Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

TEST REPORT

Report Reference No..... :	**CTA22012500604**
FCC ID..... :	**2A3YA-N21**
Compiled by (position+printed name+signature).. :	File administrators Kevin Liu
Supervised by (position+printed name+signature).. :	Project Engineer Kevin Liu
Approved by (position+printed name+signature).. :	RF Manager Eric Wang
Date of issue..... :	Feb. 10, 2022

Testing Laboratory Name..... :	**Shenzhen CTA Testing Technology Co., Ltd.**
Address..... :	Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

Applicant's name..... :	**Naviter d.o.o.**
Address..... :	PLANINA 3 KRANJ Slovenia

Test specification..... **:**	
Standard..... :	**FCC Part 15 Subpart E 15.407**

Test item description.....:	**GPS Navigator**
Trade Mark..... :	Naviter
Manufacturer..... :	Naviter d.o.o.
Model/Type reference..... :	N21
Listed Models ..... :	N23, N24, N31, N32, M71, M72
Modulation ..... :	OFDM
Frequency.....	From 5180MHz to 5320MHz, 5500MHz to 5825MHz
Rating..... :	DC 3.70V From Battery and DC 5V From external circuit
Result..... :	**PASS**

TEST REPORT

Equipment under Test	:	GPS Navigator
Model /Type	:	N21
Series Model No.		N23, N24, N31, N32, M71, M72
Applicant	:	Naviter d.o.o.
Address	:	PLANINA 3 KRANJ Slovenia
Manufacturer	:	Naviter d.o.o.
Address	:	PLANINA 3 KRANJ Slovenia

Test Result:	**PASS**

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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2. Summary

Item	Standard	Method	Requirement	Result
Conducted Emission at AC power line	47 CFR Part 15.407 2021	ANSI C63.10-2013 section 6.2	47 CFR Part 15.207(a)	Pass
Duty Cycle	47 CFR Part 15.407 2021	ANSI C63.10-2013 section 12.2 (b)		Pass
Maximum conducted output power	47 CFR Part 15.407 2021	ANSI C63.10-2013, section 12.3	47 CFR Part 15.407(a)(1)(i) 47 CFR Part 15.407(a)(1)(ii) 47 CFR Part 15.407(a)(1)(iii) 47 CFR Part 15.407(a)(1)(iv) 47 CFR Part 15.407(a)(2) 47 CFR Part 15.407(a)(3)(i)	Pass
Peak power spectral density	47 CFR Part 15.407 2021	ANSI C63.10-2013, section 12.5	47 CFR Part 15.407(a)(1)(i) 47 CFR Part 15.407(a)(1)(ii) 47 CFR Part 15.407(a)(1)(iii) 47 CFR Part 15.407(a)(1)(iv) 47 CFR Part 15.407(a)(2) 47 CFR Part 15.407(a)(3)(i)	Pass
Emission bandwidth and occupied bandwidth	47 CFR Part 15.407 2021	ANSI C63.10-2013, section 6.9.3 & 12.4 KDB 789033 D02, Clause C.2	U-NII 1, U-NII 2A, U-NII 2C: No limits, only for report use. 47 CFR Part 15.407(e)	Pass
Channel Move Time, Channel Closing Transmission Time	47 CFR Part 15.407 2021	KDB 905462 D02, Clause 7.8.3	47 CFR Part 15.407(h)(2)(iii)	Pass
Non-Occupancy Period Test	47 CFR Part 15.407 2021	KDB 905462 D02, Clause 7.8.3	47 CFR Part 15.407(h)(2)(iv)	Pass
DFS Detection Thresholds	47 CFR Part 15.407 2021	KDB 905462 D02, Clause 7.4.1.1	KDB 905462 D02, Clause 5.2 Table 3	Pass
Emissions around the fundametal	47 CFR Part 15.407 2021	ANSI C63.10-2013, section 12.7.4, 12.7.5, 12.7.6	47 CFR Part 15.407(b)(1) 47 CFR Part 15.407(b)(2) 47 CFR Part 15.407(b)(3) 47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10)	Pass
Undesirable emission limits (below 1GHz)	47 CFR Part 15.407 2021	ANSI C63.10-2013, section 12.7.4, 12.7.5, 12.7.6	47 CFR Part 15.407(b)(9)	Pass
Undesirable emission limits (above 1GHz)	47 CFR Part 15.407 2021	ANSI C63.10-2013, section 12.7.4, 12.7.5, 12.7.6	47 CFR Part 15.407(b)(1) 47 CFR Part 15.407(b)(2) 47 CFR Part 15.407(b)(3) 47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10)	Pass

3. General Information

3.1 Details of E.U.T.

The sample is a Client With Radar Detection.

Test Sample Number:	1-1-1(Normal Sample),1-1-2(Engineering Sample）
Product Name:	GPS Navigator
Model No.:	N21, N23, N24, N31, N32, M71, M72
Trade Mark:	Naviter
Product Description:	GPS Navigator
Power supply:	DC 3.7V From Battery and DC 5V From external circuit
Adapter information (Auxiliary test supplied by testing Lab）:	Model: EP-TA20CBC Input:AC 100-240V 50/60Hz Output:DC 5V 2A
Operation Frequency:	IEEE 802.11a/n(HT20)/ac(HT20): U-NII Band 1: 5180MHz to 5240MHz; U-NII Band 2A: 5260MHz to 5320MHz; U-NII Band 2C: 5500MHz to 5700MHz; U-NII Band 3: 5745MHz to 5825MHz; IEEE 802.11n(HT40)/ac(HT40): U-NII Band 1: 5190MHz to 5230MHz; U-NII Band 2A: 5270MHz to 5310MHz; U-NII Band 2C: 5510MHz to 5670MHz; U-NII Band 3: 5755MHz to 5795MHz; IEEE 802.11ac(HT80): U-NII Band 1: 5210MHz; U-NII Band 2A: 5290MHz; U-NII Band 2C: 5530MHz to 5610MHz; U-NII Band 3: 5775MHz Note: In Canada, 5600MHz to 5650MHz is not avaliable.
Number of Channels:	IEEE 802.11a/n(HT20)/ac(HT20): U-NII Band 1: 4; U-NII Band 2A: 4; U-NII Band 2C: 11; U-NII Band 3: 5; IEEE 802.11n(HT40)/ac(HT40): U-NII Band 1: 2; U-NII Band 2A: 2; U-NII Band 2C: 5; U-NII Band 3: 2; IEEE 802.11ac(HT80): U-NII Band 1: 1; U-NII Band 2A: 1; U-NII Band 2C: 2; U-NII Band 3: 1
Modulation Type:	IEEE 802.11a: OFDM(BPSK, QPSK, 16QAM, 64QAM); IEEE 802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM); IEEE 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
Antenna Type:	FPC
Antenna Gain:	2dBi

3.2 Description of Support Units

Title	Manufacturer	Model No.	Serial No.
Adaptor	HUAWEI	HW-059200CHQ	B68288J4R06753

3.3 Environment Conditions

ENV	Temperature (°C)	Voltage (V)
NTNV	24.6	3.7

3.4 Measurement Uncertainty

Test Item	Measurement Uncertainty
Supply Voltages	1.56%
Duty Cycle	0.37%
Conducted Power	0.48 dB
RF Power Density	2.84dB
Channel Bandwidth	2.80 dB
RF Radiated power	4.5dB (below 1GHz) 4.8dB (above 1GHz)
Radiated Emission 30~1000MHz	4.06 dB
Radiated Emission 1~18GHz	5.14 dB
Radiated Emission 18-40GHz	5.38 dB
Conducted spurious emissions 9kHz~40GHz	1.60 dB

3.5 Test Facility

3.5.1 Address of the test laboratory

Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community,Fuhai Street, Bao'an District, Shenzhen, China

3.5.2 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 517856 Designation Number: CN1318

Shenzhen CTA Testing Technology Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

A2LA-Lab Cert. No.: 6534.01

Shenzhen CTA Testing Technology Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010.

3.7 Deviation from Standards

None

3.8 Abnormalities from Standard Condition

None

4. Equipment List

Test Equipment	Manufacturer	Model No.	Equipment No.	Calibration Date	Calibration Due Date
LISN	R&S	ENV216	CTA-308	2021/08/06	2022/08/05
LISN	R&S	ENV216	CTA-314	2021/08/06	2022/08/05
EMI Test Receiver	R&S	ESPI	CTA-307	2021/08/06	2022/08/05
EMI Test Receiver	R&S	ESCI	CTA-306	2021/08/06	2022/08/05
Spectrum Analyzer	Agilent	N9020A	CTA-301	2021/08/06	2022/08/05
Spectrum Analyzer	R&S	FSP	CTA-337	2021/08/06	2022/08/05
Vector Signal generator	Agilent	N5182A	CTA-305	2021/08/06	2022/08/05
Analog Signal Generator	R&S	SML03	CTA-304	2021/08/06	2022/08/05
Universal Radio Communication	CMW500	R&S	CTA-302	2021/08/06	2022/08/05
Temperature and humidity meter	Chigo	ZG-7020	CTA-326	2021/08/06	2022/08/05
Ultra-Broadband Antenna	Schwarzbeck	VULB9163	CTA-310	2021/08/07	2022/08/06
Horn Antenna	Schwarzbeck	BBHA 9120D	CTA-309	2021/08/07	2022/08/06
Loop Antenna	Zhinan	ZN30900C	CTA-311	2021/08/07	2022/08/06
Horn Antenna	Beijing Hangwei Dayang	OBH100400	CTA-336	2021/08/06	2022/08/05
Amplifier	Schwarzbeck	BBV 9745	CTA-312	2021/08/06	2022/08/05
Amplifier	Taiwan chengyi	EMC051845B	CTA-313	2021/08/06	2022/08/05
Directional coupler	NARDA	4226-10	CTA-303	2021/08/06	2022/08/05
High-Pass Filter	XingBo	XBLBQ-GTA18	CTA-402	2021/08/06	2022/08/05
High-Pass Filter	XingBo	XBLBQ-GTA27	CTA-403	2021/08/06	2022/08/05
Automated filter bank	Tonscend	JS0806-F	CTA-404	2021/08/06	2022/08/05
Power Sensor	Agilent	U2021XA	CTA-405	2021/08/06	2022/08/05
Amplifier	Schwarzbeck	BBV9719	CTA-406	2021/08/06	2022/08/05
Spectrum Analyzer	R&S	FSV40-N	CTA-407	2021/08/06	2022/08/05
Pre-Amplifier	Schwarzbeck	BBV-9721	CTA-408	2021/08/06	2022/08/05
Horn Antenna	Schwarzbeck	BBHA 9170	CTA-409	2021/08/06	2022/08/05

5. Radio Spectrum Matter Test Results (RF)

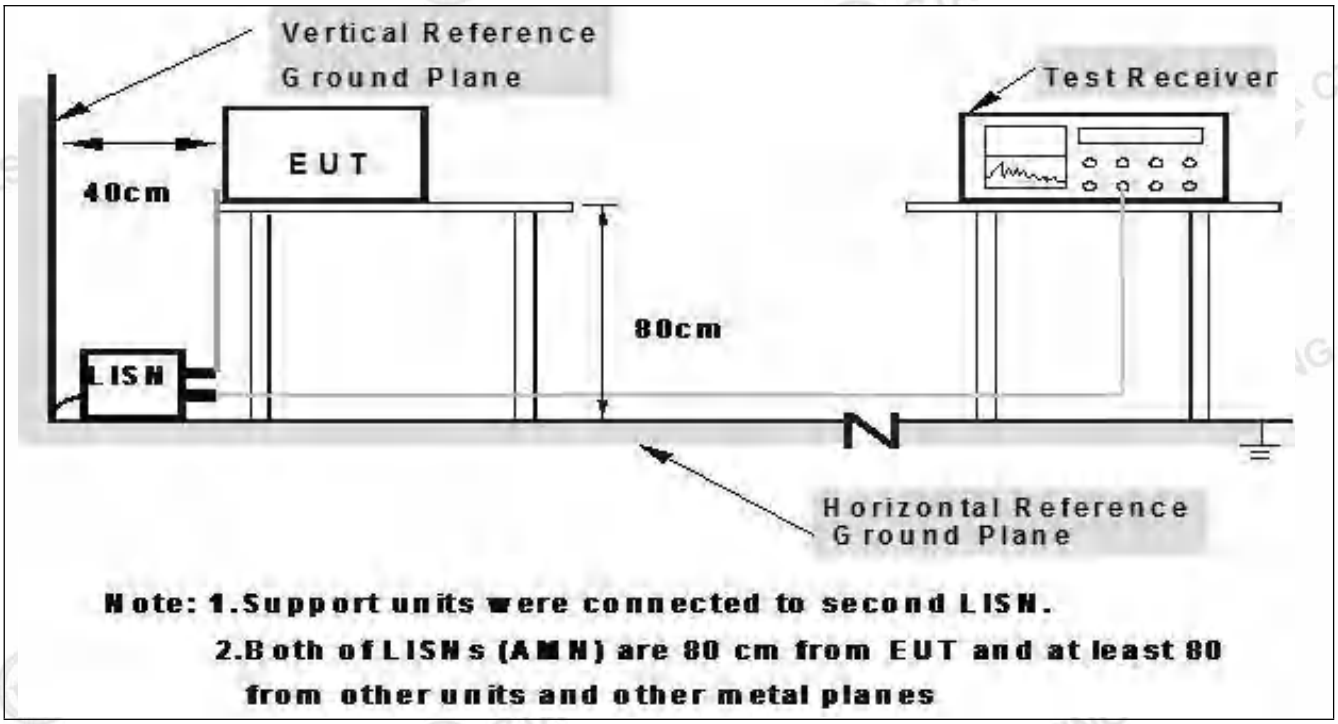
5.1 Conducted Emission at AC power line

Test Requirement:	47 CFR Part 15.207(a)
Test Method:	Standard test method for ac power-line conducted emissions from unlicensed wireless devices
Test Limit:	Frequency of emission (MHz) / Conducted limit (dBμV): Quasi-peak / Average 0.15-0.5: 66 to 56* / 56 to 46* 0.5-5: 56 / 46 5-30: 60 / 50 *Decreases with the logarithm of the frequency.

5.1.1 E.U.T. Operation:

Operating Environment:	
Temperature:	24.6 °C
Humidity:	55 %
Atmospheric Pressure:	1010 mbar
Pre test mode:	4: Normal Operating: Normal Operating_Keep the EUT works in normal operating mode and connect to companion device
Final test mode:	1: TX mode IEEE 802.11a: TX mode IEEE 802.11a_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11a modulation type. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report. 4: Normal Operating: Normal Operating_Keep the EUT works in normal operating mode and connect to companion device

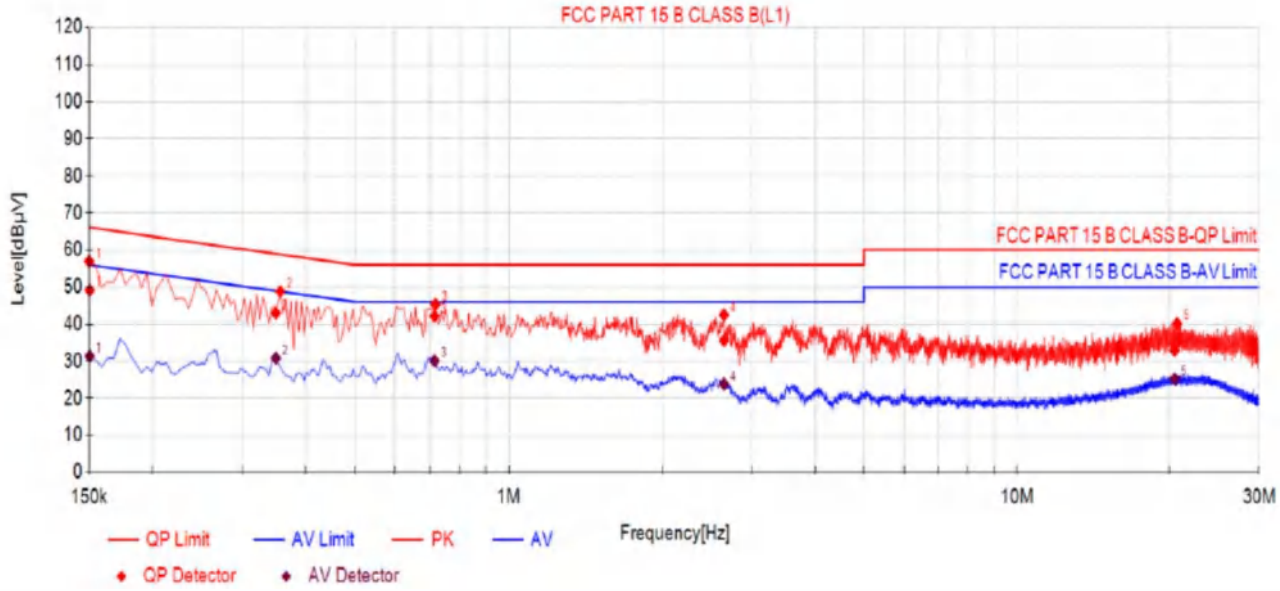
5.1.2 Test Setup Diagram:



5.1.3 Test Data:

Test Mode:1 / Line: Line / Band: U-NII 1 / BW: 20 / CH: L

Test Voltage:AC 120V/60Hz

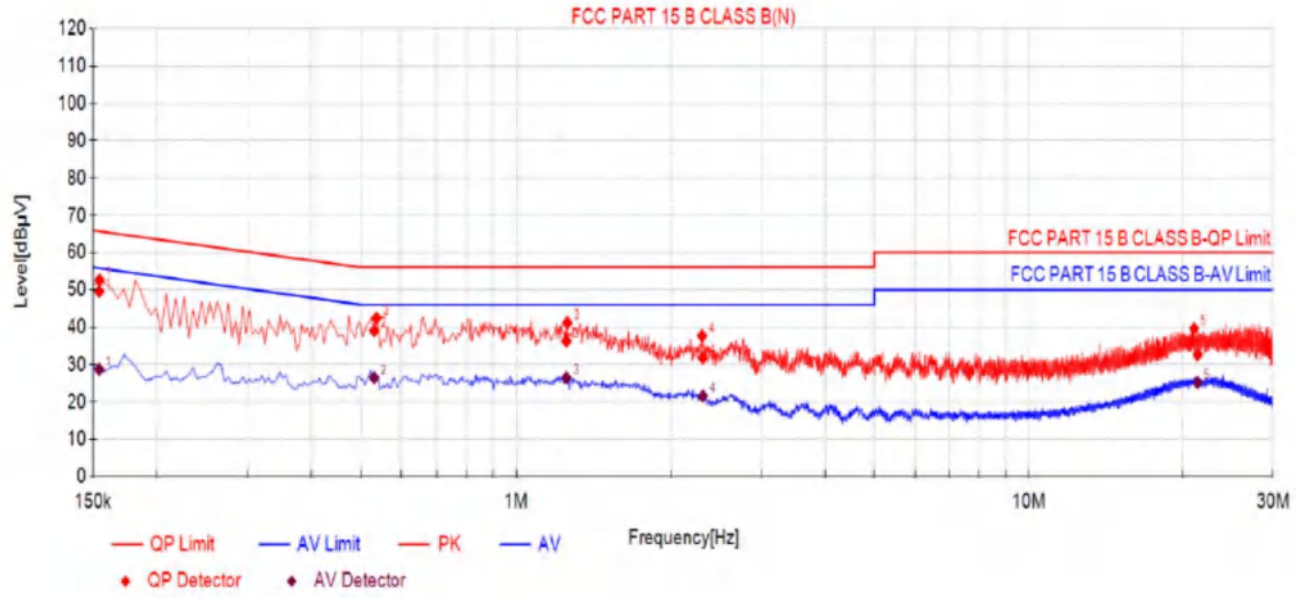


Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Reading[dBµV]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Reading [dBµV]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Verdict
1	0.1504	10.50	38.64	49.14	65.98	16.84	20.87	31.37	55.98	24.61	PASS
2	0.3496	10.50	32.46	42.96	58.97	16.01	20.35	30.85	48.97	18.12	PASS
3	0.7139	10.50	31.65	42.15	56.00	13.85	19.58	30.08	46.00	15.92	PASS
4	2.6525	10.50	25.12	35.62	56.00	20.38	13.28	23.78	46.00	22.22	PASS
5	20.4426	10.50	22.40	32.90	60.00	27.10	14.73	25.23	50.00	24.77	PASS

Test Mode:1 / Line: Neutral / Band: U-NII 1 / BW: 20 / CH: L

Test Voltage:AC 120V/60Hz



Final Data List

NO.	Freq [MHz]	Factor [dB]	QP Reading[dBµV]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Reading [dBµV]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Verdict
1	0.1542	10.50	39.05	49.55	65.77	16.22	18.27	28.77	55.77	27.00	PASS
2	0.5315	10.50	28.47	38.97	56.00	17.03	16.01	26.51	46.00	19.49	PASS
3	1.2518	10.50	25.75	36.25	56.00	19.75	16.04	26.54	46.00	19.46	PASS
4	2.3129	10.50	21.37	31.87	56.00	24.13	11.12	21.62	46.00	24.38	PASS
5	21.3914	10.50	22.18	32.68	60.00	27.32	14.72	25.22	50.00	24.78	PASS

Note:

All frequency bands and modes have been tested, found 802.11a_5180MHz which it is worse case for conducted emission , so only show the test data for worse case.

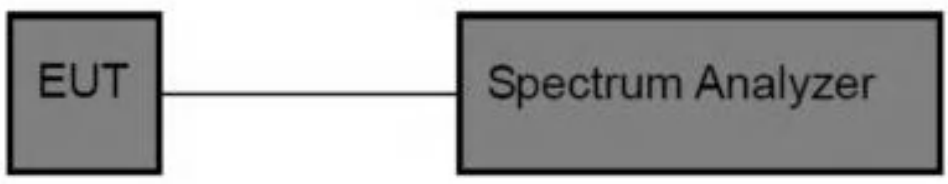
5.2 Duty Cycle

Test Requirement:	All measurements are to be performed with the EUT transmitting at 100% duty cycle at its maximum power control level; however, if 100% duty cycle cannot be achieved, measurements of duty cycle, x, and maximum-power transmission duration, T, are required for each tested mode of operation.
Test Method:	ANSI C63.10-2013 section 12.2 (b)
Test Limit:	No limits, only for report use.

5.2.1 E.U.T. Operation:

Operating Environment:	
Temperature:	23 °C
Humidity:	55 %
Atmospheric Pressure:	1010 mbar
Pre test mode:	1: TX mode IEEE 802.11a: TX mode IEEE 802.11a_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11a modulation type. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report. 2: TX mode IEEE 802.11n: TX mode IEEE 802.11n_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11n modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report. 3: TX mode IEEE 802.11ac: TX mode IEEE 802.11ac_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11ac modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.
Final test mode:	1: TX mode IEEE 802.11a: TX mode IEEE 802.11a_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11a modulation type. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report. 2: TX mode IEEE 802.11n: TX mode IEEE 802.11n_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11n modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report. 3: TX mode IEEE 802.11ac: TX mode IEEE 802.11ac_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11ac modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.

5.2.2 Test Setup Diagram:



5.2.3 Test Data:

Please Refer to Appendix for Details.

5.3 Maximum conducted output power

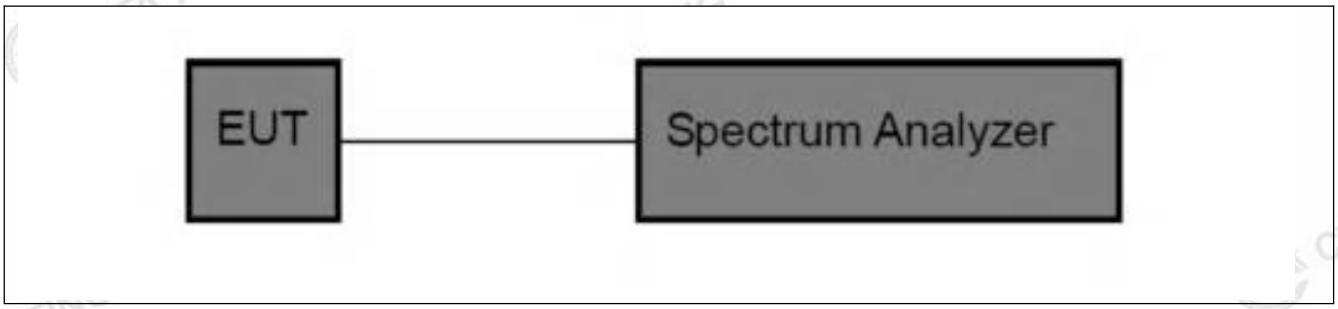
Test Requirement:	47 CFR Part 15.407(a)(1)(i) 47 CFR Part 15.407(a)(1)(ii) 47 CFR Part 15.407(a)(1)(iii) 47 CFR Part 15.407(a)(1)(iv) 47 CFR Part 15.407(a)(2) 47 CFR Part 15.407(a)(3)(i)
Test Method:	ANSI C63.10-2013, section 12.3
Test Limit:	For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm). For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations. For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

	For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

5.3.1 E.U.T. Operation:

Operating Environment:	
Temperature:	23 °C
Humidity:	55 %
Atmospheric Pressure:	1010 mbar
Pre test mode:	1: TX mode IEEE 802.11a: TX mode IEEE 802.11a_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11a modulation type. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report. 2: TX mode IEEE 802.11n: TX mode IEEE 802.11n_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11n modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report. 3: TX mode IEEE 802.11ac: TX mode IEEE 802.11ac_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11ac modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.
Final test mode:	1: TX mode IEEE 802.11a: TX mode IEEE 802.11a_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11a modulation type. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report. 2: TX mode IEEE 802.11n: TX mode IEEE 802.11n_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11n modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report. 3: TX mode IEEE 802.11ac: TX mode IEEE 802.11ac_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11ac modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.

5.3.2 Test Setup Diagram:



5.3.3 Test Data:

Please Refer to Appendix for Details.

5.4 Peak power spectral density

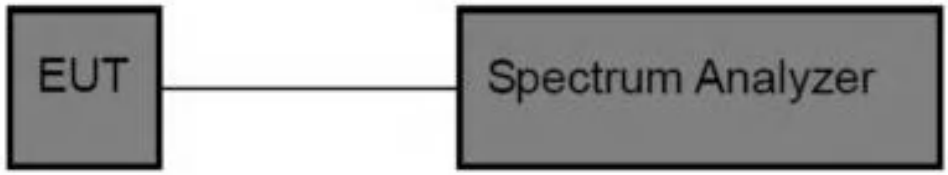
Test Requirement:	47 CFR Part 15.407(a)(1)(i) 47 CFR Part 15.407(a)(1)(ii) 47 CFR Part 15.407(a)(1)(iii) 47 CFR Part 15.407(a)(1)(iv) 47 CFR Part 15.407(a)(2) 47 CFR Part 15.407(a)(3)(i)
Test Method:	ANSI C63.10-2013, section 12.5
Test Limit:	For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations. For client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For the band 5.725-5.850 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint

	systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

5.4.1 E.U.T. Operation:

Operating Environment:	
Temperature:	23 °C
Humidity:	55 %
Atmospheric Pressure:	1010 mbar
Pre test mode:	1: TX mode IEEE 802.11a: TX mode IEEE 802.11a_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11a modulation type. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report. 2: TX mode IEEE 802.11n: TX mode IEEE 802.11n_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11n modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report. 3: TX mode IEEE 802.11ac: TX mode IEEE 802.11ac_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11ac modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.
Final test mode:	1: TX mode IEEE 802.11a: TX mode IEEE 802.11a_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11a modulation type. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report. 2: TX mode IEEE 802.11n: TX mode IEEE 802.11n_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11n modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report. 3: TX mode IEEE 802.11ac: TX mode IEEE 802.11ac_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11ac modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.

5.4.2 Test Setup Diagram:



5.4.3 Test Data:

Please Refer to Appendix for Details.

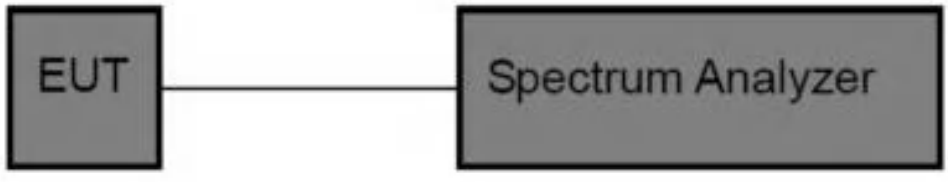
5.5 Emission bandwidth and occupied bandwidth

Test Requirement:	U-NII 1, U-NII 2A, U-NII 2C: No limits, only for report use. U-NII 3, U-NII 4: 47 CFR Part 15.407(e)
Test Method:	ANSI C63.10-2013, section 6.9.3 & 12.4 KDB 789033 D02, Clause C.2
Test Limit:	U-NII 1, U-NII 2A, U-NII 2C: No limits, only for report use. U-NII 3, U-NII 4: Within the 5.725-5.850 GHz and 5.850-5.895 GHz bands, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

5.5.1 E.U.T. Operation:

Operating Environment:	
Temperature:	23 °C
Humidity:	55 %
Atmospheric Pressure:	1010 mbar
Pre test mode:	1: TX mode IEEE 802.11a: TX mode IEEE 802.11a_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11a modulation type. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report. 2: TX mode IEEE 802.11n: TX mode IEEE 802.11n_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11n modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report. 3: TX mode IEEE 802.11ac: TX mode IEEE 802.11ac_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11ac modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.
Final test mode:	1: TX mode IEEE 802.11a: TX mode IEEE 802.11a_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11a modulation type. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report. 2: TX mode IEEE 802.11n: TX mode IEEE 802.11n_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11n modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report. 3: TX mode IEEE 802.11ac: TX mode IEEE 802.11ac_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11ac modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.

5.5.2 Test Setup Diagram:



5.5.3 Test Data:

Please Refer to Appendix for Details.

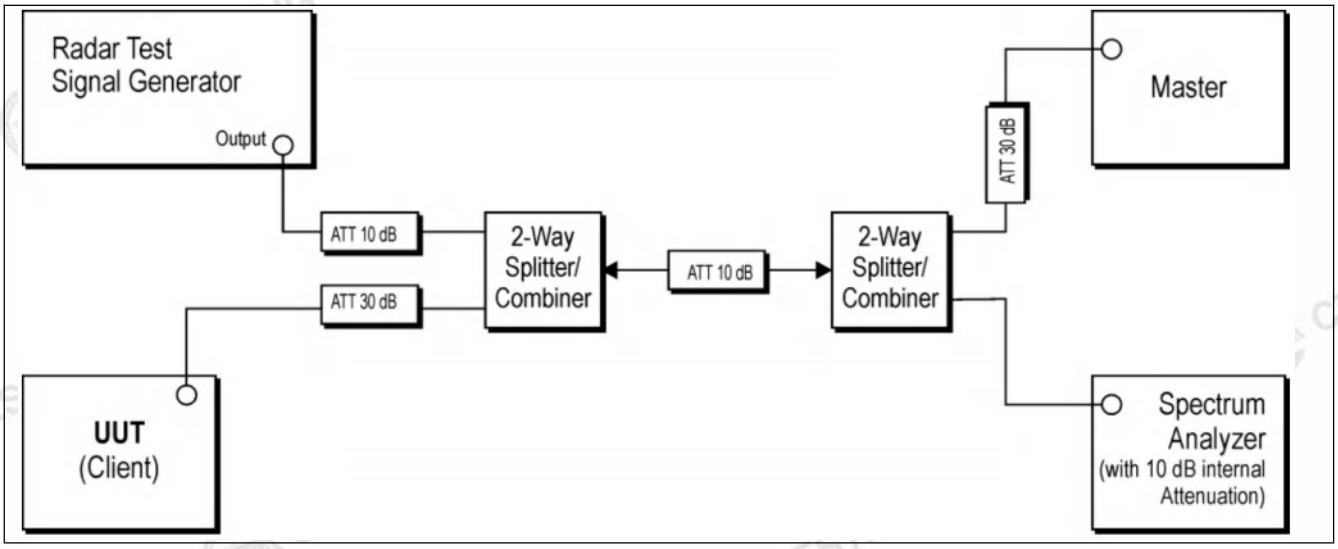
5.6 Channel Move Time, Channel Closing Transmission Time

Test Requirement:	47 CFR Part 15.407(h)(2)(iii)
Test Method:	KDB 905462 D02, Clause 7.8.3
Test Limit:	Channel Move Time: within 10 seconds Channel Closing Transmission Time: 200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. (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 to facilitate 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.)

5.6.1 E.U.T. Operation:

Operating Environment:	
Temperature:	23 °C
Humidity:	55 %
Atmospheric Pressure:	1010 mbar
Pre test mode:	4: Normal Operating: Normal Operating_Keep the EUT works in normal operating mode and connect to companion device
Final test mode:	4: Normal Operating: Normal Operating_Keep the EUT works in normal operating mode and connect to companion device

5.6.2 Test Setup Diagram:



TEST PROCEDURE:
1.When a Client Device without Radar Detection is the UUT, the Master Device is the Radar Detection Device.
2.A spectrum analyzer is used to establish the test signal level for each radar type.
3. During this process, there are no transmissions by either the Master Device or Client Device.
4. The spectrum analyzer is switched to the zero span (time domain) mode at the frequency of the Radar Waveform generator. The peak detector function of the spectrum analyzer is utilized. The spectrum analyzer resolution bandwidth (RBW) and video bandwidth (VBW) are set to at least 3 MHz.
5. The measured channels are 5530MHz in 80MHz Bandwidth. The Radar signal was the same as transmitted channels, and injected into the antenna port of AP(master) ,measured the DFS parameters. The master transmitted the test data to client, the transmitted duty cycle is 37%.

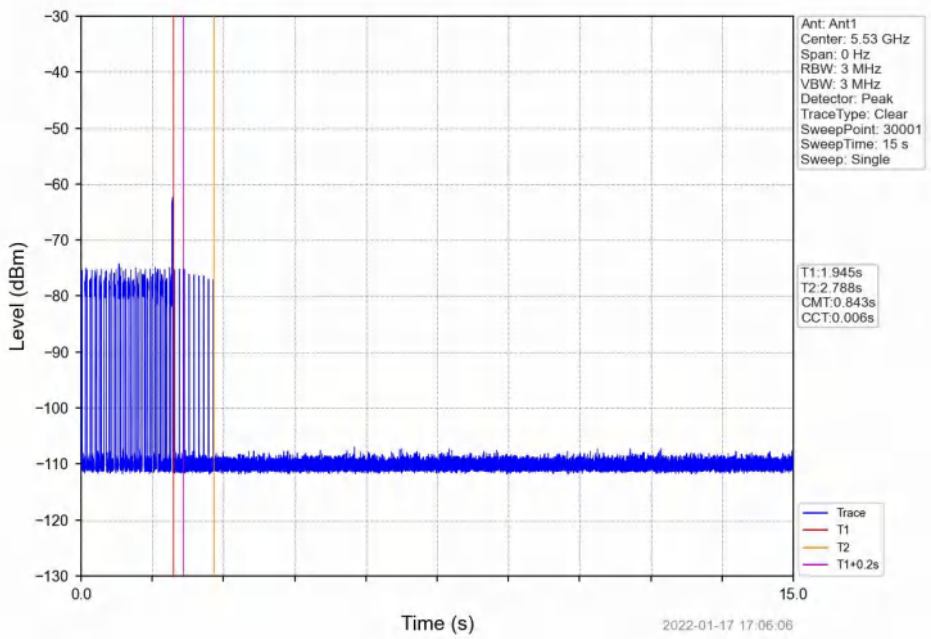
NOTE :
1.EUT nonsupport TPC
2.Master device startup is 5s, Client device startup is 3s.
3.Master device Model:RT-AC88U, FCC ID: MSQ-RTGW00.
4.

5.6.3 Test Data:

Channel Move Time and Channel Closing Transmission Time

Test Frequency	Requirement	Measurement Level	Limit
5530MHz	Channel Closing Transmission Time	0.006s	⩽0.26s
	Channel Move Time	0.843s	⩽10s

Channel Move Time and Closing Transmission Time_802.11ac(VHT80)_2C_5530MHz



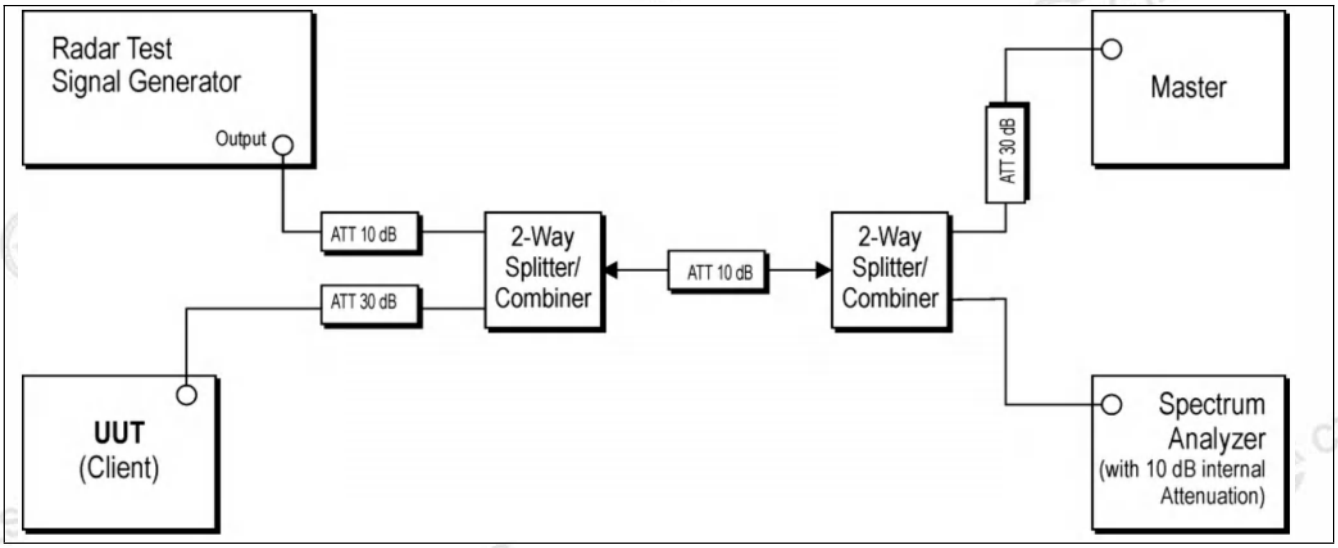
5.7 Non-Occupancy Period Test

Test Requirement:	47 CFR Part 15.407(h)(2)(iv)
Test Method:	KDB 905462 D02, Clause 7.8.3
Test Limit:	A channel that has been flagged as containing a radar system, either by a channel availability check or in-service monitoring, is subject to a non-occupancy period of at least 30 minutes. The non-occupancy period starts at the time when the radar system is detected.

