

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

SZEMC-TRF-01 Rev. A/0 Aug01,2022

Report No.: SZCR230400122503

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TEST REPORT

Application No.: SZCR2304001225AT
Applicant: SZ DJI TECHNOLOGY CO., LTD.
Address of Applicant: Lobby of T2, DJI Sky City, No. 53 Xianyuan Road, Xili Community, Xili Street, Nanshan District, Shenzhen, China.
Manufacturer: SZ DJI TECHNOLOGY CO., LTD.
Address of Manufacturer: Lobby of T2, DJI Sky City, No. 53 Xianyuan Road, Xili Community, Xili Street, Nanshan District, Shenzhen, China.

Equipment Under Test (EUT):**EUT Name:** Agras T50/Agras T25**Model No.:** 3WWDZ-40B, 3WWDZ-20B ♣

♣

Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.

Trade Mark: DJI**FCC ID:** SS3-T50A2303**Standard(s) :** 47 CFR Part 15, Subpart E 15.407**Date of Receipt:** 2023-04-26**Date of Test:** 2023-05-06 to 2023-06-26**Date of Issue:** 2023-06-28**Test Result:****Pass***

* In the configuration tested, the EUT complied with the standards specified above.

Kenx. Xu

Keny Xu
EMC Laboratory ManagerSGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch EMC Laboratory

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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2023-06-28		Original

Authorized for issue by:				
		Darren Yuan		
		Darren Yuan/Project Engineer		
		Eric Fu		
		Eric Fu/Reviewer		



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2 Test Summary

Radio Spectrum Technical Requirement				
Item	Standard	Method	Requirement	Result
Antenna Requirement	47 CFR Part 15, Subpart E 15.407	N/A	47 CFR Part 15, Subpart C 15.203	Pass
Transmission in the Absence of Data		N/A	47 CFR Part 15, Subpart E 15.407 (c)	Pass

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
Duty Cycle	47 CFR Part 15, Subpart E 15.407	KDB 789033 II B 1	KDB 789033 D02 II B 1	Pass
99% Bandwidth		KDB 789033 II D	N/A	Pass
Minimum 6 dB bandwidth (5.725-5.85 GHz band)		KDB 789033 D02 II C 2	47 CFR Part 15, Subpart E 15.407 (e)	Pass
Maximum Conducted output power		KDB 789033 D02 II E	47 CFR Part 15, Subpart E 15.407 (a)	Pass
Peak Power spectrum density		KDB 789033 D02 II F	47 CFR Part 15, Subpart E 15.407 (a)	Pass
Radiated Emissions (Above 1GHz)		KDB 789033 D02 II G	47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)	Pass
Radiated Emissions which fall in the restricted bands		KDB 789033 D02 II G	47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)	Pass
Radiated Emissions (Below 1GHz)		KDB 789033 D02 II G	47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)	Pass
Frequency Stability		ANSI C63.10 (2013) Section 6.8	47 CFR Part 15, Subpart E 15.407 (g)	Pass

Remark: KDB 789033 D02 is not accredited by A2LA

Declaration of EUT Family Grouping:

Model No.: 3WWDZ-40B, 3WWDZ-20B

According to the declaration from the applicant, the electrical circuit design, PCB layout and internal wiring and functions were identical for the above models, with only difference on as below.

	3WWDZ-40B	3WWDZ-20B
Motor	8pcs	4pcs
Size (open paddle)	Max. 2800×3085×860 mm	Max. 2585×2675×795 mm
Battery	30000mAh	15500mAh

Both 3WWDZ-40B and 3WWDZ-20B were pre-tested, 3WWDZ-40B was the worse-case, only the worse-case test data were recorded in this report.



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4 General Information

4.1 Details of E.U.T.

Power supply:	Powered by Lithium-Ion Polymer Rechargeable Battery Battery Information for 3WWDZ-40B Model: BAX702-30000mAh-52.22V Nominal Voltage: 52.22V Rated Capacity: 30000mAh, 1566.6Wh Battery Information for 3WWDZ-20B Model: BAX702-15500mAh-52.22V Nominal Voltage: 52.22V Rated Capacity: 15500mAh, 809.4Wh
Operation Frequency:	1.4MHz: 5728.5MHz-5846.5MHz 1.4MHz CA: 5730.12MHz-5848.12MHz 3MHz: 5727.5MHz-5844.5MHz 3MHz CA: 5730.2MHz-5847.2MHz 10MHz: 5730.5MHz-5844.5MHz 20MHz: 5735.5MHz-5839.5MHz 40MHz: 5745.5MHz-5829.5MHz
Modulation Type:	OFDM
Channel Spacing:	1.4MHz: 2MHz 1.4MHz CA: 2MHz 3MHz: 3MHz 3MHz CA: 3MHz 10MHz: 1MHz 20MHz: 1MHz 40MHz: 1MHz
Number of Channels:	1.4MHz: 60 1.4MHz CA: 60 3MHz: 40 3MHz CA: 40 10MHz: 115 20MHz: 105 40MHz: 85
Antenna Type:	Dipole Antenna
Antenna Gain:	ANT0&ANT1&ANT2&ANT3: 2dBi

Remark: The information in this section is provided by the applicant or manufacturer, SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.



4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
--	--	--	--
The EUT has been tested as an independent unit.			

4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Duty Cycle	$\pm 0.37\%$
99% Bandwidth	$\pm 3\%$
Minimum 6 dB bandwidth (5.725-5.85 GHz band)	$\pm 3\%$
Maximum Conducted output power	$\pm 0.75\text{dB}$
Peak Power spectrum density	$\pm 2.84\text{dB}$
Radiated Emissions (Above 1GHz)	$\pm 4.6\text{dB}$ (1-18GHz); $\pm 4.8\text{dB}$ (18-40GHz)
Radiated Emissions which fall in the restricted bands	$\pm 6.0\text{dB}$ (below 1GHz); $\pm 4.6\text{dB}$ (above 1GHz);
Radiated Emissions (Below 1GHz)	$\pm 6.0\text{dB}$ for 3m; $\pm 5.0\text{dB}$ for 10m
Frequency Stability	$\pm 7.25 \times 10^{-8}$

Remark:

The U_{lab} (lab Uncertainty) is less than $U_{\text{CISPR/ETSI}}$ (CISPR/ETSI Uncertainty), so the test results

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.



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4.4 Test Location

All tests were performed at:

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Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

4.5 Test Facility

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

• A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• VCCI (Member No. 1937)

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen EMC laboratory have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• FCC –Designation Number: CN1336

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1336. Test Firm Registration Number: 787754.

• Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None



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5 Equipment List

Duty Cycle					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
DC Power Supply	Chroma	62012P-80-60	SEM011-11	2022-10-20	2023-10-19
MXA Signal Analyzer	KEYSIGHT	N9020A	SEM004-19	2023-03-21	2024-03-20
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2022-09-29	2023-09-28
Measurement Software	TST PASS	TST PASS V2.0	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-01	2022-07-08	2023-07-07
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2023-03-31	2024-03-30
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2023-03-21	2024-03-20

99% Bandwidth					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
DC Power Supply	Chroma	62012P-80-60	SEM011-11	2022-10-20	2023-10-19
MXA Signal Analyzer	KEYSIGHT	N9020A	SEM004-19	2023-03-21	2024-03-20
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2022-09-29	2023-09-28
Measurement Software	TST PASS	TST PASS V2.0	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-01	2022-07-08	2023-07-07
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2023-03-31	2024-03-30
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2023-03-21	2024-03-20



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Minimum 6 dB bandwidth (5.725-5.85 GHz band)					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
DC Power Supply	Chroma	62012P-80-60	SEM011-11	2022-10-20	2023-10-19
MXA Signal Analyzer	KEYSIGHT	N9020A	SEM004-19	2023-03-21	2024-03-20
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2022-09-29	2023-09-28
Measurement Software	TST PASS	TST PASS V2.0	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-01	2022-07-08	2023-07-07
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2023-03-31	2024-03-30
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2023-03-21	2024-03-20

Maximum Conducted output power					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Power Sensor	TST PASS	TSPS2023R	SEM009-26	2023-04-01	2024-03-31
Power Sensor	KEYSIGHT	U2021XA	SEM009-16	2023-03-21	2024-03-20
DC Power Supply	Chroma	62012P-80-60	SEM011-11	2022-10-20	2023-10-19
MXA Signal Analyzer	KEYSIGHT	N9020A	SEM004-19	2023-03-21	2024-03-20
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2022-09-29	2023-09-28
Measurement Software	TST PASS	TST PASS V2.0	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-01	2022-07-08	2023-07-07
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2023-03-31	2024-03-30
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2023-03-21	2024-03-20



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Peak Power spectrum density					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
DC Power Supply	Chroma	62012P-80-60	SEM011-11	2022-10-20	2023-10-19
MXA Signal Analyzer	KEYSIGHT	N9020A	SEM004-19	2023-03-21	2024-03-20
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2022-09-29	2023-09-28
Measurement Software	TST PASS	TST PASS V2.0	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-01	2022-07-08	2023-07-07
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2023-03-31	2024-03-30
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2023-03-21	2024-03-20

Radiated Emissions (Above 1GHz)					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2022-04-02	2025-04-01
Signal Analyzer	Rohde & Schwarz	FSV40	SEM008-04	2023-03-20	2024-03-19
Horn Antenna	Rohde&Schwarz	HF907	SEM003-07	2022-07-24	2024-07-23
Microwave system amplifier	Agilent	83017A	SEM005-25	2022-09-21	2023-09-20
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2022-07-08	2023-07-07

Radiated Emissions which fall in the restricted bands					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2022-04-02	2025-04-01
Signal Analyzer	Rohde & Schwarz	FSV40	SEM008-04	2023-03-20	2024-03-19
Horn Antenna	Rohde&Schwarz	HF907	SEM003-07	2022-07-24	2024-07-23
Microwave system amplifier	Agilent	83017A	SEM005-25	2022-09-21	2023-09-20
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2022-07-08	2023-07-07



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Radiated Emissions (Below 1GHz)					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
10m Semi-Anechoic Chamber	SAEMC	FSAC1018	SEM001-03	2021-03-27	2024-03-26
MXE EMI receiver	KEYSIGHT	N9038A	SEM004-16	2022-10-20	2023-10-19
Trilog-Broadband Antenna	Schwarzbeck	VULB9168	SEM003-18	2021-10-28	2023-10-27
Pre-amplifier	Sonoma Instrument Co	310N	SEM005-04	2023-03-31	2024-03-30
Loop Antenna	ETS-Lindgren	6502	SEM003-08	2021-11-30	2023-11-29
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM029-01	2022-07-08	2023-07-07

Frequency Stability					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
DC Power Supply	Chroma	62012P-80-60	SEM011-11	2022-10-20	2023-10-19
MXA Signal Analyzer	KEYSIGHT	N9020A	SEM004-19	2023-03-21	2024-03-20
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2022-09-29	2023-09-28
Measurement Software	TST PASS	TST PASS V2.0	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-01	2022-07-08	2023-07-07
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2023-03-31	2024-03-30
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2023-03-21	2024-03-20

General used equipment					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2022-09-04	2023-09-03
Humidity/ Temperature Indicator	Anymetre	TH101B	SEM002-09	2022-09-04	2023-09-03
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2023-03-23	2024-03-22



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6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203 & 15.247(b)(4)

6.1.2 Conclusion

Standard Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is ANT0&ANT1&ANT2&ANT3: 2dBi, the directional gain is 5.01dBi

Antenna location: Refer to internal photo.

6.2 Transmission in the Absence of Data

6.2.1 Test Requirement:

47 CFR Part 15, Subpart E 15.407 (c)

6.2.2 Conclusion

Standard Requirement:

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signalling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals.

Applicants shall include in their application for equipment authorization a description of how this requirement is met.

EUT Details:

SDR chip support automatically discontinue transmission in case of either absence of information to transmit or operational failure, if the chip detect absence of information to transmit or operational failure, it will be automatically shut off.



7 Radio Spectrum Matter Test Results

7.1 Duty Cycle

Test Requirement KDB 789033 D02 II B 1

Test Method: KDB 789033 II B 1

7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 22.9 °C

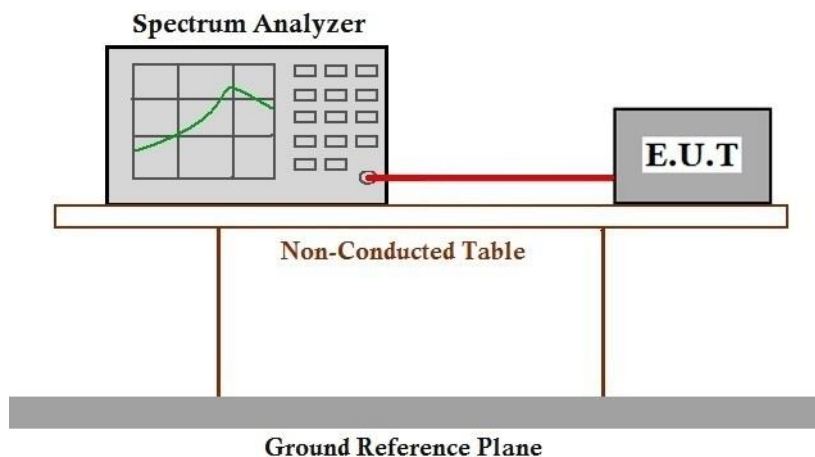
Humidity: 60.5 % RH

Atmospheric Pressure: 1005 mbar

7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	05	TX mode (1.4M)_Keep the EUT in transmitting mode.
Final test	06	TX mode (3M)_Keep the EUT in transmitting mode.
Final test	07	TX mode (10M)_Keep the EUT in transmitting mode.
Final test	08	TX mode (20M)_Keep the EUT in transmitting mode.
Final test	09	TX mode (40M)_Keep the EUT in transmitting mode.

7.1.3 Test Setup Diagram



7.1.4 Measurement Procedure and Data

Please Refer to Appendix for Details



7.2 99% Bandwidth

Test Requirement N/A
Test Method: KDB 789033 II D

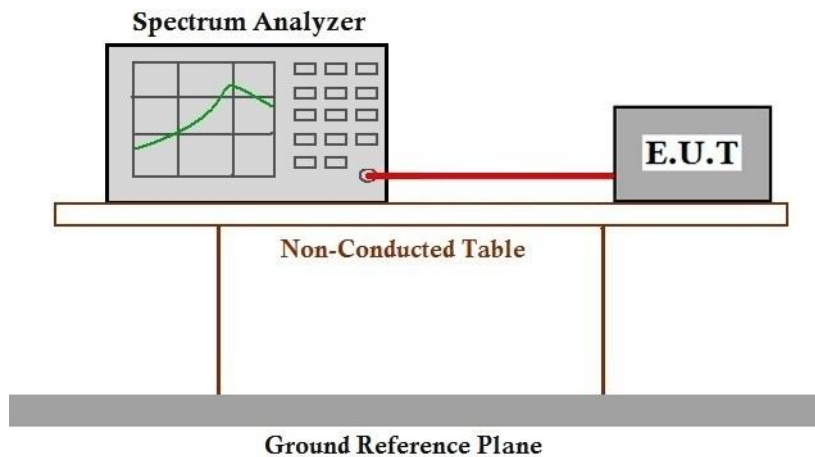
7.2.1 E.U.T. Operation

Operating Environment:
Temperature: 22.9 °C Humidity: 60.5 % RH Atmospheric Pressure: 1005 mbar

7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	05	TX mode (1.4M)_Keep the EUT in transmitting mode.
Final test	06	TX mode (3M)_Keep the EUT in transmitting mode.
Final test	07	TX mode (10M)_Keep the EUT in transmitting mode.
Final test	08	TX mode (20M)_Keep the EUT in transmitting mode.
Final test	09	TX mode (40M)_Keep the EUT in transmitting mode.

7.2.3 Test Setup Diagram



7.2.4 Measurement Procedure and Data

Please Refer to Appendix for Details

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7.3 Minimum 6 dB bandwidth (5.725-5.85 GHz band)

Test Requirement 47 CFR Part 15, Subpart E 15.407 (e)

Test Method: KDB 789033 D02 II C 2

Limit:

Frequency band(MHz)	Limit
5725-5850	≥500 kHz

7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 22.9 °C

Humidity: 60.5 % RH

Atmospheric Pressure: 1005 mbar

7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	05	TX mode (1.4M)_Keep the EUT in transmitting mode.
Final test	06	TX mode (3M)_Keep the EUT in transmitting mode.
Final test	07	TX mode (10M)_Keep the EUT in transmitting mode.
Final test	08	TX mode (20M)_Keep the EUT in transmitting mode.
Final test	09	TX mode (40M)_Keep the EUT in transmitting mode.



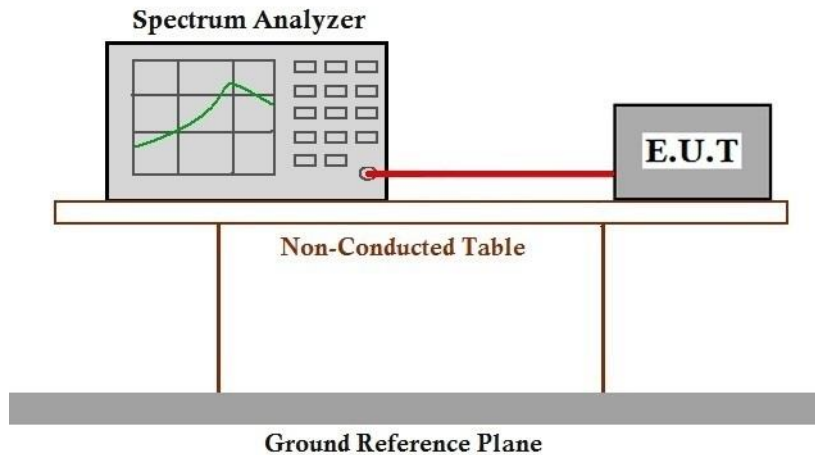
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7.3.3 Test Setup Diagram



7.3.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.4 Maximum Conducted output power

Test Requirement 47 CFR Part 15, Subpart E 15.407 (a)

Test Method: KDB 789033 D02 II E

Limit:

Frequency band(MHz)	Limit
5150-5250	≤1W(30dBm) for master device
	≤250mW(24dBm) for client device
5250-5350	≤250mW(24dBm) or 11dBm+10logB*
5470-5725	≤250mW(24dBm) or 11dBm+10logB*
5725-5850	≤1W(30dBm)
Remark:	<p>* Where B is the 26dB emission bandwidth in MHz.</p> <p>The maximum conducted output power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.</p>

7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 22.9 °C

Humidity: 60.5 % RH

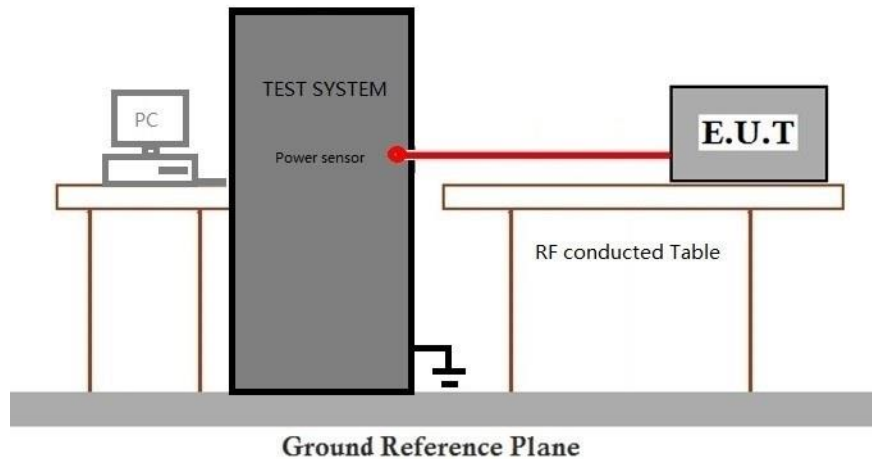
Atmospheric Pressure: 1005 mbar

7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	05	TX mode (1.4M)_Keep the EUT in transmitting mode.
Final test	06	TX mode (3M)_Keep the EUT in transmitting mode.
Final test	07	TX mode (10M)_Keep the EUT in transmitting mode.
Final test	08	TX mode (20M)_Keep the EUT in transmitting mode.
Final test	09	TX mode (40M)_Keep the EUT in transmitting mode.



7.4.3 Test Setup Diagram



7.4.4 Measurement Procedure and Data

Note: Since the verify power the same operating range bandwidth and smaller power can be covered by the higher power.

Please Refer to Appendix for Details

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7.5 Peak Power spectrum density

Test Requirement 47 CFR Part 15, Subpart E 15.407 (a)

Test Method: KDB 789033 D02 II F

Limit:

Frequency band(MHz)	Limit
5150-5250	≤17dBm in 1MHz for master device
	≤11dBm in 1MHz for client device
5250-5350	≤11dBm in 1MHz for client device
5470-5725	≤11dBm in 1MHz for client device
5725-5850	≤30dBm in 500 kHz
Remark:	The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test.

7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 22.9 °C

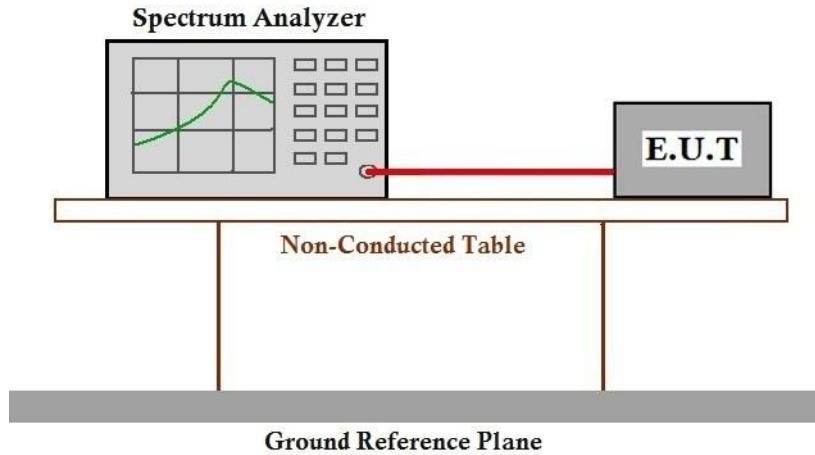
Humidity: 60.5 % RH

Atmospheric Pressure: 1005 mbar

7.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	05	TX mode (1.4M)_Keep the EUT in transmitting mode.
Final test	06	TX mode (3M)_Keep the EUT in transmitting mode.
Final test	07	TX mode (10M)_Keep the EUT in transmitting mode.
Final test	08	TX mode (20M)_Keep the EUT in transmitting mode.
Final test	09	TX mode (40M)_Keep the EUT in transmitting mode.

7.5.3 Test Setup Diagram



7.5.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.6 Radiated Emissions (Above 1GHz)

Test Requirement 47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)

Test Method: KDB 789033 D02 II G

Measurement Distance: 3m

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
Above 1GHz	500	3
<p>*(1) 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.</p> <p>(2) 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.</p> <p>(3) 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.</p> <p>(4) For transmitters operating in the 5.725-5.85 GHz band:</p> <p>(i) 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.</p> <p>Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.</p>		



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7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 22.9 °C

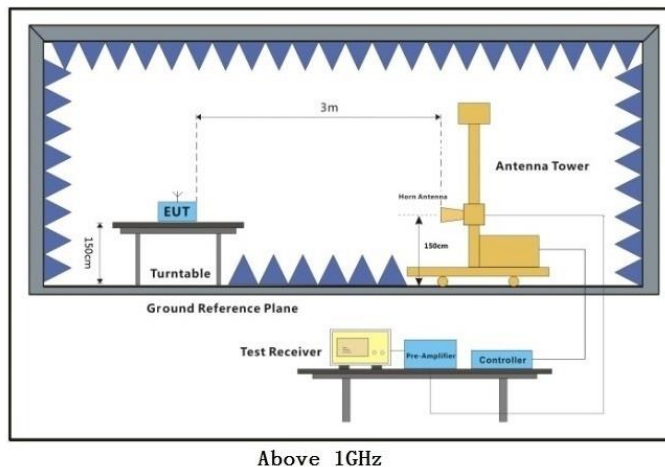
Humidity: 60.5 % RH

Atmospheric Pressure: 1010 mbar

7.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	05	TX mode (1.4M)_Keep the EUT in transmitting mode.
Pre-scan	06	TX mode (3M)_Keep the EUT in transmitting mode.
Final test	07	TX mode (10M)_Keep the EUT in transmitting mode.
Pre-scan	08	TX mode (20M)_Keep the EUT in transmitting mode.
Pre-scan	09	TX mode (40M)_Keep the EUT in transmitting mode.

7.6.3 Test Setup Diagram



7.6.4 Measurement Procedure and Data

- a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak or average method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- i. Repeat above procedures until all frequencies measured was complete.

Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
2. Scan from 18GHz to 40GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.
4. The disturbance above 18GHz were very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.
5. For devices with multiple operating modes, measurements on the middle channel is used to determine the worst-case mode(s). Only the worst case mode with the highest output power and the mode with the highest output power spectral density for each modulation family (e.g., OFDM and direct sequence spread spectrum) is recorded in the test report.



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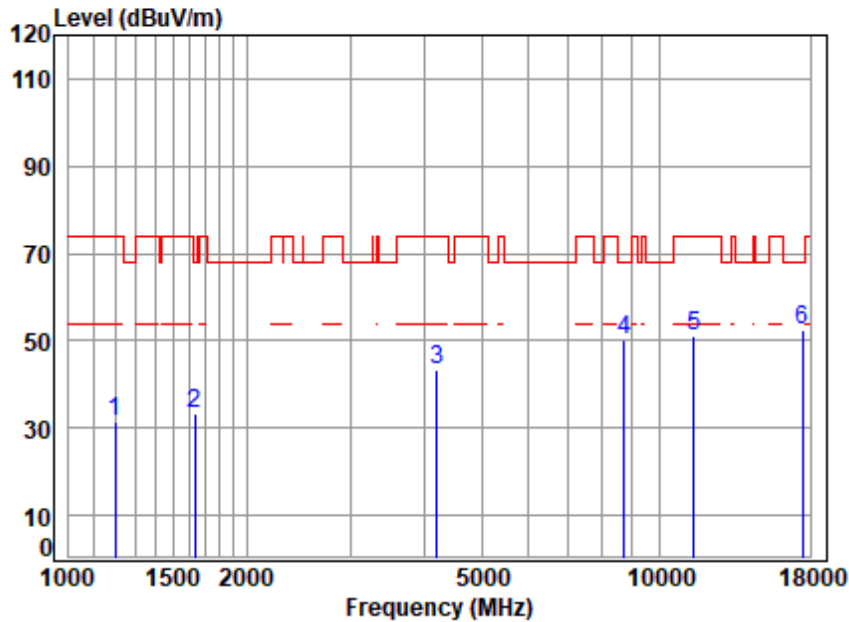
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SZEMC-TRF-01 Rev. A/0 Aug01,2022

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Test Mode: 05; Polarity: Horizontal; Modulation: OFDM; Channel: Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 01225AT/01226AT
Mode : 5728.5 TX RSE
Note : 5.8G SDR 1.4M

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1199.726	2.80	24.40	37.71	41.91	31.40	74.00	-42.60	peak
2	1634.543	3.41	26.64	36.55	39.84	33.34	68.20	-34.86	peak
3	4206.011	6.49	33.42	34.48	37.89	43.32	74.00	-30.68	peak
4	8713.630	9.88	36.70	35.66	39.26	50.18	68.20	-18.02	peak
5	11457.000	11.55	37.96	36.27	37.93	51.17	74.00	-22.83	peak
6	17485.500	14.20	43.59	37.44	32.28	52.63	68.20	-15.57	peak



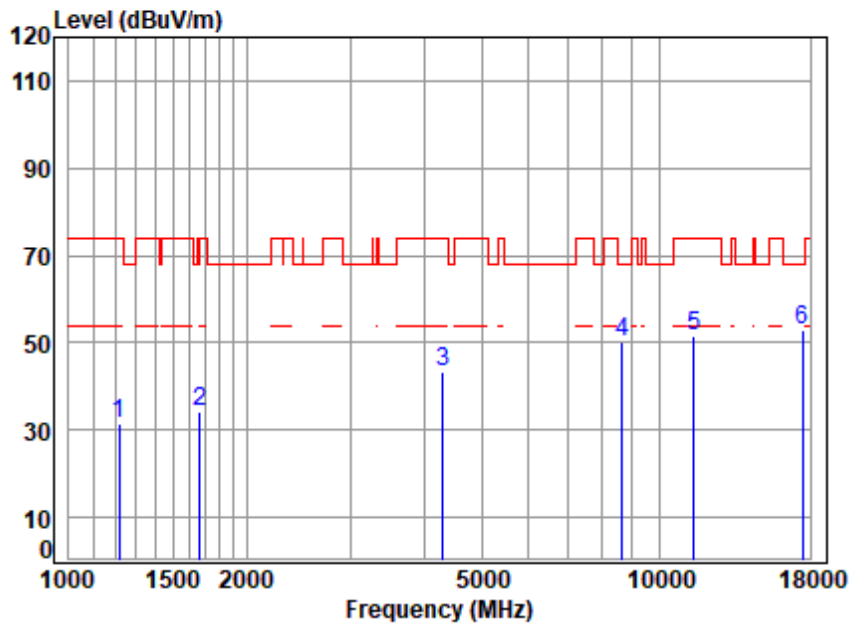
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Test Mode: 05; Polarity: Vertical; Modulation: OFDM; Channel: Low



Site : chamber
 Condition: 3m VERTICAL
 Job No : 01225AT/01226AT
 Mode : 5728.5 TX RSE
 Note : 5.8G SDR 1.4M

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1217.190	2.83	24.43	37.66	41.94	31.54	74.00	-42.46	peak
2	1667.951	3.45	26.74	36.47	40.61	34.33	74.00	-39.67	peak
3	4304.400	6.59	33.60	34.54	37.83	43.48	74.00	-30.52	peak
4	8663.404	9.84	36.63	35.69	39.23	50.01	68.20	-18.19	peak
5	11457.000	11.55	37.96	36.27	38.27	51.51	74.00	-22.49	peak
6	17485.500	14.20	43.59	37.44	32.60	52.95	68.20	-15.25	peak



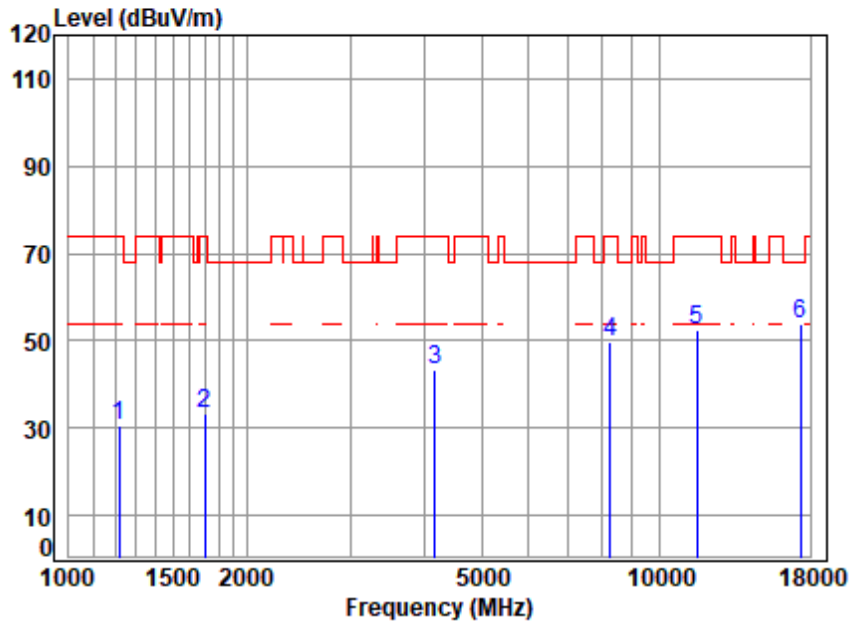
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Test Mode: 05; Polarity: Horizontal; Modulation: OFDM; Channel: middle



