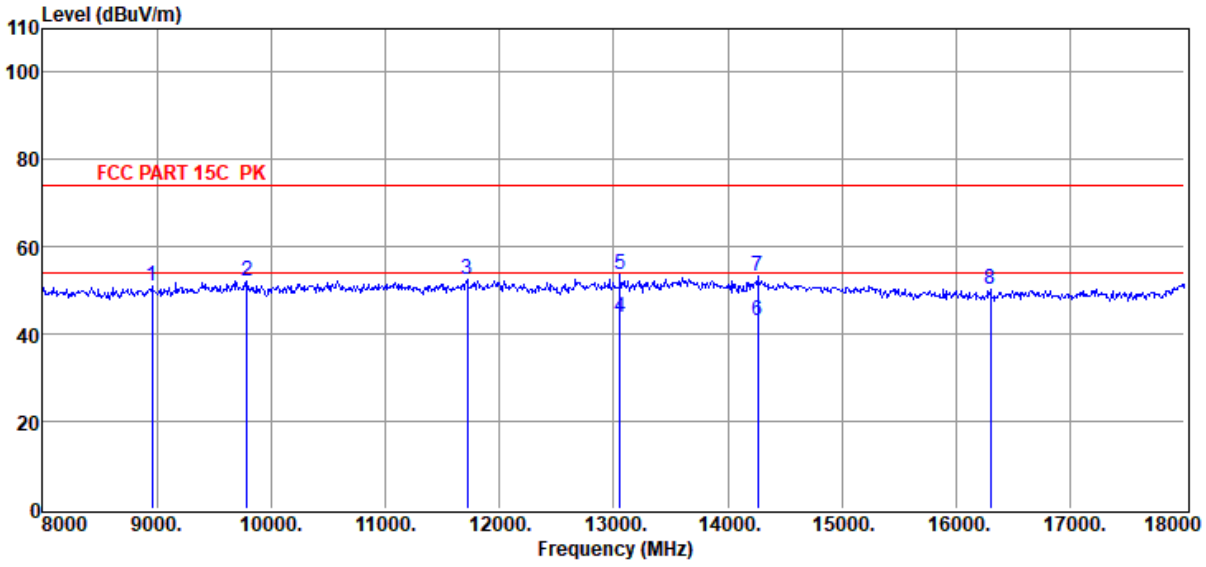
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	8800.00	48.22	38.10	39.88	3.29	2.78	52.51	74.00	-21.49	Peak	HORIZONTAL
2	10600.00	39.63	39.06	40.36	3.70	2.79	44.82	54.00	-9.18	Average	HORIZONTAL
3	10600.00	48.14	39.06	40.36	3.70	2.79	53.33	74.00	-20.67	Peak	HORIZONTAL
4	11450.00	46.83	39.03	40.15	3.95	2.51	52.17	74.00	-21.83	Peak	HORIZONTAL
5	14240.00	36.53	39.90	39.68	4.44	2.62	43.81	54.00	-10.19	Average	HORIZONTAL
6	14240.00	45.83	39.90	39.68	4.44	2.62	53.11	74.00	-20.89	Peak	HORIZONTAL
7	16490.00	44.68	37.90	40.00	4.73	2.99	50.30	74.00	-23.70	Peak	HORIZONTAL
8	17970.00	42.30	42.31	40.68	4.95	2.63	51.51	74.00	-22.49	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-08	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/VERTICAL
Memo	:	11A 5200			

Data: 22



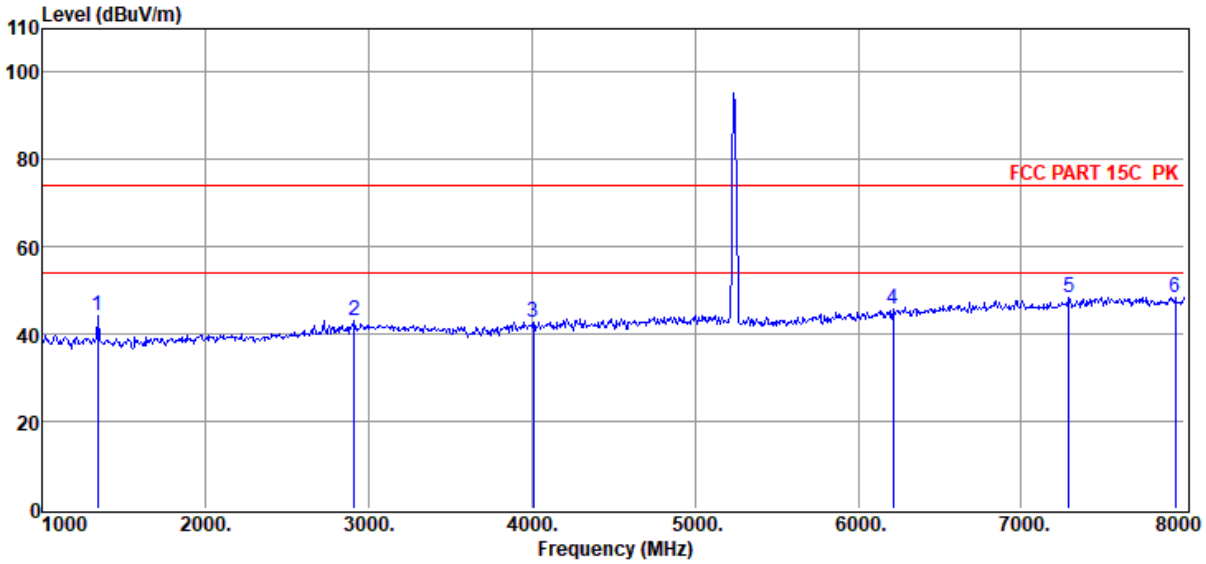
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	8960.00	46.63	38.26	39.90	3.32	2.80	51.11	74.00	-22.89	Peak	VERTICAL
2	9790.00	47.48	38.53	40.45	3.65	2.99	52.20	74.00	-21.80	Peak	VERTICAL
3	11720.00	47.01	39.09	40.13	4.01	2.44	52.42	74.00	-21.58	Peak	VERTICAL
4	13060.00	37.58	39.65	40.36	4.35	2.65	43.87	54.00	-10.13	Average	VERTICAL
5	13060.00	47.34	39.65	40.36	4.35	2.65	53.63	74.00	-20.37	Peak	VERTICAL
6	14260.00	35.70	39.90	39.67	4.44	2.61	42.98	54.00	-11.02	Average	VERTICAL
7	14260.00	46.07	39.90	39.67	4.44	2.61	53.35	74.00	-20.65	Peak	VERTICAL
8	16300.00	44.97	37.90	39.96	4.68	2.84	50.43	74.00	-23.57	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-08	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/HORIZONTAL
Memo	:	11A 5240			

Data: 23



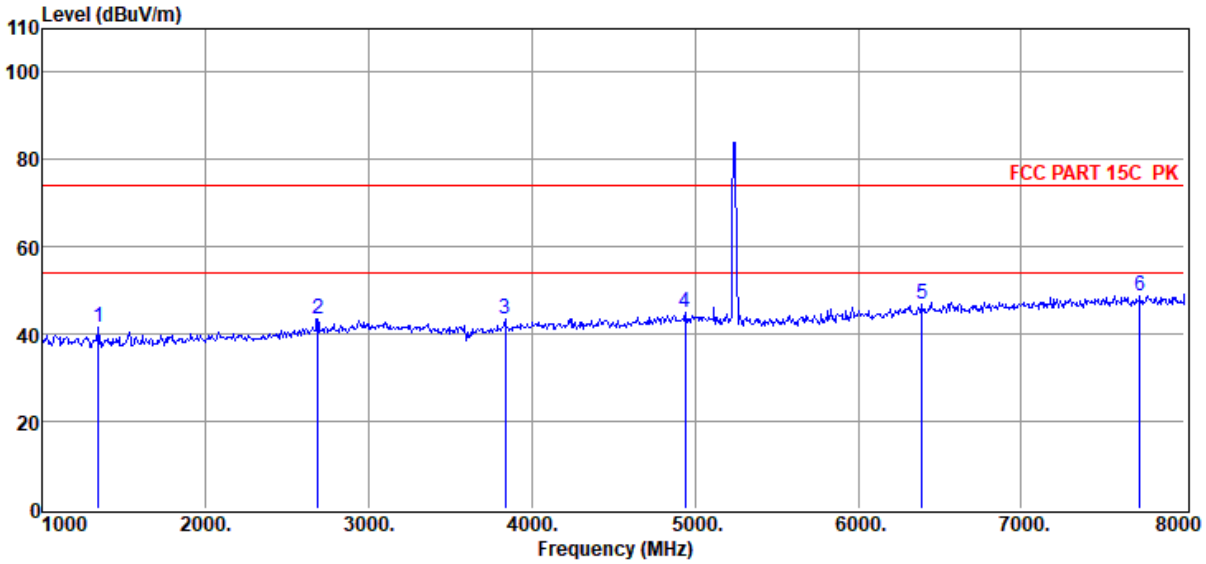
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	1336.00	55.40	25.43	38.40	1.29	0.56	44.28	74.00	-29.72	Peak	HORIZONTAL
2	2911.00	51.18	29.16	39.86	1.85	0.78	43.11	74.00	-30.89	Peak	HORIZONTAL
3	4010.00	48.99	31.11	40.20	2.12	0.86	42.88	74.00	-31.12	Peak	HORIZONTAL
4	6215.00	47.51	34.52	40.33	3.13	1.09	45.92	74.00	-28.08	Peak	HORIZONTAL
5	7293.00	47.65	36.23	39.73	3.09	1.00	48.24	74.00	-25.76	Peak	HORIZONTAL
6	7944.00	47.02	36.93	39.79	3.18	1.17	48.51	74.00	-25.49	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-08	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/VERTICAL
Memo	:	11A 5240			

Data: 24



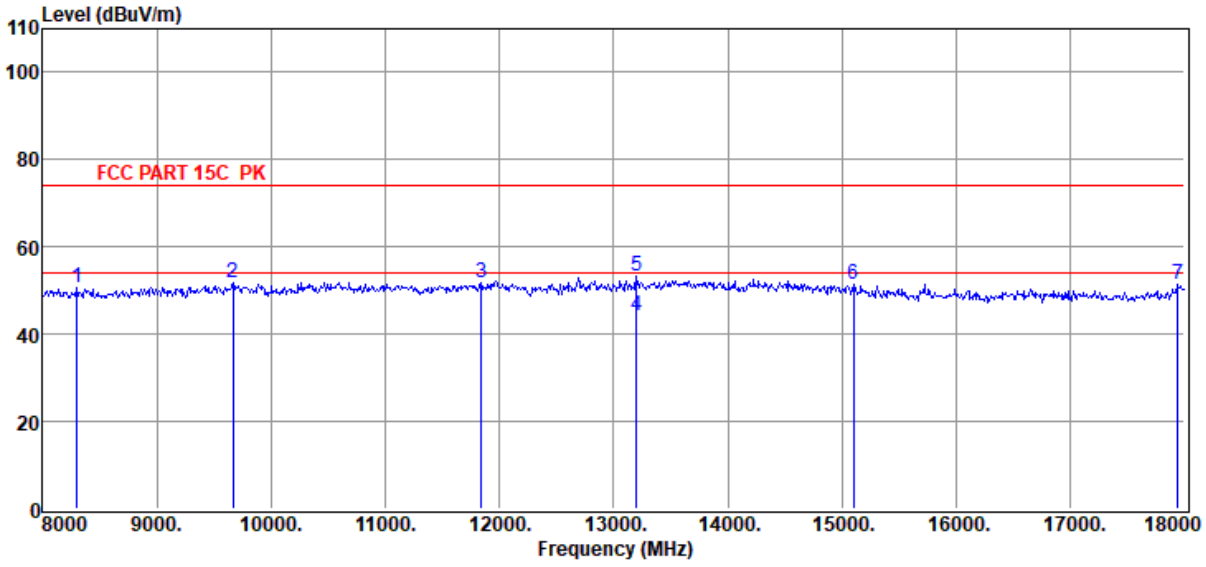
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	1343.00	52.61	25.43	38.41	1.29	0.56	41.48	74.00	-32.52	Peak	VERTICAL
2	2687.00	52.54	28.31	39.74	1.79	0.76	43.66	74.00	-30.34	Peak	VERTICAL
3	3835.00	50.24	30.54	40.15	1.97	0.85	43.45	74.00	-30.55	Peak	VERTICAL
4	4941.00	49.07	32.91	40.39	2.52	0.91	45.02	74.00	-28.98	Peak	VERTICAL
5	6390.00	47.86	34.94	40.19	3.22	1.06	46.89	74.00	-27.11	Peak	VERTICAL
6	7727.00	47.66	36.67	39.77	3.16	1.11	48.83	74.00	-25.17	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-08	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/HORIZONTAL
Memo	:	11A 5240			

Data: 25



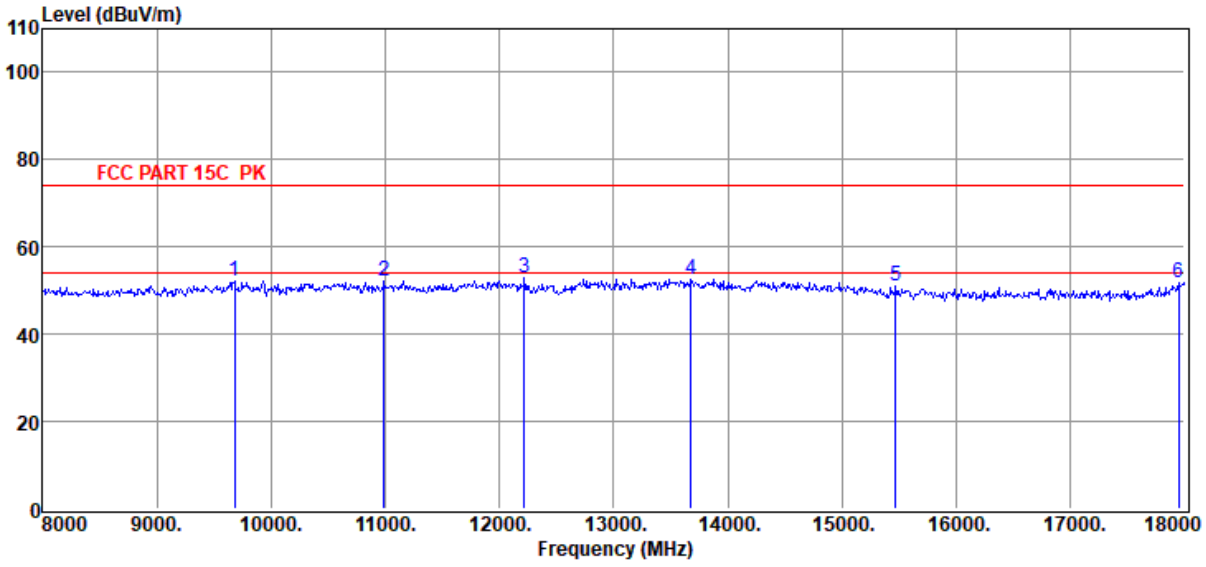
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	8300.00	47.13	37.48	39.83	3.21	2.74	50.73	74.00	-23.27	Peak	HORIZONTAL
2	9670.00	47.07	38.60	40.37	3.64	2.96	51.90	74.00	-22.10	Peak	HORIZONTAL
3	11840.00	46.15	39.14	40.12	4.02	2.41	51.60	74.00	-22.40	Peak	HORIZONTAL
4	13200.00	37.87	39.76	40.26	4.24	2.66	44.27	54.00	-9.73	Average	HORIZONTAL
5	13200.00	46.81	39.76	40.26	4.24	2.66	53.21	74.00	-20.79	Peak	HORIZONTAL
6	15100.00	44.90	39.36	39.63	4.49	2.41	51.53	74.00	-22.47	Peak	HORIZONTAL
7	17940.00	42.31	42.13	40.66	4.94	2.66	51.38	74.00	-22.62	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-08	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/VERTICAL
Memo	:	11A 5240			

Data: 26



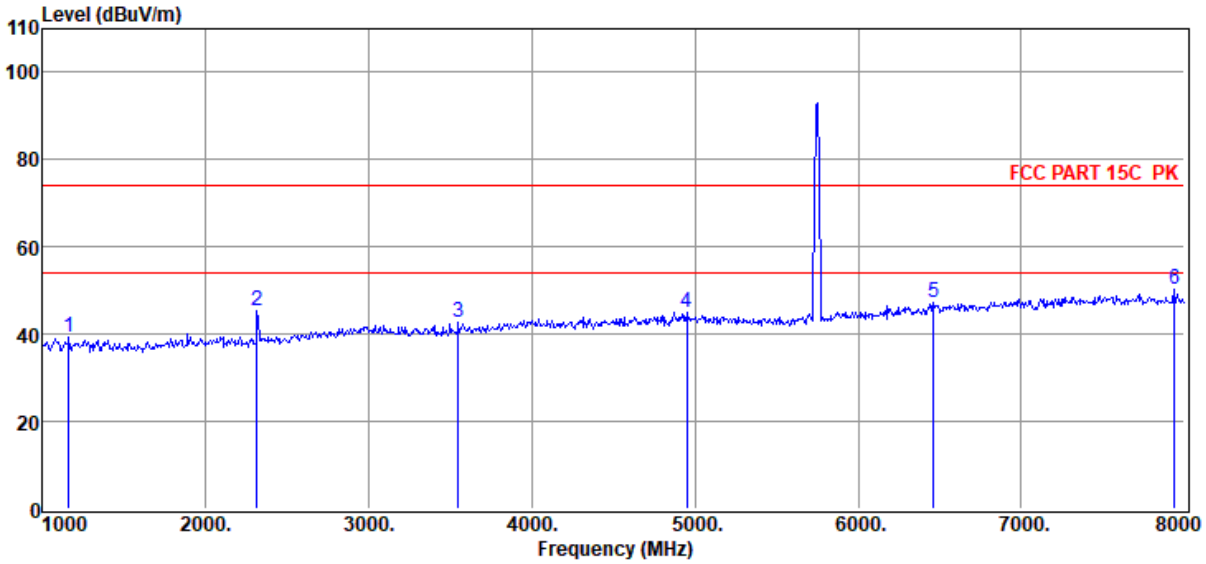
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	9680.00	47.53	38.59	40.38	3.64	2.96	52.34	74.00	-21.66	Peak	VERTICAL
2	10990.00	46.56	39.29	40.20	3.80	2.62	52.07	74.00	-21.93	Peak	VERTICAL
3	12220.00	47.52	39.11	40.17	3.90	2.43	52.79	74.00	-21.21	Peak	VERTICAL
4	13680.00	45.82	39.96	39.92	4.18	2.68	52.72	74.00	-21.28	Peak	VERTICAL
5	15470.00	44.70	38.84	39.74	4.55	2.49	50.84	74.00	-23.16	Peak	VERTICAL
6	17950.00	42.52	42.19	40.67	4.95	2.65	51.64	74.00	-22.36	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/HORIZONTAL
Memo	:	11A 5745			

