



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

SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 1 of 357

TEST REPORT

Application No.: SZCR2406002101MO
Applicant: Shanghai Sunmi Technology Co.,Ltd.
Address of Applicant: Room 505,No.388,Song Hu Road,Yang Pu District,Shanghai,China
Manufacturer: Shanghai Sunmi Technology Co.,Ltd.
Address of Manufacturer: Room 505,No.388,Song Hu Road,Yang Pu District,Shanghai,China
EUT Description: Smart Module
Model No.: QLB12-21
Trade Mark: SUNMI
FCC ID: 2AH2524QLB1221
Standard(s) : 47 CFR Part 15, Subpart E 15.407
Date of Receipt: 2024-06-04
Date of Test: 2024-06-08 to 2024-07-12
Date of Issue: 2024-07-16

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

Kenx. Xu

Keny Xu
EMC Laboratory Manager



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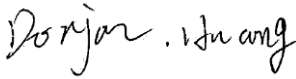
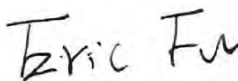
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Report No.: SZCR240600210105

Page: 2 of 357

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2024-07-16		Original

Authorized for issue by:		
		
		Donjon Huang/Project Engineer
		
		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
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart E 15.407	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207 & Subpart E 15.407 b(9)	Pass
Maximum Conducted output power		KDB 789033 D02 II E	47 CFR Part 15, Subpart E 15.407 (a)	Pass
Radiated Emissions (Below 1GHz)		KDB 789033 D02 II G	47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)	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
Channel Move Time		KDB 905462 D02 Section 7.8.3	KDB 905462 D02 Section 5.1	Pass
Duty Cycle		KDB 789033 II B 1	KDB 789033 D02 II B 1	Pass
99% Bandwidth		KDB 789033 II D	N/A	Pass
26dB Emission bandwidth		KDB 789033 D02 II C 1	47 CFR Part 15, Subpart E 15.407 (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
Peak Power spectrum density		KDB 789033 D02 II F	47 CFR Part 15, Subpart E 15.407 (a)	Pass
Frequency Stability		ANSI C63.10 (2013) Section 6.8	47 CFR Part 15, Subpart E 15.407 (g)	Pass
Non-occupancy period		KDB 905462 D02 Section 7.8.3	KDB 905462 D02 Section 5.1	Pass
Channel Closing Transmission Time		KDB 905462 D02 Section 7.8.3	KDB 905462 D02 Section 5.1	Pass

3 Contents

	Page
1 Cover Page	1
2 Test Summary	3
3 Contents	4
4 General Information	7
4.1 Details of E.U.T.	7
4.2 Description of Support Units	8
4.3 Measurement Uncertainty	8
4.4 Test Location	9
4.5 Test Facility	9
4.6 Deviation from Standards	9
4.7 Abnormalities from Standard Conditions	9
5 Equipment List	10
6 Radio Spectrum Technical Requirement	14
6.1 Antenna Requirement	14
6.1.1 Test Requirement:	14
6.1.2 Conclusion	14
6.2 Transmission in the Absence of Data	15
6.2.1 Test Requirement:	15
6.2.2 Conclusion	15
7 Radio Spectrum Matter Test Results	16
7.1 Conducted Emissions at AC Power Line (150kHz-30MHz)	16
7.1.1 E.U.T. Operation	16
7.1.2 Test Mode Description	16
7.1.3 Test Setup Diagram	17
7.1.4 Measurement Procedure and Data	17
7.2 Maximum Conducted output power	20
7.2.1 E.U.T. Operation	20
7.2.2 Test Mode Description	20
7.2.3 Test Setup Diagram	21
7.2.4 Measurement Procedure and Data	21
7.3 Radiated Emissions (Below 1GHz)	22
7.3.1 E.U.T. Operation	22
7.3.2 Test Mode Description	22
7.3.3 Test Setup Diagram	23
7.3.4 Measurement Procedure and Data	24
7.4 Radiated Emissions (Above 1GHz)	27
7.4.1 E.U.T. Operation	27
7.4.2 Test Mode Description	27
7.4.3 Test Setup Diagram	28



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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 5 of 357

7.4.4	Measurement Procedure and Data.....	29
7.5	Radiated Emissions which fall in the restricted bands	106
7.5.1	E.U.T. Operation	106
7.5.2	Test Mode Description	107
7.5.3	Test Setup Diagram	107
7.5.4	Measurement Procedure and Data.....	108
7.6	Channel Move Time	179
7.6.1	E.U.T. Operation	179
7.6.2	Test Mode Description	180
7.6.3	Test Setup Diagram	180
7.6.4	Measurement Procedure and Data.....	181
7.7	Duty Cycle	182
7.7.1	E.U.T. Operation	182
7.7.2	Test Mode Description	182
7.7.3	Test Setup Diagram	183
7.7.4	Measurement Procedure and Data.....	183
7.8	99% Bandwidth	184
7.8.1	E.U.T. Operation	184
7.8.2	Test Mode Description	184
7.8.3	Test Setup Diagram	185
7.8.4	Measurement Procedure and Data.....	185
7.9	26dB Emission bandwidth	186
7.9.1	E.U.T. Operation	186
7.9.2	Test Mode Description	186
7.9.3	Test Setup Diagram	187
7.9.4	Measurement Procedure and Data.....	187
7.10	Minimum 6 dB bandwidth (5.725-5.85 GHz band)	188
7.10.1	E.U.T. Operation.....	188
7.10.2	Test Mode Description.....	188
7.10.3	Test Setup Diagram.....	188
7.10.4	Measurement Procedure and Data	188
7.11	Peak Power spectrum density.....	189
7.11.1	E.U.T. Operation.....	189
7.11.2	Test Mode Description.....	189
7.11.3	Test Setup Diagram.....	190
7.11.4	Measurement Procedure and Data	190
7.12	Frequency Stability.....	191
7.12.1	E.U.T. Operation.....	191
7.12.2	Test Mode Description.....	191
7.12.3	Test Setup Diagram.....	192
7.12.4	Measurement Procedure and Data	192
7.13	Non-occupancy period	193
7.13.1	E.U.T. Operation.....	193
7.13.2	Test Mode Description.....	194
7.13.3	Test Setup Diagram.....	194
7.13.4	Measurement Procedure and Data	195
7.14	Channel Closing Transmission Time	196
7.14.1	E.U.T. Operation.....	196
7.14.2	Test Mode Description.....	197
7.14.3	Test Setup Diagram.....	197



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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 6 of 357

7.14.4	Measurement Procedure and Data	198
8	Test Setup Photo	199
9	Appendix.....	200



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4 General Information

4.1 Details of E.U.T.

EUT Description:	Smart Module	
Model No.:	QLB12-21	
Trade Mark:	SUNMI	
Hardware Version:	R1.0	
Software Version:	SG656VGLNUR01A04	
Power Supply:	DC 4V	
WLAN Mode Supported:	802.11a:	20 MHz channel bandwidth
	802.11n:	20 MHz / 40 MHz channel bandwidth
	802.11ac:	20 MHz / 40 MHz / 80 MHz channel bandwidth
Operation Frequency:	5150MHz to 5250MHz 5250MHz to 5350MHz 5470MHz to 5725MHz 5725MHz to 5850MHz	
Modulation Type:	802.11a:	OFDM (BPSK, QPSK, 16QAM, 64QAM)
	802.11n:	OFDM (BPSK, QPSK, 16QAM, 64QAM)
	802.11ac:	OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
Channel Spacing:	20MHz:	802.11a/n(HT20)/ac(VHT20)
	40MHz:	802.11n(HT40)/ac(VHT40)
	80MHz:	802.11ac(VHT80)
Antenna Type:	☒ External, ☐ Integrated	
Antenna Gain:	5150MHz to 5250MHz: 3dBi; 5250MHz to 5350MHz: 3dBi; 5470MHz to 5725MHz: 3dBi; 5725MHz to 5850MHz: 3dBi;	
	Note: The antenna gain are derived from the gain information report provided by the manufacturer.	
Smart System:	☒ SISO	802.11a/n/ac
TPC Function:	☒ Support, ☐ Not Support	
DFS Function:	☐ Master	
	☐ Slave with radar detection	☒ Slave without radar detection
RF Cable:	4900MHz ~5250MHz(1.5dB)	5250MHz ~5350MHz(1.7dB)
	5470MHz ~5725MHz(1.8dB)	5725MHz ~ 5850MHz(1.5dB)



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Report No.: SZCR240600210105

Page: 8 of 357

Remark:

As above information is provided and confirmed by the applicant. 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.
Mother board	Sunmi	SMART-5G-EVB_V1.3
Adapter	Dong Guan City GangQi Electronic Co.,Ltd	GQ36-120300-AX

Remark: all above the information of table are provided by client.

4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emissions at AC Power Line (150kHz-30MHz)	$\pm 3.1\text{dB}$
Maximum Conducted output power	$\pm 0.75\text{dB}$
Radiated Emissions (Below 1GHz)	$\pm 6.0\text{dB}$ for 3m; $\pm 5.0\text{dB}$ for 10m
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);
Duty Cycle	$\pm 0.37\%$
99% Bandwidth	$\pm 3\%$
26dB Emission bandwidth	$\pm 3\%$
Minimum 6 dB bandwidth (5.725-5.85 GHz band)	$\pm 3\%$
Peak Power spectrum density	$\pm 2.84\text{dB}$
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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Report No.: SZCR240600210105

Page: 9 of 357

4.4 Test Location

All tests were performed at:

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No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China. 518057.

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

Conducted Emissions at AC Power Line (150kHz-30MHz)					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Shielding Room	ZhongYu Electron	GB-88	SEM001-06	2022-05-14	2025-05-13
EMI Test Receiver	Rohde&Schwarz	ESCI	SEM004-02	2024-03-14	2025-03-13
Matching Pad	N/A	N/A	SEM021-23	2024-03-20	2025-03-19
Matching Pad	N/A	N/A	SEM021-24	2024-03-20	2025-03-19
Measurement Software	AUDIX	e3 V8.2014-6-27a	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM024-01	2023-07-07	2024-07-06
				2024-07-06	2025-07-05
LISN	Rohde&Schwarz	ENV216	SEM007-01	2023-09-19	2024-09-18
LISN	ETS-LINDGREN	3816/2	SEM007-02	2024-03-14	2025-03-13

Maximum Conducted output power					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Power Sensor	TST PASS	TSPS2023R	SEM009-26	2024-03-27	2025-03-26
Power Sensor	KEYSIGHT	U2021XA	SEM009-16	2024-03-14	2025-03-13
DC Power Supply	Chroma	62012P-80-60	SEM011-11	2023-10-19	2024-10-18
MXA Signal Analyzer	KEYSIGHT	N9020A	SEM004-19	2024-03-14	2025-03-13
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2023-09-19	2024-09-18
Measurement Software	TST PASS	TST PASS V2.0	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-01	2023-07-07	2024-07-06
				2024-07-06	2025-07-05
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2024-03-27	2025-03-26
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2024-03-19	2025-03-18



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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 11 of 357

Radiated Emissions (Below 1GHz)					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Loop Antenna	ETS-Lindgren	6502	SEM003-08	2023-11-20	2025-11-19
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2023-06-19	2026-06-18
MXE EMI Receiver	Agilent Technologies	N9038A	SEM004-15	2023-10-19	2024-10-18
BiConiLog Antenna	ETS-LINDGREN	3142C	SEM003-01	2023-09-16	2025-09-15
Pre-Amplifier	Agilent Technologies	8447D	SEM005-01	2024-03-14	2025-03-13
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM025-01	2023-07-07	2024-07-06
				2024-07-06	2025-07-05

Radiated Emissions (Above 1GHz)					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Signal & Spectrum Analyzer	Rohde & Schwarz	FSV	SZ-WRG-M-048	2024-01-30	2025-01-29
Low Noise Amplifier 1G-18GHz	Tonscend	TAP01018050	SZ-WRG-M-051	2024-01-30	2025-01-29
Low Noise Amplifier 18G-40GHz	Tonscend	TAP18040048	SZ-WRG-M-052	2024-01-30	2025-01-29
Double Ridge Horn Antenna 1GHz-18GHz	SCHWARZBECK	BBHA 9120 D	SZ-WRG-M-055	2023-12-21	2025-12-20
SHF-EHF Horn 15GHz-40GHz	SCHWARZBECK	BBHA 9170	SZ-WRG-M-056	2023-12-25	2025-12-24
RSE Test Software	Tonscend	JS32-RSE V4.0.0	SZ-WRG-S-058	N/A	N/A
Chamber	CRTSGSSAC966	N/A	SZ-WRG-C-063	2022-01-05	2025-01-04
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	HTC-1	SZ-WRG-M-077	2024-05-28	2025-05-27



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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 12 of 357

Radiated Emissions which fall in the restricted bands					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Signal & Spectrum Analyzer	Rohde & Schwarz	FSV	SZ-WRG-M-048	2024-01-30	2025-01-29
Low Noise Amplifier 30M-8GHz	Tonscend	TAP30M8G30	SZ-WRG-M-050	2024-01-30	2025-01-29
Double Ridge Horn Antenna 1GHz-18GHz	SCHWARZBECK	BBHA 9120 D	SZ-WRG-M-055	2023-12-21	2025-12-20
SHF-EHF Horn 15GHz-40GHz	SCHWARZBECK	BBHA 9170	SZ-WRG-M-056	2023-12-25	2025-12-24
RSE Test Software	Tonscend	JS32-RSE V4.0.0	SZ-WRG-S-058	N/A	N/A
Chamber	CRTSGSSAC966	N/A	SZ-WRG-C-063	2022-01-05	2025-01-04
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	HTC-1	SZ-WRG-M-077	2024-05-28	2025-05-27

Channel Move Time					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Manual Step Attenuator	KEYSIGHT	8494B	SEM021-05	2024-03-27	2025-03-26
Manual Step Attenuator	KEYSIGHT	8496B	SEM021-06	2024-03-27	2025-03-26
Measurement Software	KEYSIGHT	Signal Studio for DFS Radar Profiles V2.2.0.0	N/A	N/A	N/A
Measurement Software	Agilent	ISMonitor10	N/A	N/A	N/A
MXG Vector Signal Generator	Agilent	N5182A	SEM006-21	2024-03-27	2025-03-26
MXA Signal Analyzer	KEYSIGHT	N9020A	SEM004-22	2024-03-14	2025-03-13



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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 13 of 357

RF Conducted Test					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
DC Power Supply	Chroma	62012P-80-60	SEM011-11	2023-10-19	2024-10-18
MXA Signal Analyzer	KEYSIGHT	N9020A	SEM004-19	2024-03-14	2025-03-13
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2023-09-19	2024-09-18
Measurement Software	TST PASS	TST PASS V2.0	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-01	2024-07-06	2025-07-05
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2024-03-27	2025-03-26
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2024-03-19	2025-03-18
Manual Step Attenuator	KEYSIGHT	8494B	SEM021-05	2024-03-27	2025-03-26
Manual Step Attenuator	KEYSIGHT	8496B	SEM021-06	2024-03-27	2025-03-26
MXG Vector Signal Generator	Agilent	N5182A	SEM006-21	2024-03-27	2025-03-26
MXA Signal Analyzer	KEYSIGHT	N9020A	SEM004-22	2024-03-14	2025-03-13

General used equipment					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Humidity/ Temperature Indicator	deli	8838	SEM002-32	2023-07-28	2024-07-27
Humidity/ Temperature Indicator	deli	8838	SEM002-33	2023-07-28	2024-07-27
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2024-03-18	2025-03-17

Remark: NCR=No Calibration Requirement.



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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

6.1.2 Conclusion

15.203 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.

EUT Antenna:

The antenna is External Antenna on the main PCB and no consideration of replacement.

The best case gain of the antenna is

5150MHz to 5250MHz: 3dBi;*

5250MHz to 5350MHz: 3dBi;*

5470MHz to 5725MHz: 3dBi;*

5725MHz to 5850MHz: 3dBi;*

**Note:*

The antenna gain are derived from the gain information report provided by the manufacturer.

Remark:

As above information is provided and confirmed by the applicant. SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

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:

WIFI 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 Conducted Emissions at AC Power Line (150kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.207 & Subpart E 15.407 b(9)

Test Method: ANSI C63.10 (2013) Section 6.2

Limit:

Frequency of emission(MHz)	Conducted limit(dB μ V)	
	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.

7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 23.5 °C

Humidity: 46.9 % RH

Atmospheric Pressure: 1020 mbar

7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	09	TX mode (U-NII-1) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Pre-scan	10	TX mode (U-NII-2A) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Pre-scan	11	TX mode (U-NII-2C) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Pre-scan	12	TX mode (U-NII-3) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.



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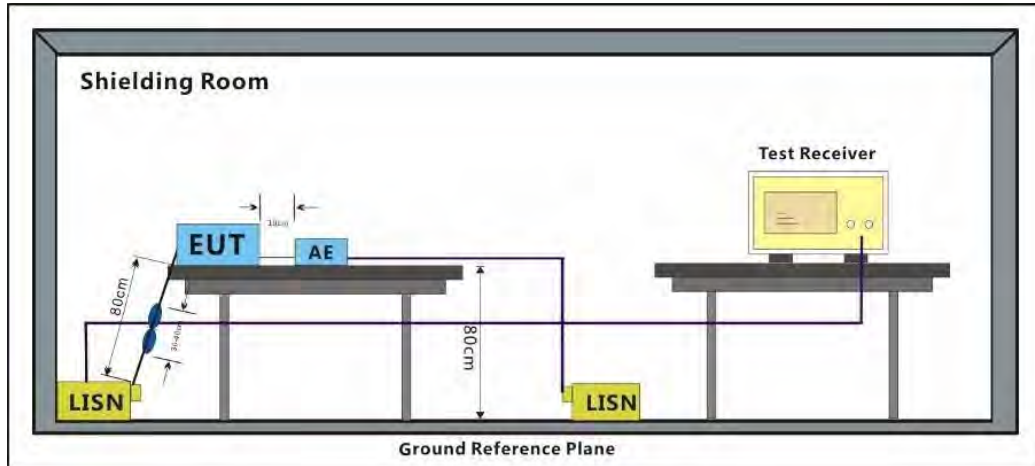
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		recorded in the report.
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7.1.3 Test Setup Diagram



7.1.4 Measurement Procedure and Data

- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50μH + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
- 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
- 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
- 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

Remark: Level=Read Level+ Cable Loss+ LISN Factor

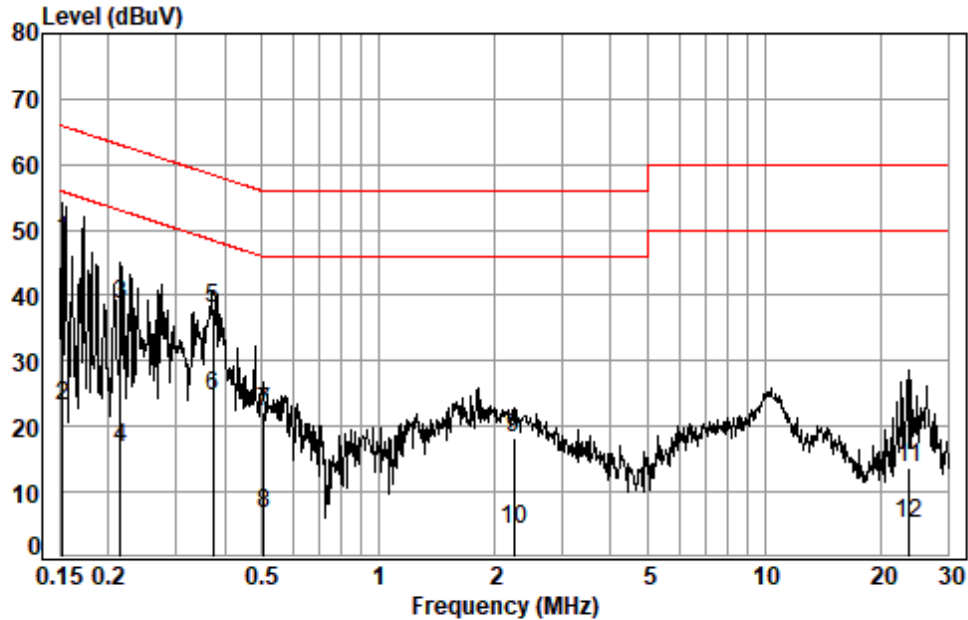
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 18 of 357

Test Mode: 09; Line: Live line



Site : Shielding Room
Condition: Line
Job No. : 02101MO
Test mode: 09

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1 *	0.1524	0.02	9.48	38.91	48.41	65.87	-17.46	QP
2	0.1524	0.02	9.48	13.52	23.02	55.87	-32.85	Average
3	0.2151	0.03	9.48	29.13	38.64	63.01	-24.37	QP
4	0.2151	0.03	9.48	7.27	16.78	53.01	-36.23	Average
5	0.3731	0.03	9.56	28.47	38.06	58.43	-20.37	QP
6 *	0.3731	0.03	9.56	14.97	24.56	48.43	-23.87	Average
7	0.5047	0.04	9.69	12.47	22.20	56.00	-33.80	QP
8	0.5047	0.04	9.69	-3.13	6.60	46.00	-39.40	Average
9	2.2486	0.07	9.46	8.78	18.31	56.00	-37.69	QP
10	2.2486	0.07	9.46	-5.34	4.19	46.00	-41.81	Average
11	23.6361	0.30	10.13	3.34	13.77	60.00	-46.23	QP
12	23.6361	0.30	10.13	-5.23	5.20	50.00	-44.80	Average



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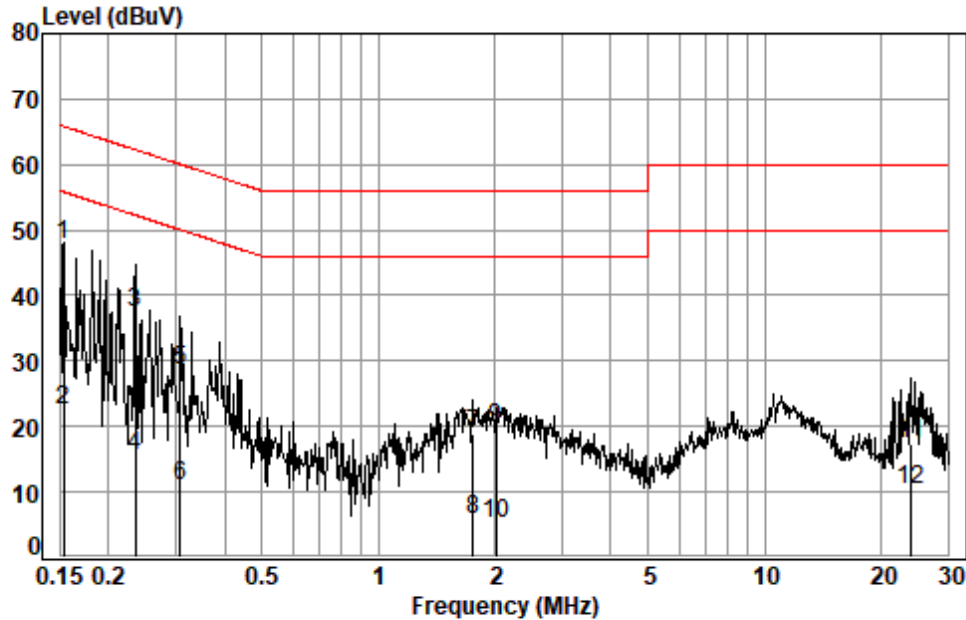
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 19 of 357

Test Mode: 09; Line: Neutral Line



Site : Shielding Room
Condition: Neutral
Job No. : 02101MO
Test mode: 09

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1 *	0.1532	0.02	9.63	38.07	47.72	65.82	-18.10	QP
2 *	0.1532	0.02	9.63	12.94	22.59	55.82	-33.23	Average
3	0.2353	0.03	9.67	27.66	37.36	62.26	-24.90	QP
4	0.2353	0.03	9.67	5.71	15.41	52.26	-36.85	Average
5	0.3067	0.03	9.70	18.84	28.57	60.06	-31.49	QP
6	0.3067	0.03	9.70	1.18	10.91	50.06	-39.15	Average
7	1.7623	0.07	9.76	8.98	18.81	56.00	-37.19	QP
8	1.7623	0.07	9.76	-4.12	5.71	46.00	-40.29	Average
9	2.0119	0.07	9.80	9.92	19.79	56.00	-36.21	QP
10	2.0119	0.07	9.80	-4.56	5.31	46.00	-40.69	Average
11	24.0148	0.30	10.36	6.72	17.38	60.00	-42.62	QP
12	24.0148	0.30	10.36	-0.30	10.36	50.00	-39.64	Average



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7.2 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:	* Where B is the 26dB emission bandwidth in MHz. The maximum conducted output power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.

7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 24.9 °C

Humidity: 42.4 % RH

Atmospheric Pressure: 1020 mbar

7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	09	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	10	TX mode (U-NII-2A)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	11	TX mode (U-NII-2C)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	12	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.



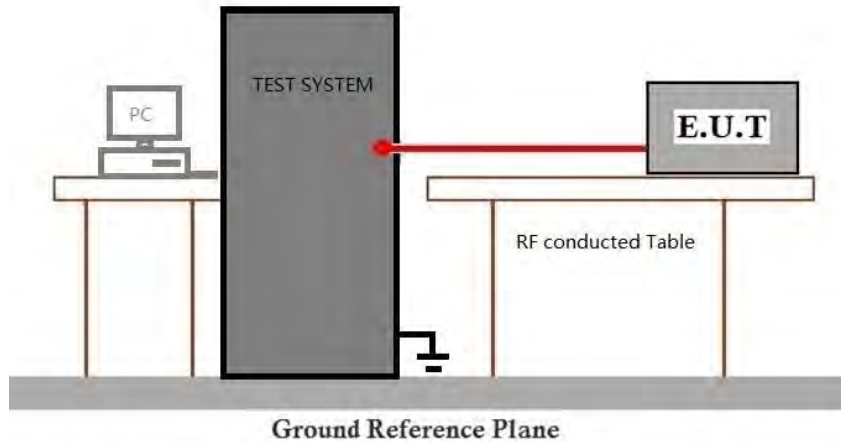
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7.2.3 Test Setup Diagram



7.2.4 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

7.3 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

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
960-1000	500	3

7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 23.6 °C

Humidity: 52.3 % RH

Atmospheric Pressure: 1020 mbar

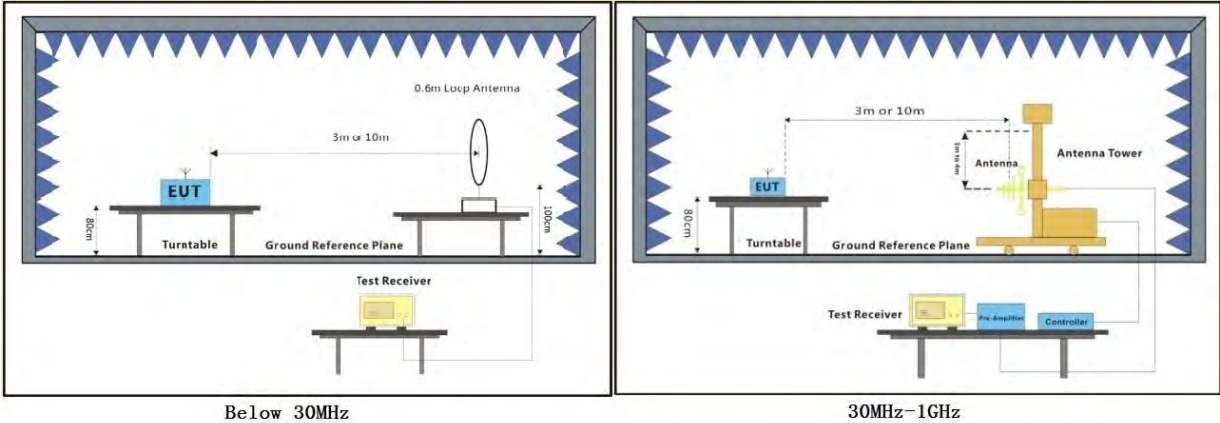
7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	09	TX mode (U-NII-1) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Pre-scan	10	TX mode (U-NII-2A) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Pre-scan	11	TX mode (U-NII-2C) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Pre-scan	12	TX mode (U-NII-3) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0



		is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
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7.3.3 Test Setup Diagram



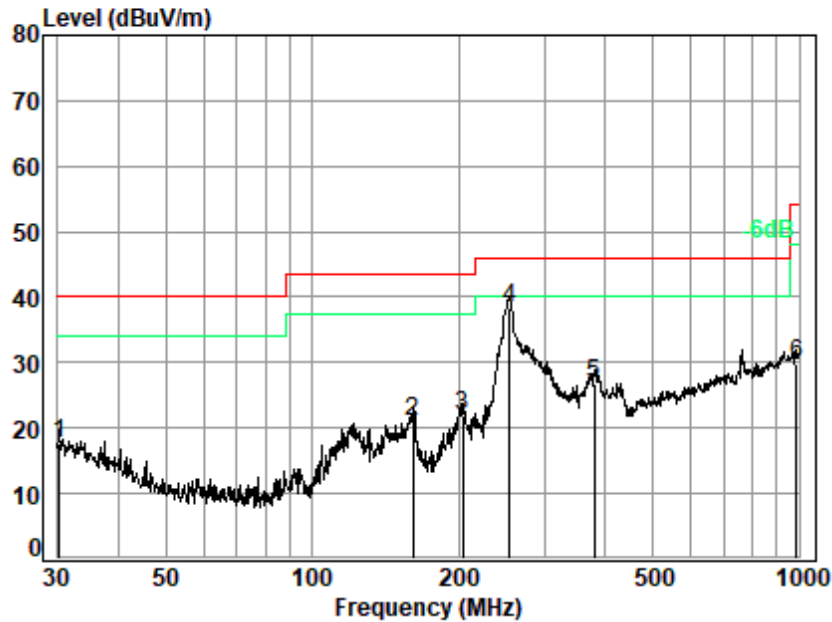
7.3.4 Measurement Procedure and Data

- 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.

Test Mode: 09; Polarity: Horizontal



Site : chamber
Condition: 3m HORIZONTAL
Job No. : 02101MO
Test Mode: 09

	Ant	Cable	Preamp	Read		Limit	Over	
	Freq	Factor	Loss	Factor	Level	Level	Line	Limit Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB
1	30.21	21.10	0.64	27.79	23.68	17.63	40.00	-22.37 QP
2	160.91	13.53	1.52	27.33	33.41	21.13	43.50	-22.37 QP
3	204.24	14.47	1.75	27.15	32.79	21.86	43.50	-21.64 QP
4 q	254.73	17.31	1.97	26.94	45.87	38.21	46.00	-7.79 QP
5	379.91	20.91	2.47	27.07	30.52	26.83	46.00	-19.17 QP
6	986.07	28.04	4.31	26.15	23.69	29.89	54.00	-24.11 QP



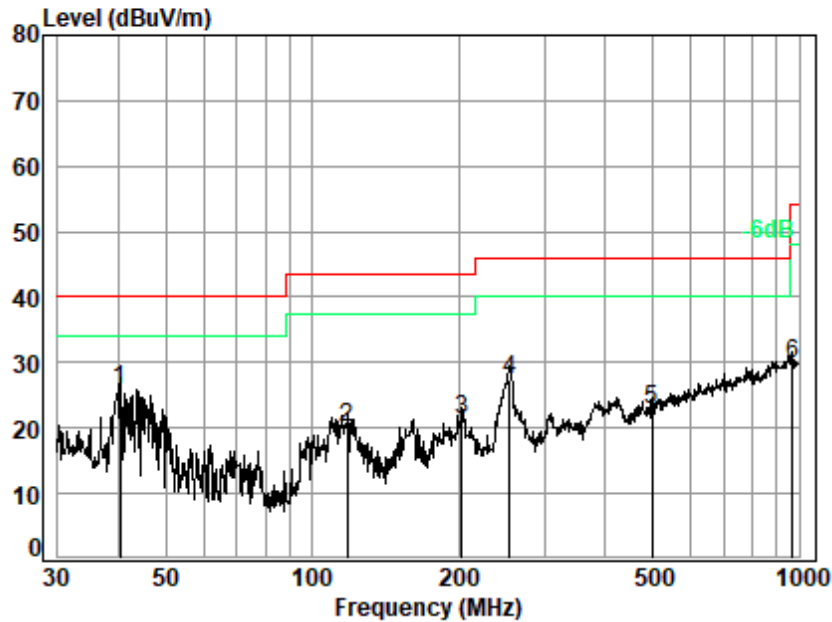
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 26 of 357

Test Mode: 09; Polarity: Vertical



Site : chamber
Condition: 3m VERTICAL
Job No. : 02101MO
Test Mode: 09

		Ant	Cable	Preamp	Read		Limit	Over	
	Freq	Factor	Loss	Factor	Level	Level	Line	Limit	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	q	40.28	16.28	0.75	27.76	36.46	25.73	40.00	-14.27 QP
2		118.19	11.18	1.29	27.51	35.16	20.12	43.50	-23.38 QP
3		202.81	14.35	1.74	27.16	32.28	21.21	43.50	-22.29 QP
4		254.73	17.31	1.97	26.94	35.06	27.40	46.00	-18.60 QP
5		497.68	22.87	2.88	27.55	24.53	22.73	46.00	-23.27 QP
6		968.93	28.19	4.27	26.27	23.54	29.73	54.00	-24.27 QP



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7.4 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
*(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.		

7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 24.5 °C

Humidity: 51.8 % RH

Atmospheric Pressure: 1020 mbar

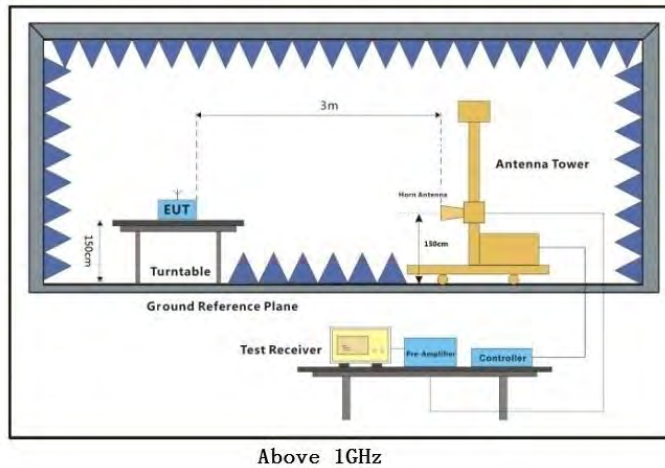
7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	09	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.



Final test	10	TX mode (U-NII-2A) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	11	TX mode (U-NII-2C) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	12	TX mode (U-NII-3) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.

7.4.3 Test Setup Diagram



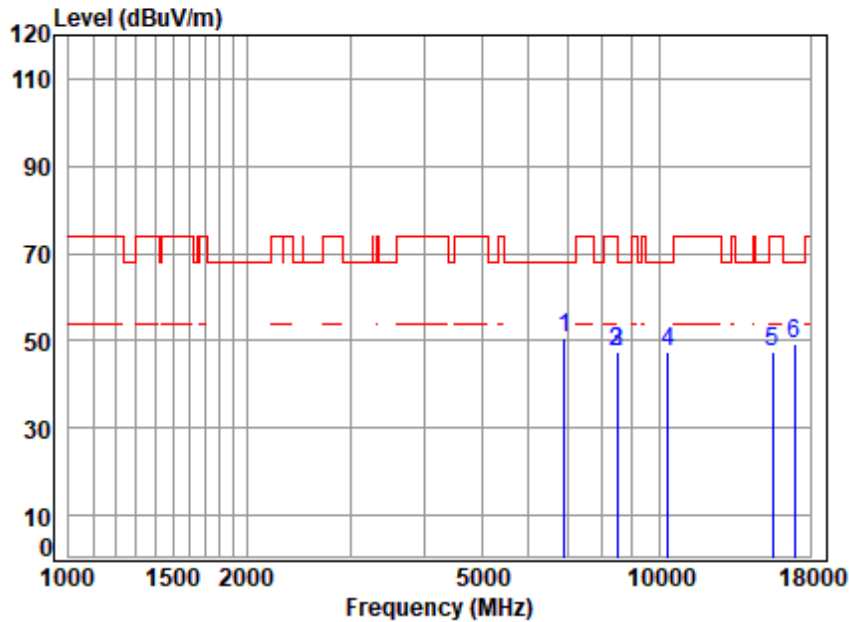
7.4.4 Measurement Procedure and Data

- 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.

Test Mode: 09; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5180 TX RSE

: 5G WIFI 11A

		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 pp	6902.598	11.37	36.19	56.72	59.92	50.76	68.20	-17.44	peak
2	8496.769	12.29	38.31	55.45	52.43	47.58	74.00	-26.42	peak
3	8496.769	12.29	38.31	55.45	52.43	47.58	74.00	-26.42	peak
4	10360.000	13.60	39.00	53.88	48.87	47.59	68.20	-20.61	peak
5	15540.000	17.00	38.56	54.14	45.86	47.28	74.00	-26.72	peak
6	16932.880	18.14	39.63	54.28	45.87	49.36	68.20	-18.84	peak



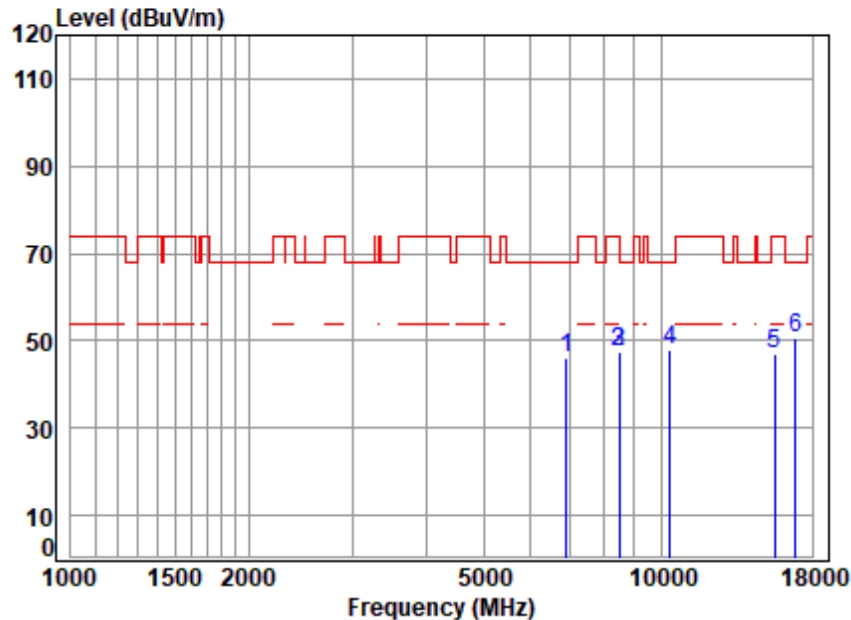
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 31 of 357

Test Mode: 09; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5180 TX RSE

: 5G WIFI 11A

	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	6902.598	11.37	36.19	56.72	55.26	46.10	68.20	-22.10 peak
2	8496.769	12.29	38.31	55.45	52.20	47.35	74.00	-26.65 peak
3	8496.769	12.29	38.31	55.45	52.20	47.35	74.00	-26.65 peak
4	10360.000	13.60	39.00	53.88	49.18	47.90	68.20	-20.30 peak
5	15540.000	17.00	38.56	54.14	45.80	47.22	74.00	-26.78 peak
6	pp16881.220	18.04	39.60	54.26	47.06	50.44	68.20	-17.76 peak



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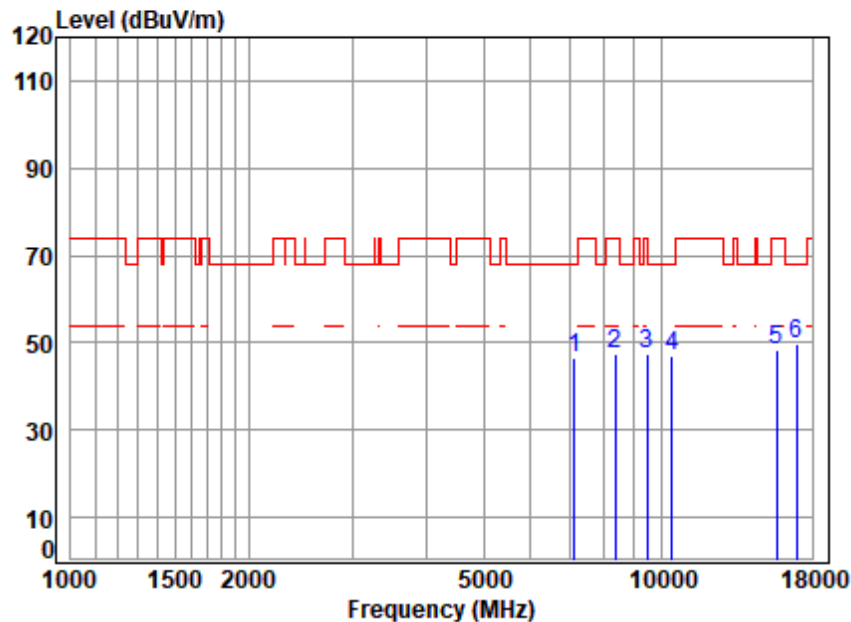
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 32 of 357

Test Mode: 09; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:middle



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5220 TX RSE

: 5G WIFI 11A

	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	7131.289	11.84	36.46	56.59	54.61	46.32	68.20 -21.88 peak
2	8359.419	11.68	38.68	55.58	52.57	47.35	74.00 -26.65 peak
3	9446.244	12.42	38.80	54.60	50.93	47.55	74.00 -26.45 peak
4	10440.000	13.63	39.04	53.84	48.22	47.05	68.20 -21.15 peak
5	15660.000	17.23	38.56	54.10	46.52	48.21	74.00 -25.79 peak
6	pp16950.140	18.12	39.65	54.29	46.24	49.72	68.20 -18.48 peak



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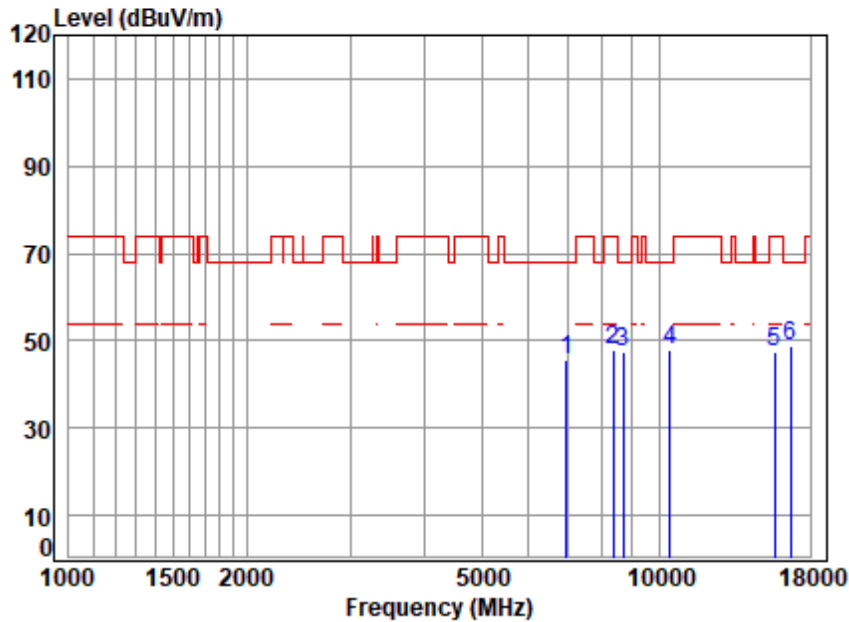
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 33 of 357

Test Mode: 09; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:middle



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5220 TX RSE

: 5G WIFI 11A

	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	6959.073	11.37	36.12	56.71	55.02	45.80	68.20 -22.40 peak
2	8342.406	11.70	38.58	55.59	53.42	48.11	74.00 -25.89 peak
3	8698.174	12.09	38.59	55.27	51.90	47.31	68.20 -20.89 peak
4	10440.000	13.63	39.04	53.84	48.99	47.82	68.20 -20.38 peak
5	15660.000	17.23	38.56	54.10	45.80	47.49	74.00 -26.51 peak
6	pp16693.140	17.59	39.39	54.21	46.23	49.00	68.20 -19.20 peak



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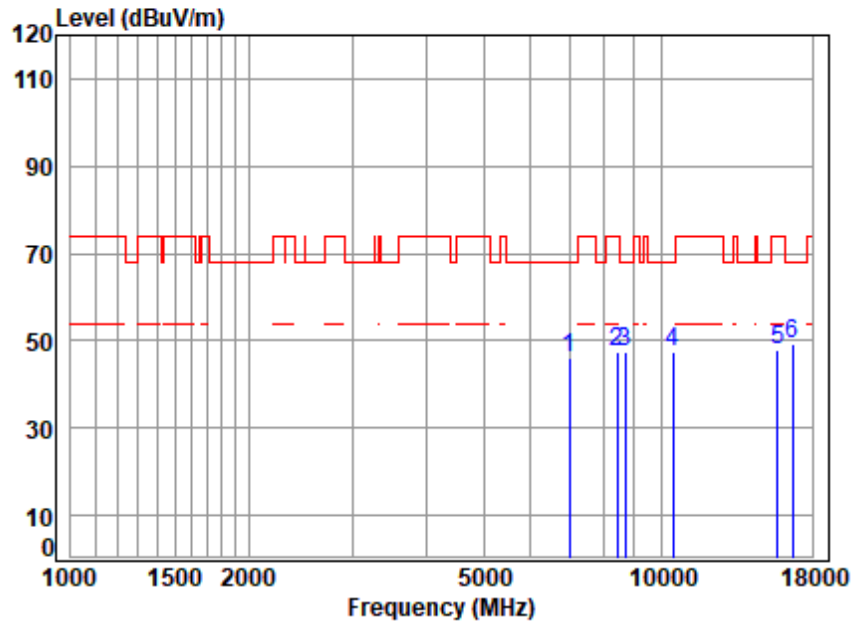
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 34 of 357

Test Mode: 09; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5240 TX RSE

: 5G WIFI 11A

	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	6987.484	11.37	36.17	56.70	55.31	46.15	68.20 -22.05 peak
2	8419.234	11.76	38.52	55.52	52.54	47.30	74.00 -26.70 peak
3	8671.635	12.05	38.49	55.30	52.26	47.50	68.20 -20.70 peak
4	10480.000	13.64	39.08	53.81	48.57	47.48	68.20 -20.72 peak
5	15720.000	17.22	38.58	54.08	46.18	47.90	74.00 -26.10 peak
6	pp16710.150	17.58	39.42	54.21	46.44	49.23	68.20 -18.97 peak



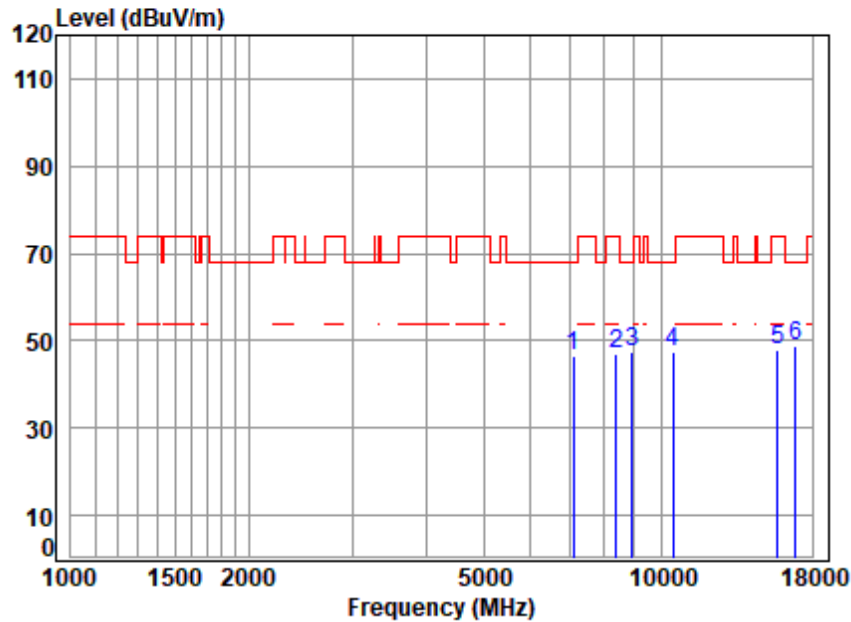
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中国·广东·深圳市南山区科技园中区M-10栋1号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

Test Mode: 09; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Condition: 3m VERTICAL

Job No : 02101MO

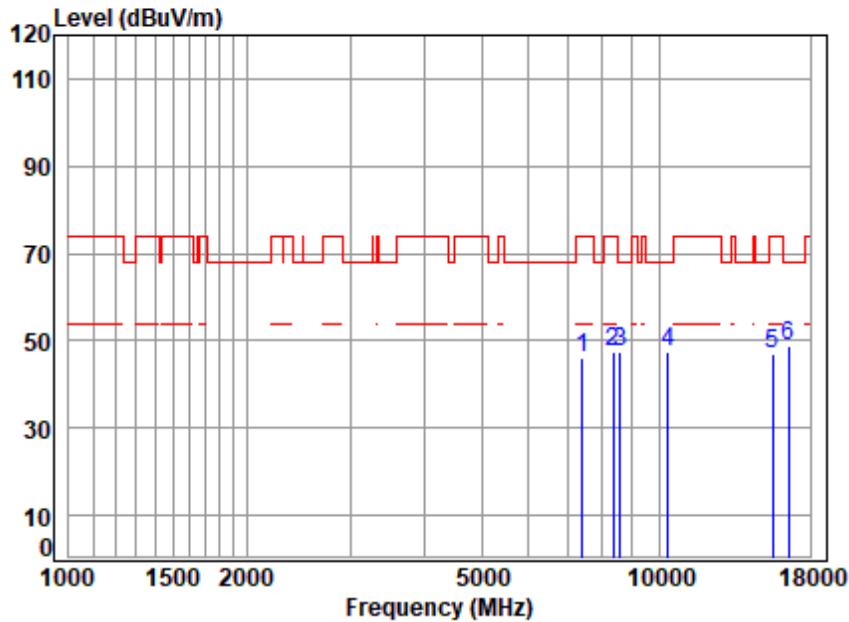
Mode : 5240 TX RSE

: 5G WIFI 11A

	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	7102.293	11.98	36.40	56.62	54.75	46.51	68.20 -21.69 peak
2	8385.002	11.65	38.63	55.55	52.26	46.99	74.00 -27.01 peak
3	8913.427	12.21	38.57	55.08	51.63	47.33	68.20 -20.87 peak
4	10480.000	13.64	39.08	53.81	48.33	47.24	68.20 -20.96 peak
5	15720.000	17.22	38.58	54.08	46.33	48.05	74.00 -25.95 peak
6	pp16864.040	17.92	39.60	54.26	45.57	48.83	68.20 -19.37 peak



Test Mode: 09; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

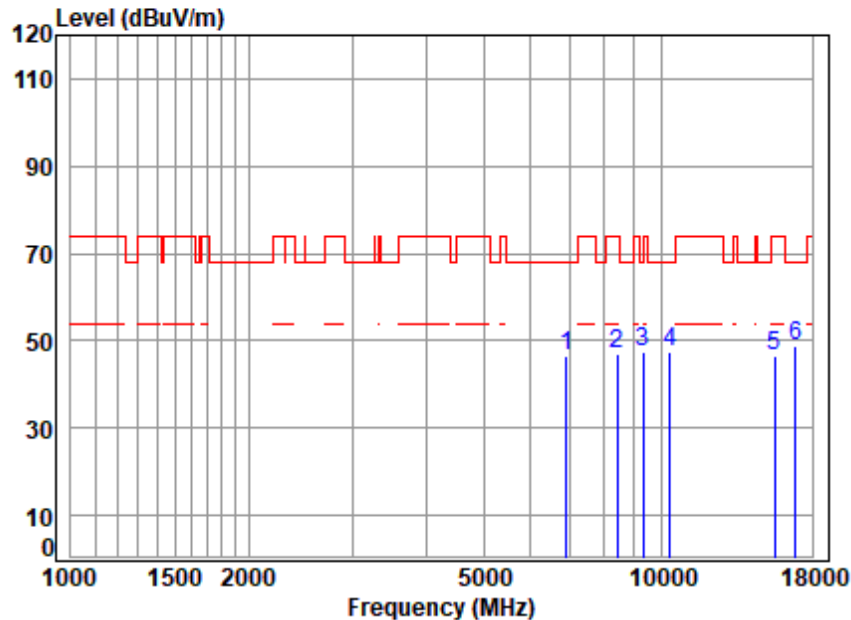
Mode : 5180 TX RSE

: 5G WIFI 11AC20

	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	7420.276	11.45	36.74	56.36	54.26	46.09	74.00	-27.91 peak
2	8350.908	11.69	38.70	55.58	52.43	47.24	74.00	-26.76 peak
3	8575.019	12.05	38.40	55.38	52.34	47.41	68.20	-20.79 peak
4	10360.000	13.60	39.00	53.88	48.61	47.33	68.20	-20.87 peak
5	15540.000	17.00	38.56	54.14	45.74	47.16	74.00	-26.84 peak
6	pp16540.810	17.70	39.02	54.16	46.13	48.69	68.20	-19.51 peak