Site : chamber
Condition: 3m HORIZONTAL
Job No : 01225AT/01226AT
Mode : 5786.5 TX RSE
Note : 5.8G SDR 1.4M

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1217.190	2.83	24.43	37.66	41.14	30.74	74.00	-43.26	peak
2	1697.129	3.49	26.79	36.41	39.50	33.37	74.00	-40.63	peak
3	4169.698	6.45	33.22	34.45	38.16	43.38	74.00	-30.62	peak
4	8248.005	9.46	36.40	35.94	39.88	49.80	74.00	-24.20	peak
5	11573.000	11.63	38.00	36.34	39.23	52.52	74.00	-21.48	peak
6	q17359.500	14.19	43.46	37.45	33.48	53.68	68.20	-14.52	peak



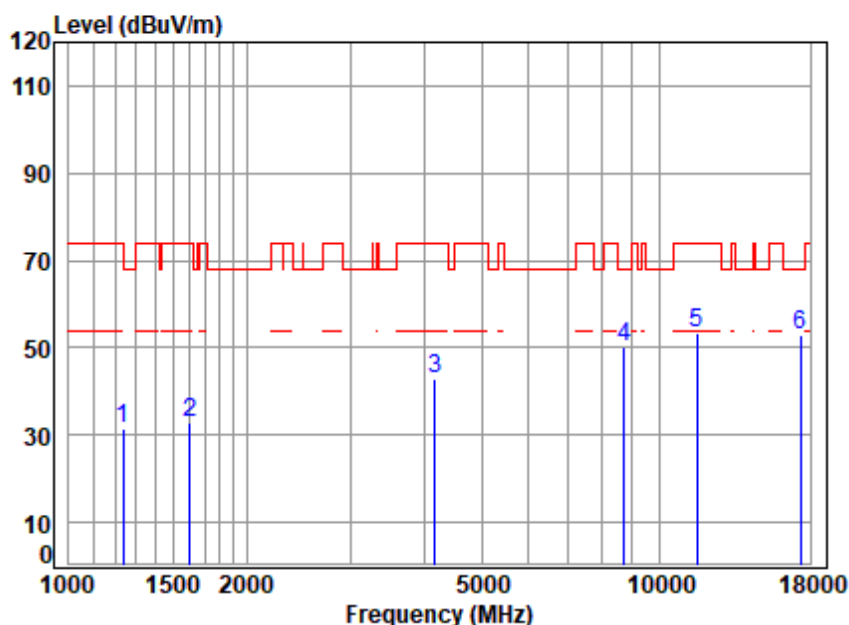
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Test Mode: 05; Polarity: Vertical; Modulation: OFDM; Channel: middle

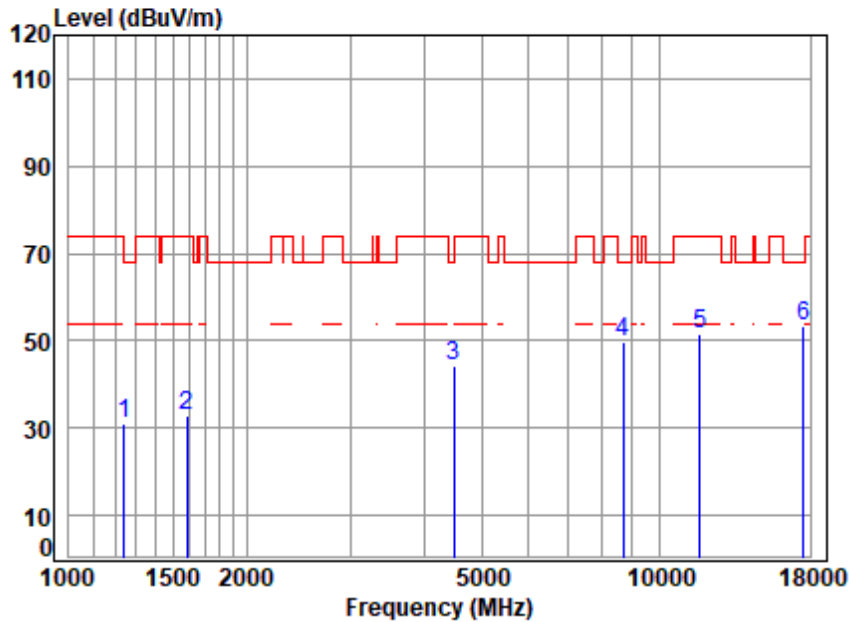


Site : chamber
Condition: 3m VERTICAL
Job No : 01225AT/01226AT
Mode : 5786.5 TX RSE
Note : 5.8G SDR 1.4M

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1238.483	2.86	24.48	37.59	41.80	31.55	74.00	-42.45	peak
2	1606.441	3.38	26.53	36.62	39.66	32.95	74.00	-41.05	peak
3	4169.698	6.45	33.22	34.45	37.62	42.84	74.00	-31.16	peak
4	8713.630	9.88	36.70	35.66	39.38	50.30	68.20	-17.90	peak
5	11575.000	11.63	38.00	36.34	40.15	53.44	74.00	-20.56	peak
6	17362.500	14.19	43.46	37.45	32.73	52.93	68.20	-15.27	peak



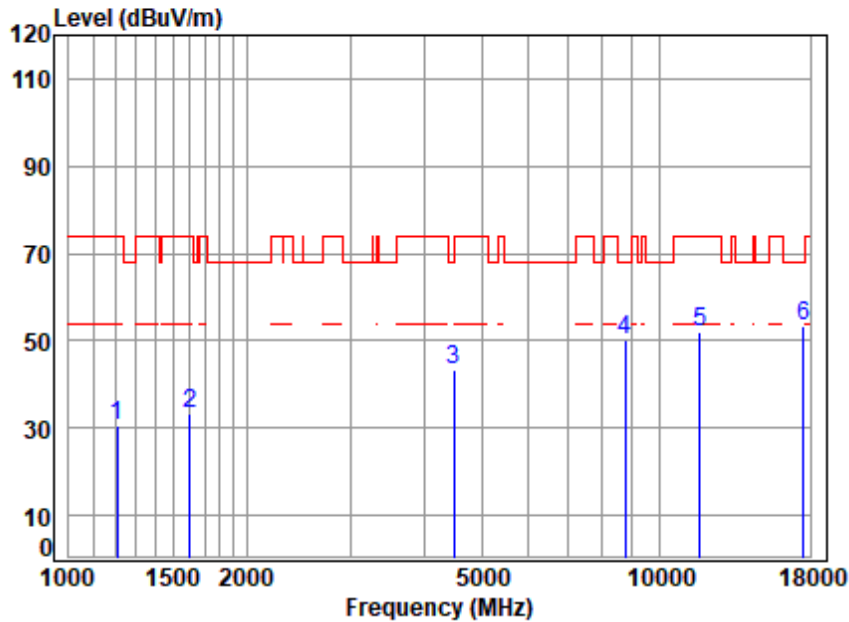
Test Mode: 05; Polarity: Horizontal; Modulation: OFDM; Channel: High



Site : chamber
 Condition: 3m HORIZONTAL
 Job No : 01225AT/01226AT
 Mode : 5848.12 TX RSE
 Note : 5.8G SDR 1.4M

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1242.068	2.87	24.48	37.58	41.44	31.21	68.20	-36.99	peak
2	1587.975	3.35	26.36	36.66	39.98	33.03	74.00	-40.97	peak
3	4495.125	6.77	33.50	34.67	38.43	44.03	68.20	-24.17	peak
4	8688.480	9.86	36.68	35.68	38.90	49.76	68.20	-18.44	peak
5	11696.240	11.70	38.00	36.41	38.34	51.63	74.00	-22.37	peak
6	17544.360	14.21	43.64	37.43	32.78	53.20	68.20	-15.00	peak

Test Mode: 05; Polarity: Vertical; Modulation: OFDM; Channel: High

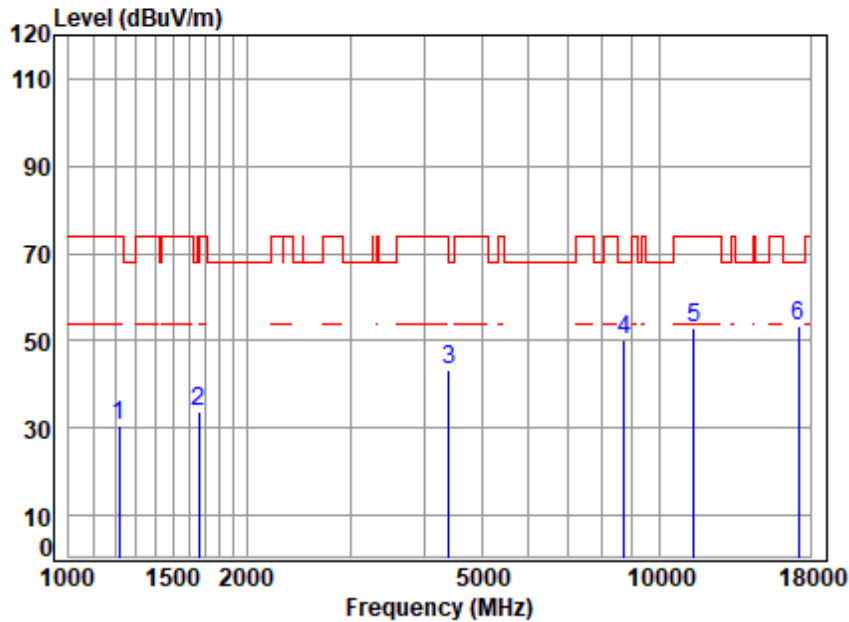


Site : chamber
Condition: 3m VERTICAL
Job No : 01225AT/01226AT
Mode : 5848.12 TX RSE
Note : 5.8G SDR 1.4M

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1206.682	2.81	24.41	37.69	41.19	30.72	74.00	-43.28	peak
2	1601.804	3.37	26.51	36.63	40.01	33.26	74.00	-40.74	peak
3	4495.125	6.77	33.50	34.67	37.64	43.24	68.20	-24.96	peak
4	8764.146	9.92	36.70	35.63	39.20	50.19	68.20	-18.01	peak
5	11696.240	11.70	38.00	36.41	38.89	52.18	74.00	-21.82	peak
6	17544.360	14.21	43.64	37.43	32.91	53.33	68.20	-14.87	peak



Test Mode: 07; Polarity: Horizontal; Modulation: OFDM; Channel: Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 01225AT/01226AT
Mode : 5730.5 TX RSE
Note : 5.8G SDR 10M

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1217.190	2.83	24.43	37.66	41.12	30.72	74.00	-43.28	peak
2	1663.137	3.45	26.73	36.48	40.22	33.92	74.00	-40.08	peak
3	4405.090	6.68	33.50	34.61	37.83	43.40	68.20	-24.80	peak
4	8713.630	9.88	36.70	35.66	39.24	50.16	68.20	-18.04	peak
5	11461.000	11.56	37.96	36.27	39.62	52.87	74.00	-21.13	peak
6	17191.500	14.18	43.28	37.46	33.29	53.29	68.20	-14.91	peak



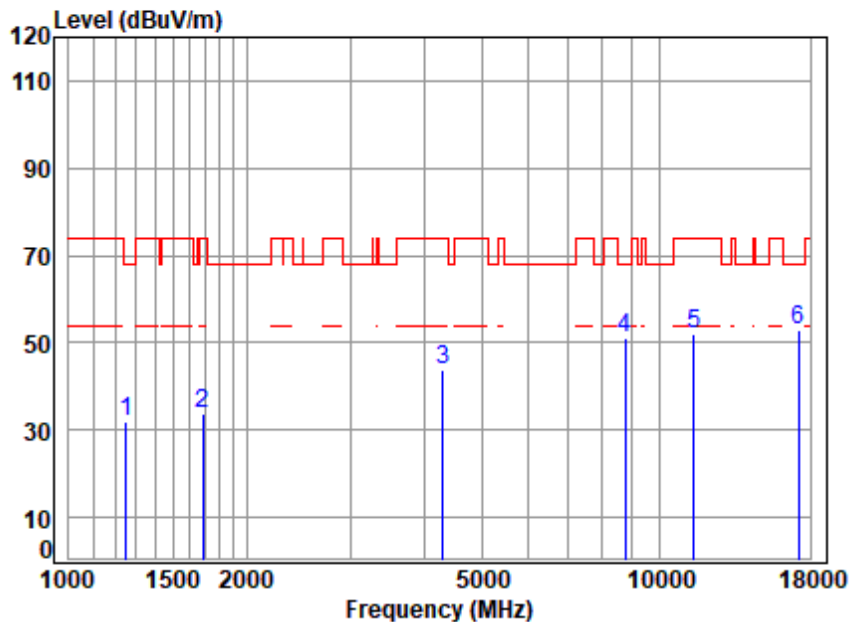
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Test Mode: 07; Polarity: Vertical; Modulation: OFDM; Channel: Low



Site : chamber
Condition: 3m VERTICAL
Job No : 01225AT/01226AT
Mode : 5730.5 TX RSE
Note : 5.8G SDR 10M

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1252.885	2.89	24.51	37.55	42.18	32.03	68.20	-36.17	peak
2	1687.347	3.47	26.77	36.43	39.95	33.76	74.00	-40.24	peak
3	4304.400	6.59	33.60	34.54	38.04	43.69	74.00	-30.31	peak
4	8764.146	9.92	36.70	35.63	40.33	51.32	68.20	-16.88	peak
5	11461.000	11.56	37.96	36.27	38.82	52.07	74.00	-21.93	peak
6	17191.500	14.18	43.28	37.46	32.95	52.95	68.20	-15.25	peak



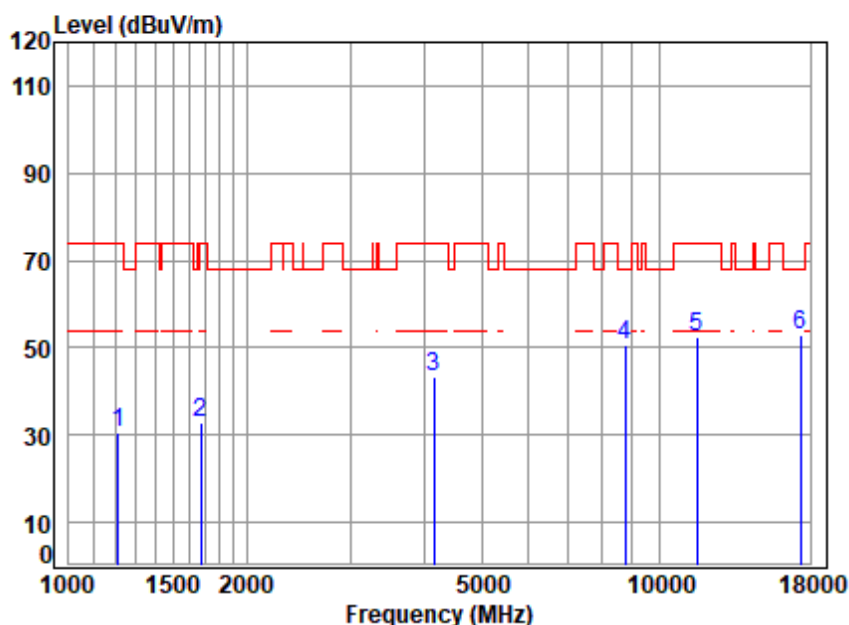
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Test Mode: 07; Polarity: Horizontal; Modulation: OFDM; Channel: middle

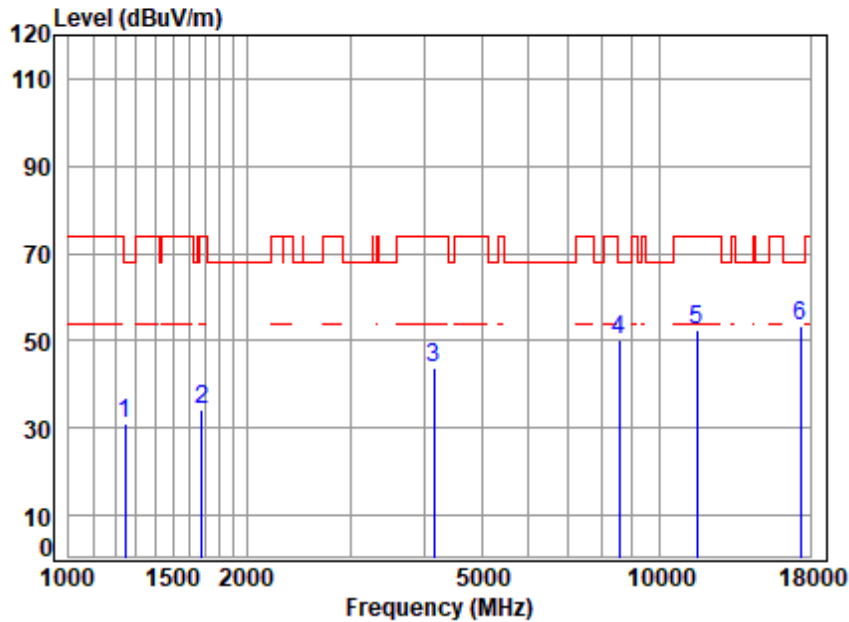


Site : chamber
Condition: 3m HORIZONTAL
Job No : 01225AT/01226AT
Mode : 5785.5 TX RSE
Note : 5.8G SDR 10M

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1213.677	2.82	24.43	37.67	41.08	30.66	74.00	-43.34	peak
2	1672.779	3.46	26.75	36.46	39.27	33.02	74.00	-40.98	peak
3	4145.664	6.43	33.09	34.43	38.24	43.33	74.00	-30.67	peak
4	8738.852	9.90	36.70	35.65	39.55	50.50	68.20	-17.70	peak
5	11571.000	11.63	38.00	36.34	39.38	52.67	74.00	-21.33	peak
6	17356.500	14.19	43.46	37.45	32.63	52.83	68.20	-15.37	peak



Test Mode: 07; Polarity: Vertical; Modulation: OFDM; Channel: middle



Site : chamber
Condition: 3m VERTICAL
Job No : 01225AT/01226AT
Mode : 5785.5 TX RSE
Note : 5.8G SDR 10M

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1245.663	2.87	24.49	37.57	41.21	31.00	68.20	-37.20	peak
2	1677.621	3.46	26.76	36.45	40.31	34.08	74.00	-39.92	peak
3	4145.664	6.43	33.09	34.43	38.54	43.63	74.00	-30.37	peak
4	8539.102	9.72	36.50	35.76	39.77	50.23	68.20	-17.97	peak
5	11571.000	11.63	38.00	36.34	39.40	52.69	74.00	-21.31	peak
6	q17356.500	14.19	43.46	37.45	33.25	53.45	68.20	-14.75	peak



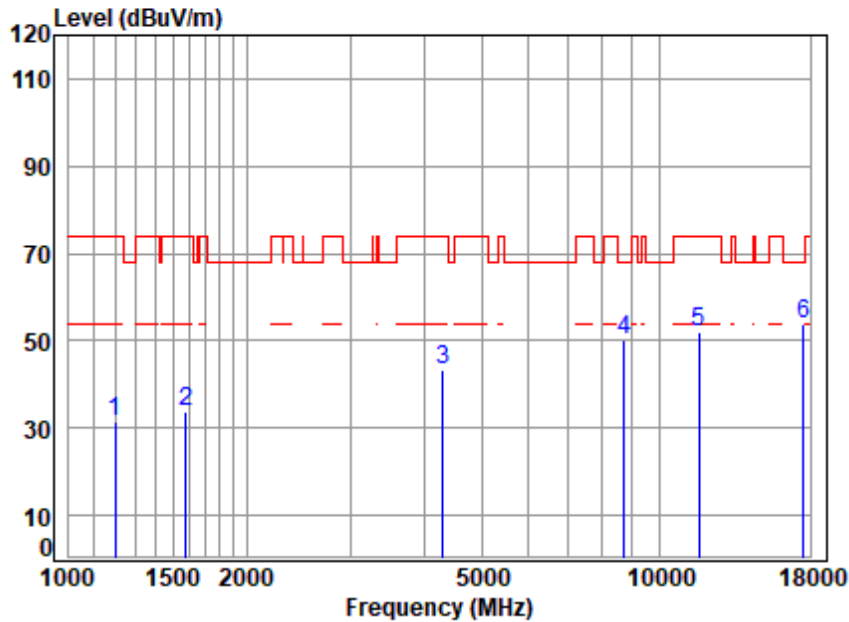
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Test Mode: 07; Polarity: Horizontal; Modulation: OFDM; Channel: High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 01225AT/01226AT
Mode : 5844.5 TX RSE
Note : 5.8G SDR 10M

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1196.264	2.79	24.39	37.73	42.25	31.70	74.00	-42.30	peak
2	1578.822	3.34	26.25	36.68	40.74	33.65	74.00	-40.35	peak
3	4304.400	6.59	33.60	34.54	37.88	43.53	74.00	-30.47	peak
4	8713.630	9.88	36.70	35.66	39.26	50.18	68.20	-18.02	peak
5	11689.000	11.70	38.00	36.40	38.55	51.85	74.00	-22.15	peak
6	17533.500	14.21	43.63	37.43	33.26	53.67	68.20	-14.53	peak



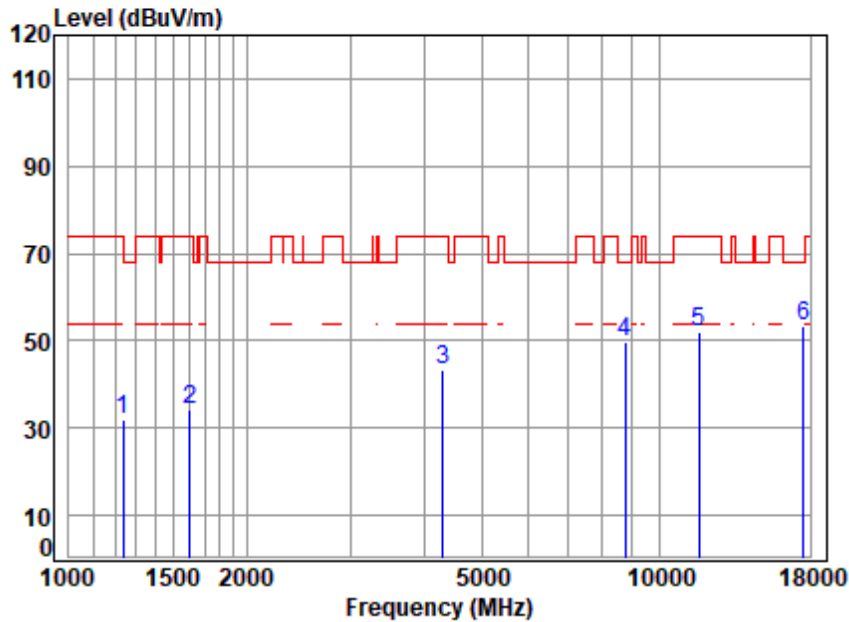
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Test Mode: 07; Polarity: Vertical; Modulation: OFDM; Channel: High



Site : chamber
Condition: 3m VERTICAL
Job No : 01225AT/01226AT
Mode : 5844.5 TX RSE
Note : 5.8G SDR 10M

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1238.483	2.86	24.48	37.59	42.12	31.87	74.00	-42.13	peak
2	1606.441	3.38	26.53	36.62	40.90	34.19	74.00	-39.81	peak
3	4304.400	6.59	33.60	34.54	37.77	43.42	74.00	-30.58	peak
4	8764.146	9.92	36.70	35.63	38.97	49.96	68.20	-18.24	peak
5	11689.000	11.70	38.00	36.40	38.94	52.24	74.00	-21.76	peak
6	q17533.500	14.21	43.63	37.43	32.87	53.28	68.20	-14.92	peak



7.7 Radiated Emissions which fall in the restricted bands

Test Requirement 47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)

Test Method: KDB 789033 D02 II G

Measurement Distance: 3m

Limit:

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

*(1) 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.

(2) 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.

(3) 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.

(4) For transmitters operating in the 5.725-5.85 GHz band:

(i) 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.

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

7.7.1 E.U.T. Operation

Operating Environment:

Temperature: 23.1 °C

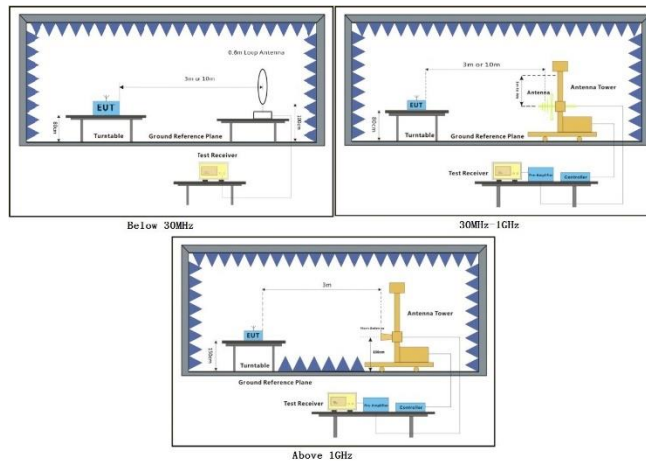
Humidity: 60.5 % RH

Atmospheric Pressure: 1010 mbar

7.7.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	05	TX mode (1.4M)_Keep the EUT in transmitting mode.
Final test	06	TX mode (3M)_Keep the EUT in transmitting mode.
Final test	07	TX mode (10M)_Keep the EUT in transmitting mode.
Final test	08	TX mode (20M)_Keep the EUT in transmitting mode.
Final test	09	TX mode (40M)_Keep the EUT in transmitting mode.

7.7.3 Test Setup Diagram

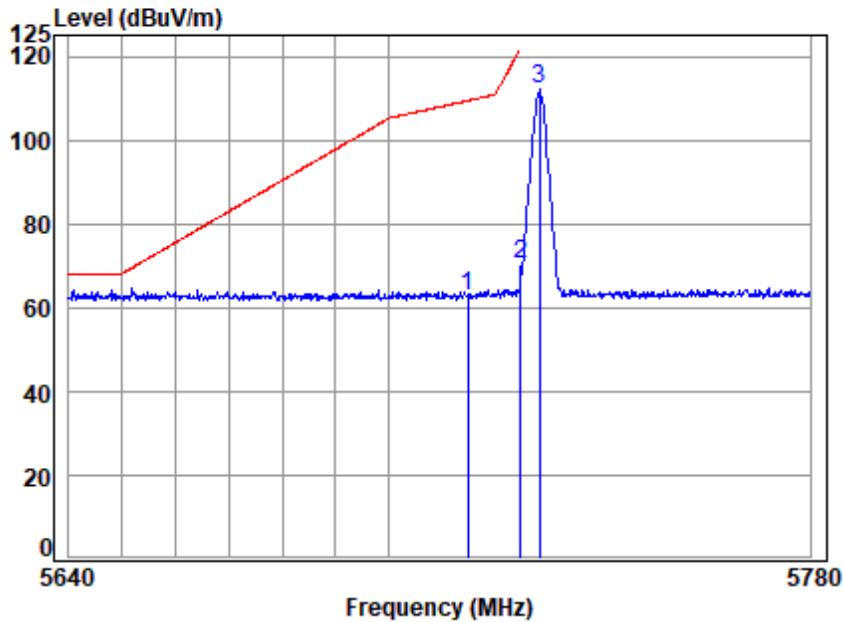


7.7.4 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
 - b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
 - c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
 - d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
 - e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
 - f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
 - g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
 - h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
 - i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
 - j. Repeat above procedures until all frequencies measured was complete.
- Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor



Test Mode: 05; Polarity: Horizontal; Modulation: OFDM; Channel: Low

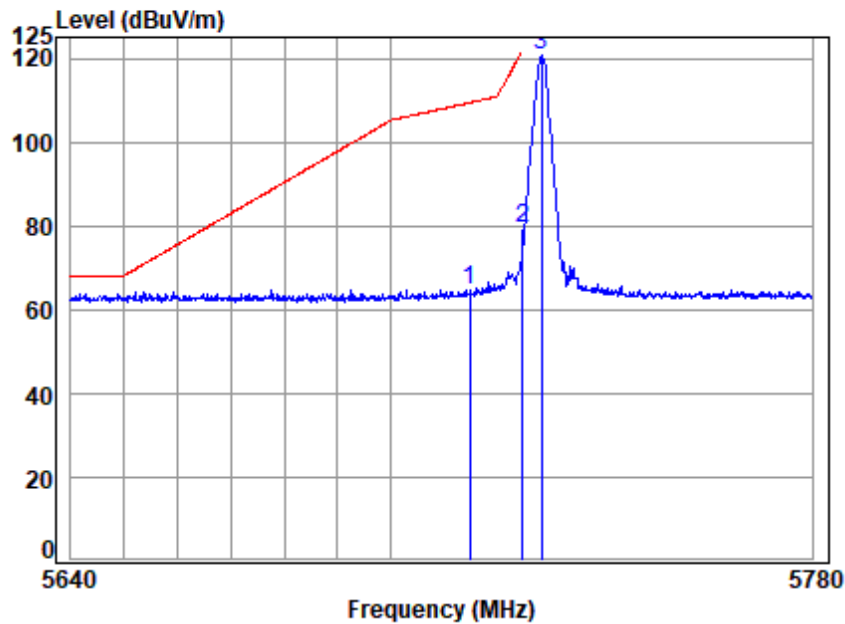


Site : chamber
Condition: 3m HORIZONTAL
Job No : 01225AT/01226AT
Mode : 5728.5 Band edge
: 5.8G SDR 1.4M

		Cable	Ant	Preamp	Read	Limit	Over	
Freq		Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz		dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 q 5715.000		7.91	34.50	35.02	55.28	62.67	109.40	-46.73 peak
2 5725.000		7.92	34.50	35.02	62.72	70.12	122.20	-52.08 peak
3 5728.500		7.92	34.50	35.02	104.76	112.16	-----	----- peak



Test Mode: 05; Polarity: Vertical; Modulation: OFDM; Channel: Low

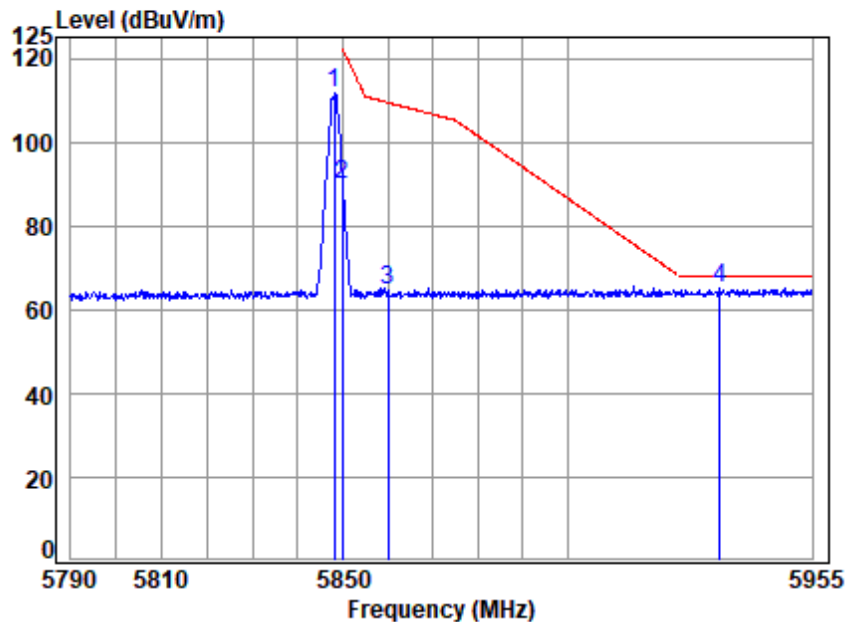


Site : chamber
Condition: 3m VERTICAL
Job No : 01225AT/01226AT
Mode : 5728.5 Band edge
: 5.8G SDR 1.4M