Data: 27



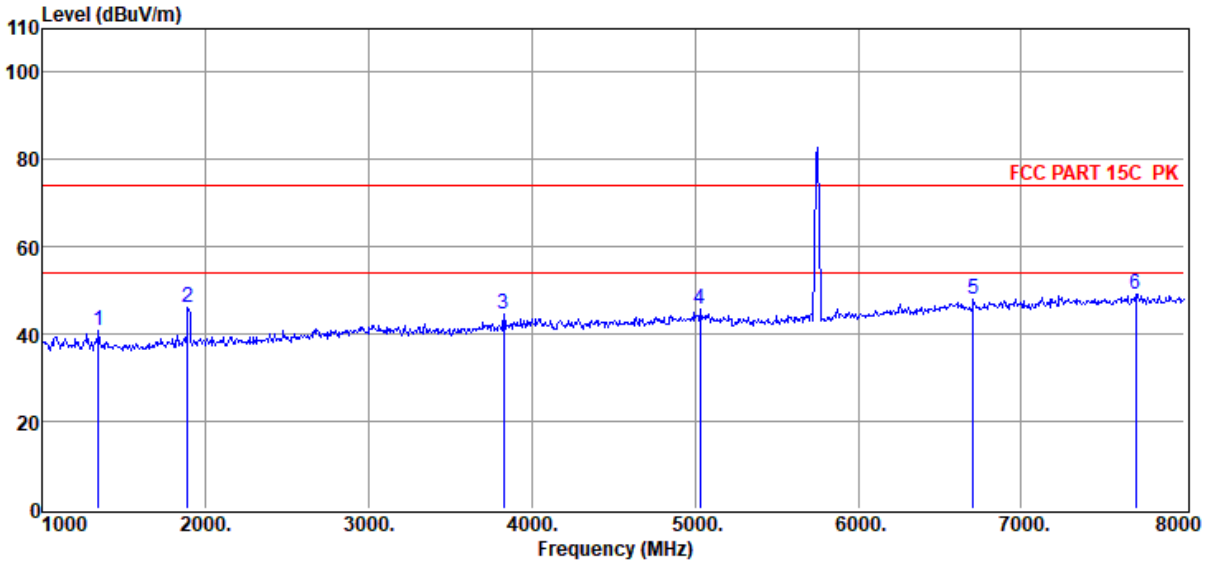
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	1161.00	50.37	25.47	38.14	1.19	0.53	39.42	74.00	-34.58	Peak	HORIZONTAL
2	2316.00	55.33	27.27	39.56	1.69	0.71	45.44	74.00	-28.56	Peak	HORIZONTAL
3	3548.00	50.73	29.56	40.06	1.73	0.83	42.79	74.00	-31.21	Peak	HORIZONTAL
4	4948.00	49.12	32.93	40.39	2.52	0.91	45.09	74.00	-28.91	Peak	HORIZONTAL
5	6460.00	47.95	35.10	40.13	3.25	1.04	47.21	74.00	-26.79	Peak	HORIZONTAL
6	7937.00	48.81	36.92	39.79	3.18	1.16	50.28	74.00	-23.72	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/VERTICAL
Memo	:	11A 5745			

Data: 28



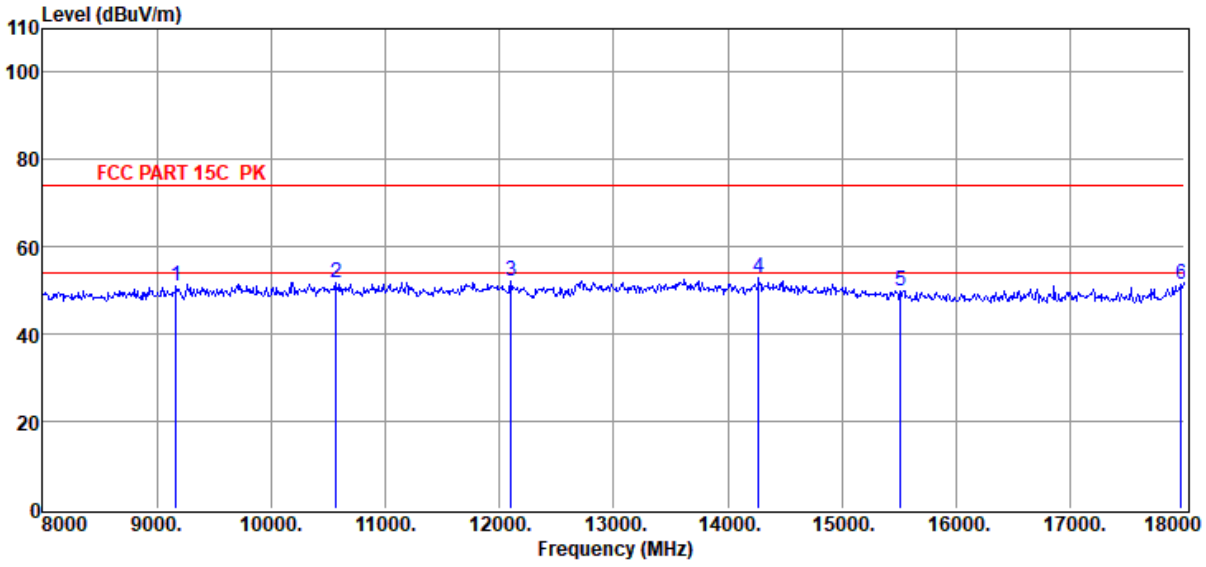
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	1343.00	51.79	25.43	38.41	1.29	0.56	40.66	74.00	-33.34	Peak	VERTICAL
2	1889.00	56.70	26.41	39.23	1.55	0.66	46.09	74.00	-27.91	Peak	VERTICAL
3	3828.00	51.27	30.52	40.15	1.97	0.85	44.46	74.00	-29.54	Peak	VERTICAL
4	5032.00	49.47	33.08	40.40	2.54	0.92	45.61	74.00	-28.39	Peak	VERTICAL
5	6705.00	48.07	35.53	39.94	3.17	0.99	47.82	74.00	-26.18	Peak	VERTICAL
6	7699.00	47.92	36.64	39.77	3.16	1.10	49.05	74.00	-24.95	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/HORIZONTAL
Memo	:	11A 5745			

Data: 33



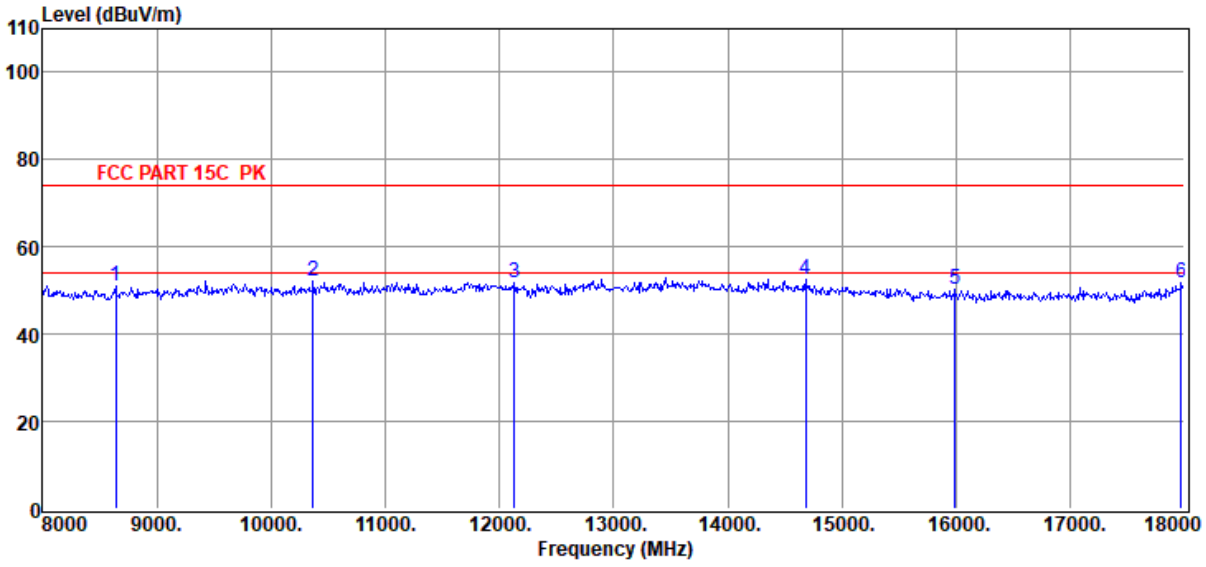
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	9170.00	46.50	38.44	40.02	3.43	2.84	51.19	74.00	-22.81	Peak	HORIZONTAL
2	10570.00	46.67	39.04	40.37	3.69	2.80	51.83	74.00	-22.17	Peak	HORIZONTAL
3	12100.00	46.87	39.16	40.13	3.98	2.40	52.28	74.00	-21.72	Peak	HORIZONTAL
4	14270.00	45.72	39.90	39.67	4.43	2.61	52.99	74.00	-21.01	Peak	HORIZONTAL
5	15510.00	43.79	38.78	39.75	4.56	2.50	49.88	74.00	-24.12	Peak	HORIZONTAL
6	17970.00	42.17	42.31	40.68	4.95	2.63	51.38	74.00	-22.62	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/VERTICAL
Memo	:	11A 5745			

Data: 34



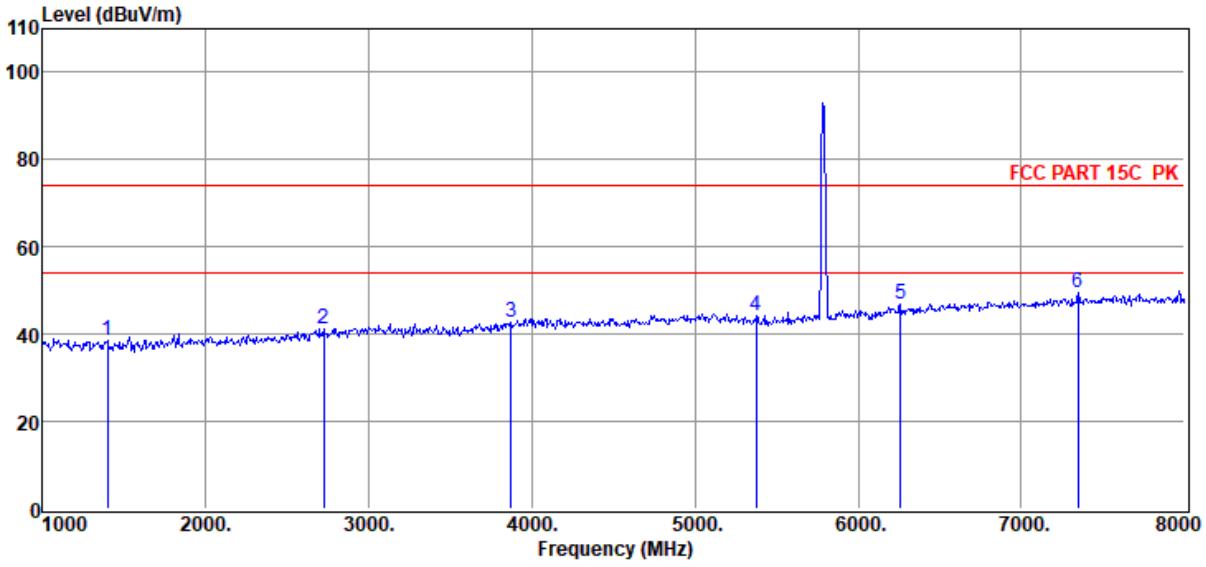
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	8640.00	46.81	37.94	39.86	3.25	2.77	50.91	74.00	-23.09	Peak	VERTICAL
2	10370.00	47.35	38.84	40.45	3.67	2.88	52.29	74.00	-21.71	Peak	VERTICAL
3	12130.00	46.45	39.15	40.14	3.96	2.41	51.83	74.00	-22.17	Peak	VERTICAL
4	14680.00	45.52	39.76	39.63	4.39	2.49	52.53	74.00	-21.47	Peak	VERTICAL
5	15990.00	45.20	37.92	39.90	4.60	2.60	50.42	74.00	-23.58	Peak	VERTICAL
6	17970.00	42.57	42.31	40.68	4.95	2.63	51.78	74.00	-22.22	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/HORIZONTAL
Memo	:	11A 5785			

Data: 29



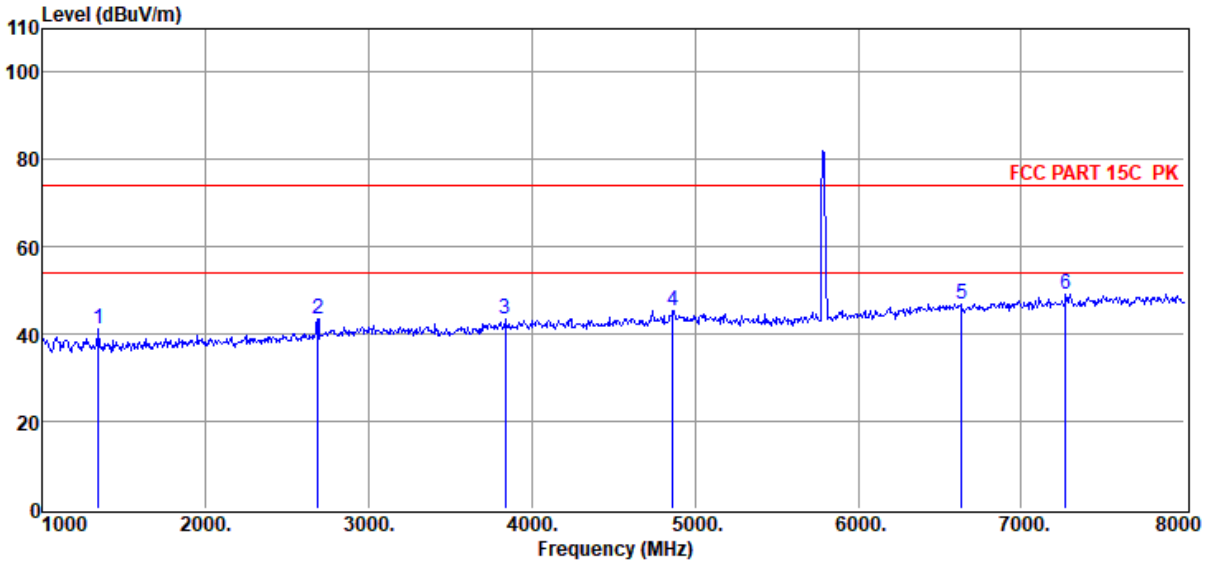
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	1399.00	49.62	25.42	38.50	1.32	0.57	38.43	74.00	-35.57	Peak	HORIZONTAL
2	2722.00	50.10	28.44	39.76	1.80	0.76	41.34	74.00	-32.66	Peak	HORIZONTAL
3	3870.00	49.50	30.66	40.16	2.00	0.85	42.85	74.00	-31.15	Peak	HORIZONTAL
4	5375.00	48.25	32.88	40.44	2.56	1.00	44.25	74.00	-29.75	Peak	HORIZONTAL
5	6257.00	48.46	34.62	40.29	3.15	1.09	47.03	74.00	-26.97	Peak	HORIZONTAL
6	7349.00	48.97	36.28	39.73	3.10	1.02	49.64	74.00	-24.36	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/VERTICAL
Memo	:	11A 5785			

Data: 30



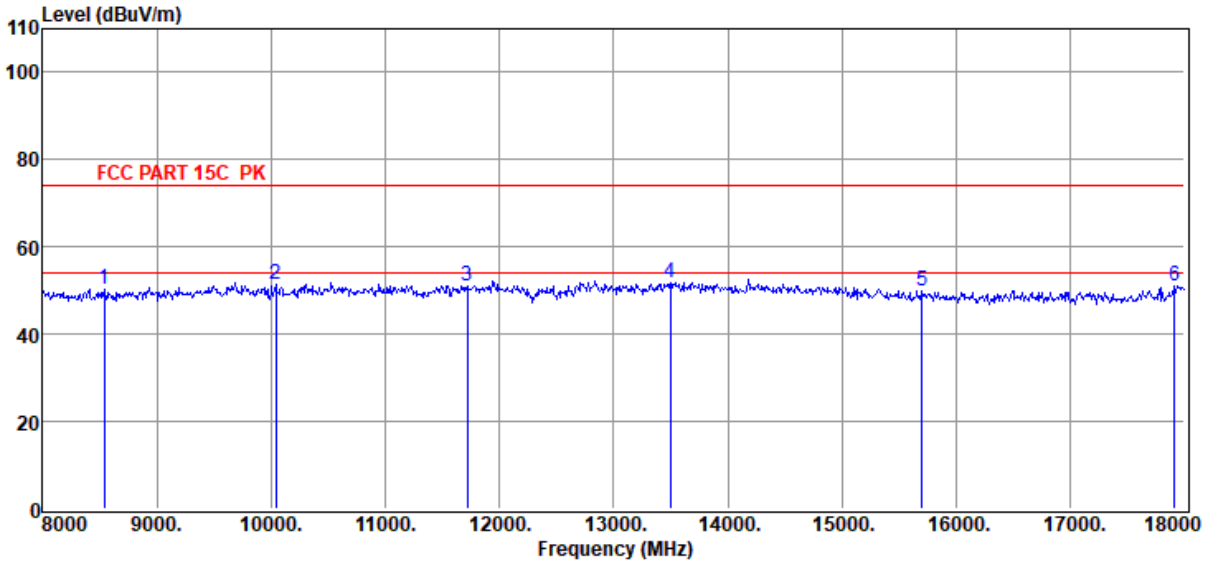
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	1343.00	52.28	25.43	38.41	1.29	0.56	41.15	74.00	-32.85	Peak	VERTICAL
2	2687.00	52.50	28.31	39.74	1.79	0.76	43.62	74.00	-30.38	Peak	VERTICAL
3	3835.00	50.12	30.54	40.15	1.97	0.85	43.33	74.00	-30.67	Peak	VERTICAL
4	4864.00	49.72	32.66	40.37	2.49	0.90	45.40	74.00	-28.60	Peak	VERTICAL
5	6635.00	47.39	35.42	39.99	3.20	1.01	47.03	74.00	-26.97	Peak	VERTICAL
6	7272.00	48.54	36.22	39.73	3.09	1.00	49.12	74.00	-24.88	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/HORIZONTAL
Memo	:	11A 5785			