5.7.1 E.U.T. Operation:

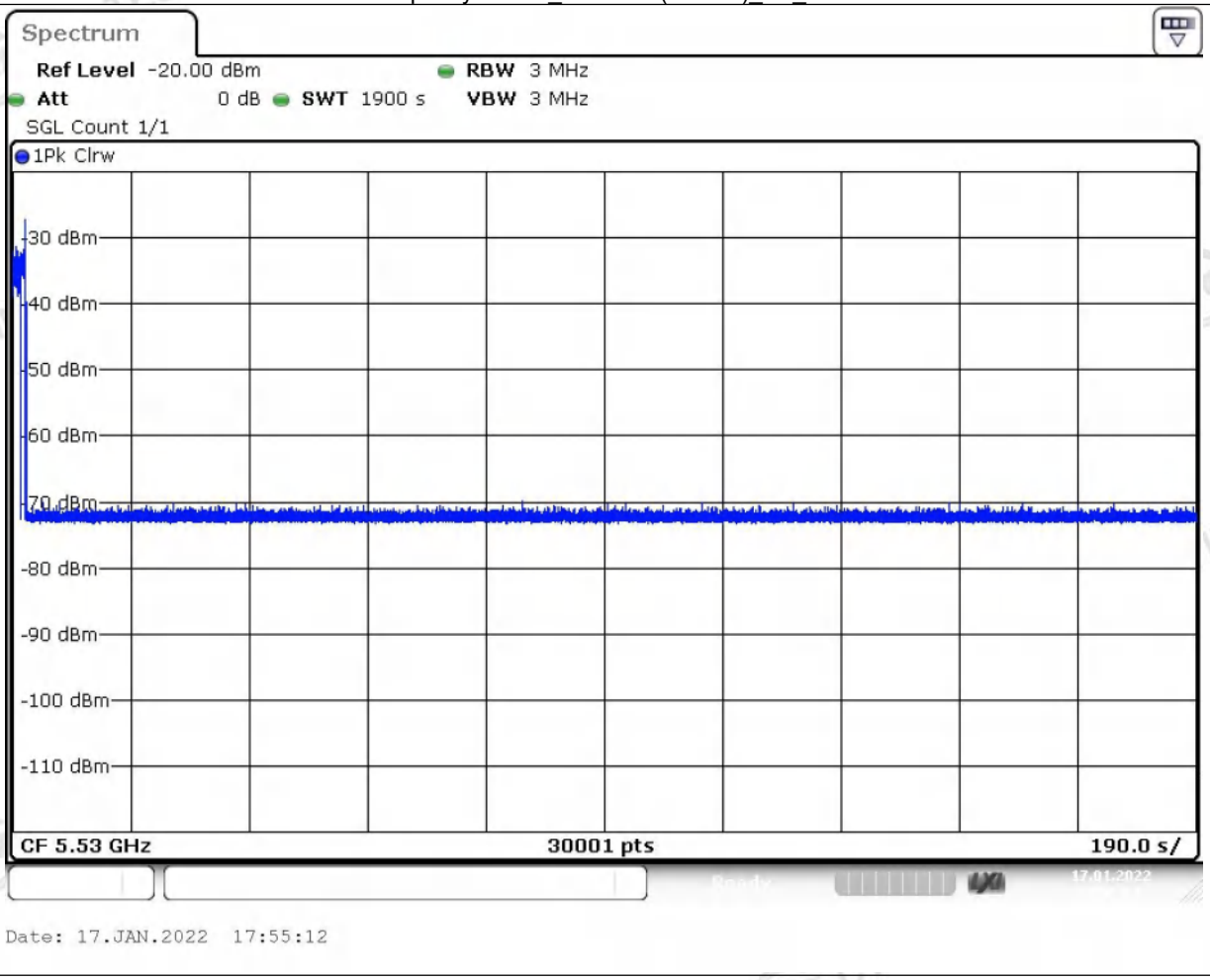
Operating Environment:	
Temperature:	23 °C
Humidity:	55 %
Atmospheric Pressure:	1010 mbar
Pre test mode:	4: Normal Operating: Normal Operating_Keep the EUT works in normal operating mode and connect to companion device
Final test mode:	4: Normal Operating: Normal Operating_Keep the EUT works in normal operating mode and connect to companion device

5.7.2 Test Setup Diagram:



5.7.3 Test Data:

Non-Occupancy Period_802.11ac(VHT80)_2C_5530MHz



5.8 DFS Detection Thresholds

Test Requirement:	KDB 905462 D02, Clause 5.2 Table 3
Test Method:	KDB 905462 D02, Clause 7.4.1.1
Test Limit:	Table 3: DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection

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

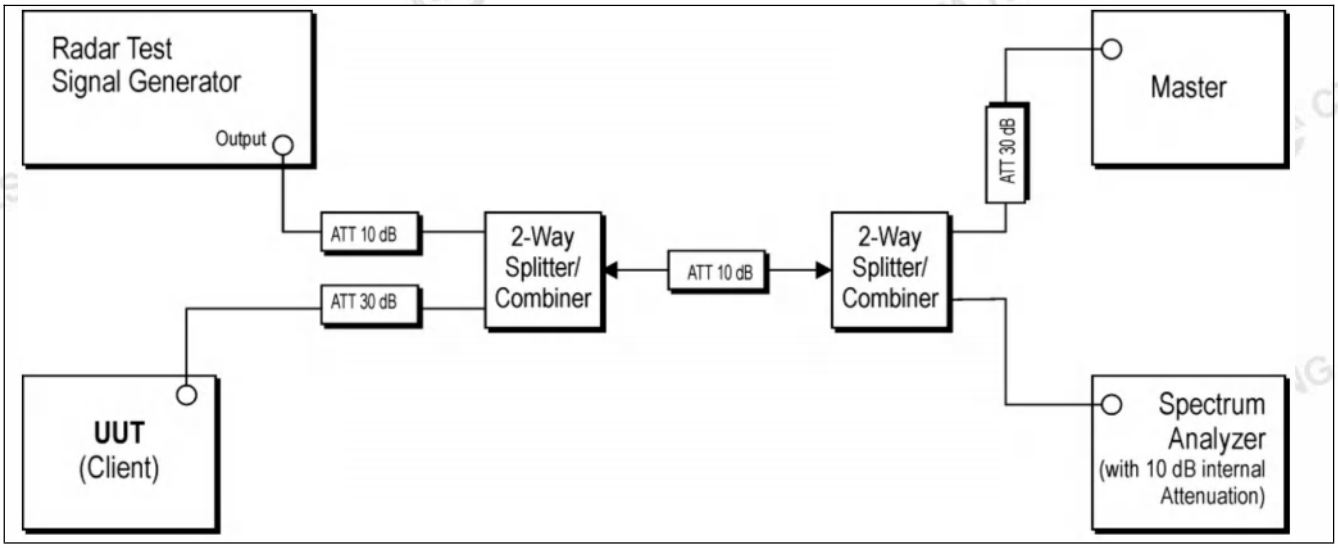
Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP ≥ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 dBm

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.

5.8.1 E.U.T. Operation:

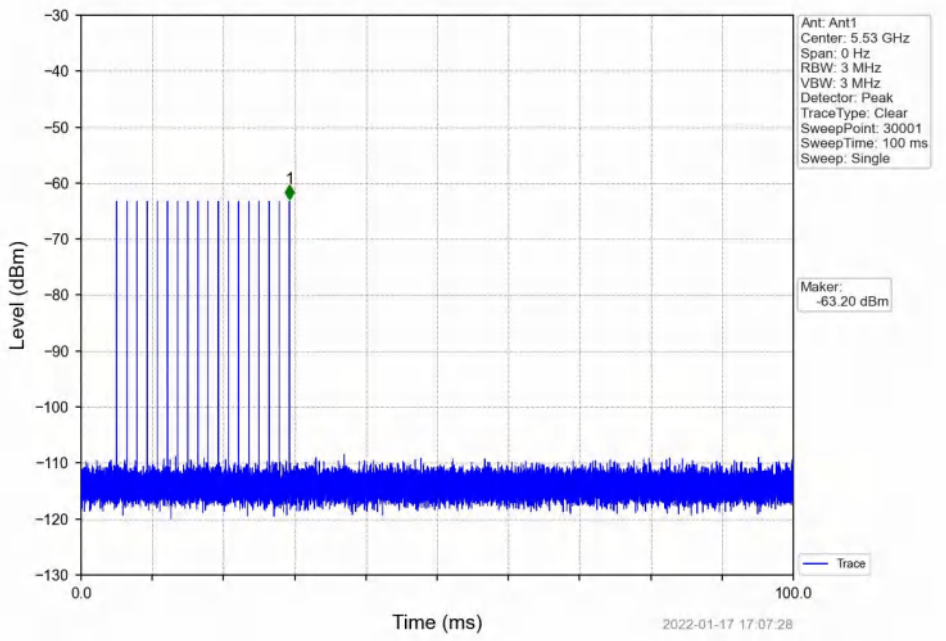
Operating Environment:	
Temperature:	23 °C
Humidity:	55 %
Atmospheric Pressure:	1010 mbar
Pre test mode:	4: Normal Operating: Normal Operating_Keep the EUT works in normal operating mode and connect to companion device
Final test mode:	4: Normal Operating: Normal Operating_Keep the EUT works in normal operating mode and connect to companion device

5.8.2 Test Setup Diagram:



5.8.3 Test Data:

Signal Calibration_802.11ac(VHT80)_2C_5530MHz_RadarType0_Trial0



5.9 Emissions around the fundametal

Test Requirement:

47 CFR Part 15.407(b)(1)
47 CFR Part 15.407(b)(2)
47 CFR Part 15.407(b)(3)
47 CFR Part 15.407(b)(4)
47 CFR Part 15.407(b)(10)

Test Method:

ANSI C63.10-2013, section 12.7.4, 12.7.5, 12.7.6

Test Limit:

For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

For transmitters operating solely in the 5.725-5.850 GHz band:
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.

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
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

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

[2] Above 38.6

The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in § 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in § 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in § 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in § 15.35 apply to these measurements.

Except as provided elsewhere in this subpart, the emissions from an

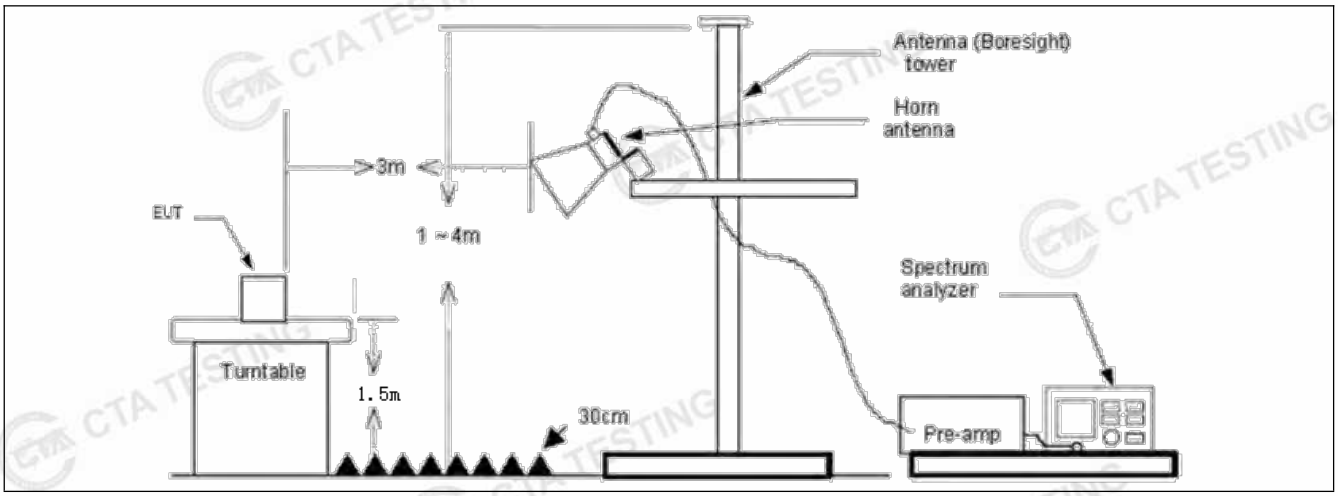
	intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field strength (microvolts/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

5.9.1 E.U.T. Operation:

Operating Environment:	
Temperature:	24.6 °C
Humidity:	55 %
Atmospheric Pressure:	1010 mbar
Pre test mode:	1: TX mode IEEE 802.11a: TX mode IEEE 802.11a_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11a modulation type. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report. 2: TX mode IEEE 802.11n: TX mode IEEE 802.11n_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11n modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report. 3: TX mode IEEE 802.11ac: TX mode IEEE 802.11ac_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11ac modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.
Final test mode:	1: TX mode IEEE 802.11a: TX mode IEEE 802.11a_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11a modulation type. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report.

5.9.2 Test Setup Diagram:



5.9.3 Test Data:

Please Refer to Appendix for Details.

5.10 Undesirable emission limits

Test Requirement:	47 CFR Part 15.407(b)(9)
Test Method:	ANSI C63.10-2013, section 12.7.4, 12.7.5, 12.7.6
Test Limit:	Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209. Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

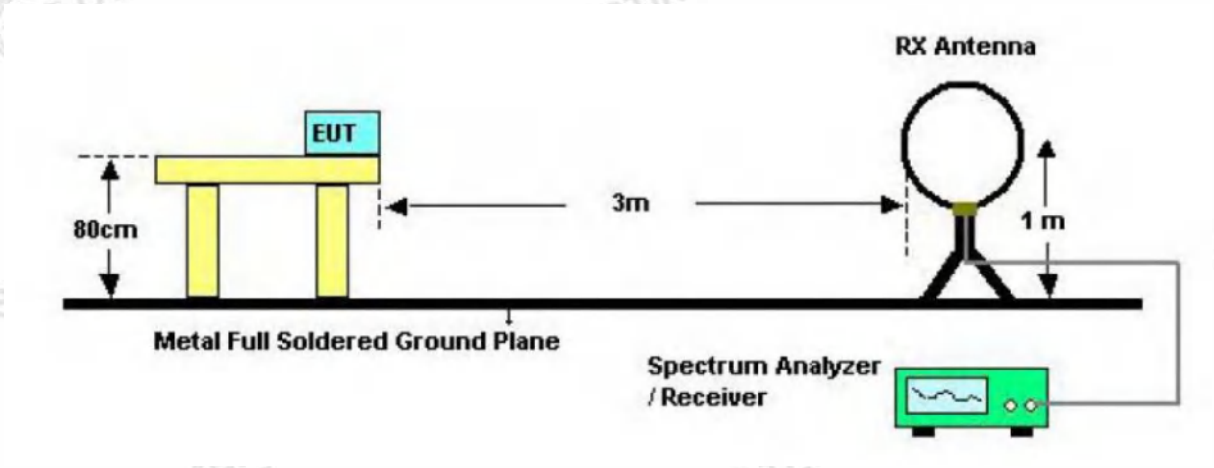
Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100 **	3
88-216	150 **	3
216-960	200 **	3
Above 960	500	3

5.10.1 E.U.T. Operation:

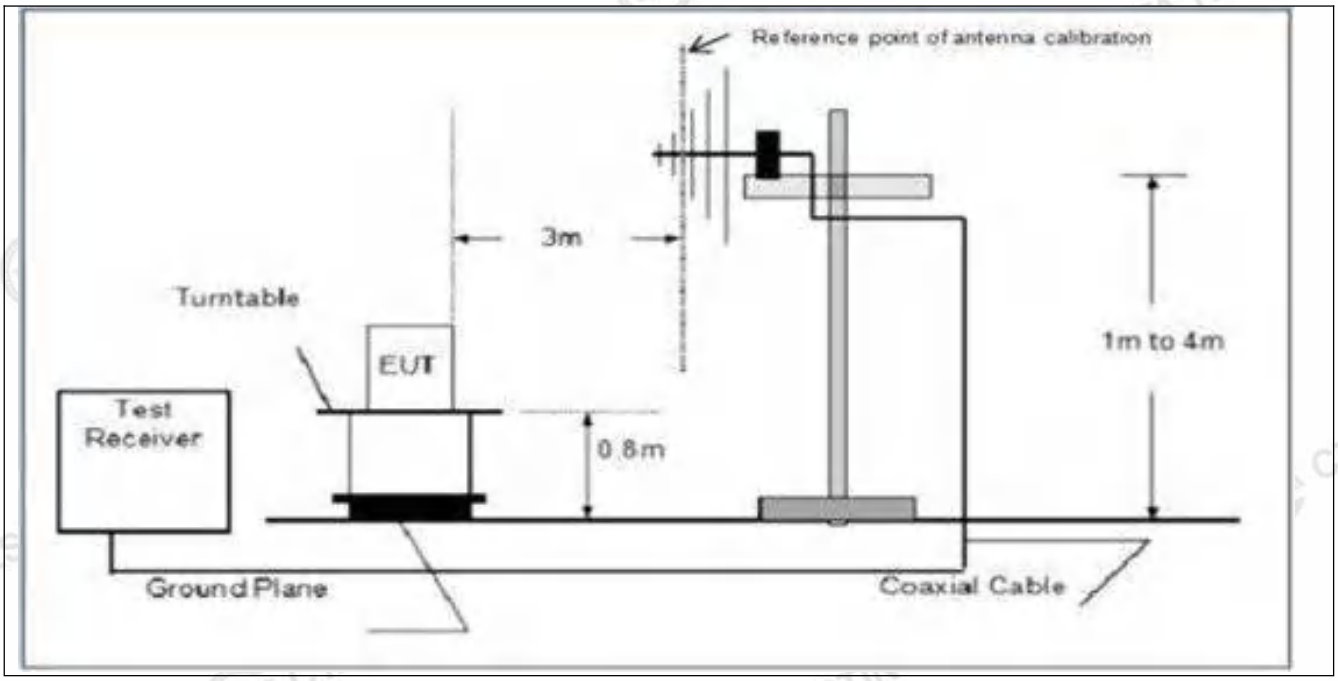
Operating Environment:	
Temperature:	24.6 °C
Humidity:	55 %
Atmospheric Pressure:	1010 mbar
Pre test mode:	1: TX mode IEEE 802.11a: TX mode IEEE 802.11a_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11a modulation type. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report. 2: TX mode IEEE 802.11n: TX mode IEEE 802.11n_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11n modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report. 3: TX mode IEEE 802.11ac: TX mode IEEE 802.11ac_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11ac modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.
Final test mode:	1: TX mode IEEE 802.11a: TX mode IEEE 802.11a_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11a modulation type. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report.

5.10.2 Test Setup Diagram:

Below 30MHz Test Setup



Below 1GHz Test Setup



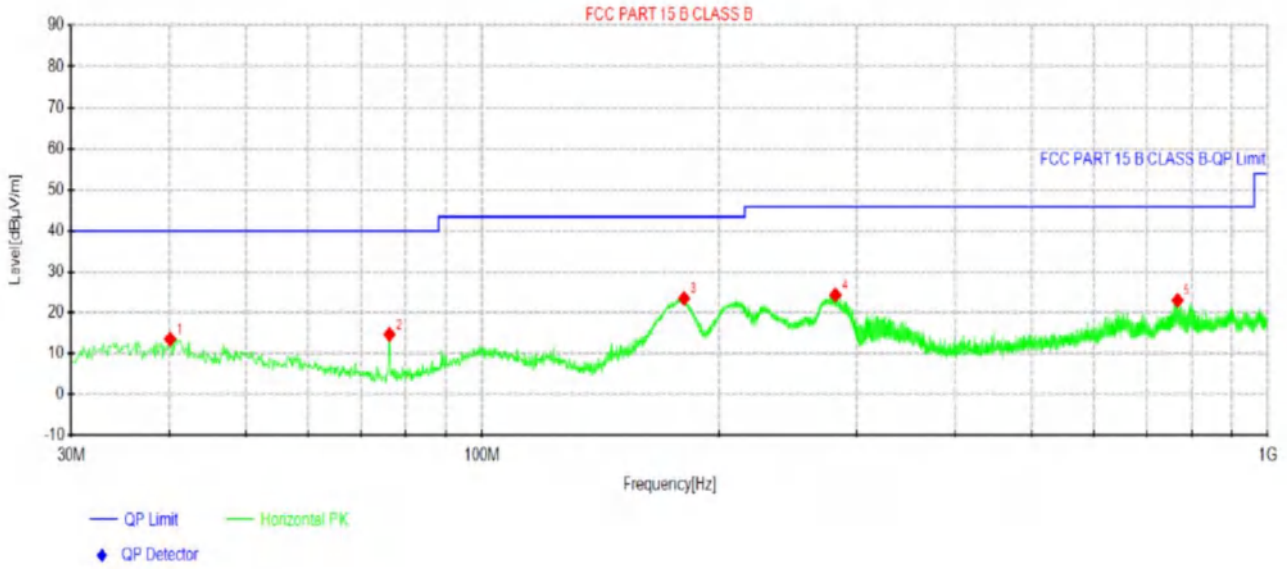
5.10.3 Test Data:

RADIATED EMISSION BELOW 30MHZ

No emission found between lowest internal used/generated frequencies to 30MHz.

Test Mode:1 / Polarization: Horizontal / Band: U-NII 1 / BW: 20 / CH: L

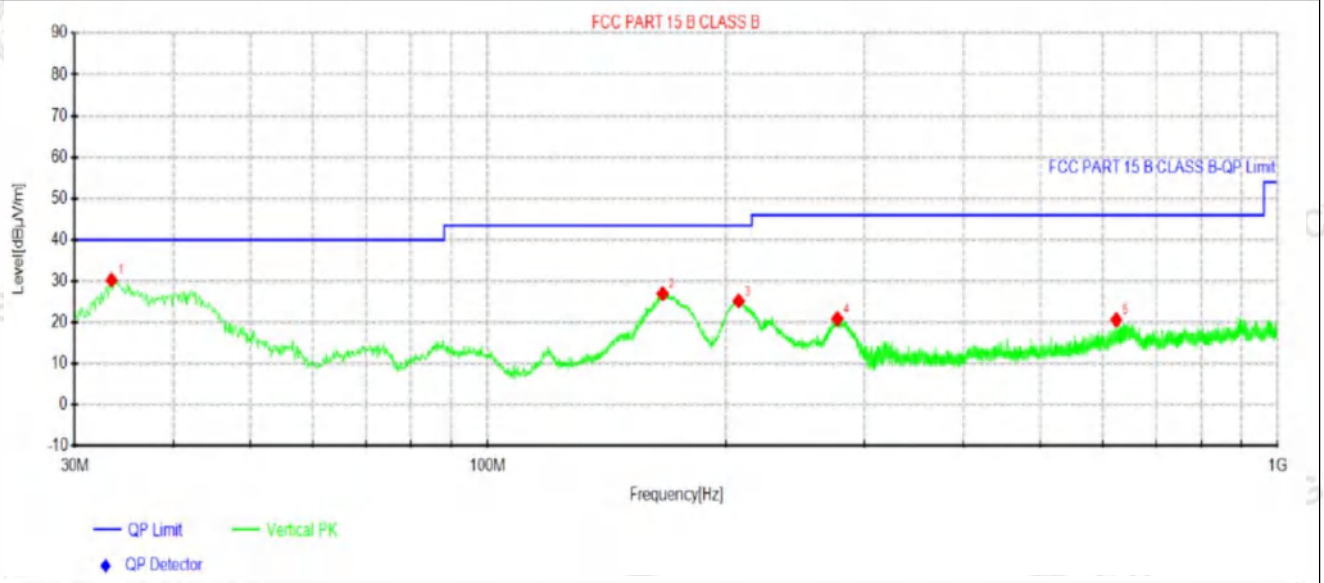
Test Voltage:AC 120V/60Hz



Suspected Data List

NO.	Freq. [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	40.0638	30.64	13.50	-17.14	40.00	26.50	100	328	Horizontal
2	76.1963	35.80	14.64	-21.16	40.00	25.36	100	196	Horizontal
3	180.713	43.93	23.43	-20.50	43.50	20.07	100	274	Horizontal
4	281.472	41.93	24.26	-17.67	46.00	21.74	100	95	Horizontal
5	767.078	33.57	22.96	-10.61	46.00	23.04	100	258	Horizontal

Test Mode:1 / Polarization: Vertical / Band: U-NII 1 / BW: 20 / CH: L
Test Voltage:AC 120V/60Hz



Suspected Data List

NO.	Freq. [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	33.395	48.37	30.23	-18.14	40.00	9.77	100	342	Vertical
2	166.406	48.17	26.92	-21.25	43.50	16.58	100	281	Vertical
3	207.631	44.32	25.17	-19.15	43.50	18.33	100	360	Vertical
4	276.986	38.59	20.89	-17.70	46.00	25.11	100	297	Vertical
5	624.367	32.81	20.63	-12.18	46.00	25.37	100	71	Vertical

Note:

1) All frequency bands and modes have been tested, found 802.11a_5180MHz which it is worse case for 30MHz-1GHz , so only show the test data for worse case.

5.11 Undesirable emission limits (above 1GHz)

Test Requirement:

47 CFR Part 15.407(b)(1)
47 CFR Part 15.407(b)(2)
47 CFR Part 15.407(b)(3)
47 CFR Part 15.407(b)(4)
47 CFR Part 15.407(b)(10)

Test Method:

ANSI C63.10-2013, section 12.7.4, 12.7.5, 12.7.6

Test Limit:

For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

For transmitters operating solely in the 5.725-5.850 GHz band:
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.

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
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

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

[2] Above 38.6

The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in § 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in § 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in § 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in § 15.35 apply to these measurements.

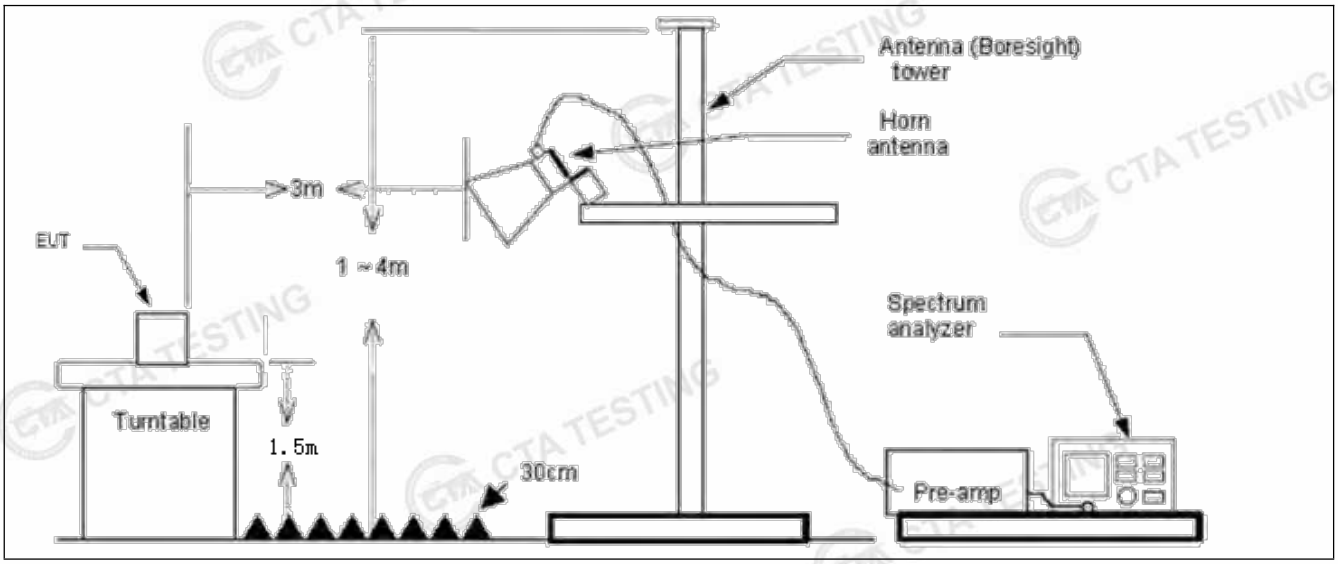
	Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field strength (microvolts/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

5.11.1 E.U.T. Operation:

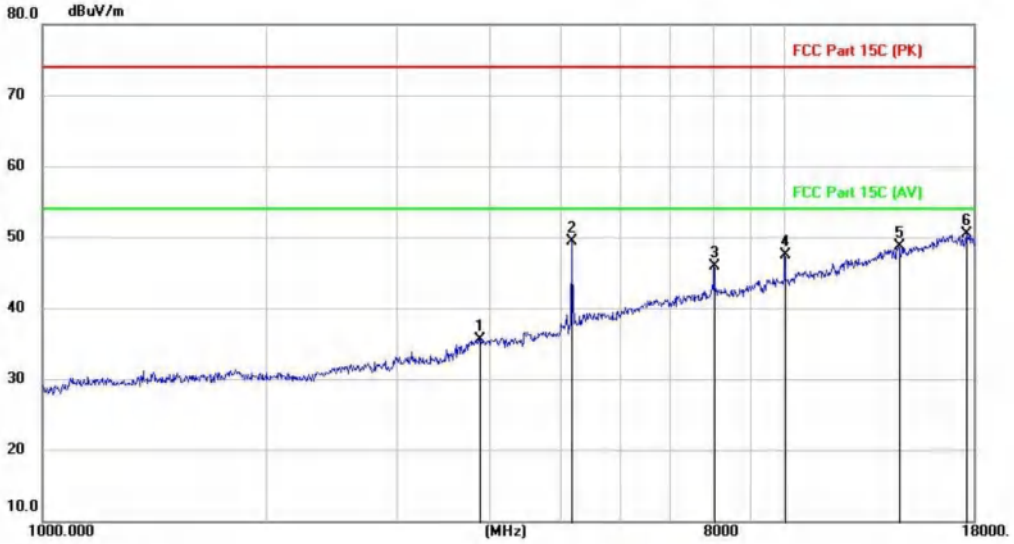
Operating Environment:	
Temperature:	24.6 °C
Humidity:	55 %
Atmospheric Pressure:	1010 mbar
Pre test mode:	1: TX mode IEEE 802.11a: TX mode IEEE 802.11a_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11a modulation type. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report. 2: TX mode IEEE 802.11n: TX mode IEEE 802.11n_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11n modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report. 3: TX mode IEEE 802.11ac: TX mode IEEE 802.11ac_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11ac modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.
Final test mode:	1: TX mode IEEE 802.11a: TX mode IEEE 802.11a_Keep the EUT connect to AC power line and works in continuously transmitting mode with IEEE 802.11a modulation type. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report.

5.11.2 Test Setup Diagram:



5.11.3 Test Data:

Test Mode:1 / Polarization: Horizontal / Band: U-NII 1 / BW: 20 / CH: L



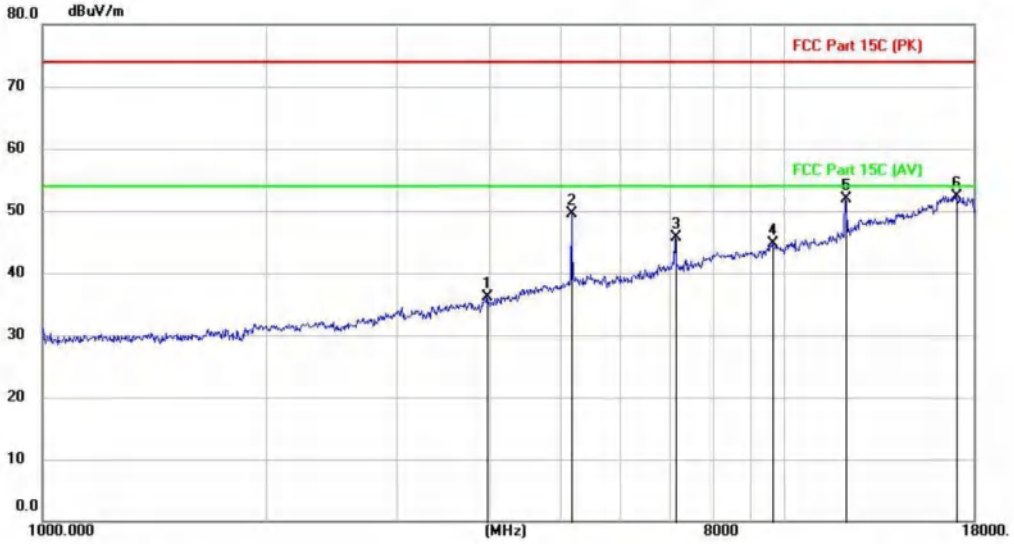
Site 966 Chamber
Limit: FCC Part 15C (PK)
EUT: GPS导航器
M/N: N21
Mode: 11A-5180
Note:

Polarization: *Horizontal*
Power: DC 3V
Distance: 3m

Temperature: 25
Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector	cm	degree	Comment
1		3890.000	44.42	-8.70	35.72	74.00	-38.28	peak			
2		5176.900	54.62	-5.23	49.39	74.00	-24.61	peak			
3		8038.000	43.84	2.06	45.90	74.00	-28.10	peak			
4		10030.400	43.46	4.12	47.58	74.00	-26.42	peak			
5		14271.900	37.83	10.87	48.70	74.00	-25.30	peak			
6	*	17636.200	36.98	13.46	50.44	74.00	-23.56	peak			

Test Mode:1 / Polarization: Vertical / Band: U-NII 1 / BW: 20 / CH: L



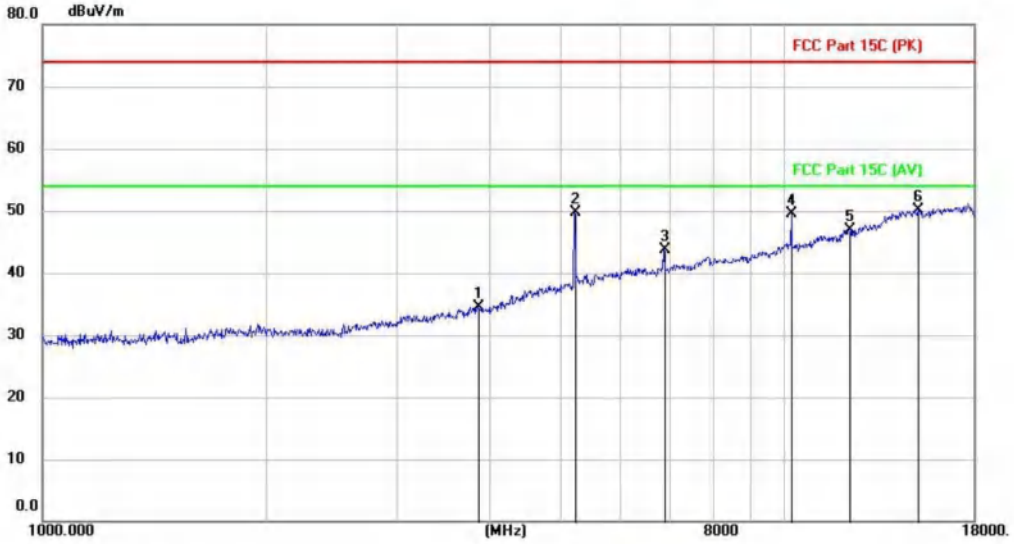
Site 966 Chamber
Limit: FCC Part 15C (PK)
EUT: GPS导航器
M/N: N21
Mode: 11A-5180
Note:

Polarization: *Vertical*
Power: DC 3V
Distance: 3m

Temperature: 25
Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector	cm	degree	Comment
1		3976.700	44.54	-8.49	36.05	74.00	-37.95	peak			
2		5176.900	54.73	-5.23	49.50	74.00	-24.50	peak			
3		7125.100	46.06	-0.33	45.73	74.00	-28.27	peak			
4		9653.000	41.43	3.30	44.73	74.00	-29.27	peak			
5		12097.600	43.84	8.10	51.94	74.00	-22.06	peak			
6	*	17058.200	39.21	13.07	52.28	74.00	-21.72	peak			

Test Mode:1 / Polarization: Horizontal / Band: U-NII 1 / BW: 20 / CH: M



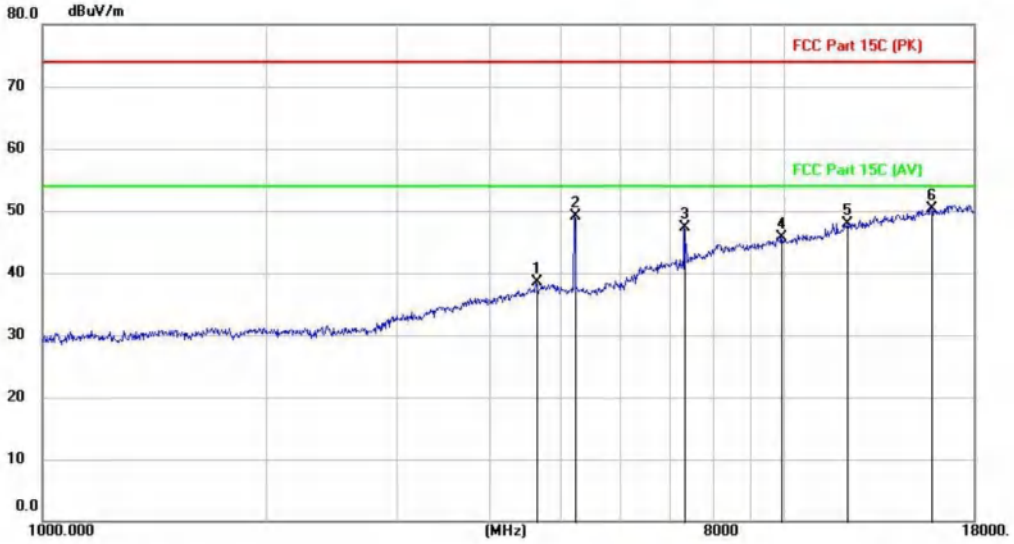
Site 966 Chamber
Limit: FCC Part 15C (PK)
EUT: GPS导航器
M/N: N21
Mode: 11A-5220
Note:

Polarization: *Horizontal*
Power: DC 3V
Distance: 3m

Temperature: 25
Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector	cm	degree	Comment
1		3861.100	43.30	-8.78	34.52	74.00	-39.48	peak			
2		5217.700	54.95	-5.19	49.76	74.00	-24.24	peak			
3		6885.400	44.79	-1.03	43.76	74.00	-30.24	peak			
4		10227.600	45.09	4.46	49.55	74.00	-24.45	peak			
5		12225.100	38.61	8.38	46.99	74.00	-27.01	peak			
6	*	15144.000	38.35	11.69	50.04	74.00	-23.96	peak			

Test Mode:1 / Polarization: Vertical / Band: U-NII 1 / BW: 20 / CH: M



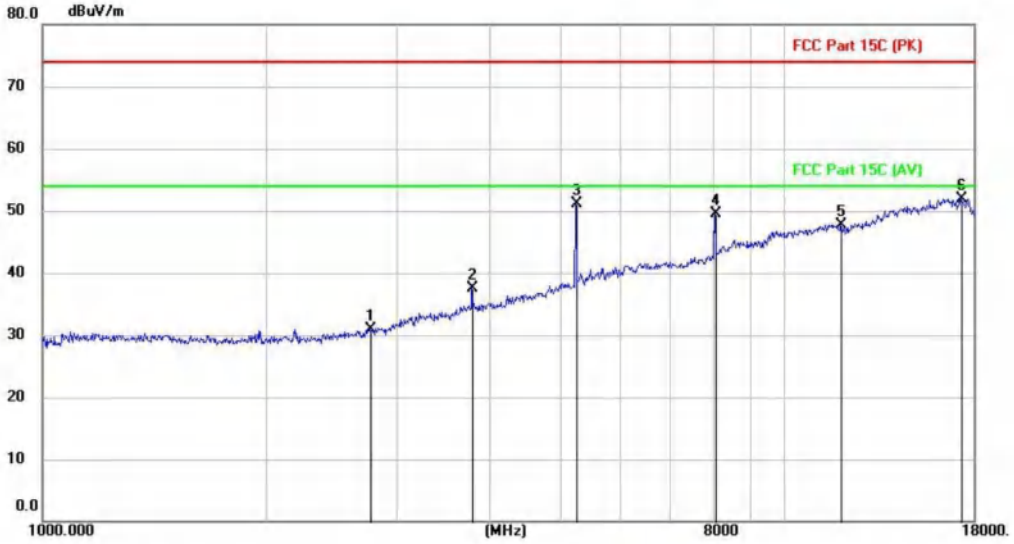
Site 966 Chamber
Limit: FCC Part 15C (PK)
EUT: GPS导航器
M/N: N21
Mode: 11A-5220
Note:

