

FCC CERTIFICATION TEST REPORT

FOR

Applicant	:	Guangzhou FiiO Electronics Technology Co., Ltd.
Address	:	2/F, F Building, Hougang Industrial Zone, Shigang Village, Huangshi West Road, Baiyun District, Guangzhou City, China.
Equipment under Test	:	Portable High Resolution Music Player
Model No.	:	M11 Plus, M11S, M17, M15s, M15 Plus, M17s, M17 Pro, M17 Plus, R9, R9s, R9 Pro, R9 Plus, R5, R7
Trade Mark	:	FiiO
FCC ID	:	R56-FCIDQM
Manufacturer	:	Guangzhou FiiO Electronics Technology Co., Ltd.
Address	:	2/F, F Building, Hougang Industrial Zone, Shigang Village, Huangshi West Road, Baiyun District, Guangzhou City, China.

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

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REPORT

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Test Report Declare

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Trade Mark	:	FiiO
Manufacturer	:	Guangzhou FiiO Electronics Technology Co., Ltd.
Address	:	2/F, F Building, Hougang Industrial Zone, Shigang Village, Huangshi West Road, Baiyun District, Guangzhou City, China.

Test Standard Used: FCC Rules and Regulations Part 15 Subpart E.

Test procedure used: ANSI C63.10:2013, 789033 D02 General U-NII Test Procedures New Rules v02r01, KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02

We Declare:

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

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

Report No:	DDT-R21052802-2E04		
Date of Receipt:	May 28, 2021	Date of Test:	May 28, 2021 ~ Jul. 27, 2021

Prepared By:

Sam Li

Sam Li/Engineer

Approved By:



Damon Hu/EMC Manager

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

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	Jul. 29, 2021	

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	FCC 15.407 (a) FCC 15.407 (e)	Pass
Maximum Conducted Output Power	FCC 15.407 (a)	Pass
Power Spectral Density	FCC 15.407 (a)	Pass
Frequency Stability Measurement	FCC 15.407 (g)	Pass
Spurious Emissions	FCC 15.407 (b) FCC 15.209	Pass
Band Edge Compliance	FCC 15.407 (b) FCC 15.209 FCC 15.205	Pass
Power Line Conducted Emission	FCC 15.207	Pass
Antenna Requirement	FCC 15.203	Pass
Dynamic Frequency Selection	FCC 15.407 (h)	Pass

2. General Test Information

2.1. Description of EUT

EUT* Name	: Portable High Resolution Music Player
Model Number	: M11 Plus, M11S, M17, M15s, M15 Plus, M17s, M17 Pro, M17 Plus, R9, R9s, R9 Pro, R9 Plus, R5, R7
Model difference	: Only the appearance and model are different, there is no other difference. So, choose M11 Plus to test.
EUT function description	: Please reference user manual of this device
Power Supply	: DC 5V from external AC Adapter DC 3.8V built-in battery
Radio Technology	: IEEE 802.11a/n/ac
Operation frequency	: IEEE 802.11a: 5180 MHz - 5240 MHz, 5260 MHz - 5320 MHz, 5500 MHz - 5700 MHz, 5745 MHz - 5825 MHz IEEE 802.11n HT20: 5180 MHz - 5240 MHz, 5260 MHz - 5320 MHz, 5500 MHz - 5700 MHz, 5745 MHz - 5825 MHz IEEE 802.11n HT40: 5190 MHz - 5230 MHz, 5270 MHz - 5310 MHz, 5510 MHz - 5670 MHz, 5755 MHz - 5795 MHz IEEE 802.11ac HT20: 5180 MHz - 5240 MHz, 5260 MHz - 5320 MHz, 5500 MHz - 5700 MHz, 5745 MHz - 5825 MHz IEEE 802.11ac HT40: 5190 MHz - 5230 MHz, 5270 MHz - 5310 MHz, 5510 MHz - 5670 MHz, 5755 MHz - 5795 MHz IEEE 802.11ac HT80: 5210 MHz, 5290 MHz, 5530 MHz, 5610 MHz, 5775 MHz
Modulation	: IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20, HT40: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)
Transmitter rate	: IEEE 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps IEEE 802.11n HT20: 14.4, 28.9, 43.3, 57.8, 86.7, 115.6, 130.0, 144.4 Mbps IEEE 802.11n HT40: 30, 60, 90, 120, 180, 240, 270, 300 Mbps IEEE 802.11ac HT20: 14.4, 28.8, 43.4, 57.8, 86.6, 115.6, 130, 144.4, 173.4 Mbps IEEE 802.11ac HT40: 30, 60, 90, 120, 180, 240, 270, 300, 360, 400 Mbps IEEE 802.11ac HT80: 65, 130, 195, 260, 390, 520, 585, 650, 780, 866.6 Mbps
Antenna Type	: Dedicated FPC antenna, maximum PK gain: 1.68 dBi
Serial Number	: N/A

Note 1: EUT is the abbreviation of equipment under test.

2: DFS type is client without radar detection

2.2. Accessories of EUT

Description of Accessories	Manufacturer	Model number	Description	Remark
N/A	N/A	N/A	N/A	N/A

2.3. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	EMC Compliance	SN
Wireless LAN Access Point	HUAWEI	AP6050	21500829352SC 5000371	FCC ID: QISAP6050DN6 150DN

2.4. Block diagram of EUT configuration for test

EUT

Test software: QRCT Version 4

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 (Mbps) (see Note)	Channel	Frequency (MHz)
IEEE 802.11a	10	6	Low: CH36	5180
	10	6	Middle: CH40	5200
	10	6	High: CH48	5240
	10	6	Low: CH52	5260
	10	6	Middle: CH56	5280
	10	6	High: CH64	5320
	10	6	Low: CH100	5500
	10	6	Middle: CH116	5580
	10	6	High: CH140	5700
	10	6	Low: CH149	5745
	10	6	Middle: CH157	5785
	10	6	High: CH165	5825
IEEE 802.11n HT20	10	MCS0	Low: CH36	5180
	10	MCS0	Middle: CH40	5200
	10	MCS0	High: CH48	5240
	10	MCS0	Low: CH52	5260
	10	MCS0	Middle: CH56	5280
	10	MCS0	High: CH64	5320
	10	MCS0	Low: CH100	5500
	10	MCS0	Middle: CH116	5580
	10	MCS0	High: CH140	5700
	10	MCS0	Low: CH149	5745
	10	MCS0	Middle: CH157	5785
	10	MCS0	High: CH165	5825
IEEE 802.11n HT40	10	MCS0	Low: CH38	5190
	10	MCS0	Middle: CH46	5230
	10	MCS0	High: CH54	5270
	10	MCS0	Low: CH62	5310
	10	MCS0	Middle: CH102	5510
	10	MCS0	High: CH110	5550
	10	MCS0	Low: CH134	5670
	10	MCS0	Middle: CH151	5755
	10	MCS0	High: CH159	5795
IEEE 802.11ac HT20	10	MCS0	Low: CH36	5180
	10	MCS0	Middle: CH40	5200
	10	MCS0	High: CH48	5240
	10	MCS0	Low: CH52	5260
	10	MCS0	Middle: CH56	5280
	10	MCS0	High: CH64	5320
	10	MCS0	Low: CH100	5500
	10	MCS0	Middle: CH116	5580
	10	MCS0	High: CH140	5700
	10	MCS0	Low: CH149	5745
	10	MCS0	Middle: CH157	5785
	10	MCS0	High: CH165	5825

IEEE 802.11ac HT40	10	MCS0	Low: CH38	5190
	10	MCS0	Middle: CH46	5230
	10	MCS0	High: CH54	5270
	10	MCS0	Low: CH62	5310
	10	MCS0	Middle: CH102	5510
	10	MCS0	High: CH110	5550
	10	MCS0	Low: CH134	5670
	10	MCS0	Middle: CH151	5755
	10	MCS0	High: CH159	5795
IEEE 802.11ac HT80	10	MCS0	CH42	5210
	10	MCS0	CH58	5290
	10	MCS0	CH106	5530
	10	MCS0	CH122	5610
	10	MCS0	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 °C
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 ($10 \text{ MHz} \leq f < 3.6 \text{ GHz}$);
	1.38 dB ($3.6 \text{ GHz} \leq f < 8 \text{ GHz}$)
Peak Output Power (Conducted) (Power Sensor)	0.74 dB
Power Spectral Density	0.74 dB ($10 \text{ MHz} \leq f < 3.6 \text{ GHz}$);
	1.38 dB ($3.6 \text{ GHz} \leq f < 8 \text{ GHz}$)
Frequencies Stability	6.7×10^{-8} (Antenna couple method)
	5.5×10^{-8} (Conducted method)
Conducted Spurious Emissions	0.86 dB ($10 \text{ MHz} \leq f < 3.6 \text{ GHz}$);
	1.40 dB ($3.6 \text{ GHz} \leq f < 8 \text{ GHz}$)
	1.66 dB ($8 \text{ GHz} \leq f < 22 \text{ GHz}$)
Uncertainty for Radio Frequency (RBW < 20 kHz)	3×10^{-8}
Temperature	0.4 °C
Humidity	2 %
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.	

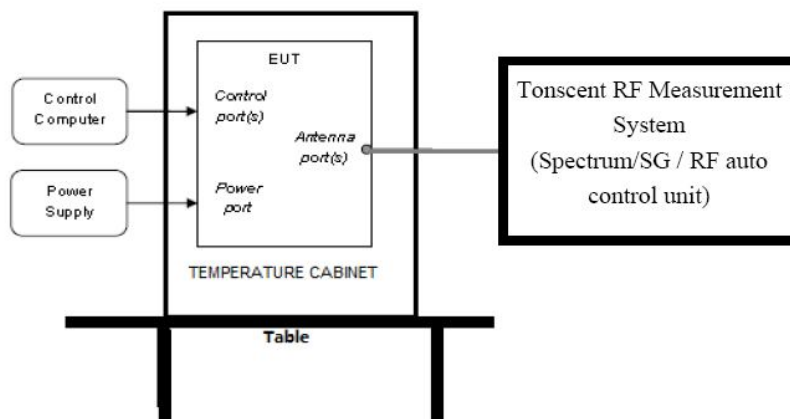
3. Equipment Used During Test

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. 25, 2020	1 Year
Wideband Radio Communication tester	R&S	CMW500	117491	Jun. 01, 2021	1 Year
Vector Signal Generator	Agilent	E8267D	US49060192	Sep. 24, 2020	1 Year
Vector Signal Generator	Agilent	N5182A	MY48180737	Jun. 01, 2021	1 Year
RF Control Unit	Tonsend	JS0806-2	DDT-ZC0290	Jun. 01, 2021	1 Year
Temp&Humi Programmable	ZHIXIANG	ZXGDJS-150L	ZX170110-A	Jun. 01, 2021	1 Year
Test Software	JS Tonscend	JS1120-3	Ver.2.7	N/A	N/A
☒ RF Connected Test (Tonscend RF Measurement System 2#)					
Spectrum analyzer	R&S	FSU26	101472	Jun. 01, 2021	1 Year
Wideband Radio Communication tester	R&S	CMW500	120259	Jan. 19, 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-150L	ZX170110-A	Jun. 01, 2021	1 Year
Test Software	JS Tonscend	JS1120-3	Ver.2.7	N/A	N/A
☐ Radiation 1#chamber					
EMI Test Receiver	R&S	ESU8	100316	Sep. 24, 2020	1 Year
Spectrum analyzer	Agilent	E4447A	MY50180031	Jun. 01, 2021	1 Year
Trilog Broadband Antenna	Schwarzbeck	VULB9163	9163-462	Nov. 13, 2020	1 Year
Active Loop antenna	Schwarzbeck	FMZB-1519	1519-038	Nov. 18, 2020	1 Year
Double Ridged Horn Antenna	R&S	HF907	100276	Nov. 13, 2020	1 Year
Broad Band Horn Antenna	Schwarzbeck	BBHA 9170	790	May 07, 2021	1 Year
Pre-amplifier	A.H.	PAM-0118	360	Sep. 28, 2020	1 Year
RF Cable	HUBSER	CP-X2+ CP-X1	W11.03+ W12.02	Sep. 24, 2020	1 Year
RF Cable	N/A	5m+6m+1m	06270619	Sep. 30, 2020	1 Year
MI Cable	HUBSER	C10-01-01-1M	1091629	Sep. 30, 2020	1 Year
Test software	Audix	E3	V 6.11111b	N/A	N/A
☒ Radiation 2#chamber					
EMI Test Receiver	R&S	ESCI	101364	Sep. 28, 2020	1 Year
Spectrum analyzer	Agilent	E4447A	MY50180031	Jun. 01, 2021	1 Year

Trilog Broadband Antenna	Schwarzbeck	VULB 9163	9163-994	Nov. 13, 2020	1 Year
Active Loop antenna	Schwarzbeck	FMZB-1519	1519-038	Nov. 18, 2020	1 Year
Double Ridged Horn Antenna	Schwarzbeck	BBHA9120	02108	Jul. 17, 2021	1 Year
Broad Band Horn Antenna	Schwarzbeck	BBHA 9170	790	May 07, 2021	1 Year
Pre-amplifier	TERA-MW	TRLA-0040 G35	1013 03	Sep. 28, 2020	1 Year
RF Cable	N/A	14+1.5m	06270619	Sep. 28, 2020	1 Year
Test software	Audix	E3	V 6.11111b	N/A	N/A
☒ Power Line Conducted Emissions Test 1#					
EMI Test Receiver	R&S	ESU8	100316	Sep. 24, 2020	1 Year
LISN 1	R&S	ENV216	101109	Sep. 28, 2020	1 Year
LISN 2	R&S	ESH2-Z5	100309	Sep. 28, 2020	1 Year
Pulse Limiter	R&S	ESH3-Z2	101242	Sep. 24, 2020	1 Year
CE Cable 1	HUBSER	N/A	W10.01	Sep. 24, 2020	1 Year
Test software	Audix	E3	V 6.11111b	N/A	N/A
☐ Power Line Conducted Emissions Test 2#					
Test Receiver	R&S	ESPI	101761	Sep. 24, 2020	1 Year
LISN 1	R&S	ENV216	101170	Sep. 28, 2020	1 Year
LISN 2	R&S	ESH2-Z5	100309	Sep. 28, 2020	1 Year
Pulse Limiter	R&S	KH43101	43101180156 8-12#	Jun. 01, 2021	1 Year
CE Cable 2	HUBSER	N/A	W11.02	Sep. 24, 2020	1 Year
Test software	Audix	E3	V 6.11111b	N/A	N/A

4. 26 dB Bandwidth and 6 dB Bandwidth

4.1. Block diagram of test setup



4.2. Limits

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

26 dB EBW:

Test Mode	Antenna	Channel	26 dB EBW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11A	Ant1	5180	23.400	5168.400	5191.800	---	Pass
		5200	24.520	5188.280	5212.800	---	Pass
		5240	24.280	5228.040	5252.320	---	Pass
		5260	22.800	5249.080	5271.880	---	Pass
		5280	23.640	5268.040	5291.680	---	Pass
		5320	23.160	5308.200	5331.360	---	Pass
		5500	23.240	5488.520	5511.760	---	Pass
		5580	23.280	5568.400	5591.680	---	Pass
		5700	23.600	5687.920	5711.520	---	Pass
		5745	23.400	5733.320	5756.720	---	Pass
		5785	23.120	5773.600	5796.720	---	Pass
		5825	24.000	5813.320	5837.320	---	Pass
11N20 SISO	Ant1	5180	24.400	5167.840	5192.240	---	Pass
		5200	24.840	5187.680	5212.520	---	Pass
		5240	25.400	5227.800	5253.200	---	Pass
		5260	23.400	5248.840	5272.240	---	Pass
		5280	23.920	5268.000	5291.920	---	Pass
		5320	23.720	5308.200	5331.920	---	Pass
		5500	23.920	5488.120	5512.040	---	Pass
		5580	24.560	5567.960	5592.520	---	Pass
		5700	24.320	5687.800	5712.120	---	Pass
		5745	24.240	5732.640	5756.880	---	Pass
		5785	23.680	5773.600	5797.280	---	Pass
		5825	24.400	5813.360	5837.760	---	Pass
11N40 SISO	Ant1	5190	42.320	5169.040	5211.360	---	Pass
		5230	42.400	5208.880	5251.280	---	Pass
		5270	41.600	5249.280	5290.880	---	Pass
		5310	41.840	5289.200	5331.040	---	Pass
		5510	41.840	5488.880	5530.720	---	Pass
		5550	41.920	5529.200	5571.120	---	Pass
		5670	42.720	5648.800	5691.520	---	Pass
		5755	42.160	5733.880	5776.040	---	Pass
		5795	41.920	5774.280	5816.200	---	Pass
11AC20 SISO	Ant1	5180	24.160	5167.960	5192.120	---	Pass
		5200	24.360	5187.720	5212.080	---	Pass
		5240	25.000	5227.560	5252.560	---	Pass
		5260	23.280	5248.800	5272.080	---	Pass
		5280	24.240	5267.640	5291.880	---	Pass
		5320	23.880	5308.200	5332.080	---	Pass
		5500	23.400	5488.440	5511.840	---	Pass
		5580	24.920	5567.600	5592.520	---	Pass
		5700	24.360	5687.760	5712.120	---	Pass
		5745	24.080	5733.160	5757.240	---	Pass
		5785	23.680	5773.560	5797.240	---	Pass
		5825	24.200	5813.320	5837.520	---	Pass
11AC40	Ant1	5190	42.080	5169.040	5211.120	---	Pass

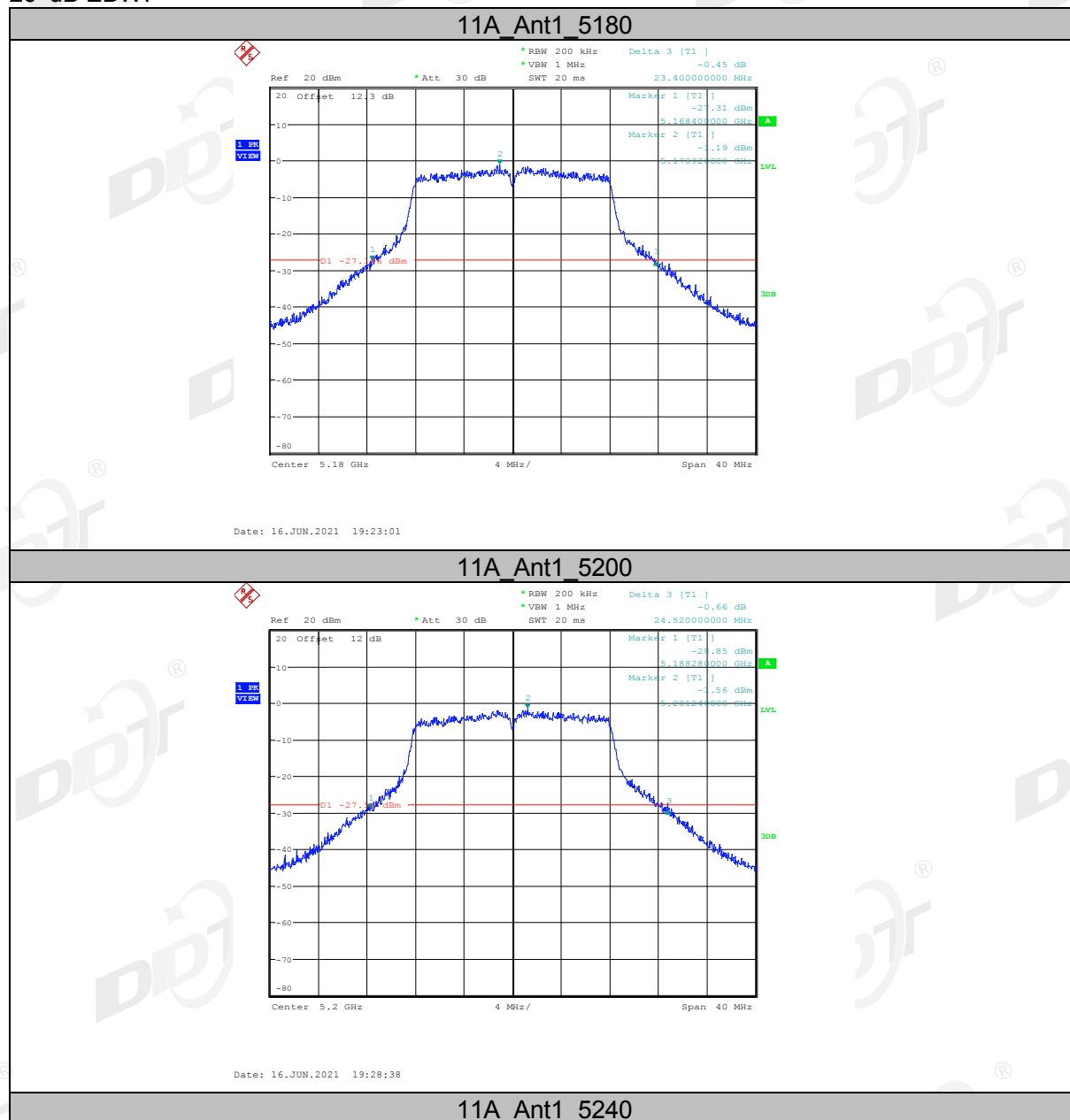
SISO		5230	42.160	5209.120	5251.280	---	Pass
		5270	41.680	5249.200	5290.880	---	Pass
		5310	42.000	5289.040	5331.040	---	Pass
		5510	41.920	5489.120	5531.040	---	Pass
		5550	42.160	5528.800	5570.960	---	Pass
		5670	42.320	5648.880	5691.200	---	Pass
		5755	42.480	5733.720	5776.200	---	Pass
		5795	41.520	5774.360	5815.880	---	Pass
11AC80 SISO	Ant1	5210	83.840	5168.720	5252.560	---	Pass
		5290	83.680	5248.720	5332.400	---	Pass
		5530	84.800	5487.920	5572.720	---	Pass
		5610	84.320	5567.760	5652.080	---	Pass
		5775	85.280	5732.920	5818.200	---	Pass

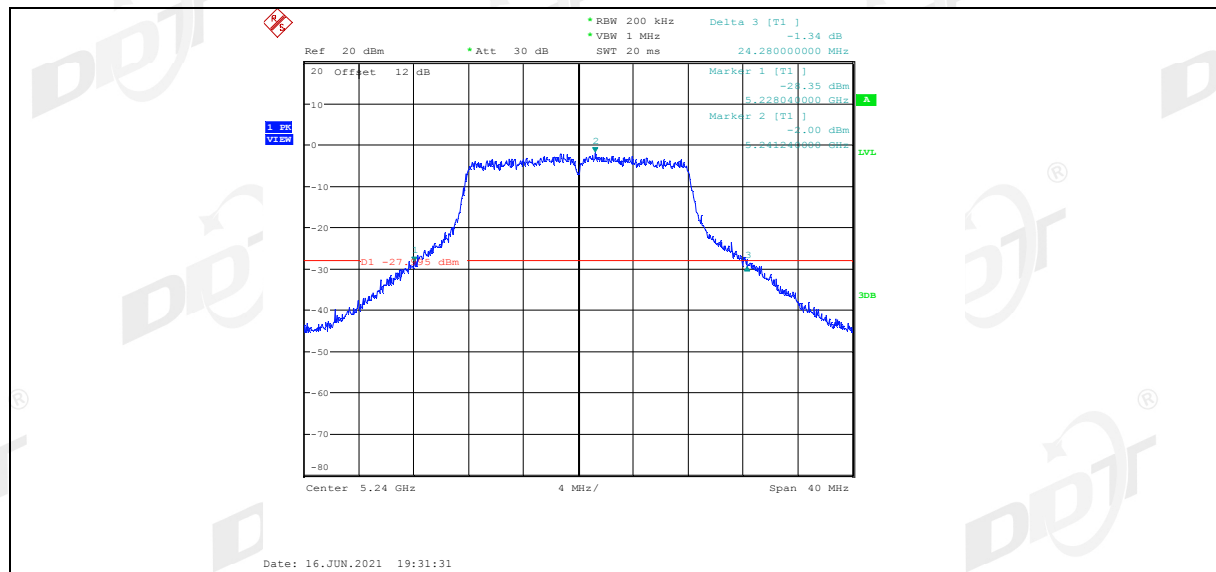
6 dB EBW:

Test Mode	Antenna	Channel	6 dB EBW[MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11A	Ant1	5745	15.840	5737.040	5752.880	0.5	Pass
		5785	15.800	5777.360	5793.160	0.5	Pass
		5825	15.800	5817.360	5833.160	0.5	Pass
11N20S ISO	Ant1	5745	15.840	5737.040	5752.880	0.5	Pass
		5785	16.160	5777.360	5793.520	0.5	Pass
		5825	16.160	5817.360	5833.520	0.5	Pass
11N40S ISO	Ant1	5755	36.480	5736.760	5773.240	0.5	Pass
		5795	35.520	5777.320	5812.840	0.5	Pass
11AC20 SISO	Ant1	5745	16.720	5736.800	5753.520	0.5	Pass
		5785	16.120	5777.360	5793.480	0.5	Pass
		5825	16.160	5817.360	5833.520	0.5	Pass
11AC40 SISO	Ant1	5755	36.480	5736.760	5773.240	0.5	Pass
		5795	35.840	5777.320	5813.160	0.5	Pass
11AC80 SISO	Ant1	5775	75.680	5737.240	5812.920	0.5	Pass

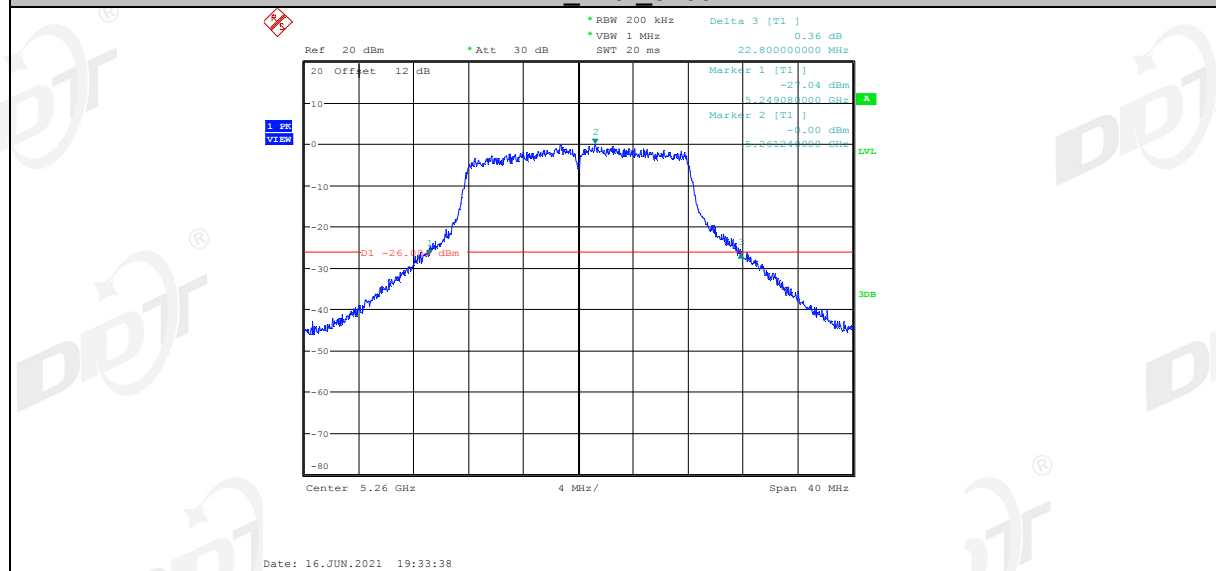
4.5. Original test data

26 dB EBW:

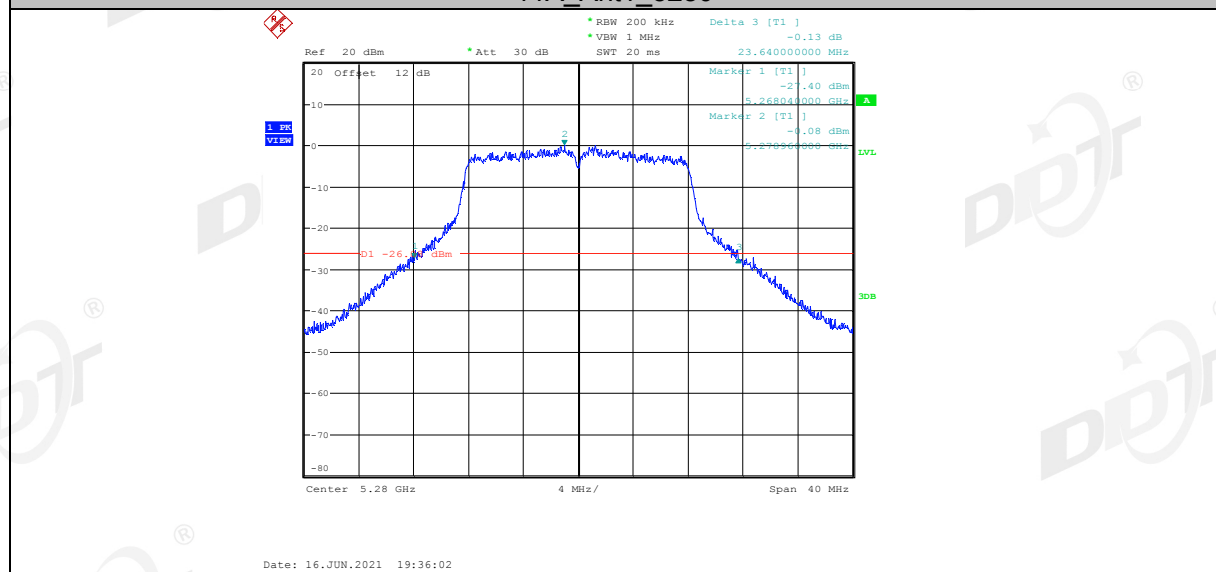




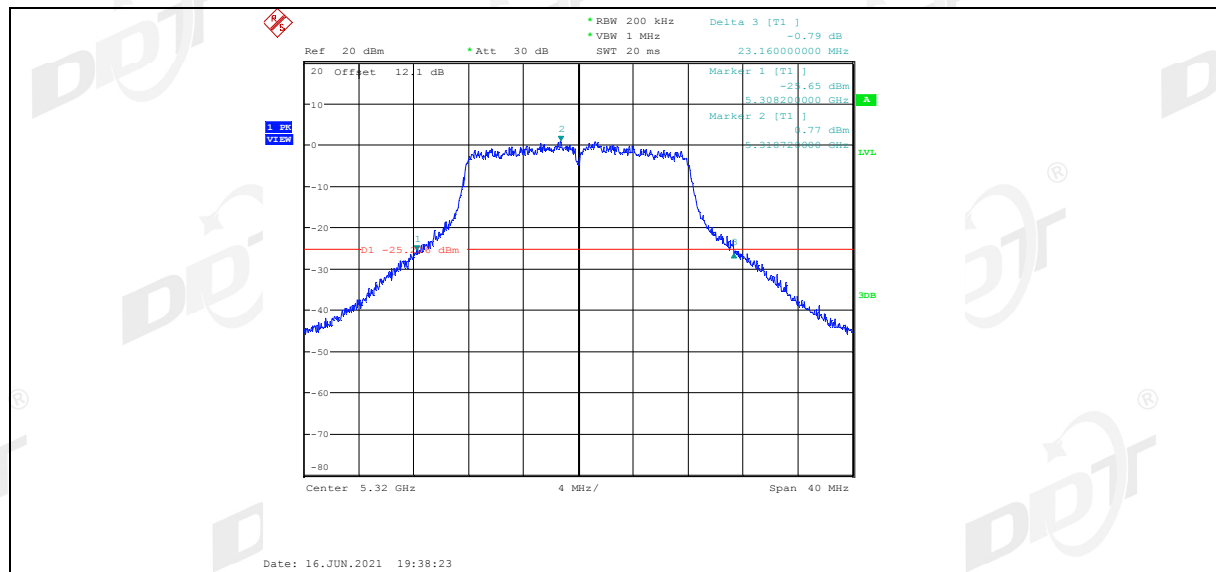
11A_Ant1_5260



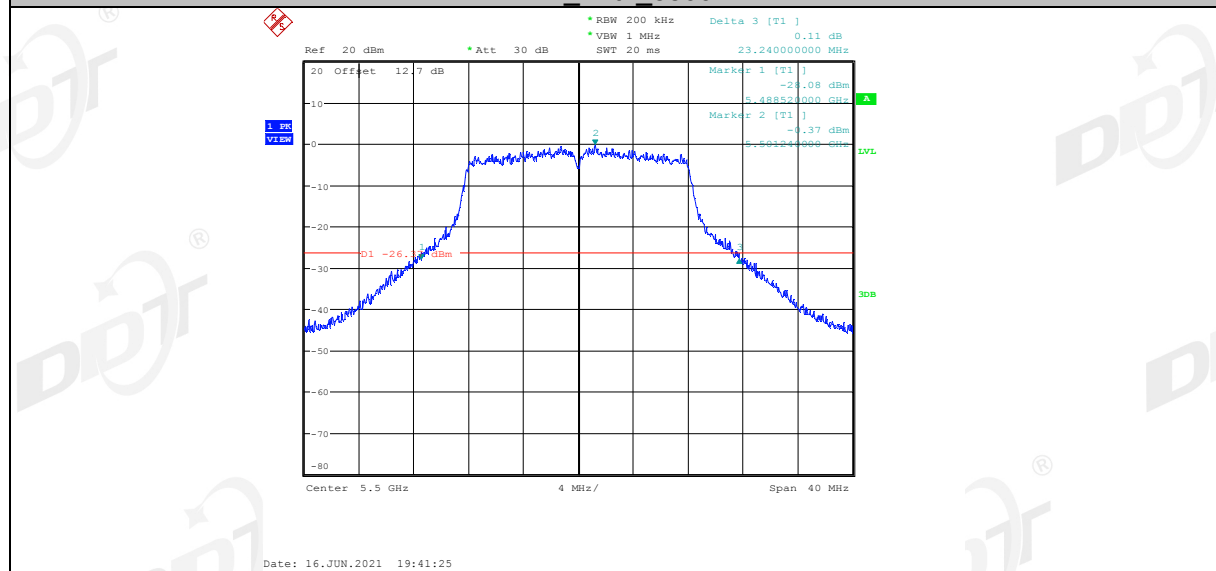
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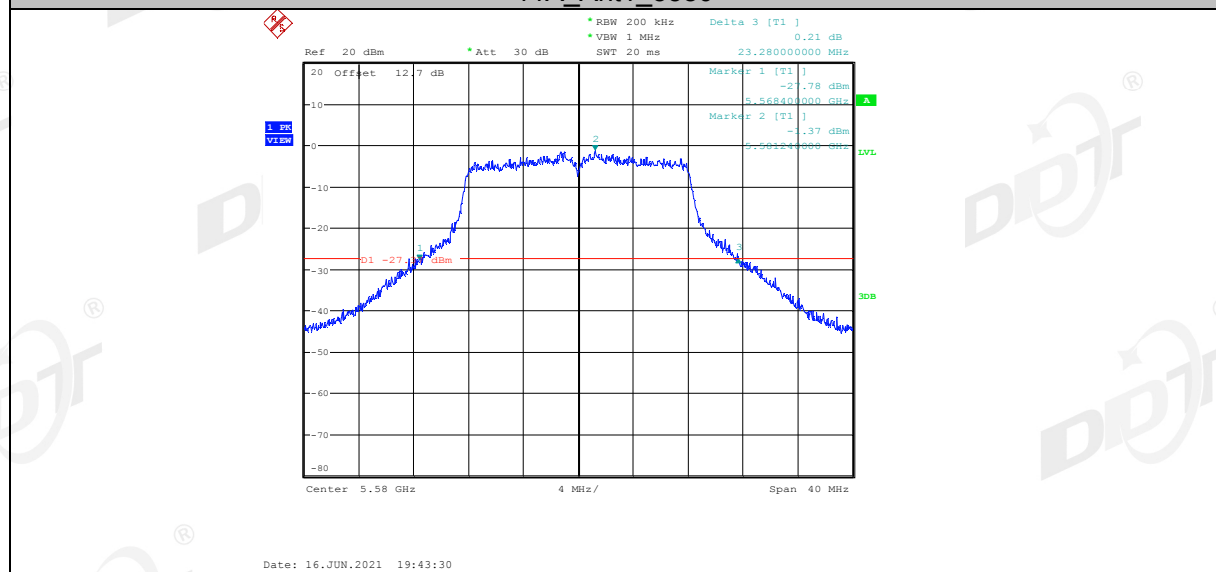
11A_Ant1_5320



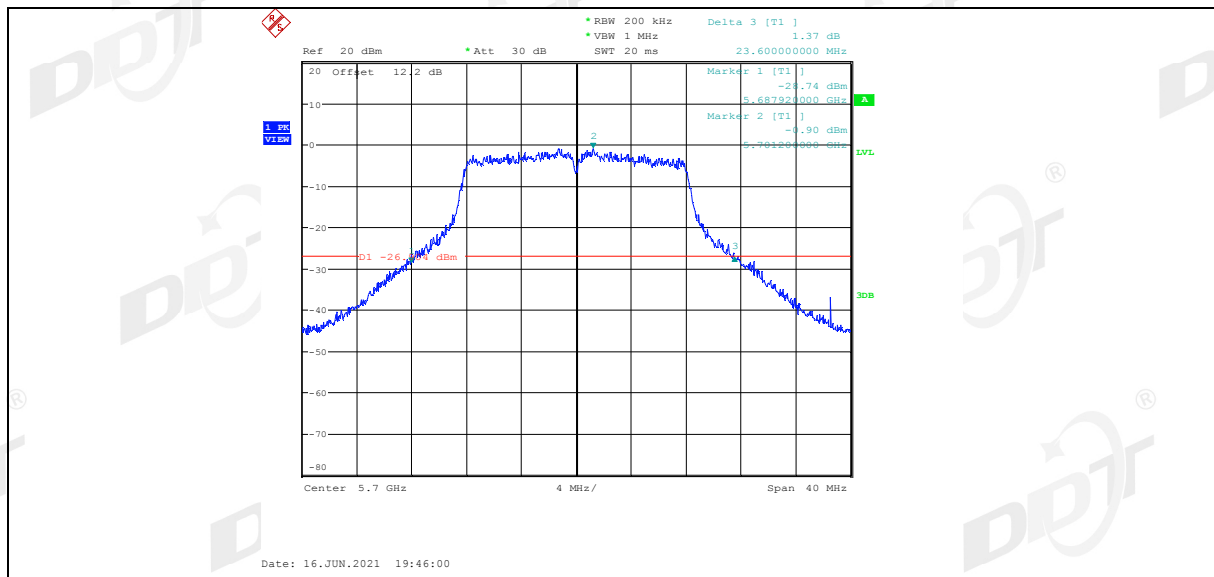
11A_Ant1_5500



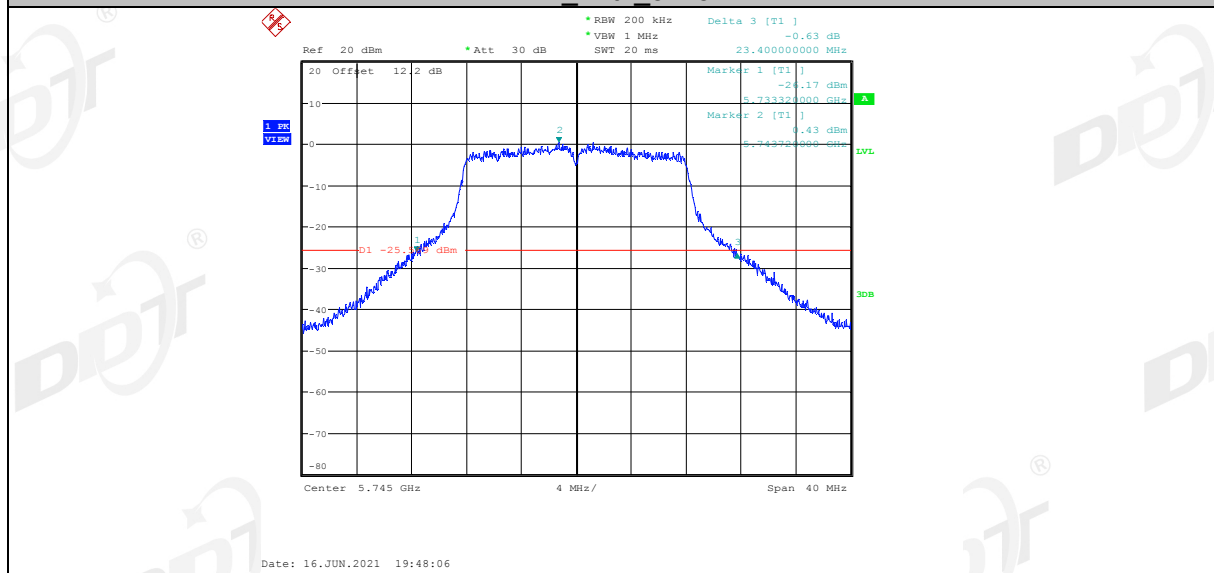
11A_Ant1_5580



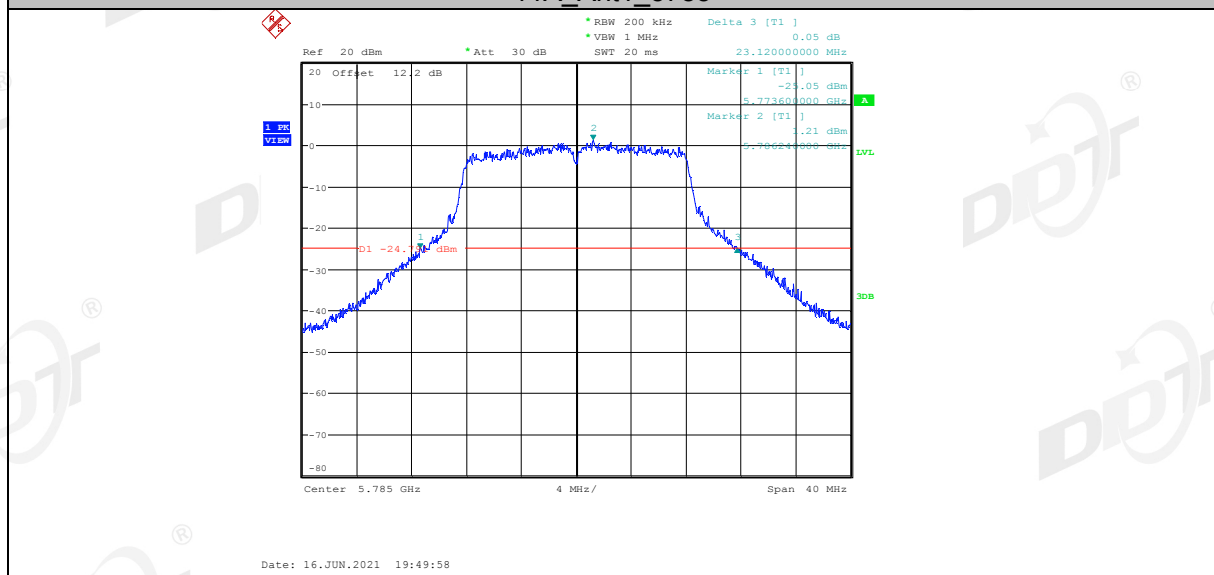
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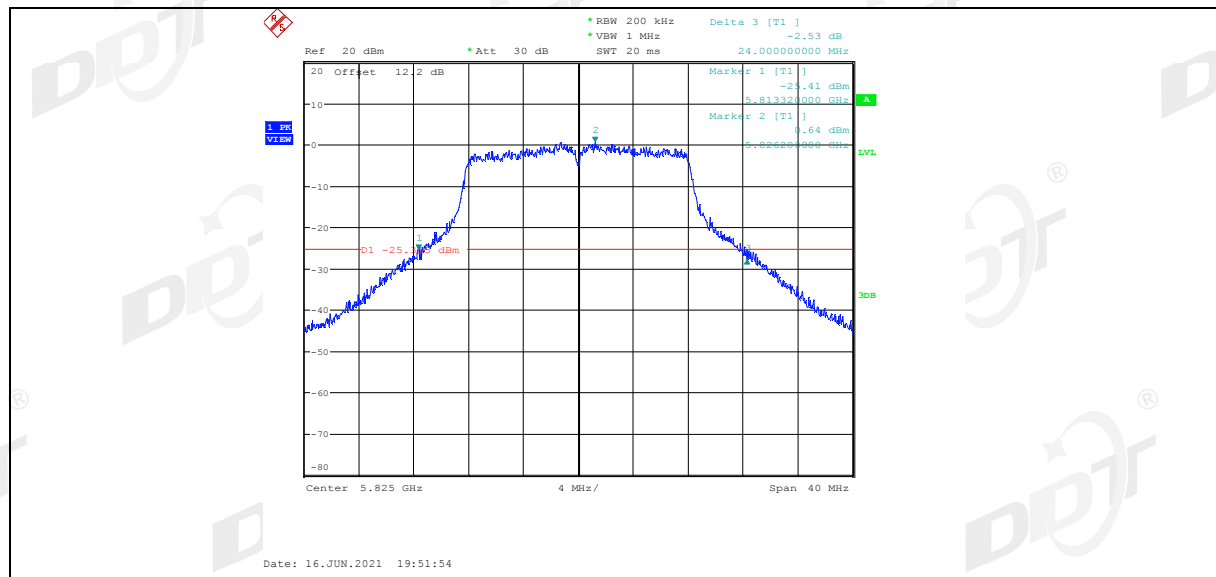
11A_Ant1_5745



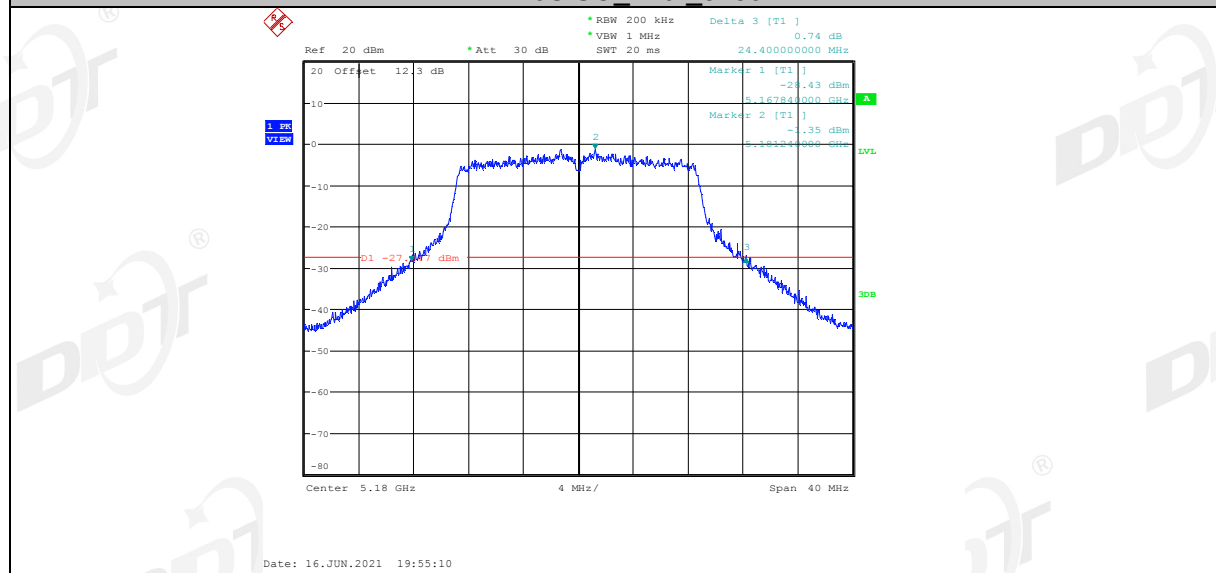
11A_Ant1_5785



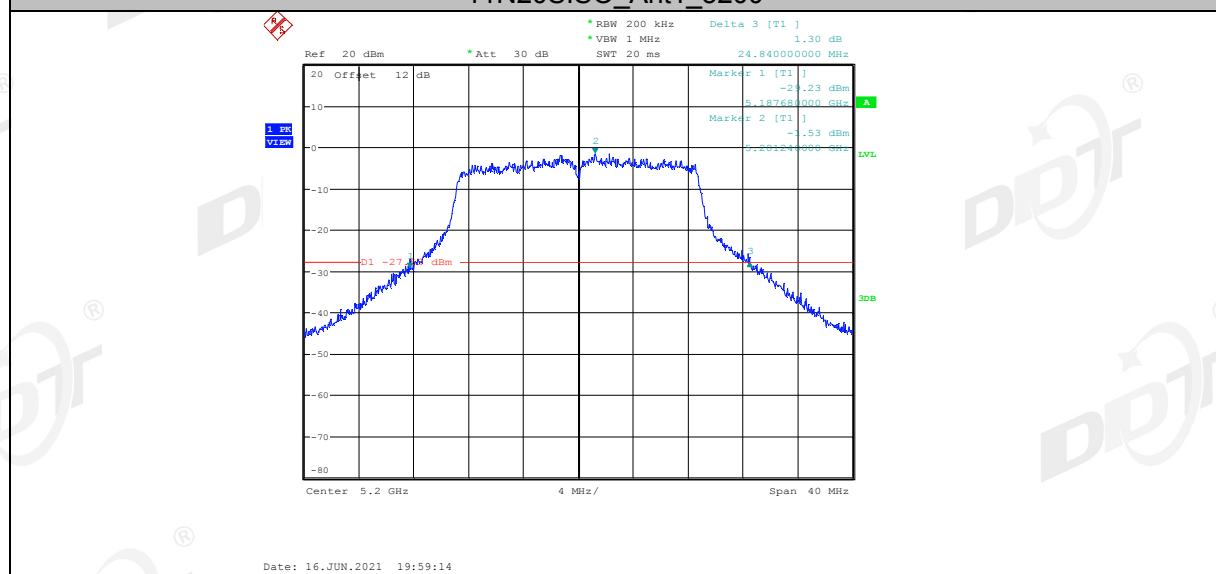
11A_Ant1_5825



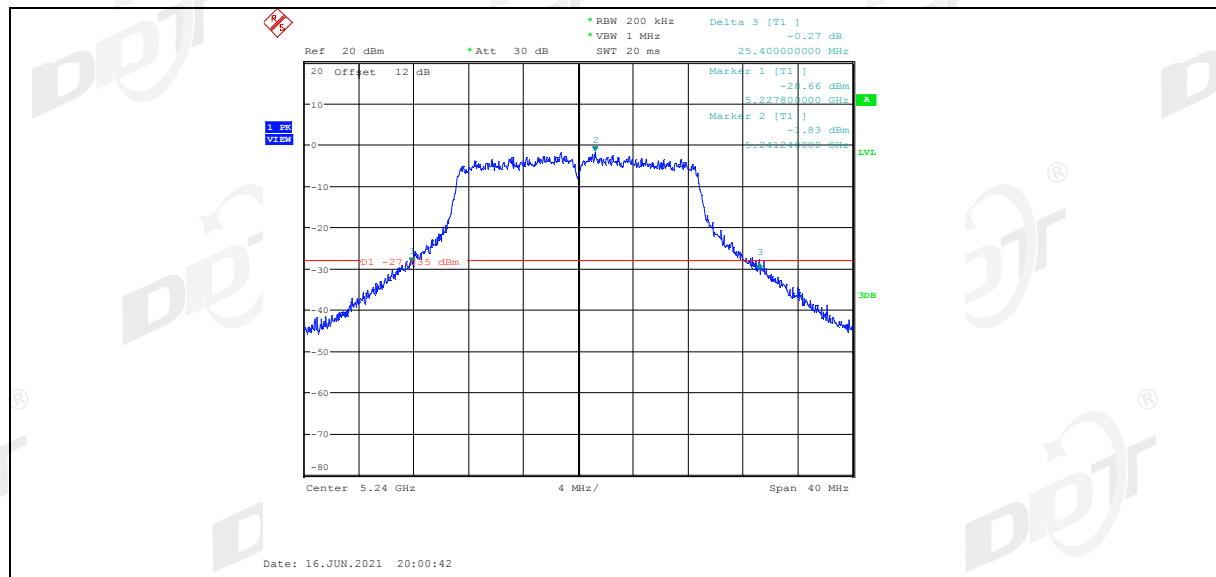
11N20SISO_Ant1_5180



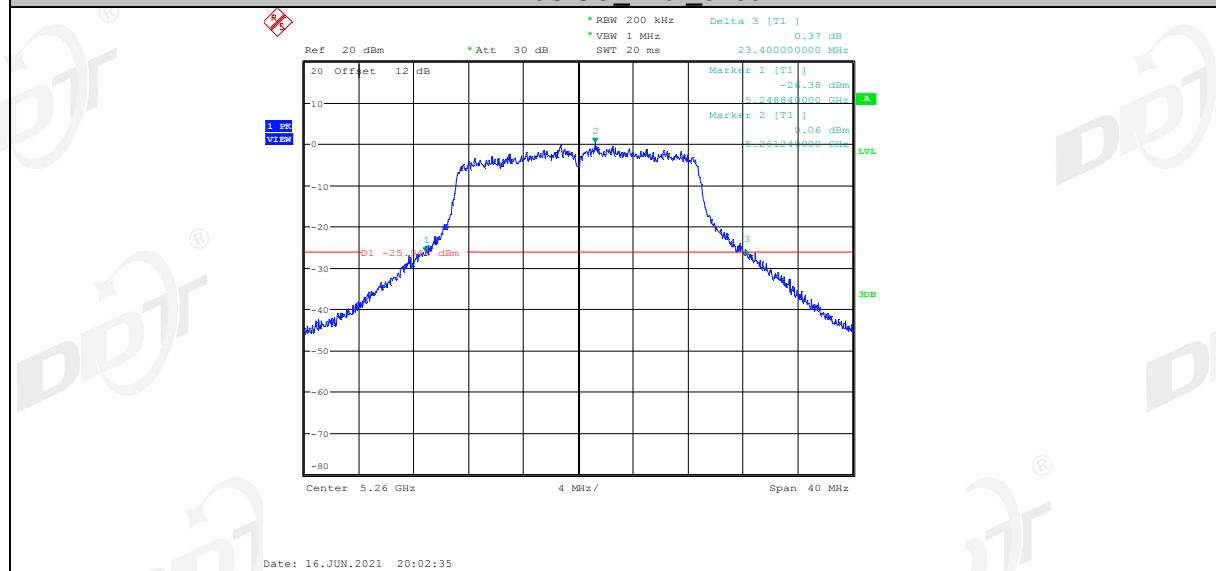
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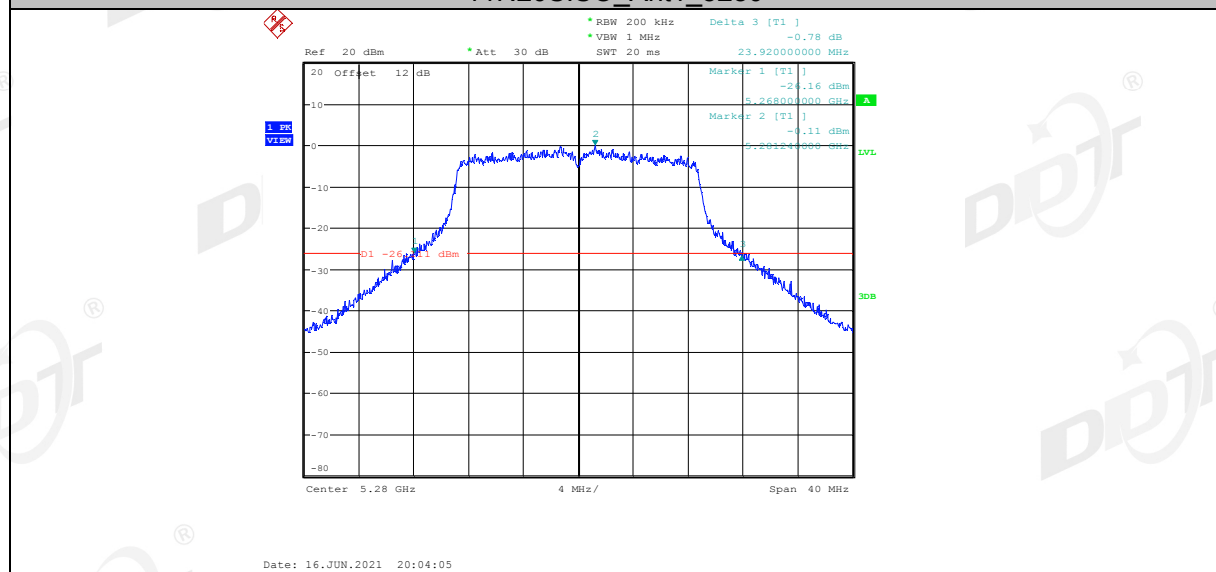
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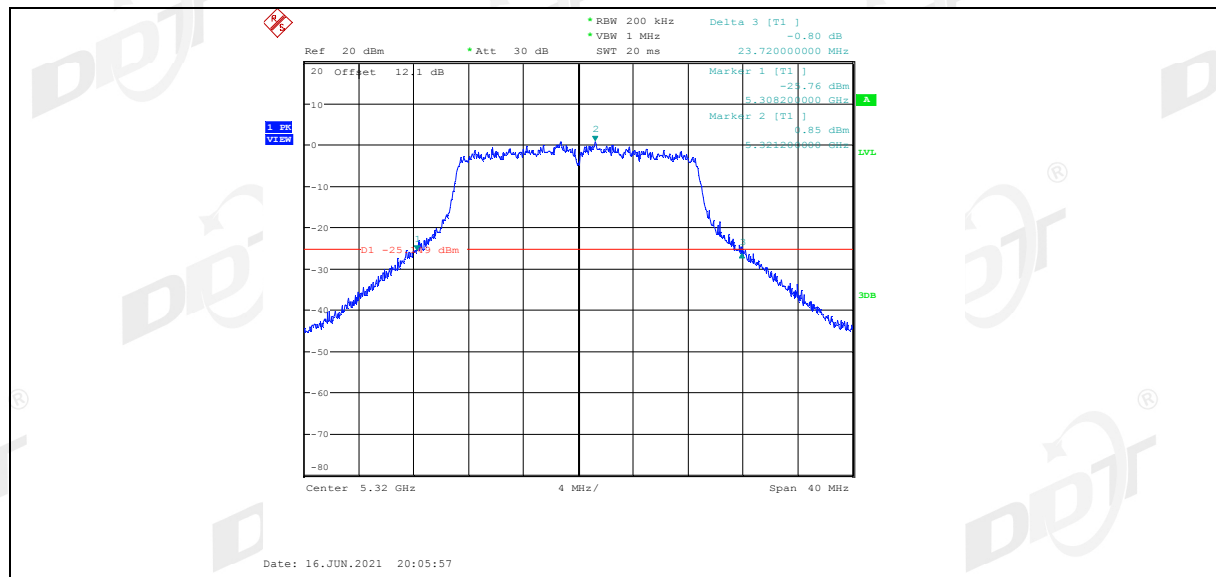
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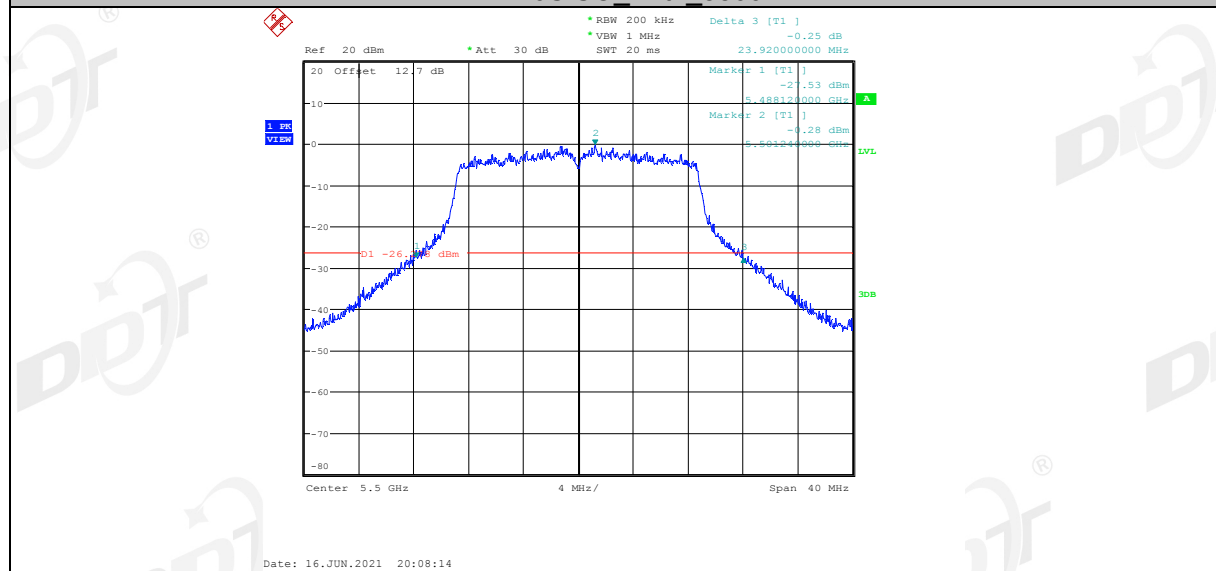
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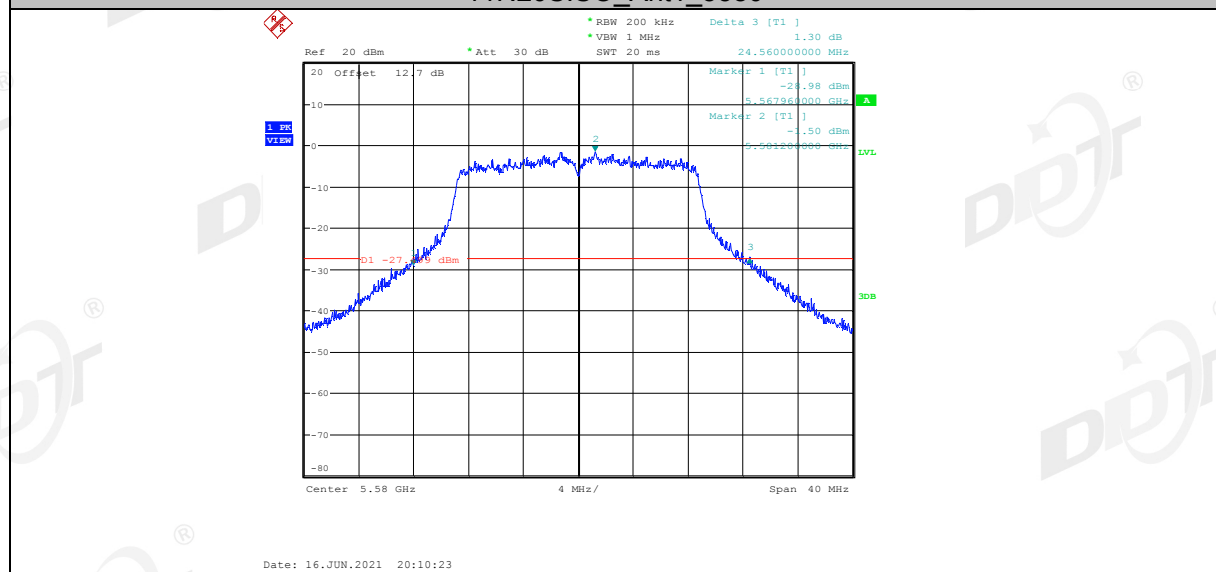
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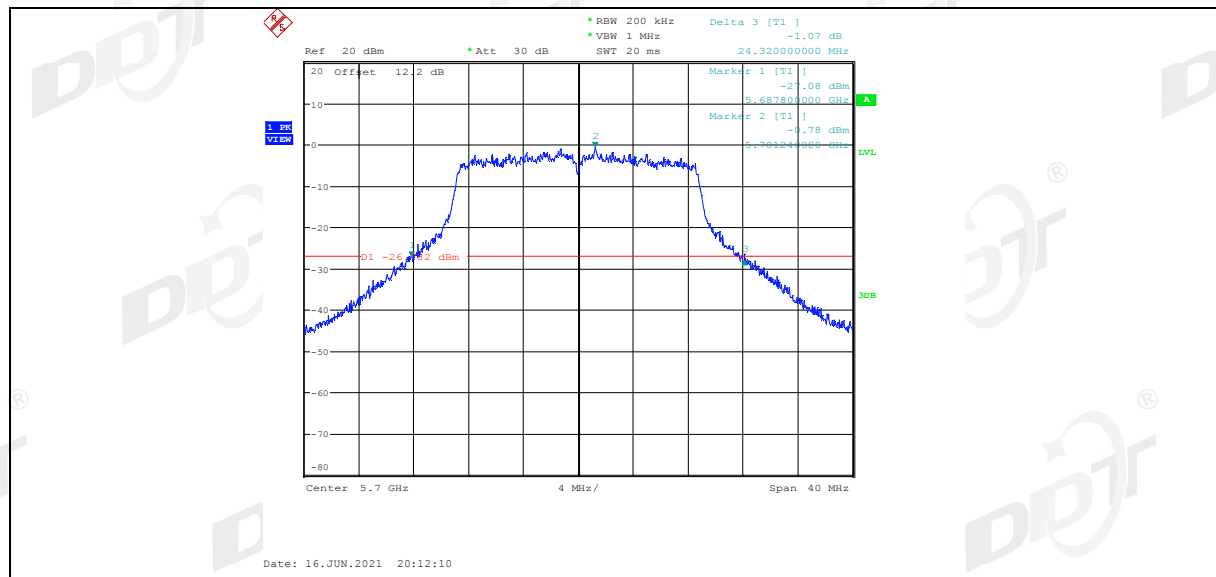
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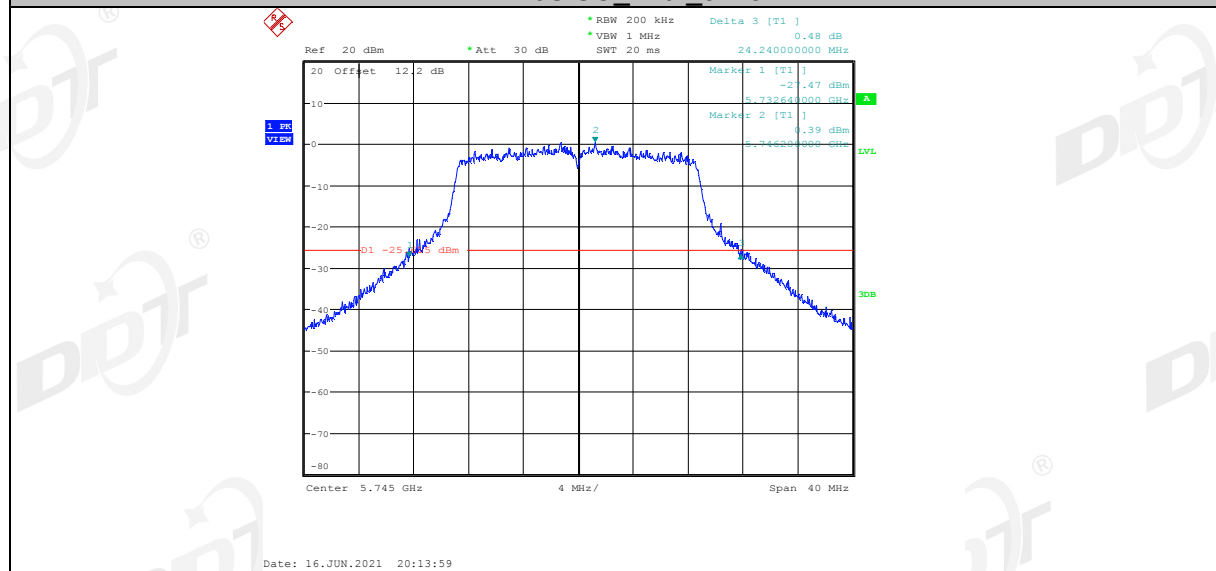
11N20SISO_Ant1_5580



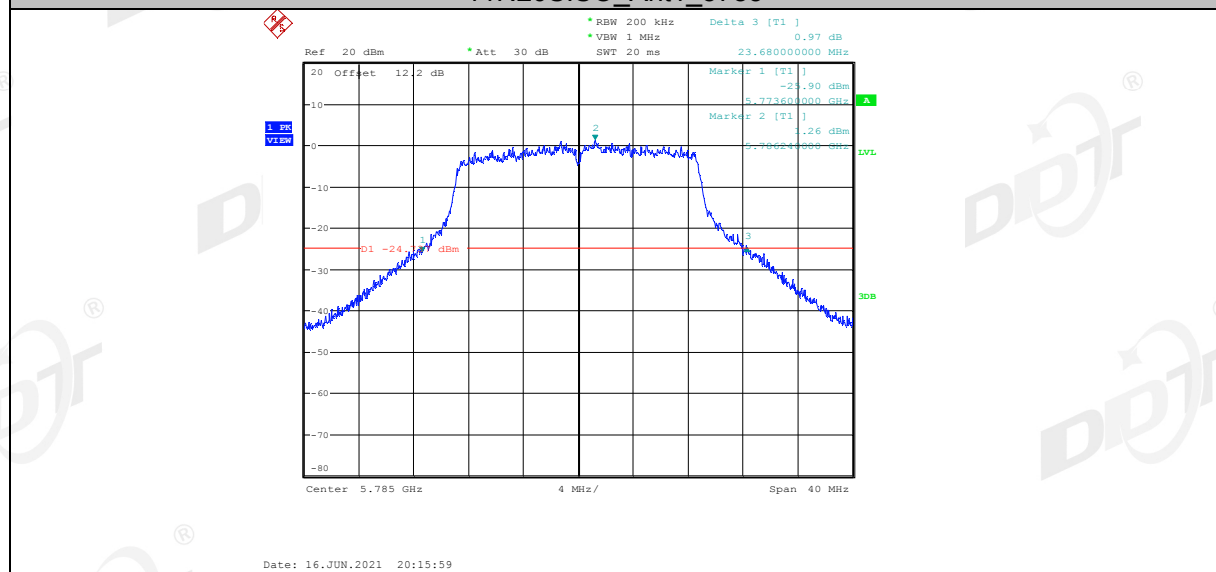
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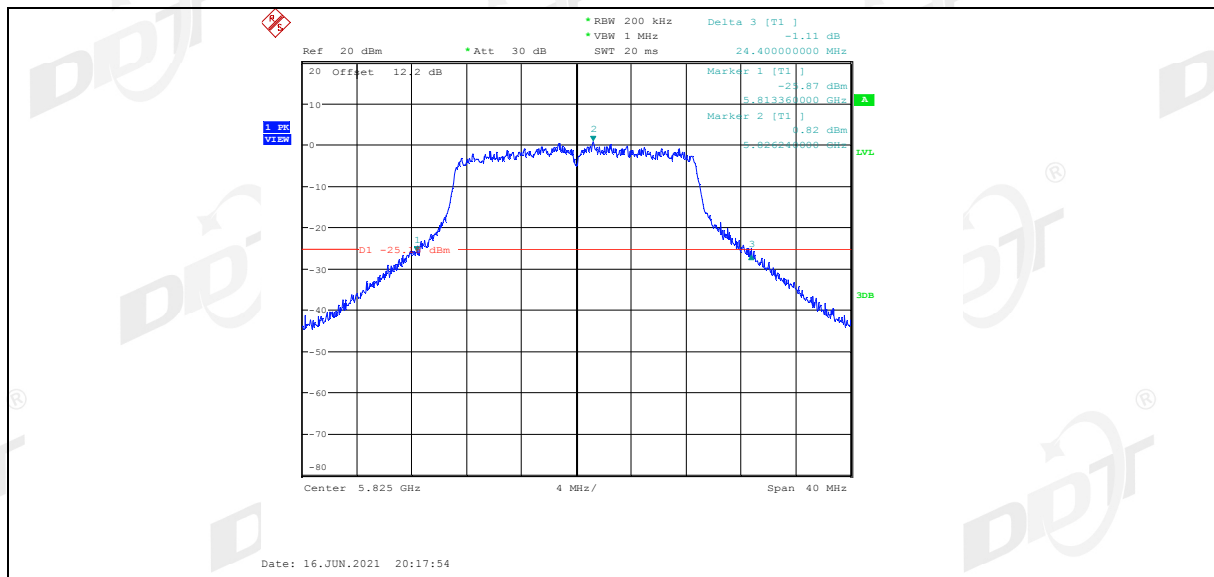
11N20SISO_Ant1_5745