Data: 35



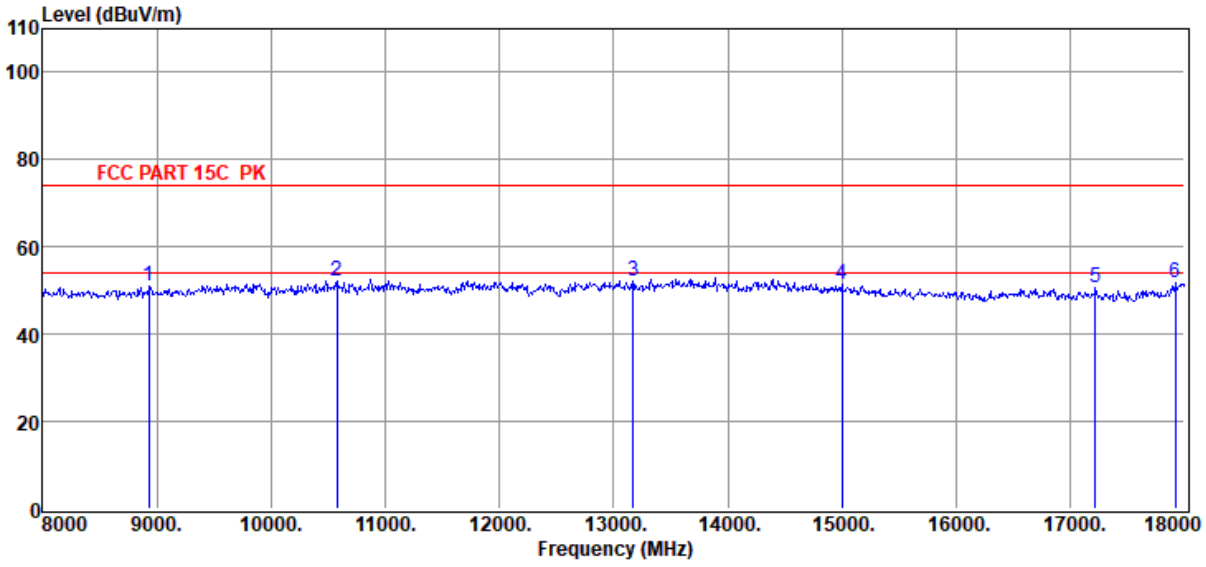
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	8540.00	46.34	37.84	39.85	3.23	2.76	50.32	74.00	-23.68	Peak	HORIZONTAL
2	10040.00	46.75	38.45	40.58	3.67	3.02	51.31	74.00	-22.69	Peak	HORIZONTAL
3	11720.00	45.77	39.09	40.13	4.01	2.44	51.18	74.00	-22.82	Peak	HORIZONTAL
4	13500.00	45.15	40.00	40.05	3.99	2.67	51.76	74.00	-22.24	Peak	HORIZONTAL
5	15700.00	44.27	38.44	39.81	4.58	2.54	50.02	74.00	-23.98	Peak	HORIZONTAL
6	17910.00	42.06	41.94	40.65	4.93	2.68	50.96	74.00	-23.04	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/VERTICAL
Memo	:	11A 5785			

Data: 36



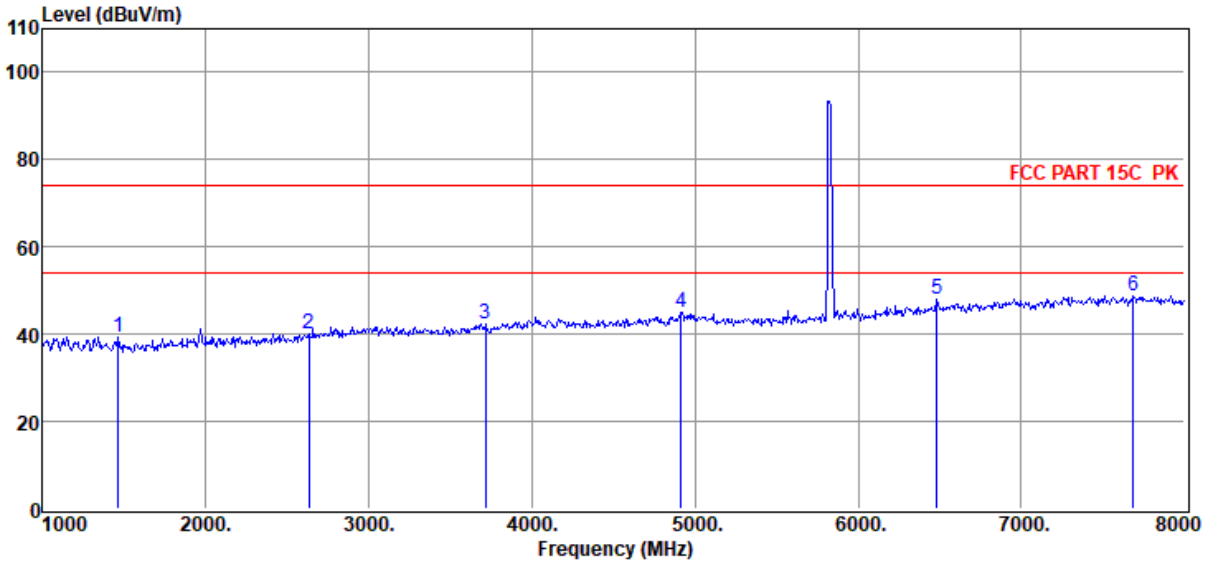
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	8930.00	46.58	38.23	39.89	3.31	2.79	51.02	74.00	-22.98	Peak	VERTICAL
2	10580.00	46.99	39.05	40.37	3.69	2.80	52.16	74.00	-21.84	Peak	VERTICAL
3	13170.00	45.87	39.74	40.28	4.26	2.66	52.25	74.00	-21.75	Peak	VERTICAL
4	15000.00	44.62	39.50	39.60	4.47	2.39	51.38	74.00	-22.62	Peak	VERTICAL
5	17220.00	44.10	38.90	40.23	4.76	3.22	50.75	74.00	-23.25	Peak	VERTICAL
6	17920.00	42.90	42.00	40.65	4.94	2.67	51.86	74.00	-22.14	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/HORIZONTAL
Memo	:	11A 5825			

Data: 31



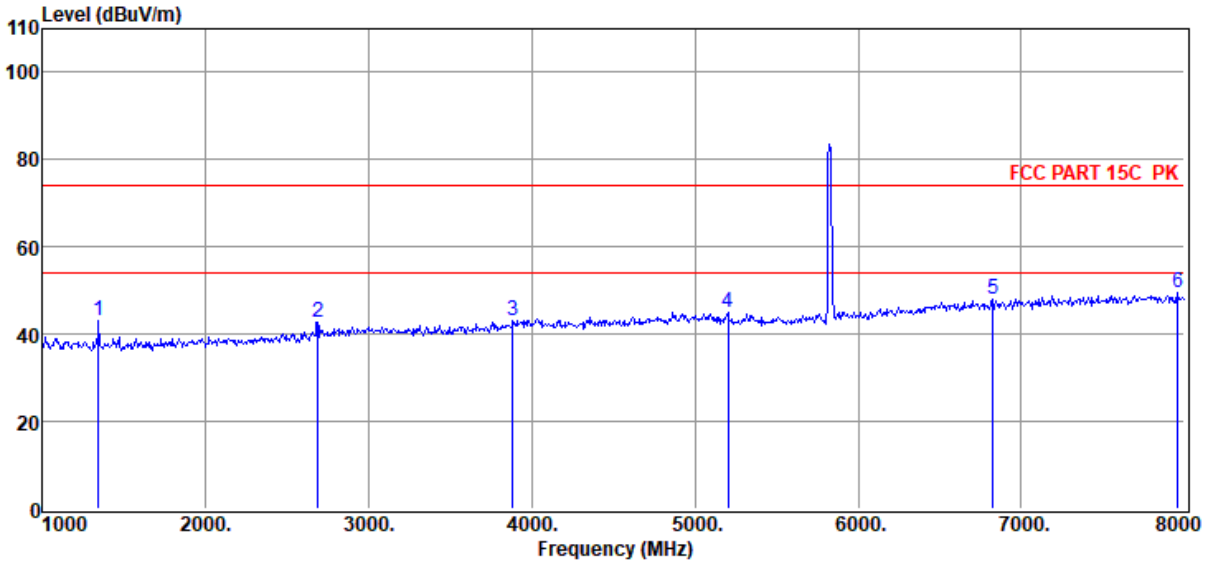
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	1462.00	50.43	25.41	38.59	1.36	0.58	39.19	74.00	-34.81	Peak	HORIZONTAL
2	2631.00	49.28	28.10	39.72	1.77	0.75	40.18	74.00	-33.82	Peak	HORIZONTAL
3	3716.00	49.60	30.13	40.11	1.87	0.84	42.33	74.00	-31.67	Peak	HORIZONTAL
4	4913.00	49.08	32.82	40.38	2.51	0.91	44.94	74.00	-29.06	Peak	HORIZONTAL
5	6481.00	48.82	35.15	40.12	3.26	1.04	48.15	74.00	-25.85	Peak	HORIZONTAL
6	7685.00	47.65	36.62	39.77	3.16	1.10	48.76	74.00	-25.24	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/VERTICAL
Memo	:	11A 5825			

Data: 32



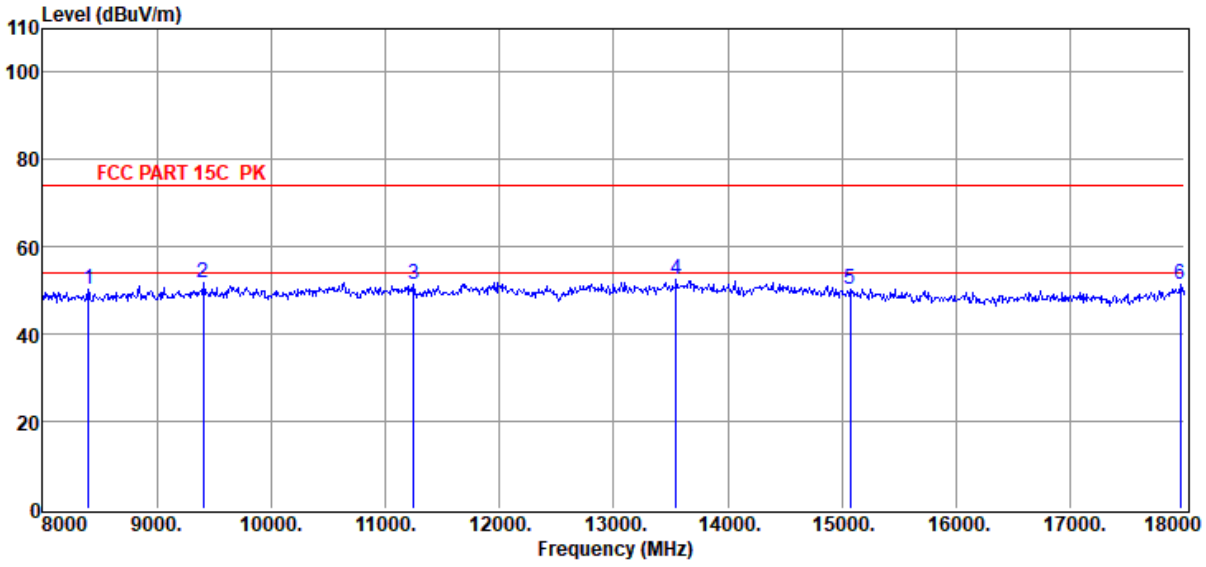
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	1343.00	54.32	25.43	38.41	1.29	0.56	43.19	74.00	-30.81	Peak	VERTICAL
2	2687.00	51.61	28.31	39.74	1.79	0.76	42.73	74.00	-31.27	Peak	VERTICAL
3	3884.00	49.79	30.71	40.17	2.01	0.85	43.19	74.00	-30.81	Peak	VERTICAL
4	5200.00	48.94	32.98	40.42	2.55	0.96	45.01	74.00	-28.99	Peak	VERTICAL
5	6824.00	48.07	35.72	39.84	3.11	0.97	48.03	74.00	-25.97	Peak	VERTICAL
6	7958.00	48.13	36.95	39.80	3.19	1.17	49.64	74.00	-24.36	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/HORIZONTAL
Memo	:	11A 5825			

Data: 37



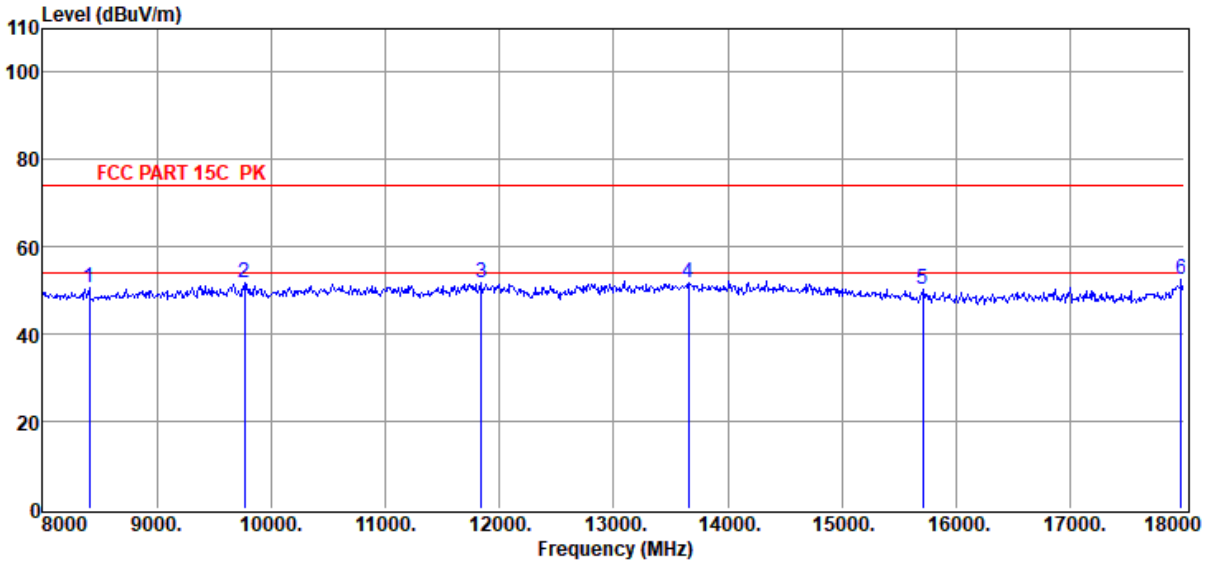
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	8400.00	46.67	37.64	39.84	3.21	2.75	50.43	74.00	-23.57	Peak	HORIZONTAL
2	9410.00	46.99	38.63	40.19	3.57	2.90	51.90	74.00	-22.10	Peak	HORIZONTAL
3	11250.00	45.85	39.15	40.17	3.88	2.56	51.27	74.00	-22.73	Peak	HORIZONTAL
4	13550.00	45.85	39.99	40.01	4.04	2.67	52.54	74.00	-21.46	Peak	HORIZONTAL
5	15070.00	43.66	39.40	39.62	4.48	2.40	50.32	74.00	-23.68	Peak	HORIZONTAL
6	17960.00	42.08	42.25	40.68	4.95	2.64	51.24	74.00	-22.76	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/VERTICAL
Memo	:	11A 5825			

Data: 38



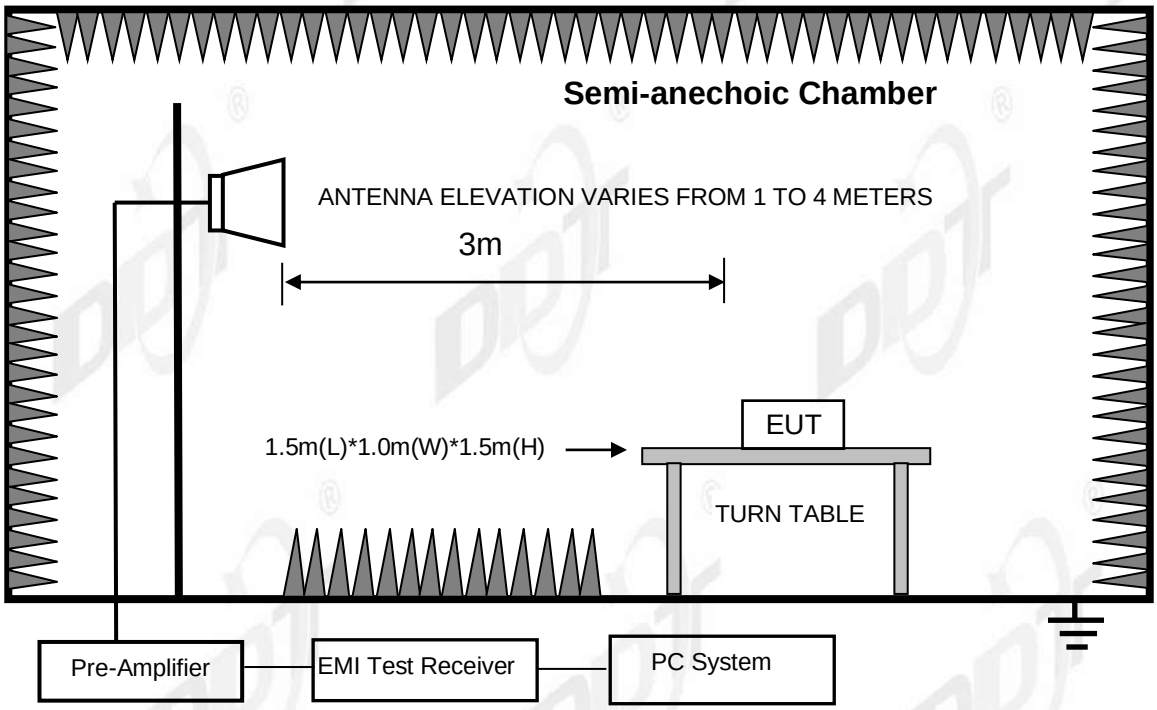
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	8410.00	46.89	37.66	39.84	3.21	2.75	50.67	74.00	-23.33	Peak	VERTICAL
2	9770.00	46.92	38.54	40.44	3.65	2.98	51.65	74.00	-22.35	Peak	VERTICAL
3	11840.00	46.28	39.14	40.12	4.02	2.41	51.73	74.00	-22.27	Peak	VERTICAL
4	13660.00	44.94	39.97	39.94	4.16	2.68	51.81	74.00	-22.19	Peak	VERTICAL
5	15710.00	44.66	38.42	39.81	4.58	2.54	50.39	74.00	-23.61	Peak	VERTICAL
6	17970.00	43.15	42.31	40.68	4.95	2.63	52.36	74.00	-21.64	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

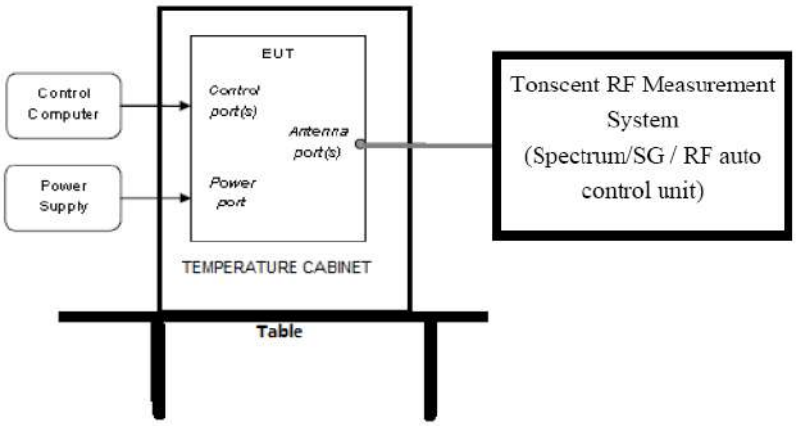
9. Band Edge Compliance

9.1. Block diagram of test setup

Radiated measurement:



Conducted measurement:



9.2. Limit

For transmitters operating in the 5.15 - 5.25 GHz and 5.725 - 5.85 GHz band: all emissions outside of the 5.15 - 5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.