Polarization: *Vertical*
Power: DC 3V
Distance: 3m

Temperature: 25
Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector	cm	degree	Comment
1		4638.000	44.87	-6.37	38.50	74.00	-35.50	peak			
2		5221.100	54.35	-5.19	49.16	74.00	-24.84	peak			
3		7334.200	47.03	0.31	47.34	74.00	-26.66	peak			
4		9923.300	41.81	3.89	45.70	74.00	-28.30	peak			
5		12160.500	39.67	8.23	47.90	74.00	-26.10	peak			
6	*	15791.700	37.88	12.38	50.26	74.00	-23.74	peak			

Test Mode:1 / Polarization: Horizontal / Band: U-NII 1 / BW: 20 / CH: H



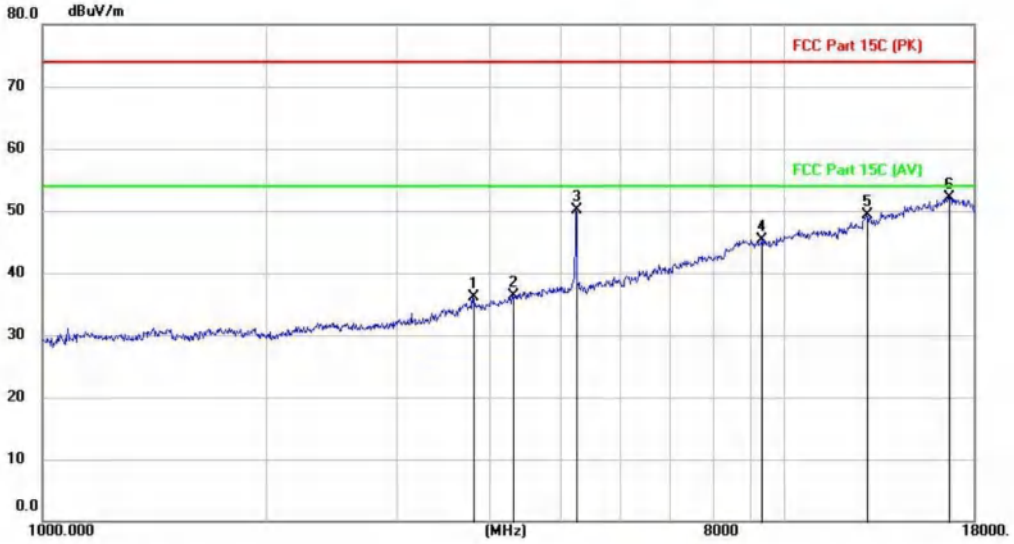
Site 966 Chamber
Limit: FCC Part 15C (PK)
EUT: GPS导航器
M/N: N21
Mode: 11A-5240
Note:

Polarization: *Horizontal*
Power: DC 3V
Distance: 3m

Temperature: 25
Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector	cm	degree	Comment
1		2761.200	41.71	-10.73	30.98	74.00	-43.02	peak			
2		3796.500	46.45	-8.93	37.52	74.00	-36.48	peak			
3		5239.800	56.33	-5.17	51.16	74.00	-22.84	peak			
4		8078.800	47.38	2.05	49.43	74.00	-24.57	peak			
5		11936.100	39.96	7.75	47.71	74.00	-26.29	peak			
6	*	17297.900	38.72	13.25	51.97	74.00	-22.03	peak			

Test Mode:1 / Polarization: Vertical / Band: U-NII 1 / BW: 20 / CH: H



Site 966 Chamber
Limit: FCC Part 15C (PK)
EUT: GPS导航器
M/N: N21
Mode: 11A-5240
Note:

Polarization: *Vertical*
Power: DC 3V
Distance: 3m

Temperature: 25
Humidity: 55 %

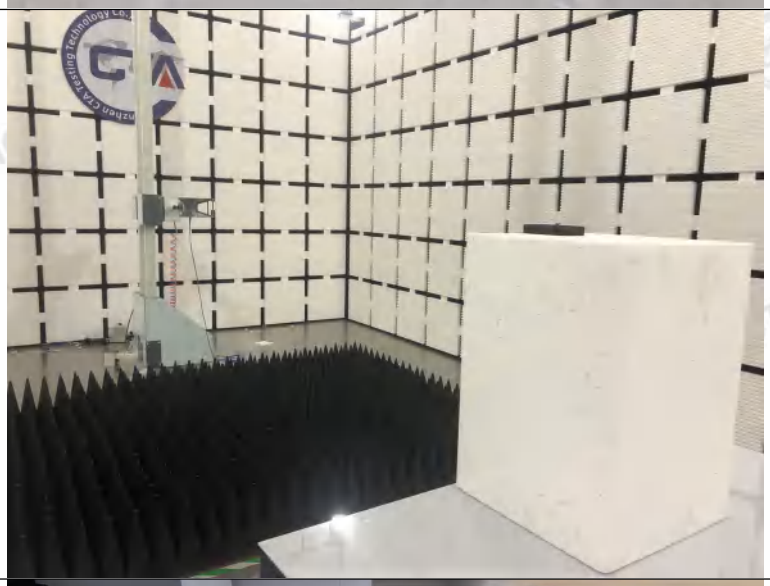
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector	cm	degree	Comment
1		3811.800	44.93	-8.90	36.03	74.00	-37.97	peak			
2		4311.600	43.77	-7.38	36.39	74.00	-37.61	peak			
3		5241.500	55.34	-5.16	50.18	74.00	-23.82	peak			
4		9316.400	42.67	2.54	45.21	74.00	-28.79	peak			
5		12930.600	39.50	9.79	49.29	74.00	-24.71	peak			
6	*	16679.100	38.49	13.53	52.02	74.00	-21.98	peak			

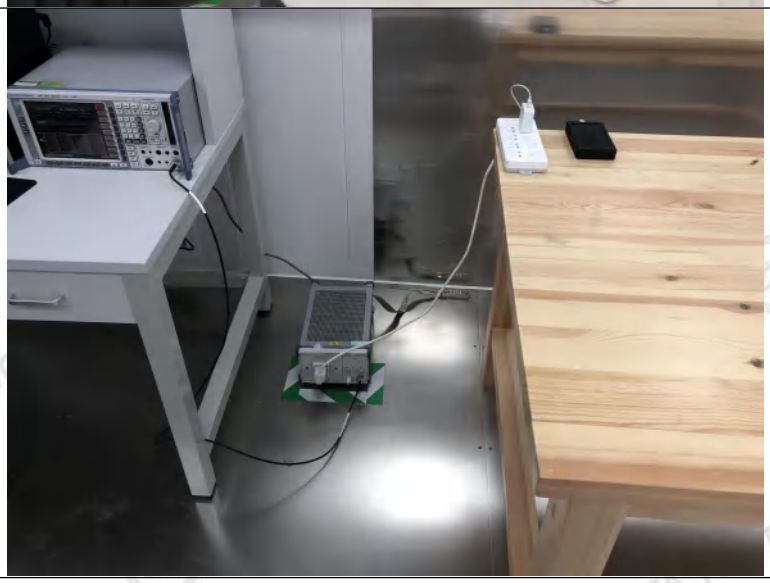
Note:

1) All frequency bands and modes have been tested, found 802.11a_5180MHz which it is worse case for 1GHz-40GHz , so only show the test data for worse case.

2) 18GHz-40GHz is the background of the site, there is no radiated spurious.

6. Test Setup Photos





7. EUT Constructional Details (EUT Photos)

Please refer to the report Report No.: CTA22012500601

Appendix

Appendix A1: Emission Bandwidth

Test Result

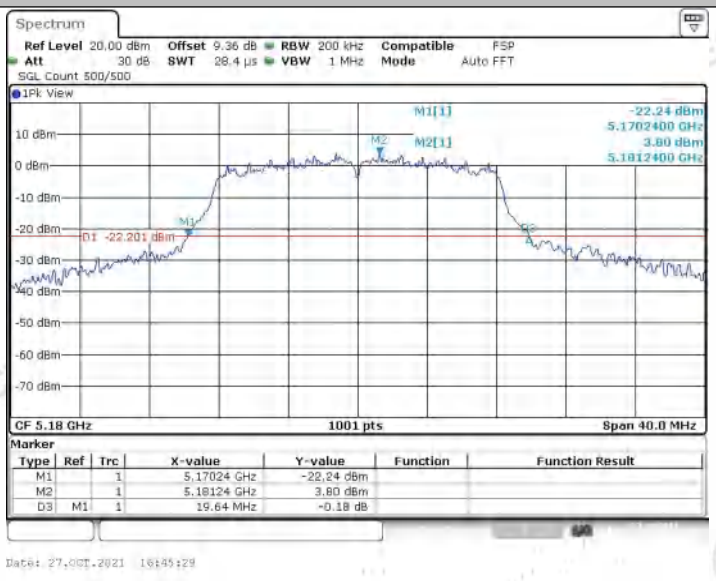
TestMode	Antenna	Channel	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	19.640	5170.240	5189.880	---	PASS
		5200	19.640	5190.160	5209.800	---	PASS
		5240	20.320	5229.640	5249.960	---	PASS
		5260	20.040	5249.920	5269.960	---	PASS
		5280	19.760	5270.080	5289.840	---	PASS
		5320	20.440	5309.600	5330.040	---	PASS
		5500	20.840	5489.600	5510.440	---	PASS
		5580	22.880	5567.800	5590.680	---	PASS
		5700	26.400	5686.760	5713.160	---	PASS
		5745	22.720	5733.640	5756.360	---	PASS
		5785	19.920	5775.120	5795.040	---	PASS
		5825	23.000	5813.360	5836.360	---	PASS
11N20SISO	Ant1	5180	23.720	5168.240	5191.960	---	PASS
		5200	19.920	5190.120	5210.040	---	PASS
		5240	24.480	5227.360	5251.840	---	PASS
		5260	20.040	5250.040	5270.080	---	PASS
		5280	23.000	5268.360	5291.360	---	PASS
		5320	20.120	5310.000	5330.120	---	PASS
		5500	23.040	5489.880	5512.920	---	PASS
		5580	22.200	5569.800	5592.000	---	PASS
		5700	28.920	5685.200	5714.120	---	PASS
		5745	30.680	5730.160	5760.840	---	PASS
		5785	24.600	5772.600	5797.200	---	PASS
		5825	22.280	5813.280	5835.560	---	PASS
11N40SISO	Ant1	5190	46.080	5164.000	5210.080	---	PASS
		5230	40.560	5209.840	5250.400	---	PASS
		5270	54.800	5249.600	5304.400	---	PASS

		5310	43.120	5290.080	5333.200	---	PASS
		5510	40.240	5489.840	5530.080	---	PASS
		5550	65.600	5515.680	5581.280	---	PASS
		5670	39.920	5650.000	5689.920	---	PASS
		5755	49.600	5731.720	5781.320	---	PASS
		5795	41.520	5773.880	5815.400	---	PASS
11AC20SISO	Ant1	5180	20.160	5169.960	5190.120	---	PASS
		5200	20.120	5190.080	5210.200	---	PASS
		5240	20.320	5229.880	5250.200	---	PASS
		5260	20.000	5250.040	5270.040	---	PASS
		5280	20.280	5269.960	5290.240	---	PASS
		5320	19.920	5309.920	5329.840	---	PASS
		5500	20.320	5489.800	5510.120	---	PASS
		5580	20.320	5569.680	5590.000	---	PASS
		5700	22.000	5689.360	5711.360	---	PASS
		5745	19.960	5735.040	5755.000	---	PASS
		5785	20.560	5774.880	5795.440	---	PASS
		5825	20.040	5815.040	5835.080	---	PASS
11AC40SISO	Ant1	5190	40.480	5169.840	5210.320	---	PASS
		5230	40.160	5210.080	5250.240	---	PASS
		5270	40.320	5250.080	5290.400	---	PASS
		5310	40.720	5289.840	5330.560	---	PASS
		5510	40.000	5490.080	5530.080	---	PASS
		5550	43.520	5526.720	5570.240	---	PASS
		5670	59.520	5635.280	5694.800	---	PASS
		5755	41.280	5734.600	5775.880	---	PASS
		5795	40.000	5774.760	5814.760	---	PASS
11AC80SISO	Ant1	5210	79.520	5170.320	5249.840	---	PASS
		5290	80.320	5249.840	5330.160	---	PASS
		5530	79.680	5490.160	5569.840	---	PASS

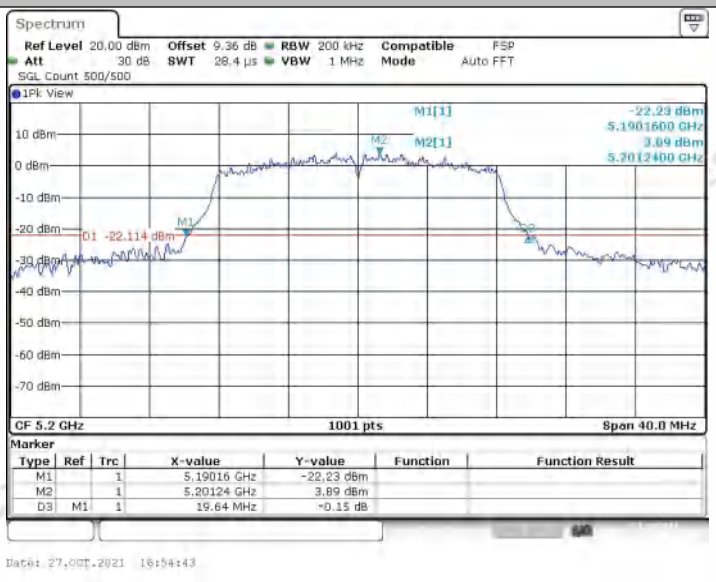
		5610	80.000	5570.000	5650.000	---	PASS
		5775	80.000	5735.000	5815.000	---	PASS

Test Graphs

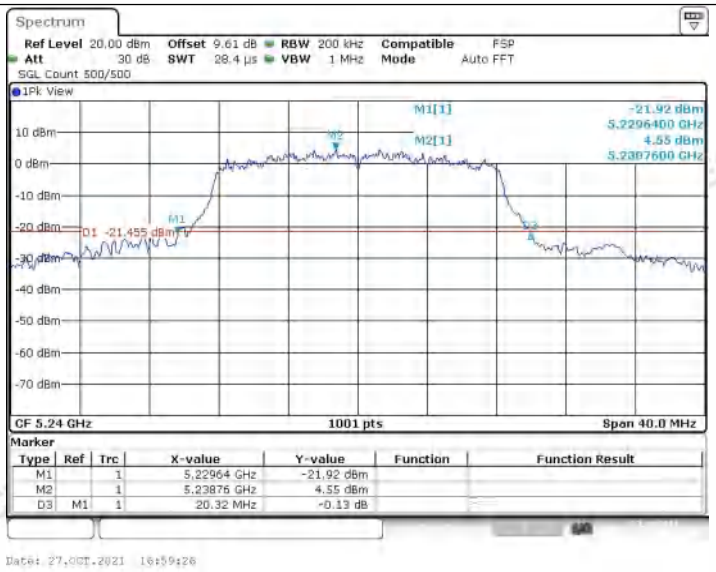
11A_Ant1_5180



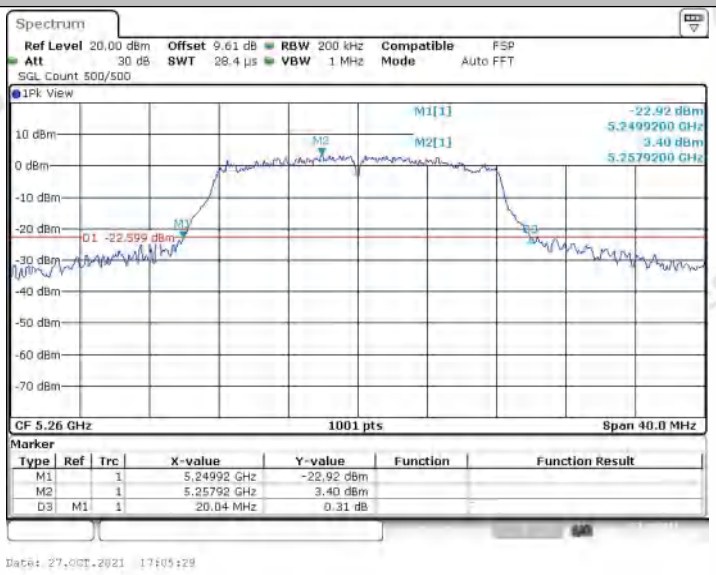
11A_Ant1_5200



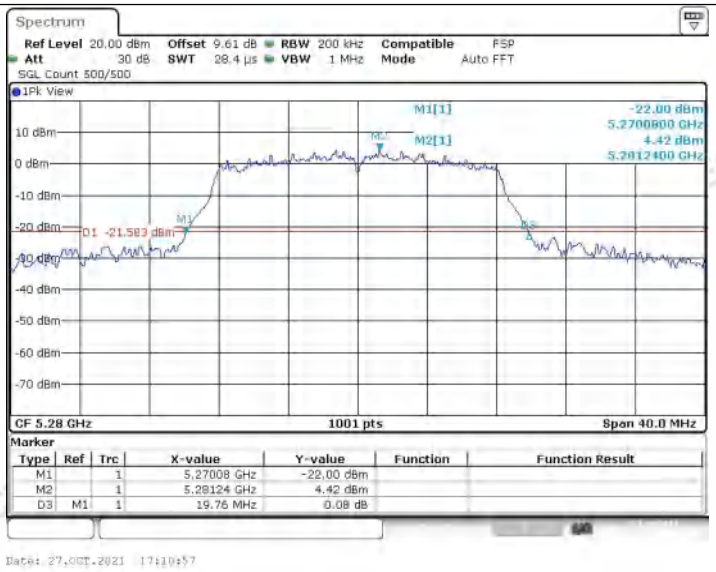
11A_Ant1_5240



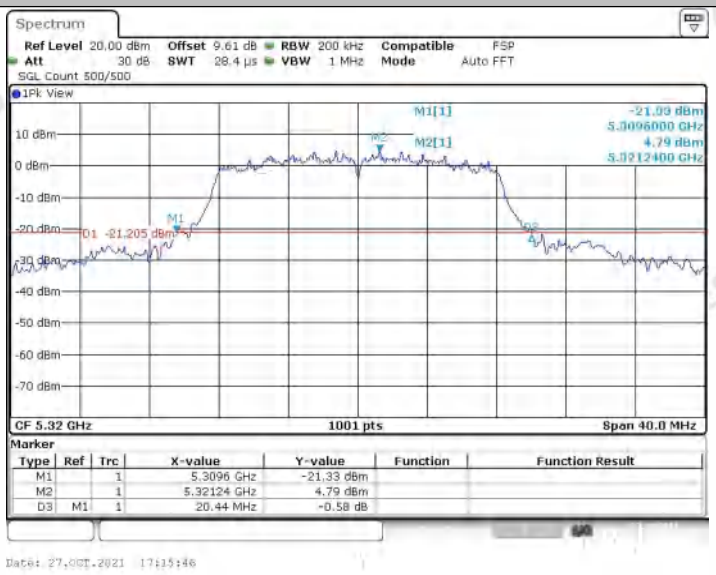
11A_Ant1_5260



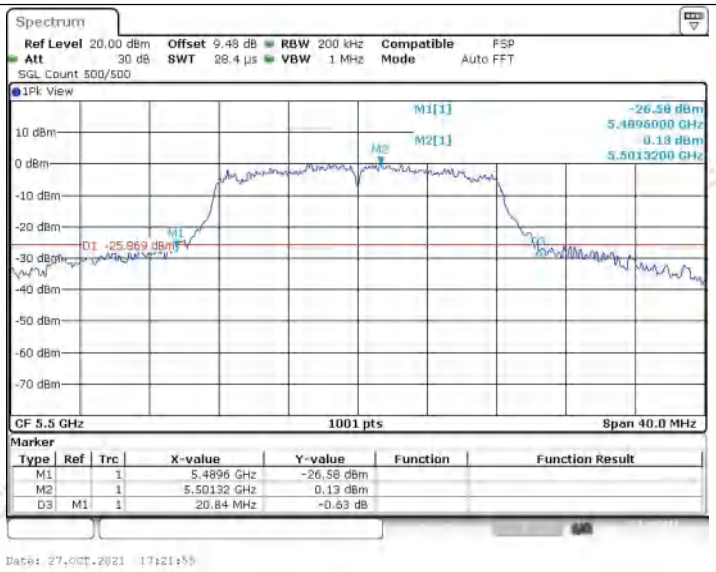
11A_Ant1_5280



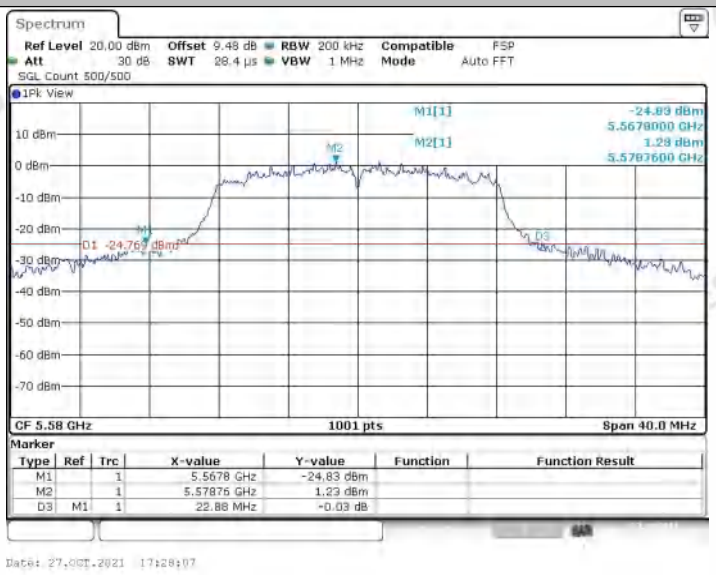
11A_Ant1_5320



11A_Ant1_5500



11A_Ant1_5580



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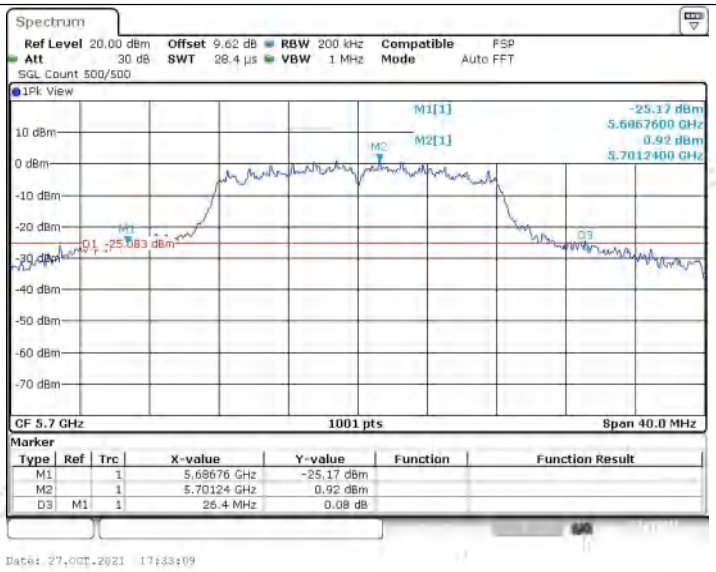

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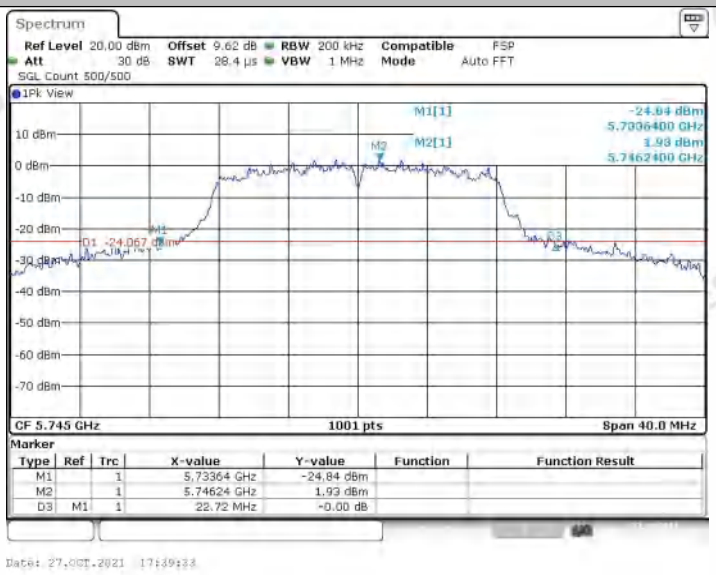

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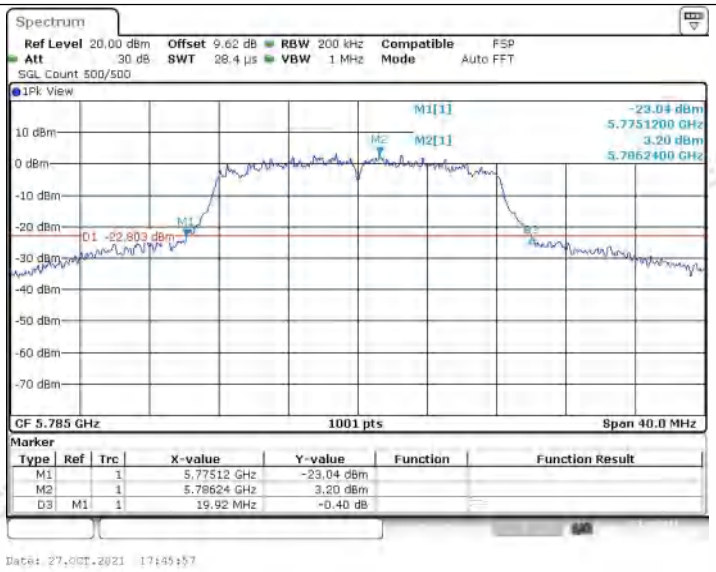

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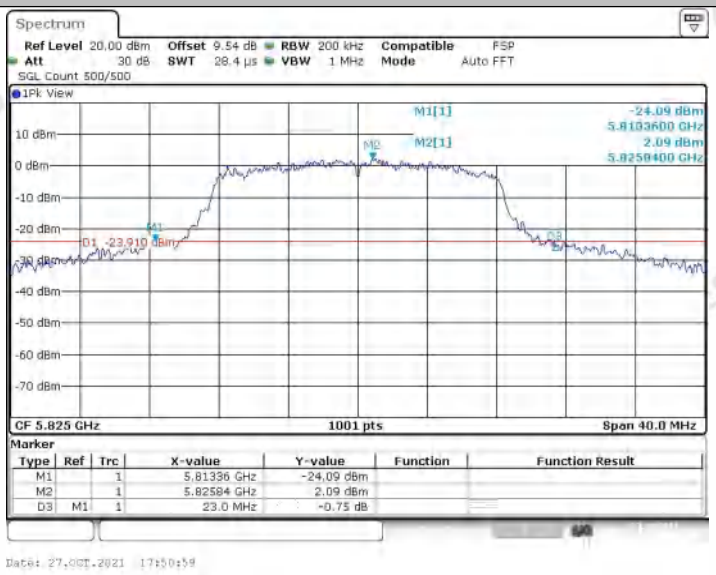

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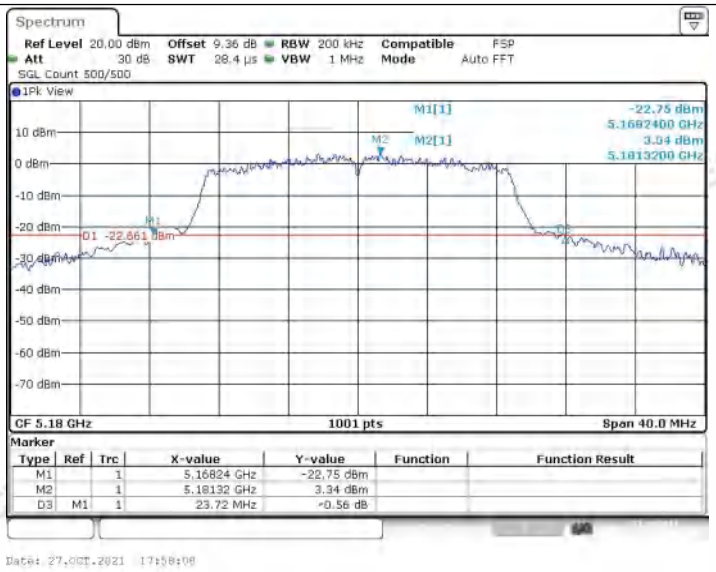

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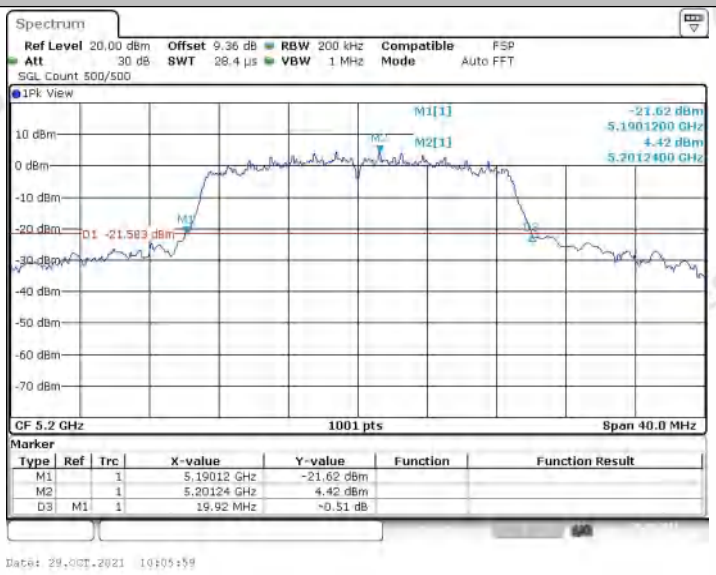

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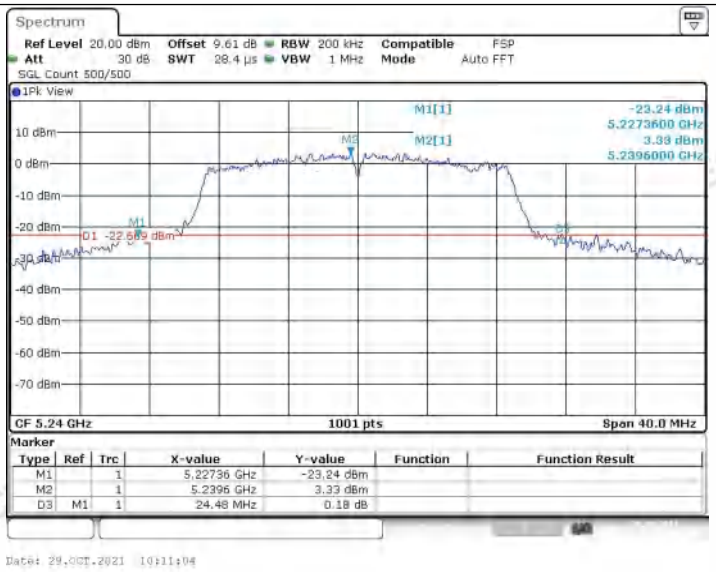

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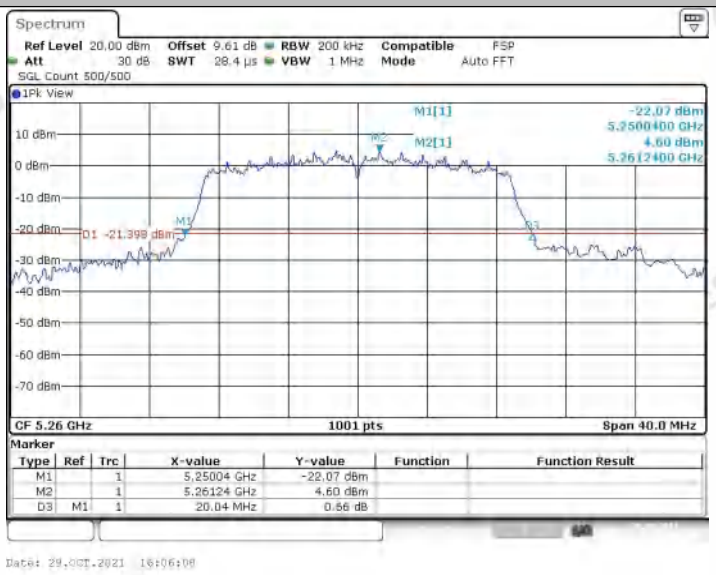

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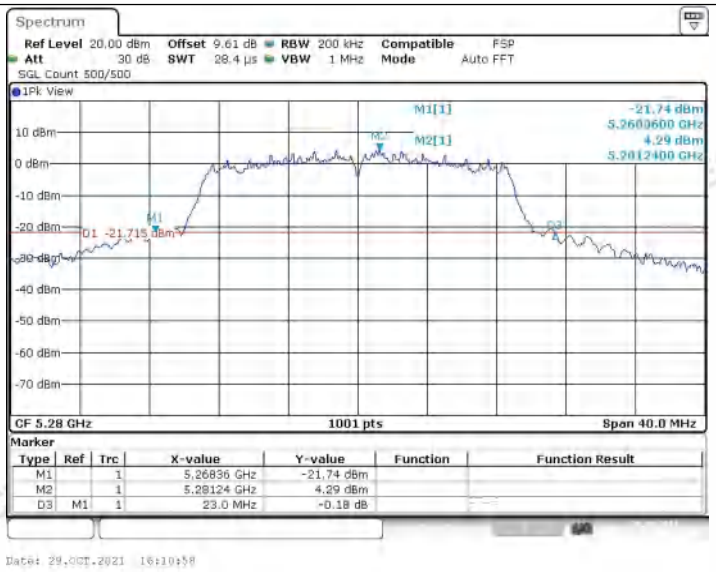

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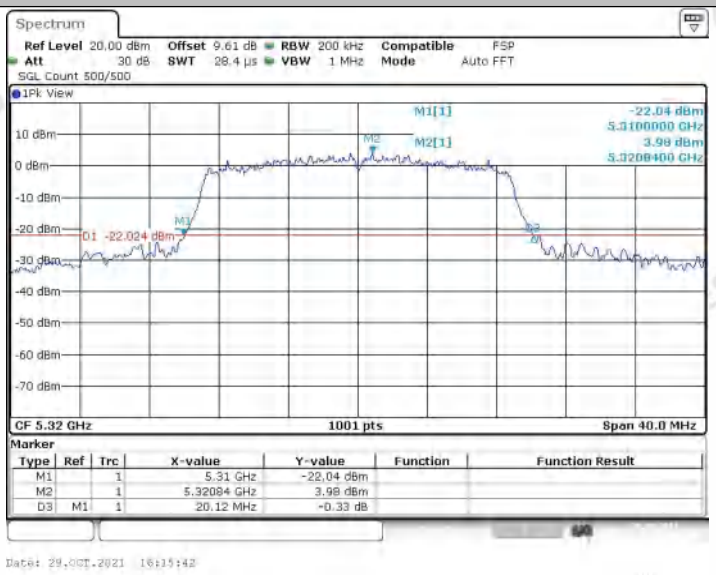

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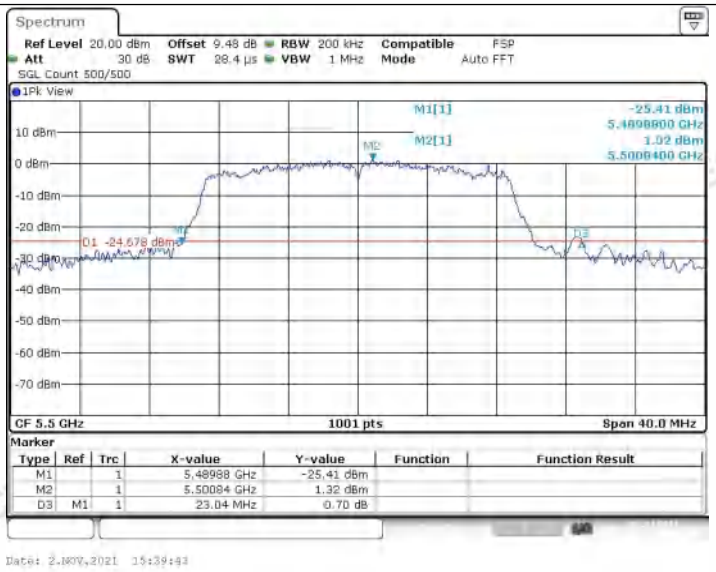

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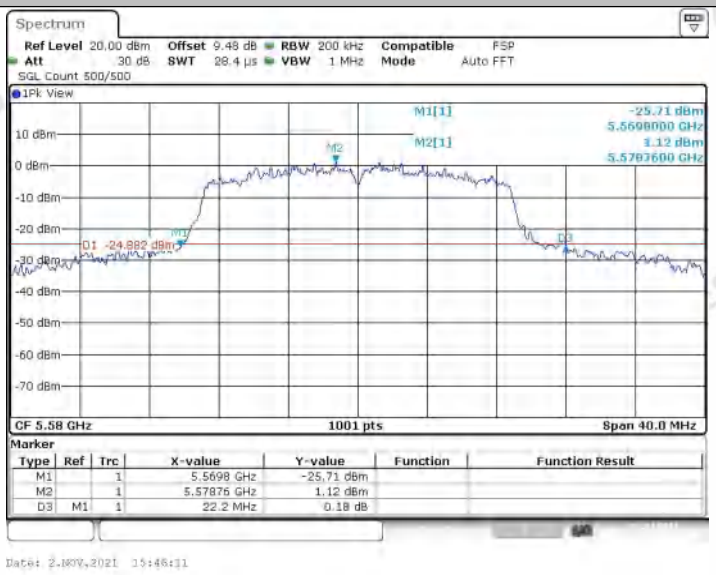

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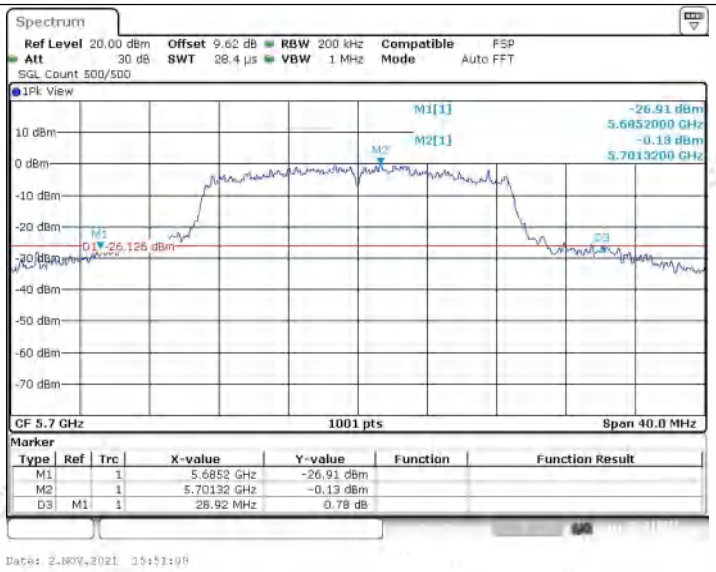

