

FCC Radio Test Report

FCC ID: XMF-MID7018

Change II

Report No. : TB-FCC182525
Applicant : Lightcomm Technology Co., Ltd.
Equipment Under Test (EUT)
EUT Name : 7" Tablet
Model No. : 100026191
Series Model No. : MID7018, MID6903
Brand Name : onn
Sample ID : 20210623-07-01#& 20210623-07-02#
Receipt Date : 2021-06-30
Test Date : 2021-07-02 to 2021-07-09
Issue Date : 2021-07-10
Standards : FCC Part 15, Subpart E 15.407
Test Method : ANSI C63.10: 2013
Conclusions : **PASS**

In the configuration tested, the EUT complied with the standards specified above,
The EUT technically complies with the FCC and IC requirements

Test/Witness Engineer : Rebecca
Test/Witness Engineer : Ivan Su
Approved& Authorized : Ray Lai



This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

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Revision History

Report No.	Version	Description	Issued Date
TB-FCC182525	Rev.01	Initial issue of report	2021-07-10

1. General Information about EUT

1.1 Client Information

Applicant	:	Lightcomm Technology Co., Ltd.
Address	:	UNIT 1306 13/F ARION COMMERCIAL CENTRE,2-12 QUEEN'S ROAD WEST, SHEUNG WAN HK
Manufacturer	:	Huizhou Hengdu Electronics Co., Ltd
Address	:	No.8 Huitai Road, Huinan High-tech Industrial Park, Huiao Avenue, Huizhou, Guangdong, China.

1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	7" Tablet
Models No.	:	100026191, MID7018, MID6903
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, The only difference is model name and Screen.
Product Description	:	Operation Frequency: U-NII-1: 5180MHz~5240MHz, U-NII-2A: 5260MHz~5320MHz U-NII-2C: 5500MHz~5720MHz, U-NII-3: 5745MHz~5825MHz
		Antenna Gain: 0.42dBi FPC Antenna
		Modulation Type: 802.11a: OFDM (QPSK, BPSK, 16QAM) 802.11n: OFDM (QPSK, BPSK, 16QAM, 64QAM) 802.11ac: OFDM (QPSK, BPSK, 16QAM, 64QAM, 256QAM)
		Bit Rate of Transmitter: 802.11a: 6/9/12/18/24/36/48/54 Mbps 802.11n: up to 150Mbps 802.11ac: at most 433.3 Mbps
Power Rating	:	Adapter(TEKA-UCA10US) Input: 100-240V~, 50/60Hz, 0.2A MAX Output: DC 5V 1A DC 3.8V by 3700mAh Rechargeable Li-ion battery
Software Version	:	RP1A.200720.011 release-keys
Hardware Version	:	MID7018-MR_MT8168_LPDDR4_EMMC_V1_1
Remark	:	The adapter and antenna gain provided by the applicant, the verified for the RF conduction test provided by TOBY test lab.

Note:

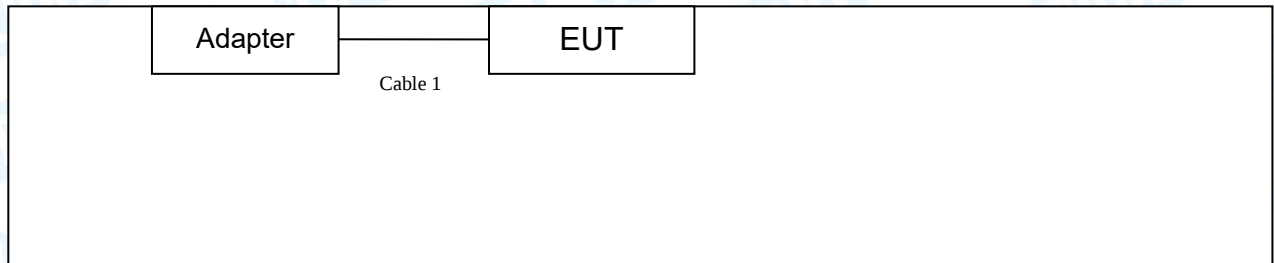
(1) This Test Report is FCC Part 15, Subpart E(15.407) for 802.11a/n/ac, the test procedure follows the KDB 789033 D02 General U-NII Test Procedures New Rules v02r01. More detailed features description, please refer to the manufacturer's specifications or the User's Manual.

(2) Channel List:

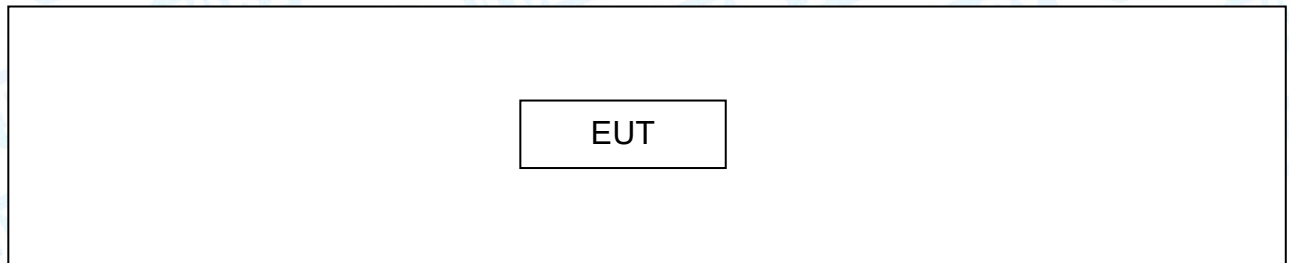
Frequency Band	Channel No.	Frequency	Channel No.	Frequency
5180~5240MHz (U-NII-1)	36	5180 MHz	44	5220 MHz
	38	5190 MHz	46	5230 MHz
	40	5200 MHz	48	5240 MHz
	42	5210 MHz		
For 20 MHz Bandwidth, use channel 36, 40, 44, 48. For 40 MHz Bandwidth, use channel 38, 46. For 80 MHz Bandwidth, use channel 42.				
Frequency Band	Channel No.	Frequency	Channel No.	Frequency
5260~5320 MHz (U-NII-2A)	52	5260 MHz	60	5300 MHz
	54	5270 MHz	62	5310MHz
	56	5280MHz	64	5320 MHz
	58	5290MHz		
For 20 MHz Bandwidth, use channel 52, 56, 60, 64. For 40 MHz Bandwidth, use channel 54, 62. For 80 MHz Bandwidth, use channel 58.				
Frequency Band	Channel No.	Frequency	Channel No.	Frequency
5500~5720 MHz (U-NII-2C)	100	5500 MHz	124	5620 MHz
	102	5510 MHz	126	5630 MHz
	104	5520 MHz	128	5640 MHz
	106	5530 MHz	132	5660 MHz
	108	5540 MHz	134	5670 MHz
	110	5550 MHz	136	5680 MHz
	112	5560 MHz	138	5690 MHz
	116	5580 MHz	140	5700 MHz
	118	5590 MHz	142	5710 MHz
	120	5600 MHz	144	5720 MHz
	122	5610 MHz		
For 20 MHz Bandwidth, use channel 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 144 For 40 MHz Bandwidth, use channel 102, 110, 118, 126, 134, 142 For 80 MHz Bandwidth, use channel 106, 122, 138.				
Frequency Band	Channel No.	Frequency	Channel No.	Frequency
5745~5825MHz (U-NII-3)	149	5745 MHz	157	5785 MHz
	151	5755 MHz	159	5795 MHz
	153	5765 MHz	161	5805 MHz
	155	5775 MHz	165	5825 MHz
For 20 MHz Bandwidth, use channel 149, 153, 157, 161, 165. For 40 MHz Bandwidth, use channel 151, 159. For 80 MHz Bandwidth, use channel 155.				

1.3 Block Diagram Showing the Configuration of System Tested

Charging + TX Mode



TX Mode



1.4 Description of Support Units

The EUT has been test as an independent unit.

1.5 Description of Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

For Conducted Test		
Final Test Mode		Description
Mode 1		Charging + TX a Mode(5180MHz)
For Radiated Test Below 1GHz		
Final Test Mode		Description
Mode 2		Charging + TX a Mode(5180MHz)
For Radiated Test Above 1GHz		
Test Band	Final Test Mode	Description
U-NII-1	Mode 3	TX Mode 802.11a Mode Channel 36/40/48
	Mode 4	TX Mode 802.11n(HT20) Mode Channel 36/40/48
	Mode 5	TX Mode 802.11ac(VHT20) Mode Channel 36/40/48
	Mode 6	TX Mode 802.11n(HT40) Mode Channel 38/46
	Mode 7	TX Mode 802.11ac(VHT40) Mode Channel 38/46
	Mode 8	TX Mode 802.11ac(VHT80) Mode Channel 42
U-NII-2A	Mode 9	TX Mode 802.11a Mode Channel 52/56/64
	Mode 10	TX Mode 802.11n(HT20) Mode Channel 52/56/64
	Mode 11	TX Mode 802.11ac(VHT20) Mode Channel 52/56/64
	Mode 12	TX Mode 802.11n(HT40) Mode Channel 54/62
	Mode 13	TX Mode 802.11ac(VHT40) Mode Channel 54/62
	Mode 14	TX Mode 802.11ac(VHT80) Mode Channel 58
U-NII-2C	Mode 15	TX Mode 802.11a Mode Channel 100/120/144
	Mode 16	TX Mode 802.11n(HT20) Mode Channel 100/120/144
	Mode 17	TX Mode 802.11ac(VHT20) Mode Channel 100/120/144
	Mode 18	TX Mode 802.11n(HT40) Mode Channel 102/118/142
	Mode 19	TX Mode 802.11ac(VHT40) Mode Channel 102/118/142
	Mode 20	TX Mode 802.11ac(VHT80) Mode Channel 106/122/138
U-NII-3	Mode 21	TX Mode 802.11a Mode Channel 149/157/165
	Mode 22	TX Mode 802.11n(HT20) Mode Channel 149/157/165
	Mode 23	TX Mode 802.11ac(VHT20) Mode Channel 149/157/165
	Mode 24	TX Mode 802.11n(HT40) Mode Channel 151/159
	Mode 25	TX Mode 802.11ac(VHT40) Mode Channel 151/159
	Mode 26	TX Mode 802.11ac(VHT80) Mode Channel 155

Note:

- (1) For all test, we have verified the construction and function in typical operation. And all the test modes were carried out with the EUT in transmitting operation in maximum power with

all kinds of data rate.

According to ANSI C63.10 standards, the measurements are performed at the highest, middle, lowest available channels, and the worst case data rate as follows:

802.11a Mode: OFDM (6 Mbps)

802.11n (HT20) Mode: MCS 0

802.11n (HT40) Mode: MCS 0

802.11ac(VHT20) Mode: MCS 0

802.11ac(VHT40) Mode: MCS 0

802.11ac(VHT80) Mode: MCS 0

- (2) During the testing procedure, the continuously transmitting with the maximum power mode was programmed by the customer.
- (3) The EUT is considered a portable unit; it was positioned on X-plane. The worst case was found positioned on X-plane. Therefore only the test data of this X-plane was used for radiated emission measurement test.

1.6 Description of Test Software Setting

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

Test Software: MT8168-LaunchEngMode.apk		
Test Mode: Continuously transmitting		
U-NII-1		
Mode	Frequency (MHz)	Parameters
802.11a	5180	13
	5200	13
	5240	13
802.11n(HT20)	5180	12
	5200	12
	5240	12
802.11ac(VHT20)	5180	12
	5200	12
	5240	12
802.11n(HT40)	5190	12
	5230	12
802.11ac(VHT40)	5190	12
	5230	12
802.11ac(VHT80)	5210	12
U-NII-2A		
Mode	Frequency (MHz)	Parameters
802.11a	5260	13
	5280	13
	5320	13
802.11n(HT20)	5260	12
	5280	12
	5320	12
802.11ac(HT20)	5260	12
	5280	12
	5320	12
802.11n(HT40)	5270	12
	5310	12
802.11ac(VHT40)	5270	12
	5310	12
802.11ac(VHT80)	5290	12

U-NII-2C		
Mode	Frequency (MHz)	Parameters
802.11a	5500	13
	5600	13
	5720	13
802.11n(HT20)	5500	12
	5600	12
	5720	12
802.11ac(HT20)	5500	12
	5600	12
	5720	12
802.11n(HT40)	5510	12
	5590	12
	5710	12
802.11ac(VHT40)	5510	12
	5590	12
	5710	12
802.11ac(VHT80)	5530	12
	5610	12
	5690	12
U-NII-3		
Mode	Frequency (MHz)	Parameters
802.11a	5745	13
	5785	13
	5825	13
802.11n(HT20)	5745	12
	5785	12
	5825	12
802.11ac(HT20)	5745	12
	5785	12
	5825	12
802.11n(HT40)	5755	12
	5795	12
802.11ac(VHT40)	5755	12
	5795	12
802.11ac(VHT80)	5775	12

1.7 Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

Test Item	Parameters	Expanded Uncertainty (U_{Lab})
Conducted Emission	Level Accuracy: 9kHz~150kHz 150kHz to 30MHz	± 3.50 dB ± 3.10 dB
Radiated Emission	Level Accuracy: 9kHz to 30 MHz	± 4.60 dB
Radiated Emission	Level Accuracy: 30MHz to 1000 MHz	± 4.50 dB
Radiated Emission	Level Accuracy: Above 1000MHz	± 4.20 dB

1.8 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1/F.,Building 6, Rundongsheng Industrial Zone, Longzhu, Xixiang, Bao'an District, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

CNAS (L5813)

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

A2LA Certificate No.: 4750.01

The laboratory has been accredited by American Association for Laboratory Accreditation(A2LA) to ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories for the technical competence in the field of Electrical Testing. And the A2LA Certificate No.: 4750.01.FCC Accredited Test Site Number: 854351. Designation Number: CN1223.

IC Registration No.: (11950A)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A. CAB identifier: CN0056.

2. Test Summary

FCC Part 15 Subpart E(15.407)				
Standard Section FCC	Test Item	Test Sample(s)	Judgment	Remark
15.203	Antenna Requirement	/	N/A	N/A Note(2)
15.207	Conducted Emission	/	N/A	N/A Note(2)
15.407(b)	Band Edge Emissions	/	N/A	N/A Note(2)
15.407(a)	26dB Bandwidth&99% Bandwidth	/	N/A	N/A
15.407(e)	6dB Bandwidth(only for UNII-3)	/	N/A	N/A Note(2)
15.407(a)	AVG Output Power	20210623-07-01# 20210623-07-02#	PASS	N/A
15.407(a)	Power Spectral Density	/	N/A	N/A Note(2)
15.407(b)	Transmitter Radiated Spurious Emission	20210623-07-01# 20210623-07-02#	PASS	N/A
15.407(g)	Frequency Stability	/	N/A	N/A Note(2)
Note: (1) N/A is an abbreviation for Not Applicable. (2) This report is Class II change report for the original equipment have changed, the transmitter module itself has not changed. More information about the test data please refer to the original test report. (3) As there is no change regard RF transmitter portion and Antenna assembly, the change will not have effect on Radiated emission above 1GHz by judging for experience, thus testing is performed up to 1GHz only.				