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5715.000	7.91	34.50	35.02	57.14	64.53	109.40	-44.87 peak
2 q	5725.000	7.92	34.50	35.02	72.01	79.41	122.20	-42.79 peak
3	5728.500	7.92	34.50	35.02	113.43	120.83	-----	----- peak



Test Mode: 05; Polarity: Horizontal; Modulation: OFDM; Channel: High

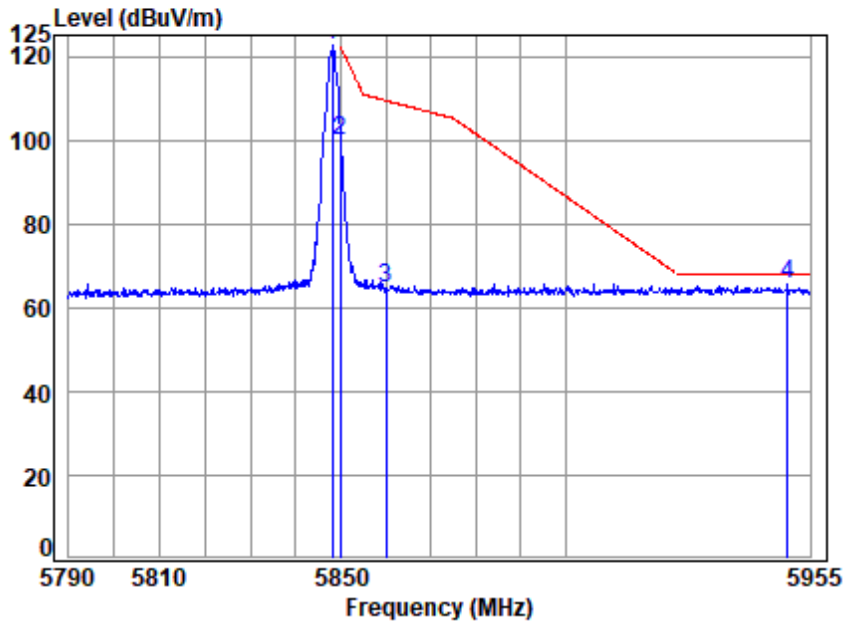


Site : chamber
Condition: 3m HORIZONTAL
Job No : 01225AT/01226AT
Mode : 5848.12 Band edge
: 5.8G SDR 1.4M

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5848.120	8.03	34.70	35.03	103.96	111.66	-----	-----	peak
2	5850.000	8.03	34.70	35.03	82.03	89.73	122.20	-32.47	peak
3	5860.000	8.04	34.72	35.03	57.00	64.73	109.40	-44.67	peak
4 q	5934.287	8.10	34.87	35.04	57.38	65.31	68.20	-2.89	peak



Test Mode: 05; Polarity: Vertical; Modulation: OFDM; Channel: High

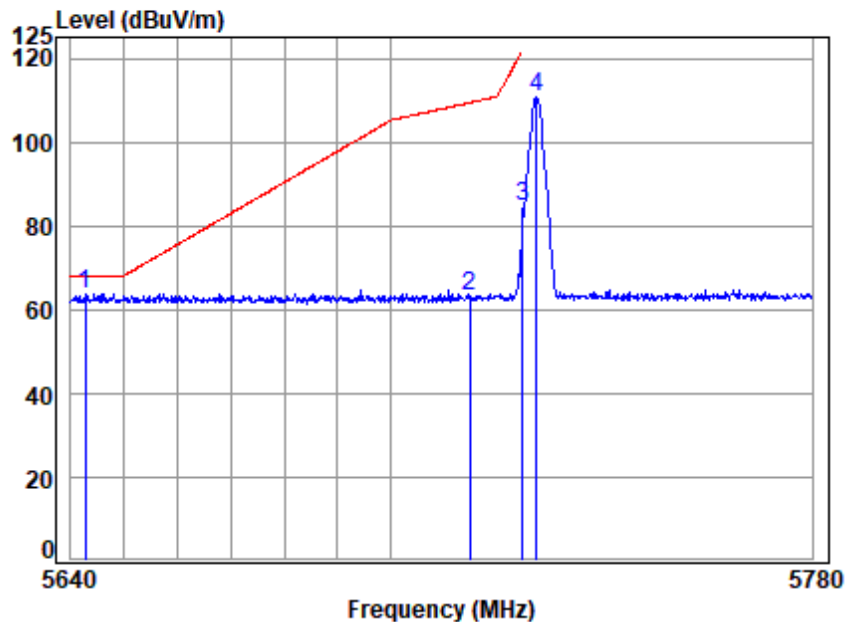


Site : chamber
Condition: 3m VERTICAL
Job No : 01225AT/01226AT
Mode : 5848.12 Band edge
: 5.8G SDR 1.4M

		Cable	Ant	Preamp	Read	Limit	Over	
Freq		Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz		dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5848.120	8.03	34.70	35.03	114.75	122.45	-----	----- peak
2	5850.000	8.03	34.70	35.03	91.98	99.68	122.20	-22.52 peak
3	5860.000	8.04	34.72	35.03	57.10	64.83	109.40	-44.57 peak
4 q	5949.982	8.12	34.90	35.04	57.40	65.38	68.20	-2.82 peak



Test Mode: 06; Polarity: Horizontal; Modulation: OFDM; Channel: Low

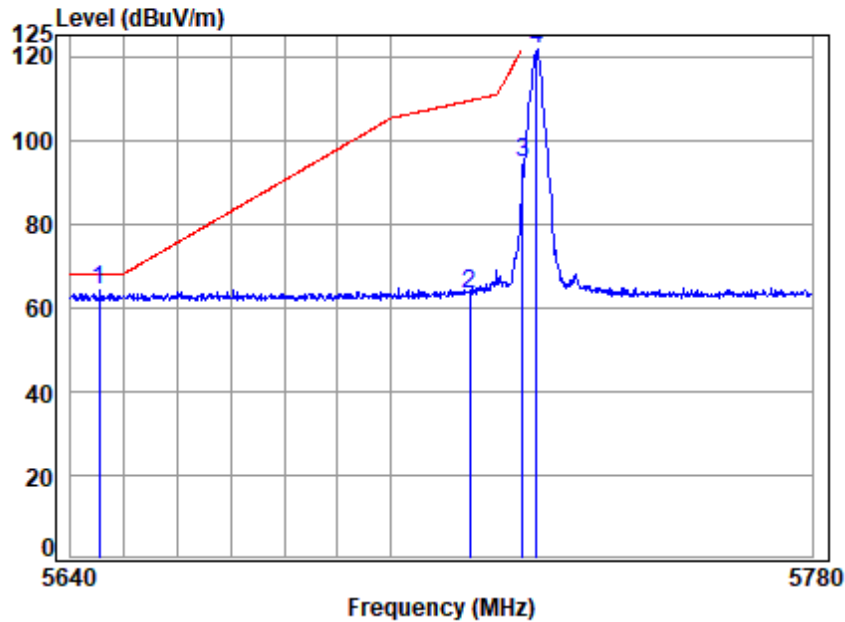


Site : chamber
Condition: 3m HORIZONTAL
Job No : 01225AT/01226AT
Mode : 5727.5 Band edge
: 5.8G SDR 3M

		Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 q 5642.767	7.84	34.50	35.02	56.53	63.85	68.20	-4.35	peak
2 5715.000	7.91	34.50	35.02	56.01	63.40	109.40	-46.00	peak
3 5725.000	7.92	34.50	35.02	77.40	84.80	122.20	-37.40	peak
4 5727.500	7.92	34.50	35.02	103.18	110.58	-----	-----	peak



Test Mode: 06; Polarity: Vertical; Modulation: OFDM; Channel: Low

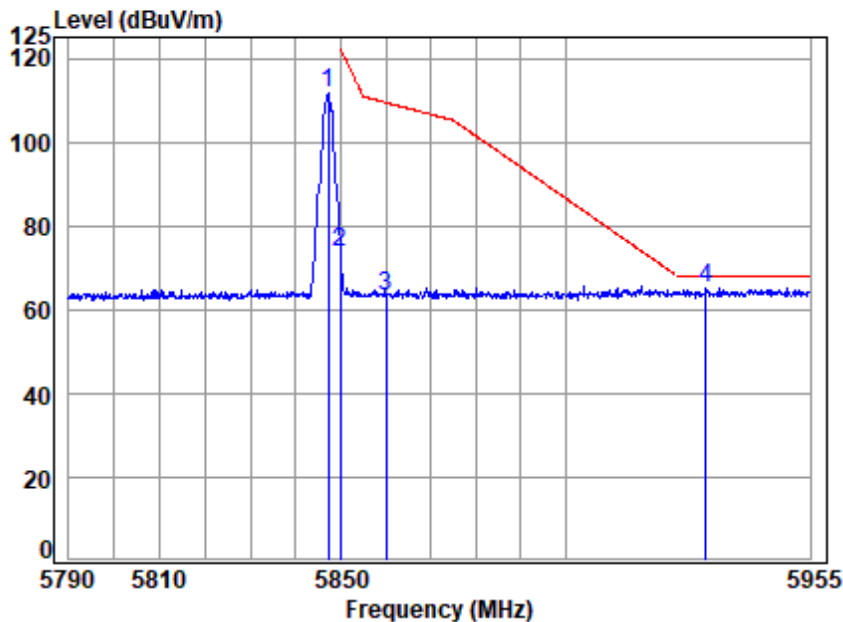


Site : chamber
 Condition: 3m VERTICAL
 Job No : 01225AT/01226AT
 Mode : 5727.5 Band edge
 : 5.8G SDR 3M

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 q	5645.396	7.84	34.50	35.02	56.88	64.20	68.20	-4.00 peak
2	5715.000	7.91	34.50	35.02	55.70	63.09	109.40	-46.31 peak
3	5725.000	7.92	34.50	35.02	87.10	94.50	122.20	-27.70 peak
4	5727.500	7.92	34.50	35.02	114.13	121.53	-----	----- peak



Test Mode: 06; Polarity: Horizontal; Modulation: OFDM; Channel: High

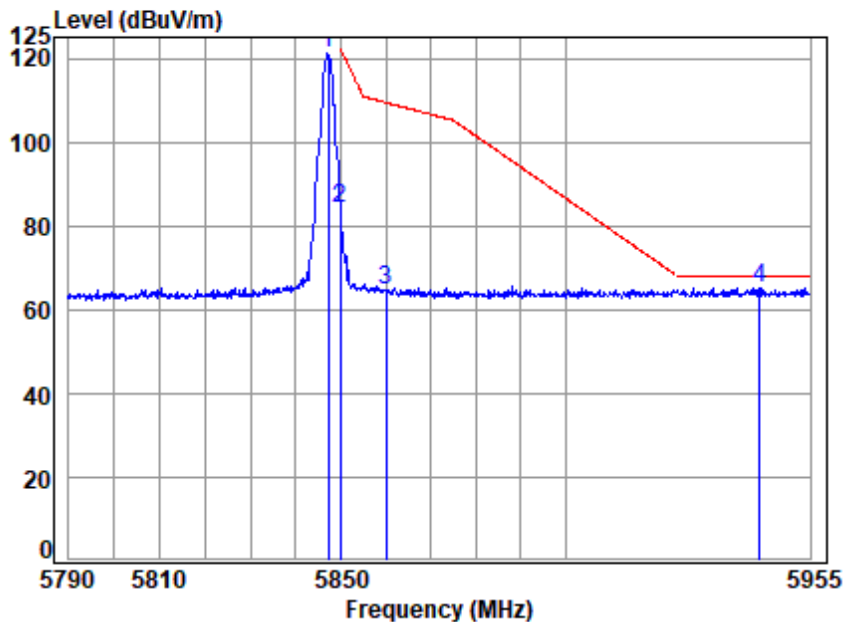


Site : chamber
Condition: 3m HORIZONTAL
Job No : 01225AT/01226AT
Mode : 5847.2 Band edge
: 5.8G SDR 3M

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5847.200	8.03	34.69	35.03	103.93	111.62	-----	-----	peak
2	5850.000	8.03	34.70	35.03	65.98	73.68	122.20	-48.52	peak
3	5860.000	8.04	34.72	35.03	55.62	63.35	109.40	-46.05	peak
4 q	5931.453	8.10	34.86	35.04	57.21	65.13	68.20	-3.07	peak



Test Mode: 06; Polarity: Vertical; Modulation: OFDM; Channel: High

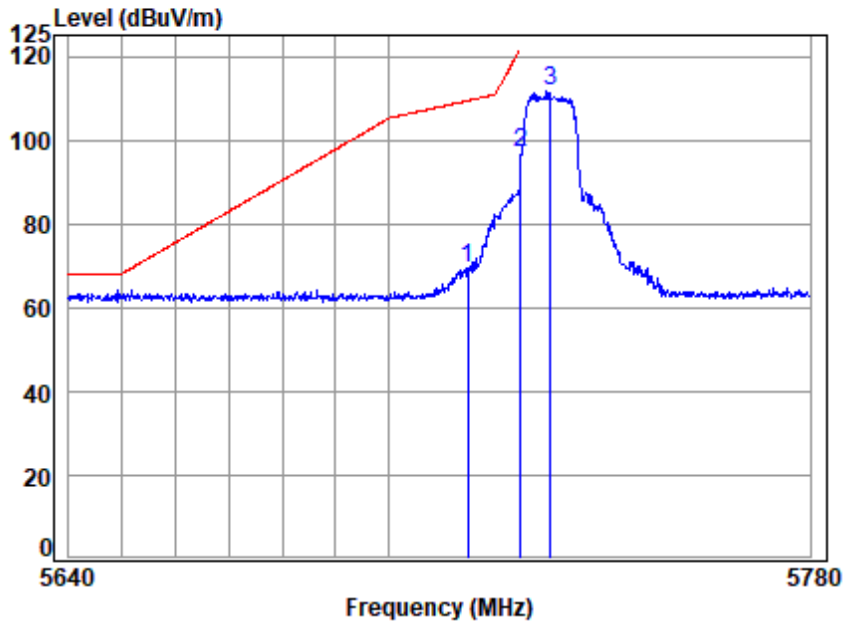


Site : chamber
Condition: 3m VERTICAL
Job No : 01225AT/01226AT
Mode : 5847.2 Band edge
: 5.8G SDR 3M

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5847.200	8.03	34.69	35.03	113.41	121.10	-----	-----	peak
2	5850.000	8.03	34.70	35.03	76.54	84.24	122.20	-37.96	peak
3	5860.000	8.04	34.72	35.03	57.13	64.86	109.40	-44.54	peak
4 q	5943.632	8.11	34.89	35.04	57.29	65.25	68.20	-2.95	peak



Test Mode: 07; Polarity: Horizontal; Modulation: OFDM; Channel: Low

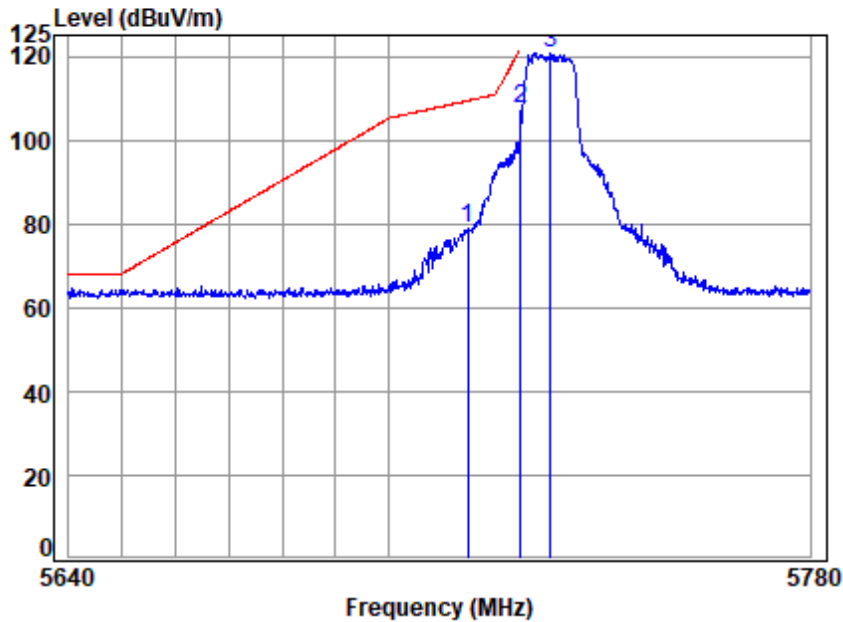


Site : chamber
Condition: 3m HORIZONTAL
Job No : 01225AT/01226AT
Mode : 5730.5 Band edge
: 5.8G SDR 10M

		Cable	Ant	Preamp	Read	Limit	Over	
Freq		Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz		dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5715.000	7.91	34.50	35.02	61.78	69.17	109.40	-40.23 peak
2 q	5725.000	7.92	34.50	35.02	89.49	96.89	122.20	-25.31 peak
3	5730.500	7.92	34.50	35.02	104.09	111.49	-----	----- peak



Test Mode: 07; Polarity: Vertical; Modulation: OFDM; Channel: Low

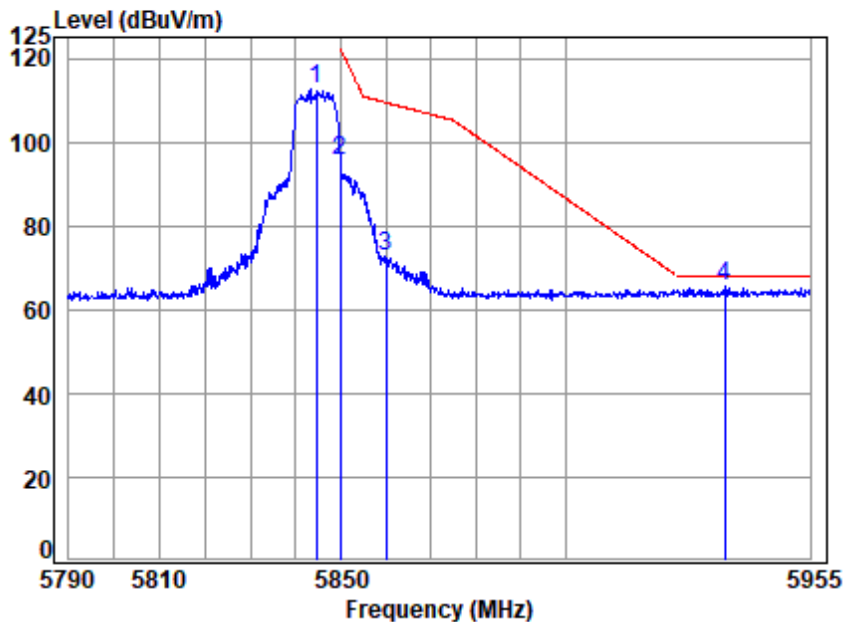


Site : chamber
Condition: 3m VERTICAL
Job No : 01225AT/01226AT
Mode : 5730.5 Band edge
: 5.8G SDR 10M

		Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 5715.000	7.91	34.50	35.02	71.68	79.07	109.40	-30.33	peak
2 q 5725.000	7.92	34.50	35.02	100.07	107.47	122.20	-14.73	peak
3 5730.500	7.92	34.50	35.02	113.55	120.95	-----	-----	peak



Test Mode: 07; Polarity: Horizontal; Modulation: OFDM; Channel: High

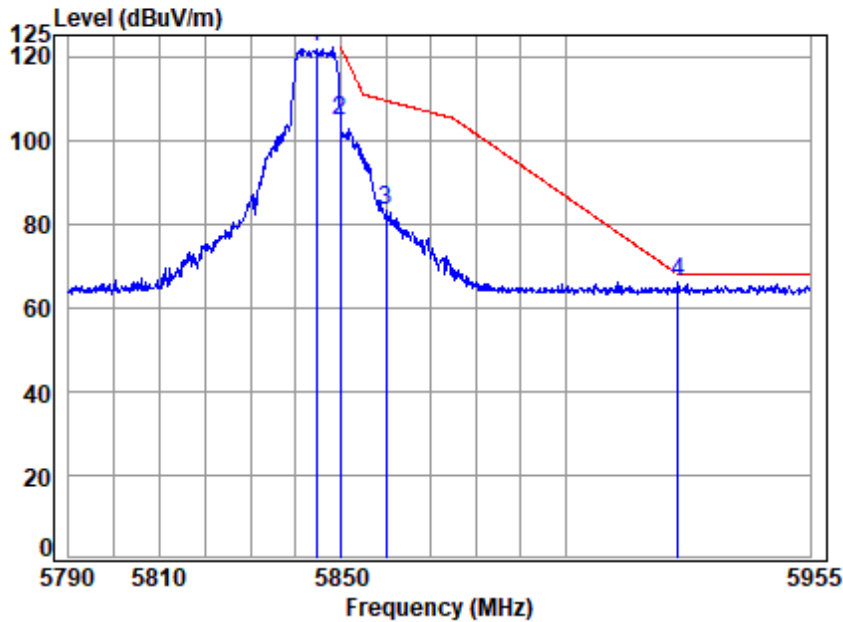


Site : chamber
Condition: 3m HORIZONTAL
Job No : 01225AT/01226AT
Mode : 5844.5 Band edge
: 5.8G SDR 10M

		Cable	Ant	Preamp	Read	Limit	Over	
Freq		Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz		dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5844.500	8.02	34.69	35.03	104.76	112.44	-----	----- peak
2	5850.000	8.03	34.70	35.03	87.95	95.65	122.20	-26.55 peak
3	5860.000	8.04	34.72	35.03	65.16	72.89	109.40	-36.51 peak
4 q	5935.788	8.10	34.87	35.04	57.43	65.36	68.20	-2.84 peak



Test Mode: 07; Polarity: Vertical; Modulation: OFDM; Channel: High

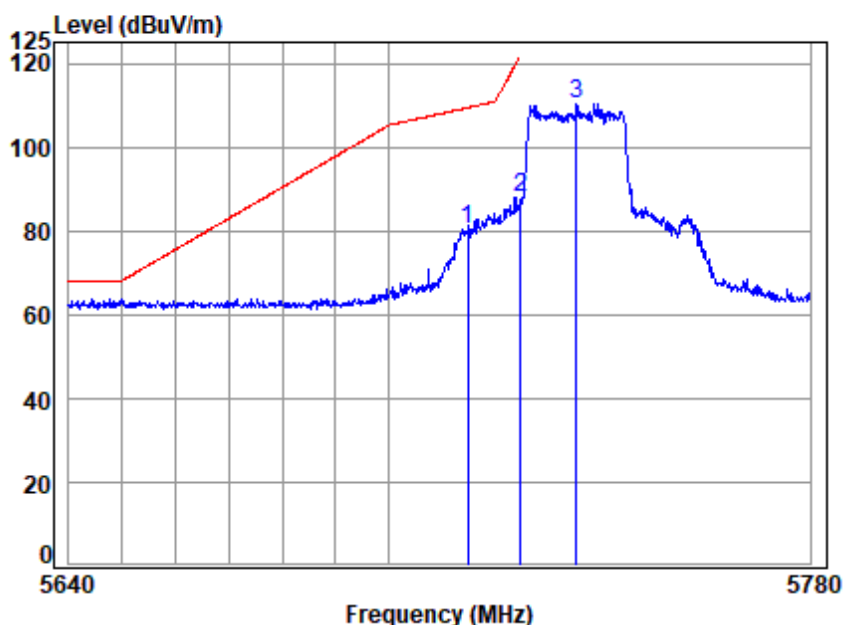


Site : chamber
 Condition: 3m VERTICAL
 Job No : 01225AT/01226AT
 Mode : 5844.5 Band edge
 : 5.8G SDR 10M

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5844.500	8.02	34.69	35.03	114.27	121.95	-----	----- peak
2	5850.000	8.03	34.70	35.03	96.91	104.61	122.20	-17.59 peak
3	5860.000	8.04	34.72	35.03	75.47	83.20	109.40	-26.20 peak
4 q	5925.290	8.09	34.85	35.04	58.01	65.91	68.20	-2.29 peak



Test Mode: 08; Polarity: Horizontal; Modulation: OFDM; Channel: Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 01225AT/01226AT
Mode : 5735.5 Band edge
: 5.8G SDR 20M

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 q	5715.000	7.91	34.50	35.02	72.81	80.20	109.40	-29.20 peak
2	5725.000	7.92	34.50	35.02	80.50	87.90	122.20	-34.30 peak
3	5735.500	7.93	34.50	35.03	102.73	110.13	-----	----- peak



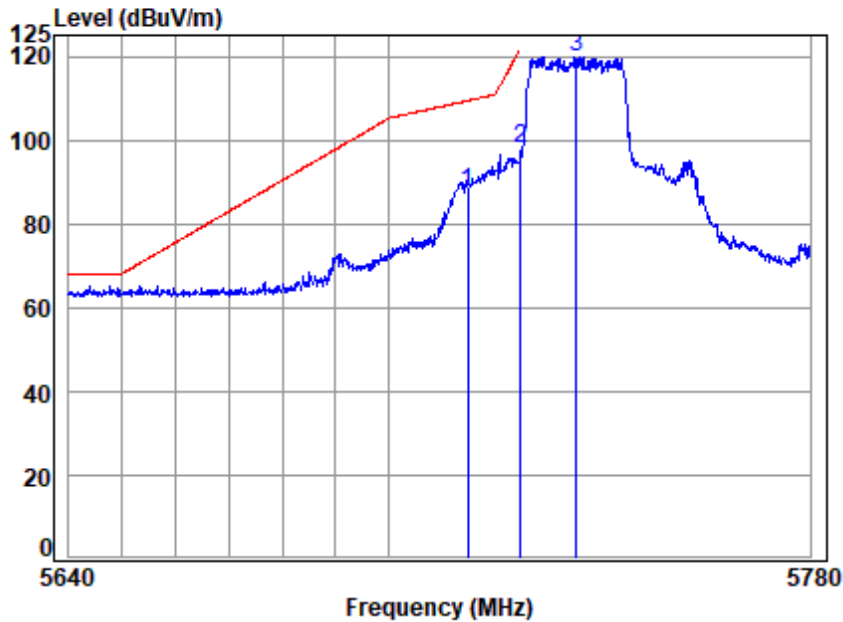
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SZEMC-TRF-01 Rev. A/0 Aug01,2022

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Test Mode: 08; Polarity: Vertical; Modulation: OFDM; Channel: Low



Site : chamber
Condition: 3m VERTICAL
Job No : 01225AT/01226AT
Mode : 5735.5 Band edge
: 5.8G SDR 20M

		Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 q 5715.000	7.91	34.50	35.02	79.89	87.28	109.40	-22.12	peak
2 5725.000	7.92	34.50	35.02	90.28	97.68	122.20	-24.52	peak
3 5735.500	7.93	34.50	35.03	112.50	119.90	-----	-----	peak



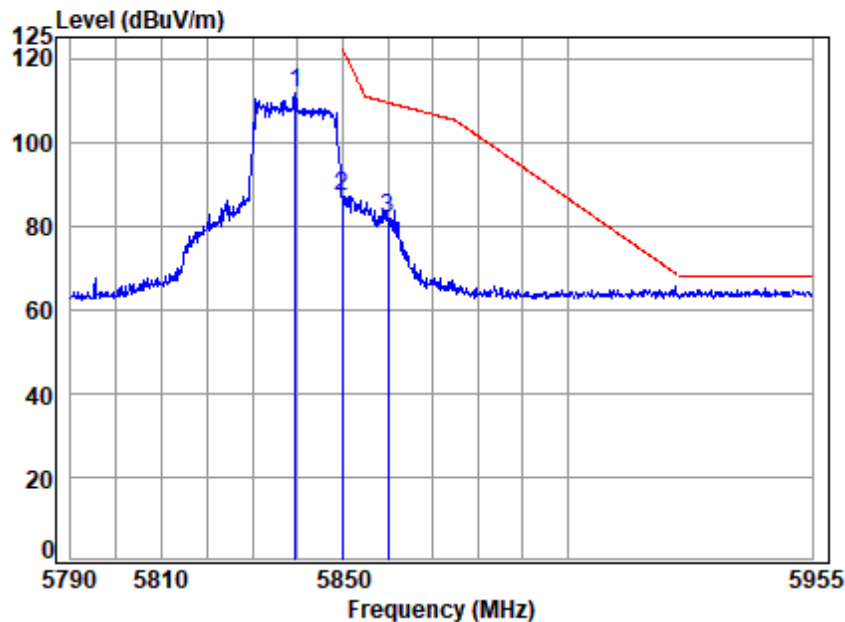
SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

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中国·广东·深圳市南山区科技园中区M-10栋1号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

Test Mode: 08; Polarity: Horizontal; Modulation: OFDM; Channel: High

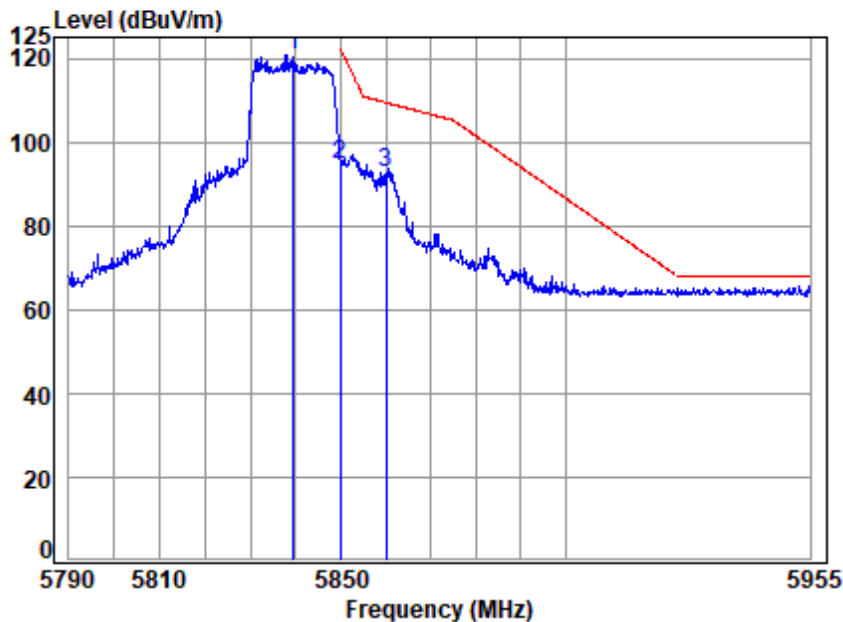


Site : chamber
Condition: 3m HORIZONTAL
Job No : 01225AT/01226AT
Mode : 5839.5 Band edge
: 5.8G SDR 20M

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5839.500	8.02	34.68	35.03	104.04	111.71	-----	-----	peak
2	5850.000	8.03	34.70	35.03	79.09	86.79	122.20	-35.41	peak
3 q	5860.000	8.04	34.72	35.03	74.21	81.94	109.40	-27.46	peak



Test Mode: 08; Polarity: Vertical; Modulation: OFDM; Channel: High



Site : chamber
Condition: 3m VERTICAL
Job No : 01225AT/01226AT
Mode : 5839.5 Band edge
: 5.8G SDR 20M

		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5839.500	8.02	34.68	35.03	113.27	120.94	-----	----- peak
2	5850.000	8.03	34.70	35.03	86.69	94.39	122.20	-27.81 peak
3 q	5860.000	8.04	34.72	35.03	84.95	92.68	109.40	-16.72 peak