Test Mode: 09; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5180 TX RSE

: 5G WIFI 11AC20

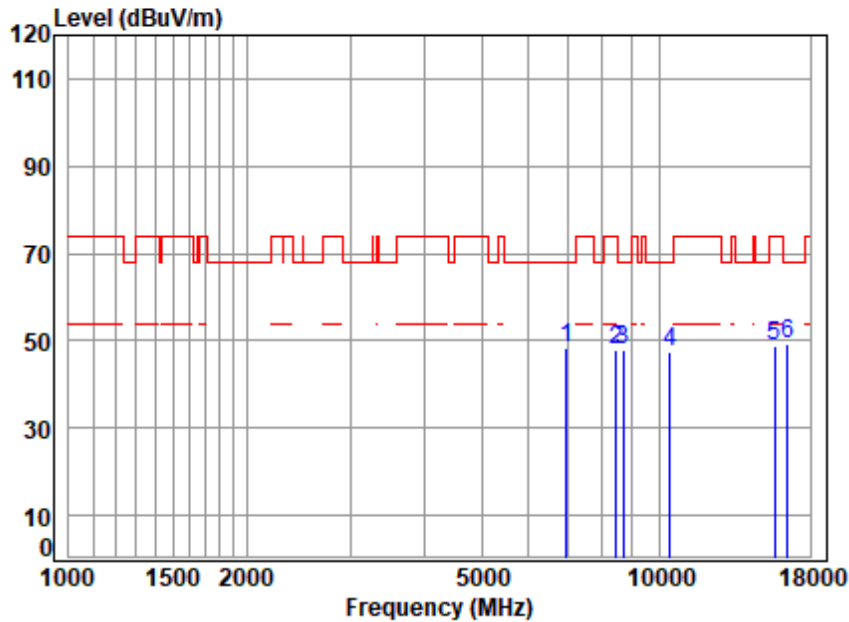
	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	6909.632	11.37	36.18	56.72	55.75	46.58	68.20 -21.62 peak
2	8436.402	11.88	38.45	55.51	52.26	47.08	74.00 -26.92 peak
3	9303.017	12.17	38.80	54.73	51.32	47.56	74.00 -26.44 peak
4	10360.000	13.60	39.00	53.88	48.59	47.31	68.20 -20.89 peak
5	15540.000	17.00	38.56	54.14	45.26	46.68	74.00 -27.32 peak
6	pp16898.430	18.17	39.60	54.27	45.27	48.77	68.20 -19.43 peak



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Test Mode: 09; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:middle



Condition: 3m HORIZONTAL

Job No : 02101MO

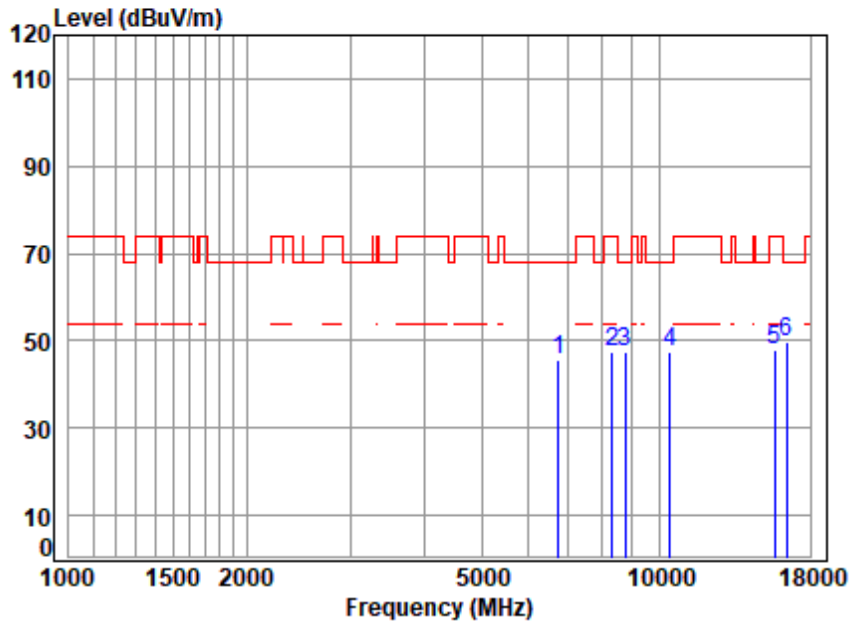
Mode : 5220 TX RSE

: 5G WIFI 11AC20

	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	6959.073	11.37	36.12	56.71	57.44	48.22	68.20 -19.98 peak
2	8453.606	11.99	38.39	55.49	52.83	47.72	74.00 -26.28 peak
3	8671.635	12.05	38.49	55.30	52.74	47.98	68.20 -20.22 peak
4	10440.000	13.63	39.04	53.84	48.47	47.30	68.20 -20.90 peak
5	15660.000	17.23	38.56	54.10	46.98	48.67	74.00 -25.33 peak
6	pp16507.140	17.73	38.92	54.15	47.00	49.50	68.20 -18.70 peak



Test Mode: 09; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:middle



Condition: 3m VERTICAL

Job No : 02101MO

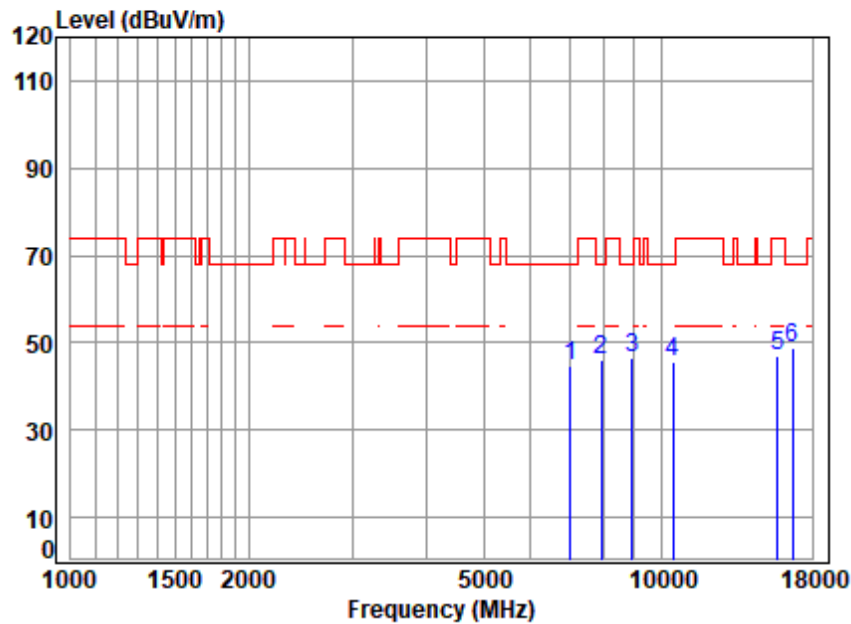
Mode : 5220 TX RSE

: 5G WIFI 11AC20

	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	6742.769	11.39	35.66	56.75	55.38	45.68	68.20 -22.52 peak
2	8333.913	11.72	38.44	55.60	52.80	47.36	74.00 -26.64 peak
3	8742.585	12.16	38.51	55.23	51.86	47.30	68.20 -20.90 peak
4	10440.000	13.63	39.04	53.84	48.68	47.51	68.20 -20.69 peak
5	15660.000	17.23	38.56	54.10	46.28	47.97	74.00 -26.03 peak
6	pp16440.030	17.39	38.84	54.13	47.45	49.55	68.20 -18.65 peak



Test Mode: 09; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



Condition: 3m HORIZONTAL

Job No : 02101MO

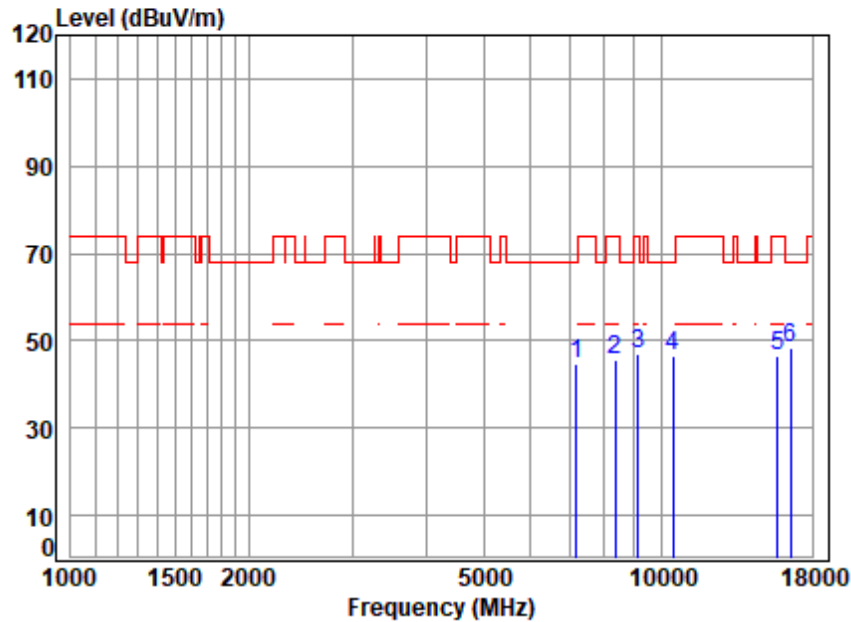
Mode : 5240 TX RSE

: 5G WIFI 11AC20

	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	7016.012	11.47	36.23	56.69	53.90	44.91	68.20	-23.29 peak
2	7920.106	11.54	37.64	55.96	53.06	46.28	68.20	-21.92 peak
3	8913.427	12.21	38.57	55.08	50.99	46.69	68.20	-21.51 peak
4	10480.000	13.64	39.08	53.81	46.94	45.85	68.20	-22.35 peak
5	15720.000	17.22	38.58	54.08	45.32	47.04	74.00	-26.96 peak
6	pp16693.140	17.59	39.39	54.21	45.97	48.74	68.20	-19.46 peak



Test Mode: 09; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



Condition: 3m VERTICAL

Job No : 02101MO

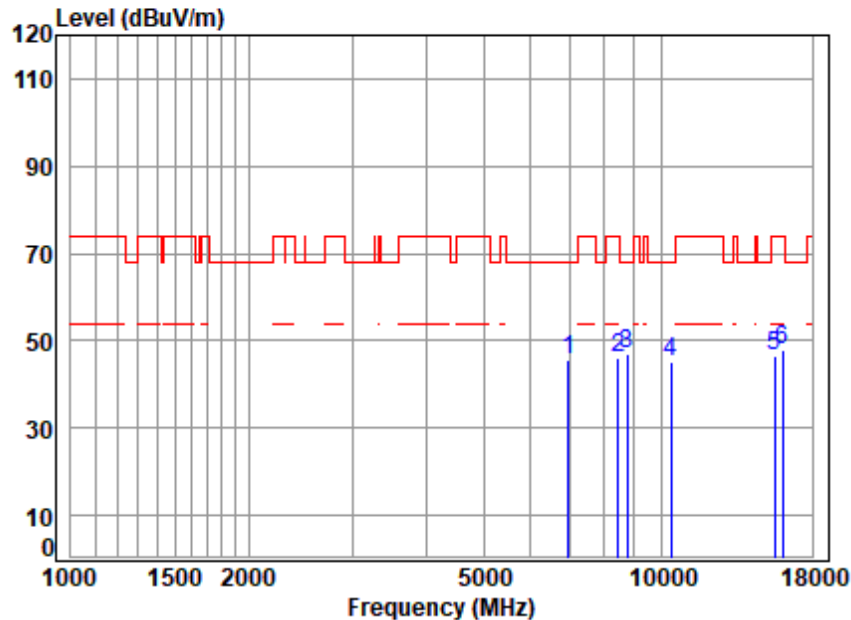
Mode : 5240 TX RSE

: 5G WIFI 11AC20

	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	7167.700	11.67	36.54	56.57	52.96	44.60	68.20	-23.60 peak
2	8367.938	11.67	38.66	55.57	51.02	45.78	74.00	-28.22 peak
3	9124.708	12.17	38.65	54.89	51.27	47.20	74.00	-26.80 peak
4	10480.000	13.64	39.08	53.81	47.71	46.62	68.20	-21.58 peak
5	15720.000	17.22	38.58	54.08	44.60	46.32	74.00	-27.68 peak
6	pp16523.970	17.72	38.97	54.16	45.98	48.51	68.20	-19.69 peak



Test Mode: 09; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5190 TX RSE

: 5G WIFI 11AC40

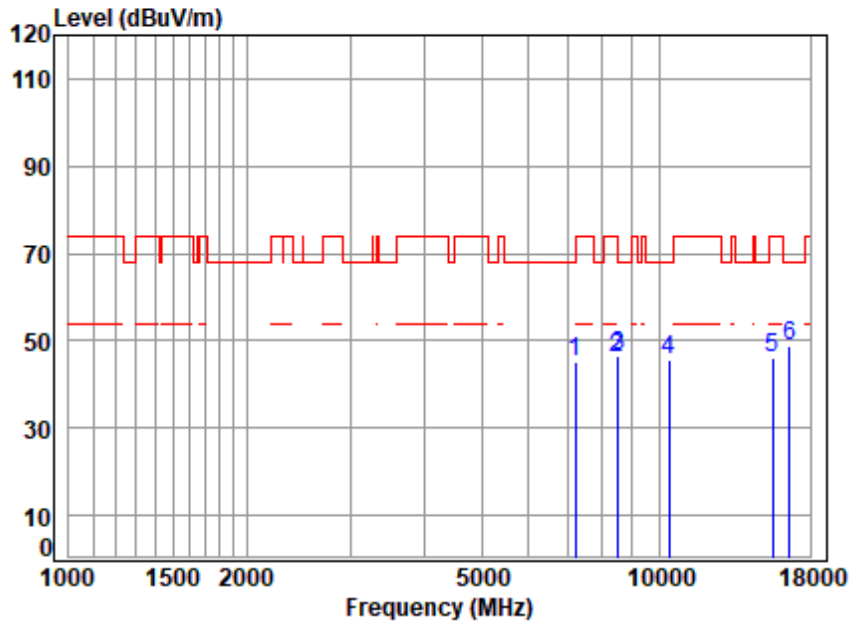
	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	6959.073	11.37	36.12	56.71	54.76	45.54	68.20 -22.66 peak
2	8445.000	11.94	38.42	55.50	51.15	46.01	74.00 -27.99 peak
3 pp	8742.585	12.16	38.51	55.23	51.55	46.99	68.20 -21.21 peak
4	10380.000	13.61	39.00	53.87	46.35	45.09	68.20 -23.11 peak
5	15570.000	17.09	38.53	54.13	45.09	46.58	74.00 -27.42 peak
6	16043.010	17.12	38.56	54.01	46.42	48.09	74.00 -25.91 peak



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Test Mode: 09; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5190 TX RSE

: 5G WIFI 11AC40

	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	7196.963	11.53	36.59	56.54	53.42	45.00	68.20	-23.20 peak
2	8488.119	12.23	38.32	55.46	50.87	45.96	74.00	-28.04 peak
3	8505.428	12.29	38.30	55.45	51.57	46.71	68.20	-21.49 peak
4	10380.000	13.61	39.00	53.87	46.87	45.61	68.20	-22.59 peak
5	15570.000	17.09	38.53	54.13	44.57	46.06	74.00	-27.94 peak
6	pp16608.340	17.64	39.22	54.18	46.11	48.79	68.20	-19.41 peak



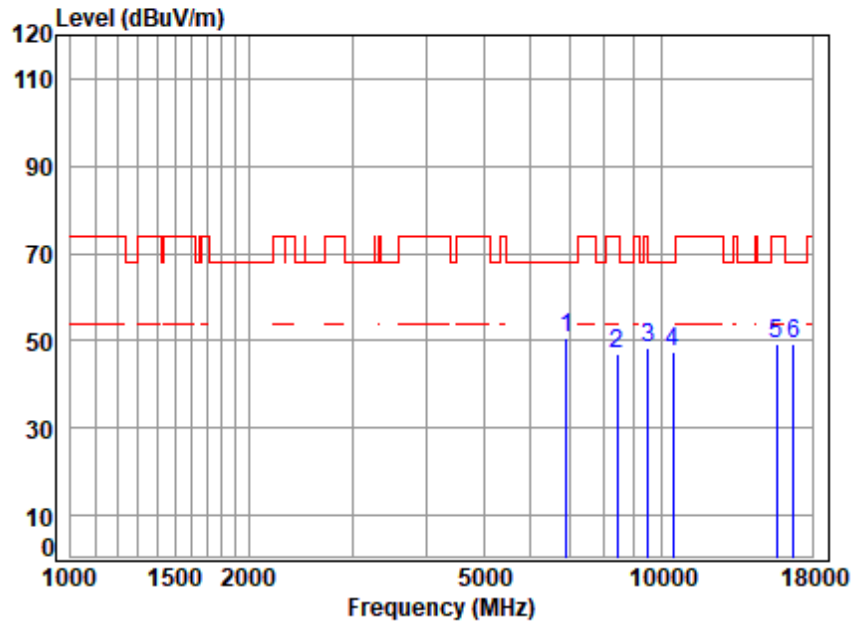
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 44 of 357

Test Mode: 09; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5230 TX RSE

: 5G WIFI 11AC40

		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 pp	6916.673	11.37	36.17	56.72	59.70	50.52	68.20	-17.68	peak
2	8436.402	11.88	38.45	55.51	52.31	47.13	74.00	-26.87	peak
3	9504.150	12.55	38.89	54.55	51.42	48.31	68.20	-19.89	peak
4	10460.000	13.63	39.06	53.82	48.73	47.60	68.20	-20.60	peak
5	15690.000	17.26	38.59	54.09	47.42	49.18	74.00	-24.82	peak
6	16727.180	17.55	39.45	54.22	46.48	49.26	68.20	-18.94	peak



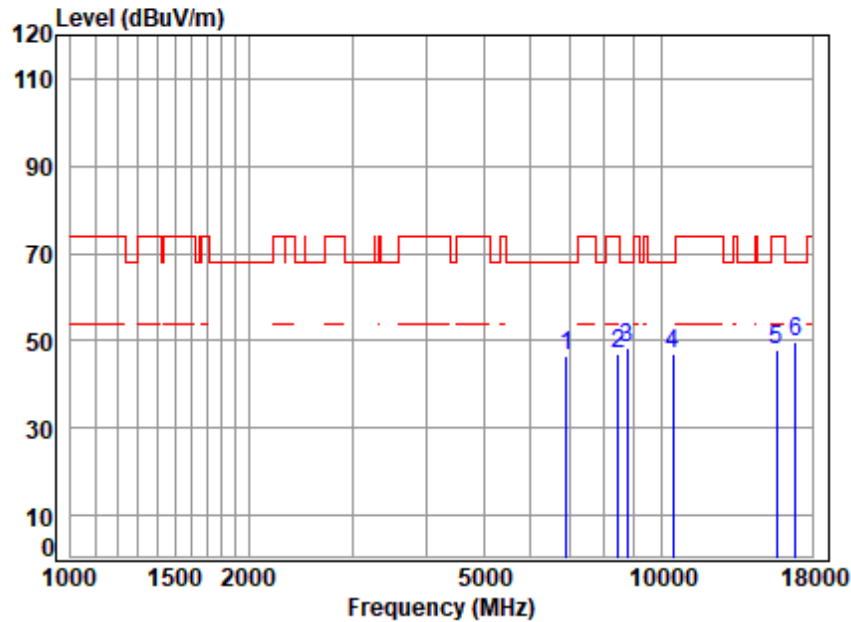
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Shenzhen Branch Testing Laboratory

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Test Mode: 09; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



Condition: 3m VERTICAL

Job No : 02101MO

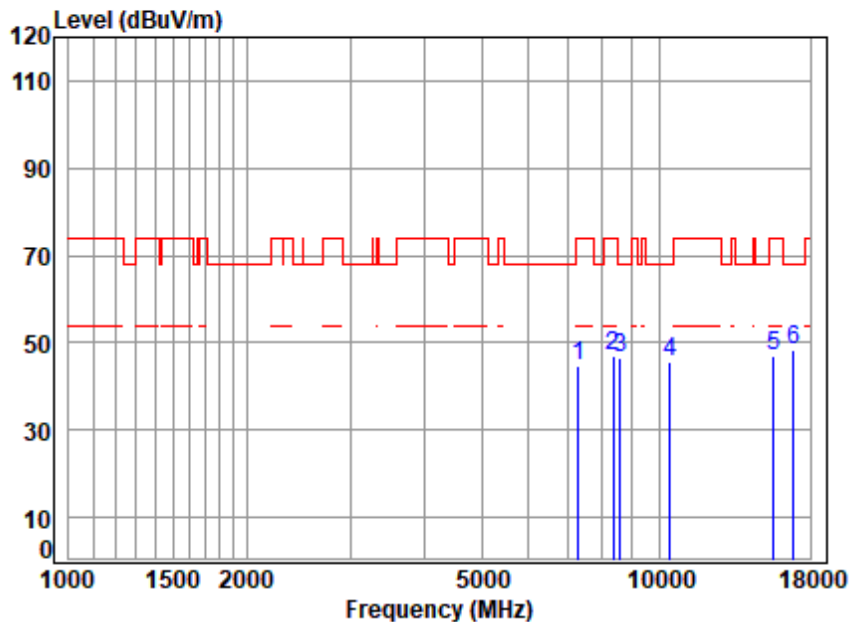
Mode : 5230 TX RSE

: 5G WIFI 11AC40

	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	6916.673	11.37	36.17	56.72	55.73	46.55	68.20 -21.65 peak
2	8445.000	11.94	38.42	55.50	52.22	47.08	74.00 -26.92 peak
3	8751.494	12.17	38.50	55.22	52.92	48.37	68.20 -19.83 peak
4	10460.000	13.63	39.06	53.82	48.23	47.10	68.20 -21.10 peak
5	15690.000	17.26	38.59	54.09	46.33	48.09	74.00 -25.91 peak
6	pp16864.040	17.92	39.60	54.26	46.69	49.95	68.20 -18.25 peak



Test Mode: 09; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



Condition: 3m HORIZONTAL

Job No : 02101MO

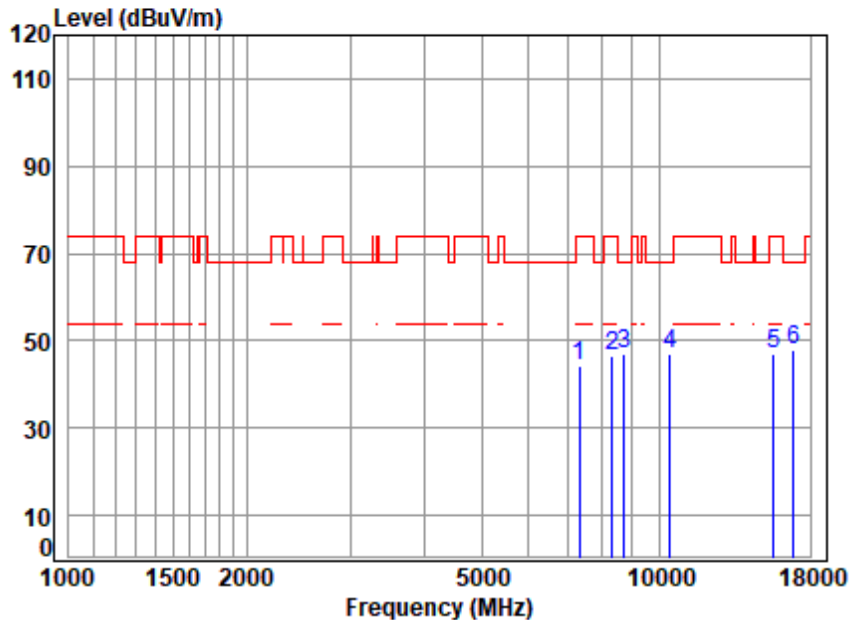
Mode : 5210 TX RSE

: 5G WIFI 11AC80

	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	7292.895	11.51	36.69	56.47	52.86	44.59	74.00	-29.41 peak
2	8350.908	11.69	38.70	55.58	52.08	46.89	74.00	-27.11 peak
3	8601.261	11.96	38.50	55.36	51.50	46.60	68.20	-21.60 peak
4	10420.000	13.62	39.02	53.85	46.79	45.58	68.20	-22.62 peak
5	15630.000	17.20	38.53	54.11	45.33	46.95	74.00	-27.05 peak
6	pp16881.220	18.04	39.60	54.26	44.87	48.25	68.20	-19.95 peak



Test Mode: 09; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5210 TX RSE

: 5G WIFI 11AC80

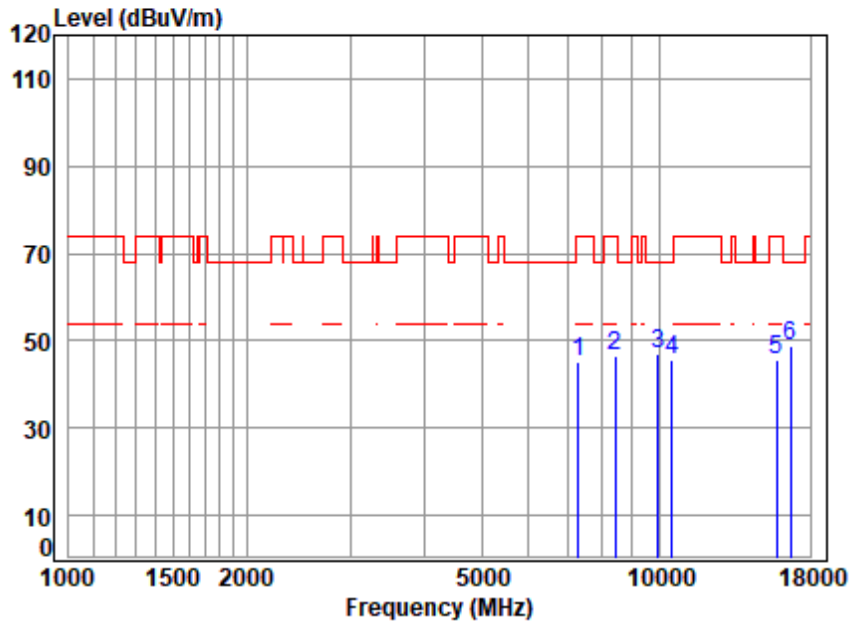
	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7322.668	11.51	36.75	56.44	52.66	44.48	74.00 -29.52 peak
2	8325.429	11.73	38.31	55.61	51.93	46.36	74.00 -27.64 peak
3	8733.685	12.14	38.53	55.24	51.43	46.86	68.20 -21.34 peak
4	10420.000	13.62	39.02	53.85	48.09	46.88	68.20 -21.32 peak
5	15630.000	17.20	38.53	54.11	45.25	46.87	74.00 -27.13 peak
6	pp16881.220	18.04	39.60	54.26	44.69	48.07	68.20 -20.13 peak



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Test Mode: 10; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

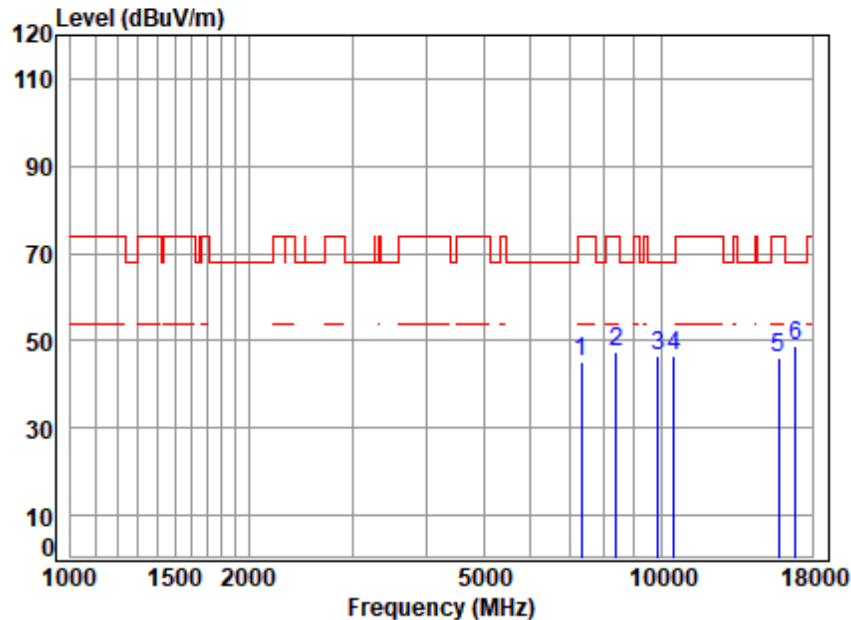
Mode : 5260 TX RSE

: 5G WIFI 11A

	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	7292.895	11.51	36.69	56.47	53.26	44.99	74.00 -29.01 peak
2	8419.234	11.76	38.52	55.52	51.71	46.47	74.00 -27.53 peak
3	9949.918	12.90	38.90	54.15	49.53	47.18	68.20 -21.02 peak
4	10520.000	13.63	39.14	53.79	46.61	45.59	68.20 -22.61 peak
5	15780.000	17.08	38.52	54.07	44.22	45.75	74.00 -28.25 peak
6	pp16693.140	17.59	39.39	54.21	45.97	48.74	68.20 -19.46 peak



Test Mode: 10; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5260 TX RSE

: 5G WIFI 11A

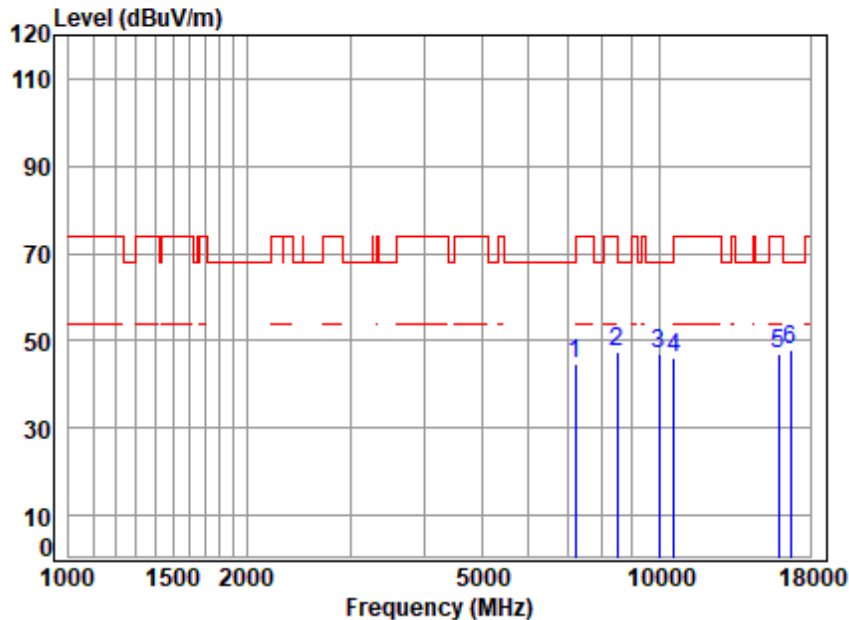
	Cable	Ant	Preamp	Read		Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7330.131	11.51	36.76	56.44	53.56	45.39	74.00	-28.61 peak
2	8376.465	11.66	38.65	55.56	52.54	47.29	74.00	-26.71 peak
3	9889.295	12.83	38.66	54.20	49.20	46.49	68.20	-21.71 peak
4	10520.000	13.63	39.14	53.79	47.59	46.57	68.20	-21.63 peak
5	15780.000	17.08	38.52	54.07	44.52	46.05	74.00	-27.95 peak
6	pp16898.430	18.17	39.60	54.27	45.11	48.61	68.20	-19.59 peak



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Test Mode: 10; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:middle



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5300 TX RSE

: 5G WIFI 11A

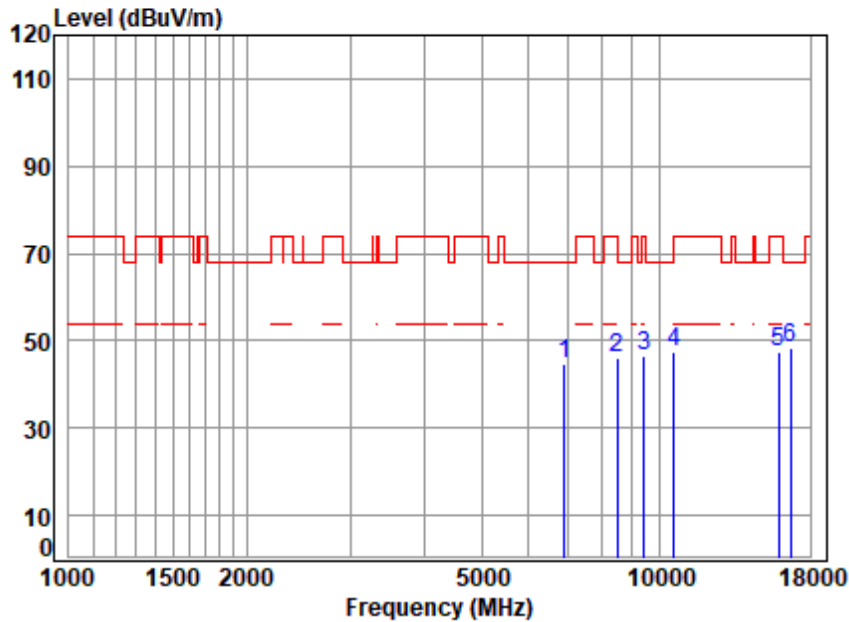
	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7204.297	11.52	36.60	56.54	52.97	44.55	68.20 -23.65 peak
2	8488.119	12.23	38.32	55.46	52.35	47.44	74.00 -26.56 peak
3	10000.720	13.01	38.90	54.10	49.38	47.19	68.20 -21.01 peak
4	10600.000	13.59	39.30	53.74	46.89	46.04	68.20 -22.16 peak
5	15900.000	17.28	38.70	54.03	44.83	46.78	74.00 -27.22 peak
6	pp16710.150	17.58	39.42	54.21	45.06	47.85	68.20 -20.35 peak



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Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

Test Mode: 10; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:middle



Condition: 3m VERTICAL

Job No : 02101MO

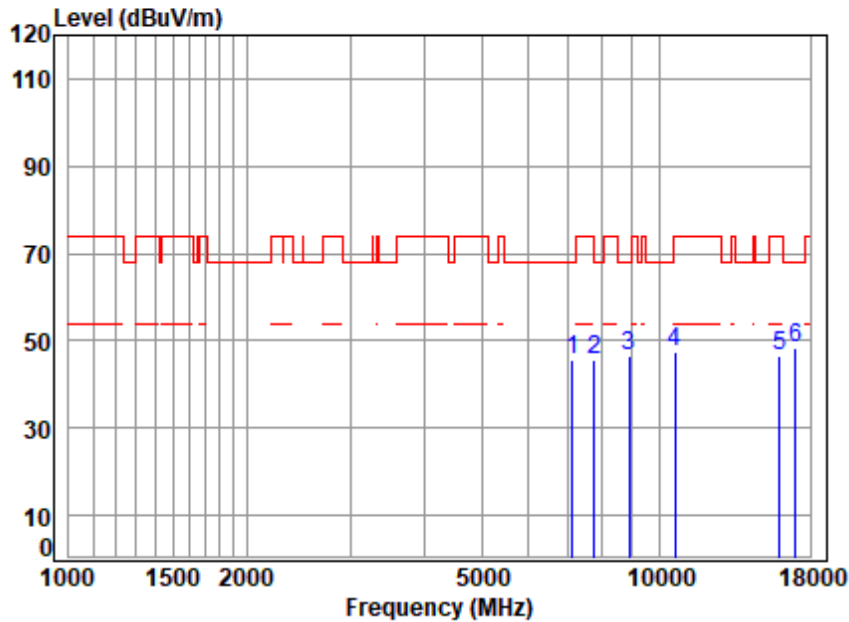
Mode : 5300 TX RSE

: 5G WIFI 11A

	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	6909.632	11.37	36.18	56.72	53.75	44.58	68.20 -23.62 peak
2	8496.769	12.29	38.31	55.45	51.03	46.18	74.00 -27.82 peak
3	9427.021	12.37	38.80	54.62	50.13	46.68	74.00 -27.32 peak
4	10600.000	13.59	39.30	53.74	48.40	47.55	68.20 -20.65 peak
5	15900.000	17.28	38.70	54.03	45.41	47.36	74.00 -26.64 peak
6	pp16710.150	17.58	39.42	54.21	45.59	48.38	68.20 -19.82 peak



Test Mode: 10; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Condition: 3m HORIZONTAL

Job No : 02101MO

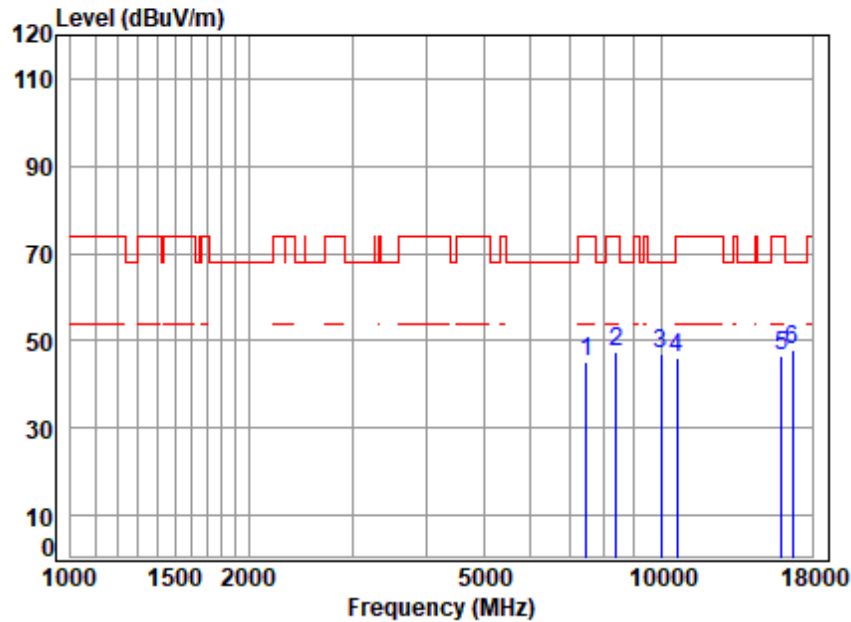
Mode : 5320 TX RSE

: 5G WIFI 11A

	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	7116.776	11.91	36.43	56.61	53.90	45.63	68.20	-22.57 peak
2	7760.396	11.37	37.04	56.09	53.39	45.71	68.20	-22.49 peak
3	8904.353	12.22	38.59	55.09	51.01	46.73	68.20	-21.47 peak
4	10640.000	13.77	39.34	53.72	47.86	47.25	74.00	-26.75 peak
5	15960.000	17.20	38.64	54.01	44.92	46.75	74.00	-27.25 peak
6	pp16984.710	18.09	39.68	54.30	44.84	48.31	68.20	-19.89 peak



Test Mode: 10; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5320 TX RSE

: 5G WIFI 11A

	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	7458.163	11.34	36.80	56.33	53.22	45.03	74.00 -28.97 peak
2	8385.002	11.65	38.63	55.55	52.68	47.41	74.00 -26.59 peak
3	9970.208	12.95	38.90	54.13	49.48	47.20	68.20 -21.00 peak
4	10640.000	13.77	39.34	53.72	46.54	45.93	74.00 -28.07 peak
5	15960.000	17.20	38.64	54.01	44.50	46.33	74.00 -27.67 peak
6	pp16710.150	17.58	39.42	54.21	45.21	48.00	68.20 -20.20 peak

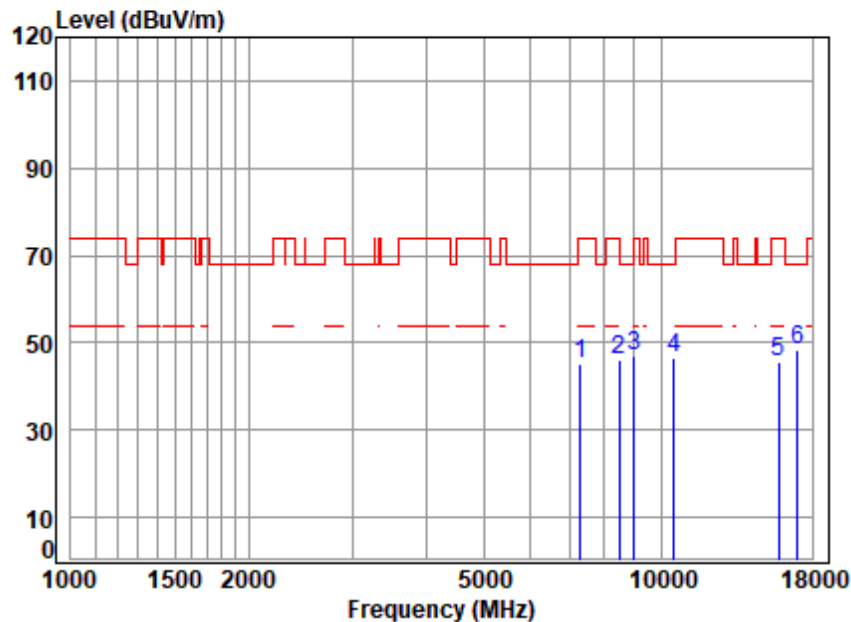
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 54 of 357

Test Mode: 10; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5260 TX RSE

: 5G WIFI 11AC20

	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	7292.895	11.51	36.69	56.47	53.44	45.17	74.00	-28.83 peak
2	8488.119	12.23	38.32	55.46	51.10	46.19	74.00	-27.81 peak
3	9004.680	12.15	38.60	55.00	51.07	46.82	74.00	-27.18 peak
4	10520.000	13.63	39.14	53.79	47.68	46.66	68.20	-21.54 peak
5	15780.000	17.08	38.52	54.07	44.03	45.56	74.00	-28.44 peak
6	pp17002.020	18.08	39.70	54.30	44.72	48.20	68.20	-20.00 peak



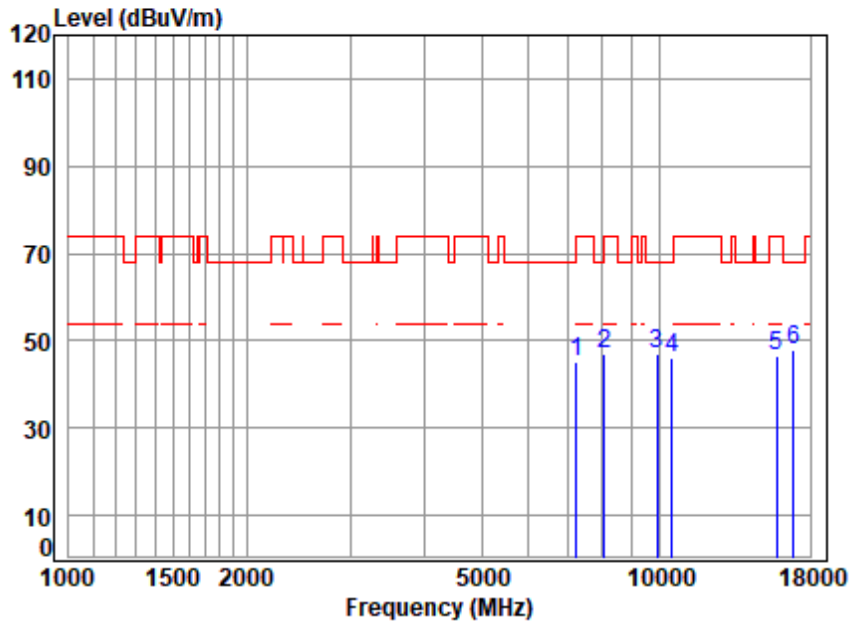
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中国·广东·深圳市南山区科技园中区M-10栋1号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

Test Mode: 10; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5260 TX RSE

: 5G WIFI 11AC20

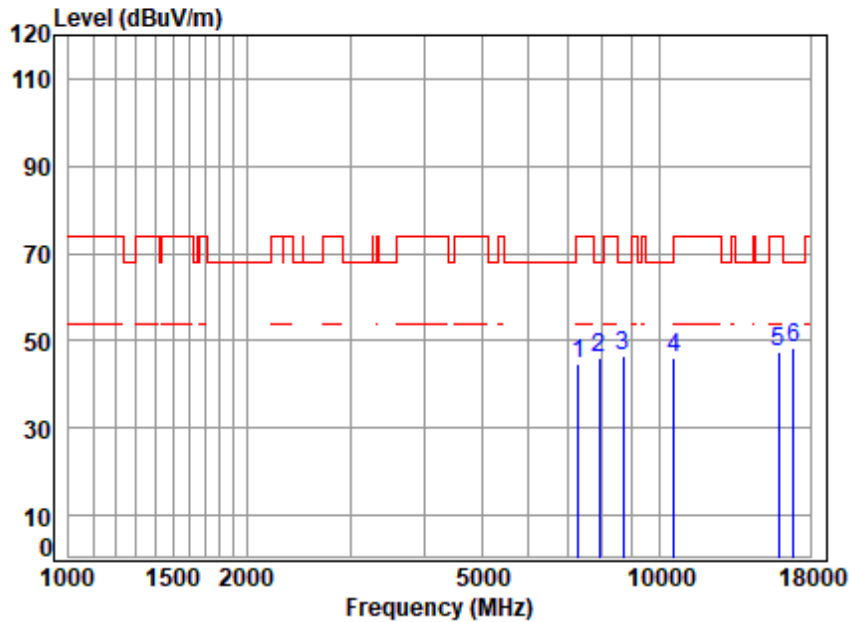
	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7241.082	11.52	36.60	56.51	53.44	45.05	68.20 -23.15 peak
2	8074.876	11.48	37.80	55.83	53.36	46.81	74.00 -27.19 peak
3	9919.560	12.84	38.90	54.17	49.53	47.10	68.20 -21.10 peak
4	10520.000	13.63	39.14	53.79	47.19	46.17	68.20 -22.03 peak
5	15780.000	17.08	38.52	54.07	44.79	46.32	74.00 -27.68 peak
6	pp16864.040	17.92	39.60	54.26	44.68	47.94	68.20 -20.26 peak



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Test Mode: 10; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:middle



Condition: 3m HORIZONTAL

Job No : 02101MO

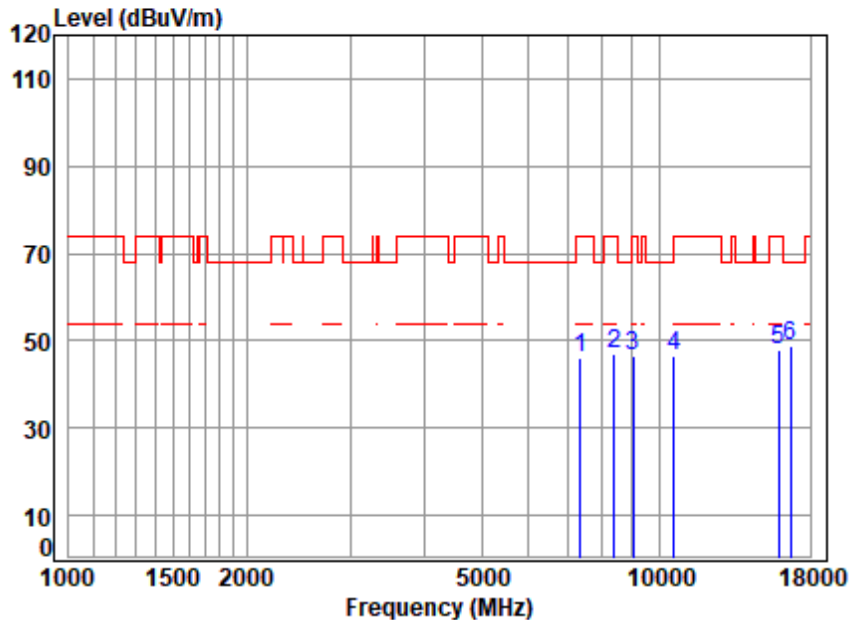
Mode : 5300 TX RSE

: 5G WIFI 11AC20

	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	7300.327	11.51	36.70	56.46	52.89	44.64	74.00	-29.36 peak
2	7920.106	11.54	37.64	55.96	52.70	45.92	68.20	-22.28 peak
3	8698.174	12.09	38.59	55.27	51.03	46.44	68.20	-21.76 peak
4	10600.000	13.59	39.30	53.74	47.08	46.23	68.20	-21.97 peak
5	15900.000	17.28	38.70	54.03	45.38	47.33	74.00	-26.67 peak
6	pp16898.430	18.17	39.60	54.27	44.68	48.18	68.20	-20.02 peak



Test Mode: 10; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:middle



Condition: 3m VERTICAL

Job No : 02101MO

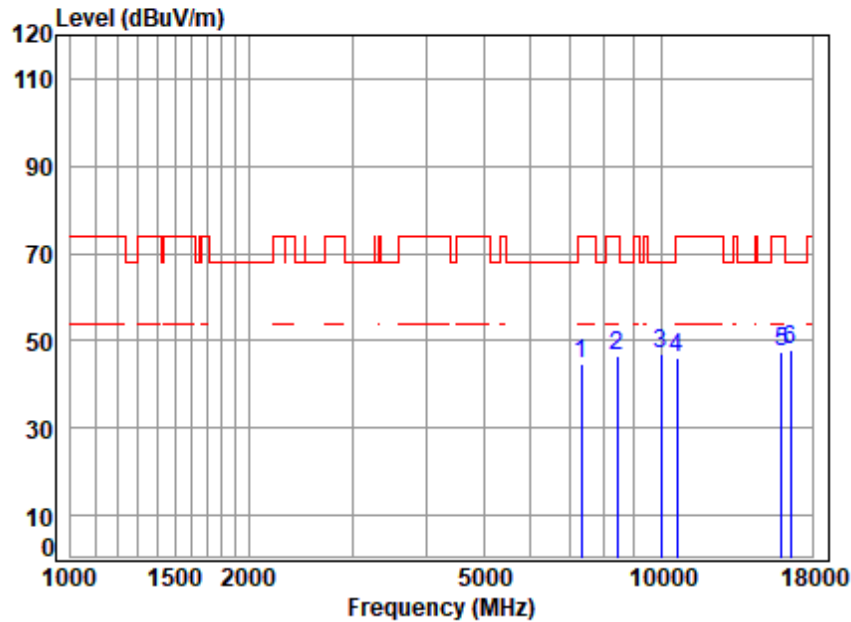
Mode : 5300 TX RSE

: 5G WIFI 11AC20

	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	7337.601	11.51	36.78	56.43	54.41	46.27	74.00	-27.73 peak
2	8393.547	11.64	38.61	55.55	52.44	47.14	74.00	-26.86 peak
3	9041.442	12.14	38.60	54.96	50.75	46.53	74.00	-27.47 peak
4	10600.000	13.59	39.30	53.74	47.17	46.32	68.20	-21.88 peak
5	15900.000	17.28	38.70	54.03	45.77	47.72	74.00	-26.28 peak
6	pp16693.140	17.59	39.39	54.21	45.99	48.76	68.20	-19.44 peak



Test Mode: 10; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



Condition: 3m HORIZONTAL

Job No : 02101MO

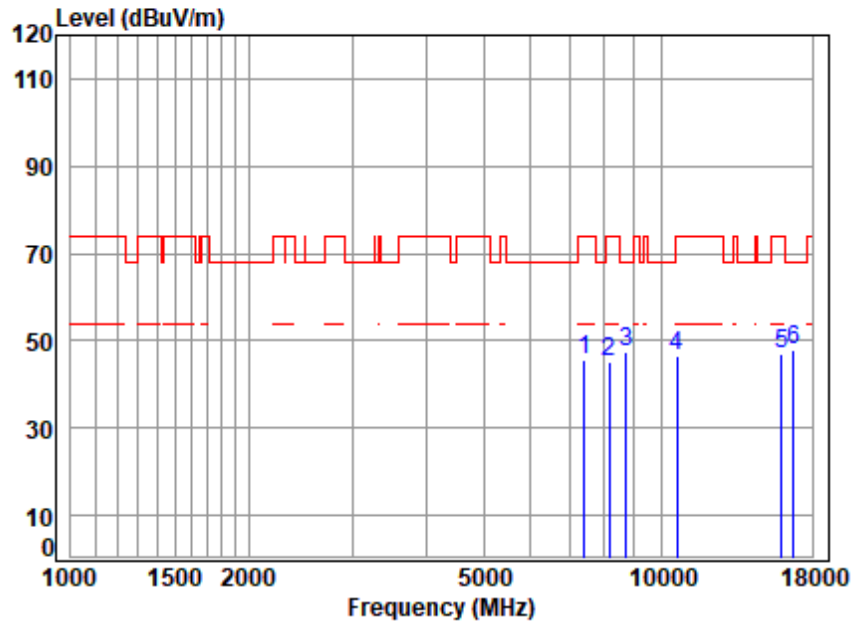
Mode : 5320 TX RSE

: 5G WIFI 11AC20

	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	7315.214	11.51	36.73	56.45	52.93	44.72	74.00 -29.28 peak
2	8427.813	11.82	38.49	55.51	51.59	46.39	74.00 -27.61 peak
3	9980.368	12.97	38.90	54.12	49.40	47.15	68.20 -21.05 peak
4	10640.000	13.77	39.34	53.72	46.69	46.08	74.00 -27.92 peak
5	15960.000	17.20	38.64	54.01	45.60	47.43	74.00 -26.57 peak
6	pp16523.970	17.72	38.97	54.16	45.61	48.14	68.20 -20.06 peak