-27 dBm/MHz Limit=95.2+EIRP[dBm]=95.2-27=68.2 dBμV/m

9.3. Test procedure

Same with clause 8.3 except change investigated frequency range from 5.15 - 5.25 GHz, 5.725 - 5.85 GHz.

Remark: All restriction band have been tested, and only the worst case is shown in report.

9.4. Test result

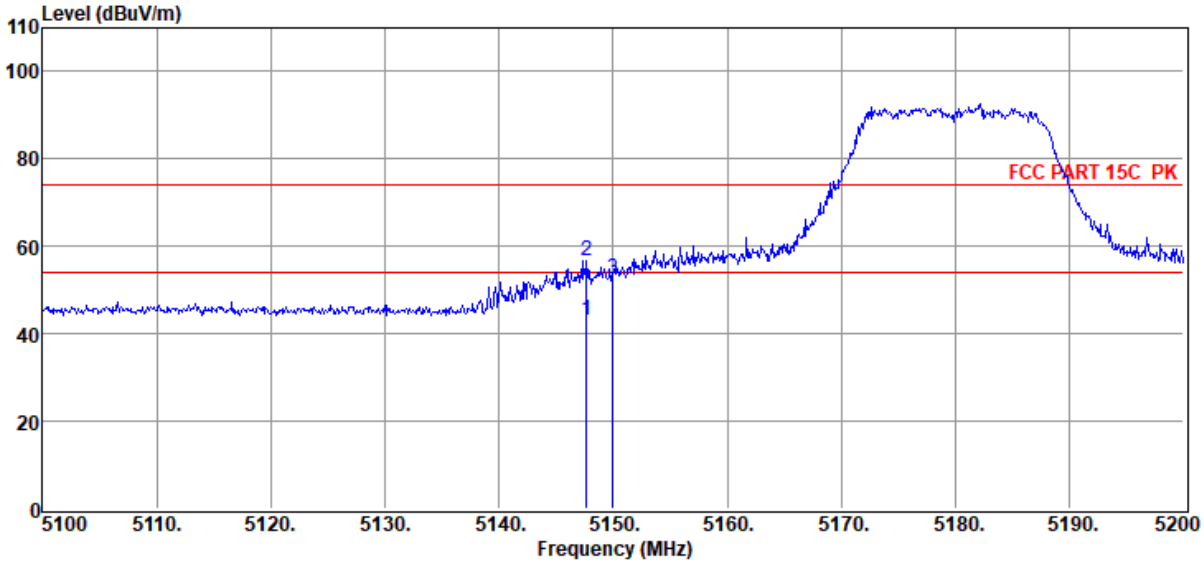
Pass. (See below detailed test result)

Note: As specified in 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in 15.407(b)(4)). However, an out-of-band emission that complies with both the average and peak limits of 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz peak emission limit

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/HORIZONTAL
Memo	:	11A 5180 ANT1			

Data: 1



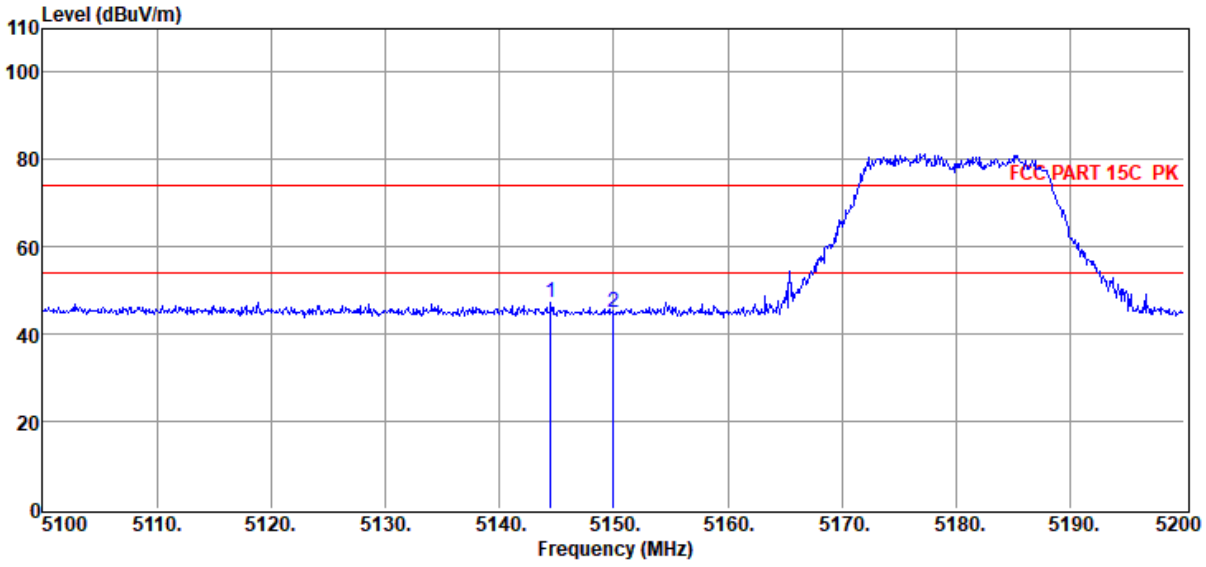
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	5147.70	47.18	33.01	40.41	2.55	0.94	43.27	54.00	-10.73	Average	HORIZONTAL
2	5147.70	60.68	33.01	40.41	2.55	0.94	56.77	74.00	-17.23	Peak	HORIZONTAL
3	5150.00	56.43	33.01	40.42	2.55	0.94	52.51	74.00	-21.49	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/VERTICAL
Memo	:	11A 5180 ANT1			

Data: 2



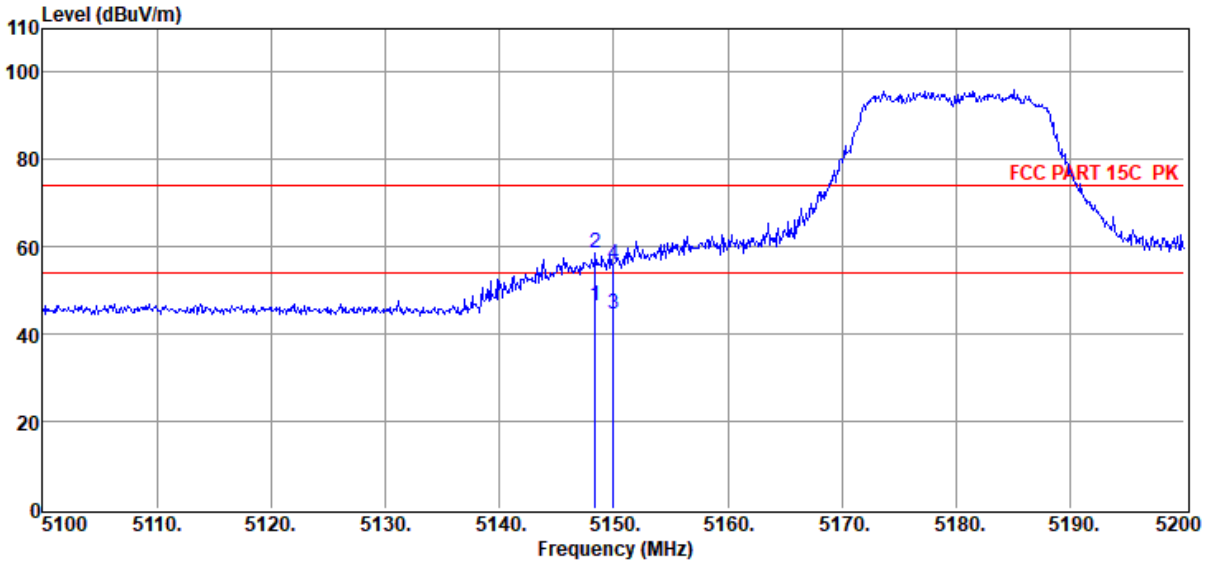
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	5144.50	51.20	33.01	40.41	2.55	0.94	47.29	74.00	-26.71	Peak	VERTICAL
2	5150.00	48.74	33.01	40.42	2.55	0.94	44.82	74.00	-29.18	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/HORIZONTAL
Memo	:	11A 5180 ANT2			

Data: 3



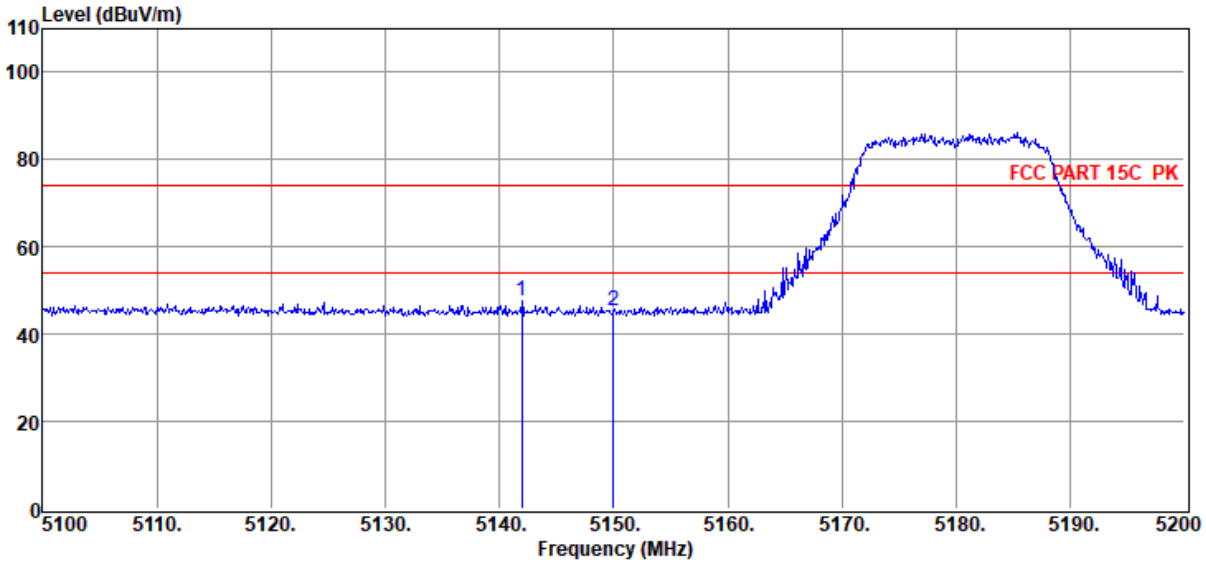
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	5148.40	50.39	33.01	40.41	2.55	0.94	46.48	54.00	-7.52	Average	HORIZONTAL
2	5148.40	62.33	33.01	40.41	2.55	0.94	58.42	74.00	-15.58	Peak	HORIZONTAL
3	5150.00	48.58	33.01	40.42	2.55	0.94	44.66	54.00	-9.34	Average	HORIZONTAL
4	5150.00	60.04	33.01	40.42	2.55	0.94	56.12	74.00	-17.88	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/VERTICAL
Memo	:	11A 5180 ANT2			

Data: 4



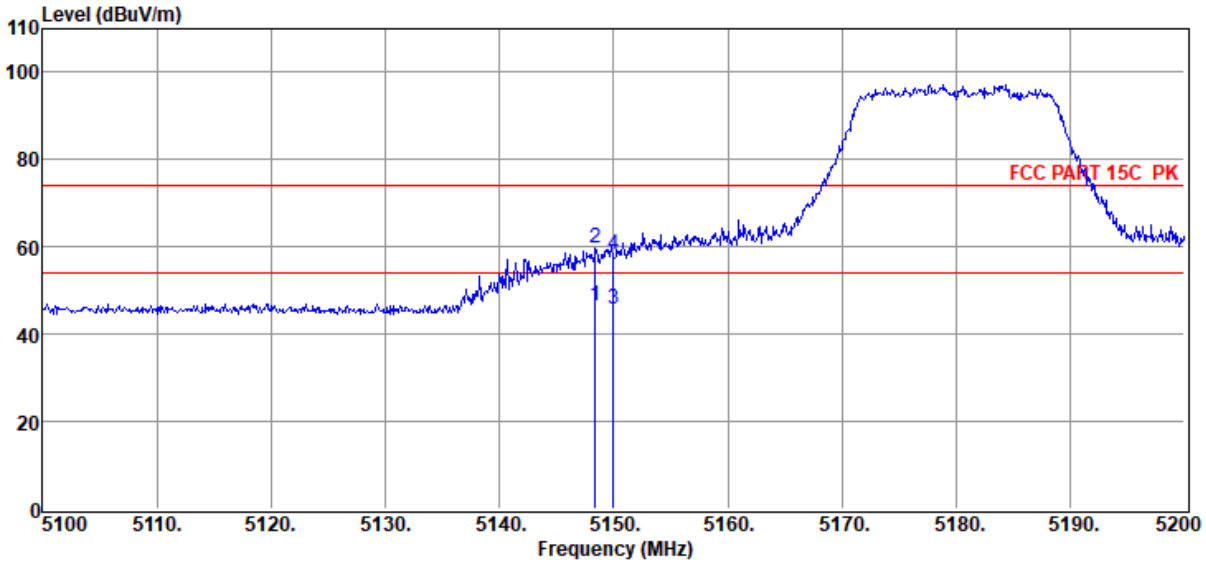
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	5142.00	51.55	33.01	40.41	2.55	0.94	47.64	74.00	-26.36	Peak	VERTICAL
2	5150.00	49.20	33.01	40.42	2.55	0.94	45.28	74.00	-28.72	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/HORIZONTAL
Memo	:	11N20 5180			

Data: 5



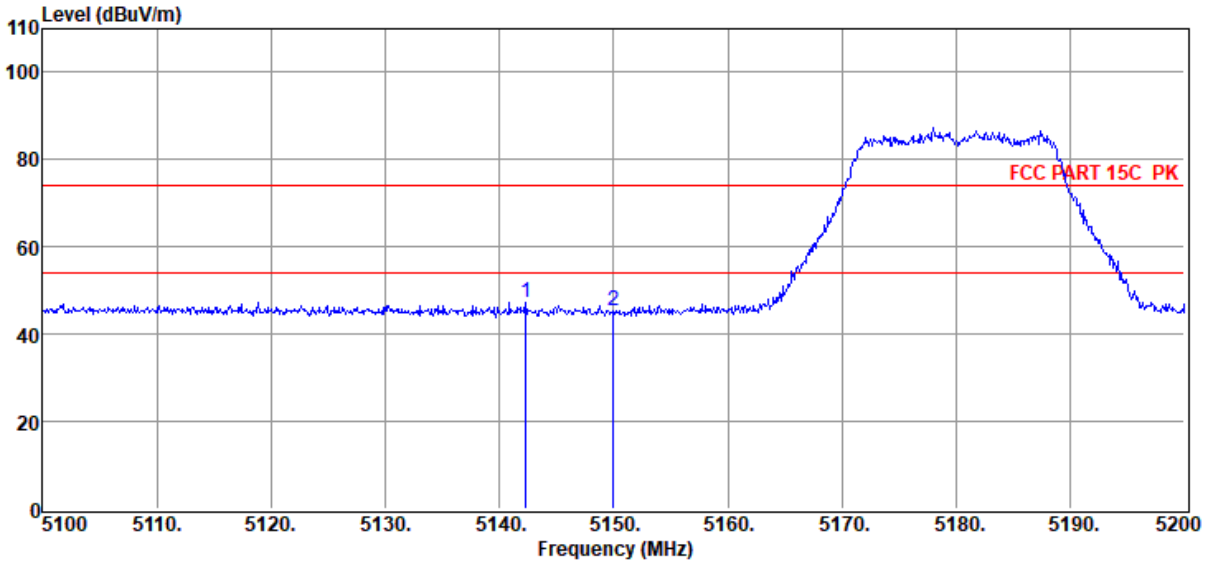
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	5148.40	50.35	33.01	40.41	2.55	0.94	46.44	54.00	-7.56	Average	HORIZONTAL
2	5148.40	63.72	33.01	40.41	2.55	0.94	59.81	74.00	-14.19	Peak	HORIZONTAL
3	5150.00	49.72	33.01	40.42	2.55	0.94	45.80	54.00	-8.20	Average	HORIZONTAL
4	5150.00	61.95	33.01	40.42	2.55	0.94	58.03	74.00	-15.97	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/VERTICAL
Memo	:	11N20 5180			

Data: 6



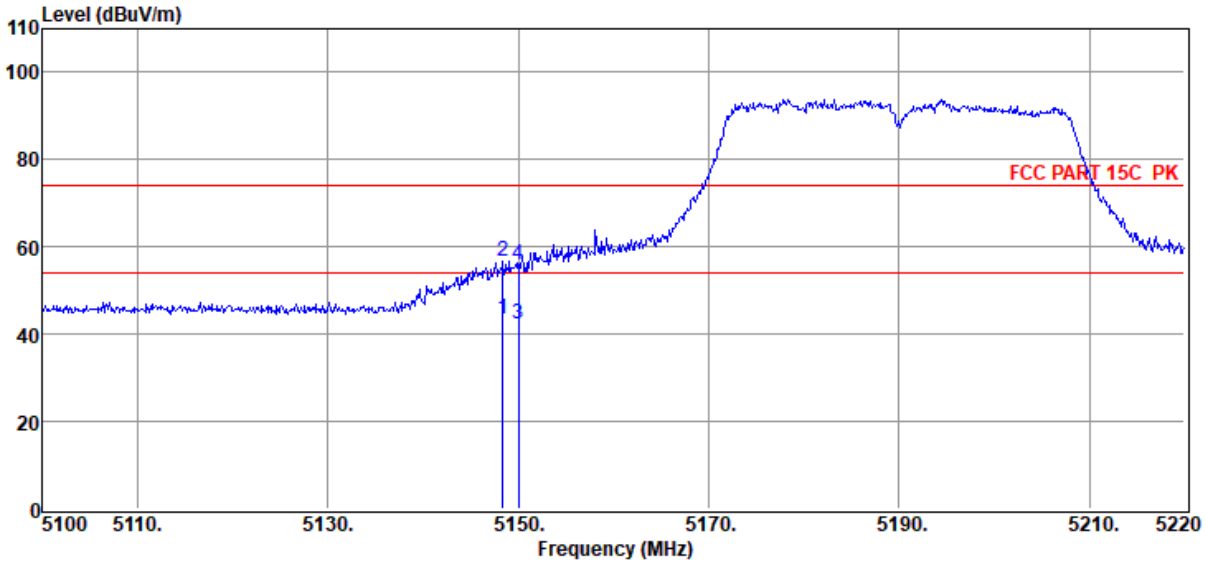
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	5142.30	51.33	33.01	40.41	2.55	0.94	47.42	74.00	-26.58	Peak	VERTICAL
2	5150.00	49.47	33.01	40.42	2.55	0.94	45.55	74.00	-28.45	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/HORIZONTAL
Memo	:	11N40 5190			