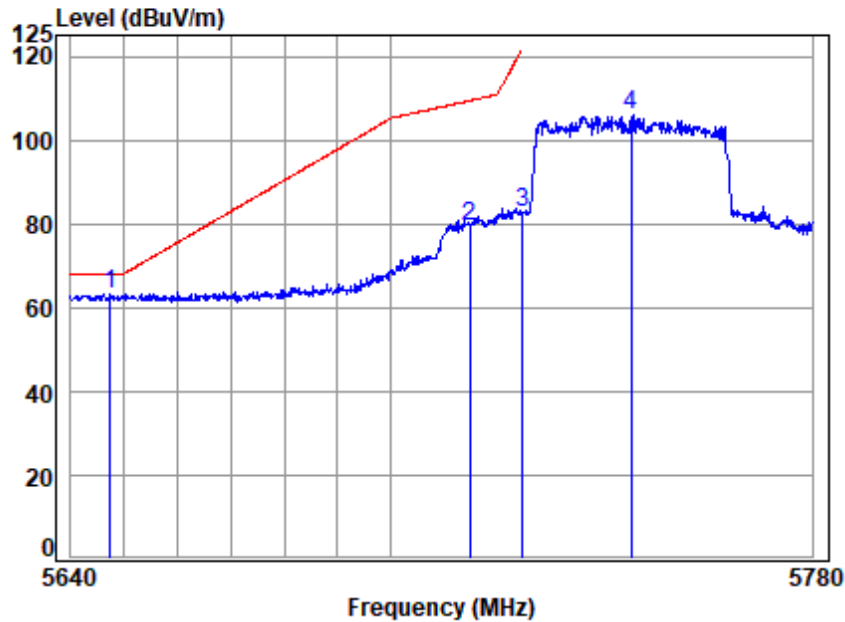
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SZEMC-TRF-01 Rev. A/0 Aug01,2022

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Test Mode: 09; Polarity: Horizontal; Modulation: OFDM; Channel: Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 01225AT/01226AT
Mode : 5745.5 Band edge
: 5.8G SDR 40M

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 q	5647.334	7.84	34.50	35.02	55.85	63.17	68.20	-5.03	peak
2	5715.000	7.91	34.50	35.02	71.93	79.32	109.40	-30.08	peak
3	5725.000	7.92	34.50	35.02	75.44	82.84	122.20	-39.36	peak
4	5745.500	7.93	34.50	35.03	98.53	105.93	-----	-----	peak



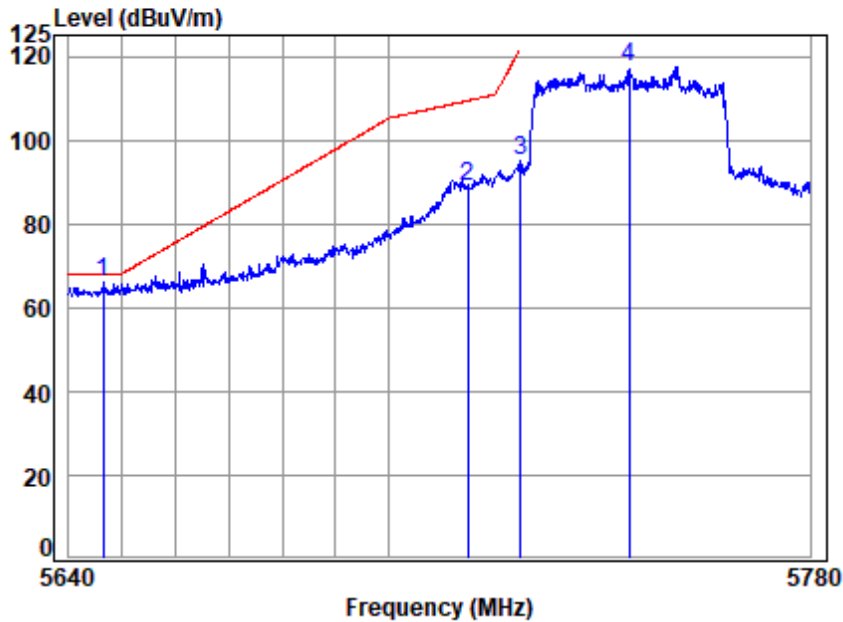
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Shenzhen Branch Testing & Calibration Laboratory

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Test Mode: 09; Polarity: Vertical; Modulation: OFDM; Channel: Low

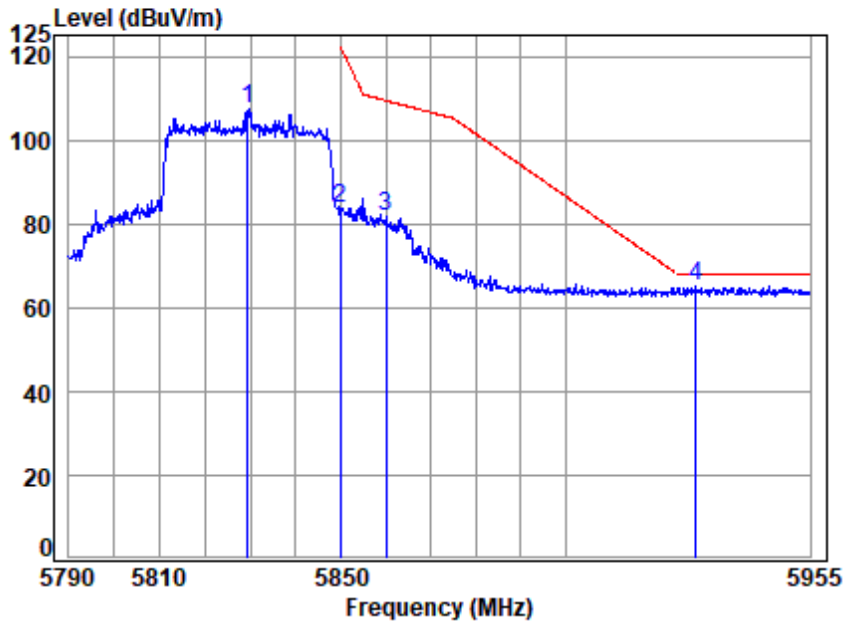


Site : chamber
Condition: 3m VERTICAL
Job No : 01225AT/01226AT
Mode : 5745.5 Band edge
: 5.8G SDR 40M

		Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 q 5646.365	7.84	34.50	35.02	58.64	65.96	68.20	-2.24	peak
2 5715.000	7.91	34.50	35.02	81.35	88.74	109.40	-20.66	peak
3 5725.000	7.92	34.50	35.02	87.46	94.86	122.20	-27.34	peak
4 5745.500	7.93	34.50	35.03	110.17	117.57	-----	-----	peak



Test Mode: 09; Polarity: Horizontal; Modulation: OFDM; Channel: High

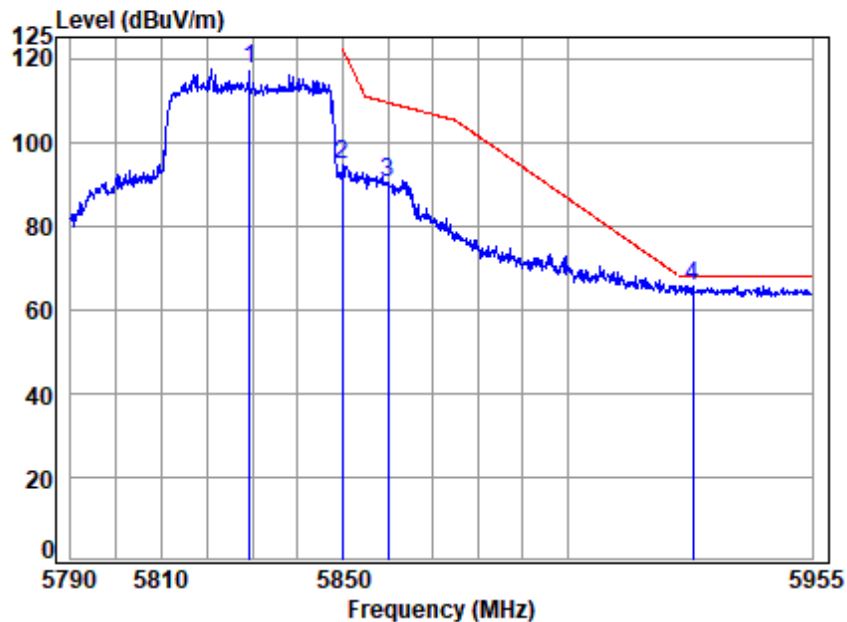


Site : chamber
Condition: 3m HORIZONTAL
Job No : 01225AT/01226AT
Mode : 5829.5 Band edge
: 5.8G SDR 40M

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5829.500	8.01	34.66	35.03	99.67	107.31	-----	-----	peak
2	5850.000	8.03	34.70	35.03	75.80	83.50	122.20	-38.70	peak
3	5860.000	8.04	34.72	35.03	74.02	81.75	109.40	-27.65	peak
4 q	5929.287	8.10	34.86	35.04	57.36	65.28	68.20	-2.92	peak



Test Mode: 09; Polarity: Vertical; Modulation: OFDM; Channel: High



Site : chamber
Condition: 3m VERTICAL
Job No : 01225AT/01226AT
Mode : 5829.5 Band edge
: 5.8G SDR 40M

		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5829.500	8.01	34.66	35.03	109.88	117.52	-----	-----	peak
2	5850.000	8.03	34.70	35.03	86.87	94.57	122.20	-27.63	peak
3	5860.000	8.04	34.72	35.03	82.69	90.42	109.40	-18.98	peak
4 q	5928.121	8.10	34.86	35.04	57.82	65.74	68.20	-2.46	peak



7.8 Radiated Emissions (Below 1GHz)

Test Requirement 47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)

Test Method: KDB 789033 D02 II G

Limit:

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
960-1000	500	3



7.8.1 E.U.T. Operation

Operating Environment:

Temperature: 23.2 °C

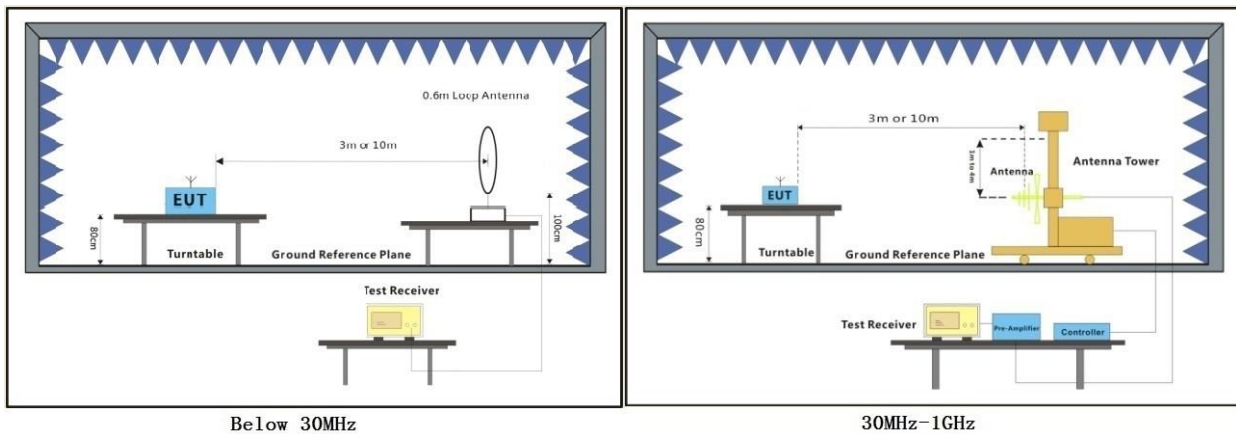
Humidity: 50.5 % RH

Atmospheric Pressure: 1015 mbar

7.8.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Pre-scan	05	TX mode (1.4M)_Keep the EUT in transmitting mode.
Pre-scan	06	TX mode (3M)_Keep the EUT in transmitting mode.
Pre-scan	07	TX mode (10M)_Keep the EUT in transmitting mode.
Pre-scan	08	TX mode (20M)_Keep the EUT in transmitting mode.
Final test	09	TX mode (40M)_Keep the EUT in transmitting mode.

7.8.3 Test Setup Diagram



Below 30MHz

30MHz-1GHz

7.8.4 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using quasi-peak method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- i. Repeat above procedures until all frequencies measured was complete.

Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
2. For emission below 1GHz, through the pre-scan found the worst case is the lowest channel of 802.11a. Only the worst case is recorded in the report.
3. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
4. The disturbance below 1GHz was very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.



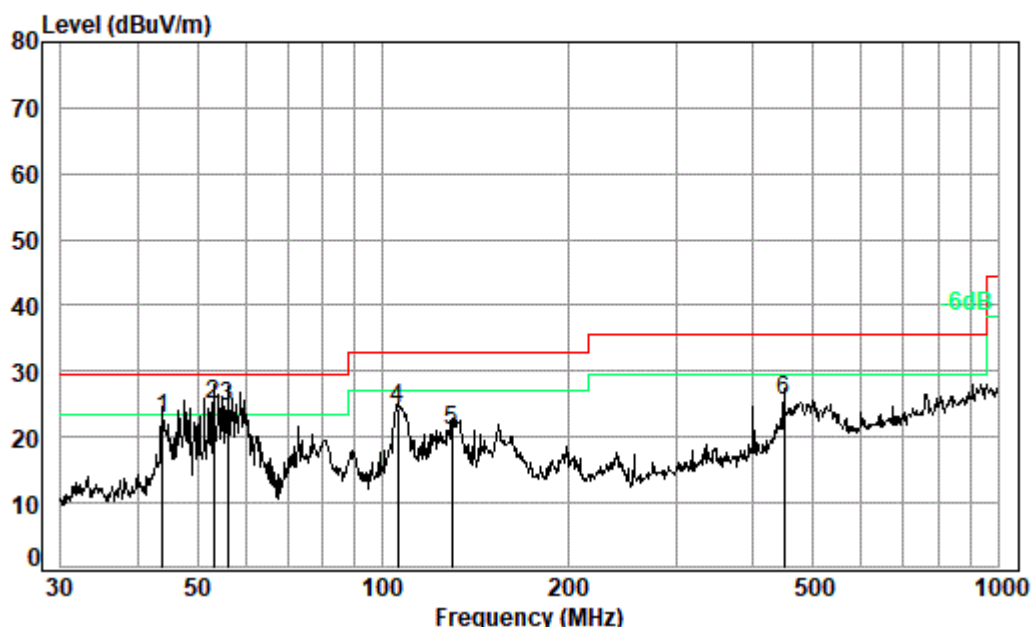
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Test Mode: 09; Polarity: Horizontal; Modulation: OFDM; Channel: Middle



Condition: 10m HORIZONTAL
Job No. : 01225AT/01226AT
Test Mode: 09

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	43.966	37.32	17.28	0.60	32.42	22.78	29.50	-6.72	QP
2	53.131	39.46	17.24	0.63	32.40	24.93	29.50	-4.57	QP
3	56.001	39.17	17.31	0.64	32.40	24.72	29.50	-4.78	QP
4	106.013	41.78	14.15	0.85	32.40	24.38	33.00	-8.62	QP
5	129.468	36.71	15.66	0.94	32.40	20.91	33.00	-12.09	QP
6	449.556	35.03	21.12	1.73	32.45	25.43	35.60	-10.17	QP



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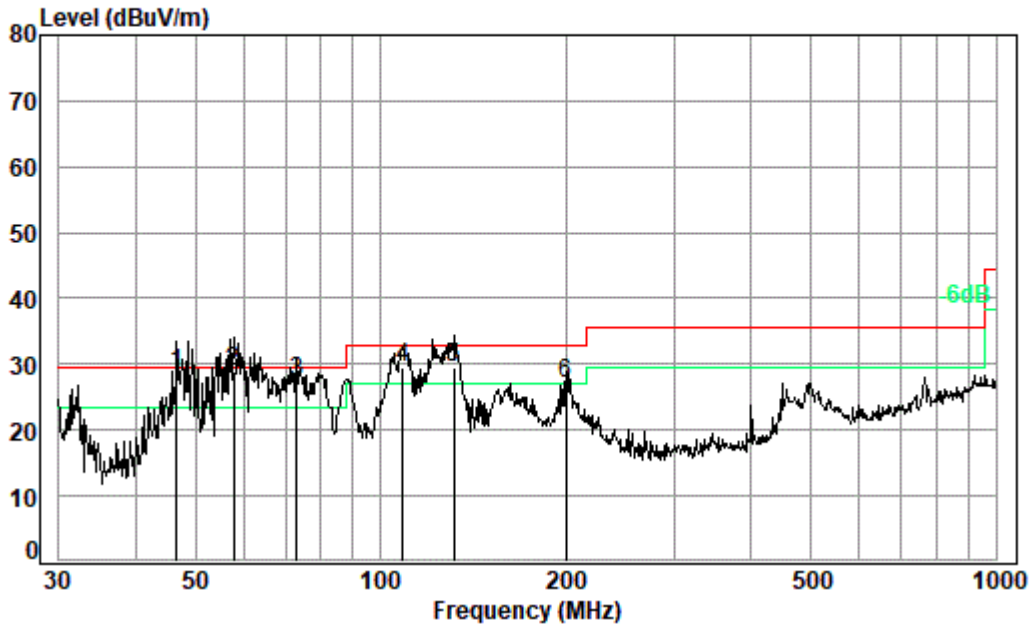
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SZEMC-TRF-01 Rev. A/0 Aug01,2022

Report No.: SZCR230400122503

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Test Mode: 09; Polarity: Vertical



Condition: 10m VERTICAL
Job No. : 01225AT/01226AT
Test Mode: 09

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	46.666	43.04	17.27	0.61	32.41	28.51	29.50	-0.99	QP
2	57.796	43.38	17.27	0.65	32.40	28.90	29.50	-0.60	QP
3	73.103	44.45	14.59	0.77	32.40	27.41	29.50	-2.09	QP
4	108.647	46.77	14.41	0.86	32.40	29.64	33.00	-3.36	QP
5	131.758	44.90	15.93	0.94	32.40	29.37	33.00	-3.63	QP
6	199.986	43.36	14.89	1.19	32.40	27.04	33.00	-5.96	QP



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The test was performed at a 10m test site. According to below formulate and the test data at 10m test distance,

$$L_3 / L_{10} = D_{10} / D_3$$

Note:

L₃: Level @ 3m distance. Unit: uV/m;

L₁₀: Level @ 10m distance. Unit: uV/m;

D₃: 3m distance. Unit: m

D₁₀: 10m distance. Unit: m

The level at 3m test distance is below:

Frequency (MHz)	Level @ 10m (dBuV/m)	Level @ 10m (uV/m)	Level @ 3m (uV/m)	Level @ 3m (dBuV/m)	Limit @ 3m (dBuV/m)	Margin (dB)	Ant. Polarization
43.966	22.78	13.77	45.91	33.24	40	-6.76	H
53.131	24.93	17.64	58.80	35.39	40	-4.61	H
56.001	24.72	17.22	57.40	35.18	40	-4.82	H
106.013	24.38	16.56	55.19	34.84	43.5	-8.66	H
129.468	20.91	11.10	37.02	31.37	43.5	-12.13	H
449.556	25.43	18.69	62.28	35.89	46	-10.11	H
46.666	28.51	26.64	88.79	38.97	40	-1.03	V
57.796	28.90	27.86	92.87	39.36	40	-0.64	V
73.103	27.41	23.47	78.23	37.87	40	-2.13	V
108.647	29.64	30.34	101.13	40.10	43.5	-3.40	V
131.758	29.37	29.41	98.03	39.83	43.5	-3.67	V
199.986	27.04	22.49	74.97	37.50	43.5	-6.00	V



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7.9 Frequency Stability

Test Requirement 47 CFR Part 15, Subpart E 15.407 (g)

Test Method: ANSI C63.10 (2013) Section 6.8

7.9.1 E.U.T. Operation

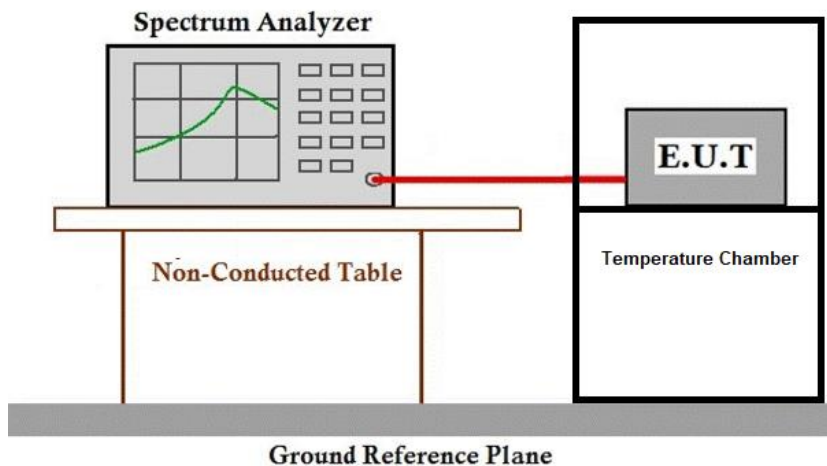
Operating Environment:

Temperature: 22.9 °C Humidity: 60.5 % RH Atmospheric Pressure: 1005 mbar

7.9.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	05	TX mode (1.4M)_Keep the EUT in transmitting mode.
Final test	06	TX mode (3M)_Keep the EUT in transmitting mode.
Final test	07	TX mode (10M)_Keep the EUT in transmitting mode.
Final test	08	TX mode (20M)_Keep the EUT in transmitting mode.
Final test	09	TX mode (40M)_Keep the EUT in transmitting mode.

7.9.3 Test Setup Diagram



7.9.4 Measurement Procedure and Data

Please Refer to Appendix for Details

8 Test Setup Photo

Refer to Appendix - Test Setup Photo for SZCR2304001225AT

9 EUT Constructional Details (EUT Photos)

Refer to External and Internal Photos for SZCR2304001225AT



10 Appendix

Note1: 1.4MHz bandwidth supports 1.4MHz and 1.4MHz CA mode, only the lowest and highest frequency were selected to test between 1.4MHz and 1.4MHz CA mode due to the target power and modulation type are the same, only the operation frequency is different.

Note2: 3MHz bandwidth supports 3MHz and 3MHz CA mode, only the lowest and highest frequency were selected to test between 3MHz and 3MHz CA mode due to the target power and modulation type are the same, only the operation frequency is different.

SISO Mode

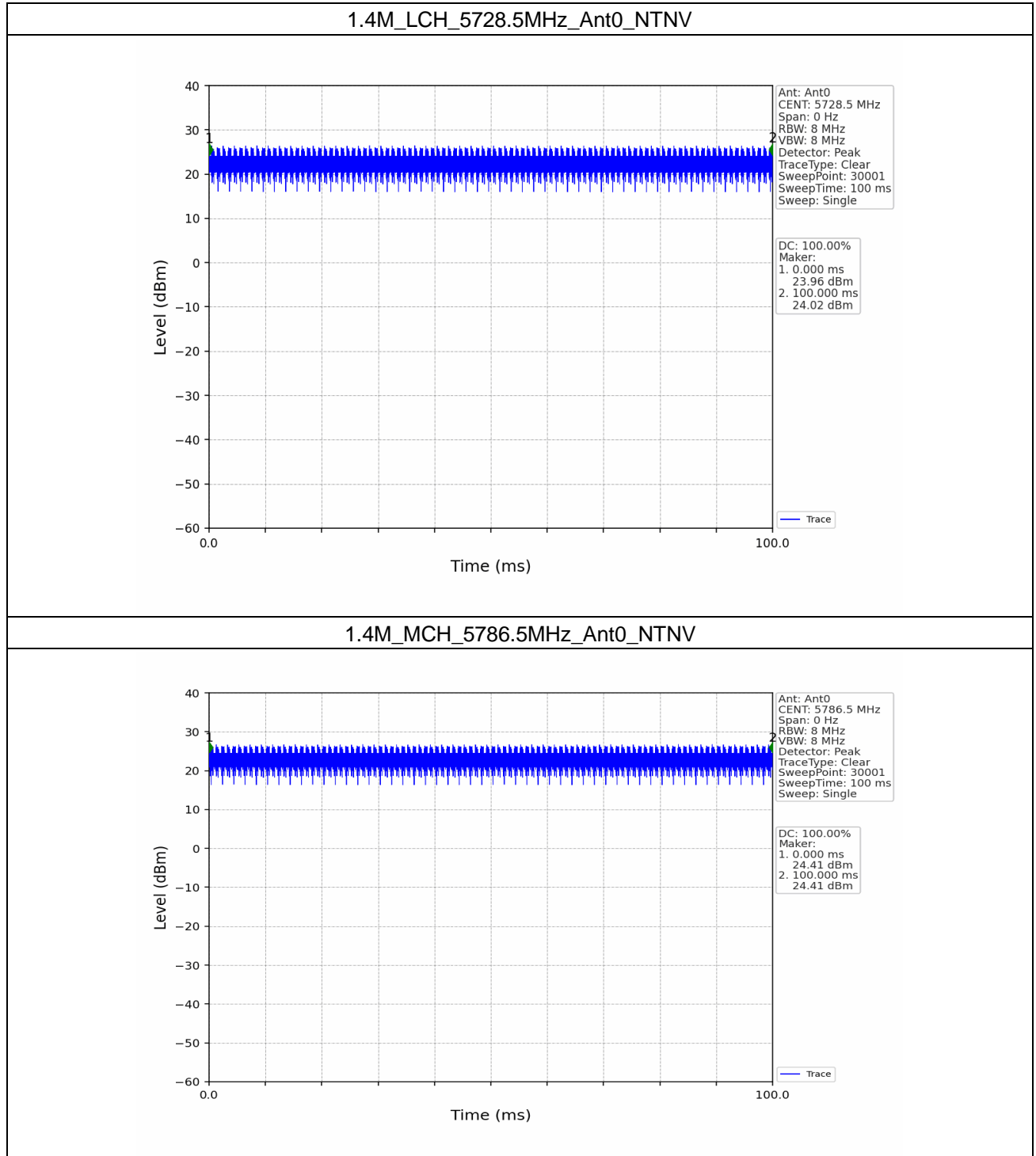
1. Duty Cycle

1.1 Ant0

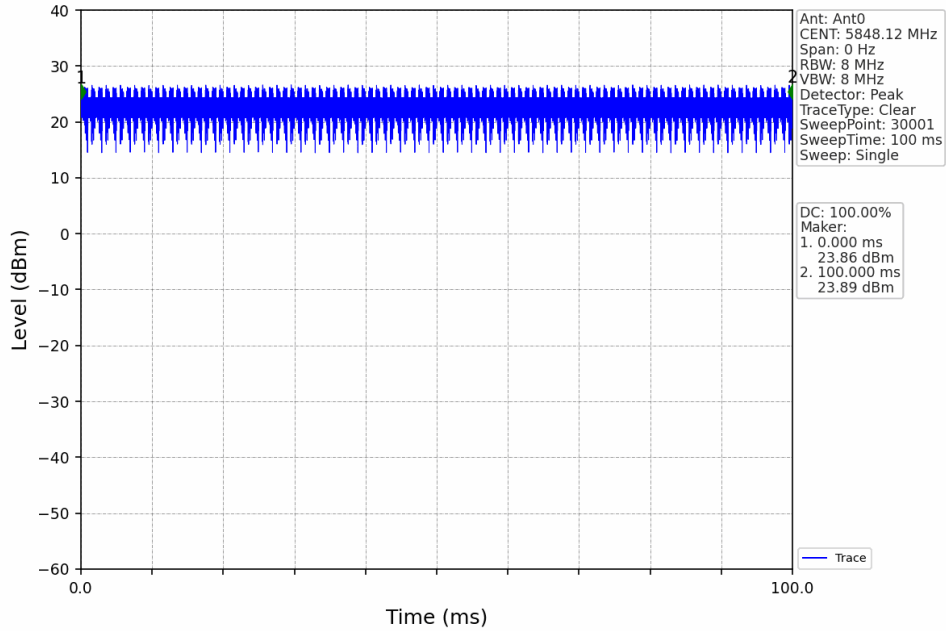
1.1.1 Test Result

Ant0							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
1.4M	SISO	5728.5	100.000	100.000	100.00	0.00	0.00
		5786.5	100.000	100.000	100.00	0.00	0.00
		5848.12	100.000	100.000	100.00	0.00	0.00
3M	SISO	5727.5	100.000	100.000	100.00	0.00	0.00
		5784.5	100.000	100.000	100.00	0.00	0.00
		5847.2	100.000	100.000	100.00	0.00	0.00
10M	SISO	5730.5	19.927	20.000	99.64	0.02	0.00
		5785.5	19.907	20.000	99.54	0.02	0.00
		5844.5	19.973	20.000	99.86	0.01	0.00
20M	SISO	5735.5	19.980	20.000	99.90	0.00	0.00
		5787.5	19.980	20.000	99.90	0.00	0.00
		5839.5	19.970	20.000	99.85	0.01	0.00
40M	SISO	5745.5	19.977	20.000	99.89	0.00	0.00
		5787.5	19.976	20.000	99.88	0.01	0.00
		5829.5	19.976	20.000	99.88	0.01	0.00