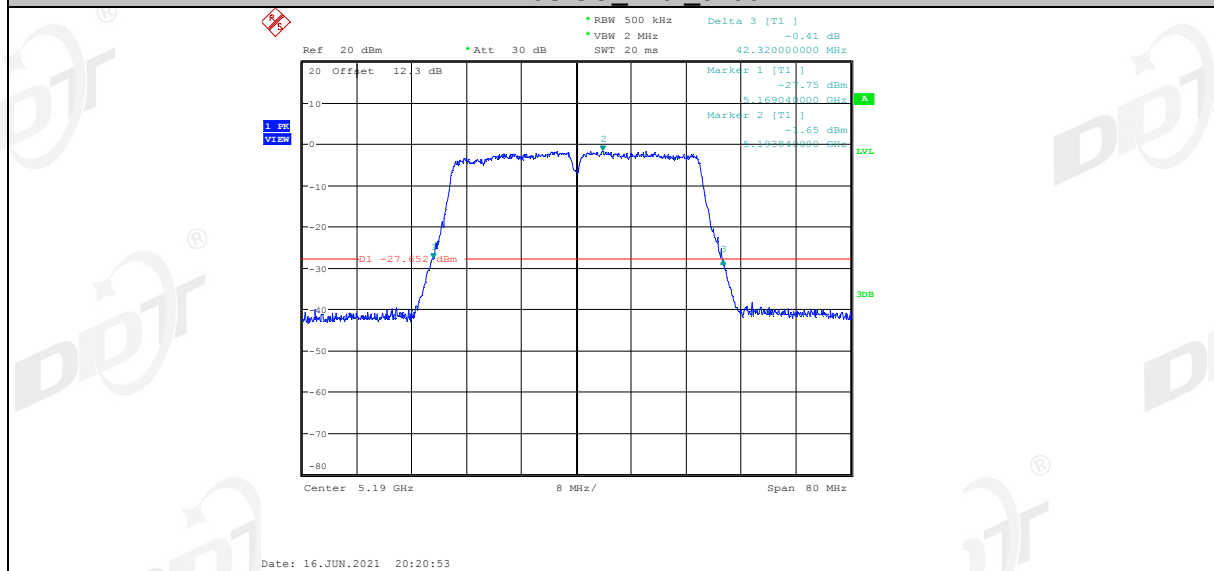
11N20SISO_Ant1_5785



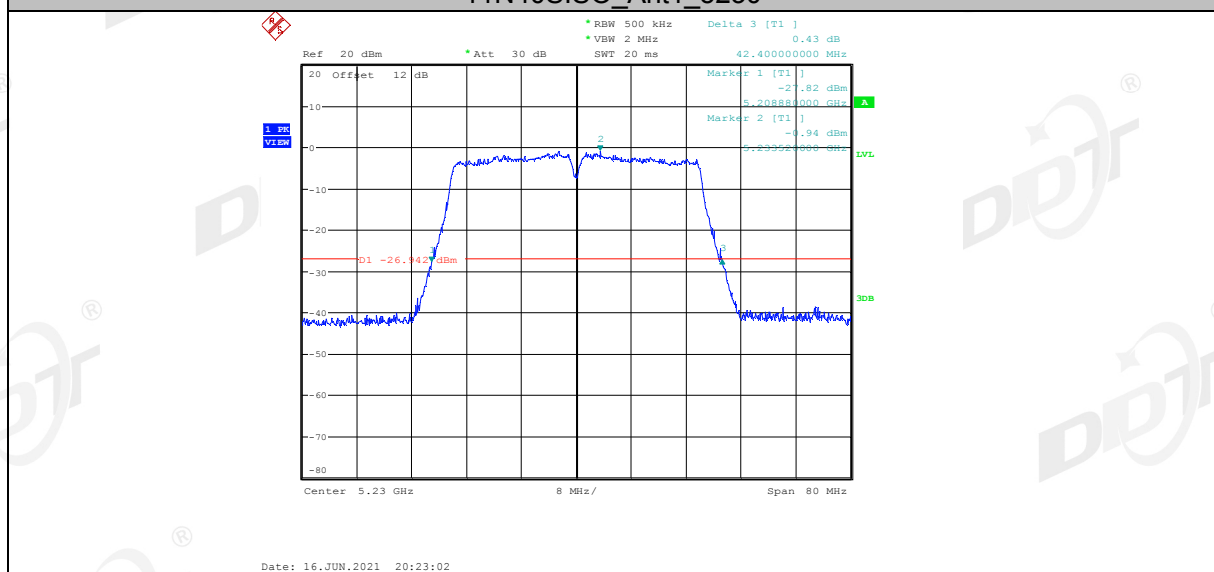
11N20SISO_Ant1_5825



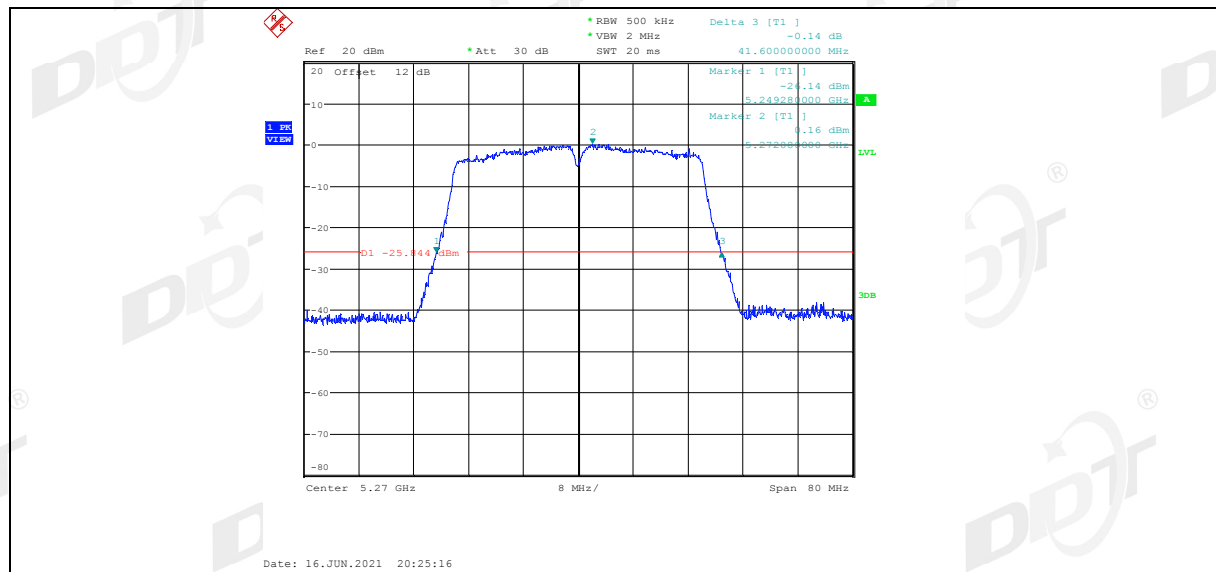
11N40SISO_Ant1_5190



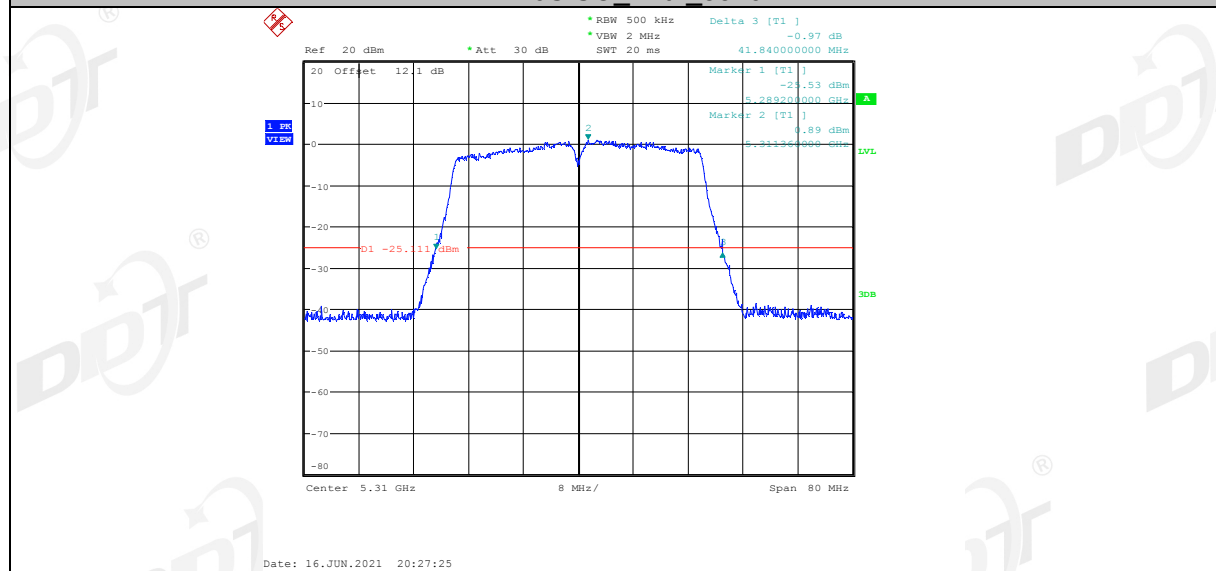
11N40SISO_Ant1_5230



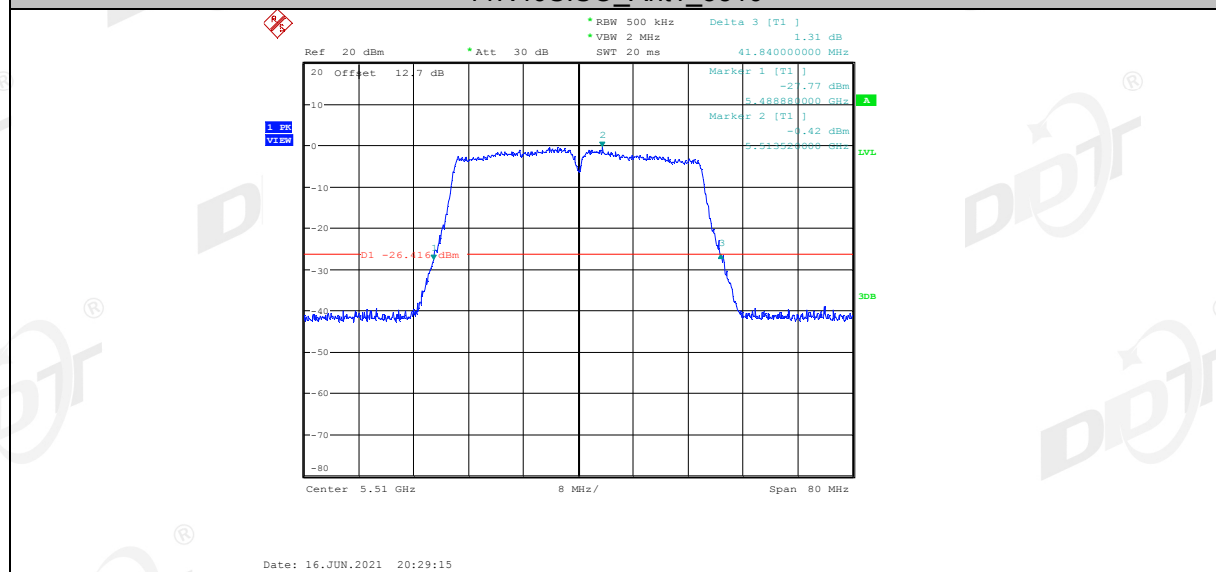
11N40SISO_Ant1_5270



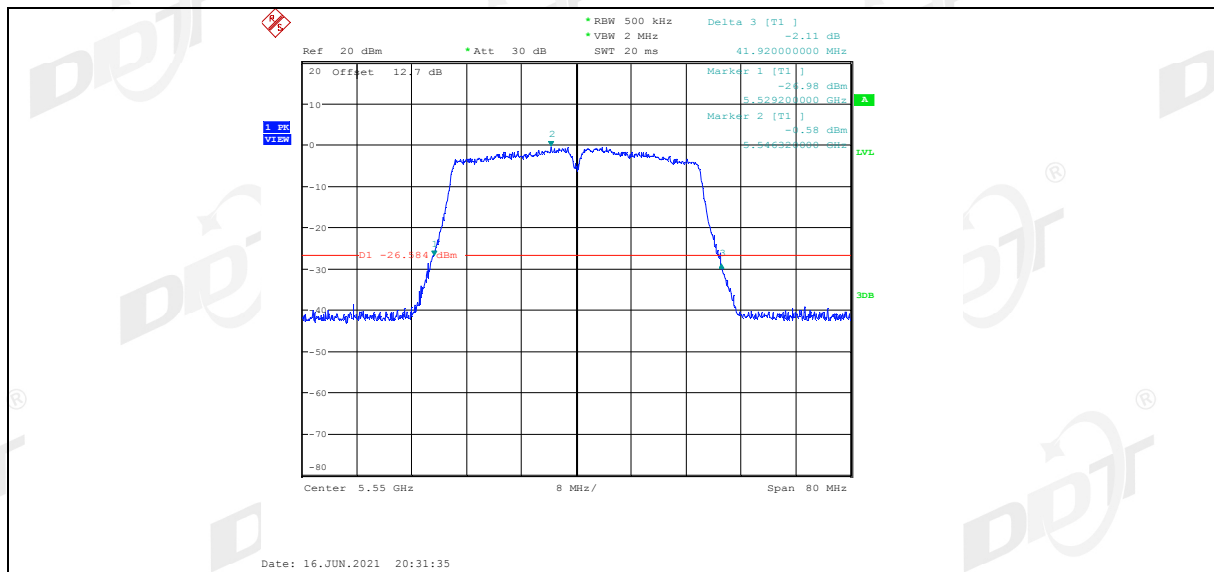
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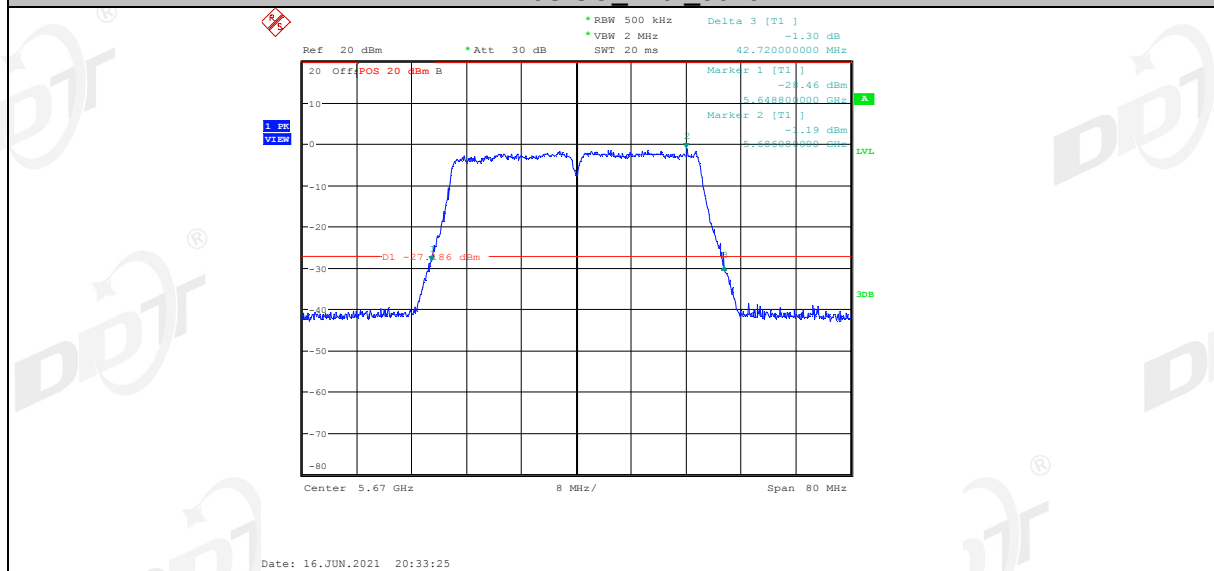
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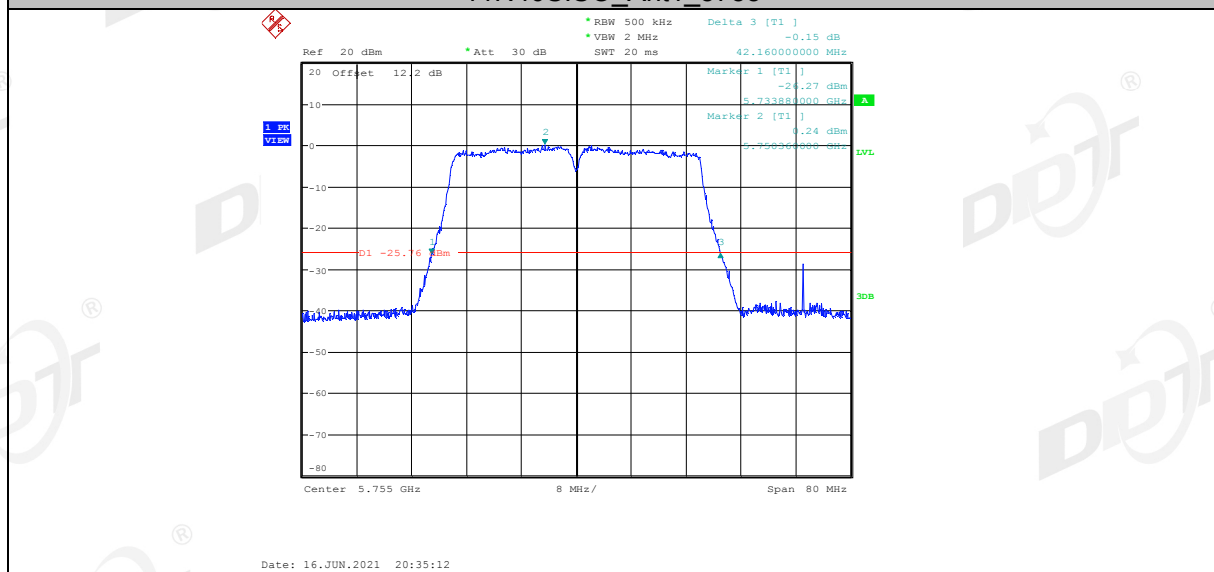
11N40SISO_Ant1_5550



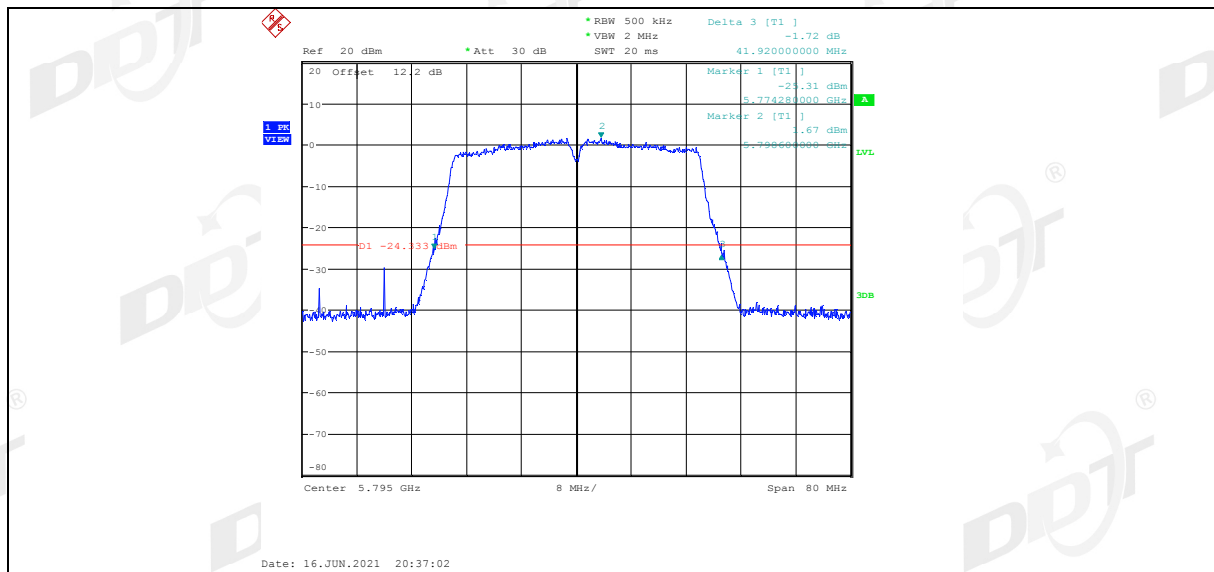
11N40SISO_Ant1_5670



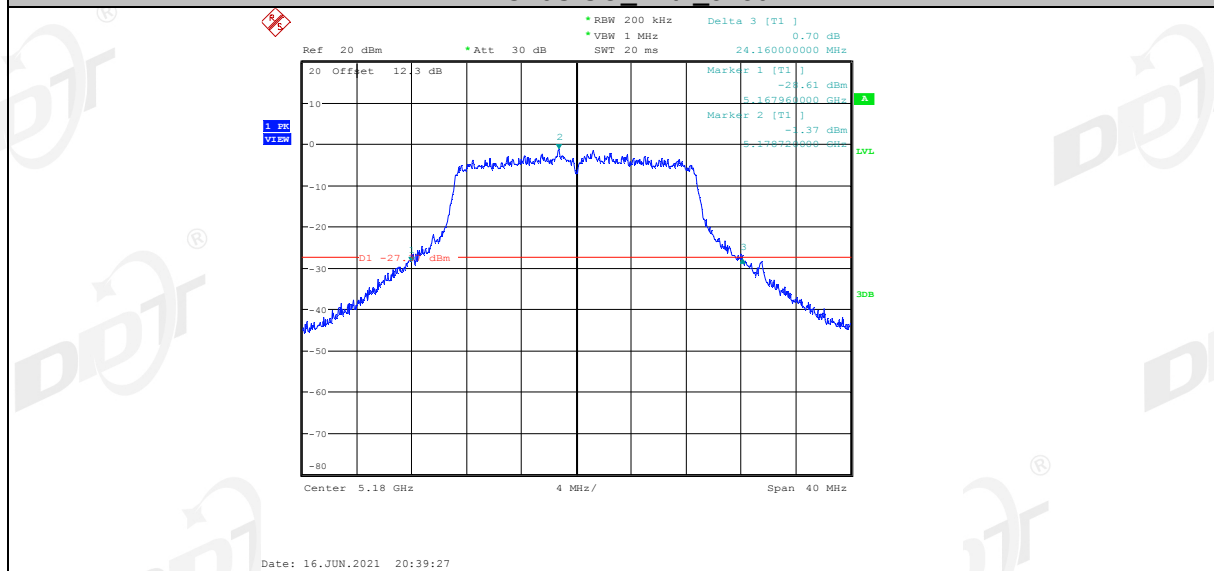
11N40SISO_Ant1_5755



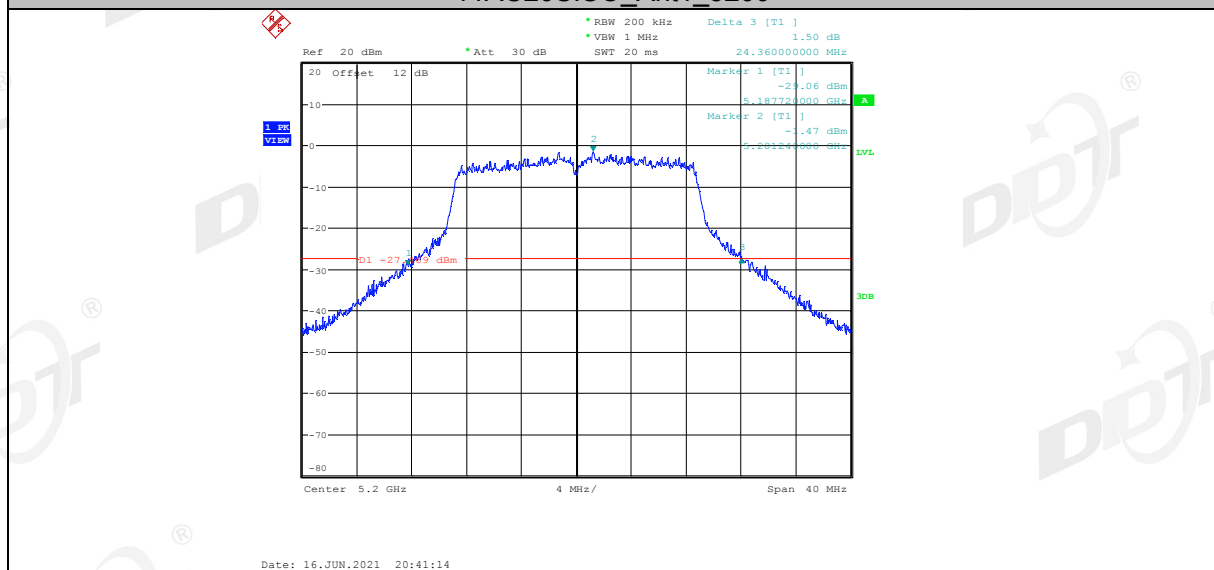
11N40SISO_Ant1_5795



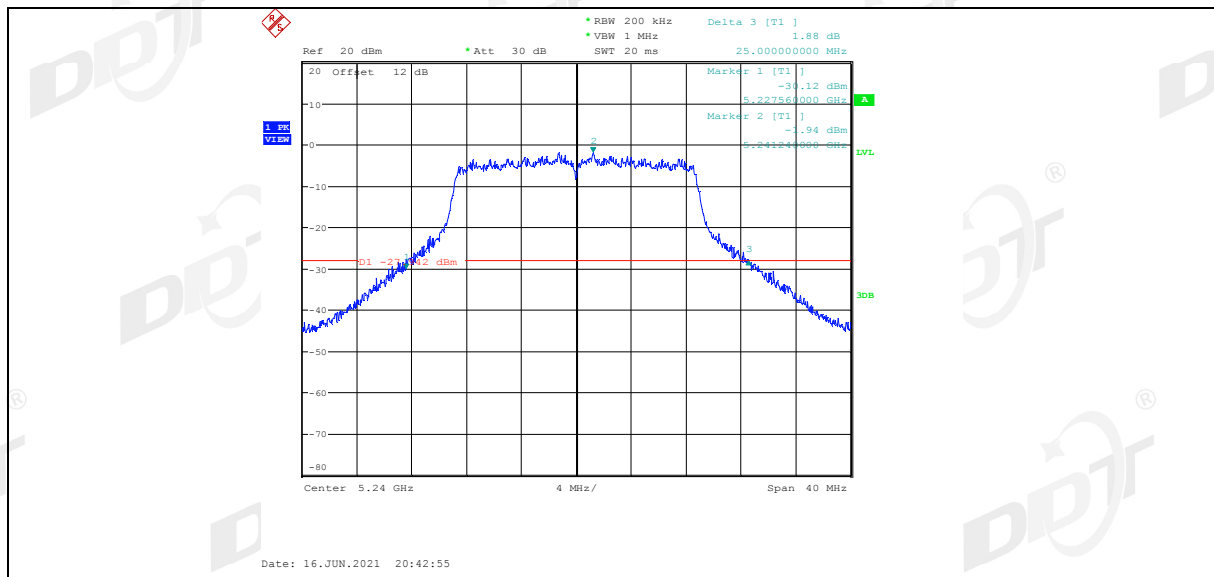
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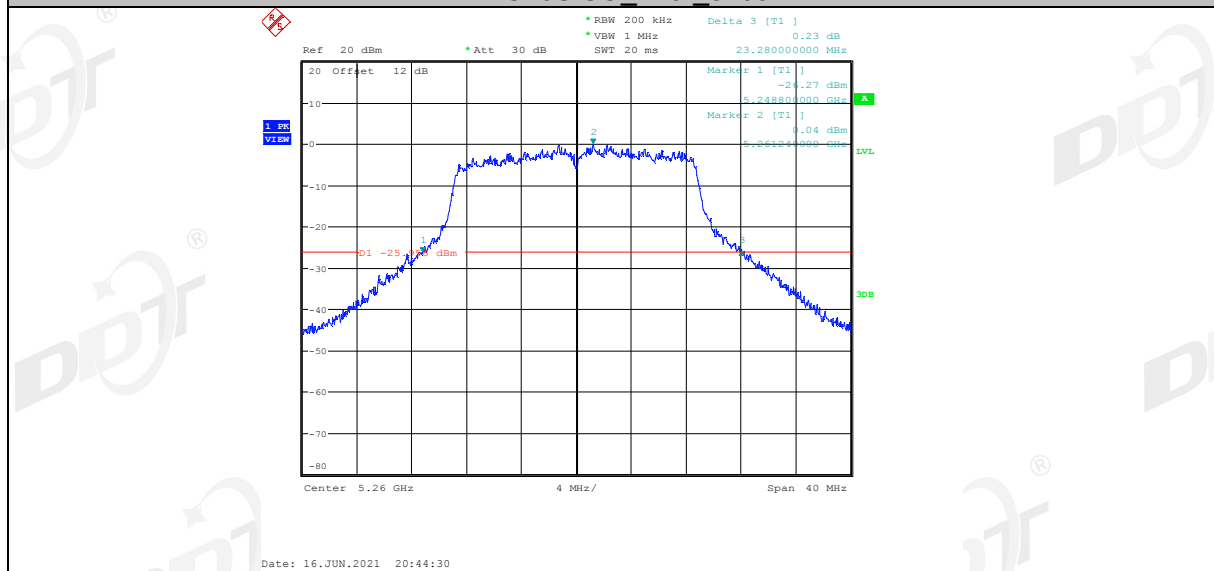
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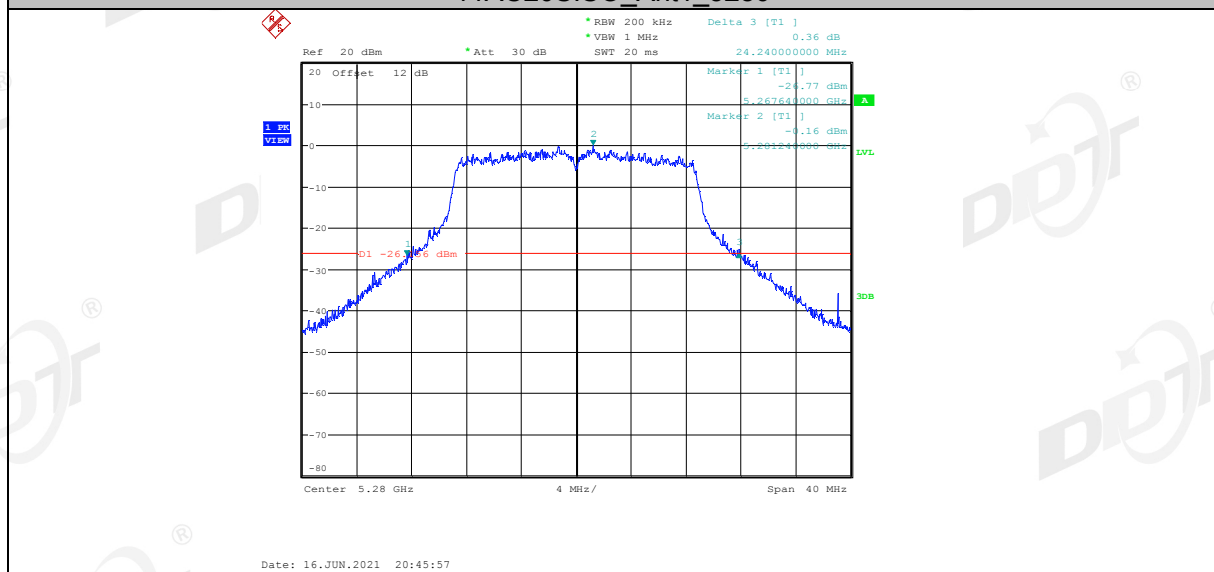
11AC20SISO_Ant1_5240



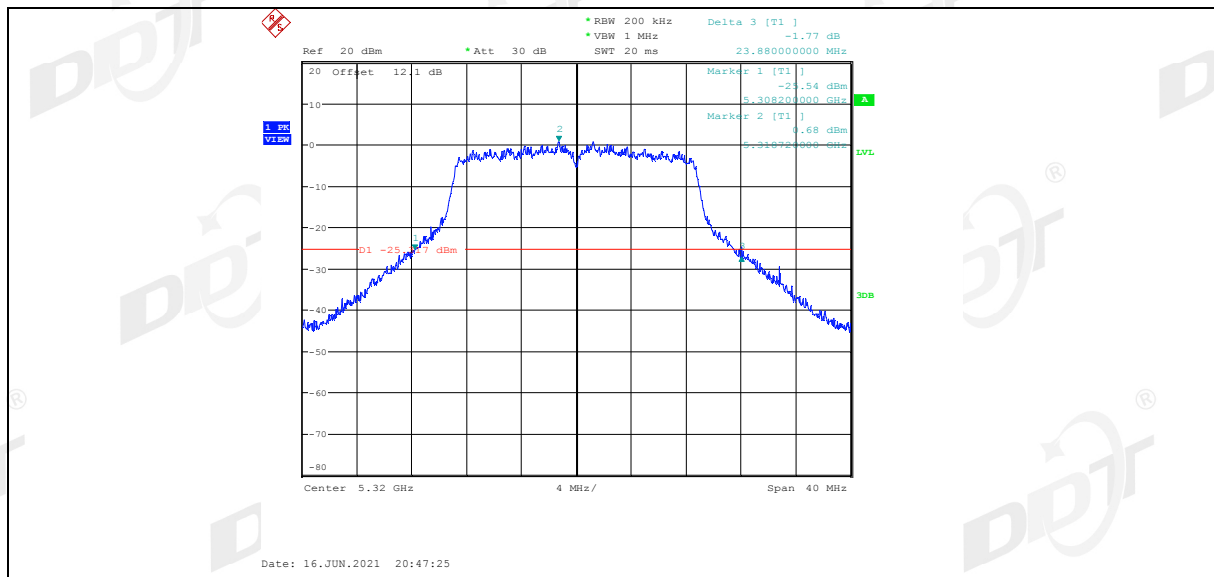
11AC20SISO_Ant1_5260



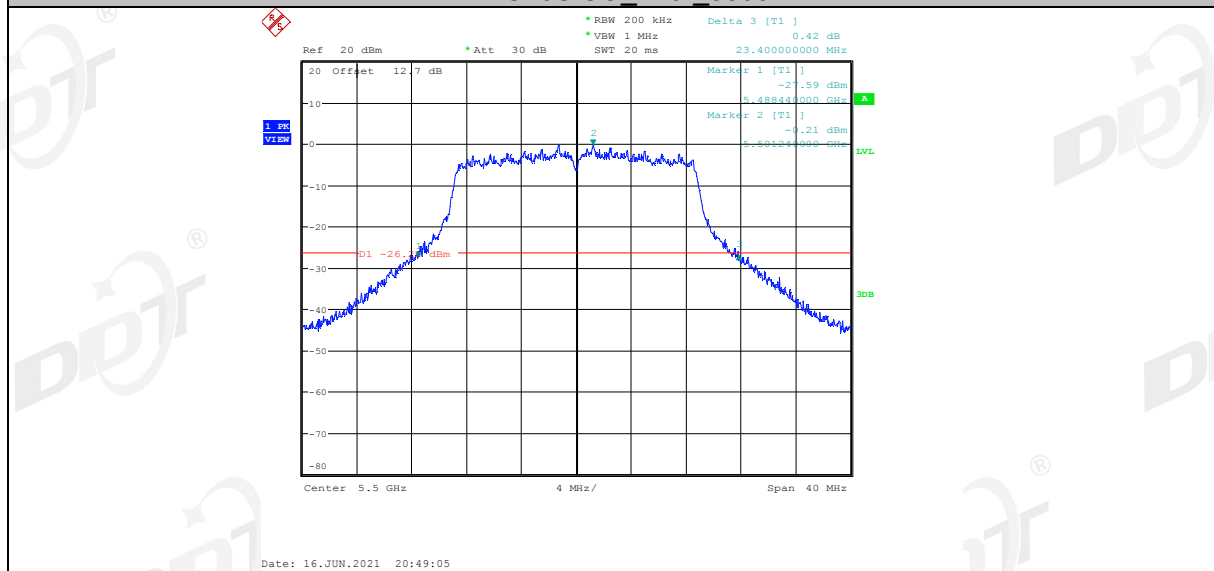
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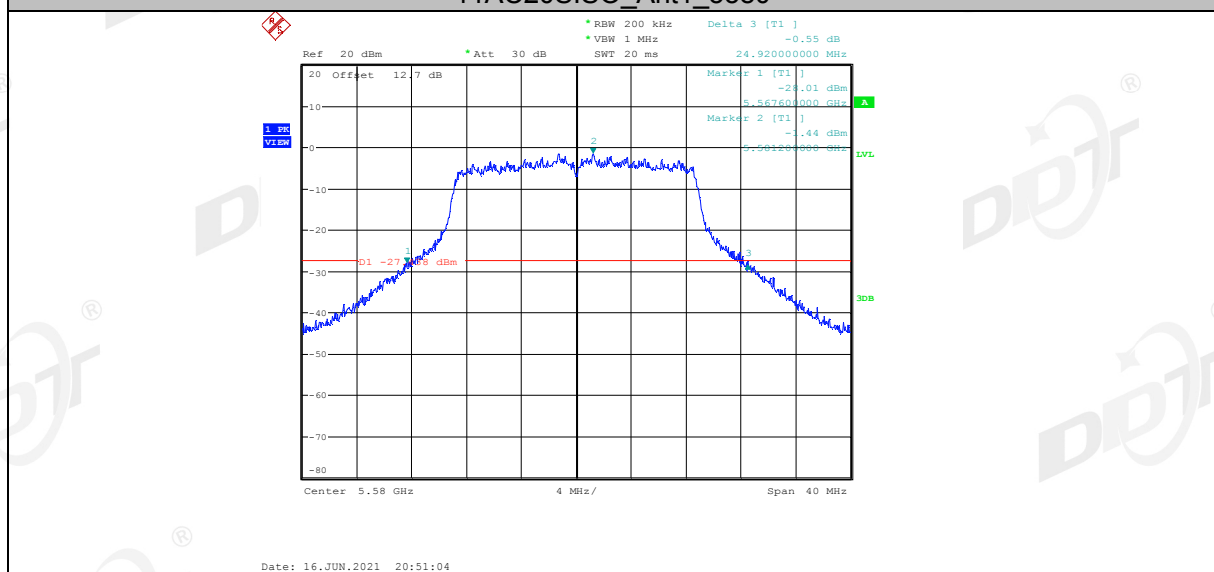
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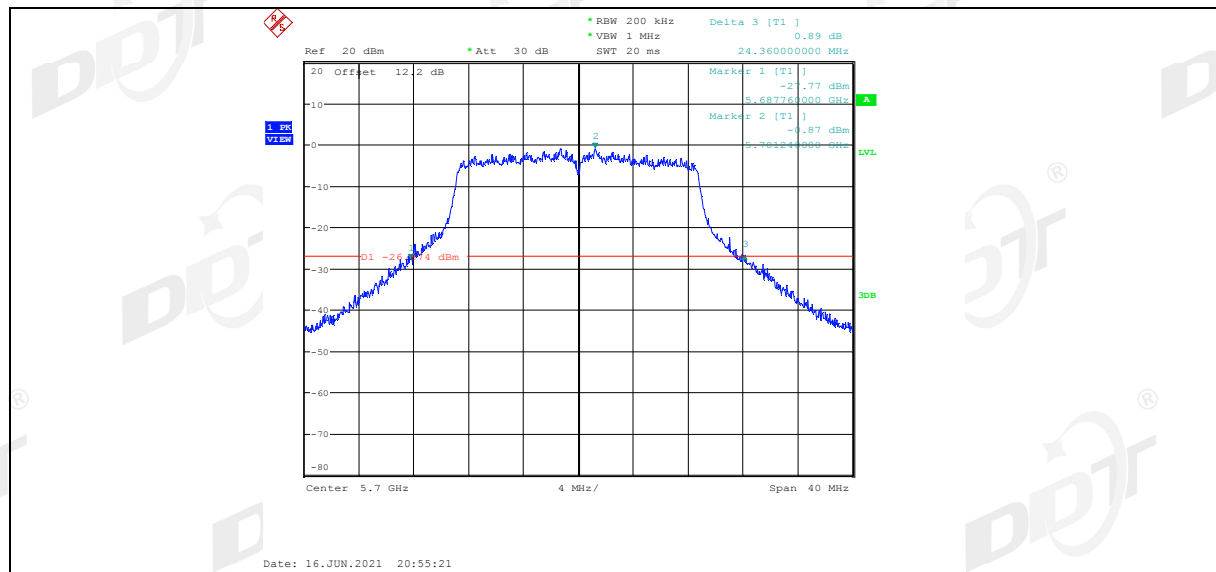
11AC20SISO_Ant1_5500



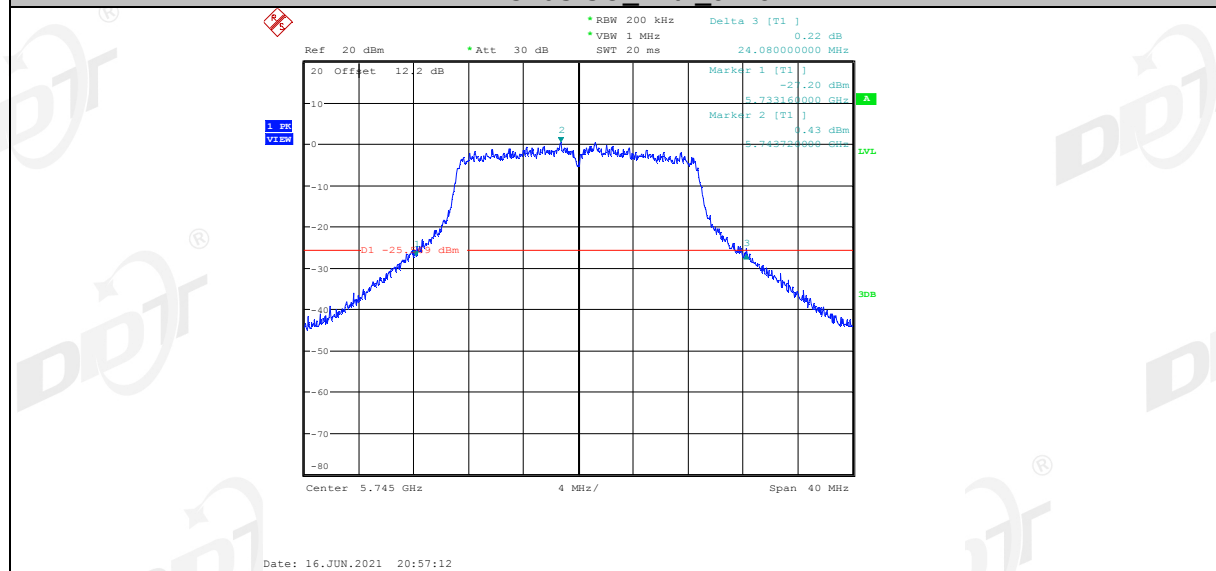
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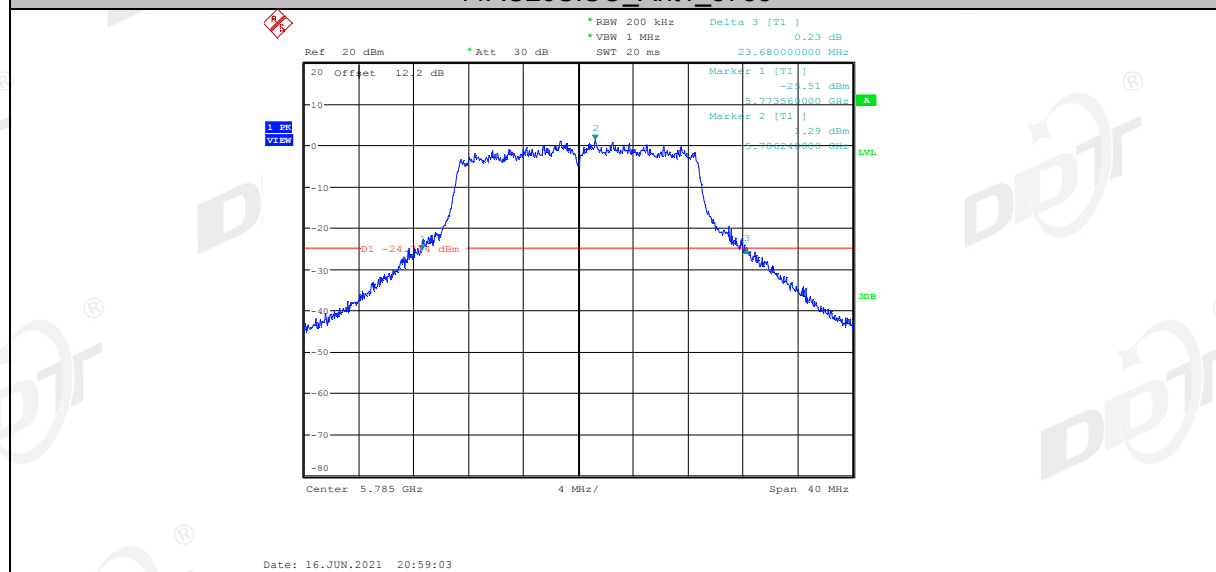
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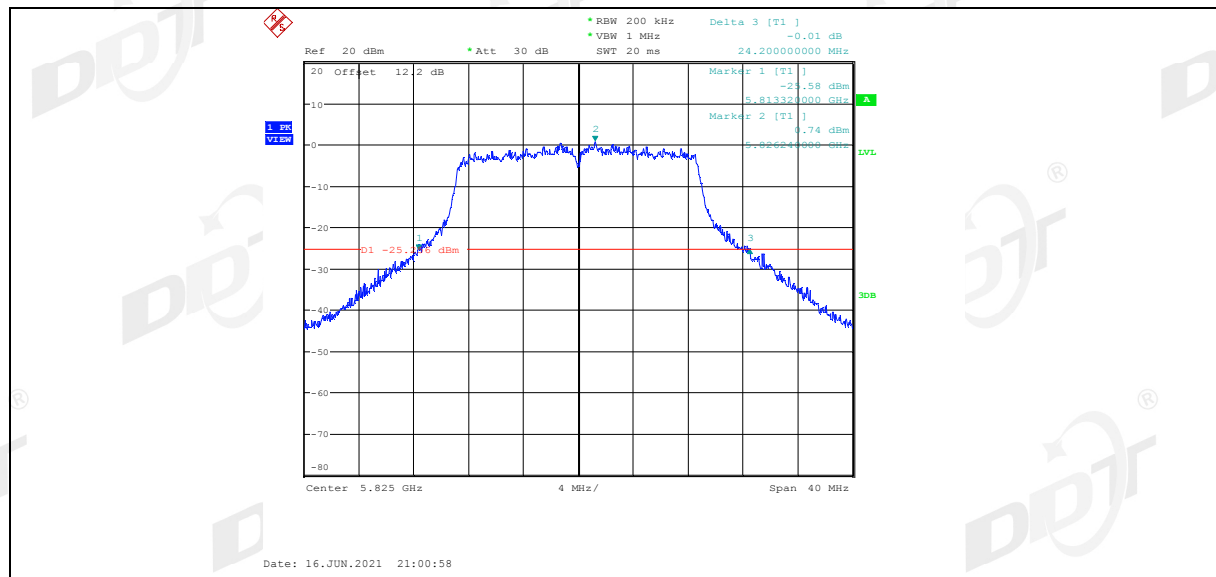
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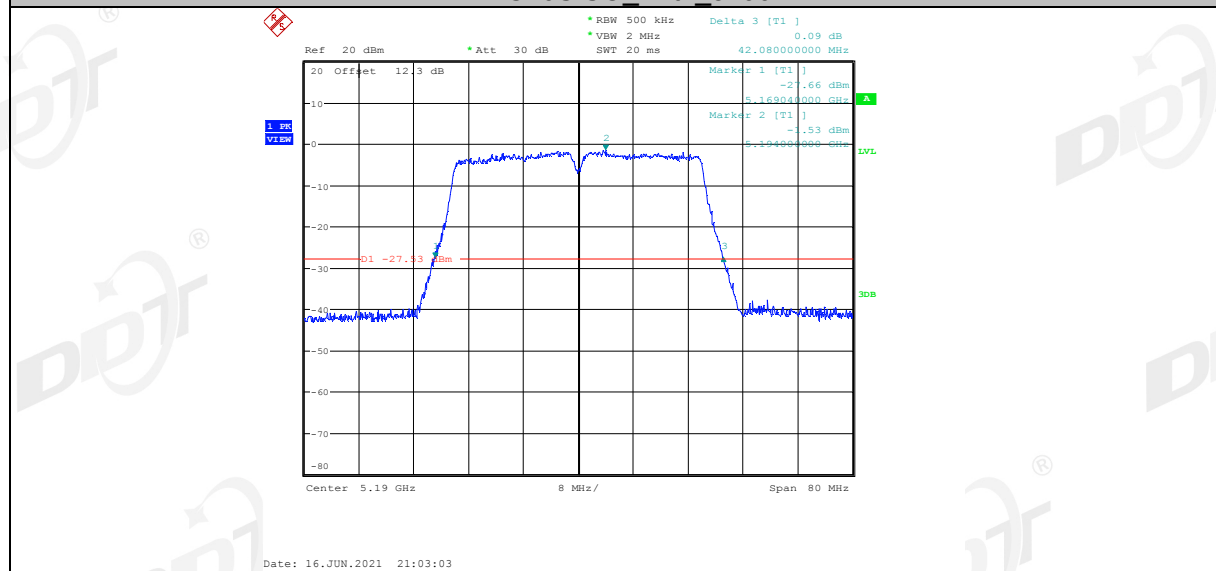
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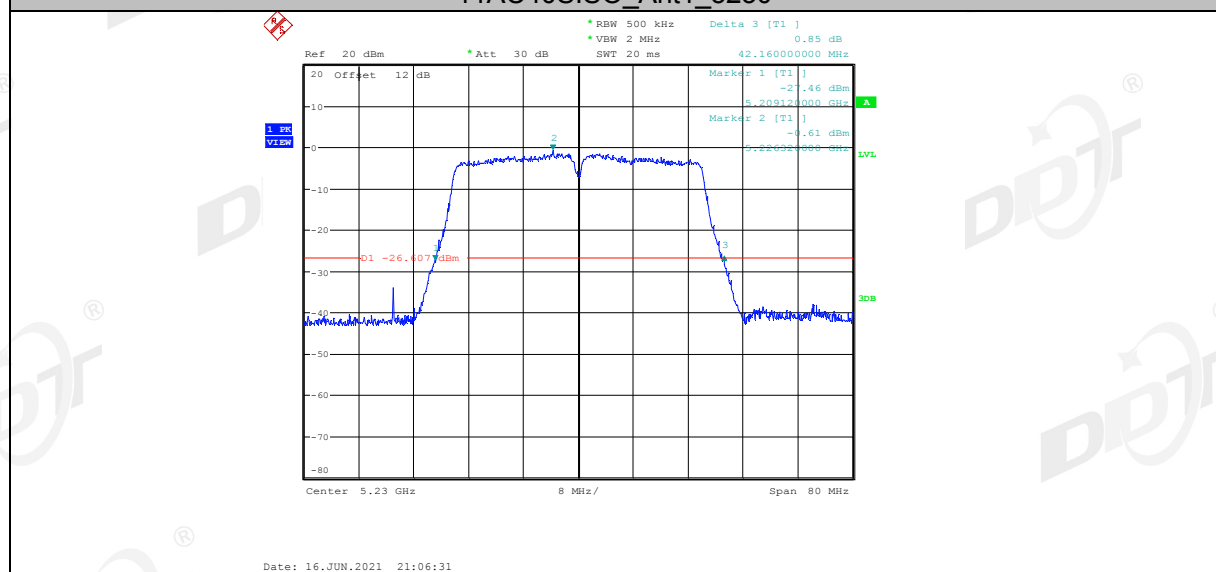
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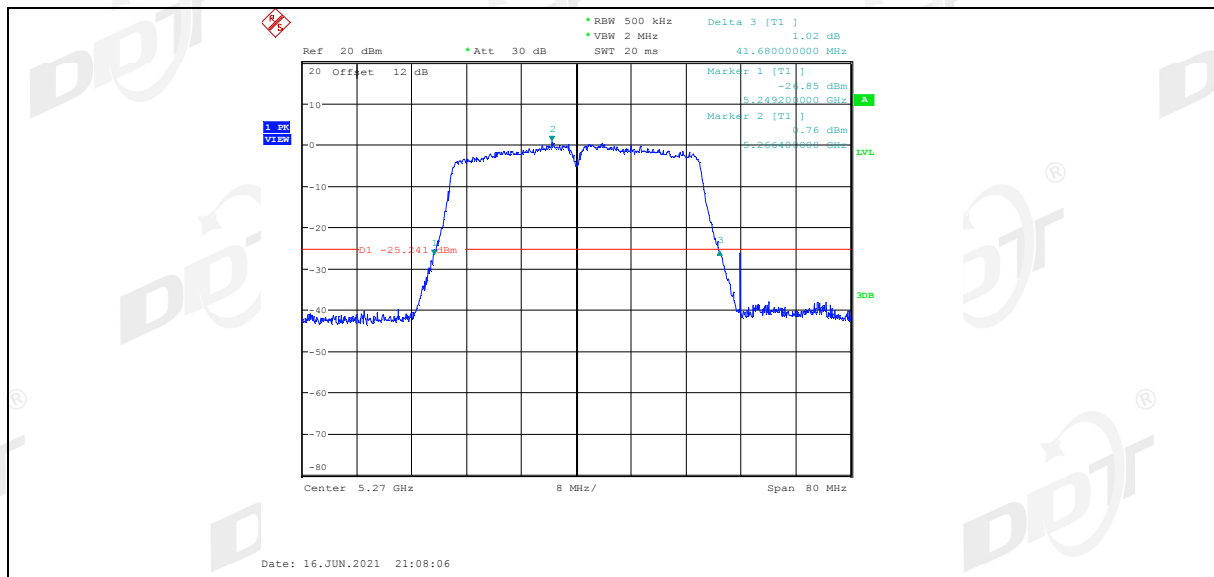
11AC40SISO_Ant1_5190



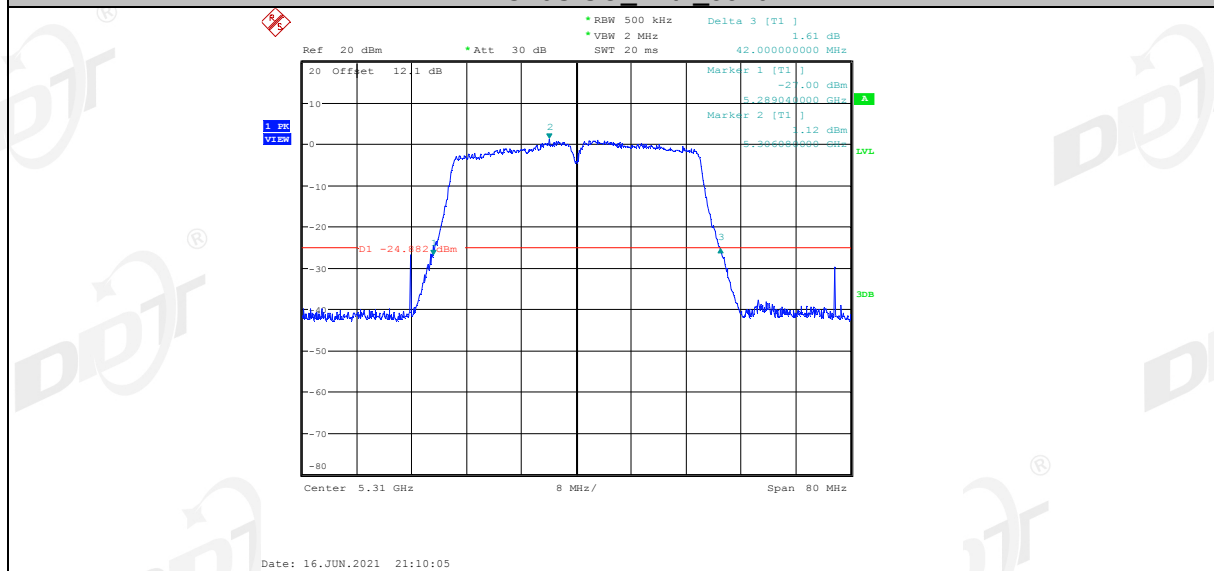
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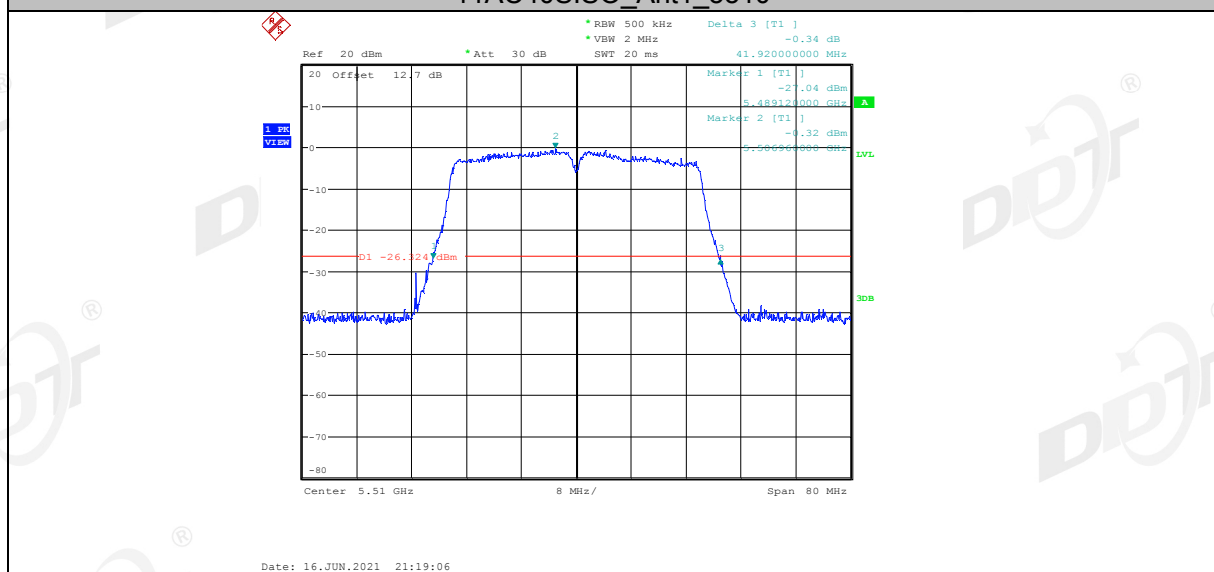
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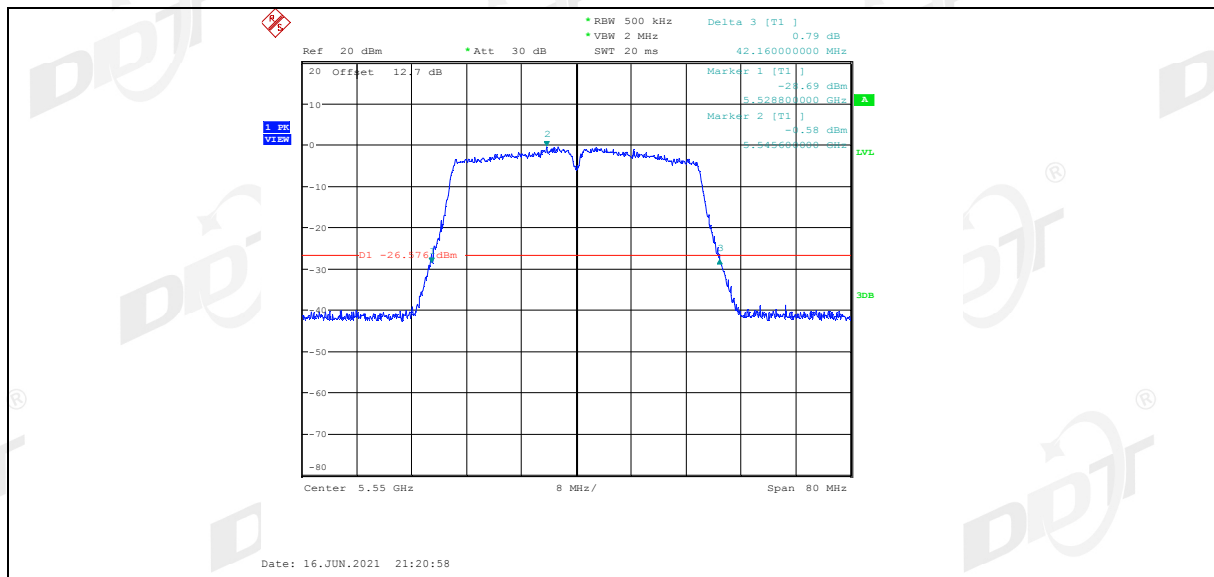
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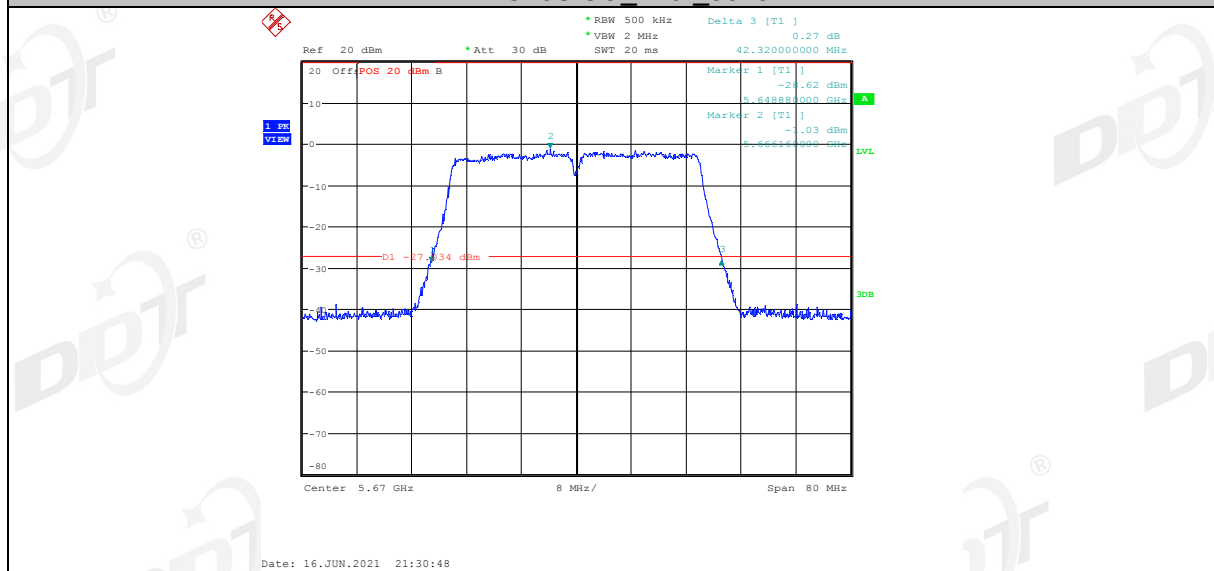
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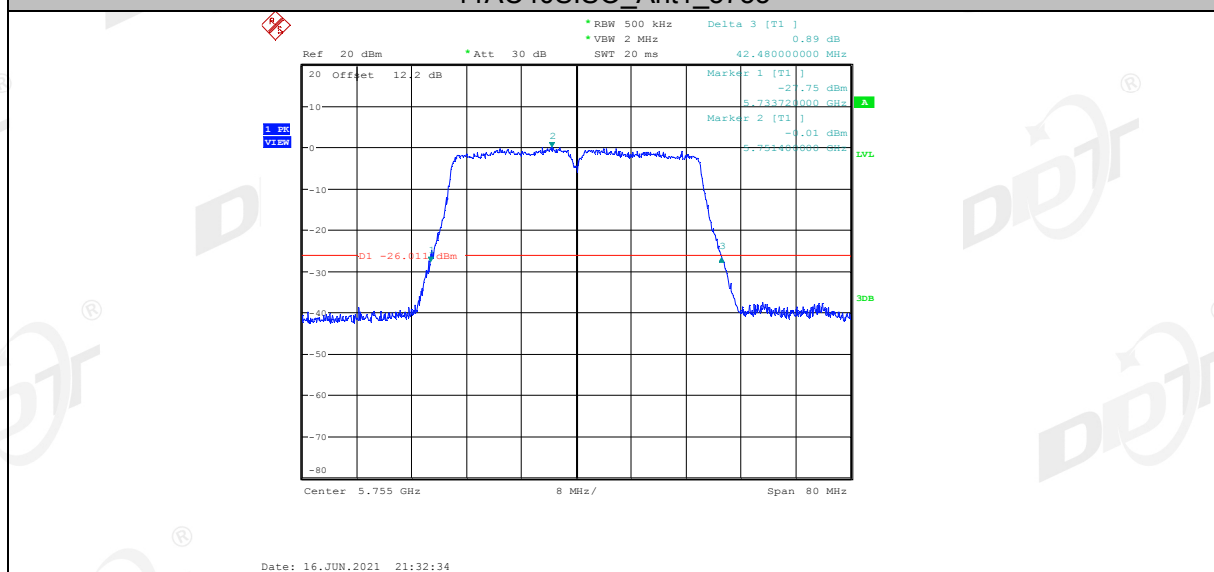
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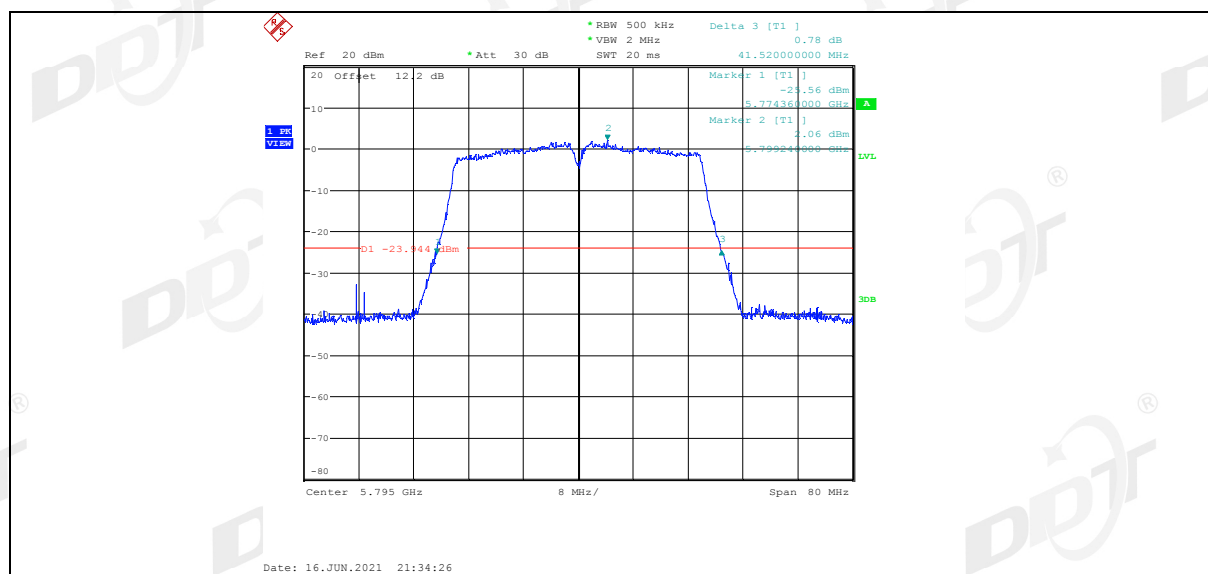
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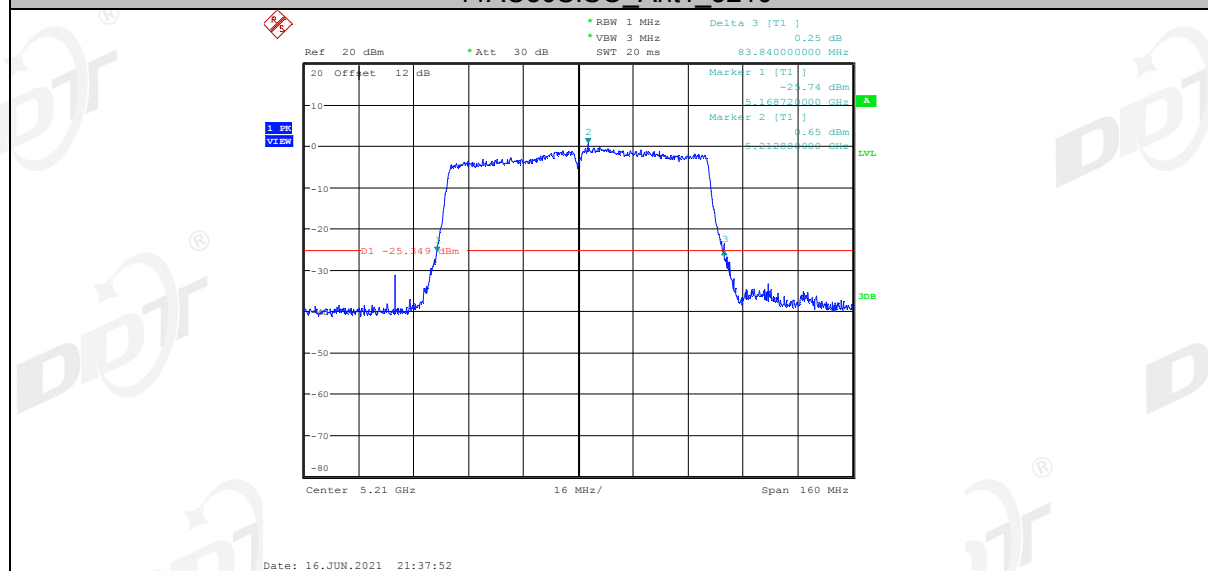
11AC40SISO_Ant1_5755