Data: 7



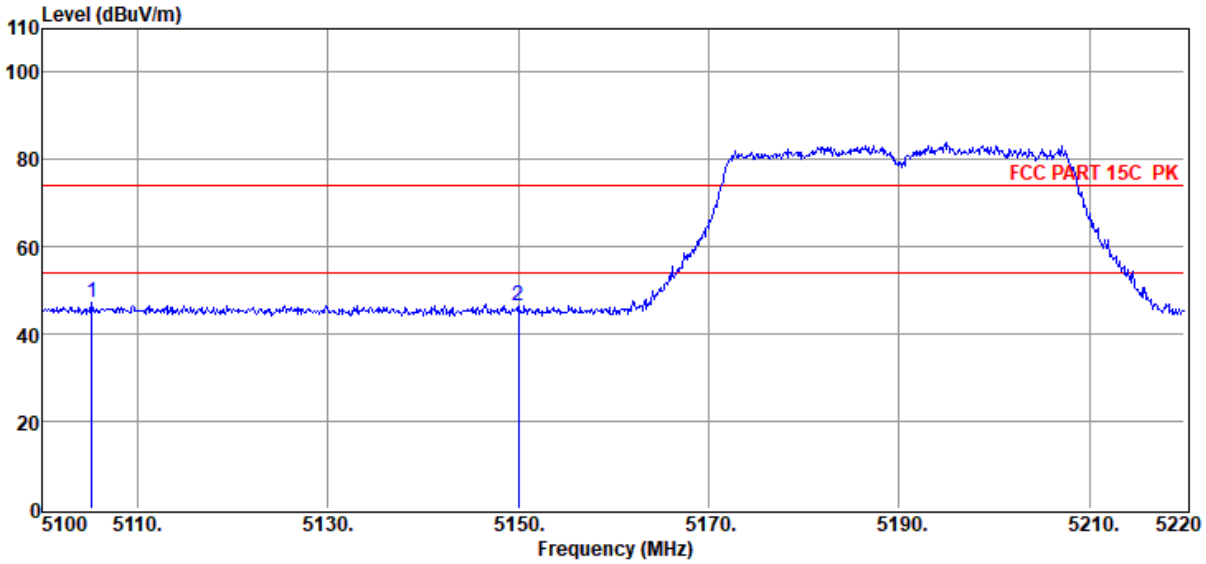
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	5148.36	47.24	33.01	40.41	2.55	0.94	43.33	54.00	-10.67	Average	HORIZONTAL
2	5148.36	60.71	33.01	40.41	2.55	0.94	56.80	74.00	-17.20	Peak	HORIZONTAL
3	5150.04	46.29	33.01	40.42	2.55	0.94	42.37	54.00	-11.63	Average	HORIZONTAL
4	5150.04	60.00	33.01	40.42	2.55	0.94	56.08	74.00	-17.92	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/VERTICAL
Memo	:	11N40 5190			

Data: 8



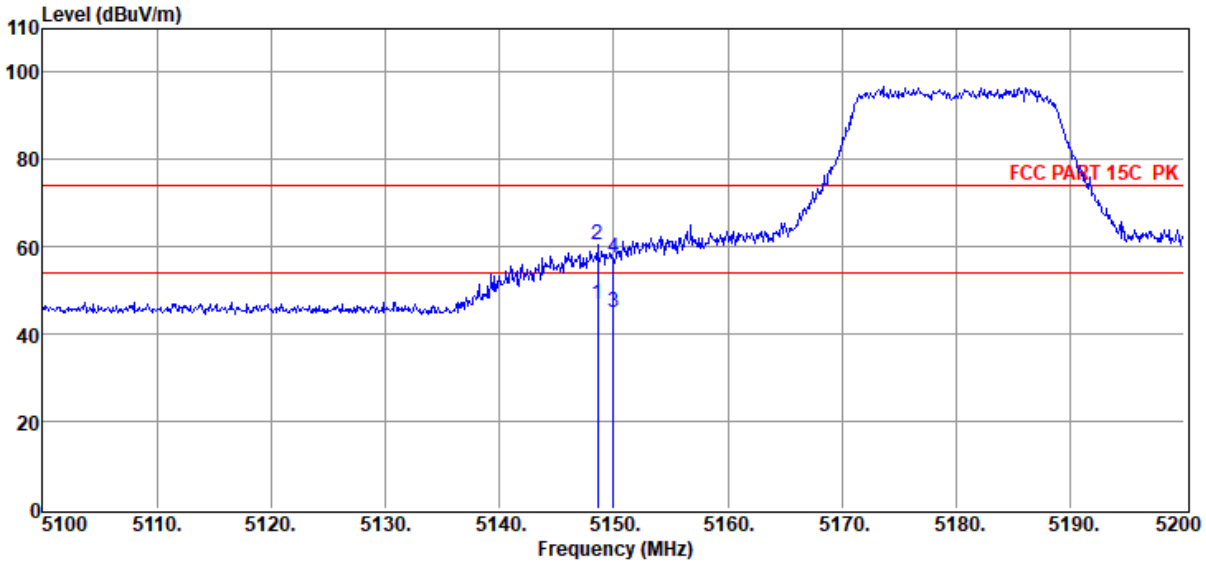
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	5105.16	51.21	33.04	40.41	2.55	0.93	47.32	74.00	-26.68	Peak	VERTICAL
2	5150.04	50.54	33.01	40.42	2.55	0.94	46.62	74.00	-27.38	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/HORIZONTAL
Memo	:	11ac20 5180			

Data: 9



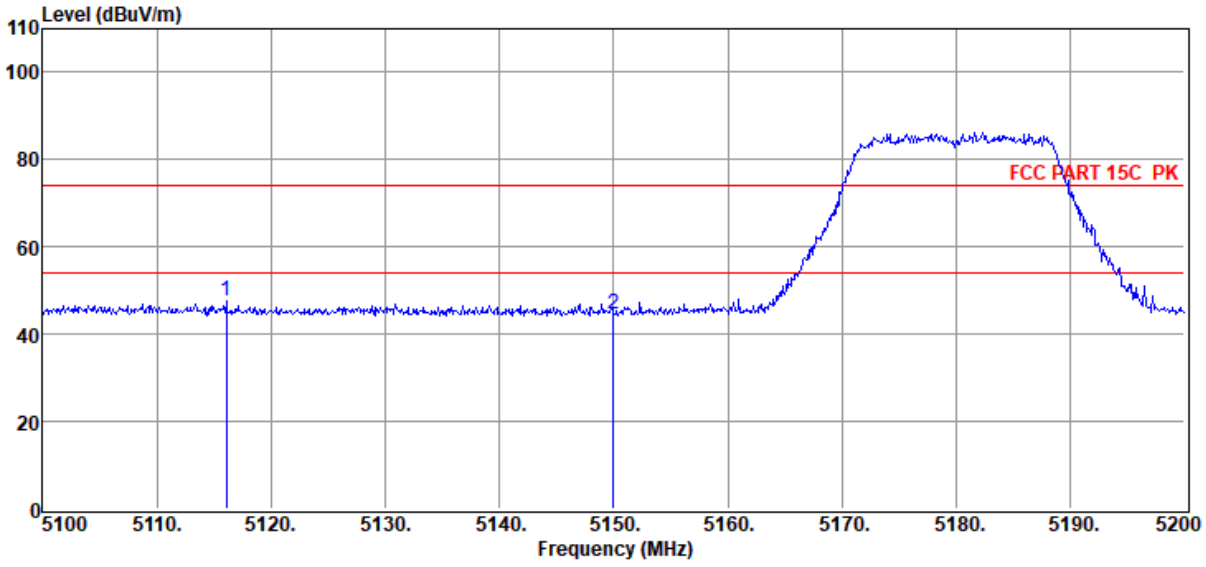
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	5148.60	50.97	33.01	40.41	2.55	0.94	47.06	54.00	-6.94	Average	HORIZONTAL
2	5148.60	64.46	33.01	40.41	2.55	0.94	60.55	74.00	-13.45	Peak	HORIZONTAL
3	5150.00	48.89	33.01	40.42	2.55	0.94	44.97	54.00	-9.03	Average	HORIZONTAL
4	5150.00	61.48	33.01	40.42	2.55	0.94	57.56	74.00	-16.44	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/VERTICAL
Memo	:	11ac20 5180			

Data: 10



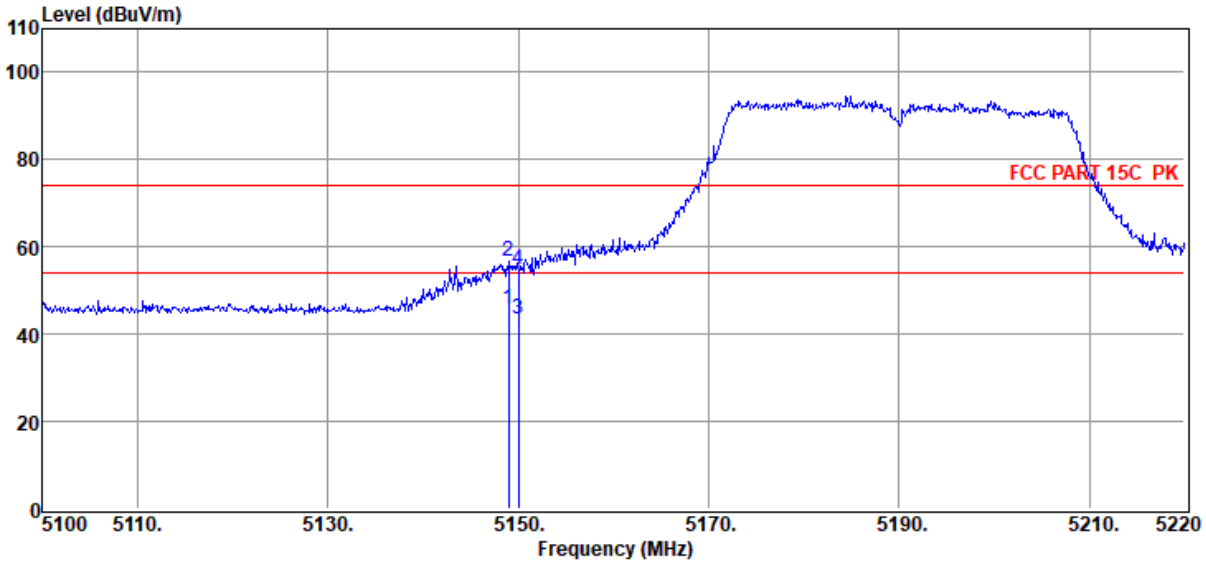
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	5116.10	51.49	33.03	40.41	2.55	0.94	47.60	74.00	-26.40	Peak	VERTICAL
2	5150.00	48.55	33.01	40.42	2.55	0.94	44.63	74.00	-29.37	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/HORIZONTAL
Memo	:	11ac40 5190			

Data: 11



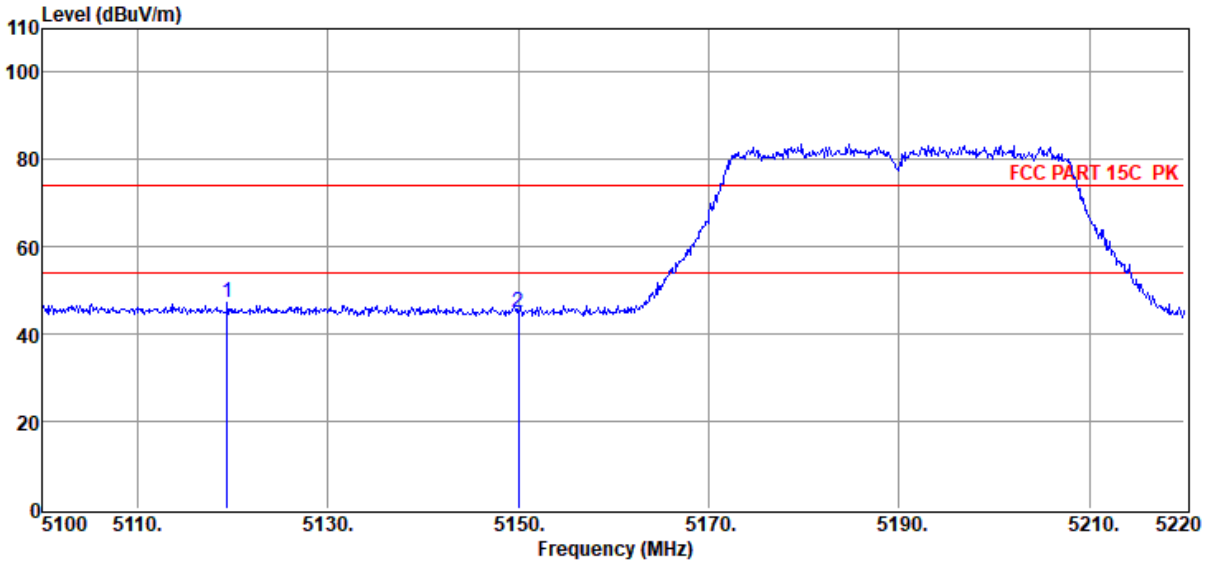
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	5148.96	49.62	33.01	40.41	2.55	0.94	45.71	54.00	-8.29	Average	HORIZONTAL
2	5148.96	60.66	33.01	40.41	2.55	0.94	56.75	74.00	-17.25	Peak	HORIZONTAL
3	5150.04	47.26	33.01	40.42	2.55	0.94	43.34	54.00	-10.66	Average	HORIZONTAL
4	5150.04	58.75	33.01	40.42	2.55	0.94	54.83	74.00	-19.17	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/VERTICAL
Memo	:	11ac40 5190			

Data: 12



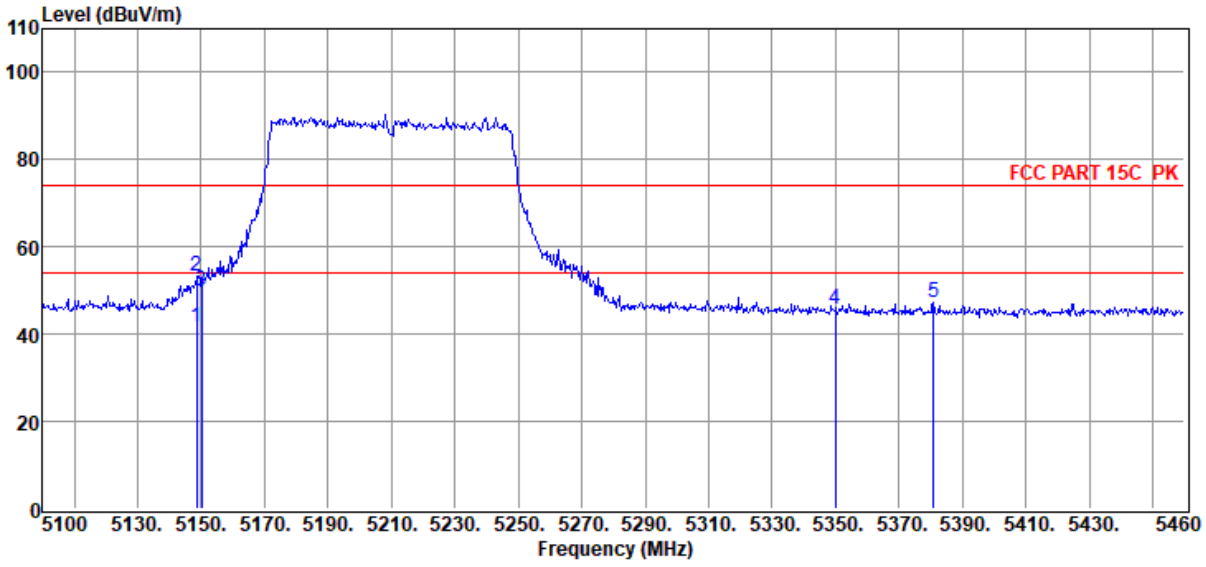
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	5119.44	50.95	33.03	40.41	2.55	0.94	47.06	74.00	-26.94	Peak	VERTICAL
2	5150.04	48.85	33.01	40.42	2.55	0.94	44.93	74.00	-29.07	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	:	DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6		
Test Date	:	2022-03-03	**Tested By**	:	James Gan
EUT	:	InVehicle Gateway	**Model Number**	:	VG710-NRQ3
Power Supply	:	DC 24V	**Test Mode**	:	Tx Mode
Condition	:	Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	:	2021 BBHA 9120D 3#/3m/HORIZONTAL
Memo	:	11ac80 5210			

Data: 13



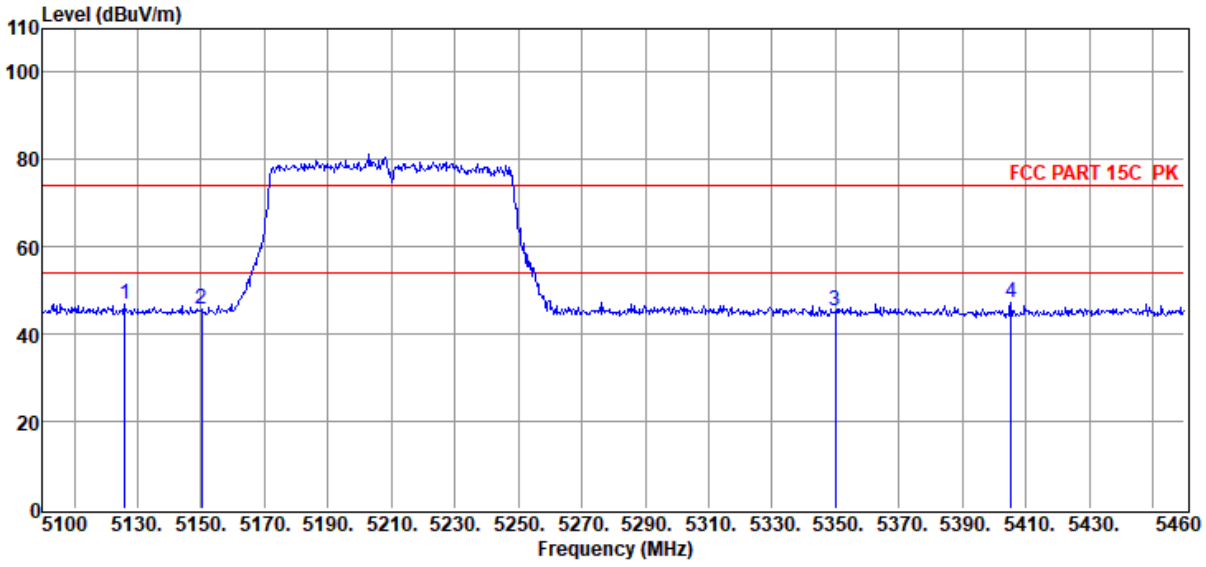
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	5148.60	45.53	33.01	40.41	2.55	0.94	41.62	54.00	-12.38	Average	HORIZONTAL
2	5148.60	57.23	33.01	40.41	2.55	0.94	53.32	74.00	-20.68	Peak	HORIZONTAL
3	5150.04	53.92	33.01	40.42	2.55	0.94	50.00	74.00	-24.00	Peak	HORIZONTAL
4	5349.84	49.62	32.89	40.43	2.56	0.99	45.63	74.00	-28.37	Peak	HORIZONTAL
5	5380.80	51.12	32.87	40.44	2.56	1.00	47.11	74.00	-26.89	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 3#	C:\E3 6.111\2022 Report Data\Q22020803-1E\FCC ABOVE 1G .EM6	
Test Date	: 2022-03-03	**Tested By**	: James Gan
EUT	: InVehicle Gateway	**Model Number**	: VG710-NRQ3
Power Supply	: DC 24V	**Test Mode**	: Tx Mode
Condition	: Temp:24.5°C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2021 BBHA 9120D 3#/3m/VERTICAL
Memo	: 11ac80 5210		