3. Test Software

Test Item	Test Software	Manufacturer	Version No.
Conducted Emission	EZ-EMC	EZ	CDI-03A2
Radiation Emission	EZ-EMC	EZ	FA-03A2RE
RF Conducted Measurement	MTS-8310	MWRFTest	V2.0.0.0

4. Test Equipment

Radiation Emission Test					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 02, 2021	Jul. 01, 2022
EMI Test Receiver	Rohde & Schwarz	ESPI	100010/007	Jul. 02, 2021	Jul. 01, 2022
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102197	Jul. 02, 2021	Jul. 01, 2022
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar.01, 2020	Feb. 28, 2022
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar.01, 2020	Feb. 28, 2022
Horn Antenna	ETS-LINDGREN	BBHA 9170	BBHA9170582	Mar.01, 2020	Feb. 28, 2022
Loop Antenna	SCHWARZBECK	FMZB 1519 B	1519B-059	Jul. 06, 2021	Jul. 05, 2022
Pre-amplifier	Sonoma	310N	185903	Feb. 25, 2021	Feb. 24, 2022
Pre-amplifier	HP	8449B	3008A00849	Feb. 25, 2021	Feb. 24, 2022
Pre-amplifier	SKET	LNPA_1840G-50	SK201904032	Feb. 25, 2021	Feb. 24, 2022
Cable	HUBER+SUHNER	100	SUCOFLEX	Feb. 25, 2021	Feb. 24, 2022
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A
Antenna Conducted Emission					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 02, 2021	Jul. 01, 2022
Spectrum Analyzer	Rohde & Schwarz	ESPI	100010/007	Jul. 02, 2021	Jul. 01, 2022
MXA Signal Analyzer	Agilent	N9020A	MY49100060	Sep. 11, 2020	Sep. 10, 2021
Vector Signal Generator	Agilent	N5182A	MY50141294	Sep. 11, 2020	Sep. 10, 2021
Analog Signal Generator	Agilent	N5181A	MY50141953	Sep. 11, 2020	Sep. 10, 2021
RF Power Sensor	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO26	Sep. 11, 2020	Sep. 10, 2021
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO29	Sep. 11, 2020	Sep. 10, 2021
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO31	Sep. 11, 2020	Sep. 10, 2021
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO33	Sep. 11, 2020	Sep. 10, 2021

5. Radiated Emission Test

5.1 Test Standard and Limit

5.1.1 Test Standard

FCC Part 15.209

5.1.2 Test Limit

Radiated Emission Limits (9kHz~1000MHz)

Frequency (MHz)	Field Strength (microvolt/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Radiated Emission Limit (Above 1000MHz)

Frequency (MHz)	Distance of 3m (dBuV/m)	
	Peak	Average
Above 1000	74	54

Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission Level(dBuV/m)=20log Emission Level(uV/m)

Limits of unwanted emission out of the restricted bands

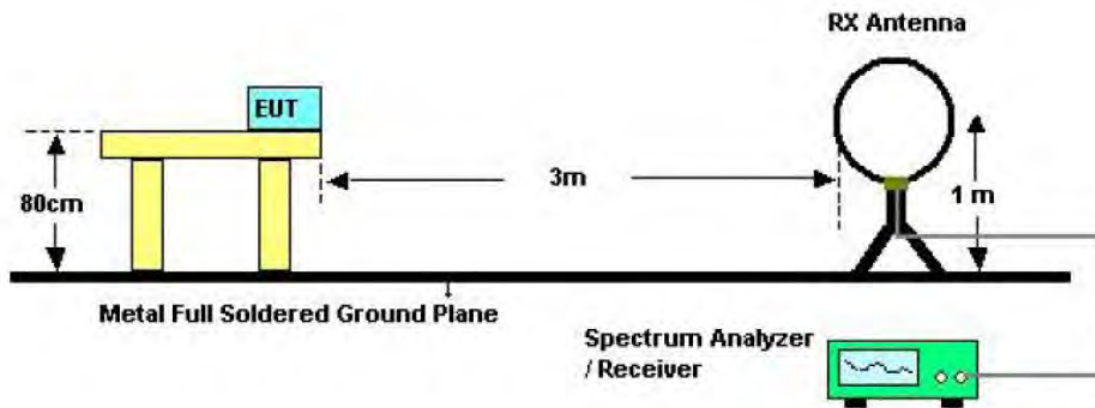
Frequency (MHz)	EIRP Limits (dBm)	Equivalent Field Strength at 3m (dBuV/m)
5150~5250	-27	68.3
5250~5350	-27	68.3
5470~5725	-27	68.3
5725~5825	-27(Note 2)	68.3
	10(Note 2)	105.3
	15.6(Note 2)	110.9
	27(Note 2)	122.3
NOTE:		

1, The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

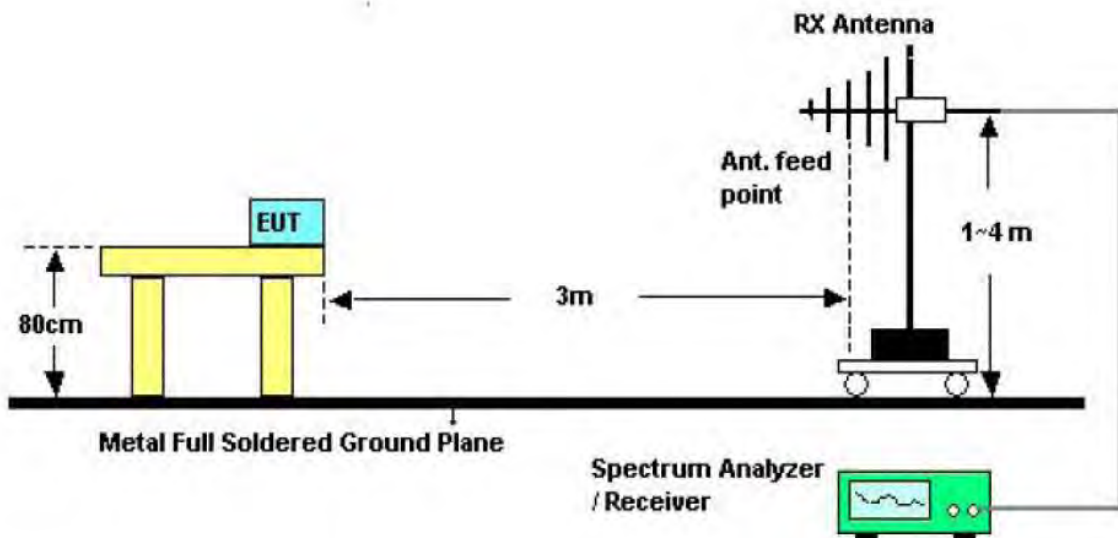
$$E = \frac{1000000\sqrt{30P}}{3} \text{ uV/m, where P is the eirp (Watts)}$$

2, According to FCC 16-24, All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

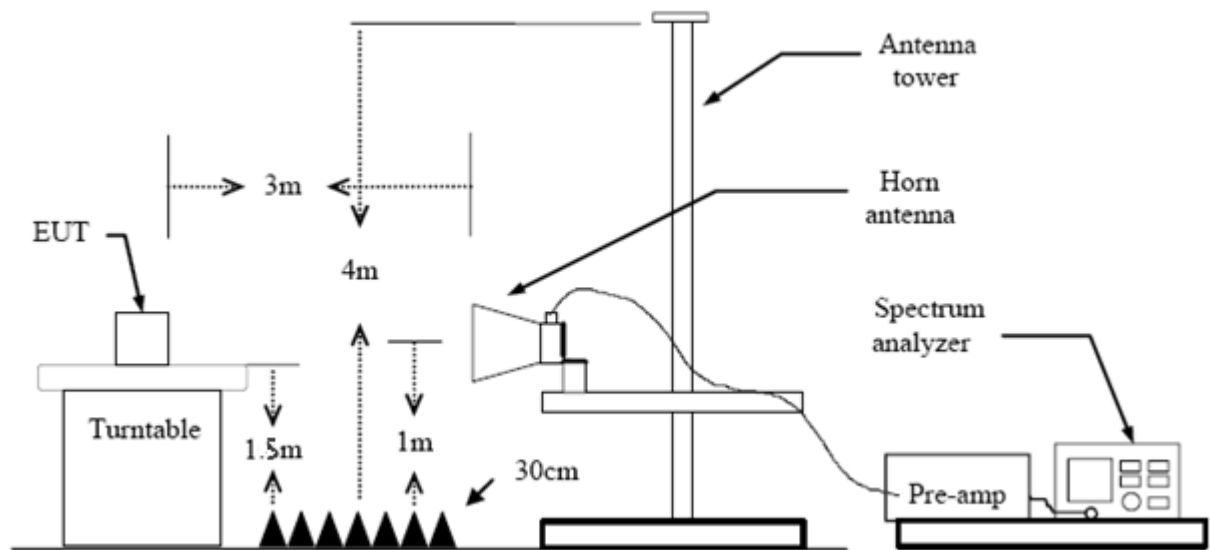
5.2 Test Setup



Below 30MHz Test Setup



Below 1000MHz Test Setup



Above 1GHz Test Setup

5.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz. The EUT was placed on a rotating 0.8m high above the ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.
- (3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical Antenna 0re set to make measurement.
- (4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
- (8) For the actual test configuration, please see the test setup photo.

5.4 Deviation From Test Standard

No deviation

5.5 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power.

5.6 Test Data

Remark: During testing above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.

Please refer to the Attachment A.

6. Output Power Test

6.1 Test Standard and Limit

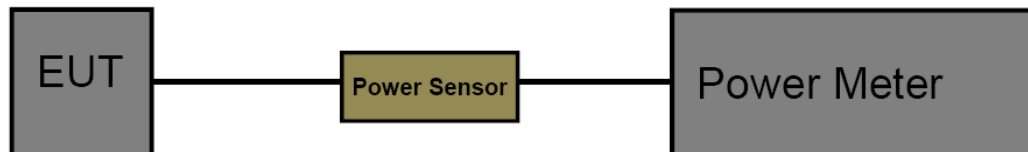
6.1.1 Test Standard

FCC Part 15.407 (a)

6.1.2 Test Limit

FCC Part 15 Subpart E(15.407)/RSS-210		
Test Item	Limit	Frequency Range(MHz)
Conducted Output Power	Fixed: 1 Watt (30dBm) Mobile and Portable: 250mW (24dBm)	5150~5250
	250mW (24dBm)	5250~5350
	250mW (24dBm)	5500~5700
	1 Watt (30dBm)	5725~5850

6.2 Test Setup



6.3 Test Procedure

The measurement is according to section 3 of KDB 789033 D02 General U-NII Test Procedures New Rules v02r01.

The EUT was connected to RF power meter via a broadband power sensor as show the block above.

6.4 Deviation From Test Standard

No deviation

6.5 EUT Operating Condition

The EUT was set to continuously transmitting in the max power during the test.

6.6 Test Date

Please refer to the Attachment E.

7. Antenna Requirement

7.1 Standard Requirement

7.1.1 Standard

FCC Part 15.203

7.1.2 Requirement

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

7.2 Antenna Connected Construction

The gains of the antenna used for transmitting is 0.42 dBi, and the antenna de-signed with permanent attachment and no consideration of replacement. Please see the EUT photo for details.

7.3 Deviation From Test Standard

No deviation

7.4 Result

The EUT antennas are FPC Antenna. It complies with the standard requirement.

Antenna Type
☐ Permanent attached antenna
☒ Unique connector antenna
☐ Professional installation antenna

Attachment A-- Radiated Emission Test Data

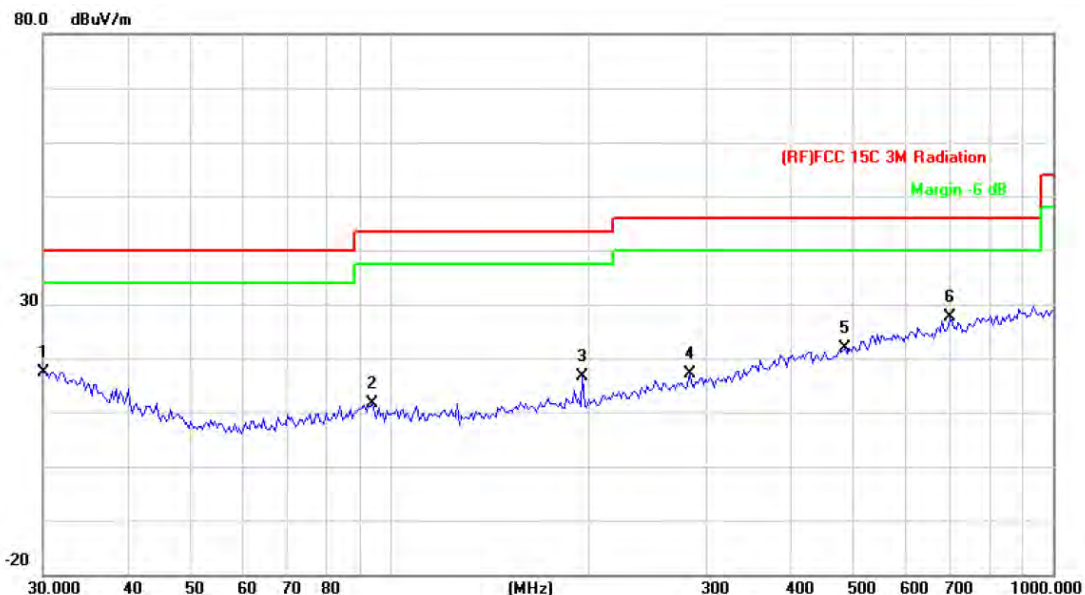
9 KHz~30 MHz

From 9 KHz to 30 MHz: Conclusion: PASS

Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

30MHz~1GHz

Temperature:	24.6 °C	Relative Humidity:	43%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX 802.11a Mode 5180MHz (U-NII-1) (6.95 inch)		
Remark:	Only worse case is reported		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		30.0000	30.43	-12.95	17.48	40.00	-22.52	peak
2		94.0979	33.64	-21.89	11.75	43.50	-31.75	peak
3		195.1365	36.46	-19.87	16.59	43.50	-26.91	peak
4		282.9852	33.65	-16.60	17.05	46.00	-28.95	peak
5		485.6093	32.64	-10.88	21.76	46.00	-24.24	peak
6	*	699.3046	34.53	-6.78	27.75	46.00	-18.25	peak