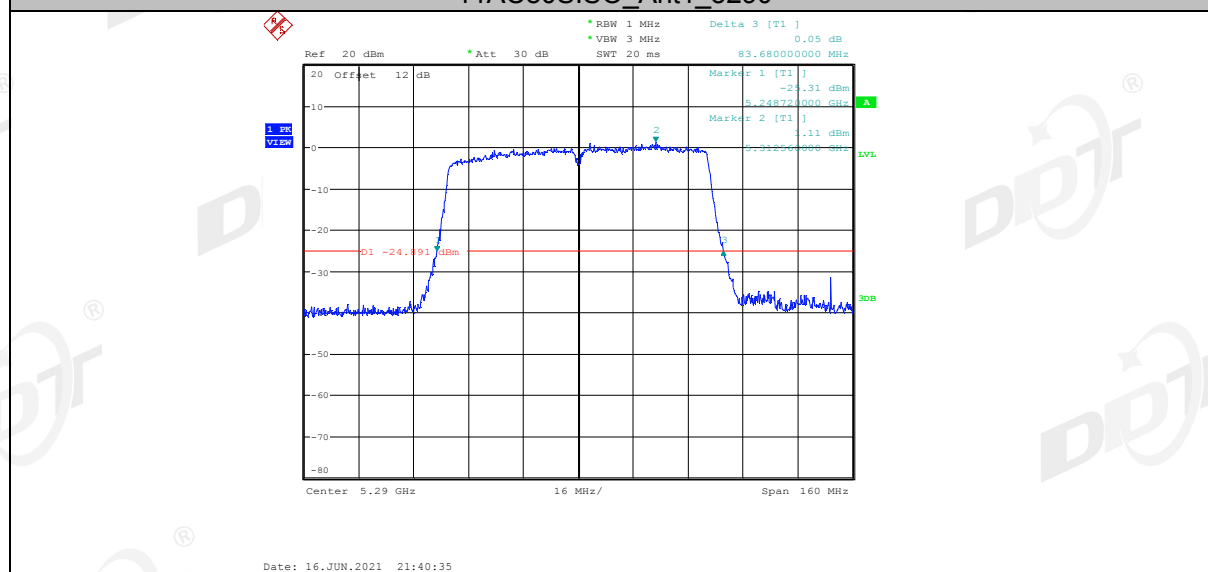
11AC40SISO_Ant1_5795



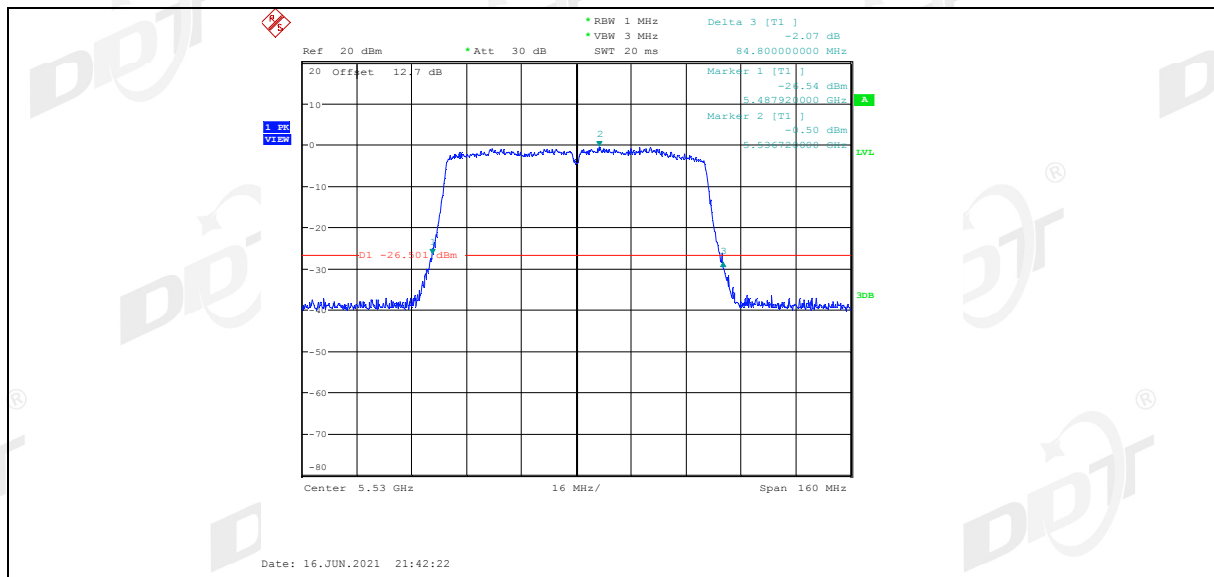
11AC80SISO_Ant1_5210



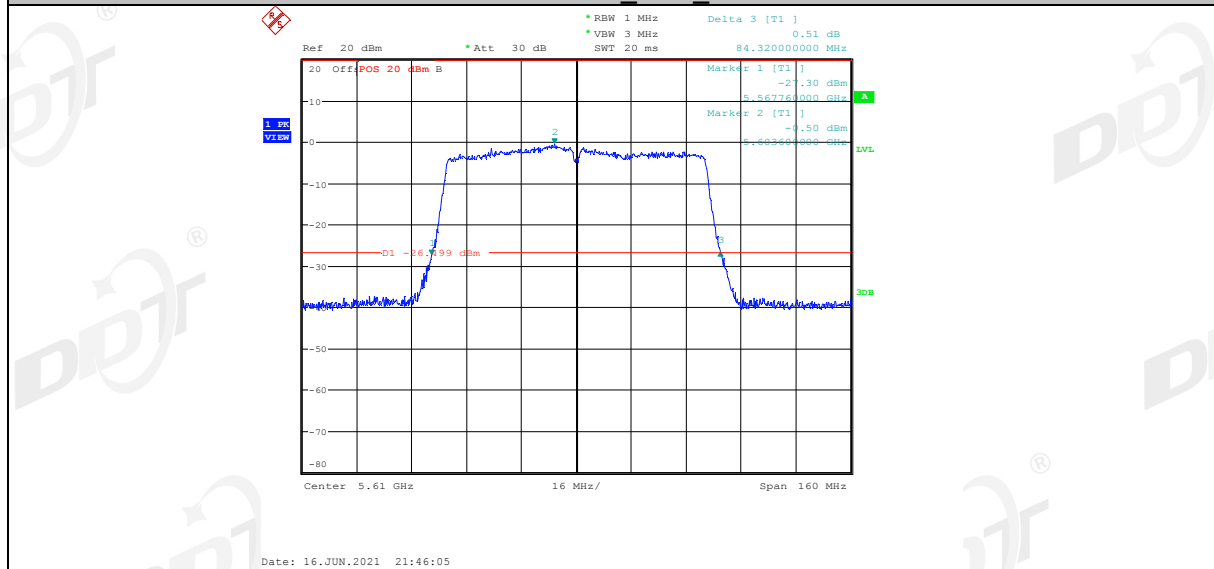
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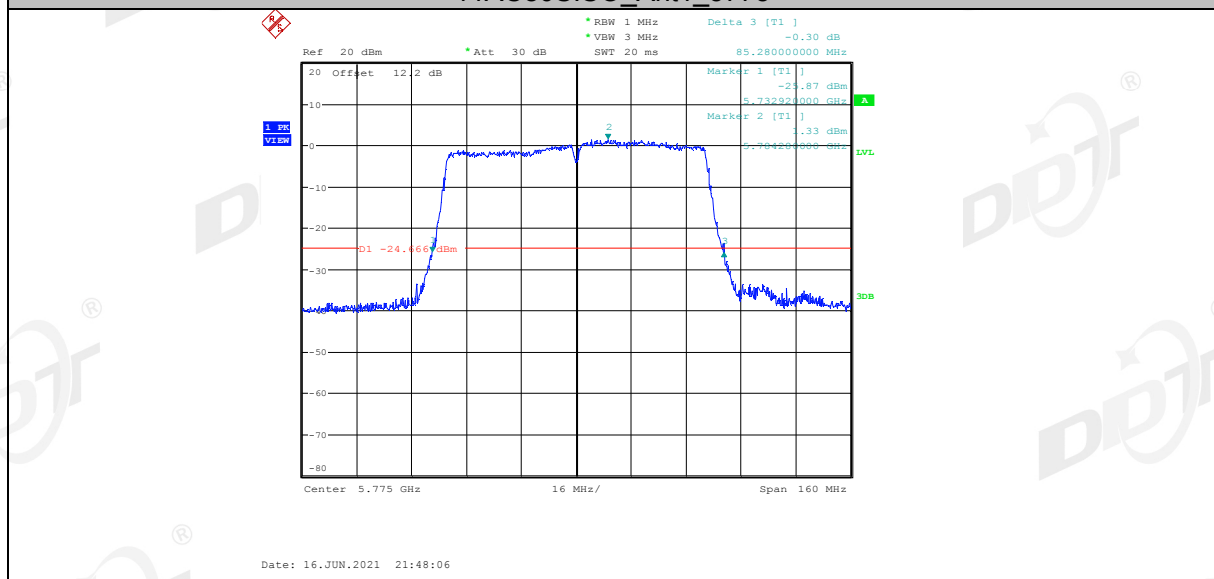
11AC80SISO_Ant1_5530



11AC80SISO_Ant1_5610

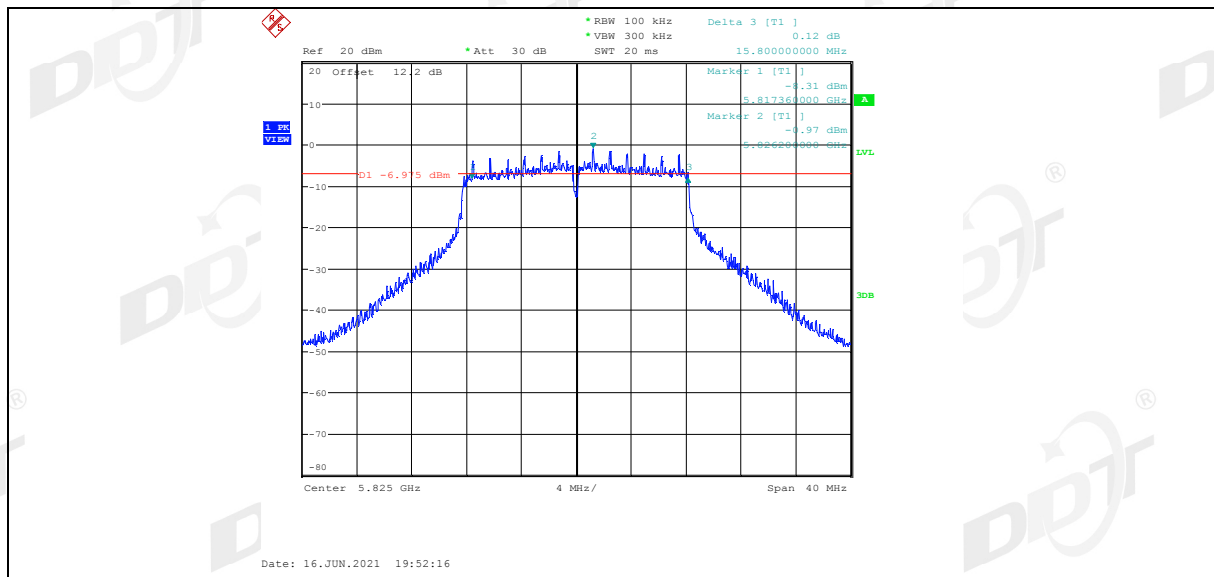


11AC80SISO_Ant1_5775

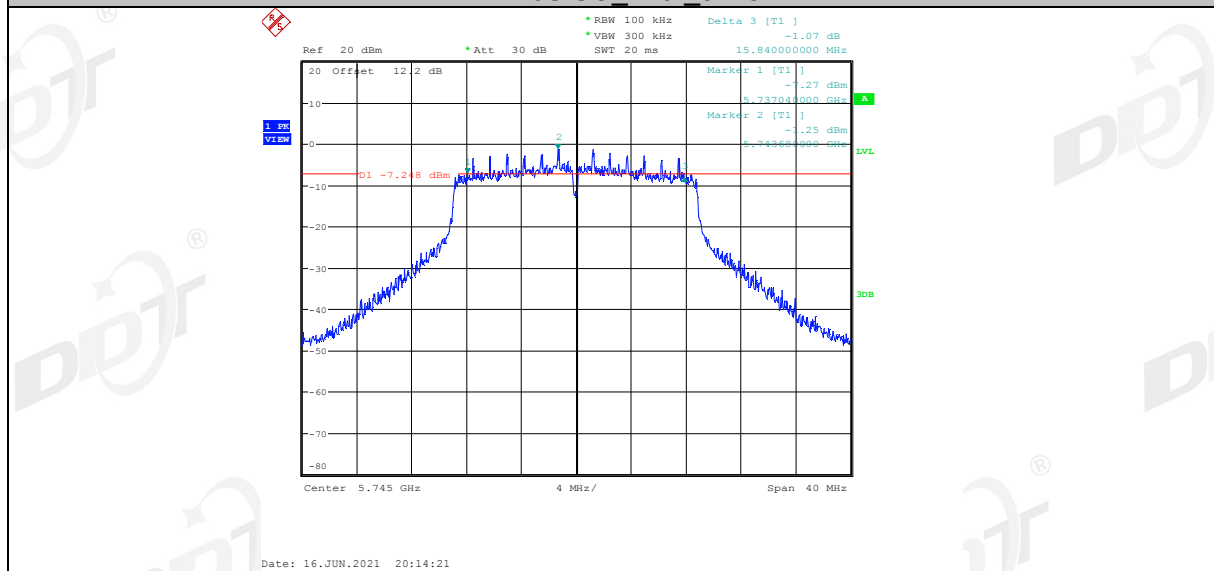


6 dB EBW:

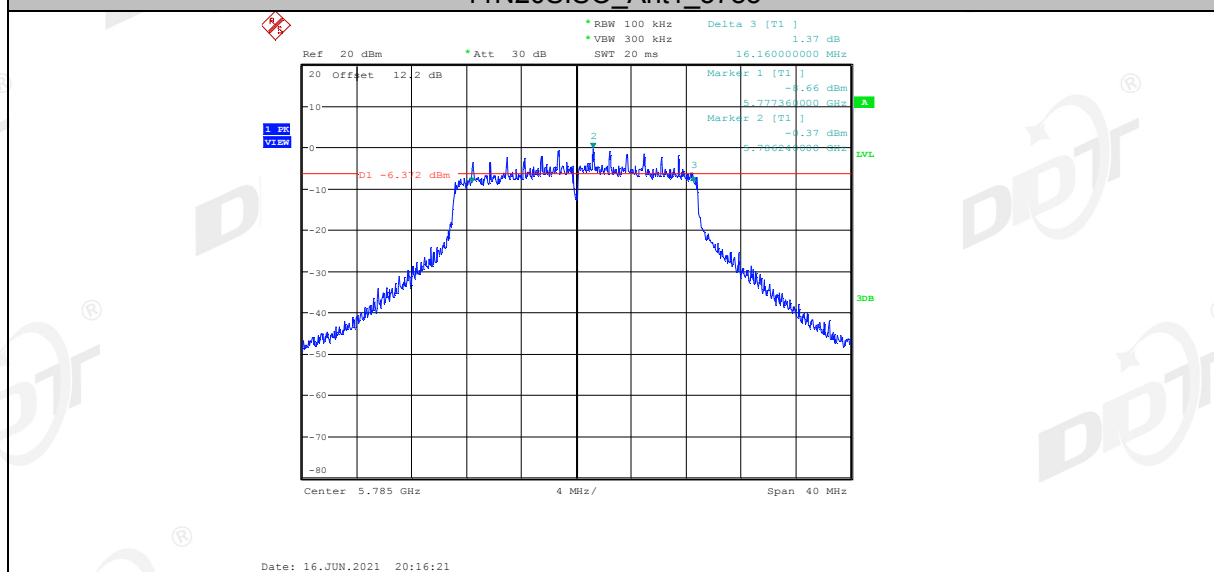




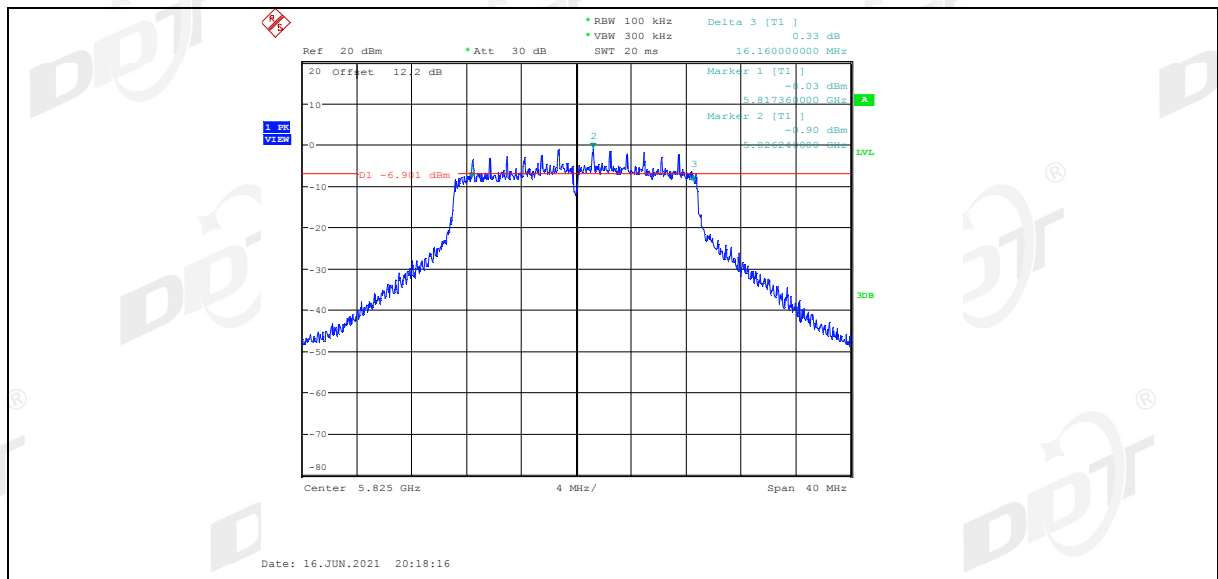
11N20SISO_Ant1_5745



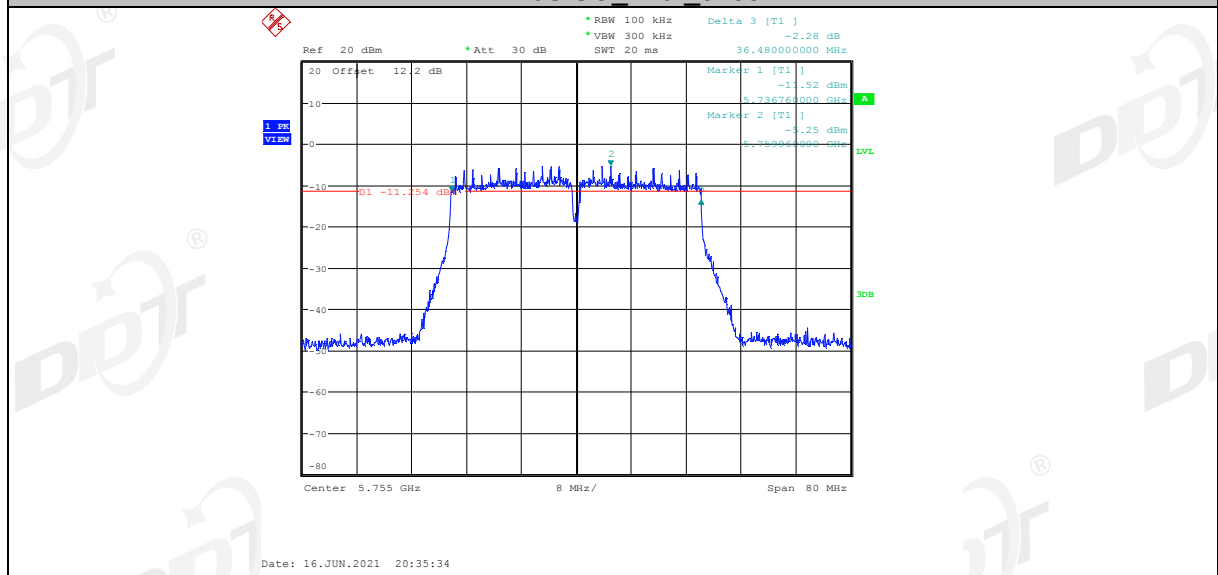
11N20SISO_Ant1_5785



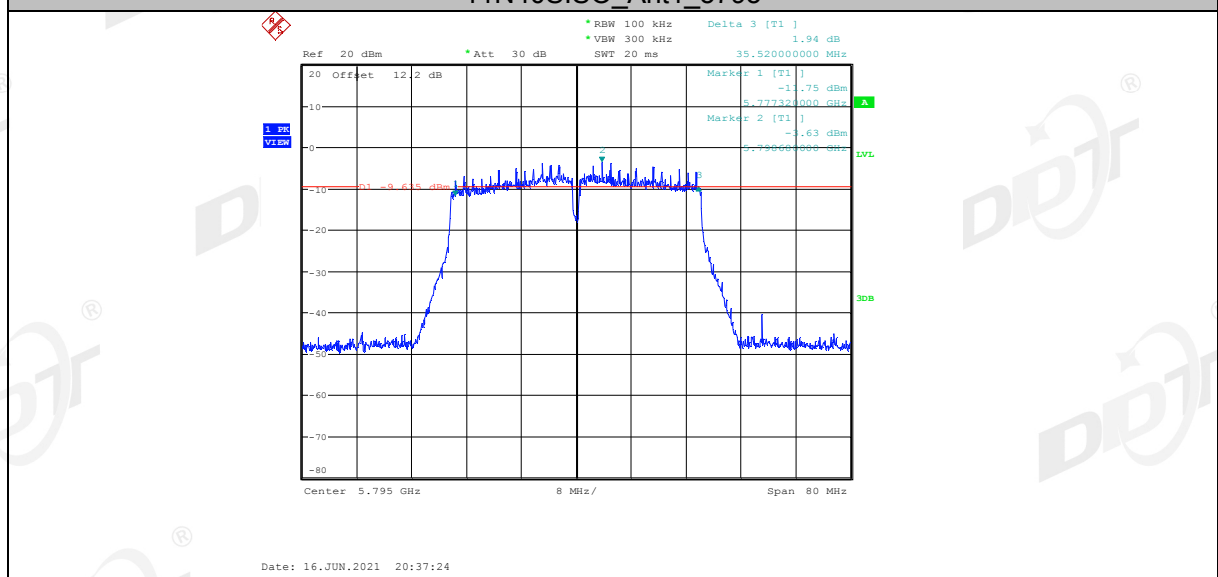
11N20SISO_Ant1_5825



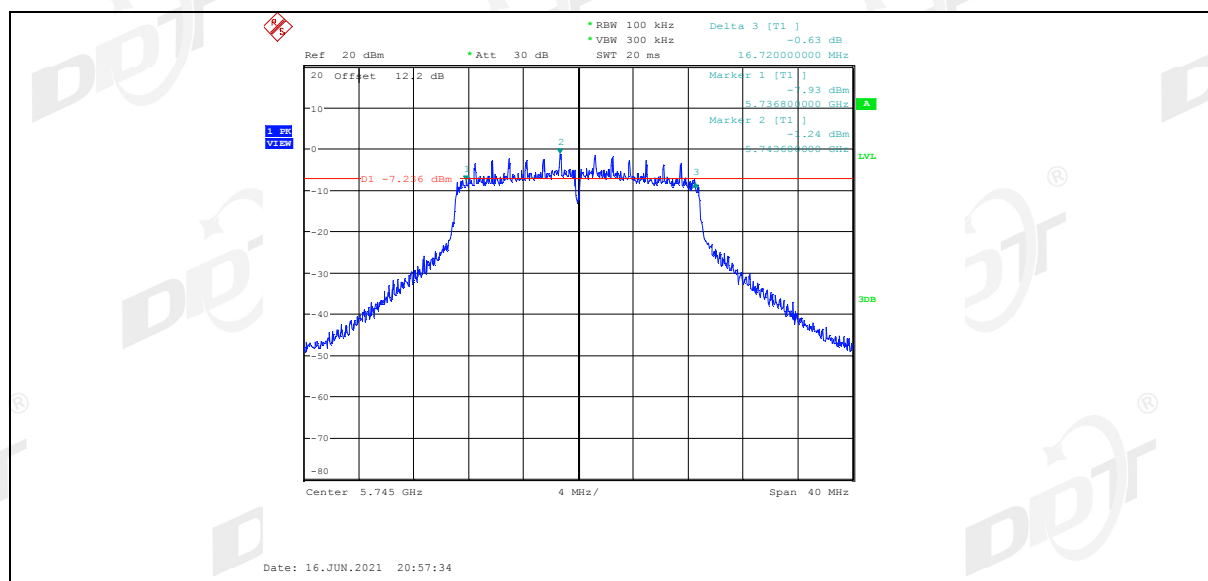
11N40SISO_Ant1_5755



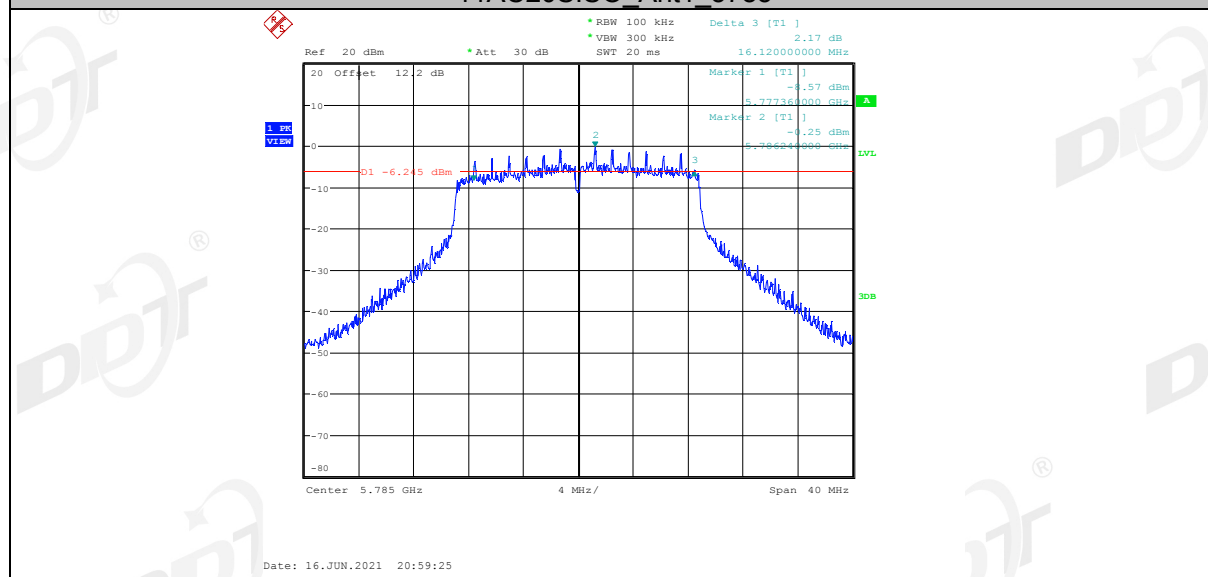
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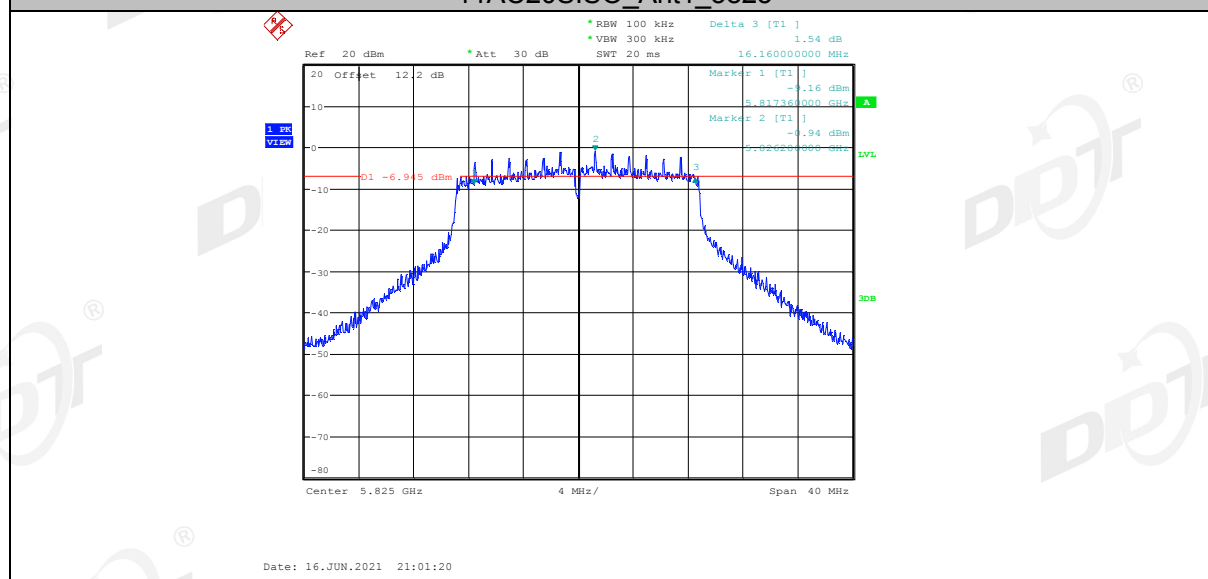
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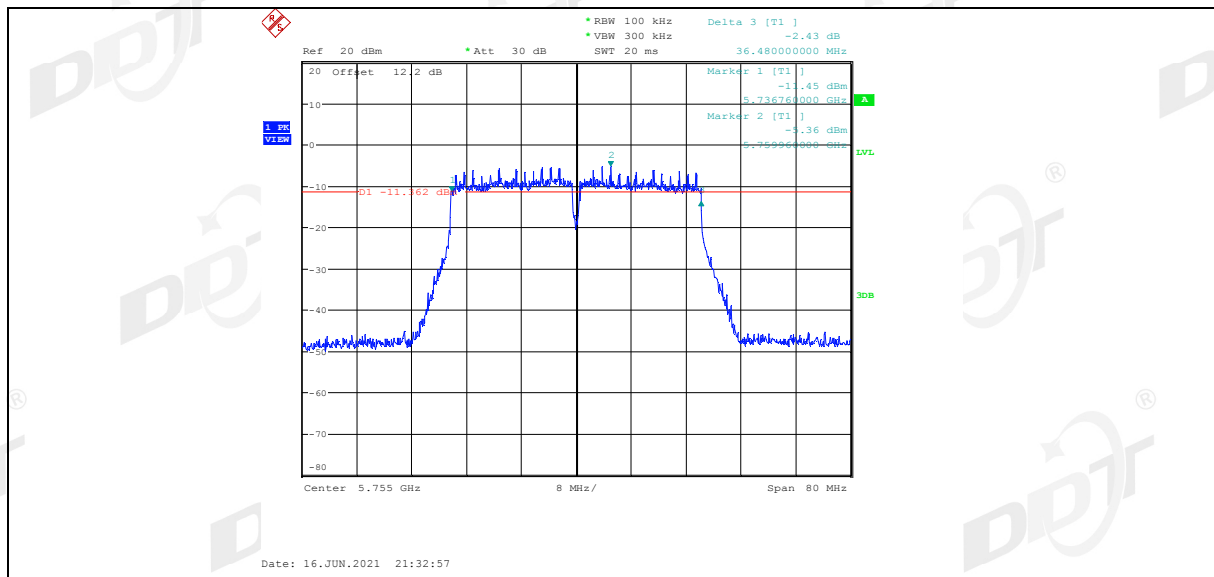
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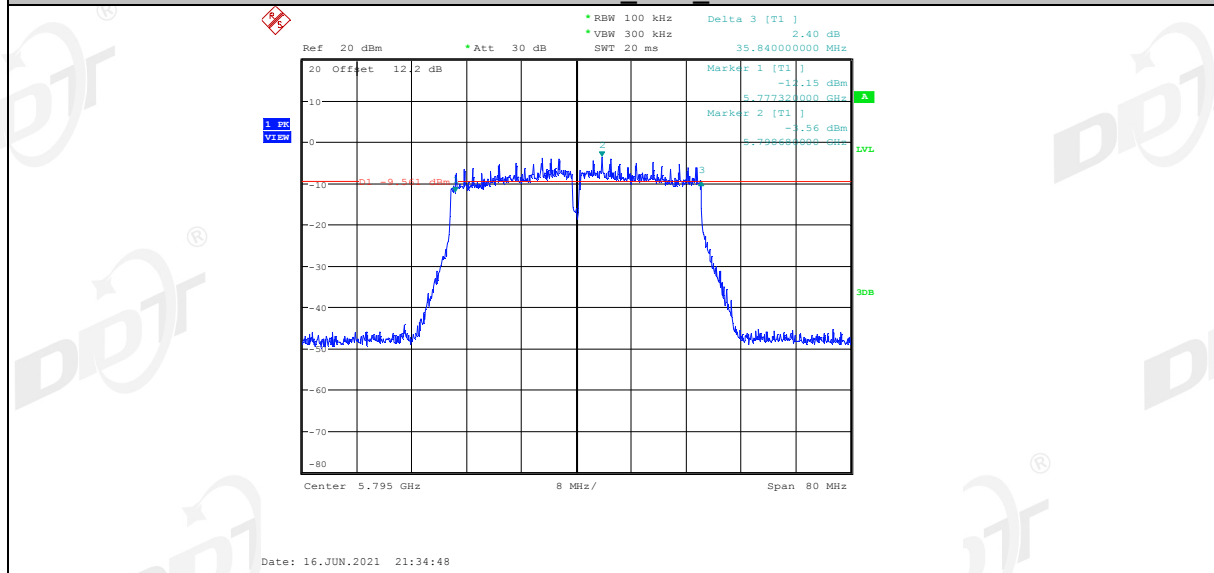
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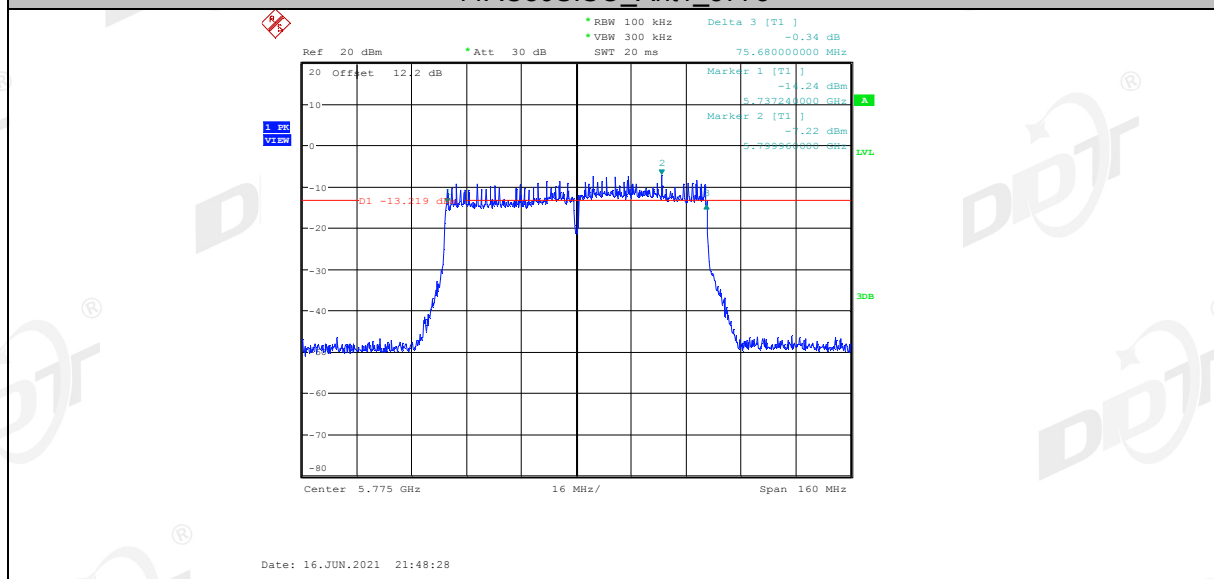
11AC40SISO_Ant1_5755



11AC40SISO_Ant1_5795



11AC80SISO_Ant1_5775



5. Maximum Output Power

5.1. Block diagram of test setup

Same as section 4.1

5.2. Limits

FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
Conducted Output Power	For FCC client devices: 250 mW (24 dBm)	5150 - 5250
	For FCC: 250 mW (24 dBm) or $11 + 10 \log_{10} B$	5250 - 5350
	For FCC: 250 mW (24 dBm) or $11 + 10 \log_{10} B$	5470 - 5725
	1 Watt (30 dBm)	5725 - 5850
Note: For FCC: B = 26 dB 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	6.59	≤ 24	Pass
		5200	6.94	≤ 24	Pass
		5240	7.10	≤ 24	Pass
		5260	7.57	≤ 24	Pass
		5280	7.85	≤ 24	Pass
		5320	8.18	≤ 24	Pass
		5500	7.03	≤ 24	Pass
		5580	6.74	≤ 24	Pass
		5700	7.17	≤ 24	Pass
		5745	8.15	≤ 30	Pass
		5785	8.55	≤ 30	Pass
		5825	8.69	≤ 30	Pass
11N20SISO	Ant1	5180	6.51	≤ 24	Pass
		5200	6.83	≤ 24	Pass
		5240	6.97	≤ 24	Pass
		5260	7.46	≤ 24	Pass

		5280	7.82	<=24	Pass
		5320	7.97	<=24	Pass
		5500	6.93	<=24	Pass
		5580	6.65	<=24	Pass
		5700	6.99	<=24	Pass
		5745	8.03	<=30	Pass
		5785	8.33	<=30	Pass
		5825	8.48	<=30	Pass
11N40SISO	Ant1	5190	7.00	<=24	Pass
		5230	7.19	<=24	Pass
		5270	7.92	<=24	Pass
		5310	8.27	<=24	Pass
		5510	7.26	<=24	Pass
		5550	6.75	<=24	Pass
		5670	7.31	<=24	Pass
		5755	8.48	<=30	Pass
11AC20SISO	Ant1	5795	8.95	<=30	Pass
		5180	6.41	<=24	Pass
		5200	6.73	<=24	Pass
		5240	6.94	<=24	Pass
		5260	7.49	<=24	Pass
		5280	7.65	<=24	Pass
		5320	7.98	<=24	Pass
		5500	6.94	<=24	Pass
		5580	6.62	<=24	Pass
		5700	6.98	<=24	Pass
		5745	7.97	<=30	Pass
		5785	8.33	<=30	Pass
11AC40SISO	Ant1	5825	8.58	<=30	Pass
		5190	7.01	<=24	Pass
		5230	7.16	<=24	Pass
		5270	7.92	<=24	Pass
		5310	8.24	<=24	Pass
		5510	7.26	<=24	Pass
		5550	6.77	<=24	Pass
		5670	7.42	<=24	Pass
11AC80SISO	Ant1	5755	8.54	<=30	Pass
		5795	9.05	<=30	Pass
		5210	6.88	<=24	Pass
		5290	7.89	<=24	Pass
		5530	6.86	<=24	Pass
		5610	6.77	<=24	Pass
		5775	8.47	<=30	Pass

6. Power Spectral Density

6.1. Block diagram of test setup

Same with 4.1

6.2. Limits

FCC Part15, Subpart E		
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
	11 dBm/MHz	5250 - 5350
	11 dBm/MHz	5470 - 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	$\geq 3 \times \text{RBW}$
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	$\geq 3 \times \text{RBW}$
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

6.4. Test result**(5150 - 5250)**

Test Mode	Ant	Test Channel	PSD [dBm/MHz]	Limit [dBm/MHz]	Verdict
11A	ANT1	5180	-2.65	11	Pass
11A	ANT1	5200	-2.86	11	Pass
11A	ANT1	5240	-3.32	11	Pass
11N20SISO	ANT1	5180	-2.53	11	Pass
11N20SISO	ANT1	5200	-2.71	11	Pass
11N20SISO	ANT1	5240	-3.46	11	Pass
11N40SISO	ANT1	5190	-5.90	11	Pass
11N40SISO	ANT1	5230	-5.74	11	Pass
11AC20SISO	ANT1	5180	-2.31	11	Pass
11AC20SISO	ANT1	5200	-2.61	11	Pass
11AC20SISO	ANT1	5240	-3.07	11	Pass
11AC40SISO	ANT1	5190	-5.52	11	Pass
11AC40SISO	ANT1	5230	-5.64	11	Pass
11AC80SISO	ANT1	5210	-8.41	11	Pass

(5250 - 5350, 5470 - 5725)

Test Mode	Ant	Test Channel	PSD [dBm/MHz]	Limit [dBm/MHz]	Verdict
11A	ANT1	5260	-1.44	11	Pass
11A	ANT1	5280	-1.40	11	Pass
11A	ANT1	5320	-0.28	11	Pass
11A	ANT1	5500	-1.66	11	Pass
11A	ANT1	5580	-2.73	11	Pass
11A	ANT1	5700	-2.02	11	Pass
11N20SISO	ANT1	5260	-1.38	11	Pass
11N20SISO	ANT1	5280	-1.48	11	Pass
11N20SISO	ANT1	5320	-0.20	11	Pass
11N20SISO	ANT1	5500	-1.43	11	Pass
11N20SISO	ANT1	5580	-2.82	11	Pass
11N20SISO	ANT1	5700	-2.06	11	Pass
11N40SISO	ANT1	5270	-4.02	11	Pass
11N40SISO	ANT1	5310	-3.21	11	Pass
11N40SISO	ANT1	5510	-5.03	11	Pass
11N40SISO	ANT1	5550	-4.88	11	Pass
11N40SISO	ANT1	5670	-6.12	11	Pass

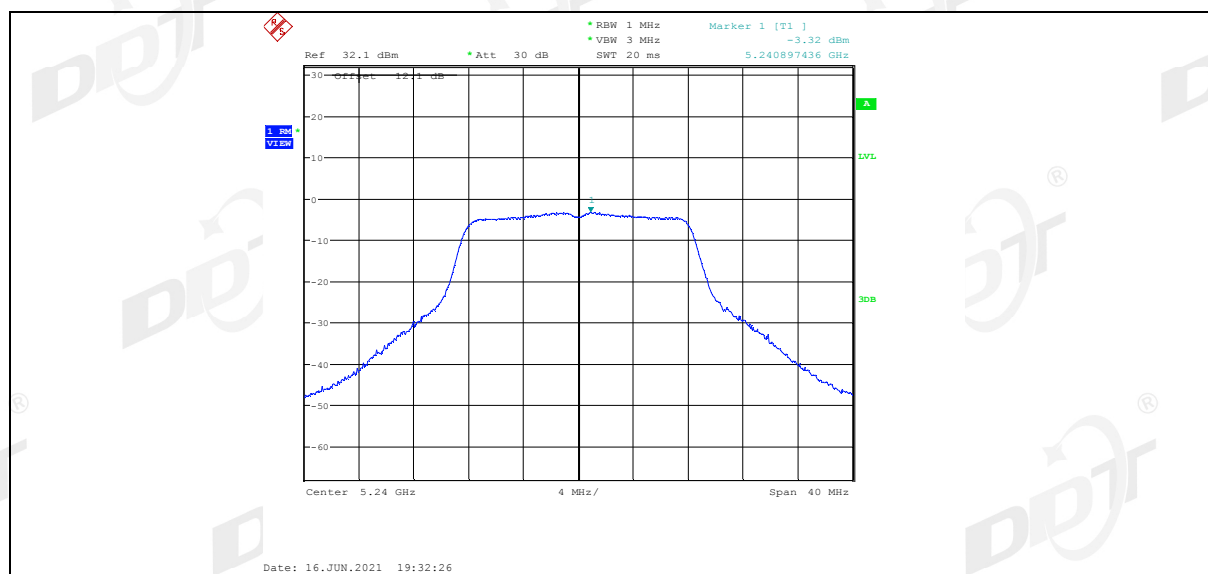
11AC20SISO	ANT1	5260	-1.10	11	Pass
11AC20SISO	ANT1	5280	-1.19	11	Pass
11AC20SISO	ANT1	5320	-0.22	11	Pass
11AC20SISO	ANT1	5500	-1.40	11	Pass
11AC20SISO	ANT1	5580	-2.49	11	Pass
11AC20SISO	ANT1	5700	-1.95	11	Pass
11AC40SISO	ANT1	5270	-3.97	11	Pass
11AC40SISO	ANT1	5310	-3.32	11	Pass
11AC40SISO	ANT1	5510	-4.79	11	Pass
11AC40SISO	ANT1	5550	-4.84	11	Pass
11AC40SISO	ANT1	5670	-5.9	11	Pass
11AC80SISO	ANT1	5290	-7.51	11	Pass
11AC80SISO	ANT1	5530	-1.5	11	Pass
11AC80SISO	ANT1	5610	-8.3	11	Pass

(5725 - 5850)

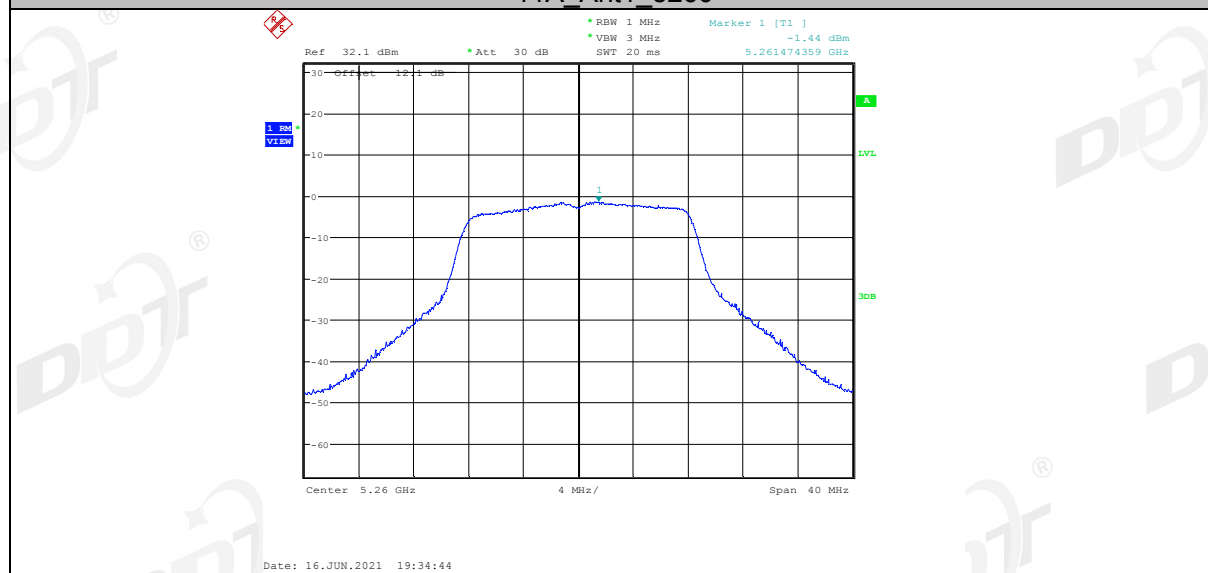
Test Mode	Ant	Test Channel	PSD [dBm/500kHz]	Limit [dBm/500kHz]	Verdict
11A	ANT1	5745	-3.09	30	Pass
11A	ANT1	5785	-1.95	30	Pass
11A	ANT1	5825	-2.73	30	Pass
11N20SISO	ANT1	5745	-2.36	30	Pass
11N20SISO	ANT1	5785	-1.50	30	Pass
11N20SISO	ANT1	5825	-1.83	30	Pass
11N40SISO	ANT1	5755	-6.79	30	Pass
11N40SISO	ANT1	5795	-5.39	30	Pass
11AC20SISO	ANT1	5745	-2.28	30	Pass
11AC20SISO	ANT1	5785	-2.08	30	Pass
11AC20SISO	ANT1	5825	-1.93	30	Pass
11AC40SISO	ANT1	5755	-6.27	30	Pass
11AC40SISO	ANT1	5795	-4.92	30	Pass
11AC80SISO	ANT1	5775	-8.58	30	Pass

6.5. Original test data

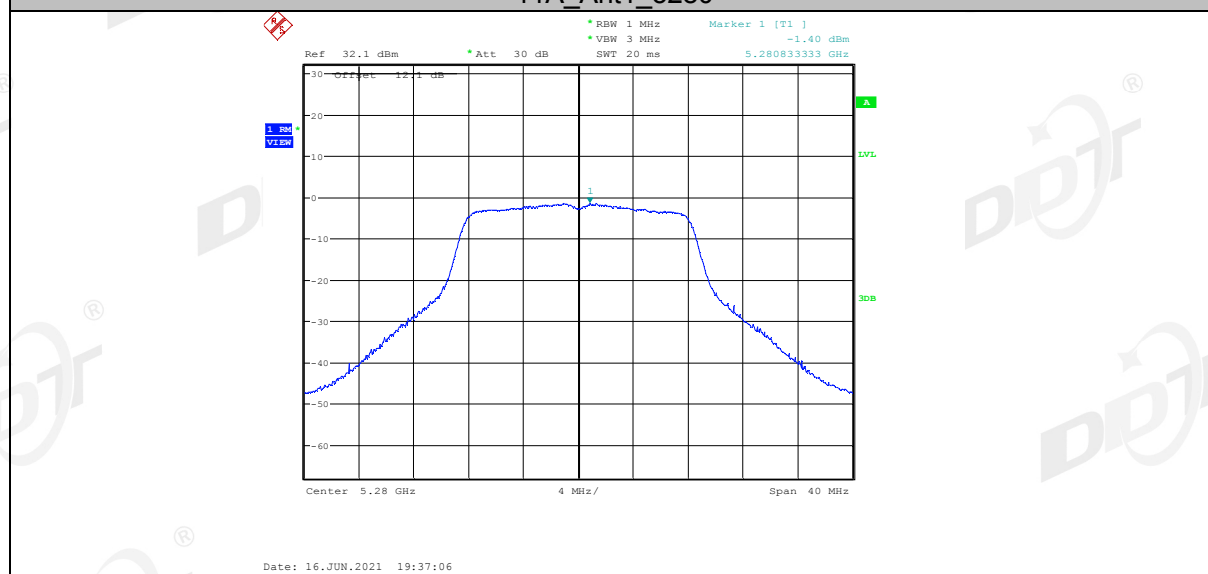




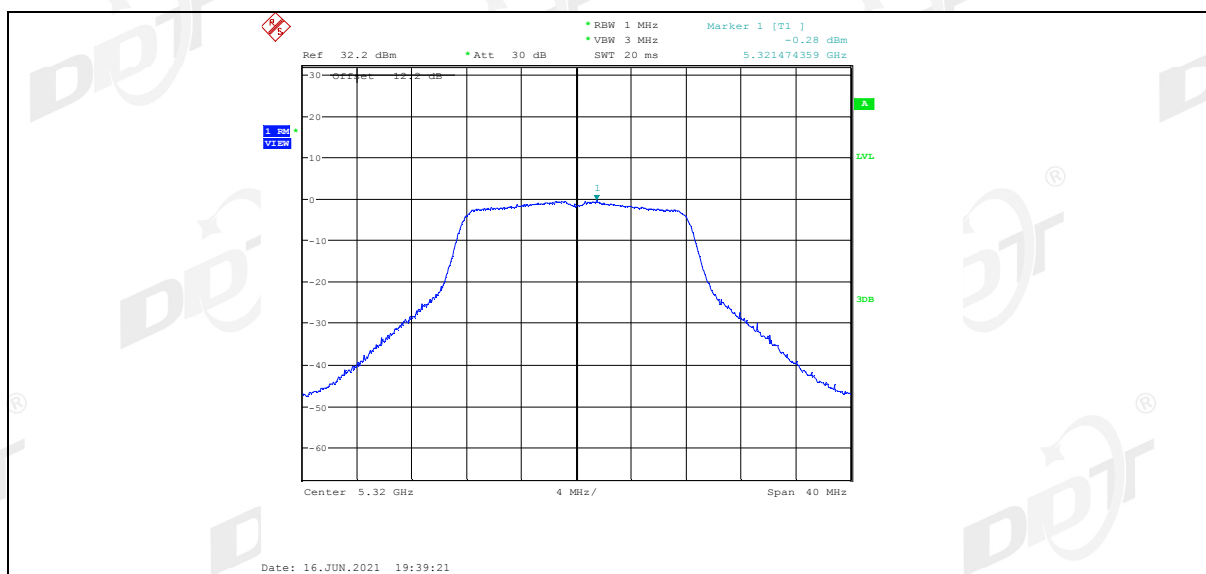
11A_Ant1_5260



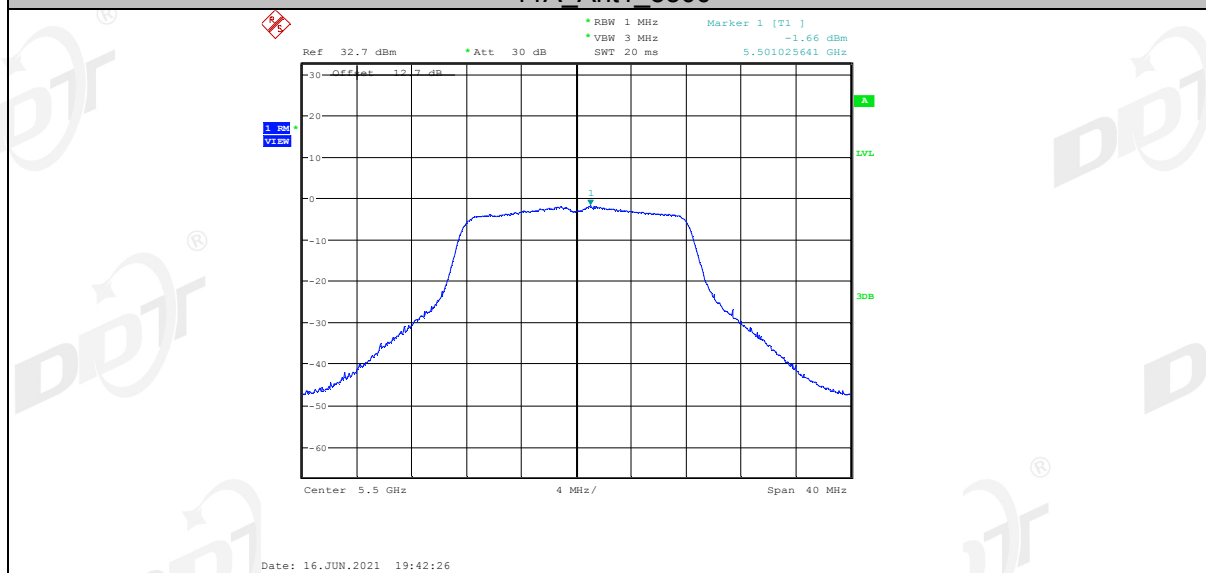
11A_Ant1_5280



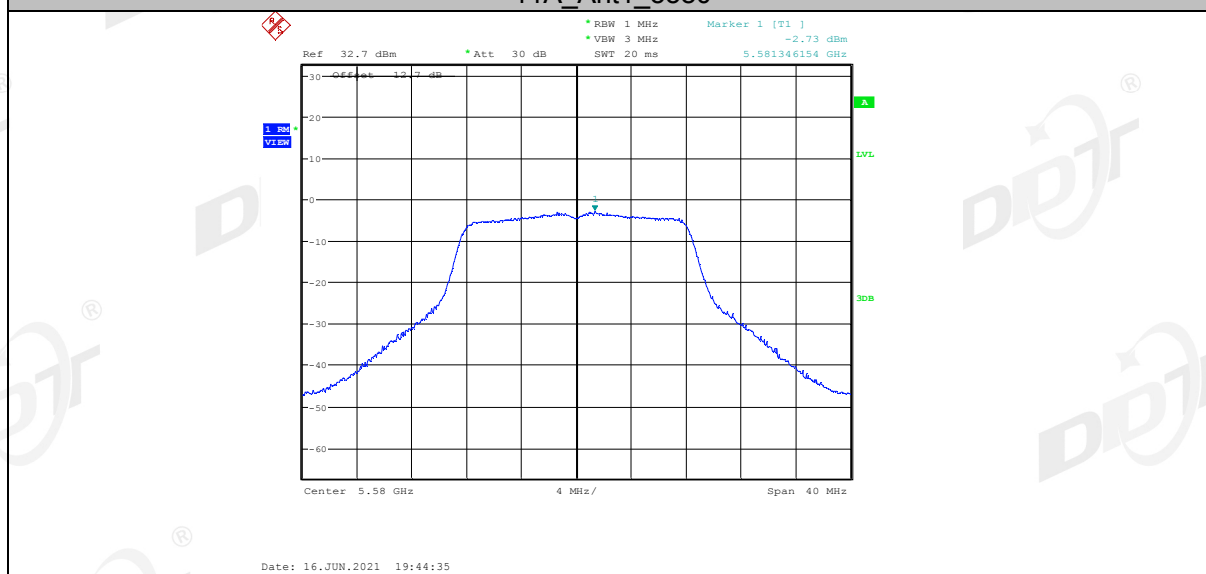
11A_Ant1_5320



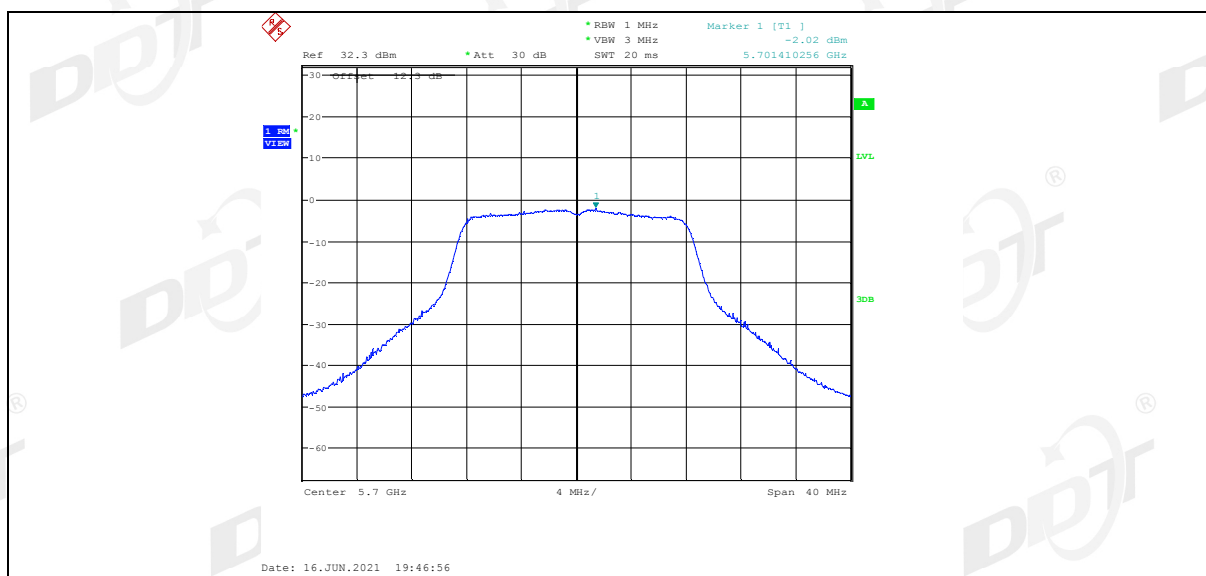
11A_Ant1_5500



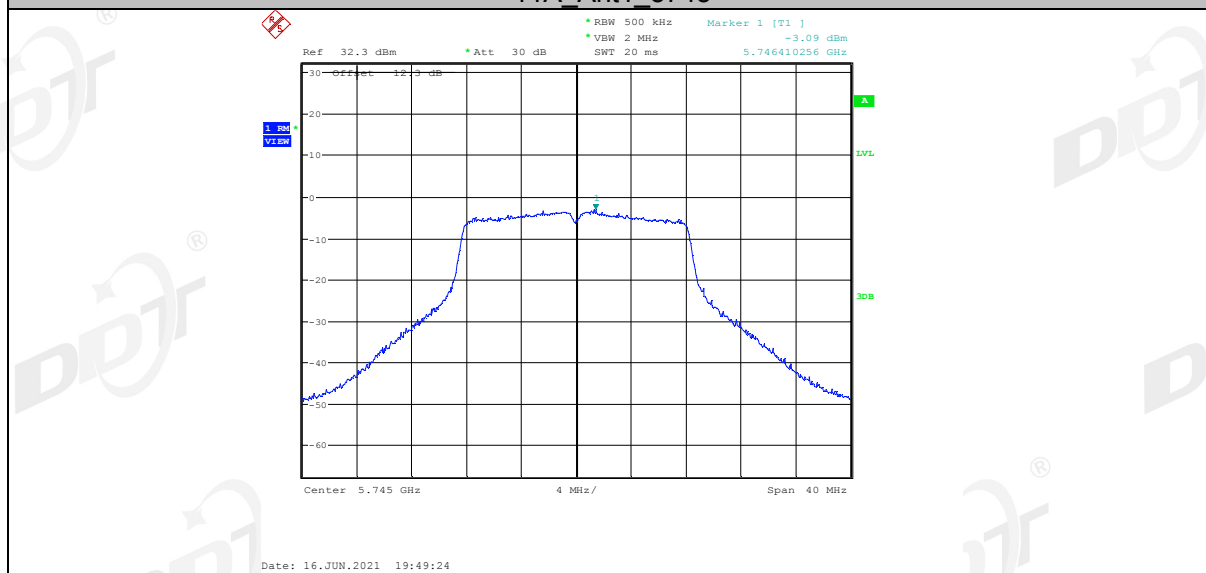
11A_Ant1_5580



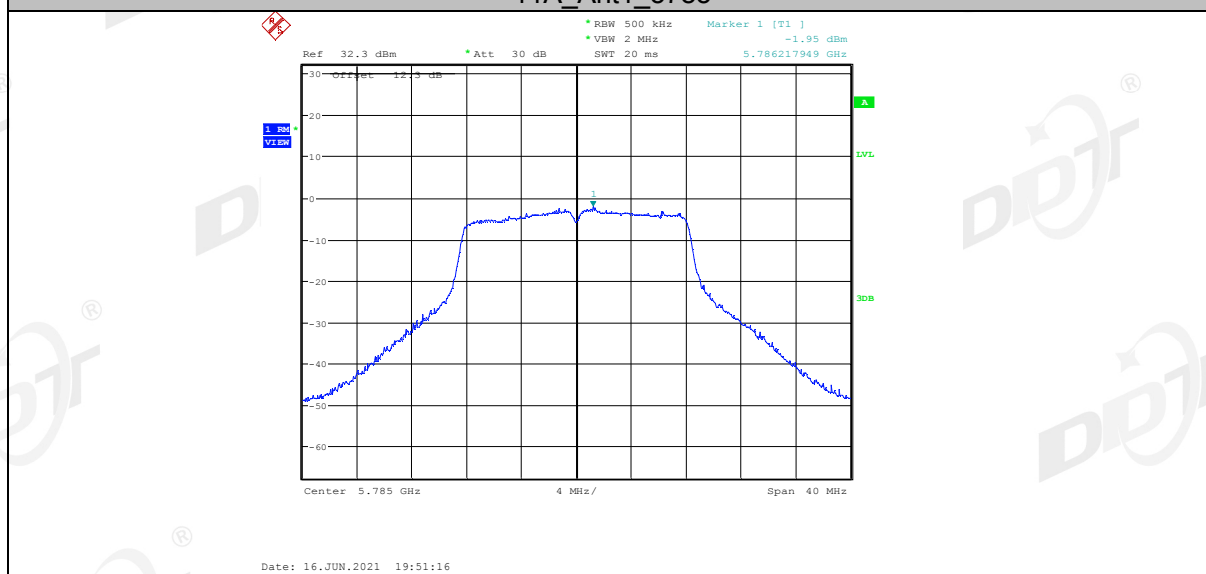
11A_Ant1_5700



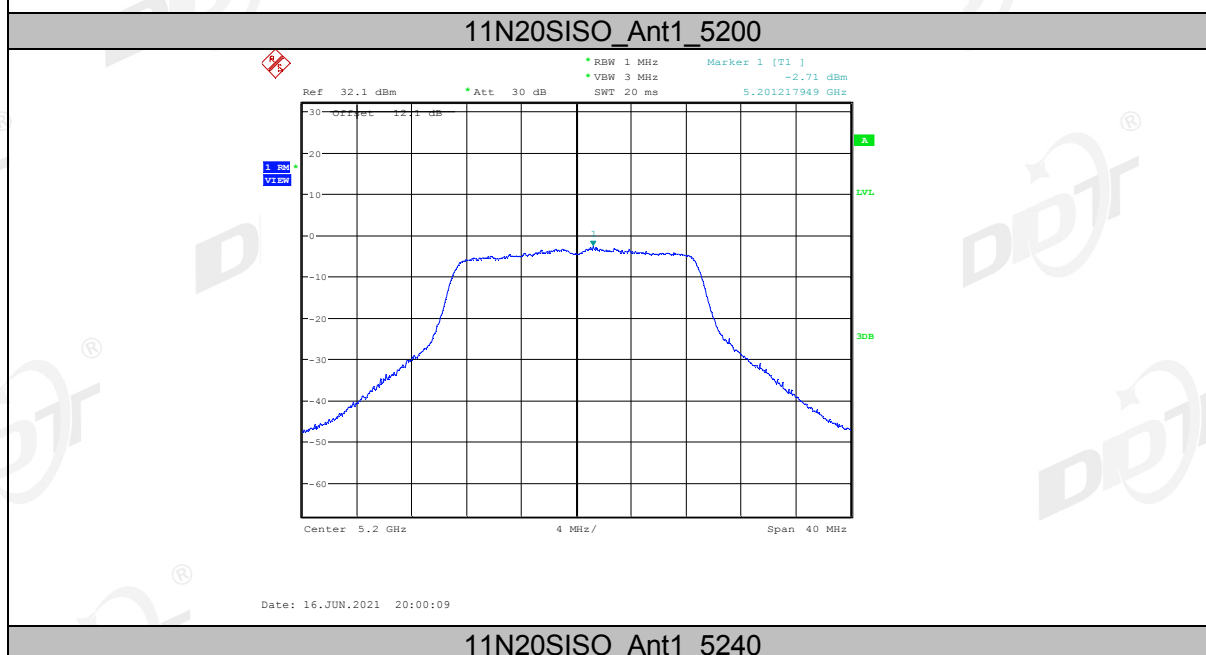
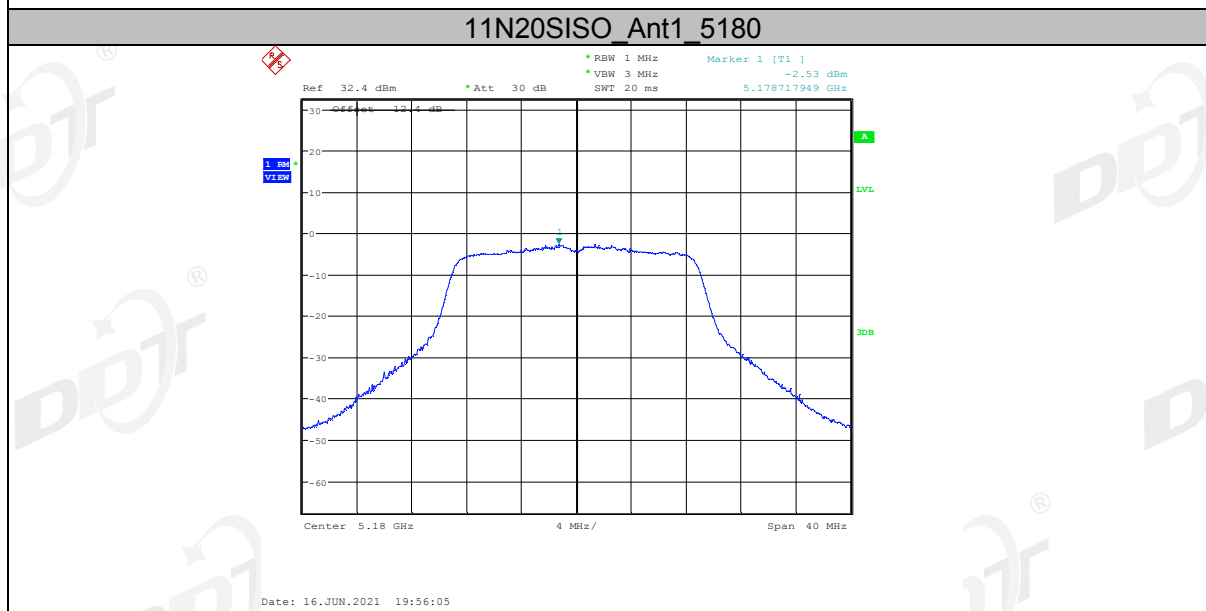
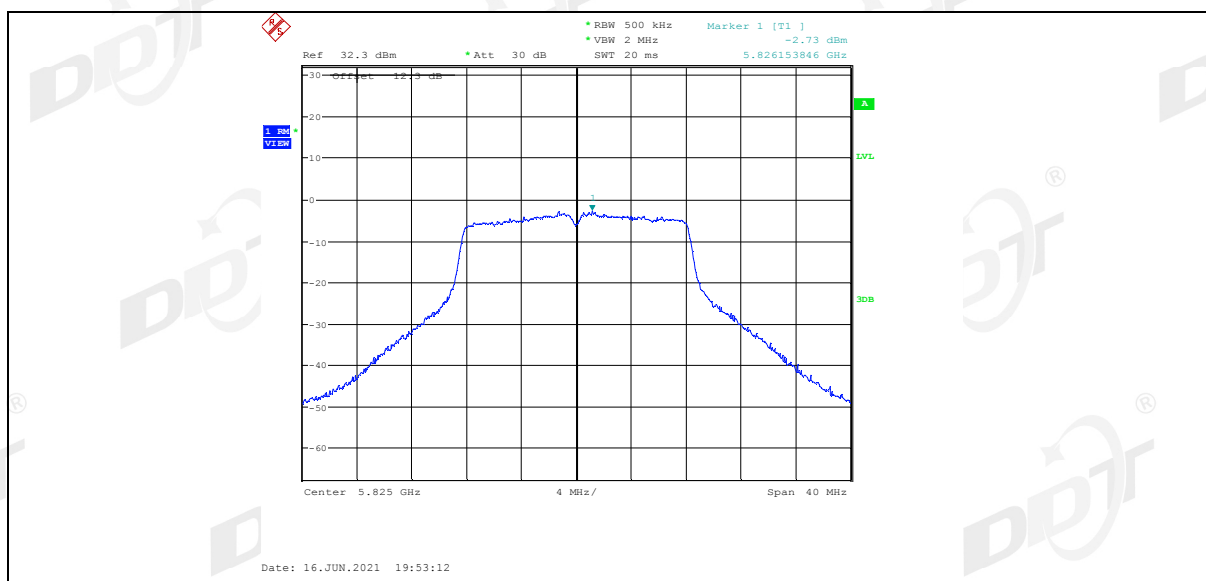
11A_Ant1_5745