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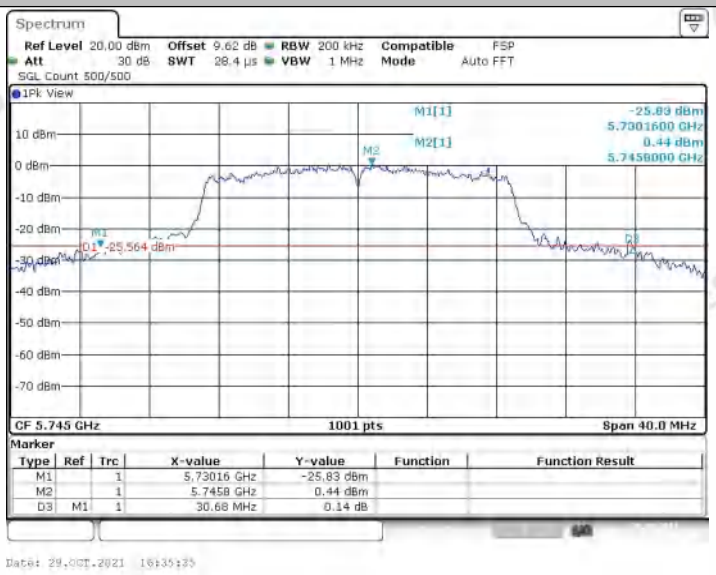

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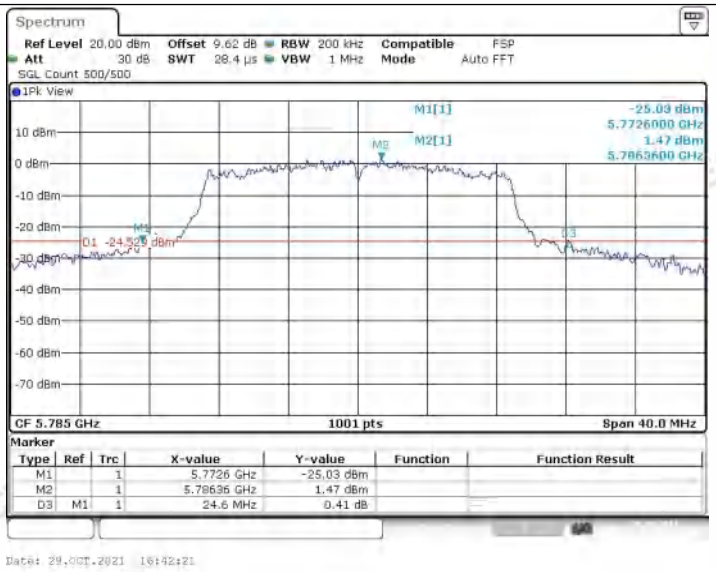
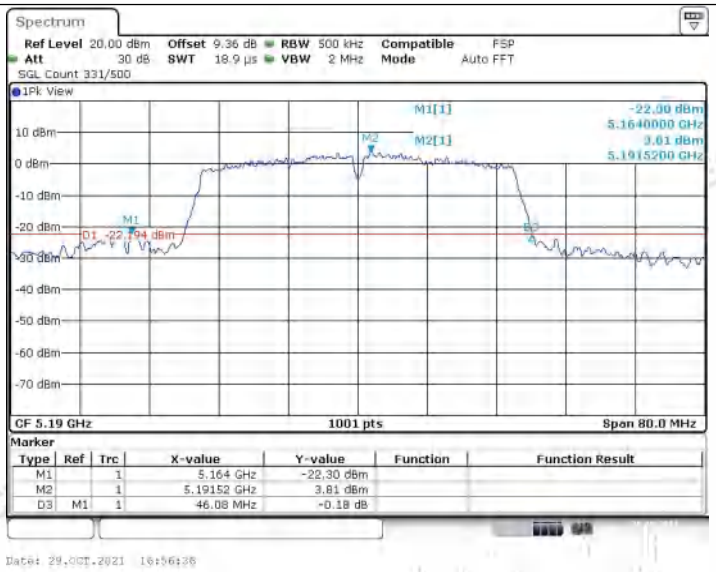


11N20SISO_Ant1_5825

11N40SISO_Ant1_5190



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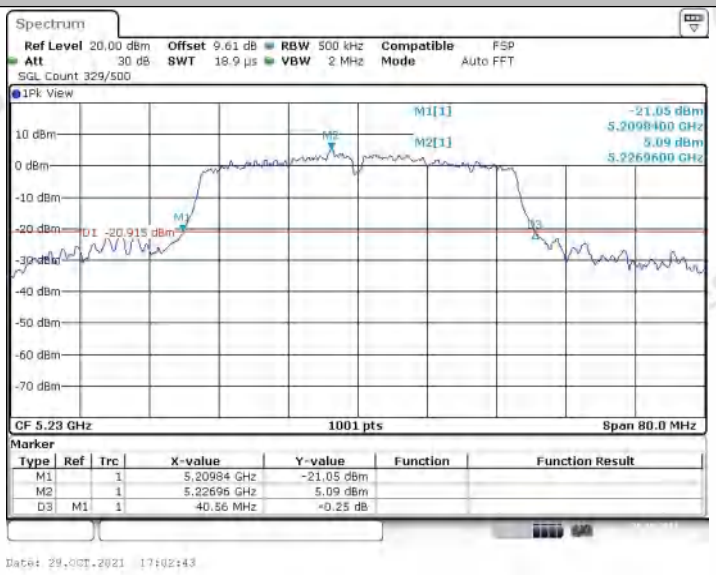

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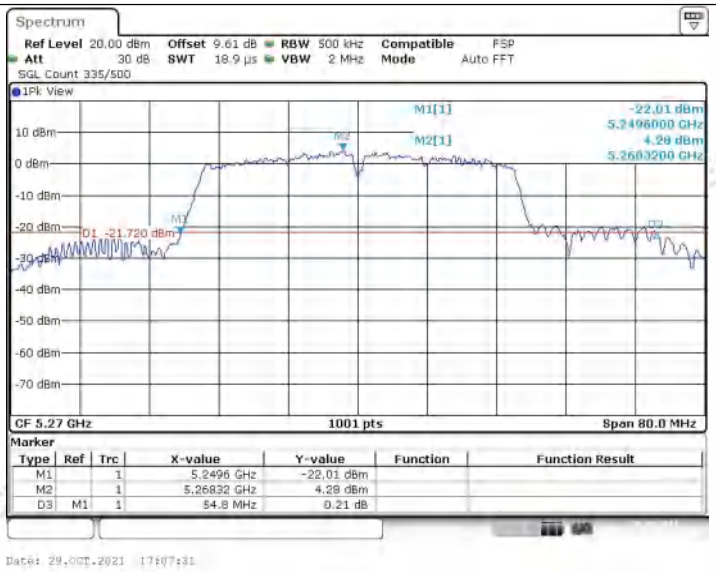

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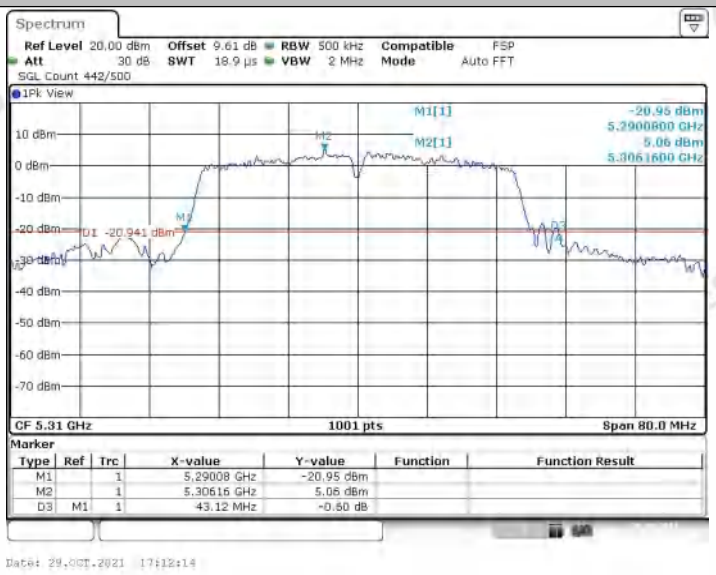

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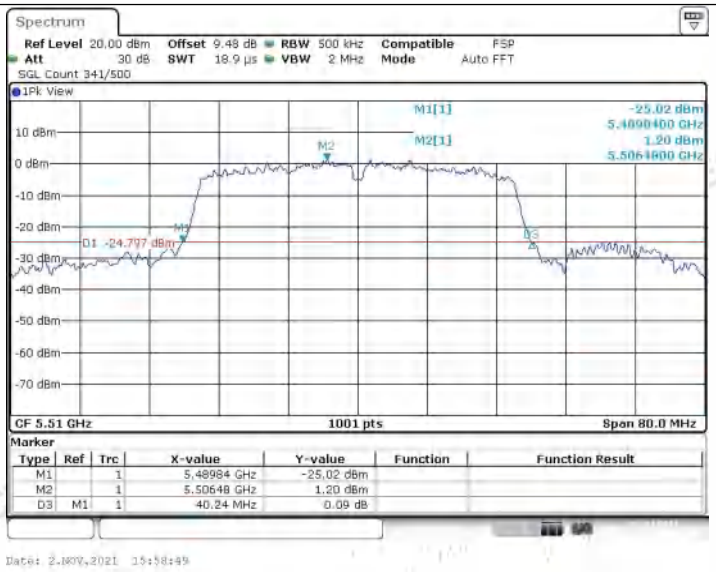

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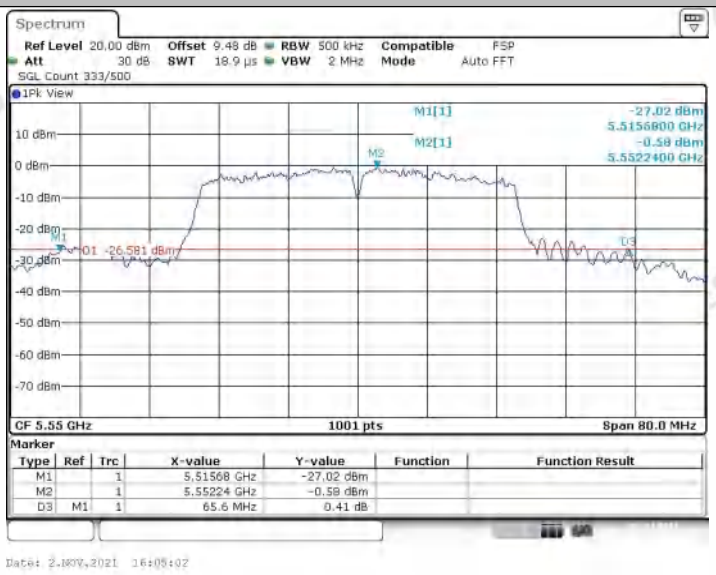

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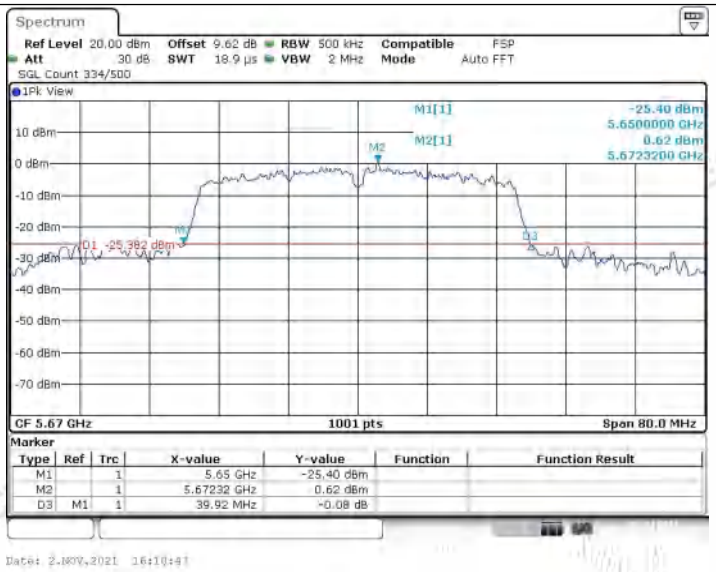

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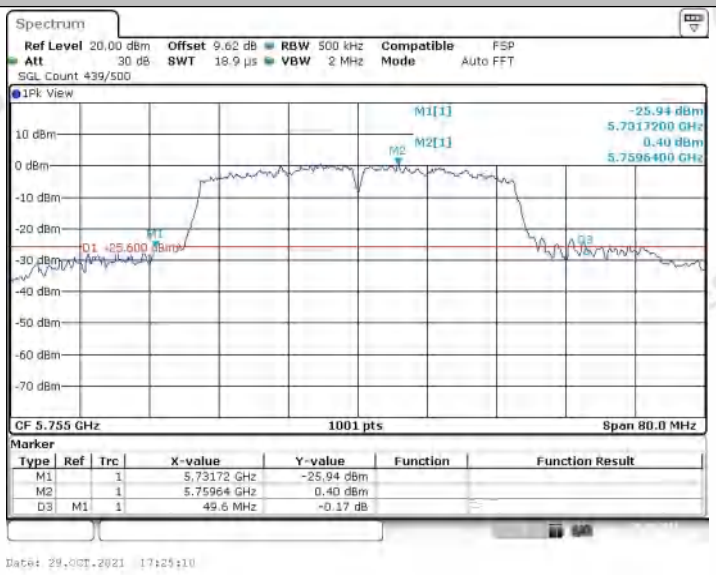

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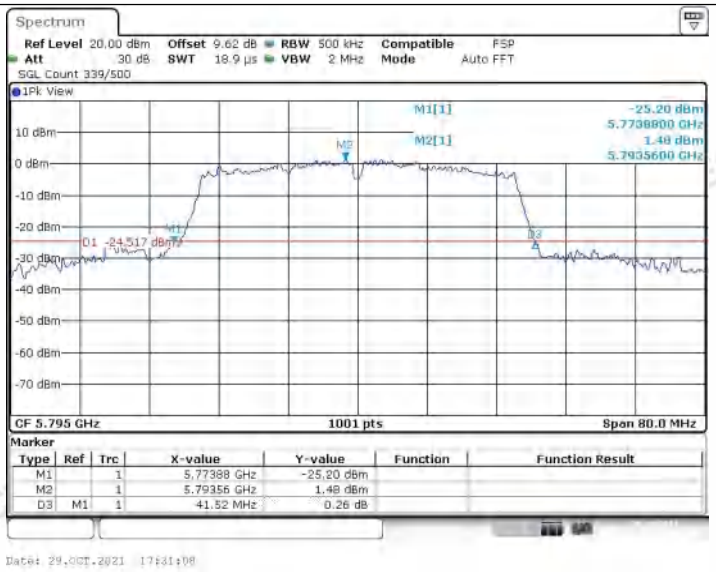

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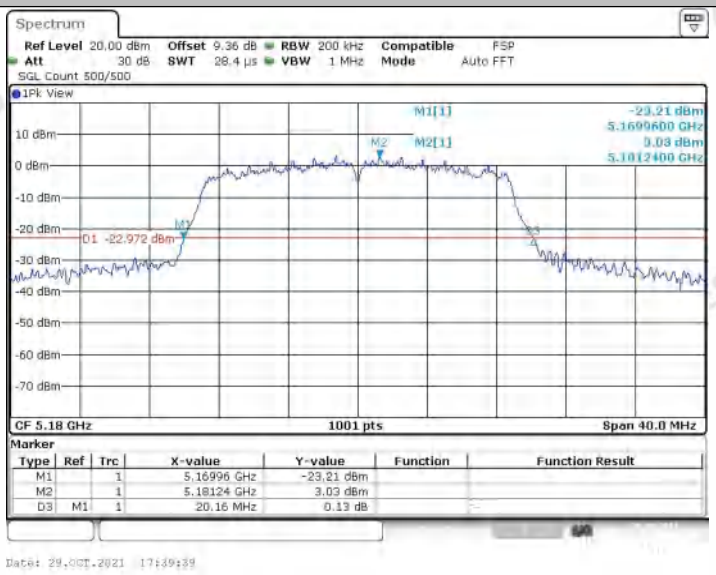

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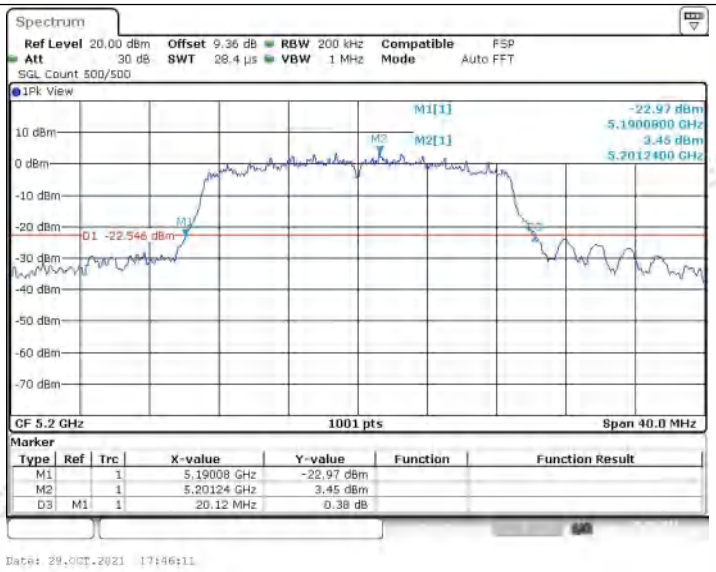

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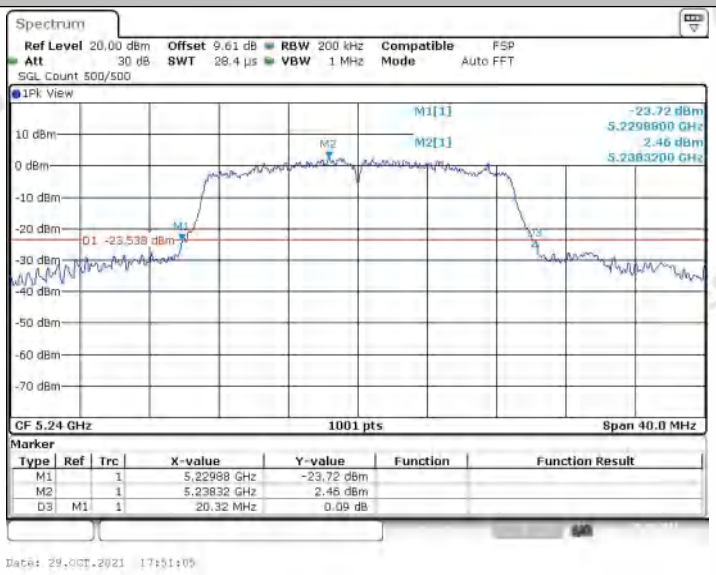

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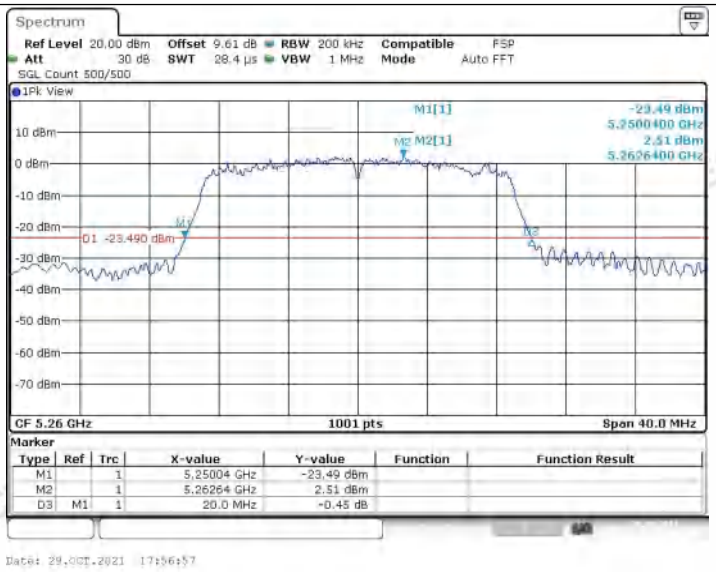

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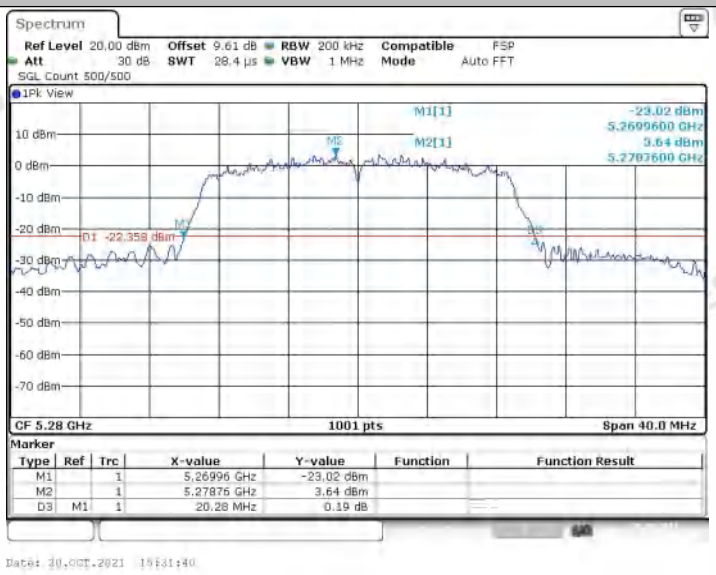

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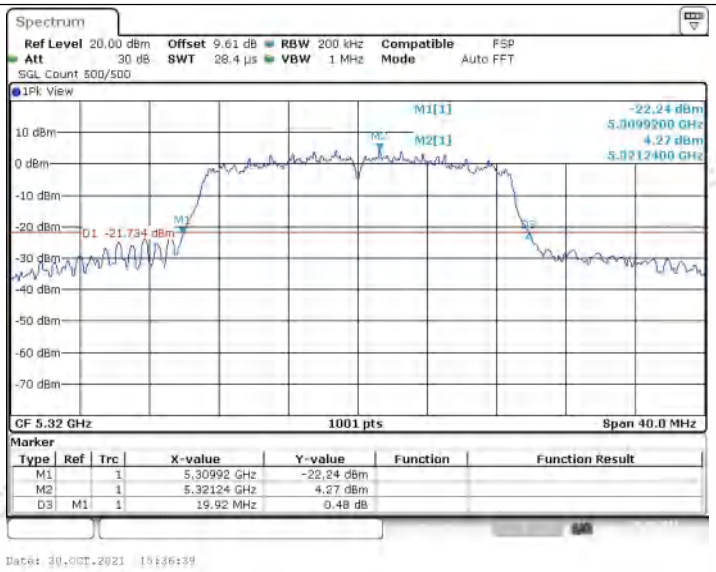

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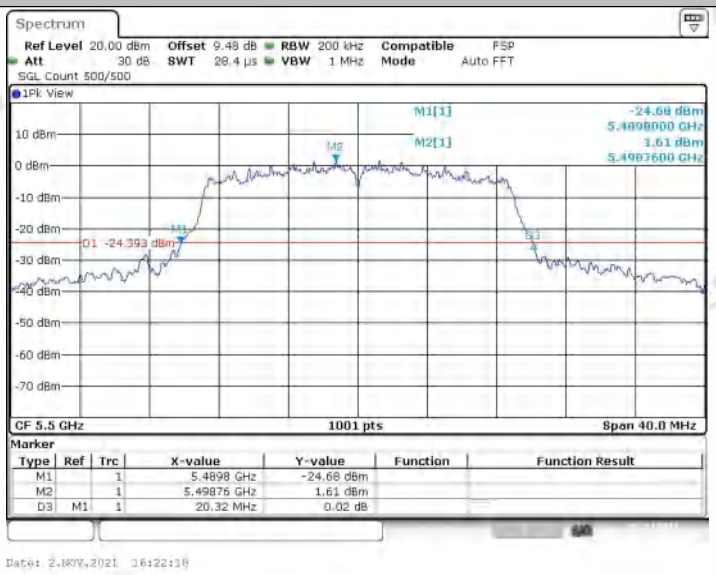

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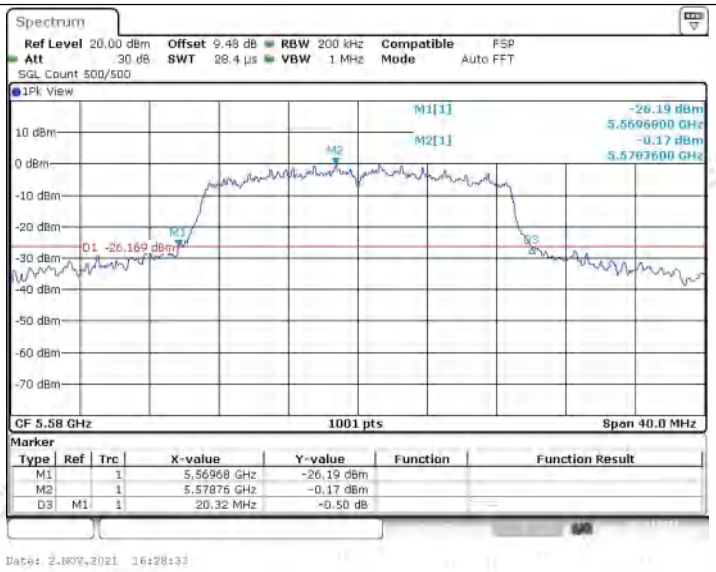

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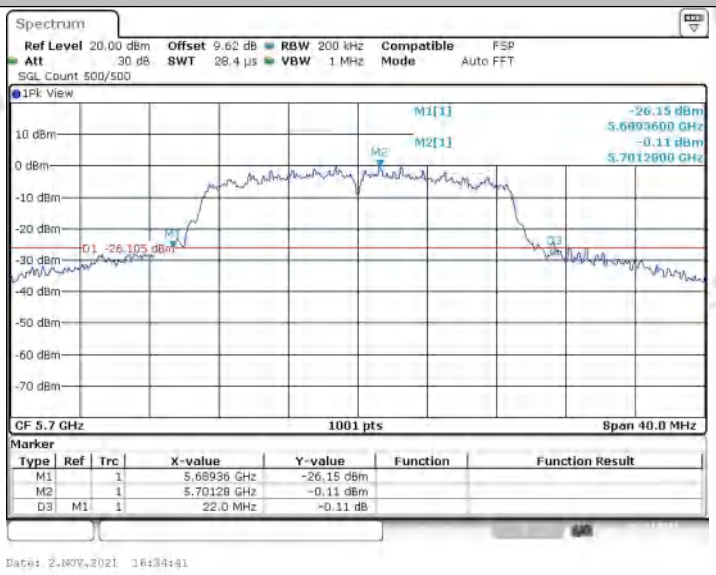

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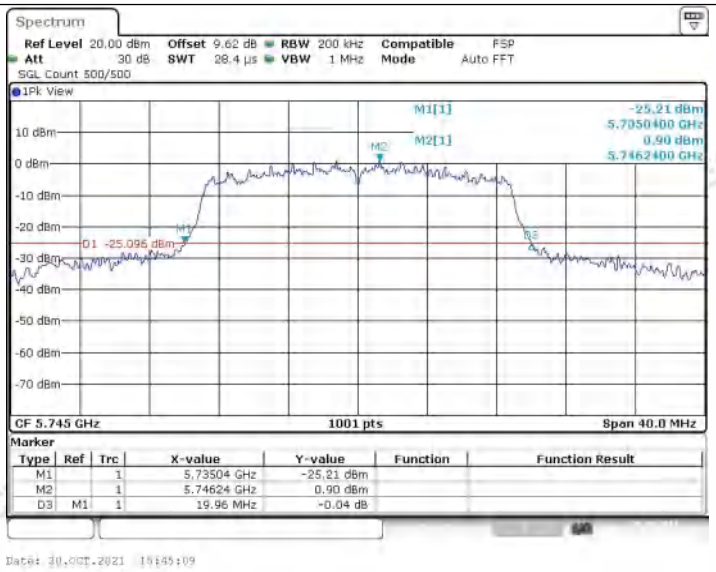

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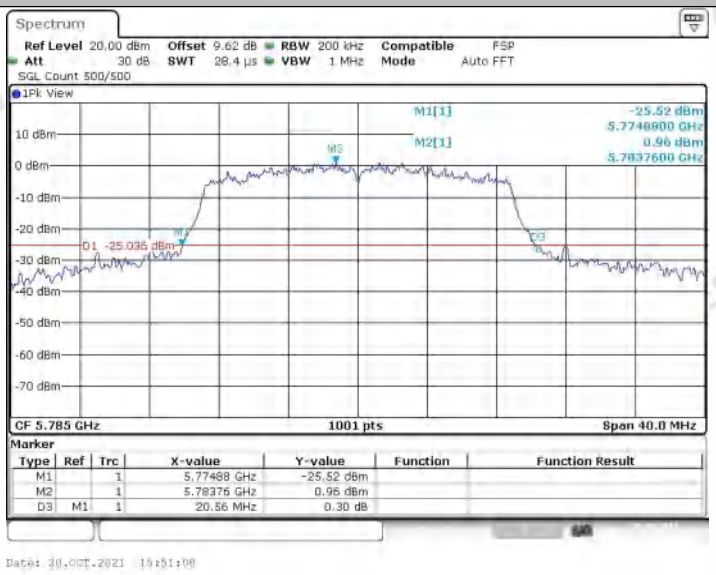

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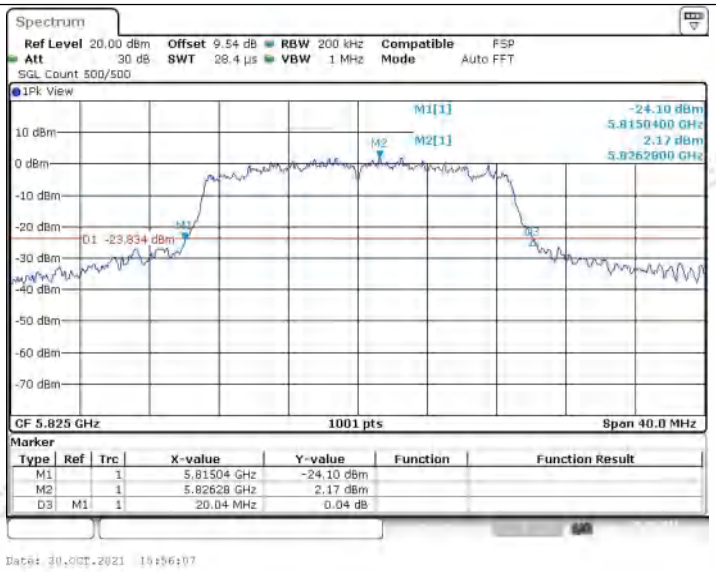

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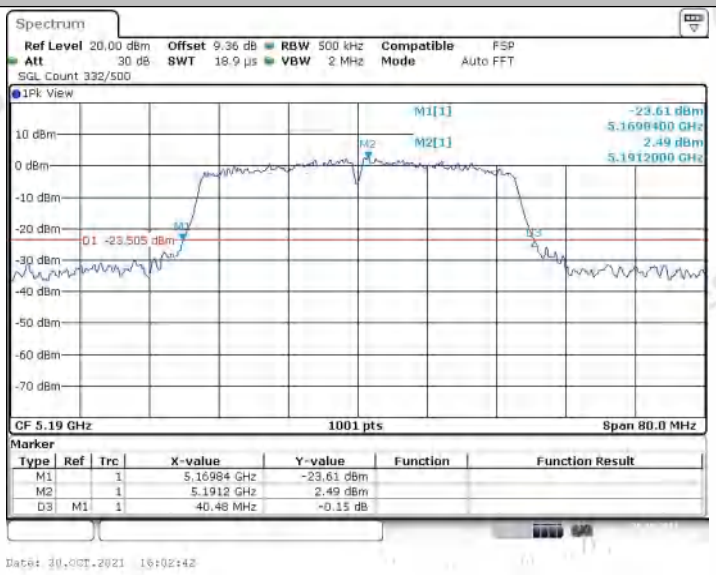

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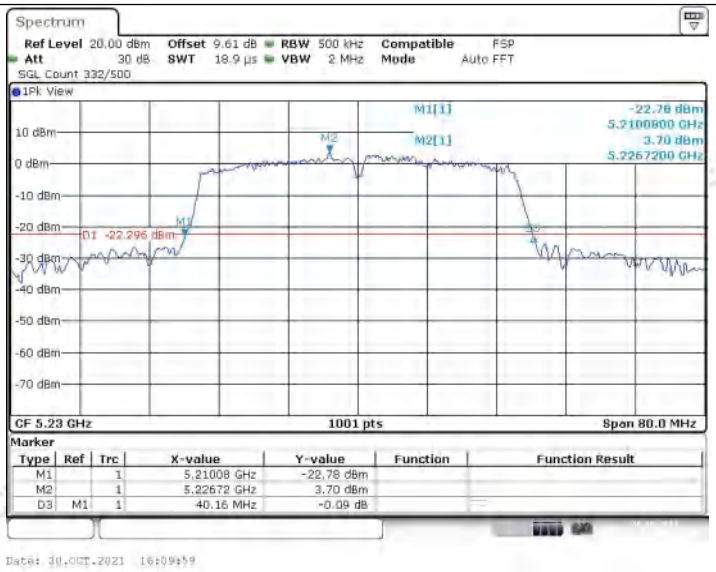

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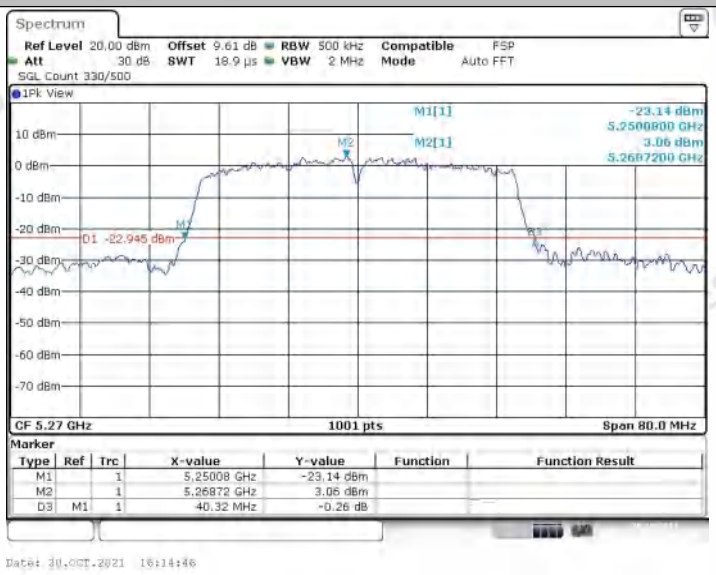

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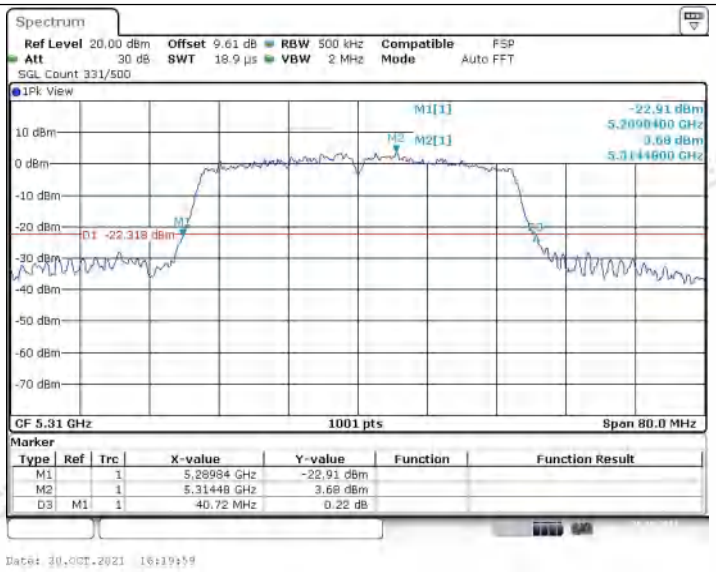

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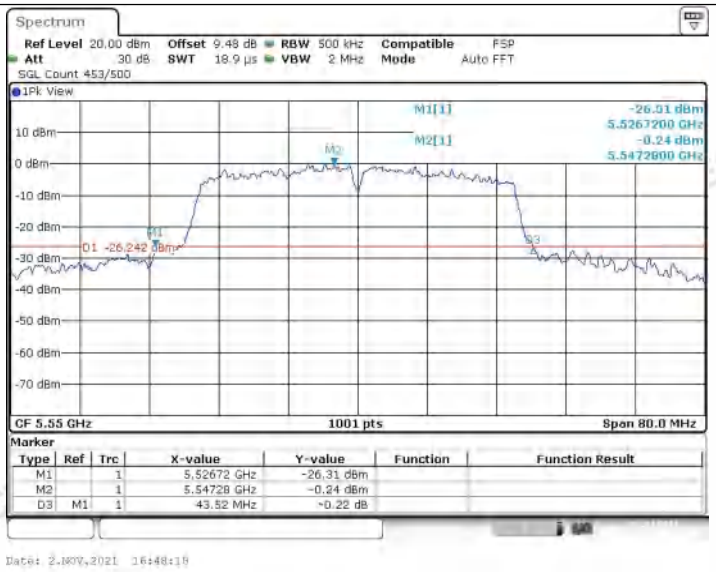

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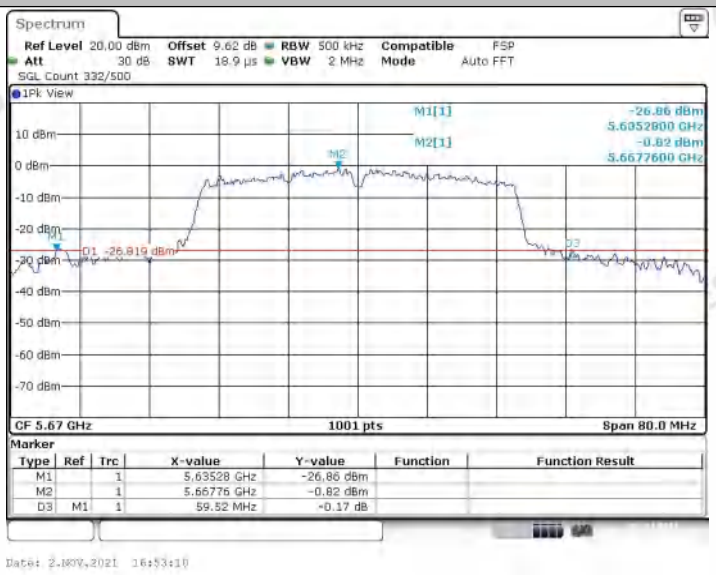

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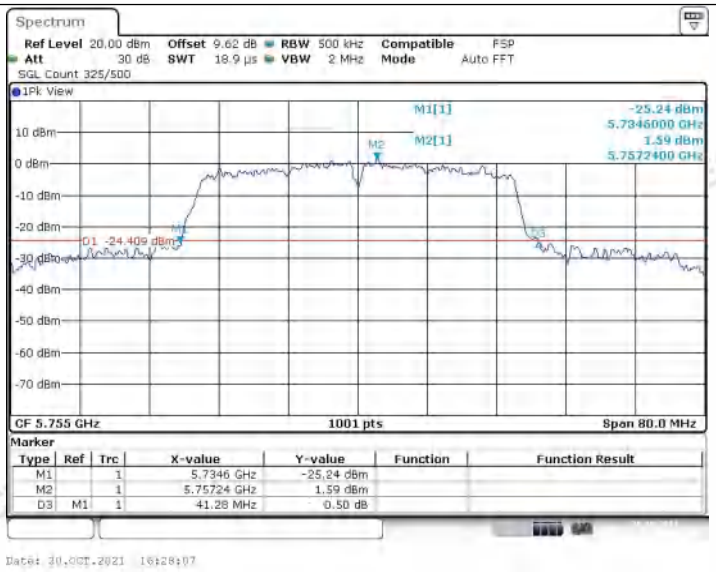