Test Mode: 10; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5320 TX RSE

: 5G WIFI 11AC20

	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	7412.722	11.47	36.73	56.37	53.70	45.53	74.00	-28.47 peak
2	8165.858	11.53	37.93	55.75	51.67	45.38	74.00	-28.62 peak
3	8733.685	12.14	38.53	55.24	51.82	47.25	68.20	-20.95 peak
4	10640.000	13.77	39.34	53.72	47.31	46.70	74.00	-27.30 peak
5	15960.000	17.20	38.64	54.01	45.00	46.83	74.00	-27.17 peak
6	pp16744.220	17.53	39.49	54.22	45.20	48.00	68.20	-20.20 peak



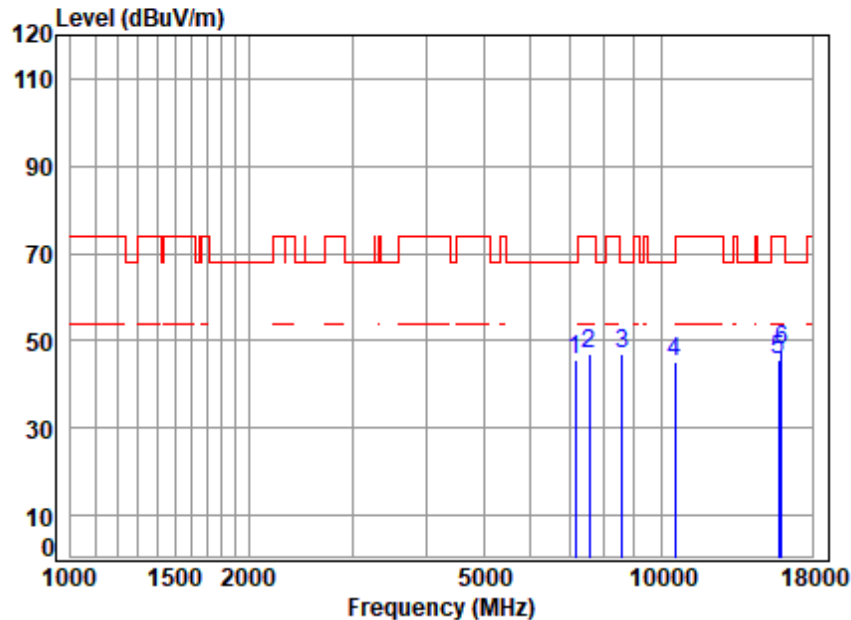
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 60 of 357

Test Mode: 10; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5270 TX RSE

: 5G WIFI 11AC40

	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	7160.403	11.71	36.52	56.57	53.79	45.45	68.20	-22.75 peak
2	7557.576	11.15	36.80	56.25	55.08	46.78	74.00	-27.22 peak
3 pp	8583.757	12.02	38.44	55.37	52.01	47.10	68.20	-21.10 peak
4	10540.000	13.62	39.18	53.78	46.06	45.08	68.20	-23.12 peak
5	15810.000	17.06	38.52	54.06	44.31	45.83	74.00	-28.17 peak
6	15994.060	17.16	38.61	54.00	46.19	47.96	74.00	-26.04 peak



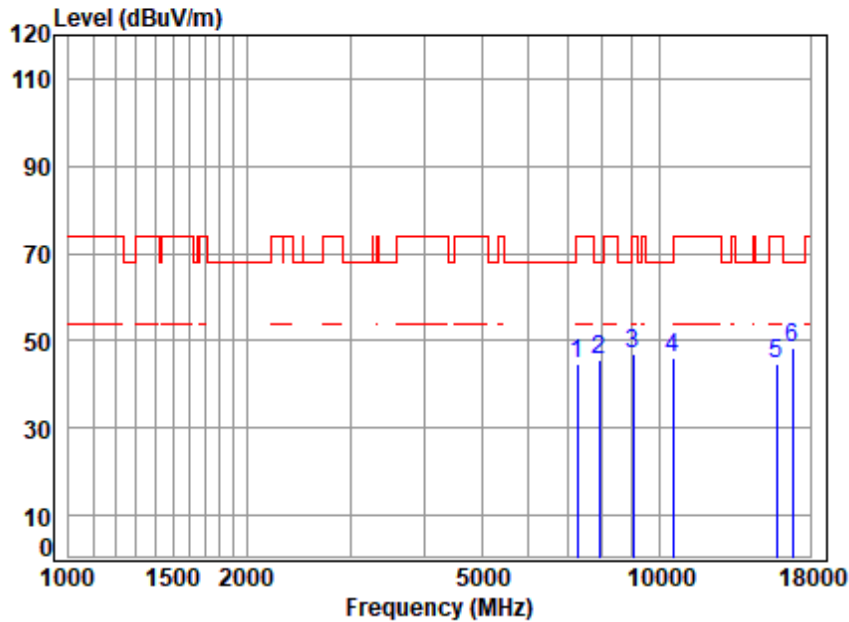
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中国·广东·深圳市南山区科技园中区M-10栋1号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

Test Mode: 10; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



Condition: 3m VERTICAL

Job No : 02101MO

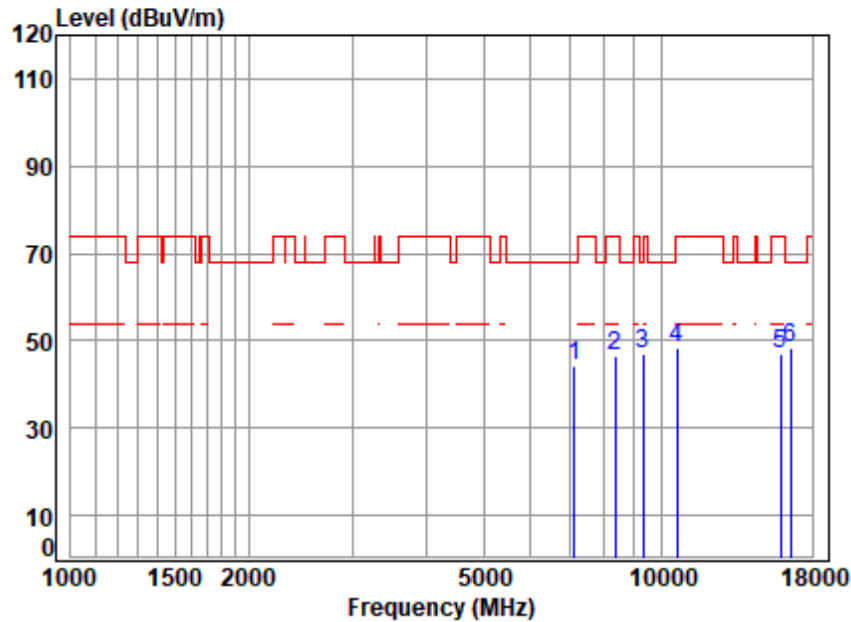
Mode : 5270 TX RSE

: 5G WIFI 11AC40

	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	7270.644	11.51	36.64	56.48	53.07	44.74	74.00	-29.26 peak
2	7920.106	11.54	37.64	55.96	52.57	45.79	68.20	-22.41 peak
3	9023.043	12.14	38.60	54.98	51.11	46.87	74.00	-27.13 peak
4	10540.000	13.62	39.18	53.78	47.21	46.23	68.20	-21.97 peak
5	15810.000	17.06	38.52	54.06	43.14	44.66	74.00	-29.34 peak
6	pp16778.370	17.49	39.56	54.23	45.65	48.47	68.20	-19.73 peak



Test Mode: 10; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5310 TX RSE

: 5G WIFI 11AC40

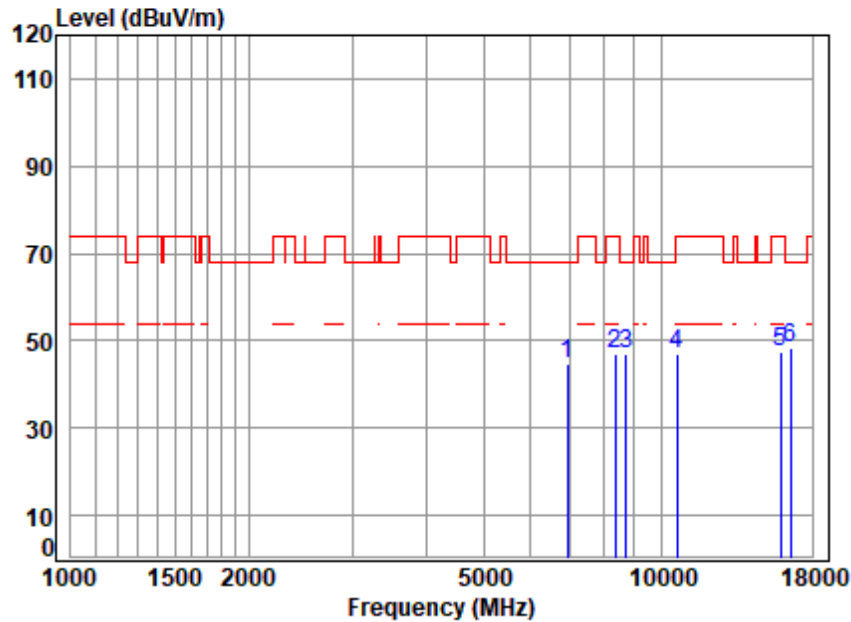
	Cable	Ant	Preamp	Read		Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7116.776	11.91	36.43	56.61	52.74	44.47	68.20	-23.73 peak
2	8350.908	11.69	38.70	55.58	51.77	46.58	74.00	-27.42 peak
3	9312.497	12.19	38.80	54.72	50.55	46.82	74.00	-27.18 peak
4	10620.000	13.68	39.32	53.73	48.98	48.25	74.00	-25.75 peak
5	15930.000	17.24	38.67	54.02	45.26	47.15	74.00	-26.85 peak
6	pp16574.540	17.67	39.12	54.17	45.80	48.42	68.20	-19.78 peak



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Test Mode: 10; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



Condition: 3m VERTICAL

Job No : 02101MO

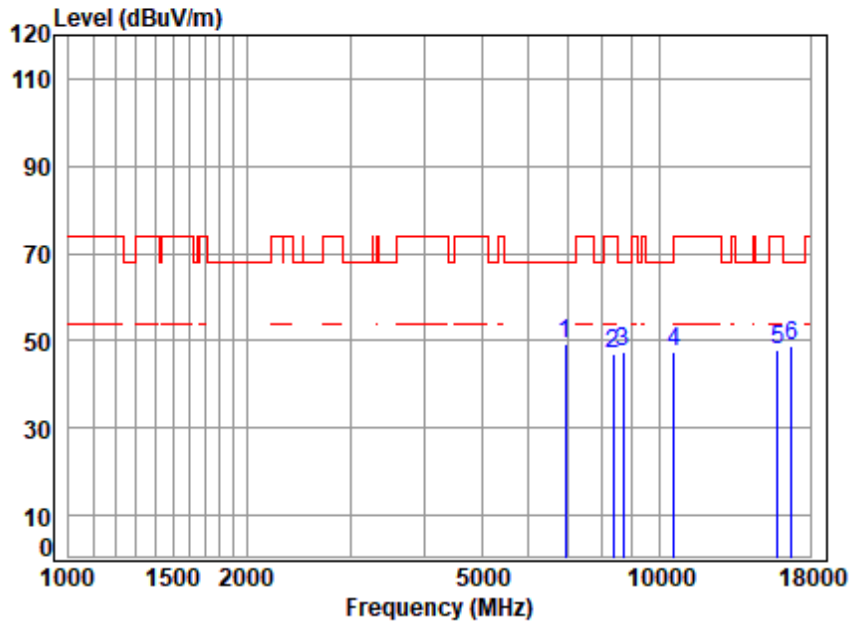
Mode : 5310 TX RSE

: 5G WIFI 11AC40

	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	6937.841	11.37	36.12	56.71	54.14	44.92	68.20 -23.28 peak
2	8342.406	11.70	38.58	55.59	52.42	47.11	74.00 -26.89 peak
3	8724.793	12.13	38.55	55.25	51.56	46.99	68.20 -21.21 peak
4	10620.000	13.68	39.32	53.73	47.91	47.18	74.00 -26.82 peak
5	15930.000	17.24	38.67	54.02	45.69	47.58	74.00 -26.42 peak
6	pp16557.660	17.69	39.07	54.17	45.89	48.48	68.20 -19.72 peak



Test Mode: 10; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



Condition: 3m HORIZONTAL

Job No : 02101MO

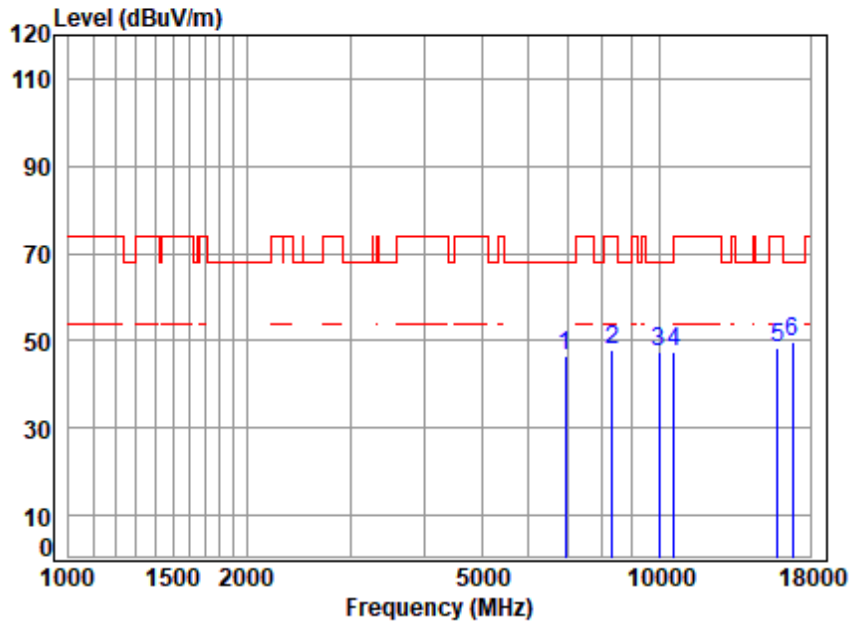
Mode : 5290 TX RSE

: 5G WIFI 11AC80

		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 pp	6944.911	11.37	36.11	56.71	58.48	49.25	68.20	-18.95	peak
2	8350.908	11.69	38.70	55.58	52.39	47.20	74.00	-26.80	peak
3	8680.473	12.06	38.52	55.29	52.15	47.44	68.20	-20.76	peak
4	10580.000	13.60	39.26	53.75	48.47	47.58	68.20	-20.62	peak
5	15870.000	17.20	38.64	54.04	46.06	47.86	74.00	-26.14	peak
6	16727.180	17.55	39.45	54.22	45.87	48.65	68.20	-19.55	peak



Test Mode: 10; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5290 TX RSE

: 5G WIFI 11AC80

	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	6944.911	11.37	36.11	56.71	55.88	46.65	68.20 -21.55 peak
2	8333.913	11.72	38.44	55.60	53.49	48.05	74.00 -25.95 peak
3	9970.208	12.95	38.90	54.13	49.92	47.64	68.20 -20.56 peak
4	10580.000	13.60	39.26	53.75	48.20	47.31	68.20 -20.89 peak
5	15870.000	17.20	38.64	54.04	46.62	48.42	74.00 -25.58 peak
6	pp16829.720	17.67	39.60	54.25	46.54	49.56	68.20 -18.64 peak



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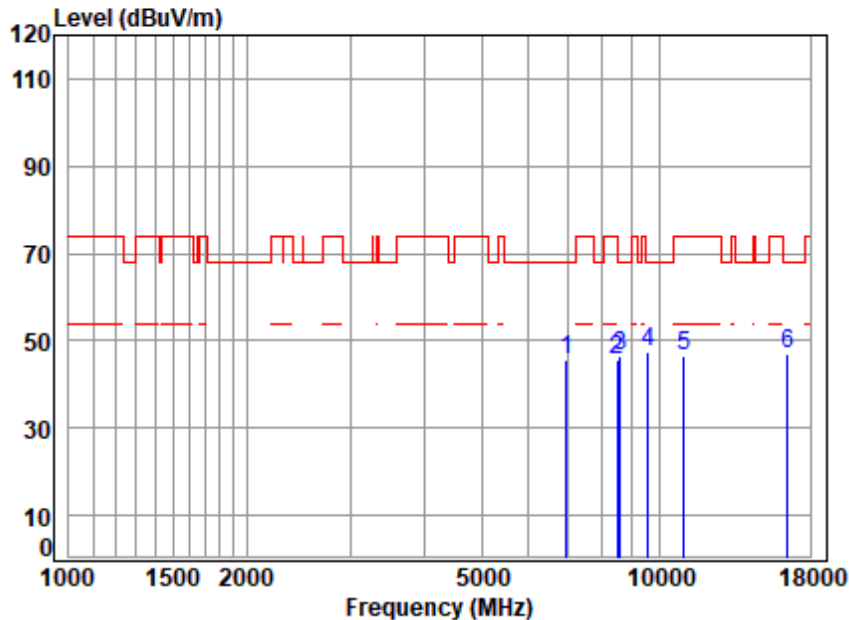
SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 66 of 357

Test Mode: 11; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5500 TX RSE

: 5G WIFI 11A

	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	6959.073	11.37	36.12	56.71	54.79	45.57	68.20	-22.63 peak
2	8488.119	12.23	38.32	55.46	50.33	45.42	74.00	-28.58 peak
3	8592.505	11.99	38.47	55.37	51.26	46.35	68.20	-21.85 peak
4 pp	9572.157	12.47	38.80	54.49	50.62	47.40	68.20	-20.80 peak
5	11000.000	14.17	39.40	53.50	46.26	46.33	74.00	-27.67 peak
6	16500.000	17.74	38.90	54.15	44.29	46.78	68.20	-21.42 peak



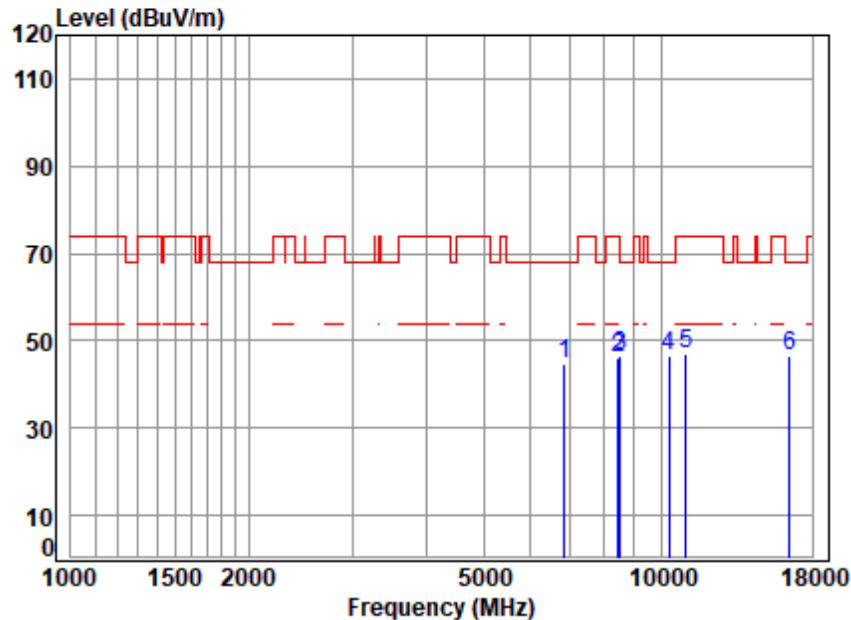
SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch Testing Laboratory

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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: 11; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5500 TX RSE

: 5G WIFI 11A

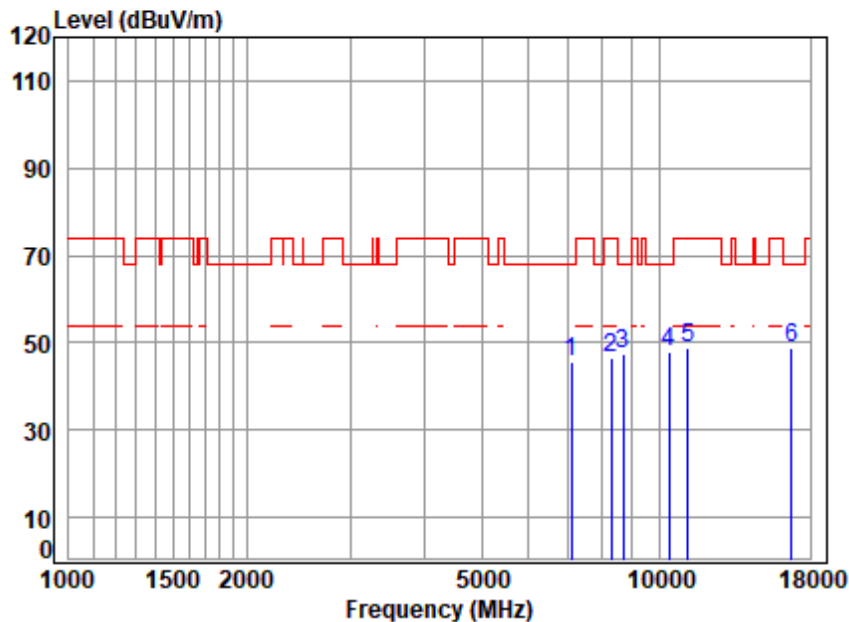
	Cable	Ant	Preamp	Read		Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	6860.542	11.37	36.04	56.73	53.88	44.56	68.20	-23.64 peak
2	8445.000	11.94	38.42	55.50	51.17	46.03	74.00	-27.97 peak
3	8514.096	12.26	38.30	55.44	51.34	46.46	68.20	-21.74 peak
4	pp10300.530	13.58	39.00	53.92	48.01	46.67	68.20	-21.53 peak
5	11000.000	14.17	39.40	53.50	46.96	47.03	74.00	-26.97 peak
6	16500.000	17.74	38.90	54.15	44.03	46.52	68.20	-21.68 peak



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Test Mode: 11; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:middle



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5580 TX RSE

: 5G WIFI 11A

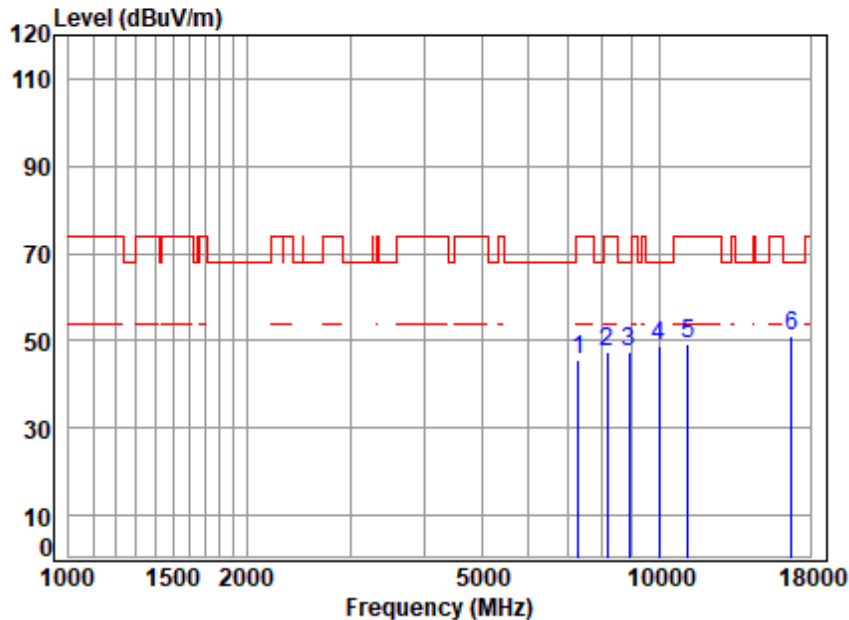
	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7087.840	11.91	36.38	56.63	54.10	45.76	68.20 -22.44 peak
2	8274.704	11.71	37.85	55.65	52.57	46.48	74.00 -27.52 peak
3	8698.174	12.09	38.59	55.27	52.09	47.50	68.20 -20.70 peak
4	10374.240	13.61	39.00	53.88	49.03	47.76	68.20 -20.44 peak
5	11160.000	14.72	39.56	53.55	47.91	48.64	74.00 -25.36 peak
6	pp16740.000	17.54	39.48	54.22	46.17	48.97	68.20 -19.23 peak



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Test Mode: 11; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:middle



Condition: 3m VERTICAL

Job No : 02101MO

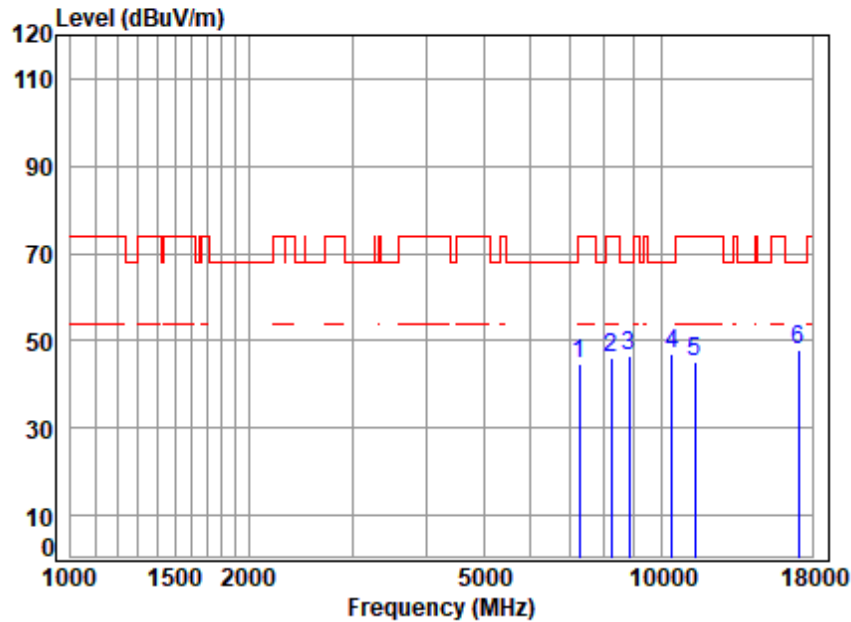
Mode : 5580 TX RSE

: 5G WIFI 11A

	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	7285.470	11.51	36.67	56.47	53.96	45.67	74.00	-28.33 peak
2	8157.544	11.52	37.92	55.76	53.68	47.36	74.00	-26.64 peak
3	8895.287	12.22	38.59	55.09	51.55	47.27	68.20	-20.93 peak
4	9970.208	12.95	38.90	54.13	51.12	48.84	68.20	-19.36 peak
5	11160.000	14.72	39.56	53.55	48.55	49.28	74.00	-24.72 peak
6	pp16740.000	17.54	39.48	54.22	48.16	50.96	68.20	-17.24 peak



Test Mode: 11; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Condition: 3m HORIZONTAL

Job No : 02101MO

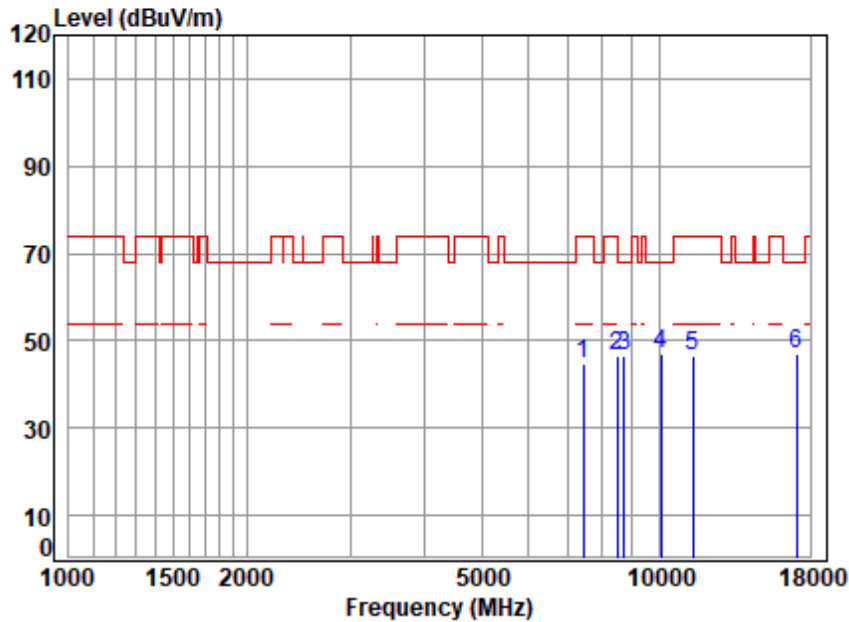
Mode : 5700 TX RSE

: 5G WIFI 11A

	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	7255.848	11.51	36.61	56.50	53.31	44.93	74.00 -29.07 peak
2	8224.288	11.62	37.90	55.70	52.37	46.19	74.00 -27.81 peak
3	8805.143	12.25	38.50	55.18	51.01	46.58	68.20 -21.62 peak
4	10416.590	13.62	39.02	53.85	48.34	47.13	68.20 -21.07 peak
5	11400.000	14.21	39.70	53.62	44.89	45.18	74.00 -28.82 peak
6	pp17100.000	18.47	39.80	54.32	43.90	47.85	68.20 -20.35 peak



Test Mode: 11; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5700 TX RSE

: 5G WIFI 11A

	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	7442.985	11.38	36.79	56.35	52.82	44.64	74.00	-29.36 peak
2	8496.769	12.29	38.31	55.45	51.31	46.46	74.00	-27.54 peak
3	8724.793	12.13	38.55	55.25	51.16	46.59	68.20	-21.61 peak
4	pp10062.030	13.17	39.02	54.06	48.84	46.97	68.20	-21.23 peak
5	11400.000	14.21	39.70	53.62	46.39	46.68	74.00	-27.32 peak
6	17100.000	18.47	39.80	54.32	42.94	46.89	68.20	-21.31 peak



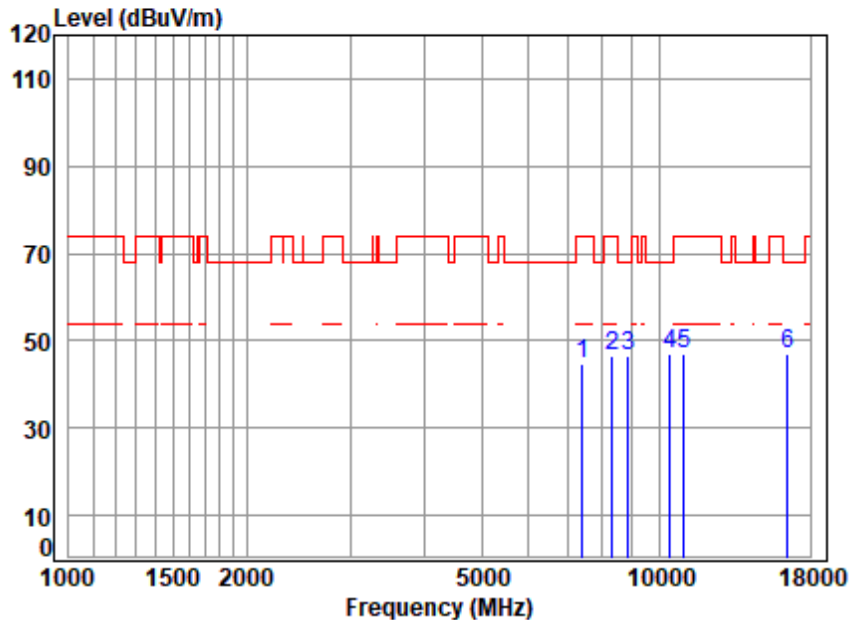
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 72 of 357

Test Mode: 11; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5500 TX RSE

: 5G WIFI 11AC20

	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	7405.175	11.49	36.71	56.38	52.80	44.62	74.00	-29.38 peak
2	8333.913	11.72	38.44	55.60	51.81	46.37	74.00	-27.63 peak
3	8841.090	12.24	38.50	55.14	51.04	46.64	68.20	-21.56 peak
4	10427.210	13.63	39.03	53.84	48.09	46.91	68.20	-21.29 peak
5	11000.000	14.17	39.40	53.50	46.84	46.91	74.00	-27.09 peak
6	pp16500.000	17.74	38.90	54.15	44.67	47.16	68.20	-21.04 peak



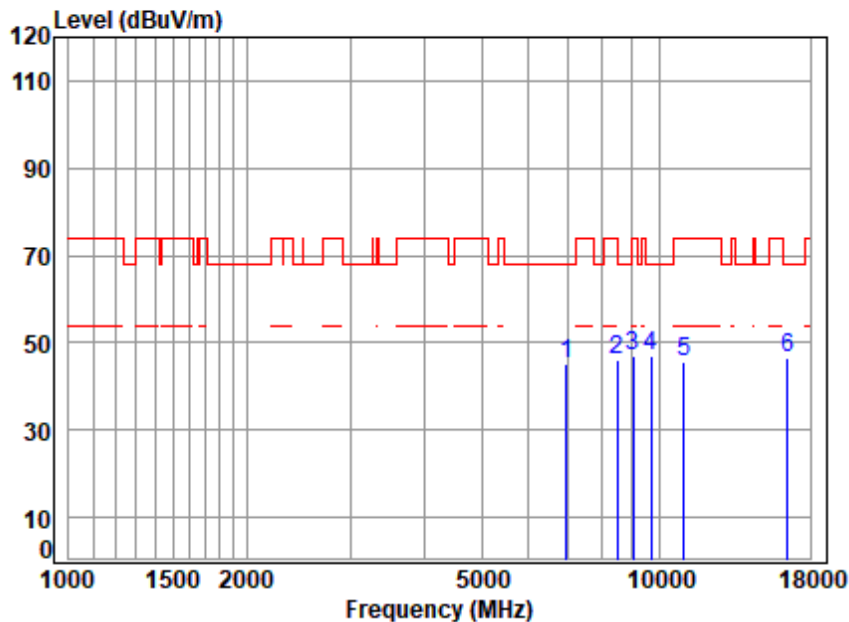
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Test Mode: 11; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Condition: 3m VERTICAL

Job No : 02101MO

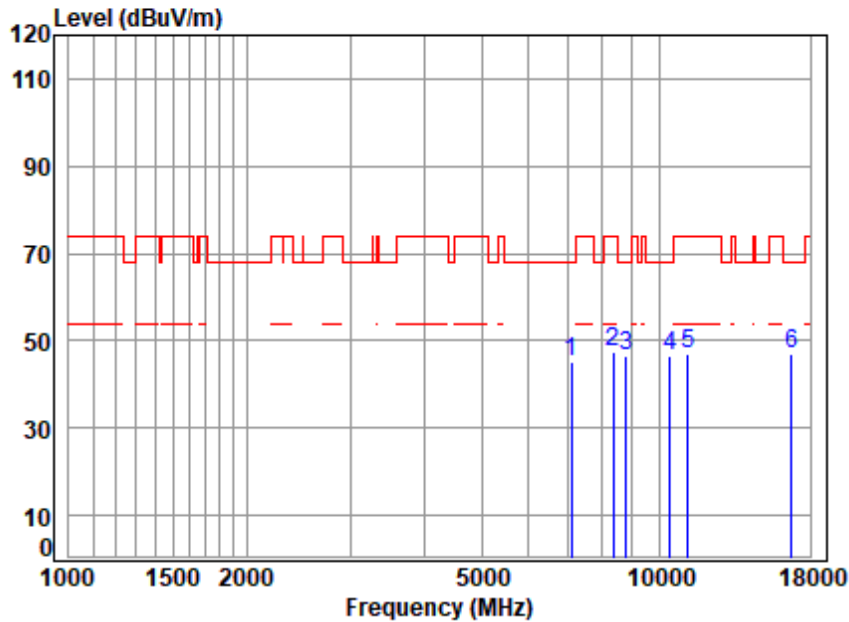
Mode : 5500 TX RSE

: 5G WIFI 11AC20

	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	6959.073	11.37	36.12	56.71	54.17	44.95	68.20	-23.25 peak
2	8496.769	12.29	38.31	55.45	50.79	45.94	74.00	-28.06 peak
3	9041.442	12.14	38.60	54.96	51.21	46.99	74.00	-27.01 peak
4 pp	9689.874	12.67	38.70	54.38	49.80	46.79	68.20	-21.41 peak
5	11000.000	14.17	39.40	53.50	45.58	45.65	74.00	-28.35 peak
6	16500.000	17.74	38.90	54.15	43.98	46.47	68.20	-21.73 peak



Test Mode: 11; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:middle



Condition: 3m HORIZONTAL

Job No : 02101MO

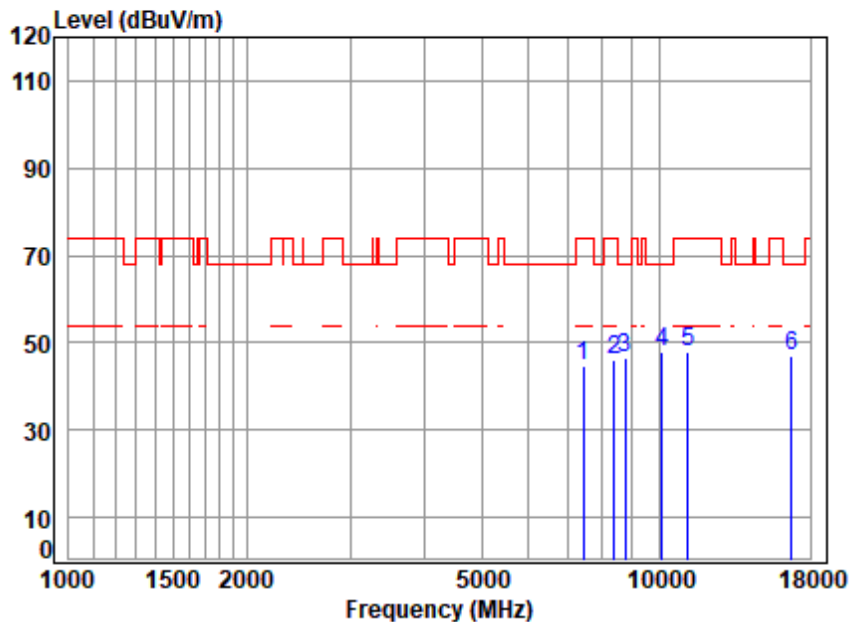
Mode : 5580 TX RSE

: 5G WIFI 11AC20

	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	7109.531	11.95	36.42	56.61	53.37	45.13	68.20	-23.07 peak
2	8350.908	11.69	38.70	55.58	52.61	47.42	74.00	-26.58 peak
3	8796.179	12.24	38.50	55.18	51.13	46.69	68.20	-21.51 peak
4	10437.830	13.63	39.04	53.84	47.92	46.75	68.20	-21.45 peak
5	11160.000	14.72	39.56	53.55	46.09	46.82	74.00	-27.18 peak
6	pp16740.000	17.54	39.48	54.22	44.19	46.99	68.20	-21.21 peak



Test Mode: 11; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:middle



Condition: 3m VERTICAL

Job No : 02101MO

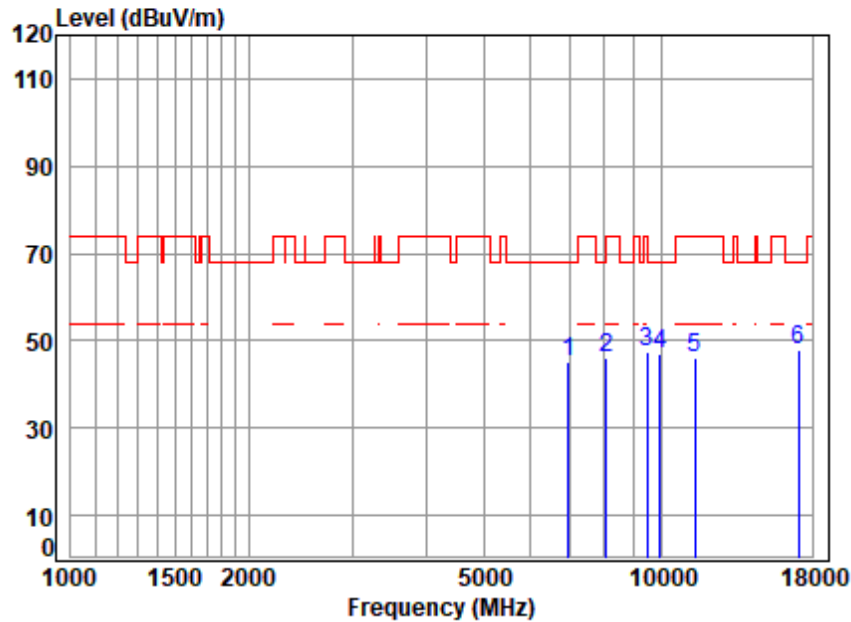
Mode : 5580 TX RSE

: 5G WIFI 11AC20

	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	7450.570	11.36	36.80	56.34	53.01	44.83	74.00	-29.17 peak
2	8402.101	11.64	38.59	55.54	51.42	46.11	74.00	-27.89 peak
3	8751.494	12.17	38.50	55.22	51.28	46.73	68.20	-21.47 peak
4	pp10103.110	13.26	39.10	54.04	49.42	47.74	68.20	-20.46 peak
5	11160.000	14.72	39.56	53.55	47.15	47.88	74.00	-26.12 peak
6	16740.000	17.54	39.48	54.22	43.97	46.77	68.20	-21.43 peak



Test Mode: 11; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5700 TX RSE

: 5G WIFI 11AC20

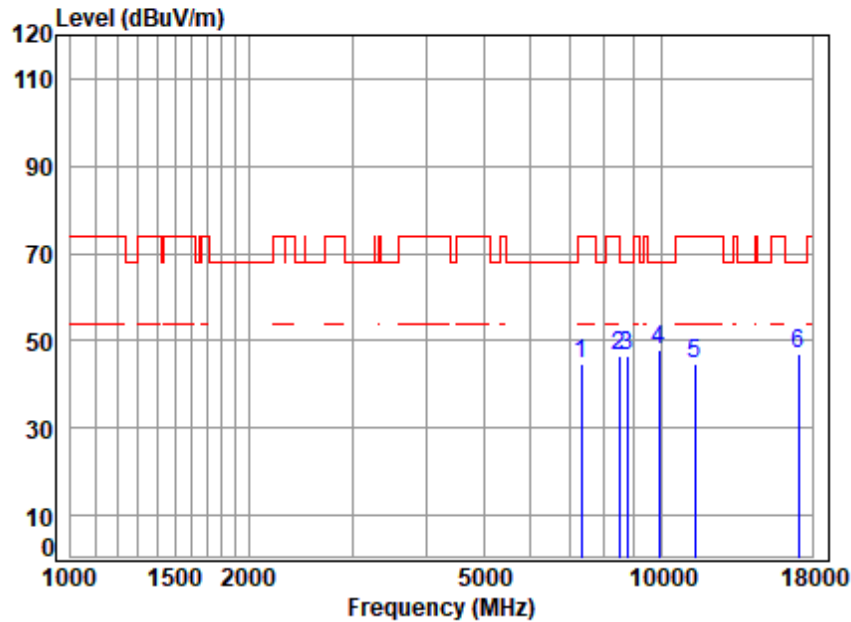
	Cable	Ant	Preamp	Read		Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	6959.073	11.37	36.12	56.71	54.39	45.17	68.20	-23.03 peak
2	8083.105	11.47	37.80	55.83	52.53	45.97	74.00	-28.03 peak
3	9455.871	12.45	38.81	54.59	50.72	47.39	74.00	-26.61 peak
4	9939.788	12.88	38.90	54.15	49.35	46.98	68.20	-21.22 peak
5	11400.000	14.21	39.70	53.62	45.96	46.25	74.00	-27.75 peak
6	pp17100.000	18.47	39.80	54.32	43.82	47.77	68.20	-20.43 peak



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Test Mode: 11; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



Condition: 3m VERTICAL

Job No : 02101MO

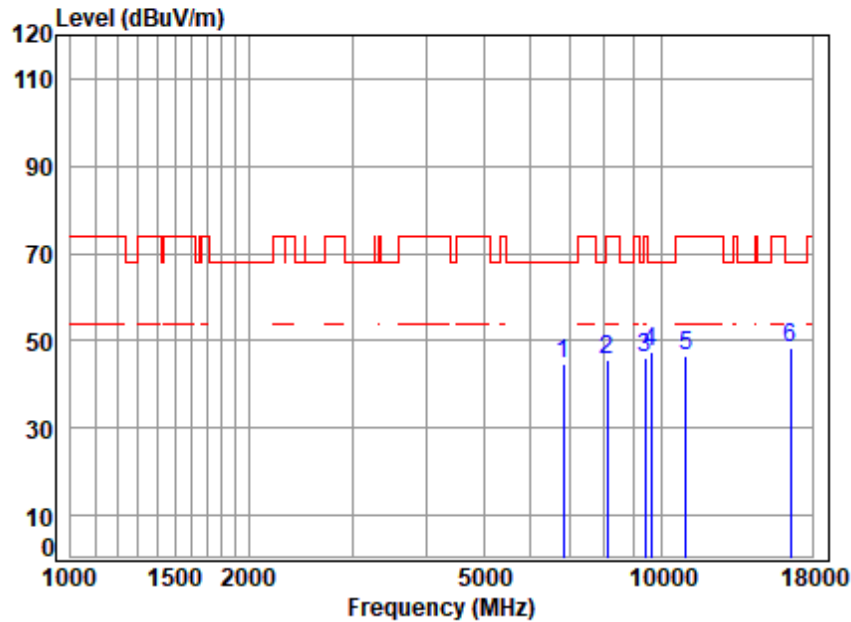
Mode : 5700 TX RSE

: 5G WIFI 11AC20

	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	7330.131	11.51	36.76	56.44	53.06	44.89	74.00	-29.11 peak
2	8496.769	12.29	38.31	55.45	51.33	46.48	74.00	-27.52 peak
3	8769.341	12.20	38.50	55.21	51.02	46.51	68.20	-21.69 peak
4 pp	9899.373	12.80	38.89	54.19	50.61	48.11	68.20	-20.09 peak
5	11400.000	14.21	39.70	53.62	44.61	44.90	74.00	-29.10 peak
6	17100.000	18.47	39.80	54.32	43.19	47.14	68.20	-21.06 peak



Test Mode: 11; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

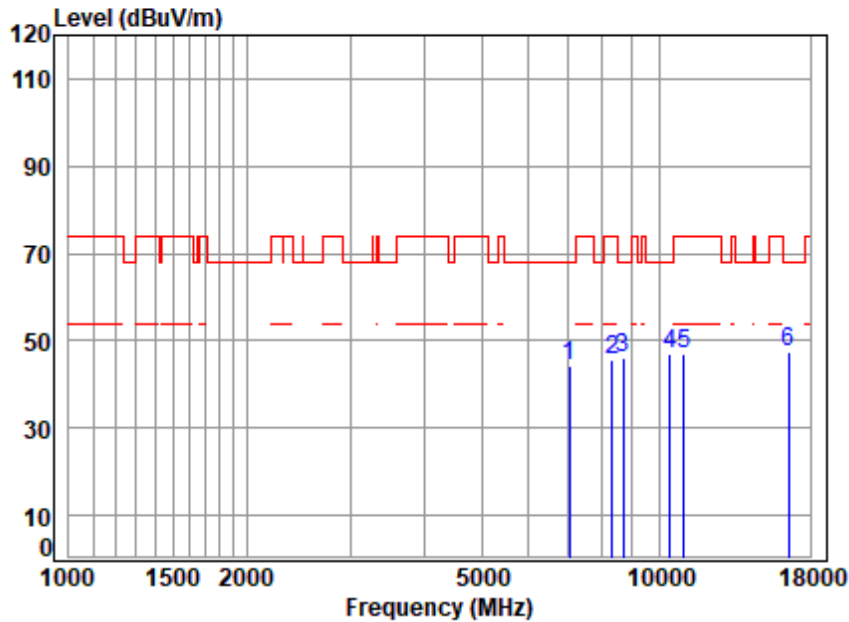
Mode : 5510 TX RSE

: 5G WIFI 11AC40

	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	6839.609	11.37	35.98	56.73	54.29	44.91	68.20	-23.29 peak
2	8099.588	11.45	37.80	55.81	52.13	45.57	74.00	-28.43 peak
3	9369.584	12.26	38.80	54.67	49.86	46.25	74.00	-27.75 peak
4	9611.236	12.46	38.78	54.45	50.53	47.32	68.20	-20.88 peak
5	11020.000	14.27	39.42	53.51	46.49	46.67	74.00	-27.33 peak
6	pp16530.000	17.71	38.99	54.16	45.79	48.33	68.20	-19.87 peak



Test Mode: 11; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



Condition: 3m VERTICAL

Job No : 02101MO

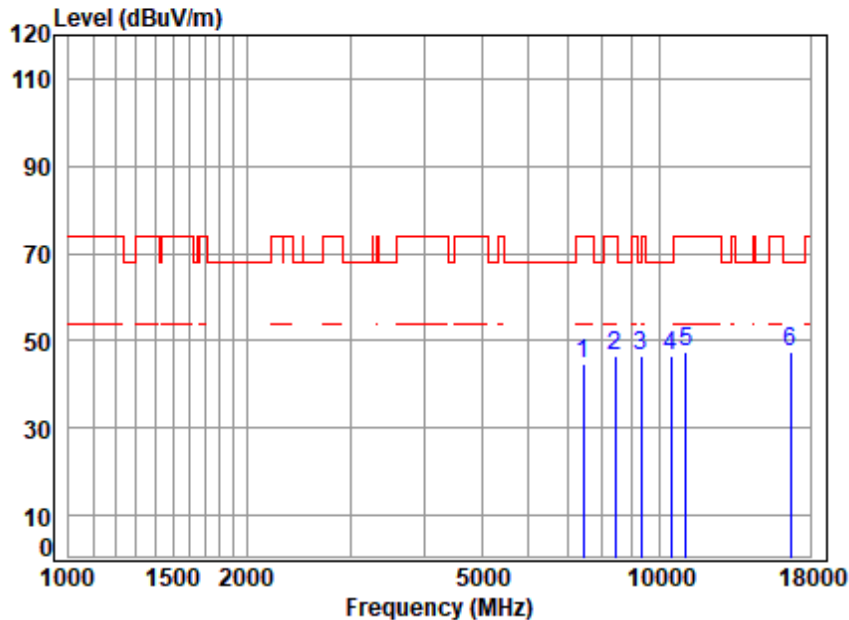
Mode : 5510 TX RSE

: 5G WIFI 11AC40

	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	7051.834	11.69	36.30	56.66	53.13	44.46	68.20	-23.74 peak
2	8308.486	11.75	38.04	55.62	51.53	45.70	74.00	-28.30 peak
3	8698.174	12.09	38.59	55.27	50.89	46.30	68.20	-21.90 peak
4	10427.210	13.63	39.03	53.84	48.26	47.08	68.20	-21.12 peak
5	11020.000	14.27	39.42	53.51	46.79	46.97	74.00	-27.03 peak
6	pp16530.000	17.71	38.99	54.16	45.09	47.63	68.20	-20.57 peak