*:Maximum data x:Over limit !:over margin

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)

2. QuasiPeak (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)

3. Margin (dB) = QuasiPeak (dBμV/m)-Limit QPK(dBμV/m)

Temperature:	24.6 °C	Relative Humidity:	43%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical		
Test Mode:	TX 802.11a Mode 5180MHz (U-NII-1) (6.95 inch)		
Remark:	Only worse case is reported.		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	*	31.0706	43.10	-13.74	29.36	40.00	-10.64	peak
2		70.5836	40.63	-23.35	17.28	40.00	-22.72	peak
3		90.2205	47.03	-21.86	25.17	43.50	-18.33	peak
4		195.1365	49.02	-19.87	29.15	43.50	-14.35	peak
5		489.0269	34.69	-10.80	23.89	46.00	-22.11	peak
6		586.8437	36.86	-8.47	28.39	46.00	-17.61	peak

*:Maximum data x:Over limit !:over margin

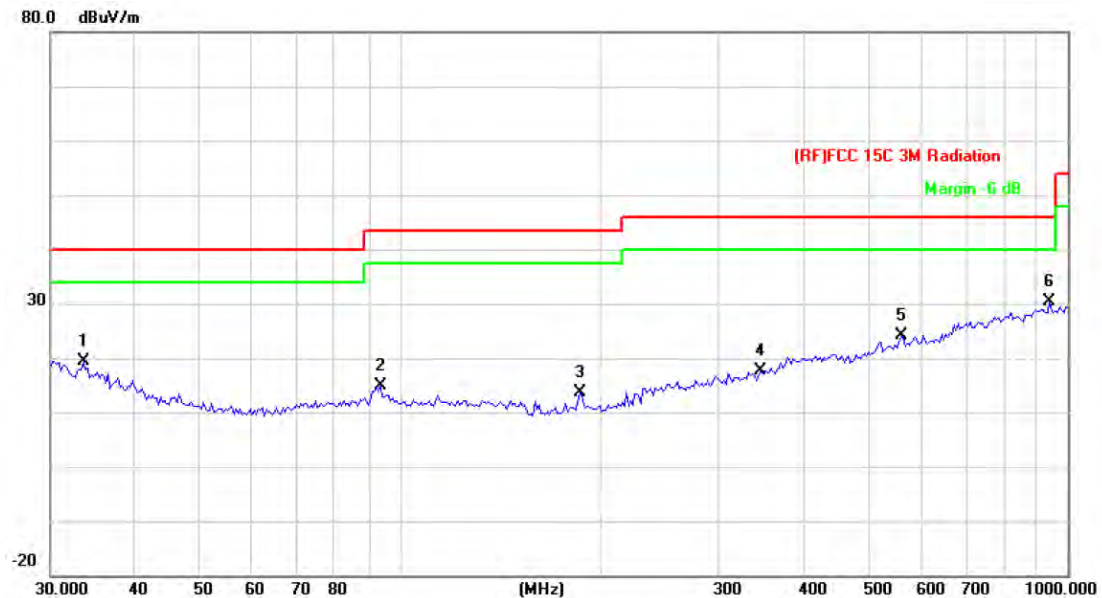
Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)

2. QuasiPeak (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)

3. Margin (dB) = QuasiPeak (dBμV/m)-Limit QPK(dBμV/m)

Temperature:	24.6 °C	Relative Humidity:	43%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX 802.11a Mode 5180MHz (U-NII-1) (7 inch)		
Remark:	Only worse case is reported		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		33.5623	34.93	-15.60	19.33	40.00	-20.67	peak
2		93.4402	36.81	-21.89	14.92	43.50	-28.58	peak
3		185.7880	33.63	-19.94	13.69	43.50	-29.81	peak
4		346.8091	32.37	-14.75	17.62	46.00	-28.38	peak
5		562.6624	32.80	-8.77	24.03	46.00	-21.97	peak
6	*	938.8324	34.64	-4.27	30.37	46.00	-15.63	peak

*:Maximum data x:Over limit !:over margin

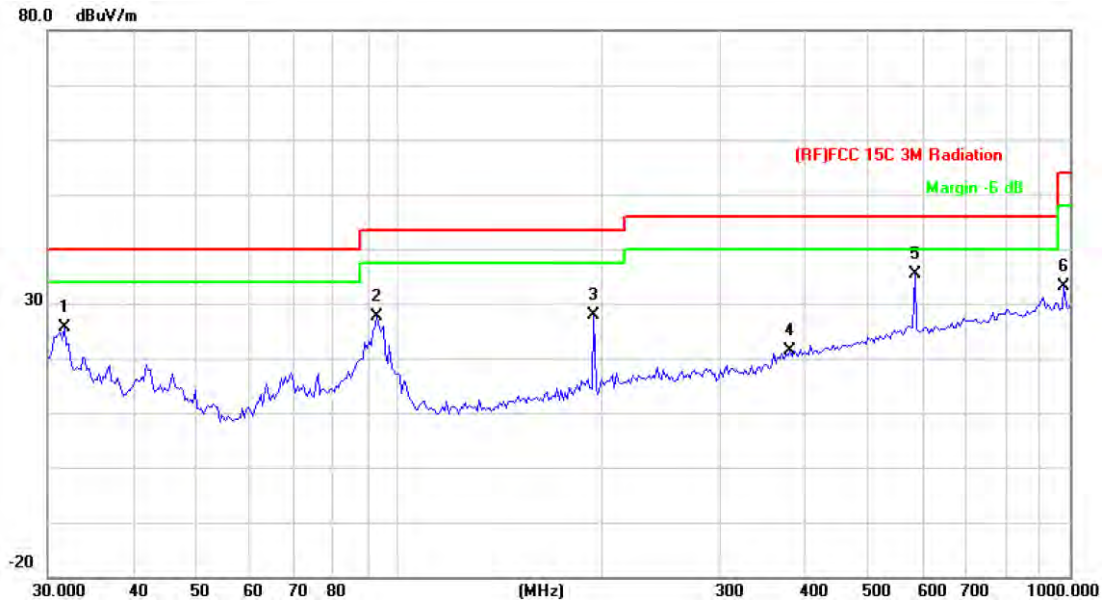
Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)

2. QuasiPeak (dBuV/m) = Corr. (dB/m) + Read Level (dBuV)

3. Margin (dB) = QuasiPeak (dBuV/m) - Limit QPK (dBuV/m)

Temperature:	24.6 °C	Relative Humidity:	43%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical		
Test Mode:	TX 802.11a Mode 5180MHz (U-NII-1) (7 inch)		
Remark:	Only worse case is reported.		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		31.7313	39.79	-14.25	25.54	40.00	-14.46	peak
2		92.7871	49.64	-21.89	27.75	43.50	-15.75	peak
3		195.1365	47.67	-19.87	27.80	43.50	-15.70	peak
4		382.5879	34.48	-13.12	21.36	46.00	-24.64	peak
5	*	586.8437	43.88	-8.47	35.41	46.00	-10.59	peak
6		979.1804	37.21	-4.05	33.16	54.00	-20.84	peak

*:Maximum data x:Over limit !:over margin

Remark:

1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)

2. QuasiPeak (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)

3. Margin (dB) = QuasiPeak (dBμV/m)-Limit QPK(dBμV/m)

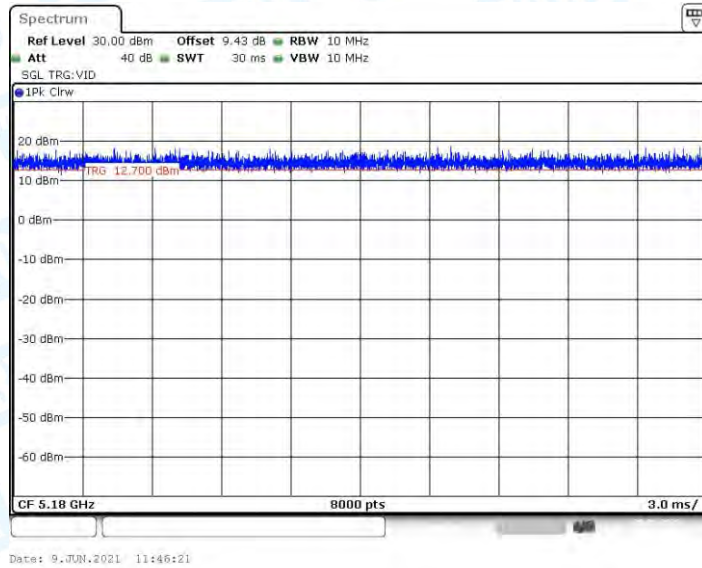
Attachment B--AVG Output Power Test Data

Test Mode	Antenna	Channel	Conducted power [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	8.67	<=23.98	PASS
		5200	9.09	<=23.98	PASS
		5240	8.86	<=23.98	PASS
		5260	8.85	<=23.98	PASS
		5280	8.32	<=23.98	PASS
		5320	7.93	<=23.98	PASS
		5500	7.06	<=23.98	PASS
		5580	8.69	<=23.98	PASS
		5720_UNII-2C	5.88	<=23.98	PASS
		5720_UNII-3	-1.89	<=30	PASS
		5745	7.10	<=30	PASS
		5785	7.42	<=30	PASS
		5825	7.10	<=30	PASS
11N20SISO	Ant1	5180	8.69	<=23.98	PASS
		5200	9.46	<=23.98	PASS
		5240	6.19	<=23.98	PASS
		5260	8.47	<=23.98	PASS
		5280	8.33	<=23.98	PASS
		5320	7.85	<=23.98	PASS
		5500	6.48	<=23.98	PASS
		5580	8.29	<=23.98	PASS
		5720_UNII-2C	6.07	<=23.98	PASS
		5720_UNII-3	-1.28	<=30	PASS
		5745	6.87	<=30	PASS
		5785	6.94	<=30	PASS
		5825	6.73	<=30	PASS
11N40SISO	Ant1	5190	8.50	<=23.98	PASS
		5230	8.51	<=23.98	PASS
		5270	8.23	<=23.98	PASS
		5310	7.97	<=23.98	PASS
		5510	6.66	<=23.98	PASS
		5550	7.21	<=23.98	PASS
		5710_UNII-2C	7.56	<=23.98	PASS
		5710_UNII-3	-6.85	<=30	6.50
		5755	6.75	<=30	-6.48
		5795	6.78	<=30	PASS
11AC20SISO	Ant1	5180	8.17	<=23.98	PASS
		5200	8.77	<=23.98	PASS
		5240	8.33	<=23.98	PASS
		5260	8.41	<=23.98	PASS

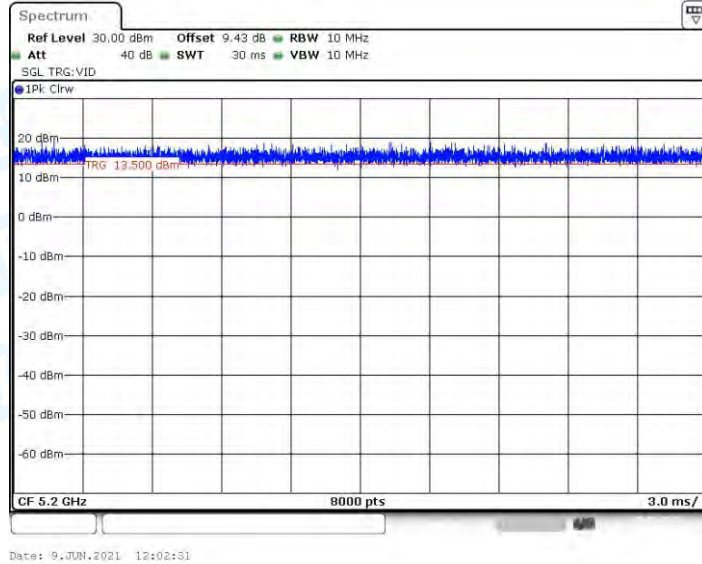
		5280	8.32	≤ 23.98	PASS
		5320	8.05	≤ 23.98	PASS
		5500	6.59	≤ 23.98	PASS
		5580	7.79	≤ 23.98	PASS
		5720_UNII-2C	6.10	≤ 23.98	PASS
		5720_UNII-3	-1.25	≤ 30	PASS
		5745	6.93	≤ 30	PASS
		5785	6.96	≤ 30	PASS
		5825	6.72	≤ 30	PASS
11AC40SISO	Ant1	5190	8.42	≤ 23.98	PASS
		5230	8.42	≤ 23.98	PASS
		5270	8.23	≤ 23.98	PASS
		5310	7.78	≤ 23.98	PASS
		5510	6.40	≤ 23.98	PASS
		5550	7.12	≤ 23.98	PASS
		5710_UNII-2C	6.50	≤ 23.98	PASS
		5710_UNII-3	-6.48	≤ 30	PASS
		5755	6.78	≤ 30	PASS
11AC80SISO	Ant1	5210	8.22	≤ 23.98	PASS
		5290	8.31	≤ 23.98	PASS
		5530	6.78	≤ 23.98	PASS
		5690_UNII-2C	6.56	≤ 23.98	PASS
		5690_UNII-3	-10.28	≤ 30	PASS
		5775	7.13	≤ 30	PASS

Test Mode		Duty cycle
U-NII-1	802.11 a	>98%
	802.11 n(HT20)	
	802.11 ac(VHT20)	
	802.11 n(HT40)	
	802.11 ac(VHT40)	
	802.11 ac(VHT80)	
U-NII-2A	802.11 a	
	802.11 n(HT20)	
	802.11 ac(VHT20)	
	802.11 n(HT40)	
	802.11 ac(VHT40)	
	802.11 ac(VHT80)	
U-NII-2C	802.11 a	
	802.11 n(HT20)	
	802.11 ac(VHT20)	
	802.11 n(HT40)	
	802.11 ac(VHT40)	
	802.11 ac(VHT80)	
U-NII-3	802.11 a	
	802.11 n(HT20)	
	802.11 ac(VHT20)	
	802.11 n(HT40)	
	802.11 ac(VHT40)	
	802.11 ac(VHT80)	
Please see the next plots.		