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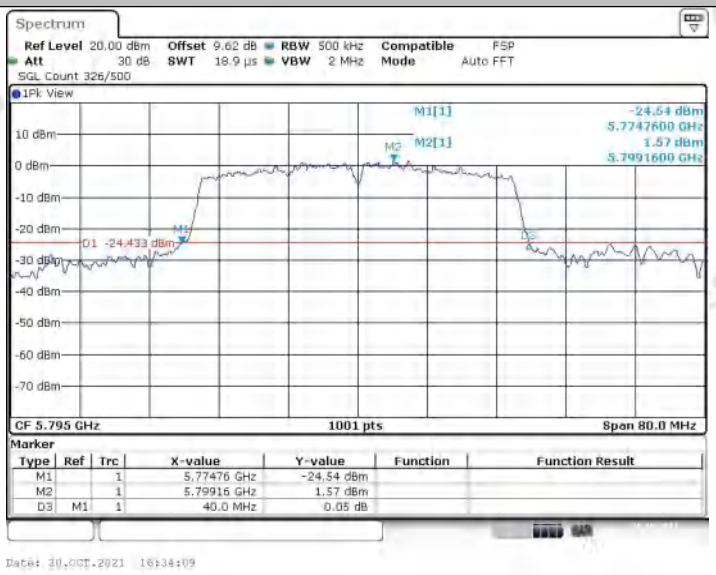

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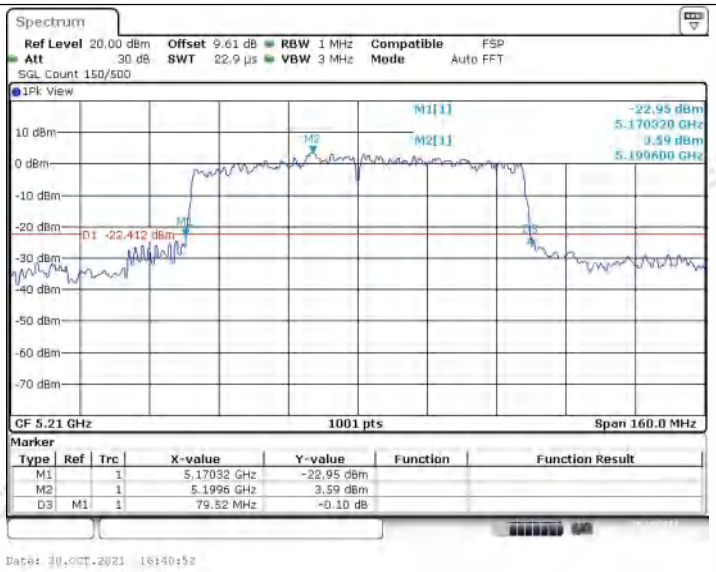

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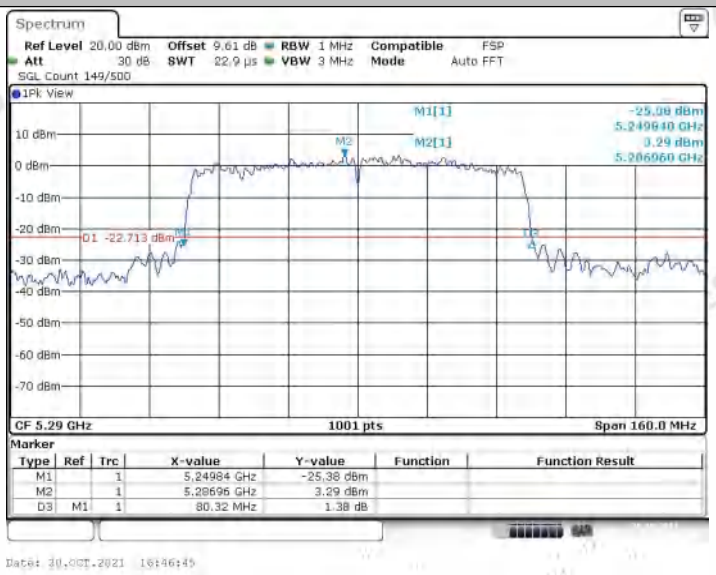

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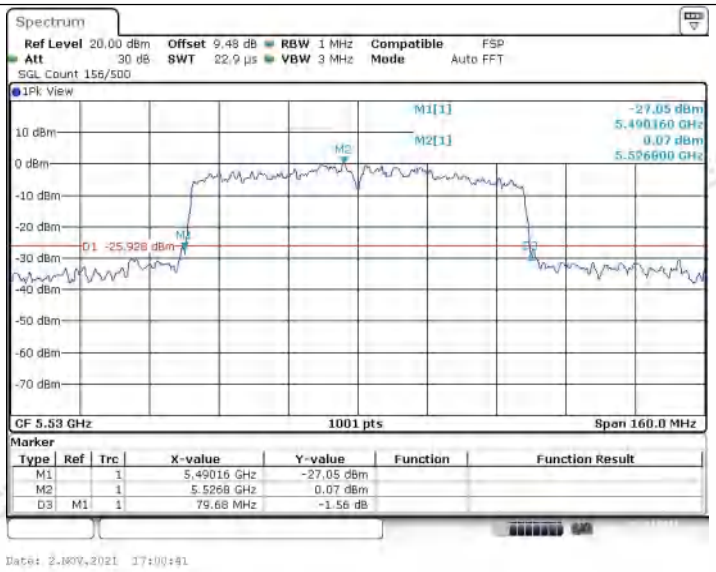

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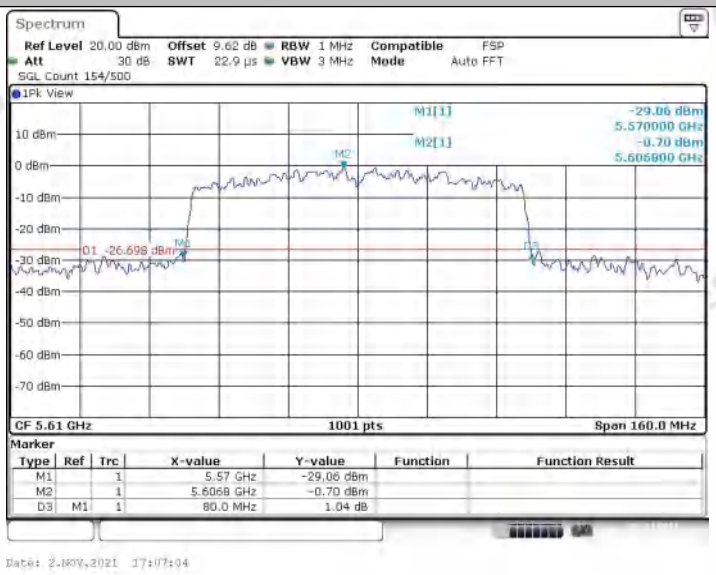

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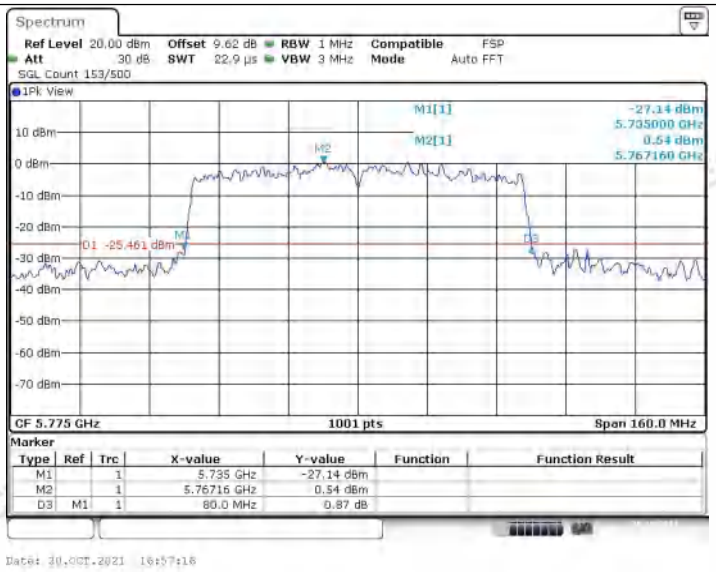

Spectrum
Ref Level 20.00 dBm Offset 9.62 dB RBW 1 MHz Compatible FSP
Att 30 dB SWT 22.9 µs VBW 3 MHz Mode Auto FFT
SGL Count 153/500
1Pk View
M1[1] -27.14 dBm
5.735000 GHz
M2[1] 0.54 dBm
5.767160 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
D1 -25.461 dBm
CF 5.775 GHz
1001 pts
Span 160.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 5.735 GHz -27.14 dBm
M2 1 5.76716 GHz 0.54 dBm
D3 M1 1 80.0 MHz 0.87 dB
Date: 30.OCT.2021 16:57:16

Appendix A2: Occupied channel bandwidth

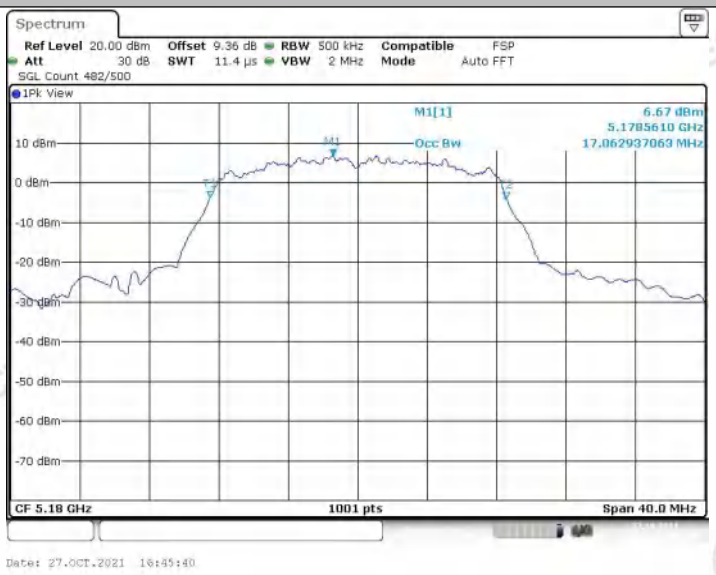
Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	17.063	5171.489	5188.551	---	PASS
		5200	17.223	5191.409	5208.631	---	PASS
		5240	17.223	5231.528	5248.751	---	PASS
		5260	17.263	5251.369	5268.631	---	PASS
		5280	17.023	5271.449	5288.472	---	PASS
		5320	17.263	5311.449	5328.711	---	PASS
		5500	17.263	5491.449	5508.711	---	PASS
		5580	17.463	5571.289	5588.751	---	PASS
		5700	17.622	5691.129	5708.751	---	PASS
		5745	17.463	5736.369	5753.831	---	PASS
		5785	17.343	5776.369	5793.711	---	PASS
		5825	17.343	5816.289	5833.631	---	PASS
11N20SISO	Ant1	5180	18.062	5171.009	5189.071	---	PASS
		5200	18.062	5191.009	5209.071	---	PASS
		5240	18.182	5230.969	5249.151	---	PASS
		5260	18.142	5250.849	5268.991	---	PASS
		5280	18.222	5270.849	5289.071	---	PASS
		5320	18.102	5311.049	5329.151	---	PASS
		5500	18.262	5490.849	5509.111	---	PASS
		5580	18.462	5570.689	5589.151	---	PASS
		5700	18.262	5690.769	5709.031	---	PASS
		5745	18.661	5735.609	5754.271	---	PASS
		5785	18.462	5775.769	5794.231	---	PASS
		5825	18.182	5816.009	5834.191	---	PASS
11N40SISO	Ant1	5190	36.204	5172.018	5208.222	---	PASS
		5230	36.284	5211.938	5248.222	---	PASS

		5270	36.204	5252.018	5288.222	---	PASS
		5310	36.124	5291.938	5328.062	---	PASS
		5510	36.204	5491.858	5528.062	---	PASS
		5550	36.284	5531.778	5568.062	---	PASS
		5670	36.523	5651.778	5688.302	---	PASS
		5755	36.364	5736.778	5773.142	---	PASS
		5795	36.364	5776.938	5813.302	---	PASS
11AC20SISO	Ant1	5180	17.902	5171.089	5188.991	---	PASS
		5200	18.142	5190.969	5209.111	---	PASS
		5240	18.062	5231.049	5249.111	---	PASS
		5260	17.982	5251.009	5268.991	---	PASS
		5280	18.022	5271.049	5289.071	---	PASS
		5320	18.142	5310.929	5329.071	---	PASS
		5500	17.902	5491.049	5508.951	---	PASS
		5580	18.102	5571.049	5589.151	---	PASS
		5700	18.302	5690.929	5709.231	---	PASS
		5745	18.062	5736.049	5754.111	---	PASS
		5785	18.142	5775.929	5794.071	---	PASS
		5825	18.142	5815.849	5833.991	---	PASS
11AC40SISO	Ant1	5190	36.364	5171.858	5208.222	---	PASS
		5230	35.964	5212.018	5247.982	---	PASS
		5270	36.044	5252.018	5288.062	---	PASS
		5310	36.044	5292.098	5328.142	---	PASS
		5510	36.044	5491.938	5527.982	---	PASS
		5550	36.444	5531.698	5568.142	---	PASS
		5670	36.523	5651.698	5688.222	---	PASS
		5755	36.523	5736.778	5773.302	---	PASS
		5795	36.444	5776.858	5813.302	---	PASS
11AC80SISO	Ant1	5210	75.604	5172.438	5248.042	---	PASS
		5290	75.764	5252.118	5327.882	---	PASS

		5530	76.084	5492.118	5568.202	---	PASS
		5610	76.244	5571.798	5648.042	---	PASS
		5775	75.445	5737.278	5812.722	---	PASS

Test Graphs

11A_Ant1_5180

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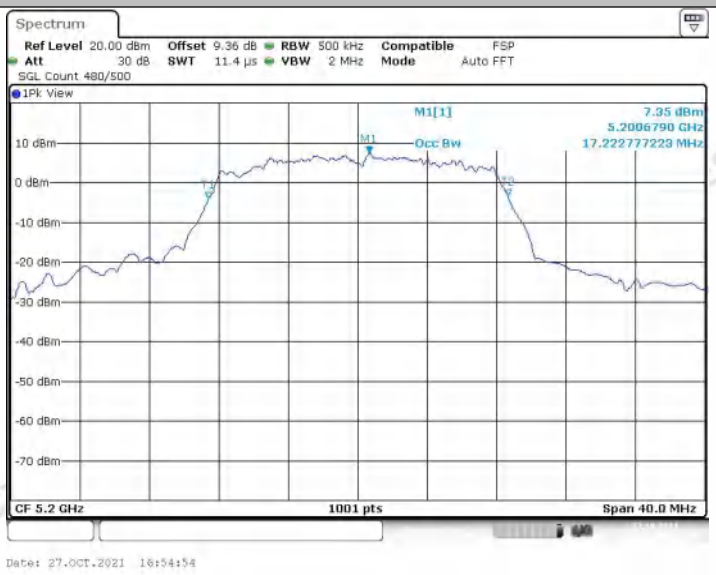
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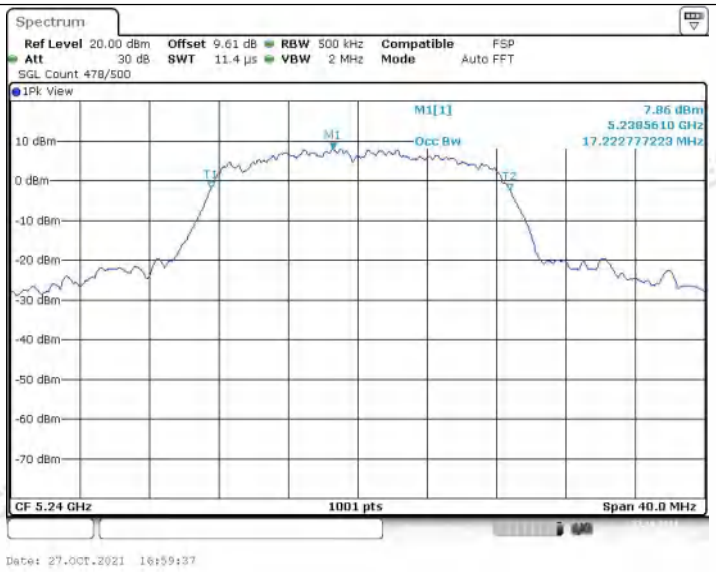

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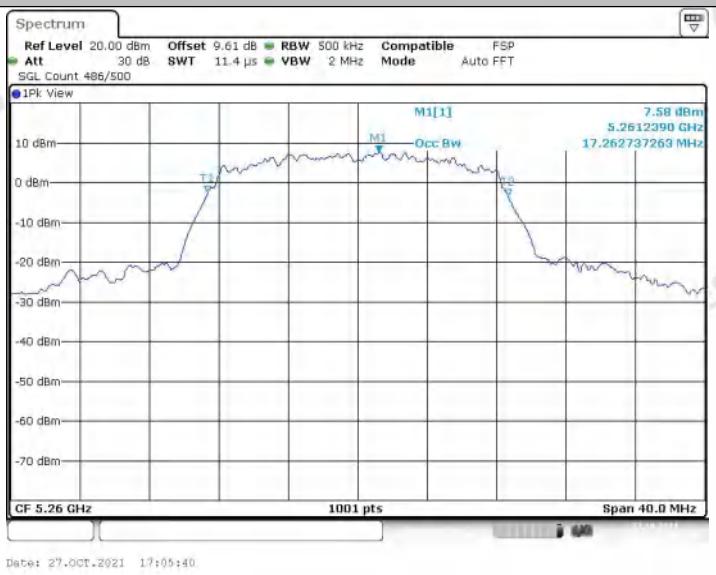

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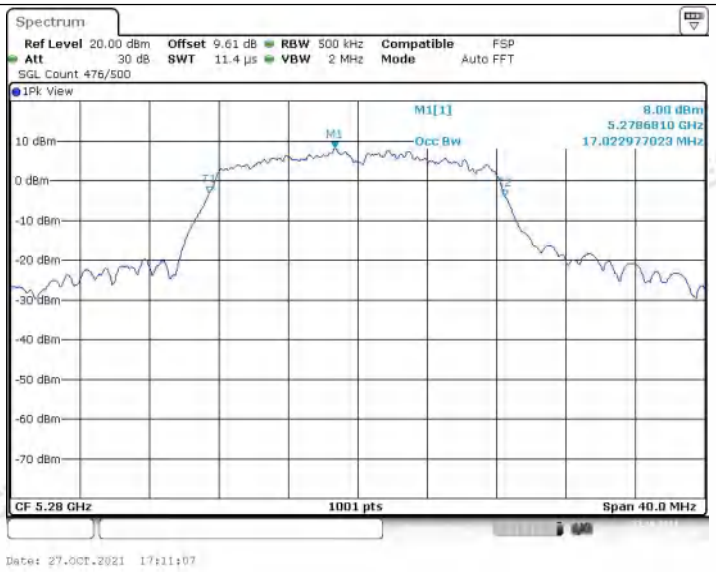
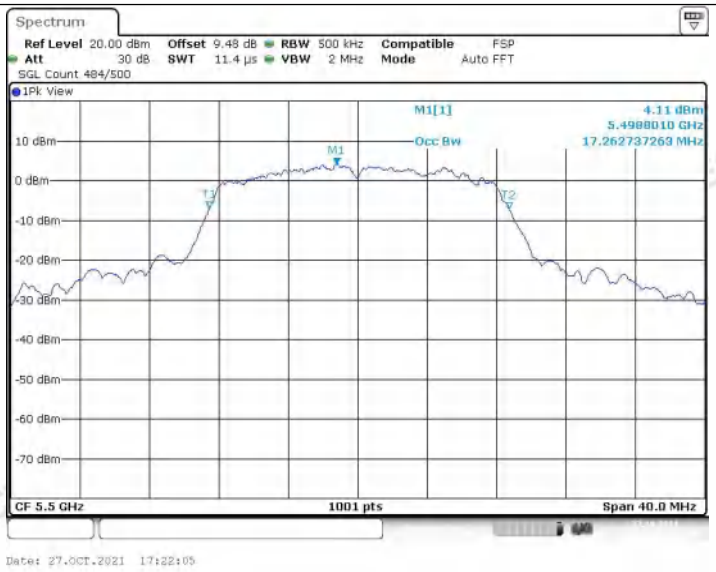


11A_Ant1_5320

11A_Ant1_5500



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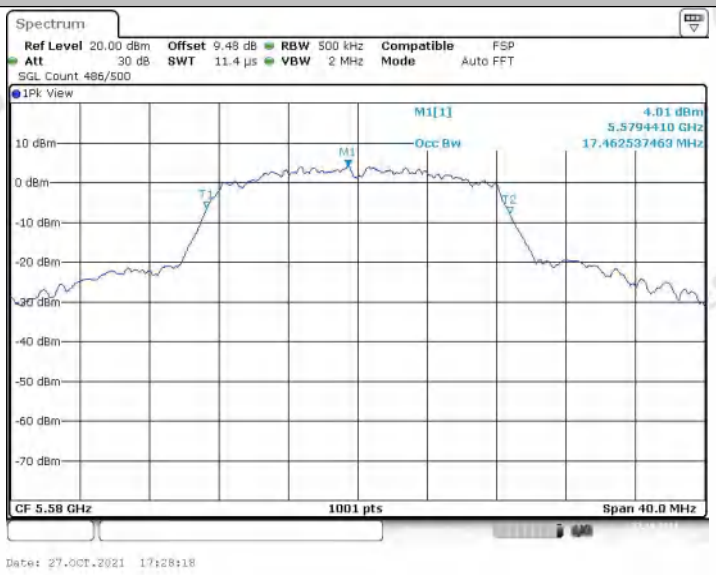

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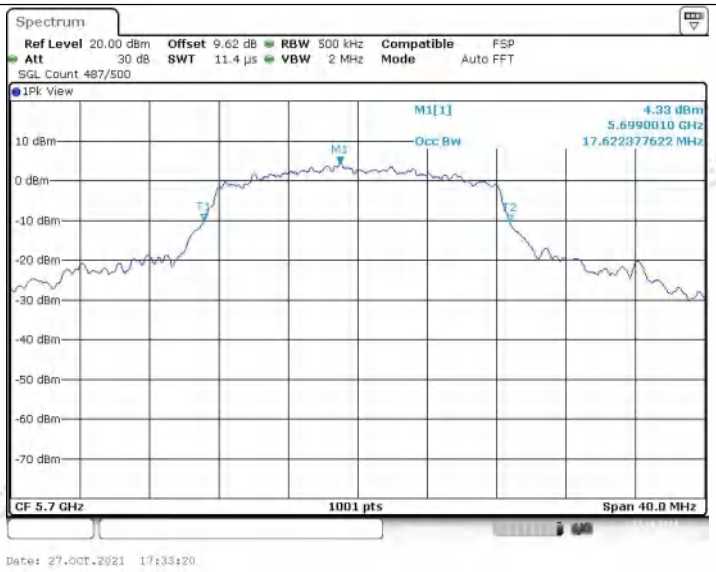

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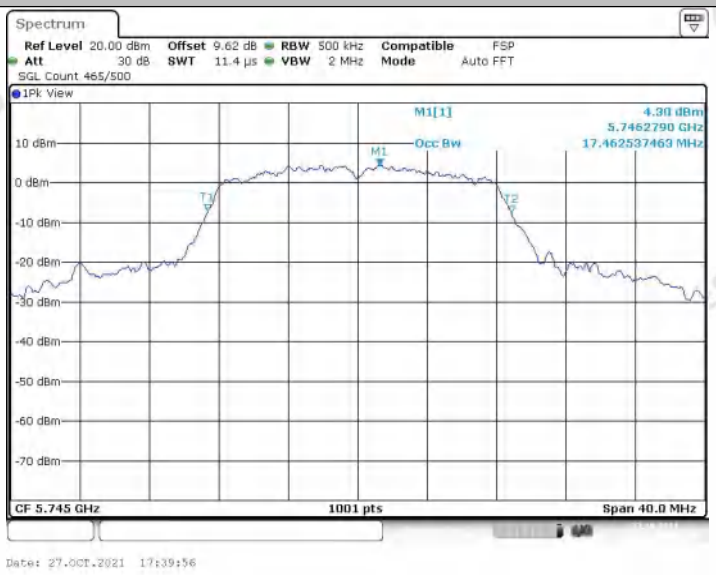

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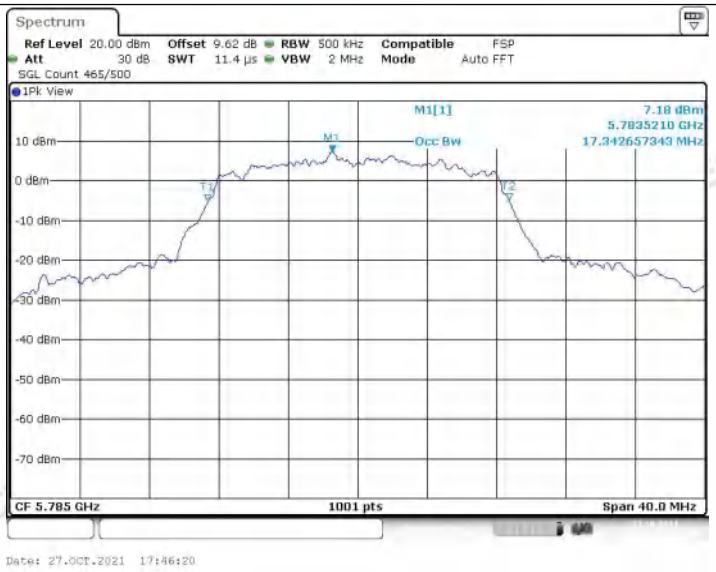
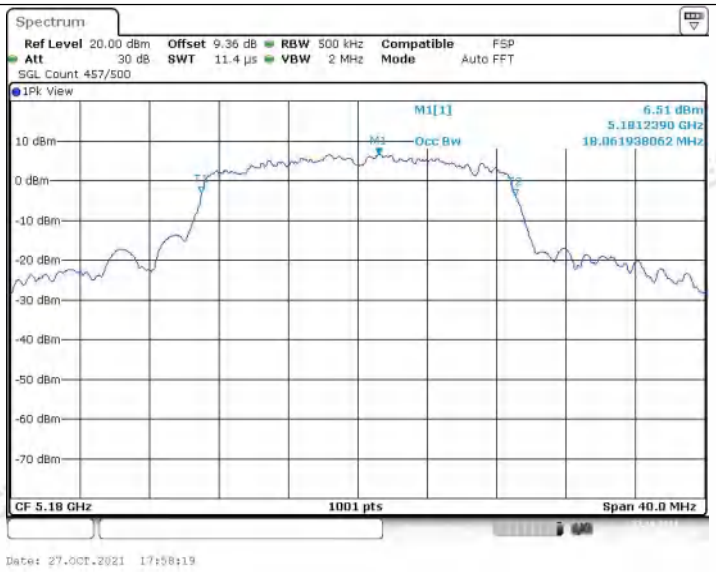


11A_Ant1_5825

11N20SISO_Ant1_5180



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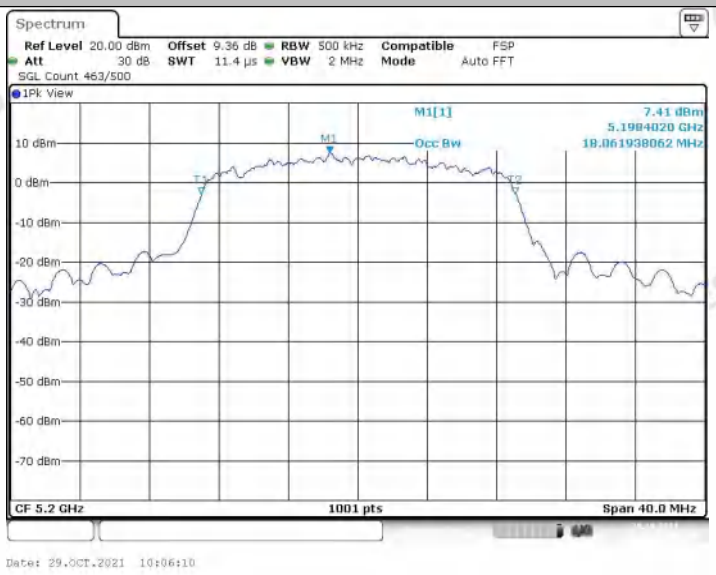

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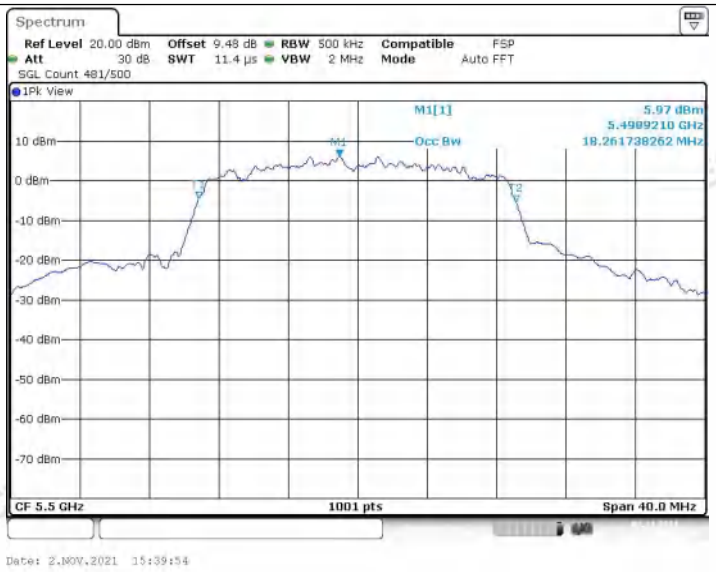
11N20SISO_Ant1_5260

11N20SISO_Ant1_5280

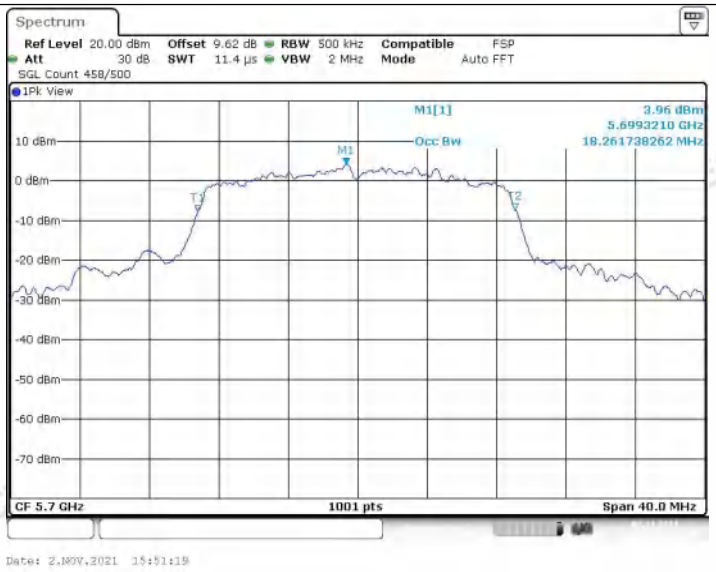
11N20SISO_Ant1_5320

11N20SISO_Ant1_5500



11N20SISO_Ant1_5580

11N20SISO_Ant1_5700



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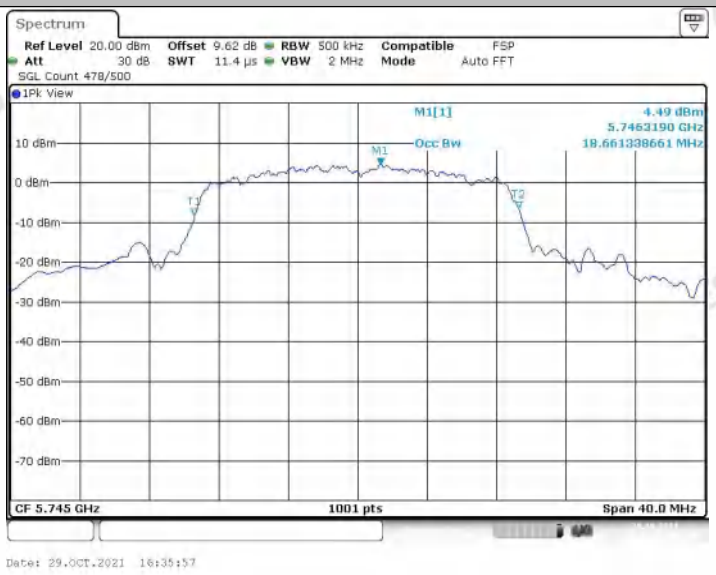

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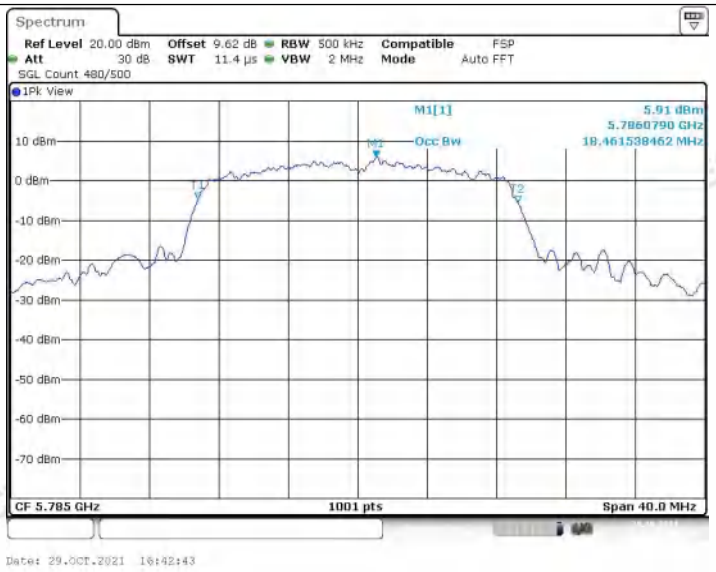

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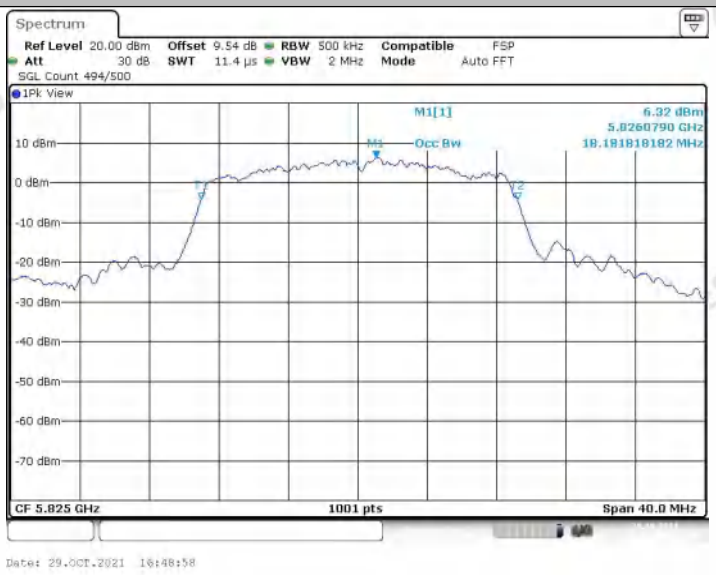

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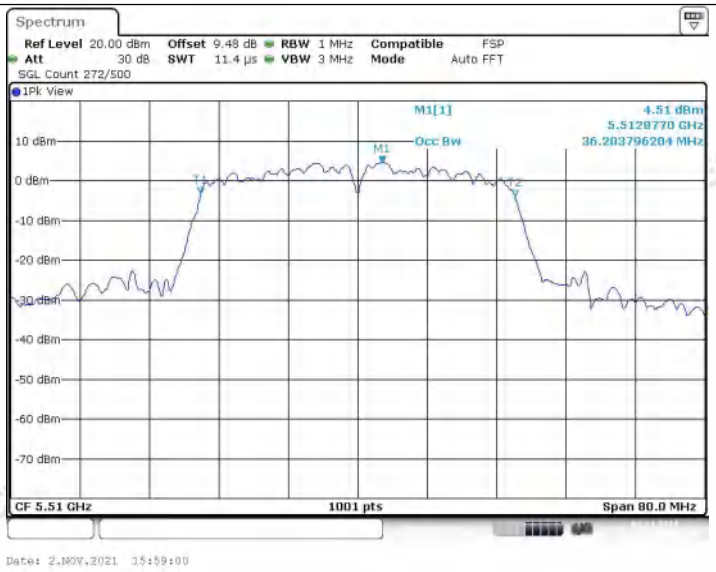
11N40SISO_Ant1_5270

11N40SISO_Ant1_5310

11N40SISO_Ant1_5510



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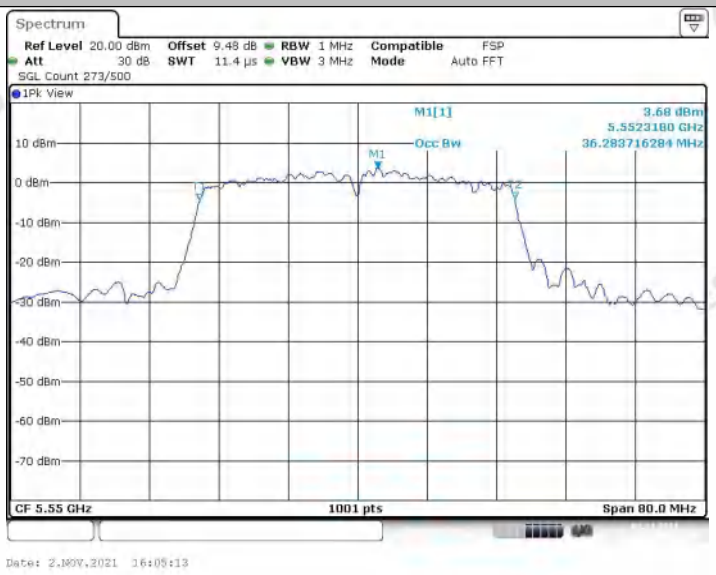

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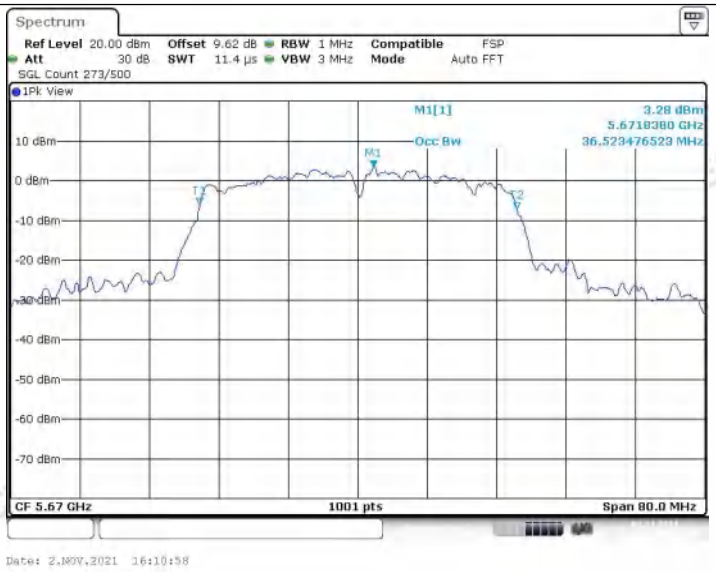