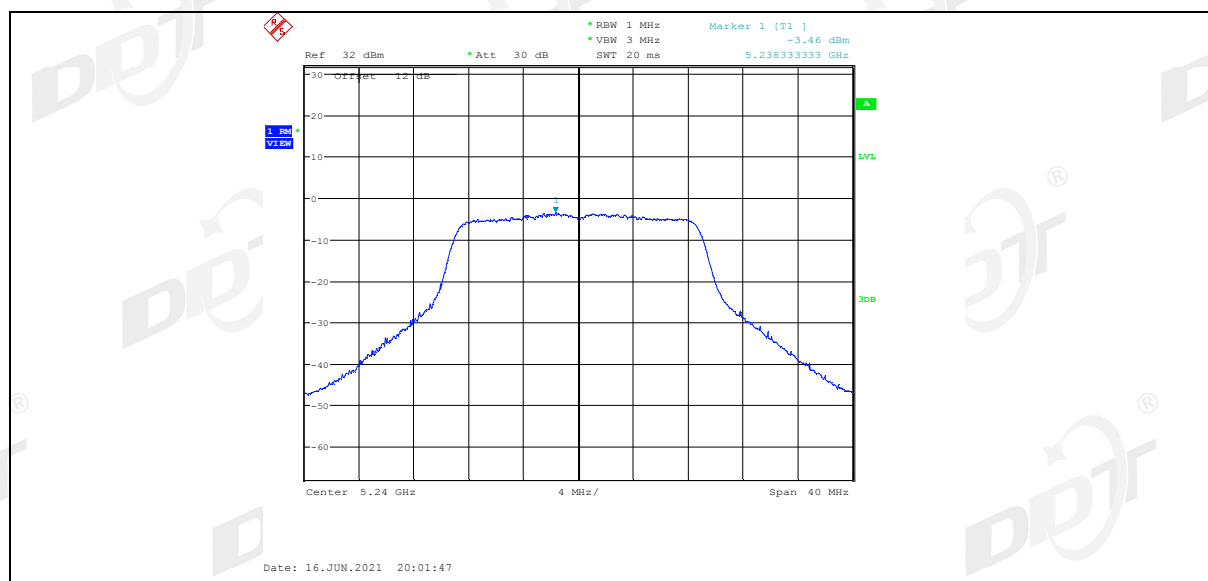


11A_Ant1_5785

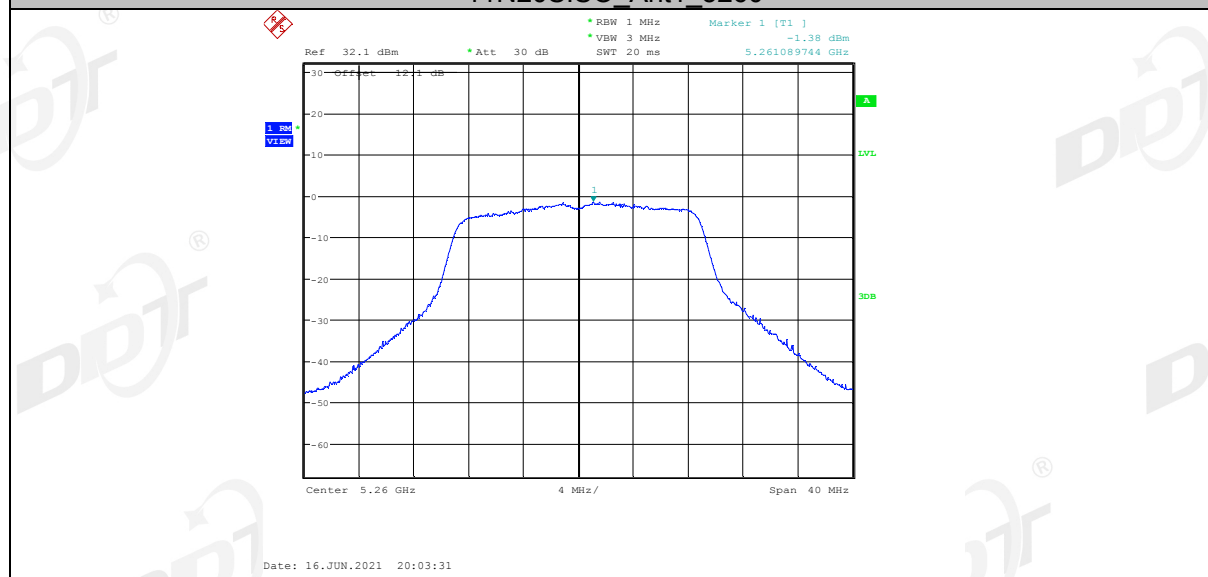


11A_Ant1_5825

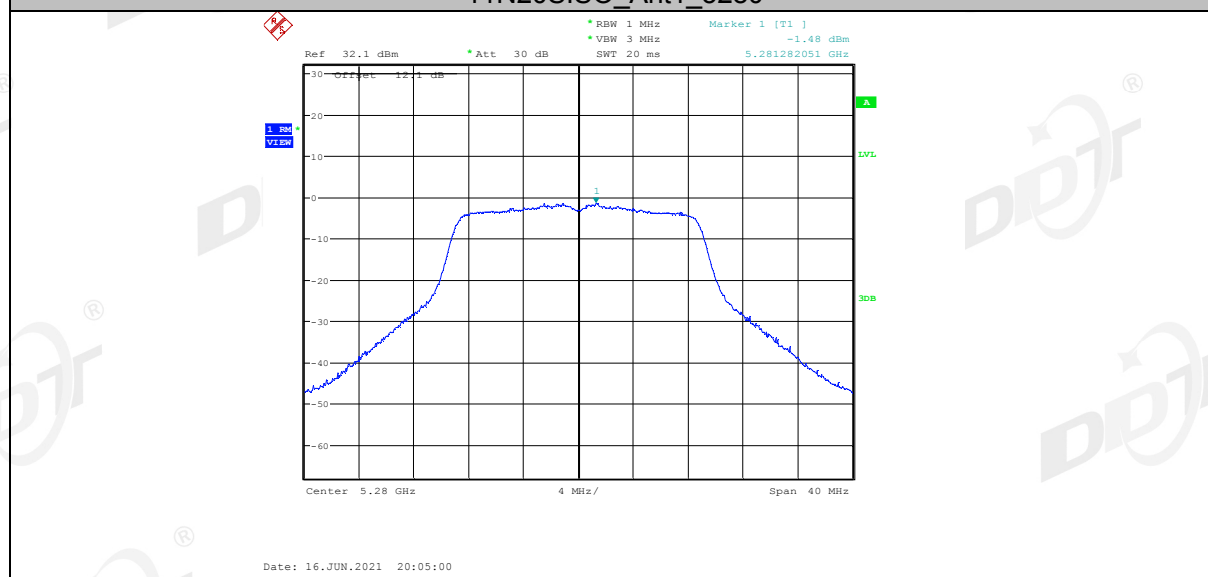




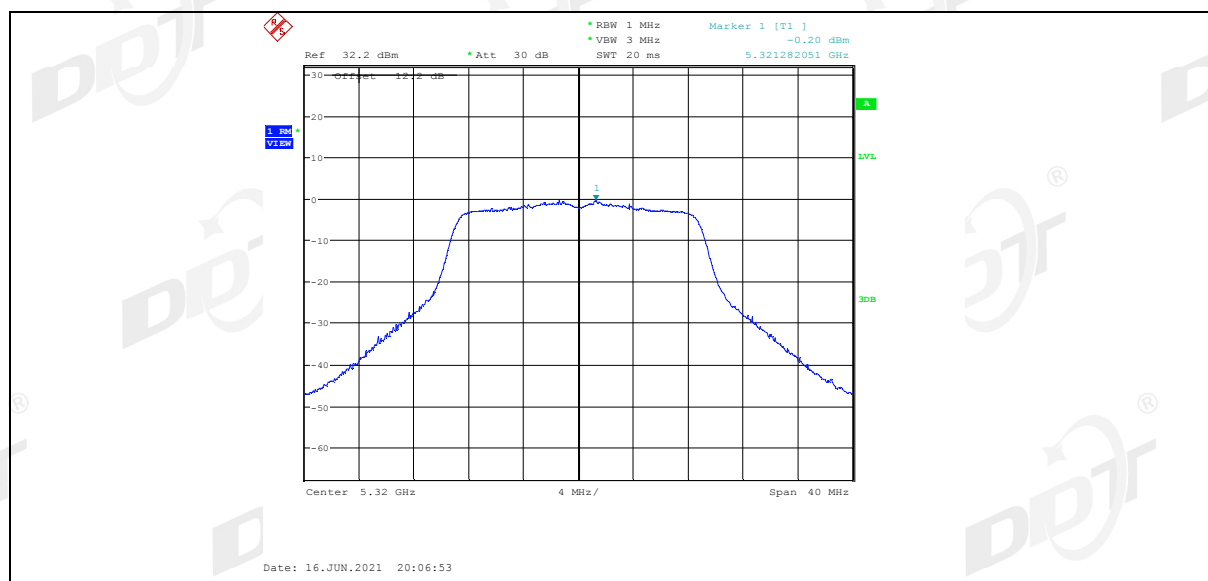
11N20SISO_Ant1_5260



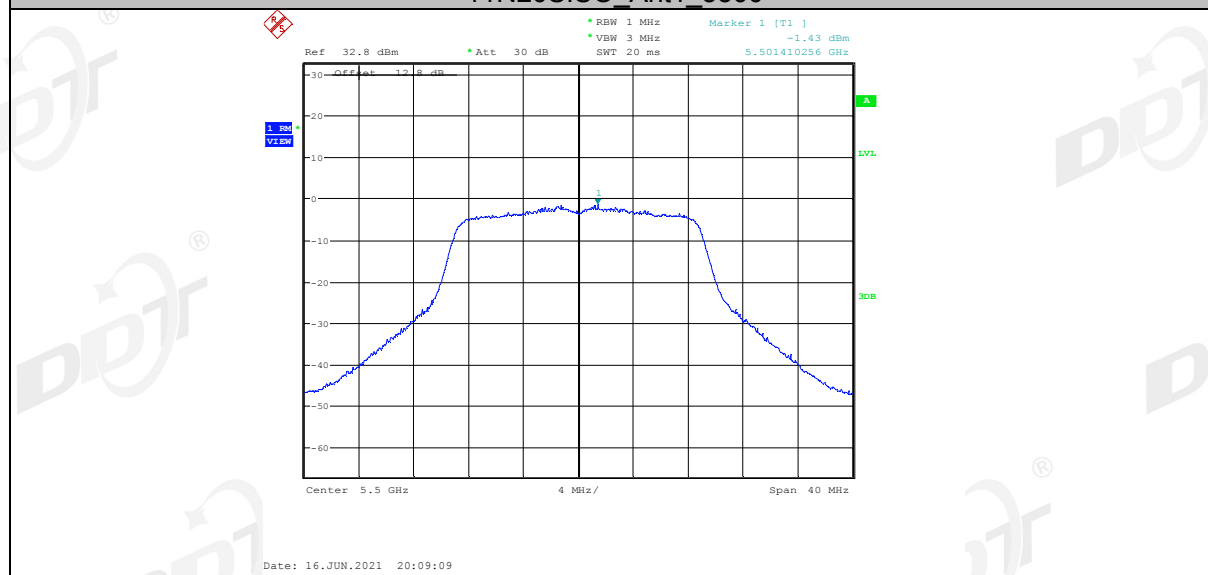
11N20SISO_Ant1_5280



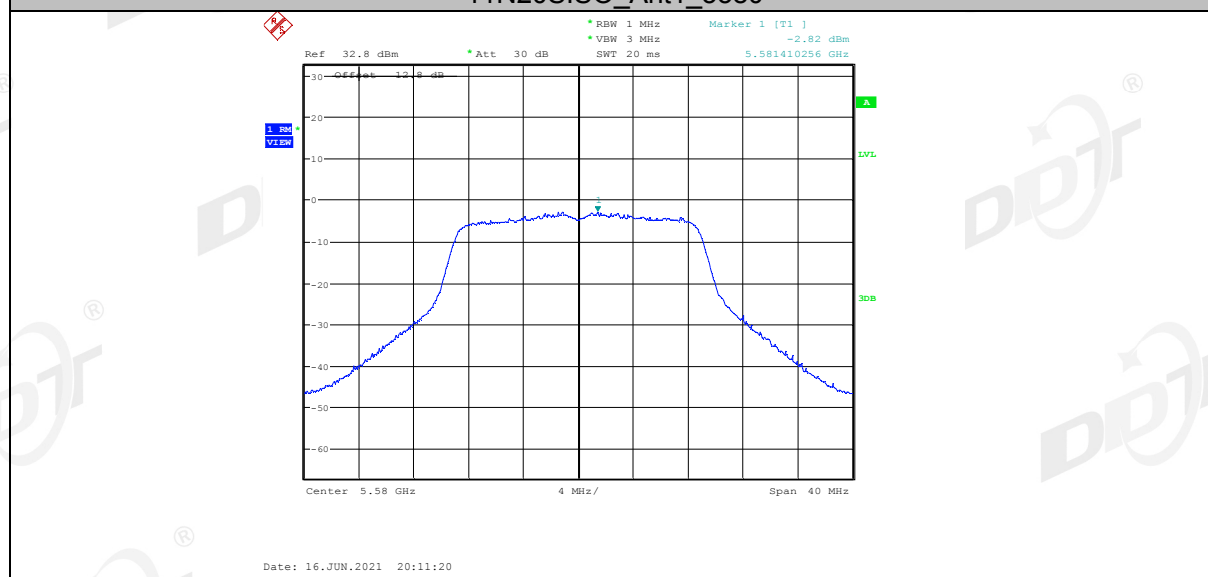
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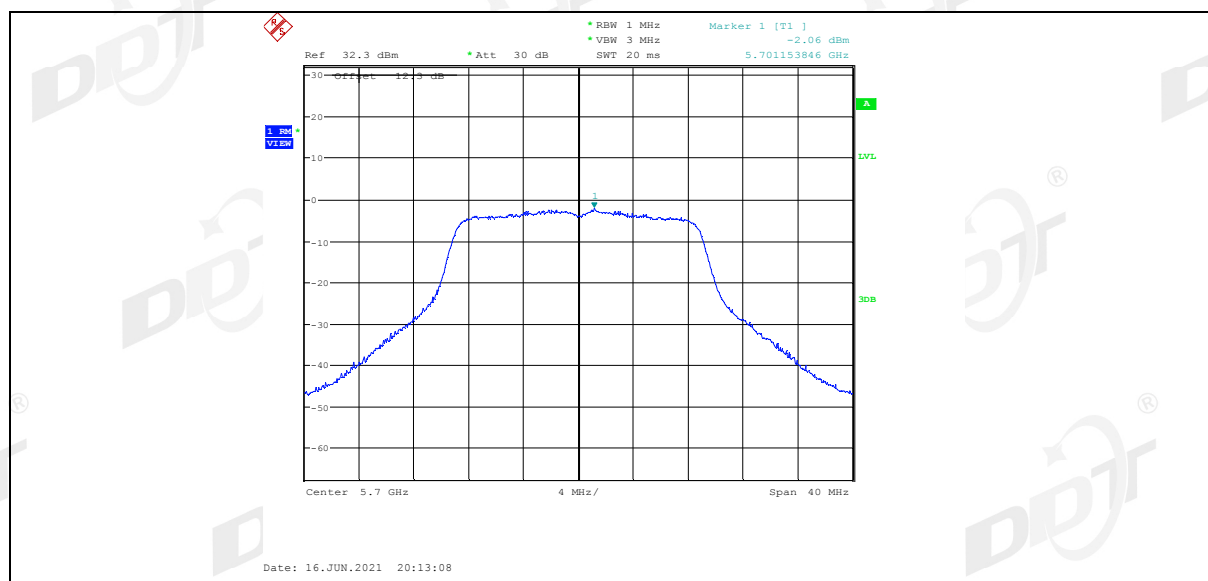
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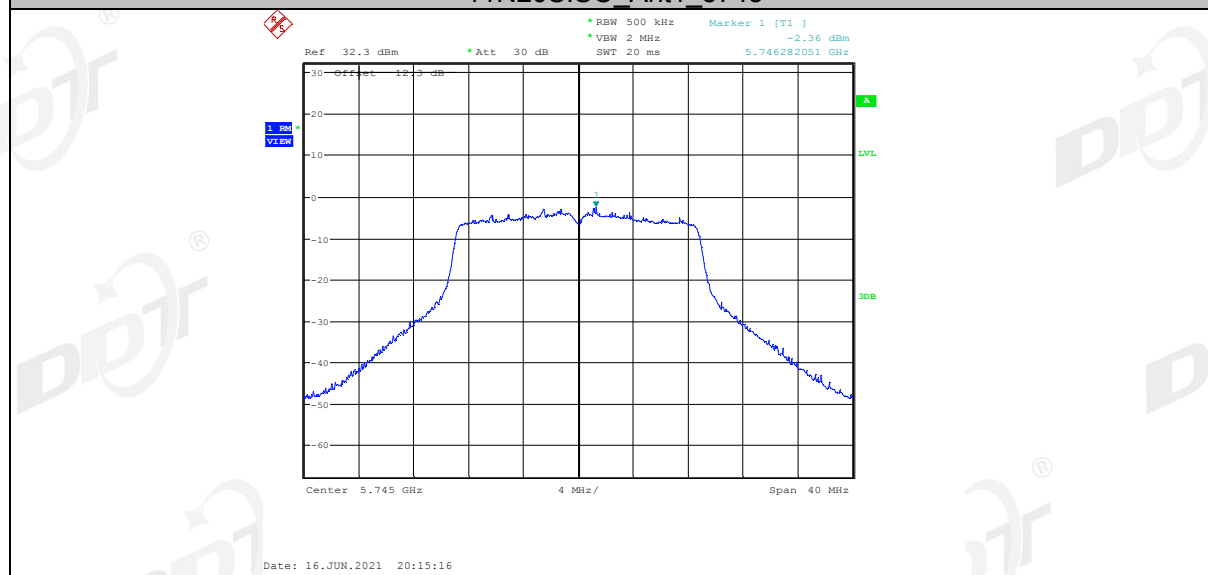
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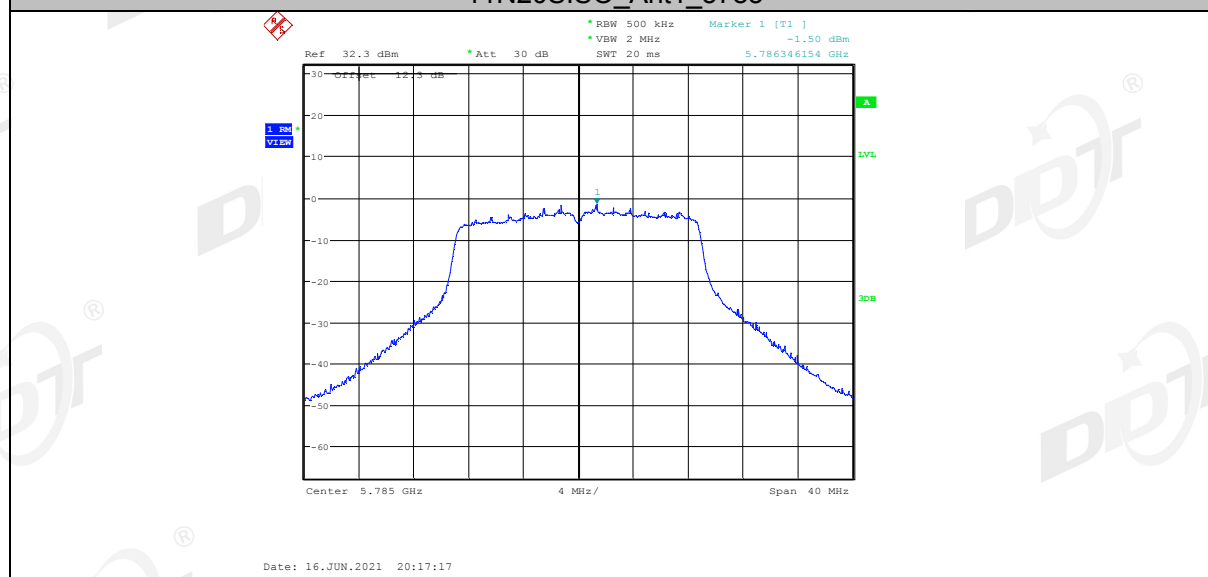
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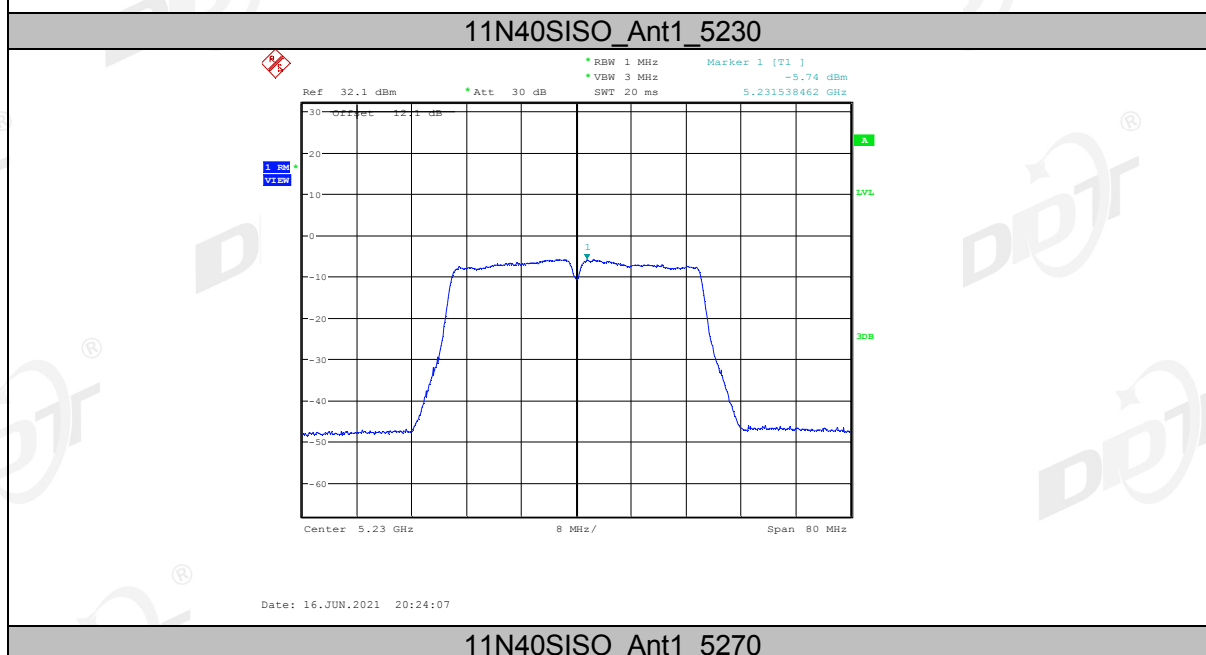
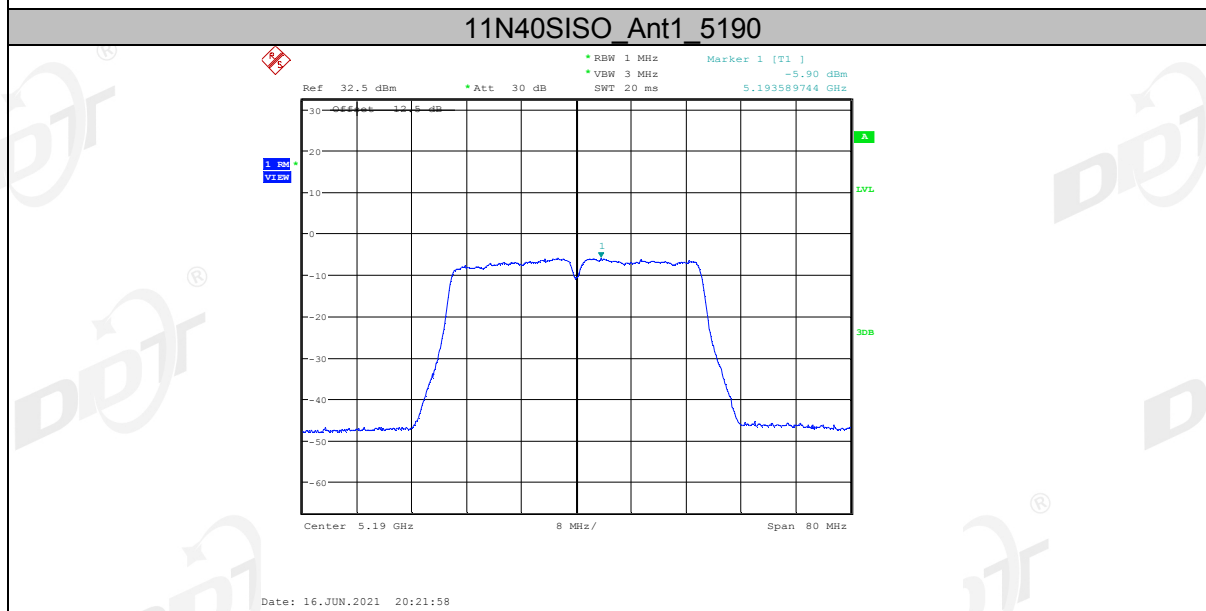
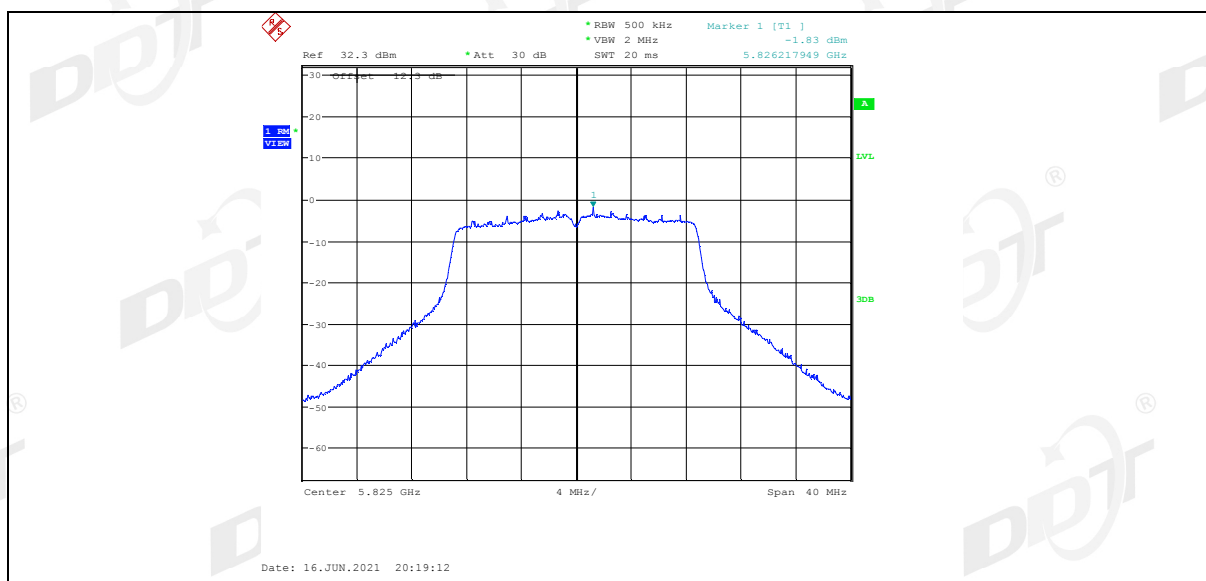
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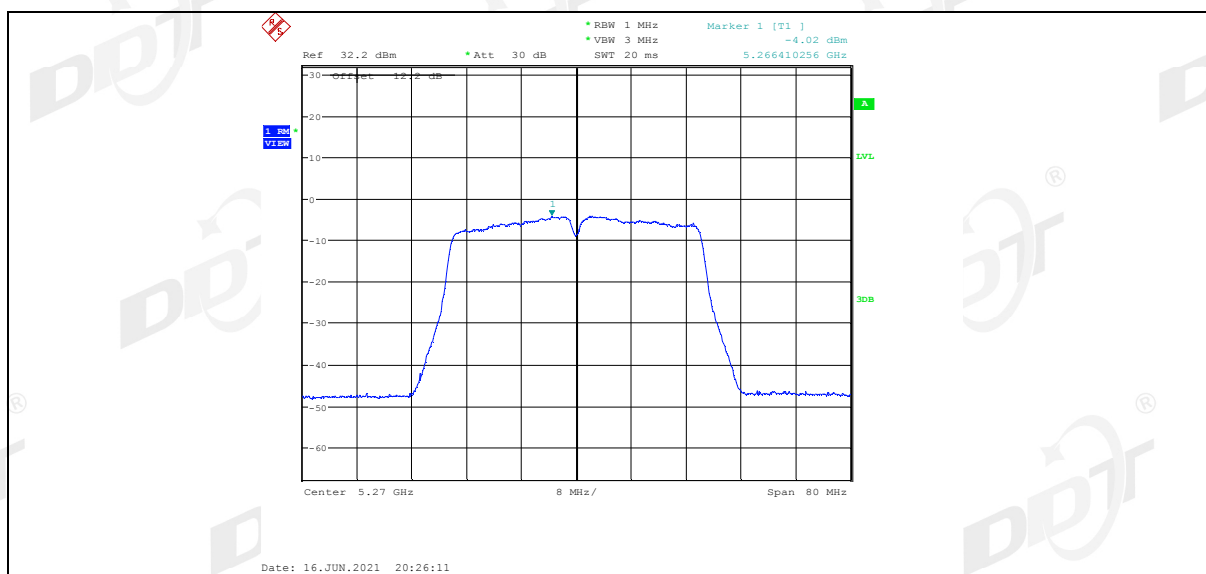


11N20SISO_Ant1_5785

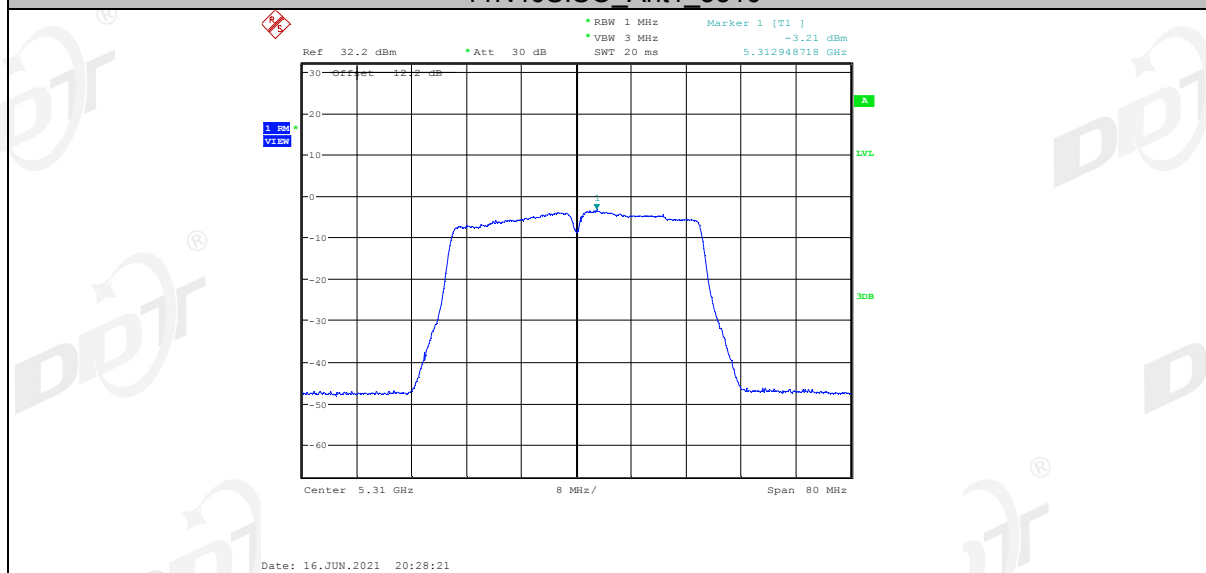


11N20SISO_Ant1_5825

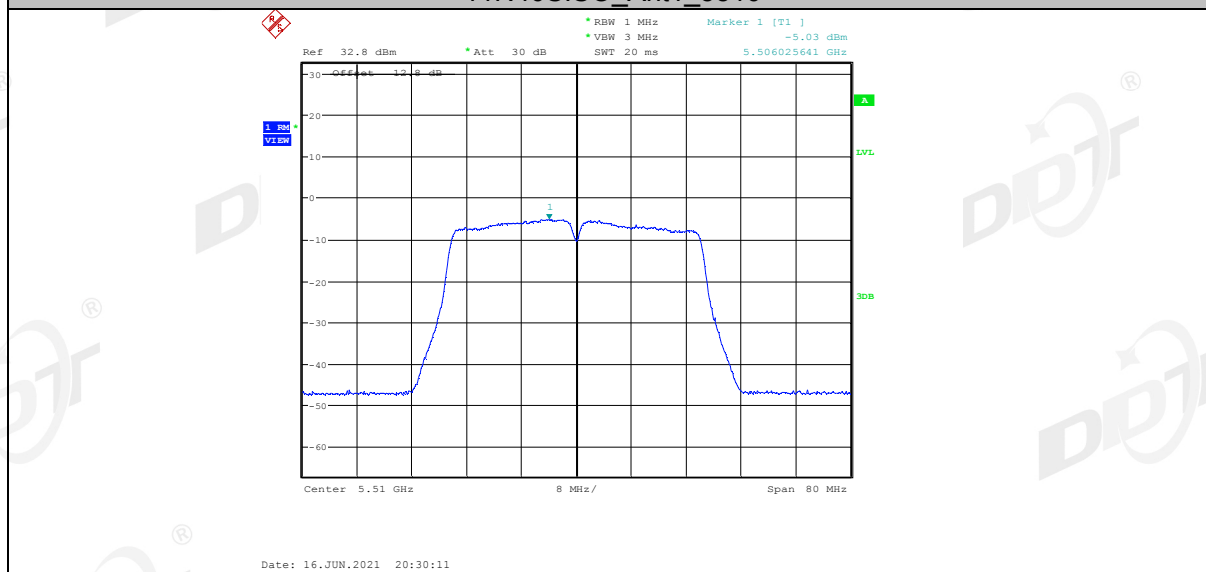




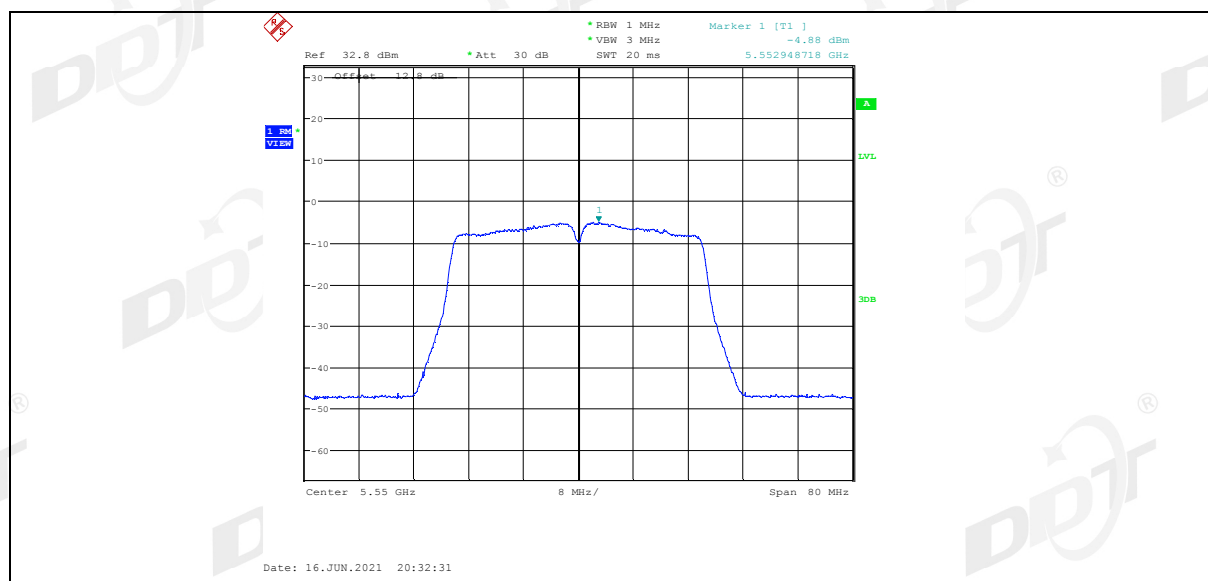
11N40SISO_Ant1_5310



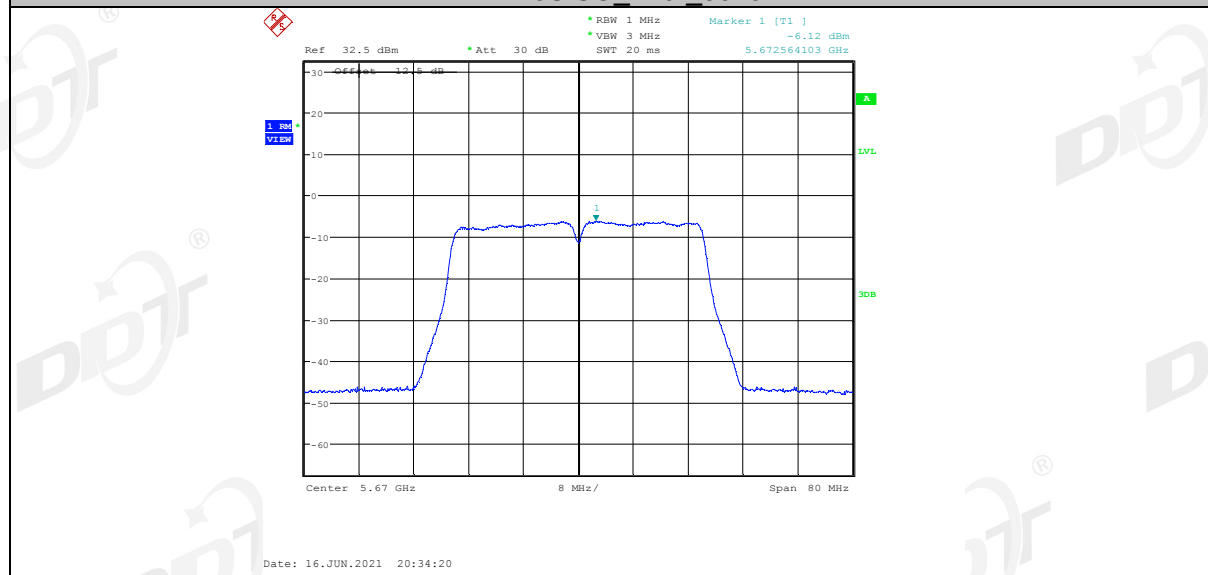
11N40SISO_Ant1_5510



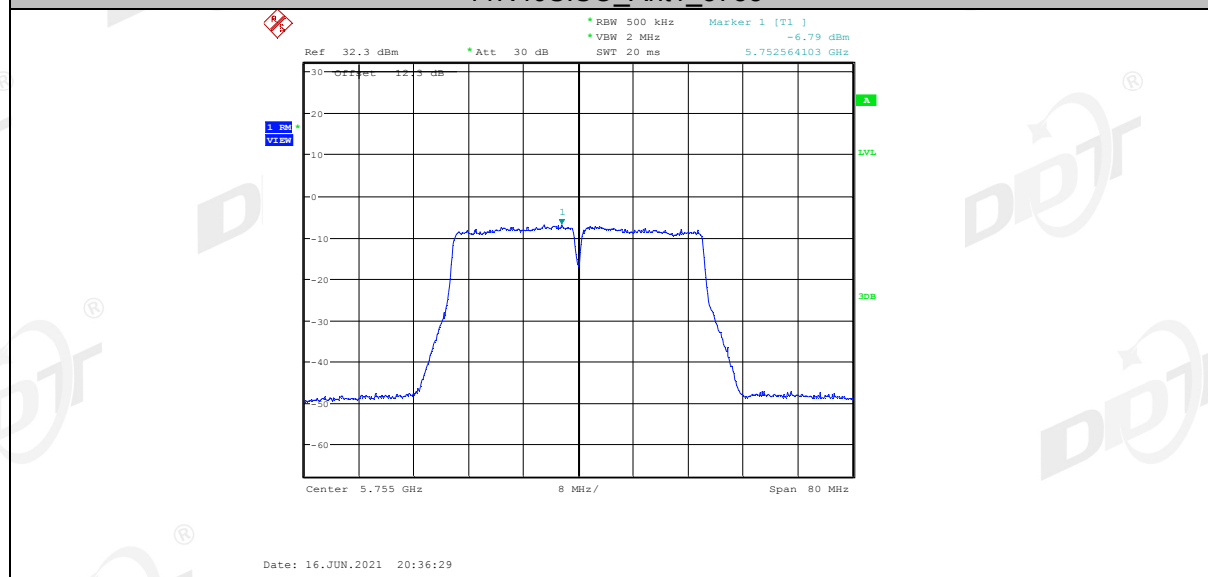
11N40SISO_Ant1_5550



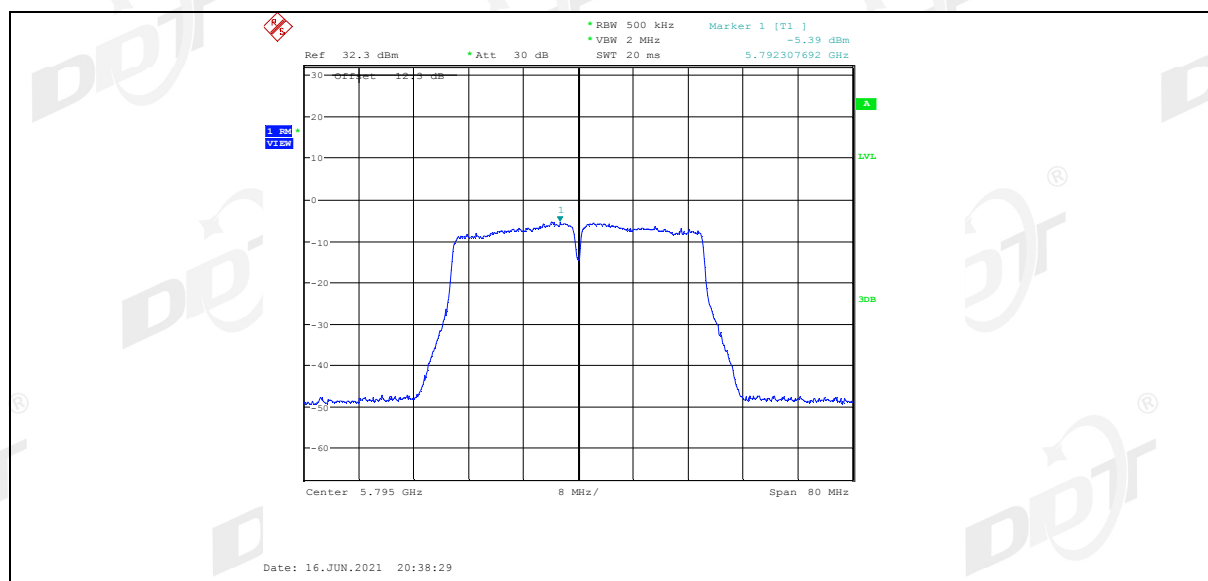
11N40SISO_Ant1_5670



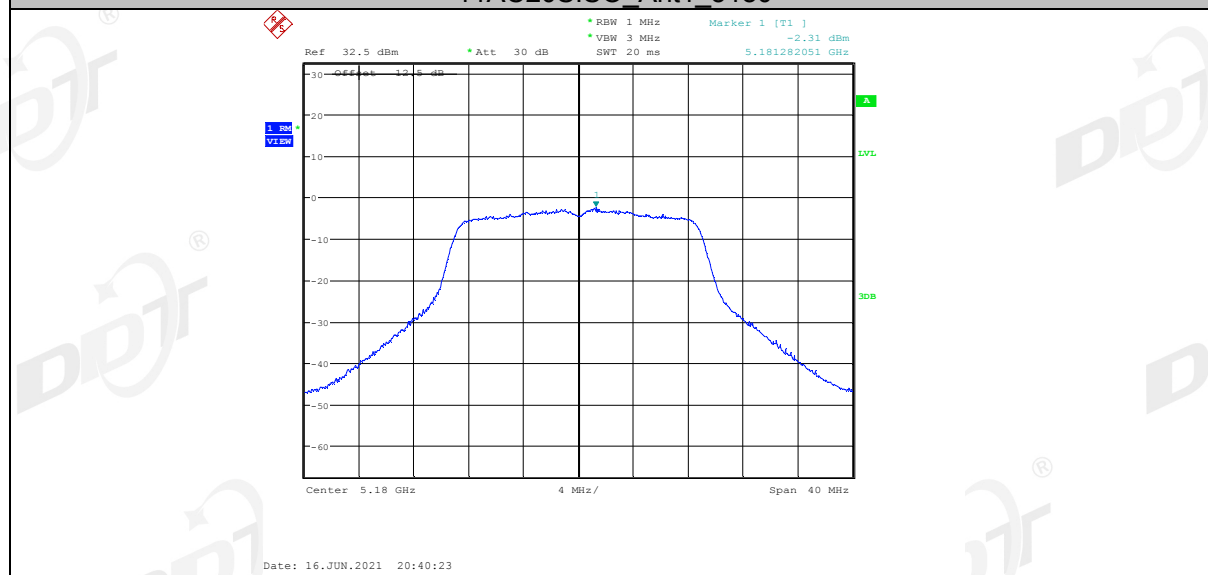
11N40SISO_Ant1_5755



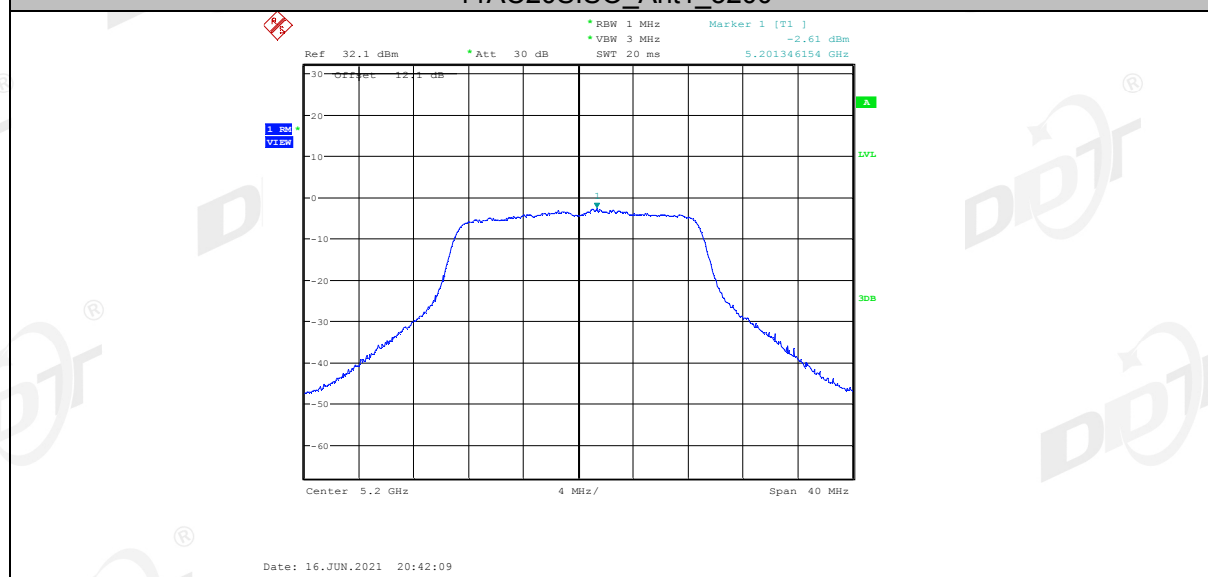
11N40SISO_Ant1_5795



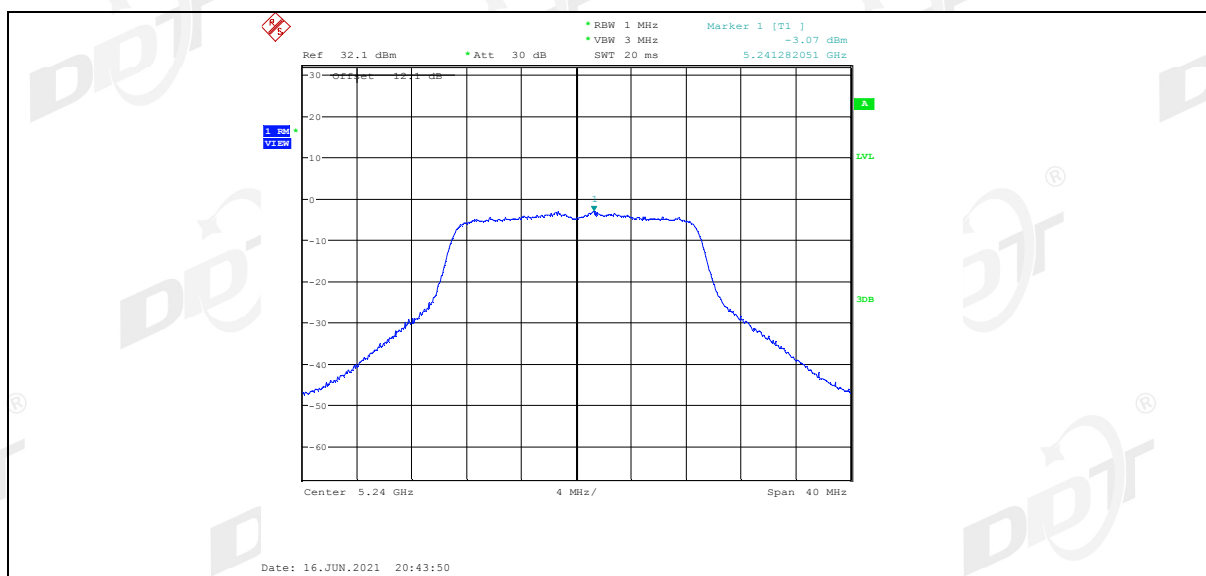
11AC20SISO_Ant1_5180



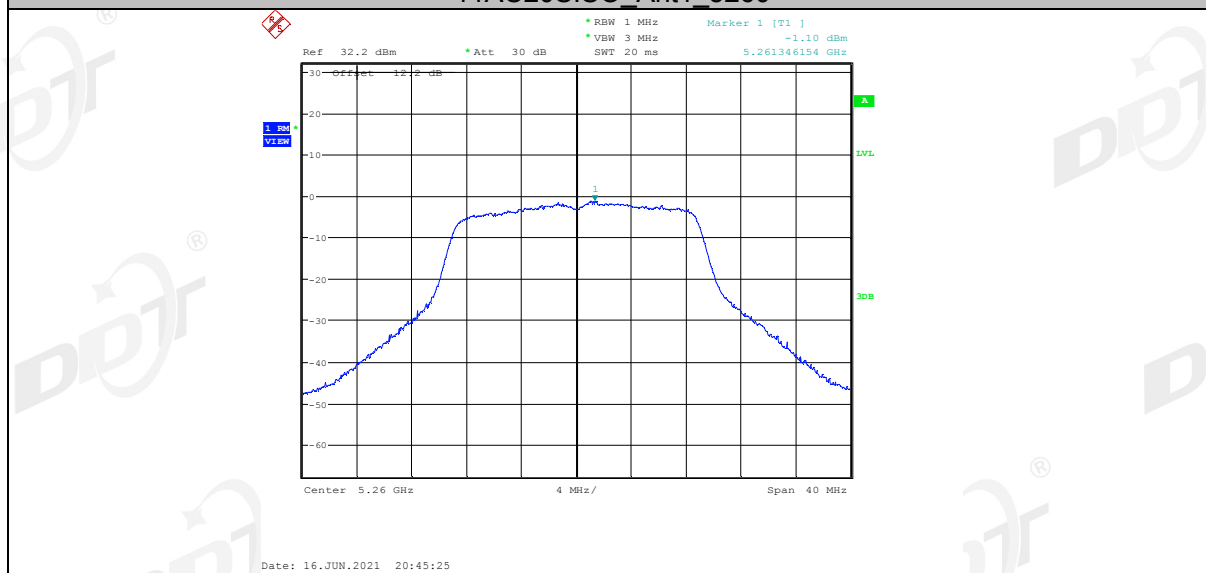
11AC20SISO_Ant1_5200



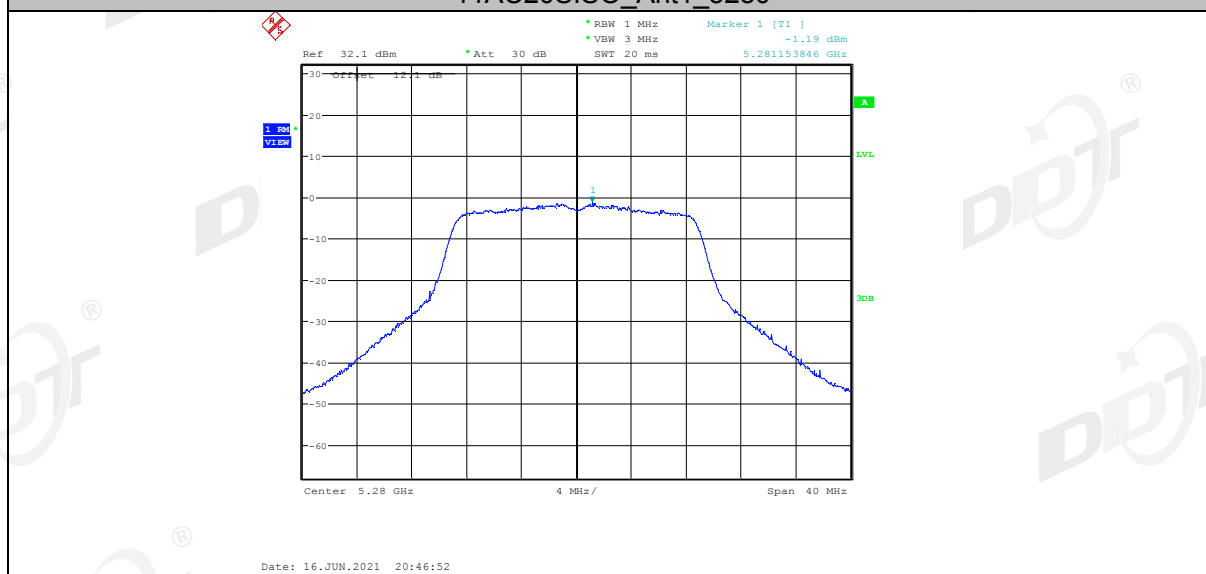
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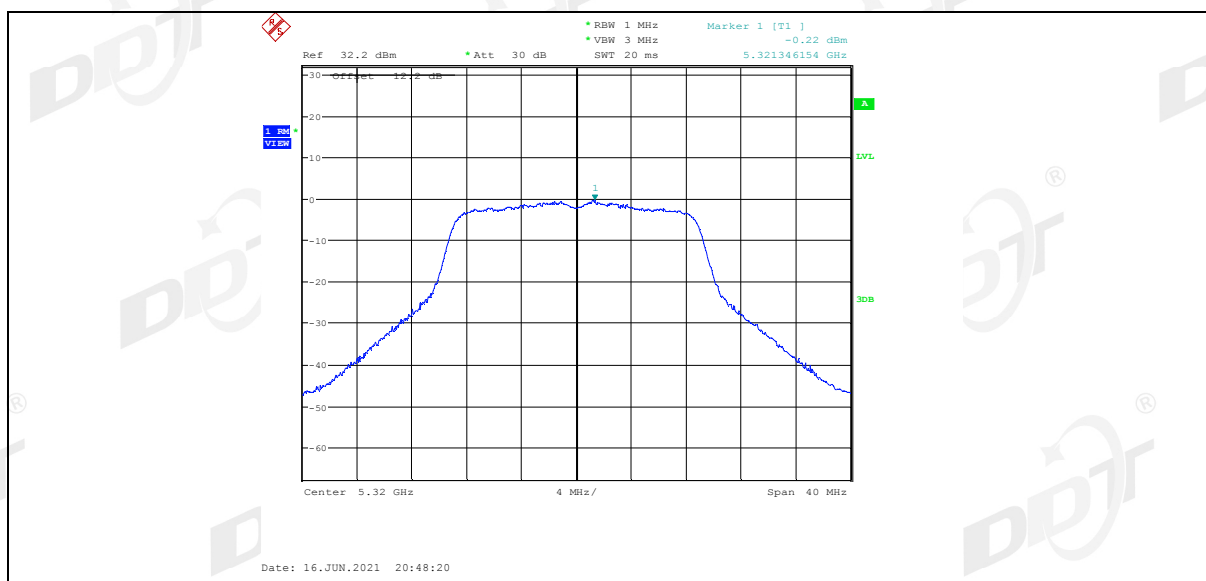
11AC20SISO_Ant1_5260



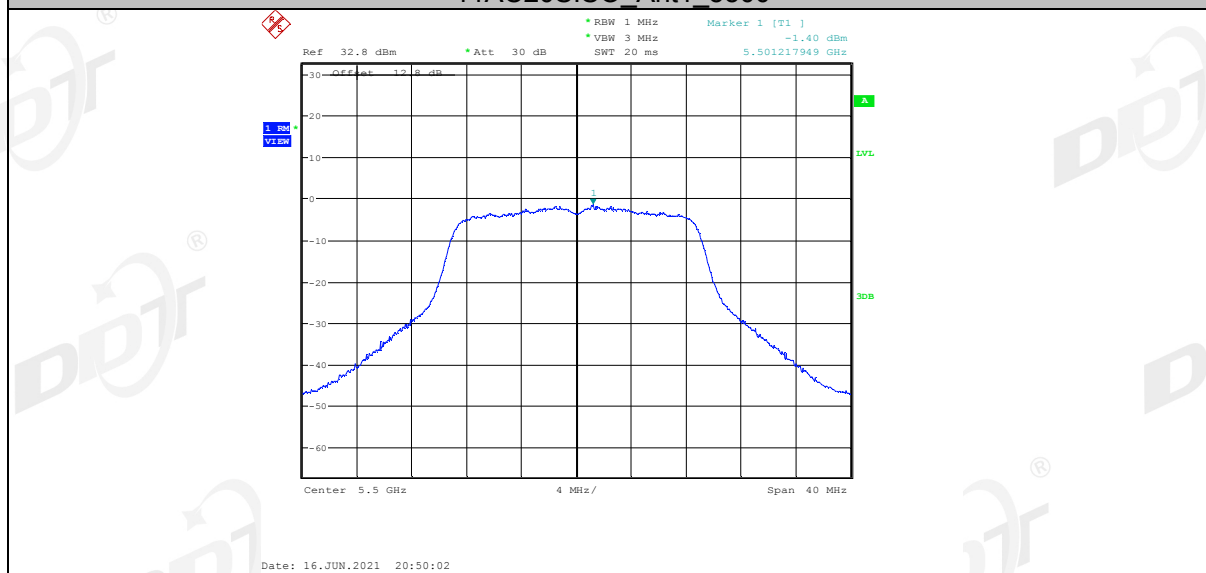
11AC20SISO_Ant1_5280



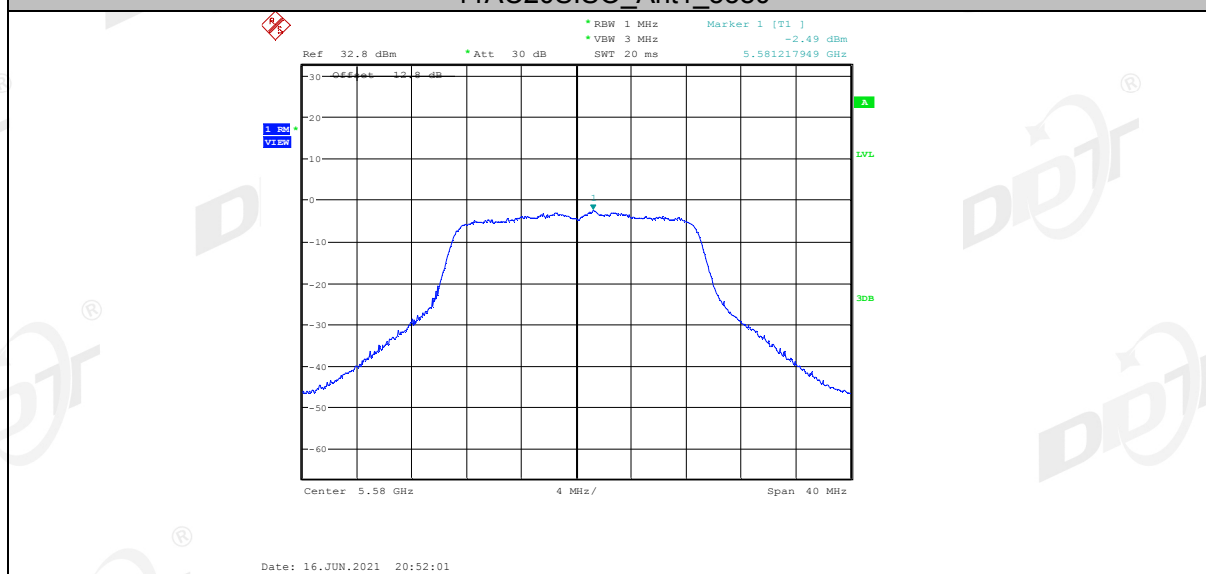
11AC20SISO_Ant1_5320



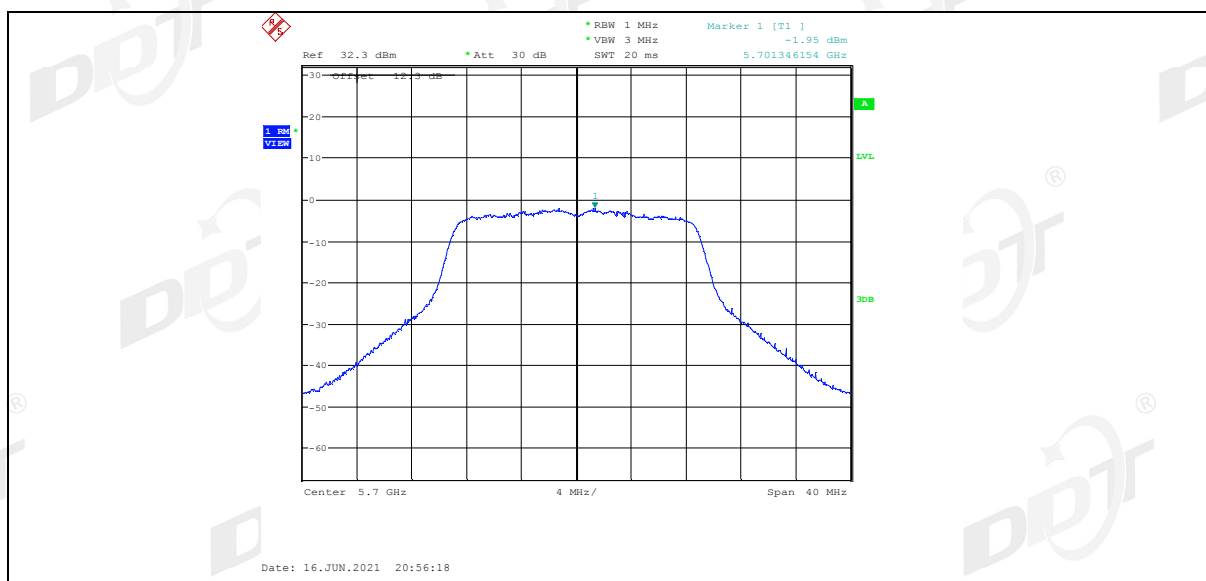
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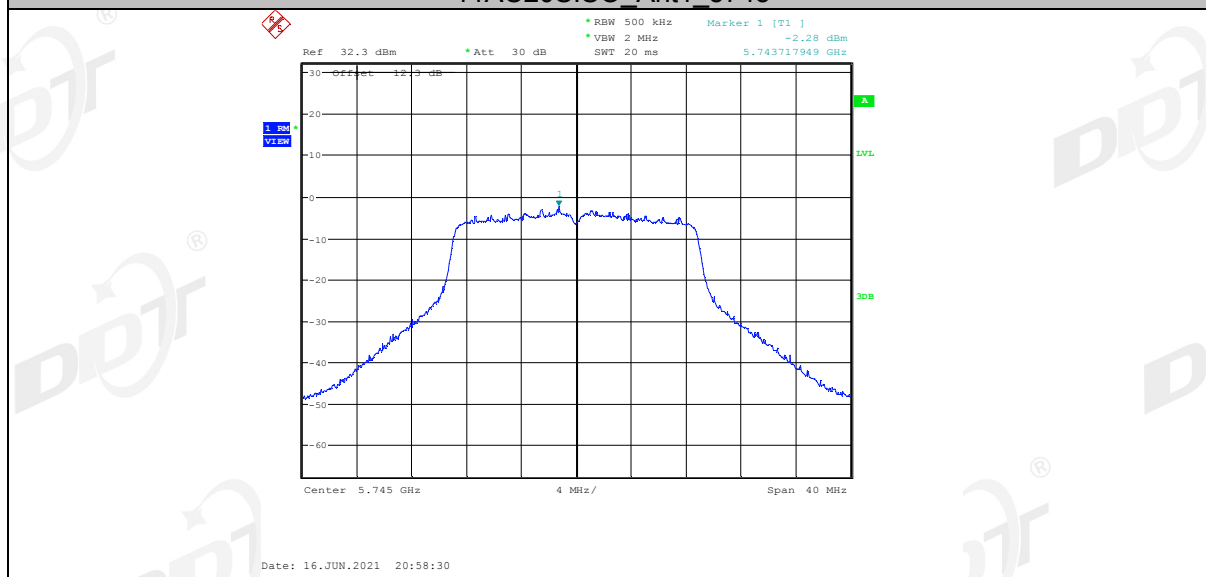
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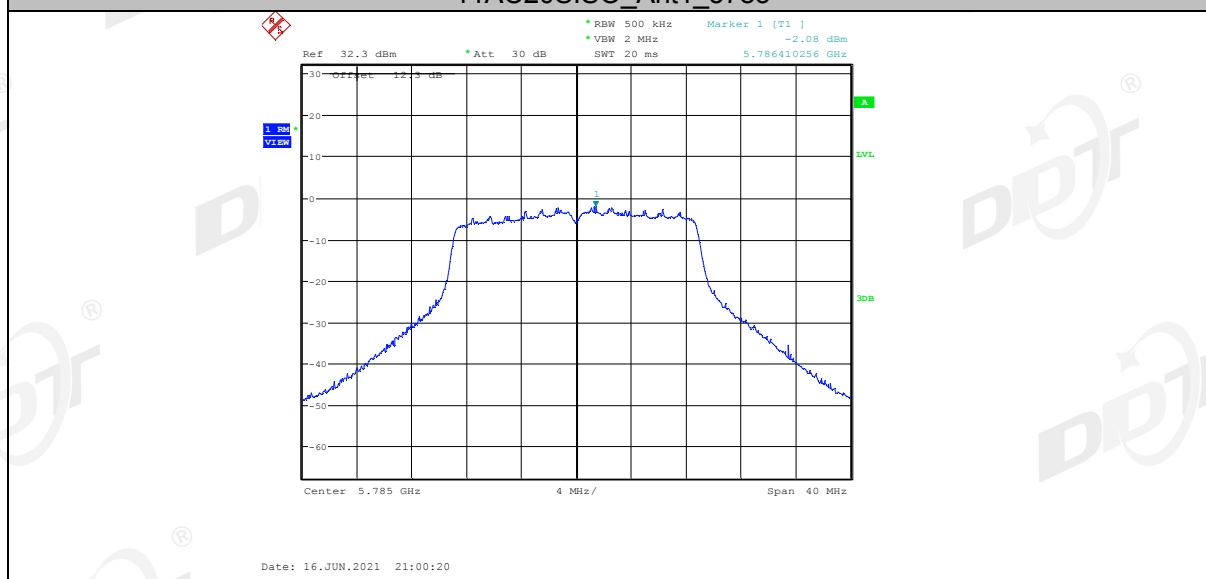
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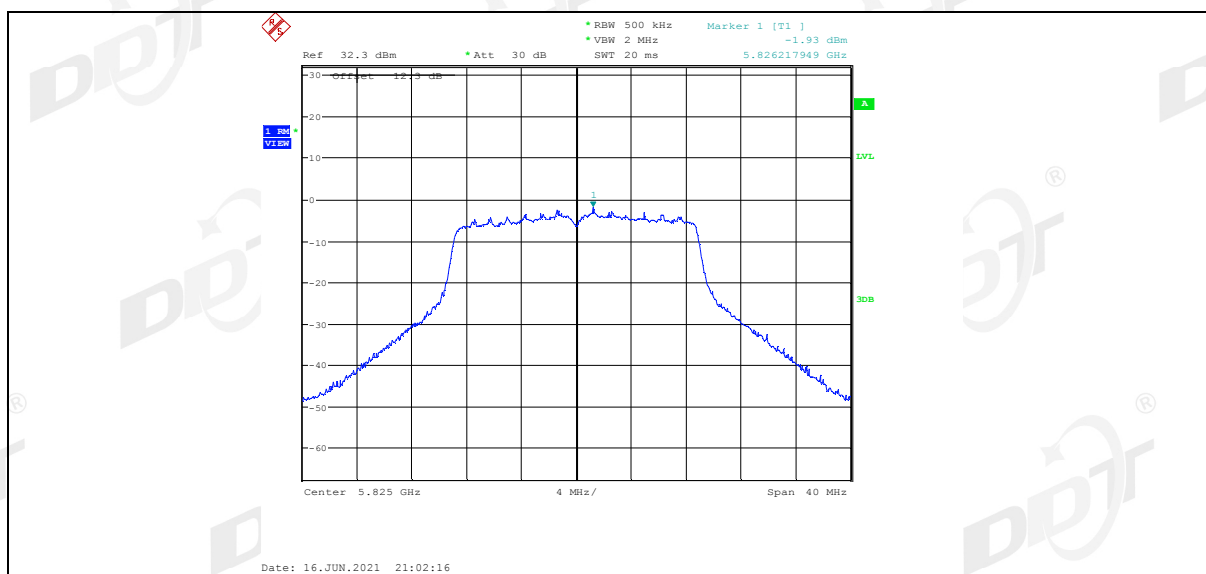
11AC20SISO_Ant1_5745