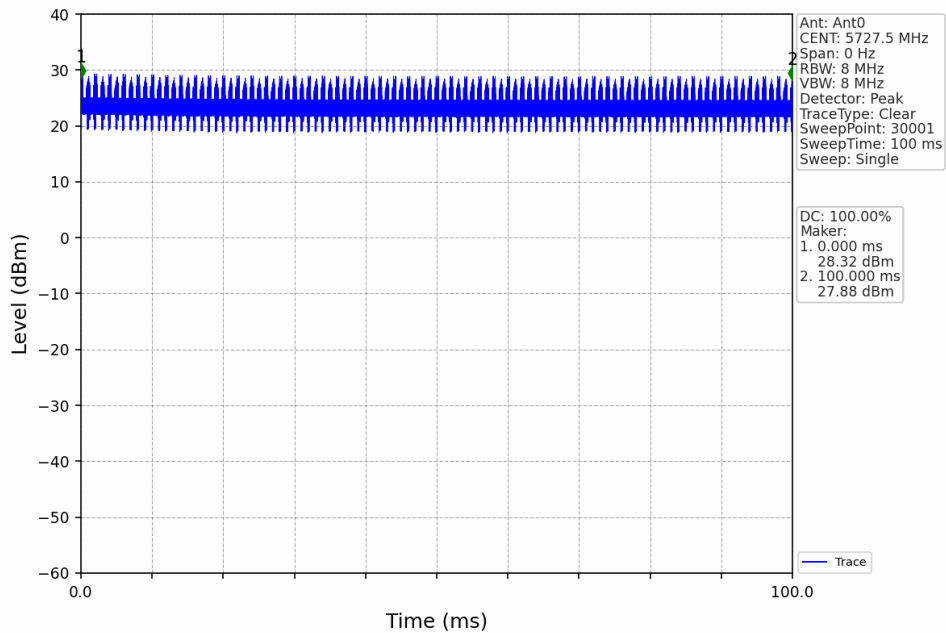
1.1.2 Test Graph



1.4M_HCH_5848.12MHz_Ant0_NTNV



3M_LCH_5727.5MHz_Ant0_NTNV



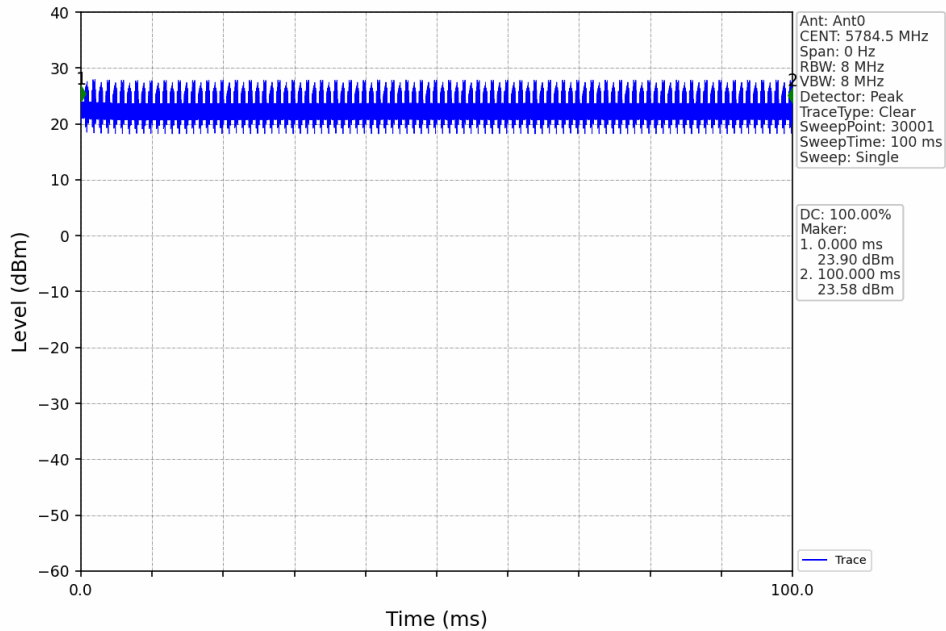
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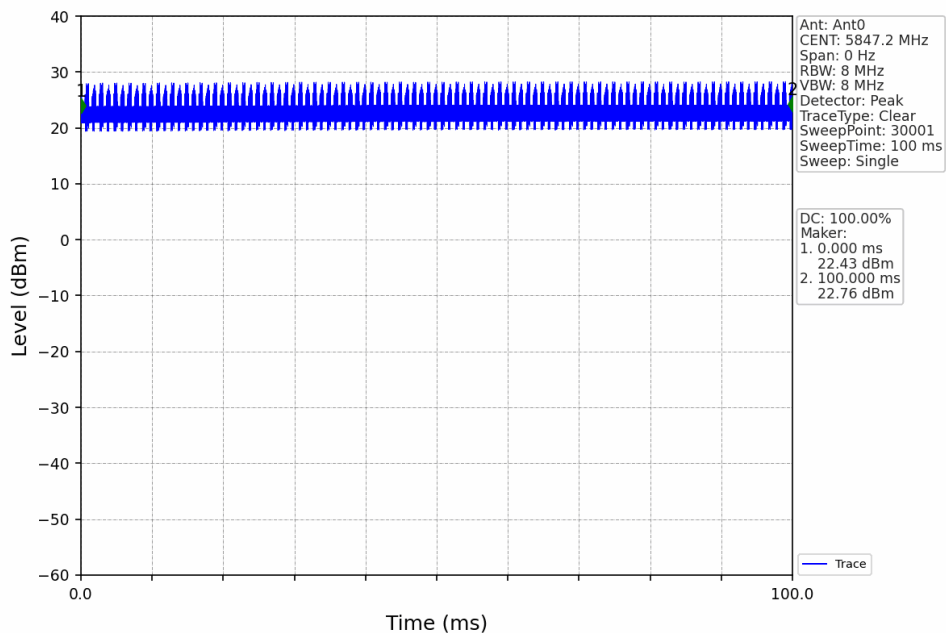
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3M_MCH_5784.5MHz_Ant0_NTNV



3M_HCH_5847.2MHz_Ant0_NTNV



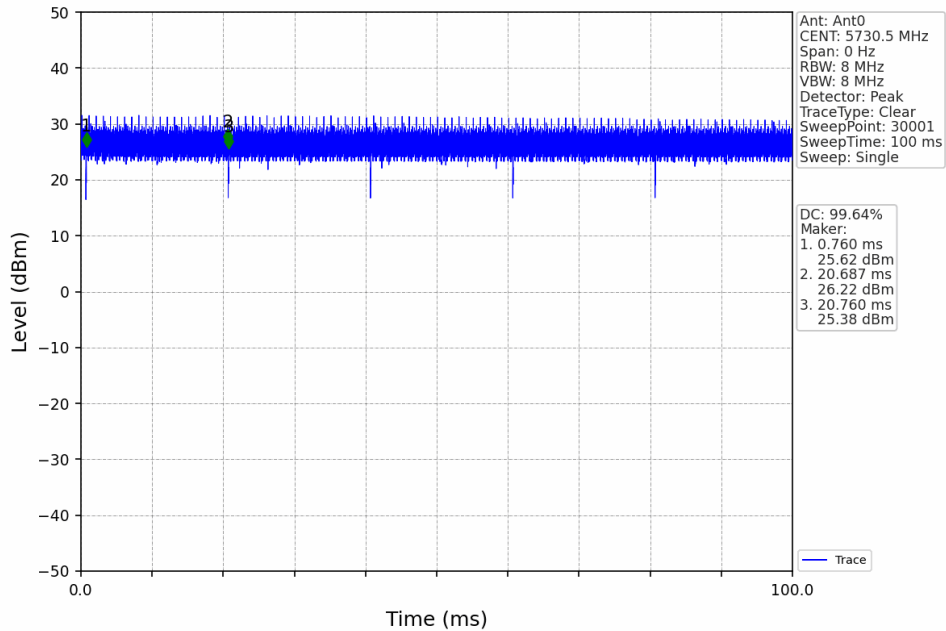
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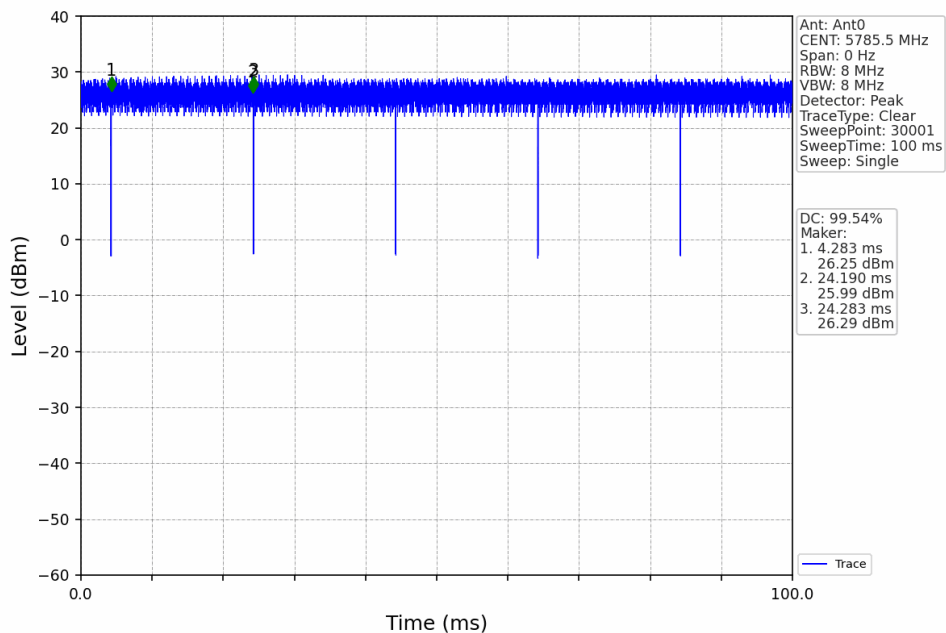
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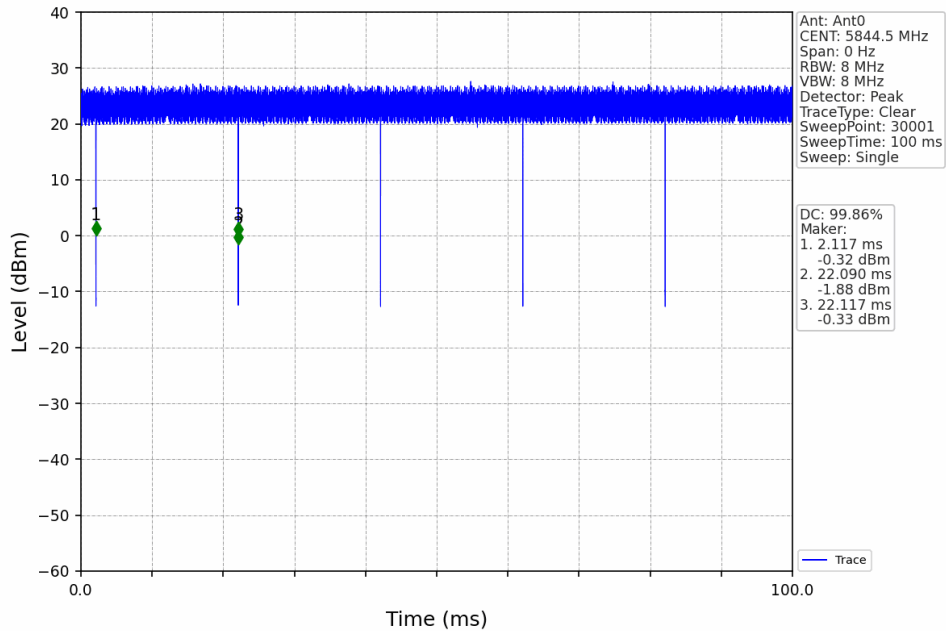
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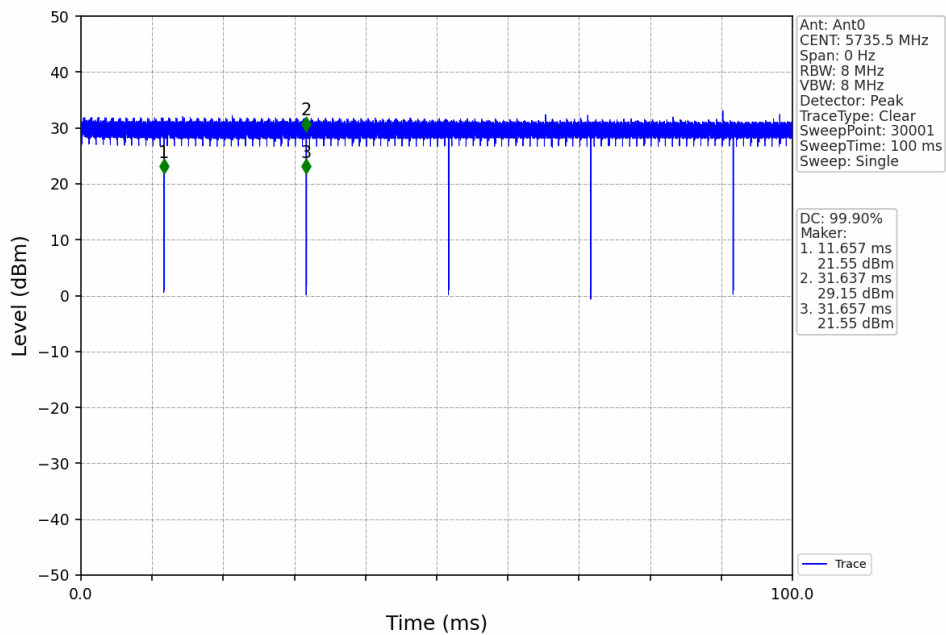
10M_MCH_5785.5MHz_Ant0_NTNV



10M_HCH_5844.5MHz_Ant0_NTNV



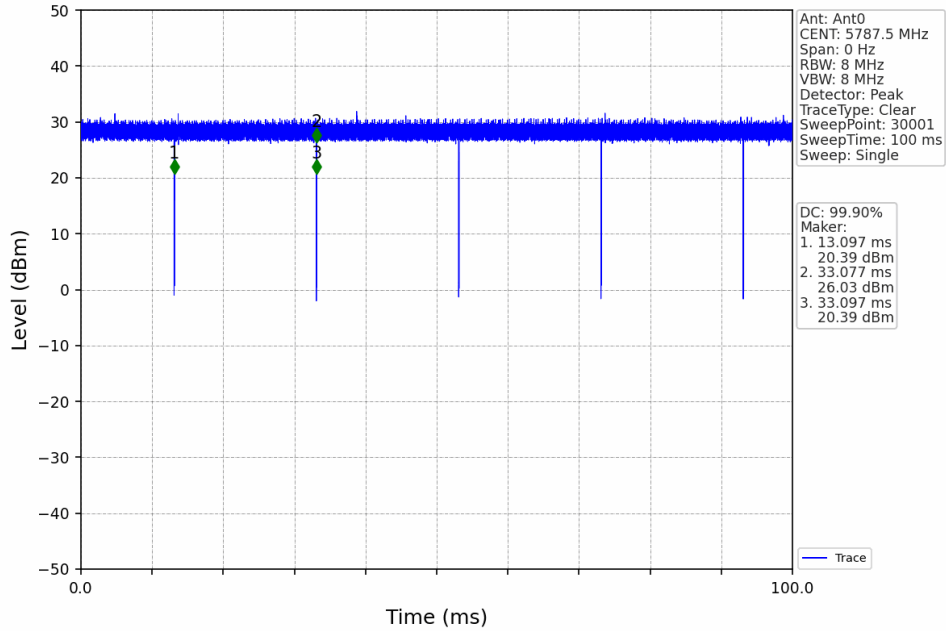
20M_LCH_5735.5MHz_Ant0_NTNV



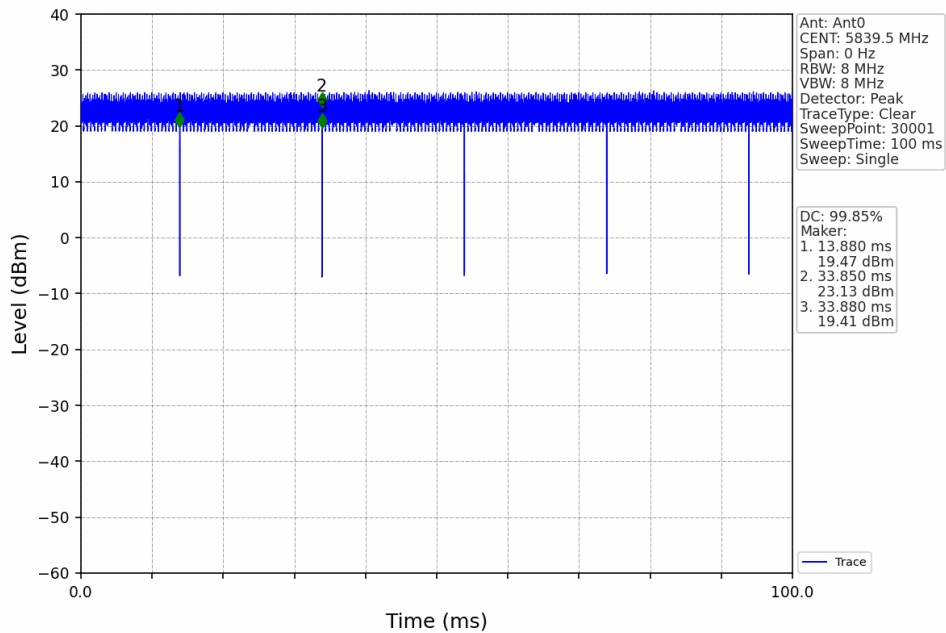
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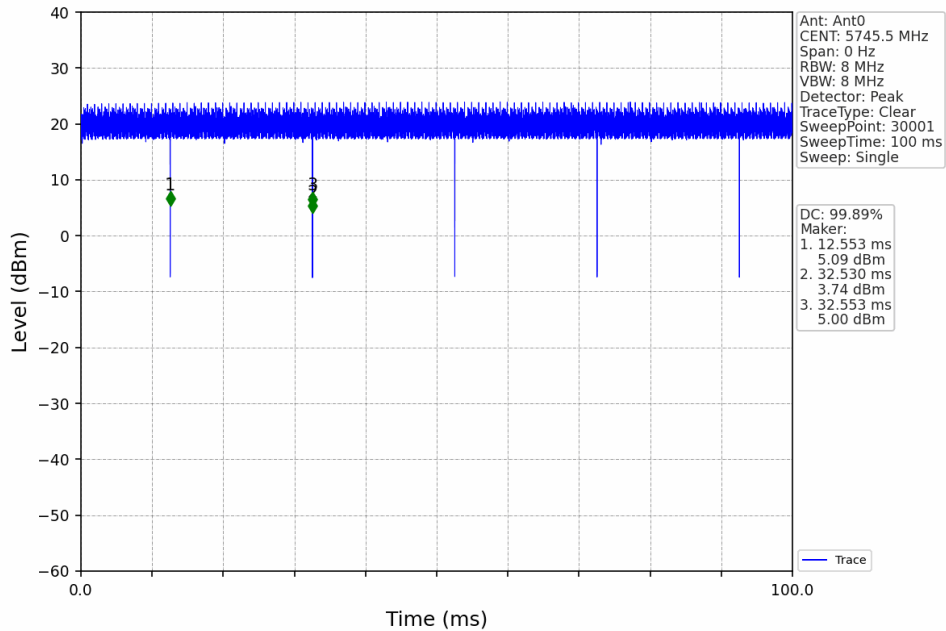
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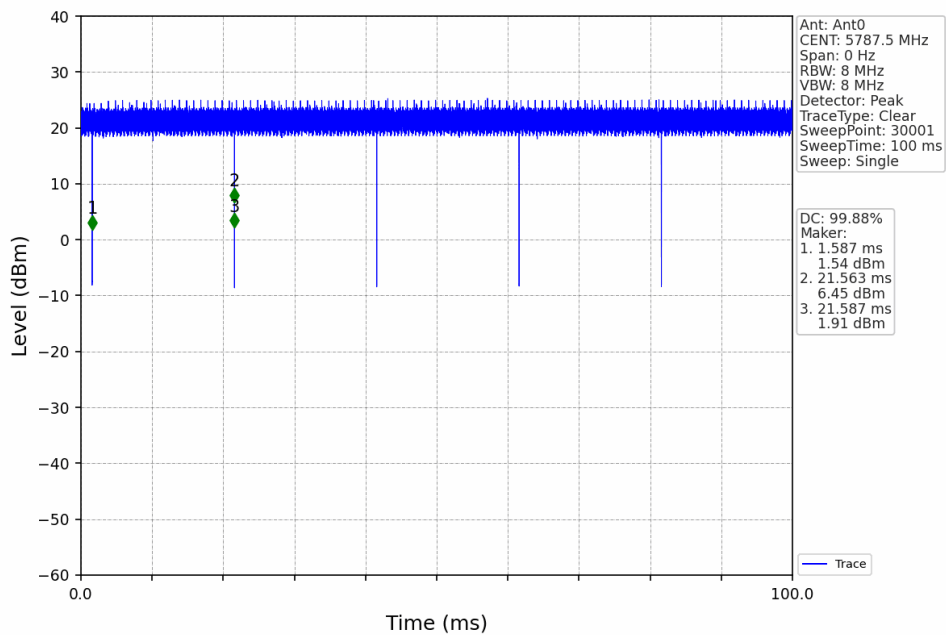
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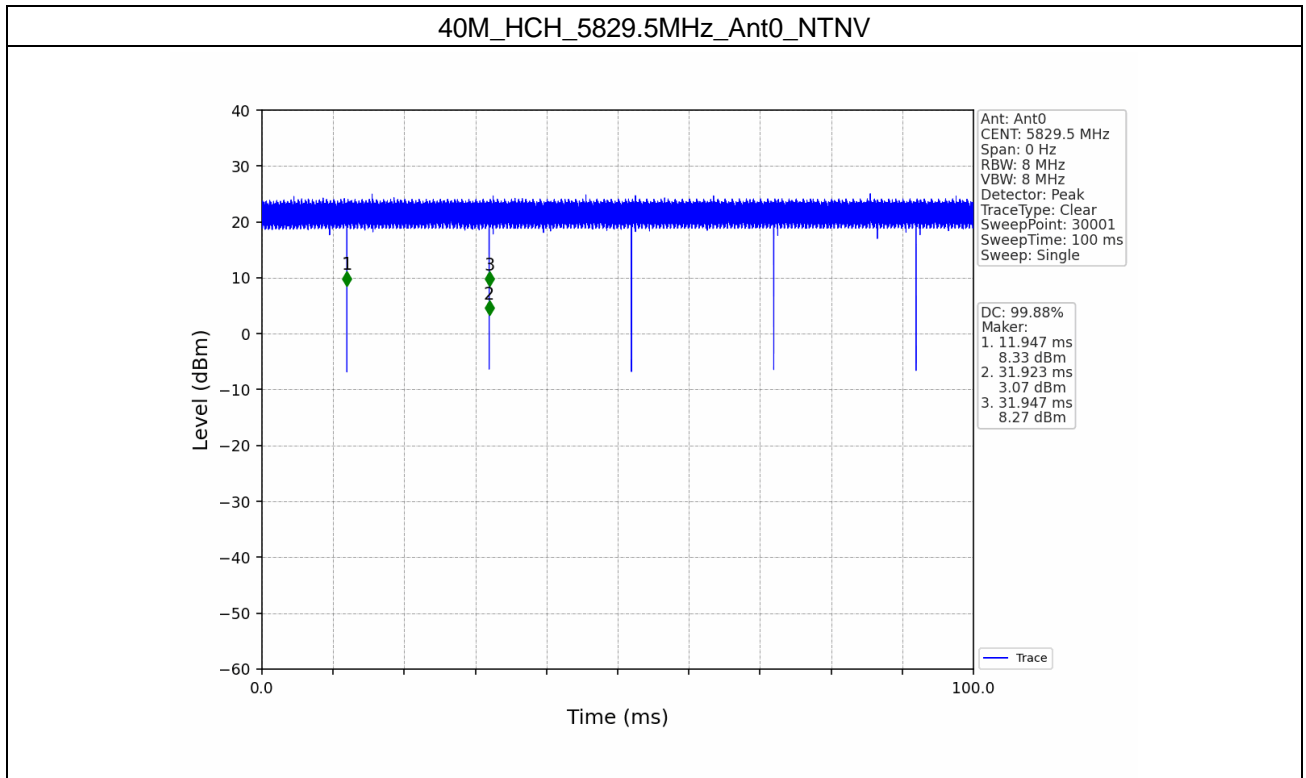


40M_LCH_5745.5MHz_Ant0_NTNV



40M_MCH_5787.5MHz_Ant0_NTNV





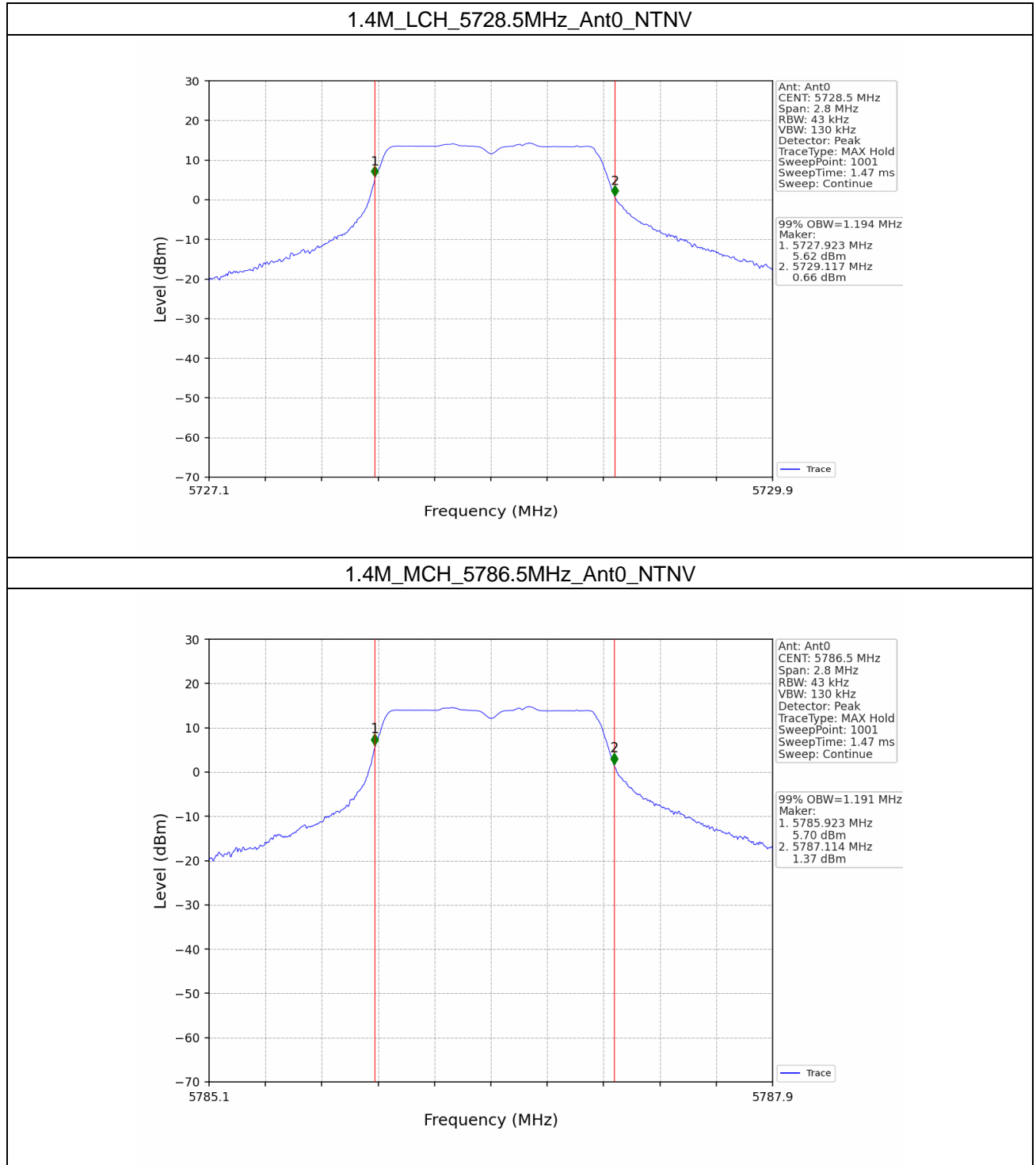
2. Bandwidth

2.1 OBW

2.1.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)	Verdict
				Result	
1.4M	SISO	5728.5	0	1.194	Pass
		5786.5	0	1.191	Pass
		5848.12	0	1.191	Pass
3M	SISO	5727.5	0	2.323	Pass
		5784.5	0	2.320	Pass
		5847.2	0	2.334	Pass
10M	SISO	5730.5	0	10.533	Pass
		5785.5	0	11.658	Pass
		5844.5	0	9.308	Pass
20M	SISO	5735.5	0	22.603	Pass
		5787.5	0	22.139	Pass
		5839.5	0	18.687	Pass
40M	SISO	5745.5	0	37.016	Pass
		5787.5	0	36.870	Pass
		5829.5	0	36.981	Pass

2.1.2 Test Graph



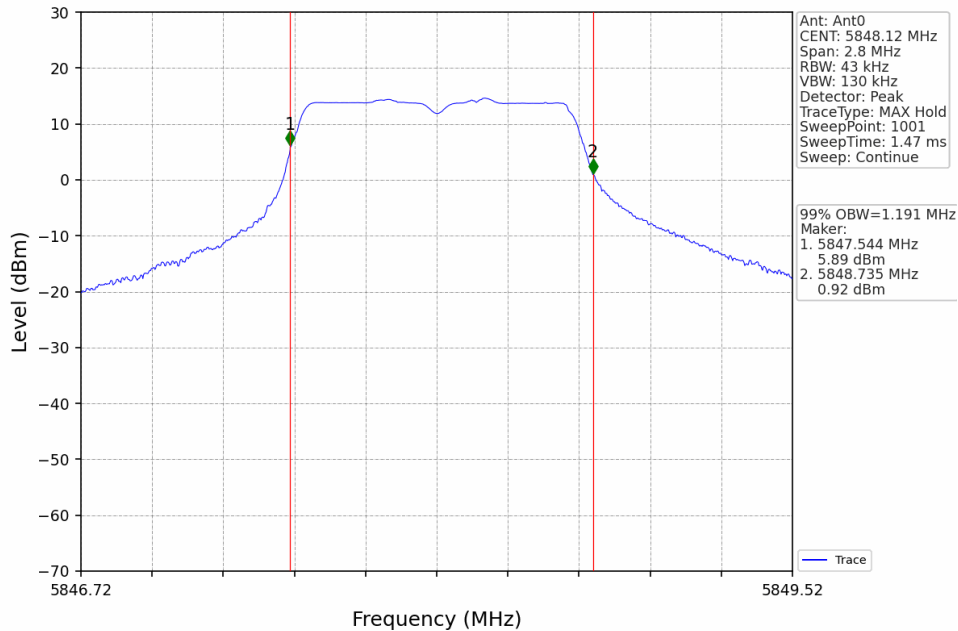
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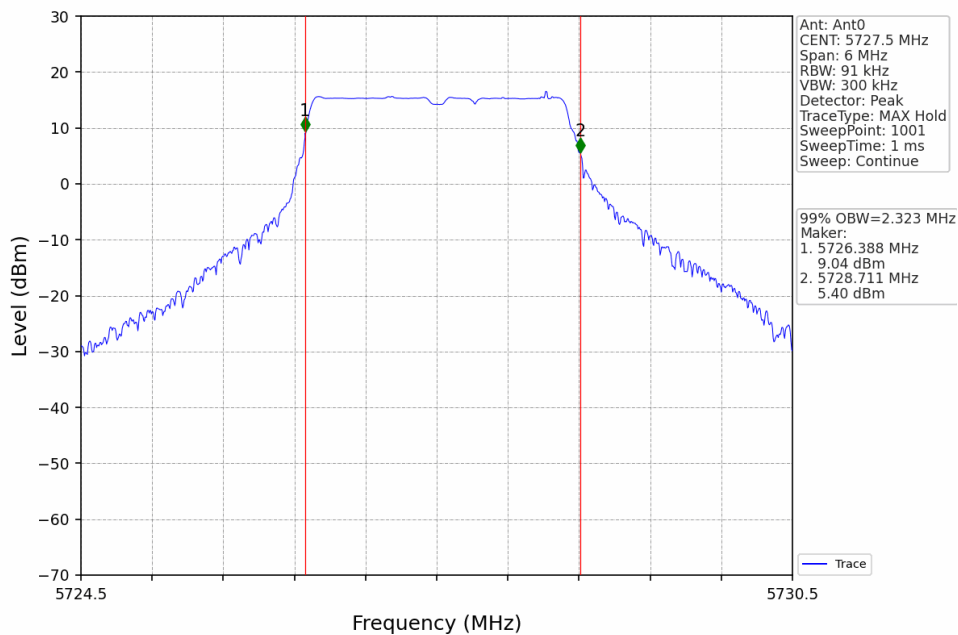
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1.4M_HCH_5848.12MHz_Ant0_NTNV