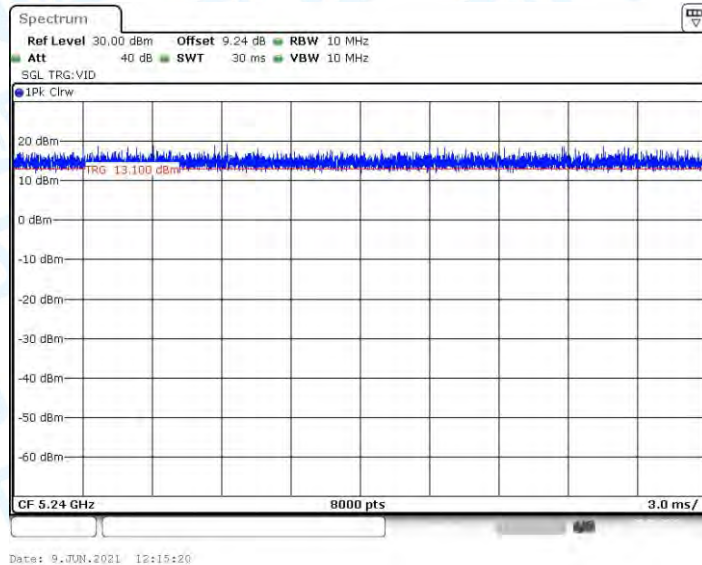
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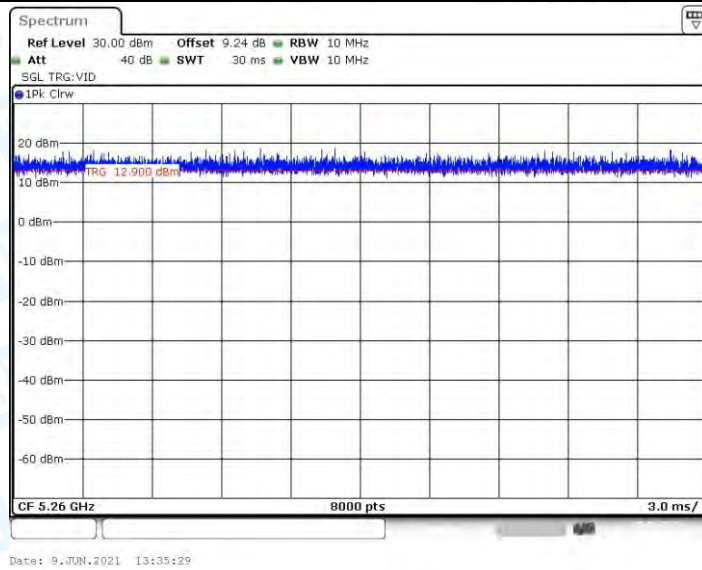
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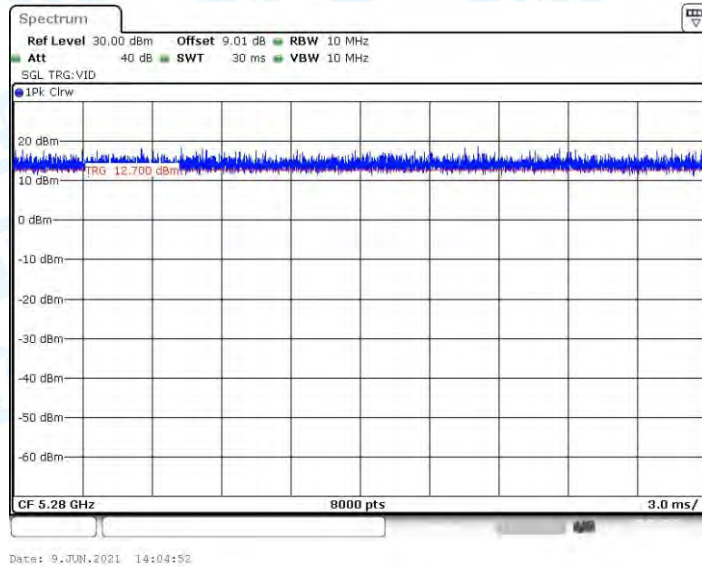
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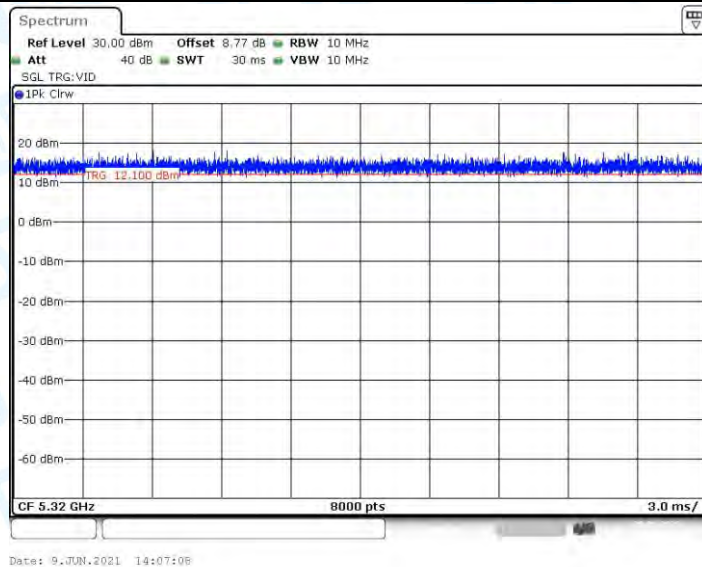
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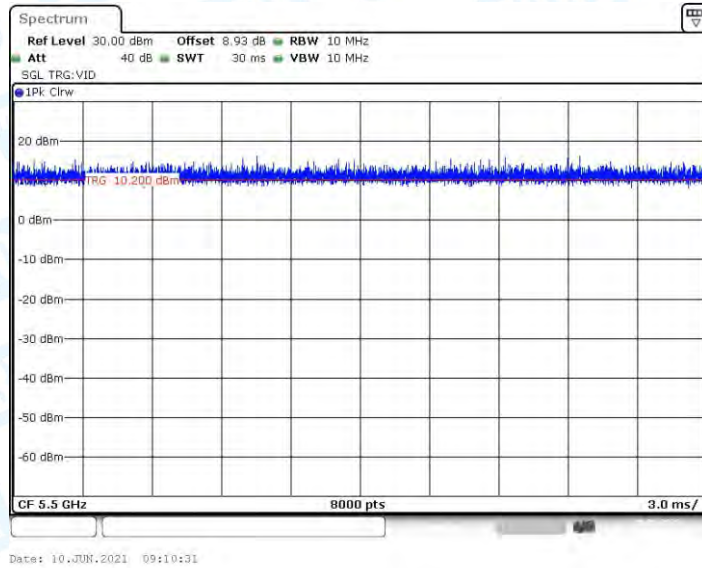
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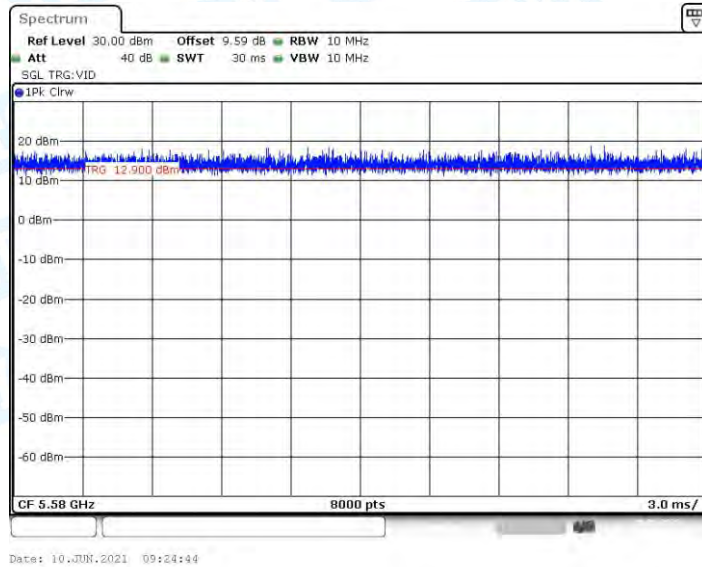
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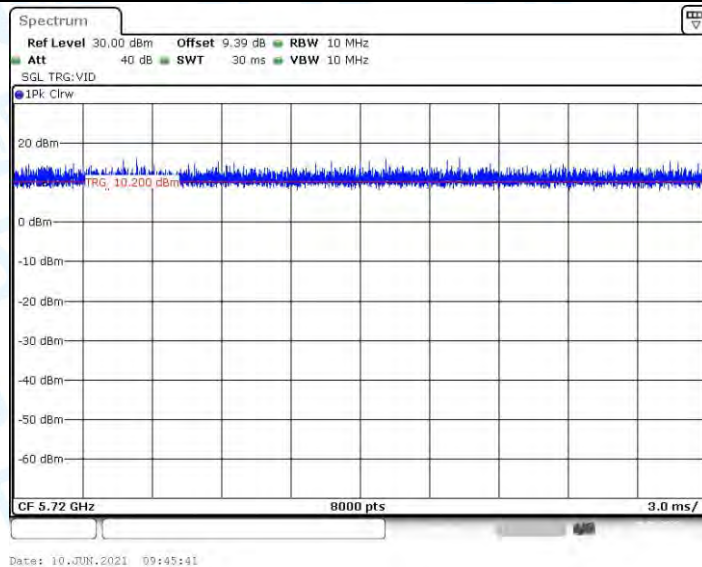
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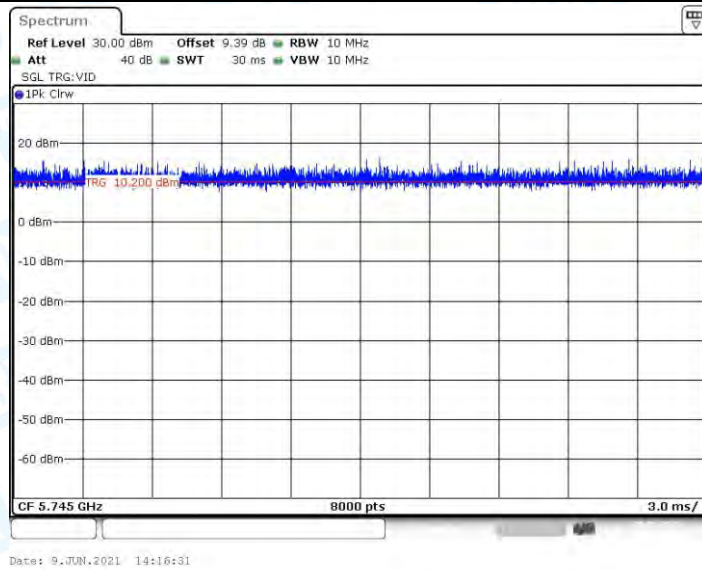
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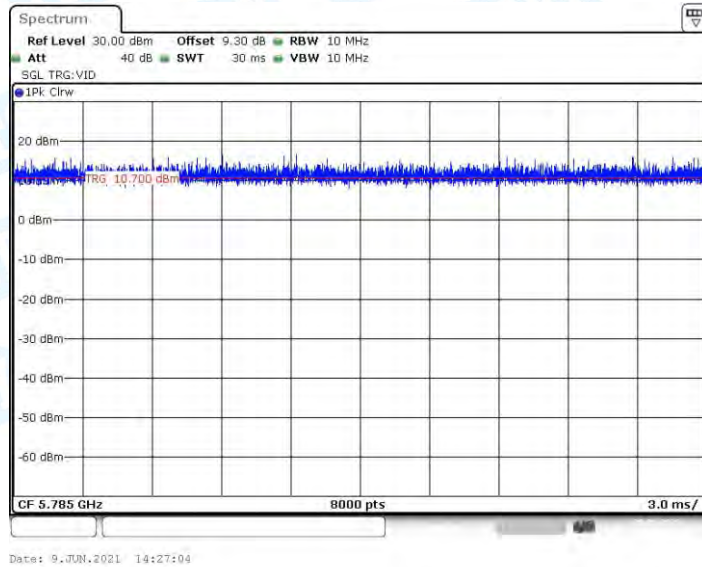
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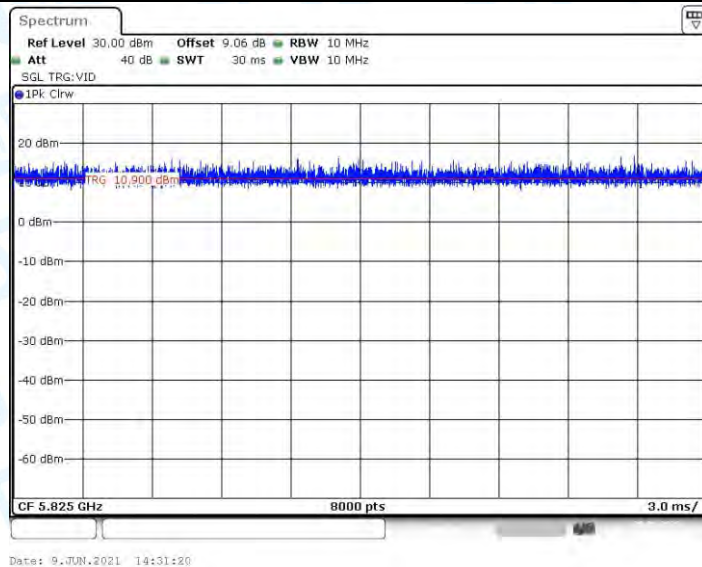
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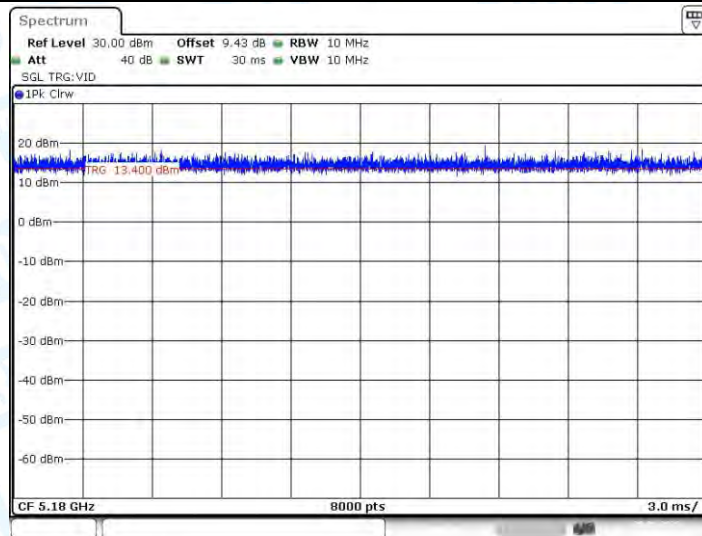
11A_Ant1_5785