Test Mode: 11; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:middle



Condition: 3m HORIZONTAL

Job No : 02101MO

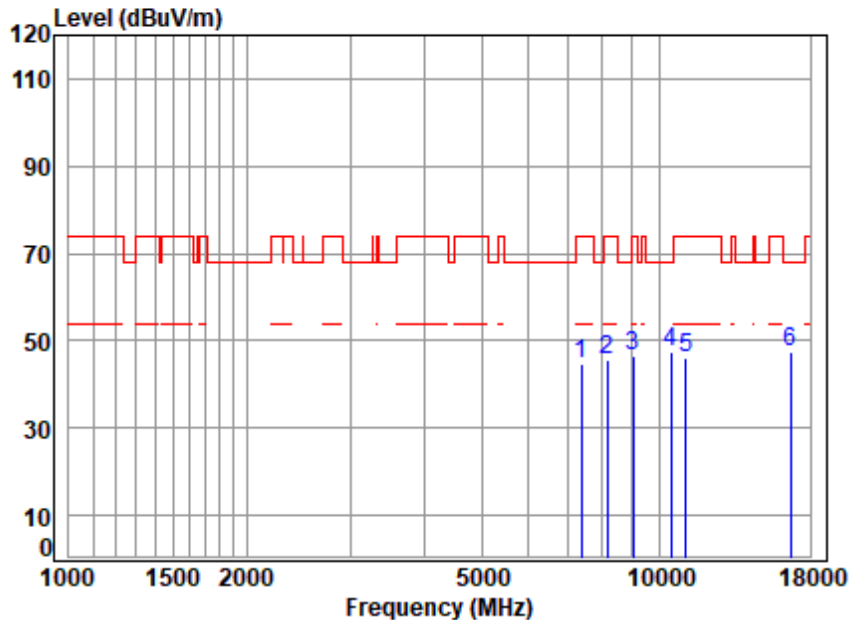
Mode : 5550 TX RSE

: 5G WIFI 11AC40

	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	7427.838	11.42	36.76	56.36	52.97	44.79	74.00	-29.21 peak
2	8427.813	11.82	38.49	55.51	51.54	46.34	74.00	-27.66 peak
3	9321.987	12.20	38.80	54.71	50.31	46.60	74.00	-27.40 peak
4	10480.450	13.64	39.08	53.81	47.85	46.76	68.20	-21.44 peak
5	11100.000	14.66	39.50	53.53	46.86	47.49	74.00	-26.51 peak
6	pp16650.000	17.62	39.30	54.19	44.86	47.59	68.20	-20.61 peak



Test Mode: 11; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:middle



Condition: 3m VERTICAL

Job No : 02101MO

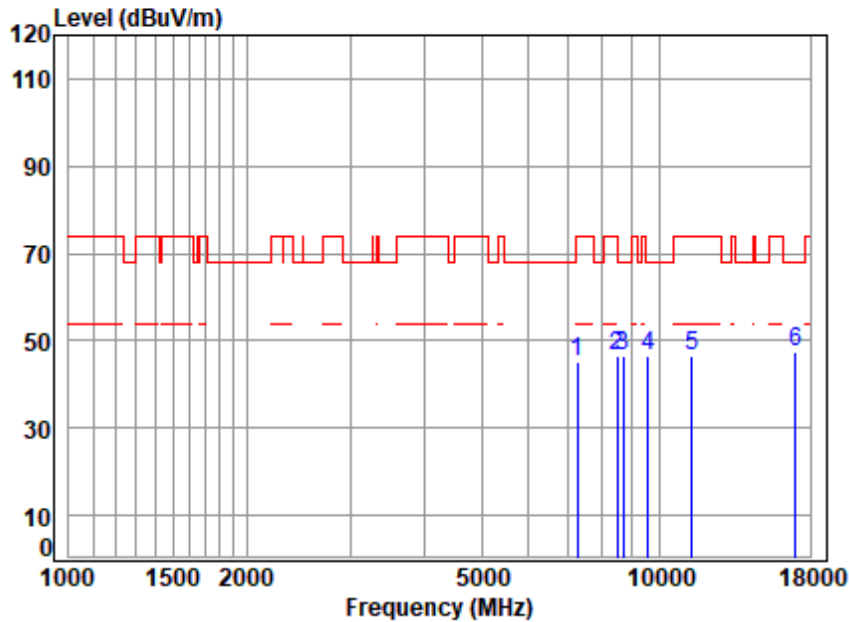
Mode : 5550 TX RSE

: 5G WIFI 11AC40

	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	7367.558	11.50	36.76	56.41	53.07	44.92	74.00	-29.08 peak
2	8157.544	11.52	37.92	55.76	52.01	45.69	74.00	-28.31 peak
3	9023.043	12.14	38.60	54.98	50.90	46.66	74.00	-27.34 peak
4	pp10448.470	13.63	39.05	53.83	48.64	47.49	68.20	-20.71 peak
5	11100.000	14.66	39.50	53.53	45.44	46.07	74.00	-27.93 peak
6	16650.000	17.62	39.30	54.19	44.75	47.48	68.20	-20.72 peak



Test Mode: 11; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



Condition: 3m HORIZONTAL

Job No : 02101MO

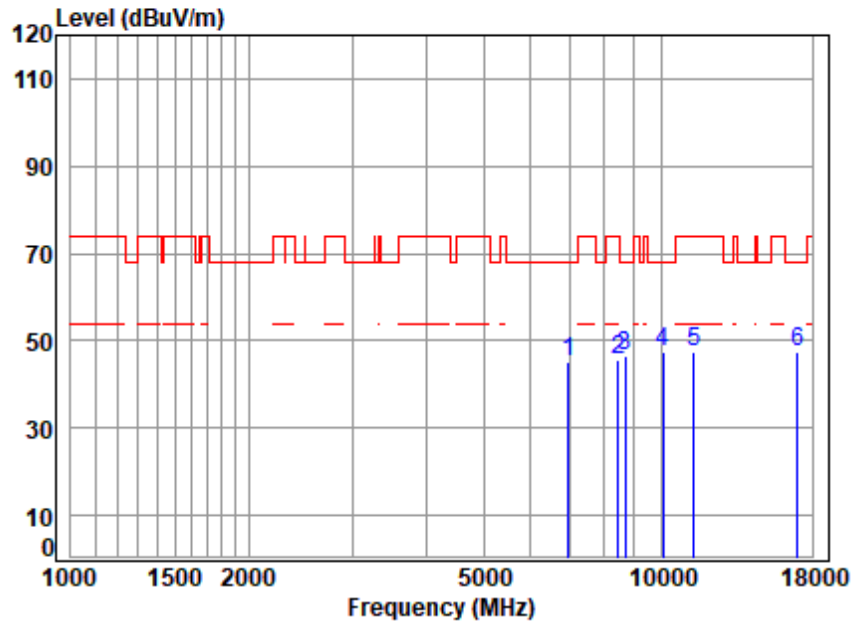
Mode : 5670 TX RSE

: 5G WIFI 11AC40

	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	7270.644	11.51	36.64	56.48	53.33	45.00	74.00	-29.00 peak
2	8479.478	12.17	38.34	55.47	51.42	46.46	74.00	-27.54 peak
3	8680.473	12.06	38.52	55.29	51.25	46.54	68.20	-21.66 peak
4	9581.912	12.45	38.80	54.48	49.71	46.48	68.20	-21.72 peak
5	11340.000	14.47	39.70	53.60	46.13	46.70	74.00	-27.30 peak
6	pp17010.000	18.11	39.71	54.30	43.80	47.32	68.20	-20.88 peak



Test Mode: 11; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5670 TX RSE

: 5G WIFI 11AC40

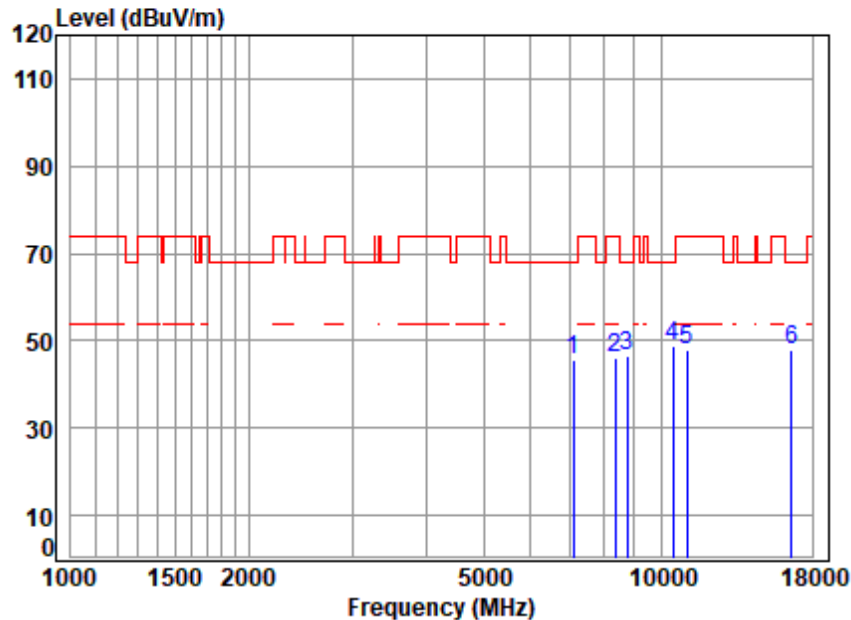
	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	6959.073	11.37	36.12	56.71	54.18	44.96	68.20 -23.24 peak
2	8445.000	11.94	38.42	55.50	50.85	45.71	74.00 -28.29 peak
3	8680.473	12.06	38.52	55.29	51.06	46.35	68.20 -21.85 peak
4	10072.280	13.20	39.04	54.06	49.06	47.24	68.20 -20.96 peak
5	11340.000	14.47	39.70	53.60	46.85	47.42	74.00 -26.58 peak
6	pp17010.000	18.11	39.71	54.30	43.77	47.29	68.20 -20.91 peak



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Test Mode: 11; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



Condition: 3m HORIZONTAL

Job No : 02101MO

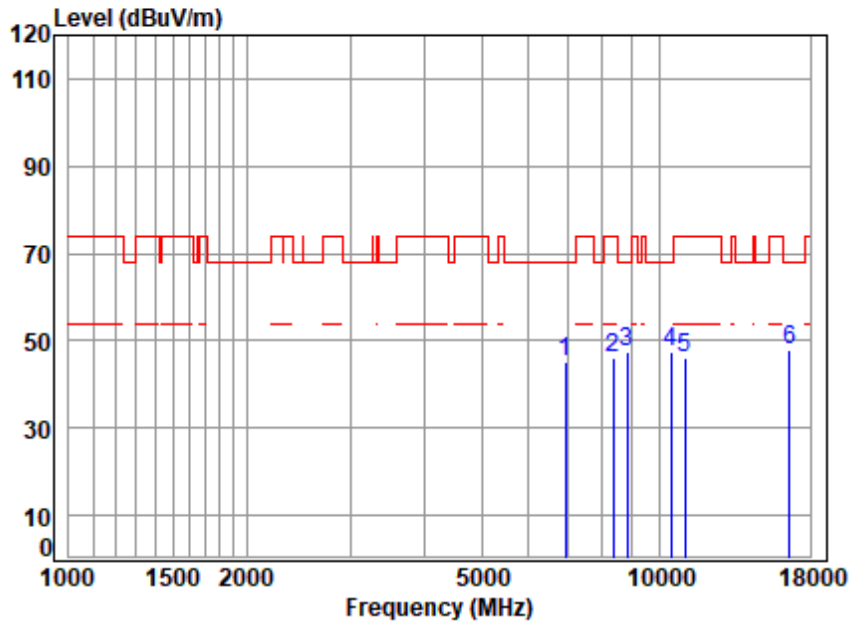
Mode : 5530 TX RSE

: 5G WIFI 11AC80

	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	7109.531	11.95	36.42	56.61	53.88	45.64	68.20 -22.56 peak
2	8350.908	11.69	38.70	55.58	51.27	46.08	74.00 -27.92 peak
3	8751.494	12.17	38.50	55.22	51.02	46.47	68.20 -21.73 peak
4	pp10448.470	13.63	39.05	53.83	50.15	49.00	68.20 -19.20 peak
5	11060.000	14.46	39.46	53.52	47.61	48.01	74.00 -25.99 peak
6	16590.000	17.66	39.17	54.18	45.08	47.73	68.20 -20.47 peak



Test Mode: 11; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5530 TX RSE

: 5G WIFI 11AC80

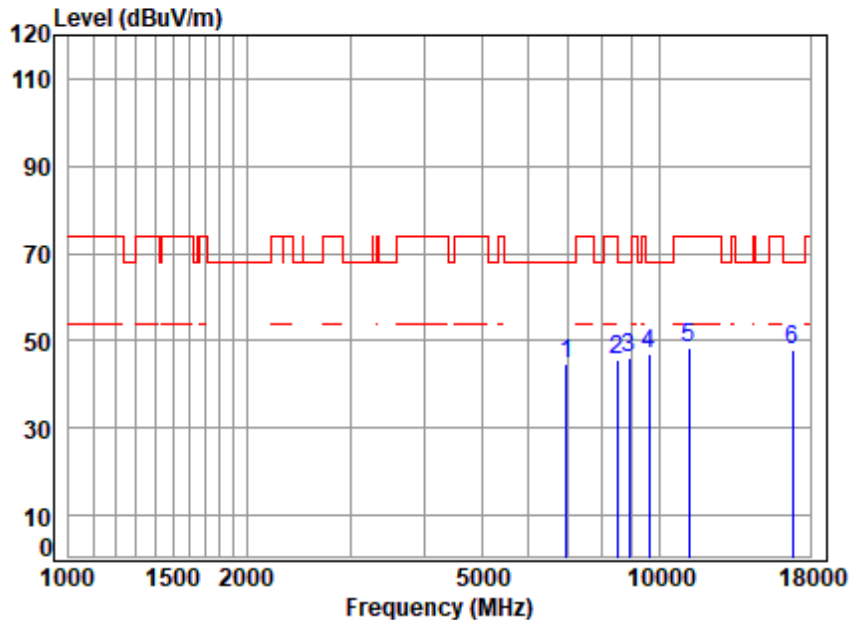
	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	6944.911	11.37	36.11	56.71	54.20	44.97	68.20 -23.23 peak
2	8367.938	11.67	38.66	55.57	51.44	46.20	74.00 -27.80 peak
3	8823.098	12.24	38.50	55.16	51.84	47.42	68.20 -20.78 peak
4	10469.780	13.63	39.07	53.82	48.52	47.40	68.20 -20.80 peak
5	11060.000	14.46	39.46	53.52	45.79	46.19	74.00 -27.81 peak
6	pp16590.000	17.66	39.17	54.18	45.13	47.78	68.20 -20.42 peak



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Test Mode: 11; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



Condition: 3m HORIZONTAL

Job No : 02101MO

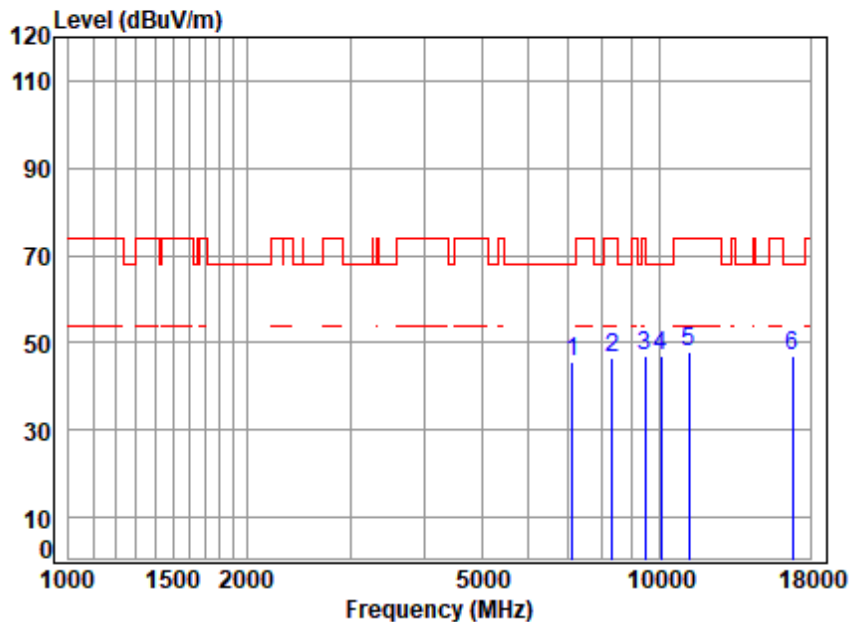
Mode : 5610 TX RSE

: 5G WIFI 11AC80

	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	6973.265	11.37	36.15	56.71	53.88	44.69	68.20 -23.51 peak
2	8479.478	12.17	38.34	55.47	50.53	45.57	74.00 -28.43 peak
3	8895.287	12.22	38.59	55.09	50.59	46.31	68.20 -21.89 peak
4	9621.031	12.49	38.76	54.44	50.23	47.04	68.20 -21.16 peak
5	11220.000	14.74	39.62	53.57	47.41	48.20	74.00 -25.80 peak
6	pp16830.000	17.68	39.60	54.25	44.69	47.72	68.20 -20.48 peak



Test Mode: 11; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



Condition: 3m VERTICAL

Job No : 02101MO

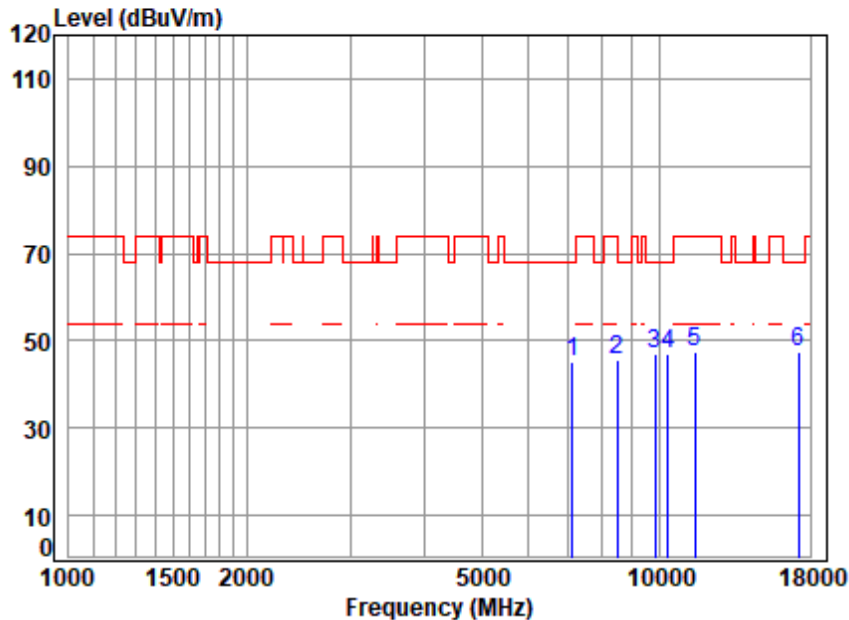
Mode : 5610 TX RSE

: 5G WIFI 11AC80

	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	7124.029	11.88	36.45	56.60	53.79	45.52	68.20	-22.68 peak
2	8308.486	11.75	38.04	55.62	52.40	46.57	74.00	-27.43 peak
3	9465.507	12.47	38.83	54.58	50.31	47.03	74.00	-26.97 peak
4	pp10072.280	13.20	39.04	54.06	49.03	47.21	68.20	-20.99 peak
5	11220.000	14.74	39.62	53.57	47.30	48.09	74.00	-25.91 peak
6	16830.000	17.68	39.60	54.25	44.06	47.09	68.20	-21.11 peak



Test Mode: 12; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

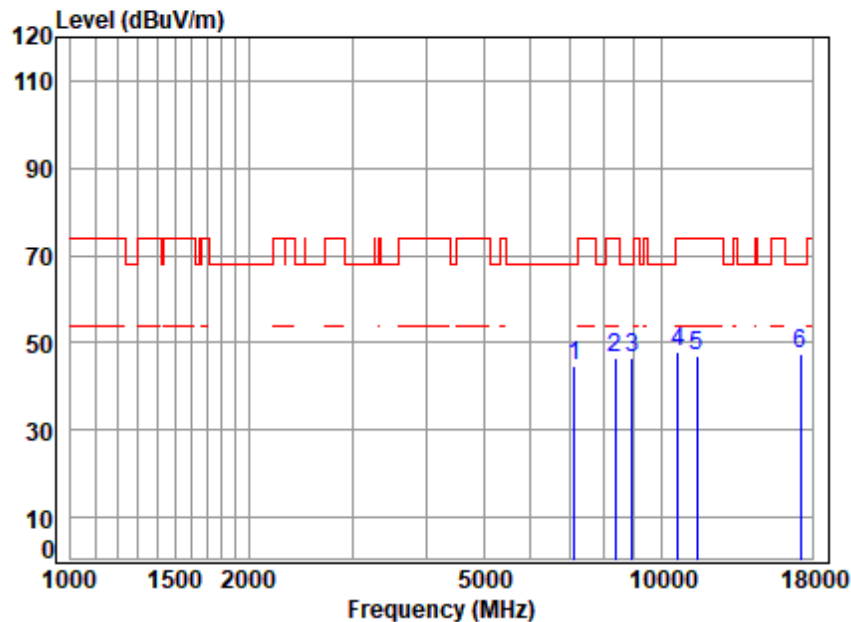
Mode : 5745 TX RSE

: 5G WIFI 11A

	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	7138.557	11.81	36.48	56.59	53.58	45.28	68.20	-22.92 peak
2	8470.845	12.11	38.36	55.48	50.84	45.83	74.00	-28.17 peak
3	9829.042	13.01	38.14	54.25	50.28	47.18	68.20	-21.02 peak
4	10363.680	13.61	39.00	53.88	48.48	47.21	68.20	-20.99 peak
5	11490.000	14.97	39.61	53.65	46.40	47.33	74.00	-26.67 peak
6	pp17235.000	17.83	40.01	54.35	43.94	47.43	68.20	-20.77 peak



Test Mode: 12; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Condition: 3m VERTICAL

Job No : 02101MO

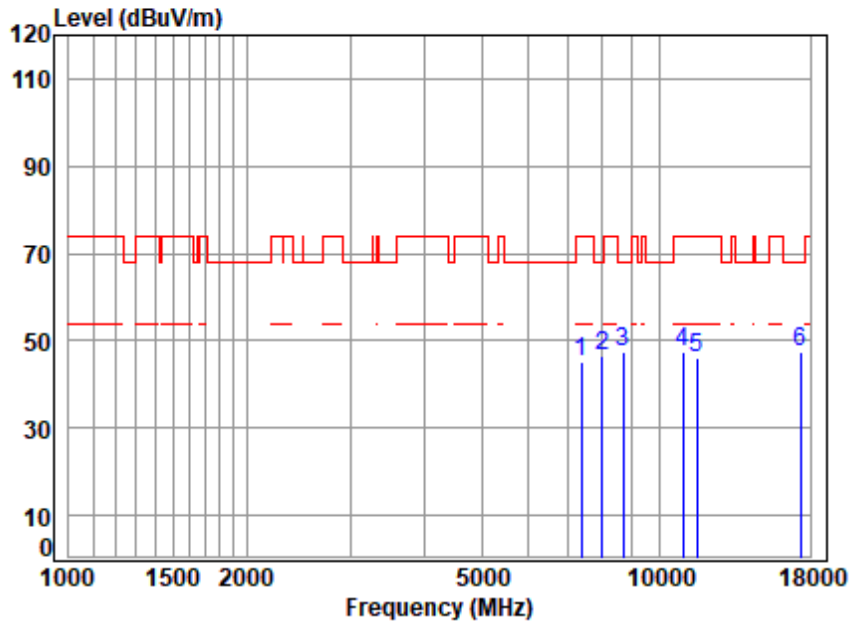
Mode : 5745 TX RSE

: 5G WIFI 11A

	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	7138.557	11.81	36.48	56.59	53.05	44.75	68.20 -23.45 peak
2	8350.908	11.69	38.70	55.58	51.93	46.74	74.00 -27.26 peak
3	8913.427	12.21	38.57	55.08	50.98	46.68	68.20 -21.52 peak
4	10652.650	13.83	39.35	53.71	48.46	47.93	74.00 -26.07 peak
5	11490.000	14.97	39.61	53.65	46.15	47.08	74.00 -26.92 peak
6	pp17235.000	17.83	40.01	54.35	43.85	47.34	68.20 -20.86 peak



Test Mode: 12; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:middle



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5785 TX RSE

: 5G WIFI 11A

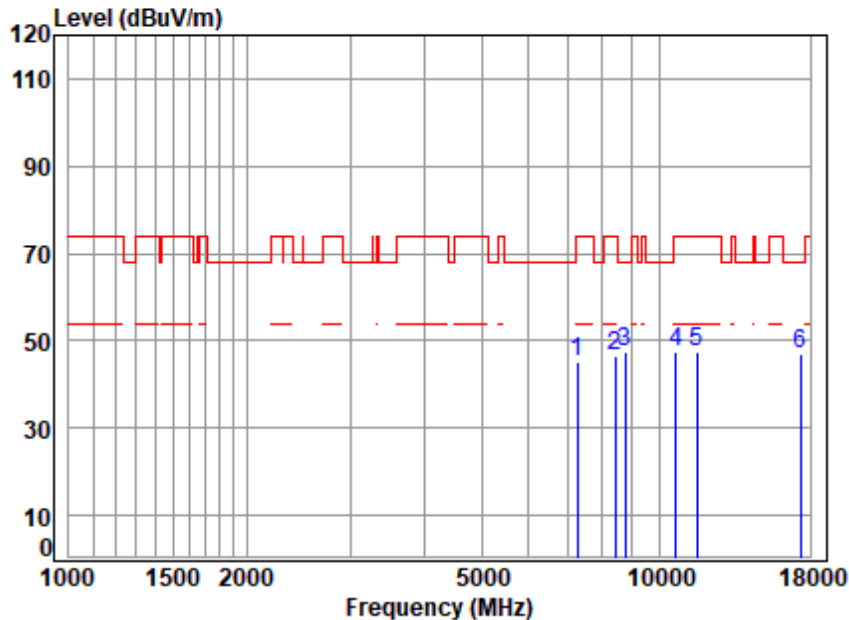
	Cable	Ant	Preamp	Read		Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7382.582	11.50	36.73	56.39	53.14	44.98	74.00	-29.02 peak
2	8009.345	11.55	37.80	55.89	52.85	46.31	68.20	-21.89 peak
3	8680.473	12.06	38.52	55.29	52.02	47.31	68.20	-20.89 peak
4	10972.000	14.11	39.37	53.52	47.68	47.64	74.00	-26.36 peak
5	11570.000	14.78	39.60	53.67	45.52	46.23	74.00	-27.77 peak
6	pp17355.000	18.00	40.31	54.37	43.48	47.42	68.20	-20.78 peak



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Test Mode: 12; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:middle



Condition: 3m VERTICAL

Job No : 02101MO

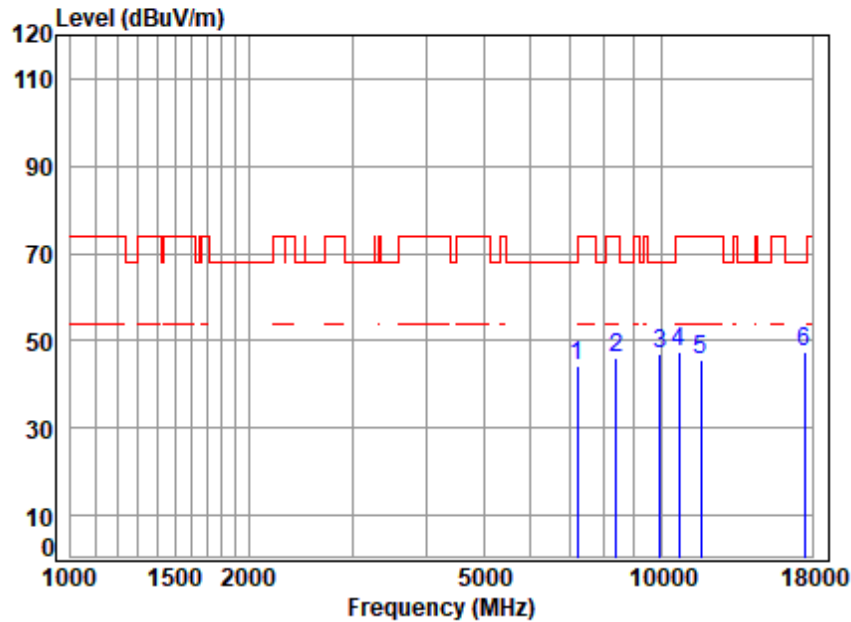
Mode : 5785 TX RSE

: 5G WIFI 11A

	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	7263.242	11.51	36.63	56.49	53.30	44.95	74.00	-29.05	peak
2	8427.813	11.82	38.49	55.51	51.70	46.50	74.00	-27.50	peak
3 pp	8742.585	12.16	38.51	55.23	52.11	47.55	68.20	-20.65	peak
4	10685.250	13.97	39.39	53.69	47.64	47.31	74.00	-26.69	peak
5	11570.000	14.78	39.60	53.67	46.70	47.41	74.00	-26.59	peak
6	17355.000	18.00	40.31	54.37	43.27	47.21	68.20	-20.99	peak



Test Mode: 12; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Condition: 3m HORIZONTAL

Job No : 02101MO

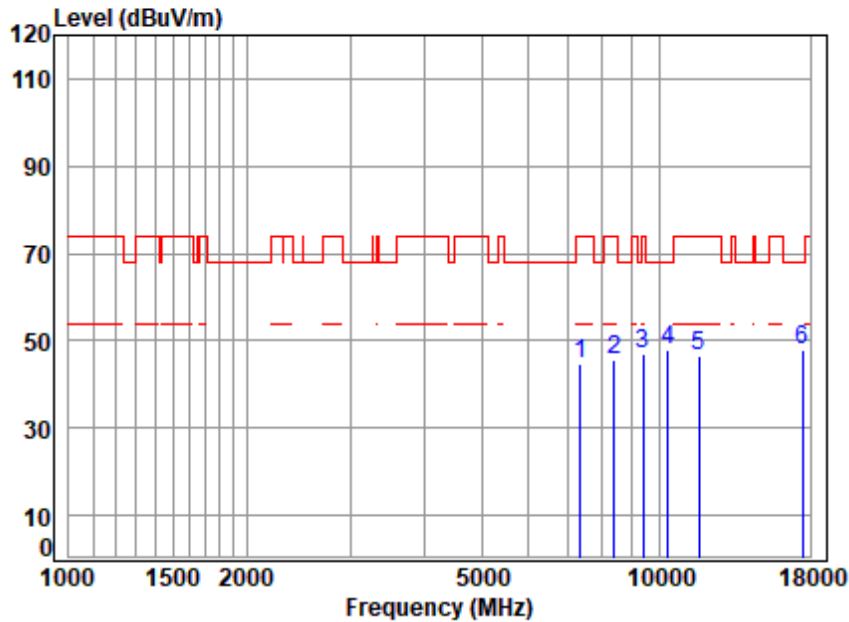
Mode : 5825 TX RSE

: 5G WIFI 11A

	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	7218.988	11.52	36.60	56.52	52.86	44.46	68.20 -23.74 peak
2	8393.547	11.64	38.61	55.55	51.60	46.30	74.00 -27.70 peak
3	9949.918	12.90	38.90	54.15	49.32	46.97	68.20 -21.23 peak
4	10707.040	14.01	39.39	53.68	47.55	47.27	74.00 -26.73 peak
5	11650.000	14.69	39.55	53.69	45.18	45.73	74.00 -28.27 peak
6	pp17475.000	18.35	40.78	54.40	42.63	47.36	68.20 -20.84 peak



Test Mode: 12; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5825 TX RSE

: 5G WIFI 11A

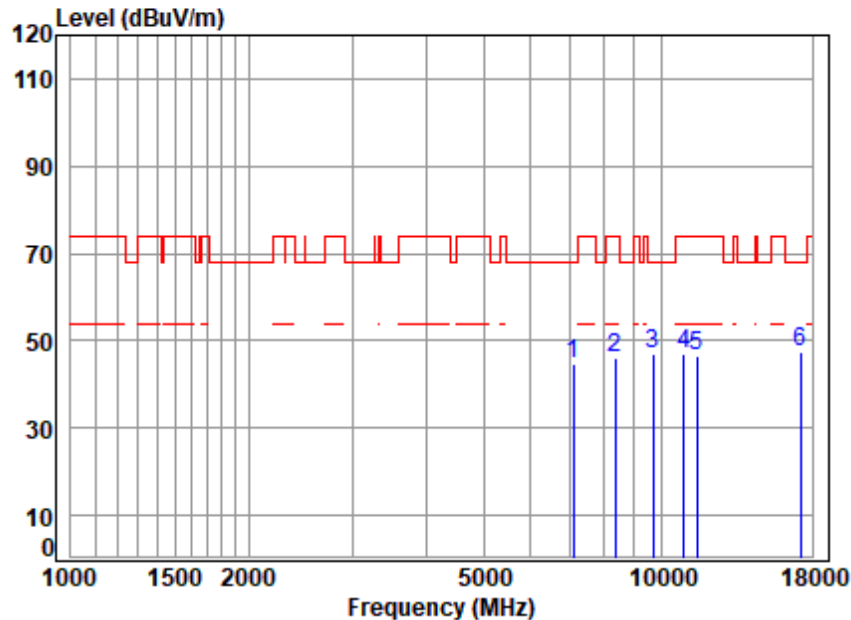
	Cable	Ant	Preamp	Read		Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7345.079	11.51	36.79	56.42	53.01	44.89	74.00	-29.11 peak
2	8393.547	11.64	38.61	55.55	50.98	45.68	74.00	-28.32 peak
3	9388.690	12.29	38.80	54.65	50.48	46.92	74.00	-27.08 peak
4	pp10353.130	13.60	39.00	53.89	49.25	47.96	68.20	-20.24 peak
5	11650.000	14.69	39.55	53.69	45.97	46.52	74.00	-27.48 peak
6	17475.000	18.35	40.78	54.40	43.04	47.77	68.20	-20.43 peak



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Test Mode: 12; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5745 TX RSE

: 5G WIFI 11AC20

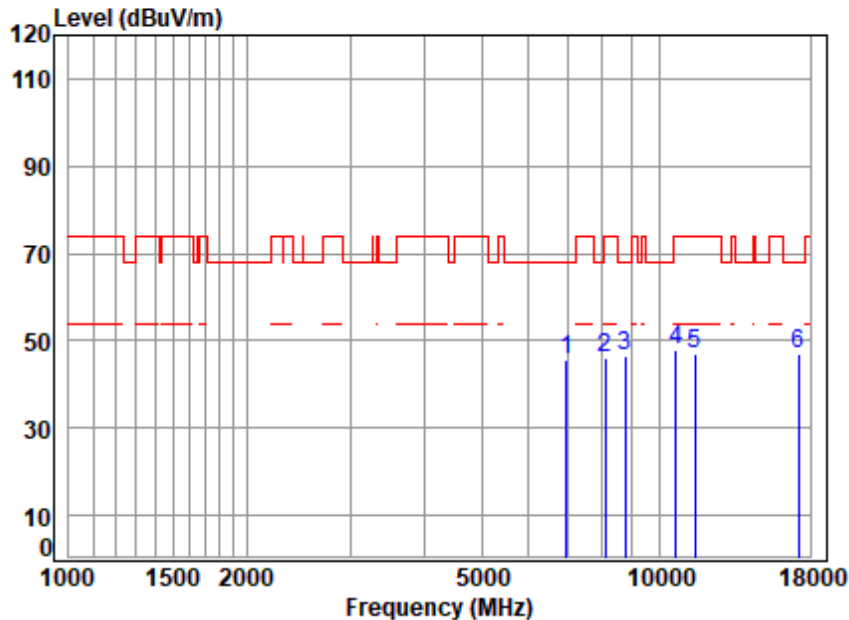
	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7109.531	11.95	36.42	56.61	53.09	44.85	68.20 -23.35 peak
2	8350.908	11.69	38.70	55.58	51.45	46.26	74.00 -27.74 peak
3	9680.010	12.65	38.70	54.39	50.18	47.14	68.20 -21.06 peak
4	10927.390	14.02	39.33	53.54	47.40	47.21	74.00 -26.79 peak
5	11490.000	14.97	39.61	53.65	45.39	46.32	74.00 -27.68 peak
6	pp17235.000	17.83	40.01	54.35	43.90	47.39	68.20 -20.81 peak



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Test Mode: 12; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Condition: 3m VERTICAL

Job No : 02101MO

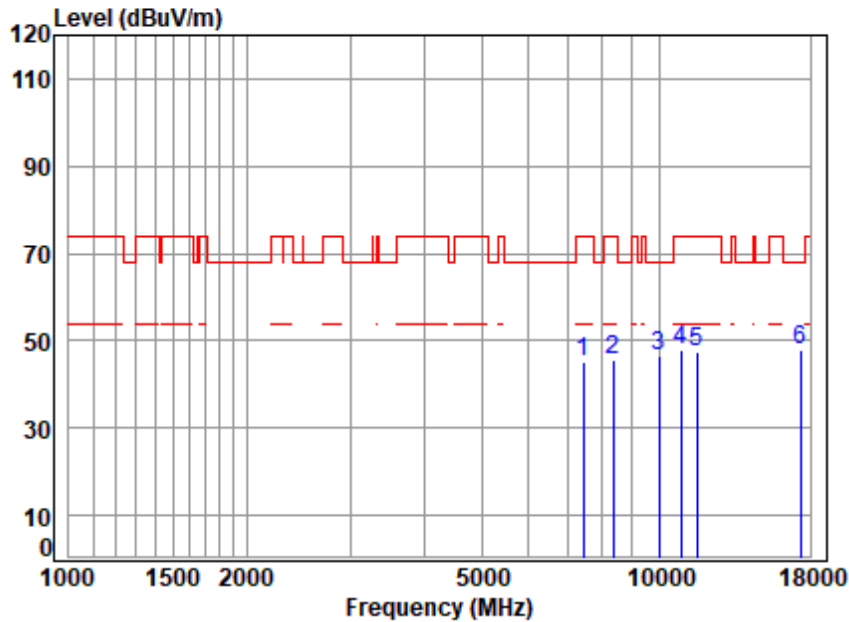
Mode : 5745 TX RSE

: 5G WIFI 11AC20

	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	6959.073	11.37	36.12	56.71	54.80	45.58	68.20	-22.62 peak
2	8099.588	11.45	37.80	55.81	52.74	46.18	74.00	-27.82 peak
3	8751.494	12.17	38.50	55.22	51.22	46.67	68.20	-21.53 peak
4	10685.250	13.97	39.39	53.69	48.21	47.88	74.00	-26.12 peak
5	11490.000	14.97	39.61	53.65	46.07	47.00	74.00	-27.00 peak
6	pp17235.000	17.83	40.01	54.35	43.70	47.19	68.20	-21.01 peak



Test Mode: 12; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:middle



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5785 TX RSE

: 5G WIFI 11AC20

	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	7442.985	11.38	36.79	56.35	53.40	45.22	74.00	-28.78 peak
2	8367.938	11.67	38.66	55.57	51.08	45.84	74.00	-28.16 peak
3	9970.208	12.95	38.90	54.13	49.04	46.76	68.20	-21.44 peak
4	10882.960	13.91	39.30	53.57	48.28	47.92	74.00	-26.08 peak
5	11570.000	14.78	39.60	53.67	46.66	47.37	74.00	-26.63 peak
6	pp17355.000	18.00	40.31	54.37	44.05	47.99	68.20	-20.21 peak



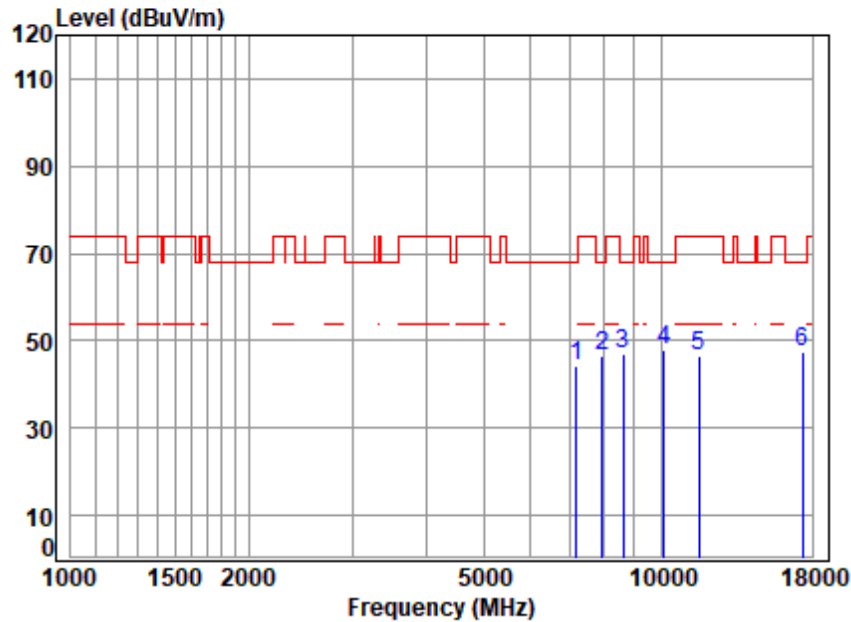
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 97 of 357

Test Mode: 12; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:middle



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5785 TX RSE

: 5G WIFI 11AC20

	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	7167.700	11.67	36.54	56.57	52.85	44.49	68.20	-23.71 peak
2	7952.441	11.55	37.70	55.94	53.02	46.33	68.20	-21.87 peak
3	8618.801	11.98	38.46	55.34	51.80	46.90	68.20	-21.30 peak
4	pp10103.110	13.26	39.10	54.04	49.52	47.84	68.20	-20.36 peak
5	11570.000	14.78	39.60	53.67	45.70	46.41	74.00	-27.59 peak
6	17355.000	18.00	40.31	54.37	43.60	47.54	68.20	-20.66 peak



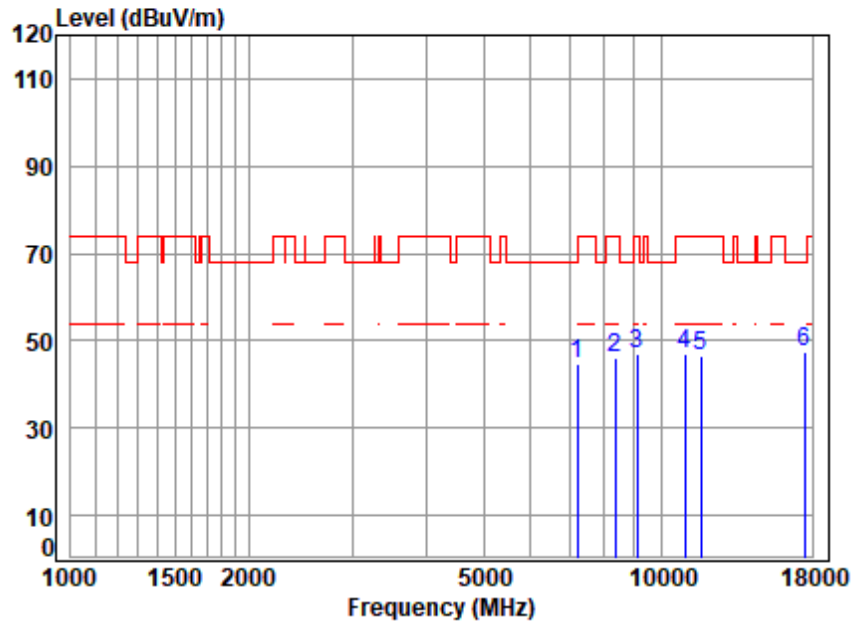
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Test Mode: 12; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5825 TX RSE

: 5G WIFI 11AC20

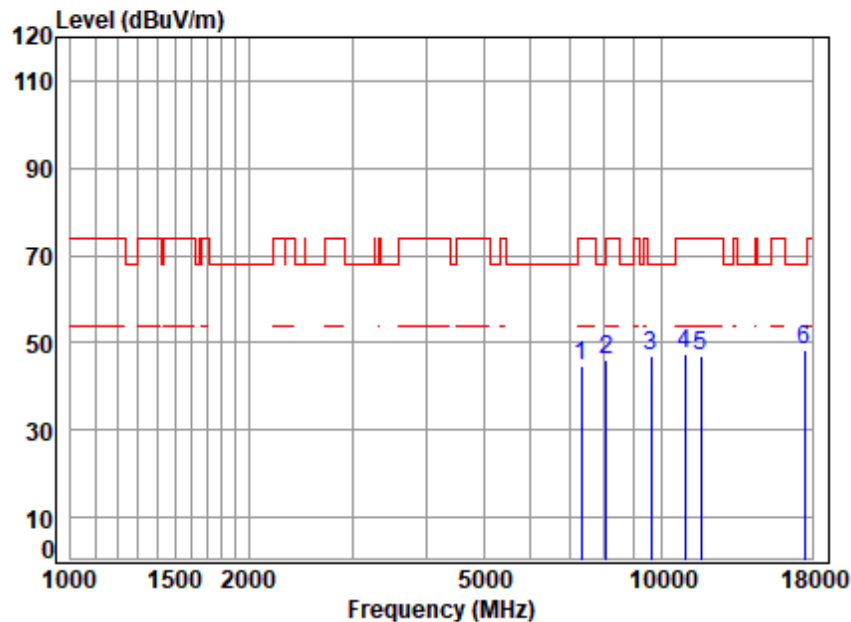
	Cable	Ant	Preamp	Read		Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7211.639	11.52	36.60	56.53	53.26	44.85	68.20	-23.35 peak
2	8350.908	11.69	38.70	55.58	51.29	46.10	74.00	-27.90 peak
3	9115.418	12.15	38.63	54.90	51.21	47.09	74.00	-26.91 peak
4	10983.190	14.13	39.38	53.51	47.13	47.13	74.00	-26.87 peak
5	11650.000	14.69	39.55	53.69	45.88	46.43	74.00	-27.57 peak
6	pp17475.000	18.35	40.78	54.40	42.92	47.65	68.20	-20.55 peak



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Test Mode: 12; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5825 TX RSE

: 5G WIFI 11AC20

	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	7330.131	11.51	36.76	56.44	52.92	44.75	74.00	-29.25 peak
2	8083.105	11.47	37.80	55.83	52.50	45.94	74.00	-28.06 peak
3	9611.236	12.46	38.78	54.45	49.99	46.78	68.20	-21.42 peak
4	10972.000	14.11	39.37	53.52	47.38	47.34	74.00	-26.66 peak
5	11650.000	14.69	39.55	53.69	46.31	46.86	74.00	-27.14 peak
6	pp17475.000	18.35	40.78	54.40	43.61	48.34	68.20	-19.86 peak



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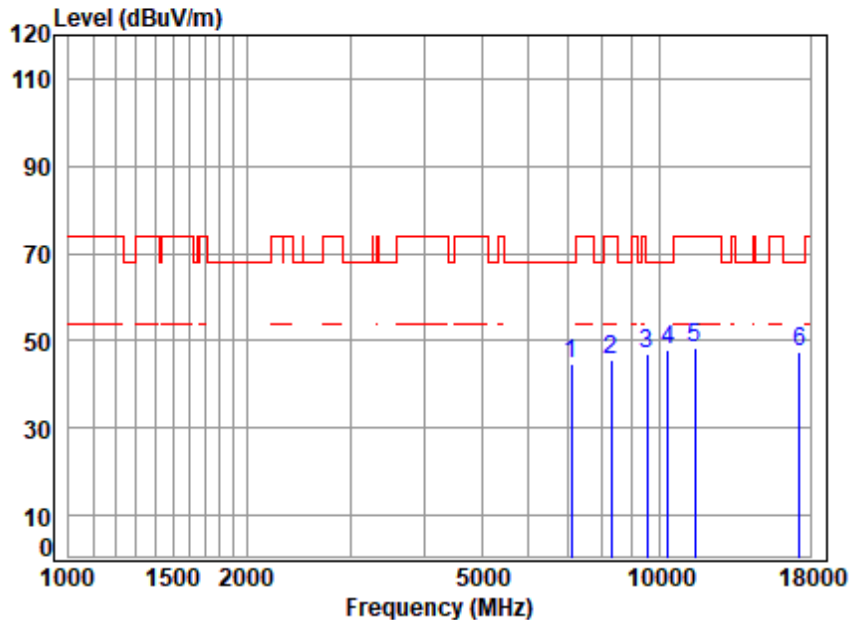
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 100 of 357

Test Mode: 12; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5755 TX RSE

: 5G WIFI 11AC40

	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	7102.293	11.98	36.40	56.62	53.11	44.87	68.20 -23.33 peak
2	8291.578	11.74	37.88	55.64	51.82	45.80	74.00 -28.20 peak
3	9542.952	12.50	38.81	54.51	50.40	47.20	68.20 -21.00 peak
4	pp10353.130	13.60	39.00	53.89	49.22	47.93	68.20 -20.27 peak
5	11510.000	15.01	39.60	53.65	47.24	48.20	74.00 -25.80 peak
6	17265.000	17.83	40.10	54.35	43.93	47.51	68.20 -20.69 peak



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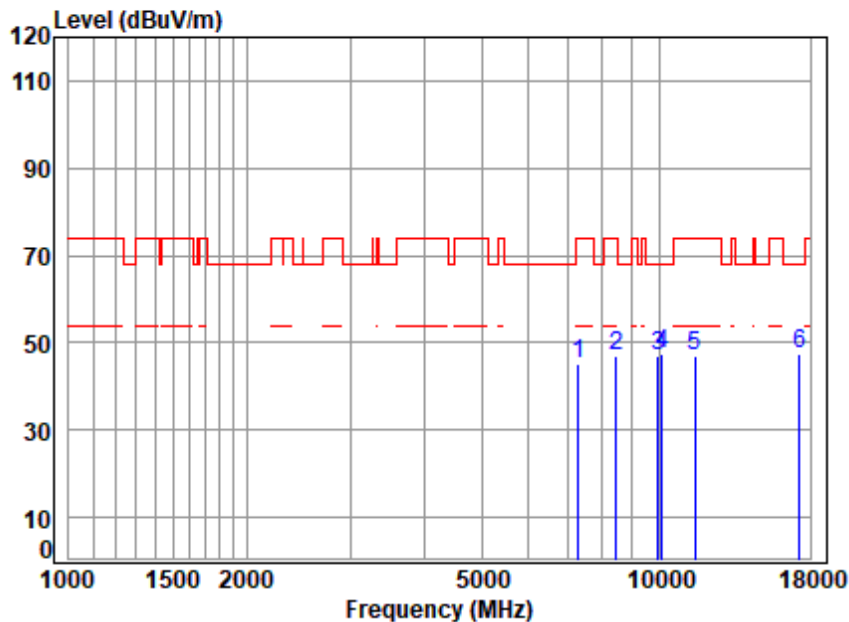
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 101 of 357

Test Mode: 12; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5755 TX RSE

: 5G WIFI 11AC40

	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	7292.895	11.51	36.69	56.47	53.27	45.00	74.00 -29.00 peak
2	8453.606	11.99	38.39	55.49	52.10	46.99	74.00 -27.01 peak
3	9949.918	12.90	38.90	54.15	49.41	47.06	68.20 -21.14 peak
4	10092.820	13.25	39.09	54.04	49.36	47.66	68.20 -20.54 peak
5	11510.000	15.01	39.60	53.65	45.89	46.85	74.00 -27.15 peak
6	pp17265.000	17.83	40.10	54.35	44.08	47.66	68.20 -20.54 peak



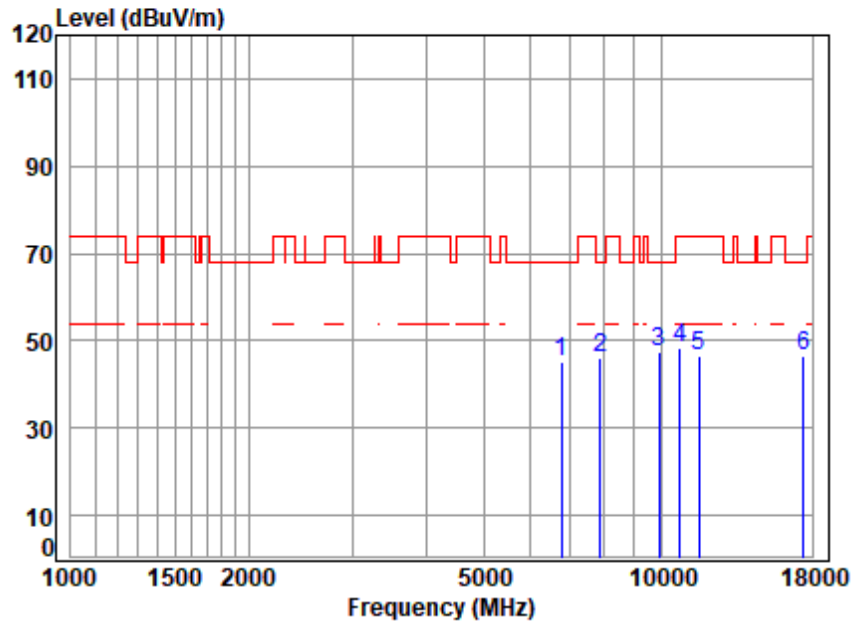
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Test Mode: 12; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



Condition: 3m HORIZONTAL

Job No : 02101MO

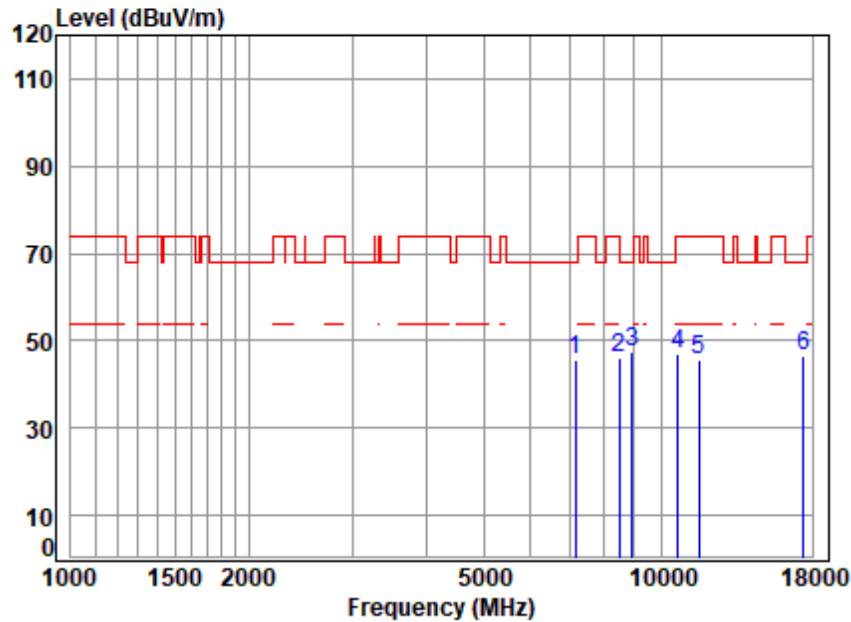
Mode : 5795 TX RSE

: 5G WIFI 11AC40

	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	6784.103	11.38	35.84	56.74	54.81	45.29	68.20	-22.91 peak
2	7895.942	11.53	37.58	55.98	52.73	45.86	68.20	-22.34 peak
3 pp	9929.669	12.86	38.90	54.16	49.98	47.58	68.20	-20.62 peak
4	10772.670	13.78	39.33	53.64	48.74	48.21	74.00	-25.79 peak
5	11590.000	14.70	39.60	53.68	46.09	46.71	74.00	-27.29 peak
6	17385.000	18.09	40.37	54.38	42.27	46.35	68.20	-21.85 peak



Test Mode: 12; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



Condition: 3m VERTICAL

Job No : 02101MO

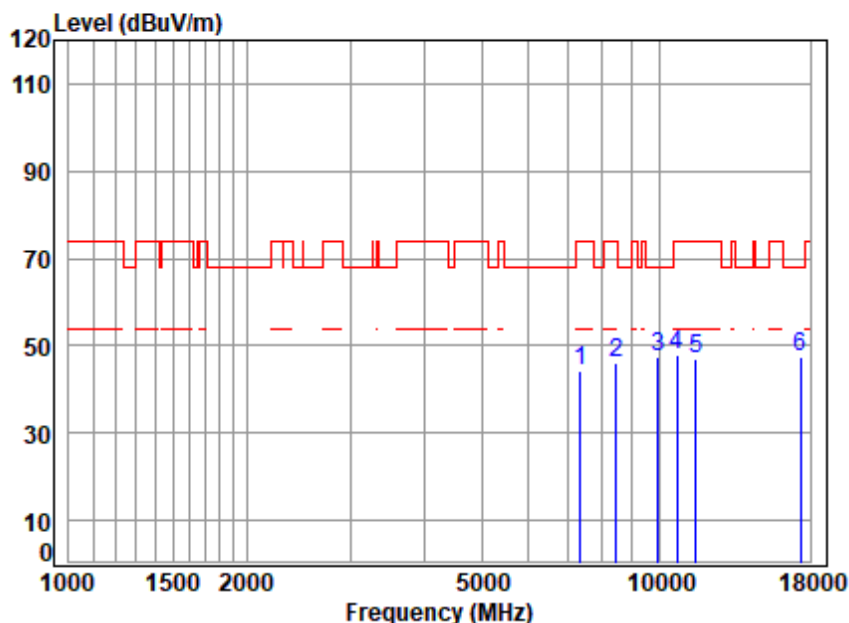
Mode : 5795 TX RSE

: 5G WIFI 11AC40

	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	7160.403	11.71	36.52	56.57	54.13	45.79	68.20	-22.41 peak
2	8496.769	12.29	38.31	55.45	50.82	45.97	74.00	-28.03 peak
3 pp	8940.705	12.19	38.52	55.05	51.60	47.26	68.20	-20.94 peak
4	10685.250	13.97	39.39	53.69	47.49	47.16	74.00	-26.84 peak
5	11590.000	14.70	39.60	53.68	44.98	45.60	74.00	-28.40 peak
6	17385.000	18.09	40.37	54.38	42.39	46.47	68.20	-21.73 peak



Test Mode: 12; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5775 TX RSE

: 5G WIFI 11AC80

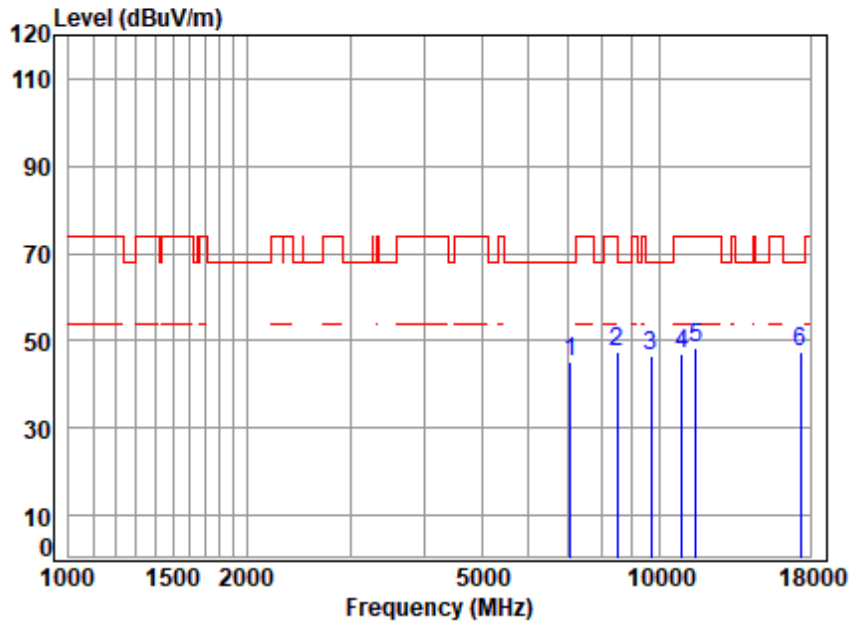
	Cable	Ant	Preamp	Read		Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7360.057	11.50	36.78	56.41	52.54	44.41	74.00	-29.59 peak
2	8462.222	12.05	38.38	55.48	51.13	46.08	74.00	-27.92 peak
3 pp	9939.788	12.88	38.90	54.15	49.98	47.61	68.20	-20.59 peak
4	10696.140	14.02	39.40	53.68	48.17	47.91	74.00	-26.09 peak
5	11550.000	14.85	39.60	53.67	46.10	46.88	74.00	-27.12 peak
6	17325.000	17.92	40.25	54.36	43.57	47.38	68.20	-20.82 peak



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Test Mode: 12; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5775 TX RSE

: 5G WIFI 11AC80

	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	7073.416	11.83	36.35	56.64	53.53	45.07	68.20	-23.13 peak
2	8496.769	12.29	38.31	55.45	52.34	47.49	74.00	-26.51 peak
3	9699.749	12.70	38.70	54.37	49.37	46.40	68.20	-21.80 Peak
4	10938.530	14.04	39.34	53.54	47.08	46.92	74.00	-27.08 peak
5	11550.000	14.85	39.60	53.67	47.43	48.21	74.00	-25.79 peak
6	pp17325.000	17.92	40.25	54.36	43.55	47.36	68.20	-20.84 peak



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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 106 of 357

7.5 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.