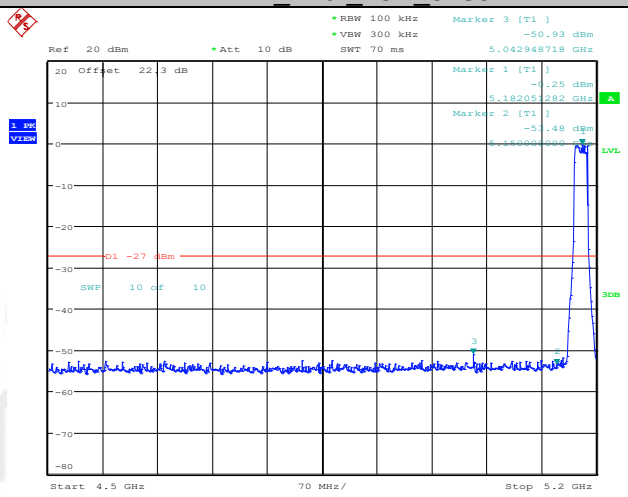
Data: 14



Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	5125.92	50.62	33.02	40.41	2.55	0.94	46.72	74.00	-27.28	Peak	VERTICAL
2	5150.04	49.51	33.01	40.42	2.55	0.94	45.59	74.00	-28.41	Peak	VERTICAL
3	5349.84	49.33	32.89	40.43	2.56	0.99	45.34	74.00	-28.66	Peak	VERTICAL
4	5405.28	51.09	32.86	40.44	2.56	1.00	47.07	74.00	-26.93	Peak	VERTICAL

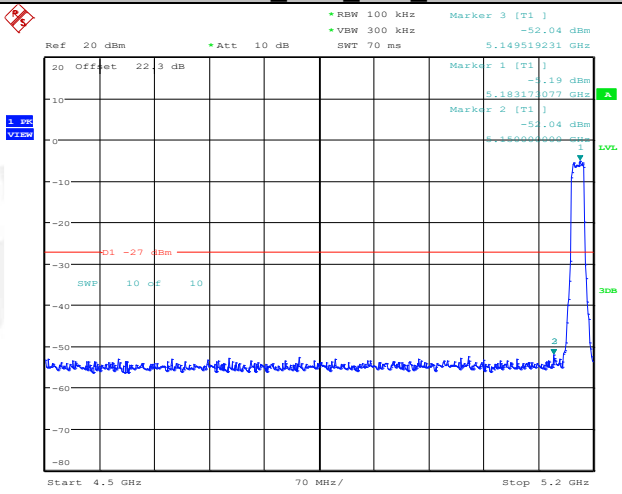
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

11A_Ant1_Low_5180



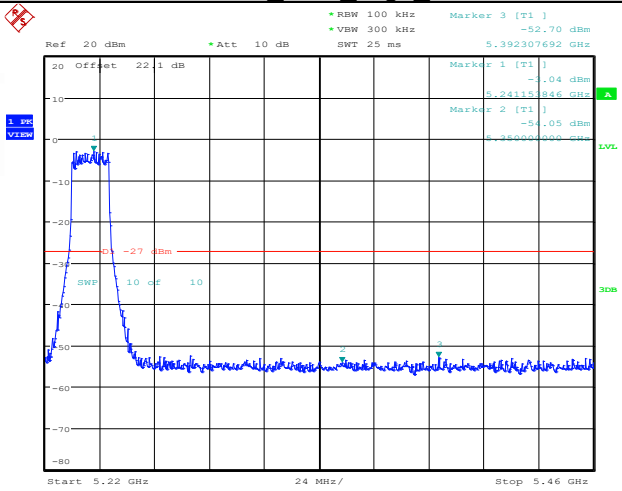
Date: 23.FEB.2022 21:19:03

11A_Ant2_Low_5180



Date: 23.FEB.2022 22:02:04

11A_Ant1_High_5240



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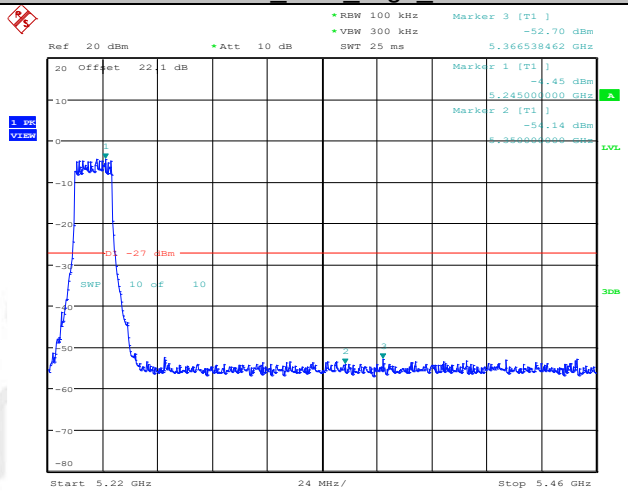
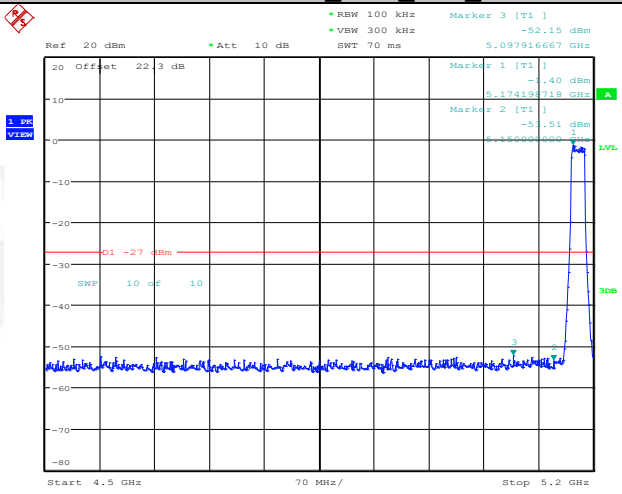
11A_Ant2_High_5240



Date: 23.FEB.2022 22:09:45

11N20MIMO_Ant1_Low_5180



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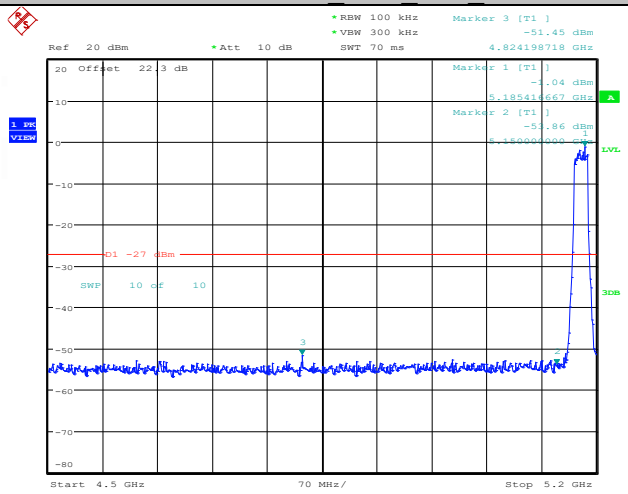
11N20MIMO_Ant2_Low_5180



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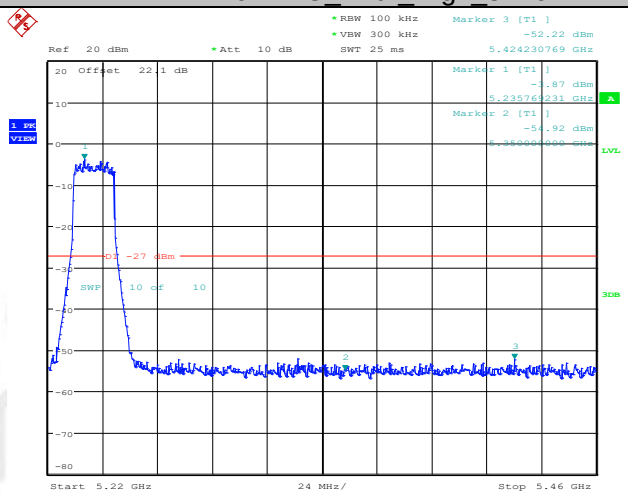
11N20MIMO_Ant1_High_5240



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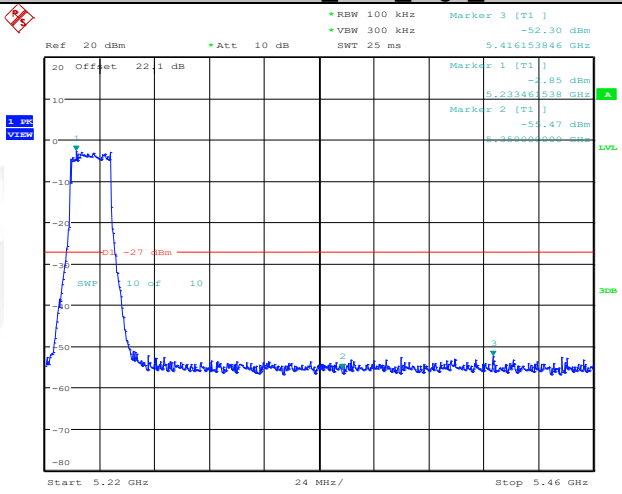
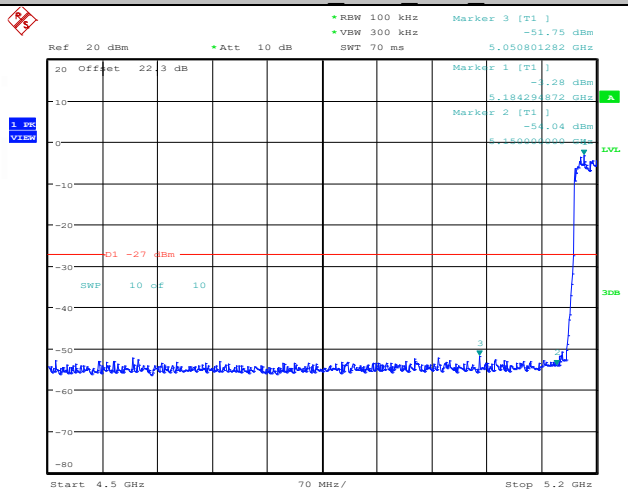
11N20MIMO_Ant2_High_5240



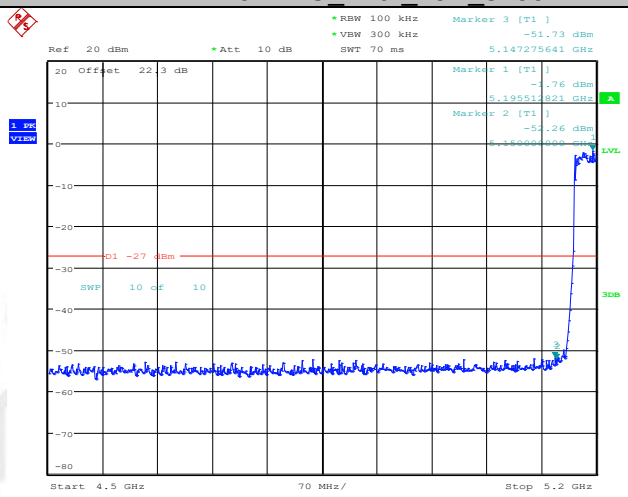
Date: 23.FEB.2022 22:30:49

11N40MIMO_Ant1_Low_5190



Date: 24.FEB.2022 10:36:39

11N40MIMO_Ant2_Low_5190



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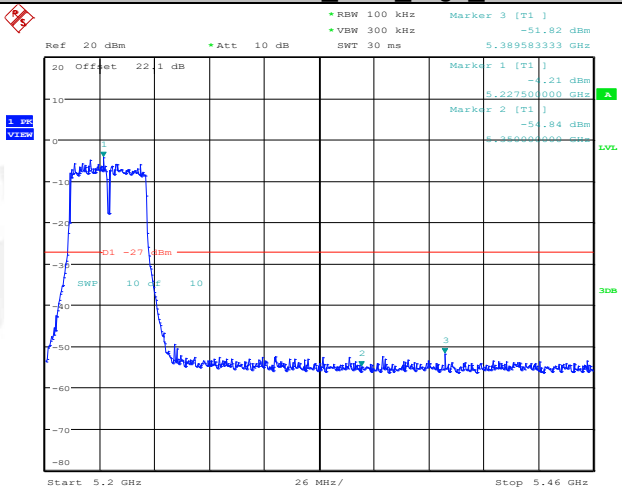
11N40MIMO_Ant1_High_5230



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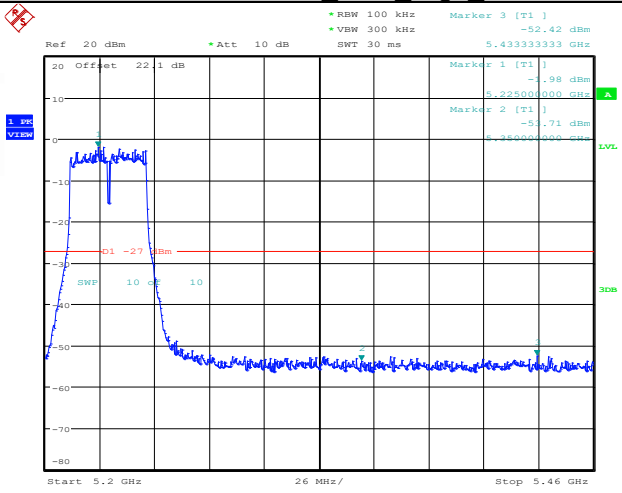
11N40MIMO_Ant2_High_5230



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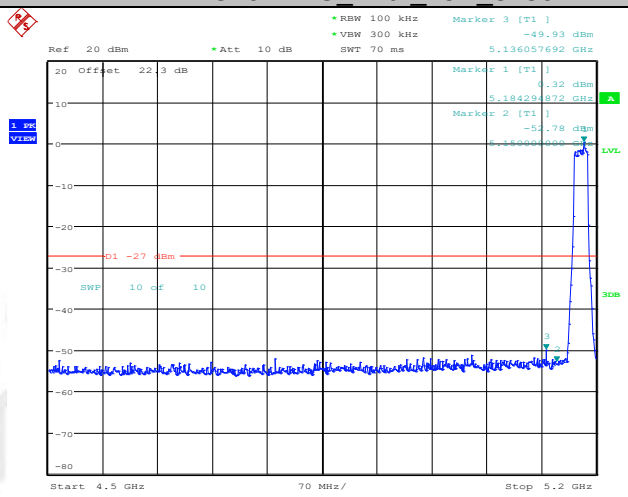
11AC20MIMO_Ant1_Low_5180



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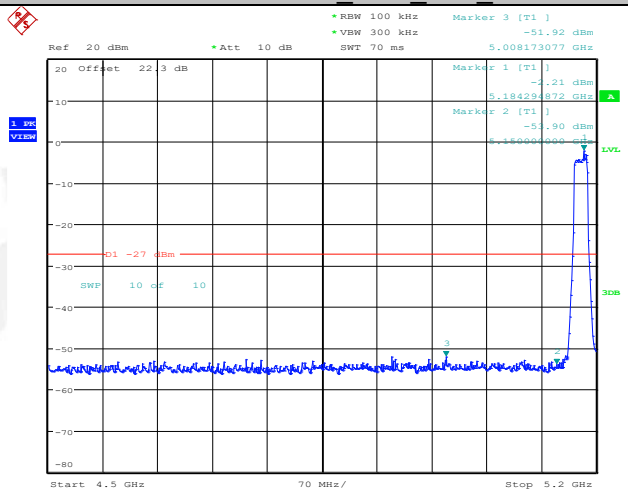
11AC20MIMO_Ant2_Low_5180



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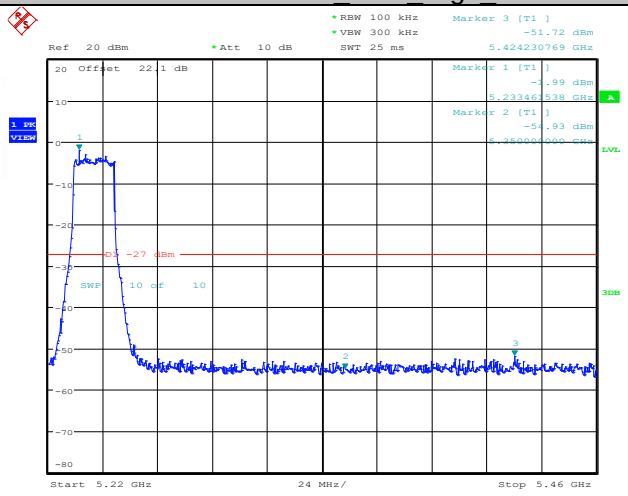
11AC20MIMO_Ant1_High_5240



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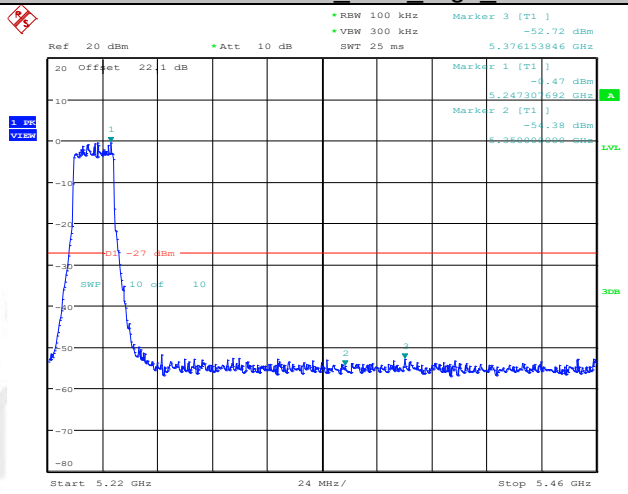
11AC20MIMO_Ant2_High_5240