11A_Ant1_5825

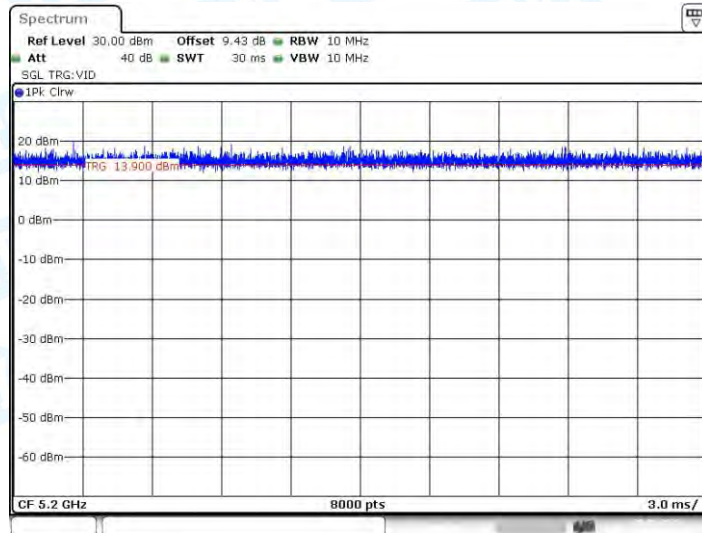


11N20SISO_Ant1_5180



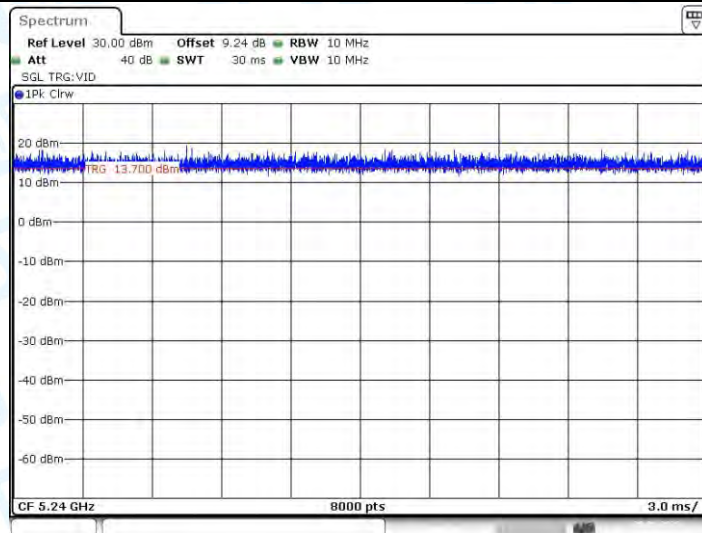
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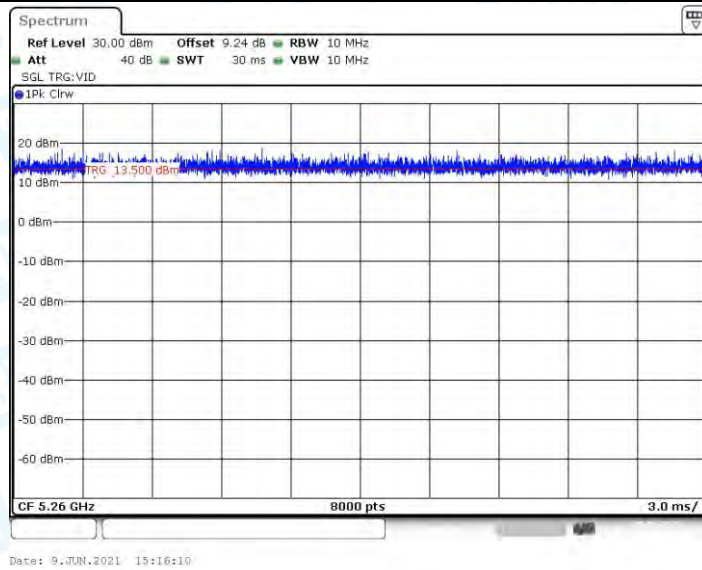
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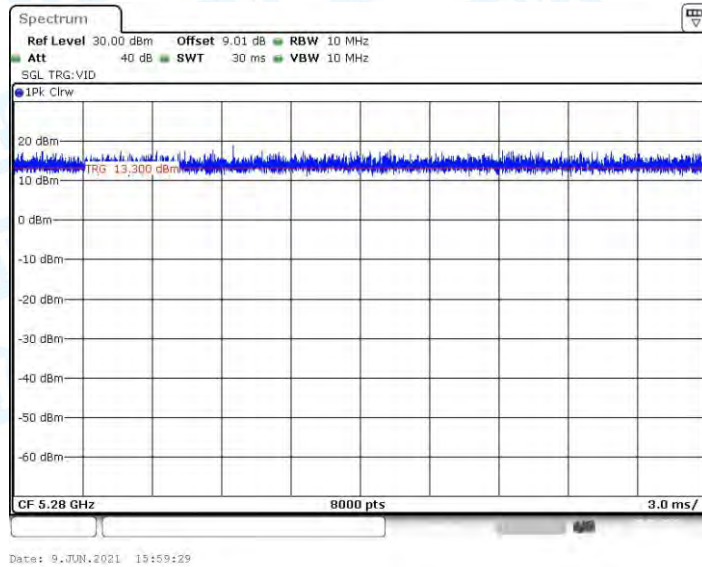