3M_LCH_5727.5MHz_Ant0_NTNV



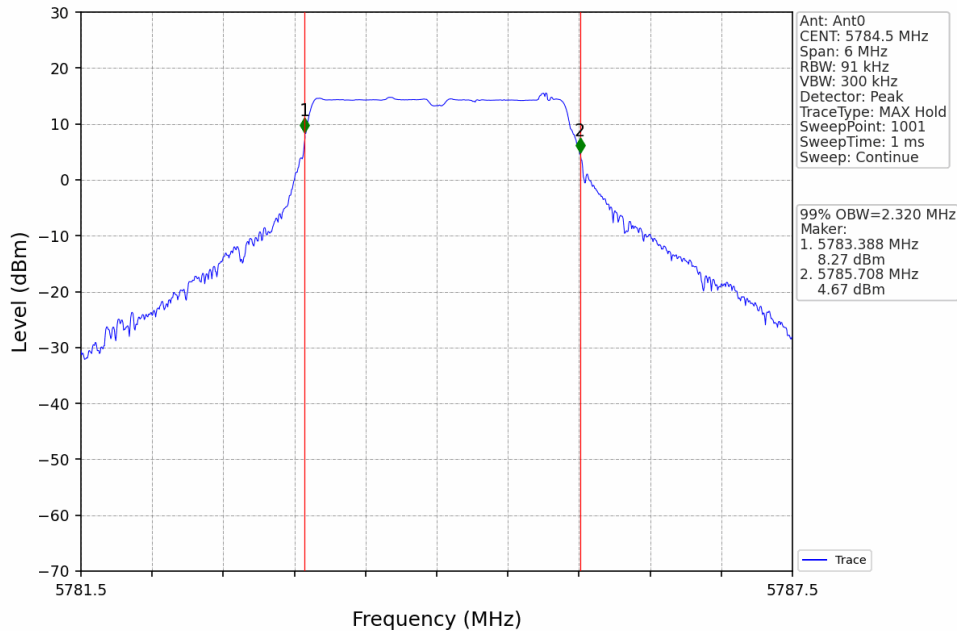
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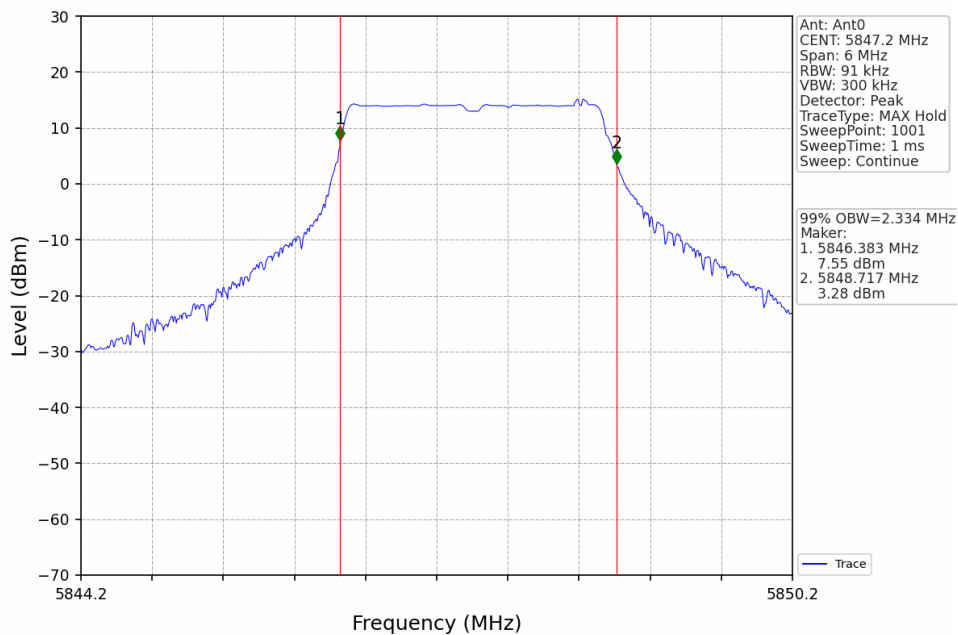
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3M_MCH_5784.5MHz_Ant0_NTNV



3M_HCH_5847.2MHz_Ant0_NTNV



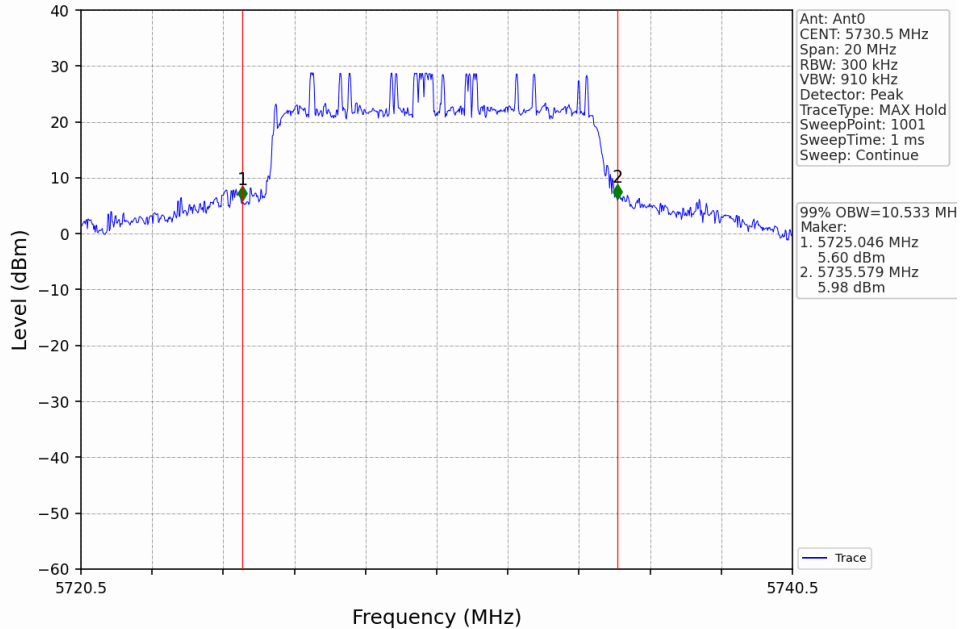
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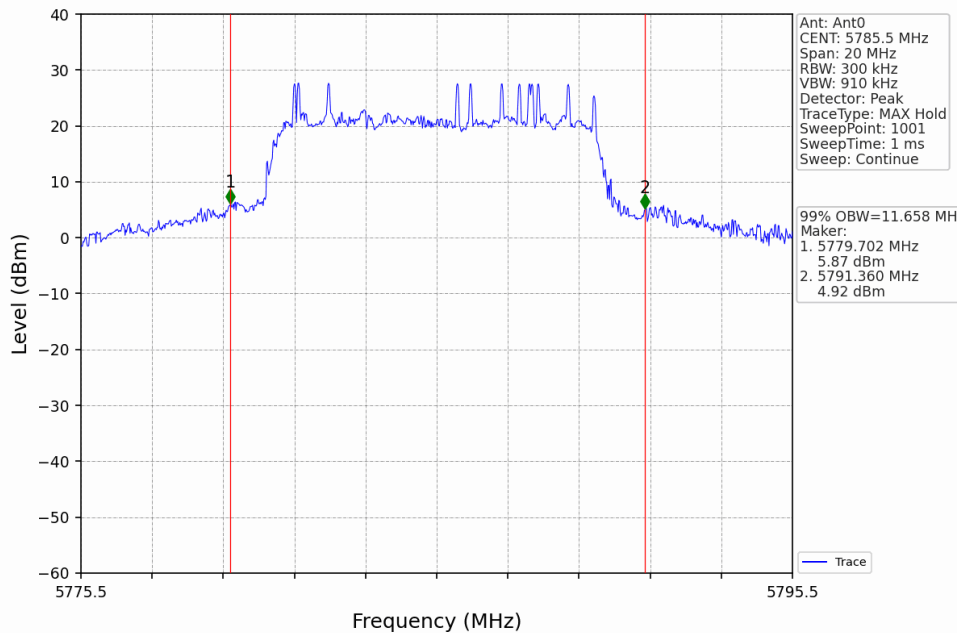
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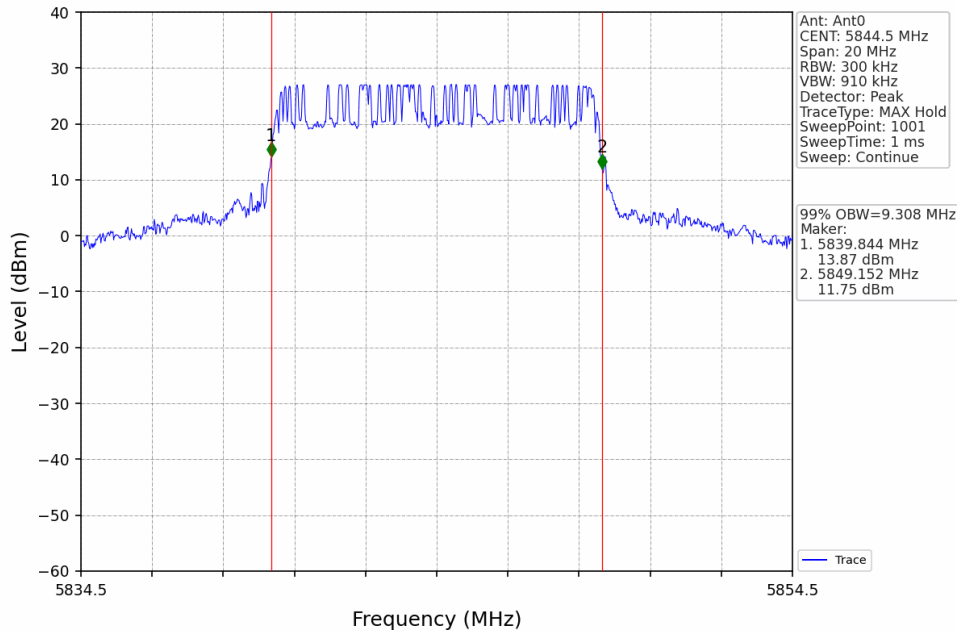
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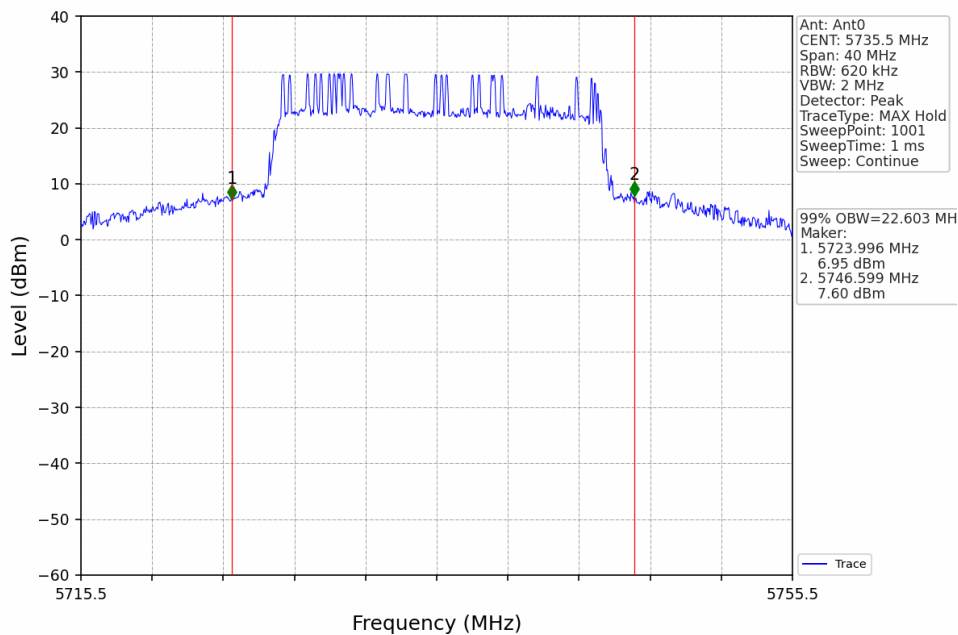
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10M_HCH_5844.5MHz_Ant0_NTNV



20M_LCH_5735.5MHz_Ant0_NTNV



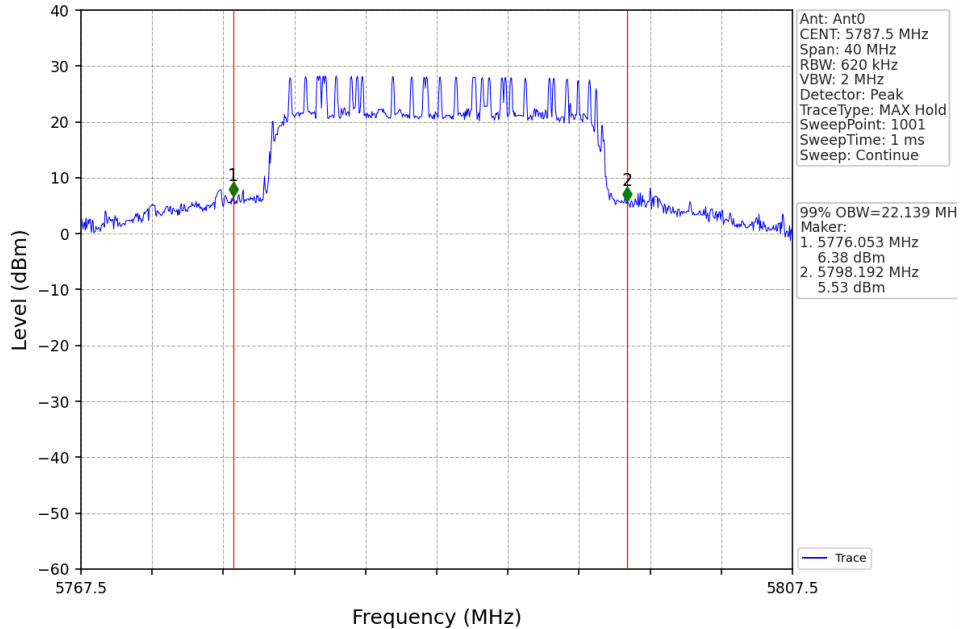
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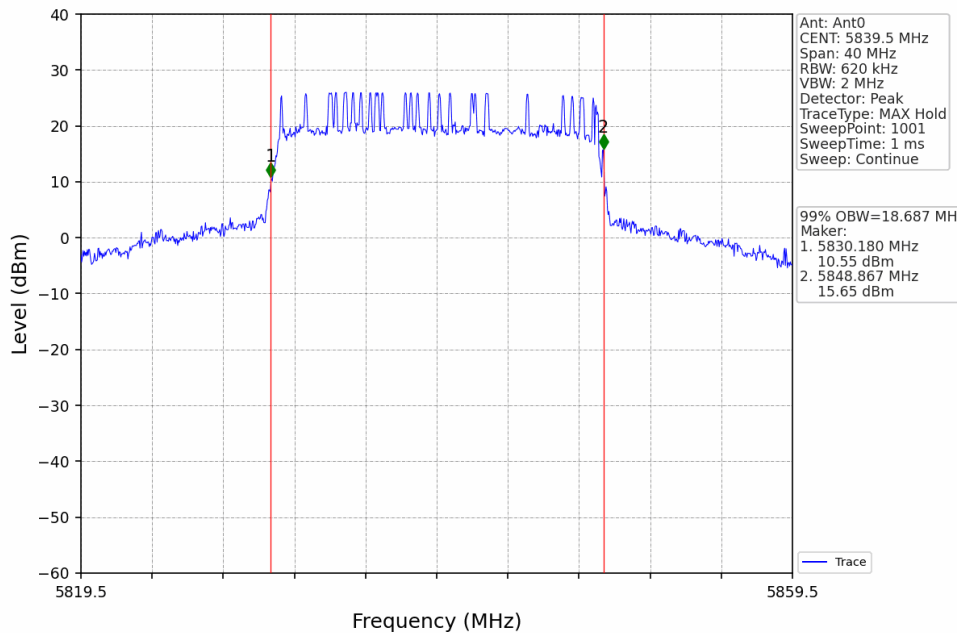
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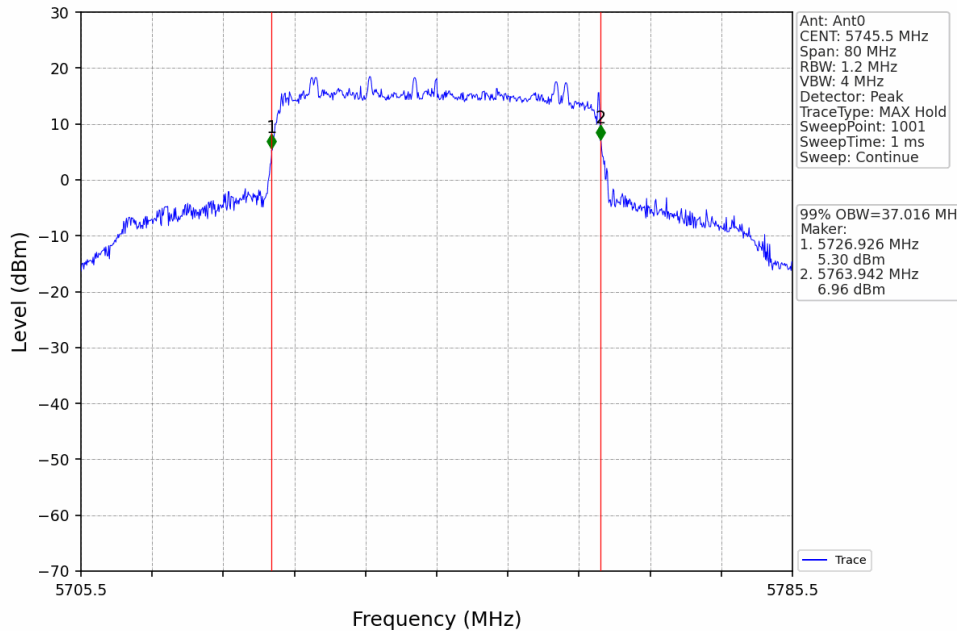
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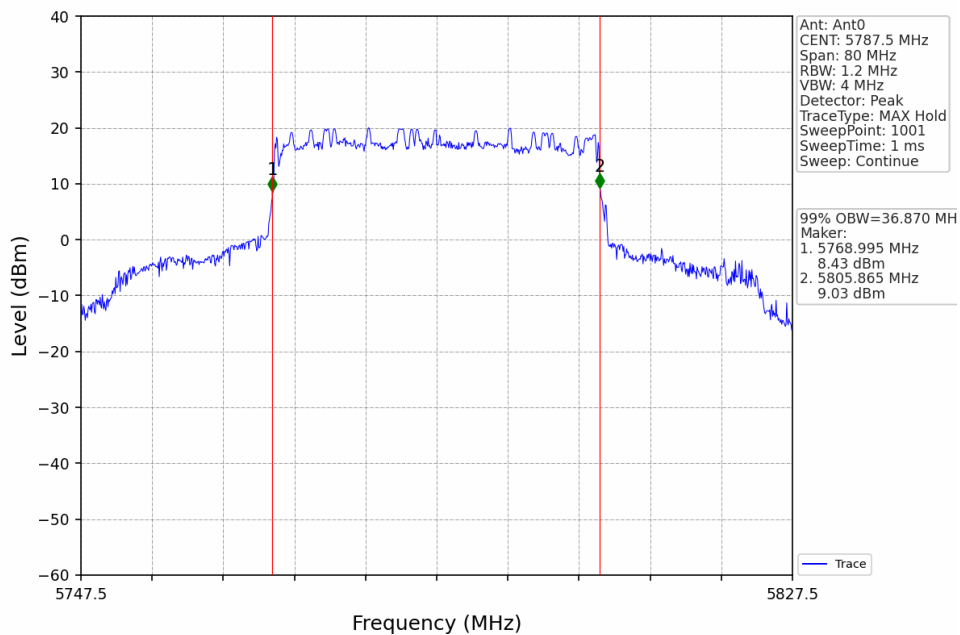
20M_HCH_5839.5MHz_Ant0_NTNV



40M_LCH_5745.5MHz_Ant0_NTNV



40M_MCH_5787.5MHz_Ant0_NTNV

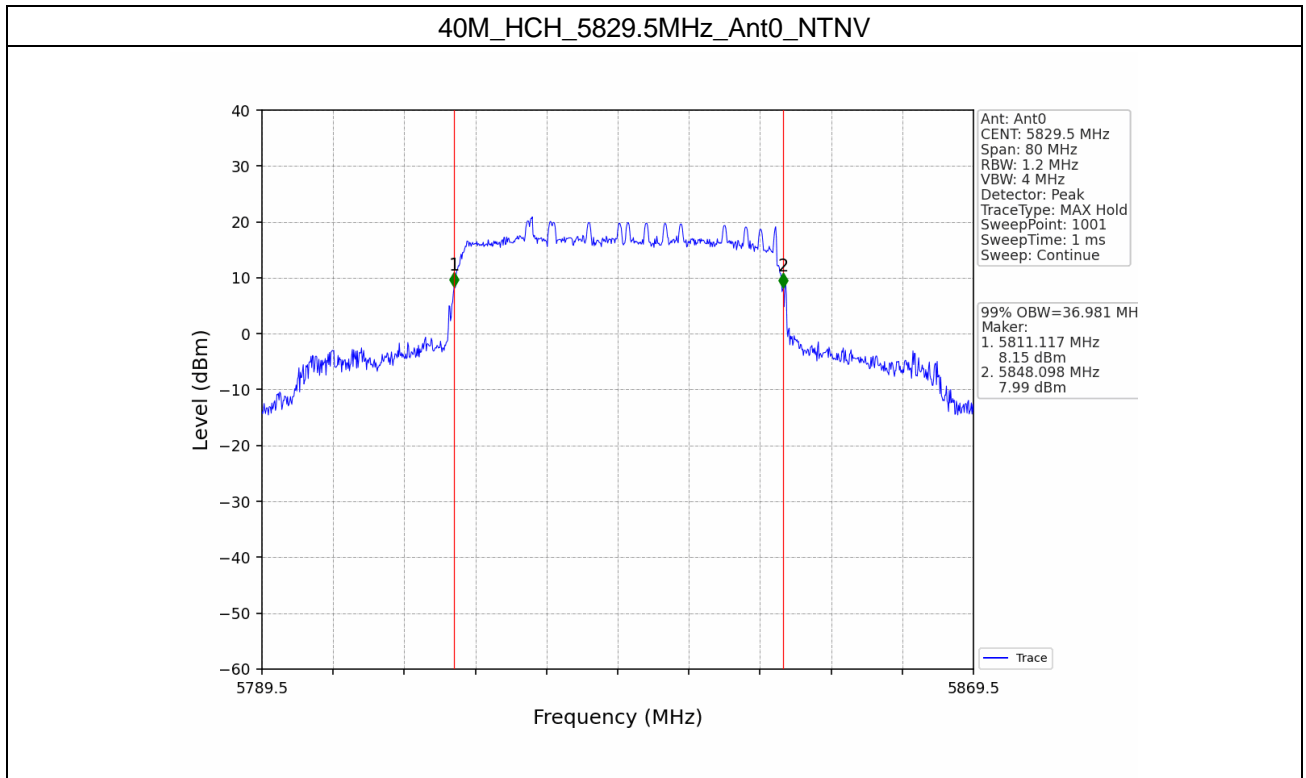


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SZEMC-TRF-01 Rev. A/0 Aug01,2022

Report No.: SZCR230400122503

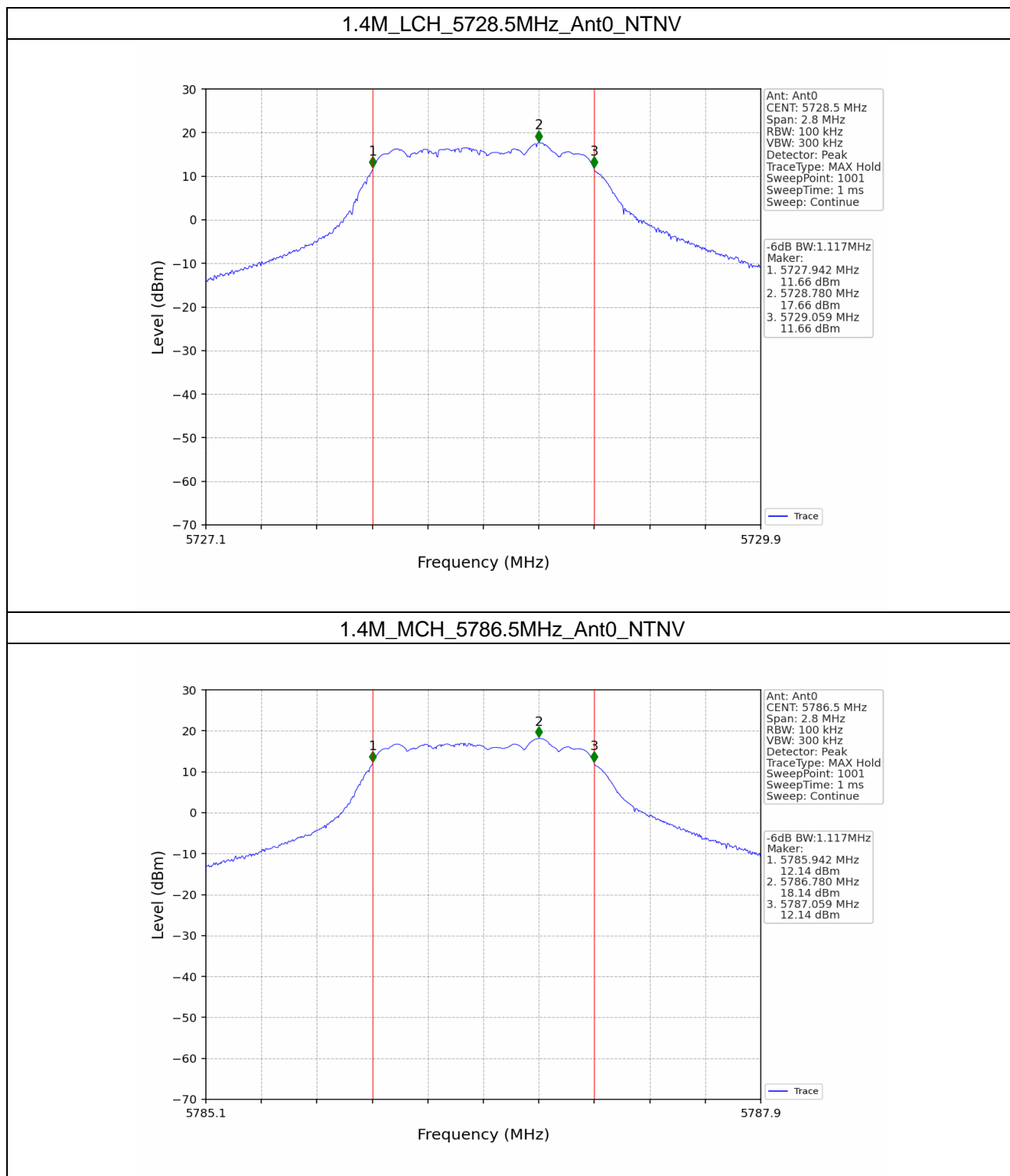
Page: 87 of 190

2.2 6dB BW

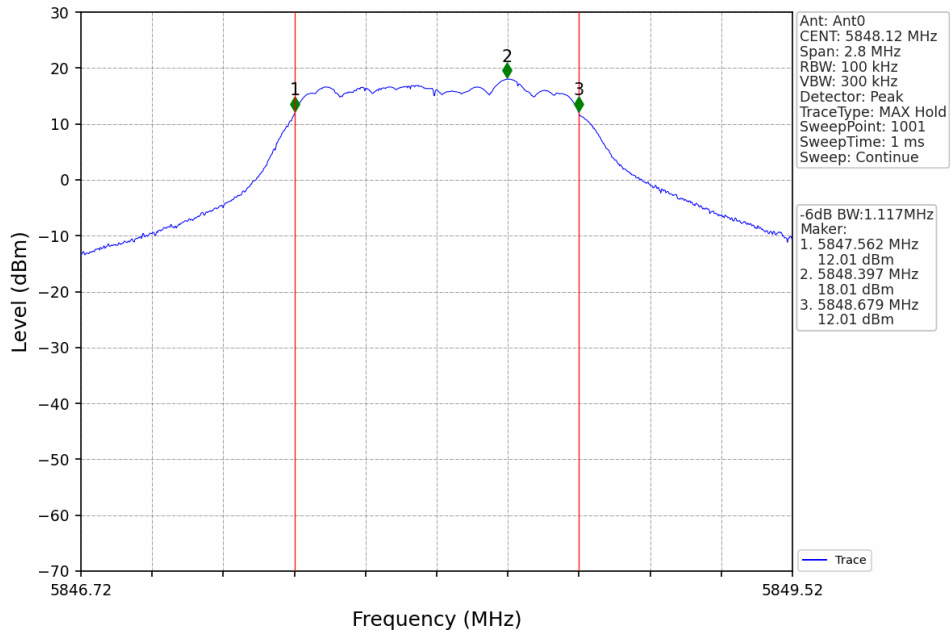
2.2.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
1.4M	SISO	5728.5	0	1.117	≥ 0.5	Pass
		5786.5	0	1.117	≥ 0.5	Pass
		5848.12	0	1.117	≥ 0.5	Pass
3M	SISO	5727.5	0	2.218	≥ 0.5	Pass
		5784.5	0	2.224	≥ 0.5	Pass
		5847.2	0	2.220	≥ 0.5	Pass
10M	SISO	5730.5	0	8.888	≥ 0.5	Pass
		5785.5	0	8.966	≥ 0.5	Pass
		5844.5	0	8.999	≥ 0.5	Pass
20M	SISO	5735.5	0	17.914	≥ 0.5	Pass
		5787.5	0	17.991	≥ 0.5	Pass
		5839.5	0	17.958	≥ 0.5	Pass
40M	SISO	5745.5	0	35.916	≥ 0.5	Pass
		5787.5	0	35.967	≥ 0.5	Pass
		5829.5	0	35.930	≥ 0.5	Pass

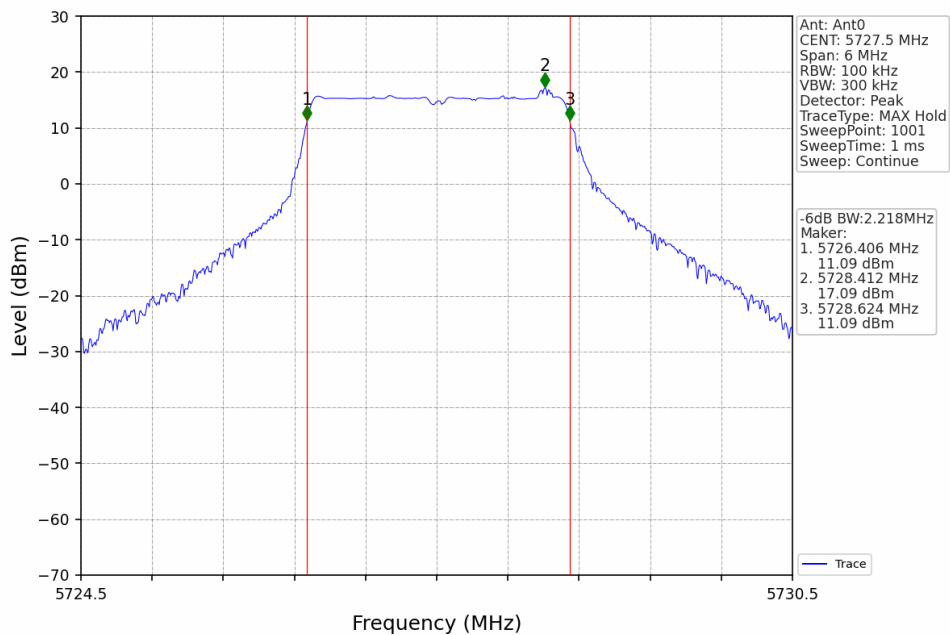
2.2.2 Test Graph



1.4M_HCH_5848.12MHz_Ant0_NTNV



3M_LCH_5727.5MHz_Ant0_NTNV



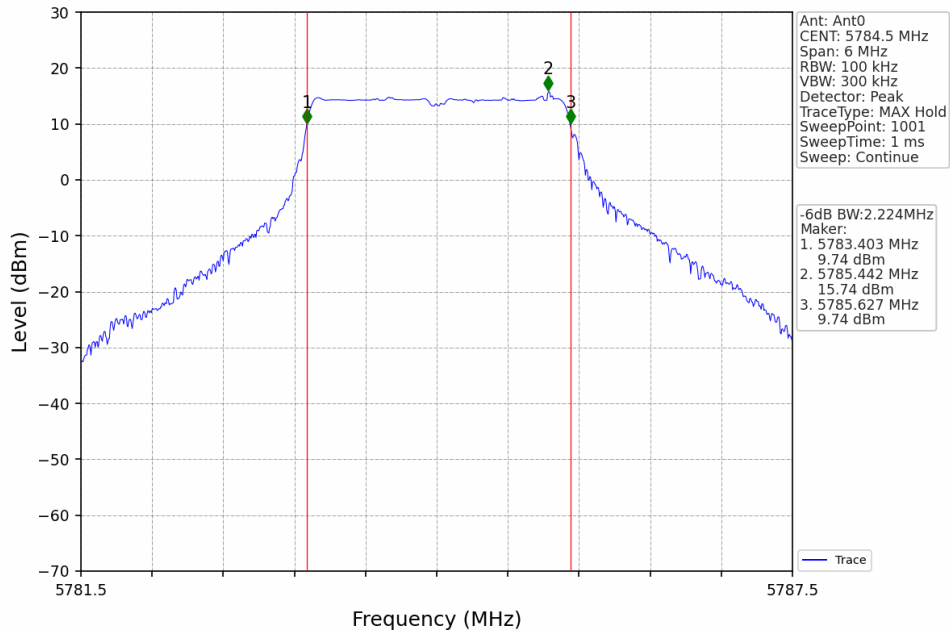
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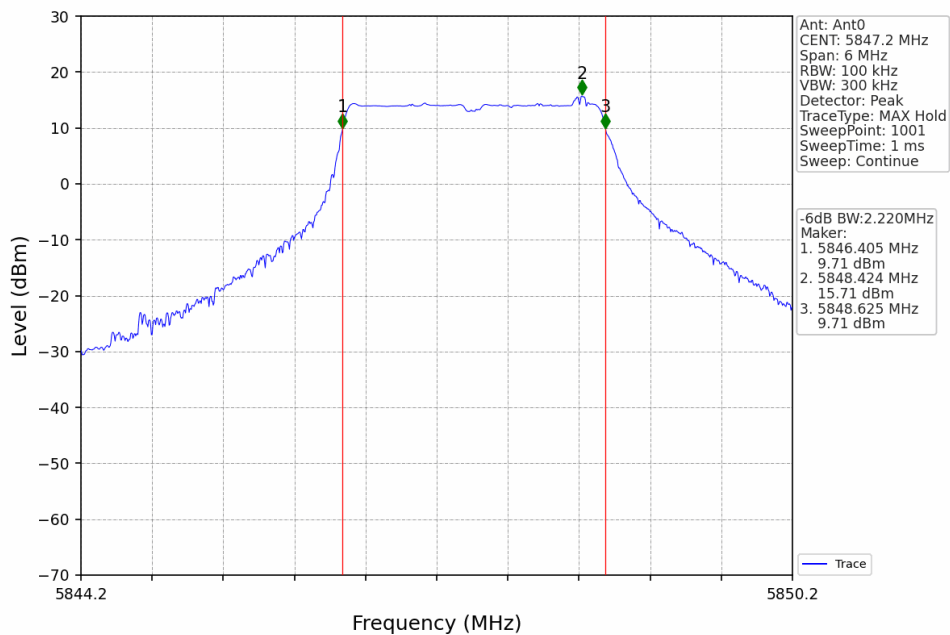
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3M_MCH_5784.5MHz_Ant0_NTNV