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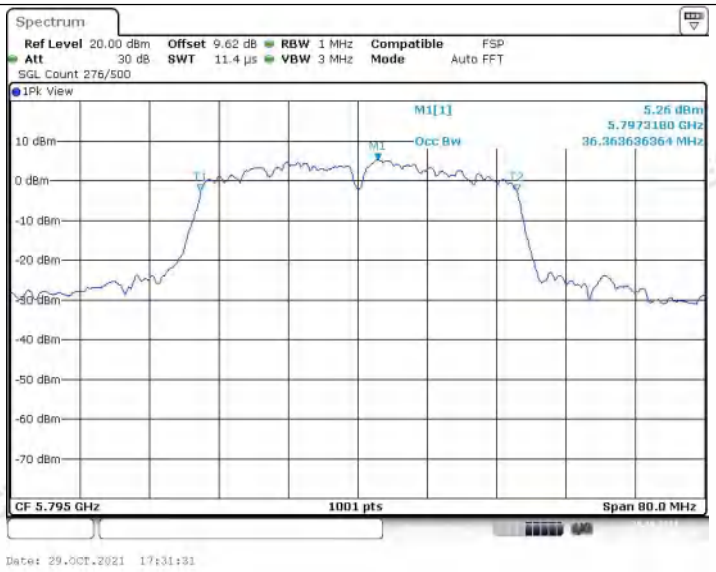

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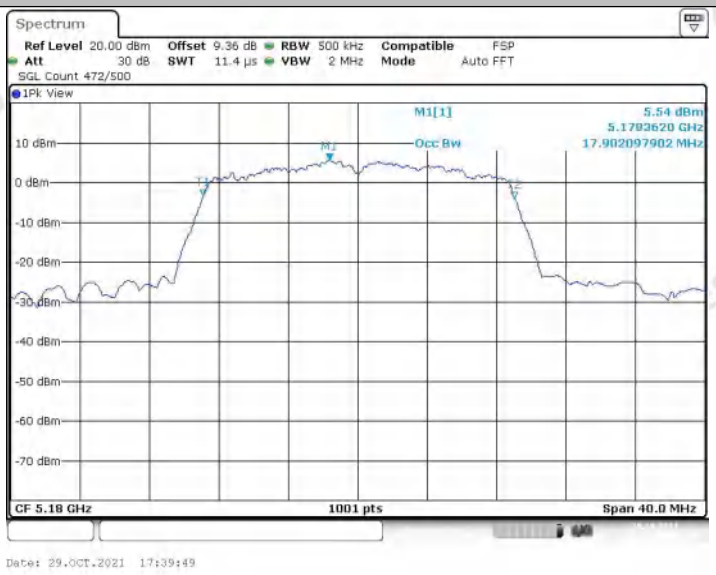

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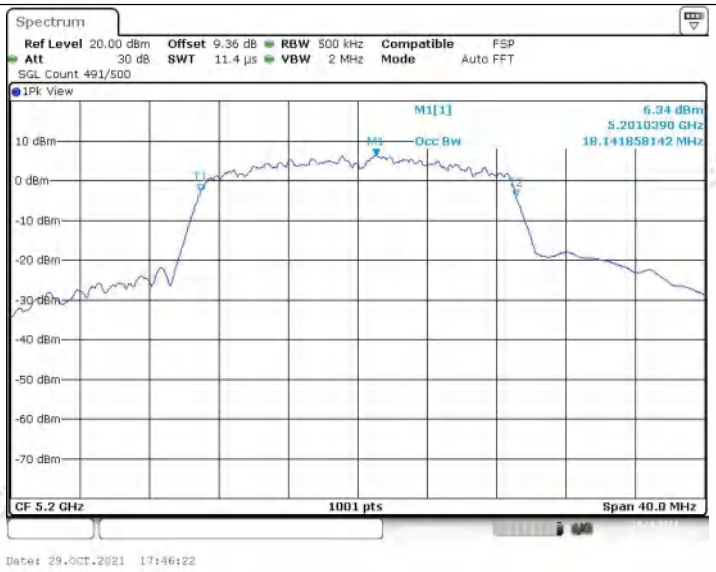

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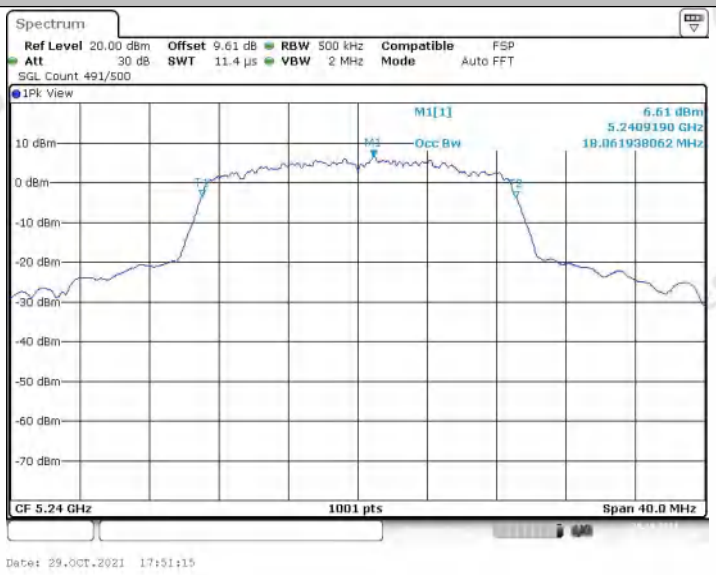

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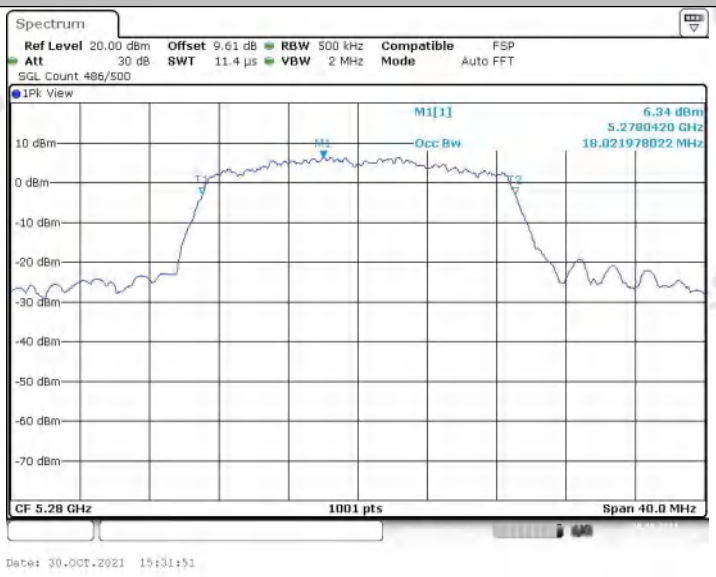
11AC20SISO_Ant1_5280



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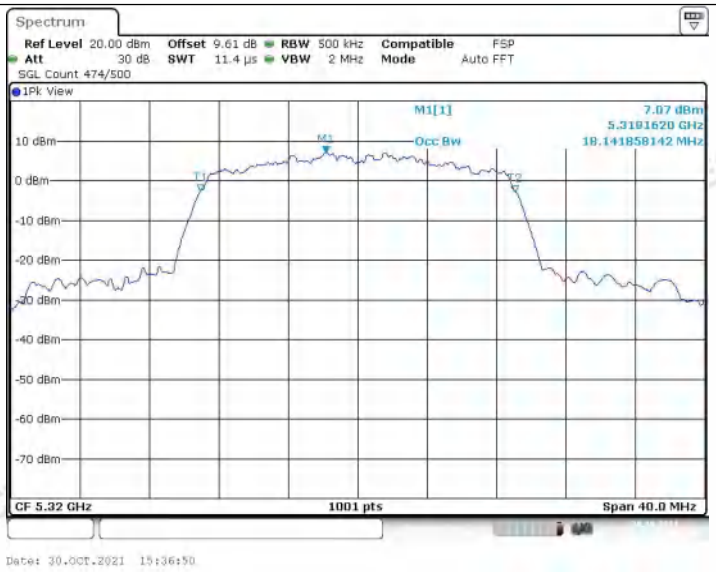

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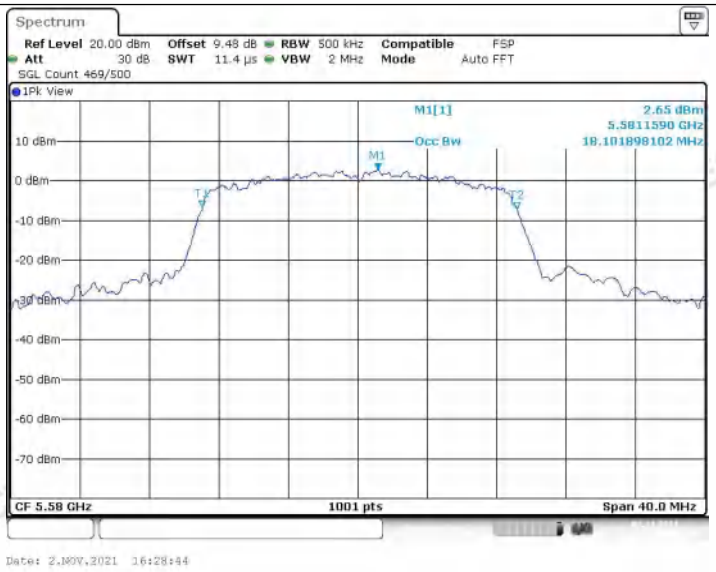
11AC20SISO_Ant1_5580



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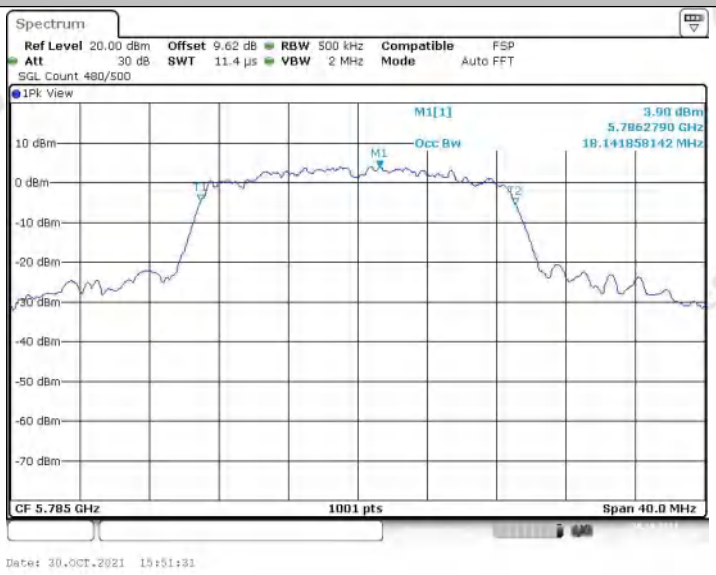
11AC20SISO_Ant1_5745

11AC20SISO_Ant1_5785



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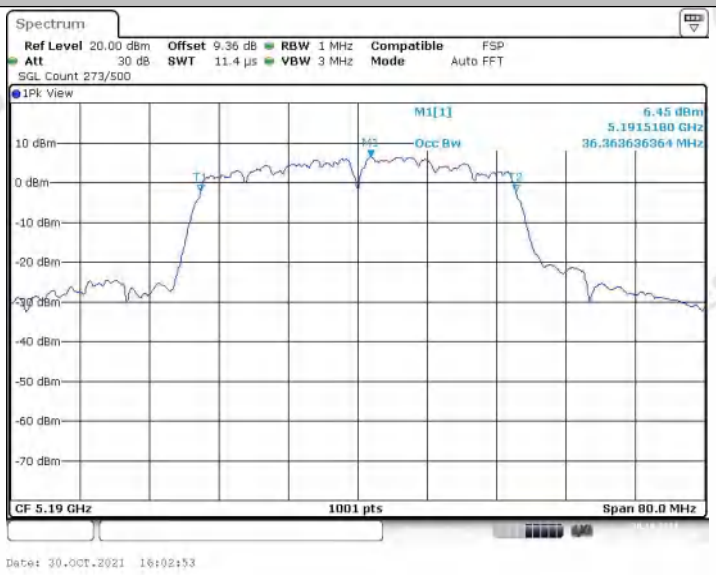

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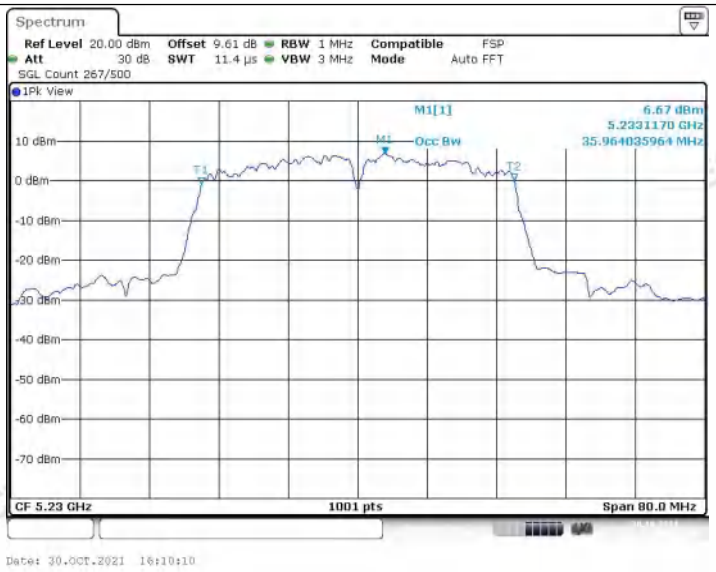

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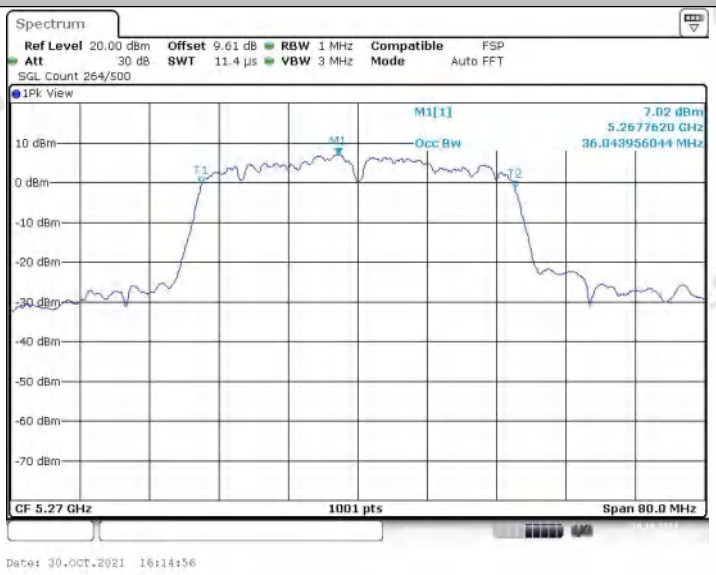

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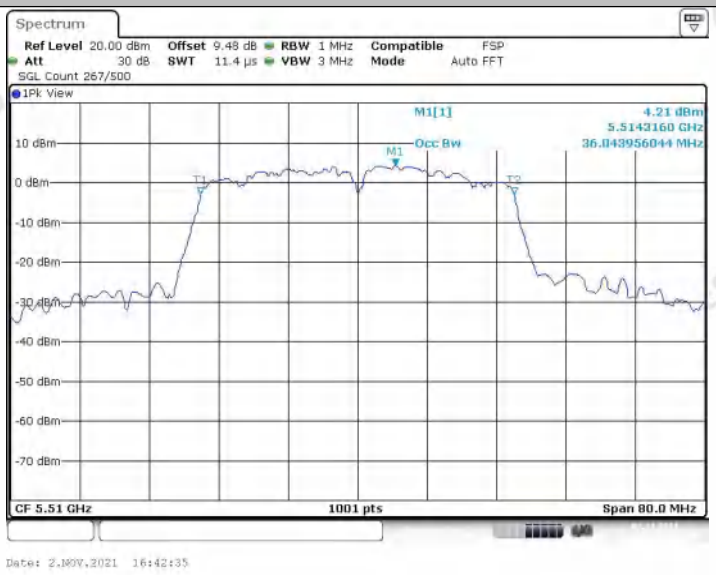
11AC40SISO_Ant1_5510



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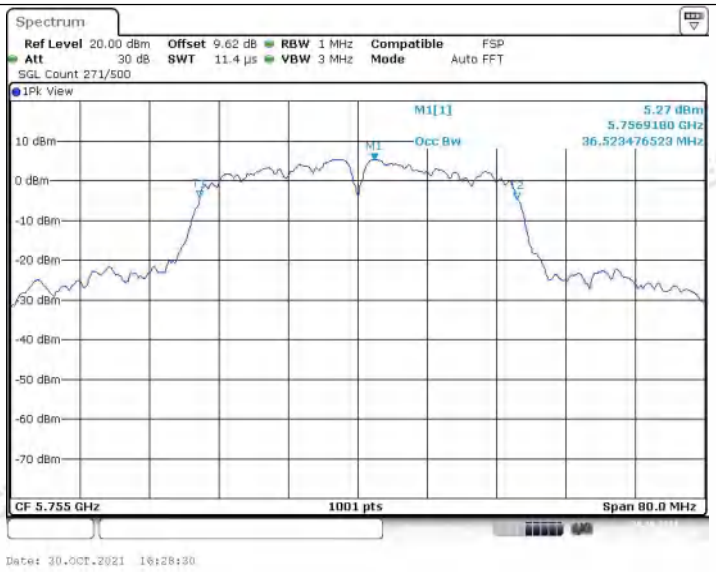
11AC40SISO_Ant1_5670

11AC40SISO_Ant1_5755



11AC40SISO_Ant1_5795

11AC80SISO_Ant1_5210

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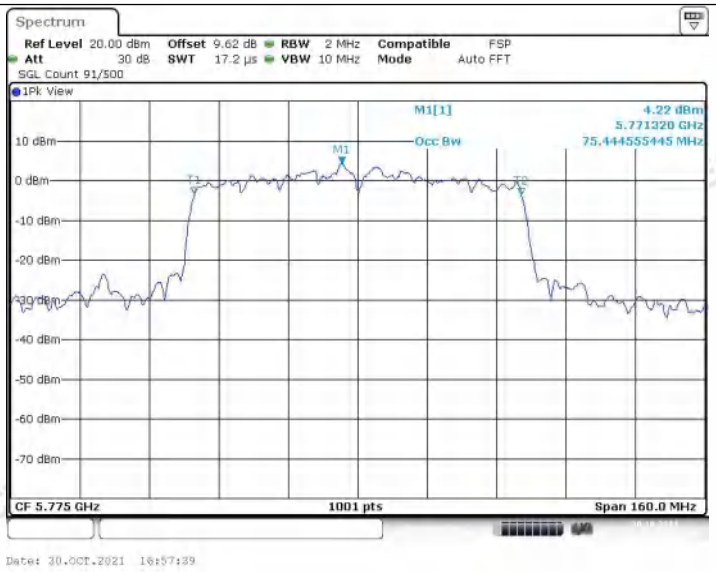
11AC80SISO_Ant1_5610

11AC80SISO_Ant1_5775

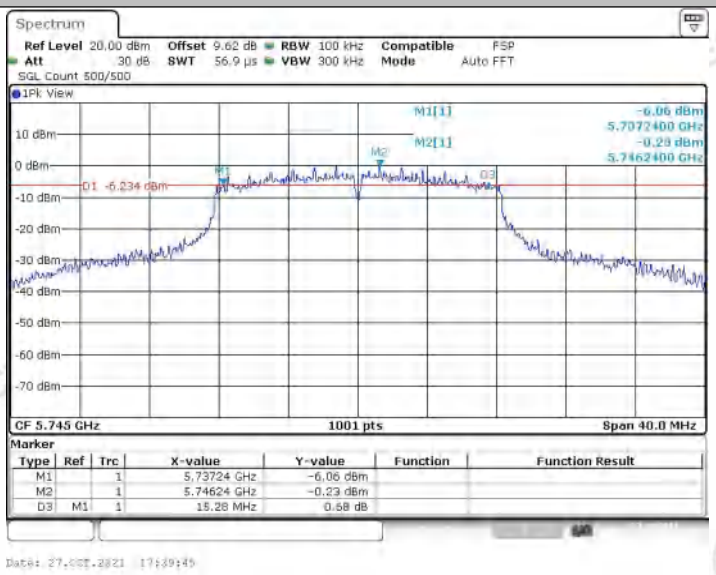

Spectrum
Ref Level 20.00 dBm Offset 9.62 dB RBW 2 MHz Compatible FSP
Att 30 dB SWT 17.2 µs VBW 10 MHz Mode Auto FFT
SGL Count 91/500
1Pk View
M1[1] 4.22 dBm
5.771320 GHz
Occ Bw 75.444555445 MHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 5.775 GHz
1001 pts
Span 160.0 MHz
Date: 30.OCT.2021 16:57:39

Appendix A3: Min emission bandwidth

Test Result

TestMode	Antenna	Channel	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	15.280	5737.240	5752.520	0.5	PASS
		5785	16.320	5776.840	5793.160	0.5	PASS
		5825	15.000	5817.480	5832.480	0.5	PASS
11N20SISO	Ant1	5745	17.560	5736.240	5753.800	0.5	PASS
		5785	15.080	5777.440	5792.520	0.5	PASS
		5825	17.120	5816.640	5833.760	0.5	PASS
11N40SISO	Ant1	5755	32.560	5737.480	5770.040	0.5	PASS
		5795	35.040	5777.480	5812.520	0.5	PASS
11AC20SISO	Ant1	5745	17.600	5736.200	5753.800	0.5	PASS
		5785	15.040	5777.480	5792.520	0.5	PASS
		5825	17.600	5816.200	5833.800	0.5	PASS
11AC40SISO	Ant1	5755	35.120	5737.480	5772.600	0.5	PASS
		5795	35.200	5777.400	5812.600	0.5	PASS
11AC80SISO	Ant1	5775	68.960	5743.640	5812.600	0.5	PASS

Test Graphs

11A_Ant1_5745

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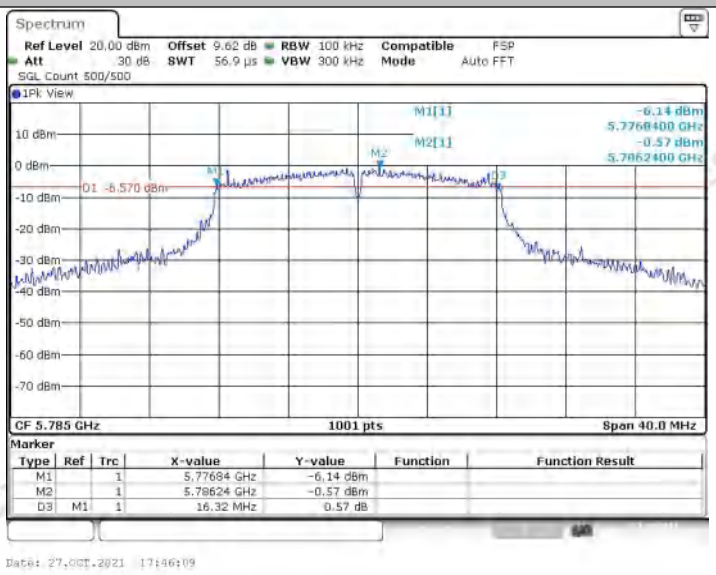
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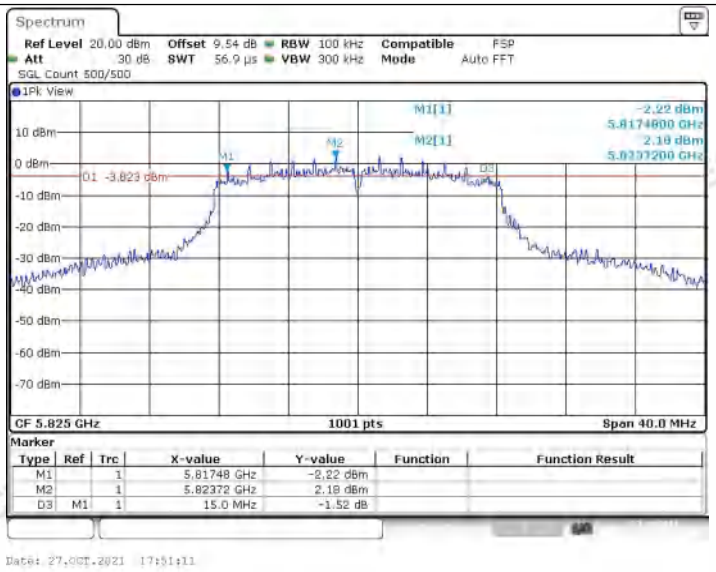
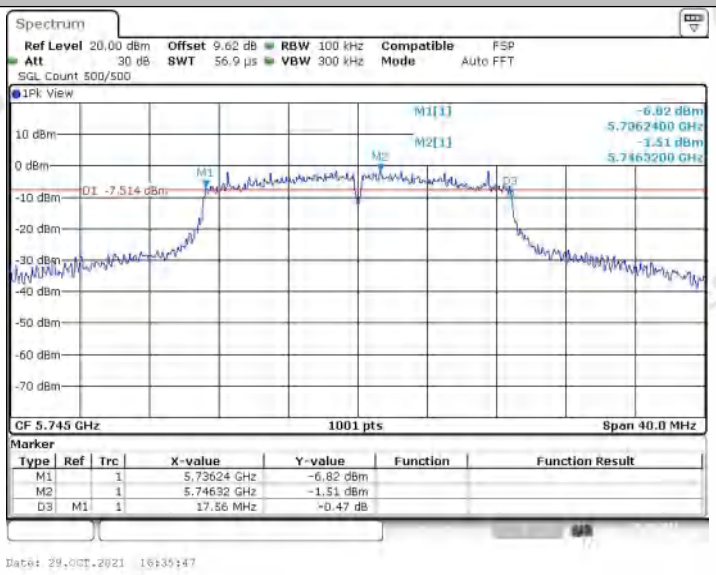


11N20SISO_Ant1_5745



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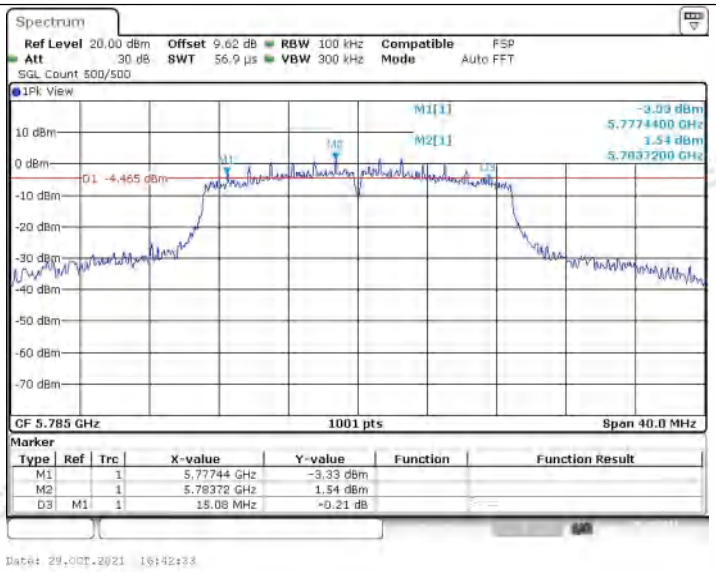

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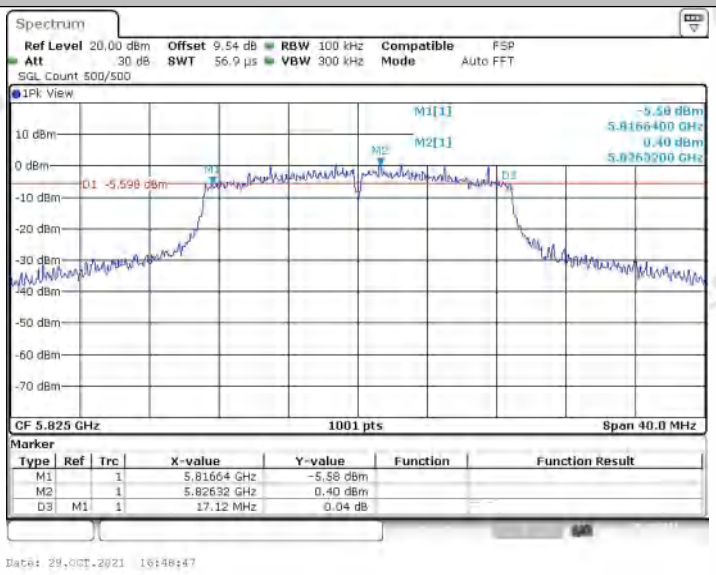

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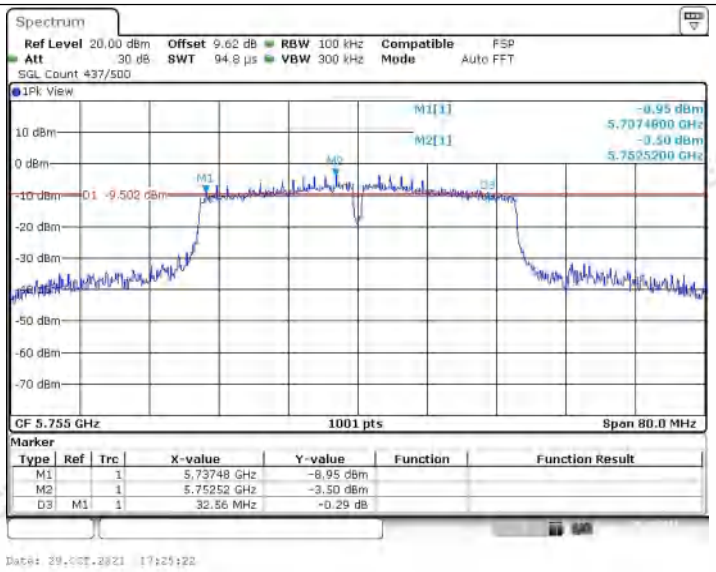

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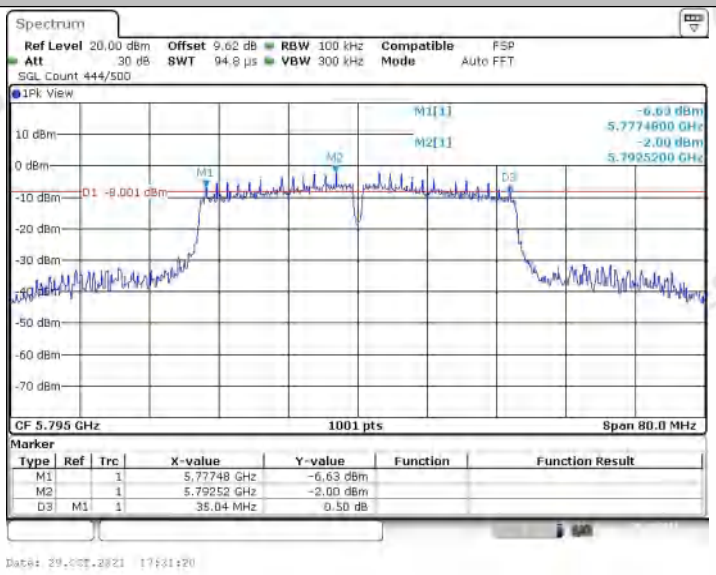

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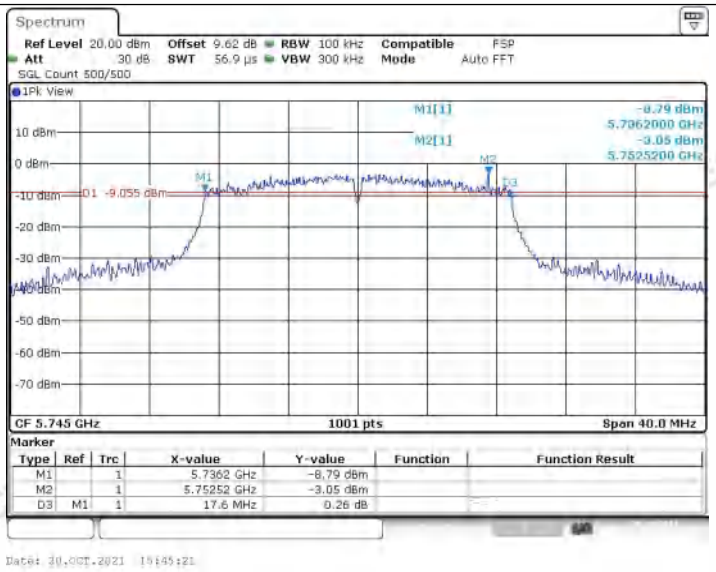

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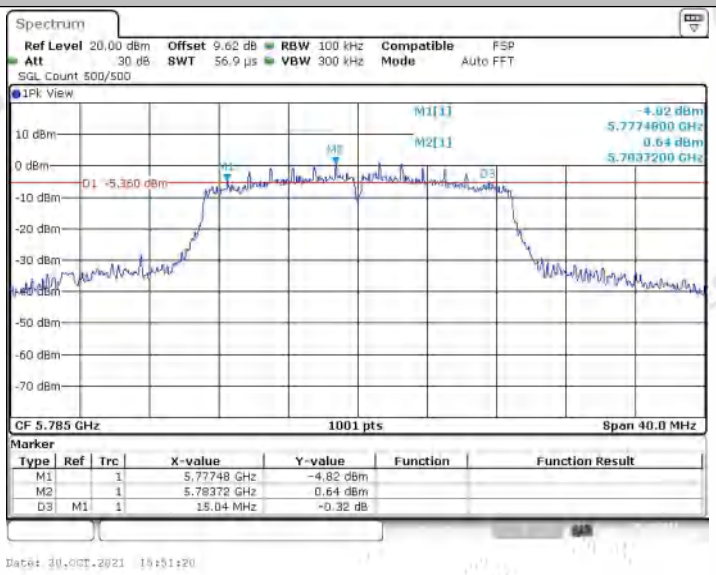
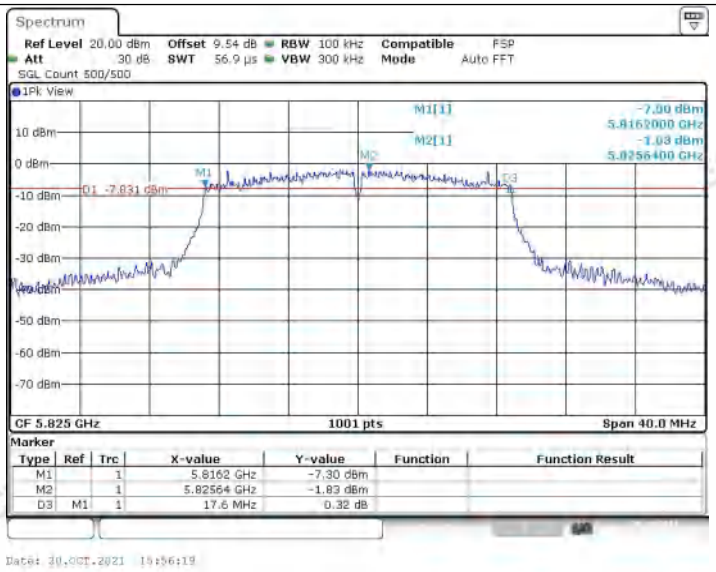


11AC20SISO_Ant1_5825



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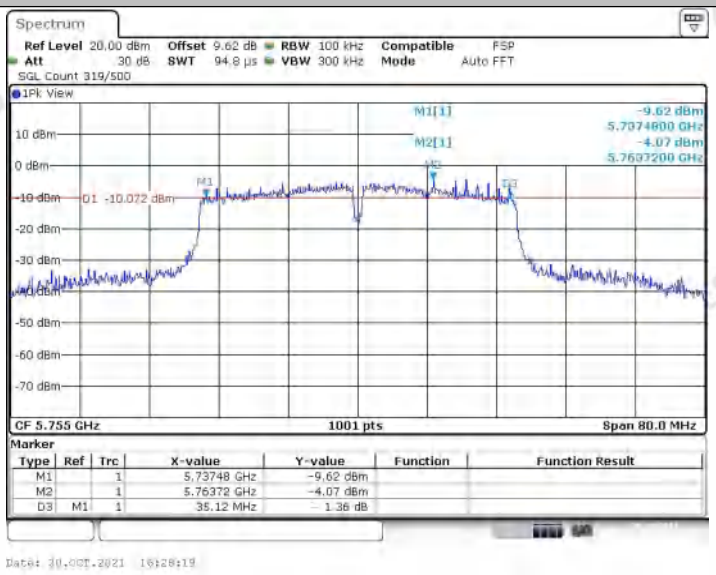
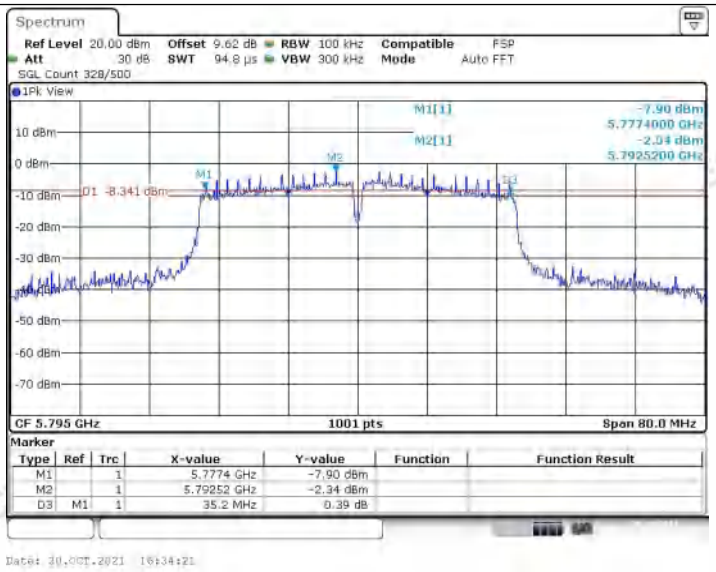
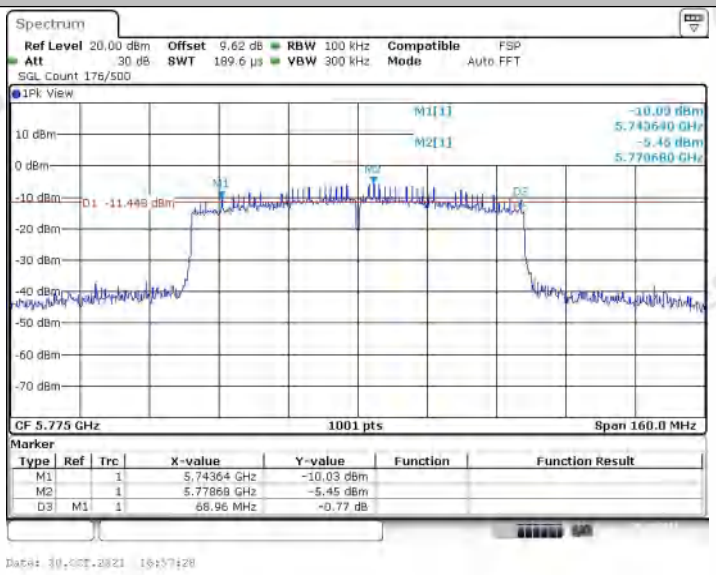