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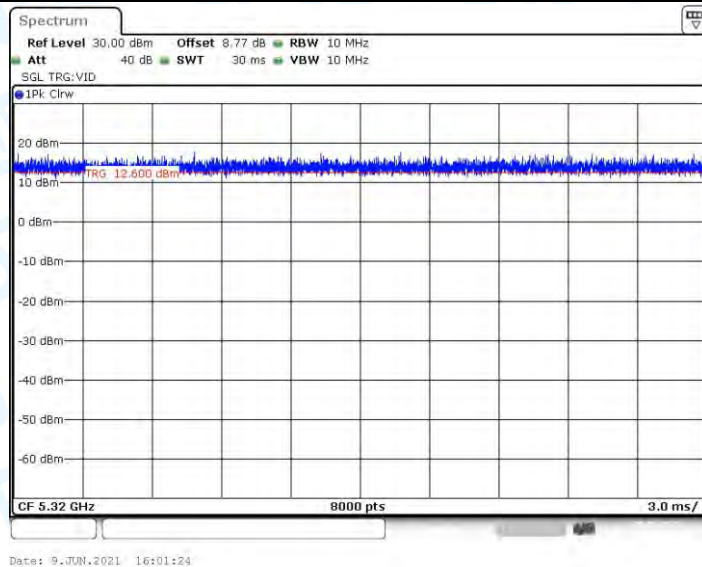
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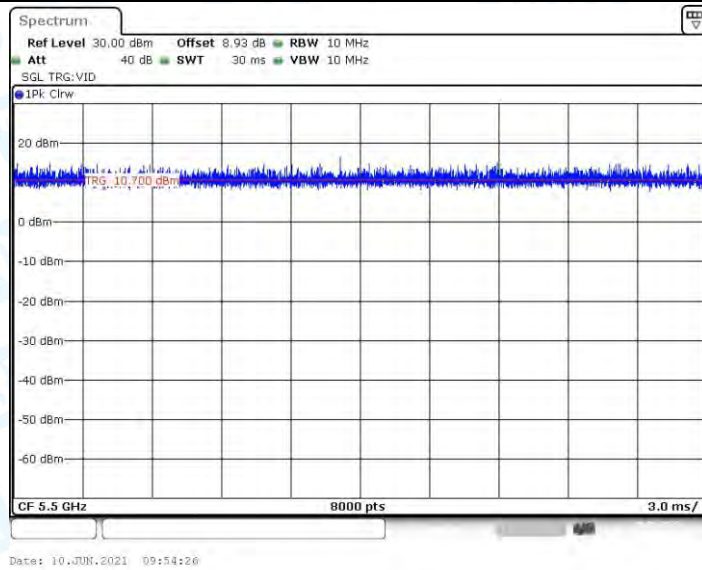
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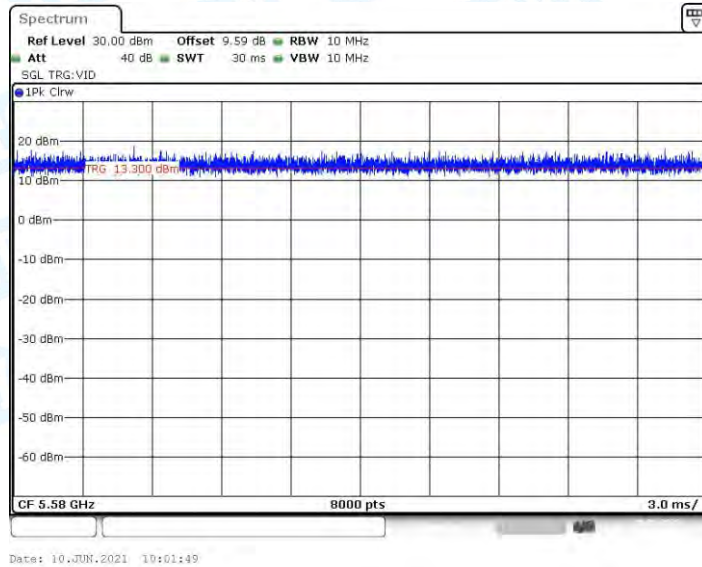
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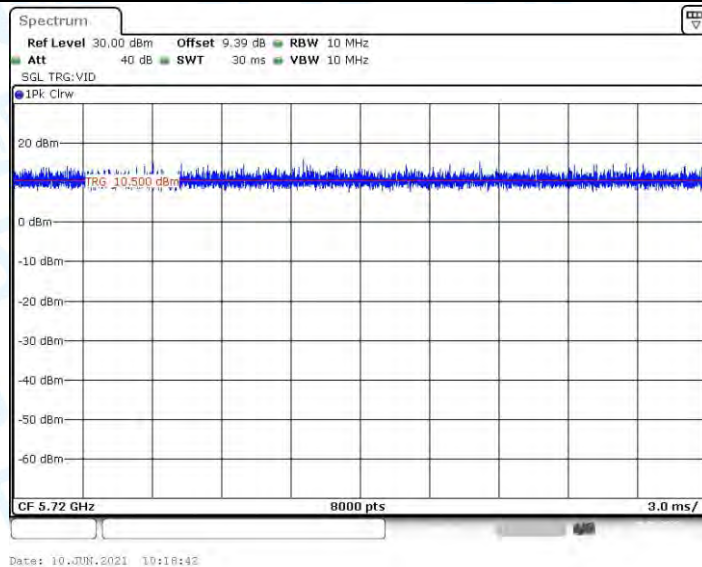
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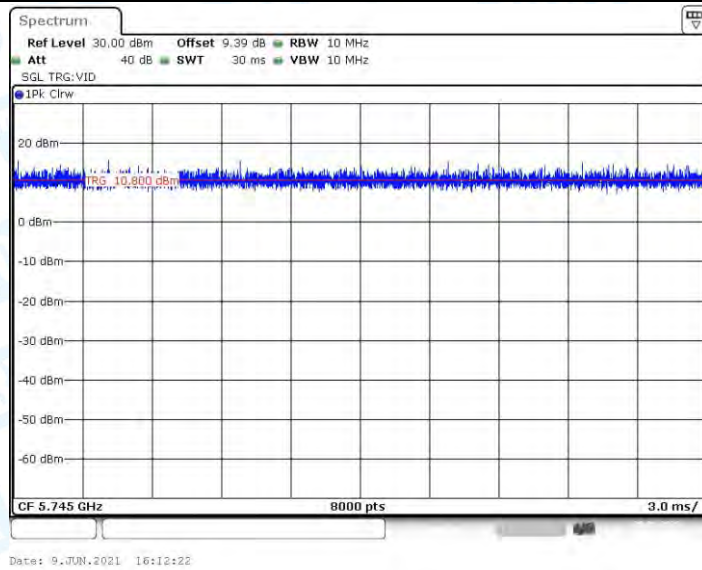
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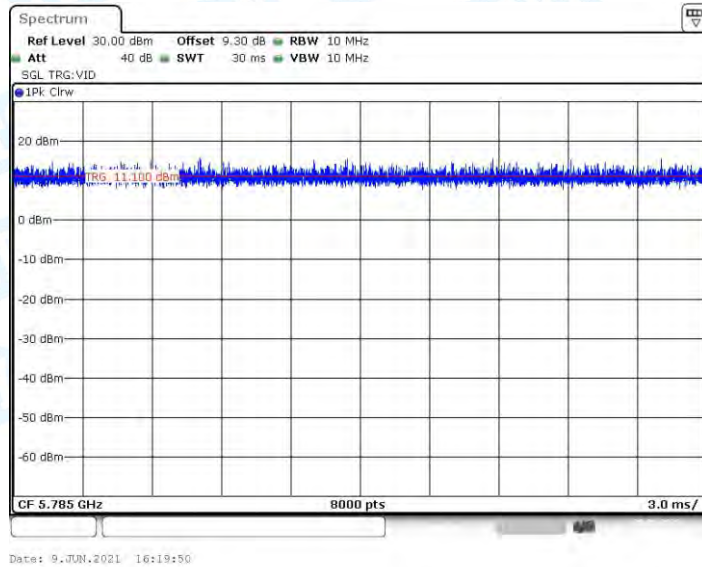
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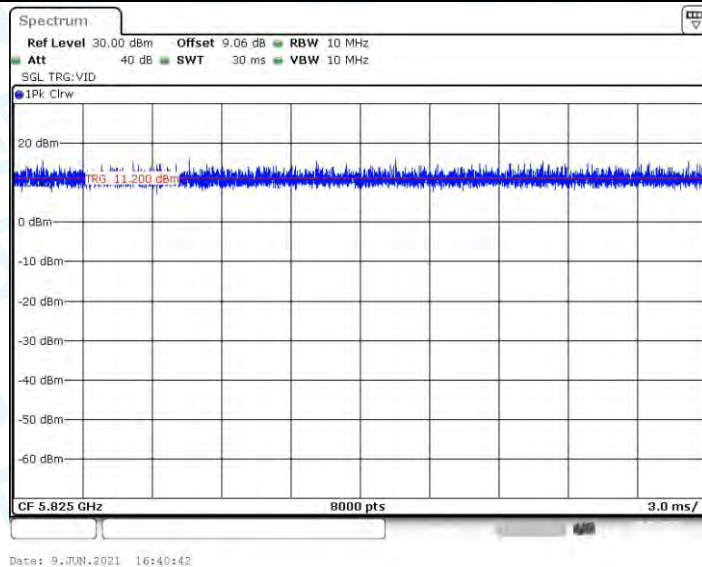
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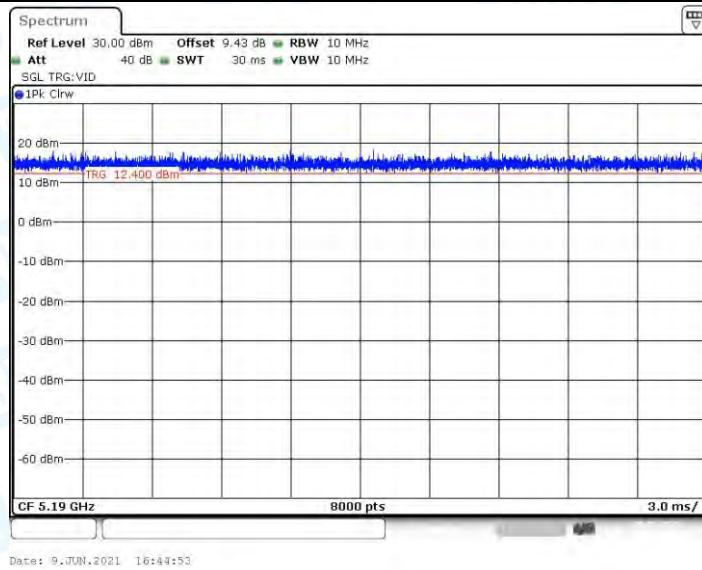
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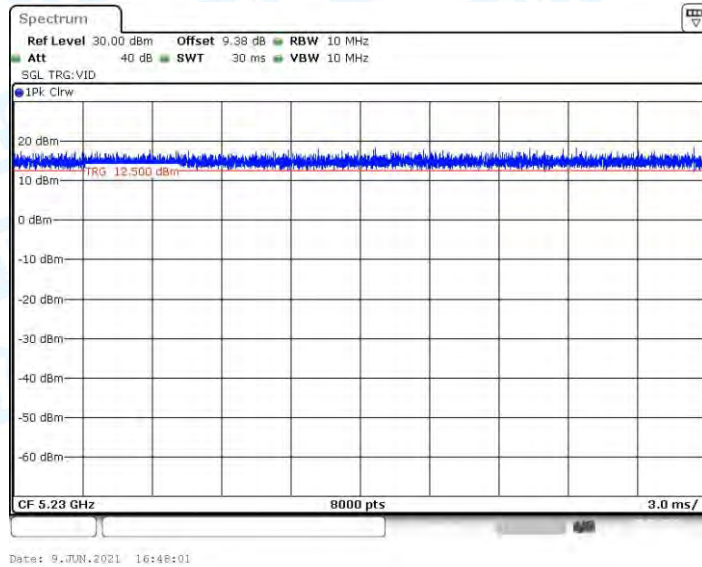
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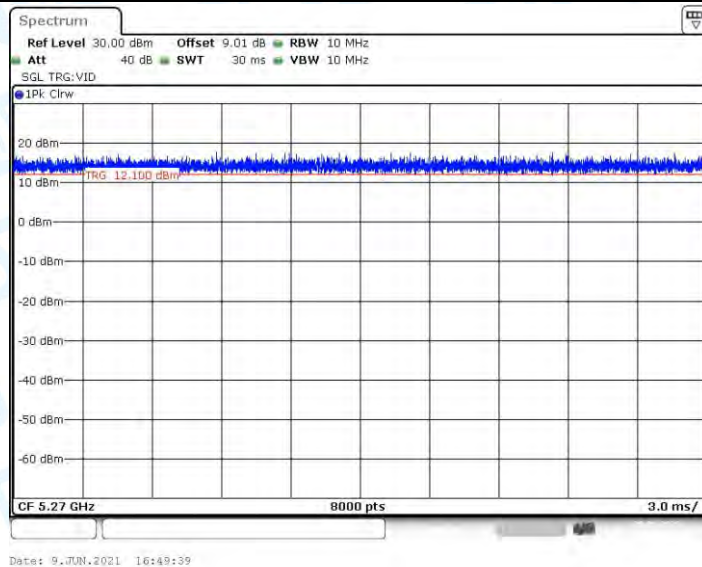
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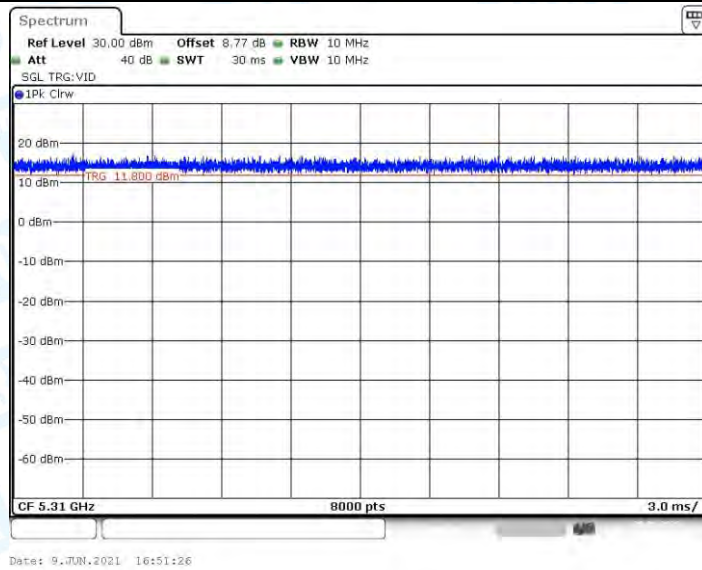
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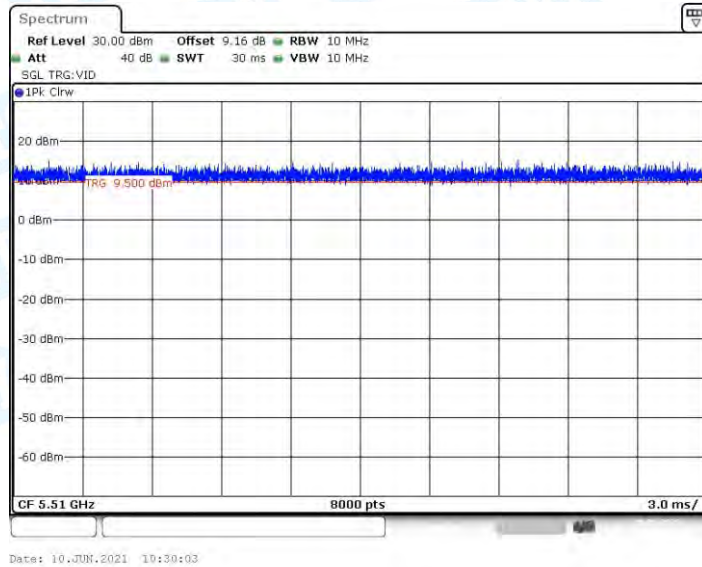
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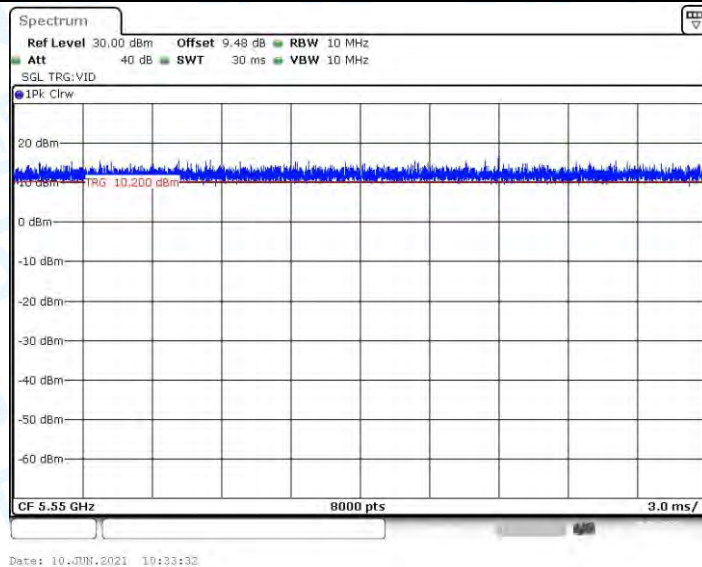
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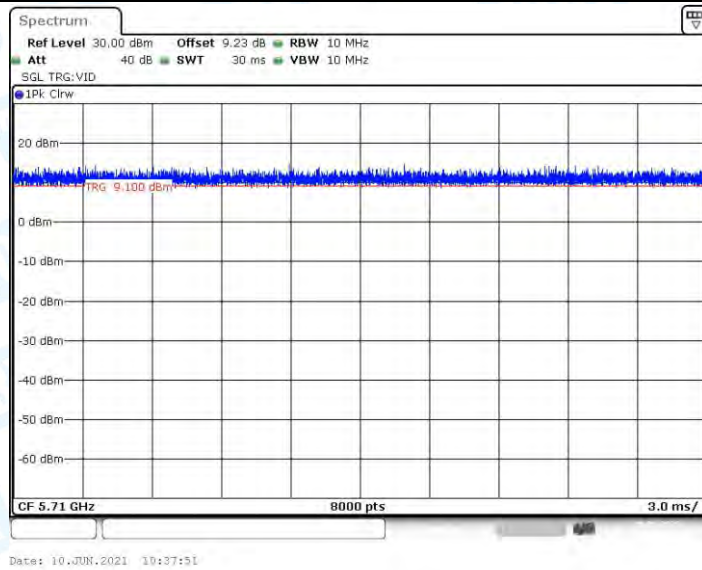
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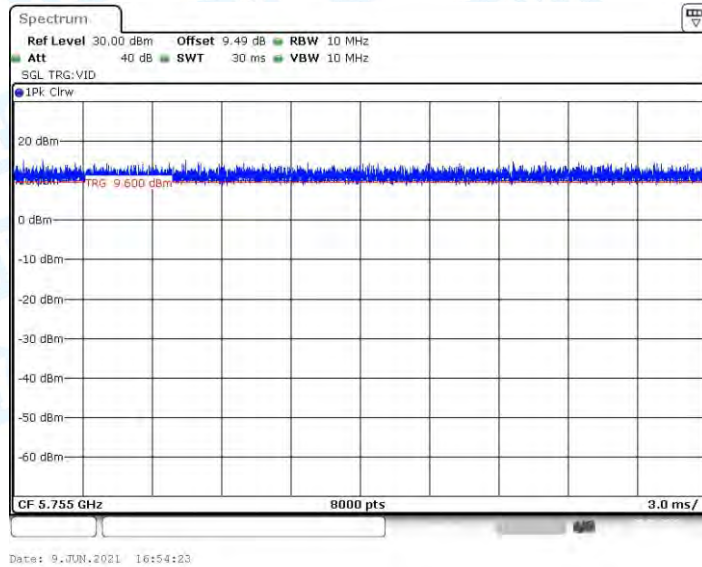
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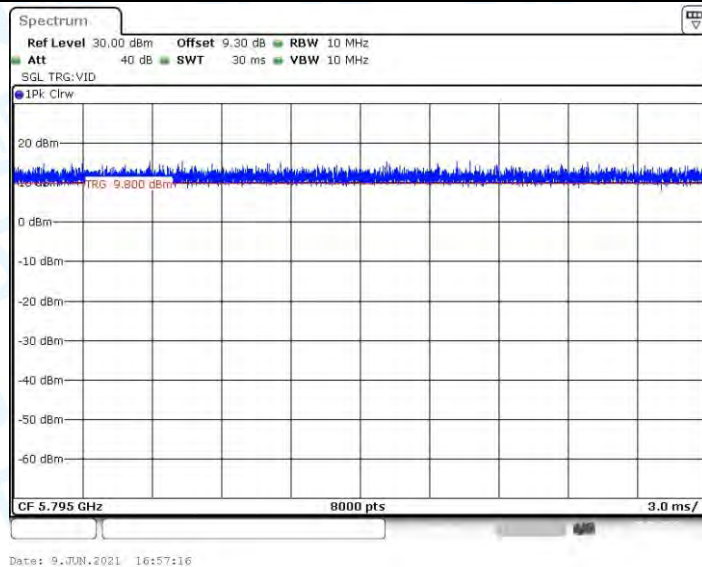
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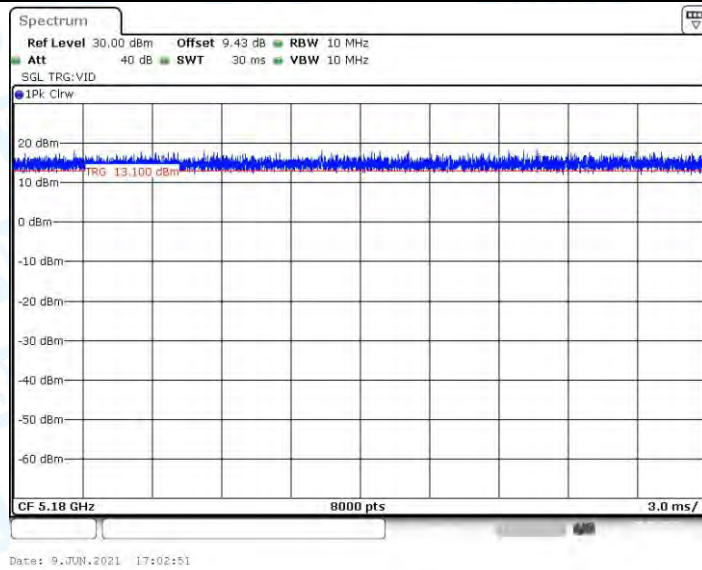
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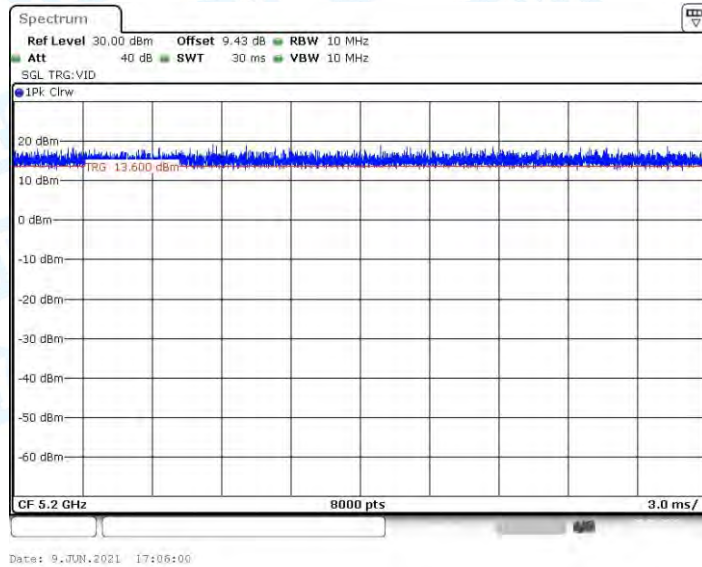
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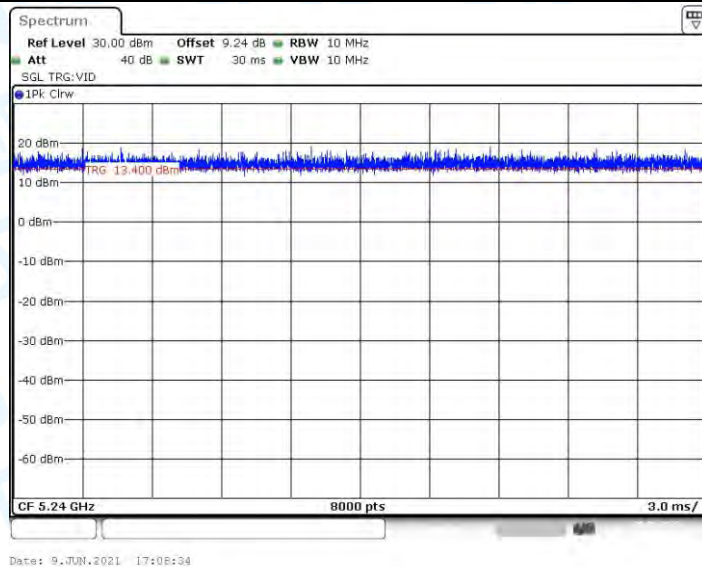
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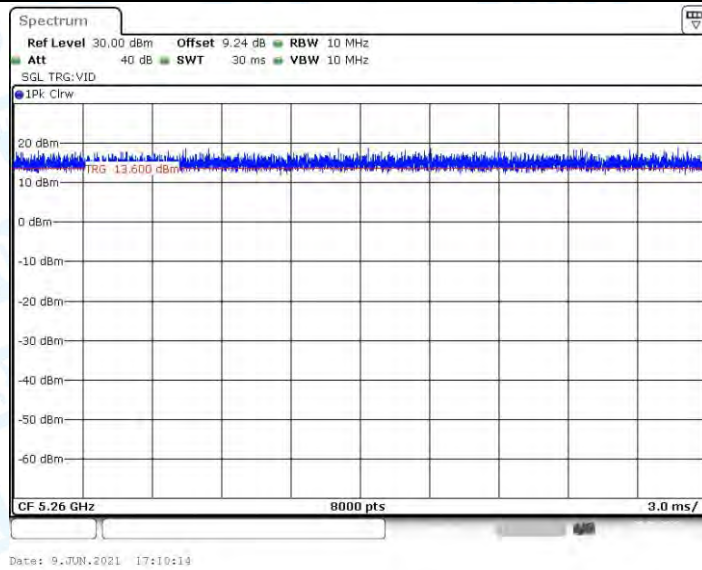
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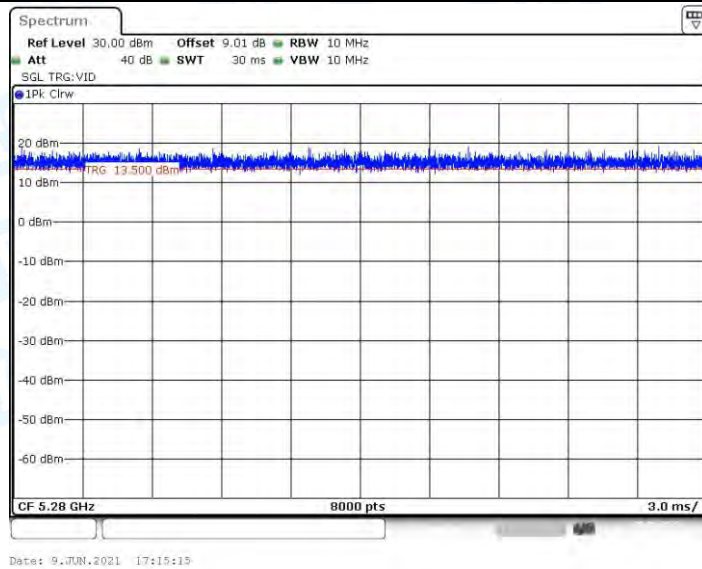
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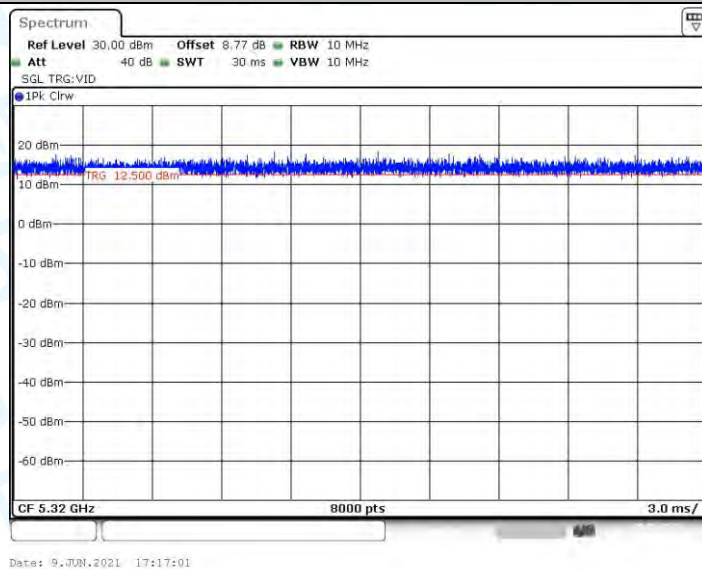
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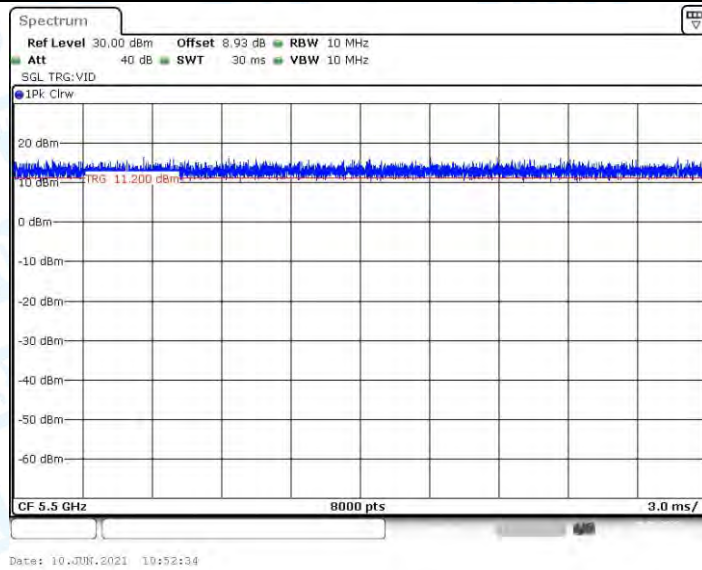
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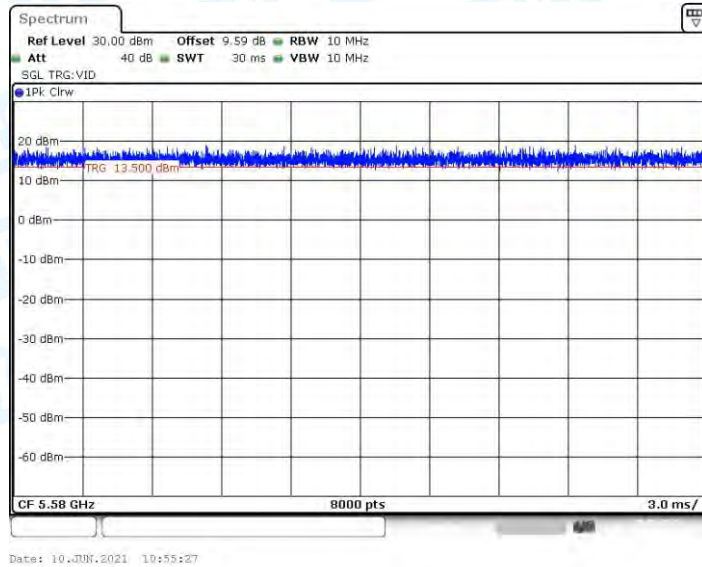
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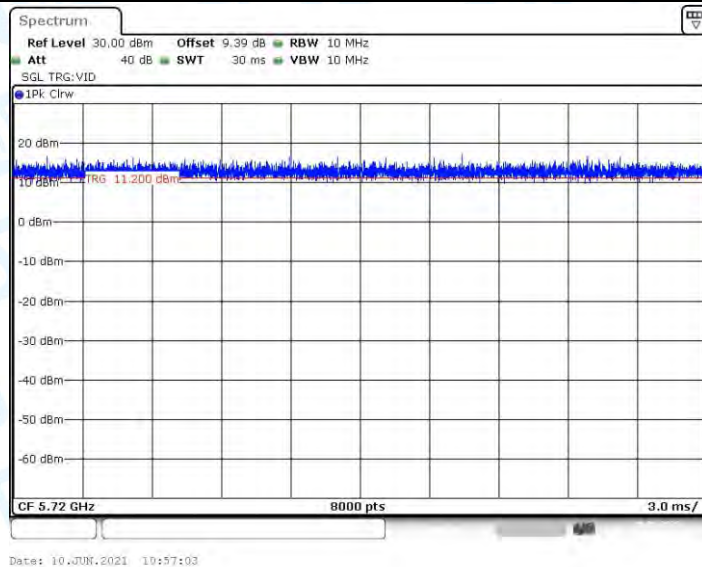
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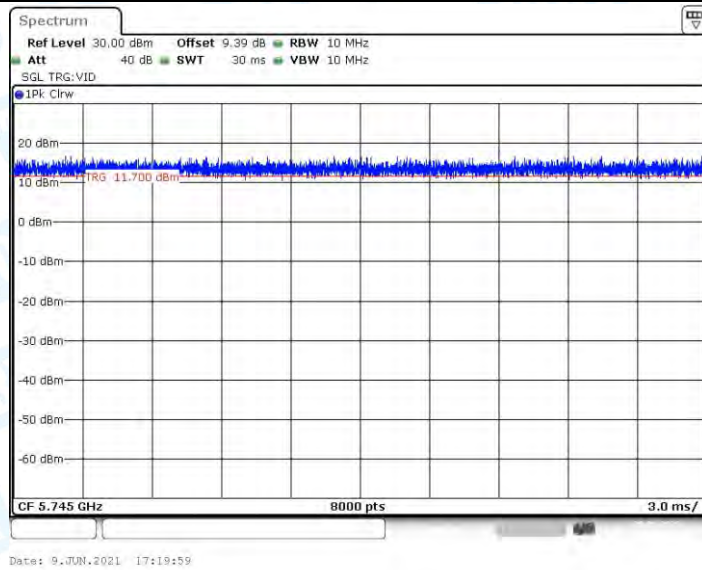
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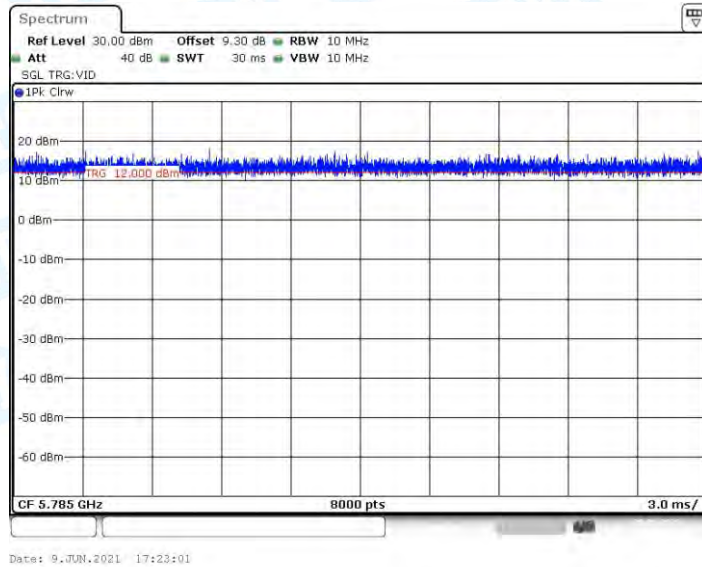
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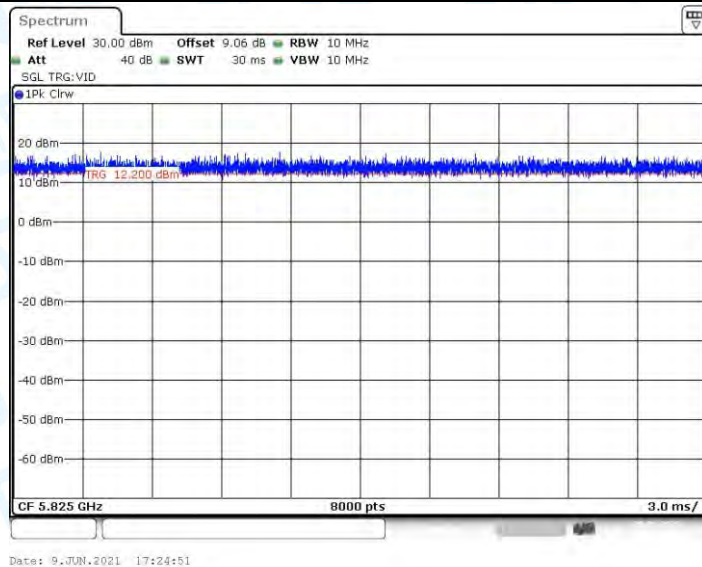
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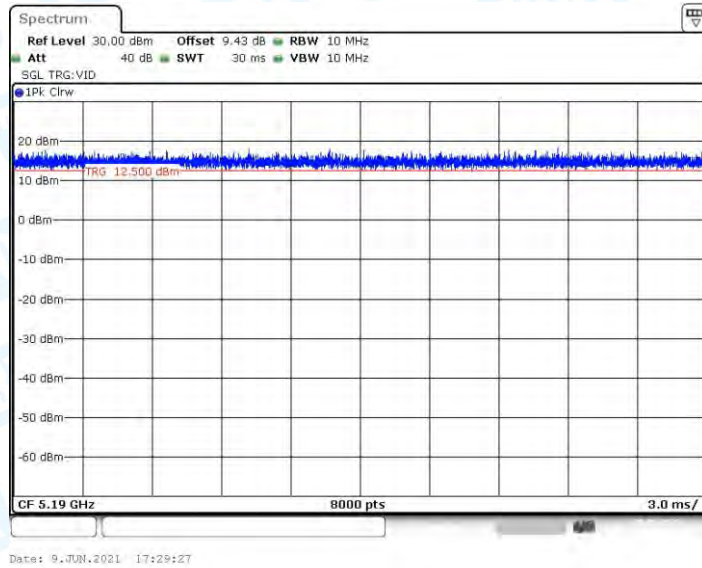
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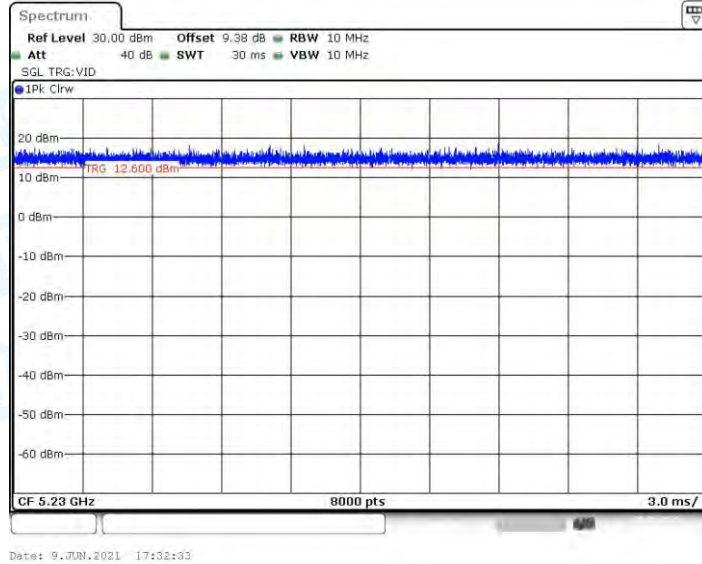
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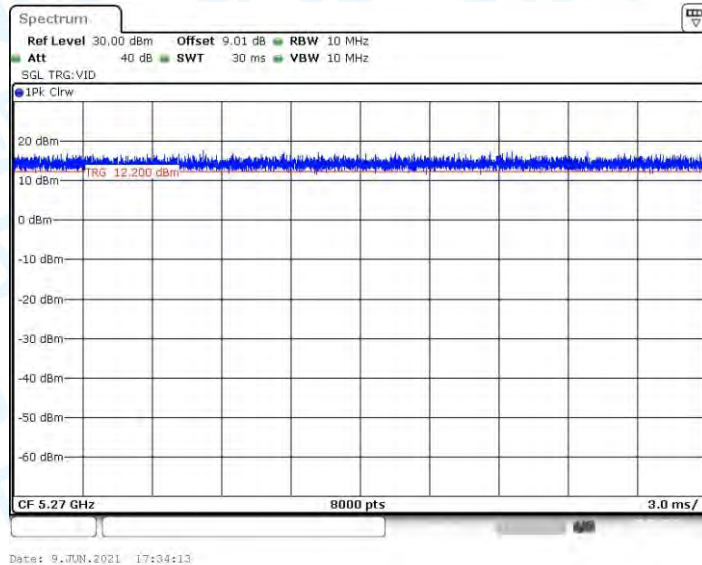
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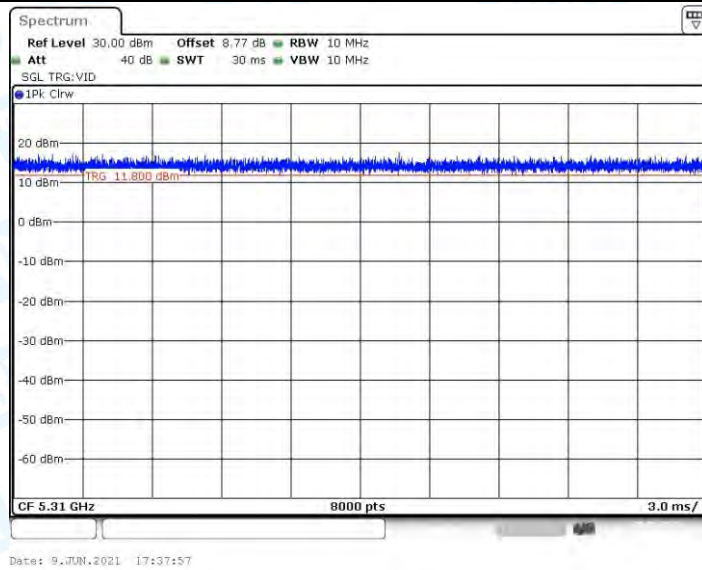
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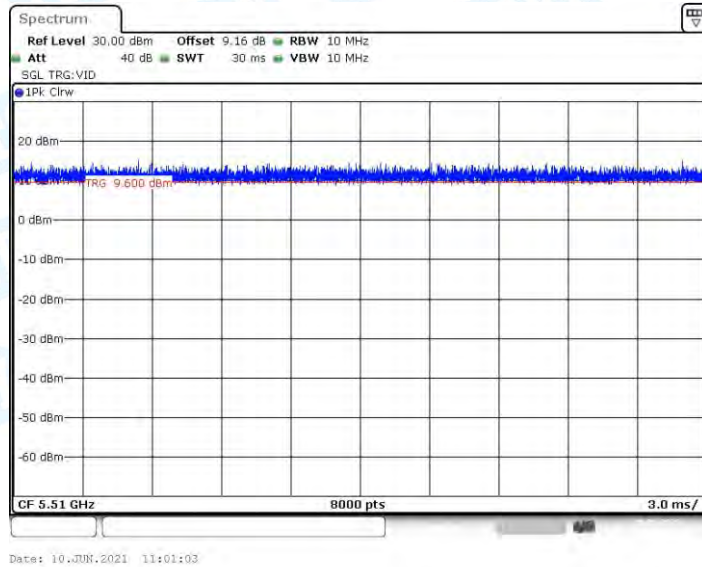
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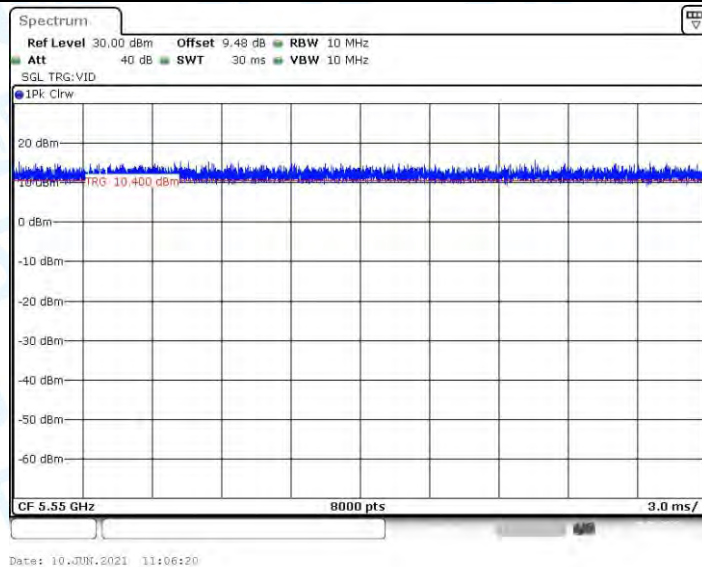
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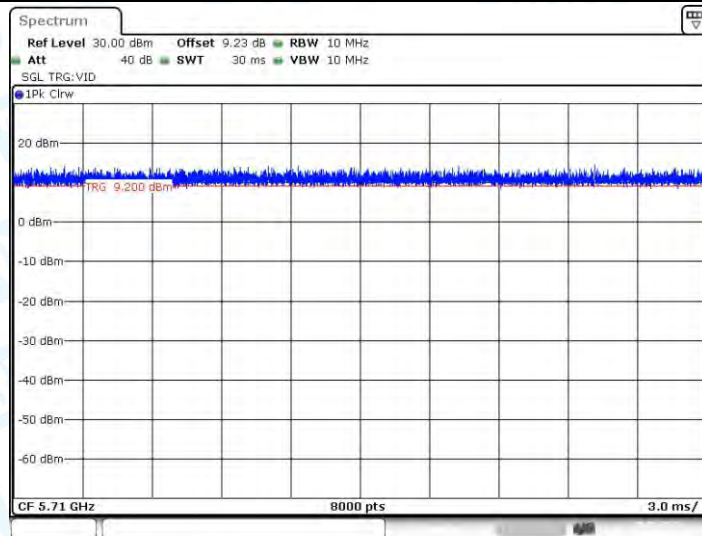
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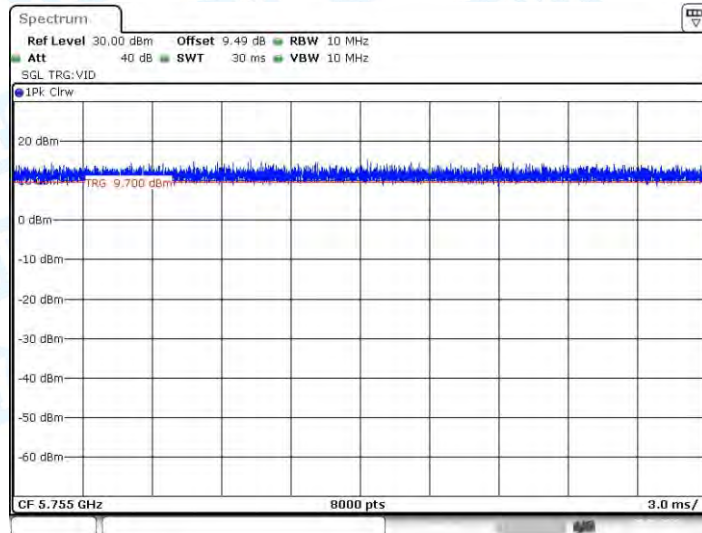