3M_HCH_5847.2MHz_Ant0_NTNV



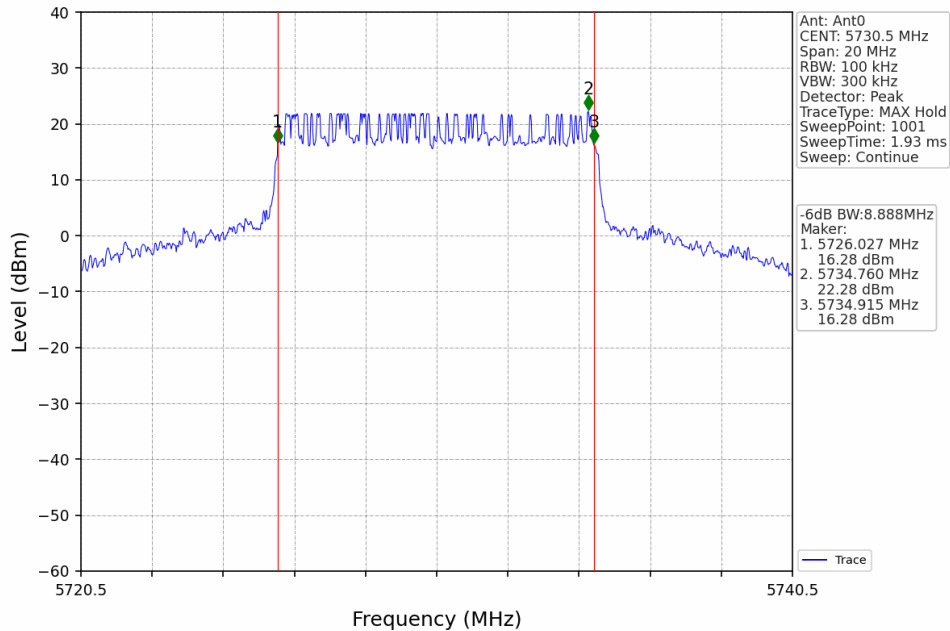
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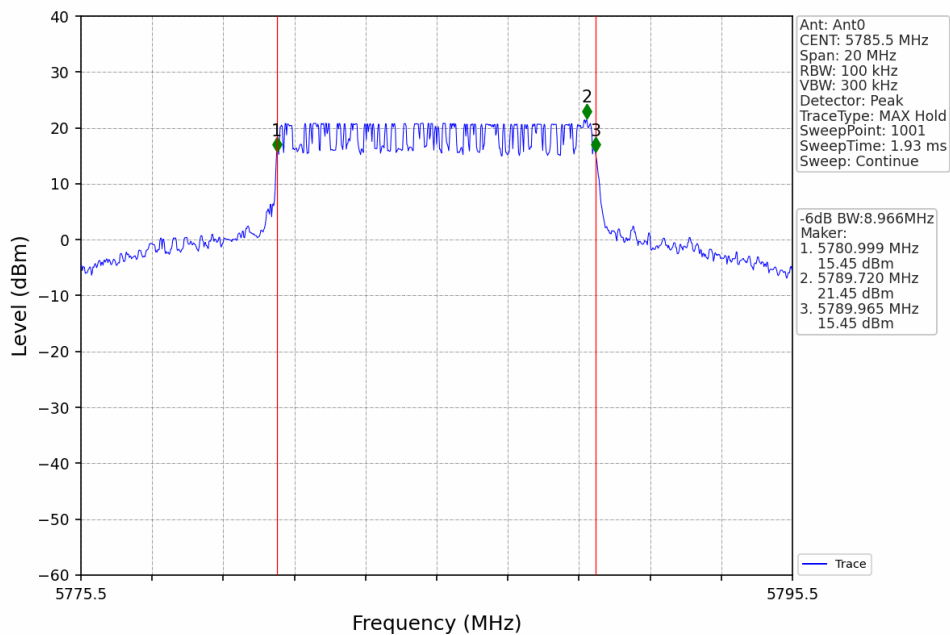
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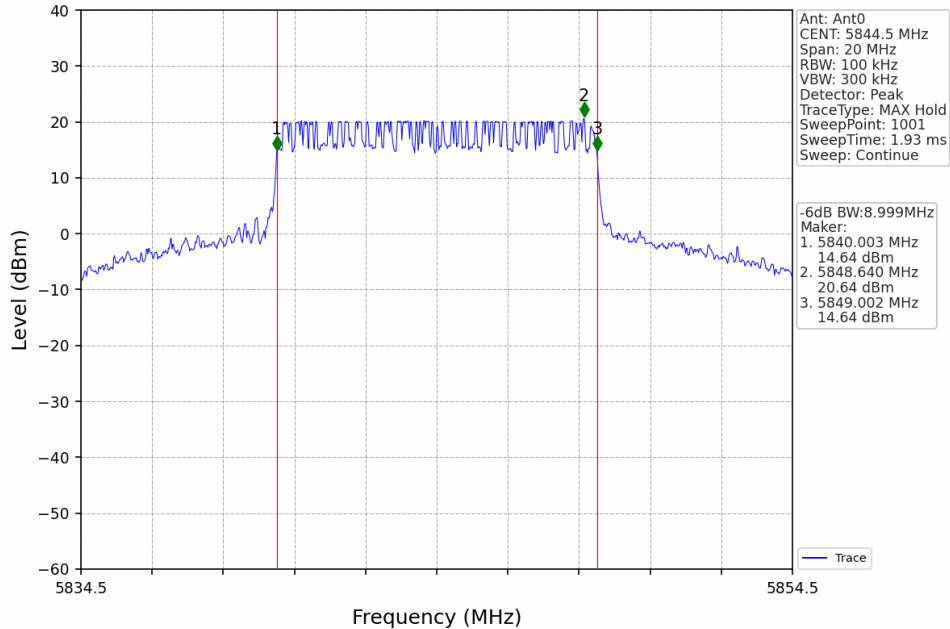
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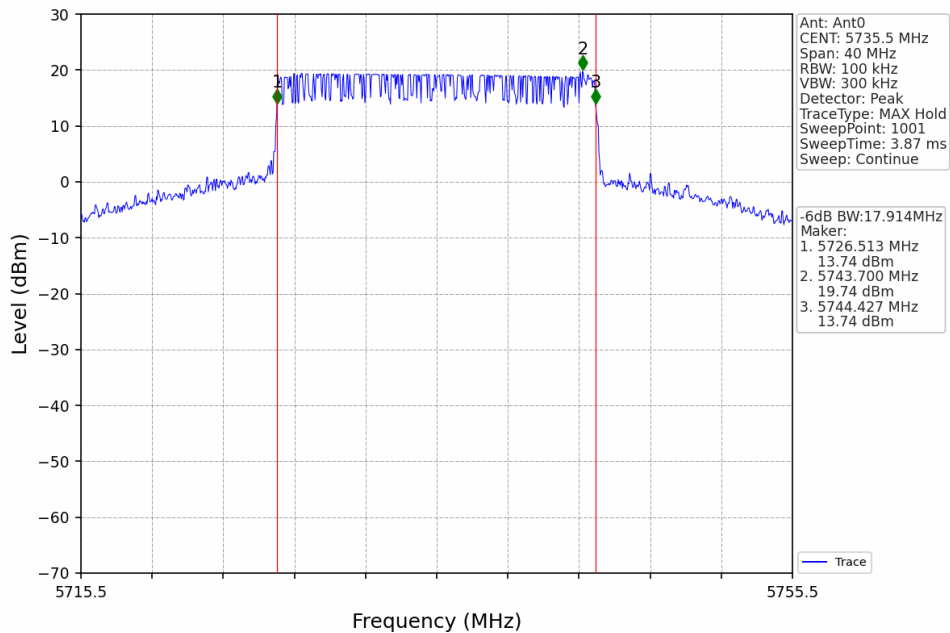
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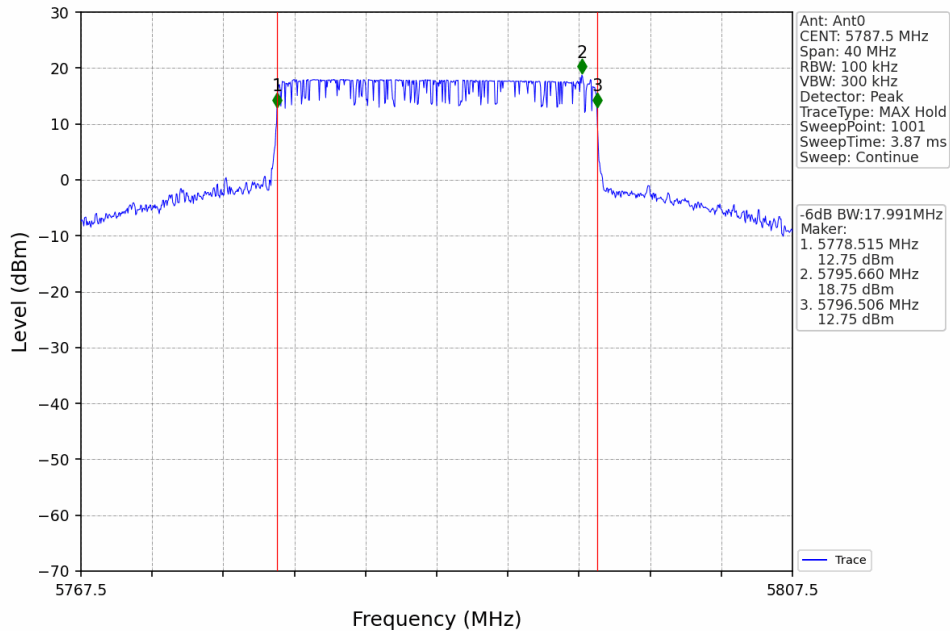
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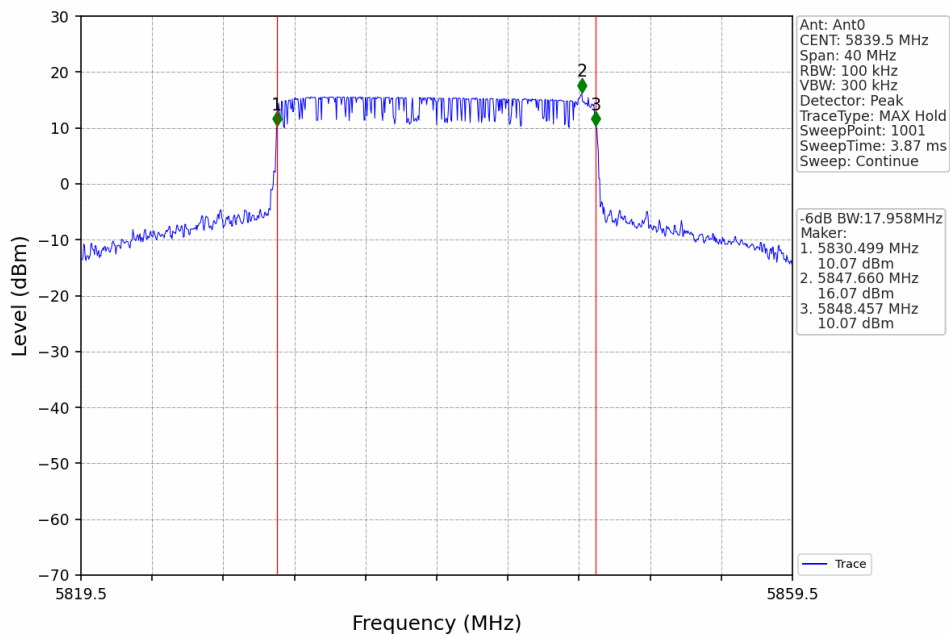
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20M_MCH_5787.5MHz_Ant0_NTNV



20M_HCH_5839.5MHz_Ant0_NTNV



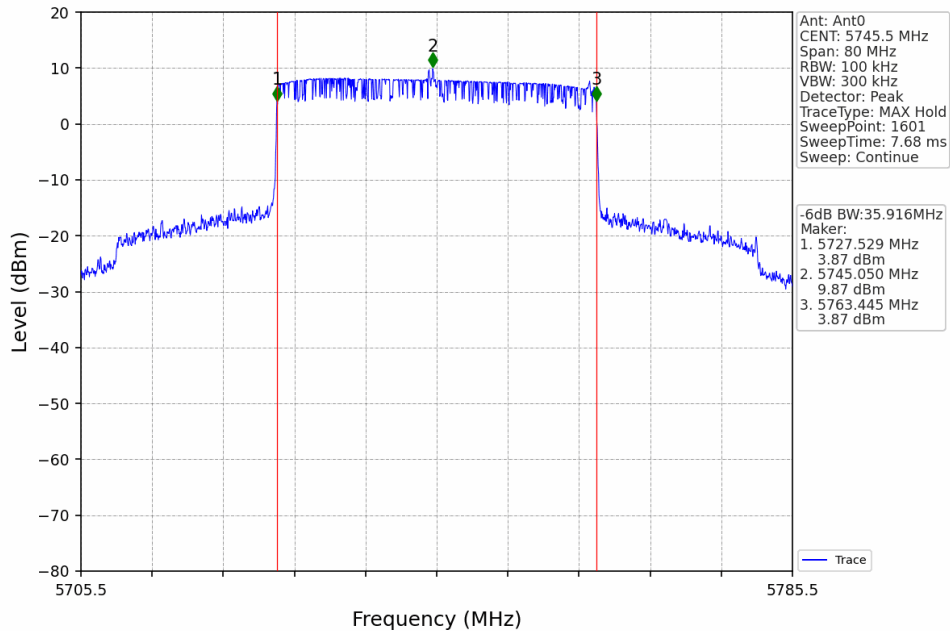
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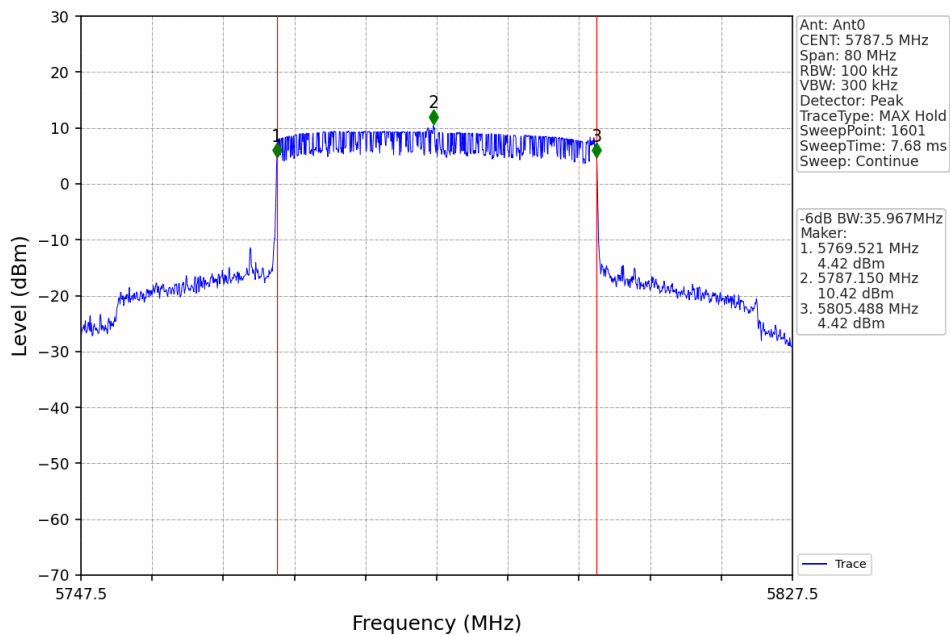
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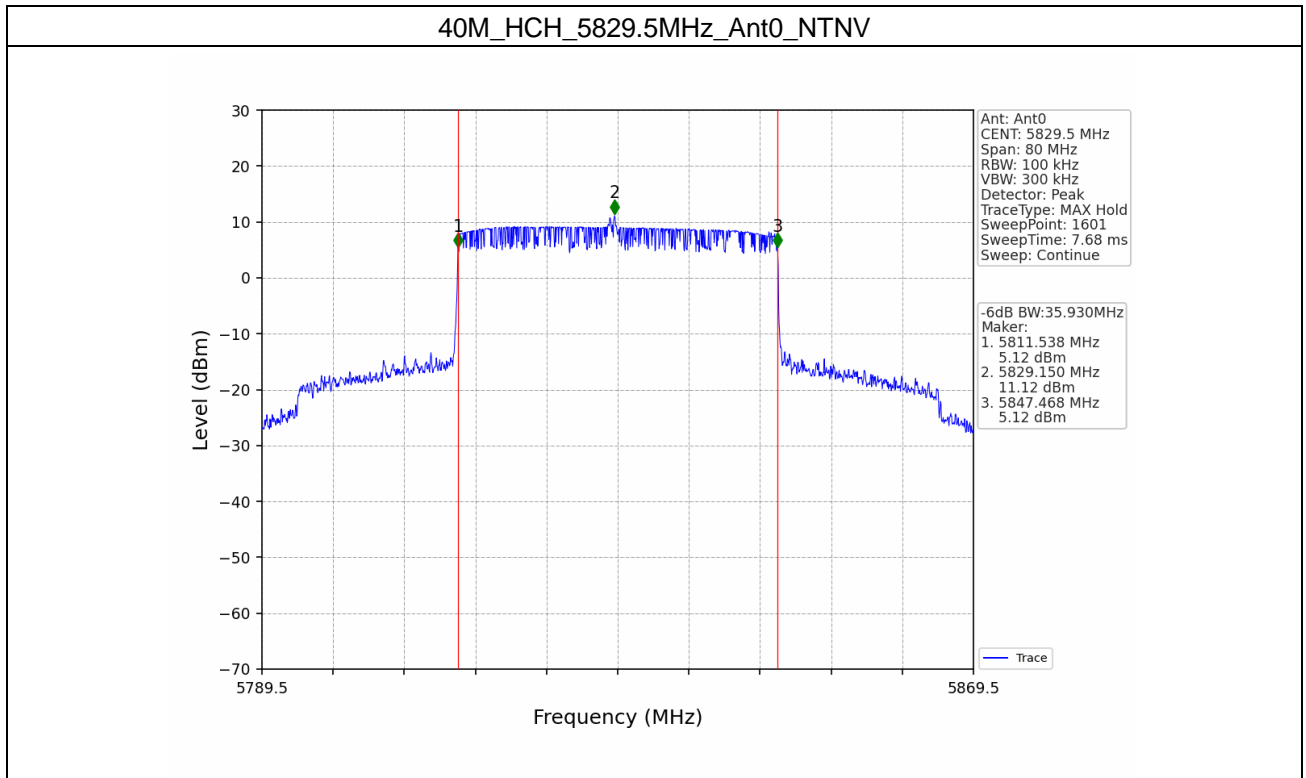
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40M_LCH_5745.5MHz_Ant0_NTNV



40M_MCH_5787.5MHz_Ant0_NTNV





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3. Maximum Conducted Output Power

3.1 Power

3.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)					Verdict
			ANT0	ANT1	ANT2	ANT3	Limit	
1.4M	SISO	5728.5	17.46	17.59	19.16	18.46	<=30	Pass
		5786.5	17.12	18.23	17.37	19.44	<=30	Pass
		5848.12	14.08	14.03	13.80	13.88	<=30	Pass
3M	SISO	5727.5	16.91	16.04	19.10	18.85	<=30	Pass
		5784.5	18.39	19.01	17.36	17.20	<=30	Pass
		5847.2	17.07	19.30	17.75	19.48	<=30	Pass
10M	SISO	5730.5	26.97	27.45	27.89	27.98	<=30	Pass
		5785.5	27.13	28.76	28.23	27.67	<=30	Pass
		5844.5	27.71	28.38	27.39	27.58	<=30	Pass
20M	SISO	5735.5	28.08	28.37	28.56	28.76	<=30	Pass
		5787.5	27.31	28.71	28.45	27.61	<=30	Pass
		5839.5	24.69	24.31	26.00	24.30	<=30	Pass
40M	SISO	5745.5	21.97	21.87	21.78	21.91	<=30	Pass
		5787.5	26.81	26.97	26.88	26.74	<=30	Pass
		5829.5	22.03	22.71	21.08	22.77	<=30	Pass

4. Maximum Power Spectral Density

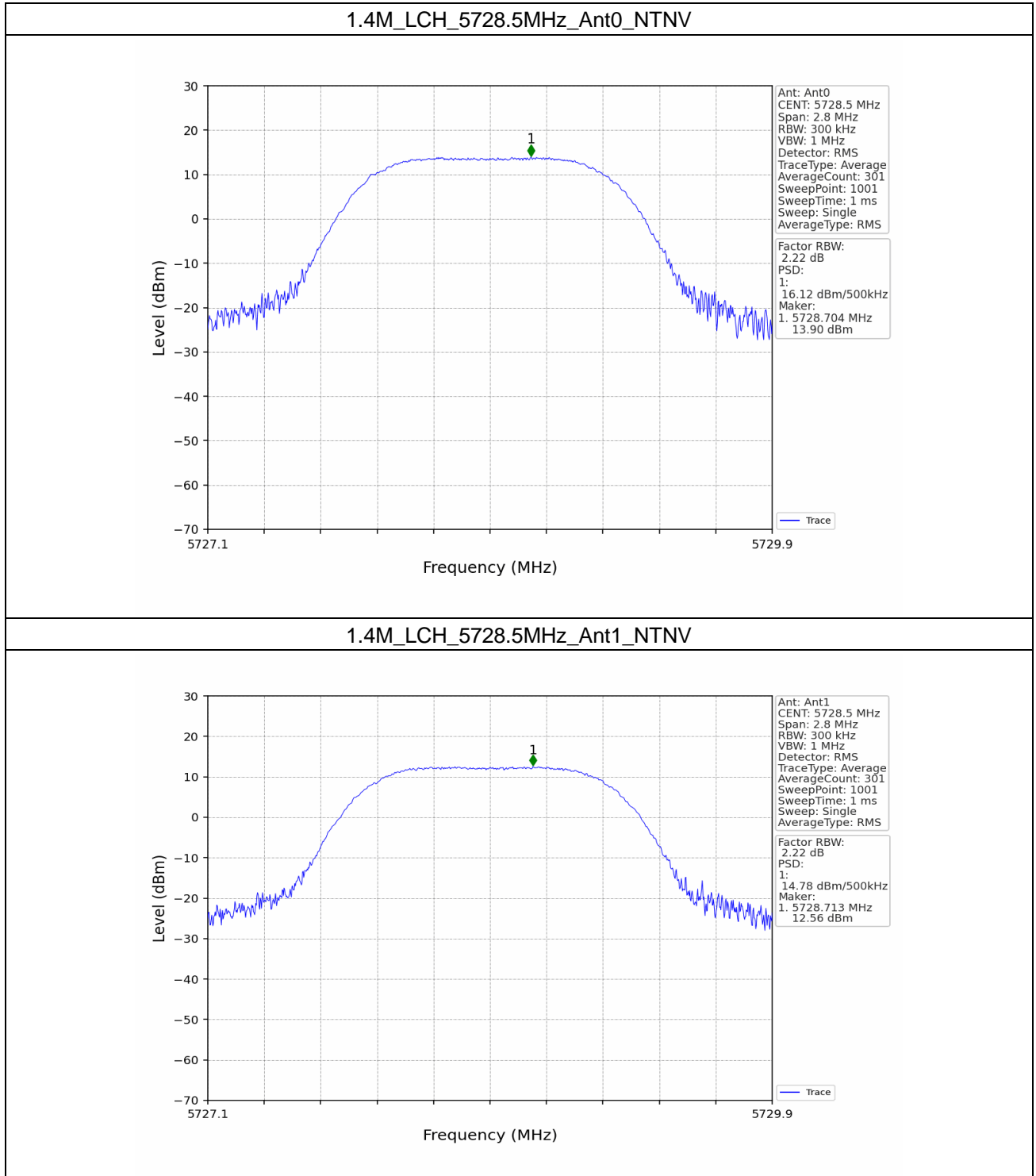
4.1 PSD-Band3

4.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/500kHz)					Verdict
			ANT0	ANT1	ANT2	ANT3	Limit	
1.4M	SISO	5728.5	16.12	14.78	13.68	17.95	<=30	Pass
		5786.5	16.59	17.07	16.14	17.33	<=30	Pass
		5848.12	13.19	13.07	12.89	12.88	<=30	Pass
3M	SISO	5727.5	14.57	13.59	14.62	15.98	<=30	Pass
		5784.5	13.59	14.40	13.83	15.34	<=30	Pass
		5847.2	13.06	13.76	14.11	15.85	<=30	Pass
10M	SISO	5730.5	16.64	15.93	15.11	16.44	<=30	Pass
		5785.5	15.15	16.78	16.05	15.18	<=30	Pass
		5844.5	15.12	16.06	14.97	15.53	<=30	Pass
20M	SISO	5735.5	13.77	13.26	13.34	13.54	<=30	Pass
		5787.5	12.49	14.24	12.82	12.56	<=30	Pass
		5839.5	10.42	9.90	11.70	10.03	<=30	Pass
40M	SISO	5745.5	4.62	4.62	4.62	4.53	<=30	Pass
		5787.5	10.09	9.92	10.17	10.13	<=30	Pass
		5829.5	4.71	5.24	4.00	5.29	<=30	Pass



4.1.2 Test Graph





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SZEMC-TRF-01 Rev. A/0 Aug01,2022

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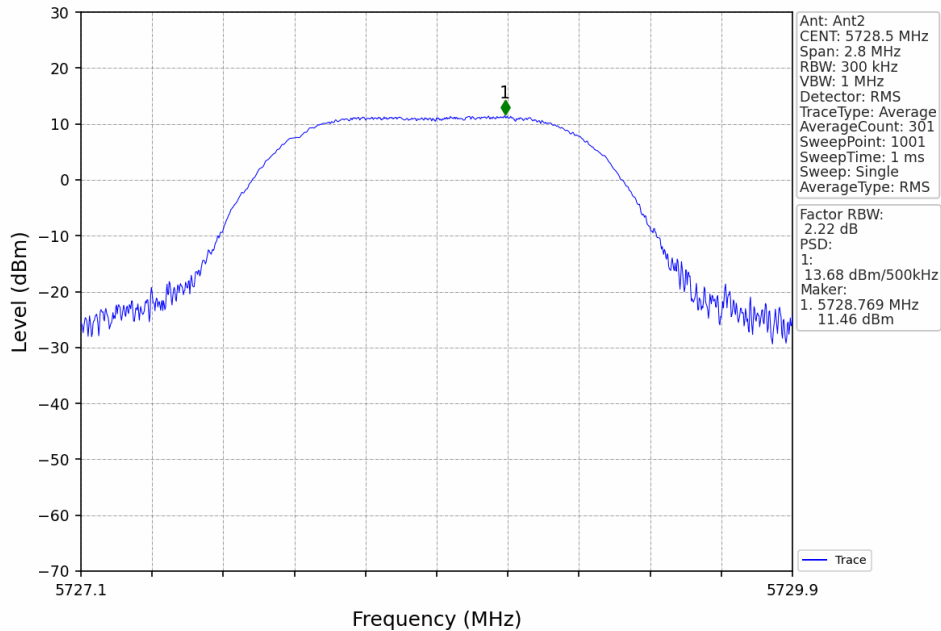
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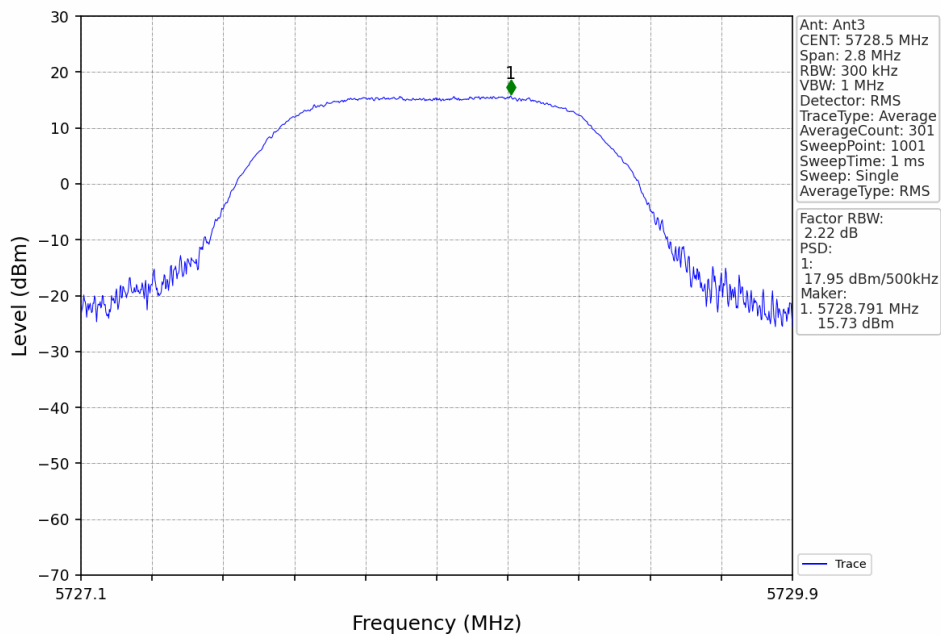
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1.4M_LCH_5728.5MHz_Ant2_NTNV