7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 24.5 °C

Humidity: 51.8 % RH

Atmospheric Pressure: 1020 mbar



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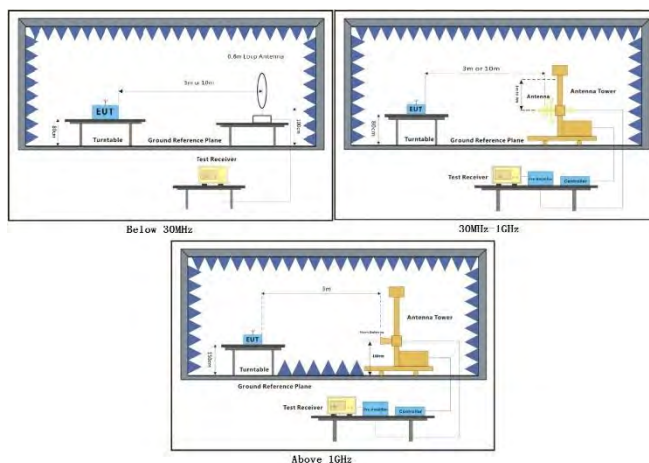
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Shenzhen Branch Testing Laboratory

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn
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

7.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	09	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	10	TX mode (U-NII-2A)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	11	TX mode (U-NII-2C)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	12	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.

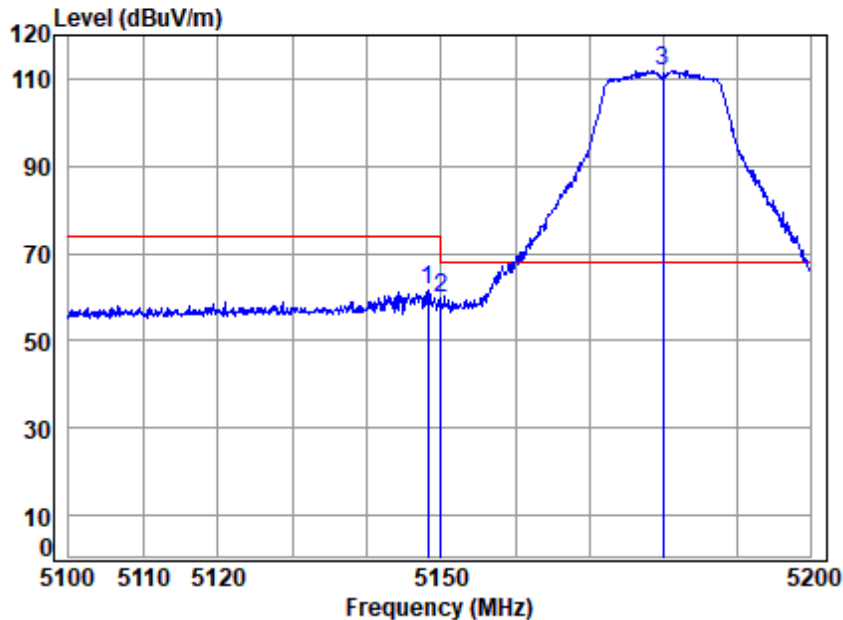
7.5.3 Test Setup Diagram



7.5.4 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: 09; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Condition: 3m HORIZONTAL

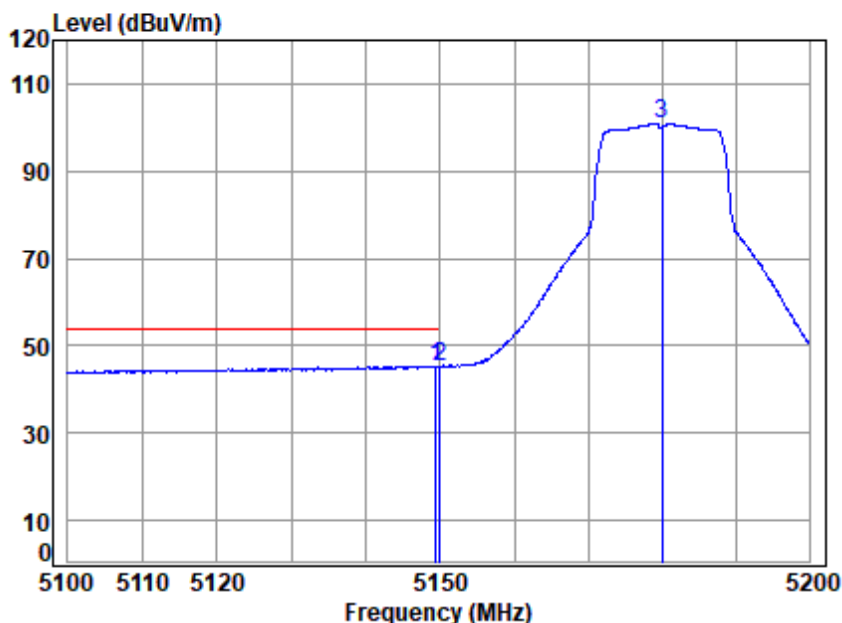
Job No : 02101MO

Mode : 5180 Band edge
: 5GWIFI 11A

		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	5148.257	10.13	32.40	30.84	50.01	61.70	74.00	-12.30	peak
2	5149.980	10.14	32.40	30.84	48.08	59.78	74.00	-14.22	peak
3 pp	5180.000	10.25	32.46	30.83	99.93	111.81	68.20	43.61	peak



Test Mode: 09; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5180 Band edge
: 5GWIFI 11A

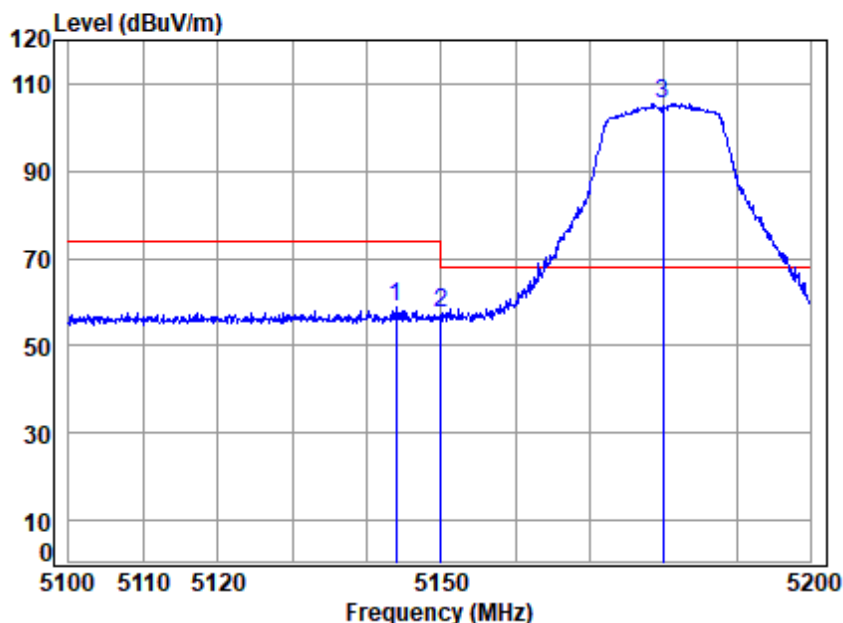
		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5149.458	10.14	32.40	30.84	33.68	45.38	54.00	-8.62	Average
2	5149.980	10.14	32.40	30.84	33.61	45.31	54.00	-8.69	Average
3	5180.000	10.25	32.46	30.83	89.10	100.98	-----	-----	Average



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Test Mode: 09; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Condition: 3m VERTICAL

Job No : 02101MO

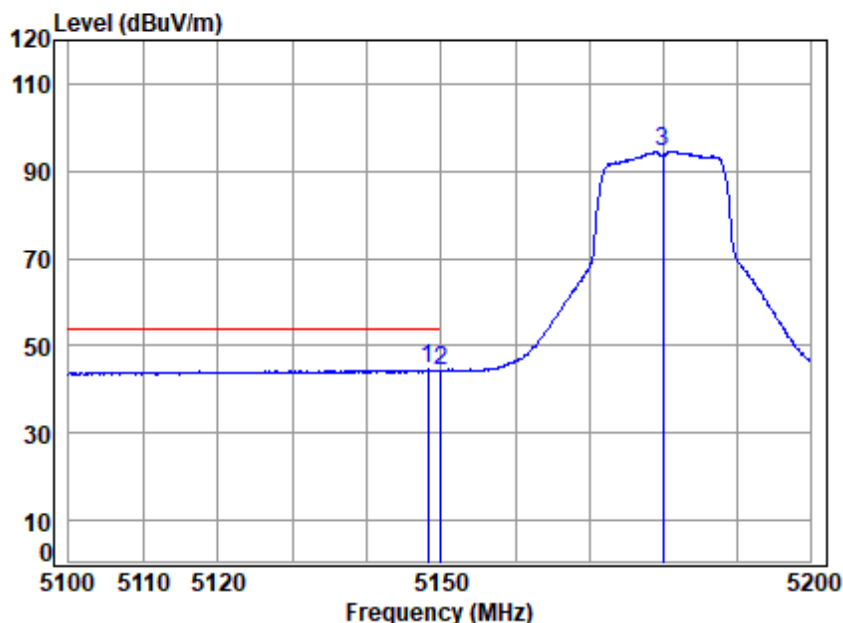
Mode : 5180 Band edge

: 5GWIFI 11A

		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	5143.861	10.12	32.39	30.84	47.04	58.71	74.00	-15.29	peak
2	5149.980	10.14	32.40	30.84	45.58	57.28	74.00	-16.72	peak
3 pp	5180.000	10.25	32.46	30.83	93.48	105.36	68.20	37.16	peak



Test Mode: 09; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Condition: 3m VERTICAL

Job No : 02101MO

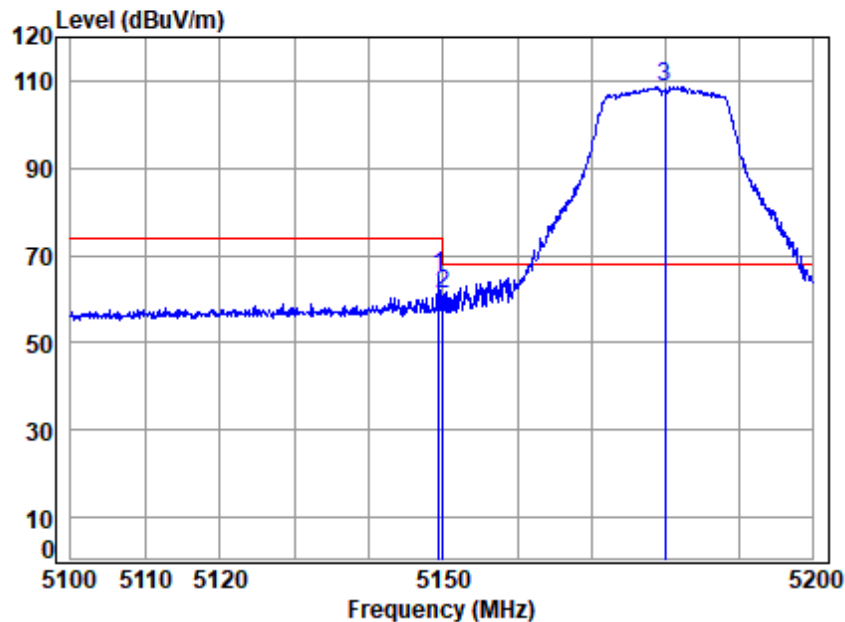
Mode : 5180 Band edge

: 5GWIFI 11A

		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 pp	5148.257	10.13	32.40	30.84	32.95	44.64	54.00	-9.36	Average
2	5149.980	10.14	32.40	30.84	32.66	44.36	54.00	-9.64	Average
3	5180.000	10.25	32.46	30.83	82.67	94.55	-----	-----	Average



Test Mode: 09; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Condition: 3m HORIZONTAL

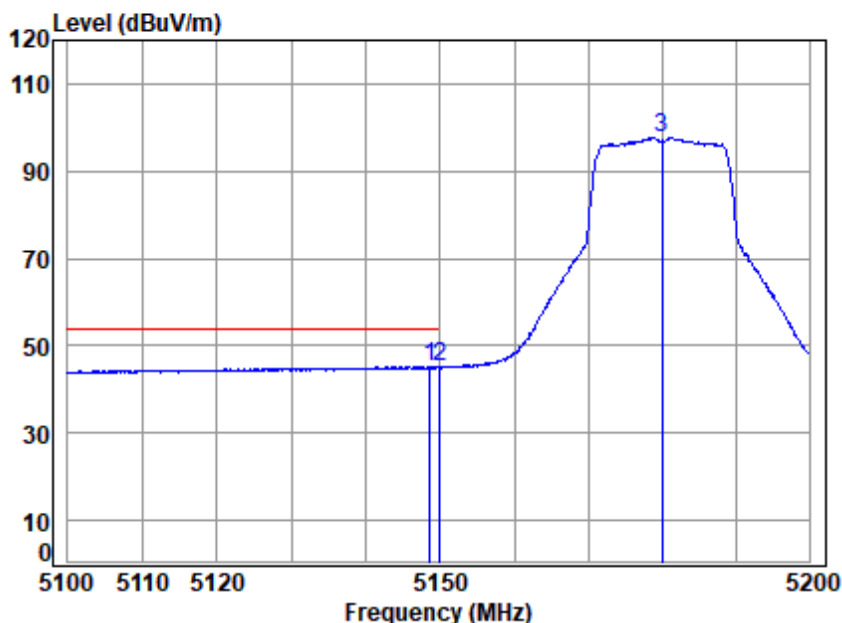
Job No : 02101MO

Mode : 5180 Band edge
: 5GWIFI 11AC20

		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	5149.458	10.14	32.40	30.84	53.43	65.13	74.00	-8.87 peak
2	5149.980	10.14	32.40	30.84	49.26	60.96	74.00	-13.04 peak
3	pp 5180.000	10.25	32.46	30.83	96.94	108.82	68.20	40.62 peak



Test Mode: 09; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5180 Band edge

: 5GWIFI 11AC20

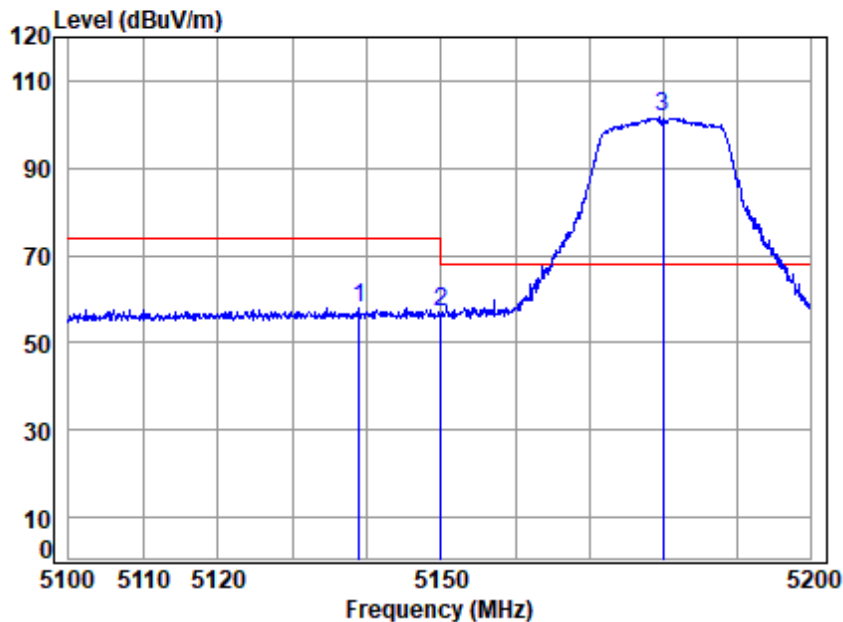
		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5148.657	10.13	32.40	30.84	33.63	45.32	54.00	-8.68	Average
2	5149.980	10.14	32.40	30.84	33.51	45.21	54.00	-8.79	Average
3	5180.000	10.25	32.46	30.83	85.70	97.58	-----	-----	Average



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Test Mode: 09; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Condition: 3m VERTICAL

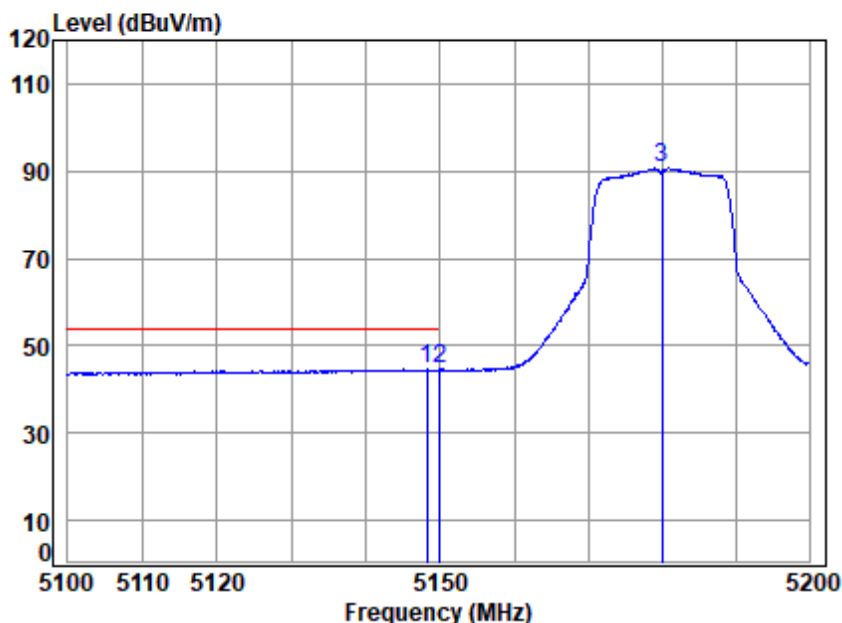
Job No : 02101MO

Mode : 5180 Band edge
: 5GWIFI 11AC20

	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	
5138.969	10.10	32.38	30.84	46.51	58.15	74.00	-15.85	peak
5149.980	10.14	32.40	30.84	45.41	57.11	74.00	-16.89	peak
5180.000	10.25	32.46	30.83	89.95	101.83	68.20	33.63	peak



Test Mode: 09; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5180 Band edge
: 5GWIFI 11AC20

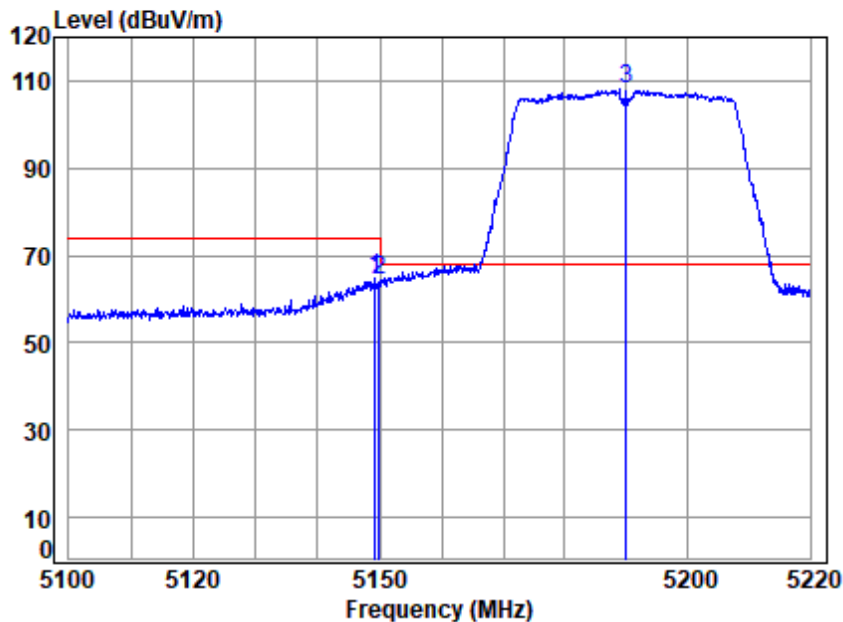
		Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5148.158	10.13	32.40	30.84	32.91	44.60	54.00	-9.40 Average
2 pp	5149.980	10.14	32.40	30.84	32.92	44.62	54.00	-9.38 Average
3	5180.000	10.25	32.46	30.83	78.93	90.81	-----	----- Average



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Test Mode: 09; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



Condition: 3m HORIZONTAL

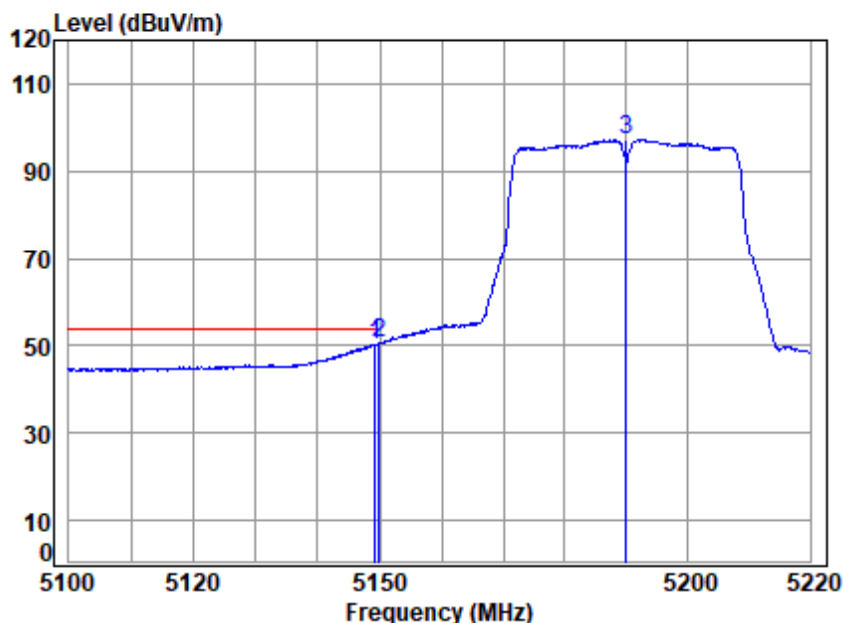
Job No : 02101MO

Mode : 5190 Band edge
: 5GWIFI 11AC40

	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	5149.222	10.14	32.40	30.84	52.86	64.56	74.00 -9.44 peak
2	5149.980	10.14	32.40	30.84	52.69	64.39	74.00 -9.61 peak
3	pp 5190.000	10.29	32.48	30.82	96.41	108.36	68.20 40.16 peak



Test Mode: 09; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

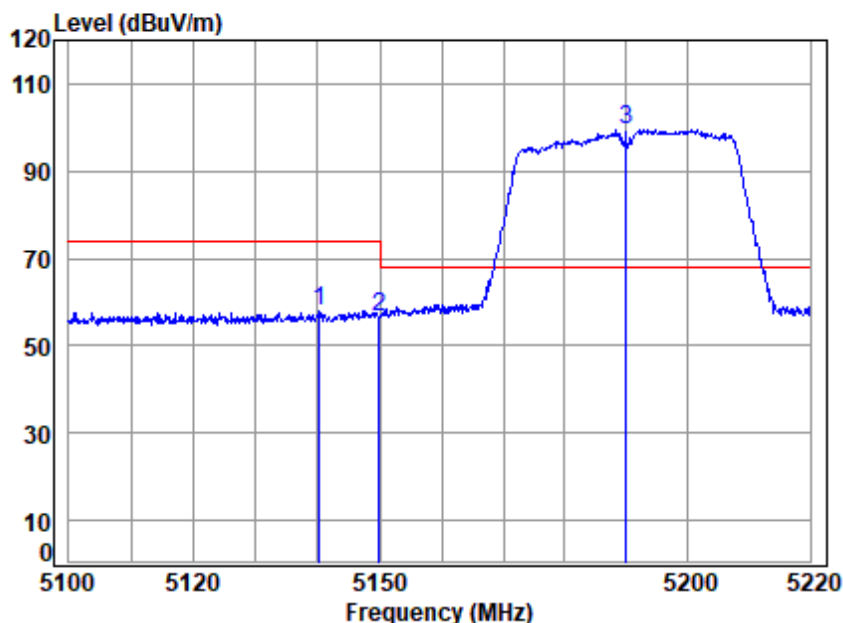
Mode : 5190 Band edge

: 5GWIFI 11AC40

		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	5149.222	10.14	32.40	30.84	38.70	50.40	54.00	-3.60 Average
2 pp	5149.980	10.14	32.40	30.84	39.05	50.75	54.00	-3.25 Average
3	5190.000	10.29	32.48	30.82	85.33	97.28	-----	----- Average



Test Mode: 09; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5190 Band edge
: 5GWIFI 11AC40

	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	5140.248	10.10	32.38	30.84	46.28	57.92	74.00 -16.08 peak
2	5149.980	10.14	32.40	30.84	45.00	56.70	74.00 -17.30 peak
3	pp 5190.000	10.29	32.48	30.82	87.68	99.63	68.20 31.43 peak



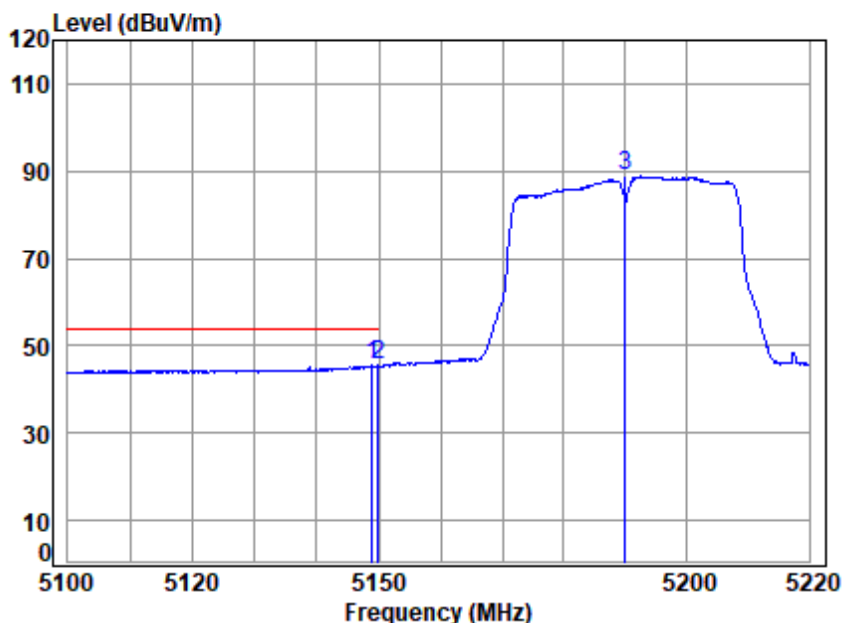
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 120 of 357

Test Mode: 09; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5190 Band edge

: 5GWIFI 11AC40

		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 pp	5148.863	10.14	32.40	30.84	33.77	45.47	54.00	-8.53	Average
2	5149.980	10.14	32.40	30.84	33.75	45.45	54.00	-8.55	Average
3	5190.000	10.29	32.48	30.82	76.91	88.86	-----	-----	Average



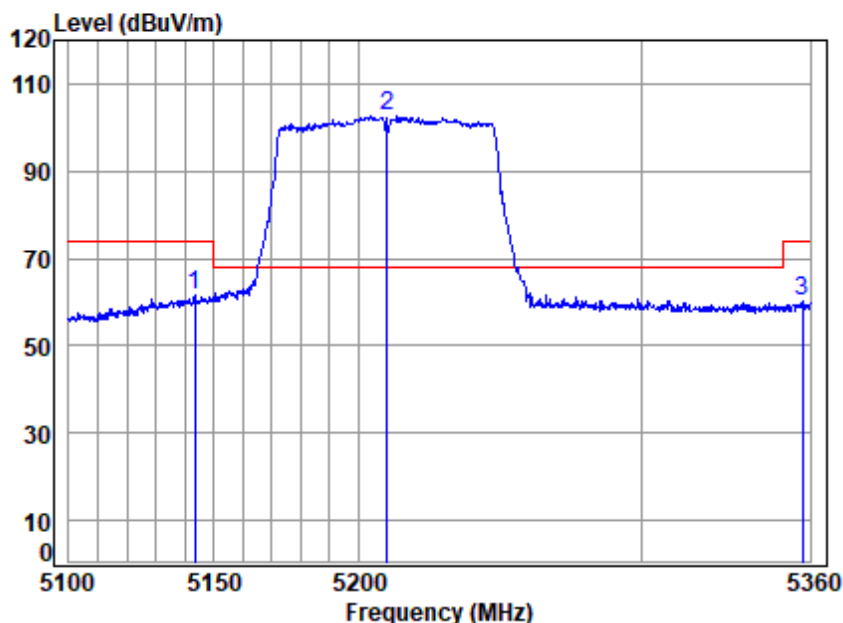
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Test Mode: 09; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



Condition: 3m HORIZONTAL

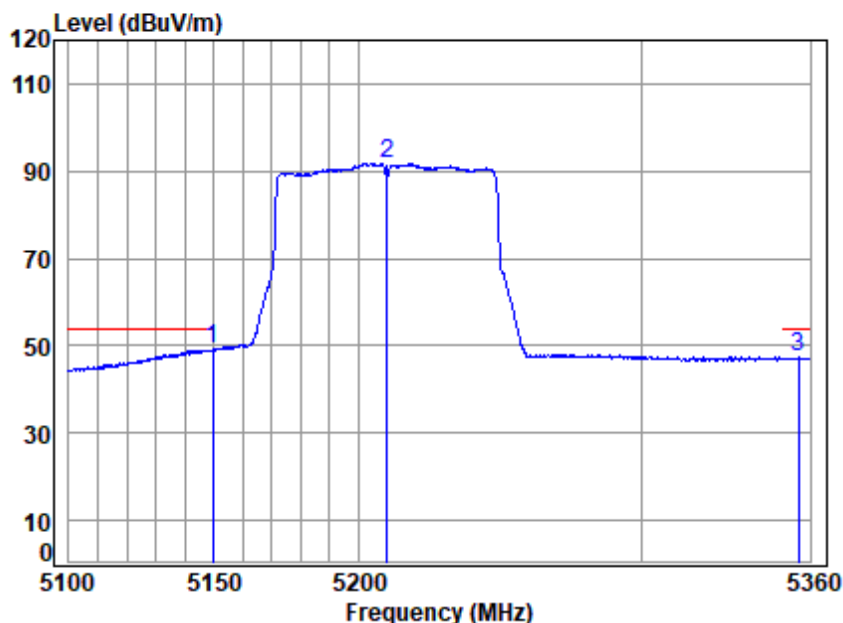
Job No : 02101MO

Mode : 5210 Band edge
: 5GWIFI 11AC80

		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	5143.293	10.11	32.39	30.84	49.93	61.59	74.00	-12.41	peak
2 pp	5210.000	10.32	32.52	30.82	90.51	102.53	68.20	34.33	peak
3	5357.335	10.47	32.80	30.76	47.61	60.12	74.00	-13.88	peak



Test Mode: 09; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



Condition: 3m HORIZONTAL

Job No : 02101MO

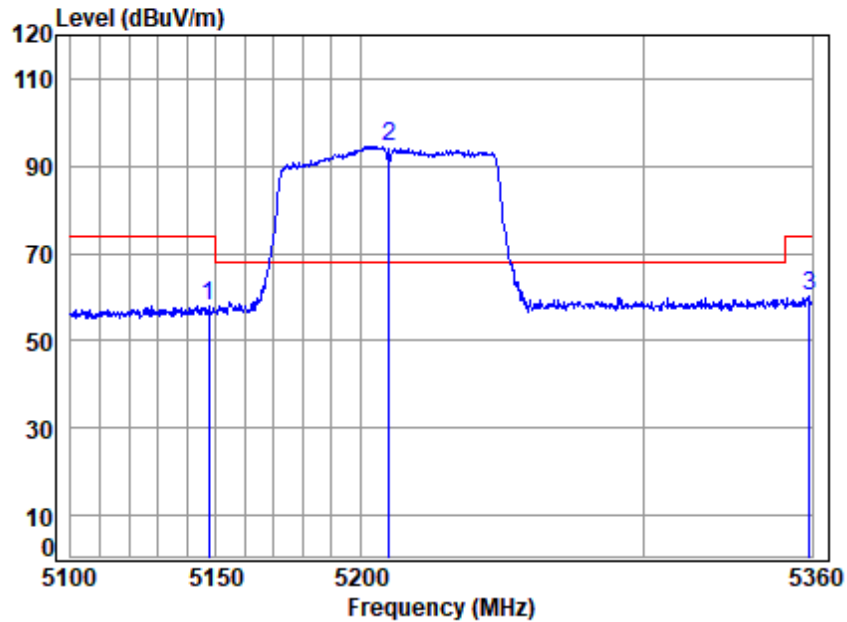
Mode : 5210 Band edge

: 5GWIFI 11AC80

		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 pp	5149.435	10.14	32.40	30.84	37.68	49.38	54.00	-4.62	Average
2	5210.000	10.32	32.52	30.82	79.62	91.64	-----	-----	Average
3	5356.004	10.47	32.80	30.76	34.91	47.42	54.00	-6.58	Average



Test Mode: 09; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5210 Band edge
: 5GWIFI 11AC80

	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 5147.386	10.13	32.39	30.84	46.23	57.91	74.00	-16.09	peak
2 pp 5210.000	10.32	32.52	30.82	82.64	94.66	68.20	26.46	peak
3 5359.201	10.48	32.80	30.76	47.55	60.07	74.00	-13.93	peak



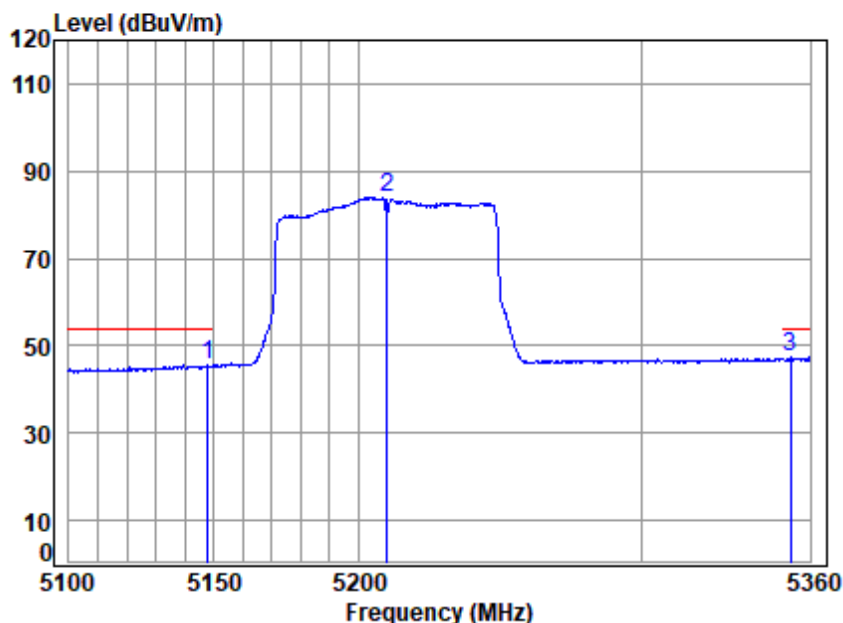
SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 124 of 357

Test Mode: 09; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5210 Band edge

: 5GWIFI 11AC80

	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 5147.643	10.13	32.40	30.84	33.88	45.57	54.00	-8.43	Average
2 5210.000	10.32	32.52	30.82	72.10	84.12	-----	-----	Average
3 pp 5353.075	10.46	32.80	30.76	34.76	47.26	54.00	-6.74	Average



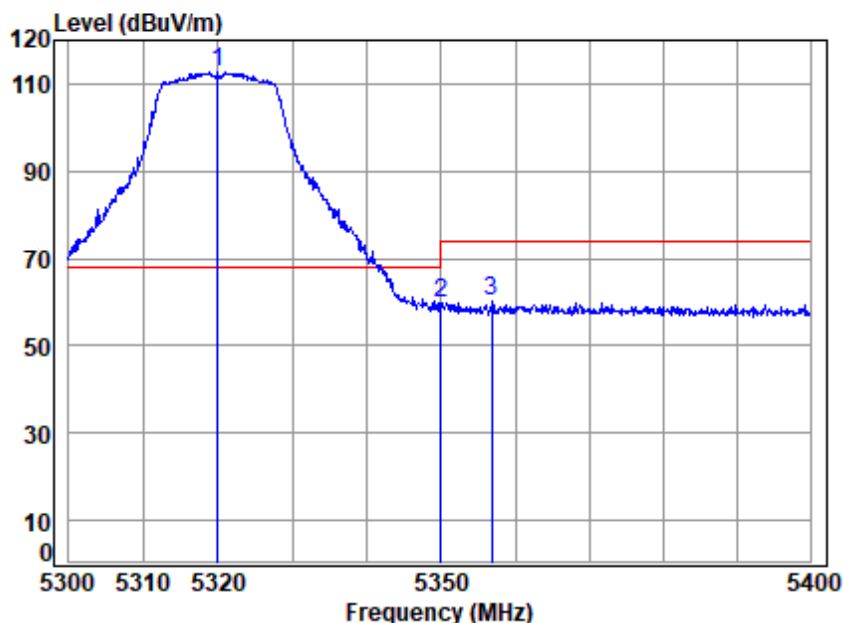
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Test Mode: 10; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5320 Band edge

: 5GWIFI 11A

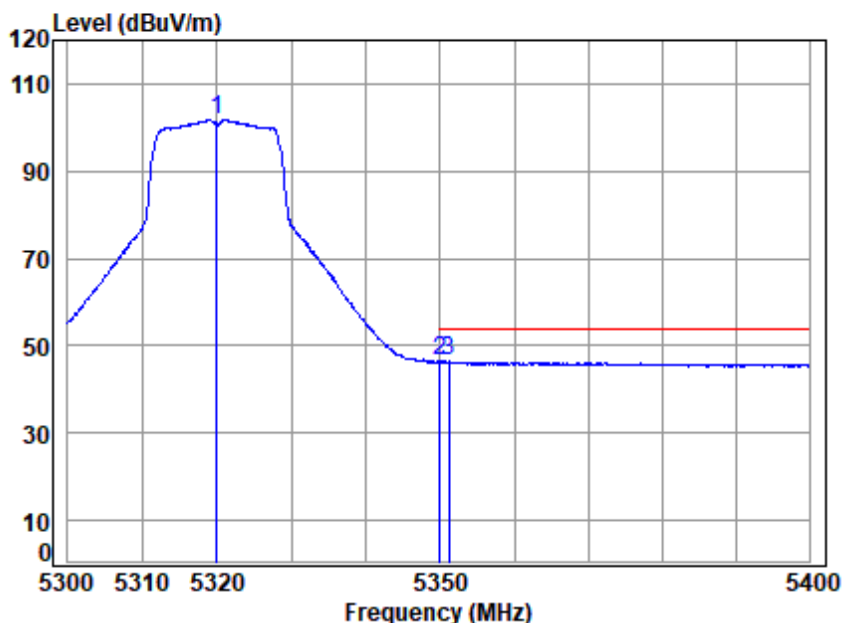
		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5320.000	10.35	32.74	30.77	100.28	112.60	68.20	44.40	peak
2	5350.020	10.45	32.80	30.76	47.45	59.94	74.00	-14.06	peak
3	5356.771	10.47	32.80	30.76	47.58	60.09	74.00	-13.91	peak



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Test Mode: 10; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Condition: 3m HORIZONTAL

Job No : 02101MO

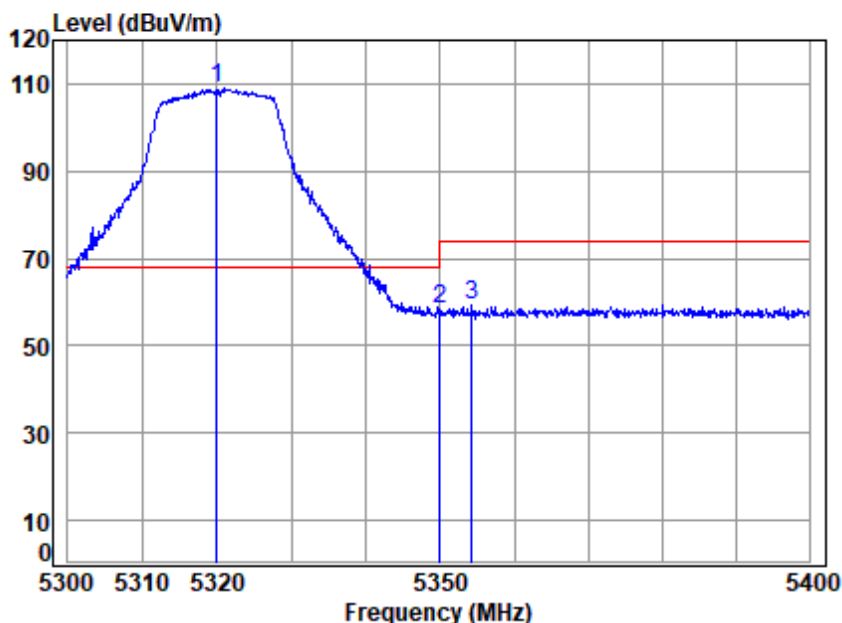
Mode : 5320 Band edge

: 5GWIFI 11A

	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 5320.000	10.35	32.74	30.77	89.50	101.82	-----	----- Average
2 5350.020	10.45	32.80	30.76	33.93	46.42	54.00	-7.58 Average
3 pp 5351.167	10.45	32.80	30.76	34.00	46.49	54.00	-7.51 Average



Test Mode: 10; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Condition: 3m VERTICAL

Job No : 02101MO

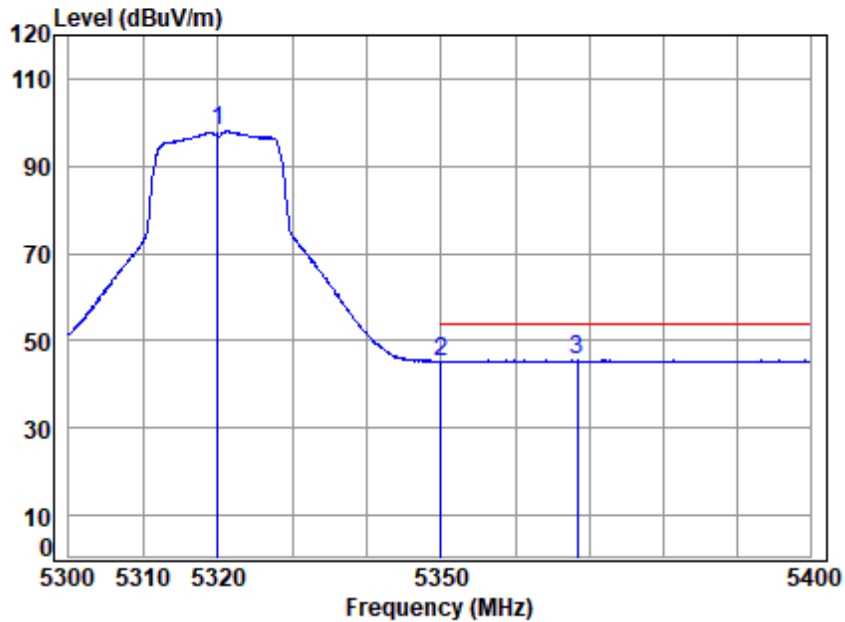
Mode : 5320 Band edge

: 5GWIFI 11A

		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 pp	5320.000	10.35	32.74	30.77	96.51	108.83	68.20	40.63	peak
2	5350.020	10.45	32.80	30.76	46.06	58.55	74.00	-15.45	peak
3	5354.268	10.46	32.80	30.76	46.98	59.48	74.00	-14.52	peak



Test Mode: 10; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5320 Band edge
: 5GWIFI 11A

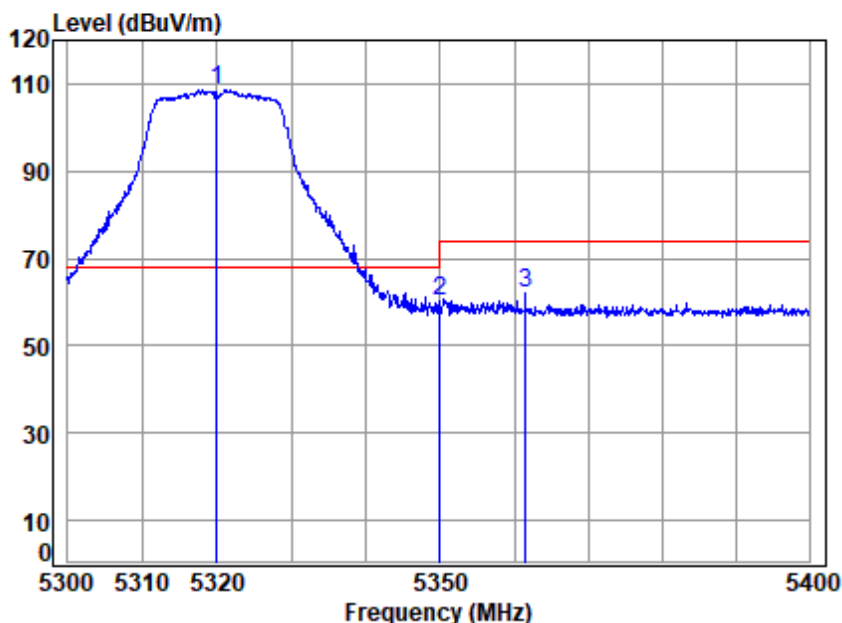
	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 5320.000	10.35	32.74	30.77	85.69	98.01	-----	----- Average
2 5350.020	10.45	32.80	30.76	32.88	45.37	54.00	-8.63 Average
3 pp 5368.398	10.51	32.80	30.75	33.10	45.66	54.00	-8.34 Average