11AC20SISO_Ant1_5785



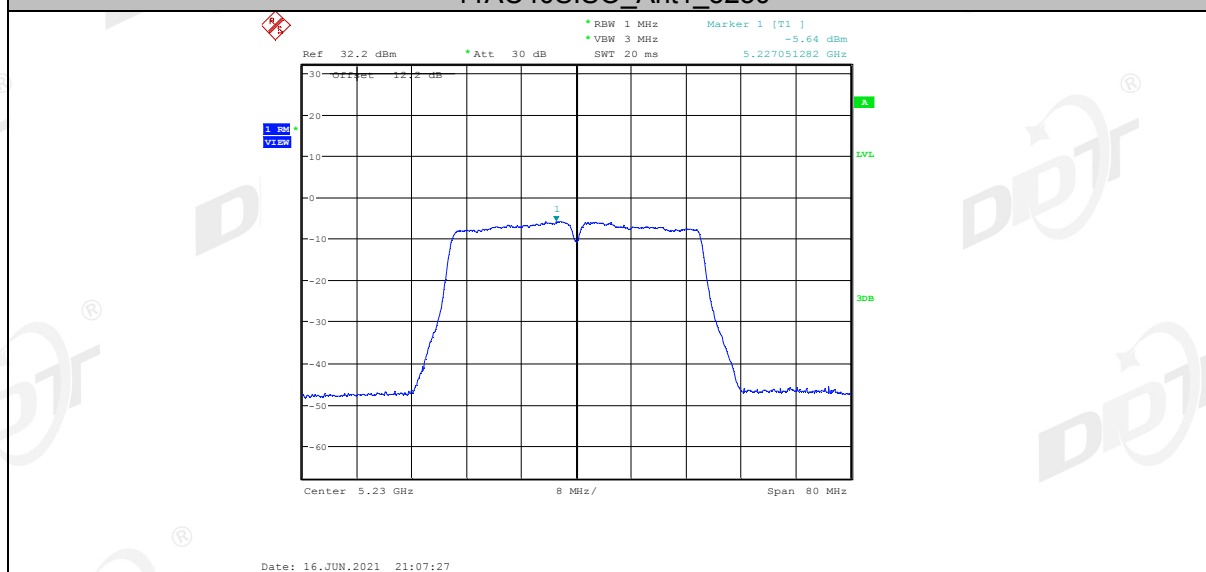
11AC20SISO_Ant1_5825



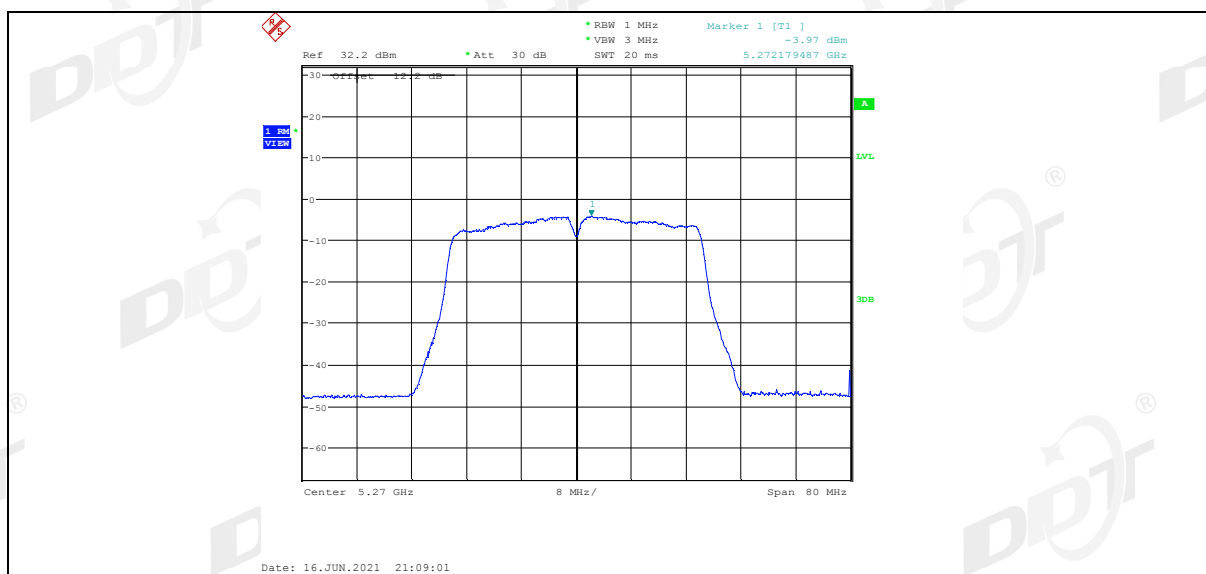
11AC40SISO_Ant1_5190



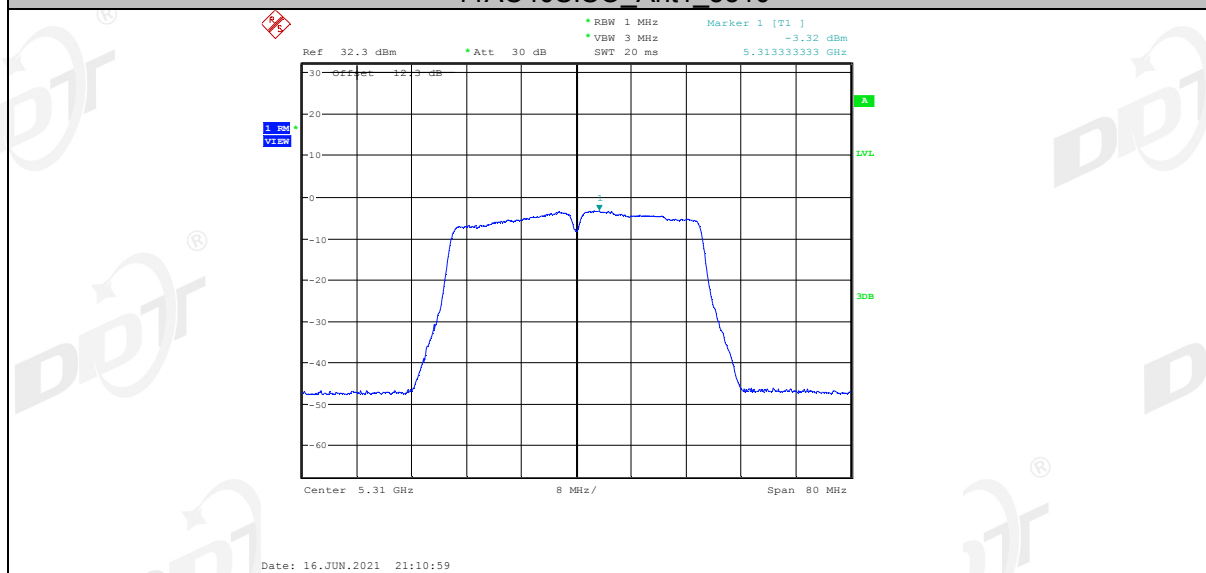
11AC40SISO_Ant1_5230



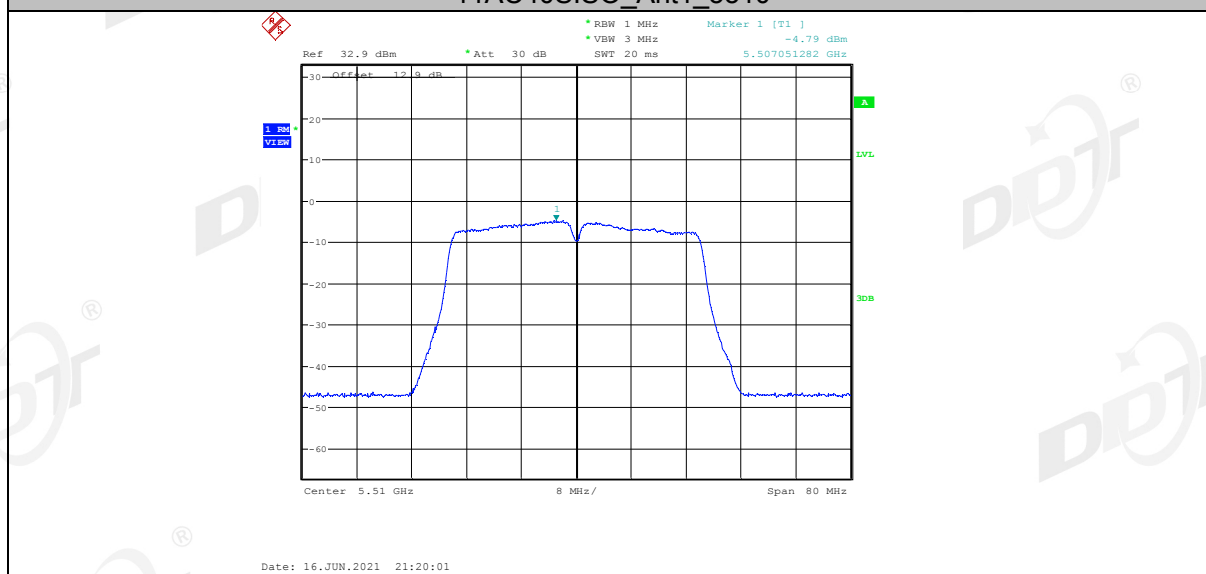
11AC40SISO_Ant1_5270



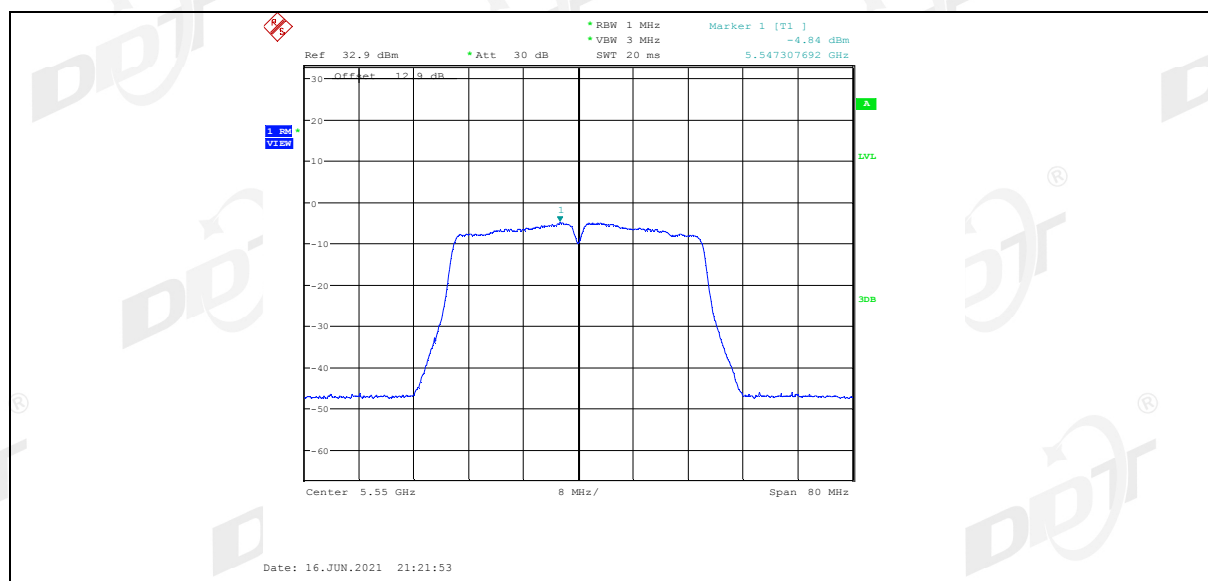
11AC40SISO_Ant1_5310



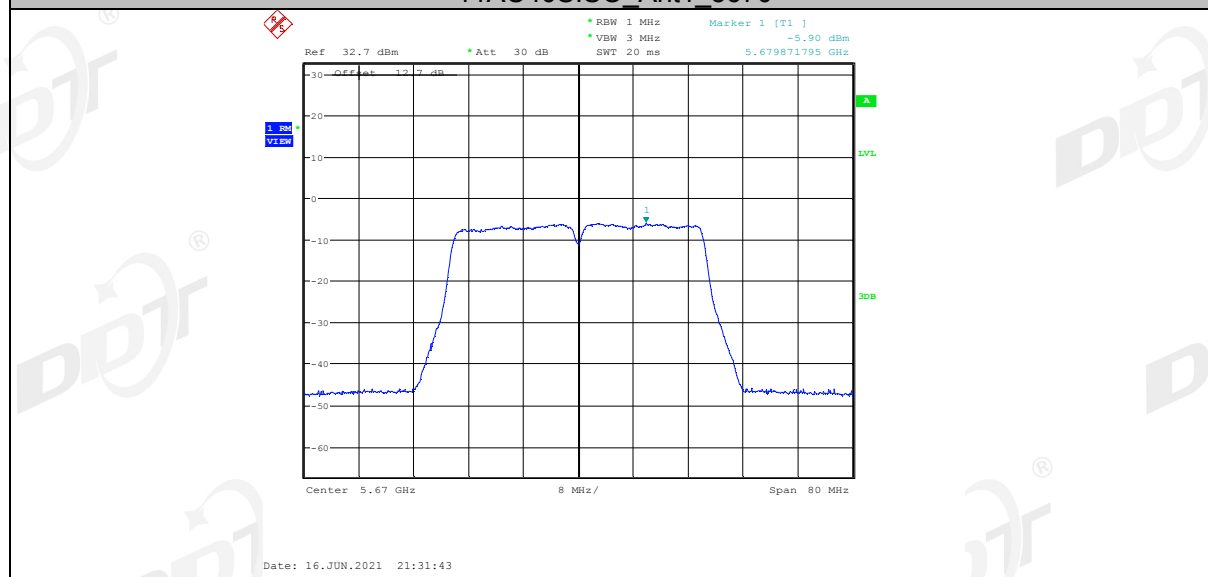
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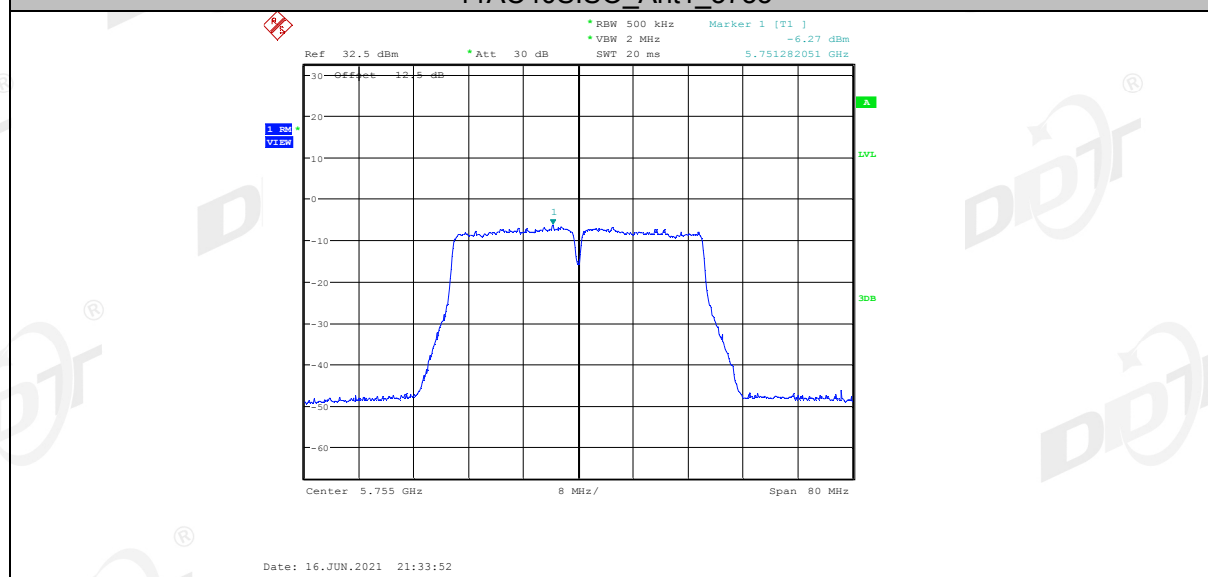
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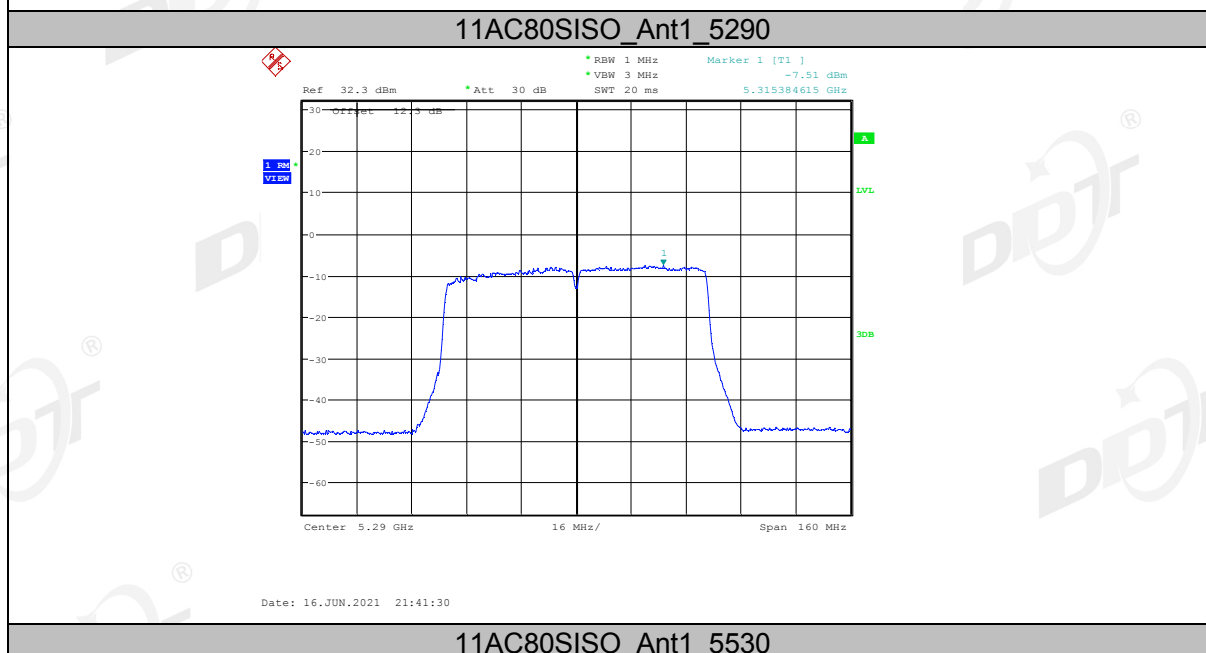
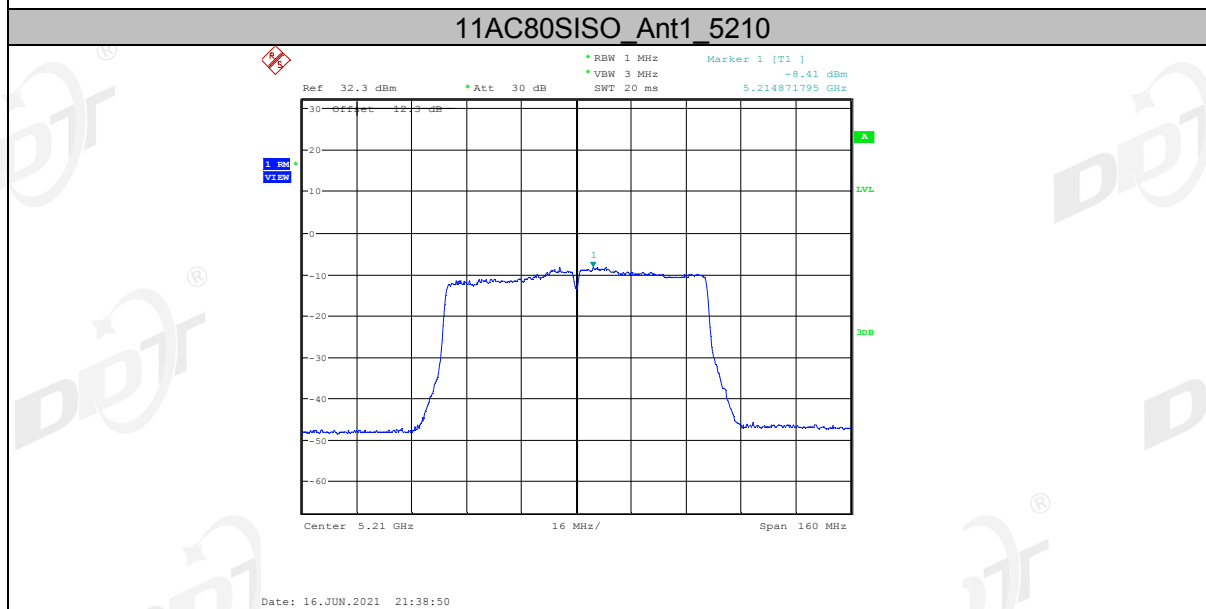
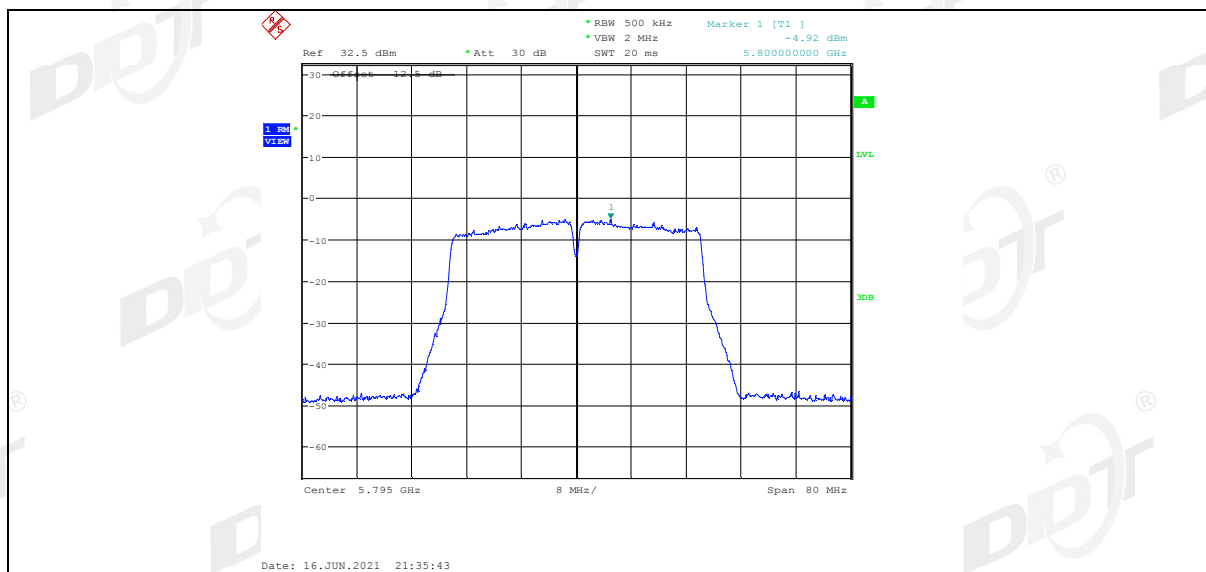
11AC40SISO_Ant1_5670

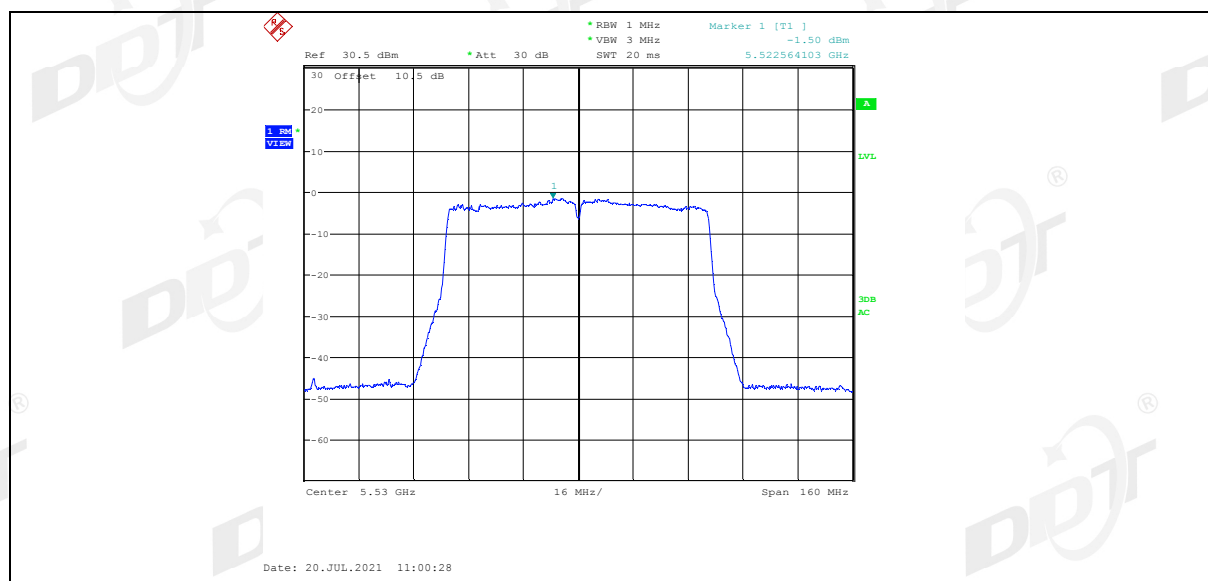


11AC40SISO_Ant1_5755

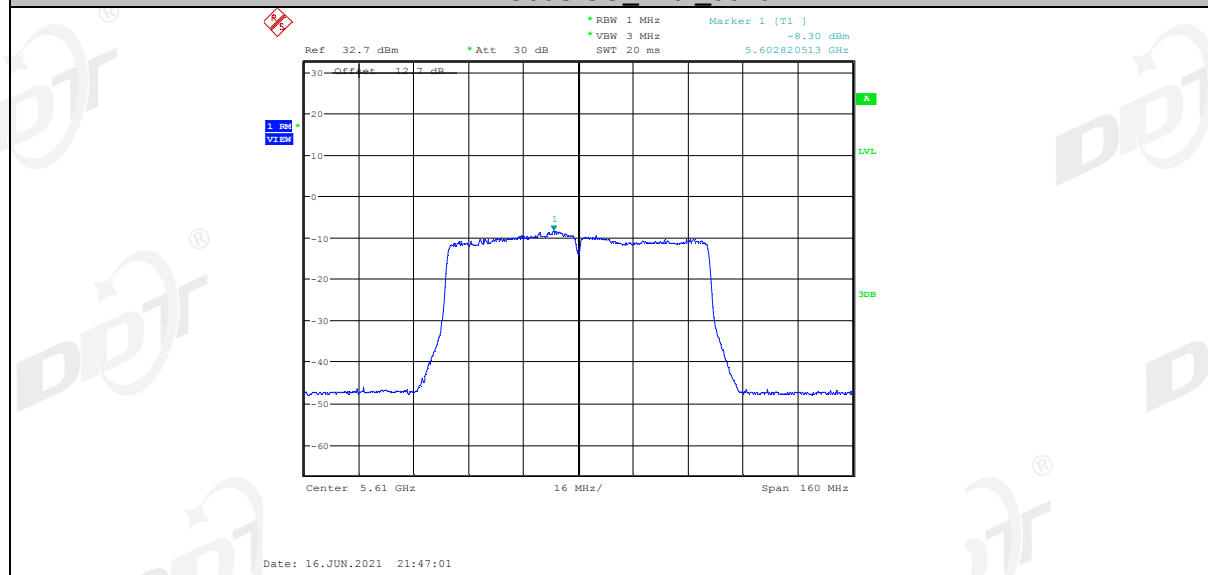


11AC40SISO_Ant1_5795

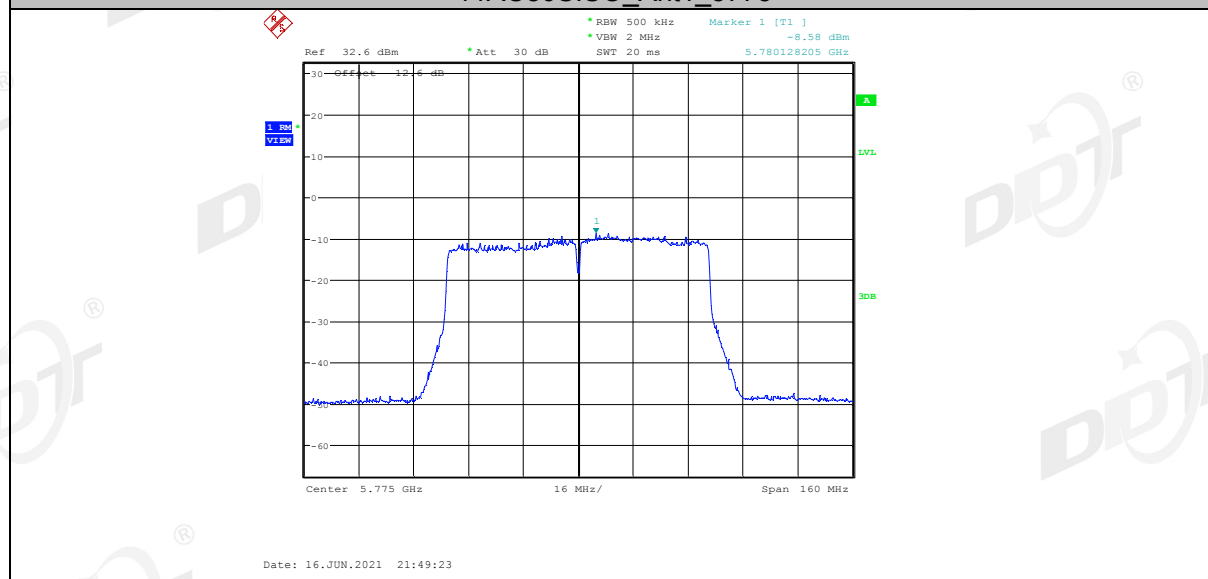




11AC80SISO_Ant1_5610



11AC80SISO_Ant1_5775



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.

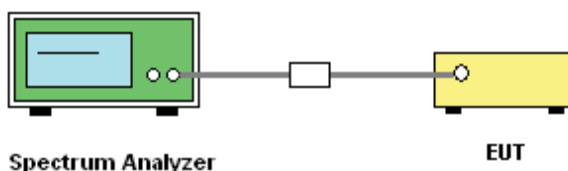
7.2. Measuring instruments

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	Antenna	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5180	NV	NT	-35000	-6.756757	/	Pass
			LV	NT	-35000	-6.756757	/	Pass
			HV	NT	-35000	-6.756757	/	Pass
		5200	NV	NT	-36000	-6.923077	/	Pass
			LV	NT	-36000	-6.923077	/	Pass
			HV	NT	-36000	-6.923077	/	Pass
		5240	NV	NT	-36000	-6.870229	/	Pass
			LV	NT	-36000	-6.870229	/	Pass
			HV	NT	-36000	-6.870229	/	Pass
		5260	NV	NT	-36000	-6.844106	/	Pass
			LV	NT	-36000	-6.844106	/	Pass
			HV	NT	-36000	-6.844106	/	Pass
		5280	NV	NT	-36000	-6.818182	/	Pass
			LV	NT	-36000	-6.818182	/	Pass

11N20 SISO	Ant1	5320	HV	NT	-36000	-6.818182	/	Pass
			NV	NT	-37000	-6.954887	/	Pass
			LV	NT	-37000	-6.954887	/	Pass
		5500	HV	NT	-36000	-6.766917	/	Pass
			NV	NT	-38000	-6.909091	/	Pass
			LV	NT	-38000	-6.909091	/	Pass
		5580	HV	NT	-38000	-6.909091	/	Pass
			NV	NT	-39000	-6.989247	/	Pass
			LV	NT	-38000	-6.810036	/	Pass
		5700	HV	NT	-38000	-6.810036	/	Pass
			NV	NT	-39000	-6.842105	/	Pass
			LV	NT	-40000	-7.017544	/	Pass
		5745	HV	NT	-39000	-6.842105	/	Pass
			NV	NT	-40000	-6.962576	/	Pass
			LV	NT	-40000	-6.962576	/	Pass
		5785	HV	NT	-40000	-6.962576	/	Pass
			NV	NT	-40000	-6.914434	/	Pass
			LV	NT	-40000	-6.914434	/	Pass
		5825	HV	NT	-40000	-6.914434	/	Pass
			NV	NT	-40000	-6.866953	/	Pass
			LV	NT	-41000	-7.038627	/	Pass
		5180	HV	NT	-41000	-7.038627	/	Pass
			NV	NT	-36000	-6.949807	/	Pass
			LV	NT	-36000	-6.949807	/	Pass
	Ant2	5200	HV	NT	-36000	-6.949807	/	Pass
			NV	NT	-36000	-6.923077	/	Pass
			LV	NT	-37000	-7.115385	/	Pass
		5240	HV	NT	-36000	-6.923077	/	Pass
			NV	NT	-36000	-6.870229	/	Pass
			LV	NT	-37000	-7.061069	/	Pass
		5260	HV	NT	-37000	-7.061069	/	Pass
			NV	NT	-37000	-7.034221	/	Pass
			LV	NT	-36000	-6.844106	/	Pass
		5280	HV	NT	-36000	-6.844106	/	Pass
			NV	NT	-37000	-7.007576	/	Pass
			LV	NT	-37000	-7.007576	/	Pass
		5320	HV	NT	-37000	-7.007576	/	Pass
			NV	NT	-37000	-6.954887	/	Pass
			LV	NT	-37000	-6.954887	/	Pass
		5500	HV	NT	-37000	-6.954887	/	Pass
			NV	NT	-39000	-7.090909	/	Pass
			LV	NT	-38000	-6.909091	/	Pass
		5580	HV	NT	-38000	-6.909091	/	Pass
			NV	NT	-39000	-6.989247	/	Pass
			LV	NT	-39000	-6.989247	/	Pass
		5700	HV	NT	-39000	-6.989247	/	Pass
			NV	NT	-40000	-7.017544	/	Pass
			LV	NT	-40000	-7.017544	/	Pass
		5745	HV	NT	-40000	-7.017544	/	Pass
			NV	NT	-40000	-6.962576	/	Pass
		5745	LV	NT	-40000	-6.962576	/	Pass

			HV	NT	-40000	-6.962576	/	Pass
			NV	NT	-40000	-6.914434	/	Pass
			LV	NT	-40000	-6.914434	/	Pass
		5785	HV	NT	-40000	-6.914434	/	Pass
			NV	NT	-41000	-7.038627	/	Pass
			LV	NT	-40000	-6.866953	/	Pass
		5825	HV	NT	-41000	-7.038627	/	Pass
			NV	NT	-36000	-6.936416	/	Pass
			LV	NT	-36000	-6.936416	/	Pass
11N40 SISO	Ant1	5190	HV	NT	-36000	-6.936416	/	Pass
			NV	NT	-37000	-7.07457	/	Pass
			LV	NT	-36000	-6.883365	/	Pass
		5230	HV	NT	-37000	-7.07457	/	Pass
			NV	NT	-37000	-7.020873	/	Pass
			LV	NT	-37000	-7.020873	/	Pass
		5270	HV	NT	-37000	-7.020873	/	Pass
			NV	NT	-37000	-6.967985	/	Pass
			LV	NT	-38000	-7.156309	/	Pass
		5310	HV	NT	-37000	-6.967985	/	Pass
			NV	NT	-38000	-6.896552	/	Pass
			LV	NT	-39000	-7.07804	/	Pass
		5510	HV	NT	-39000	-7.07804	/	Pass
			NV	NT	-39000	-7.027027	/	Pass
			LV	NT	-39000	-7.027027	/	Pass
		5550	HV	NT	-39000	-7.027027	/	Pass
			NV	NT	-40000	-7.054674	/	Pass
			LV	NT	-40000	-7.054674	/	Pass
		5670	HV	NT	-39000	-6.878307	/	Pass
			NV	NT	-40000	-6.950478	/	Pass
			LV	NT	-40000	-6.950478	/	Pass
		5755	HV	NT	-40000	-6.950478	/	Pass
			NV	NT	-41000	-7.075065	/	Pass
			LV	NT	-40000	-6.902502	/	Pass
		5795	HV	NT	-41000	-7.075065	/	Pass
11AC20 SISO	Ant1	5180	NV	NT	-36000	-6.949807	/	Pass
			LV	NT	-36000	-6.949807	/	Pass
			HV	NT	-36000	-6.949807	/	Pass
		5200	NV	NT	-36000	-6.923077	/	Pass
			LV	NT	-37000	-7.115385	/	Pass
			HV	NT	-36000	-6.923077	/	Pass
		5240	NV	NT	-37000	-7.061069	/	Pass
			LV	NT	-37000	-7.061069	/	Pass
			HV	NT	-37000	-7.061069	/	Pass
		5260	NV	NT	-37000	-7.034221	/	Pass
			LV	NT	-37000	-7.034221	/	Pass
			HV	NT	-37000	-7.034221	/	Pass
		5280	NV	NT	-37000	-7.007576	/	Pass
			LV	NT	-37000	-7.007576	/	Pass
			HV	NT	-37000	-7.007576	/	Pass
		5320	NV	NT	-37000	-6.954887	/	Pass
			LV	NT	-37000	-6.954887	/	Pass

		5500	HV	NT	-37000	-6.954887	/	Pass
			NV	NT	-39000	-7.090909	/	Pass
			LV	NT	-38000	-6.909091	/	Pass
		5580	HV	NT	-39000	-7.090909	/	Pass
			NV	NT	-39000	-6.989247	/	Pass
			LV	NT	-40000	-7.168459	/	Pass
		5700	HV	NT	-40000	-7.168459	/	Pass
			NV	NT	-40000	-7.017544	/	Pass
			LV	NT	-40000	-7.017544	/	Pass
		5745	HV	NT	-40000	-7.017544	/	Pass
			NV	NT	-40000	-6.962576	/	Pass
			LV	NT	-41000	-7.136641	/	Pass
		5785	HV	NT	-41000	-7.136641	/	Pass
			NV	NT	-41000	-7.087295	/	Pass
			LV	NT	-41000	-7.087295	/	Pass
		5825	HV	NT	-41000	-7.087295	/	Pass
			NV	NT	-41000	-7.038627	/	Pass
			LV	NT	-41000	-7.038627	/	Pass
11AC40 SISO	Ant1	5190	HV	NT	-41000	-7.038627	/	Pass
			NV	NT	-36000	-6.936416	/	Pass
			LV	NT	-36000	-6.936416	/	Pass
		5230	HV	NT	-36000	-6.936416	/	Pass
			NV	NT	-37000	-7.07457	/	Pass
			LV	NT	-37000	-7.07457	/	Pass
		5270	HV	NT	-37000	-7.07457	/	Pass
			NV	NT	-37000	-7.020873	/	Pass
			LV	NT	-37000	-7.020873	/	Pass
		5310	HV	NT	-37000	-7.020873	/	Pass
			NV	NT	-38000	-7.156309	/	Pass
			LV	NT	-37000	-6.967985	/	Pass
		5510	HV	NT	-38000	-7.156309	/	Pass
			NV	NT	-39000	-7.07804	/	Pass
			LV	NT	-39000	-7.07804	/	Pass
		5550	HV	NT	-39000	-7.07804	/	Pass
			NV	NT	-39000	-7.027027	/	Pass
			LV	NT	-39000	-7.027027	/	Pass
		5670	HV	NT	-40000	-7.207207	/	Pass
			NV	NT	-40000	-7.054674	/	Pass
			LV	NT	-40000	-7.054674	/	Pass
		5755	HV	NT	-40000	-7.054674	/	Pass
			NV	NT	-41000	-7.12424	/	Pass
			LV	NT	-41000	-7.12424	/	Pass
11AC80 SISO	Ant1	5210	HV	NT	-41000	-7.12424	/	Pass
			NV	NT	-41000	-7.075065	/	Pass
			LV	NT	-41000	-7.075065	/	Pass
		5290	HV	NT	-41000	-7.075065	/	Pass
			NV	NT	-37000	-7.101727	/	Pass
			LV	NT	-37000	-7.101727	/	Pass

		5530	HV	NT	-38000	-7.183365	/	Pass
			NV	NT	-39000	-7.052441	/	Pass
			LV	NT	-39000	-7.052441	/	Pass
			HV	NT	-40000	-7.233273	/	Pass
		5610	NV	NT	-40000	-7.130125	/	Pass
			LV	NT	-40000	-7.130125	/	Pass
			HV	NT	-40000	-7.130125	/	Pass
		5775	NV	NT	-41000	-7.099567	/	Pass
			LV	NT	-41000	-7.099567	/	Pass
			HV	NT	-41000	-7.099567	/	Pass

Temperature								
Test Mode	Antenna	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5180	NV	-30	-35000	-6.756757	/	Pass
			NV	-20	-35000	-6.756757	/	Pass
			NV	-10	-35000	-6.756757	/	Pass
			NV	0	-36000	-6.949807	/	Pass
			NV	10	-35000	-6.756757	/	Pass
			NV	20	-36000	-6.949807	/	Pass
			NV	30	-36000	-6.949807	/	Pass
			NV	40	-36000	-6.949807	/	Pass
			NV	50	-36000	-6.949807	/	Pass
		5200	NV	-30	-36000	-6.923077	/	Pass
			NV	-20	-36000	-6.923077	/	Pass
			NV	-10	-36000	-6.923077	/	Pass
			NV	0	-36000	-6.923077	/	Pass
			NV	10	-36000	-6.923077	/	Pass
			NV	20	-36000	-6.923077	/	Pass
			NV	30	-36000	-6.923077	/	Pass
			NV	40	-35000	-6.730769	/	Pass
			NV	50	-36000	-6.923077	/	Pass
		5240	NV	-30	-36000	-6.870229	/	Pass
			NV	-20	-36000	-6.870229	/	Pass
			NV	-10	-36000	-6.870229	/	Pass
			NV	0	-36000	-6.870229	/	Pass
			NV	10	-36000	-6.870229	/	Pass
			NV	20	-36000	-6.870229	/	Pass
			NV	30	-36000	-6.870229	/	Pass
			NV	40	-36000	-6.870229	/	Pass
			NV	50	-36000	-6.870229	/	Pass
		5260	NV	-30	-36000	-6.844106	/	Pass
			NV	-20	-36000	-6.844106	/	Pass
			NV	-10	-36000	-6.844106	/	Pass
			NV	0	-36000	-6.844106	/	Pass
			NV	10	-36000	-6.844106	/	Pass
			NV	20	-36000	-6.844106	/	Pass
			NV	30	-36000	-6.844106	/	Pass
			NV	40	-36000	-6.844106	/	Pass
			NV	50	-36000	-6.844106	/	Pass

		5280	NV	-30	-36000	-6.818182	/	Pass
			NV	-20	-36000	-6.818182	/	Pass
			NV	-10	-36000	-6.818182	/	Pass
			NV	0	-36000	-6.818182	/	Pass
			NV	10	-36000	-6.818182	/	Pass
			NV	20	-36000	-6.818182	/	Pass
			NV	30	-36000	-6.818182	/	Pass
			NV	40	-36000	-6.818182	/	Pass
			NV	50	-36000	-6.818182	/	Pass
		5320	NV	-30	-36000	-6.766917	/	Pass
			NV	-20	-37000	-6.954887	/	Pass
			NV	-10	-37000	-6.954887	/	Pass
			NV	0	-36000	-6.766917	/	Pass
			NV	10	-37000	-6.954887	/	Pass
			NV	20	-37000	-6.954887	/	Pass
			NV	30	-36000	-6.766917	/	Pass
			NV	40	-36000	-6.766917	/	Pass
			NV	50	-37000	-6.954887	/	Pass
		5500	NV	-30	-38000	-6.909091	/	Pass
			NV	-20	-38000	-6.909091	/	Pass
			NV	-10	-38000	-6.909091	/	Pass
			NV	0	-38000	-6.909091	/	Pass
			NV	10	-38000	-6.909091	/	Pass
			NV	20	-38000	-6.909091	/	Pass
			NV	30	-38000	-6.909091	/	Pass
			NV	40	-37000	-6.727273	/	Pass
			NV	50	-38000	-6.909091	/	Pass
		5580	NV	-30	-38000	-6.810036	/	Pass
			NV	-20	-38000	-6.810036	/	Pass
			NV	-10	-39000	-6.989247	/	Pass
			NV	0	-39000	-6.989247	/	Pass
			NV	10	-38000	-6.810036	/	Pass
			NV	20	-39000	-6.989247	/	Pass
			NV	30	-39000	-6.989247	/	Pass
			NV	40	-38000	-6.810036	/	Pass
			NV	50	-39000	-6.989247	/	Pass
		5700	NV	-30	-39000	-6.842105	/	Pass
			NV	-20	-40000	-7.017544	/	Pass
			NV	-10	-40000	-7.017544	/	Pass
			NV	0	-39000	-6.842105	/	Pass
			NV	10	-39000	-6.842105	/	Pass
			NV	20	-39000	-6.842105	/	Pass
			NV	30	-40000	-7.017544	/	Pass
			NV	40	-40000	-7.017544	/	Pass
			NV	50	-40000	-7.017544	/	Pass
		5745	NV	-30	-40000	-6.962576	/	Pass
			NV	-20	-40000	-6.962576	/	Pass
			NV	-10	-40000	-6.962576	/	Pass
			NV	0	-40000	-6.962576	/	Pass
			NV	10	-40000	-6.962576	/	Pass
			NV	20	-39000	-6.788512	/	Pass

11N20 SISO	Ant1	5785	NV	30	-40000	-6.962576	/	Pass
			NV	40	-40000	-6.962576	/	Pass
			NV	50	-40000	-6.962576	/	Pass
		5785	NV	-30	-40000	-6.914434	/	Pass
			NV	-20	-40000	-6.914434	/	Pass
			NV	-10	-40000	-6.914434	/	Pass
			NV	0	-40000	-6.914434	/	Pass
			NV	10	-40000	-6.914434	/	Pass
			NV	20	-41000	-7.087295	/	Pass
			NV	30	-40000	-6.914434	/	Pass
			NV	40	-40000	-6.914434	/	Pass
			NV	50	-40000	-6.914434	/	Pass
			NV	-30	-40000	-6.866953	/	Pass
			NV	-20	-40000	-6.866953	/	Pass
		5825	NV	-10	-40000	-6.866953	/	Pass
			NV	0	-40000	-6.866953	/	Pass
			NV	10	-41000	-7.038627	/	Pass
			NV	20	-41000	-7.038627	/	Pass
			NV	30	-40000	-6.866953	/	Pass
			NV	40	-40000	-6.866953	/	Pass
			NV	50	-40000	-6.866953	/	Pass
			NV	-30	-36000	-6.949807	/	Pass
		5180	NV	-20	-36000	-6.949807	/	Pass
			NV	-10	-36000	-6.949807	/	Pass
			NV	0	-36000	-6.949807	/	Pass
			NV	10	-36000	-6.949807	/	Pass
			NV	20	-36000	-6.949807	/	Pass
			NV	30	-36000	-6.949807	/	Pass
			NV	40	-36000	-6.949807	/	Pass
			NV	50	-36000	-6.949807	/	Pass
		5200	NV	-30	-36000	-6.923077	/	Pass
			NV	-20	-36000	-6.923077	/	Pass
			NV	-10	-36000	-6.923077	/	Pass
			NV	0	-36000	-6.923077	/	Pass
			NV	10	-36000	-6.923077	/	Pass
			NV	20	-36000	-6.923077	/	Pass
			NV	30	-36000	-6.923077	/	Pass
			NV	40	-36000	-6.923077	/	Pass
			NV	50	-36000	-6.923077	/	Pass
		5240	NV	-30	-37000	-7.061069	/	Pass
			NV	-20	-36000	-6.870229	/	Pass
			NV	-10	-36000	-6.870229	/	Pass
			NV	0	-37000	-7.061069	/	Pass
			NV	10	-36000	-6.870229	/	Pass
			NV	20	-36000	-6.870229	/	Pass
			NV	30	-37000	-7.061069	/	Pass
			NV	40	-37000	-7.061069	/	Pass
			NV	50	-36000	-6.870229	/	Pass
		5260	NV	-30	-37000	-7.034221	/	Pass
			NV	-20	-37000	-7.034221	/	Pass
			NV	-10	-37000	-7.034221	/	Pass

			NV	0	-37000	-7.034221	/	Pass
			NV	10	-37000	-7.034221	/	Pass
			NV	20	-36000	-6.844106	/	Pass
			NV	30	-37000	-7.034221	/	Pass
			NV	40	-36000	-6.844106	/	Pass
			NV	50	-37000	-7.034221	/	Pass
		5280	NV	-30	-37000	-7.007576	/	Pass
			NV	-20	-37000	-7.007576	/	Pass
			NV	-10	-37000	-7.007576	/	Pass
			NV	0	-37000	-7.007576	/	Pass
			NV	10	-37000	-7.007576	/	Pass
			NV	20	-37000	-7.007576	/	Pass
			NV	30	-37000	-7.007576	/	Pass
			NV	40	-37000	-7.007576	/	Pass
		5320	NV	50	-37000	-7.007576	/	Pass
			NV	-30	-37000	-6.954887	/	Pass
			NV	-20	-37000	-6.954887	/	Pass
			NV	-10	-37000	-6.954887	/	Pass
			NV	0	-37000	-6.954887	/	Pass
			NV	10	-37000	-6.954887	/	Pass
			NV	20	-37000	-6.954887	/	Pass
			NV	30	-37000	-6.954887	/	Pass
		5500	NV	40	-37000	-6.954887	/	Pass
			NV	50	-37000	-6.954887	/	Pass
			NV	-30	-38000	-6.909091	/	Pass
			NV	-20	-39000	-7.090909	/	Pass
			NV	-10	-39000	-7.090909	/	Pass
			NV	0	-39000	-7.090909	/	Pass
			NV	10	-38000	-6.909091	/	Pass
			NV	20	-38000	-6.909091	/	Pass
		5580	NV	30	-38000	-6.909091	/	Pass
			NV	40	-38000	-6.909091	/	Pass
			NV	50	-38000	-6.909091	/	Pass
			NV	-30	-39000	-6.989247	/	Pass
			NV	-20	-39000	-6.989247	/	Pass
			NV	-10	-39000	-6.989247	/	Pass
			NV	0	-39000	-6.989247	/	Pass
			NV	10	-39000	-6.989247	/	Pass
		5700	NV	20	-39000	-6.989247	/	Pass
			NV	30	-39000	-6.989247	/	Pass
			NV	40	-39000	-6.989247	/	Pass
			NV	50	-39000	-6.989247	/	Pass
			NV	-30	-40000	-7.017544	/	Pass
			NV	-20	-40000	-7.017544	/	Pass
			NV	-10	-40000	-7.017544	/	Pass
			NV	0	-40000	-7.017544	/	Pass
			NV	10	-40000	-7.017544	/	Pass
			NV	20	-40000	-7.017544	/	Pass
			NV	30	-40000	-7.017544	/	Pass
			NV	40	-40000	-7.017544	/	Pass
			NV	50	-40000	-7.017544	/	Pass

11N40 SISO	Ant1	5745	NV	-30	-40000	-6.962576	/	Pass
			NV	-20	-40000	-6.962576	/	Pass
			NV	-10	-40000	-6.962576	/	Pass
			NV	0	-40000	-6.962576	/	Pass
			NV	10	-40000	-6.962576	/	Pass
			NV	20	-40000	-6.962576	/	Pass
			NV	30	-40000	-6.962576	/	Pass
			NV	40	-40000	-6.962576	/	Pass
			NV	50	-40000	-6.962576	/	Pass
		5785	NV	-30	-40000	-6.914434	/	Pass
			NV	-20	-41000	-7.087295	/	Pass
			NV	-10	-41000	-7.087295	/	Pass
			NV	0	-40000	-6.914434	/	Pass
			NV	10	-40000	-6.914434	/	Pass
			NV	20	-40000	-6.914434	/	Pass
			NV	30	-41000	-7.087295	/	Pass
			NV	40	-41000	-7.087295	/	Pass
			NV	50	-41000	-7.087295	/	Pass
		5825	NV	-30	-40000	-6.866953	/	Pass
			NV	-20	-41000	-7.038627	/	Pass
			NV	-10	-41000	-7.038627	/	Pass
			NV	0	-41000	-7.038627	/	Pass
			NV	10	-41000	-7.038627	/	Pass
			NV	20	-41000	-7.038627	/	Pass
			NV	30	-41000	-7.038627	/	Pass
			NV	40	-41000	-7.038627	/	Pass
			NV	50	-41000	-7.038627	/	Pass
	Ant2	5190	NV	-30	-36000	-6.936416	/	Pass
			NV	-20	-37000	-7.129094	/	Pass
			NV	-10	-36000	-6.936416	/	Pass
			NV	0	-36000	-6.936416	/	Pass
			NV	10	-36000	-6.936416	/	Pass
			NV	20	-36000	-6.936416	/	Pass
			NV	30	-36000	-6.936416	/	Pass
			NV	40	-36000	-6.936416	/	Pass
			NV	50	-36000	-6.936416	/	Pass
		5230	NV	-30	-37000	-7.07457	/	Pass
			NV	-20	-36000	-6.883365	/	Pass
			NV	-10	-36000	-6.883365	/	Pass
			NV	0	-36000	-6.883365	/	Pass
			NV	10	-36000	-6.883365	/	Pass
			NV	20	-37000	-7.07457	/	Pass
			NV	30	-36000	-6.883365	/	Pass
			NV	40	-37000	-7.07457	/	Pass
			NV	50	-37000	-7.07457	/	Pass
		5270	NV	-30	-37000	-7.020873	/	Pass
			NV	-20	-37000	-7.020873	/	Pass
			NV	-10	-37000	-7.020873	/	Pass
			NV	0	-37000	-7.020873	/	Pass
			NV	10	-38000	-7.210626	/	Pass
			NV	20	-37000	-7.020873	/	Pass

			NV	30	-37000	-7.020873	/	Pass
			NV	40	-37000	-7.020873	/	Pass
			NV	50	-37000	-7.020873	/	Pass
		5310	NV	-30	-38000	-7.156309	/	Pass
			NV	-20	-37000	-6.967985	/	Pass
			NV	-10	-38000	-7.156309	/	Pass
			NV	0	-37000	-6.967985	/	Pass
			NV	10	-38000	-7.156309	/	Pass
			NV	20	-38000	-7.156309	/	Pass
			NV	30	-37000	-6.967985	/	Pass
			NV	40	-37000	-6.967985	/	Pass
			NV	50	-37000	-6.967985	/	Pass
		5510	NV	-30	-38000	-6.896552	/	Pass
			NV	-20	-38000	-6.896552	/	Pass
			NV	-10	-38000	-6.896552	/	Pass
			NV	0	-38000	-6.896552	/	Pass
			NV	10	-38000	-6.896552	/	Pass
			NV	20	-39000	-7.07804	/	Pass
			NV	30	-39000	-7.07804	/	Pass
			NV	40	-39000	-7.07804	/	Pass
			NV	50	-39000	-7.07804	/	Pass
		5550	NV	-30	-39000	-7.027027	/	Pass
			NV	-20	-39000	-7.027027	/	Pass
			NV	-10	-39000	-7.027027	/	Pass
			NV	0	-39000	-7.027027	/	Pass
			NV	10	-39000	-7.027027	/	Pass
			NV	20	-39000	-7.027027	/	Pass
			NV	30	-39000	-7.027027	/	Pass
			NV	40	-39000	-7.027027	/	Pass
			NV	50	-39000	-7.027027	/	Pass
		5670	NV	-30	-40000	-7.054674	/	Pass
			NV	-20	-40000	-7.054674	/	Pass
			NV	-10	-40000	-7.054674	/	Pass
			NV	0	-40000	-7.054674	/	Pass
			NV	10	-40000	-7.054674	/	Pass
			NV	20	-39000	-6.878307	/	Pass
			NV	30	-40000	-7.054674	/	Pass
			NV	40	-40000	-7.054674	/	Pass
			NV	50	-39000	-6.878307	/	Pass
		5755	NV	-30	-40000	-6.950478	/	Pass
			NV	-20	-41000	-7.12424	/	Pass
			NV	-10	-40000	-6.950478	/	Pass
			NV	0	-40000	-6.950478	/	Pass
			NV	10	-40000	-6.950478	/	Pass
			NV	20	-40000	-6.950478	/	Pass
			NV	30	-41000	-7.12424	/	Pass
			NV	40	-40000	-6.950478	/	Pass
			NV	50	-40000	-6.950478	/	Pass
		5795	NV	-30	-41000	-7.075065	/	Pass
			NV	-20	-41000	-7.075065	/	Pass
			NV	-10	-40000	-6.902502	/	Pass

			NV	0	-41000	-7.075065	/	Pass
			NV	10	-40000	-6.902502	/	Pass
11AC20 SISO	Ant1		NV	20	-41000	-7.075065	/	Pass
			NV	30	-41000	-7.075065	/	Pass
			NV	40	-41000	-7.075065	/	Pass
			NV	50	-40000	-6.902502	/	Pass
		5180	NV	-30	-36000	-6.949807	/	Pass
			NV	-20	-37000	-7.142857	/	Pass
			NV	-10	-36000	-6.949807	/	Pass
			NV	0	-37000	-7.142857	/	Pass
			NV	10	-36000	-6.949807	/	Pass
			NV	20	-37000	-7.142857	/	Pass
			NV	30	-36000	-6.949807	/	Pass
			NV	40	-37000	-7.142857	/	Pass
			NV	50	-36000	-6.949807	/	Pass
		5200	NV	-30	-37000	-7.115385	/	Pass
			NV	-20	-36000	-6.923077	/	Pass
			NV	-10	-36000	-6.923077	/	Pass
			NV	0	-36000	-6.923077	/	Pass
			NV	10	-36000	-6.923077	/	Pass
			NV	20	-36000	-6.923077	/	Pass
			NV	30	-37000	-7.115385	/	Pass
			NV	40	-36000	-6.923077	/	Pass
			NV	50	-37000	-7.115385	/	Pass
		5240	NV	-30	-37000	-7.061069	/	Pass
			NV	-20	-37000	-7.061069	/	Pass
			NV	-10	-37000	-7.061069	/	Pass
			NV	0	-37000	-7.061069	/	Pass
			NV	10	-37000	-7.061069	/	Pass
			NV	20	-37000	-7.061069	/	Pass
			NV	30	-37000	-7.061069	/	Pass
			NV	40	-37000	-7.061069	/	Pass
			NV	50	-37000	-7.061069	/	Pass
		5260	NV	-30	-37000	-7.034221	/	Pass
			NV	-20	-37000	-7.034221	/	Pass
			NV	-10	-37000	-7.034221	/	Pass
			NV	0	-37000	-7.034221	/	Pass
			NV	10	-37000	-7.034221	/	Pass
			NV	20	-37000	-7.034221	/	Pass
			NV	30	-37000	-7.034221	/	Pass
			NV	40	-37000	-7.034221	/	Pass
			NV	50	-37000	-7.034221	/	Pass
		5280	NV	-30	-37000	-7.007576	/	Pass
			NV	-20	-37000	-7.007576	/	Pass
			NV	-10	-37000	-7.007576	/	Pass
			NV	0	-37000	-7.007576	/	Pass
			NV	10	-37000	-7.007576	/	Pass
			NV	20	-37000	-7.007576	/	Pass
			NV	30	-37000	-7.007576	/	Pass
			NV	40	-37000	-7.007576	/	Pass
			NV	50	-37000	-7.007576	/	Pass

		5320	NV	-30	-37000	-6.954887	/	Pass
			NV	-20	-38000	-7.142857	/	Pass
			NV	-10	-38000	-7.142857	/	Pass
			NV	0	-38000	-7.142857	/	Pass
			NV	10	-37000	-6.954887	/	Pass
			NV	20	-38000	-7.142857	/	Pass
			NV	30	-37000	-6.954887	/	Pass
			NV	40	-38000	-7.142857	/	Pass
			NV	50	-37000	-6.954887	/	Pass
		5500	NV	-30	-39000	-7.090909	/	Pass
			NV	-20	-38000	-6.909091	/	Pass
			NV	-10	-39000	-7.090909	/	Pass
			NV	0	-38000	-6.909091	/	Pass
			NV	10	-39000	-7.090909	/	Pass
			NV	20	-39000	-7.090909	/	Pass
			NV	30	-39000	-7.090909	/	Pass
			NV	40	-39000	-7.090909	/	Pass
			NV	50	-38000	-6.909091	/	Pass
		5580	NV	-30	-39000	-6.989247	/	Pass
			NV	-20	-39000	-6.989247	/	Pass
			NV	-10	-39000	-6.989247	/	Pass
			NV	0	-39000	-6.989247	/	Pass
			NV	10	-39000	-6.989247	/	Pass
			NV	20	-39000	-6.989247	/	Pass
			NV	30	-39000	-6.989247	/	Pass
			NV	40	-39000	-6.989247	/	Pass
			NV	50	-39000	-6.989247	/	Pass
		5700	NV	-30	-40000	-7.017544	/	Pass
			NV	-20	-40000	-7.017544	/	Pass
			NV	-10	-40000	-7.017544	/	Pass
			NV	0	-40000	-7.017544	/	Pass
			NV	10	-41000	-7.192982	/	Pass
			NV	20	-40000	-7.017544	/	Pass
			NV	30	-40000	-7.017544	/	Pass
			NV	40	-40000	-7.017544	/	Pass
			NV	50	-40000	-7.017544	/	Pass
		5745	NV	-30	-40000	-6.962576	/	Pass
			NV	-20	-40000	-6.962576	/	Pass
			NV	-10	-40000	-6.962576	/	Pass
			NV	0	-41000	-7.136641	/	Pass
			NV	10	-41000	-7.136641	/	Pass
			NV	20	-41000	-7.136641	/	Pass
			NV	30	-41000	-7.136641	/	Pass
			NV	40	-40000	-6.962576	/	Pass
			NV	50	-40000	-6.962576	/	Pass
		5785	NV	-30	-40000	-6.914434	/	Pass
			NV	-20	-40000	-6.914434	/	Pass
			NV	-10	-41000	-7.087295	/	Pass
			NV	0	-41000	-7.087295	/	Pass
			NV	10	-41000	-7.087295	/	Pass
			NV	20	-41000	-7.087295	/	Pass

11AC40 SISO	Ant1		NV	30	-41000	-7.087295	/	Pass
			NV	40	-40000	-6.914434	/	Pass
			NV	50	-41000	-7.087295	/	Pass
		5825	NV	-30	-41000	-7.038627	/	Pass
			NV	-20	-41000	-7.038627	/	Pass
			NV	-10	-41000	-7.038627	/	Pass
			NV	0	-41000	-7.038627	/	Pass
			NV	10	-41000	-7.038627	/	Pass
			NV	20	-41000	-7.038627	/	Pass
			NV	30	-41000	-7.038627	/	Pass
			NV	40	-41000	-7.038627	/	Pass
			NV	50	-41000	-7.038627	/	Pass
			NV	-30	-36000	-6.936416	/	Pass
			NV	-20	-37000	-7.129094	/	Pass
			NV	-10	-36000	-6.936416	/	Pass
			NV	0	-36000	-6.936416	/	Pass
			NV	10	-36000	-6.936416	/	Pass
			NV	20	-36000	-6.936416	/	Pass
			NV	30	-36000	-6.936416	/	Pass
			NV	40	-37000	-7.129094	/	Pass
			NV	50	-37000	-7.129094	/	Pass
		5230	NV	-30	-37000	-7.07457	/	Pass
			NV	-20	-37000	-7.07457	/	Pass
			NV	-10	-37000	-7.07457	/	Pass
			NV	0	-37000	-7.07457	/	Pass
			NV	10	-37000	-7.07457	/	Pass
			NV	20	-37000	-7.07457	/	Pass
			NV	30	-37000	-7.07457	/	Pass
			NV	40	-37000	-7.07457	/	Pass
			NV	50	-37000	-7.07457	/	Pass
			NV	-30	-37000	-7.020873	/	Pass
			NV	-20	-37000	-7.020873	/	Pass
			NV	-10	-37000	-7.020873	/	Pass
		5270	NV	0	-37000	-7.020873	/	Pass
			NV	10	-37000	-7.020873	/	Pass
			NV	20	-37000	-7.020873	/	Pass
			NV	30	-37000	-7.020873	/	Pass
			NV	40	-38000	-7.210626	/	Pass
			NV	50	-37000	-7.020873	/	Pass
		5310	NV	-30	-37000	-6.967985	/	Pass
			NV	-20	-37000	-6.967985	/	Pass
			NV	-10	-38000	-7.156309	/	Pass
			NV	0	-38000	-7.156309	/	Pass
			NV	10	-37000	-6.967985	/	Pass
			NV	20	-38000	-7.156309	/	Pass
			NV	30	-37000	-6.967985	/	Pass
			NV	40	-37000	-6.967985	/	Pass
			NV	50	-38000	-7.156309	/	Pass
		5510	NV	-30	-39000	-7.07804	/	Pass
			NV	-20	-39000	-7.07804	/	Pass
			NV	-10	-39000	-7.07804	/	Pass

11AC80 SISO	Ant1	5550	NV	0	-39000	-7.07804	/	Pass
			NV	10	-39000	-7.07804	/	Pass
			NV	20	-39000	-7.07804	/	Pass
			NV	30	-39000	-7.07804	/	Pass
			NV	40	-39000	-7.07804	/	Pass
			NV	50	-39000	-7.07804	/	Pass
			NV	-30	-40000	-7.207207	/	Pass
			NV	-20	-40000	-7.207207	/	Pass
			NV	-10	-39000	-7.027027	/	Pass
			NV	0	-39000	-7.027027	/	Pass
			NV	10	-39000	-7.027027	/	Pass
			NV	20	-40000	-7.207207	/	Pass
			NV	30	-39000	-7.027027	/	Pass
			NV	40	-39000	-7.027027	/	Pass
			NV	50	-39000	-7.027027	/	Pass
		5670	NV	-30	-40000	-7.054674	/	Pass
			NV	-20	-40000	-7.054674	/	Pass
			NV	-10	-40000	-7.054674	/	Pass
			NV	0	-40000	-7.054674	/	Pass
			NV	10	-40000	-7.054674	/	Pass
			NV	20	-40000	-7.054674	/	Pass
			NV	30	-40000	-7.054674	/	Pass
			NV	40	-41000	-7.231041	/	Pass
		5755	NV	50	-40000	-7.054674	/	Pass
			NV	-30	-41000	-7.12424	/	Pass
			NV	-20	-41000	-7.12424	/	Pass
			NV	-10	-41000	-7.12424	/	Pass
			NV	0	-41000	-7.12424	/	Pass
			NV	10	-41000	-7.12424	/	Pass
			NV	20	-41000	-7.12424	/	Pass
			NV	30	-41000	-7.12424	/	Pass
		5795	NV	40	-41000	-7.12424	/	Pass
			NV	50	-41000	-7.12424	/	Pass
			NV	-30	-41000	-7.075065	/	Pass
			NV	-20	-41000	-7.075065	/	Pass
			NV	-10	-41000	-7.075065	/	Pass
			NV	0	-41000	-7.075065	/	Pass
			NV	10	-41000	-7.075065	/	Pass
			NV	20	-41000	-7.075065	/	Pass
11AC80 SISO	Ant1	5210	NV	30	-41000	-7.075065	/	Pass
			NV	40	-41000	-7.075065	/	Pass
			NV	50	-41000	-7.075065	/	Pass
			NV	-30	-37000	-7.101727	/	Pass
			NV	-20	-37000	-7.101727	/	Pass
			NV	-10	-37000	-7.101727	/	Pass
			NV	0	-37000	-7.101727	/	Pass
			NV	10	-37000	-7.101727	/	Pass
			NV	20	-37000	-7.101727	/	Pass
			NV	30	-37000	-7.101727	/	Pass
			NV	40	-37000	-7.101727	/	Pass
			NV	50	-38000	-7.293666	/	Pass

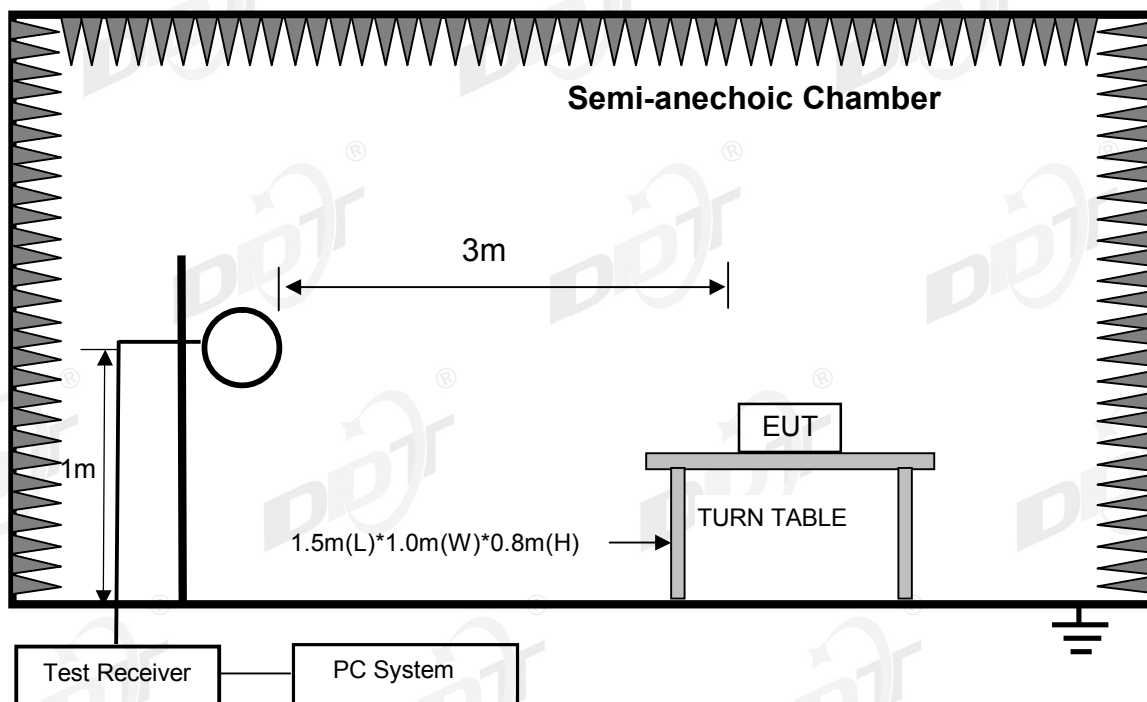
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			NV	-20	-37000	-6.994329	/	Pass
			NV	-10	-38000	-7.183365	/	Pass
			NV	0	-38000	-7.183365	/	Pass
			NV	10	-38000	-7.183365	/	Pass
			NV	20	-38000	-7.183365	/	Pass
			NV	30	-38000	-7.183365	/	Pass
			NV	40	-37000	-6.994329	/	Pass
			NV	50	-38000	-7.183365	/	Pass
		5530	NV	-30	-40000	-7.233273	/	Pass
			NV	-20	-39000	-7.052441	/	Pass
			NV	-10	-40000	-7.233273	/	Pass
			NV	0	-39000	-7.052441	/	Pass
			NV	10	-39000	-7.052441	/	Pass
			NV	20	-40000	-7.233273	/	Pass
			NV	30	-39000	-7.052441	/	Pass
			NV	40	-39000	-7.052441	/	Pass
			NV	50	-40000	-7.233273	/	Pass
		5610	NV	-30	-40000	-7.130125	/	Pass
			NV	-20	-40000	-7.130125	/	Pass
			NV	-10	-40000	-7.130125	/	Pass
			NV	0	-40000	-7.130125	/	Pass
			NV	10	-40000	-7.130125	/	Pass
			NV	20	-40000	-7.130125	/	Pass
			NV	30	-40000	-7.130125	/	Pass
			NV	40	-40000	-7.130125	/	Pass
			NV	50	-40000	-7.130125	/	Pass
		5775	NV	-30	-41000	-7.099567	/	Pass
			NV	-20	-41000	-7.099567	/	Pass
			NV	-10	-41000	-7.099567	/	Pass
			NV	0	-41000	-7.099567	/	Pass
			NV	10	-41000	-7.099567	/	Pass
			NV	20	-41000	-7.099567	/	Pass
			NV	30	-41000	-7.099567	/	Pass
			NV	40	-41000	-7.099567	/	Pass
			NV	50	-41000	-7.099567	/	Pass

Note: The frequency stability is less than 20ppm, so the frequency is within the operating band.

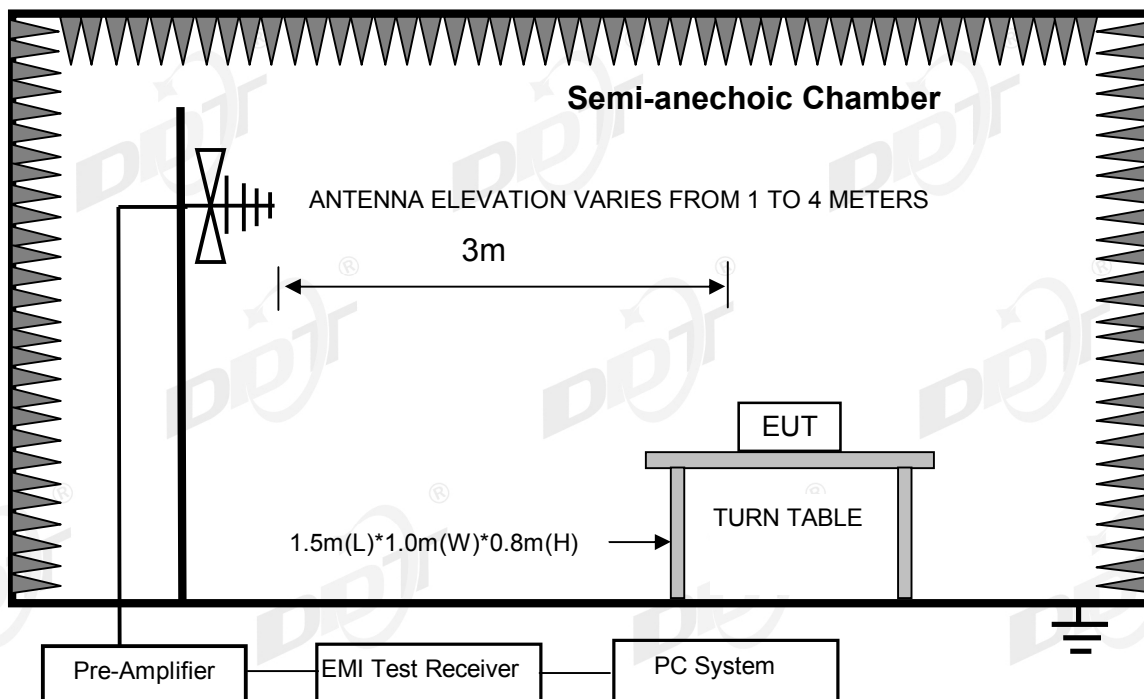
8. Spurious Emissions

8.1. Block diagram of test setup

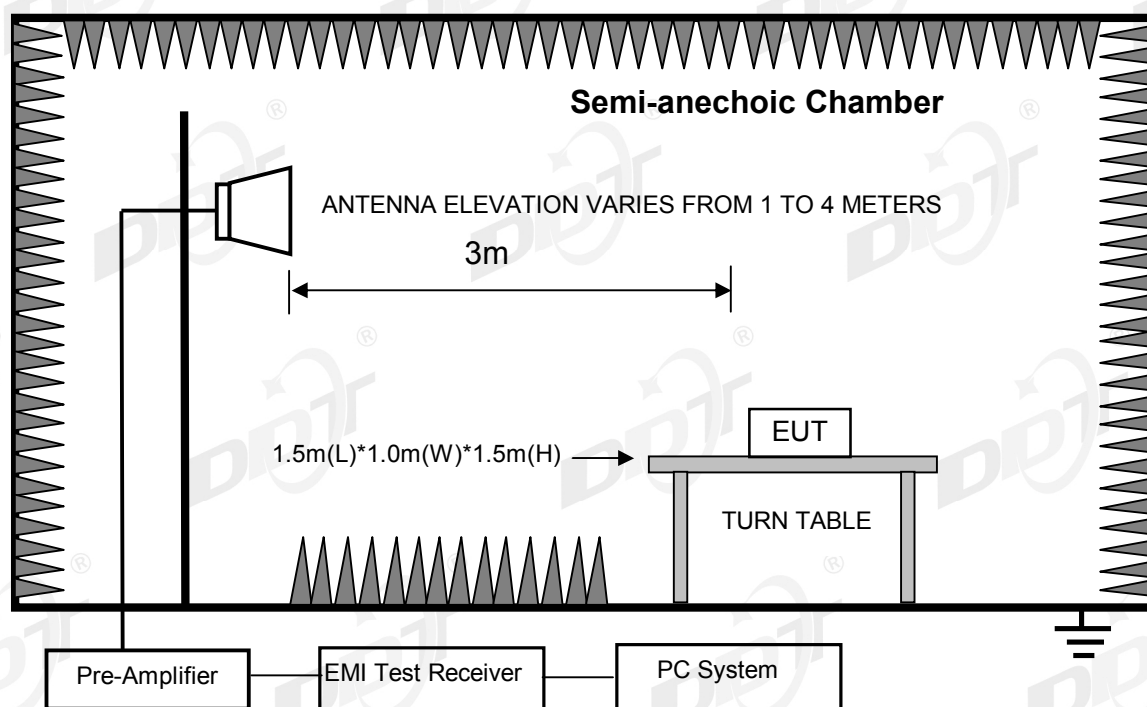
In 3 m Anechoic Chamber, test setup diagram for 9 kHz - 30 MHz:



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

8.3.1 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			

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

²Above 38.6

8.3.2 FCC 15.209 Limit.

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		$\mu\text{V}/\text{m}$	$\text{dB}(\mu\text{V})/\text{m}$
0.009 ~ 0.490	300	$2400/\text{F}(\text{kHz})$	$67.6-20\log(\text{F})$
0.490 ~ 1.705	30	$24000/\text{F}(\text{kHz})$	$87.6-20\log(\text{F})$
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 $\text{dB}(\mu\text{V})/\text{m}$ (Peak) 54.0 $\text{dB}(\mu\text{V})/\text{m}$ (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:

$$\text{Limit}_{3\text{m}}(\text{dB}\mu\text{V}/\text{m}) = \text{Limit}_{30\text{m}}(\text{dB}\mu\text{V}/\text{m}) + 40\log(30\text{m}/3\text{m})$$

8.3.3 Limit for this EUT

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, 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.
- (9) X axis, Y axis, Z axis are tested, and worse setup X axis is reported.

8.4. Test result

Pass. (See below detailed test result)

All the emissions except fundamental emission from 9 kHz to 40 GHz were comply with 15.209 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 below test data, when the limit tabular marked “/” means this frequency point is the fundamental emission and no need comply with this limit.