11AC40SISO_Ant1_5795



11AC80SISO_Ant1_5775



Appendix B: Maximum conducted output power

Test Result

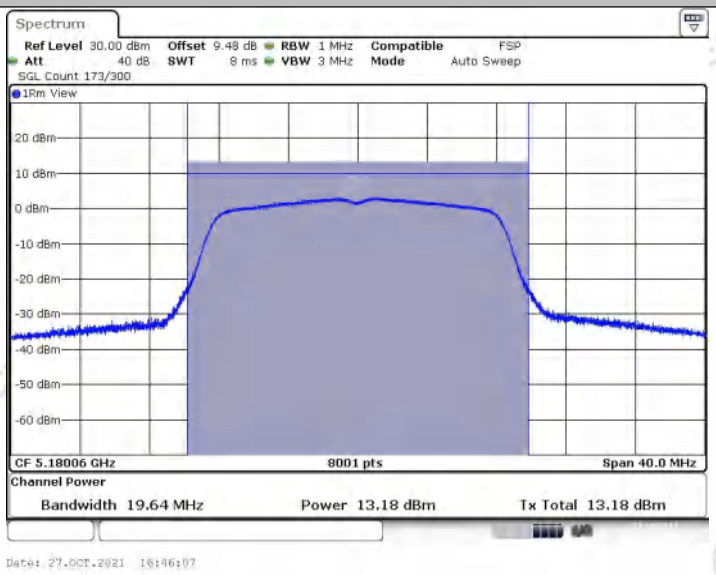
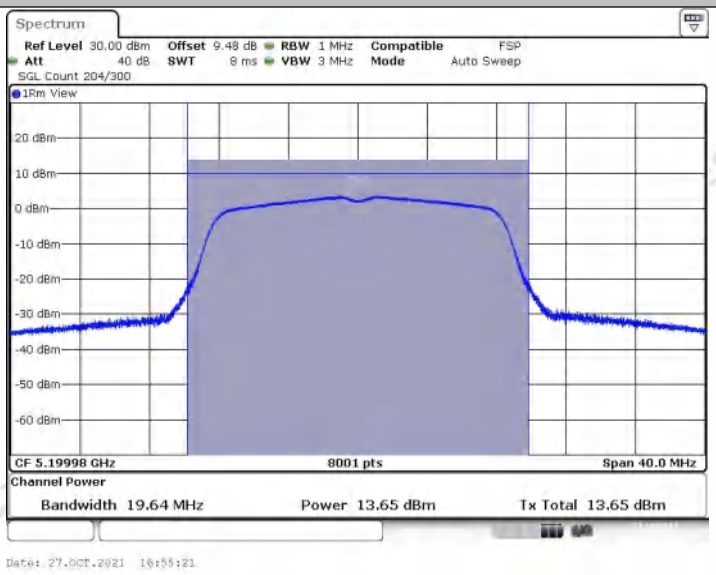
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11A	Ant1	5180	13.18	≤23.98	PASS
		5200	13.65	≤23.98	PASS
		5240	14.35	≤23.98	PASS
		5260	14.19	≤23.98	PASS
		5280	13.98	≤23.96	PASS
		5320	14.19	≤23.98	PASS
		5500	10.62	≤23.98	PASS
		5580	10.64	≤23.98	PASS
		5700	10.05	≤23.98	PASS
		5745	11.36	≤30	PASS
		5785	12.63	≤30	PASS
		5825	12.68	≤30	PASS
11N20SISO	Ant1	5180	13.50	≤23.98	PASS
		5200	13.61	≤23.98	PASS
		5240	14.12	≤23.98	PASS
		5260	13.76	≤23.98	PASS
		5280	13.83	≤23.98	PASS
		5320	14.21	≤23.98	PASS
		5500	11.73	≤23.98	PASS
		5580	10.51	≤23.98	PASS
		5700	10.13	≤23.98	PASS
		5745	11.46	≤30	PASS
		5785	11.88	≤30	PASS
		5825	12.59	≤30	PASS
11N40SISO	Ant1	5190	13.32	≤23.98	PASS
		5230	13.76	≤23.98	PASS
		5270	13.99	≤23.98	PASS

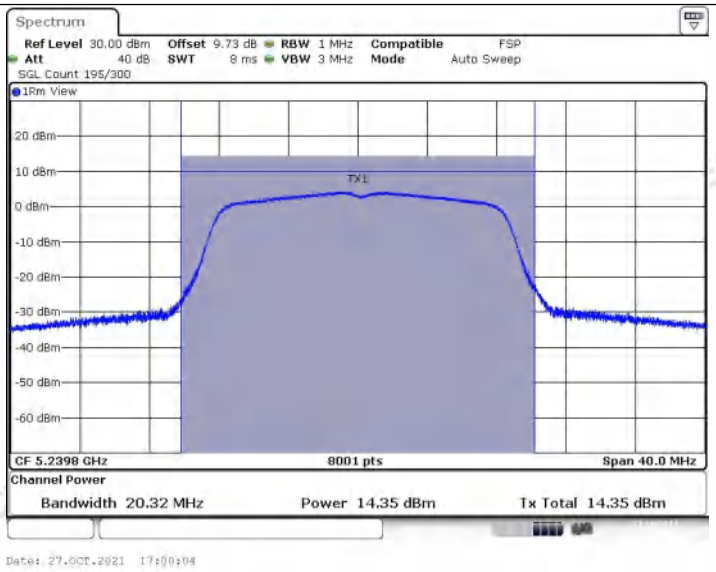
		5310	14.18	≤23.98	PASS
		5510	10.43	≤23.98	PASS
		5550	9.34	≤23.98	PASS
		5670	8.91	≤23.98	PASS
		5755	10.52	≤30	PASS
		5795	11.25	≤30	PASS
11AC20SISO	Ant1	5180	12.38	≤23.98	PASS
		5200	12.77	≤23.98	PASS
		5240	12.87	≤23.98	PASS
		5260	12.94	≤23.98	PASS
		5280	13.20	≤23.98	PASS
		5320	13.58	≤23.98	PASS
		5500	10.86	≤23.98	PASS
		5580	9.28	≤23.98	PASS
		5700	9.19	≤23.98	PASS
		5745	10.26	≤30	PASS
		5785	11.04	≤30	PASS
		5825	11.75	≤30	PASS
11AC40SISO	Ant1	5190	12.39	≤23.98	PASS
		5230	12.74	≤23.98	PASS
		5270	12.91	≤23.98	PASS
		5310	13.00	≤23.98	PASS
		5510	10.44	≤23.98	PASS
		5550	9.65	≤23.98	PASS
		5670	9.14	≤23.98	PASS
		5755	10.85	≤30	PASS
		5795	11.39	≤30	PASS
11AC80SISO	Ant1	5210	12.91	≤23.98	PASS
		5290	13.17	≤23.98	PASS
		5530	9.10	≤23.98	PASS

		5610	8.60	≤23.98	PASS
		5775	10.08	≤30	PASS

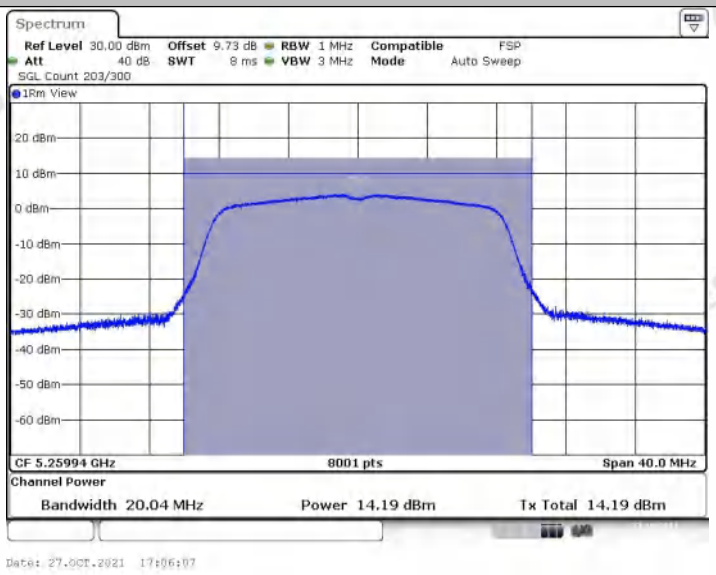
Note：The Duty Cycle Factor is compensated in the graph.

Test Graphs

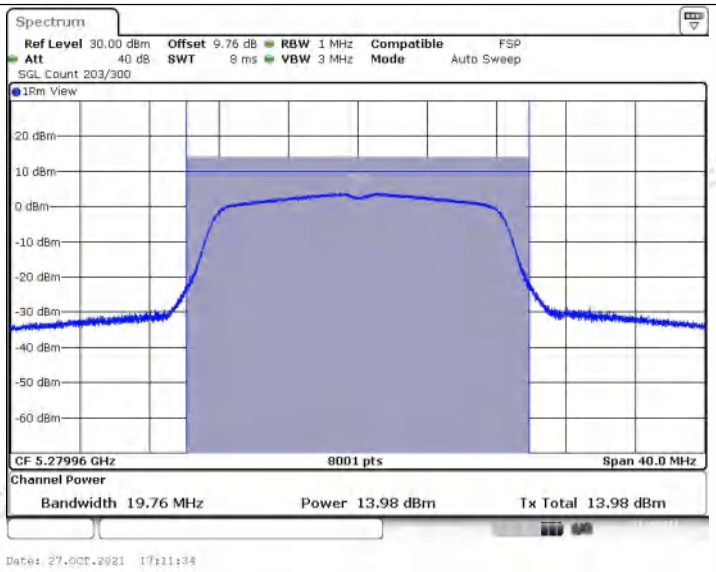
11A_Ant1_5180

11A_Ant1_5200

11A_Ant1_5240



11A_Ant1_5260



11A_Ant1_5280



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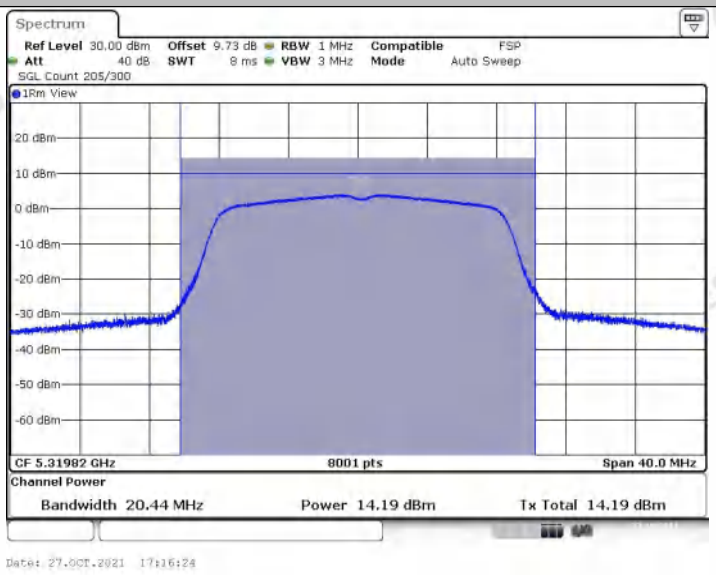

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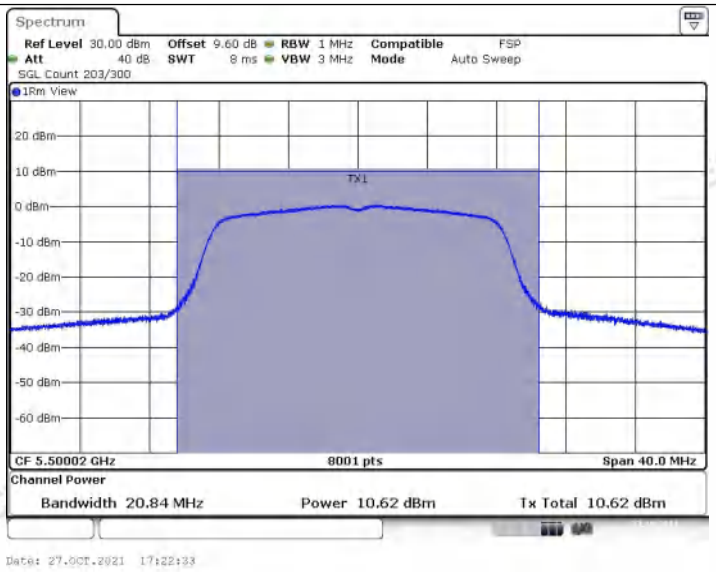

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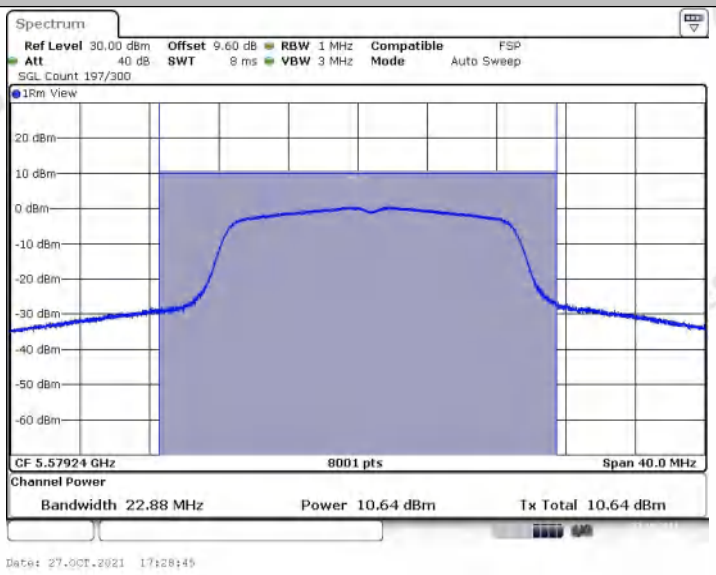

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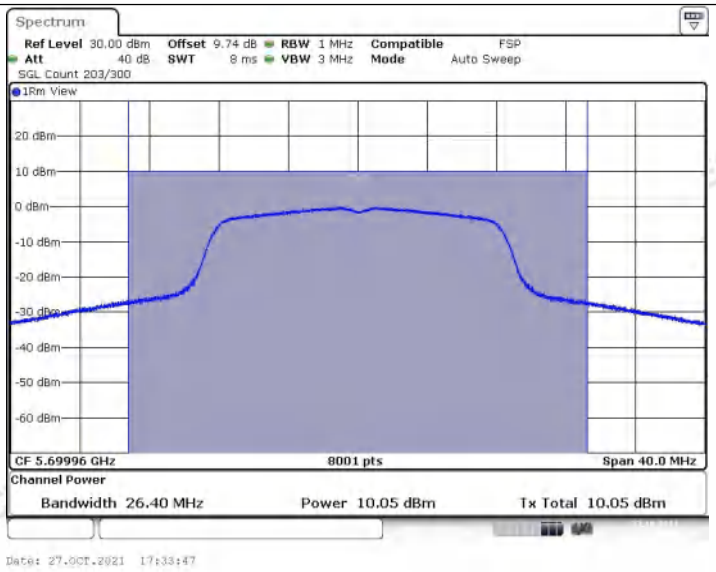

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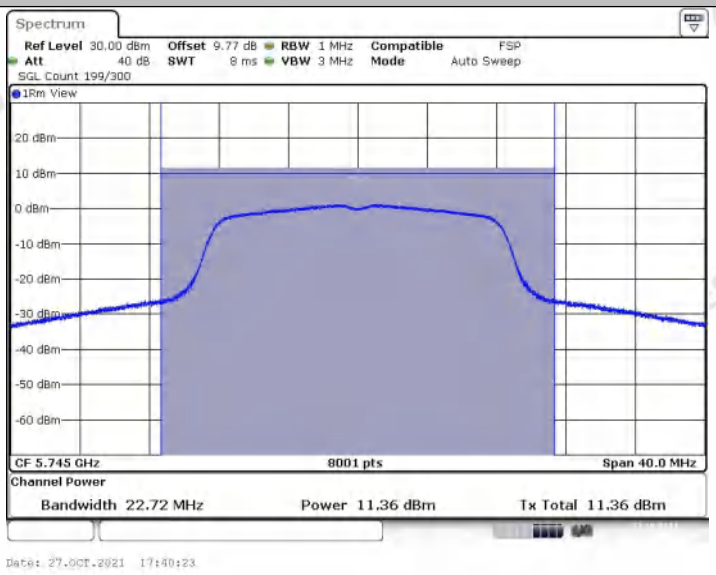

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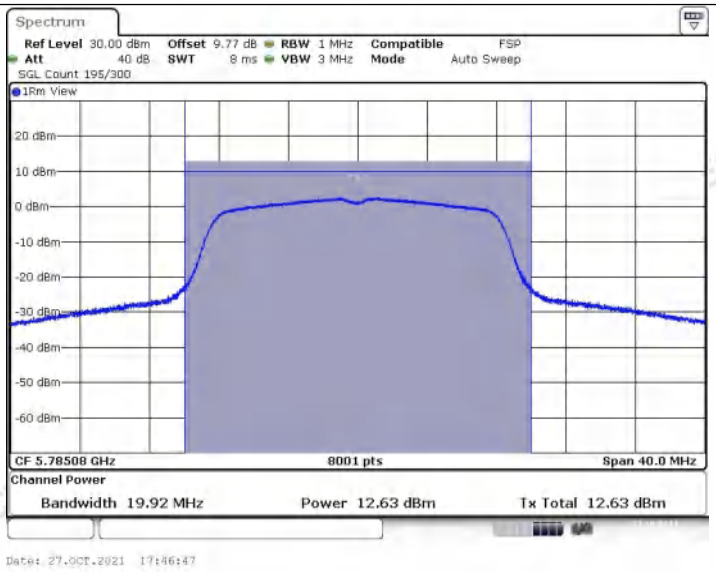

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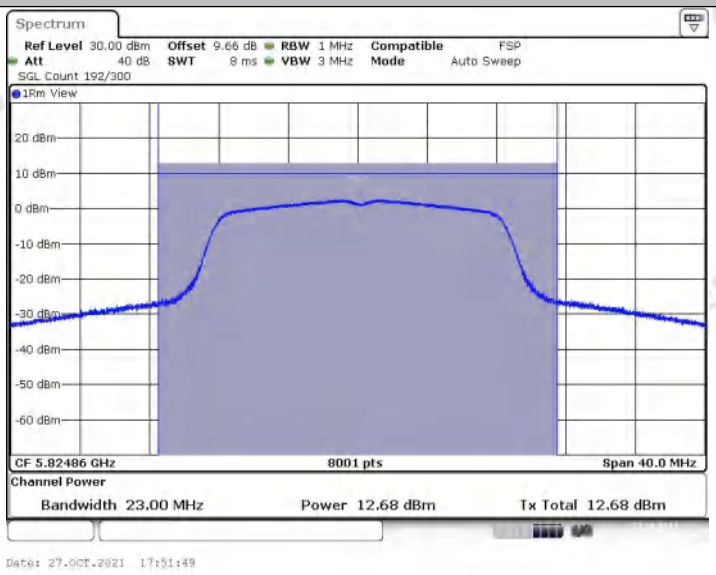

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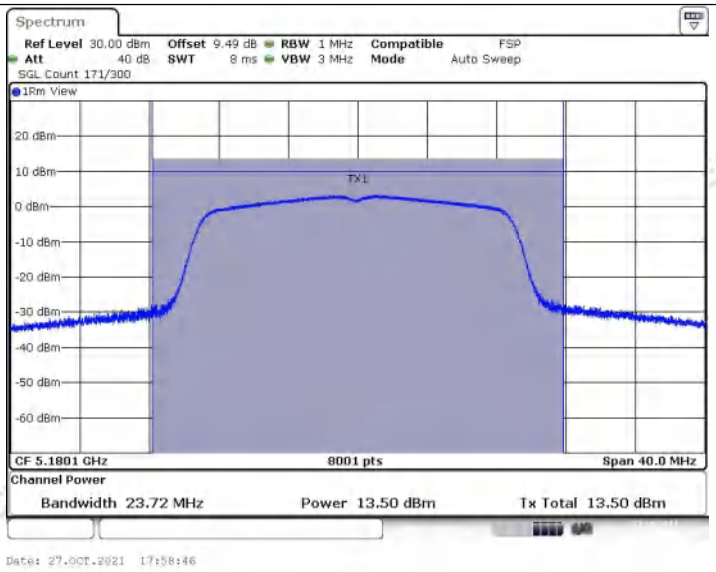

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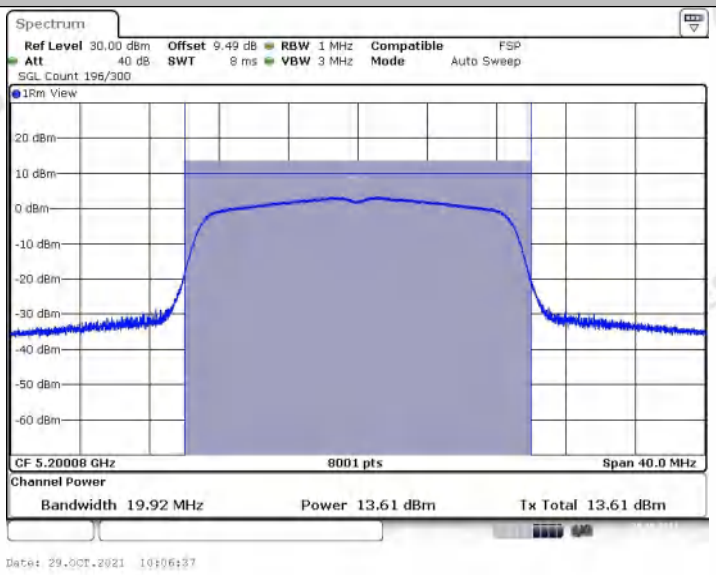

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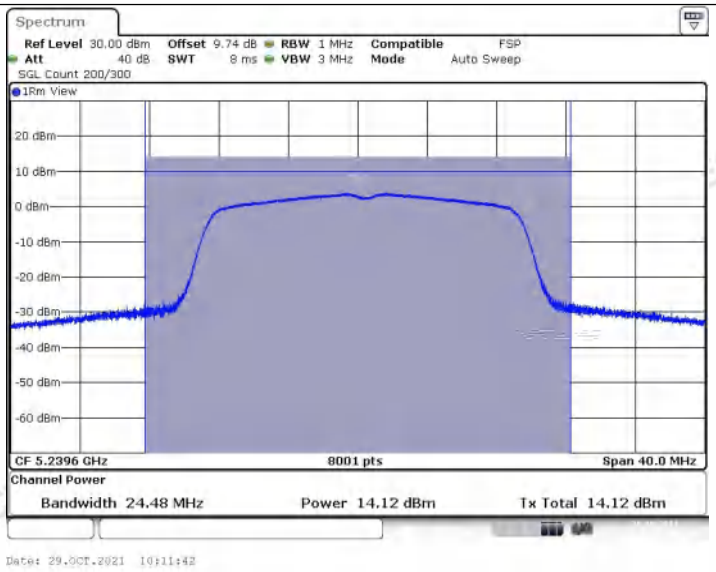

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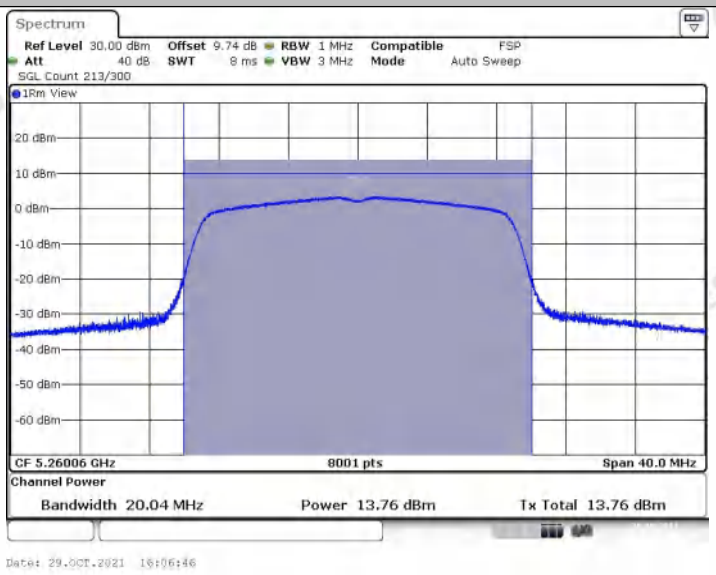

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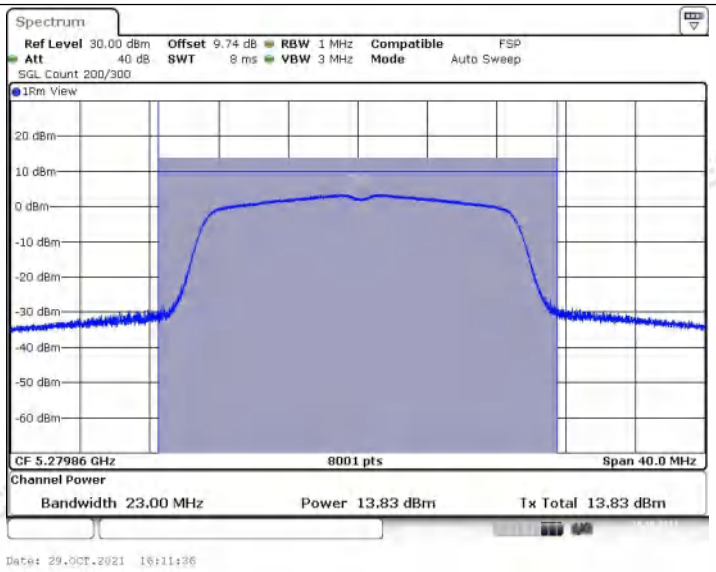

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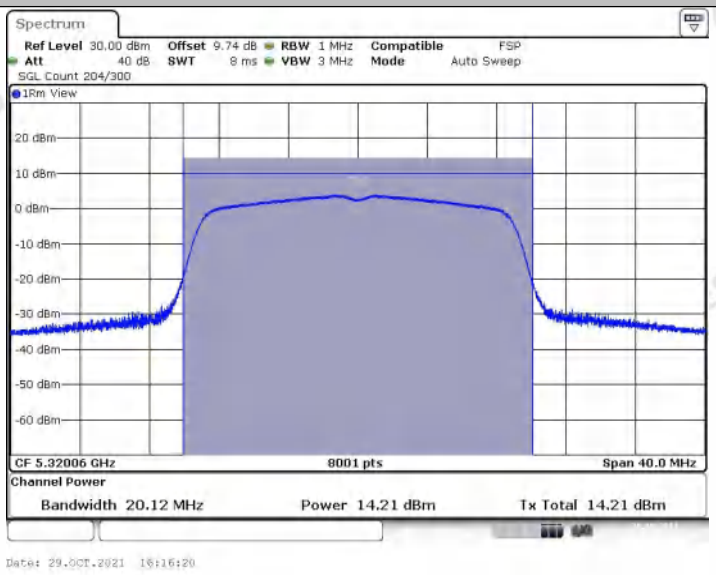

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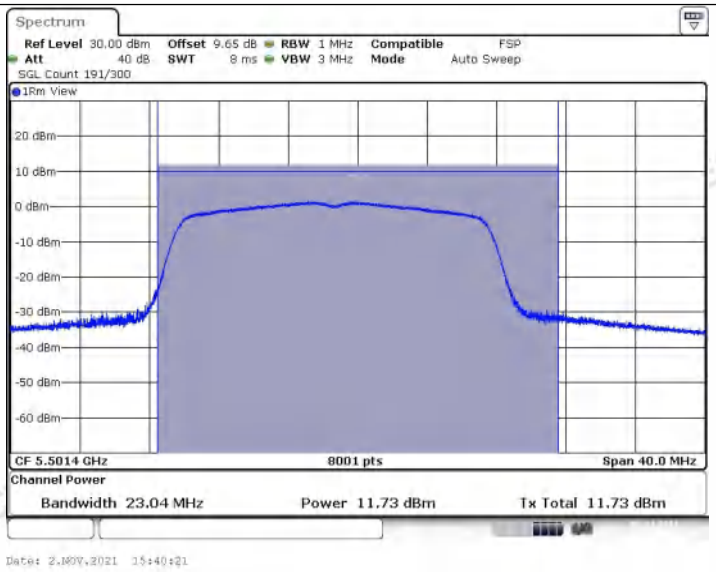

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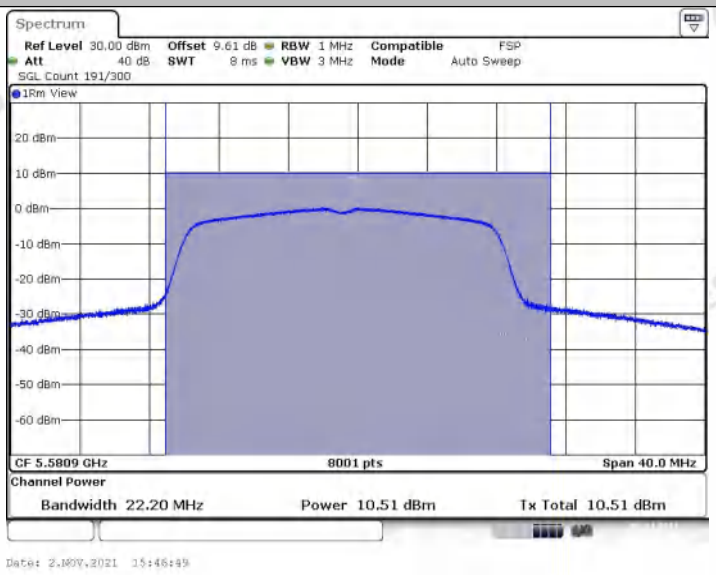

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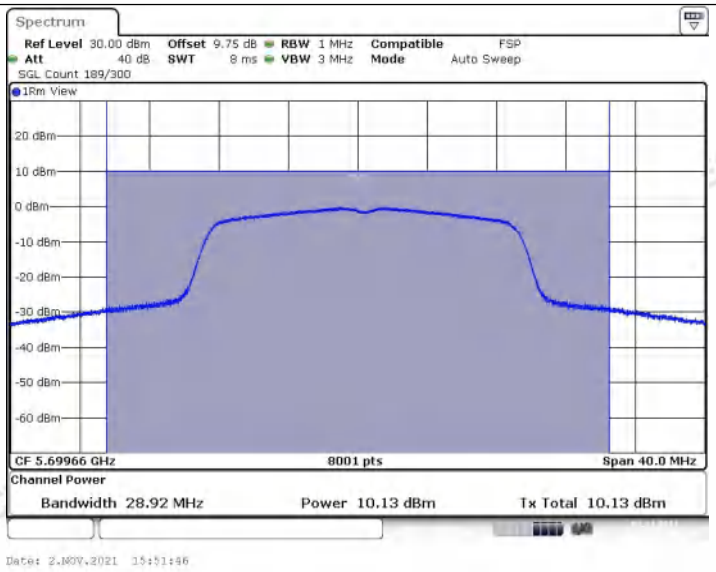

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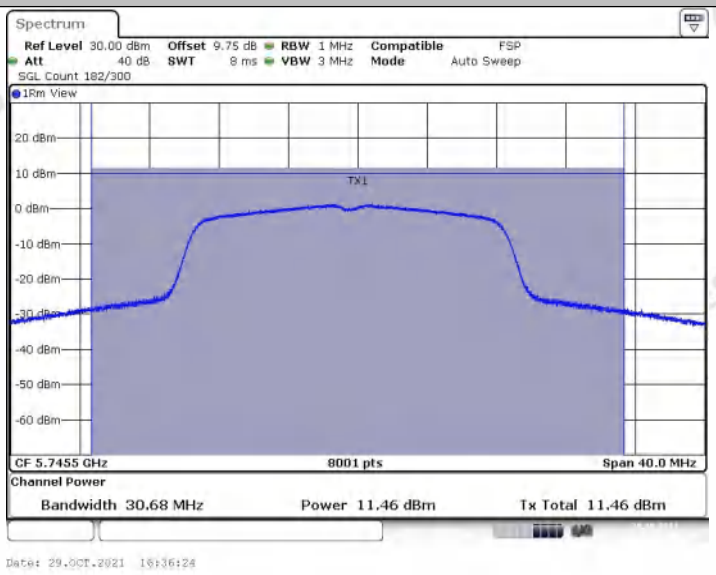

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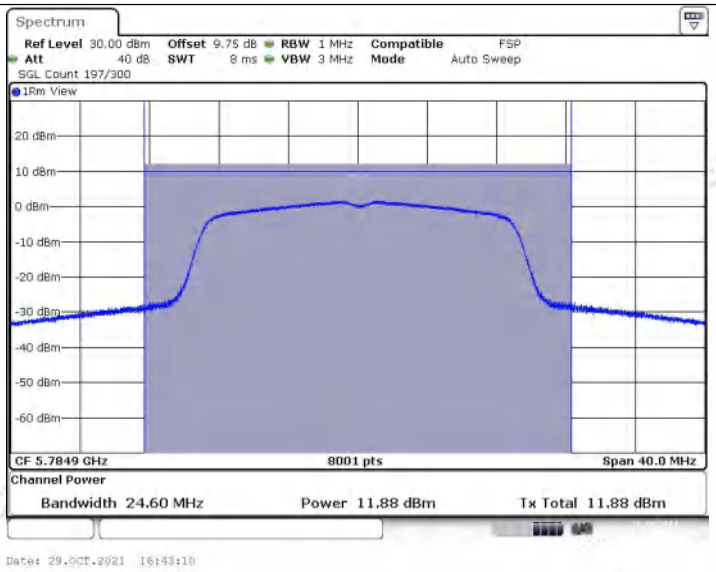

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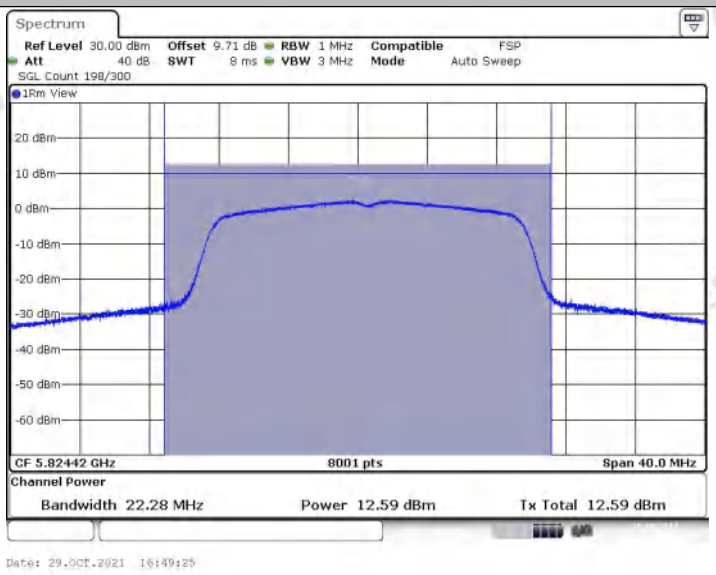
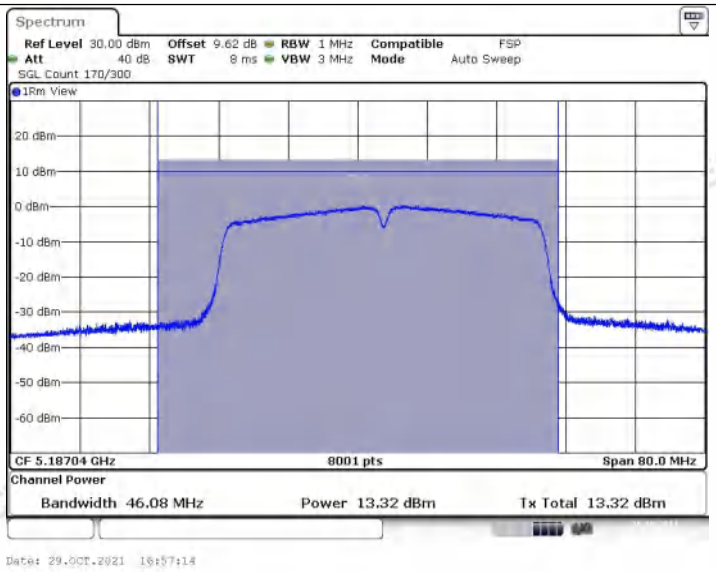


11N40SISO_Ant1_5190



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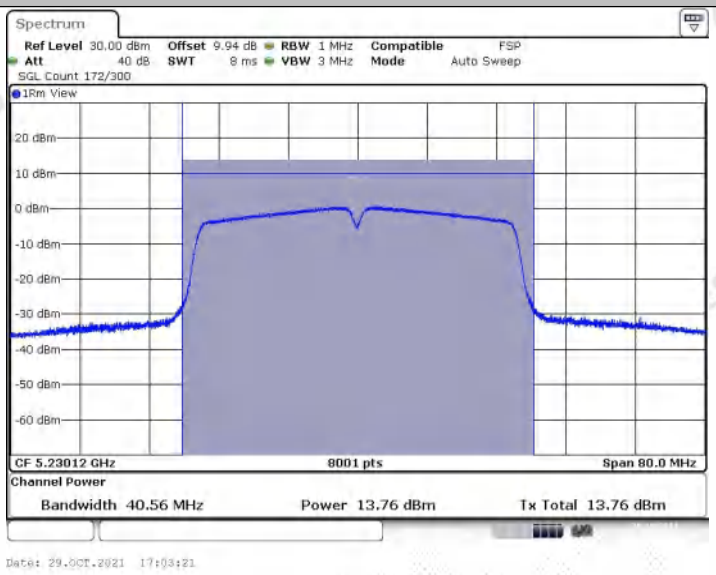

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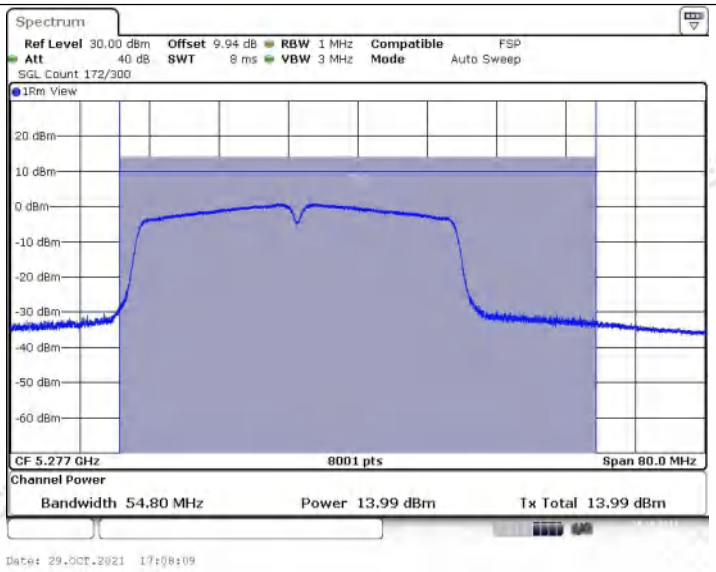

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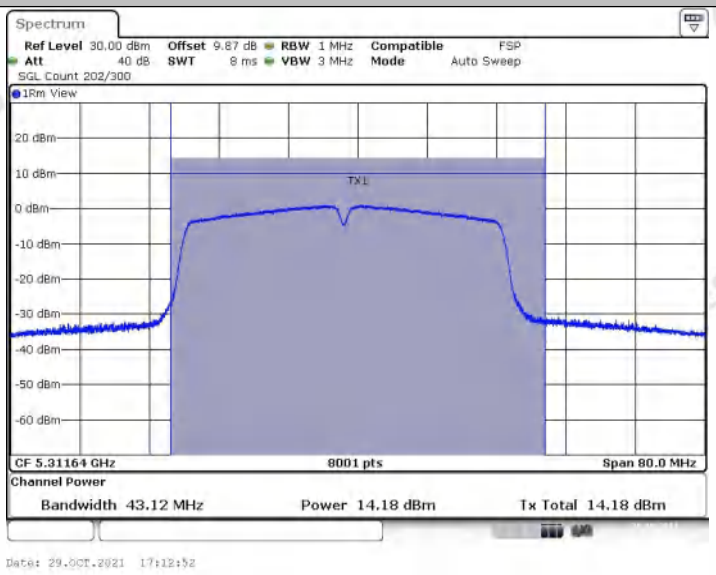