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Test Mode: 10; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



Condition: 3m HORIZONTAL

Job No : 02101MO

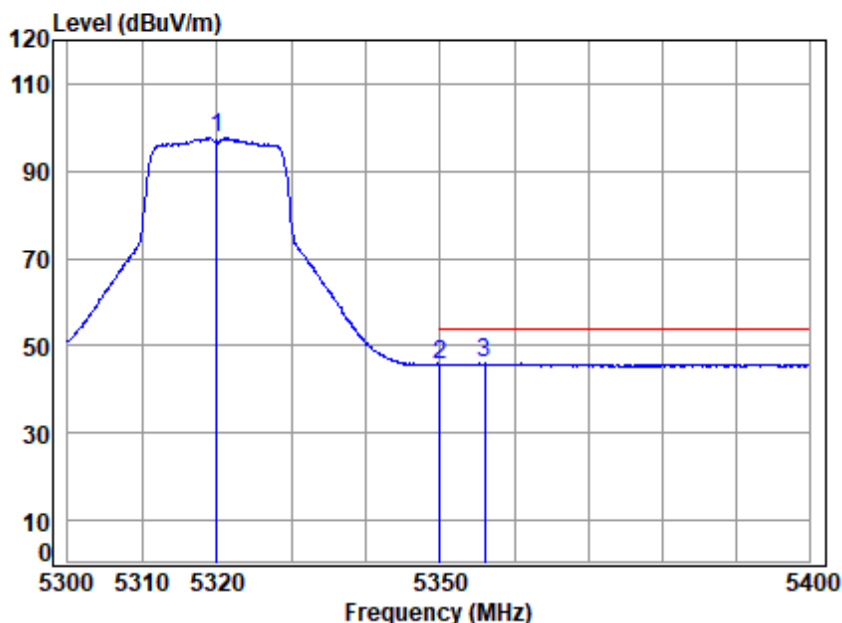
Mode : 5320 Band edge

: 5GWIFI 11AC20

		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 pp 5320.000	10.35	32.74	30.77	96.34	108.66	68.20	40.46	peak	
2 5350.020	10.45	32.80	30.76	47.84	60.33	74.00	-13.67	peak	
3 5361.479	10.49	32.80	30.76	49.42	61.95	74.00	-12.05	peak	



Test Mode: 10; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



Condition: 3m HORIZONTAL

Job No : 02101MO

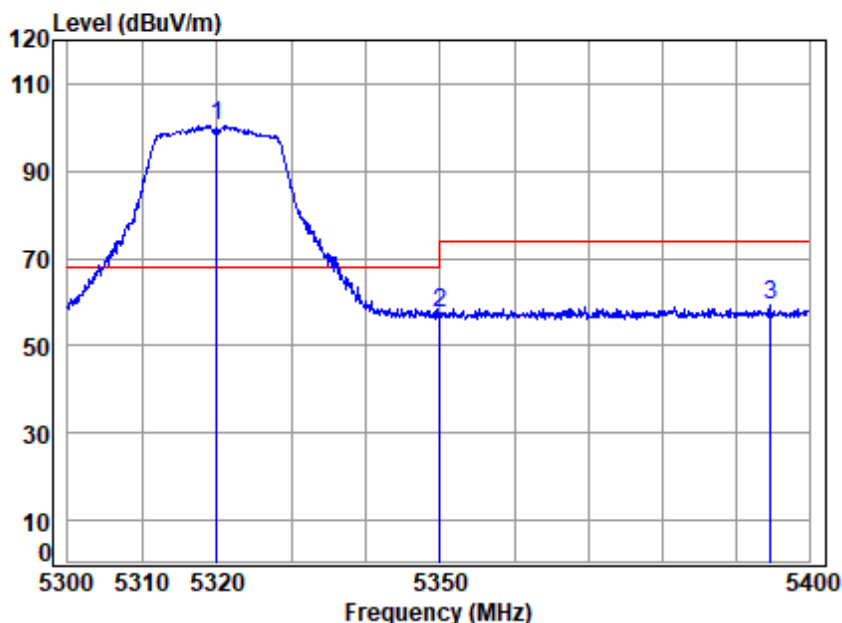
Mode : 5320 Band edge

: 5GWIFI 11AC20

	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 5320.000	10.35	32.74	30.77	85.37	97.69	-----	-----	Average
2 5350.020	10.45	32.80	30.76	33.23	45.72	54.00	-8.28	Average
3 pp 5355.970	10.47	32.80	30.76	33.37	45.88	54.00	-8.12	Average



Test Mode: 10; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5320 Band edge

: 5GWIFI 11AC20

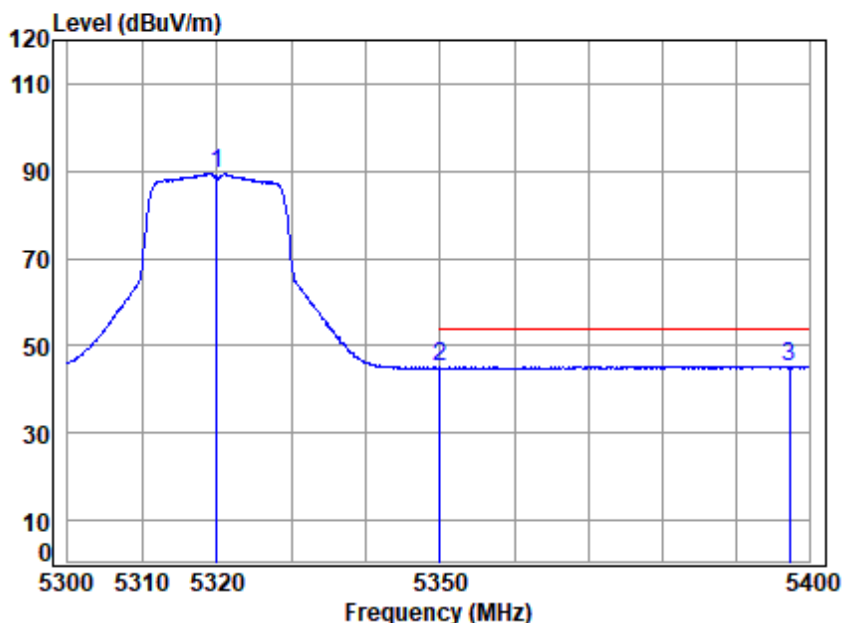
		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5320.000	10.35	32.74	30.77	88.17	100.49	68.20	32.29	peak
2	5350.020	10.45	32.80	30.76	44.79	57.28	74.00	-16.72	peak
3	5394.754	10.60	32.80	30.74	46.50	59.16	74.00	-14.84	peak



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Test Mode: 10; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



Condition: 3m VERTICAL

Job No : 02101MO

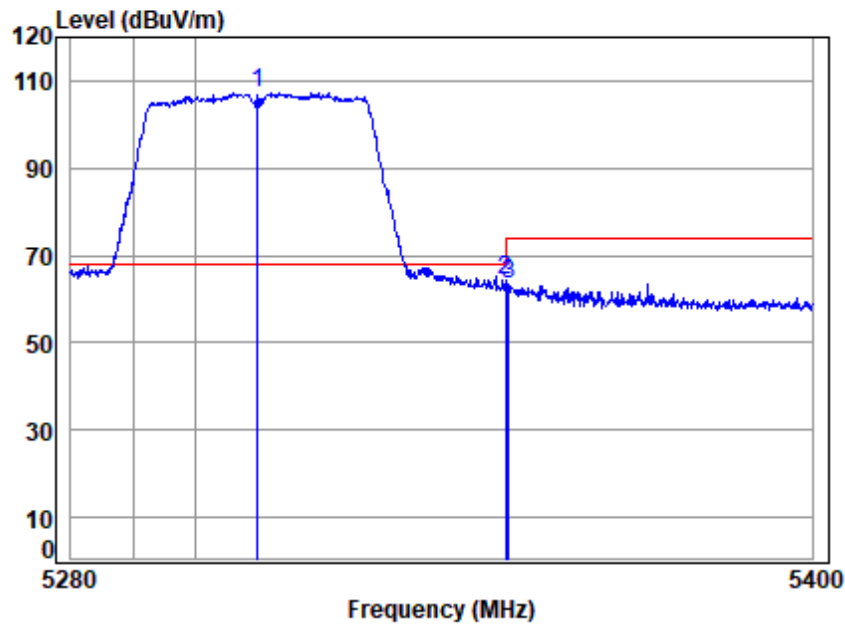
Mode : 5320 Band edge

: 5GWIFI 11AC20

		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	5320.000	10.35	32.74	30.77	77.17	89.49	-----	-----	Average
2	5350.020	10.45	32.80	30.76	32.53	45.02	54.00	-8.98	Average
3	pp 5397.275	10.61	32.80	30.74	32.73	45.40	54.00	-8.60	Average



Test Mode: 10; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



Condition: 3m HORIZONTAL

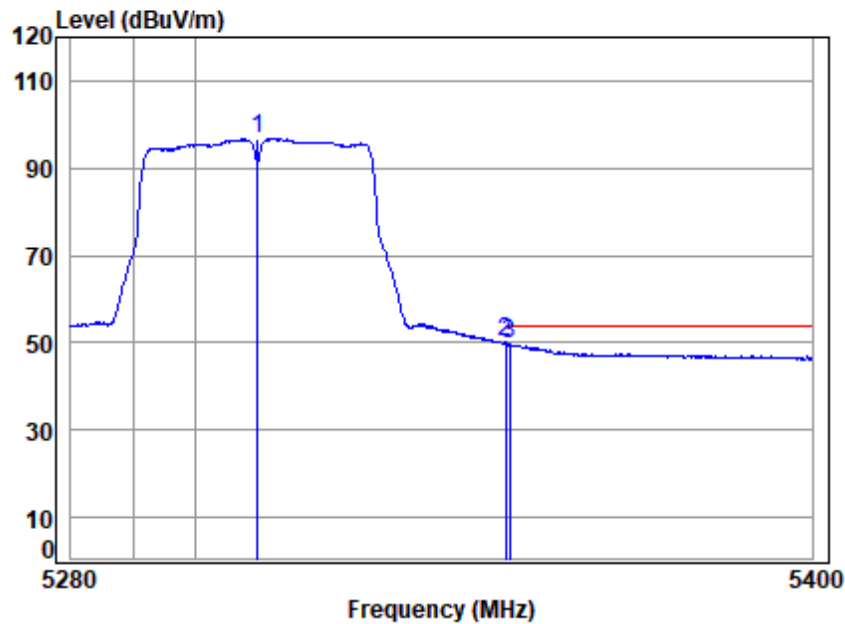
Job No : 02101MO

Mode : 5310 Band edge
: 5GWIFI 11AC40

		Cable	Ant	Preamp	Read		Limit	Over	
Freq	Loss	Factor	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp 5310.000	10.31	32.72	30.78	95.00	107.25	68.20	39.05	peak	
2 5350.020	10.45	32.80	30.76	51.73	64.22	74.00	-9.78	peak	
3 5350.594	10.45	32.80	30.76	50.89	63.38	74.00	-10.62	peak	



Test Mode: 10; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



Condition: 3m HORIZONTAL

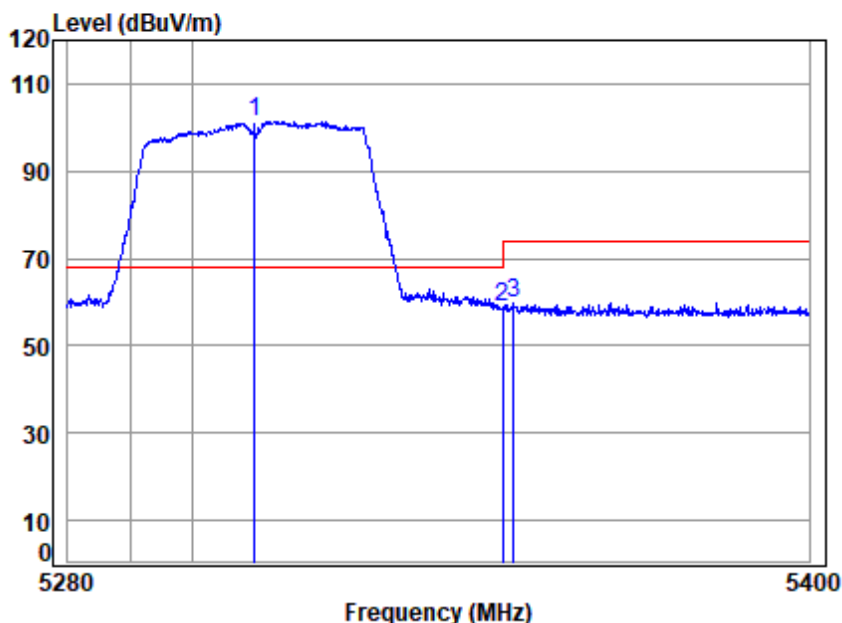
Job No : 02101MO

Mode : 5310 Band edge
: 5GWIFI 11AC40

		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	5310.000	10.31	32.72	30.78	84.66	96.91	-----	-----	Average
2 pp	5350.020	10.45	32.80	30.76	37.48	49.97	54.00	-4.03	Average
3	5350.714	10.45	32.80	30.76	37.36	49.85	54.00	-4.15	Average



Test Mode: 10; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



Condition: 3m VERTICAL

Job No : 02101MO

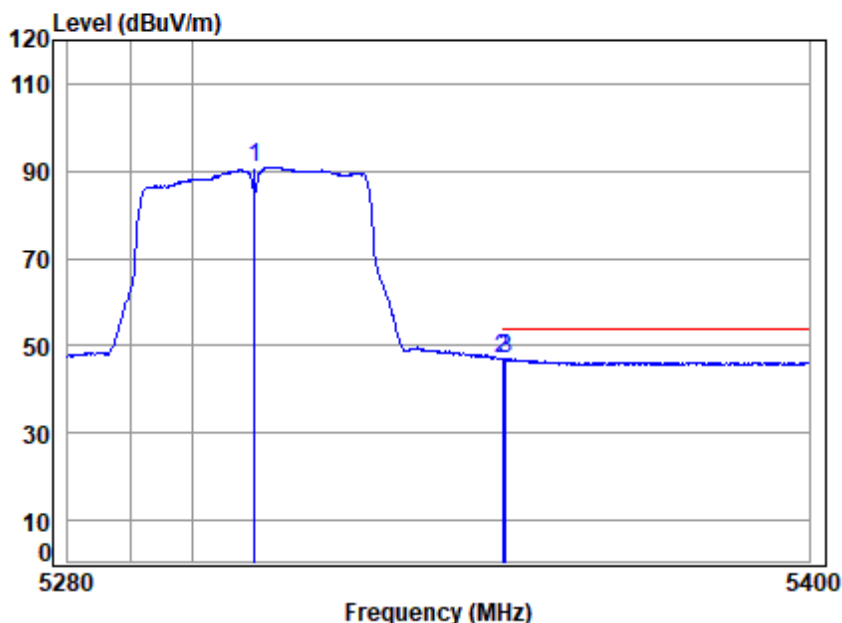
Mode : 5310 Band edge

: 5GWIFI 11AC40

		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 pp	5310.000	10.31	32.72	30.78	89.17	101.42	68.20	33.22	peak
2	5350.020	10.45	32.80	30.76	46.44	58.93	74.00	-15.07	peak
3	5351.917	10.46	32.80	30.76	47.19	59.69	74.00	-14.31	peak



Test Mode: 10; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5310 Band edge
: 5GWIFI 11AC40

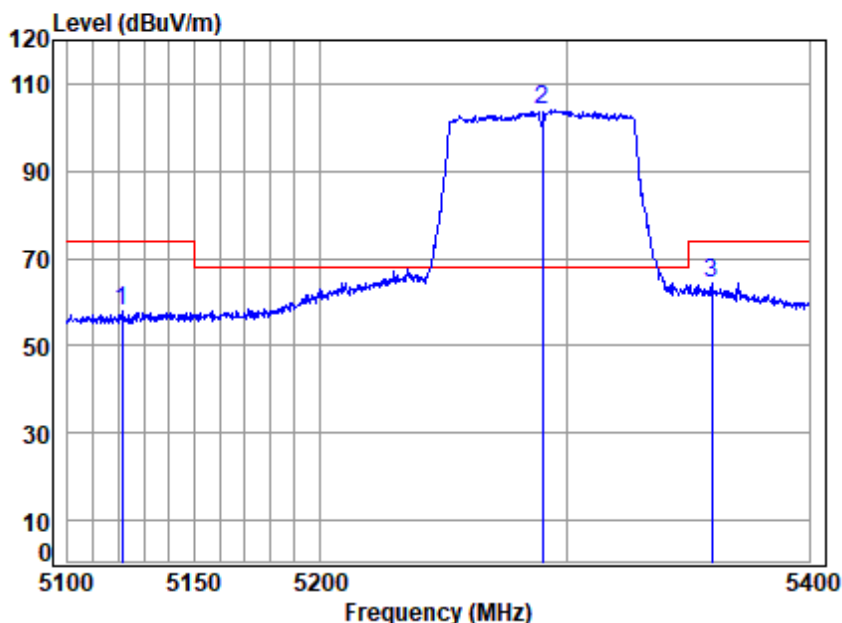
	Cable	Ant	Preamp	Read		Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 5310.000	10.31	32.72	30.78	78.67	90.92	-----	-----	Average
2 5350.020	10.45	32.80	30.76	34.61	47.10	54.00	-6.90	Average
3 pp 5350.594	10.45	32.80	30.76	34.71	47.20	54.00	-6.80	Average



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Test Mode: 10; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5290 Band edge
: 5GWIFI 11AC80

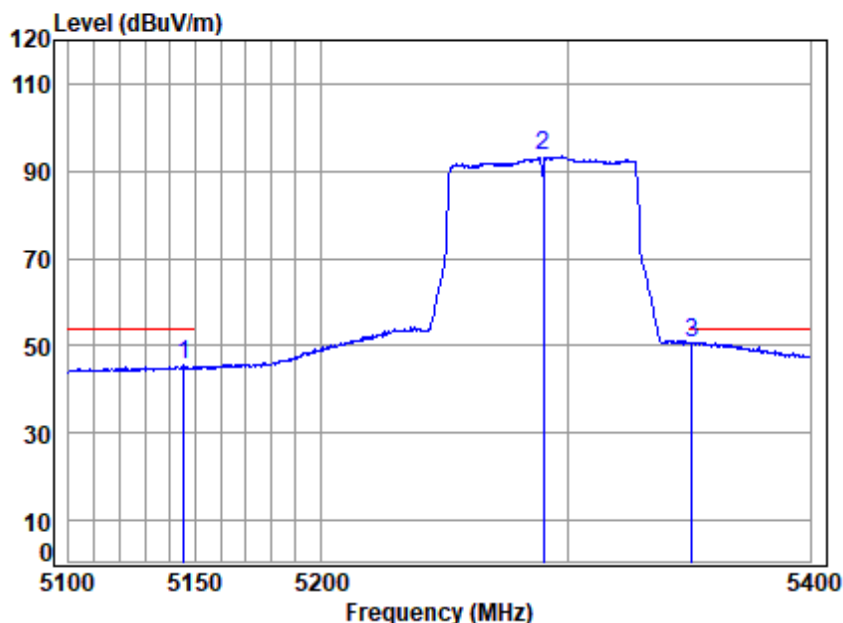
		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5121.325	10.03	32.34	30.85	46.28	57.80	74.00	-16.20	peak
2 pp	5290.000	10.28	32.68	30.78	91.97	104.15	68.20	35.95	peak
3	5359.717	10.48	32.80	30.76	51.78	64.30	74.00	-9.70	peak



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Test Mode: 10; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5290 Band edge

: 5GWIFI 11AC80

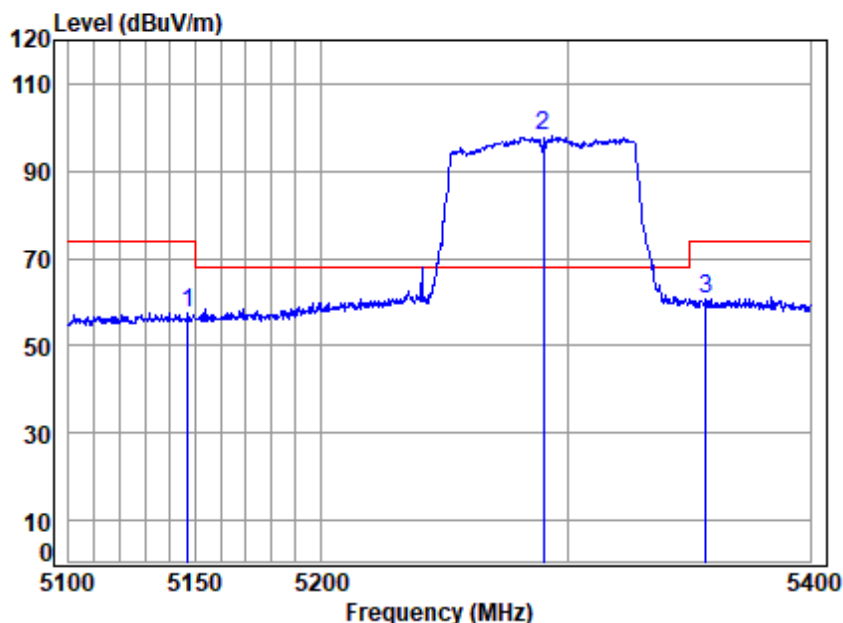
	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 5145.384	10.12	32.39	30.84	33.86	45.53	54.00	-8.47 Average
2 5290.000	10.28	32.68	30.78	81.14	93.32	-----	----- Average
3 pp 5350.840	10.45	32.80	30.76	38.33	50.82	54.00	-3.18 Average



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Test Mode: 10; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5290 Band edge

: 5GWIFI 11AC80

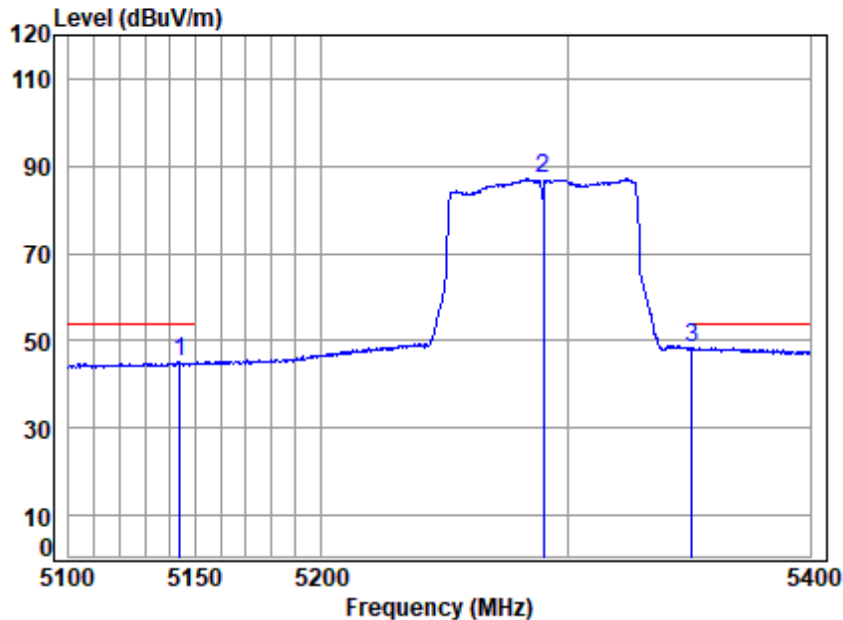
		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5147.149	10.13	32.39	30.84	45.98	57.66	74.00	-16.34 peak
2 pp	5290.000	10.28	32.68	30.78	85.72	97.90	68.20	29.70 peak
3	5356.654	10.47	32.80	30.76	48.23	60.74	74.00	-13.26 peak



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Test Mode: 10; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5290 Band edge
: 5GWIFI 11AC80

		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	5143.914	10.12	32.39	30.84	33.49	45.16	54.00	-8.84 Average
2	5290.000	10.28	32.68	30.78	74.94	87.12	-----	----- Average
3 pp	5351.146	10.45	32.80	30.76	36.01	48.50	54.00	-5.50 Average



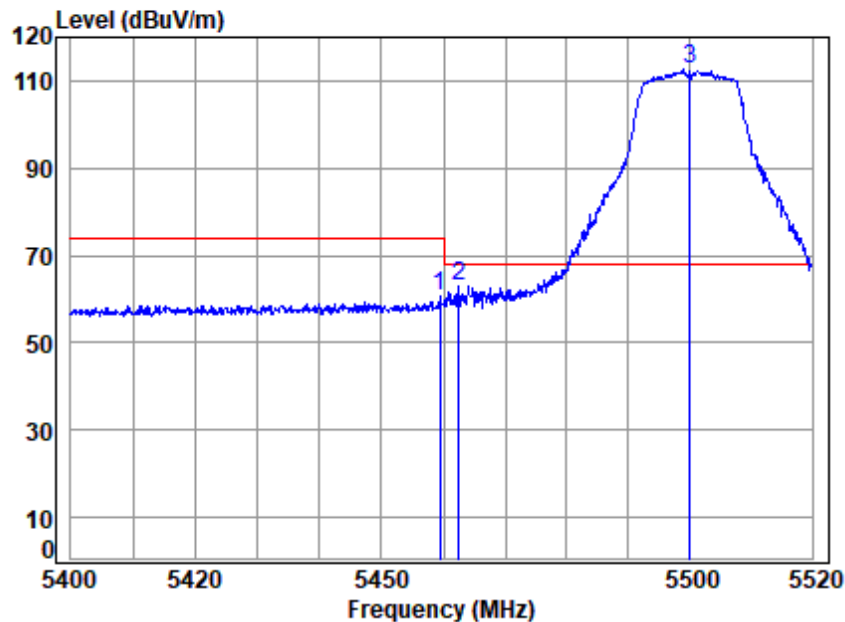
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中国·广东·深圳市南山区科技园中区M-10栋1号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

Test Mode: 11; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5500 Band edge
: 5GWIFI 11A

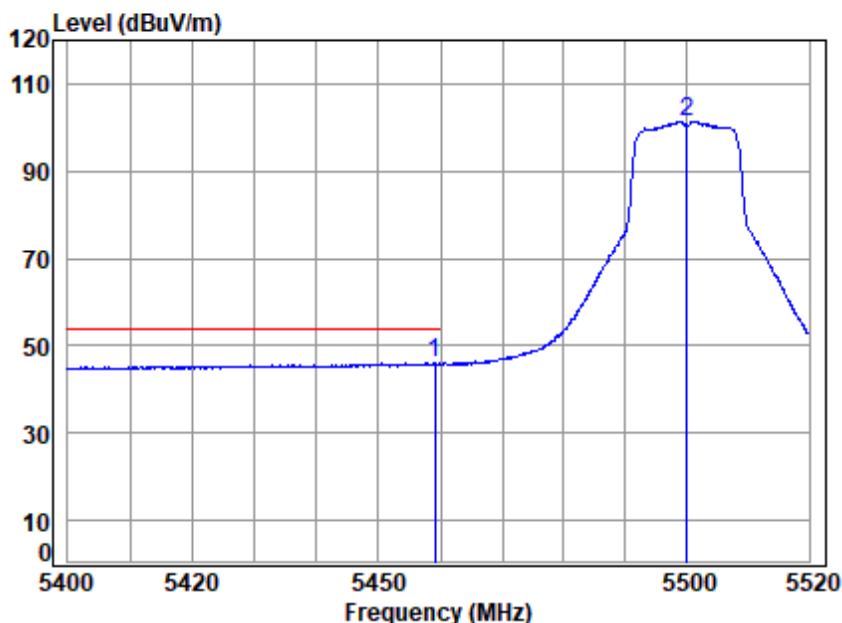
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5459.430	10.60	32.90	30.72	48.04	60.82	74.00	-13.18 peak
2	5462.551	10.59	32.90	30.71	50.40	63.18	68.20	-5.02 peak
3	pp 5500.000	10.58	32.90	30.70	99.70	112.48	68.20	44.28 peak



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Test Mode: 11; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5500 Band edge

: 5GWIFI 11A

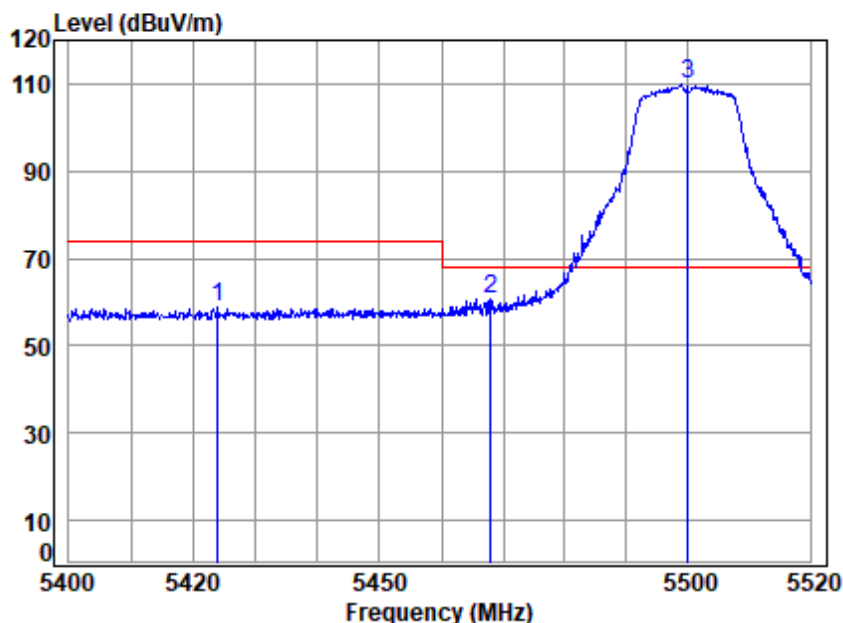
		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5459.070	10.60	32.90	30.72	33.36	46.14	54.00	-7.86	Average
2	5500.000	10.58	32.90	30.70	88.61	101.39	-----	-----	Average



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Test Mode: 11; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5500 Band edge

: 5GWIFI 11A

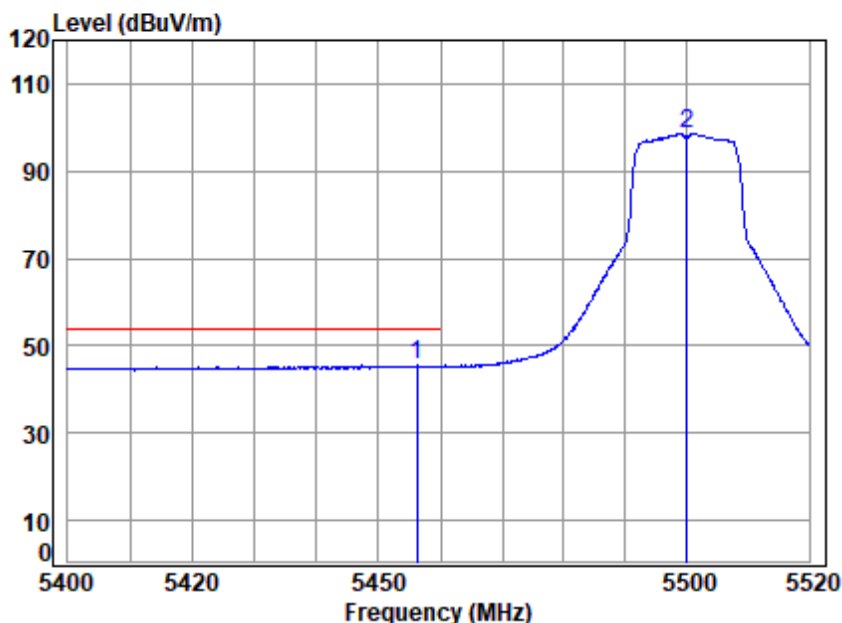
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5423.909	10.61	32.85	30.73	46.15	58.88	74.00	-15.12 peak
2	5467.957	10.59	32.90	30.71	47.97	60.75	68.20	-7.45 peak
3	pp 5500.000	10.58	32.90	30.70	96.99	109.77	68.20	41.57 peak



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Test Mode: 11; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Condition: 3m VERTICAL

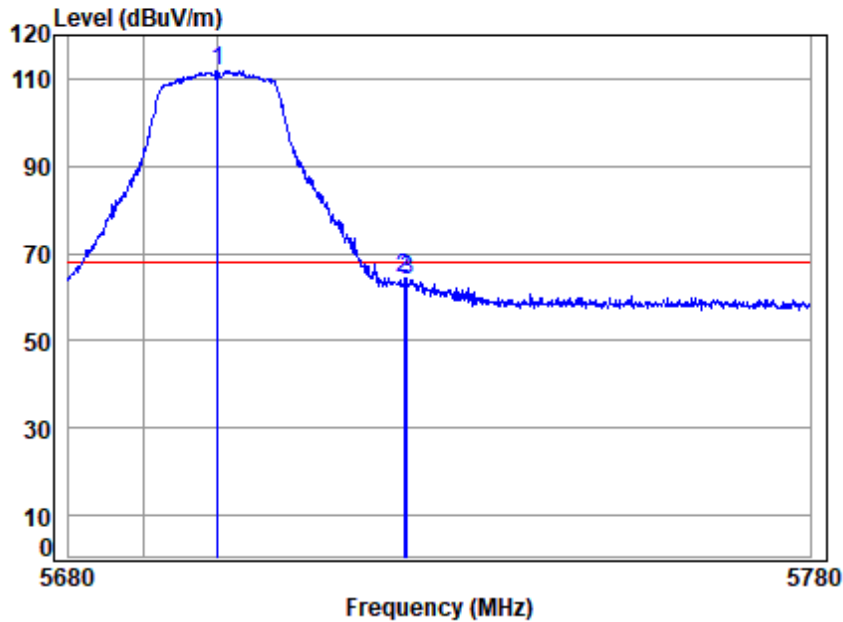
Job No : 02101MO

Mode : 5500 Band edge

: 5GWIFI 11A

		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 pp	5456.191	10.60	32.90	30.72	32.75	45.53	54.00	-8.47	Average
2	5500.000	10.58	32.90	30.70	85.85	98.63	-----	-----	Average

Test Mode: 11; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Condition: 3m HORIZONTAL

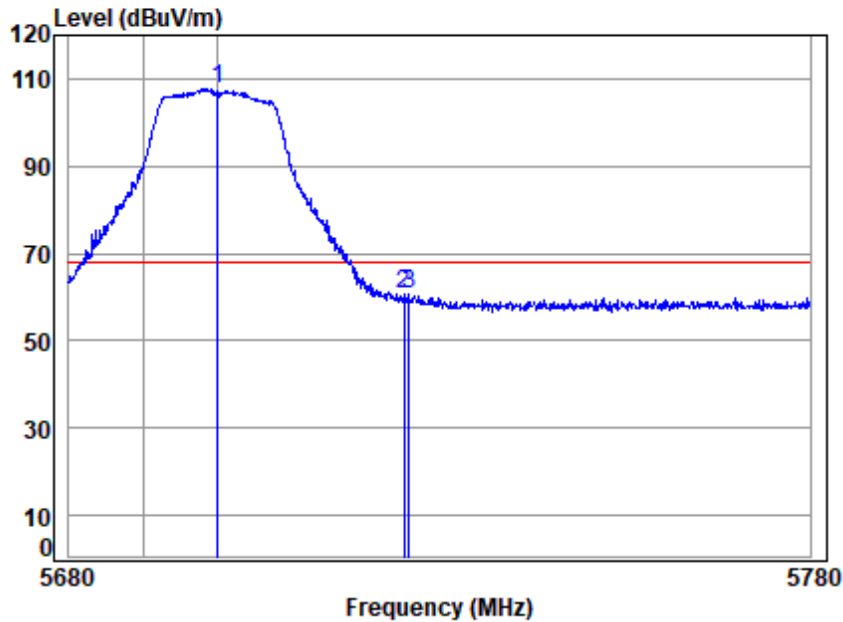
Job No : 02101MO

Mode : 5700 Band edge
: 5GWIFI 11A

		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 pp	5700.000	10.56	33.20	30.62	98.70	111.84	68.20	43.64	peak
2	5725.000	10.68	33.25	30.61	50.90	64.22	68.20	-3.98	peak
3	5725.483	10.68	33.25	30.61	50.78	64.10	68.20	-4.10	peak



Test Mode: 11; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Condition: 3m VERTICAL

Job No : 02101MO

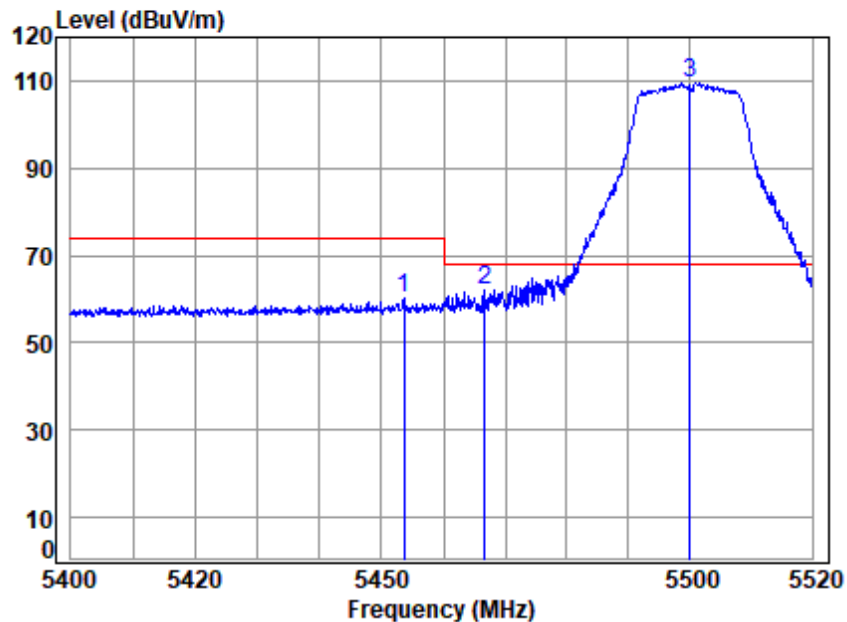
Mode : 5700 Band edge

: 5GWIFI 11A

		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 pp	5700.000	10.56	33.20	30.62	94.60	107.74	68.20	39.54	peak
2	5725.000	10.68	33.25	30.61	47.14	60.46	68.20	-7.74	peak
3	5725.684	10.68	33.25	30.61	47.44	60.76	68.20	-7.44	peak



Test Mode: 11; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Condition: 3m HORIZONTAL

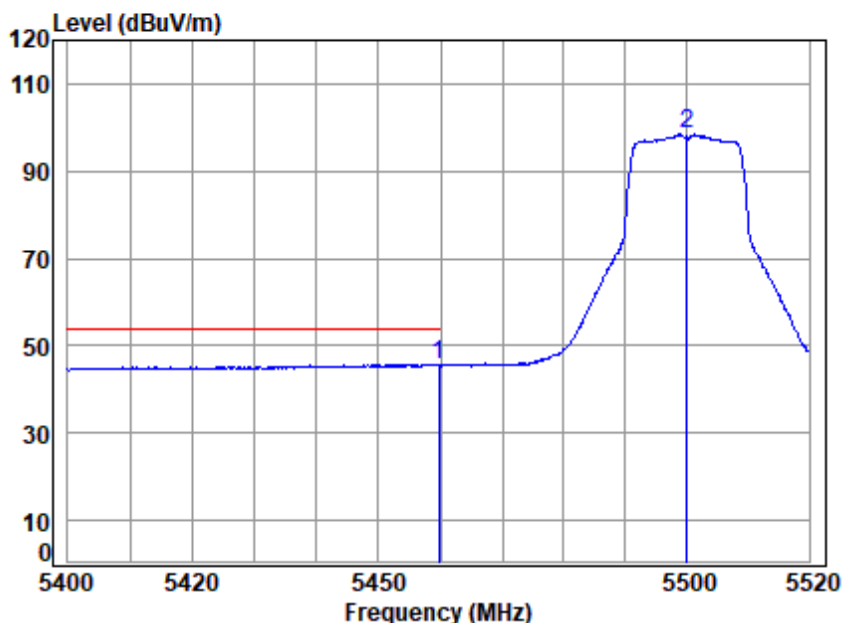
Job No : 02101MO

Mode : 5500 Band edge
: 5GWIFI 11AC20

	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	5453.674	10.60	32.90	30.72	47.34	60.12	74.00	-13.88 peak
2	5466.755	10.59	32.90	30.71	49.38	62.16	68.20	-6.04 peak
3	pp 5500.000	10.58	32.90	30.70	96.76	109.54	68.20	41.34 peak



Test Mode: 11; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5500 Band edge
: 5GWIFI 11AC20

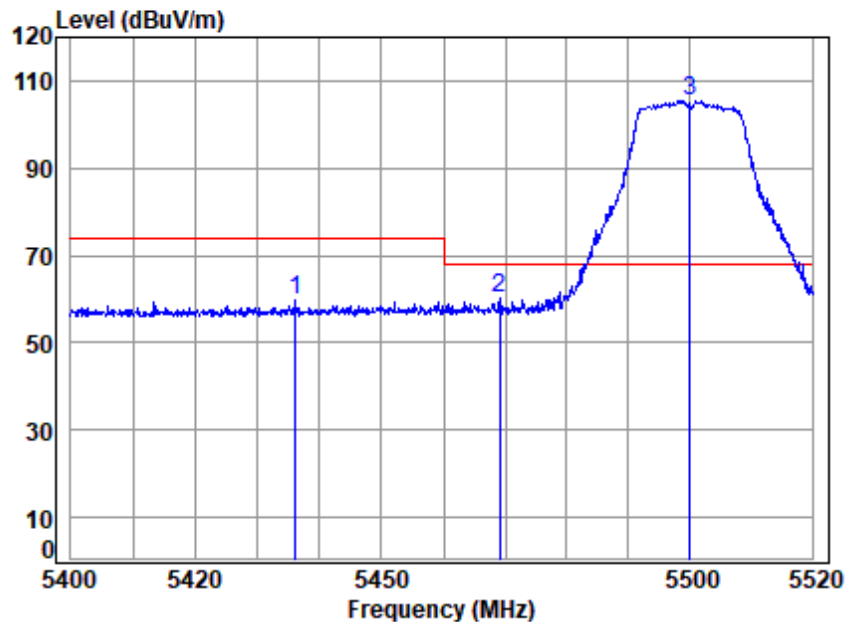
		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5459.791	10.60	32.90	30.72	32.95	45.73	54.00	-8.27	Average
2	5500.000	10.58	32.90	30.70	85.76	98.54	-----	-----	Average



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Test Mode: 11; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Condition: 3m VERTICAL

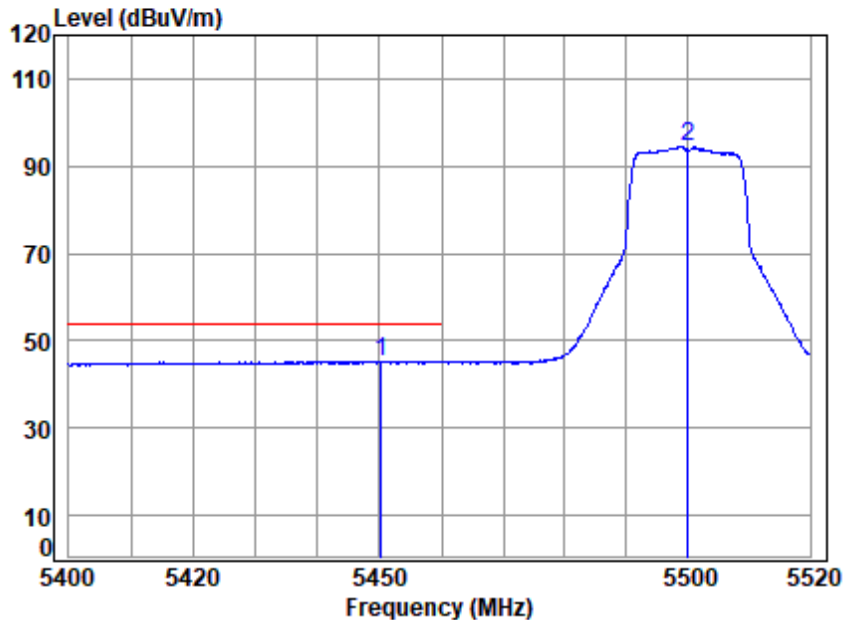
Job No : 02101MO

Mode : 5500 Band edge
: 5GWIFI 11AC20

	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	5436.082	10.61	32.87	30.73	47.04	59.79	74.00 -14.21 peak
2	5469.038	10.59	32.90	30.71	47.50	60.28	68.20 -7.92 peak
3	pp 5500.000	10.58	32.90	30.70	92.62	105.40	68.20 37.20 peak



Test Mode: 11; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Condition: 3m VERTICAL

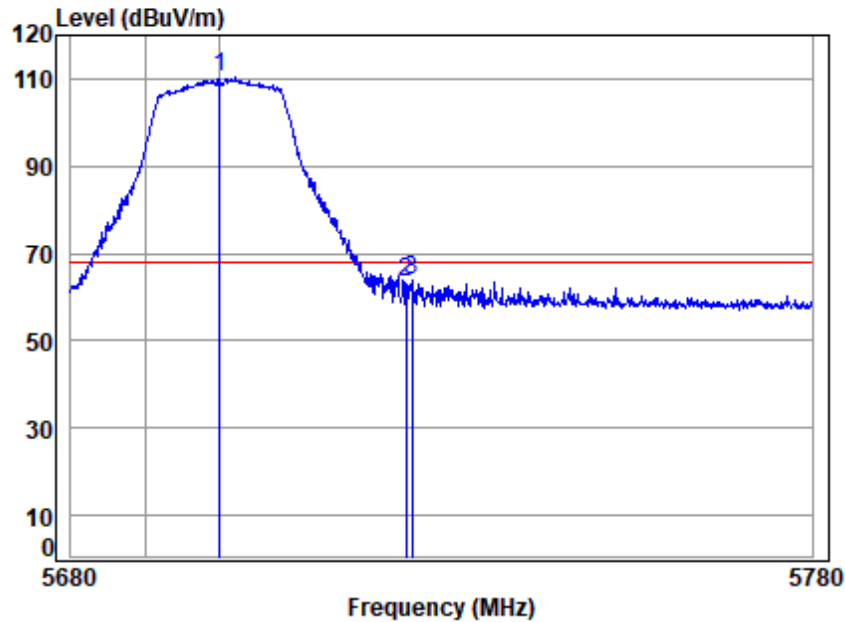
Job No : 02101MO

Mode : 5500 Band edge
: 5GWIFI 11AC20

	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 pp	5450.199	10.60	32.90	30.72	32.55	45.33	54.00	-8.67	Average
2	5500.000	10.58	32.90	30.70	81.74	94.52	-----	-----	Average



Test Mode: 11; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



Condition: 3m HORIZONTAL

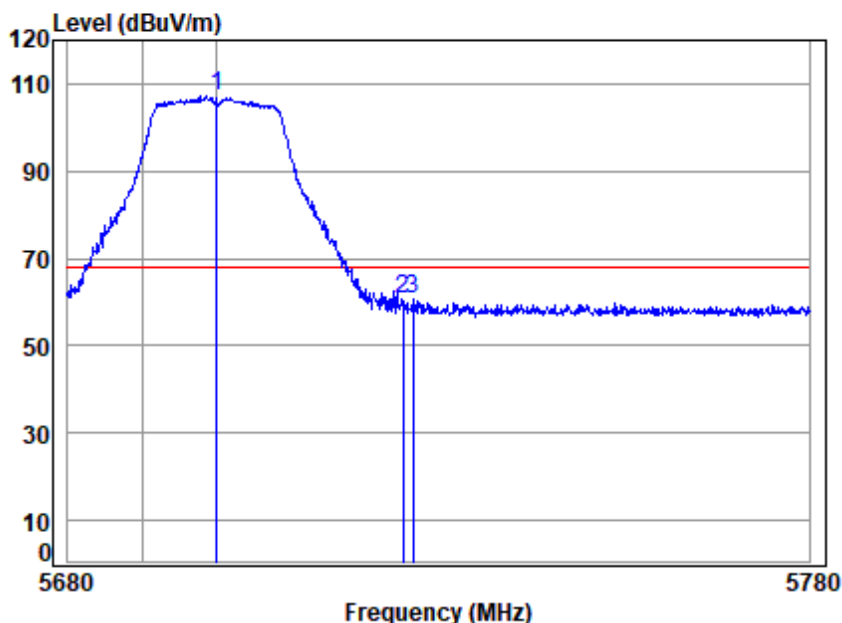
Job No : 02101MO

Mode : 5700 Band edge
: 5GWIFI 11AC20

		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 pp	5700.000	10.56	33.20	30.62	97.12	110.26	68.20	42.06	peak
2	5725.000	10.68	33.25	30.61	49.99	63.31	68.20	-4.89	peak
3	5725.883	10.68	33.25	30.61	50.63	63.95	68.20	-4.25	peak



Test Mode: 11; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



Condition: 3m VERTICAL

Job No : 02101MO

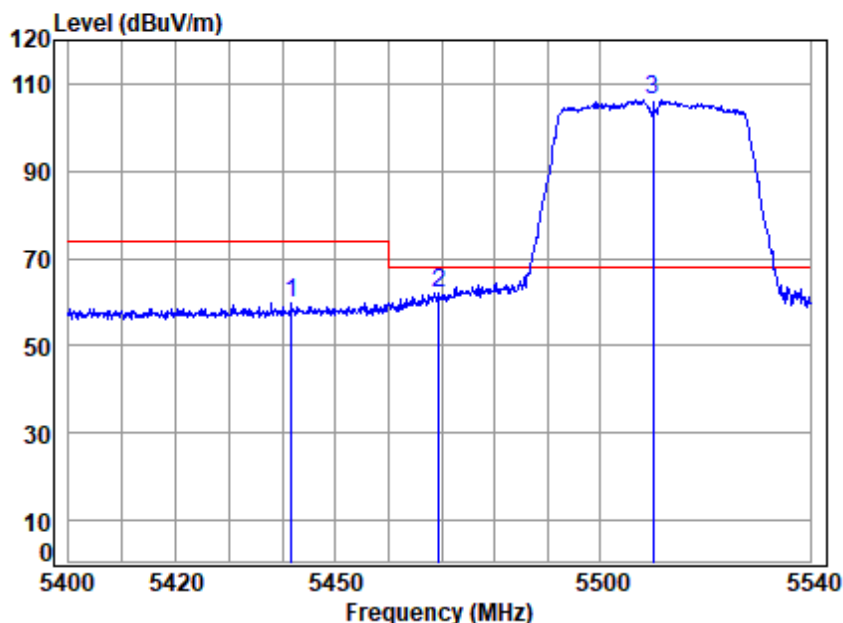
Mode : 5700 Band edge

: 5GWIFI 11AC20

		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 pp	5700.000	10.56	33.20	30.62	93.98	107.12	68.20	38.92	peak
2	5725.000	10.68	33.25	30.61	47.58	60.90	68.20	-7.30	peak
3	5726.383	10.68	33.25	30.61	47.48	60.80	68.20	-7.40	peak



Test Mode: 11; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5510 Band edge
: 5GWIFI 11AC40

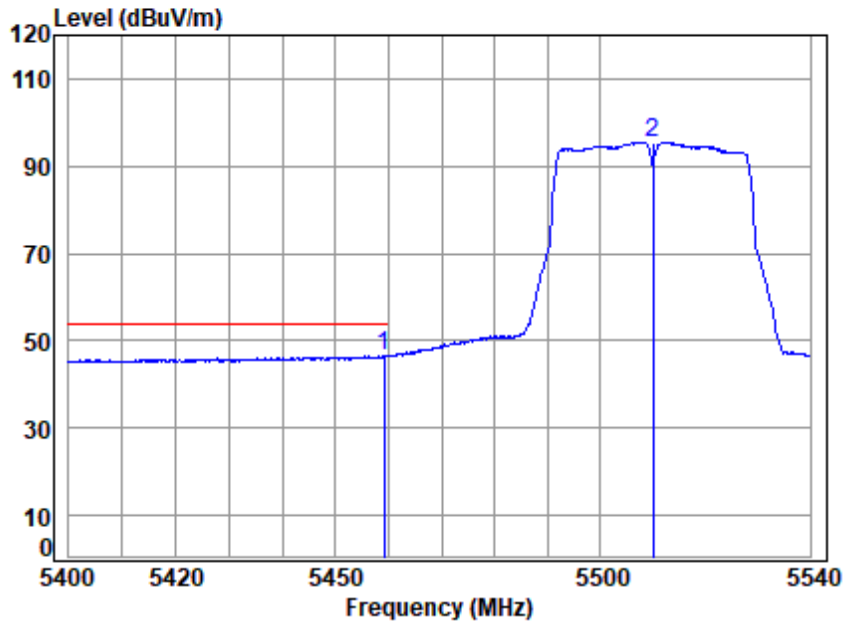
	Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5441.764	10.60	32.88	30.72	47.23	59.99	74.00 -14.01 peak
2	5469.412	10.59	32.90	30.71	49.34	62.12	68.20 -6.08 peak
3	5510.000	10.56	32.90	30.70	93.57	106.33	68.20 38.13 peak