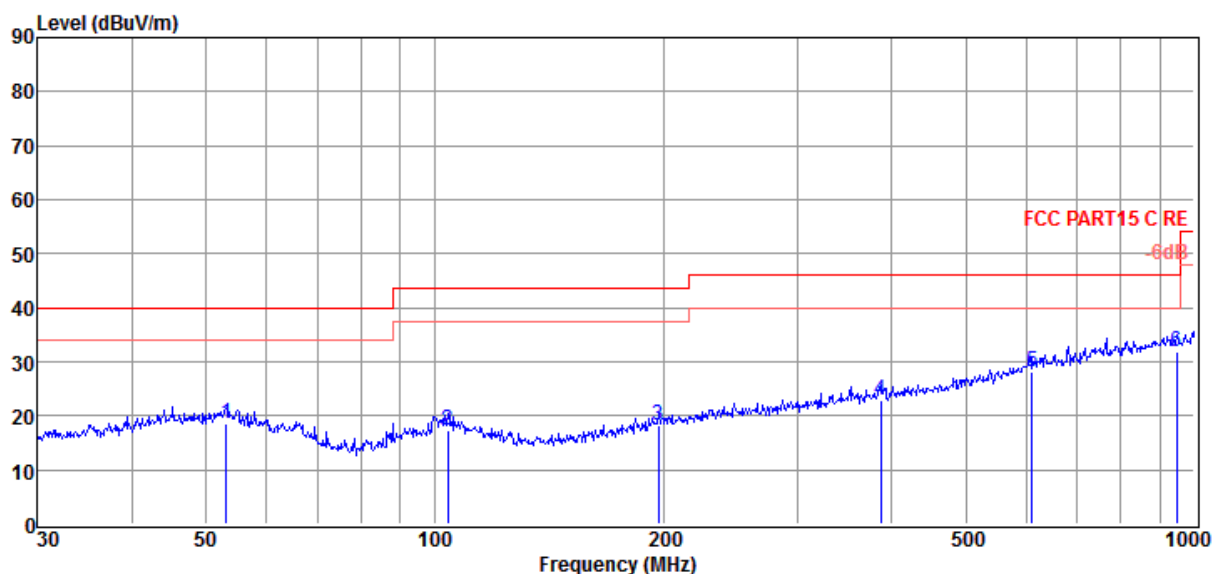
Radiated Emission test (below 1 GHz)

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 2#
Test Date : 2021-07-15
EUT : Portable High Resolution Music Player
Power Supply : Battery
Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa
Memo :

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC BELOW1G.EM6
Tested By : Zora
Model Number : M11 Plus
Test Mode : Tx mode
Antenna/Distance : 2020 VULB 9163 2#/3m/VERTICAL

Data: 7



Item (Mark)	Freq. (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss dB	Result Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Detector	Polarization
1	53.13	0.83	13.73	3.89	18.45	40.00	-21.55	QP	VERTICAL
2	104.17	1.09	11.84	4.44	17.37	43.50	-26.13	QP	VERTICAL
3	197.20	2.74	10.52	5.03	18.29	43.50	-25.21	QP	VERTICAL
4	386.63	1.60	15.30	5.87	22.77	46.00	-23.23	QP	VERTICAL
5	612.06	2.05	19.22	6.76	28.03	46.00	-17.97	QP	VERTICAL
6	948.76	1.96	22.00	7.86	31.82	46.00	-14.18	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.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
BELOW1G.EM6

Test Date : 2021-07-15

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

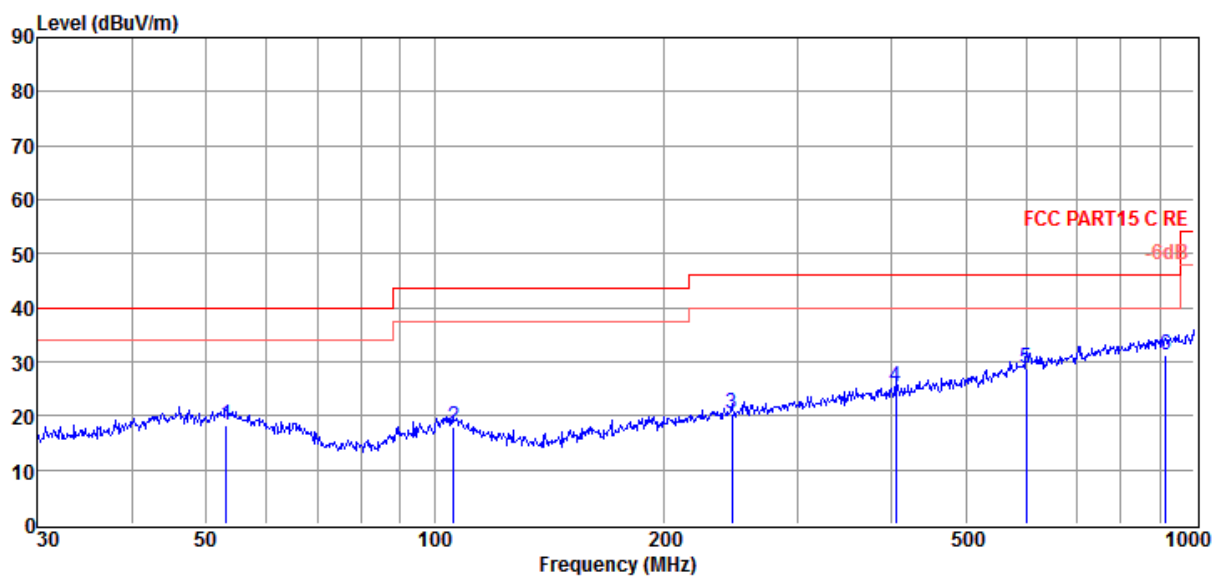
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 VULB 9163 2#/3m/HORIZONTAL

Memo :

Data: 8



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	53.13	0.54	13.73	3.89	18.16	40.00	-21.84	QP	HORIZONTAL
2	106.01	2.00	11.44	4.45	17.89	43.50	-25.61	QP	HORIZONTAL
3	245.95	2.74	12.33	5.25	20.32	46.00	-25.68	QP	HORIZONTAL
4	404.67	3.89	15.50	5.94	25.33	46.00	-20.67	QP	HORIZONTAL
5	601.43	2.96	19.20	6.73	28.89	46.00	-17.11	QP	HORIZONTAL
6	916.07	1.65	21.93	7.75	31.33	46.00	-14.67	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.

Radiated Emission test (above 1 GHz)

Freq (MHz)	Read level (dBμV)	Antenna Factor (dB/m)	PRM Factor (dB)	Cable Loss (dB)	Result Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector type	Polarization
11a CH36									
7171.00	47.45	36.57	42.87	8.27	49.42	68.20	-18.78	Peak	HORIZONTAL
9330.00	45.12	38.63	41.94	9.61	51.42	74.00	-22.58	Peak	HORIZONTAL
11370.00	44.71	39.80	42.33	10.98	53.16	74.00	-20.84	Peak	HORIZONTAL
13716.00	42.89	41.10	42.64	11.88	53.23	68.20	-14.97	Peak	HORIZONTAL
15994.00	43.87	39.01	42.30	12.65	53.23	74.00	-20.77	Peak	HORIZONTAL
17881.00	42.59	47.50	42.47	14.35	61.97	74.00	-12.03	Peak	HORIZONTAL
17881.00	30.22	47.50	42.47	14.35	49.60	54.00	-4.40	Average	HORIZONTAL
7205.00	48.19	36.63	42.85	8.33	50.30	68.20	-17.90	Peak	VERTICAL
9109.00	46.86	38.41	41.85	9.55	52.97	74.00	-21.03	Peak	VERTICAL
10809.00	45.64	39.72	42.77	10.49	53.08	68.20	-15.12	Peak	VERTICAL
13597.00	43.60	40.94	42.70	11.71	53.55	68.20	-14.65	Peak	VERTICAL
15994.00	44.28	39.01	42.30	12.65	53.64	74.00	-20.36	Peak	VERTICAL
17966.00	42.39	47.86	42.49	14.55	62.31	74.00	-11.69	Peak	VERTICAL
17966.00	30.11	47.86	42.49	14.55	50.03	54.00	-3.97	Average	VERTICAL
11a CH40									
4944.00	49.08	32.59	43.24	6.97	45.40	74.00	-28.60	Peak	HORIZONTAL
7290.00	45.75	36.76	42.79	8.48	48.20	74.00	-25.80	Peak	HORIZONTAL
9704.00	45.16	38.80	42.09	9.92	51.79	68.20	-16.41	Peak	HORIZONTAL
13189.00	44.82	40.12	42.90	11.32	53.36	68.20	-14.84	Peak	HORIZONTAL
15654.00	42.68	39.42	42.10	12.46	52.46	74.00	-21.54	Peak	HORIZONTAL
17864.00	41.40	47.43	42.46	14.31	60.68	74.00	-13.32	Peak	HORIZONTAL
17864.00	30.06	47.43	42.46	14.31	49.34	54.00	-4.66	Average	HORIZONTAL
4961.00	49.09	32.62	43.23	6.99	45.47	74.00	-28.53	Peak	VERTICAL
7256.00	47.01	36.71	42.81	8.42	49.33	74.00	-24.67	Peak	VERTICAL
9551.00	45.39	38.80	42.03	9.72	51.88	68.20	-16.32	Peak	VERTICAL
13155.00	45.33	40.04	42.92	11.29	53.74	68.20	-14.46	Peak	VERTICAL
16011.00	44.00	39.05	42.30	12.66	53.41	74.00	-20.59	Peak	VERTICAL
17949.00	41.99	47.79	42.49	14.51	61.80	74.00	-12.20	Peak	VERTICAL
17949.00	30.18	47.79	42.49	14.51	49.99	54.00	-4.01	Average	VERTICAL
11a CH48									
5046.00	48.27	32.72	43.22	7.05	44.82	74.00	-29.18	Peak	HORIZONTAL
8140.00	45.79	37.93	42.23	8.68	50.17	74.00	-23.83	Peak	HORIZONTAL
10741.00	44.53	39.70	42.73	10.46	51.96	74.00	-22.04	Peak	HORIZONTAL
13410.00	44.24	40.60	42.79	11.50	53.55	68.20	-14.65	Peak	HORIZONTAL
16368.00	41.75	40.55	42.26	13.03	53.07	68.20	-15.13	Peak	HORIZONTAL
17881.00	42.34	47.50	42.47	14.35	61.72	74.00	-12.28	Peak	HORIZONTAL
17881.00	29.64	47.50	42.47	14.35	49.02	54.00	-4.98	Average	HORIZONTAL
4621.00	47.93	31.94	43.48	6.56	42.95	74.00	-31.05	Peak	VERTICAL
7426.00	46.61	36.98	42.69	8.71	49.61	74.00	-24.39	Peak	VERTICAL
10180.00	45.54	39.09	42.33	10.31	52.61	68.20	-15.59	Peak	VERTICAL
13410.00	44.40	40.60	42.79	11.50	53.71	68.20	-14.49	Peak	VERTICAL
15926.00	43.83	39.09	42.26	12.61	53.27	74.00	-20.73	Peak	VERTICAL

17881.00	42.24	47.50	42.47	14.35	61.62	74.00	-12.38	Peak	VERTICAL
17881.00	30.29	47.50	42.47	14.35	49.67	54.00	-4.33	Average	VERTICAL

Freq (MHz)	Read level (dBμV)	Antenna Factor (dB/m)	PRM Factor (dB)	Cable Loss (dB)	Result Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector type	Polarization
11a CH52									
5386.00	48.69	32.85	43.32	7.10	45.32	74.00	-28.68	Peak	HORIZONTAL
7171.00	47.74	36.57	42.87	8.27	49.71	68.20	-18.49	Peak	HORIZONTAL
9925.00	45.78	38.80	42.17	10.19	52.60	68.20	-15.60	Peak	HORIZONTAL
12849.00	45.35	39.46	42.77	11.44	53.48	68.20	-14.72	Peak	HORIZONTAL
15110.00	42.62	40.22	41.77	12.93	54.00	68.20	-14.20	Peak	HORIZONTAL
17711.00	42.67	46.79	42.42	13.94	60.98	74.00	-13.02	Peak	HORIZONTAL
17711.00	30.56	46.79	42.42	13.94	48.87	54.00	-5.13	Average	HORIZONTAL
5046.00	48.00	32.72	43.22	7.05	44.55	74.00	-29.45	Peak	VERTICAL
7324.00	46.83	36.82	42.76	8.54	49.43	74.00	-24.57	Peak	VERTICAL
9619.00	45.06	38.80	42.05	9.81	51.62	68.20	-16.58	Peak	VERTICAL
12679.00	45.10	39.19	42.50	11.76	53.55	74.00	-20.45	Peak	VERTICAL
15365.00	43.46	39.82	41.92	12.57	53.93	74.00	-20.07	Peak	VERTICAL
17830.00	41.64	47.29	42.45	14.23	60.71	74.00	-13.29	Peak	VERTICAL
17830.00	30.15	47.29	42.45	14.23	49.22	54.00	-4.78	Average	VERTICAL
11a CH56									
5369.00	48.60	32.85	43.32	7.10	45.23	74.00	-28.77	Peak	HORIZONTAL
8021.00	46.81	37.90	42.29	8.64	51.06	68.20	-17.14	Peak	HORIZONTAL
10350.00	46.06	39.36	42.45	10.34	53.31	68.20	-14.89	Peak	HORIZONTAL
12866.00	45.57	39.49	42.79	11.41	53.68	68.20	-14.52	Peak	HORIZONTAL
15671.00	43.64	39.39	42.11	12.47	53.39	74.00	-20.61	Peak	HORIZONTAL
17711.00	42.80	46.79	42.42	13.94	61.11	74.00	-12.89	Peak	HORIZONTAL
17711.00	30.26	46.79	42.42	13.94	48.57	54.00	-5.43	Average	HORIZONTAL
5539.00	49.24	32.95	43.37	7.14	45.96	68.20	-22.24	Peak	VERTICAL
7426.00	47.06	36.98	42.69	8.71	50.06	74.00	-23.94	Peak	VERTICAL
9551.00	46.51	38.80	42.03	9.72	53.00	68.20	-15.20	Peak	VERTICAL
12662.00	44.80	39.16	42.47	11.79	53.28	74.00	-20.72	Peak	VERTICAL
15671.00	42.92	39.39	42.11	12.47	52.67	74.00	-21.33	Peak	VERTICAL
17949.00	41.75	47.79	42.49	14.51	61.56	74.00	-12.44	Peak	VERTICAL
17949.00	30.02	47.79	42.49	14.51	49.83	54.00	-4.17	Average	VERTICAL
11a CH64									
6389.00	47.01	34.74	43.30	7.72	46.17	68.20	-22.03	Peak	HORIZONTAL
9194.00	45.60	38.49	41.88	9.58	51.79	74.00	-22.21	Peak	HORIZONTAL
10690.00	45.31	39.68	42.69	10.44	52.74	74.00	-21.26	Peak	HORIZONTAL
12679.00	44.22	39.19	42.50	11.76	52.67	74.00	-21.33	Peak	HORIZONTAL
15671.00	43.46	39.39	42.11	12.47	53.21	74.00	-20.79	Peak	HORIZONTAL
17966.00	41.42	47.86	42.49	14.55	61.34	74.00	-12.66	Peak	HORIZONTAL
17966.00	29.97	47.86	42.49	14.55	49.89	54.00	-4.11	Average	HORIZONTAL
6559.00	47.29	35.24	43.21	7.83	47.15	68.20	-21.05	Peak	VERTICAL
9041.00	45.03	38.34	41.82	9.53	51.08	74.00	-22.92	Peak	VERTICAL
11370.00	45.00	39.80	42.33	10.98	53.45	74.00	-20.55	Peak	VERTICAL

13274.00	44.74	40.30	42.86	11.39	53.57	74.00	-20.43	Peak	VERTICAL
15960.00	43.68	39.05	42.28	12.63	53.08	74.00	-20.92	Peak	VERTICAL
17915.00	41.82	47.64	42.48	14.43	61.41	74.00	-12.59	Peak	VERTICAL
17915.00	29.97	47.64	42.48	14.43	49.56	54.00	-4.44	Average	VERTICAL
Conclusion: Pass									

Freq (MHz)	Read level (dBμV)	Antenna Factor (dB/m)	PRM Factor (dB)	Cable Loss (dB)	Result Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector type	Polarization
11a CH100									
6576.00	46.30	35.28	43.20	7.84	46.22	68.20	-21.98	Peak	HORIZONTAL
9041.00	44.37	38.34	41.82	9.53	50.42	74.00	-23.58	Peak	HORIZONTAL
10435.00	45.37	39.50	42.51	10.35	52.71	68.20	-15.49	Peak	HORIZONTAL
12866.00	45.39	39.49	42.79	11.41	53.50	68.20	-14.70	Peak	HORIZONTAL
15450.00	42.97	39.68	41.97	12.45	53.13	74.00	-20.87	Peak	HORIZONTAL
17915.00	42.06	47.64	42.48	14.43	61.65	74.00	-12.35	Peak	HORIZONTAL
17915.00	30.18	47.64	42.48	14.43	49.77	54.00	-4.23	Average	HORIZONTAL
7885.00	46.94	37.72	42.38	8.68	50.96	68.20	-17.24	Peak	VERTICAL
9840.00	46.65	38.80	42.14	10.09	53.40	68.20	-14.80	Peak	VERTICAL
11200.00	44.98	39.80	42.59	10.79	52.98	74.00	-21.02	Peak	VERTICAL
13444.00	44.33	40.68	42.77	11.52	53.76	68.20	-14.44	Peak	VERTICAL
15926.00	43.29	39.09	42.26	12.61	52.73	74.00	-21.27	Peak	VERTICAL
17932.00	41.97	47.71	42.48	14.47	61.67	74.00	-12.33	Peak	VERTICAL
17932.00	30.22	47.71	42.48	14.47	49.92	54.00	-4.08	Average	VERTICAL
11a CH116									
5046.00	49.55	32.72	43.22	7.05	46.10	74.00	-27.90	Peak	HORIZONTAL
7664.00	47.47	37.36	42.52	8.77	51.08	74.00	-22.92	Peak	HORIZONTAL
10520.00	45.36	39.61	42.57	10.37	52.77	68.20	-15.43	Peak	HORIZONTAL
13206.00	45.17	40.15	42.89	11.33	53.76	68.20	-14.44	Peak	HORIZONTAL
16096.00	42.81	39.40	42.29	12.75	52.67	74.00	-21.33	Peak	HORIZONTAL
17779.00	42.66	47.07	42.44	14.10	61.39	74.00	-12.61	Peak	HORIZONTAL
17779.00	30.27	47.07	42.44	14.10	49.00	54.00	-5.00	Average	HORIZONTAL
5046.00	49.52	32.72	43.22	7.05	46.07	74.00	-27.93	Peak	VERTICAL
7375.00	47.00	36.90	42.73	8.63	49.80	74.00	-24.20	Peak	VERTICAL
9670.00	46.14	38.80	42.07	9.87	52.74	68.20	-15.46	Peak	VERTICAL
13155.00	44.99	40.04	42.92	11.29	53.40	68.20	-14.80	Peak	VERTICAL
15654.00	42.85	39.42	42.10	12.46	52.63	74.00	-21.37	Peak	VERTICAL
17830.00	41.84	47.29	42.45	14.23	60.91	74.00	-13.09	Peak	VERTICAL
17830.00	29.97	47.29	42.45	14.23	49.04	54.00	-4.96	Average	VERTICAL
11a CH140									
7426.00	46.89	36.98	42.69	8.71	49.89	74.00	-24.11	Peak	HORIZONTAL
9636.00	45.10	38.80	42.06	9.83	51.67	68.20	-16.53	Peak	HORIZONTAL
11506.00	44.61	39.80	42.12	11.12	53.41	74.00	-20.59	Peak	HORIZONTAL
13155.00	45.09	40.04	42.92	11.29	53.50	68.20	-14.70	Peak	HORIZONTAL
15620.00	43.35	39.46	42.08	12.45	53.18	74.00	-20.82	Peak	HORIZONTAL
17949.00	42.16	47.79	42.49	14.51	61.97	74.00	-12.03	Peak	HORIZONTAL
17949.00	29.67	47.79	42.49	14.51	49.48	54.00	-4.52	Average	HORIZONTAL

8140.00	46.25	37.93	42.23	8.68	50.63	74.00	-23.37	Peak	VERTICAL
10180.00	45.35	39.09	42.33	10.31	52.42	68.20	-15.78	Peak	VERTICAL
11370.00	45.55	39.80	42.33	10.98	54.00	74.00	-20.00	Peak	VERTICAL
13036.00	45.60	39.78	42.98	11.19	53.59	68.20	-14.61	Peak	VERTICAL
15841.00	43.64	39.19	42.21	12.57	53.19	74.00	-20.81	Peak	VERTICAL
18000.00	42.81	48.00	42.50	14.63	62.94	74.00	-11.06	Peak	VERTICAL
18000.00	30.21	48.00	42.50	14.63	50.34	54.00	-3.66	Average	VERTICAL

Freq (MHz)	Read level (dBμV)	Antenna Factor (dB/m)	PRM Factor (dB)	Cable Loss (dB)	Result Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector type	Polarization
11a CH149									
6814.00	46.81	35.85	43.09	7.91	47.48	68.20	-20.72	Peak	HORIZONTAL
8769.00	45.40	38.16	41.91	9.19	50.84	68.20	-17.36	Peak	HORIZONTAL
10826.00	44.62	39.73	42.78	10.50	52.07	74.00	-21.93	Peak	HORIZONTAL
13155.00	44.74	40.04	42.92	11.29	53.15	68.20	-15.05	Peak	HORIZONTAL
15620.00	43.09	39.46	42.08	12.45	52.92	74.00	-21.08	Peak	HORIZONTAL
17881.00	41.34	47.50	42.47	14.35	60.72	74.00	-13.28	Peak	HORIZONTAL
17881.00	30.12	47.50	42.47	14.35	49.50	54.00	-4.50	Average	HORIZONTAL
7154.00	47.86	36.55	42.89	8.24	49.76	68.20	-18.44	Peak	VERTICAL
9585.00	45.83	38.80	42.04	9.77	52.36	68.20	-15.84	Peak	VERTICAL
10979.00	45.08	39.79	42.89	10.56	52.54	74.00	-21.46	Peak	VERTICAL
13155.00	44.45	40.04	42.92	11.29	52.86	68.20	-15.34	Peak	VERTICAL
16045.00	43.48	39.19	42.30	12.70	53.07	74.00	-20.93	Peak	VERTICAL
17881.00	42.54	47.50	42.47	14.35	61.92	74.00	-12.08	Peak	VERTICAL
17881.00	30.28	47.50	42.47	14.35	49.66	54.00	-4.34	Average	VERTICAL
11a CH157									
7171.00	47.46	36.57	42.87	8.27	49.43	68.20	-18.77	Peak	HORIZONTAL
9109.00	45.03	38.41	41.85	9.55	51.14	74.00	-22.86	Peak	HORIZONTAL
10724.00	44.96	39.69	42.71	10.46	52.40	74.00	-21.60	Peak	HORIZONTAL
13546.00	43.59	40.86	42.72	11.64	53.37	68.20	-14.83	Peak	HORIZONTAL
16215.00	43.43	39.90	42.28	12.88	53.93	68.20	-14.27	Peak	HORIZONTAL
17830.00	42.30	47.29	42.45	14.23	61.37	74.00	-12.63	Peak	HORIZONTAL
17830.00	29.67	47.29	42.45	14.23	48.74	54.00	-5.26	Average	HORIZONTAL
7035.00	47.37	36.36	42.97	8.03	48.79	68.20	-19.41	Peak	VERTICAL
9415.00	44.61	38.72	41.97	9.64	51.00	74.00	-23.00	Peak	VERTICAL
11081.00	45.31	39.80	42.77	10.66	53.00	74.00	-21.00	Peak	VERTICAL
13155.00	45.38	40.04	42.92	11.29	53.79	68.20	-14.41	Peak	VERTICAL
15654.00	42.88	39.42	42.10	12.46	52.66	74.00	-21.34	Peak	VERTICAL
17983.00	41.83	47.93	42.50	14.59	61.85	74.00	-12.15	Peak	VERTICAL
17983.00	30.13	47.93	42.50	14.59	50.15	54.00	-3.85	Average	VERTICAL
11a CH165									
5454.00	49.35	32.88	43.34	7.11	46.00	74.00	-28.00	Peak	HORIZONTAL
7919.00	46.09	37.77	42.35	8.66	50.17	68.20	-18.03	Peak	HORIZONTAL
10061.00	45.03	38.90	42.24	10.29	51.98	68.20	-16.22	Peak	HORIZONTAL
12849.00	45.59	39.46	42.77	11.44	53.72	68.20	-14.48	Peak	HORIZONTAL

15416.00	43.66	39.73	41.95	12.50	53.94	74.00	-20.06	Peak	HORIZONTAL
17915.00	42.24	47.64	42.48	14.43	61.83	74.00	-12.17	Peak	HORIZONTAL
17915.00	30.03	47.64	42.48	14.43	49.62	54.00	-4.38	Average	HORIZONTAL
7681.00	46.78	37.39	42.51	8.76	50.42	74.00	-23.58	Peak	VERTICAL
9449.00	45.60	38.75	41.98	9.65	52.02	74.00	-21.98	Peak	VERTICAL
11336.00	45.17	39.80	42.38	10.94	53.53	74.00	-20.47	Peak	VERTICAL
13155.00	44.74	40.04	42.92	11.29	53.15	68.20	-15.05	Peak	VERTICAL
15671.00	42.99	39.39	42.11	12.47	52.74	74.00	-21.26	Peak	VERTICAL
17881.00	41.96	47.50	42.47	14.35	61.34	74.00	-12.66	Peak	VERTICAL
17881.00	30.13	47.50	42.47	14.35	49.51	54.00	-4.49	Average	VERTICAL

Conclusion: Pass

Note: $-27 \text{ dBm/MHz Limit} = 95.2 + \text{EIRP}[\text{dBm}] = 95.2 - 27 = 68.2 \text{ dB}\mu\text{V/m}$

For transmitters operating in the 5150 MHz - 5250 MHz, 5250 MHz - 5350 MHz, 5470 MHz - 5725 MHz, 5725 MHz - 5850 MHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz .

Note: 1. 30 MHz ~ 40 GHz: (11a, 11n20, n40, 11ac20, 11ac40, 11ac80 mode all have been tested, only 11a mode is the worst case and reported.)

2. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

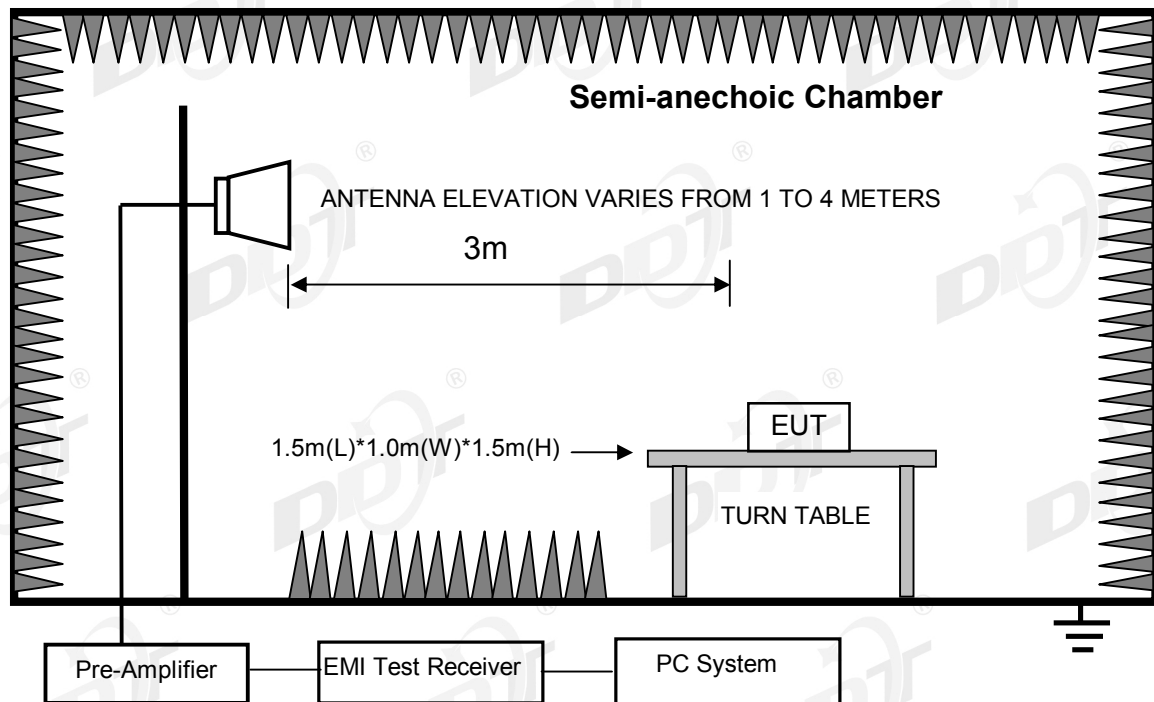
4. All the emissions were comply with 54 dB μ V/m for Average value in 15.209, so both for the restricted bands and non-restricted bands, all the emissions were comply with the limit.

5. For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit. All other emissions are attenuated 20 dB below the limits, so does not record. All other emissions are attenuated 20 dB below the limit, so it does not record in report.

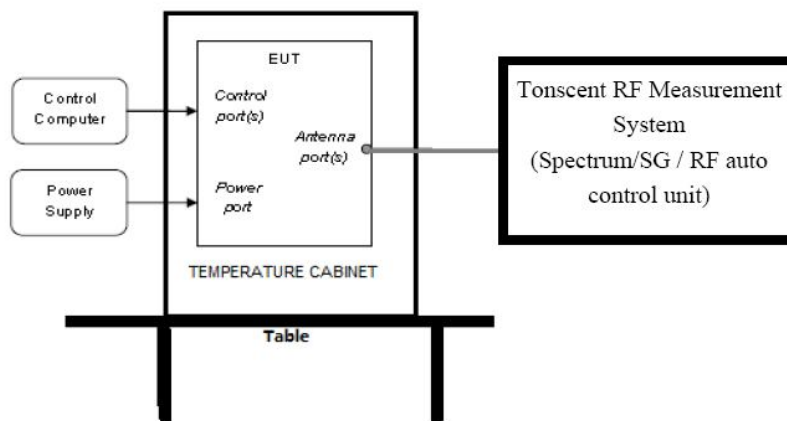
9. Band Edge Compliance

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.

$$-27 \text{ dBm/MHz Limit} = 95.2 + \text{EIRP[dBm]} = 95.2 - 27 = 68.2 \text{ dB}\mu\text{V/m}$$

9.3. Test procedure

Same with clause 8.3 except change investigated frequency range from 5.15 - 5.25 GHz, 5250 - 5350 GHz, 5470 - 5725 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

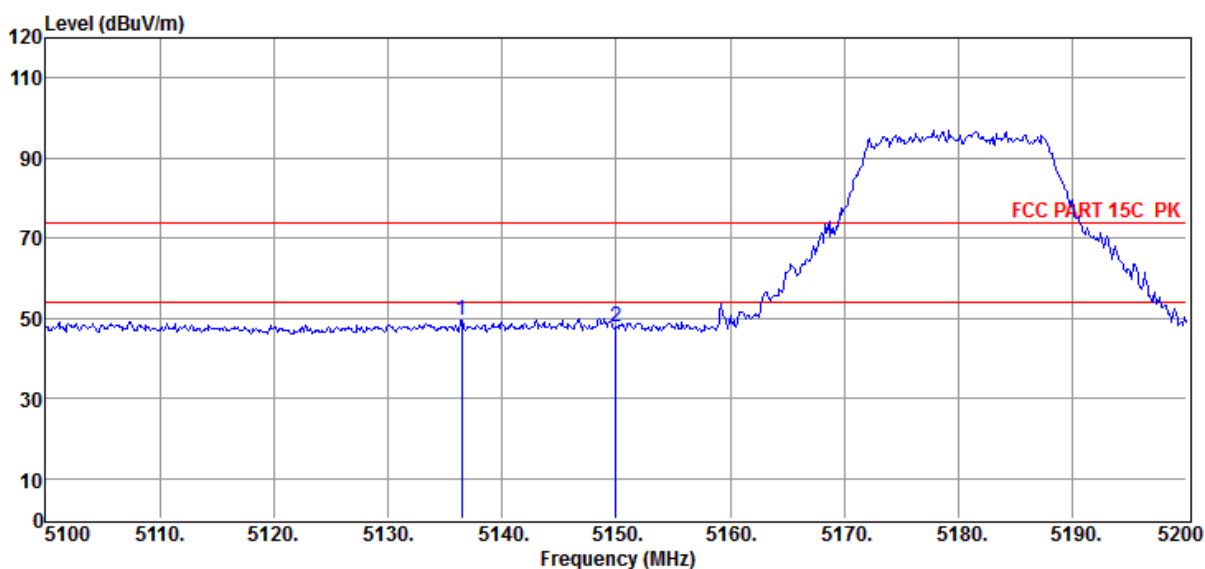
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11A 5180

Data: 27



Item (Mark)	Freq. (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Detector	Polarization
1	5136.50	52.84	32.75	43.24	7.06	49.41	74.00	-24.59	Peak	VERTICAL
2	5150.00	51.12	32.76	43.25	7.06	47.69	74.00	-26.31	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

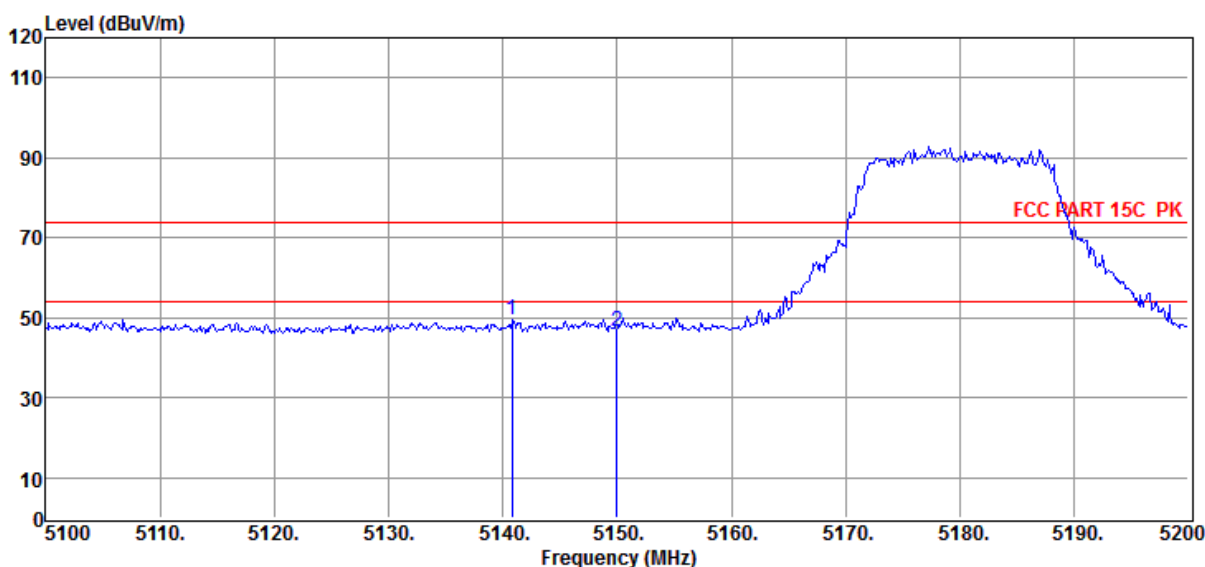
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11A 5180

Data: 28



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5140.80	52.85	32.76	43.25	7.06	49.42	74.00	-24.58	Peak	HORIZONTAL
2	5150.00	50.22	32.76	43.25	7.06	46.79	74.00	-27.21	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

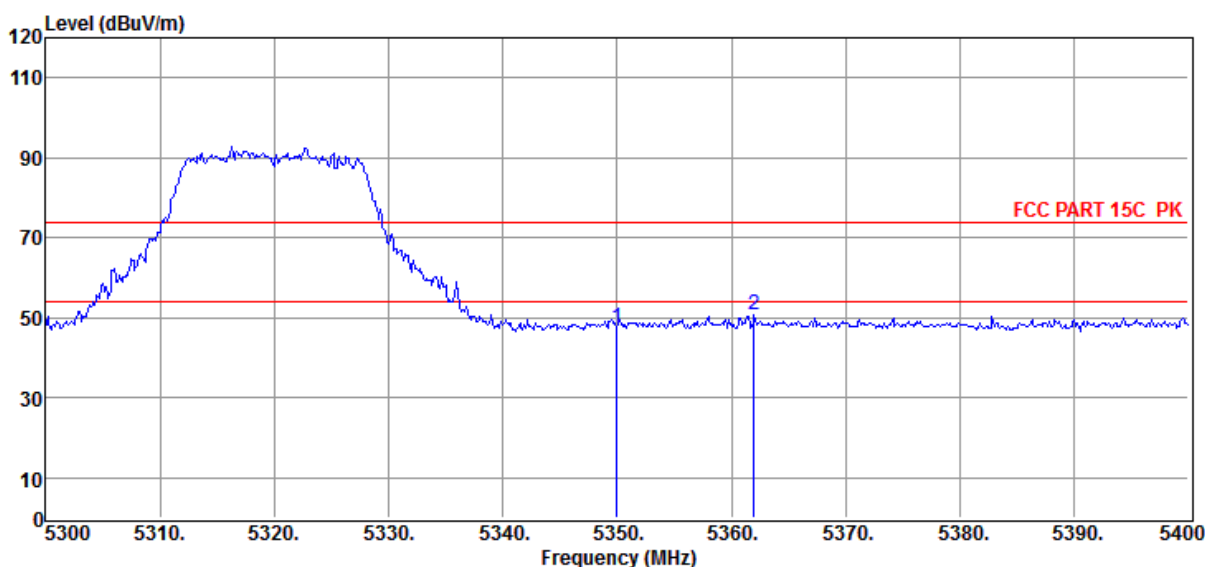
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11A 5320

Data: 29



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	50.60	32.84	43.31	7.10	47.23	74.00	-26.77	Peak	HORIZONTAL
2	5362.00	53.91	32.84	43.32	7.10	50.53	74.00	-23.47	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

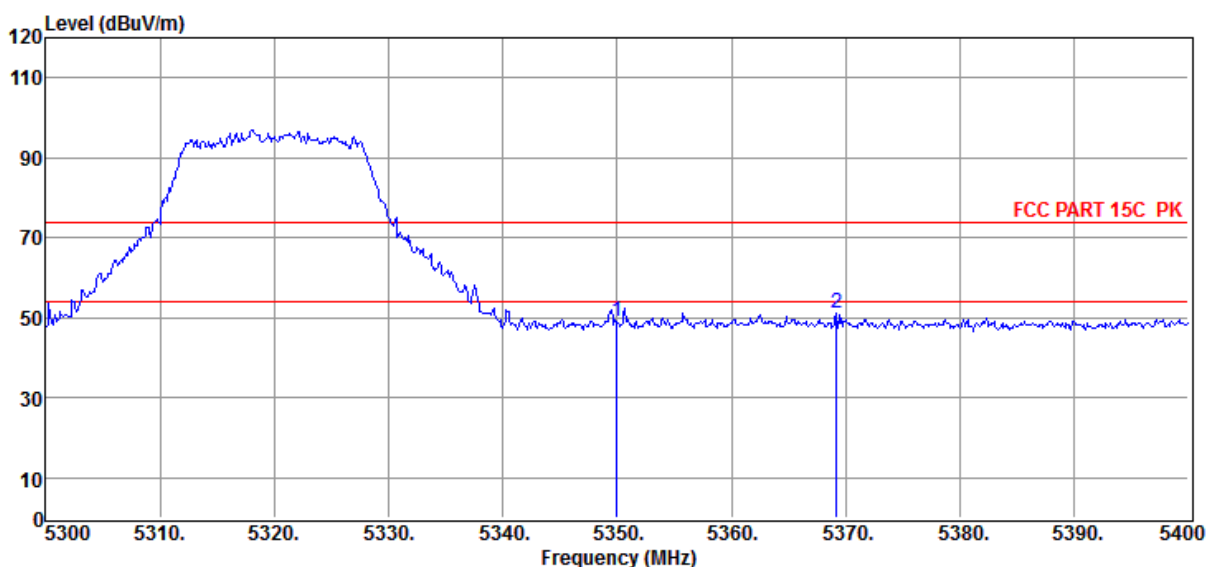
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11A 5320

Data: 30



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	52.36	32.84	43.31	7.10	48.99	74.00	-25.01	Peak	VERTICAL
2	5369.20	54.39	32.85	43.32	7.10	51.02	74.00	-22.98	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

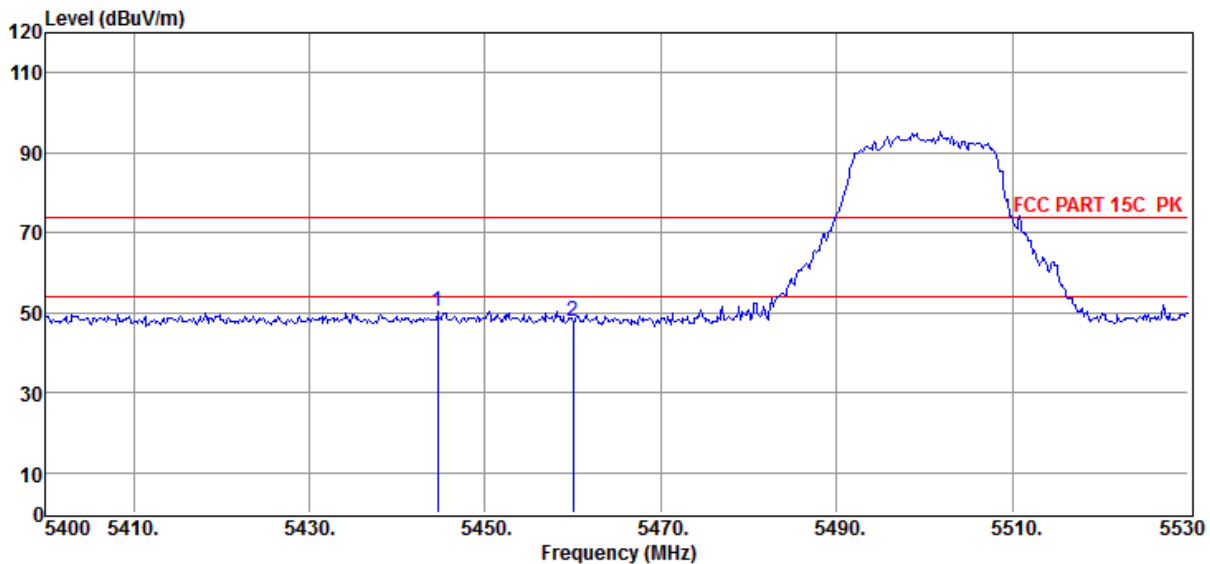
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11A 5500

Data: 31



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5444.59	53.68	32.88	43.34	7.11	50.33	74.00	-23.67	Peak	VERTICAL
2	5460.00	51.24	32.88	43.34	7.11	47.89	74.00	-26.11	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

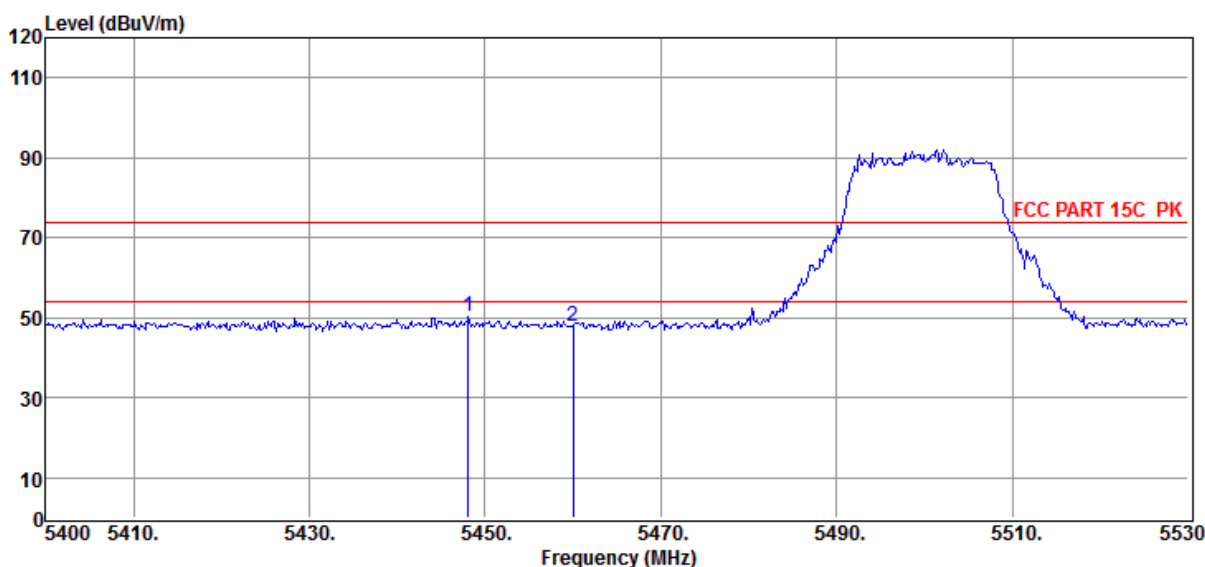
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11A 5500

Data: 32



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5448.10	53.46	32.88	43.34	7.11	50.11	74.00	-23.89	Peak	HORIZONTAL
2	5460.00	51.28	32.88	43.34	7.11	47.93	74.00	-26.07	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

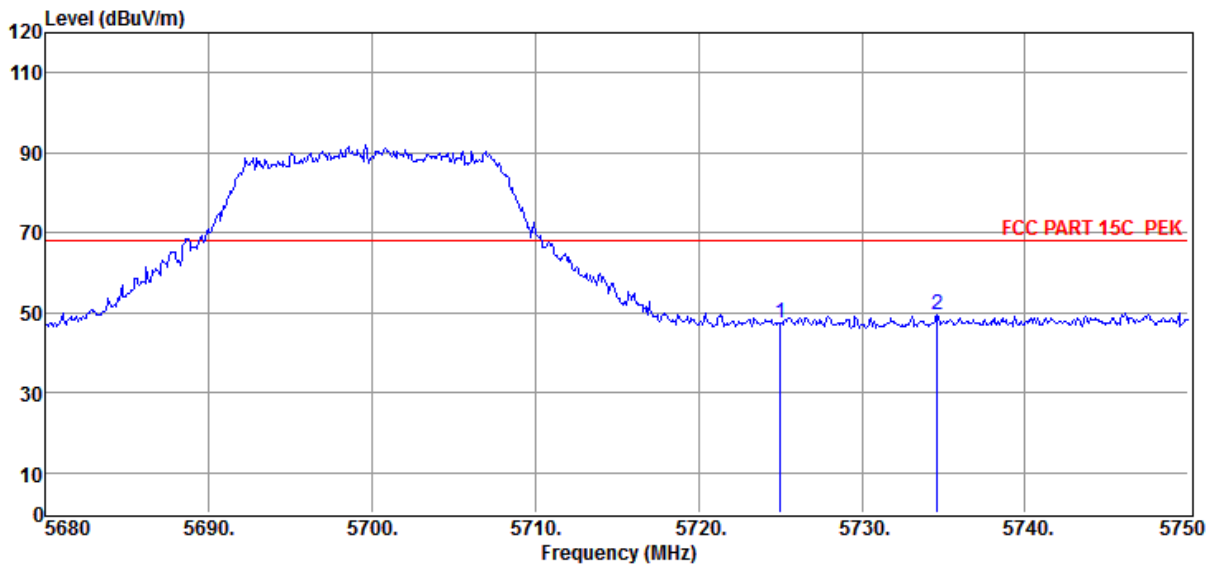
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11A 5700

Data: 33



Item (Mark)	Freq. (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Detector	Polarization
1	5725.00	50.44	33.17	43.42	7.24	47.43	68.20	-20.77	Peak	HORIZONTAL
2	5734.60	52.53	33.18	43.43	7.25	49.53	68.20	-18.67	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

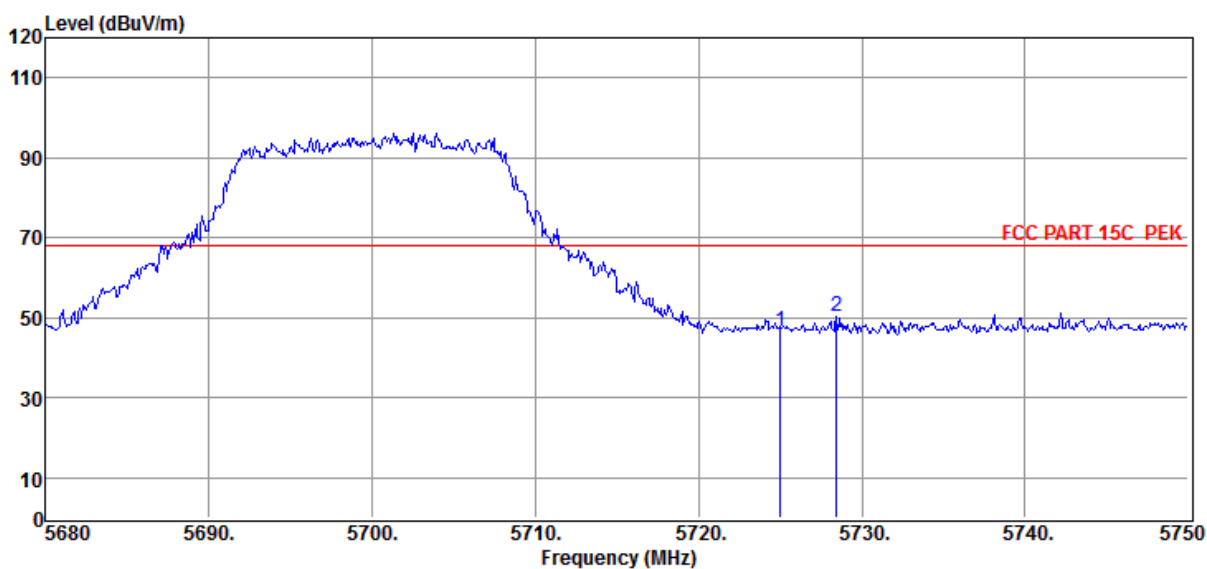
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11A 5700

Data: 34



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.00	49.75	33.17	43.42	7.24	46.74	68.20	-21.46	Peak	VERTICAL
2	5728.44	53.36	33.17	43.42	7.25	50.36	68.20	-17.84	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

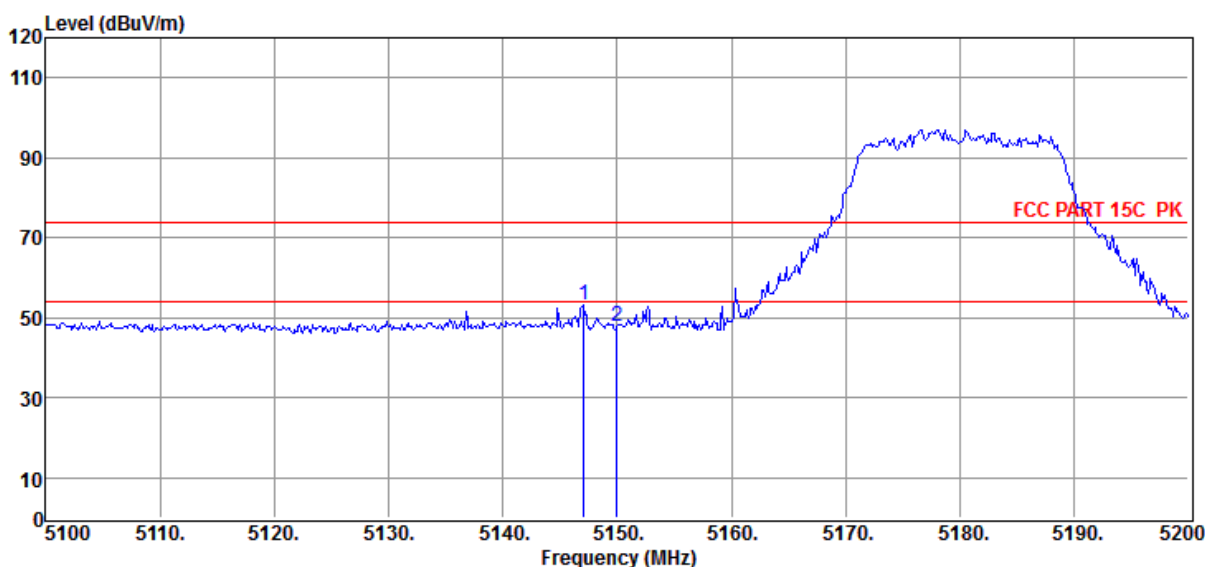
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11N 20 5180

Data: 35



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5147.10	56.44	32.76	43.25	7.06	53.01	74.00	-20.99	Peak	VERTICAL
2	5150.00	51.47	32.76	43.25	7.06	48.04	74.00	-25.96	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

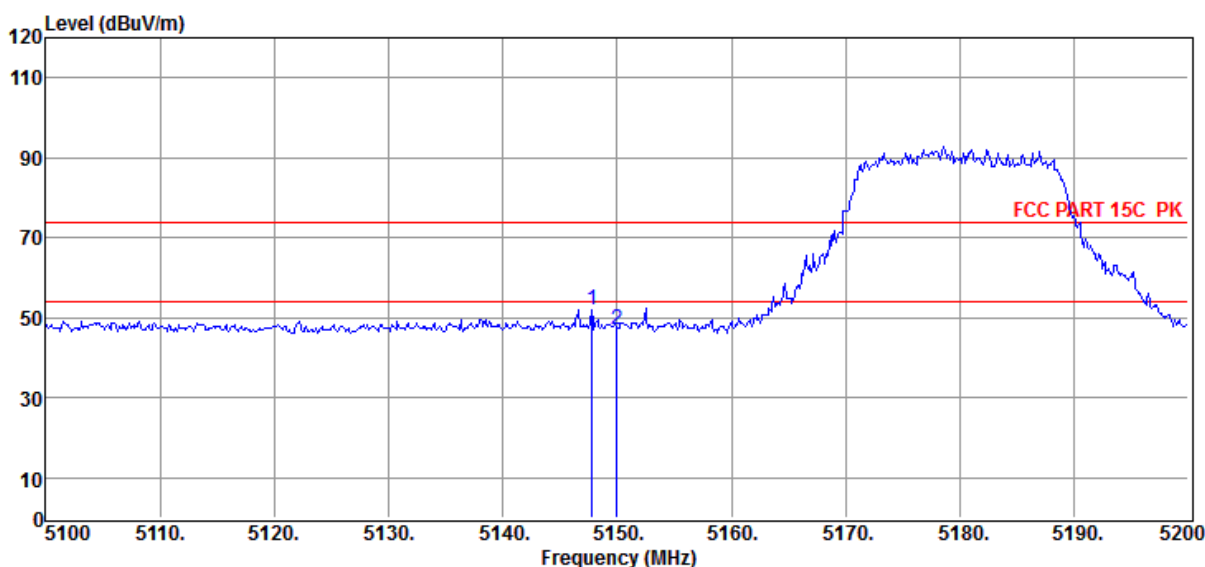
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11N20 5180

Data: 36



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5147.80	55.50	32.76	43.25	7.06	52.07	74.00	-21.93	Peak	HORIZONTAL
2	5150.00	50.58	32.76	43.25	7.06	47.15	74.00	-26.85	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

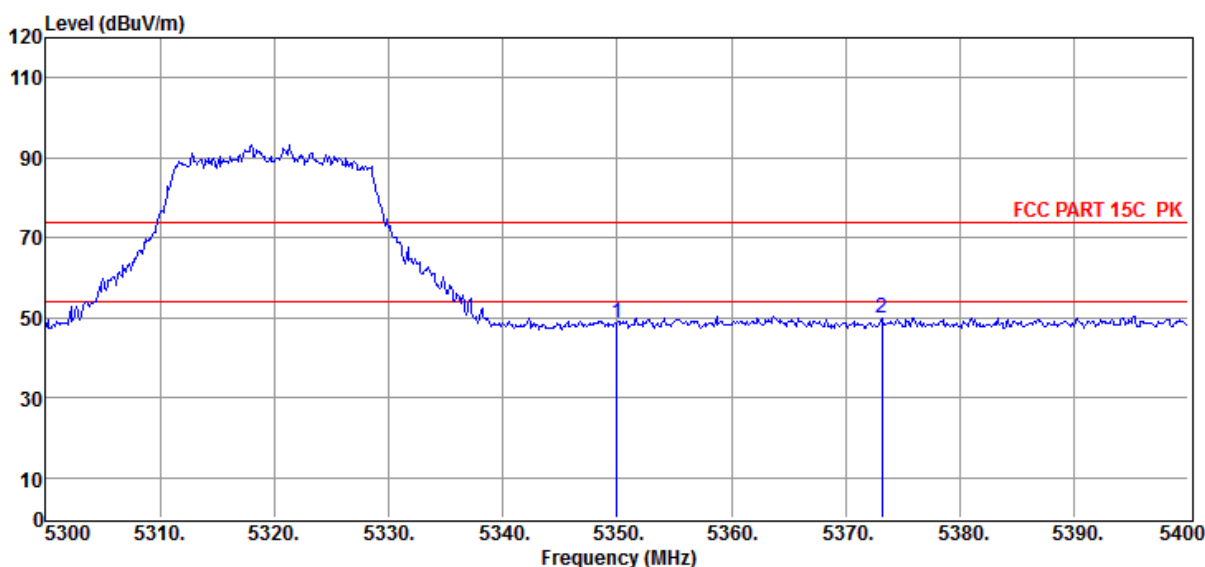
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11N20 5320

Data: 37



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	52.12	32.84	43.31	7.10	48.75	74.00	-25.25	Peak	HORIZONTAL
2	5373.20	53.13	32.85	43.32	7.10	49.76	74.00	-24.24	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

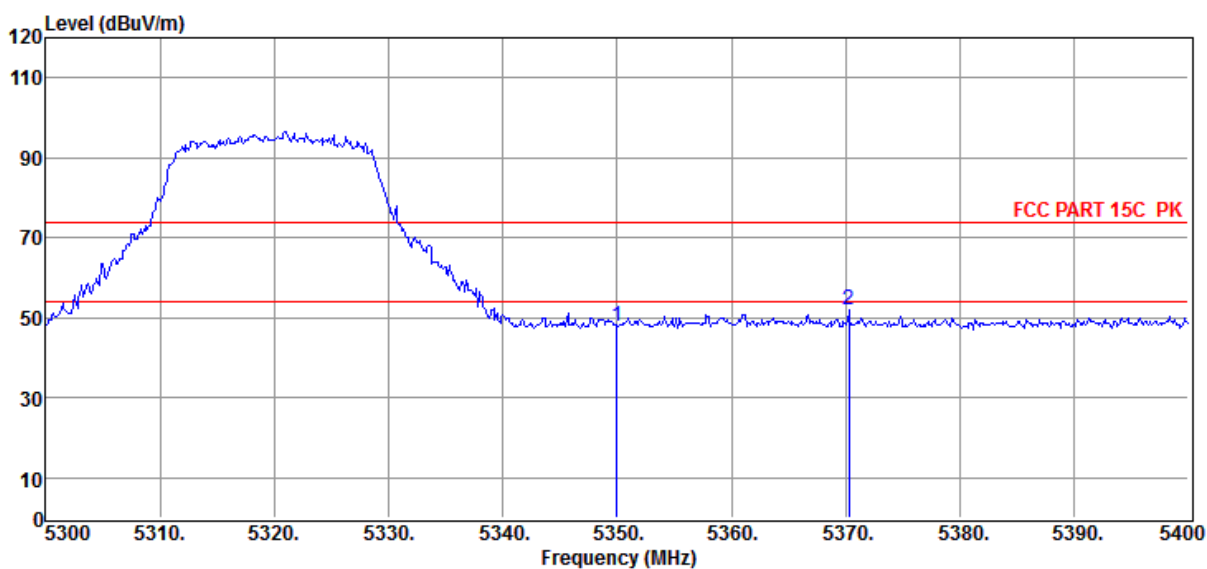
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11N20 5320

Data: 38



Item (Mark)	Freq. (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	51.28	32.84	43.31	7.10	47.91	74.00	-26.09	Peak	VERTICAL
2	5370.30	55.34	32.85	43.32	7.10	51.97	74.00	-22.03	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

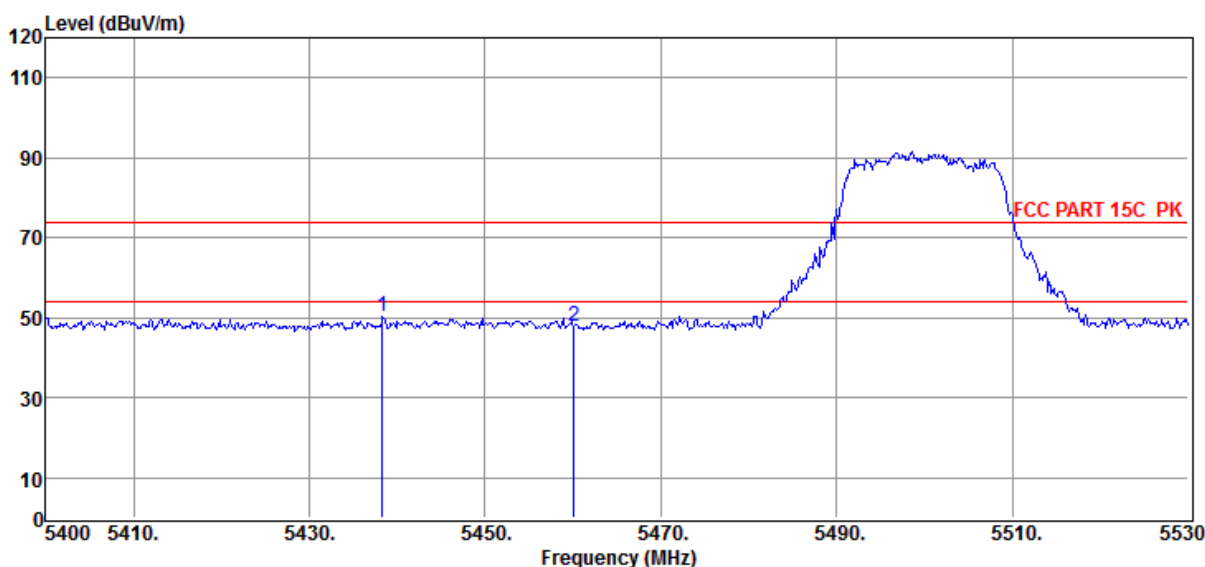
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11N20 5500

Data: 39



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5438.35	53.60	32.88	43.34	7.11	50.25	74.00	-23.75	Peak	HORIZONTAL
2	5460.06	51.08	32.88	43.34	7.11	47.73	74.00	-26.27	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

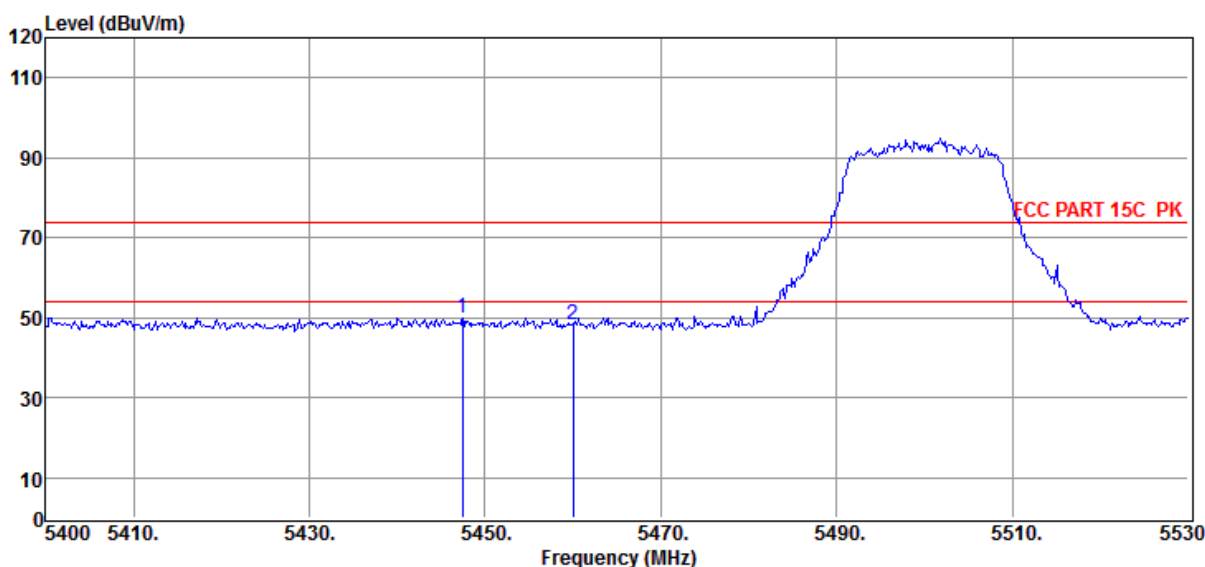
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11N20 5500

Data: 40



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5447.45	53.33	32.88	43.34	7.11	49.98	74.00	-24.02	Peak	VERTICAL
2	5460.00	51.53	32.88	43.34	7.11	48.18	74.00	-25.82	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

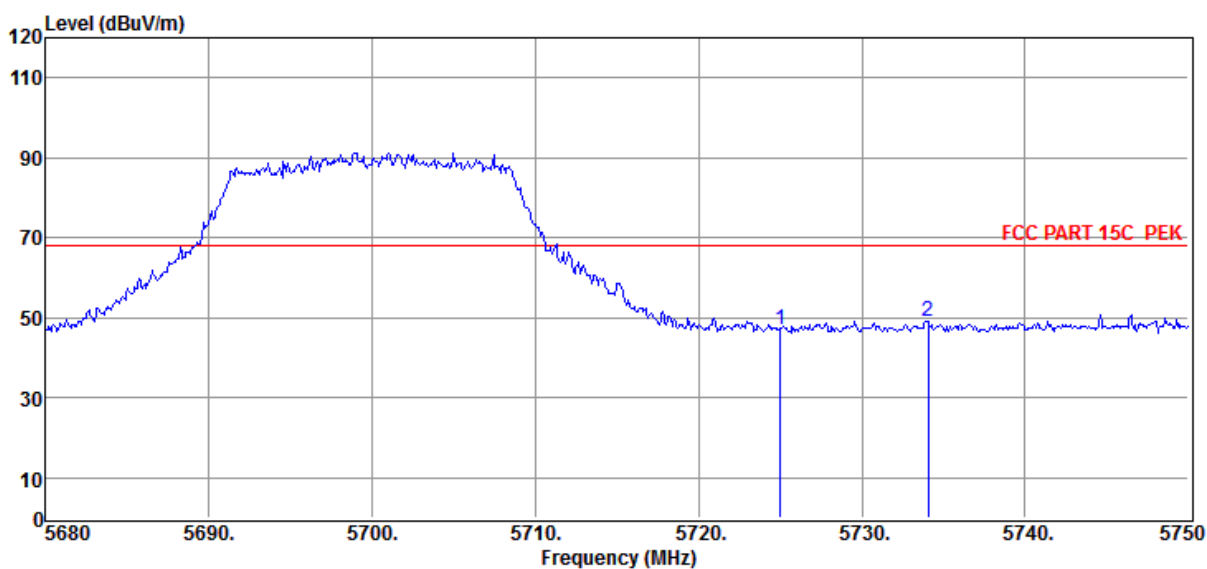
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11N20 5700

Data: 41



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.00	50.04	33.17	43.42	7.24	47.03	68.20	-21.17	Peak	HORIZONTAL
2	5734.04	52.22	33.18	43.43	7.25	49.22	68.20	-18.98	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

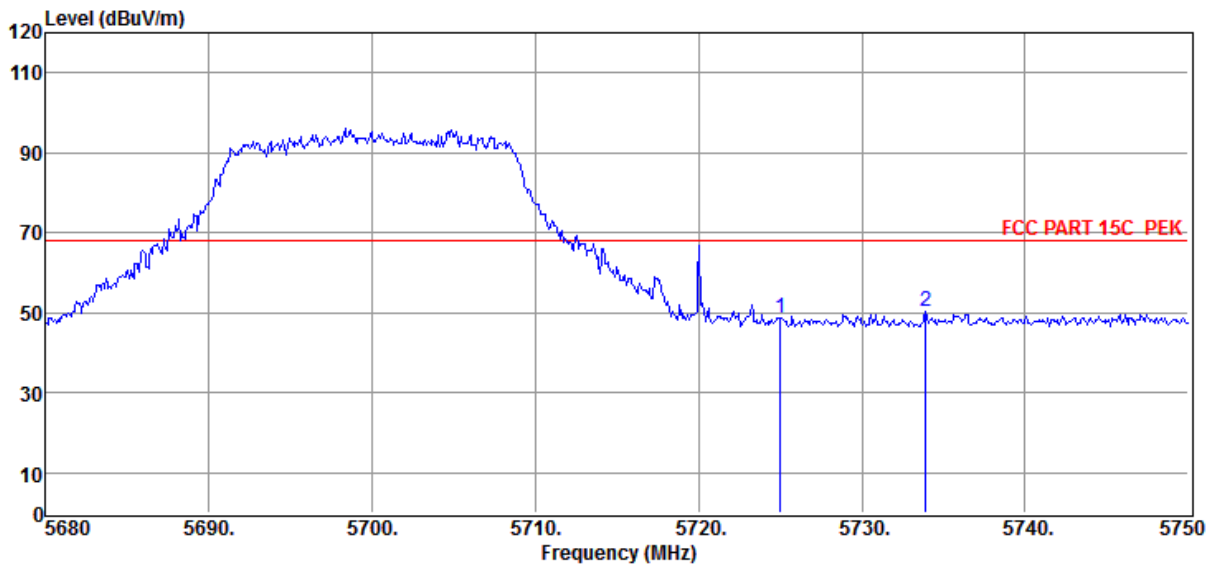
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11N20 5700

Data: 42



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.00	51.76	33.17	43.42	7.24	48.75	68.20	-19.45	Peak	VERTICAL
2	5733.90	53.44	33.18	43.43	7.25	50.44	68.20	-17.76	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

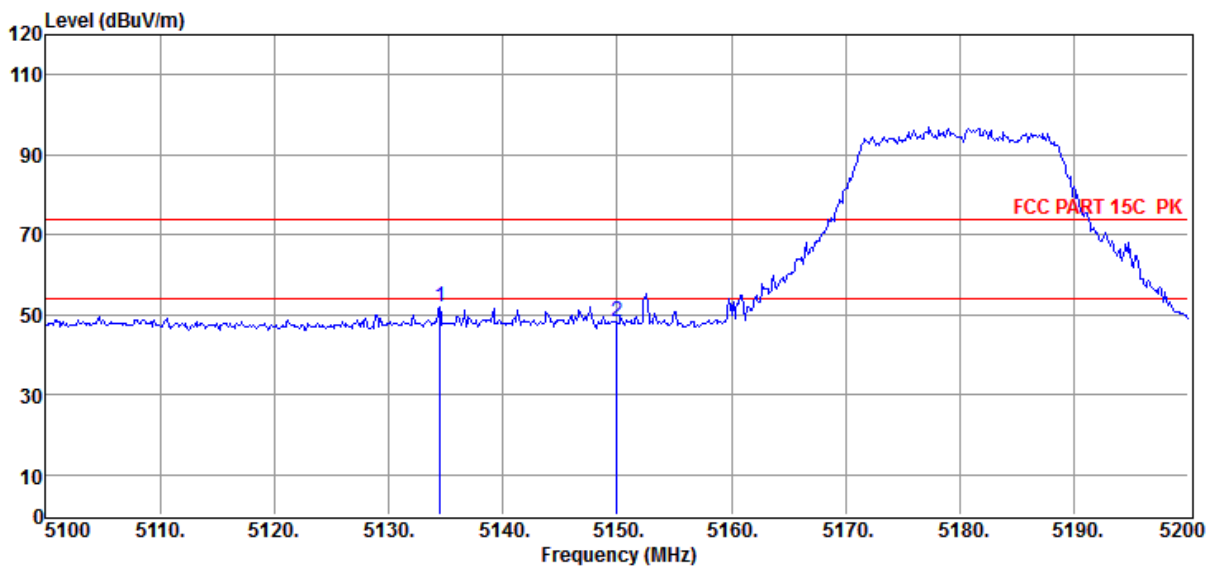
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11AC20 5180