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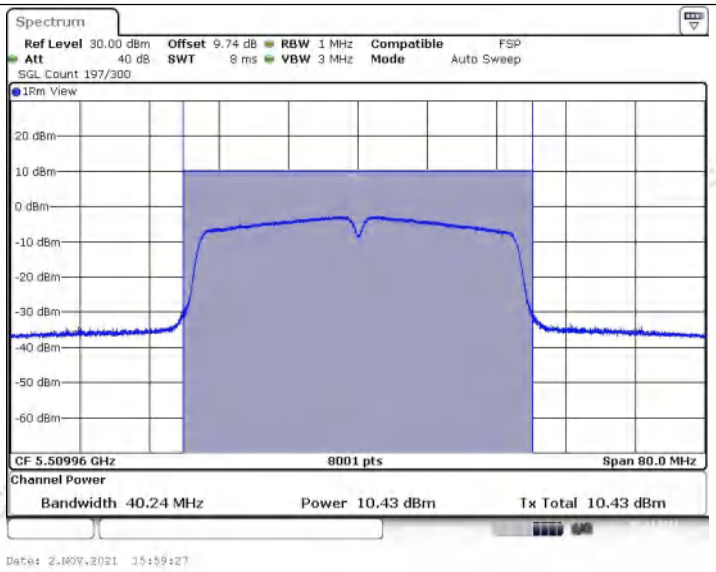

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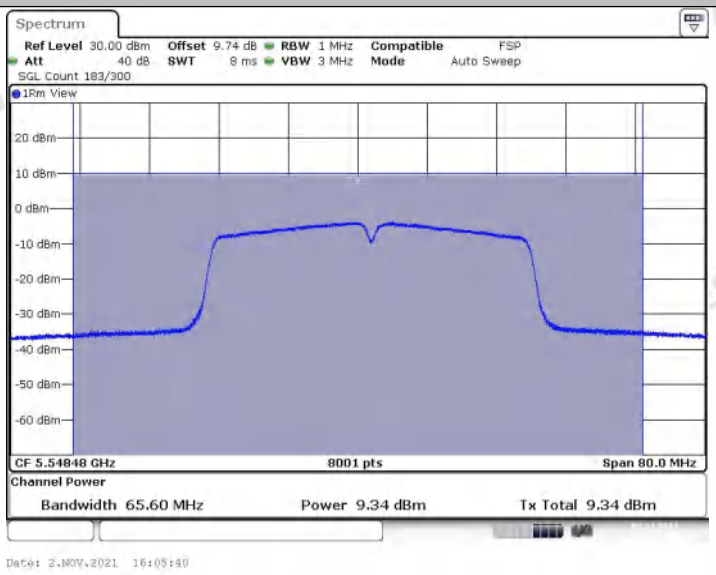

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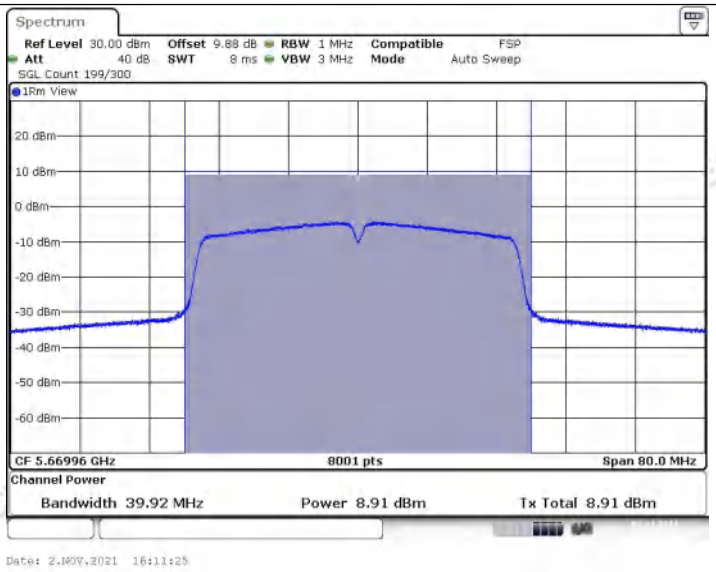

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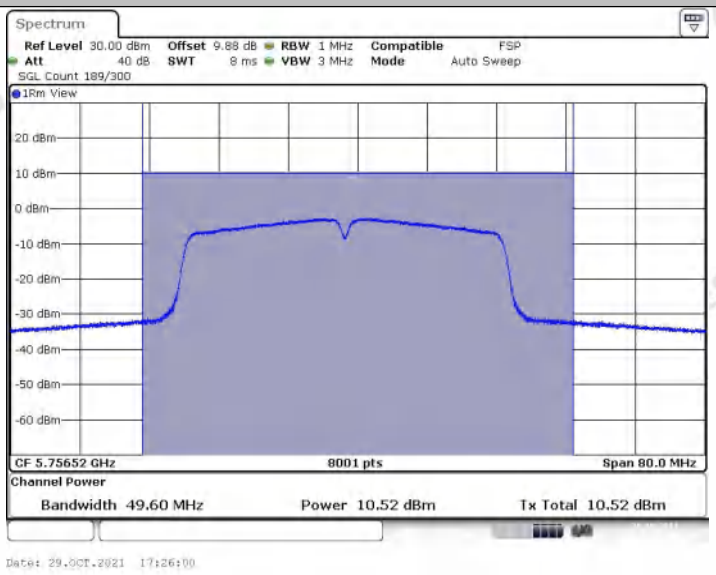

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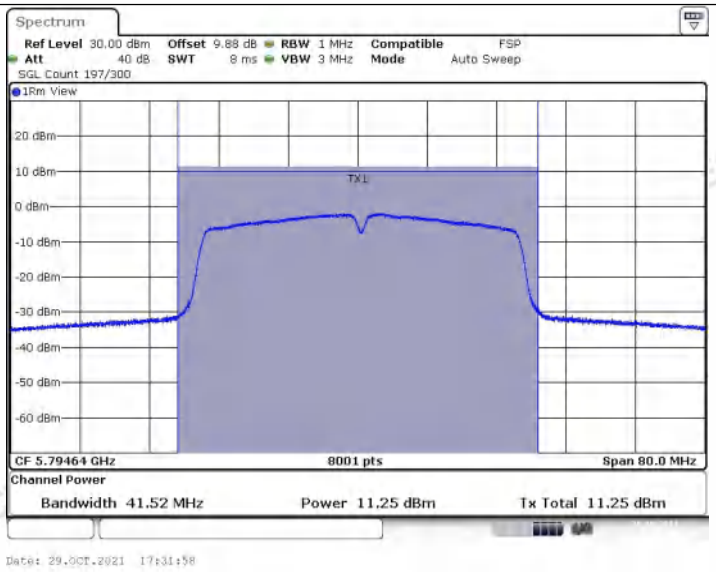

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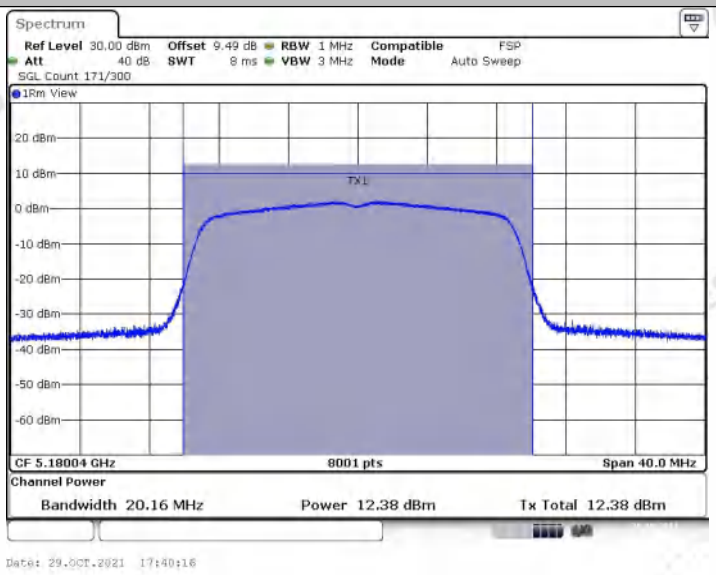

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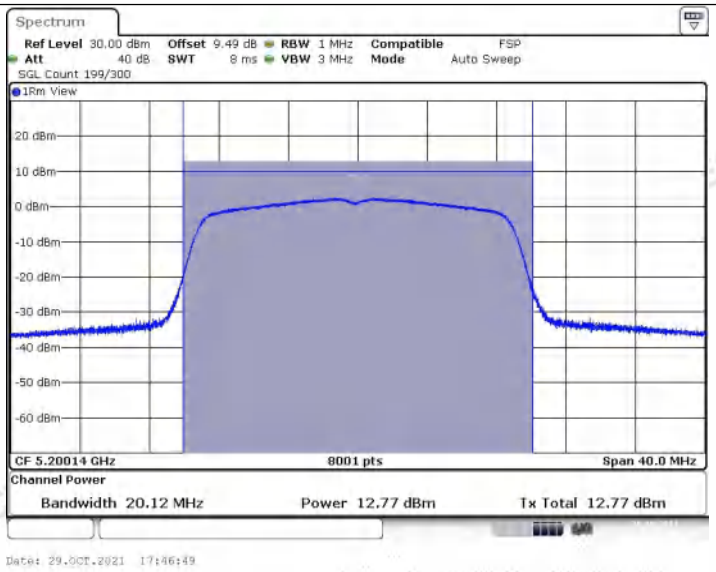

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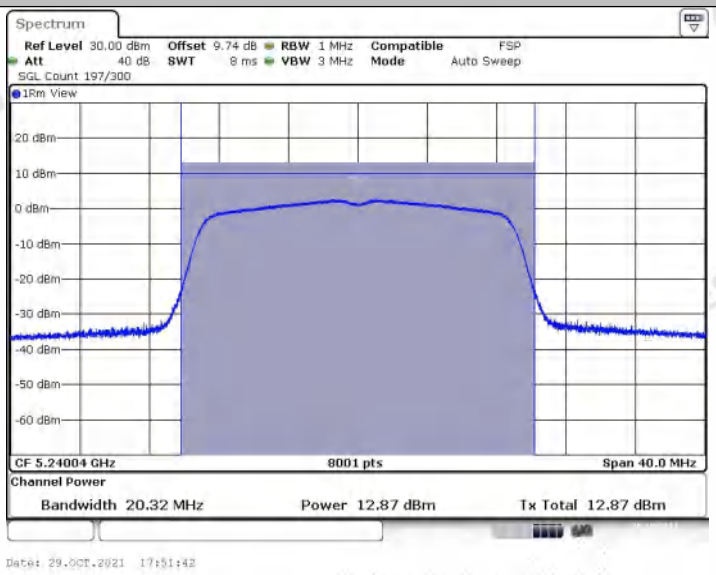

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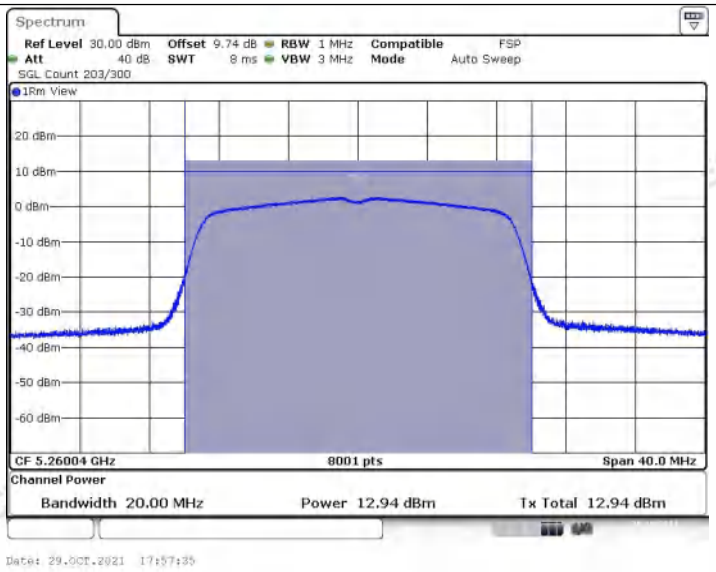

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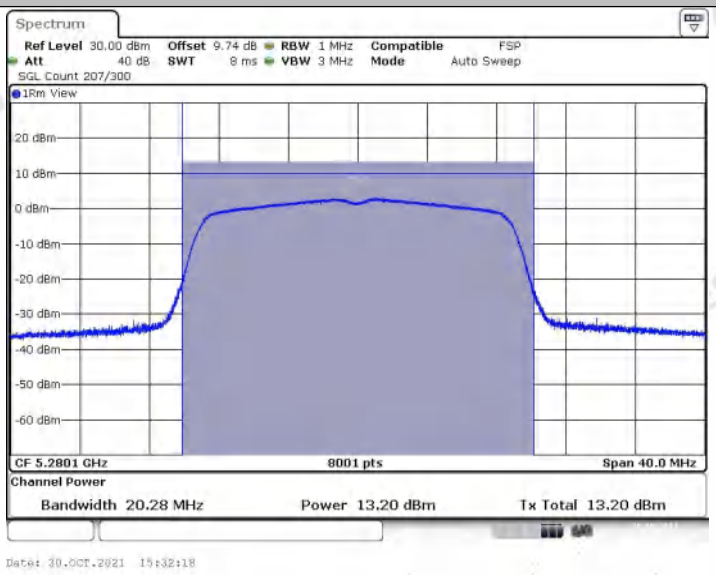

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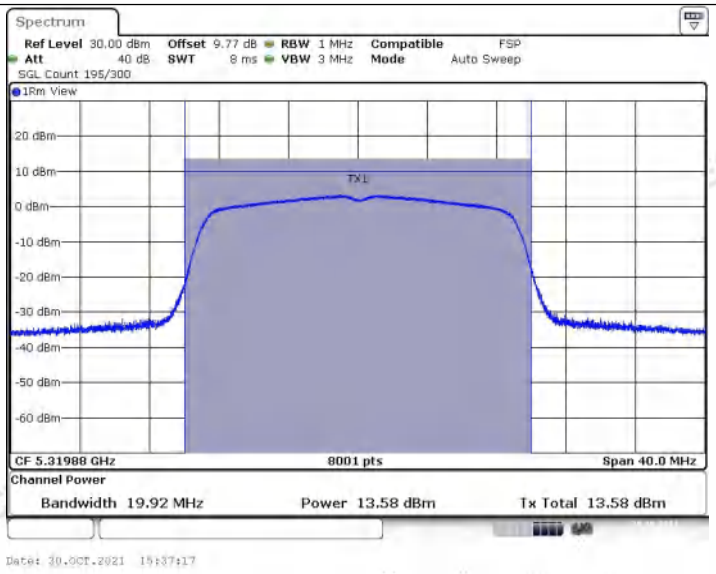

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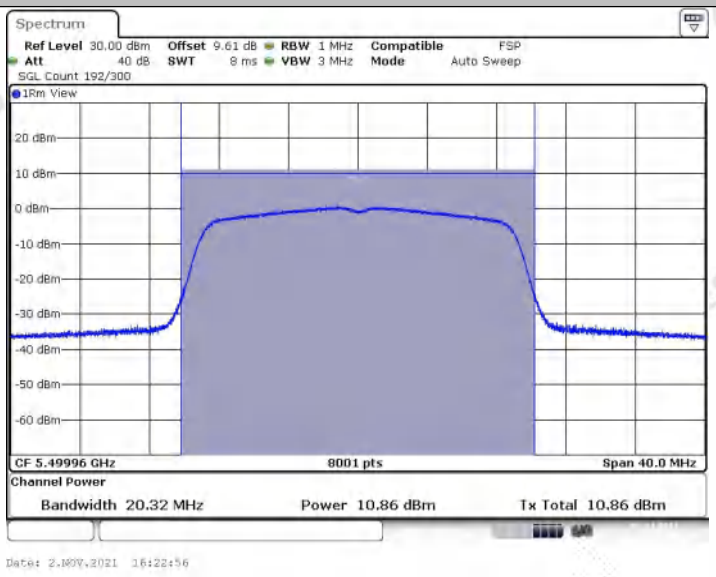

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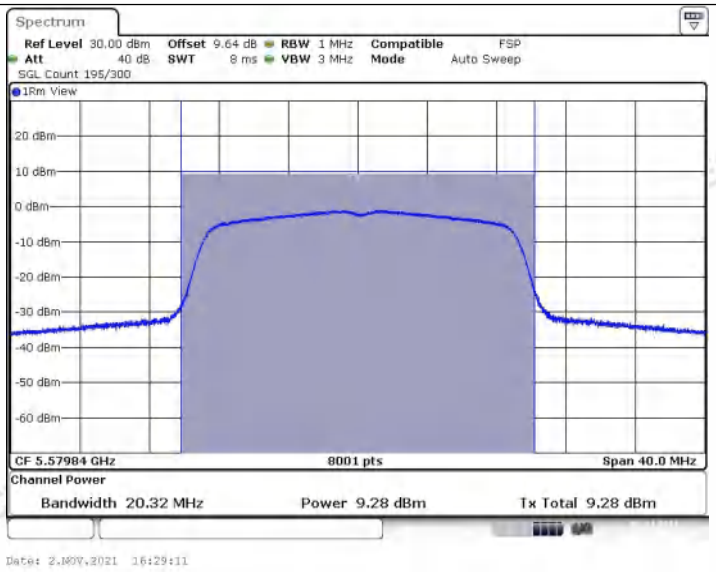

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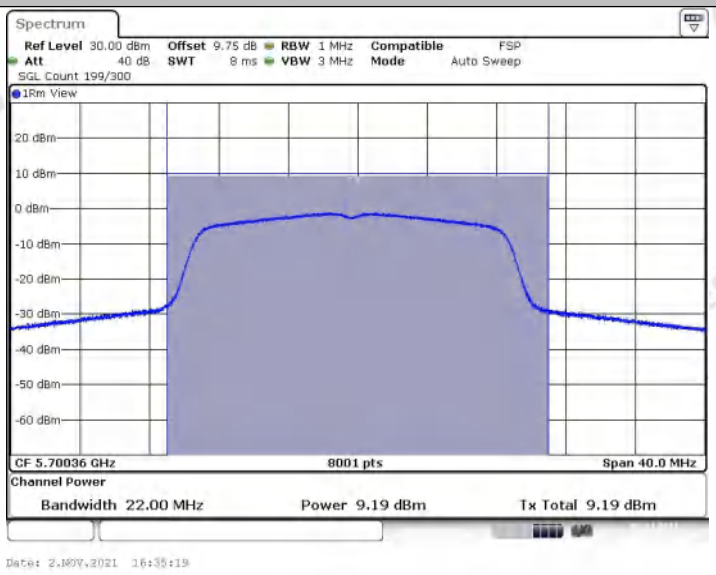

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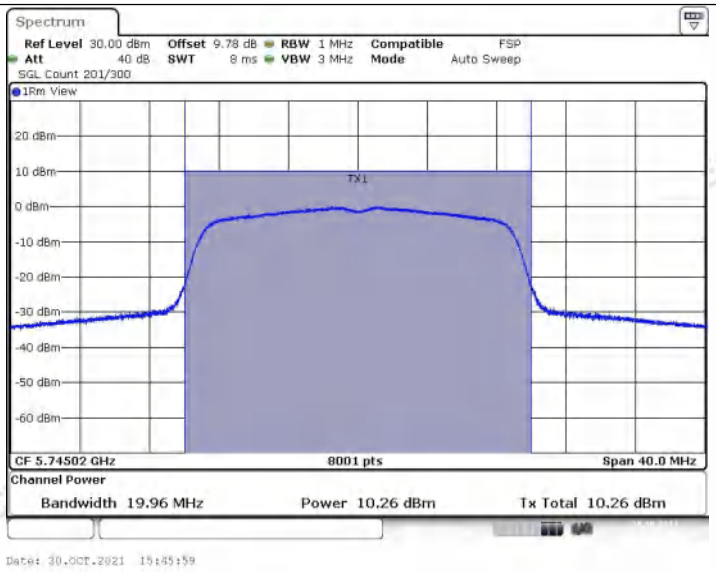

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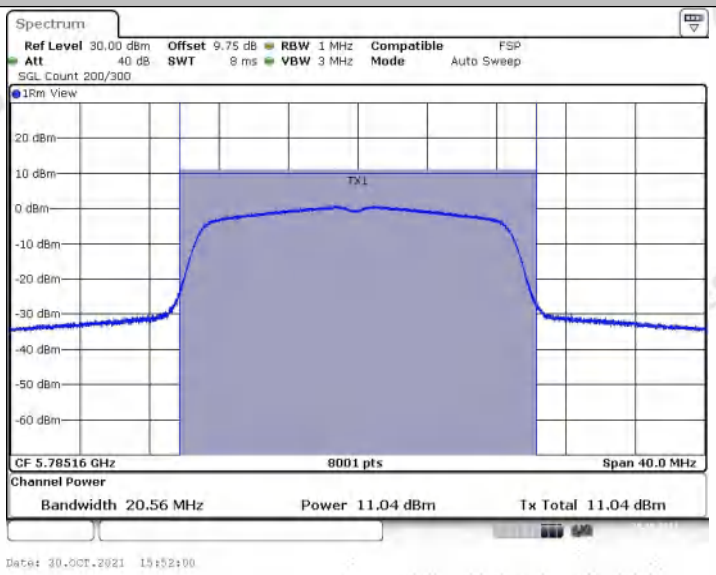

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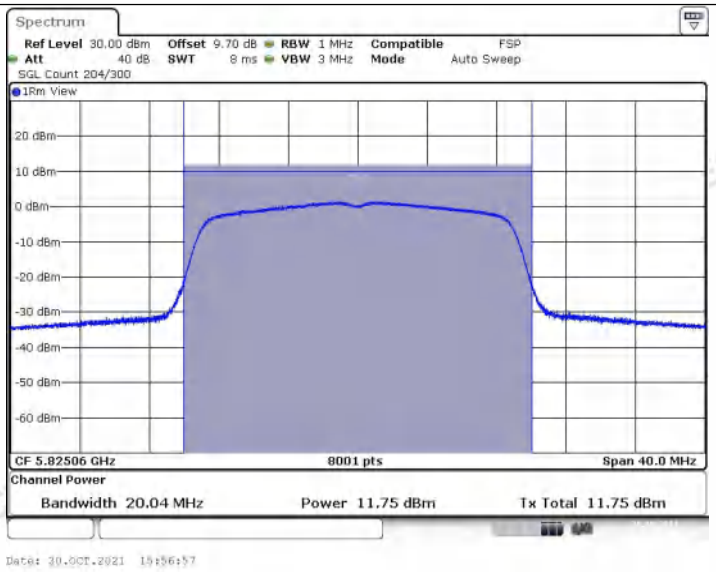
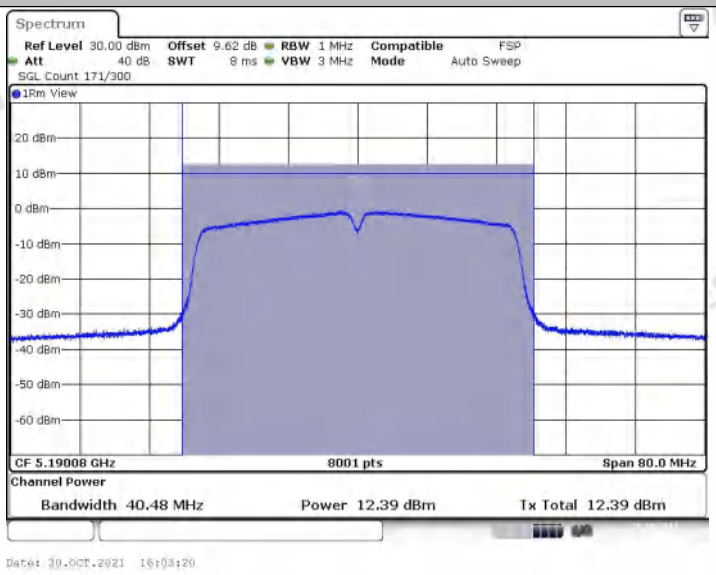
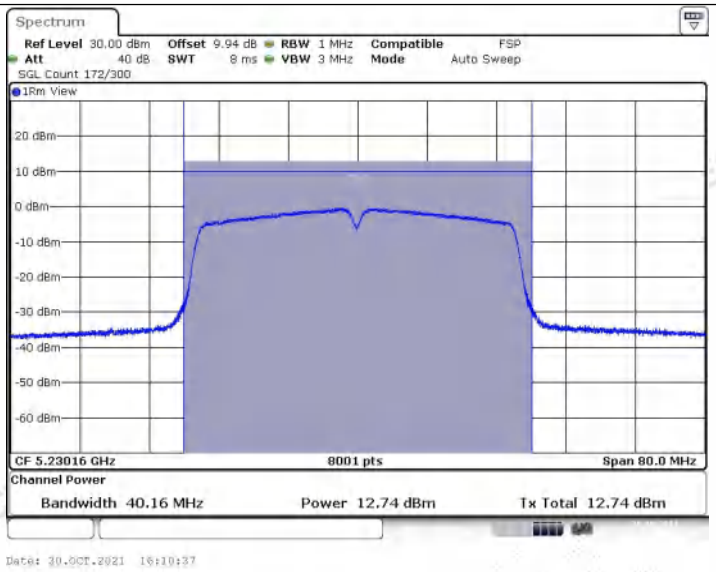


11AC40SISO_Ant1_5190



11AC40SISO_Ant1_5230



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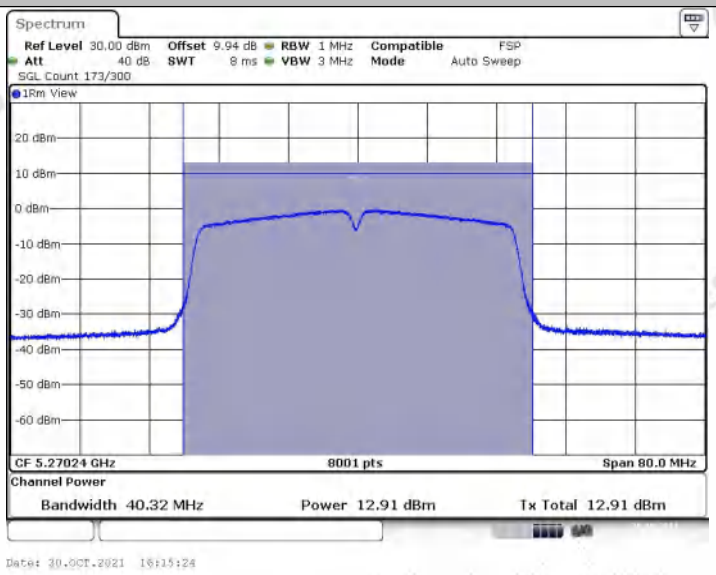

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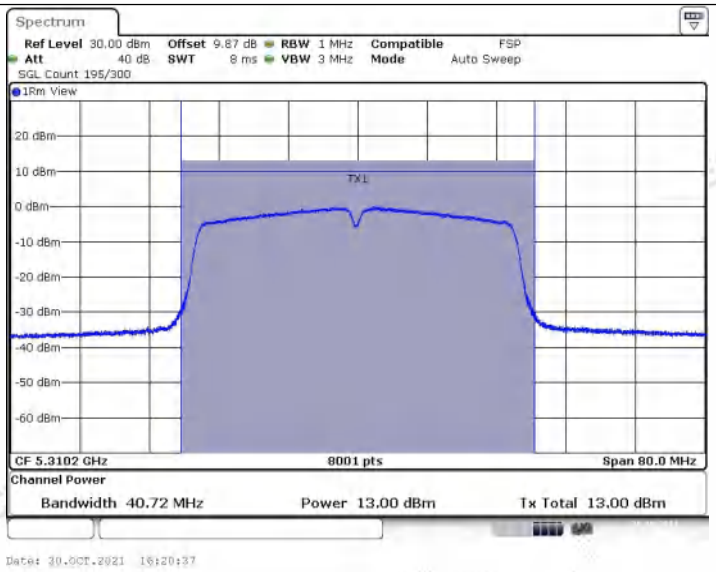

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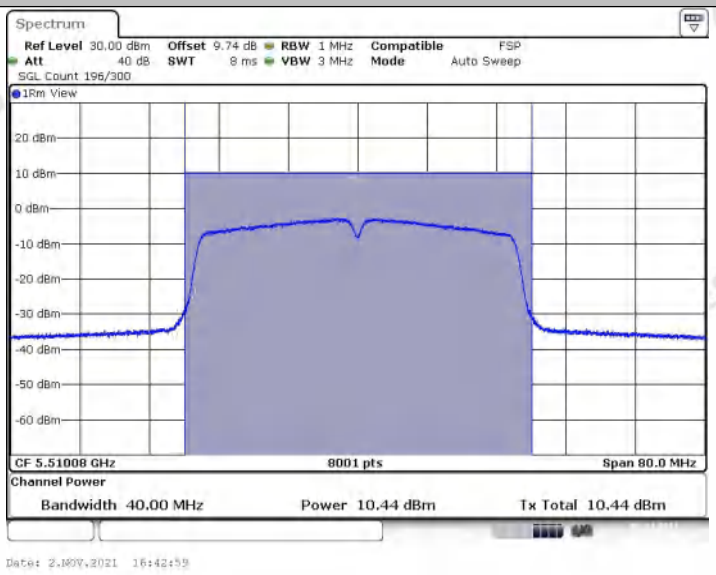

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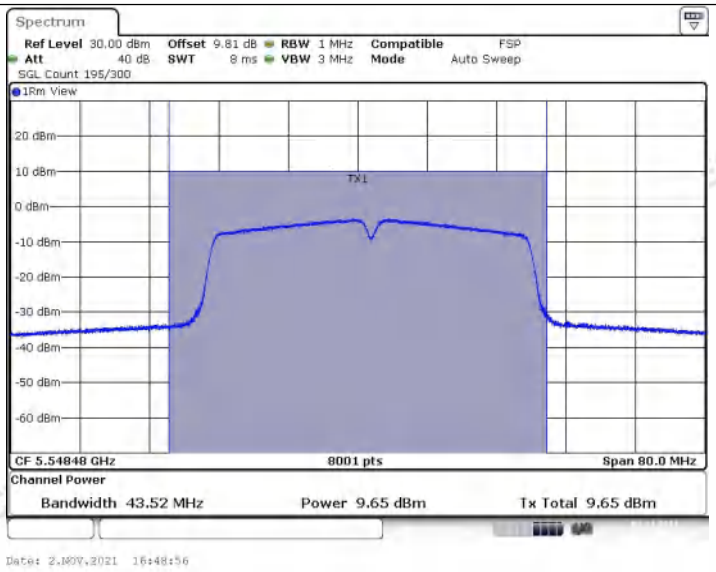

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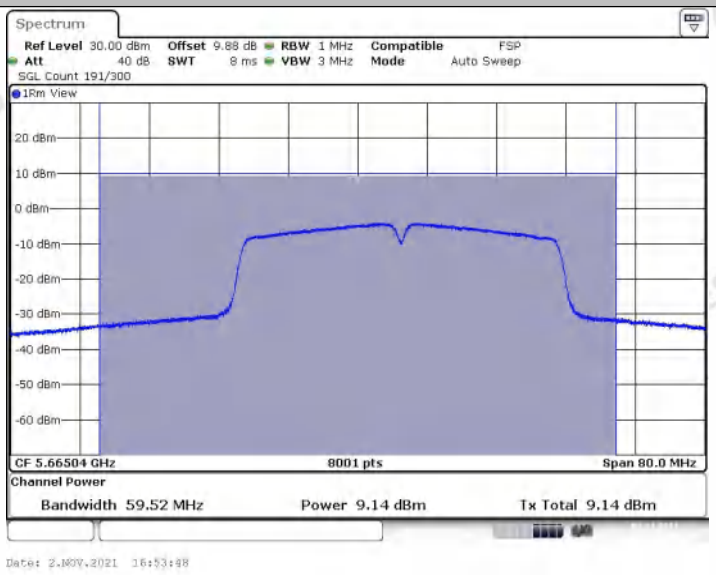

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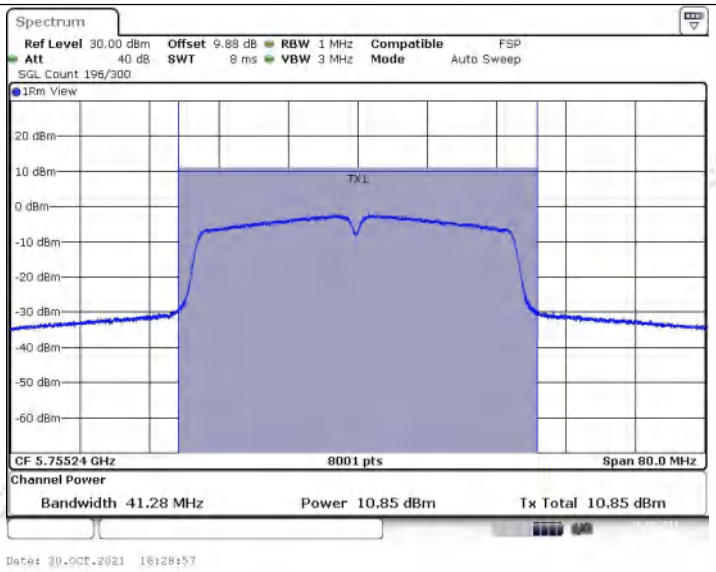

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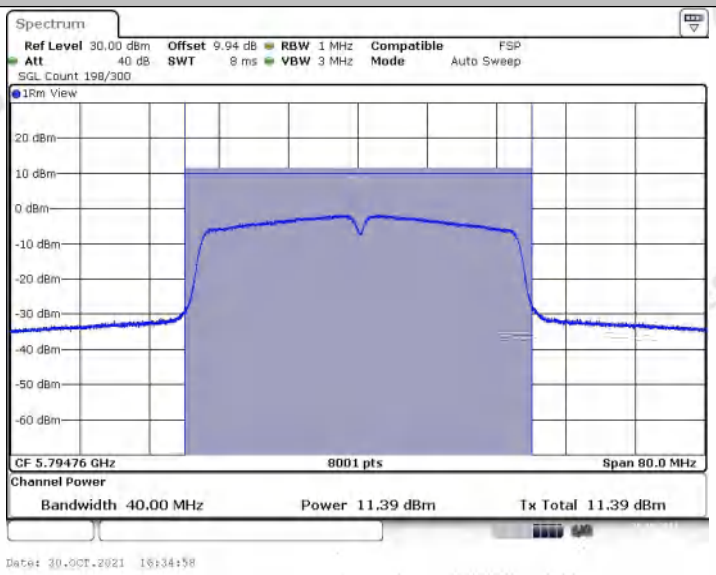

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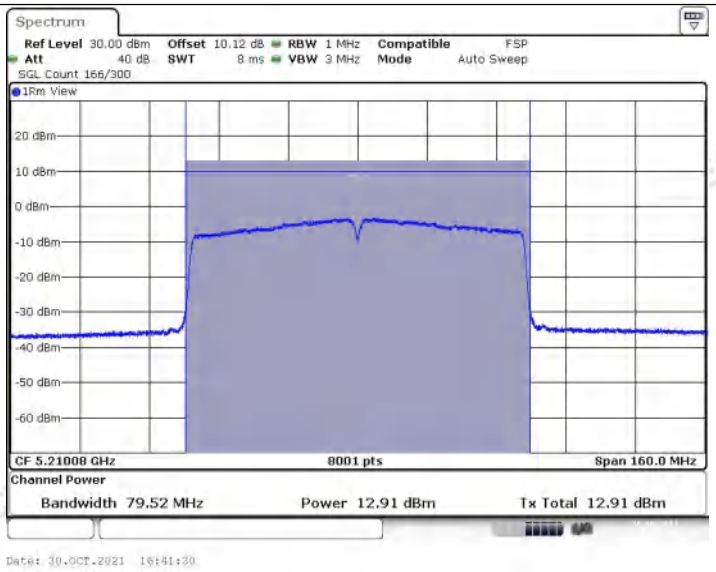

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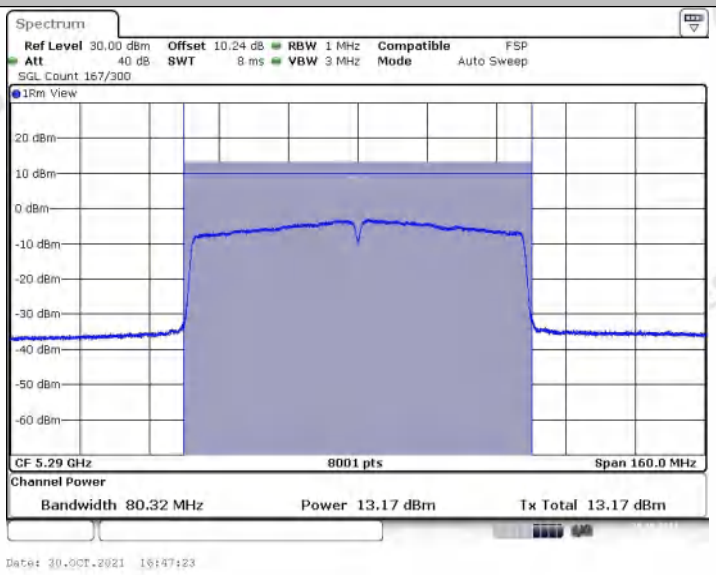

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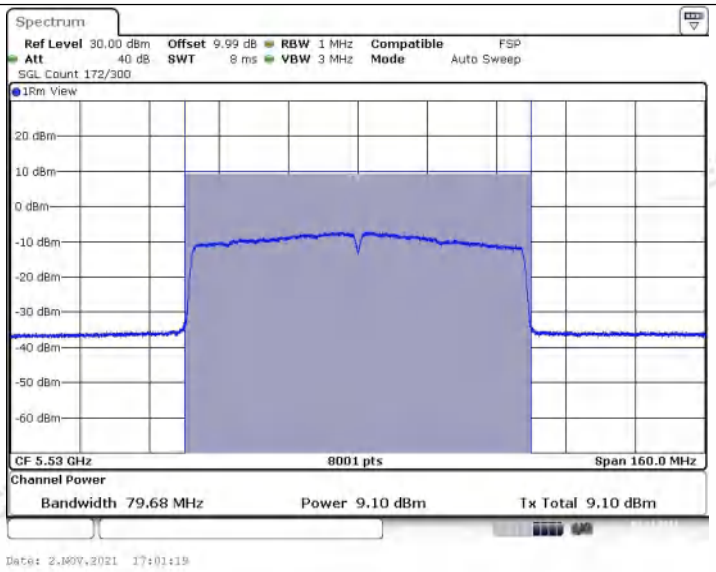

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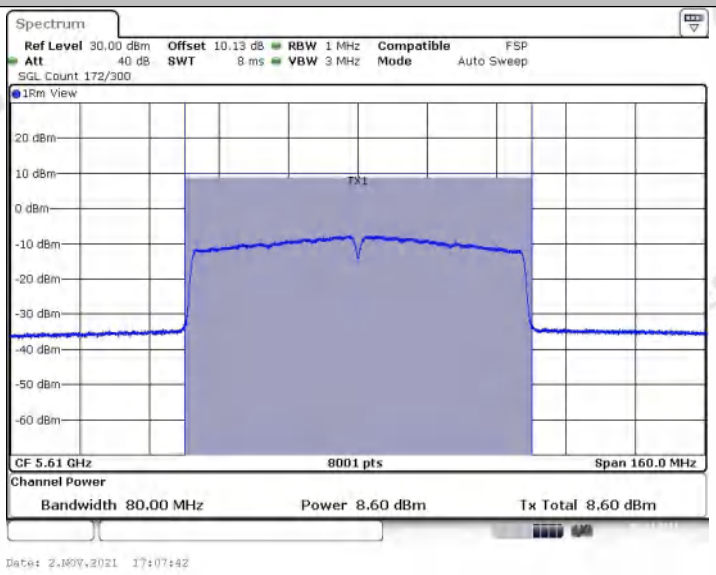

11AC80SISO_Ant1_5775