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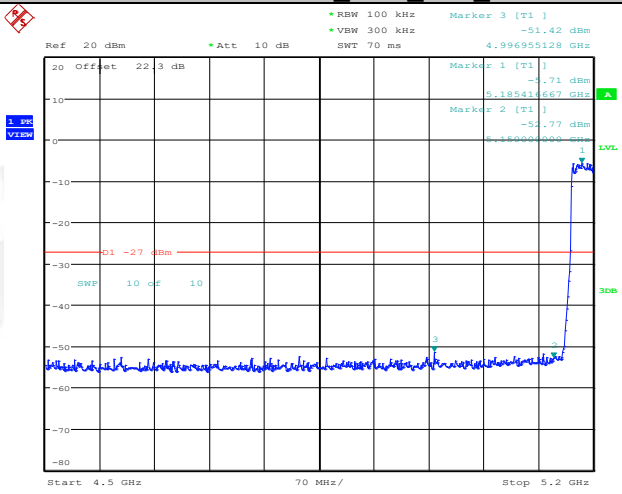
11AC40MIMO_Ant1_Low_5190



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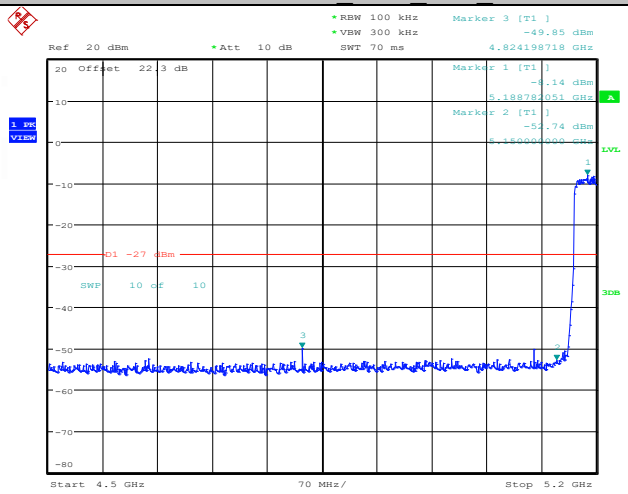

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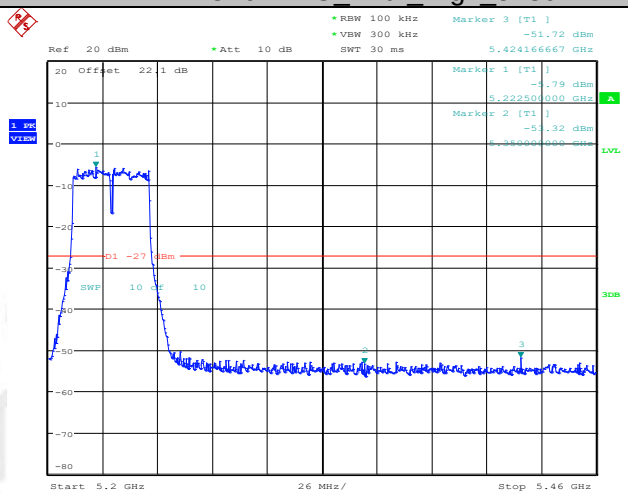

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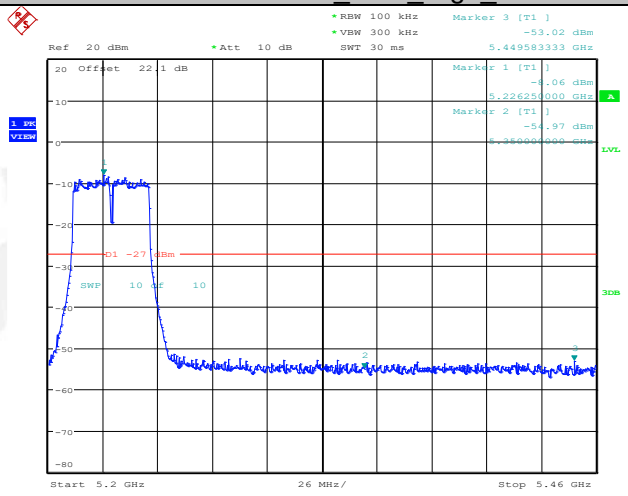
11AC40MIMO_Ant2_High_5230



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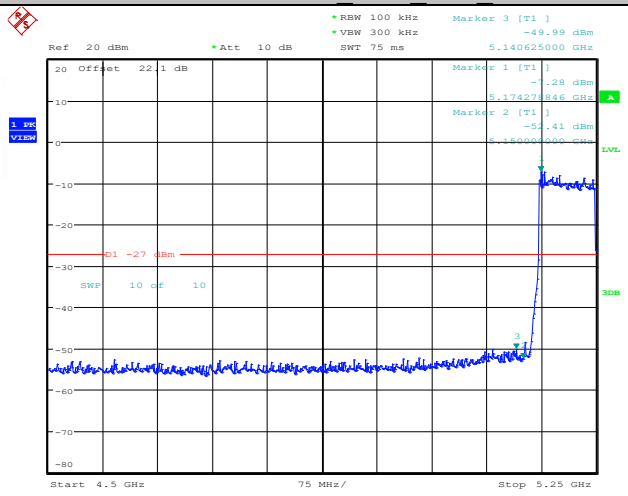
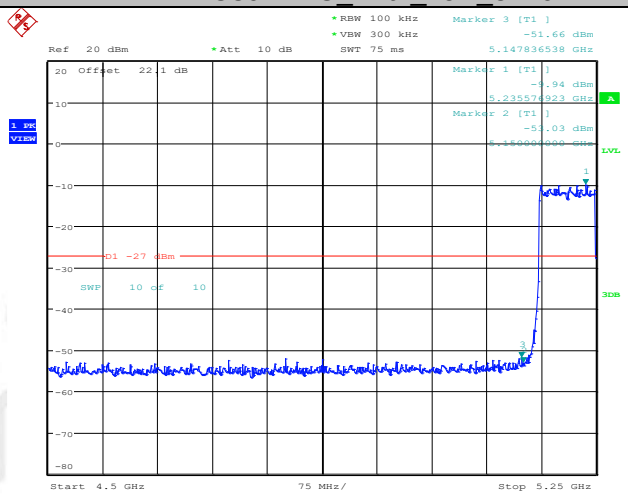
11AC80MIMO_Ant1_Low_5210



Date: 24.FEB.2022 14:40:42

11AC80MIMO_Ant2_Low_5210



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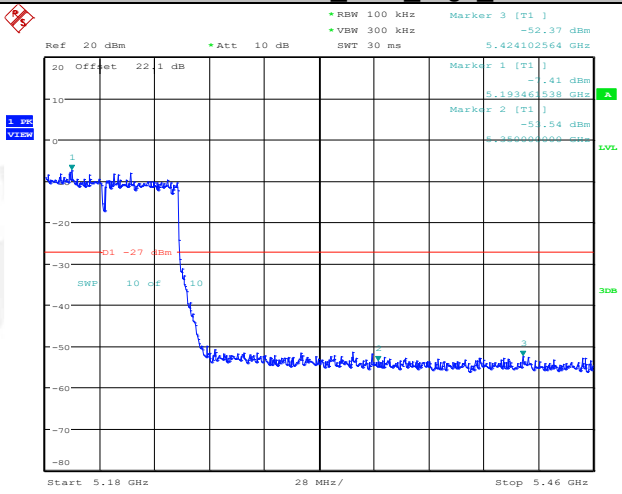
11AC80MIMO_Ant1_High_5210



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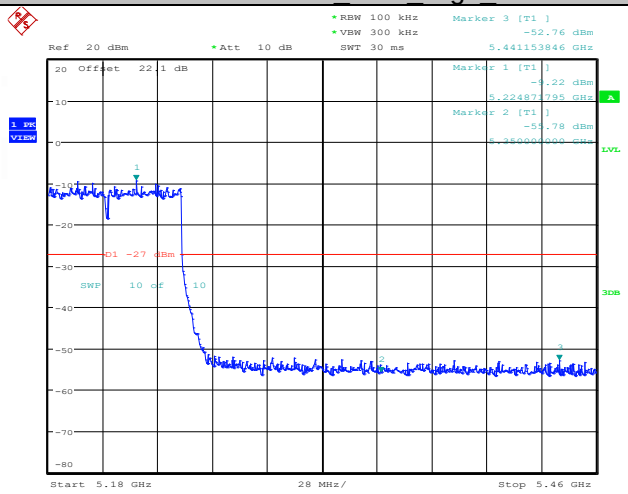
11AC80MIMO_Ant2_High_5210



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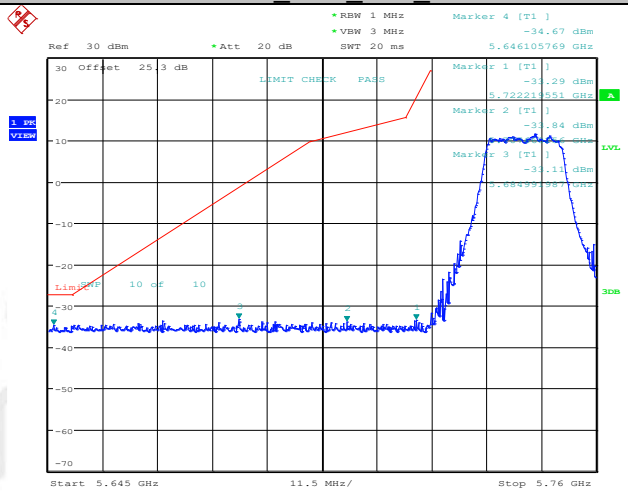
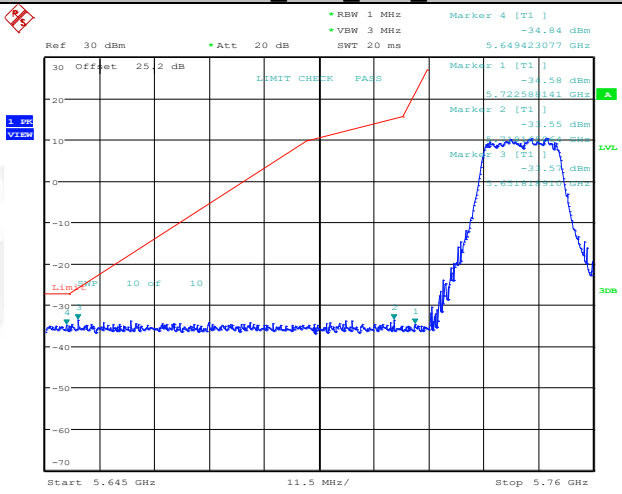
11A_Ant1_Low_5745



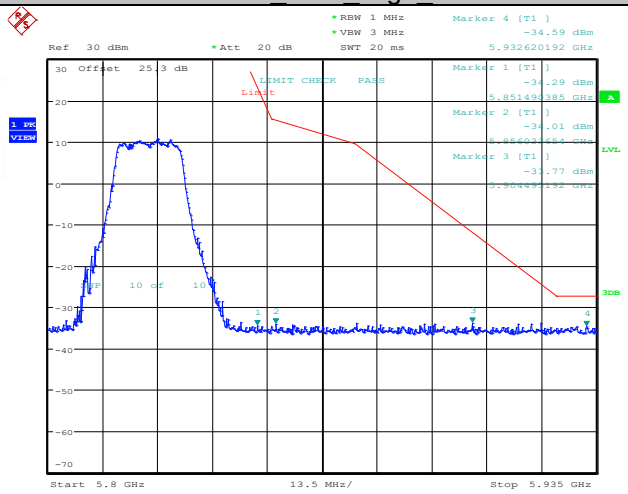
Date: 24.FEB.2022 14:54:23

11A_Ant2_Low_5745



Date: 24.FEB.2022 14:55:34

11A_Ant1_High_5825



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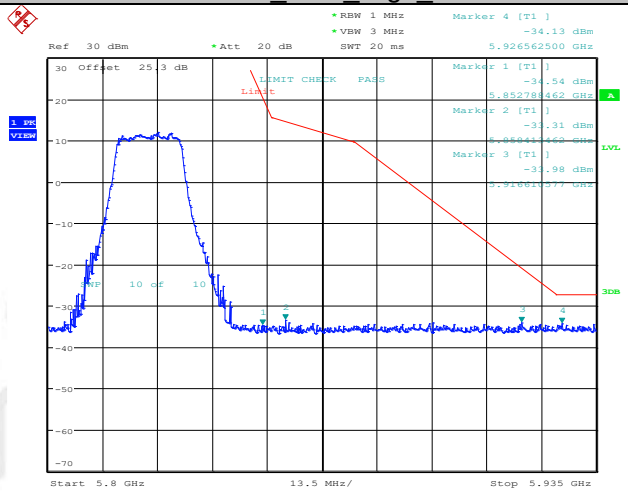
11A_Ant2_High_5825



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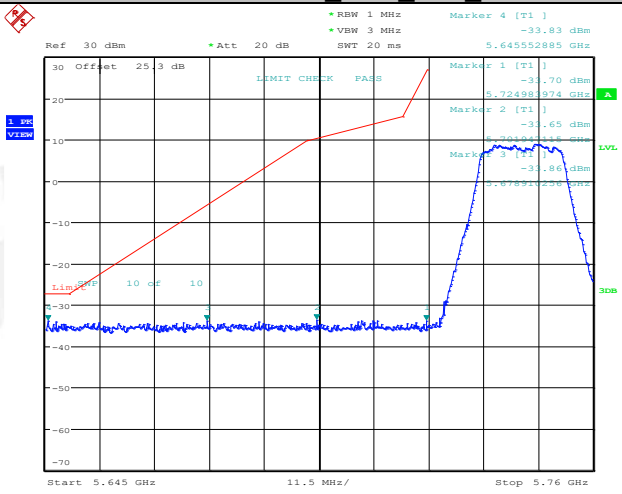
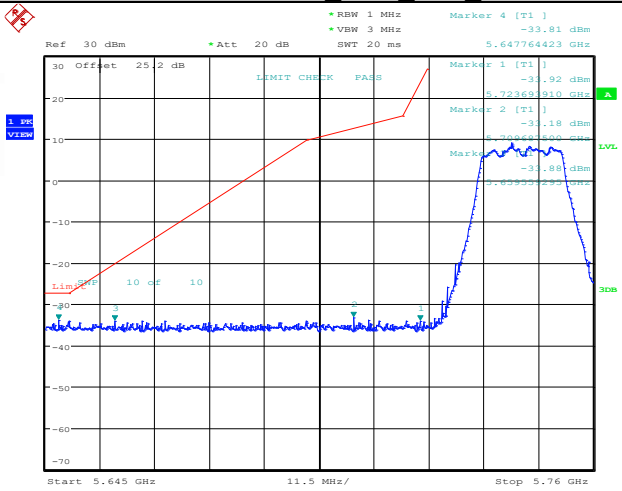
11N20MIMO_Ant1_Low_5745



Date: 24.FEB.2022 14:56:47

11N20MIMO_Ant2_Low_5745



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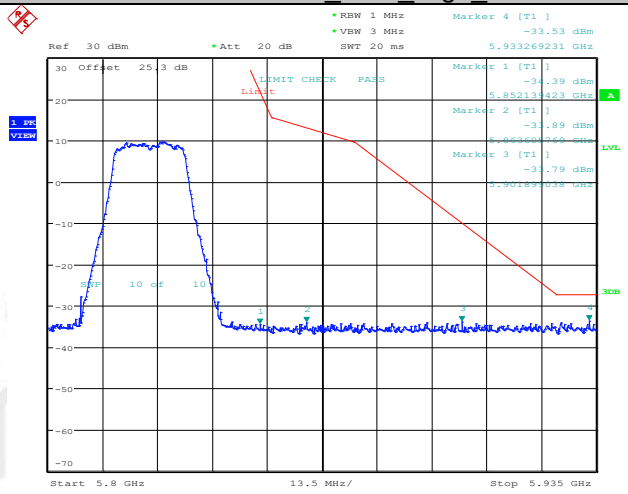
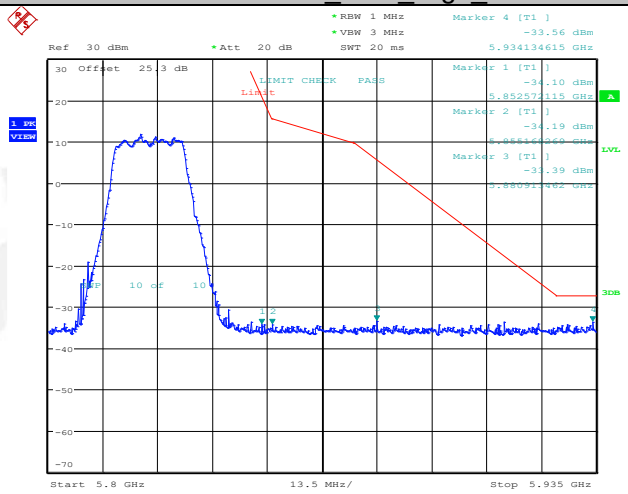
11N20MIMO_Ant1_High_5825



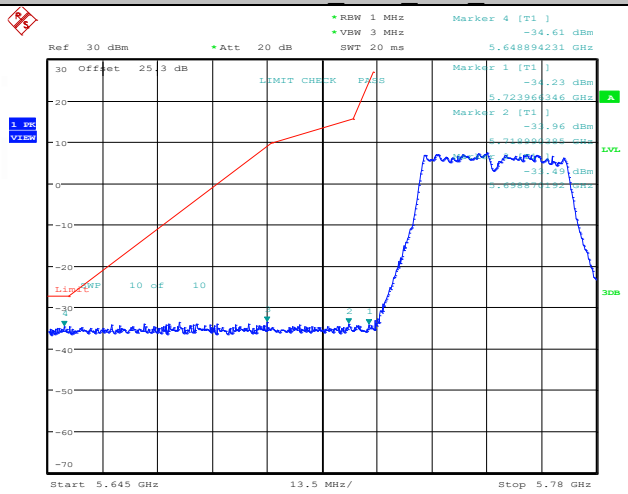
Date: 24.FEB.2022 14:57:42

11N20MIMO_Ant2_High_5825



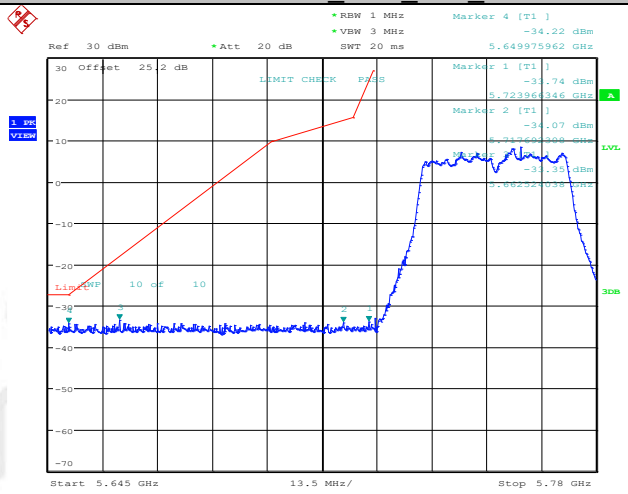
Date: 24.FEB.2022 14:58:06

11N40MIMO_Ant1_Low_5755



Date: 24.FEB.2022 14:58:39

11N40MIMO_Ant2_Low_5755



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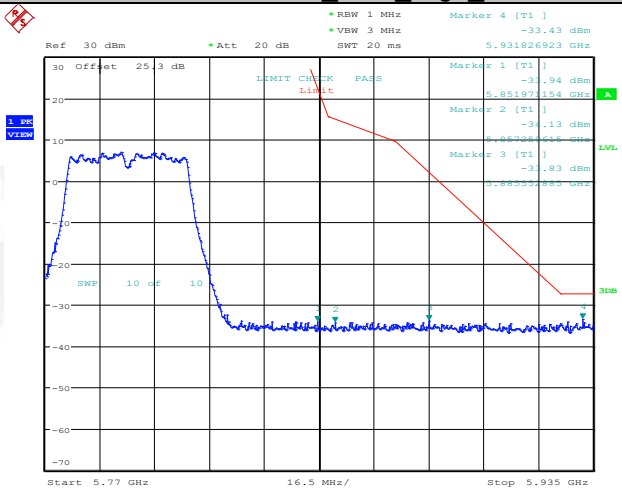
11N40MIMO_Ant1_High_5795