Data: 43



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5134.50	55.46	32.75	43.24	7.06	52.03	74.00	-21.97	Peak	VERTICAL
2	5150.00	51.56	32.76	43.25	7.06	48.13	74.00	-25.87	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

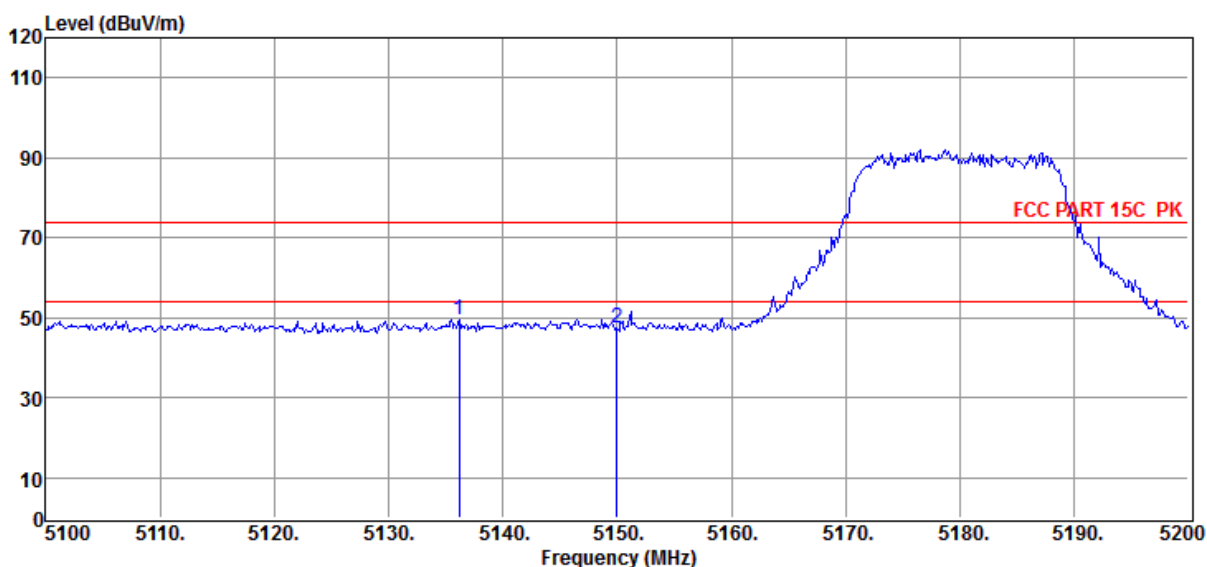
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11AC20 5180

Data: 44



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5136.20	53.01	32.75	43.24	7.06	49.58	74.00	-24.42	Peak	HORIZONTAL
2	5150.00	50.96	32.76	43.25	7.06	47.53	74.00	-26.47	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

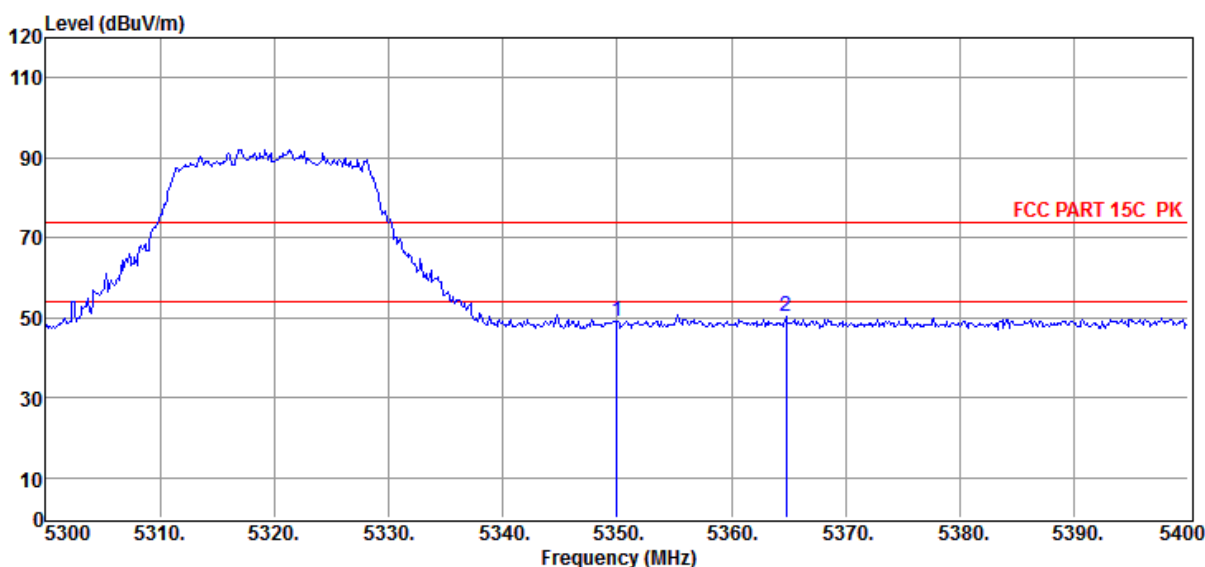
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11AC20 5320

Data: 45



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	52.37	32.84	43.31	7.10	49.00	74.00	-25.00	Peak	HORIZONTAL
2	5364.80	53.67	32.85	43.32	7.10	50.30	74.00	-23.70	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

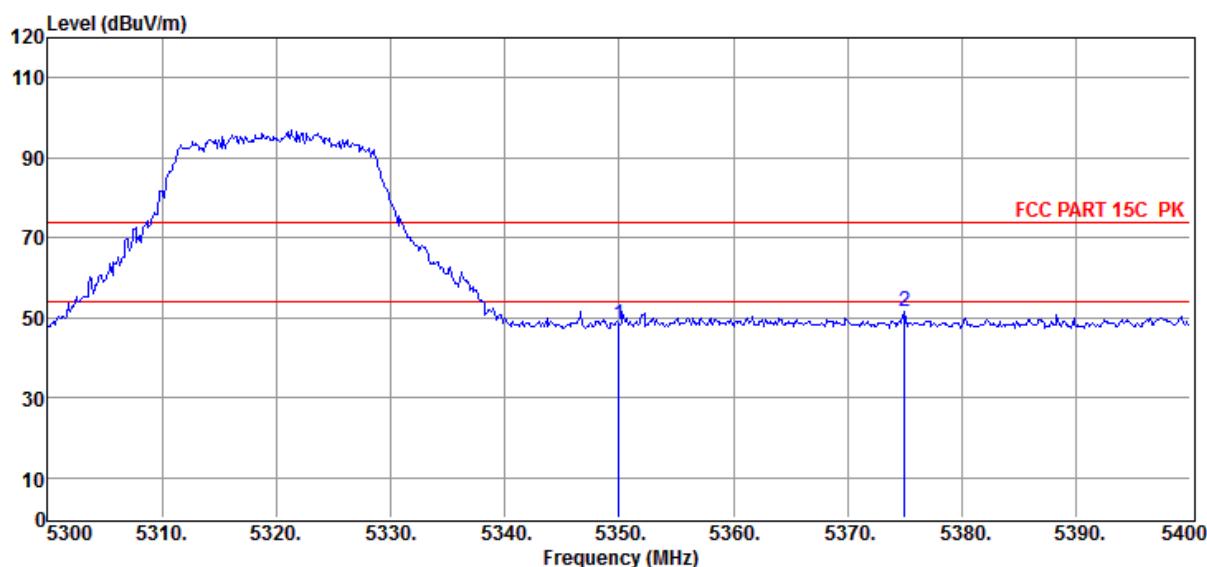
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11AC20 5320

Data: 46



Item (Mark)	Freq. (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	51.72	32.84	43.31	7.10	48.35	74.00	-25.65	Peak	VERTICAL
2	5375.00	54.79	32.85	43.32	7.10	51.42	74.00	-22.58	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

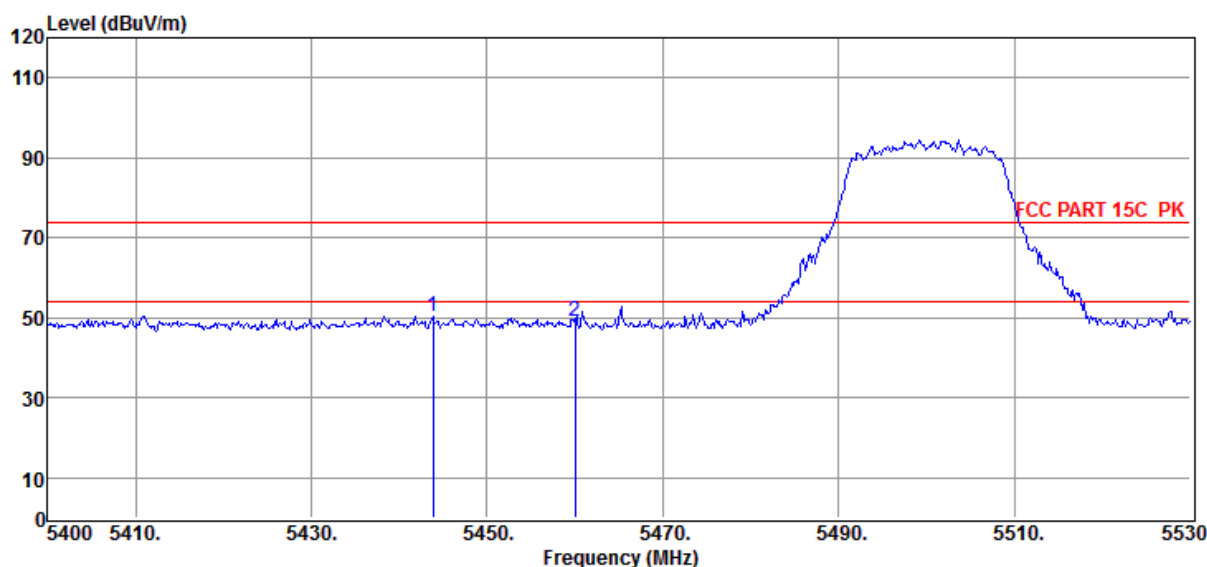
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11AC20 5500

Data: 47



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5443.81	53.67	32.88	43.34	7.11	50.32	74.00	-23.68	Peak	VERTICAL
2	5460.00	52.35	32.88	43.34	7.11	49.00	74.00	-25.00	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

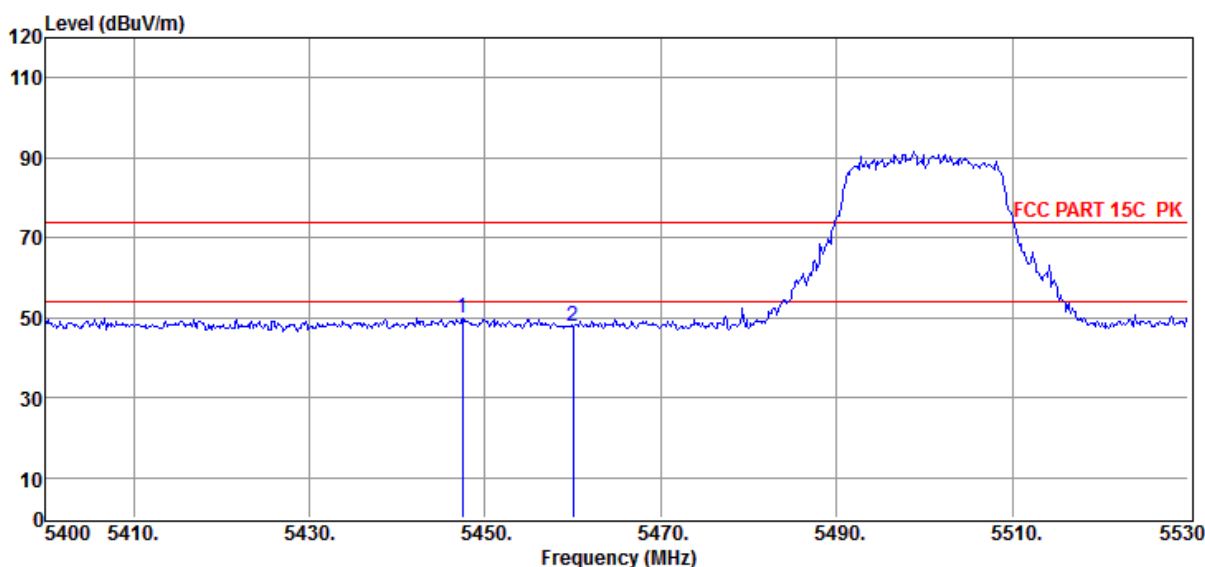
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11AC20 5500

Data: 48



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5447.45	53.27	32.88	43.34	7.11	49.92	74.00	-24.08	Peak	HORIZONTAL
2	5460.00	51.17	32.88	43.34	7.11	47.82	74.00	-26.18	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

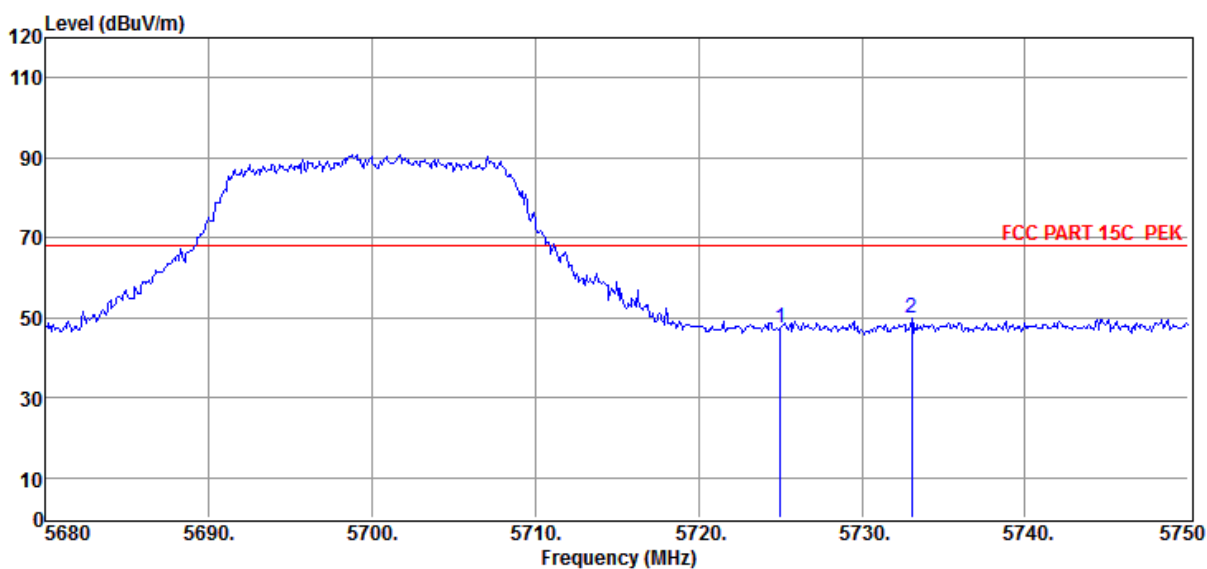
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11AC20 5700

Data: 49



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.00	50.38	33.17	43.42	7.24	47.37	68.20	-20.83	Peak	HORIZONTAL
2	5733.06	52.96	33.18	43.43	7.25	49.96	68.20	-18.24	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

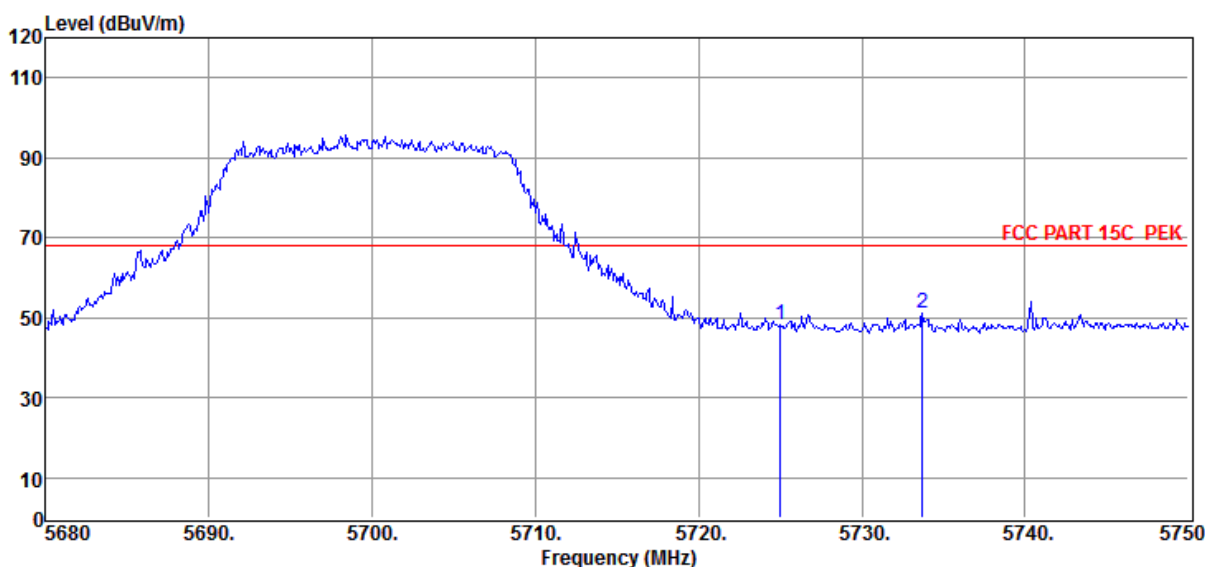
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11AC20 5700

Data: 50



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.00	51.29	33.17	43.42	7.24	48.28	68.20	-19.92	Peak	VERTICAL
2	5733.69	54.07	33.18	43.43	7.25	51.07	68.20	-17.13	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

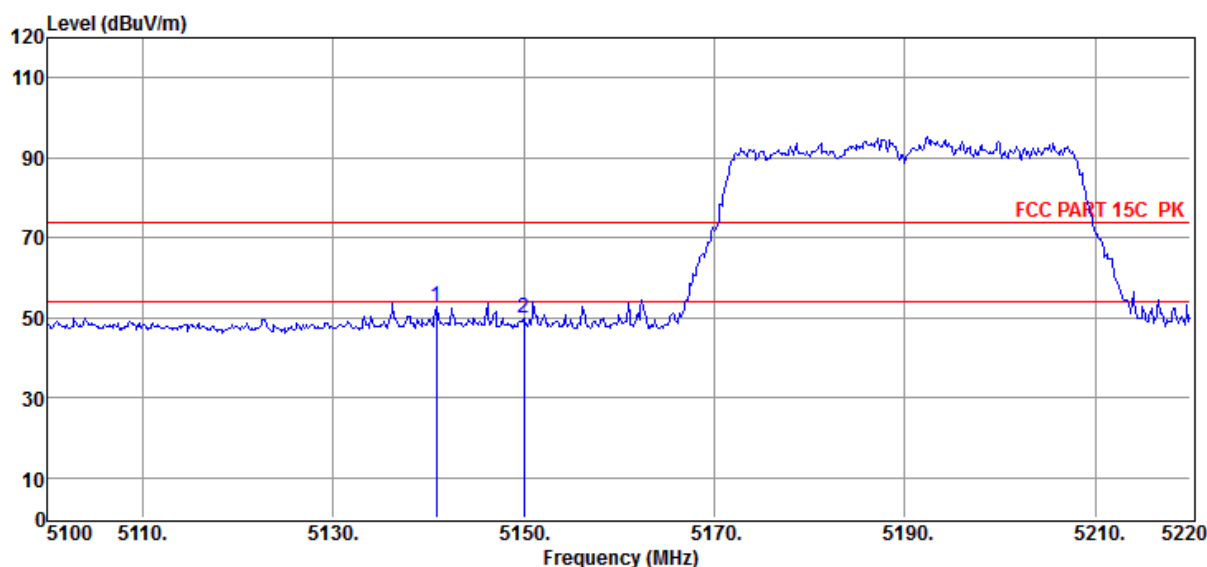
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11N40 5190

Data: 51



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5140.80	56.37	32.76	43.25	7.06	52.94	74.00	-21.06	Peak	VERTICAL
2	5150.00	53.48	32.76	43.25	7.06	50.05	74.00	-23.95	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

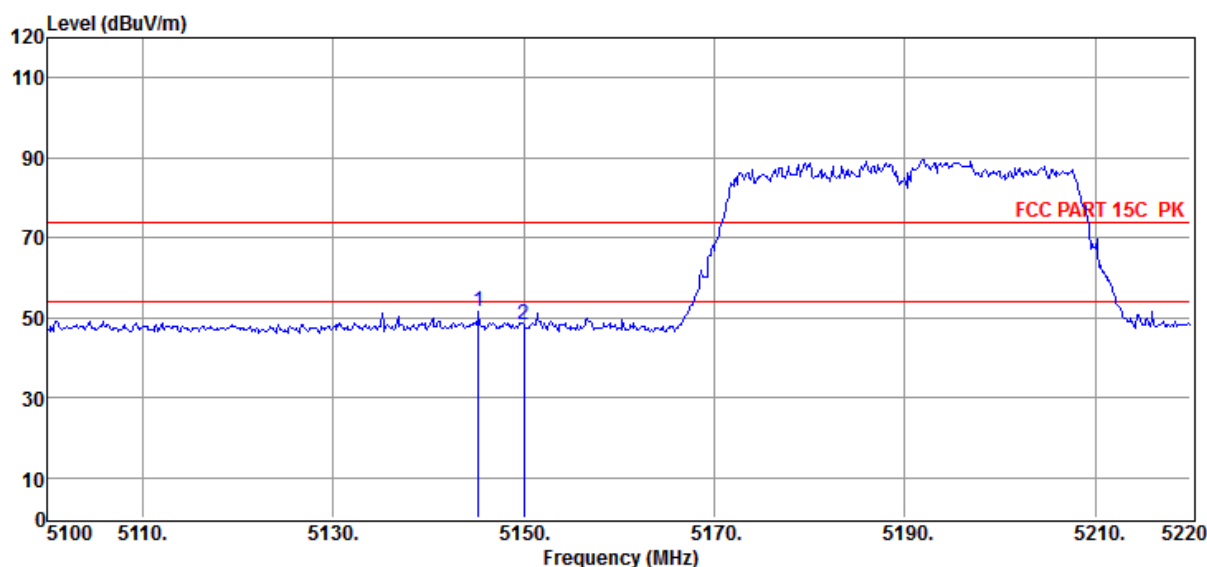
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11N40 5190

Data: 52



Item (Mark)	Freq. (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Detector	Polarization
1	5145.24	54.95	32.76	43.25	7.06	51.52	74.00	-22.48	Peak	HORIZONTAL
2	5150.00	51.88	32.76	43.25	7.06	48.45	74.00	-25.55	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-07-16

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

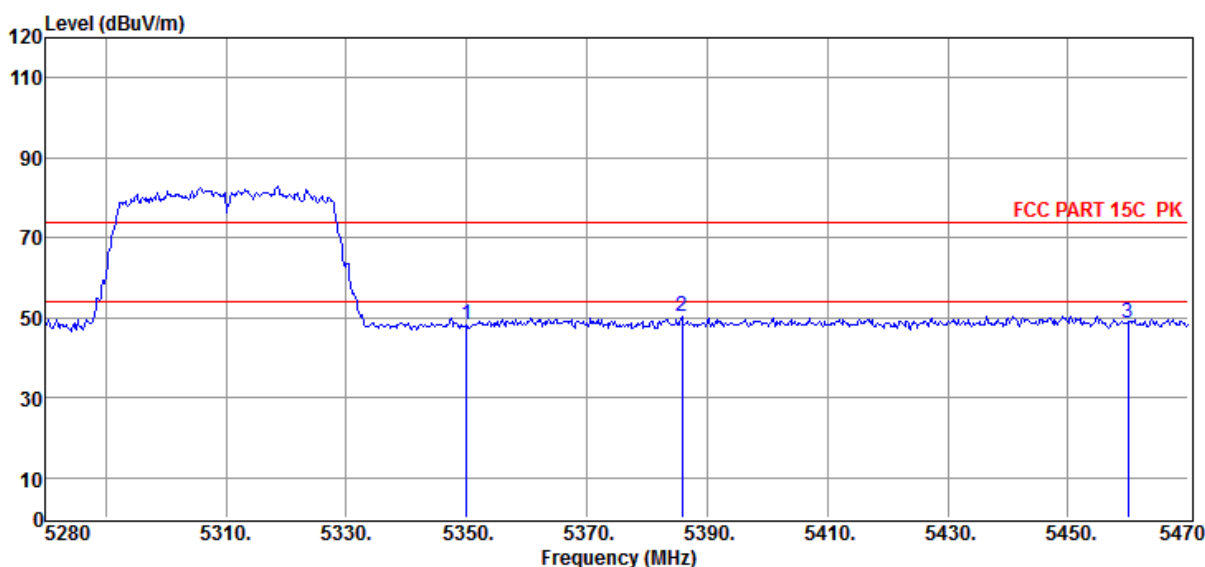
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11N40 5310

Data: 53



Item (Mark)	Freq. (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	51.42	32.84	43.31	7.10	48.05	74.00	-25.95	Peak	HORIZONTAL
2	5385.83	53.69	32.85	43.32	7.10	50.32	74.00	-23.68	Peak	HORIZONTAL
3	5459.93	52.00	32.88	43.34	7.11	48.65	74.00	-25.35	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-07-16

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

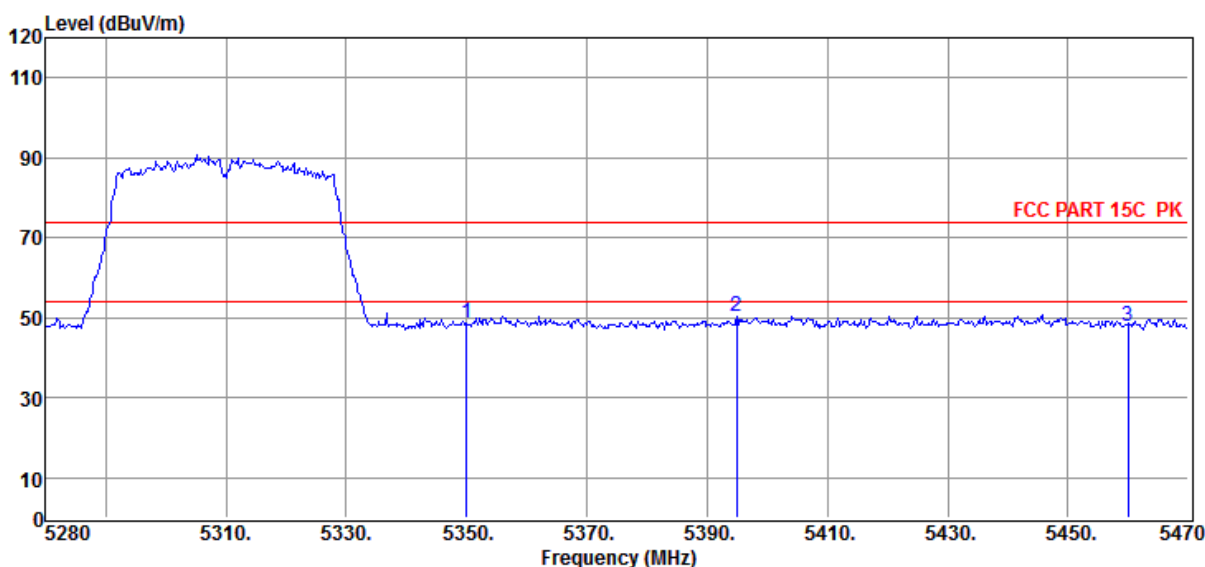
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11N40 5310

Data: 54



Item (Mark)	Freq. (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	51.96	32.84	43.31	7.10	48.59	74.00	-25.41	Peak	VERTICAL
2	5394.95	53.51	32.86	43.33	7.10	50.14	74.00	-23.86	Peak	VERTICAL
3	5460.00	51.29	32.88	43.34	7.11	47.94	74.00	-26.06	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

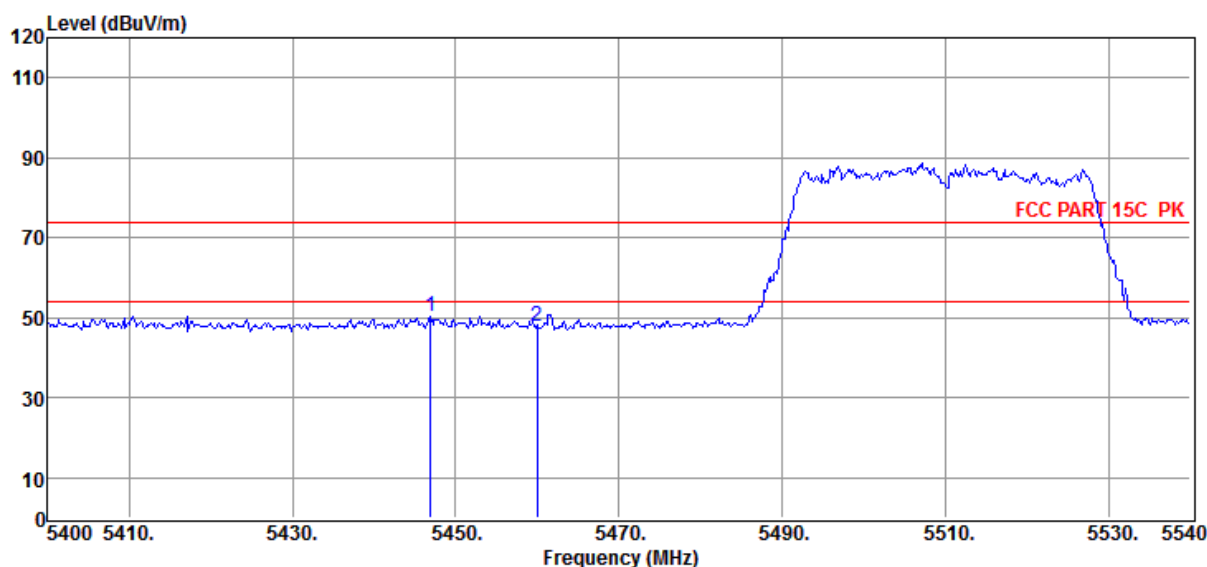
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11N40 5510

Data: 55



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5446.90	53.71	32.88	43.34	7.11	50.36	74.00	-23.64	Peak	HORIZONTAL
2	5460.00	51.21	32.88	43.34	7.11	47.86	74.00	-26.14	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

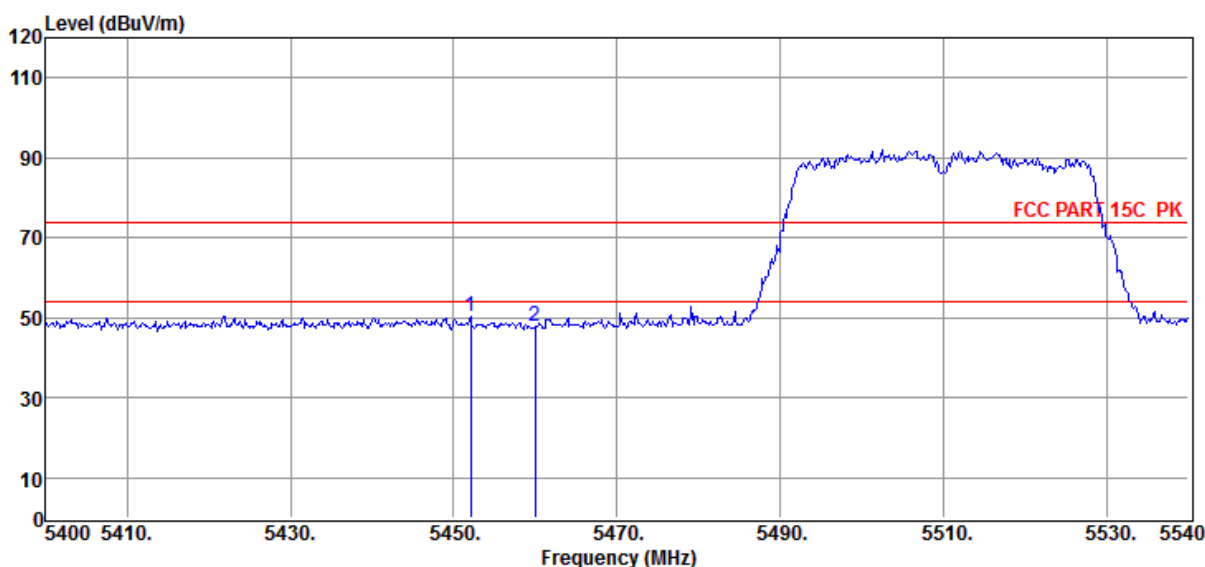
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11N40 5510

Data: 56



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5452.08	53.86	32.88	43.34	7.11	50.51	74.00	-23.49	Peak	VERTICAL
2	5460.00	51.21	32.88	43.34	7.11	47.86	74.00	-26.14	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

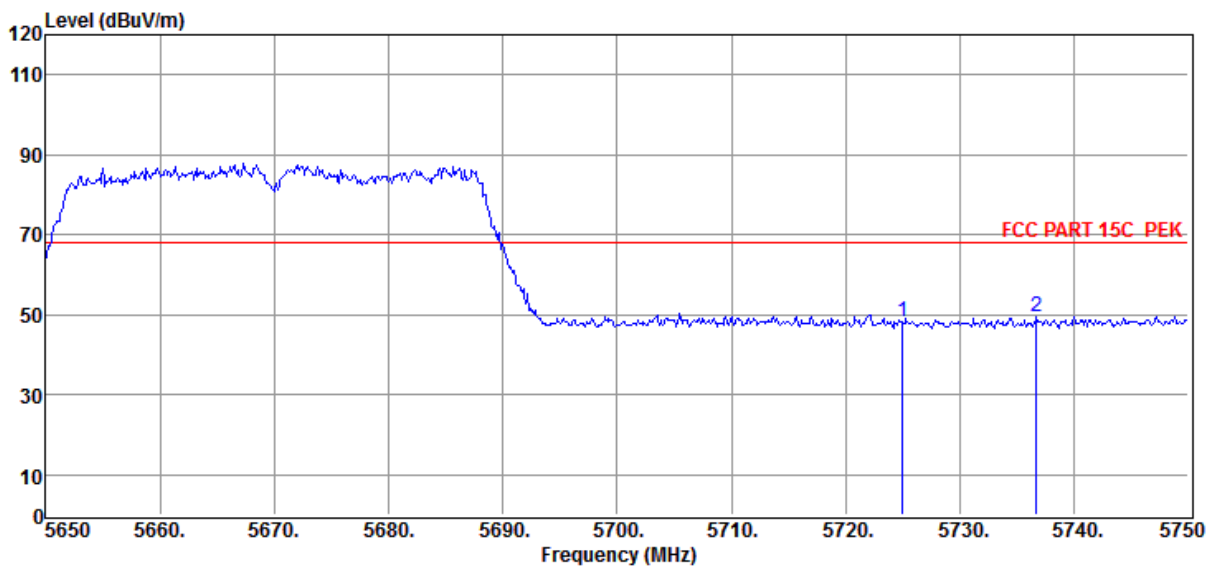
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11N40 5670

Data: 57



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.00	51.16	33.17	43.42	7.24	48.15	68.20	-20.05	Peak	HORIZONTAL
2	5736.70	52.37	33.18	43.43	7.25	49.37	68.20	-18.83	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

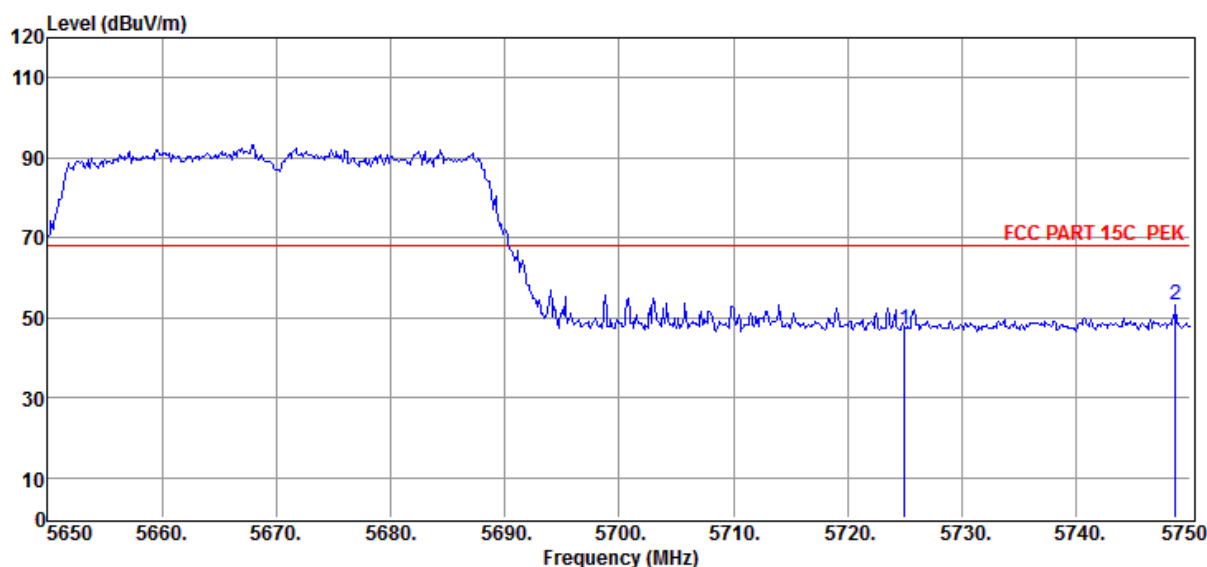
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11N40 5670

Data: 58



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.00	50.15	33.17	43.42	7.24	47.14	68.20	-21.06	Peak	VERTICAL
2	5748.70	56.02	33.20	43.43	7.26	53.05	68.20	-15.15	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

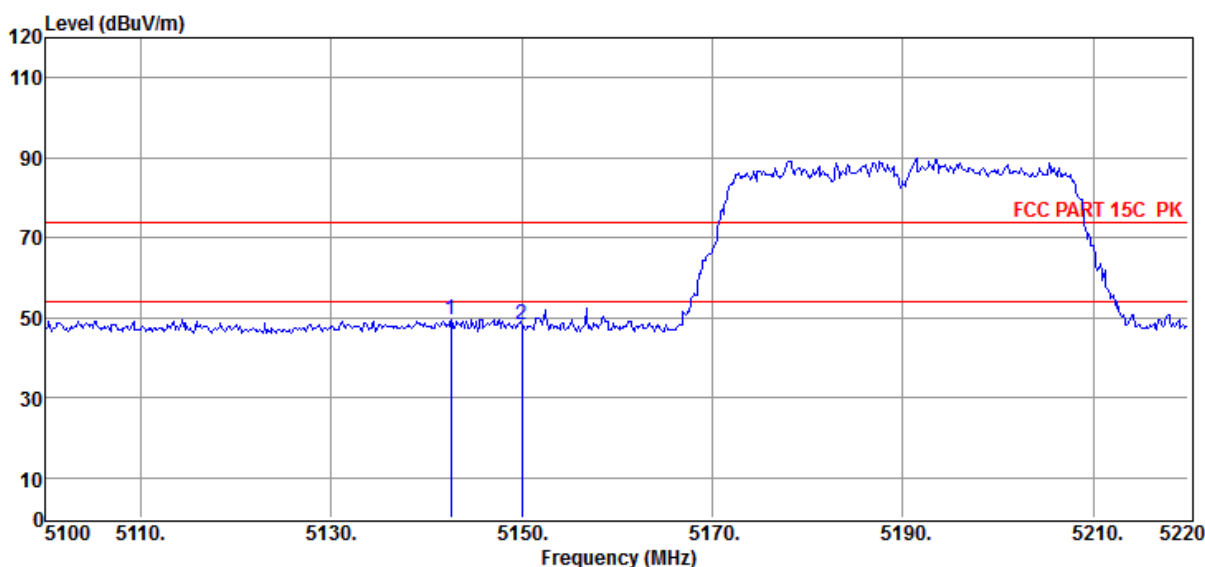
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11AC40 5190

Data: 59



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5142.60	52.91	32.76	43.25	7.06	49.48	74.00	-24.52	Peak	HORIZONTAL
2	5150.00	51.67	32.76	43.25	7.06	48.24	74.00	-25.76	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

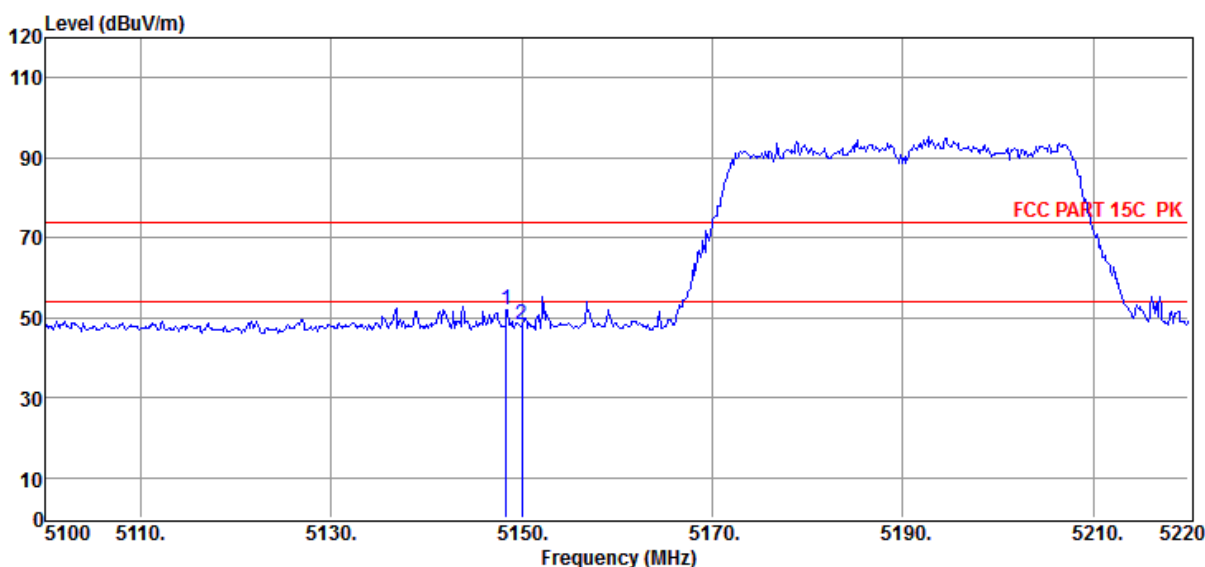
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11AC40 5190

Data: 60



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5148.36	55.57	32.76	43.25	7.06	52.14	74.00	-21.86	Peak	VERTICAL
2	5150.00	51.51	32.76	43.25	7.06	48.08	74.00	-25.92	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC ABOVE 1G 5G.EM6

Test Date : 2021-07-16

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

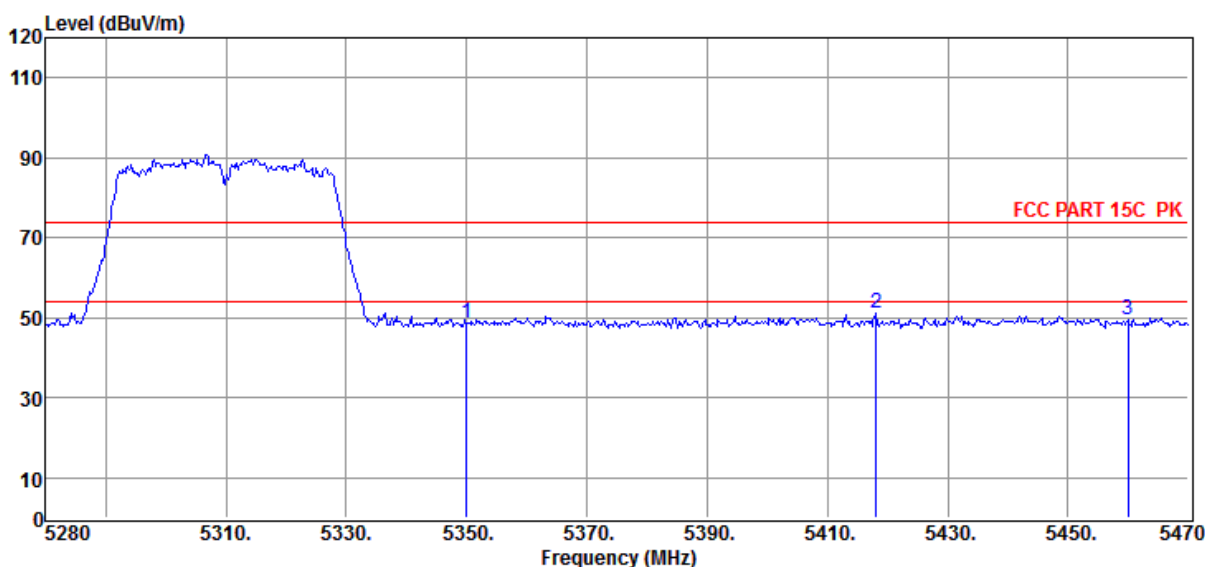
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11AC40 5310

Data: 61



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	52.22	32.84	43.31	7.10	48.85	74.00	-25.15	Peak	VERTICAL
2	5418.13	54.45	32.87	43.33	7.11	51.10	74.00	-22.90	Peak	VERTICAL
3	5460.00	52.81	32.88	43.34	7.11	49.46	74.00	-24.54	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-07-16

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

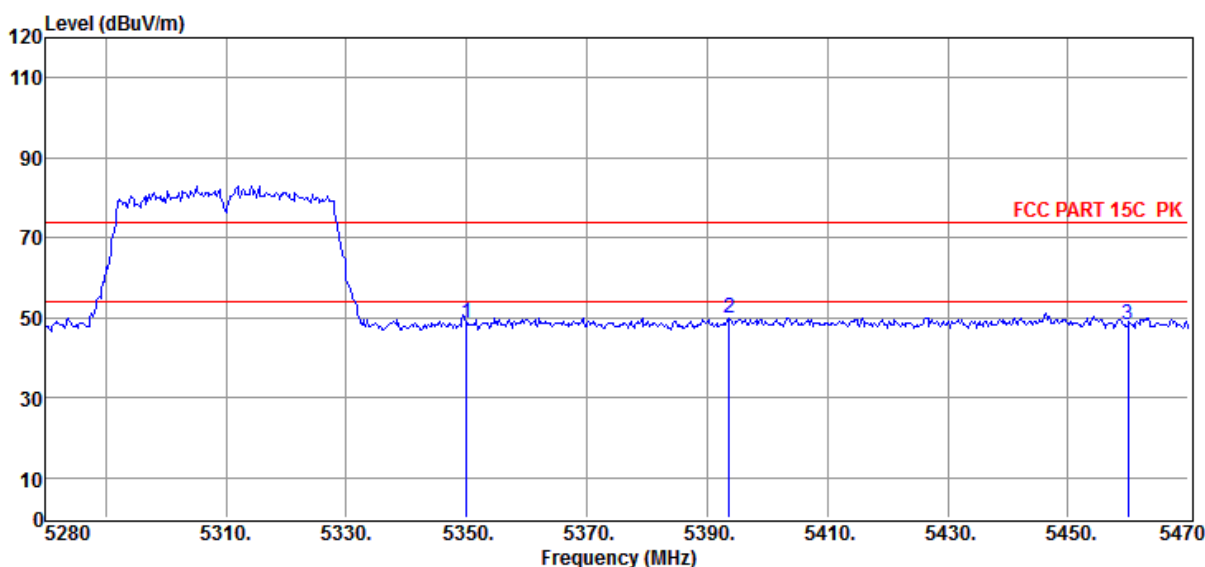
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11AC40 5310

Data: 62



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	52.03	32.84	43.31	7.10	48.66	74.00	-25.34	Peak	HORIZONTAL
2	5393.62	53.33	32.86	43.32	7.10	49.97	74.00	-24.03	Peak	HORIZONTAL
3	5459.93	51.40	32.88	43.34	7.11	48.05	74.00	-25.95	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

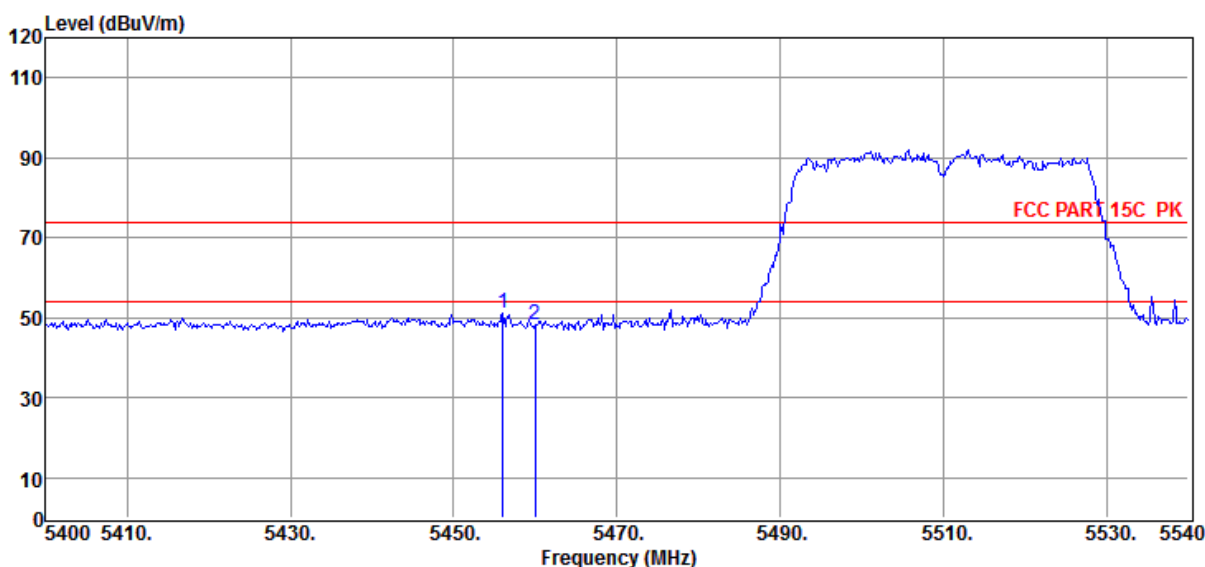
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11AC40 5510

Data: 63



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5456.00	54.44	32.88	43.34	7.11	51.09	74.00	-22.91	Peak	VERTICAL
2	5460.00	51.62	32.88	43.34	7.11	48.27	74.00	-25.73	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

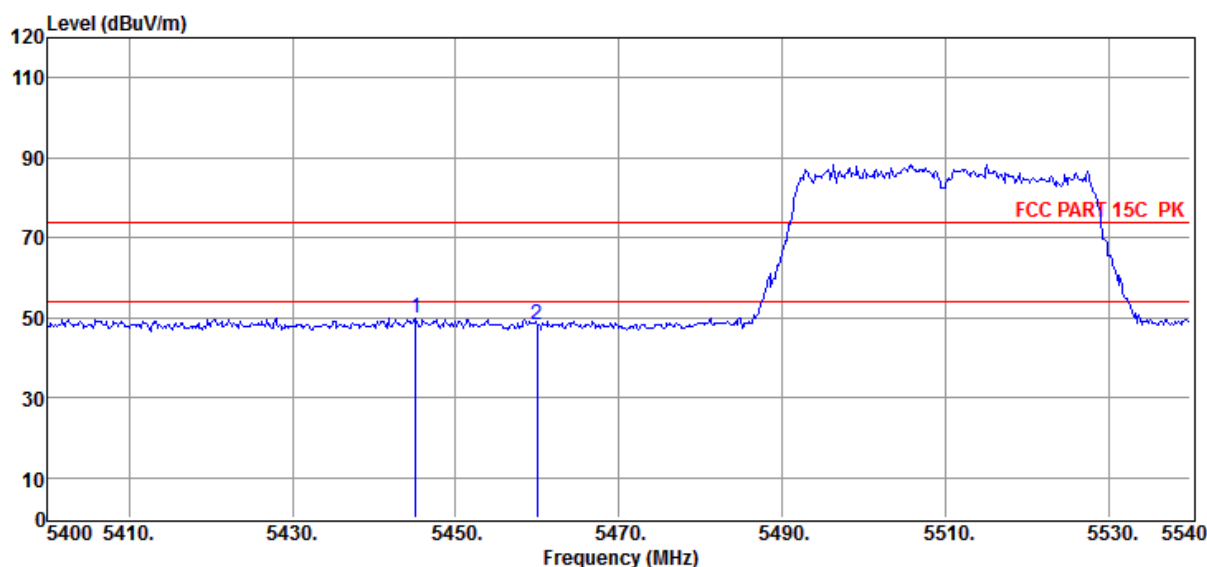
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11AC40 5510

Data: 64



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5445.08	53.37	32.88	43.34	7.11	50.02	74.00	-23.98	Peak	HORIZONTAL
2	5460.00	51.62	32.88	43.34	7.11	48.27	74.00	-25.73	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

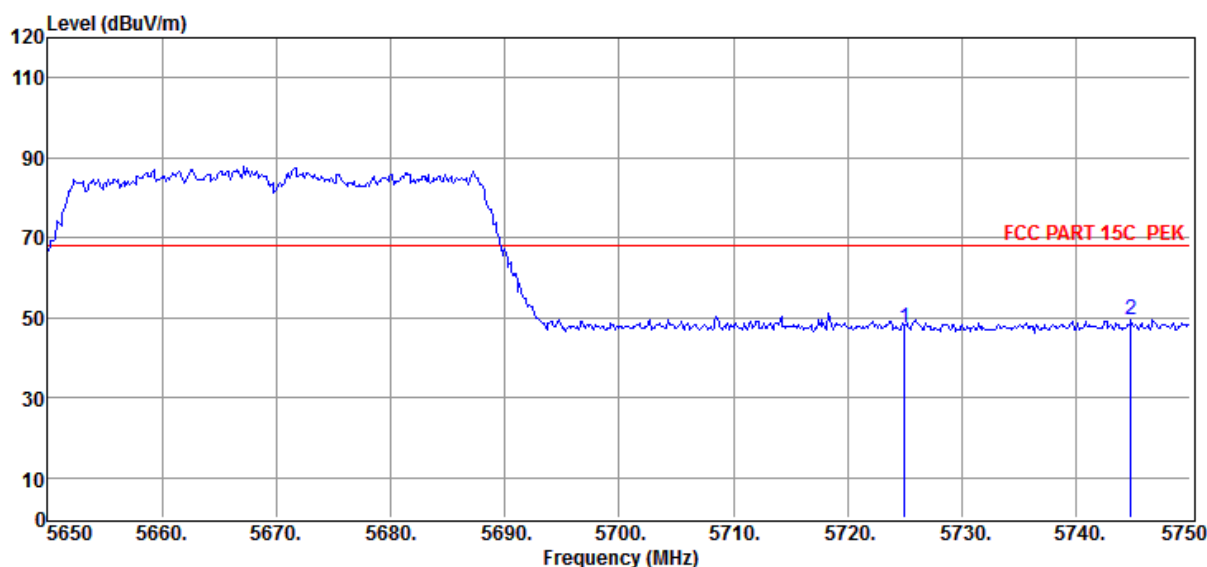
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11AC40 5670

Data: 65



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.00	50.59	33.17	43.42	7.24	47.58	68.20	-20.62	Peak	HORIZONTAL
2	5744.80	52.66	33.19	43.43	7.26	49.68	68.20	-18.52	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

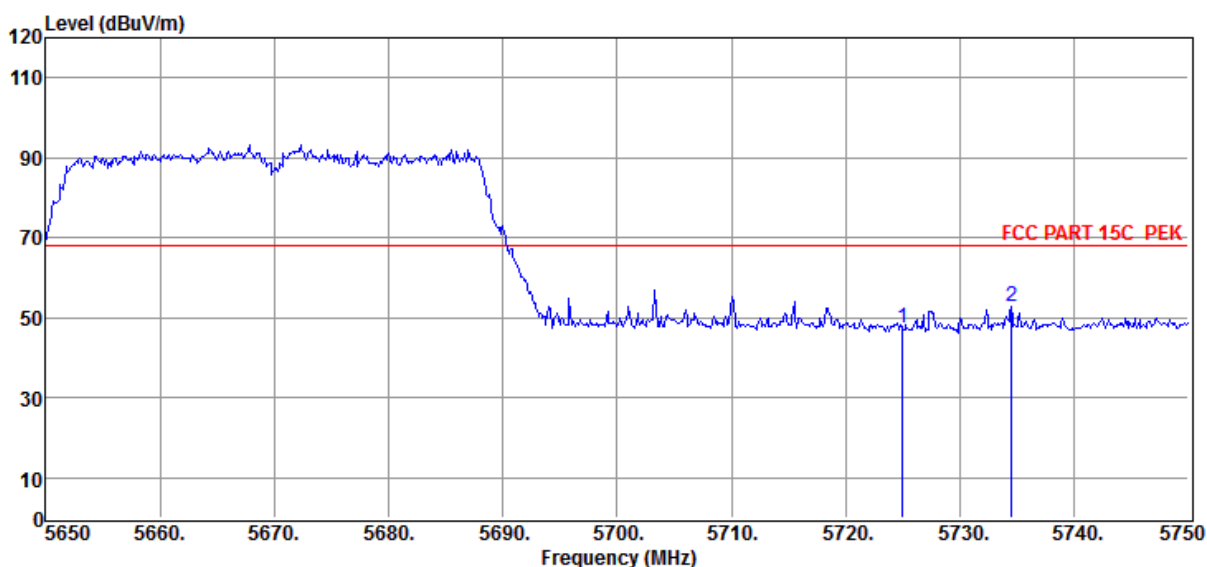
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11AC40 5670

Data: 66



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.00	50.26	33.17	43.42	7.24	47.25	68.20	-20.95	Peak	VERTICAL
2	5734.50	55.91	33.18	43.43	7.25	52.91	68.20	-15.29	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC ABOVE 1G 5G.EM6

Test Date : 2021-07-16

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

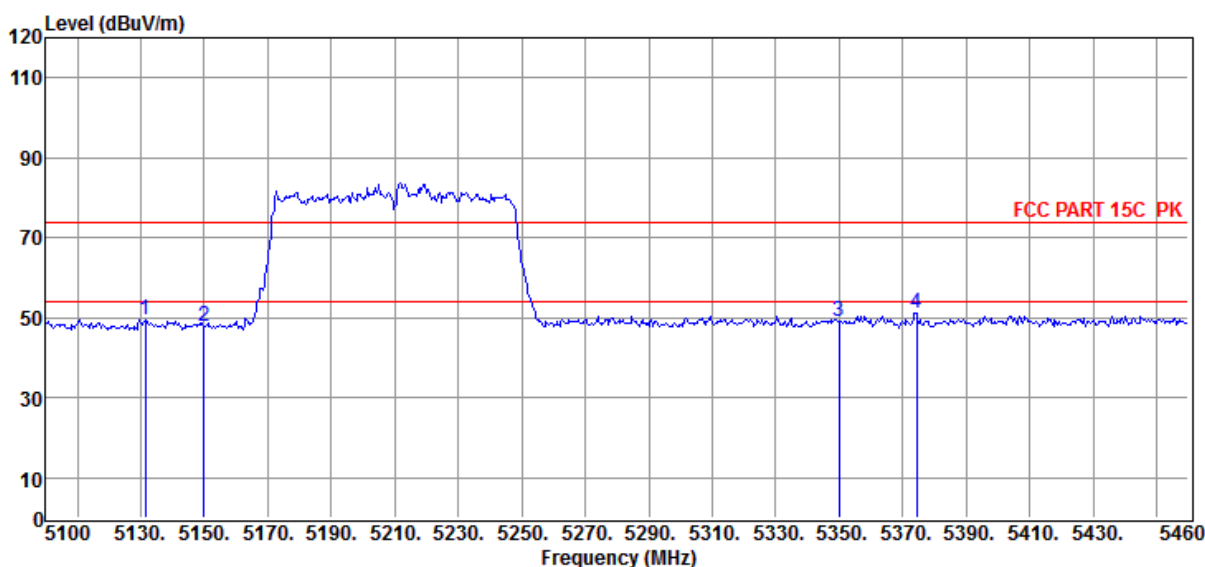
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11AC80 5210

Data: 67



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5131.32	53.02	32.75	43.24	7.06	49.59	74.00	-24.41	Peak	HORIZONTAL
2	5150.00	51.24	32.76	43.25	7.06	47.81	74.00	-26.19	Peak	HORIZONTAL
3	5350.00	52.46	32.84	43.31	7.10	49.09	74.00	-24.91	Peak	HORIZONTAL
4	5374.32	54.70	32.85	43.32	7.10	51.33	74.00	-22.67	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC ABOVE 1G 5G.EM6

Test Date : 2021-07-16

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

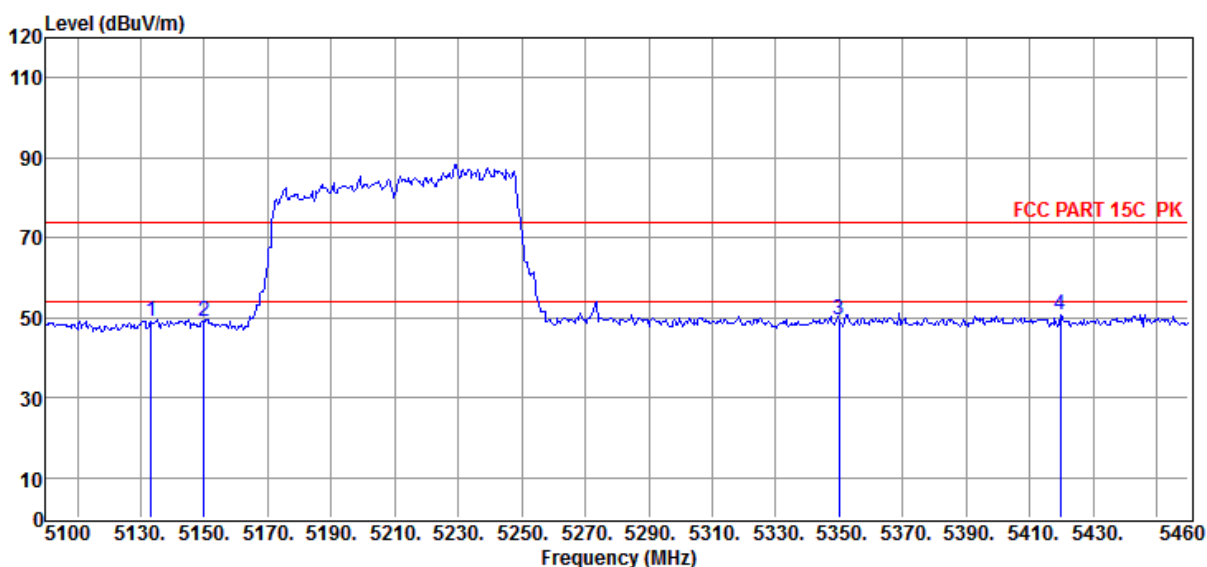
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11AC80 5210

Data: 68



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5133.12	52.47	32.75	43.24	7.06	49.04	74.00	-24.96	Peak	VERTICAL
2	5150.00	52.53	32.76	43.25	7.06	49.10	74.00	-24.90	Peak	VERTICAL
3	5350.00	52.85	32.84	43.31	7.10	49.48	74.00	-24.52	Peak	VERTICAL
4	5419.68	54.18	32.87	43.33	7.11	50.83	74.00	-23.17	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC ABOVE 1G 5G.EM6

Test Date : 2021-07-16

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

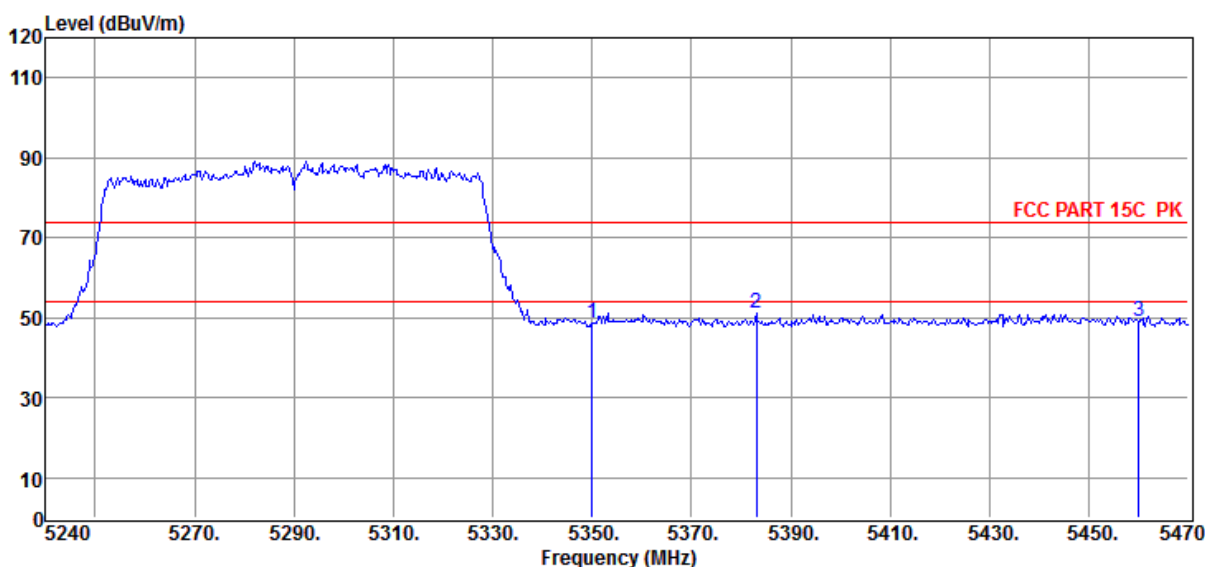
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11AC80 5290

Data: 69



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	52.18	32.84	43.31	7.10	48.81	74.00	-25.19	Peak	VERTICAL
2	5383.06	54.36	32.85	43.32	7.10	50.99	74.00	-23.01	Peak	VERTICAL
3	5460.00	52.27	32.88	43.34	7.11	48.92	74.00	-25.08	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-07-16

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

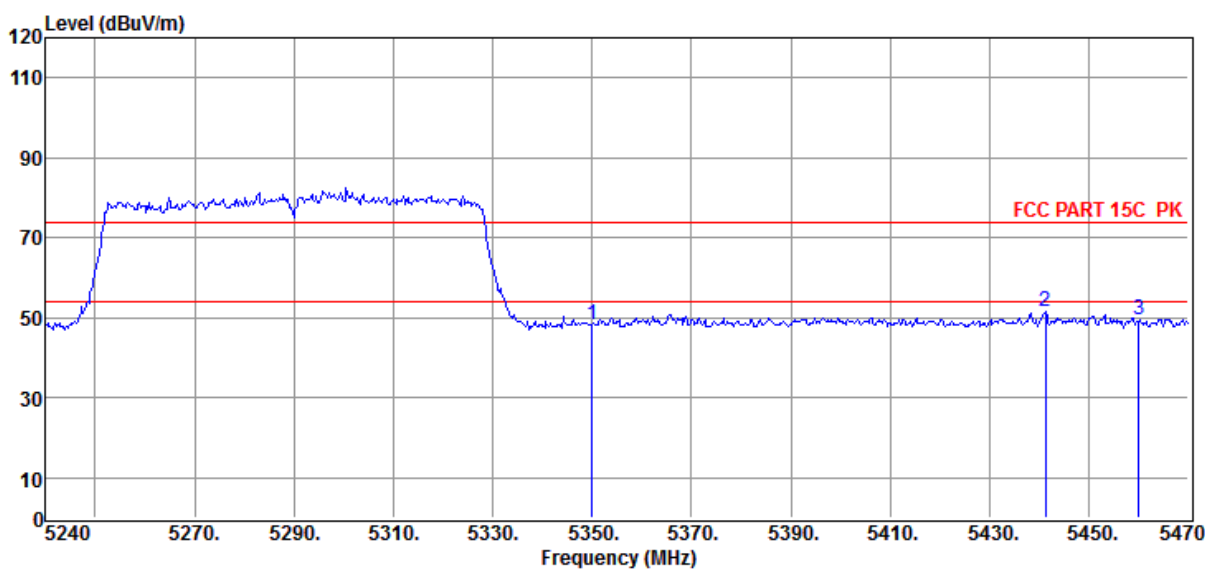
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11AC80 5290

Data: 70



Item (Mark)	Freq. (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	51.82	32.84	43.31	7.10	48.45	74.00	-25.55	Peak	HORIZONTAL
2	5441.25	54.74	32.88	43.34	7.11	51.39	74.00	-22.61	Peak	HORIZONTAL
3	5460.00	52.66	32.88	43.34	7.11	49.31	74.00	-24.69	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

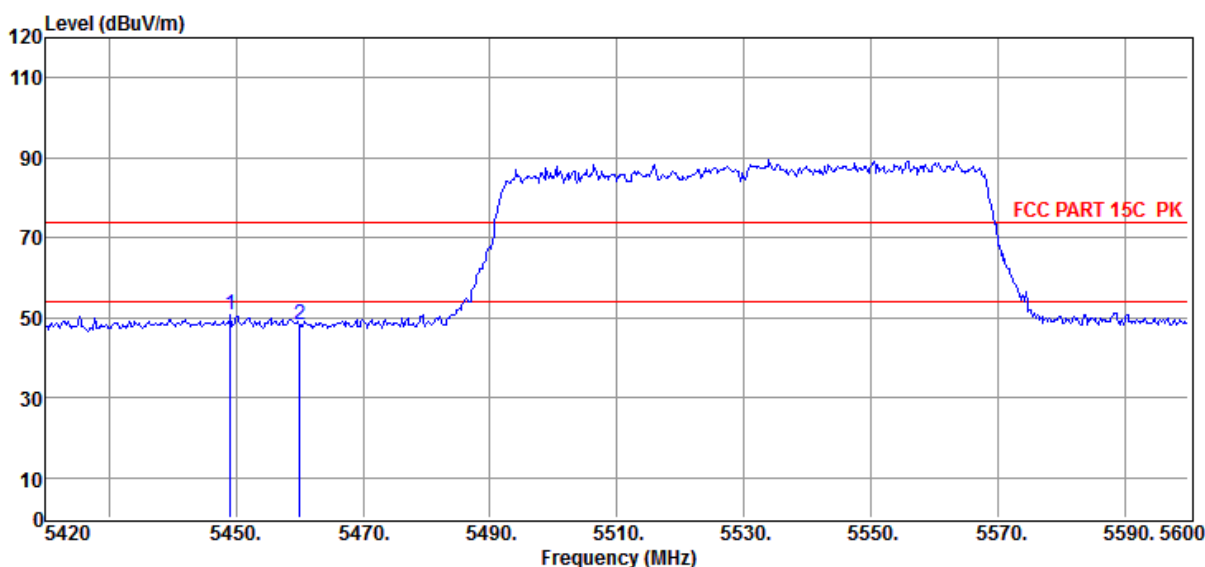
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11AC80 5530

Data: 71



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5449.16	53.97	32.88	43.34	7.11	50.62	74.00	-23.38	Peak	VERTICAL
2	5460.00	51.39	32.88	43.34	7.11	48.04	74.00	-25.96	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

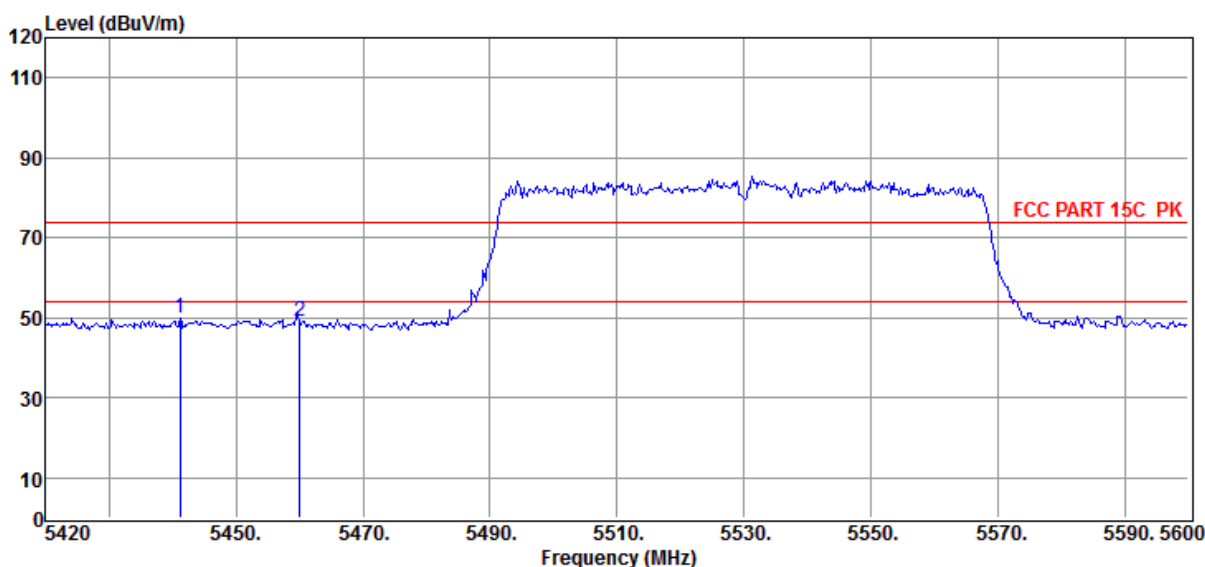
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11AC80 5530