1.4M_LCH_5728.5MHz_Ant3_NTNV



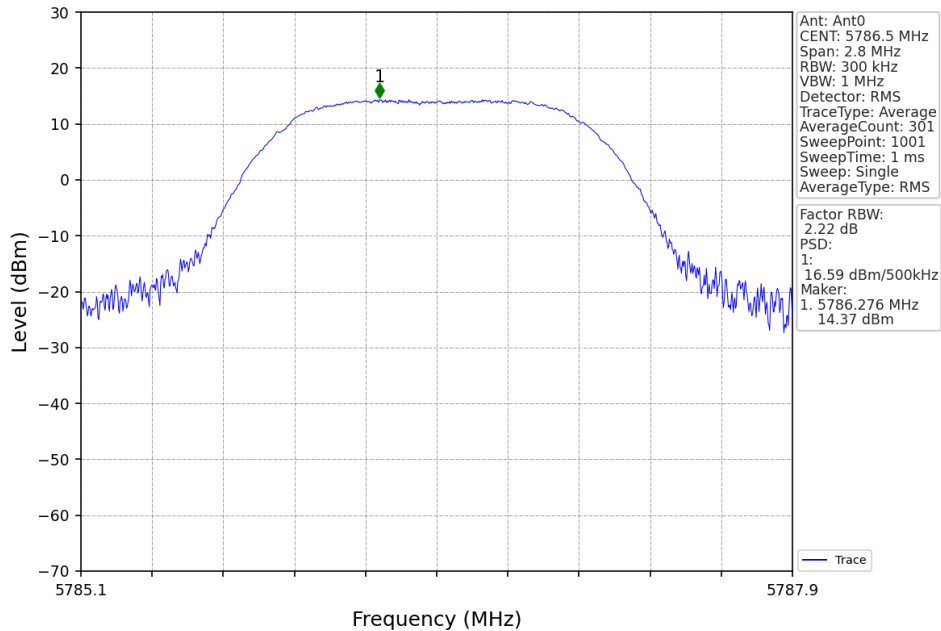
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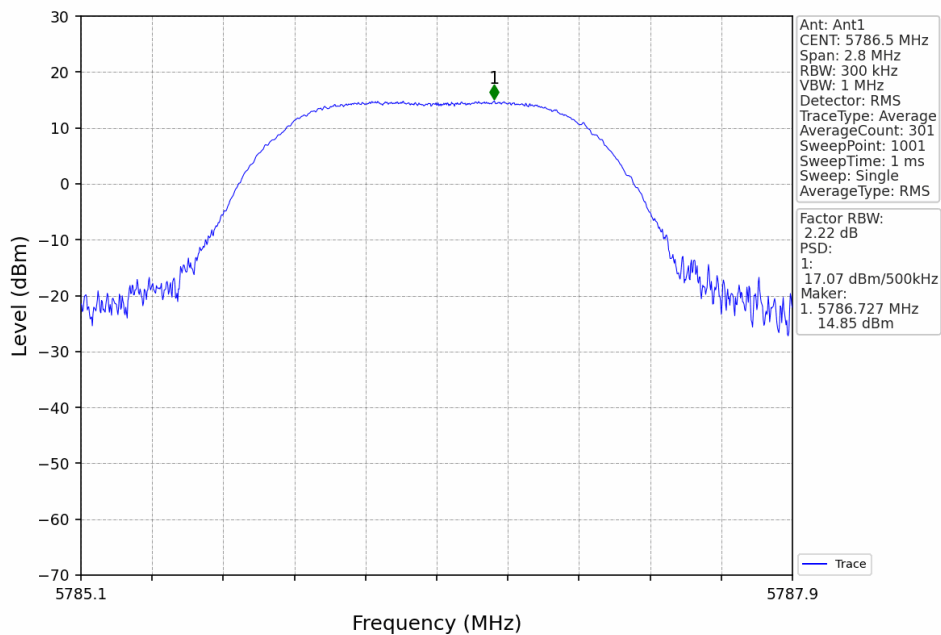
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1.4M_MCH_5786.5MHz_Ant0_NTNV



1.4M_MCH_5786.5MHz_Ant1_NTNV



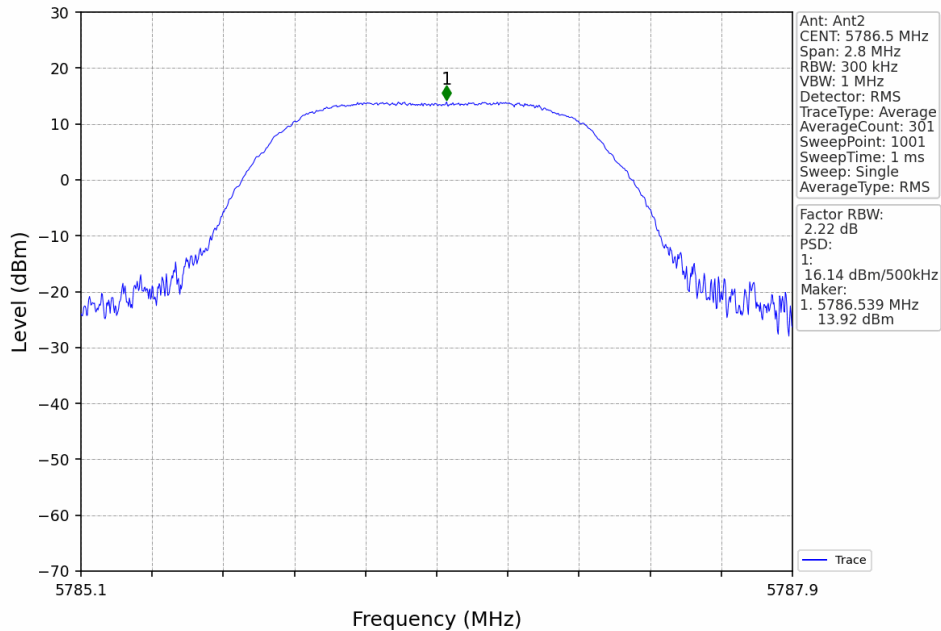
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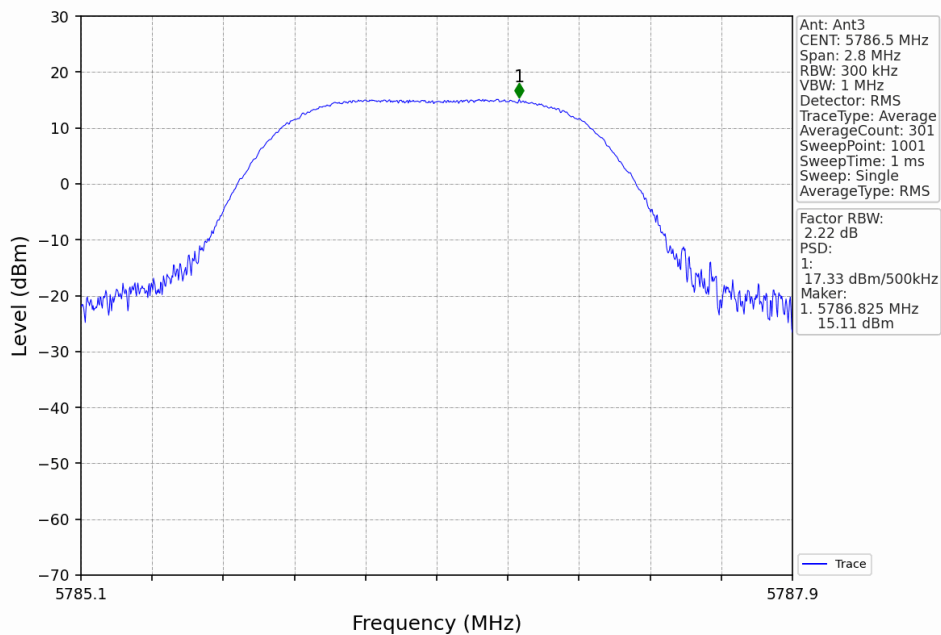
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1.4M_MCH_5786.5MHz_Ant2_NTNV



1.4M_MCH_5786.5MHz_Ant3_NTNV



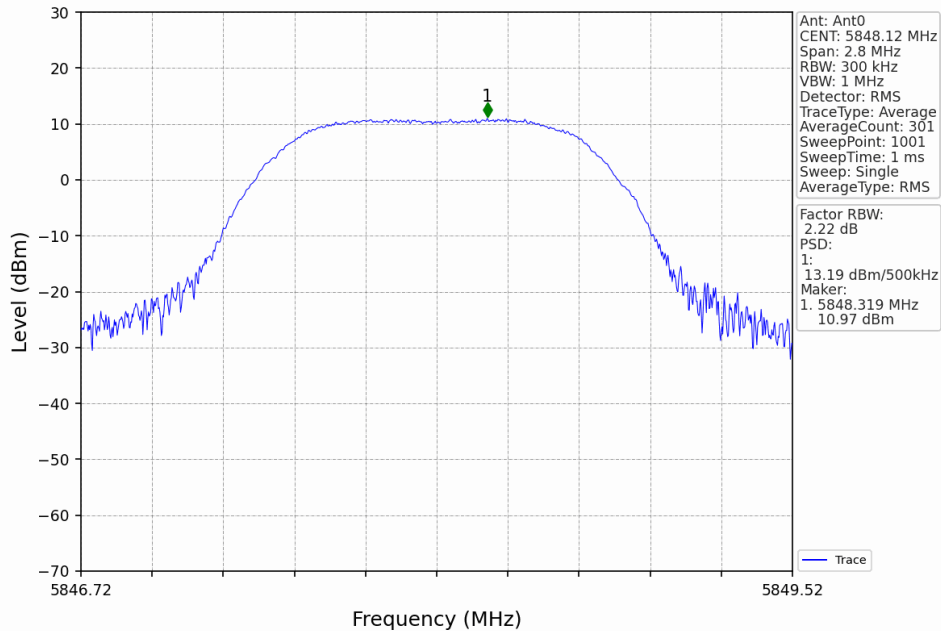
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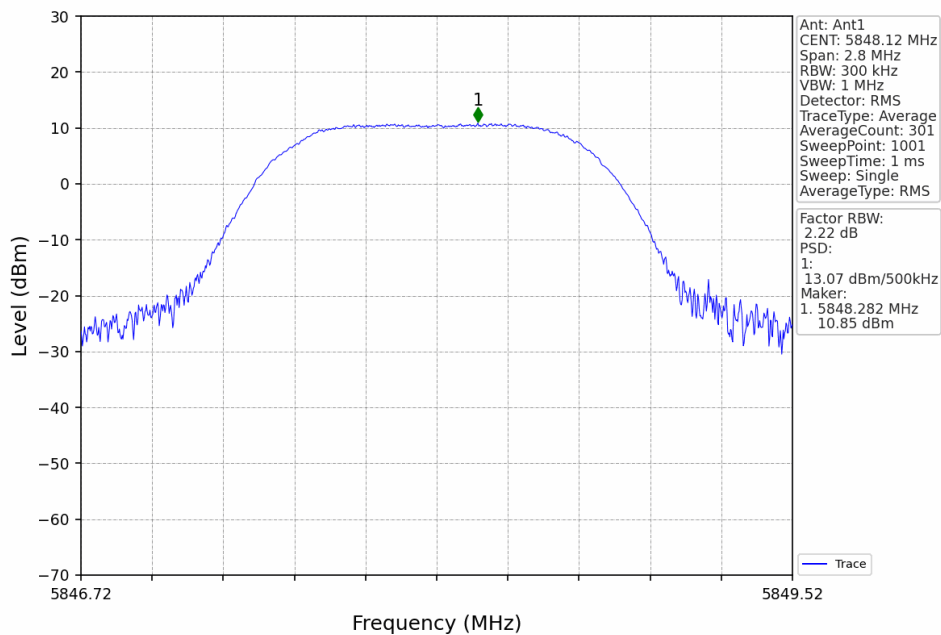
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1.4M_HCH_5848.12MHz_Ant0_NTNV



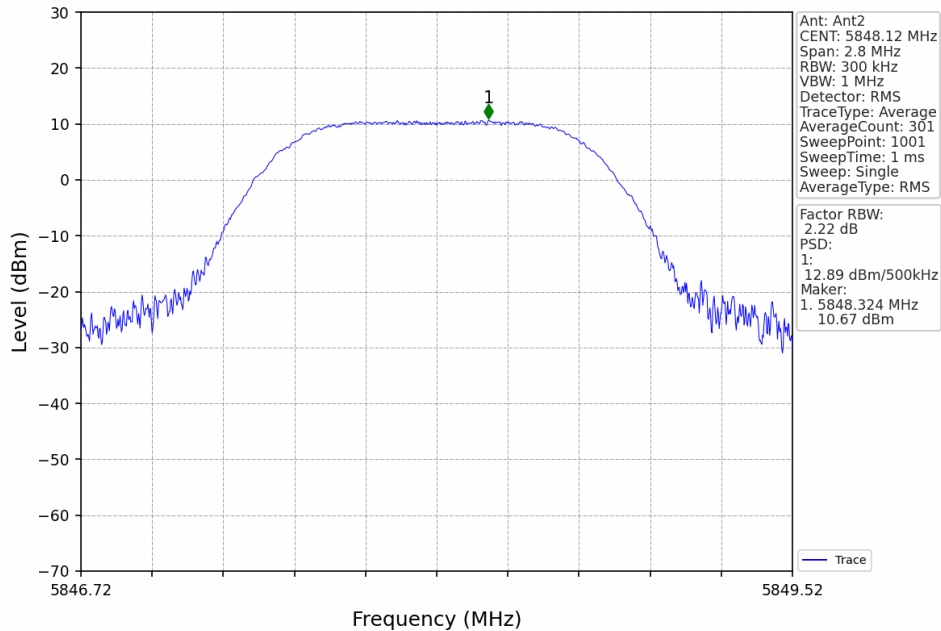
1.4M_HCH_5848.12MHz_Ant1_NTNV



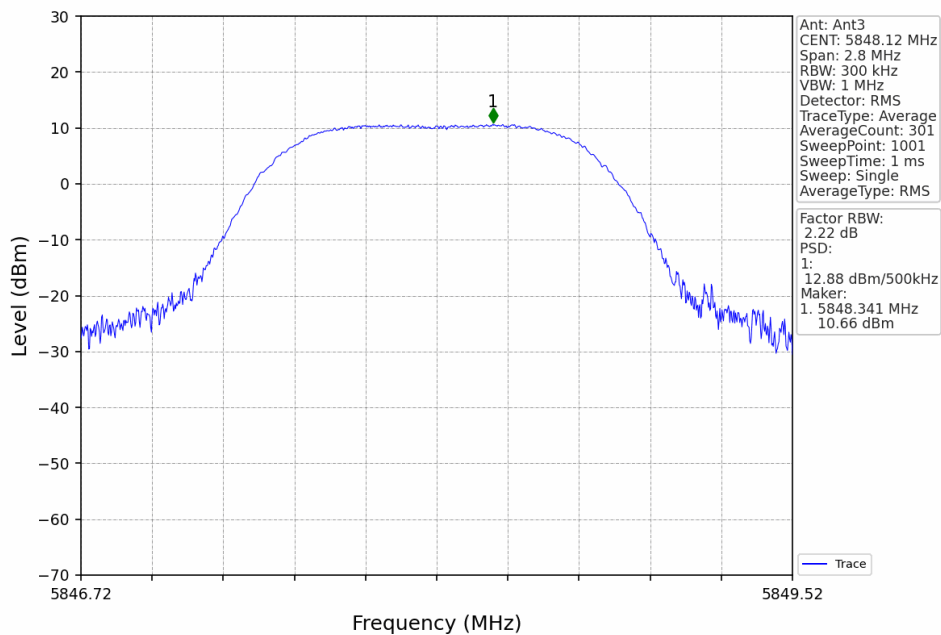
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1.4M_HCH_5848.12MHz_Ant2_NTNV



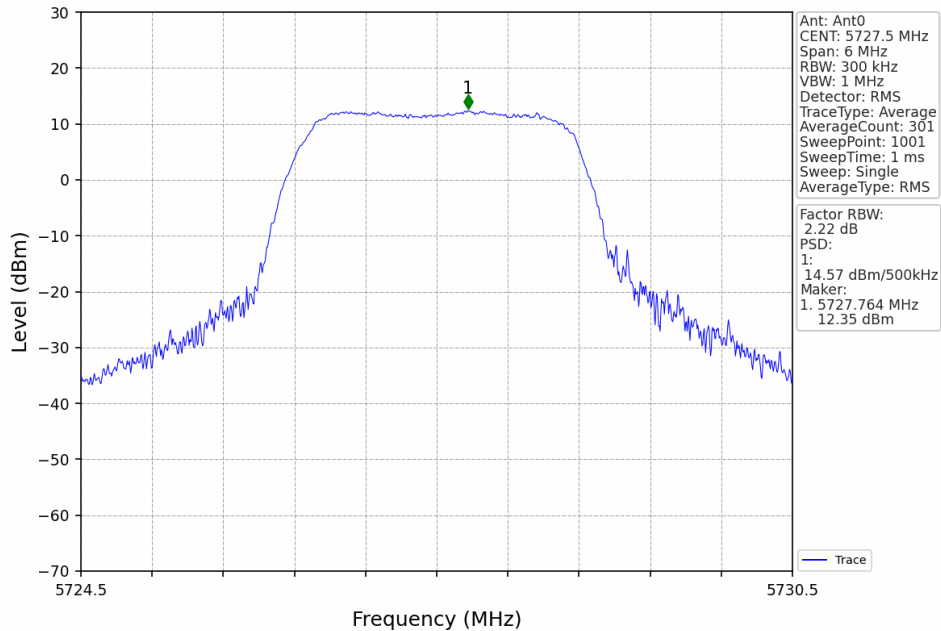
1.4M_HCH_5848.12MHz_Ant3_NTNV



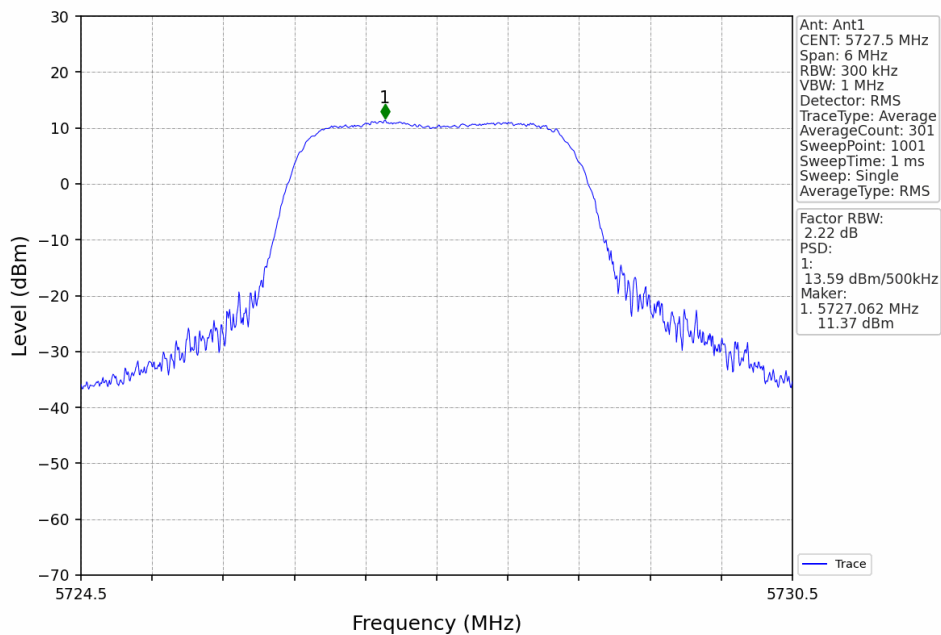
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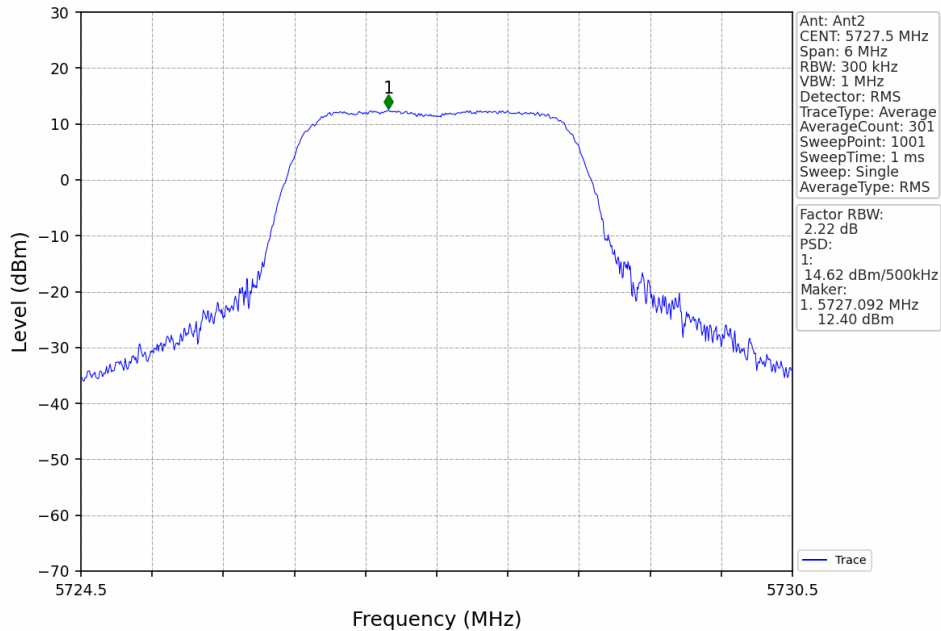
3M_LCH_5727.5MHz_Ant0_NTNV



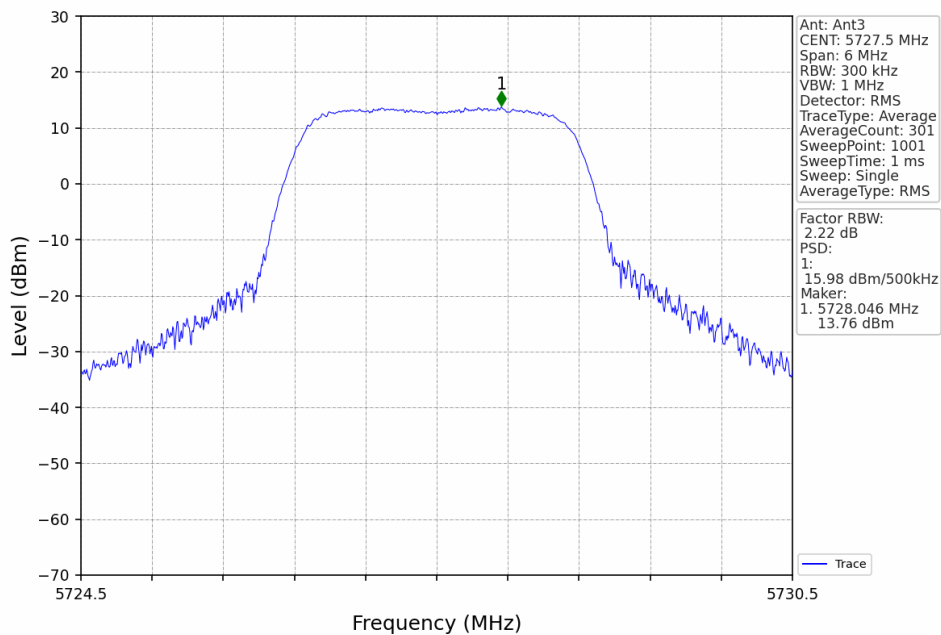
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3M_LCH_5727.5MHz_Ant2_NTNV



3M_LCH_5727.5MHz_Ant3_NTNV



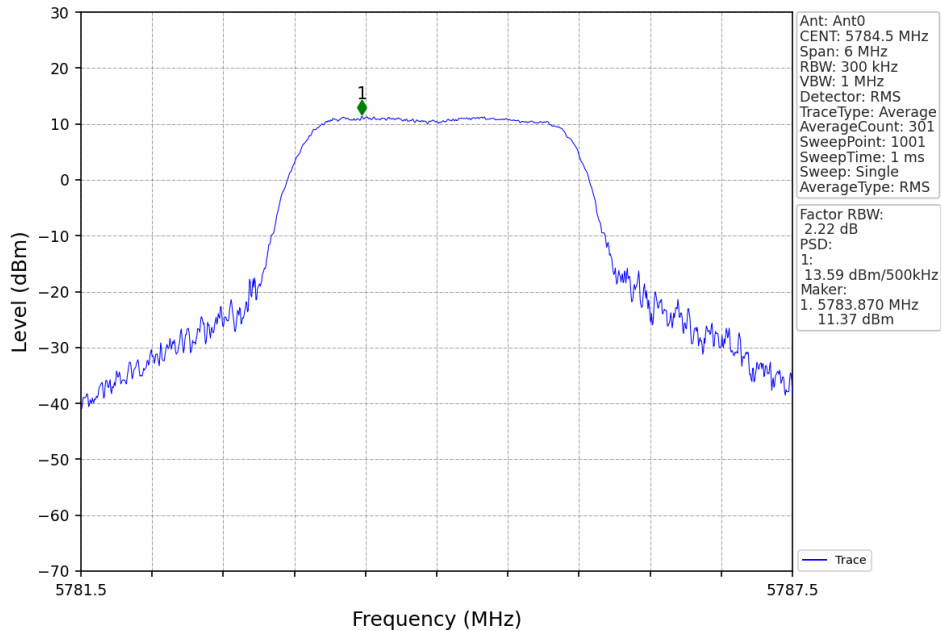
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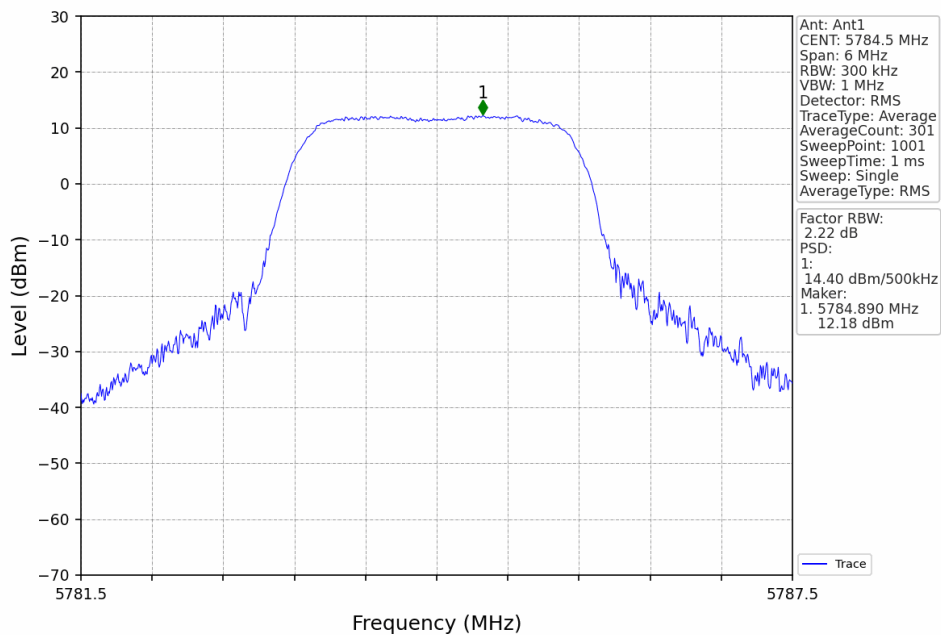
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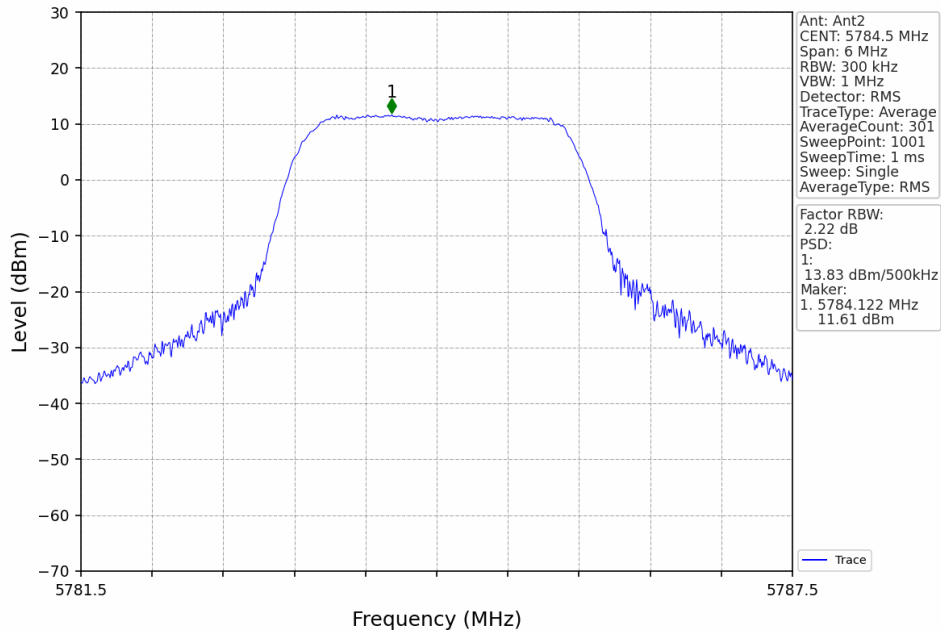
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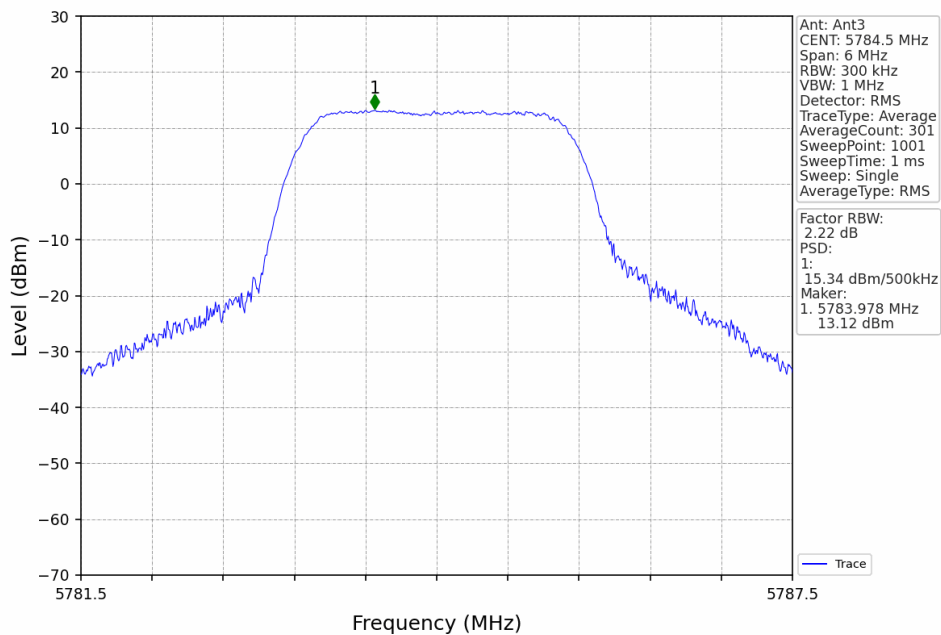
3M_MCH_5784.5MHz_Ant1_NTNV



3M_MCH_5784.5MHz_Ant2_NTNV



3M_MCH_5784.5MHz_Ant3_NTNV



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