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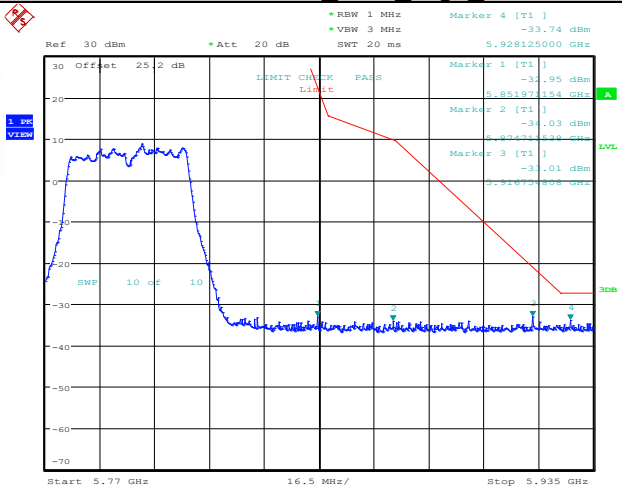
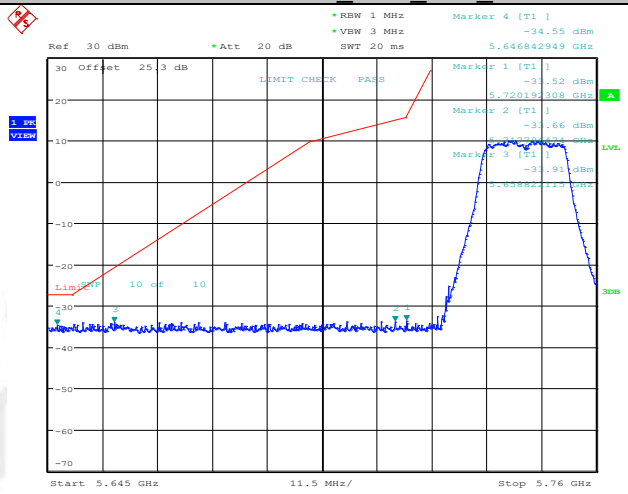
11N40MIMO_Ant2_High_5795



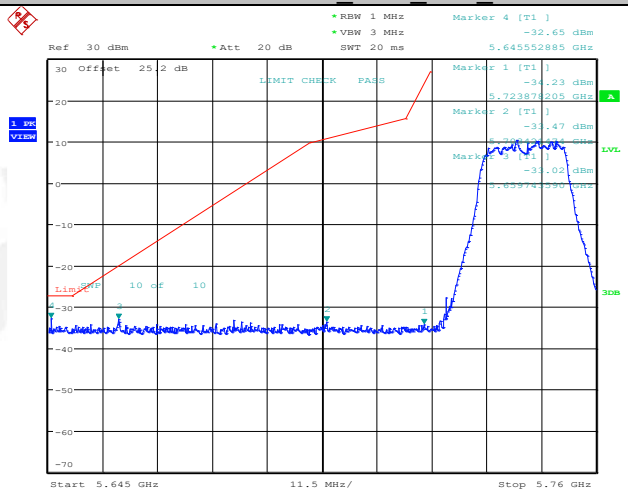
Date: 24.FEB.2022 15:00:20

11AC20MIMO_Ant1_Low_5745



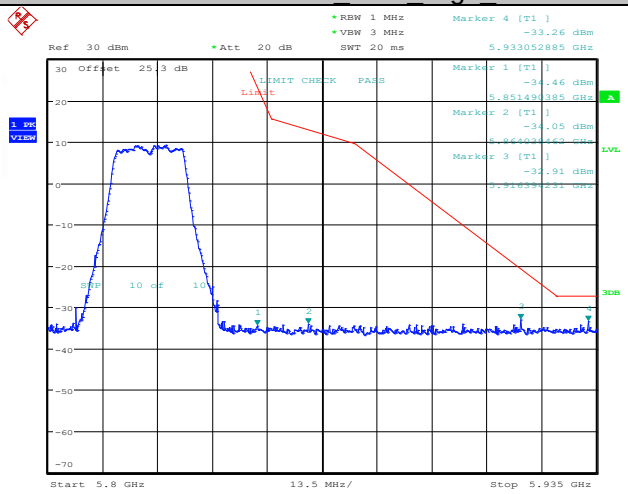
Date: 24.FEB.2022 15:01:45

11AC20MIMO_Ant2_Low_5745



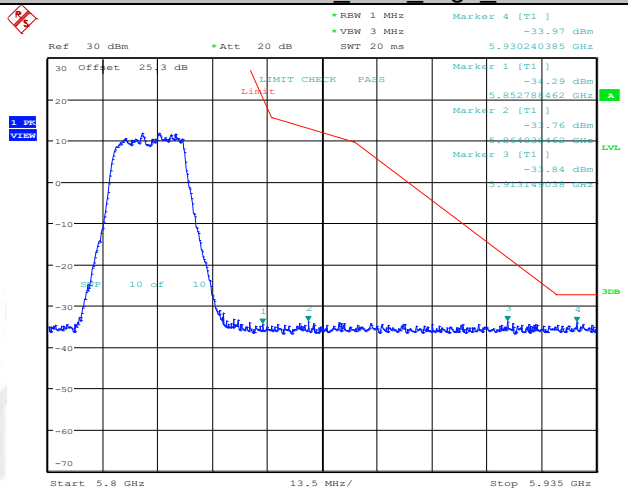
Date: 24.FEB.2022 15:02:10

11AC20MIMO_Ant1_High_5825



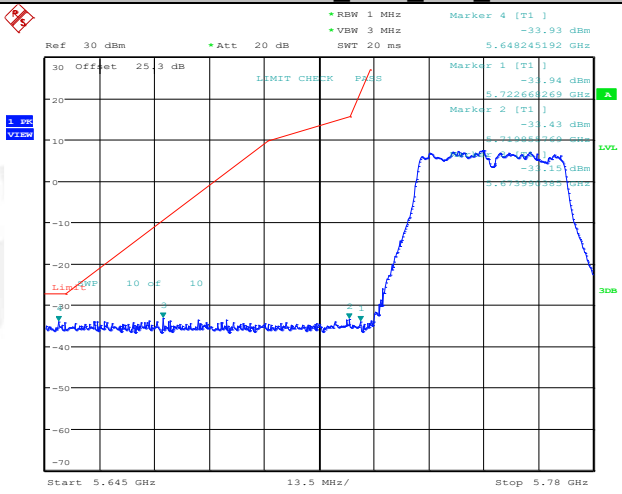
Date: 24.FEB.2022 15:02:48

11AC20MIMO_Ant2_High_5825



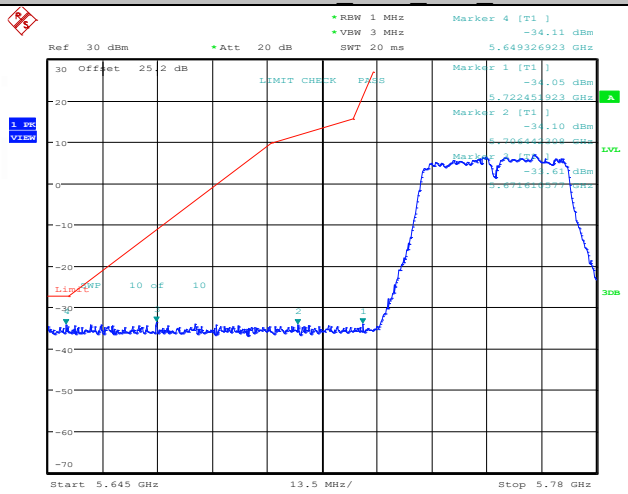
Date: 24.FEB.2022 15:03:12

11AC40MIMO_Ant1_Low_5755



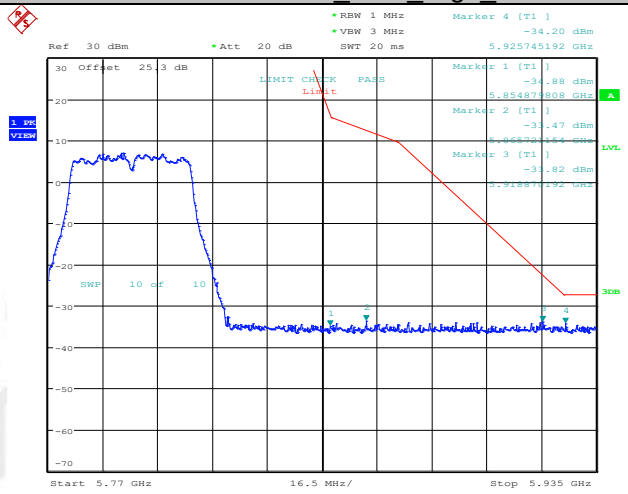
Date: 24.FEB.2022 15:03:48

11AC40MIMO_Ant2_Low_5755



Date: 24.FEB.2022 15:04:13

11AC40MIMO_Ant1_High_5795



Date: 24.FEB.2022 15:04:48

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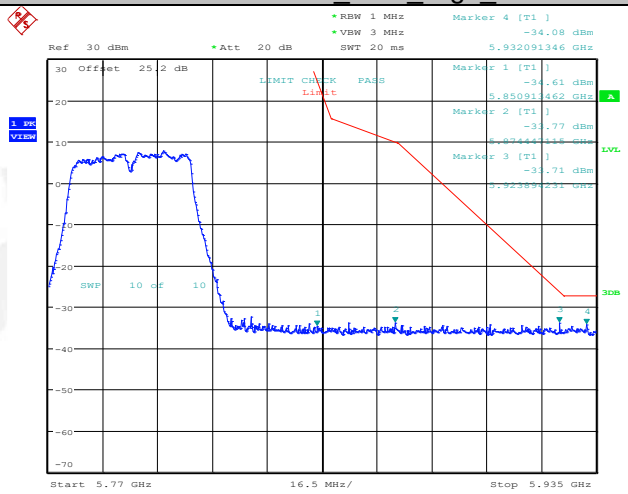
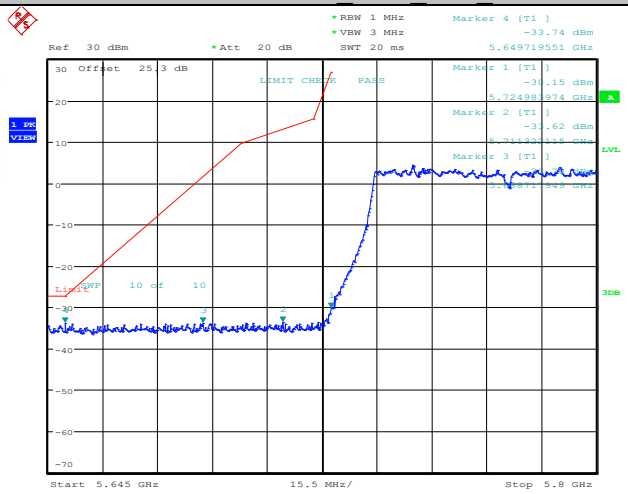


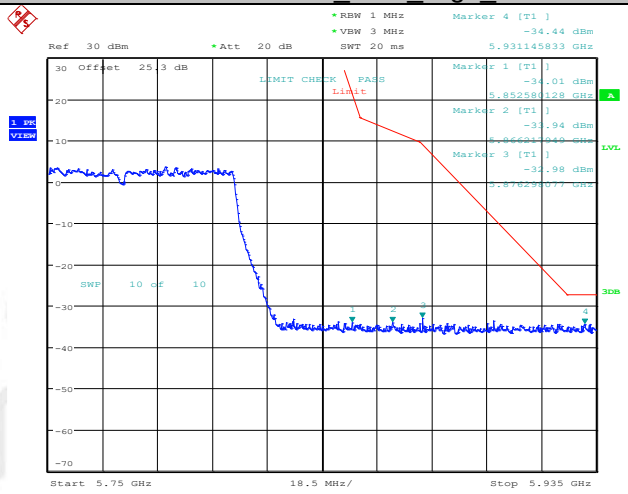
Date: 24.FEB.2022 15:05:12

11AC80MIMO_Ant1_Low_5775



Date: 24.FEB.2022 15:05:55

11AC80MIMO_Ant1_High_5775



Date: 24.FEB.2022 15:06:20

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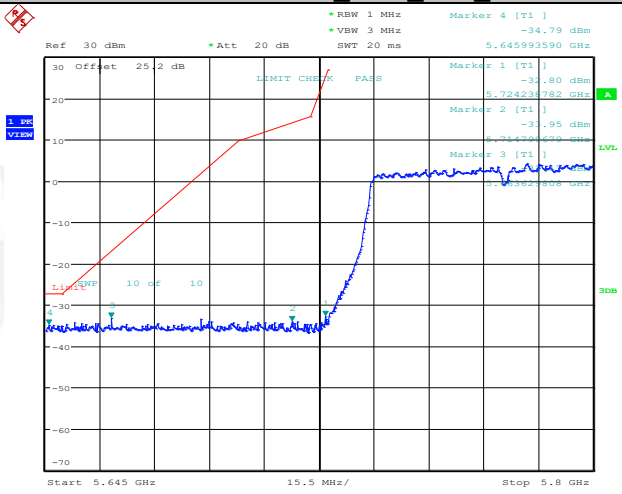

Date: 24.FEB.2022 15:06:45

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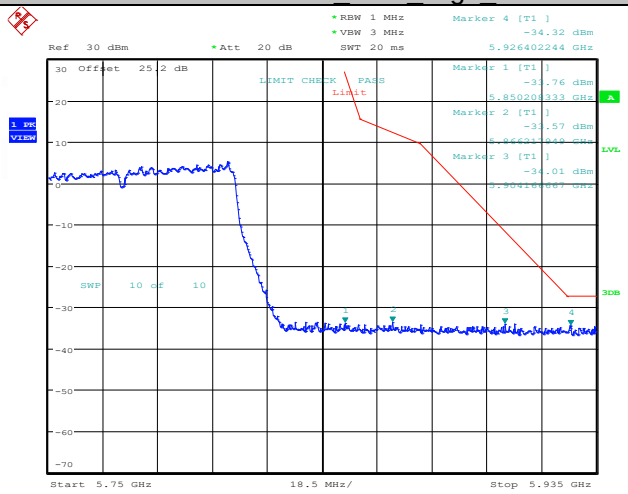
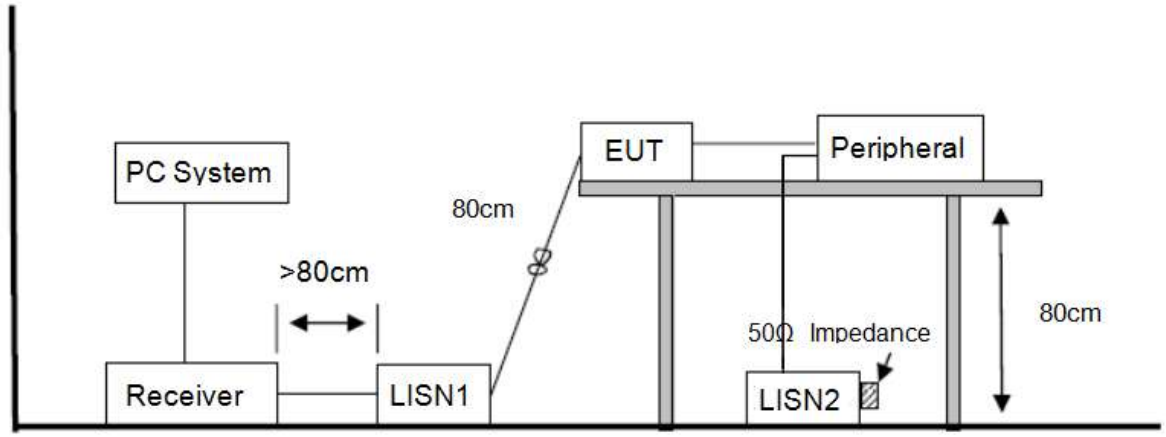


Date: 24.FEB.2022 15:07:10

10. Power Line Conducted Emission

10.1. Block diagram of test setup



10.2. Power line conducted emission limits (Class B)

Frequency	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150 kHz ~ 500 kHz	66 ~ 56*	56 ~ 46*
500 kHz ~ 5 MHz	56	46
5 MHz ~ 30 MHz	60	50

Note 1: * Decreasing linearly with logarithm of frequency.

Note 2: The lower limit shall apply at the transition frequencies.

10.3. Test procedure

The EUT and Support equipment, if needed, were put placed on a non-metallic table, 80cm above the ground plane.

Configuration EUT to simulate typical usage as described in clause 2.3 and test equipment as described in clause 10.2 of this report.

All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.

All support equipment power received from a second LISN.

Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.

The Receiver scanned from 150 kHz to 30 MHz for emissions in each of the test modes.

During the above scans, the emissions were maximized by cable manipulation.

The test mode(s) described in clause 2.3 were scanned during the preliminary test.

After the preliminary scan, we found the test mode producing the highest emission level.

The EUT configuration and worse cable configuration of the above highest emission levels were

recorded for reference of the final test.
EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test.

A scan was taken on both power lines, Neutral and Line, recording at least the six highest emissions.

Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit.

The test data of the worst-case condition(s) was recorded.

The bandwidth of test receiver is set at 9 kHz.

10.4. Test result

Not applicable. EUT is powered by DC mains.

11. Antenna Requirements

11.1. Limit

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.407 (a), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

11.2. Result

The antennas used for this product and that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain is 6.01 dBi.