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Test Mode: 11; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5510 Band edge
: 5GWIFI 11AC40

		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 pp	5459.202	10.60	32.90	30.72	33.78	46.56	54.00	-7.44	Average
2	5510.000	10.56	32.90	30.70	82.78	95.54	-----	-----	Average



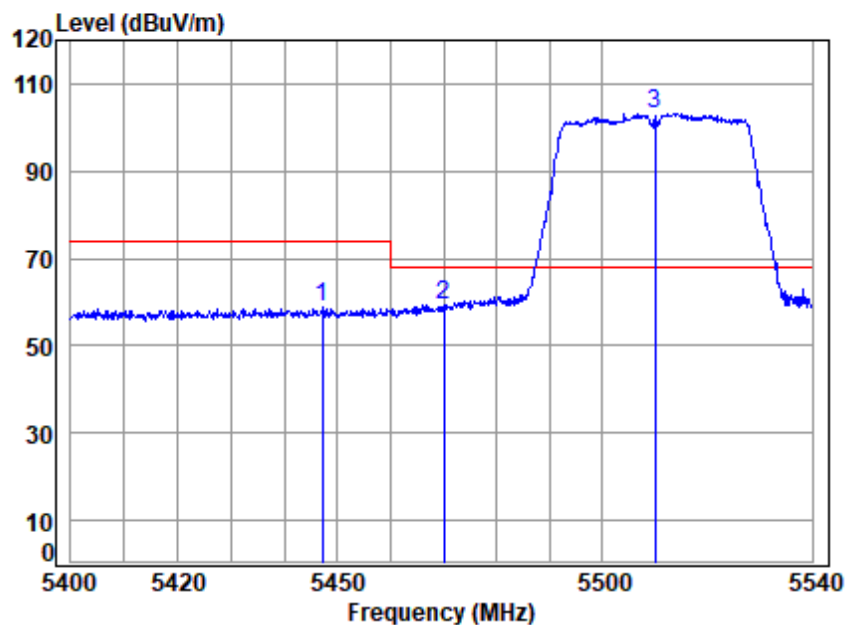
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中国·广东·深圳市南山区科技园中区M-10栋1号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

Test Mode: 11; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



Condition: 3m VERTICAL

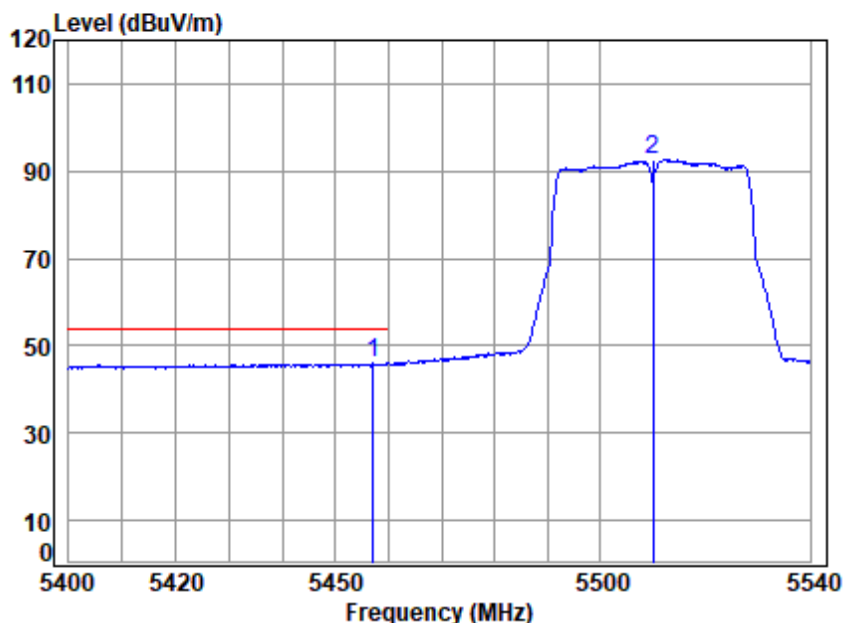
Job No : 02101MO

Mode : 5510 Band edge
: 5GWIFI 11AC40

	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	5447.199	10.60	32.89	30.72	45.92	58.69	74.00 -15.31 peak
2	5469.972	10.59	32.90	30.71	46.70	59.48	68.20 -8.72 peak
3	pp 5510.000	10.56	32.90	30.70	90.53	103.29	68.20 35.09 peak



Test Mode: 11; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



Condition: 3m VERTICAL

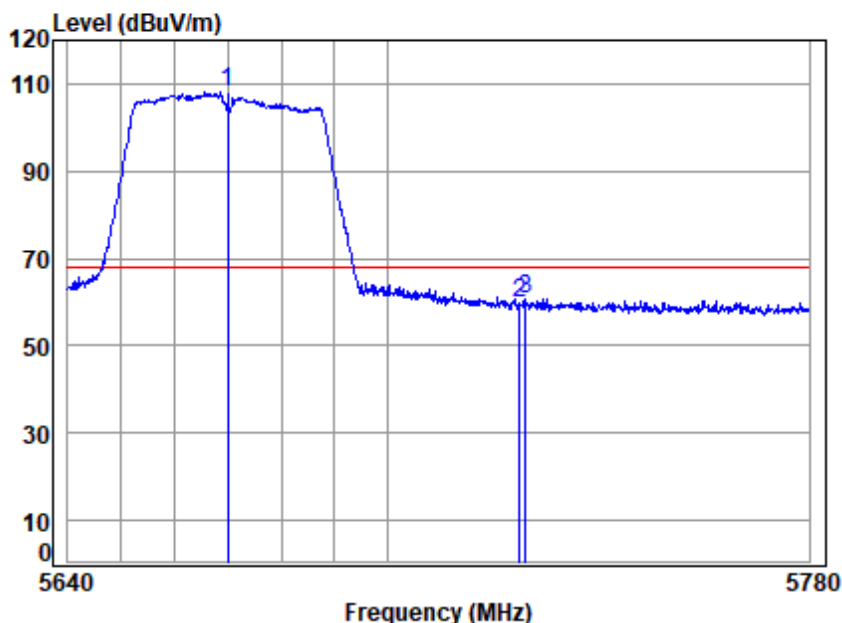
Job No : 02101MO

Mode : 5510 Band edge
: 5GWIFI 11AC40

		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 pp 5456.967	10.60	32.90	30.72	33.10	45.88	54.00	-8.12	Average
2 5510.000	10.56	32.90	30.70	79.83	92.59	-----	-----	Average



Test Mode: 11; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5670 Band edge
: 5GWIFI 11AC40

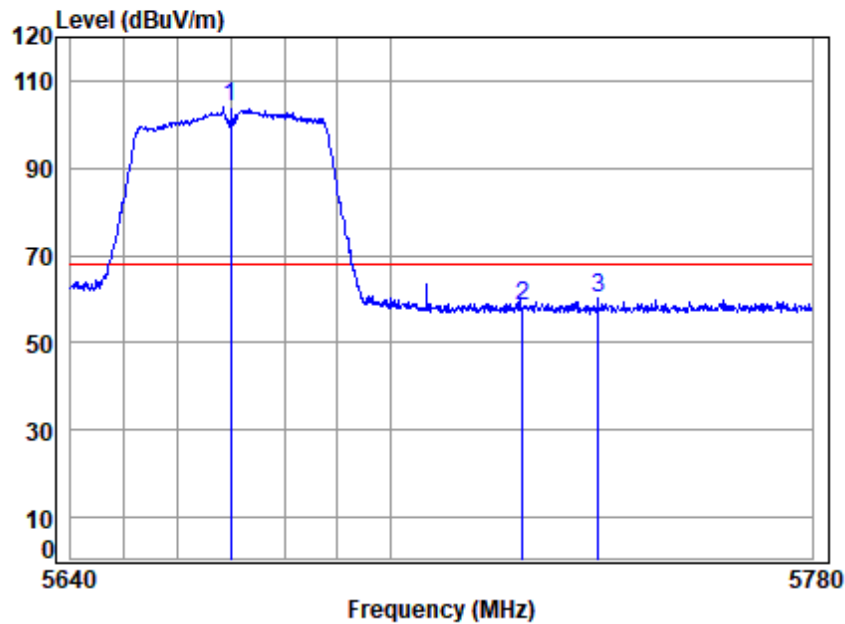
		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5670.000	10.52	33.14	30.63	95.17	108.20	68.20	40.00	peak
2	5725.000	10.68	33.25	30.61	46.28	59.60	68.20	-8.60	peak
3	5725.974	10.68	33.25	30.61	47.33	60.65	68.20	-7.55	peak



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Test Mode: 11; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



Condition: 3m VERTICAL

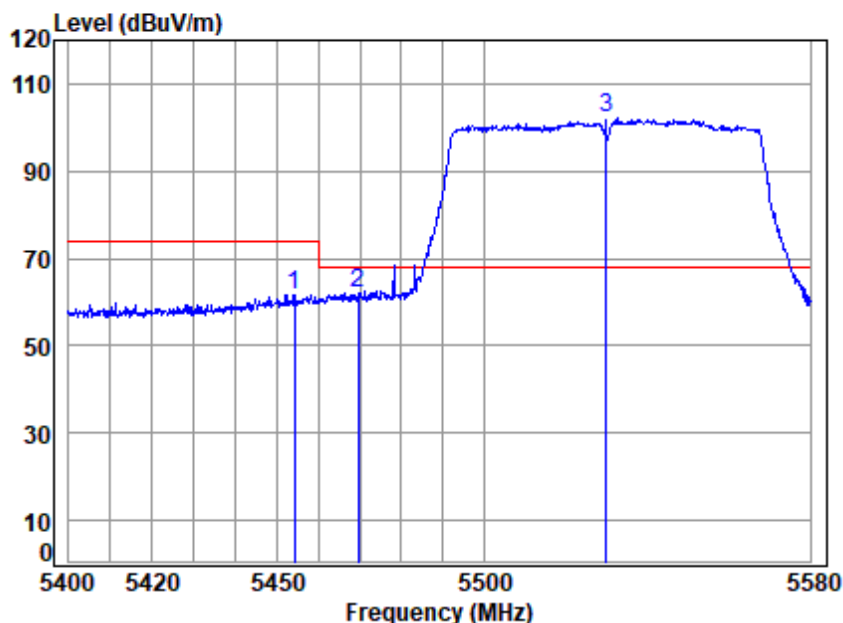
Job No : 02101MO

Mode : 5670 Band edge
: 5GWIFI 11AC40

		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 pp	5670.000	10.52	33.14	30.63	90.80	103.83	68.20	35.63	peak
2	5725.000	10.68	33.25	30.61	44.96	58.28	68.20	-9.92	peak
3	5739.187	10.74	33.28	30.60	46.60	60.02	68.20	-8.18	peak



Test Mode: 11; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5530 Band edge
: 5GWIFI 11AC80

	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	5454.097	10.60	32.90	30.72	48.92	61.70	74.00 -12.30 peak
2	5469.678	10.59	32.90	30.71	49.19	61.97	68.20 -6.23 peak
3	pp 5530.000	10.53	32.90	30.69	89.32	102.06	68.20 33.86 peak



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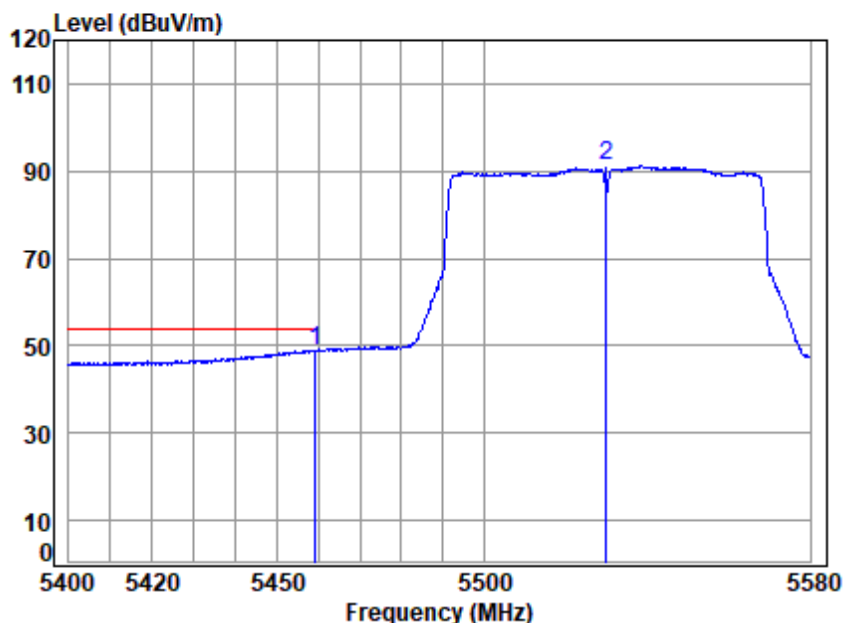
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 160 of 357

Test Mode: 11; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5530 Band edge
: 5GWIFI 11AC80

		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 pp 5459.286	10.60	32.90	30.72	36.25	49.03	54.00	-4.97	Average
2 5530.000	10.53	32.90	30.69	78.41	91.15	-----	-----	Average



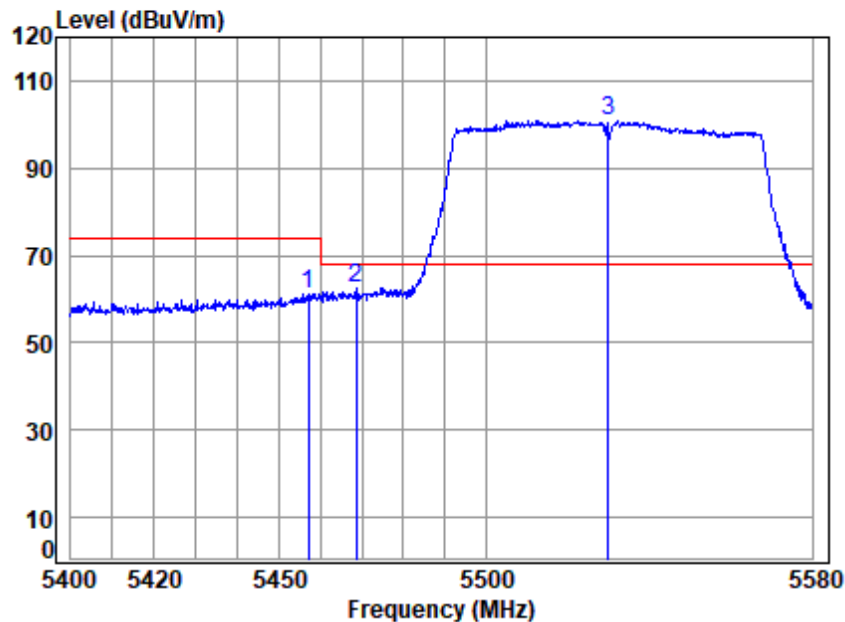
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Test Mode: 11; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low



Condition: 3m VERTICAL

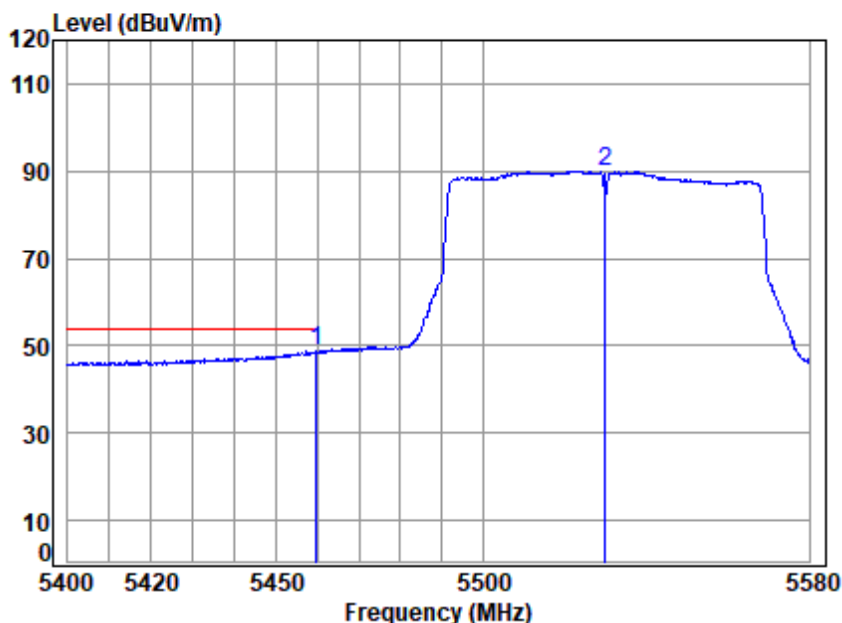
Job No : 02101MO

Mode : 5530 Band edge
: 5GWIFI 11AC80

	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	5457.138	10.60	32.90	30.72	48.58	61.36	74.00 -12.64 peak
2	5468.602	10.59	32.90	30.71	49.61	62.39	68.20 -5.81 peak
3	5530.000	10.53	32.90	30.69	88.20	100.94	68.20 32.74 peak



Test Mode: 11; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low



Condition: 3m VERTICAL

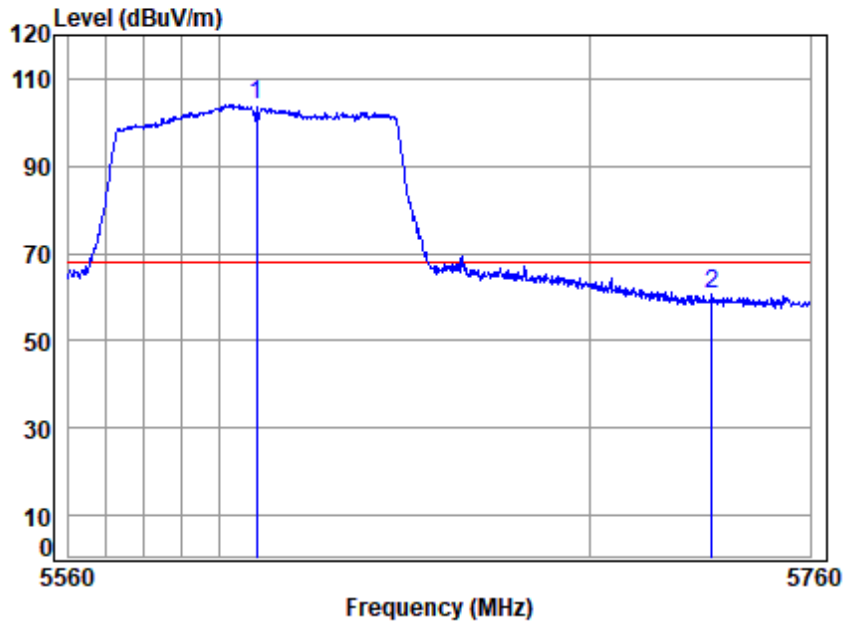
Job No : 02101MO

Mode : 5530 Band edge
: 5GWIFI 11AC80

		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 pp	5459.823	10.60	32.90	30.72	36.03	48.81	54.00	-5.19	Average
2	5530.000	10.53	32.90	30.69	77.22	89.96	-----	-----	Average



Test Mode: 11; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:High



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5610 Band edge
: 5GWIFI 11AC80

		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 pp	5610.000	10.43	33.02	30.66	91.45	104.24	68.20	36.04	peak
2	5732.991	10.71	33.27	30.61	47.26	60.63	68.20	-7.57	peak



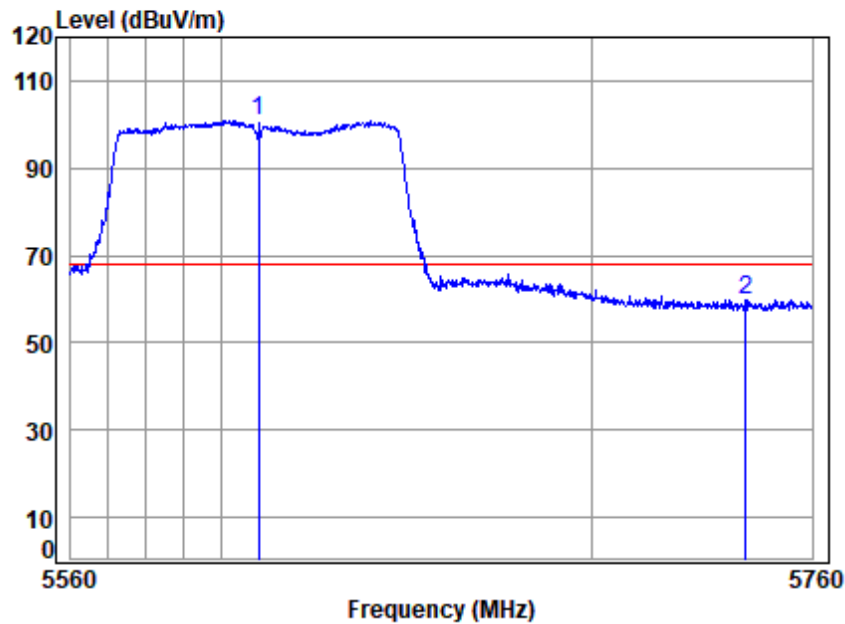
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Test Mode: 11; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:High



Condition: 3m VERTICAL

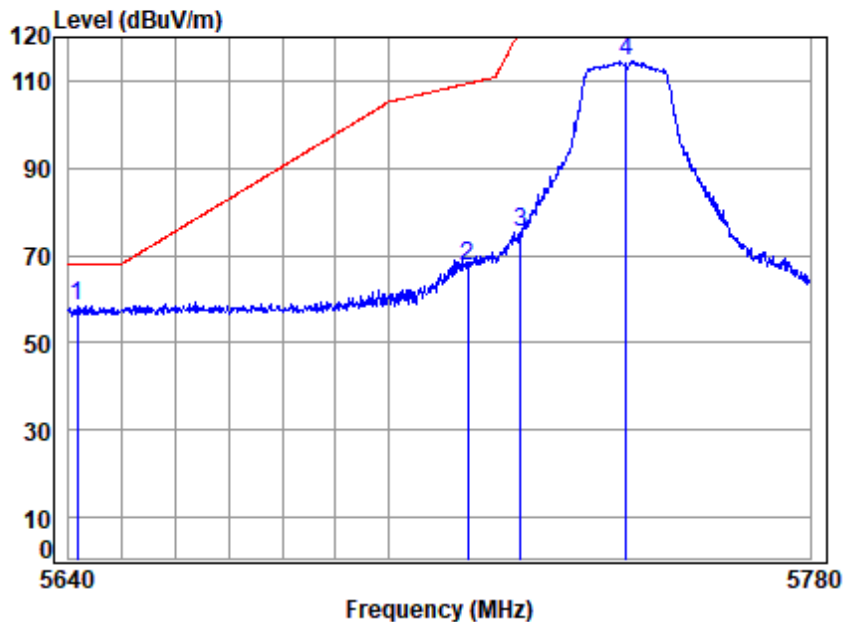
Job No : 02101MO

Mode : 5610 Band edge
: 5GWIFI 11AC80

		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 pp	5610.000	10.43	33.02	30.66	88.18	100.97	68.20	32.77	peak
2	5741.709	10.75	33.28	30.60	46.48	59.91	68.20	-8.29	peak



Test Mode: 12; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Condition: 3m HORIZONTAL

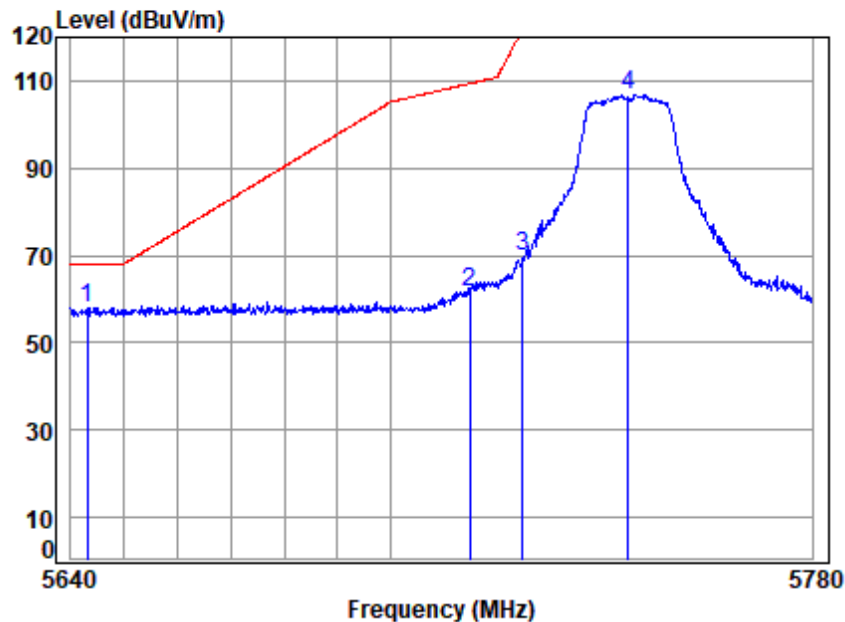
Job No : 02101MO

Mode : 5745 Band edge
: 5GWIFI 11A

		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 pp	5641.521	10.47	33.08	30.64	45.34	58.25	68.20	-9.95 peak
2	5715.000	10.63	33.23	30.61	54.21	67.46	109.40	-41.94 peak
3	5725.000	10.68	33.25	30.61	62.16	75.48	122.20	-46.72 peak
4	5745.000	10.77	33.29	30.60	100.95	114.41	-----	----- peak



Test Mode: 12; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5745 Band edge
: 5GWIFI 11A

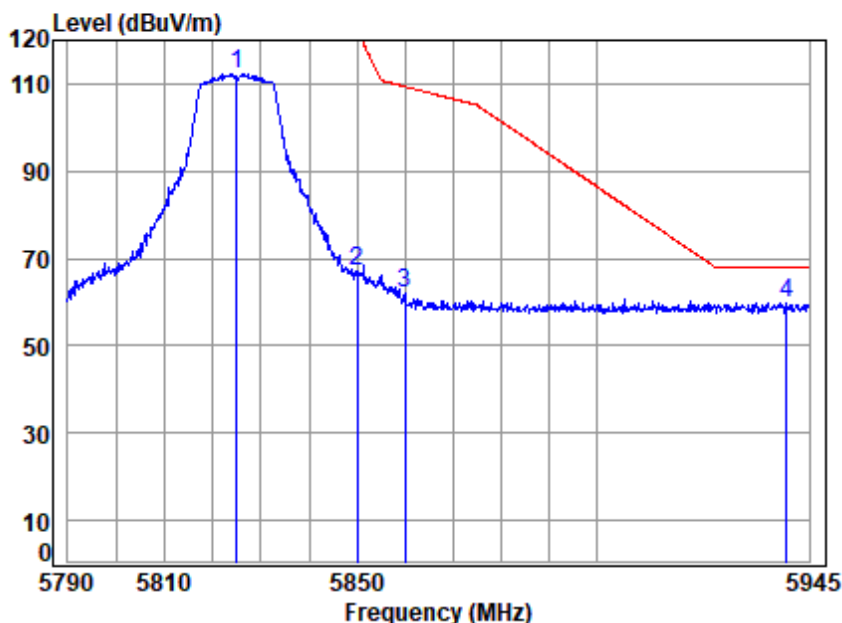
		Cable	Ant	Preamp	Read	Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5643.043	10.47	33.09	30.64	45.22	58.14	68.20	-10.06 peak
2	5715.000	10.63	33.23	30.61	48.17	61.42	109.40	-47.98 peak
3	5725.000	10.68	33.25	30.61	56.26	69.58	122.20	-52.62 peak
4	5745.000	10.77	33.29	30.60	93.41	106.87	-----	----- peak



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Test Mode: 12; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Condition: 3m HORIZONTAL

Job No : 02101MO

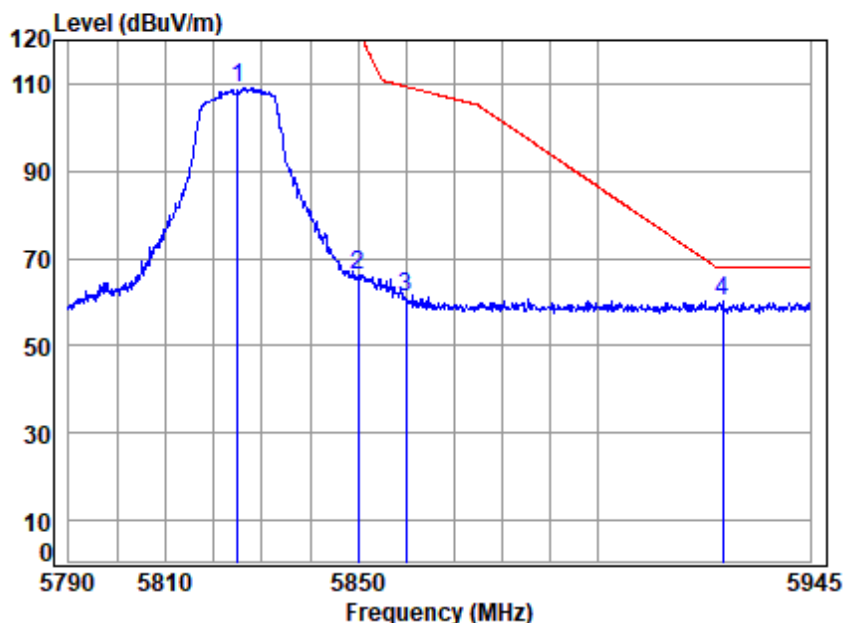
Mode : 5825 Band edge

: 5GWIFI 11A

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5825.000	10.99	33.50	30.57	98.48	112.40	-----	-----	peak
2	5850.000	10.95	33.60	30.56	53.24	67.23	122.20	-54.97	peak
3	5860.000	10.94	33.58	30.56	48.07	62.03	109.40	-47.37	peak
4 pp	5940.290	10.86	33.58	30.52	45.89	59.81	68.20	-8.39	peak



Test Mode: 12; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5825 Band edge

: 5GWIFI 11A

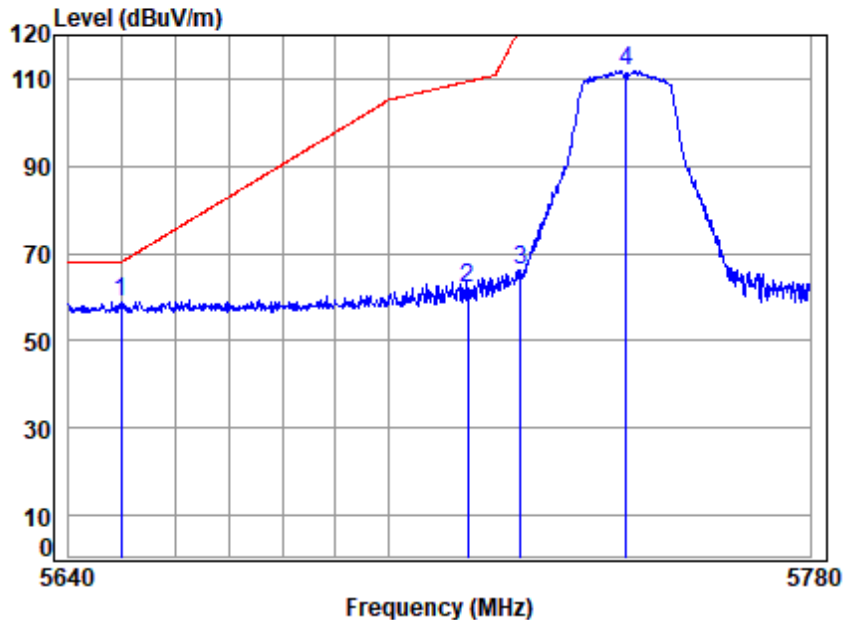
		Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5825.000	10.99	33.50	30.57	95.19	109.11	-----	peak
2	5850.000	10.95	33.60	30.56	52.33	66.32	122.20	-55.88 peak
3	5860.000	10.94	33.58	30.56	47.13	61.09	109.40	-48.31 peak
4 pp	5926.496	10.87	33.55	30.53	46.42	60.31	68.20	-7.89 peak



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Test Mode: 12; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5745 Band edge
: 5GWIFI 11AC20

		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 pp	5649.827	10.48	33.10	30.64	46.05	58.99	68.20	-9.21 peak
2	5715.000	10.63	33.23	30.61	48.75	62.00	109.40	-47.40 peak
3	5725.000	10.68	33.25	30.61	52.80	66.12	122.20	-56.08 peak
4	5745.000	10.77	33.29	30.60	98.53	111.99	-----	----- peak



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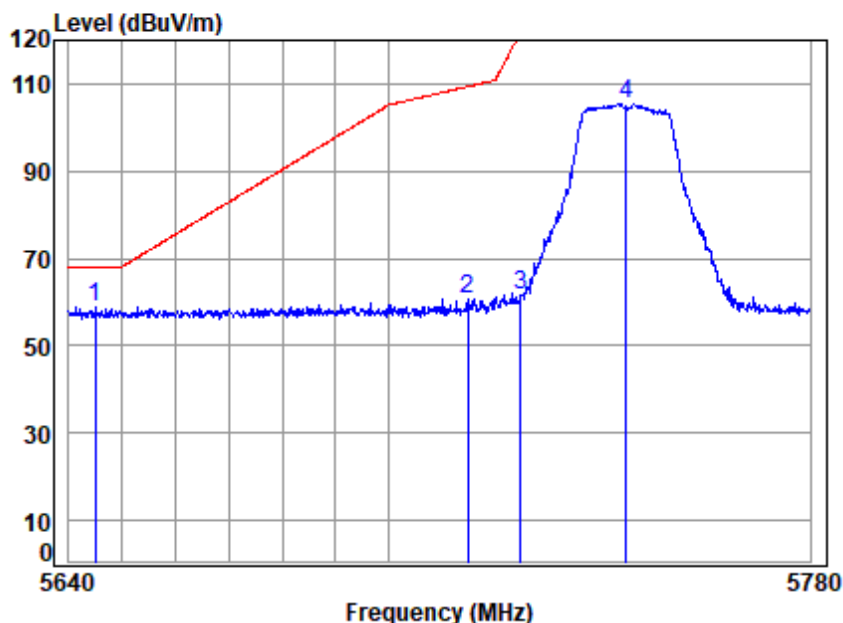
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 170 of 357

Test Mode: 12; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5745 Band edge

: 5GWIFI 11AC20

		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 pp	5644.980	10.48	33.09	30.64	45.78	58.71	68.20	-9.49 peak
2	5715.000	10.63	33.23	30.61	47.43	60.68	109.40	-48.72 peak
3	5725.000	10.68	33.25	30.61	48.15	61.47	122.20	-60.73 peak
4	5745.000	10.77	33.29	30.60	92.14	105.60	-----	----- peak



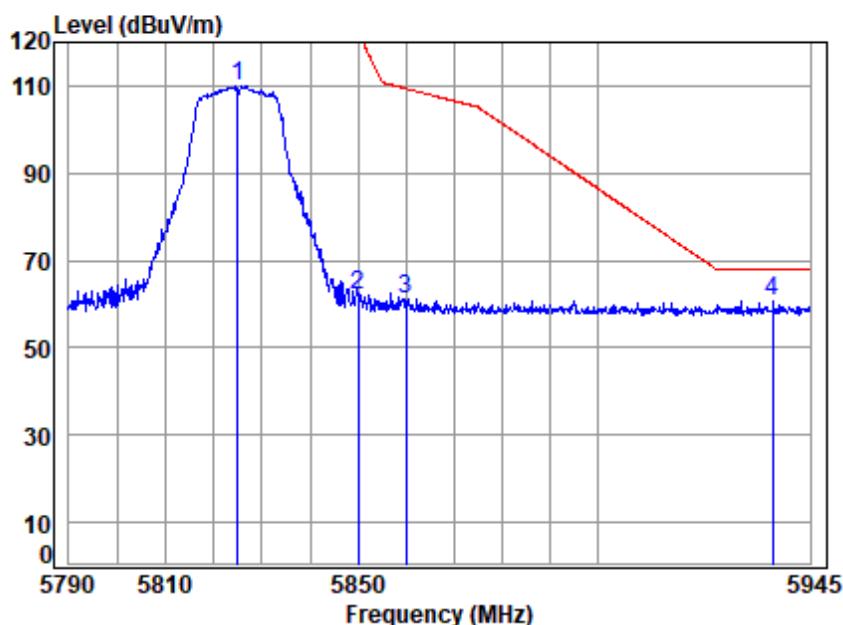
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Test Mode: 12; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5825 Band edge

: 5GWIFI 11AC20

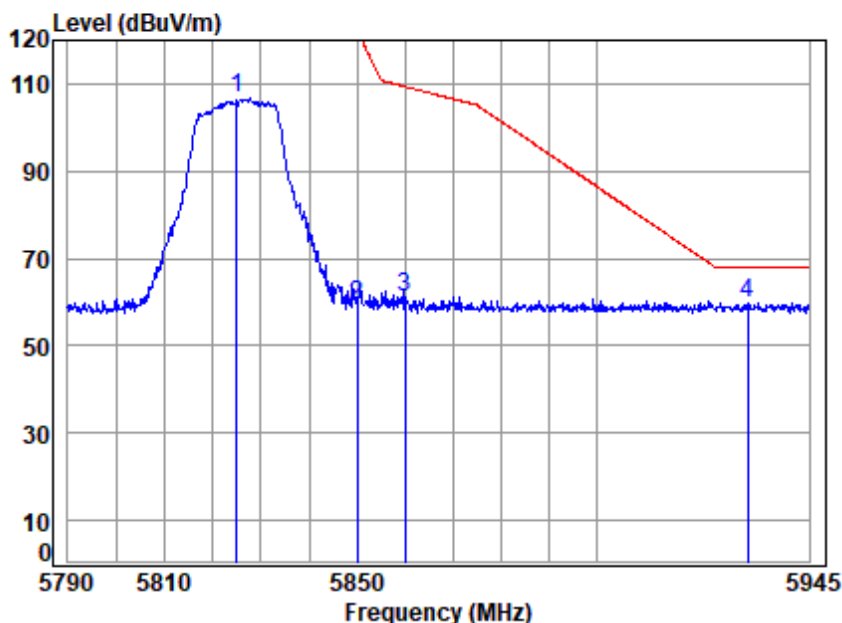
		Cable	Ant	Preamp	Read	Limit	Over	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5825.000	10.99	33.50	30.57	96.23	110.15	-----	peak
2	5850.000	10.95	33.60	30.56	47.95	61.94	122.20	-60.26 peak
3	5860.000	10.94	33.58	30.56	47.22	61.18	109.40	-48.22 peak
4	pp 5937.152	10.86	33.57	30.53	47.00	60.90	68.20	-7.30 peak



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Test Mode: 12; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



Condition: 3m VERTICAL

Job No : 02101MO

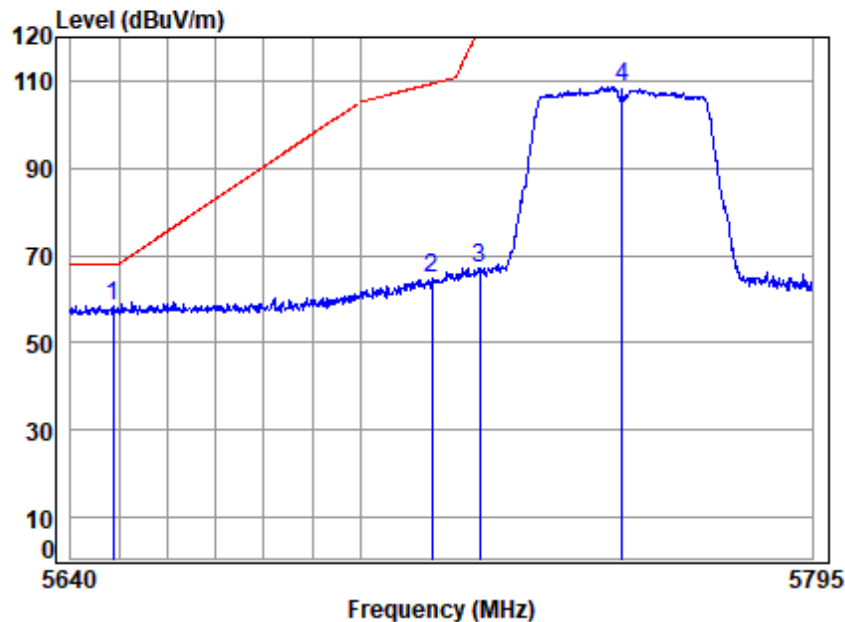
Mode : 5825 Band edge

: 5GWIFI 11AC20

		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	5825.000	10.99	33.50	30.57	92.80	106.72	-----	-----	peak
2	5850.000	10.95	33.60	30.56	45.44	59.43	122.20	-62.77	peak
3	5860.000	10.94	33.58	30.56	47.16	61.12	109.40	-48.28	peak
4 pp	5931.979	10.86	33.56	30.53	45.99	59.88	68.20	-8.32	peak



Test Mode: 12; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5755 Band edge
: 5GWIFI 11AC40

		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 pp	5648.723	10.48	33.10	30.64	45.51	58.45	68.20	-9.75 peak
2	5715.000	10.63	33.23	30.61	51.69	64.94	109.40	-44.46 peak
3	5725.000	10.68	33.25	30.61	53.80	67.12	122.20	-55.08 peak
4	5755.000	10.81	33.31	30.60	95.08	108.60	-----	----- peak



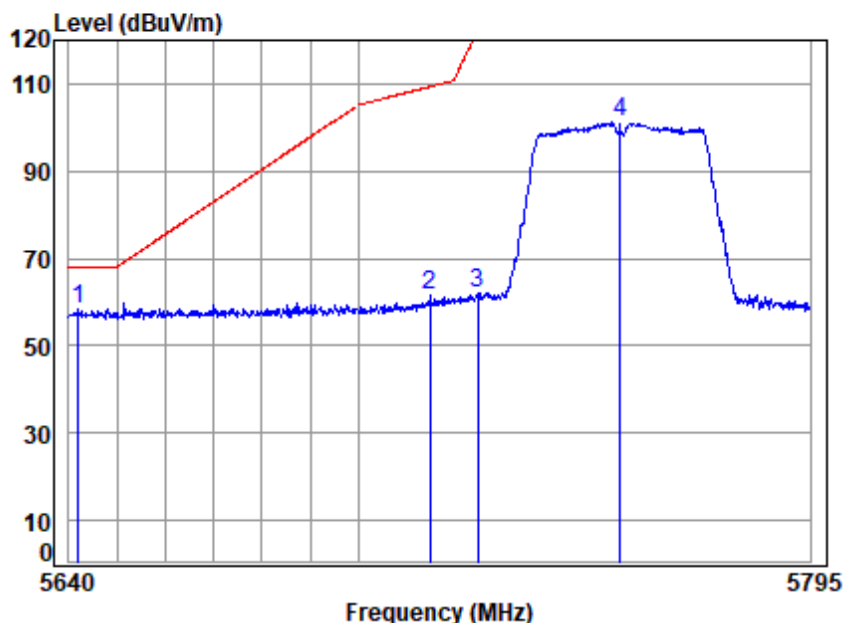
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 174 of 357

Test Mode: 12; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5755 Band edge

: 5GWIFI 11AC40

		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 pp	5641.988	10.47	33.08	30.64	45.44	58.35	68.20	-9.85 peak
2	5715.000	10.63	33.23	30.61	48.27	61.52	109.40	-47.88 peak
3	5725.000	10.68	33.25	30.61	48.83	62.15	122.20	-60.05 peak
4	5755.000	10.81	33.31	30.60	87.60	101.12	-----	----- peak



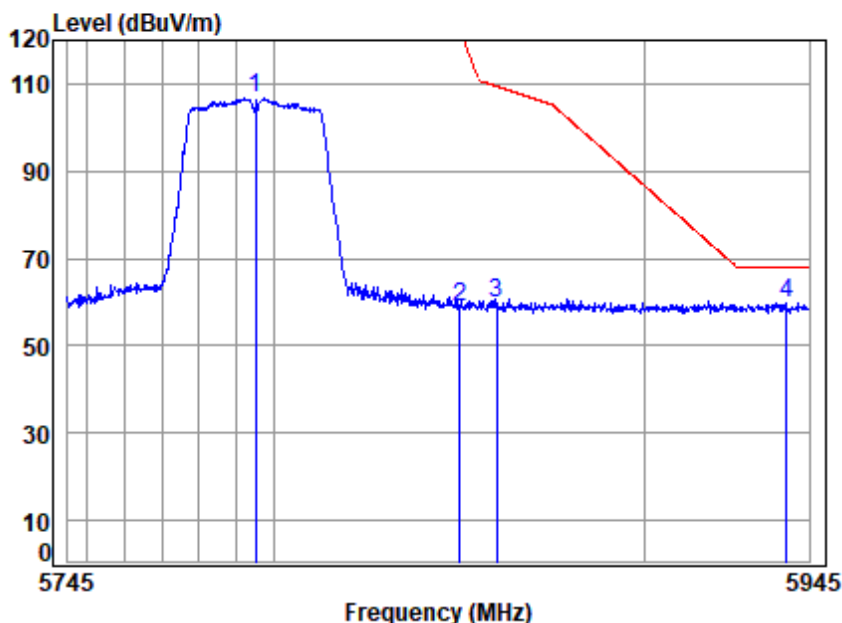
SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch Testing Laboratory

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Test Mode: 12; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5795 Band edge
: 5GWIFI 11AC40

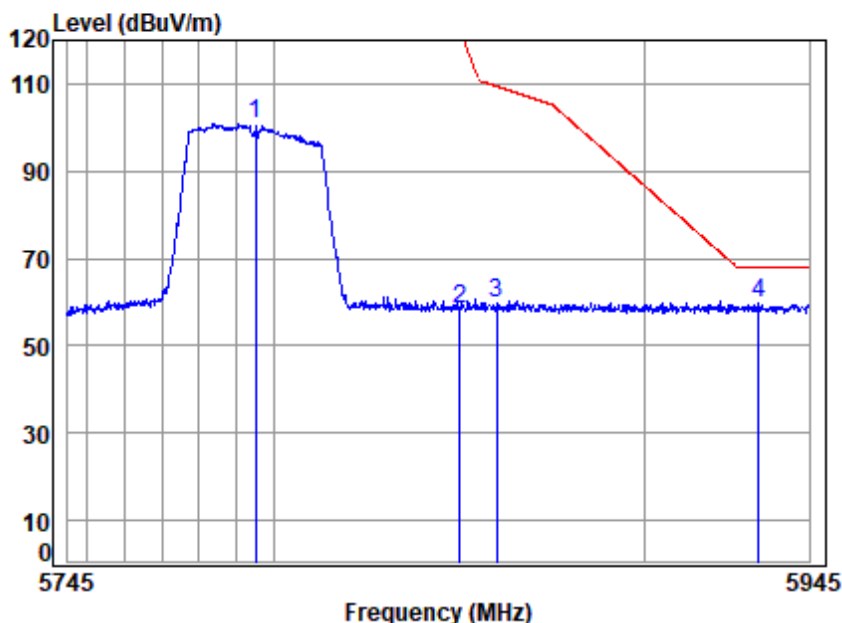
		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5795.000	11.00	33.39	30.58	92.93	106.74	-----	-----	peak
2	5850.000	10.95	33.60	30.56	44.96	58.95	122.20	-63.25	peak
3	5860.000	10.94	33.58	30.56	45.83	59.79	109.40	-49.61	peak
4 pp	5938.697	10.86	33.58	30.52	45.93	59.85	68.20	-8.35	peak



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Test Mode: 12; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5795 Band edge

: 5GWIFI 11AC40

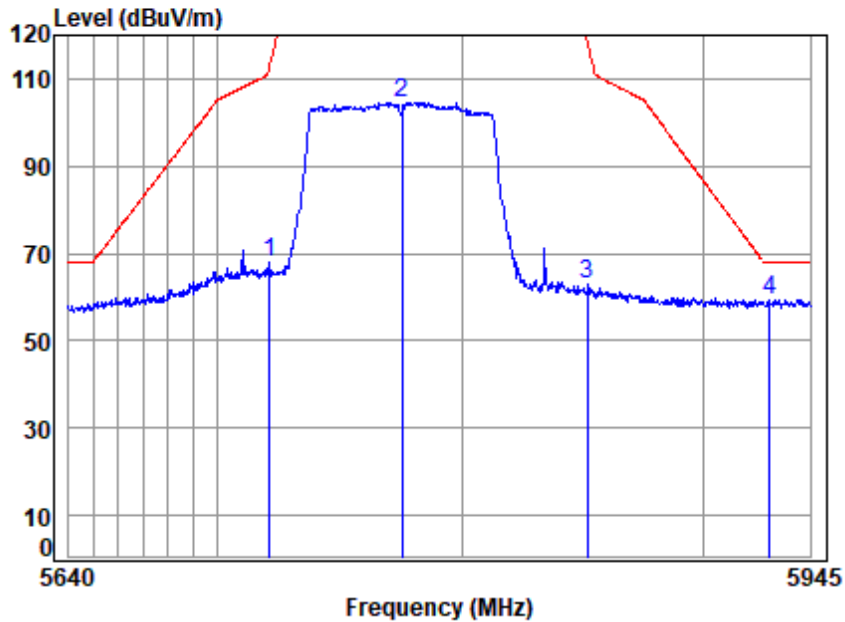
		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5795.000	11.00	33.39	30.58	87.06	100.87	-----	-----	peak
2	5850.000	10.95	33.60	30.56	44.27	58.26	122.20	-63.94	peak
3	5860.000	10.94	33.58	30.56	45.90	59.86	109.40	-49.54	peak
4 pp	5931.182	10.87	33.56	30.53	45.81	59.71	68.20	-8.49	peak



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Test Mode: 12; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



Condition: 3m HORIZONTAL

Job No : 02101MO

Mode : 5775 Band edge
: 5GWIFI 11AC80

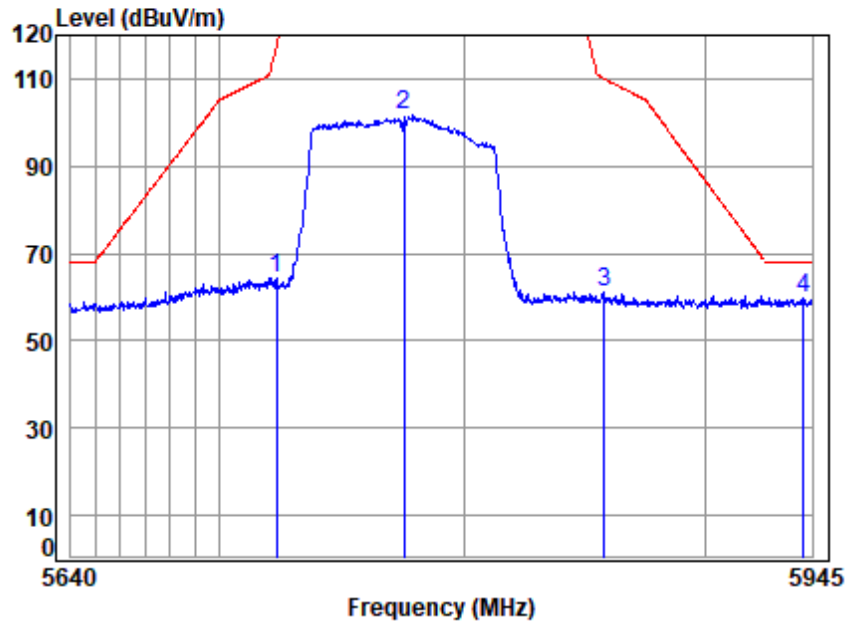
		Cable	Ant	Preamp	Read		Limit	Over	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5721.075	10.66	33.24	30.61	54.53	67.82	113.25	-45.43	peak
2	5775.000	10.91	33.35	30.59	91.01	104.68	-----	-----	peak
3	5851.808	10.95	33.60	30.56	48.86	62.85	118.08	-55.23	peak
4 pp	5928.117	10.87	33.56	30.53	45.62	59.52	68.20	-8.68	peak



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Test Mode: 12; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



Condition: 3m VERTICAL

Job No : 02101MO

Mode : 5775 Band edge
: 5GWIFI 11AC80

	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 5722.883	10.67	33.25	30.61	51.08	64.39	117.37	-52.98	peak
2 5775.000	10.91	33.35	30.59	88.14	101.81	-----	-----	peak
3 5857.975	10.94	33.58	30.56	47.33	61.29	109.97	-48.68	peak
4 pp 5941.557	10.86	33.58	30.52	46.05	59.97	68.20	-8.23	peak



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7.6 Channel Move Time

Test Requirement KDB 905462 D02 Section 5.1
Test Method: KDB 905462 D02 Section 7.8.3

Limit:

Test item	Limit	Applicability	
		Master Device or client with Radar Detection	Client without Radar Detection
Non-occupancy period	Minimum 30 minutes	Yes	Not required
Channel Availability Check Time	60 seconds	Yes	Not required
Channel Move Time	10 seconds See Note 1.	Yes	Yes
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.	Yes	Yes
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.	Yes	Not required

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

Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required 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.