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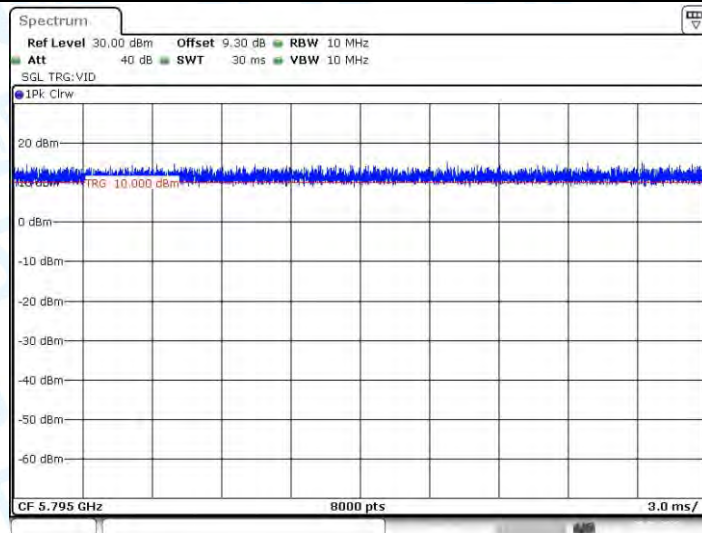
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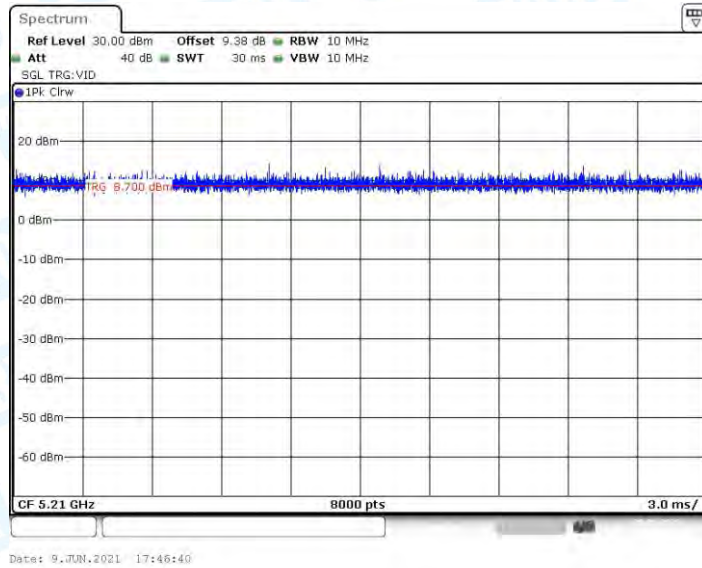
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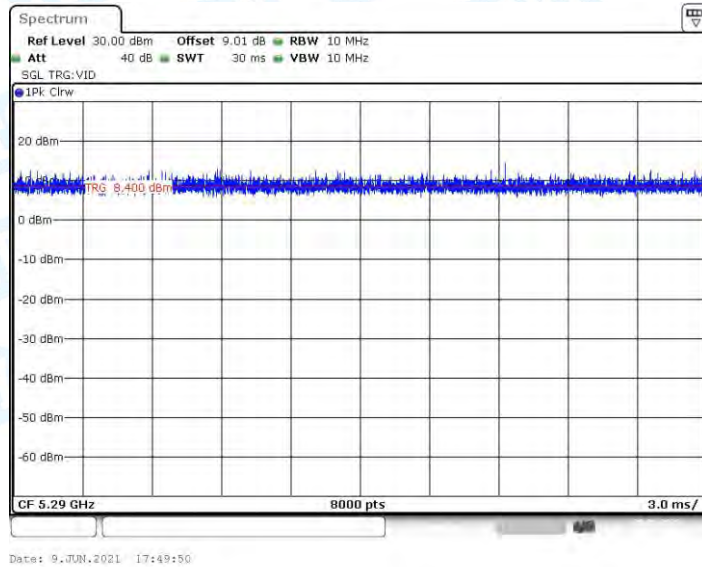