Data: 72



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5441.24	53.45	32.88	43.34	7.11	50.10	74.00	-23.90	Peak	HORIZONTAL
2	5460.00	52.48	32.88	43.34	7.11	49.13	74.00	-24.87	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

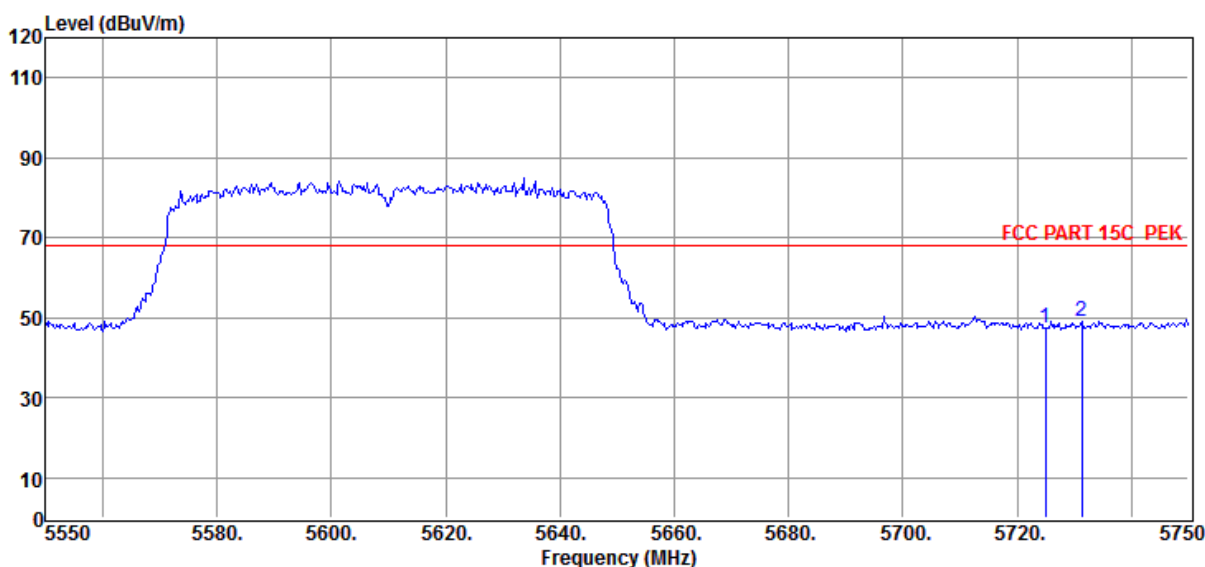
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11AC80 5610

Data: 73



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.00	50.62	33.17	43.42	7.24	47.61	68.20	-20.59	Peak	HORIZONTAL
2	5731.40	51.98	33.18	43.42	7.25	48.99	68.20	-19.21	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

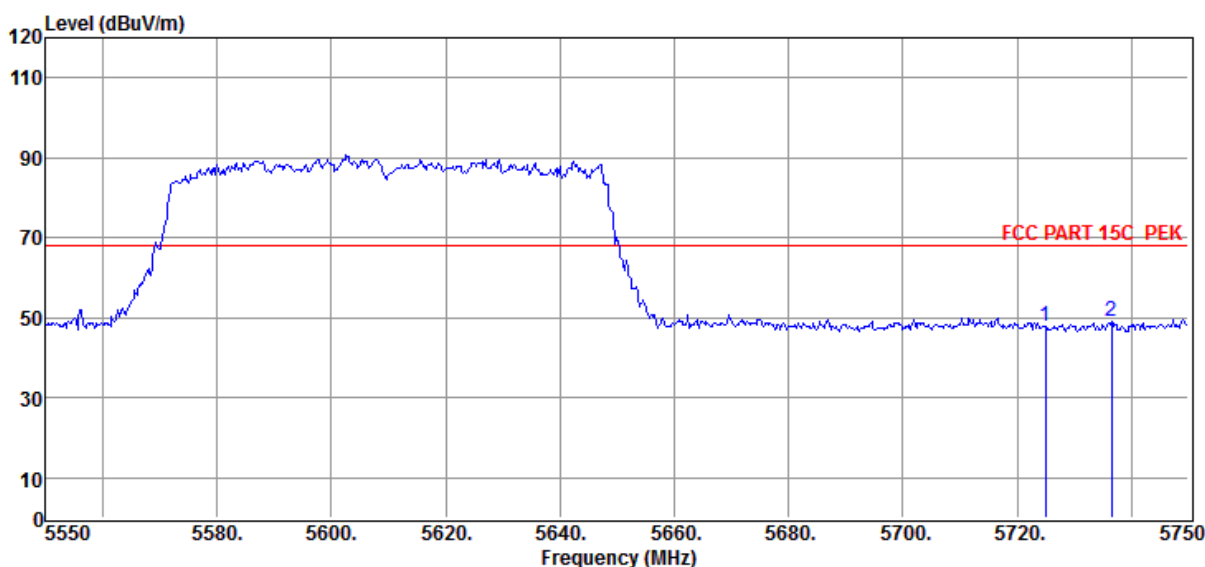
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11AC80 5610

Data: 74



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.00	50.81	33.17	43.42	7.24	47.80	68.20	-20.40	Peak	VERTICAL
2	5736.60	51.91	33.18	43.43	7.25	48.91	68.20	-19.29	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

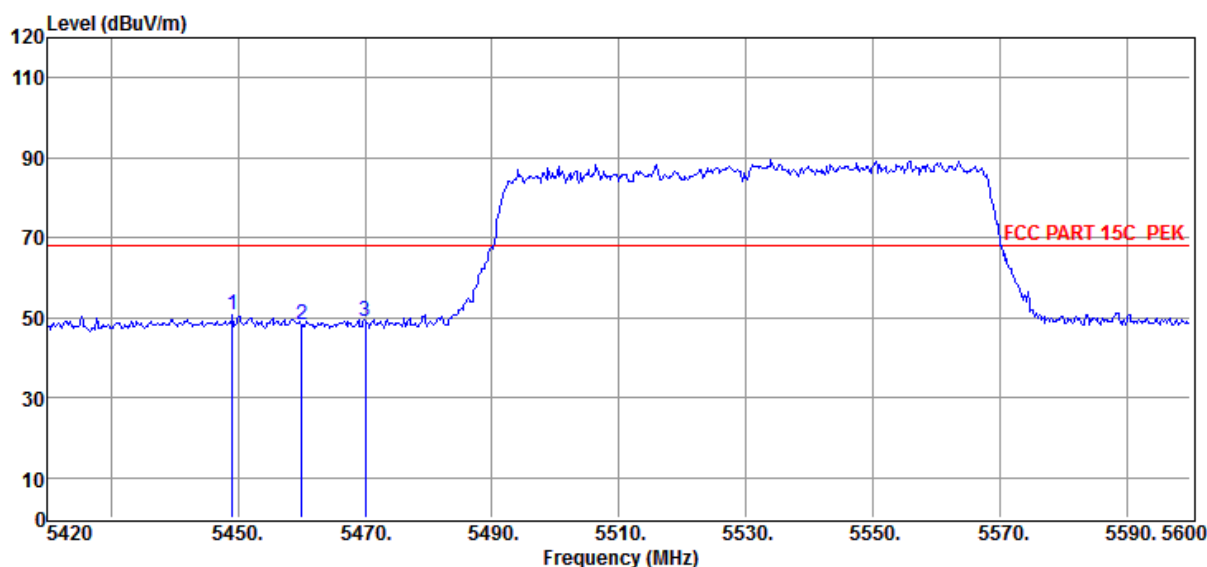
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL

Memo : 11AC80 5530

Data: 75



Item (Mark)	Freq. (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Detector	Polarization
1	5449.16	53.97	32.88	43.34	7.11	50.62	68.20	-17.58	Peak	VERTICAL
2	5460.00	51.39	32.88	43.34	7.11	48.04	68.20	-20.16	Peak	VERTICAL
3	5470.00	52.29	32.89	43.35	7.12	48.95	68.20	-19.25	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - 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 2#

D:\2021 RE2# Report Data\Q21052802-1E M11 PLUS\FCC
ABOVE 1G 5G.EM6

Test Date : 2021-06-20

Tested By : Zora

EUT : Portable High Resolution Music Player

Model Number : M11 Plus

Power Supply : Battery

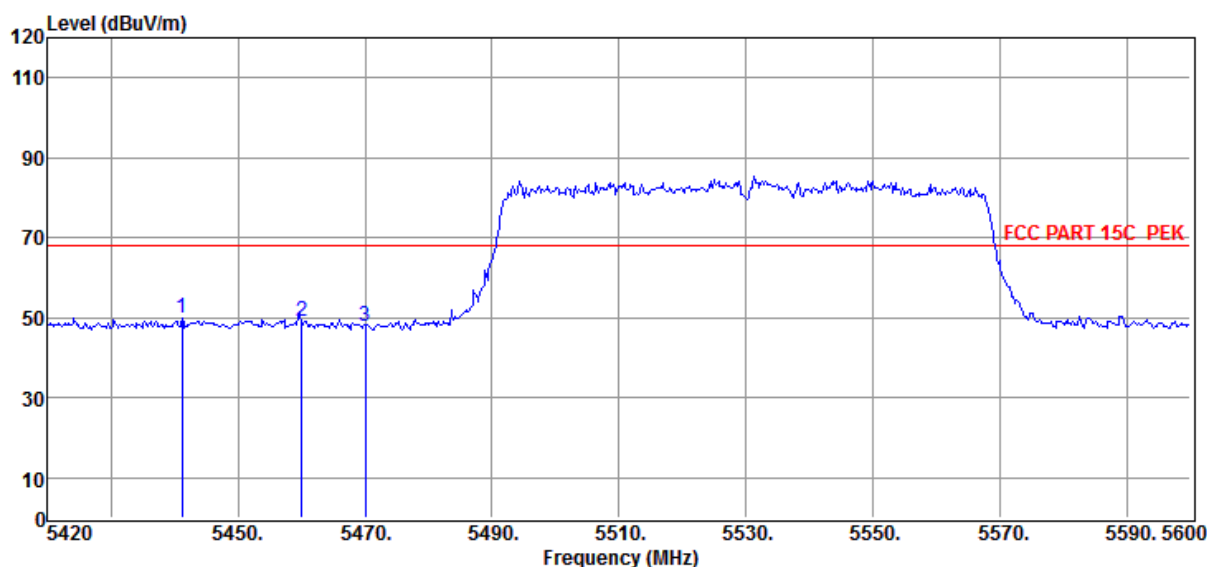
Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 11AC80 5530

Data: 76



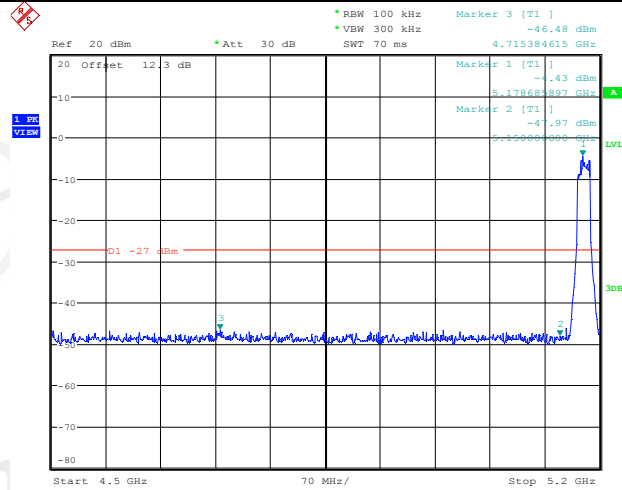
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5441.24	53.45	32.88	43.34	7.11	50.10	68.20	-18.10	Peak	HORIZONTAL
2	5460.00	52.48	32.88	43.34	7.11	49.13	68.20	-19.07	Peak	HORIZONTAL
3	5470.00	51.36	32.89	43.35	7.12	48.02	68.20	-20.18	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

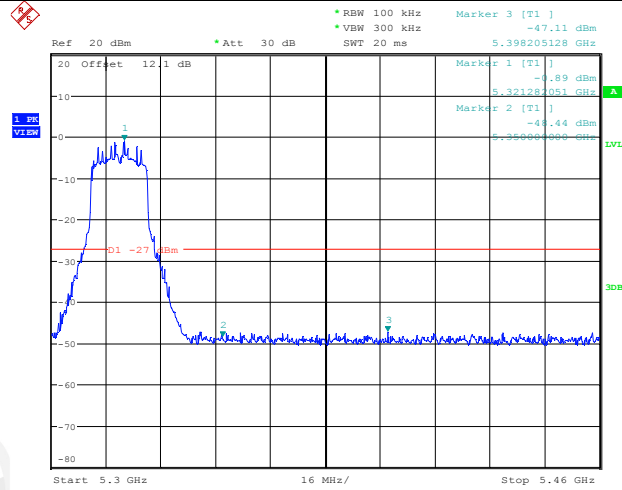
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

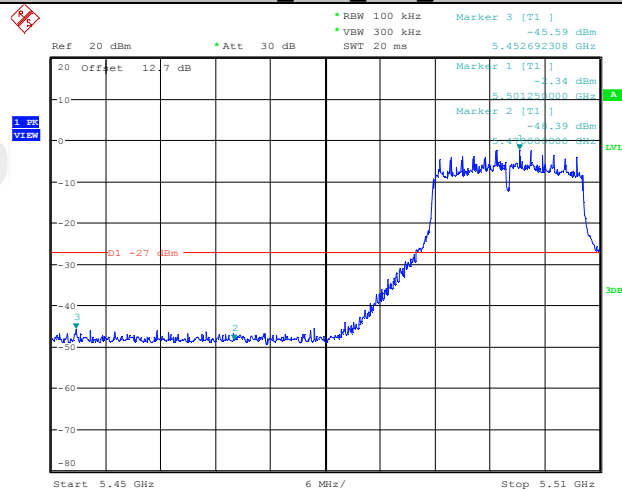
11A_Ant1_Low_5180



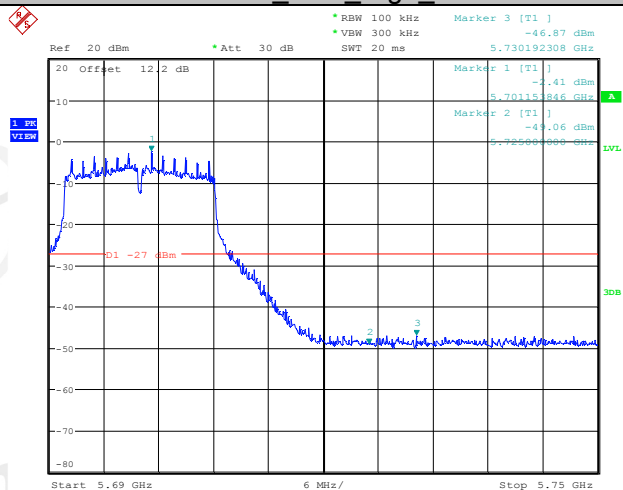
11A_Ant1_High_5320



11A_Ant1_Low_5500

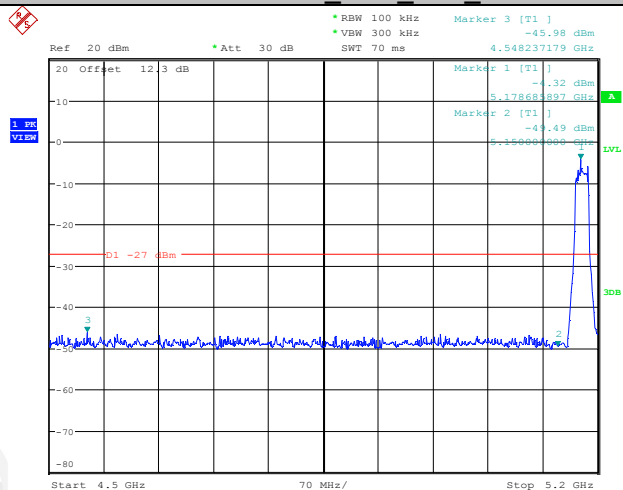


11A_Ant1_High_5700



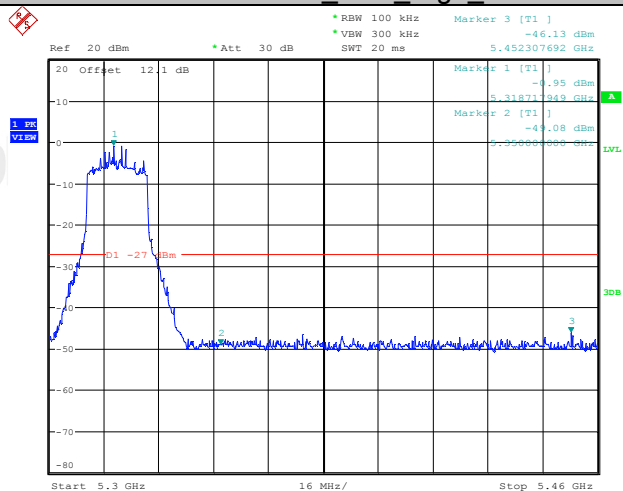
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11N20SISO_Ant1_Low_5180



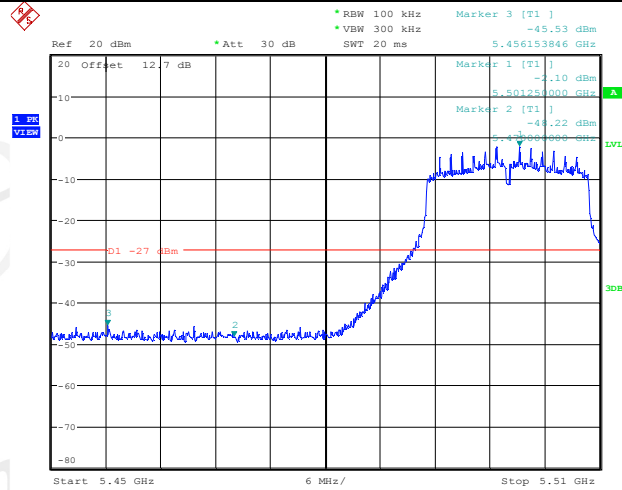
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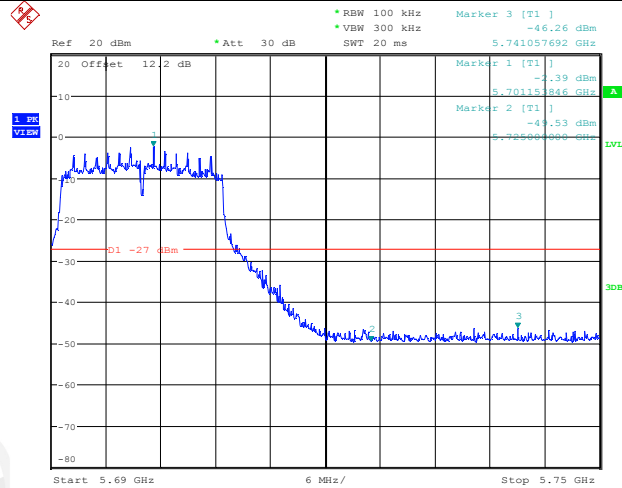
Date: 16.JUN.2021 20:07:10

11N20SISO_Ant1_Low_5500



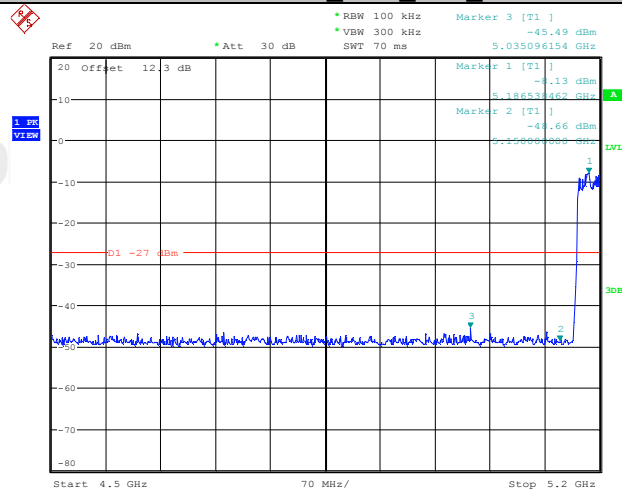
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11N20SISO_Ant1_High_5700



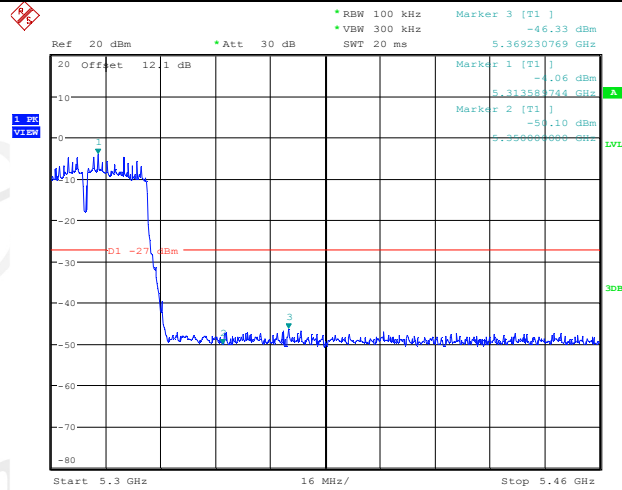
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11N40SISO_Ant1_Low_5190



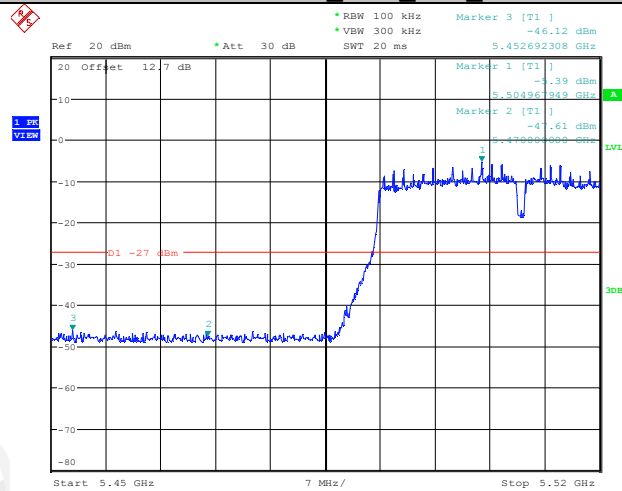
Date: 16.JUN.2021 20:22:15

11N40SISO Ant1 High 5310



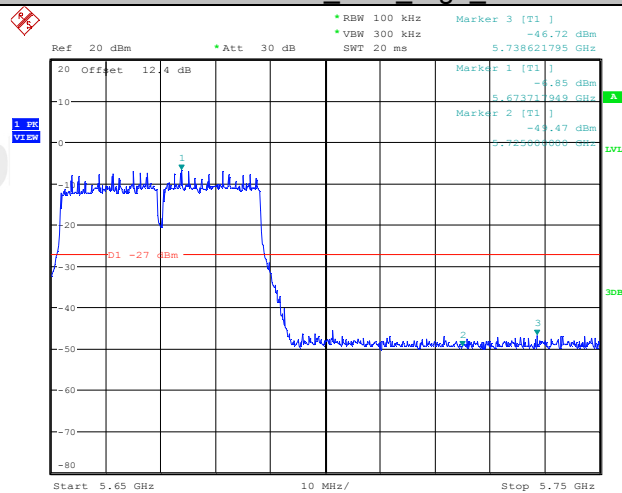
Date: 16.JUN.2021 20:28:38

11N40SISO Ant1 Low 5510



Date: 16.JUN.2021 20:30:28

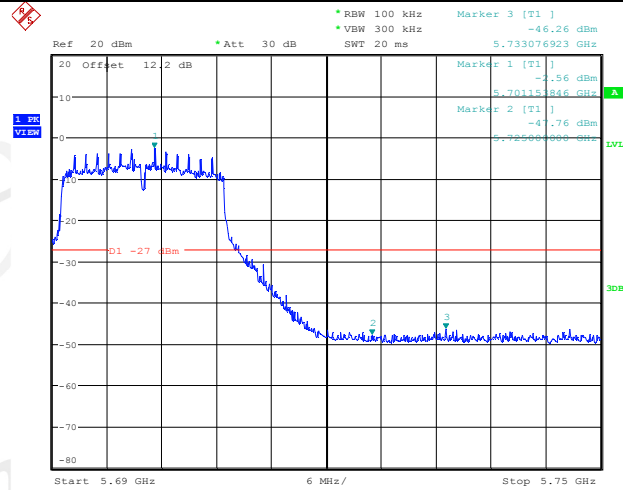
11N40SISO Ant1 High 5670



Date: 16.JUN.2021 20:34:37

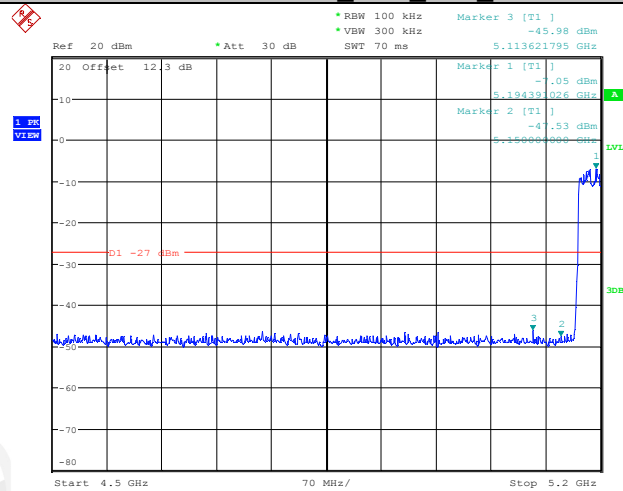


11AC20SISO Ant1 High 5700



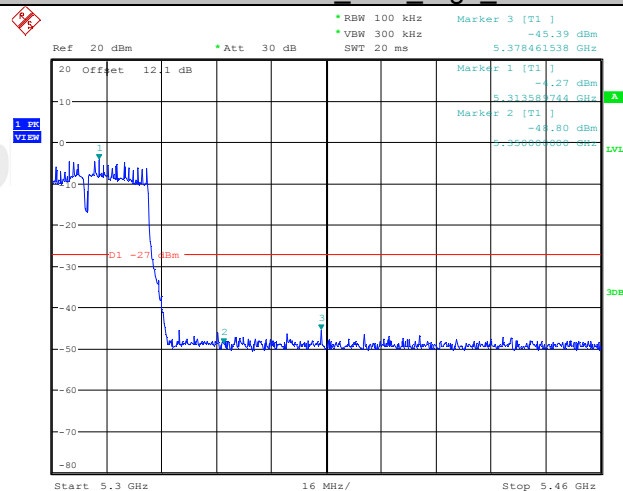
Date: 16.JUN.2021 20:56:35

11AC40SISO Ant1 Low 5190



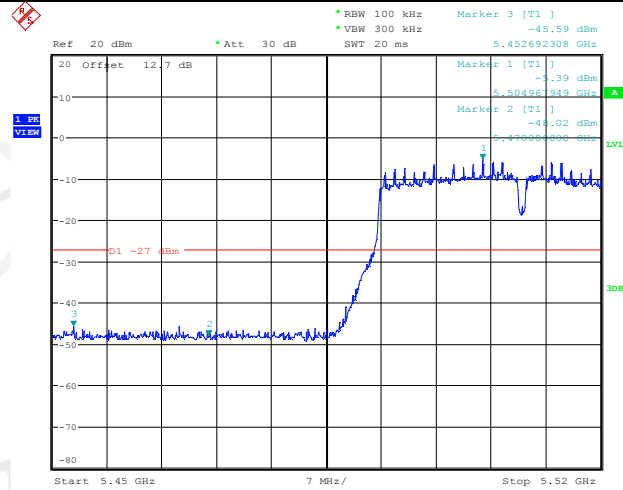
Date: 16.JUN.2021 21:05:33

11AC40SISO Ant1 High 5310



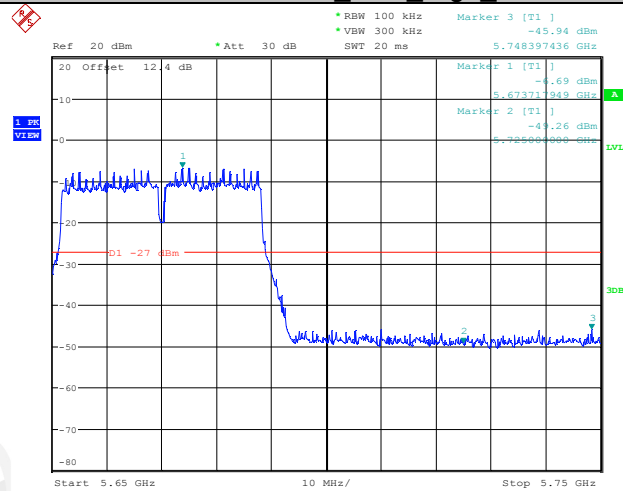
Date: 16.JUN.2021 21:11:17

11AC40SISO Ant1 Low 5510



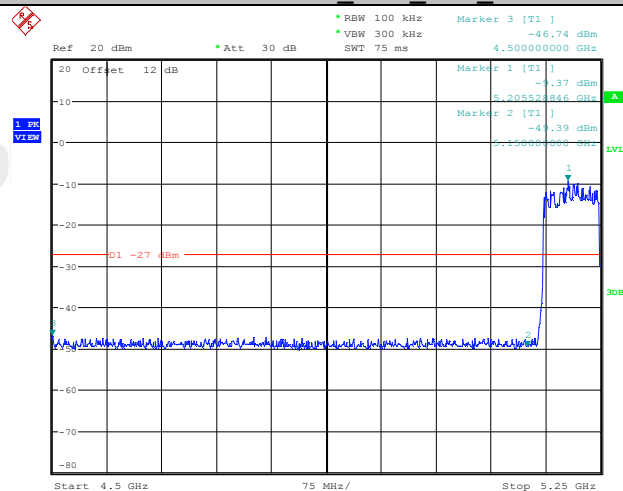
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11AC40SISO Ant1 High 5670



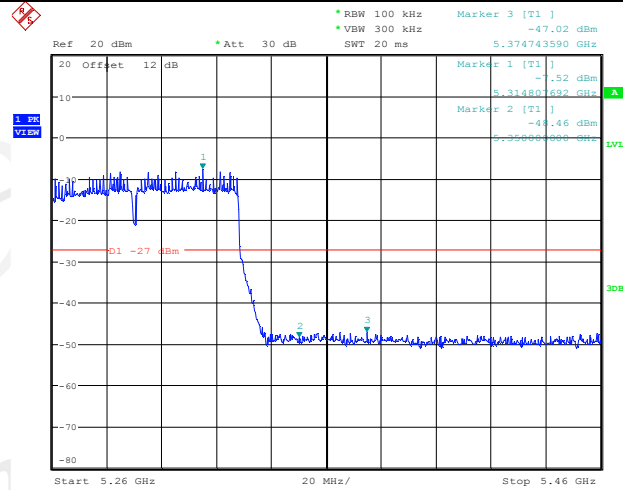
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11AC80SISO Ant1 Low 5210



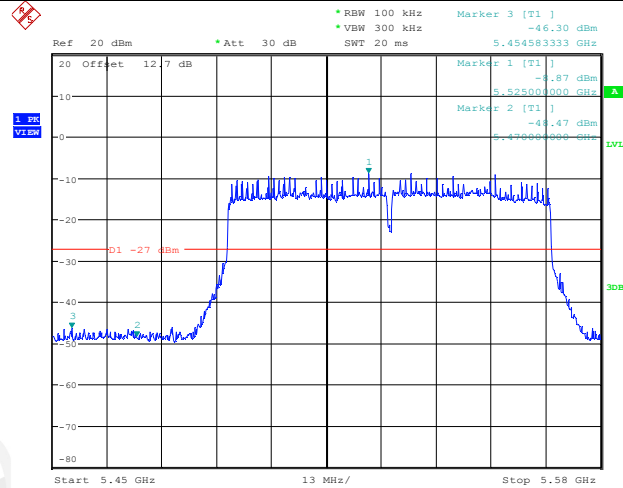
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11AC80SISO Ant1 High 5290



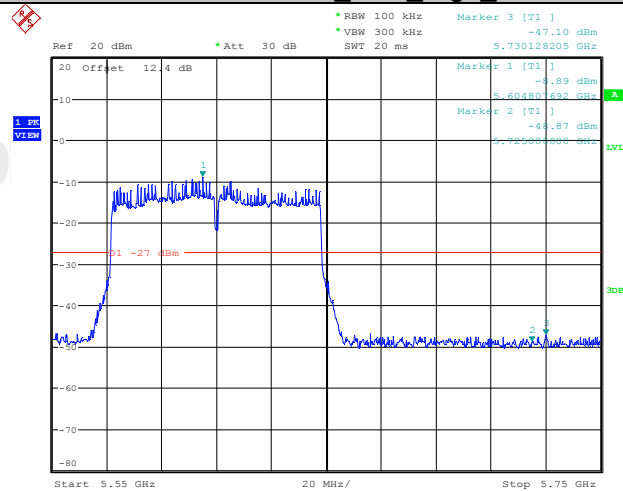
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11AC80SISO Ant1 Low 5530



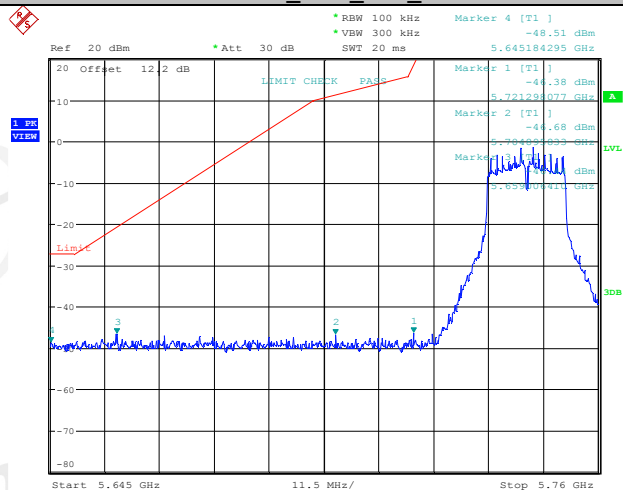
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11AC80SISO Ant1 High 5610



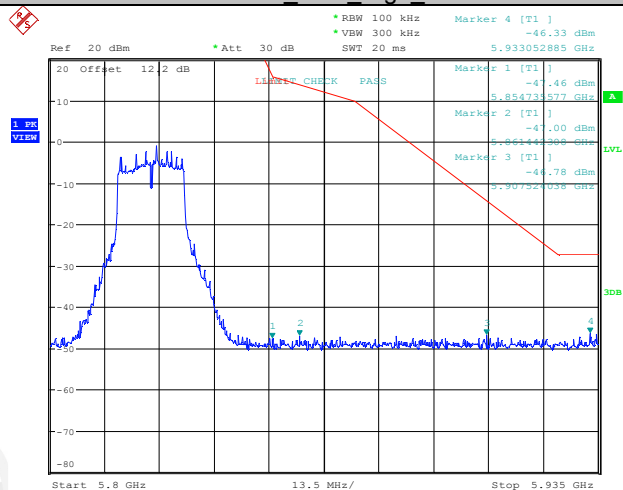
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11A_Ant1_Low_5745



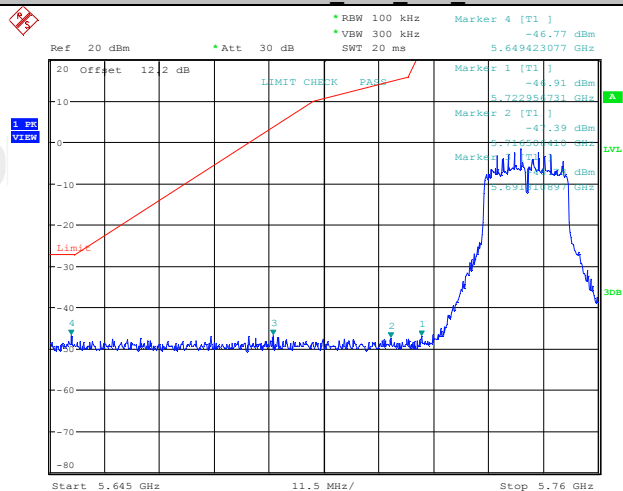
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11A_Ant1_High_5825



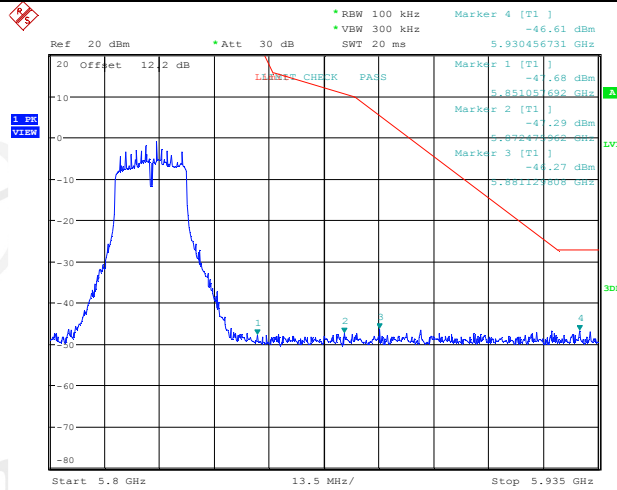
Date: 16.JUN.2021 23:23:04

11N20SISO_Ant1_Low_5745



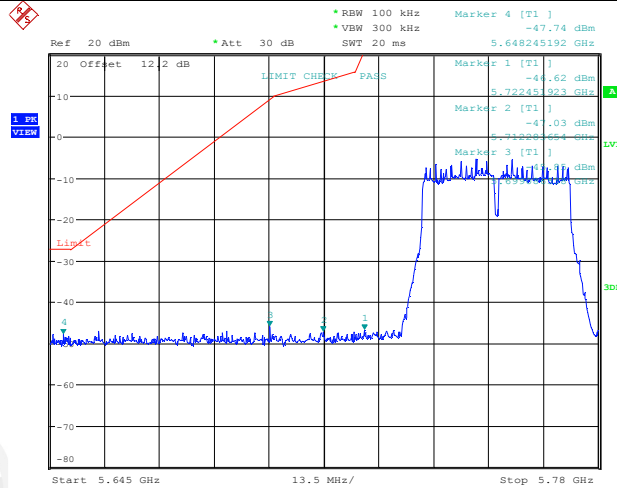
Date: 16.JUN.2021 23:23:39

11N20SISO_Ant1_High_5825



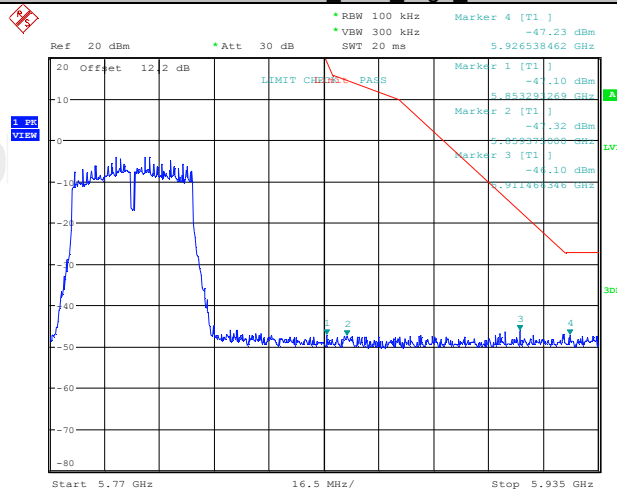
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11N40SISO_Ant1_Low_5755



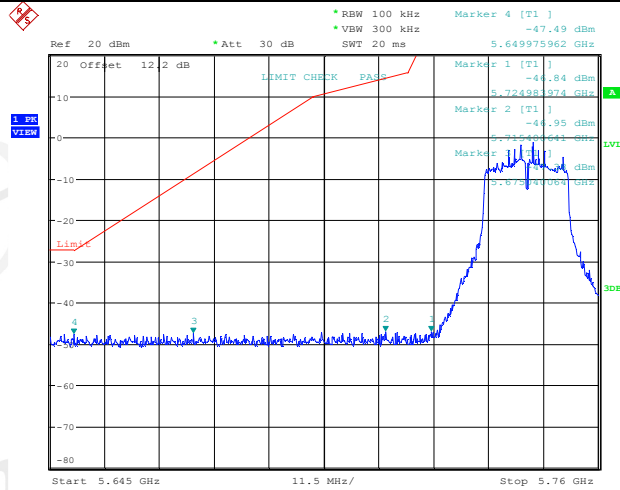
Date: 16.JUN.2021 23:24:57

11N40SISO_Ant1_High_5795

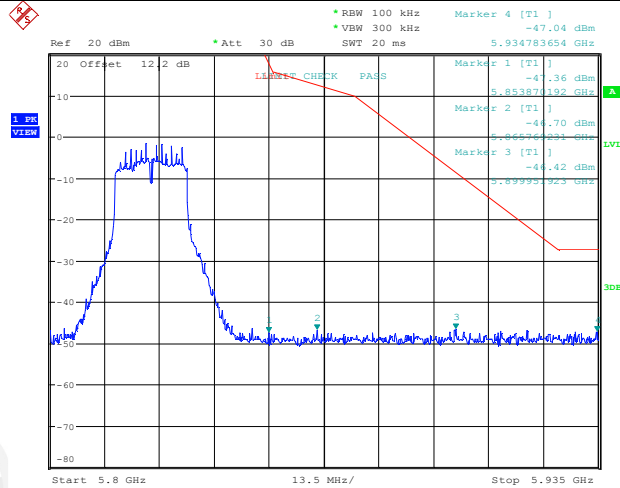


Date: 16.JUN.2021 23:25:26

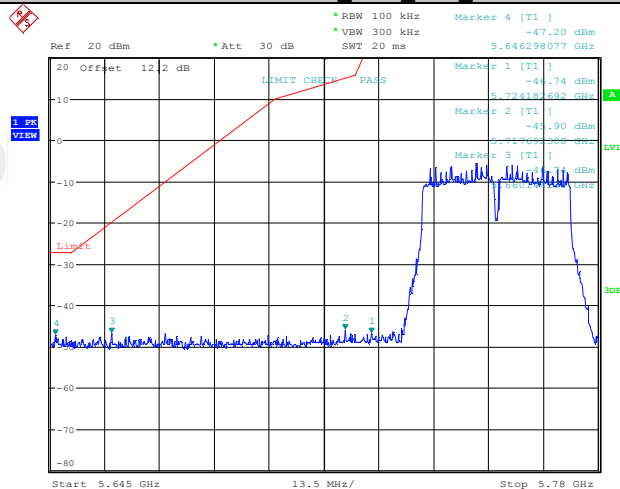
11AC20SISO_Ant1_Low_5745



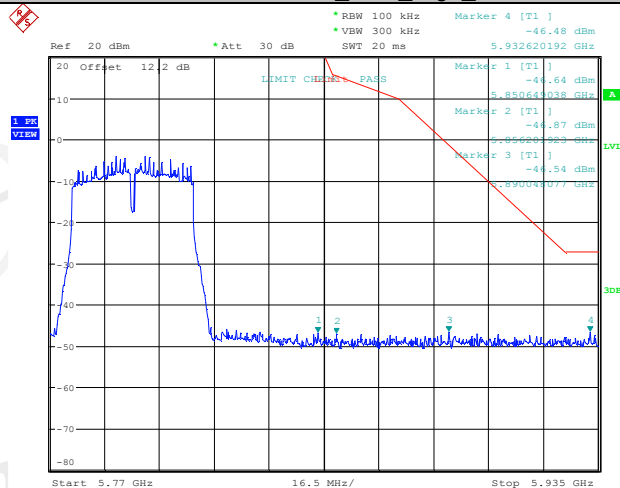
11AC20SISO_Ant1_High_5825



11AC40SISO_Ant1_Low_5755

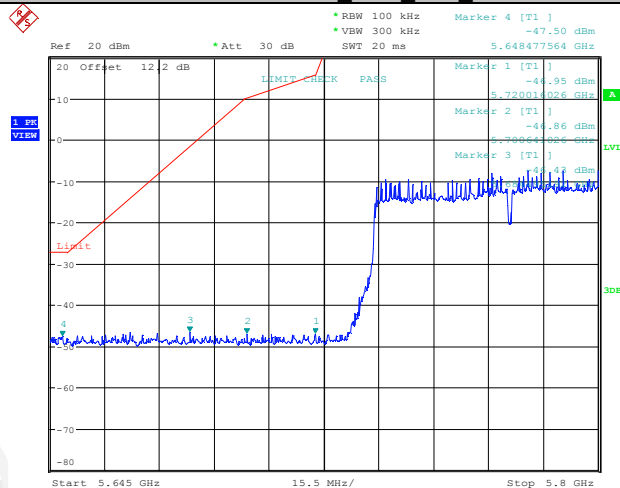


11AC40SISO_Ant1_High_5795



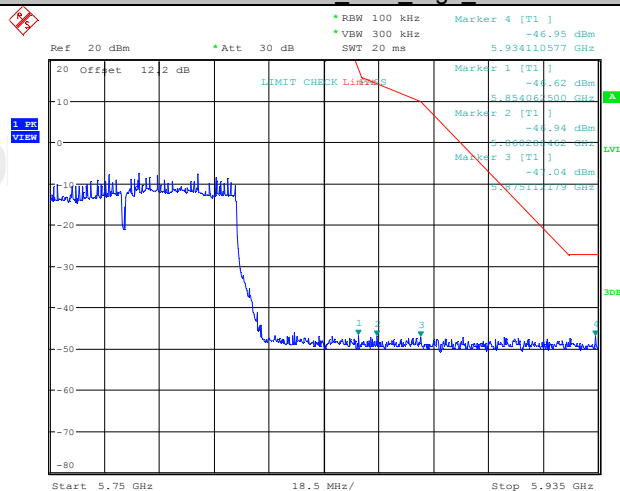
Date: 16.JUN.2021 23:27:52

11AC80SISO_Ant1_Low_5775



Date: 16.JUN.2021 23:28:38

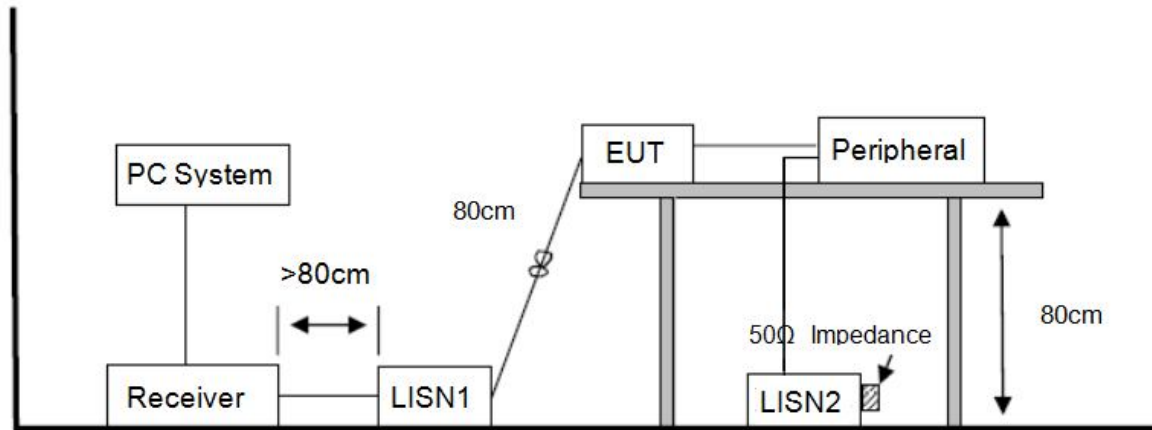
11AC80SISO_Ant1_High_5775



Date: 16.JUN.2021 23:28:58

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

Pass. (See below detailed test result)

Note1: All emissions not reported below are too low against the prescribed limits.

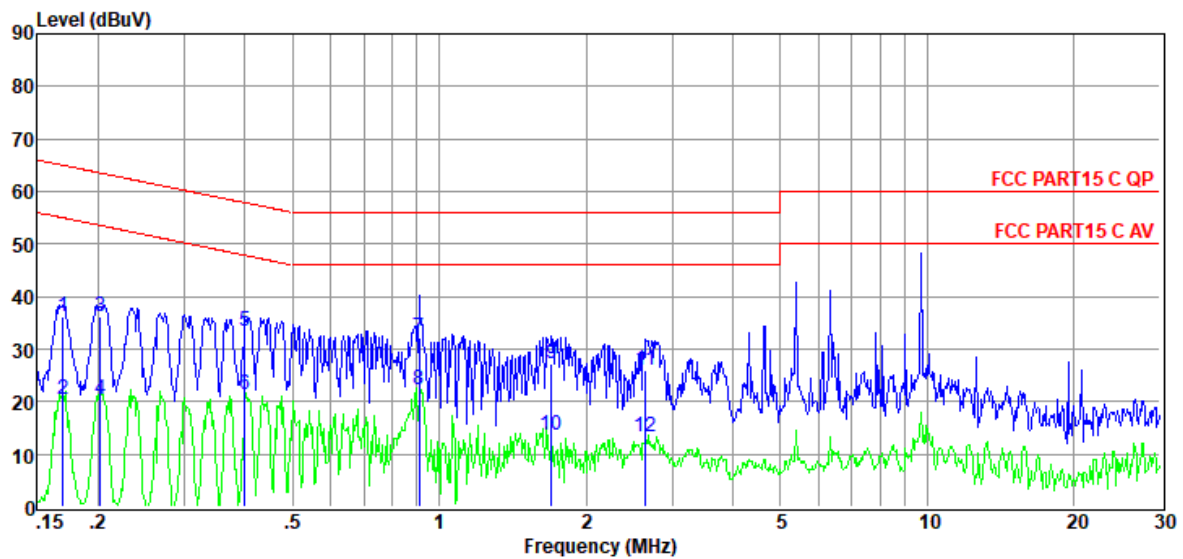
Note2: “----” means peak detection; “-----” means average detection

Note3: Pre-test AC conducted emission at both voltage AC 120V/60Hz and AC 240V/50Hz, recorded worse case.

TR-4-E-010 Conducted Emission Test Result

Test Site : DDT 1# Shield Room **D:\2021 CE report date\Q21052802-2E\20210621 CE.EM6**
Test Date : 2021-06-21 **Tested By** : Youbin He
EUT : Portable High Resolution Music Player **Model Number** : M11 Plus
Power Supply : AC 120/60Hz **Test Mode** : Tx mode
Condition : Temp:24.5°C,Humi:55%,Press:101.4kPa **LISN** : 2020 ENV 216 1#/NEUTRAL
Memo :

Data: 14



Item	Freq.	Read Level	LISN Factor	Cable Loss	Pulse Limiter Factor	Result Level	Limit Line	Over Limit	Detector	Phase
(Mark)	(MHz)	(dBμV)	(dB)	(dB)	(dB)	(dBμV)	(dBμV)	(dB)		
1	0.17	16.96	9.38	0.02	9.86	36.22	64.99	-28.77	QP	NEUTRAL
2	0.17	1.00	9.38	0.02	9.86	20.26	54.99	-34.73	Average	NEUTRAL
3	0.20	17.06	9.37	0.02	9.86	36.31	63.54	-27.23	QP	NEUTRAL
4	0.20	1.09	9.37	0.02	9.86	20.34	53.54	-33.20	Average	NEUTRAL
5	0.40	14.05	9.39	0.02	9.86	33.32	57.86	-24.54	QP	NEUTRAL
6	0.40	1.99	9.39	0.02	9.86	21.26	47.86	-26.60	Average	NEUTRAL
7	0.91	13.00	9.39	0.03	9.86	32.28	56.00	-23.72	QP	NEUTRAL
8	0.91	2.97	9.39	0.03	9.86	22.25	46.00	-23.75	Average	NEUTRAL
9	1.70	7.90	9.40	0.05	9.86	27.21	56.00	-28.79	QP	NEUTRAL
10	1.70	-5.73	9.40	0.05	9.86	13.58	46.00	-32.42	Average	NEUTRAL
11	2.65	6.55	9.41	0.06	9.87	25.89	56.00	-30.11	QP	NEUTRAL
12	2.65	-5.91	9.41	0.06	9.87	13.43	46.00	-32.57	Average	NEUTRAL

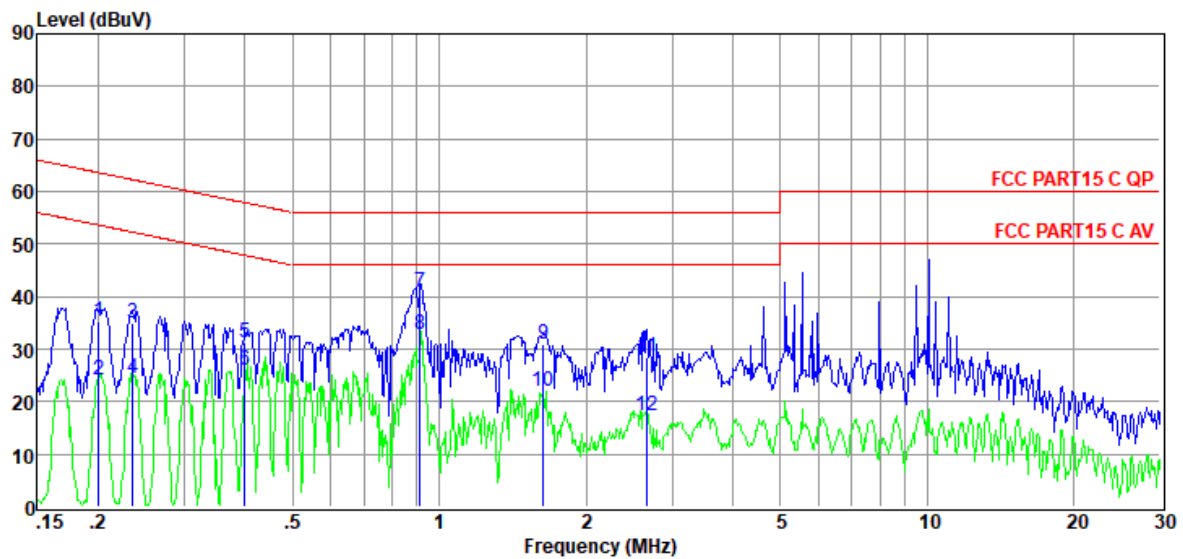
Note:

1. Result Level = Read Level + LISN Factor + Pulse Limiter Factor + Cable loss.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

TR-4-E-010 Conducted Emission Test Result

Test Site : DDT 1# Shield Room **D:\2021 CE report date\Q21052802-2E\20210621 CE.EM6**
Test Date : 2021-06-21 **Tested By** : Youbin He
EUT : Portable High Resolution Music Player **Model Number** : M11 Plus
Power Supply : AC 120/60Hz **Test Mode** : Tx mode
Condition : Temp:24.5°C,Humi:55%,Press:101.4kPa **LISN** : 2020 ENV 216 1#/LINE
Memo :

Data: 16



Item	Freq.	Read Level	LISN Factor	Cable Loss	Pulse Limiter Factor	Result Level	Limit Line	Over Limit	Detector	Phase
(Mark)	(MHz)	(dBμV)	(dB)	(dB)	(dB)	(dBμV)	(dBμV)	(dB)		
1	0.20	15.88	9.40	0.02	9.86	35.16	63.58	-28.42	QP	LINE
2	0.20	4.72	9.40	0.02	9.86	24.00	53.58	-29.58	Average	LINE
3	0.24	15.80	9.40	0.02	9.86	35.08	62.26	-27.18	QP	LINE
4	0.24	5.17	9.40	0.02	9.86	24.45	52.26	-27.81	Average	LINE
5	0.40	12.03	9.41	0.02	9.86	31.32	57.86	-26.54	QP	LINE
6	0.40	6.58	9.41	0.02	9.86	25.87	47.86	-21.99	Average	LINE
7	0.91	21.66	9.42	0.03	9.86	40.97	56.00	-15.03	QP	LINE
8	0.91	13.39	9.42	0.03	9.86	32.70	46.00	-13.30	Average	LINE
9	1.64	11.67	9.42	0.04	9.86	30.99	56.00	-25.01	QP	LINE
10	1.64	2.48	9.42	0.04	9.86	21.80	46.00	-24.20	Average	LINE
11	2.66	8.99	9.43	0.06	9.87	28.35	56.00	-27.65	QP	LINE
12	2.66	-2.12	9.43	0.06	9.87	17.24	46.00	-28.76	Average	LINE

Note:

1. Result Level = Read Level + LISN Factor + Pulse Limiter Factor + Cable loss.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

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 antenna used for this product is Dedicated FPC antenna and that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain is 1.68 dBi.

12. Dynamic Frequency Selection

12.1. Applicability of DFS requirements

Table 1: Applicability of DFS Requirements Prior to Use of a Channel

Requirement	Operational Mode		
	☐ Master	☒ Client Without Radar Detection	☐ Client with Radar Detection
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode	
	☐ Master Device or Client with Radar Detection	☒ Client Without Radar Detection
DFS Detection Threshold	Yes	Not required
Channel Closing Transmission Time	Yes	Yes
Channel Move Time	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required

Additional requirements for devices with multiple bandwidth modes	☐ Master Device or Client with Radar Detection	☒ Client Without Radar Detection
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required

Note: Frequencies selected for statistical performance check should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.

12.2. Limit

(1) DFS Detection Thresholds

Table 3: DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP $\geq$ 200 milliwatt	-64 dBm
EIRP $<$ 200 milliwatt and power spectral density $<$ 10 dBm/MHz	-62 dBm
EIRP $<$ 200 milliwatt that do not meet the power spectral density requirement	-64 dBm

Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.

Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.

Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.

(2) DFS Response Requirements

Table 4: DFS Response Requirement Values

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.

Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required facilitating a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

12.3. Parameters of radar test waveforms

This section provides the parameters for required test waveforms, minimum percentage of successful detections, and the minimum number of trials that must be used for determining DFS conformance. Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms.

Table 5 – Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a Test B: 15 unique PRI values randomly selected within the range of 518-3066 μsec, with a minimum increment of 1 μsec, excluding PRI values selected in Test A	Roundup $\left\{ \left(\frac{1}{360} \right) \cdot \left(\frac{19 \cdot 10^6}{PRI_{\mu sec}} \right) \right\}$	60%	30
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30

Table 6 – Long Pulse Radar Test Waveform

Radar Type	Pulse Width (μsec)	Chirp Width (MHz)	PRI (μsec)	Number of Pulses per Burst	Number of Bursts	Minimum Percentage of Successful Detection	Minimum Number of Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

Table 7 – Frequency Hopping Radar Test Waveform

Radar Type	Pulse Width (μsec)	PRI (μsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Percentage of Successful Detection	Minimum Number of Trials
6	1	333	9	0.333	300	70%	30

A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. If more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms. If more than 30 waveforms are used for Short Pulse Radar Type 1, then each additional waveform is generated with Test B and must also be unique and not repeated from the previous waveforms in Tests A or B. Test aggregate is average of the percentage of successful detections of short pulse radar types 1-4

12.4. Calibration of radar waveform

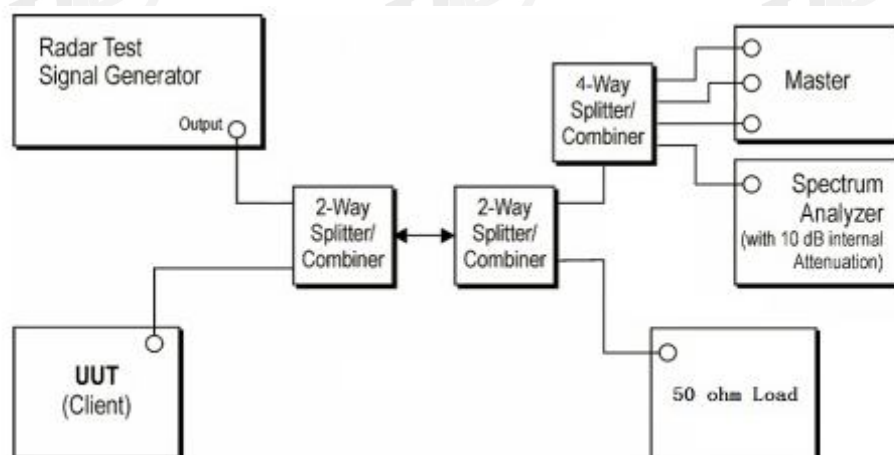
Radar Waveform Calibration Procedure:

- (1) A 50 ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected to place of the master
- (2) The interference Radar Detection Threshold Level is $-62 \text{ dBm} + 0 \text{ dBi} + 1 \text{ dB} = -61 \text{ dBm}$ that

had been taken into account the output power range and antenna gain.

- (3) The following equipment setup was used to calibrate the conducted radar waveform. A vector signal generator was utilized to establish the test signal level for radar type 0. During this process there were no transmissions by either the master or client device. The spectrum analyzer was switched to the zero spans (time domain) at the frequency of the radar waveform generator. Peak detection was used. The spectrum analyzer resolution bandwidth (RBW) and video bandwidth (VBW) were set to 3 MHz. The spectrum analyzer had offset -1.0 dB to compensate RF cable loss 1.0 dB.
- (4) The vector signal generator amplitude was set so that the power level measured at the spectrum analyzer was $-62 \text{ dBm} + 0 \text{ dBi} + 1 \text{ dB} = -61 \text{ dBm}$. Capture the spectrum analyzer plots on short pulse radar waveform.

Conducted Calibration Setup:

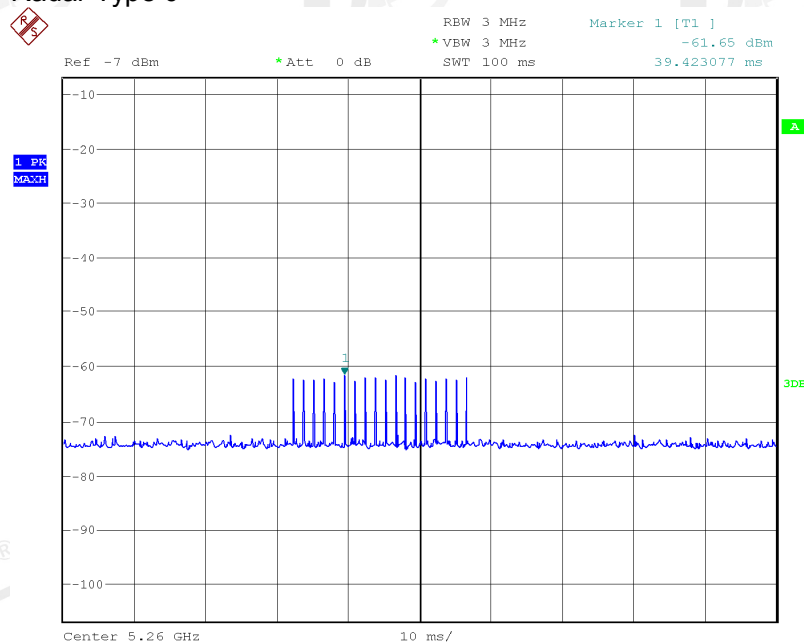


Note: 1. Use the software "Web" to set the frequency channel.

2. EUT is not support TPC and not with Radar detection.

Radar Waveform Calibration Result:

Radar Type 0



Trial List Table - FCC-13-22

Save Load Trigger Download All

Sample Rate 10 MHz

Trial List

	Trial Id	Radar Type	Pulse Width (us)	PRI (us)	Number of Pulses	Waveform Length (us)
Download	0	Type 0	1.0	1428.0	18	25704.0
Download	1	Type 0	1.0	1428.0	18	25704.0
Download	2	Type 0	1.0	1428.0	18	25704.0
Download	3	Type 0	1.0	1428.0	18	25704.0
Download	4	Type 0	1.0	1428.0	18	25704.0
Download	5	Type 0	1.0	1428.0	18	25704.0
Download	6	Type 0	1.0	1428.0	18	25704.0
Download	7	Type 0	1.0	1428.0	18	25704.0
Download	8	Type 0	1.0	1428.0	18	25704.0
Download	9	Type 0	1.0	1428.0	18	25704.0
Download	10	Type 0	1.0	1428.0	18	25704.0
Download	11	Type 0	1.0	1428.0	18	25704.0
Download	12	Type 0	1.0	1428.0	18	25704.0
Download	13	Type 0	1.0	1428.0	18	25704.0
Download	14	Type 0	1.0	1428.0	18	25704.0
Download	15	Type 0	1.0	1428.0	18	25704.0
Download	16	Type 0	1.0	1428.0	18	25704.0
Download	17	Type 0	1.0	1428.0	18	25704.0
Download	18	Type 0	1.0	1428.0	18	25704.0
Download	19	Type 0	1.0	1428.0	18	25704.0
Download	20	Type 0	1.0	1428.0	18	25704.0
Download	21	Type 0	1.0	1428.0	18	25704.0
Download	22	Type 0	1.0	1428.0	18	25704.0
Download	23	Type 0	1.0	1428.0	18	25704.0
Download	24	Type 0	1.0	1428.0	18	25704.0
Download	25	Type 0	1.0	1428.0	18	25704.0
Download	26	Type 0	1.0	1428.0	18	25704.0
Download	27	Type 0	1.0	1428.0	18	25704.0

12.5. Channel closing transmission time, channel move time and non-occupancy period

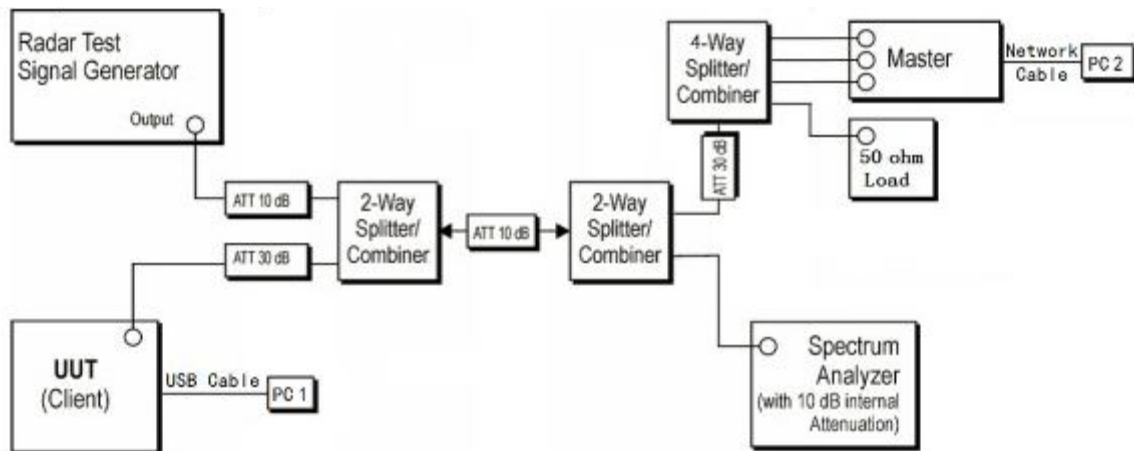
Block diagram of test setup Test Procedure:

- (1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428 us PRI is used for the testing.
- (2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61 dBm at the antenna port of the master device.
- (3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
- (4) EUT will associate with the master at channel. The file "iperf.exe" specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Test Software in order to properly load the network for the entire period of the test.
- (5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
- (6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.
- (7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the
- (8) spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: $D_{\text{well}} (0.3 \text{ ms}) = S (12000 \text{ ms}) / B (4000)$; where D_{well} is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: $C (\text{ms}) = N \times D_{\text{well}} (0.3 \text{ ms})$; where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and D_{well} is the dwell time per bin.

Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

12.6. Test setup

Setup for Client with injection at the Master



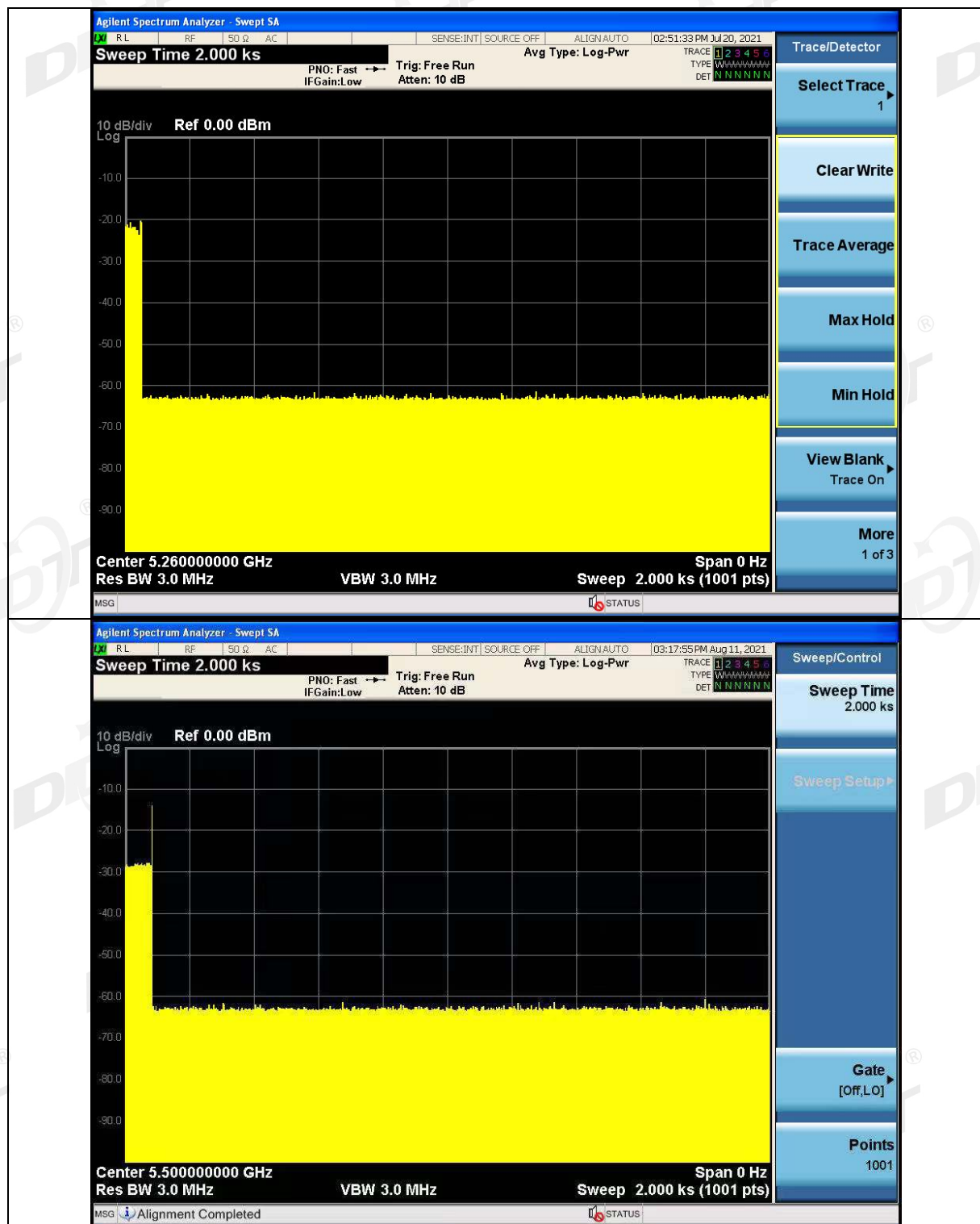
12.7. Test result

BW/Channel	Test Item	Test Result	Limit	Results
80M/5260MHz	Channel Move Time	1.099 s	< 10 s	Pass
	Channel Closing Transmission Time	0.240 s	< 0.26 s	Pass
80M/5500MHz	Channel Move Time	1.279 s	< 10 s	Pass
	Channel Closing Transmission Time	0.200 s	< 0.26 s	Pass

Test plots as follows:



BW/Channel	Test Item	Test Result	Limit	Results
80M/5260MHz	Non-Occupancy Period	> 30 min	30 min	Pass
80M/5500MHz	Non-Occupancy Period	> 30 min	30 min	Pass
Non-Occupancy Period				



END OF REPORT