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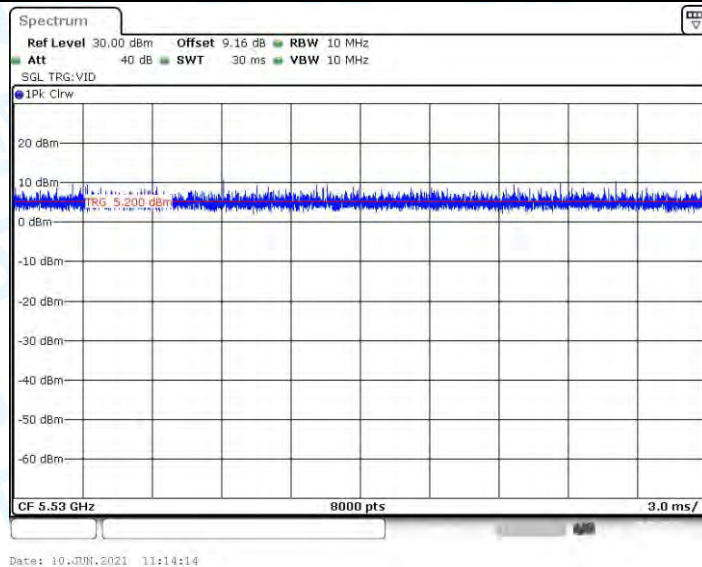
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11AC80SISO_Ant1_5530





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