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

7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 24.6 °C Humidity: 42.2 % RH Atmospheric Pressure: 1020 mbar



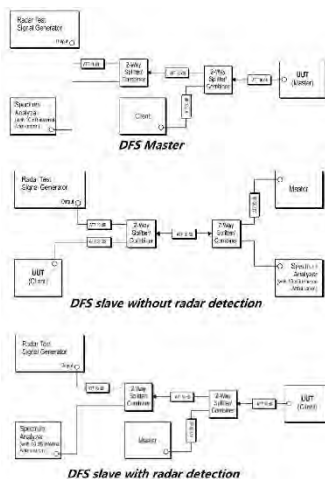
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7.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	13	Normal operating_Keep the EUT communication with the companion device.

7.6.3 Test Setup Diagram



7.6.4 Measurement Procedure and Data

- 1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
- 2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.
- 3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
- 4) EUT will associate with the master at channel. The file "iperf.exe" specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.
- 5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
- 6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.
- 7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: $Dwell (0.3ms) = S (12000ms) / B (4000)$; where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: $C (ms) = N \times Dwell (0.3ms)$; where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
- 8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

Please Refer to Appendix for Details

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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 182 of 357

7.7 Duty Cycle

Test Requirement KDB 789033 D02 II B 1

Test Method: KDB 789033 II B 1

7.7.1 E.U.T. Operation

Operating Environment:

Temperature: 24.9 °C Humidity: 42.4 % RH Atmospheric Pressure: 1020 mbar

7.7.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	09	TX mode (U-NII-1) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	10	TX mode (U-NII-2A) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	11	TX mode (U-NII-2C) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	12	TX mode (U-NII-3) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.



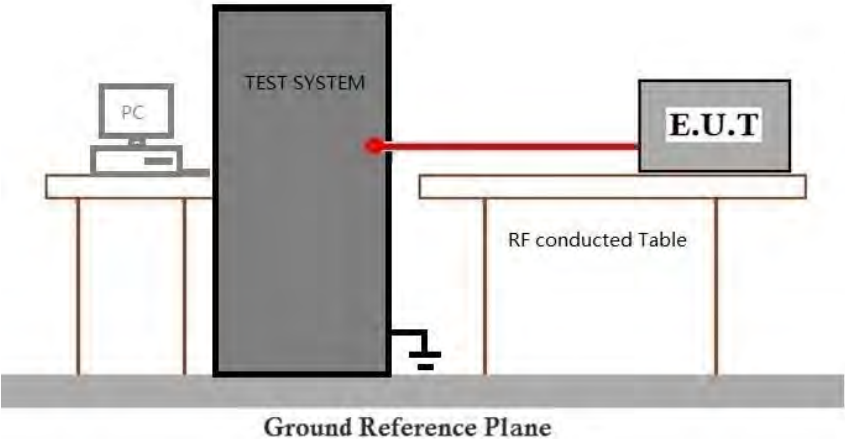
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7.7.3 Test Setup Diagram



7.7.4 Measurement Procedure and Data

Please Refer to Appendix for Details

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

SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 184 of 357

7.8 99% Bandwidth

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

7.8.1 E.U.T. Operation

Operating Environment:

Temperature: 24.9 °C Humidity: 42.4 % RH Atmospheric Pressure: 1020 mbar

7.8.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	09	TX mode (U-NII-1) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	10	TX mode (U-NII-2A) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	11	TX mode (U-NII-2C) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	12	TX mode (U-NII-3) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.



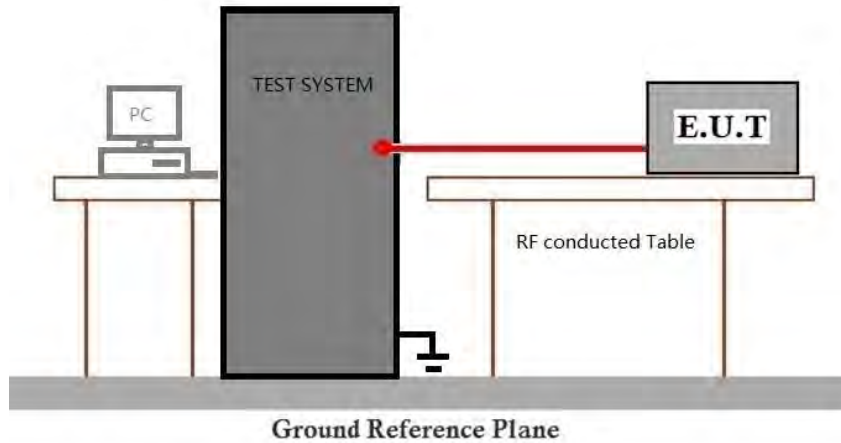
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7.8.3 Test Setup Diagram



7.8.4 Measurement Procedure and Data

Please Refer to Appendix for Details

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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 186 of 357

7.9 26dB Emission bandwidth

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

Test Method: KDB 789033 D02 II C 1

7.9.1 E.U.T. Operation

Operating Environment:

Temperature: 24.9 °C

Humidity: 42.4 % RH

Atmospheric Pressure: 1020 mbar

7.9.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	09	TX mode (U-NII-1) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	10	TX mode (U-NII-2A) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	11	TX mode (U-NII-2C) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	12	TX mode (U-NII-3) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.



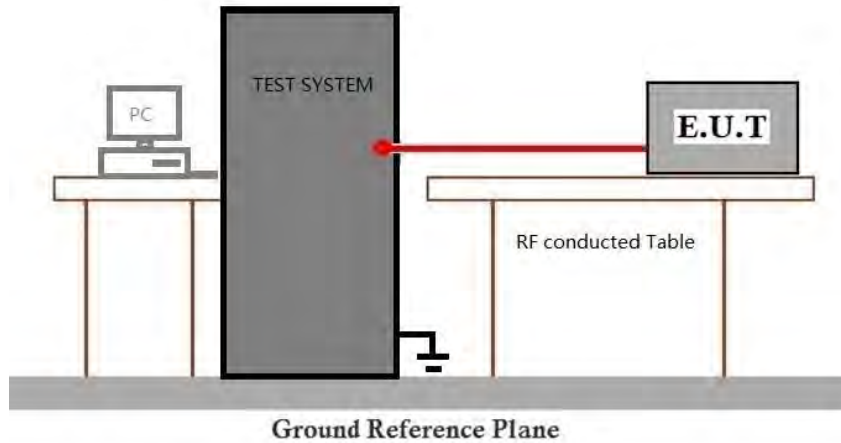
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7.9.3 Test Setup Diagram



7.9.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.10 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

7.10.1 E.U.T. Operation

Operating Environment:

Temperature: 24.9 °C

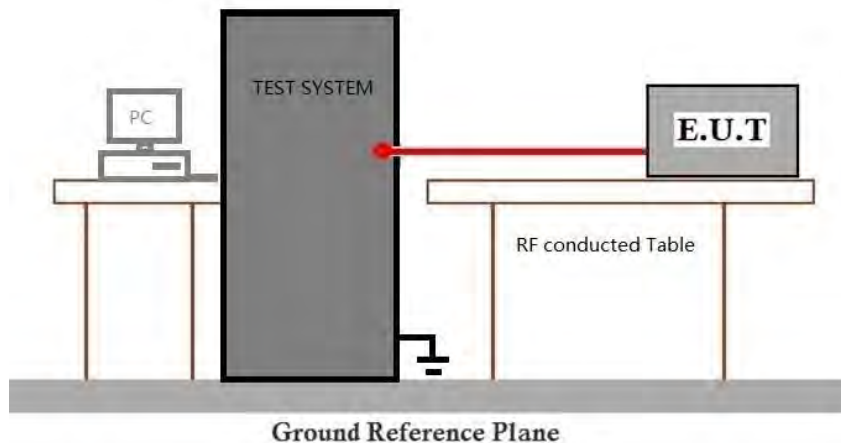
Humidity: 42.4 % RH

Atmospheric Pressure: 1020 mbar

7.10.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	12	TX mode (U-NII-3) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.

7.10.3 Test Setup Diagram



7.10.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.11 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.

7.11.1 E.U.T. Operation

Operating Environment:

Temperature: 24.9 °C

Humidity: 42.4 % RH

Atmospheric Pressure: 1020 mbar

7.11.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	09	TX mode (U-NII-1) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	10	TX mode (U-NII-2A) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	11	TX mode (U-NII-2C) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	12	TX mode (U-NII-3) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.



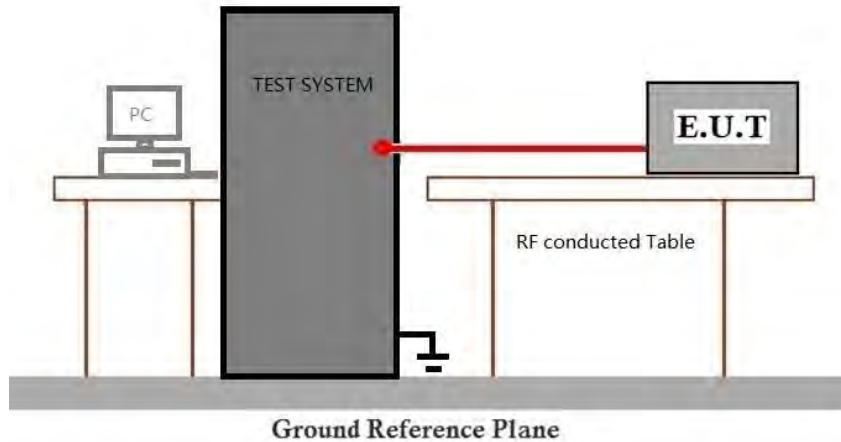
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7.11.3 Test Setup Diagram



7.11.4 Measurement Procedure and Data

Please Refer to Appendix for Details

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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 191 of 357

7.12 Frequency Stability

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

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

7.12.1 E.U.T. Operation

Operating Environment:

Temperature: 24.9 °C

Humidity: 42.4 % RH

Atmospheric Pressure: 1020 mbar

7.12.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	09	TX mode (U-NII-1) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	10	TX mode (U-NII-2A) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	11	TX mode (U-NII-2C) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.
Final test	12	TX mode (U-NII-3) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n/ac 20/40/80, Only the data of worst case is recorded in the report.



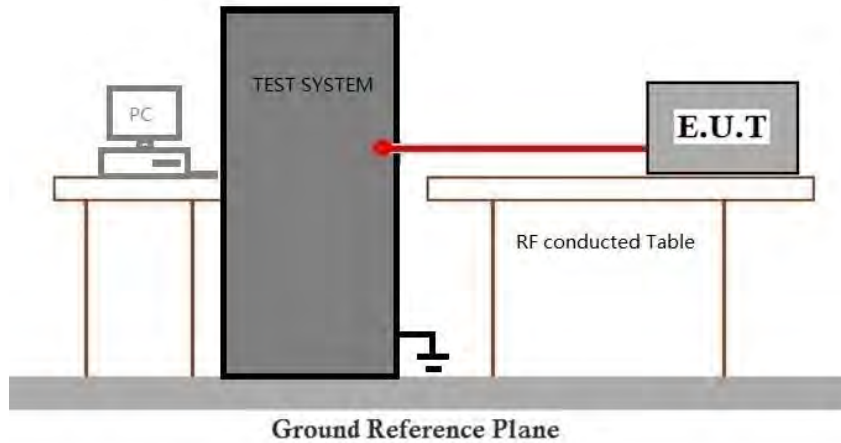
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7.12.3 Test Setup Diagram



7.12.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.13 Non-occupancy period

Test Requirement KDB 905462 D02 Section 5.1
Test Method: KDB 905462 D02 Section 7.8.3

Limit:

Test item	Limit	Applicability	
		Master Device or client with Radar Detection	Client without Radar Detection
Non-occupancy period	Minimum 30 minutes	Yes	Not required
Channel Availability Check Time	60 seconds	Yes	Not required
Channel Move Time	10 seconds See Note 1.	Yes	Yes
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.	Yes	Yes
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.	Yes	Not required

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

Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required 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.

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

7.13.1 E.U.T. Operation

Operating Environment:

Temperature: 24.6 °C Humidity: 42.2 % RH Atmospheric Pressure: 1020 mbar



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7.13.4 Measurement Procedure and Data

- 1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
- 2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.
- 3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
- 4) EUT will associate with the master at channel. The file "iperf.exe" specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.
- 5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
- 6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.
- 7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: $Dwell (0.3ms) = S (12000ms) / B (4000)$; where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: $C (ms) = N \times Dwell (0.3ms)$; where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
- 8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

Please Refer to Appendix for Details

7.14 Channel Closing Transmission Time

Test Requirement KDB 905462 D02 Section 5.1
Test Method: KDB 905462 D02 Section 7.8.3

Limit:

Test item	Limit	Applicability	
		Master Device or client with Radar Detection	Client without Radar Detection
Non-occupancy period	Minimum 30 minutes	Yes	Not required
Channel Availability Check Time	60 seconds	Yes	Not required
Channel Move Time	10 seconds See Note 1.	Yes	Yes
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.	Yes	Yes
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.	Yes	Not required

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

Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required 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.

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

7.14.1 E.U.T. Operation

Operating Environment:

Temperature: 24.6 °C Humidity: 42.2 % RH Atmospheric Pressure: 1020 mbar



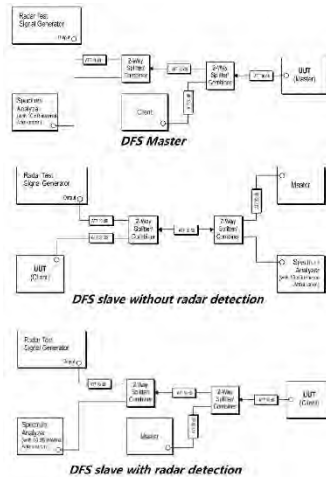
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7.14.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	13	Normal operating_Keep the EUT communication with the companion device.

7.14.3 Test Setup Diagram



7.14.4 Measurement Procedure and Data

- 1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
- 2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.
- 3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
- 4) EUT will associate with the master at channel. The file "iperf.exe" specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.
- 5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
- 6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.
- 7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: $Dwell (0.3ms) = S (12000ms) / B (4000)$; where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: $C (ms) = N \times Dwell (0.3ms)$; where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
- 8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

Please Refer to Appendix for Details

8 Test Setup Photo

Refer to Appendix A.2 WLAN Setup Photos.

9 Appendix

1. Duty Cycle

1.1 Test Result

1.1.1 Ant1

Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11a	SISO	5180	2.030	2.065	98.31	0.07	0.04
		5200	2.030	2.065	98.31	0.07	0.04
		5240	2.030	2.065	98.31	0.07	0.04
		5260	2.030	2.065	98.31	0.07	0.03
		5300	2.030	2.065	98.31	0.07	0.04
		5320	2.030	2.065	98.31	0.07	0.04
		5500	2.030	2.065	98.31	0.07	0.04
		5580	2.029	2.064	98.30	0.07	0.00
		5700	2.029	2.065	98.26	0.08	0.00
		5745	2.030	2.065	98.31	0.07	0.03
		5785	2.029	2.064	98.30	0.07	0.00
		5825	2.030	2.065	98.31	0.07	0.04
802.11n (HT20)	SISO	5180	1.890	1.925	98.18	0.08	0.00
		5200	1.890	1.925	98.18	0.08	0.03
		5240	1.890	1.926	98.13	0.08	0.03
		5260	1.890	1.925	98.18	0.08	0.03
		5300	1.890	1.926	98.13	0.08	0.03
		5320	1.890	1.926	98.13	0.08	0.03
		5500	1.890	1.925	98.18	0.08	0.03
		5580	1.890	1.926	98.13	0.08	0.03
		5700	1.890	1.925	98.18	0.08	0.03
		5745	1.890	1.926	98.13	0.08	0.03
		5785	1.890	1.924	98.23	0.08	0.00
		5825	1.889	1.925	98.13	0.08	0.03
802.11n (HT40)	SISO	5190	0.930	0.964	96.47	0.16	0.03
		5230	0.929	0.964	96.37	0.16	0.07
		5270	0.929	0.964	96.37	0.16	0.00
		5310	0.930	0.964	96.47	0.16	0.00

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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 201 of 357

		5510	0.929	0.964	96.37	0.16	0.00
		5550	0.930	0.964	96.47	0.16	0.00
		5670	0.930	0.965	96.37	0.16	0.03
		5755	0.930	0.964	96.47	0.16	0.00
		5795	0.929	0.964	96.37	0.16	0.00
802.11ac (VHT20)	SISO	5180	1.889	1.925	98.13	0.08	0.00
		5200	1.889	1.925	98.13	0.08	0.03
		5240	1.890	1.925	98.18	0.08	0.03
		5260	1.902	1.937	98.19	0.08	0.03
		5300	1.902	1.938	98.14	0.08	0.03
		5320	1.902	1.937	98.19	0.08	0.03
		5500	1.890	1.926	98.13	0.08	0.03
		5580	1.889	1.924	98.18	0.08	0.00
		5700	1.889	1.925	98.13	0.08	0.00
		5745	1.890	1.926	98.13	0.08	0.03
		5785	1.889	1.924	98.18	0.08	0.00
		5825	1.889	1.924	98.18	0.08	0.00
802.11ac (VHT40)	SISO	5190	0.930	0.964	96.47	0.16	0.00
		5230	0.929	0.964	96.37	0.16	0.00
		5270	0.937	0.972	96.40	0.16	0.00
		5310	0.929	0.964	96.37	0.16	0.00
		5510	0.930	0.964	96.47	0.16	0.00
		5550	0.929	0.964	96.37	0.16	0.00
		5670	0.929	0.964	96.37	0.16	0.00
		5755	0.929	0.964	96.37	0.16	0.03
		5795	0.929	0.964	96.37	0.16	0.00
802.11ac (VHT80)	SISO	5210	0.457	0.492	92.89	0.32	0.03
		5290	0.457	0.492	92.89	0.32	0.03
		5530	0.457	0.492	92.89	0.32	0.07
		5610	0.457	0.492	92.89	0.32	0.07
		5775	0.456	0.492	92.68	0.33	0.00



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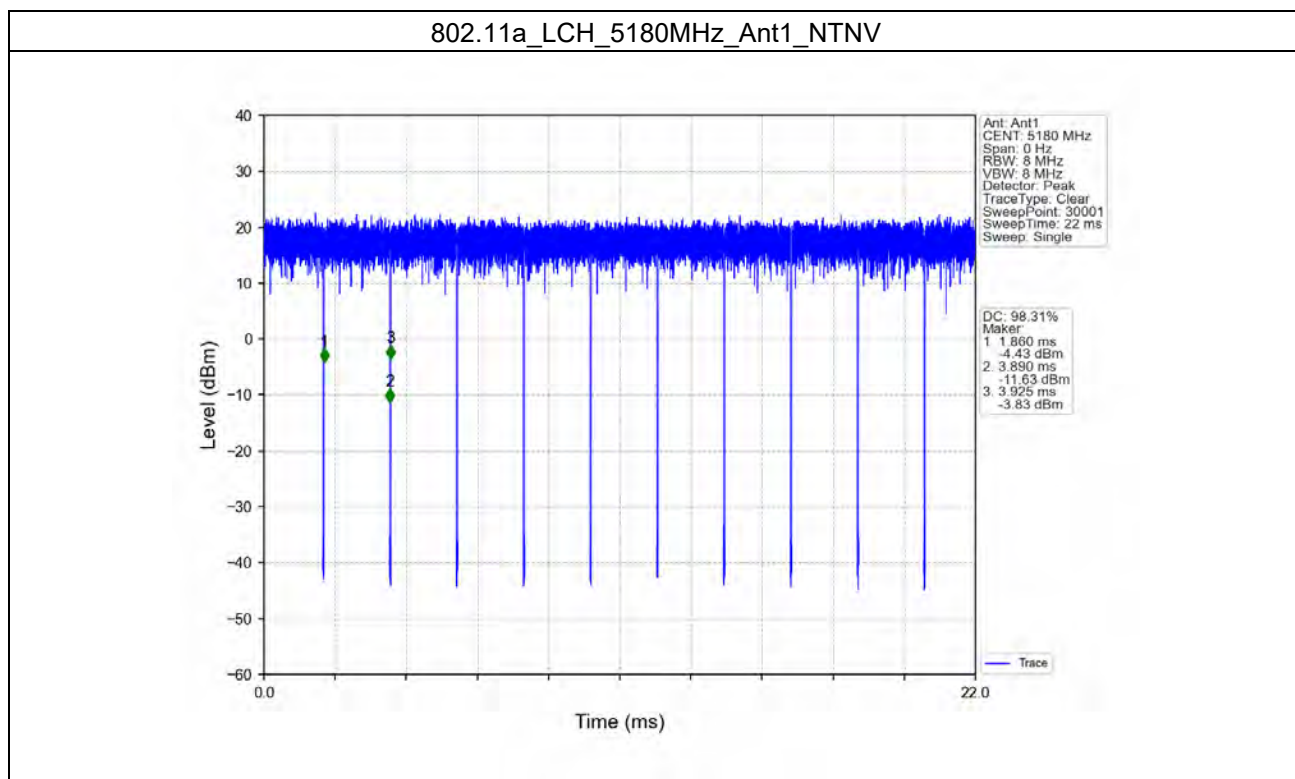
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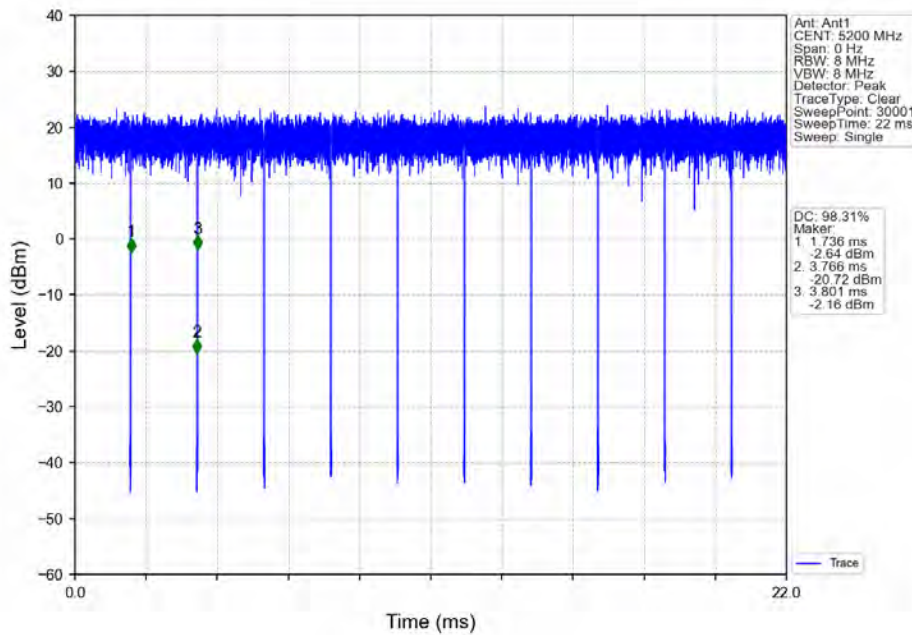
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1.2 Test Graph

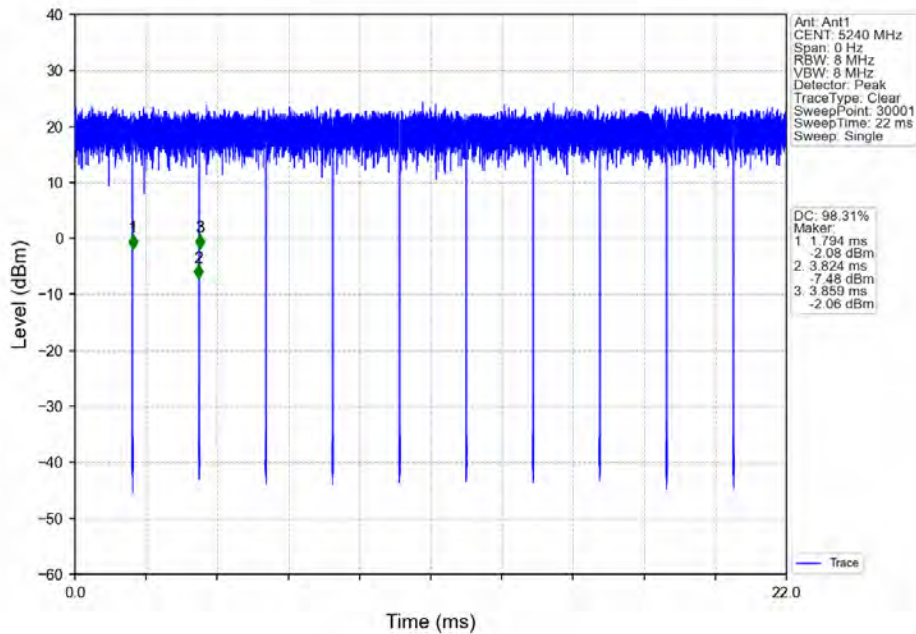
1.2.1 Ant1



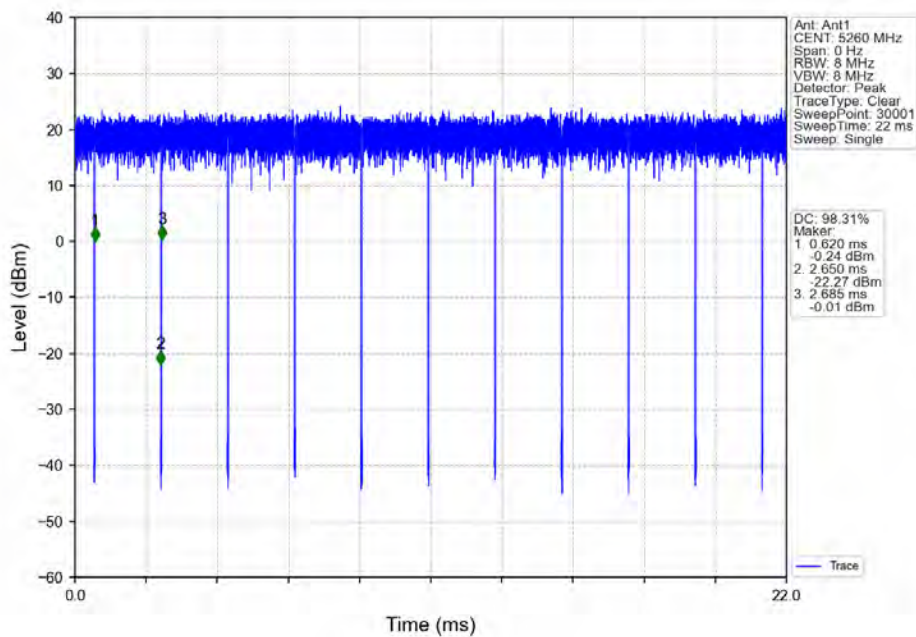
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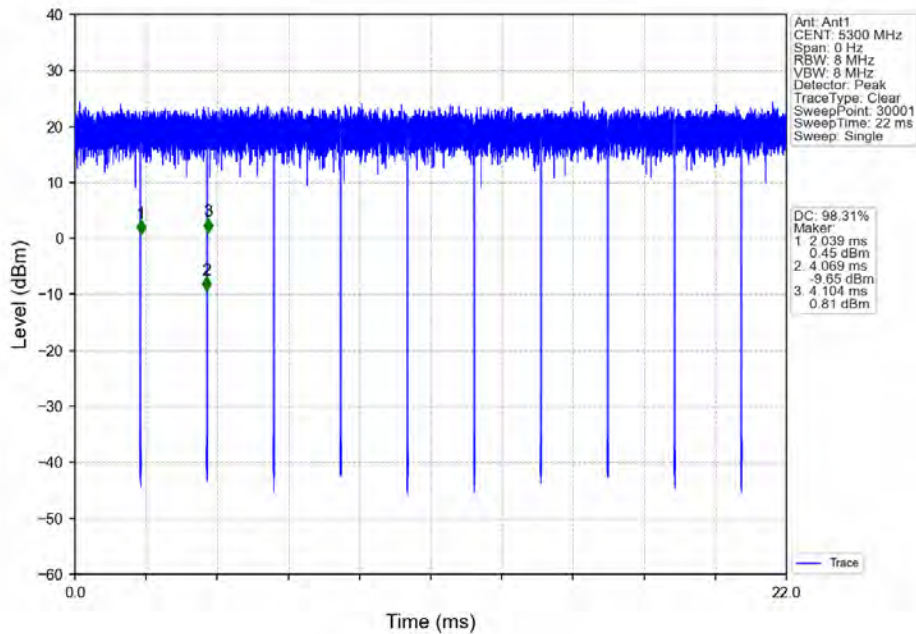
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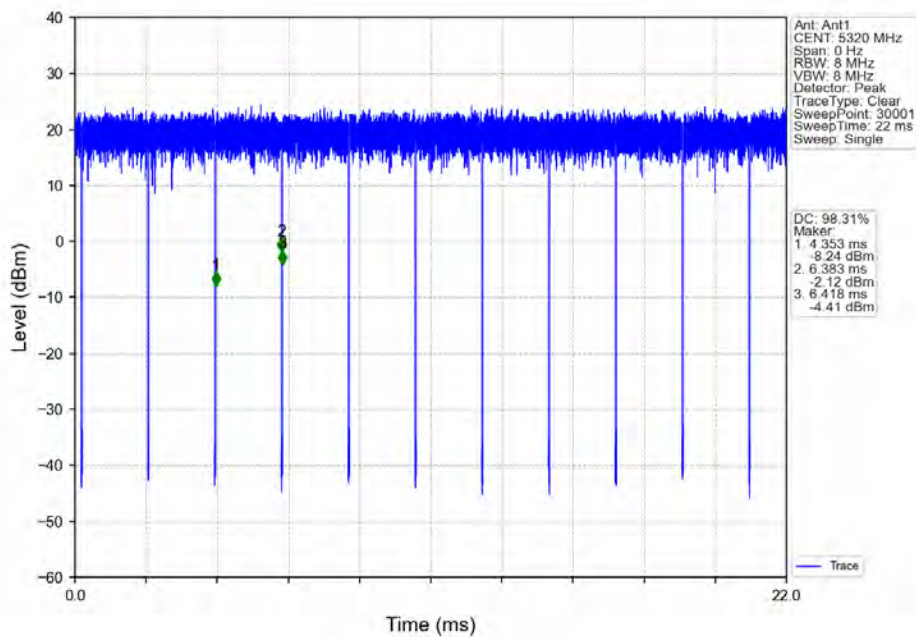
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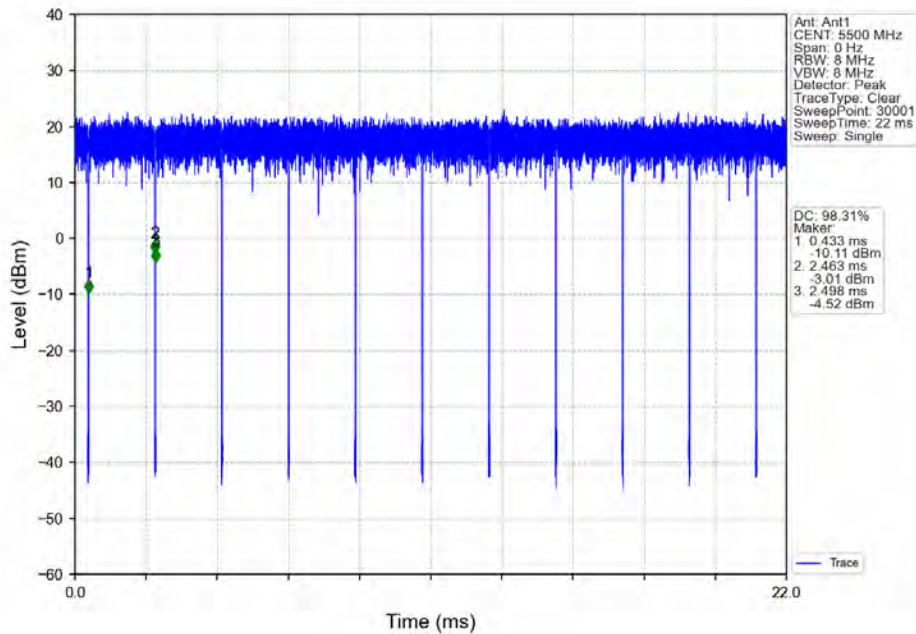
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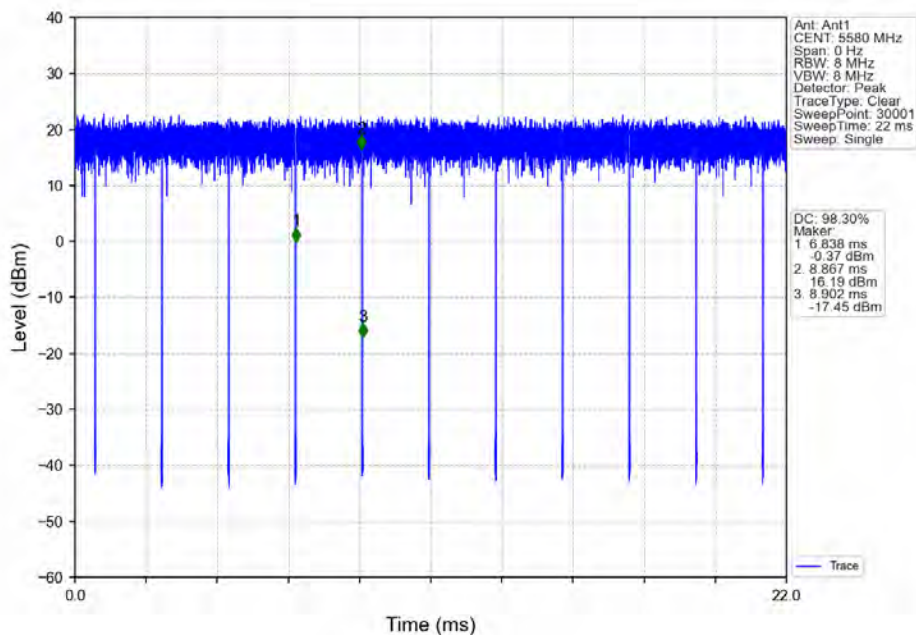
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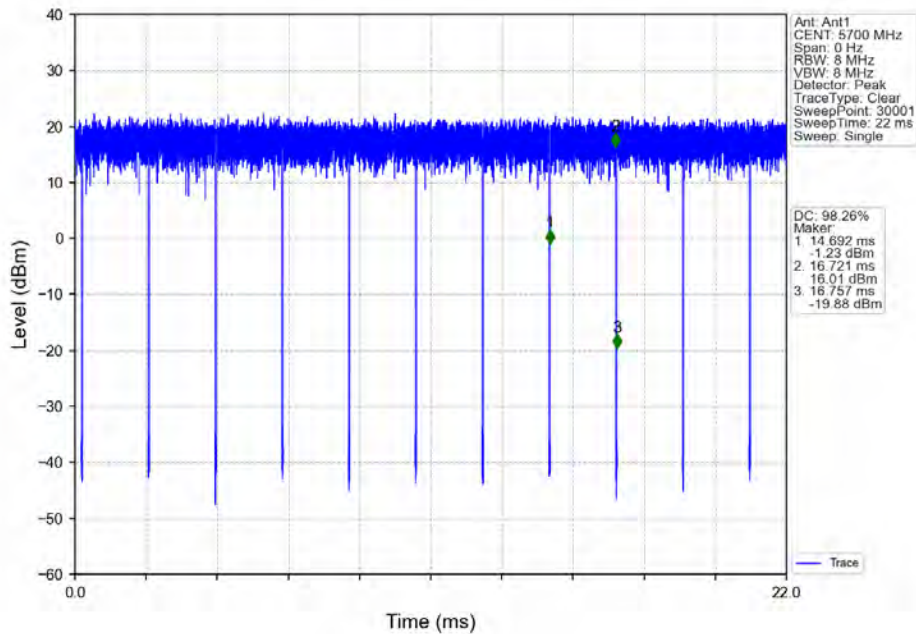
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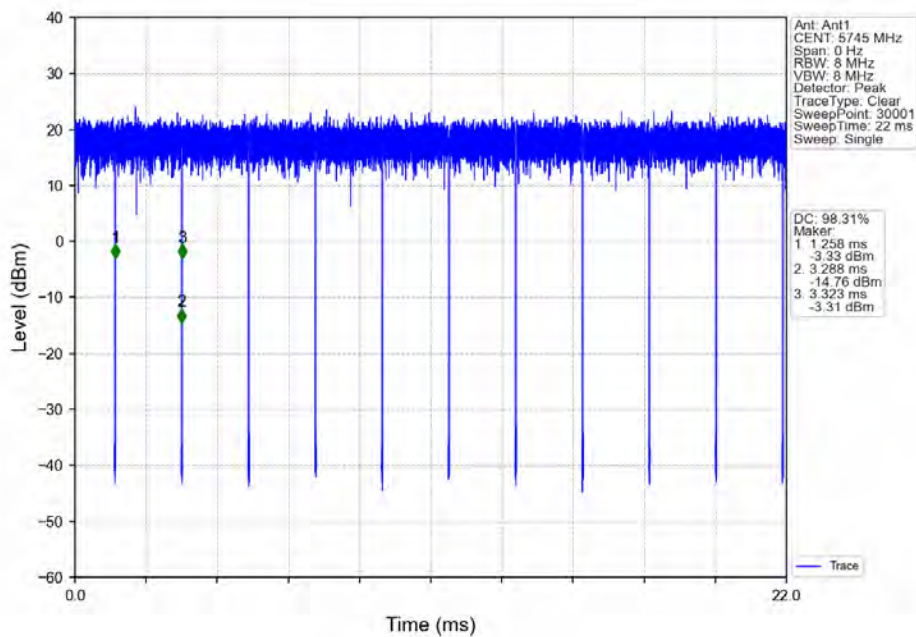
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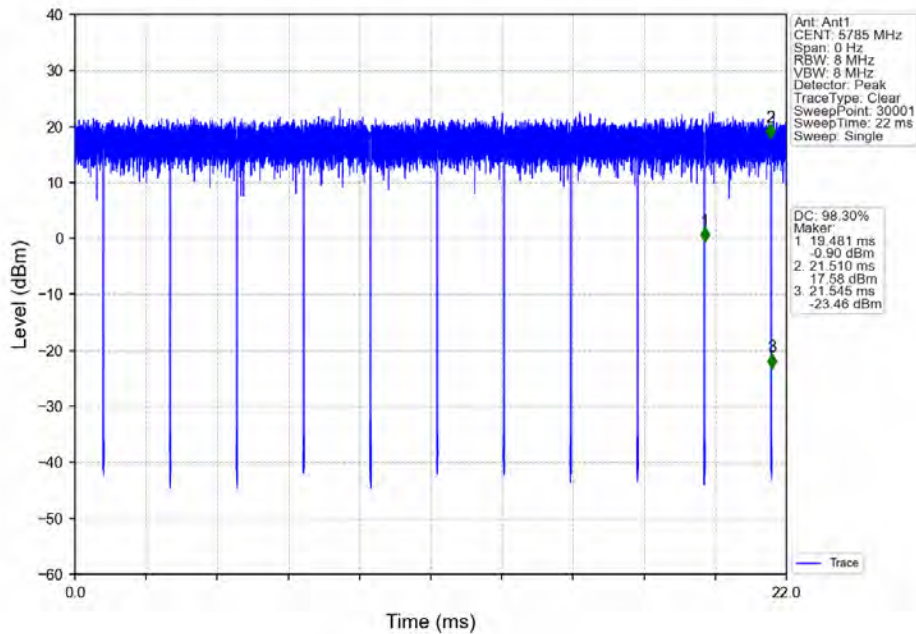
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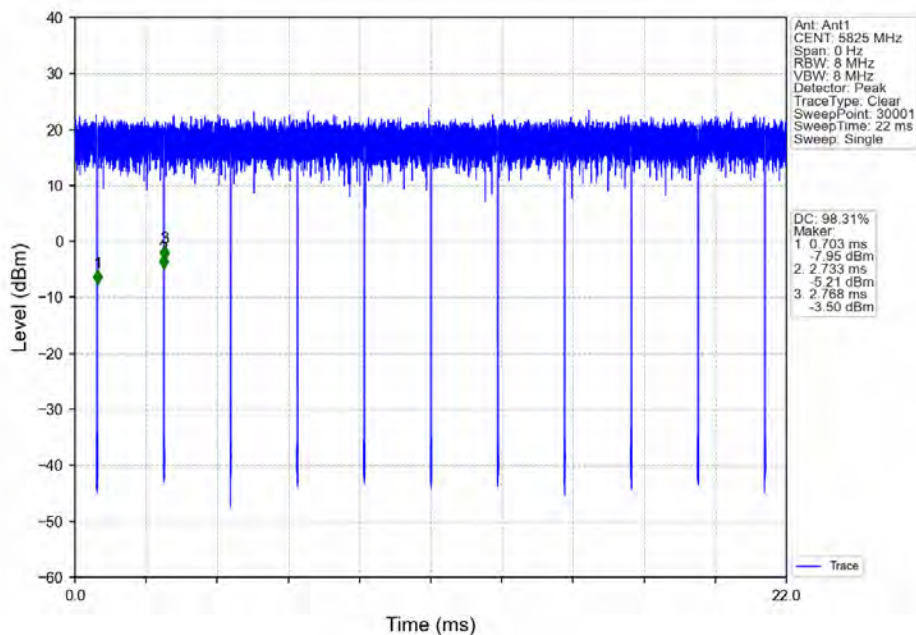
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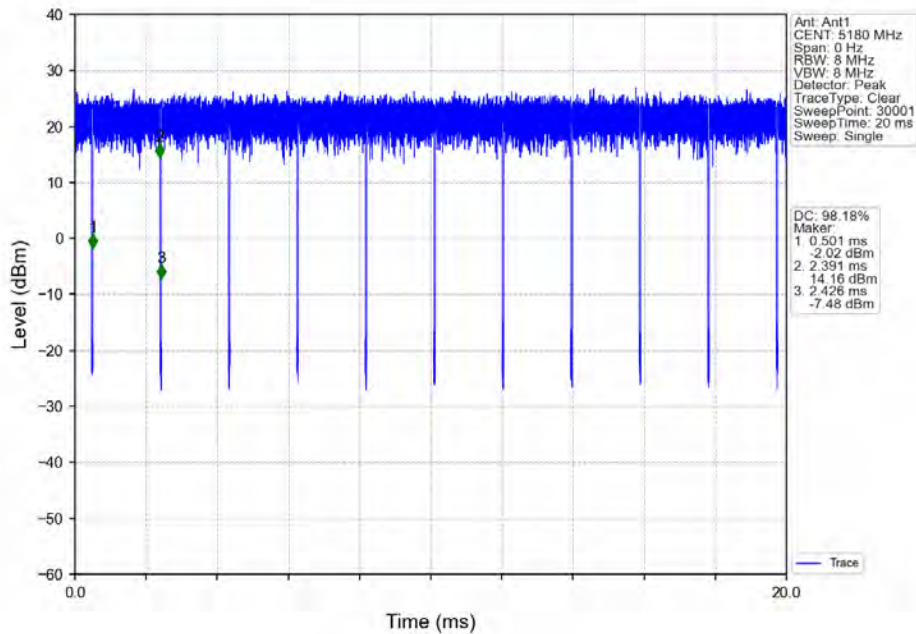
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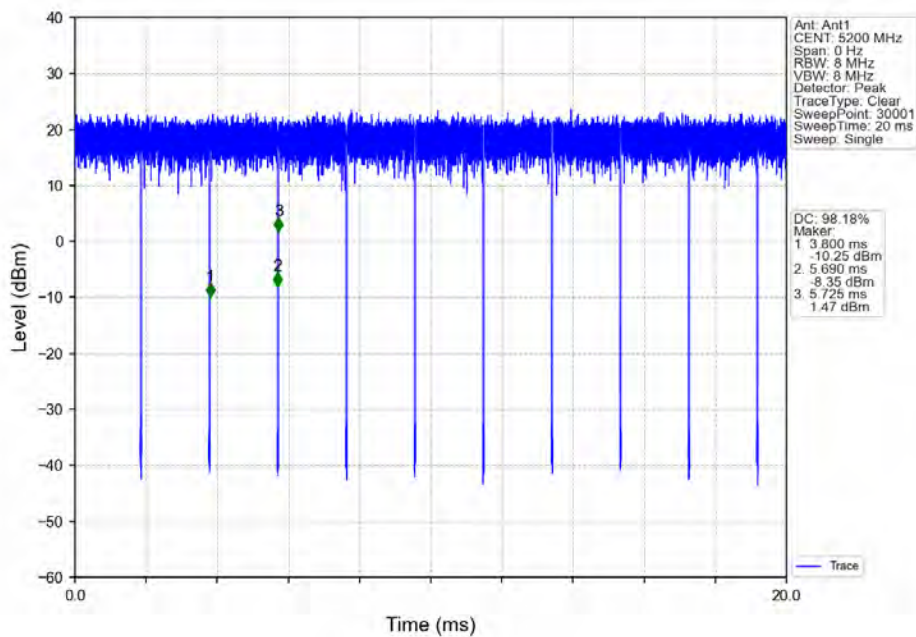
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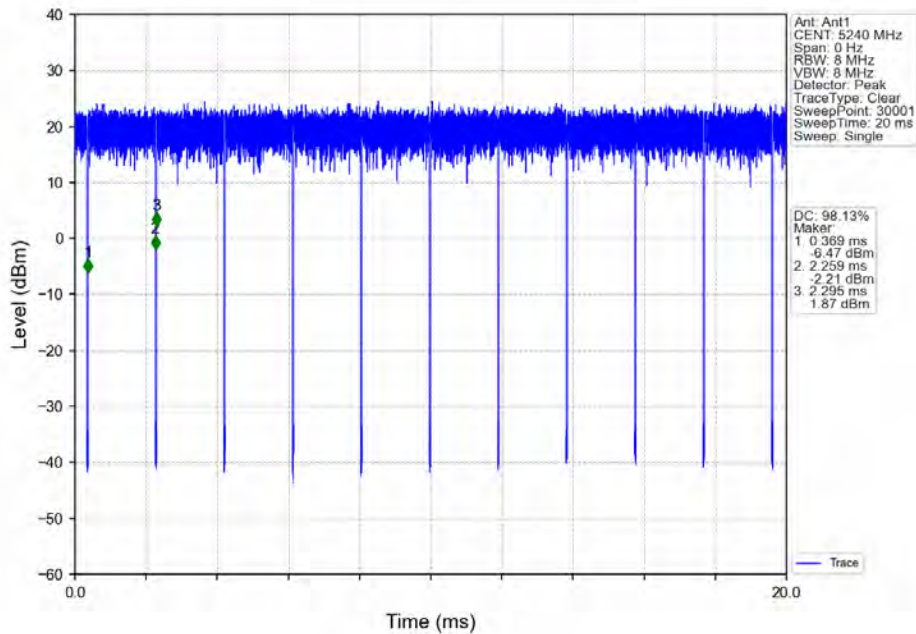
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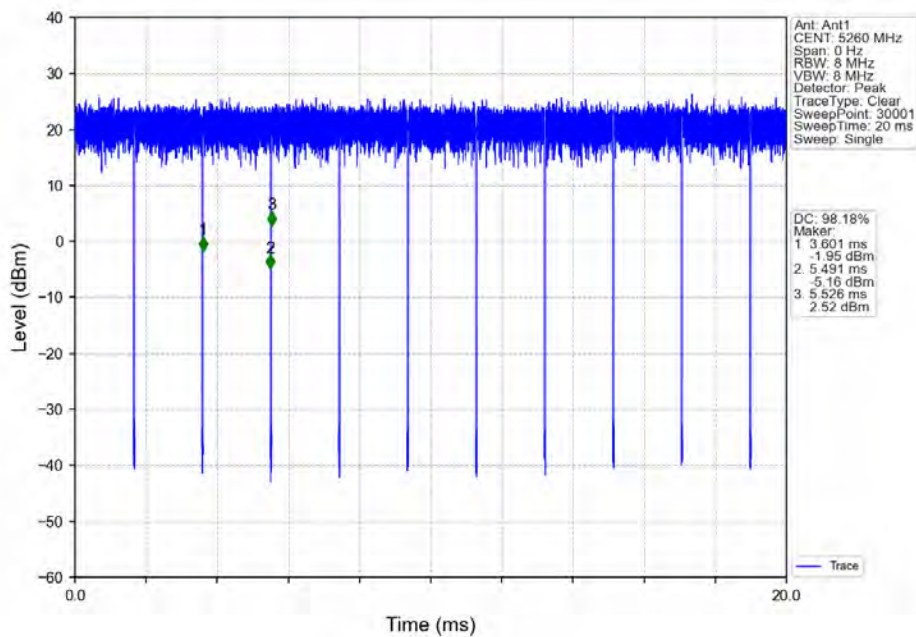
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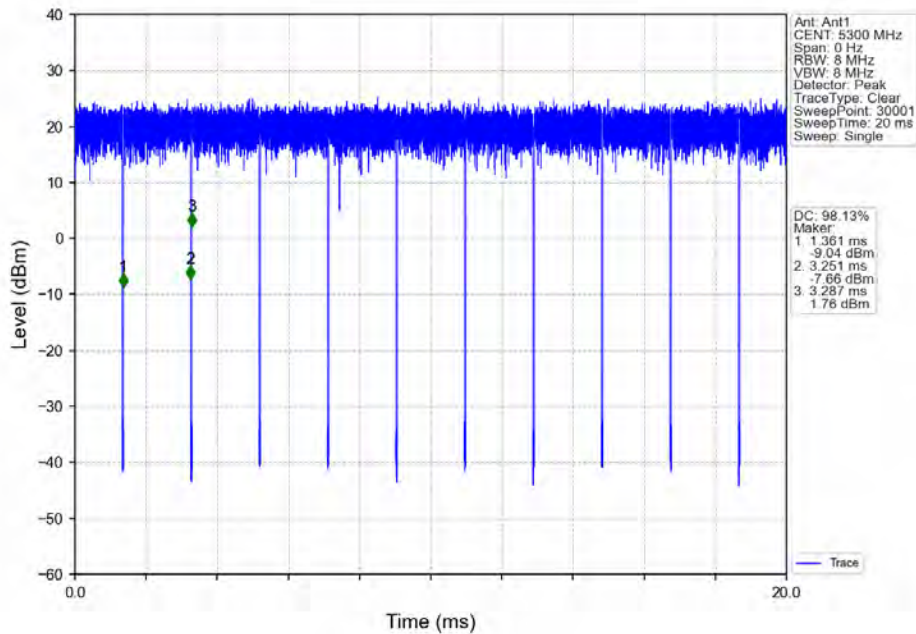
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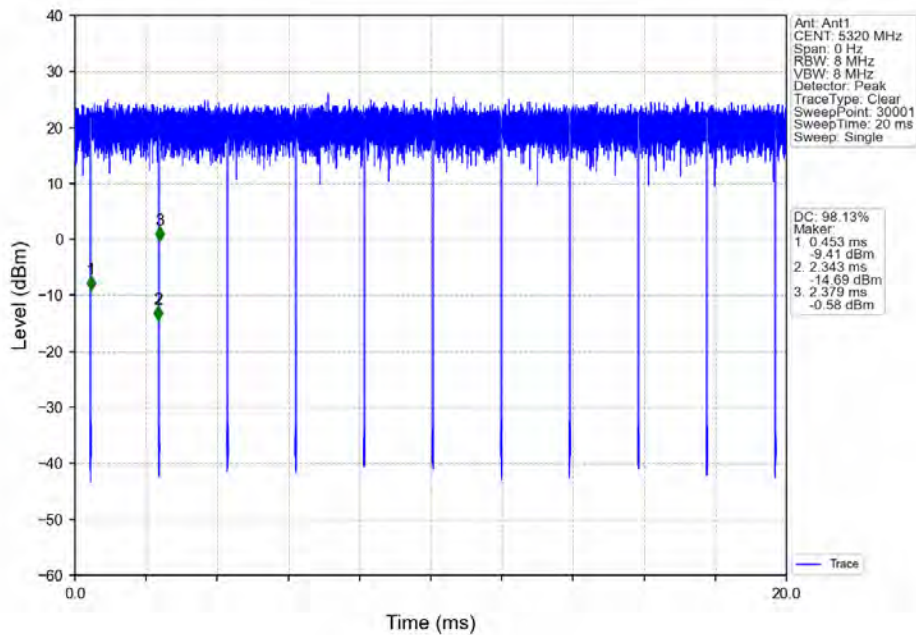
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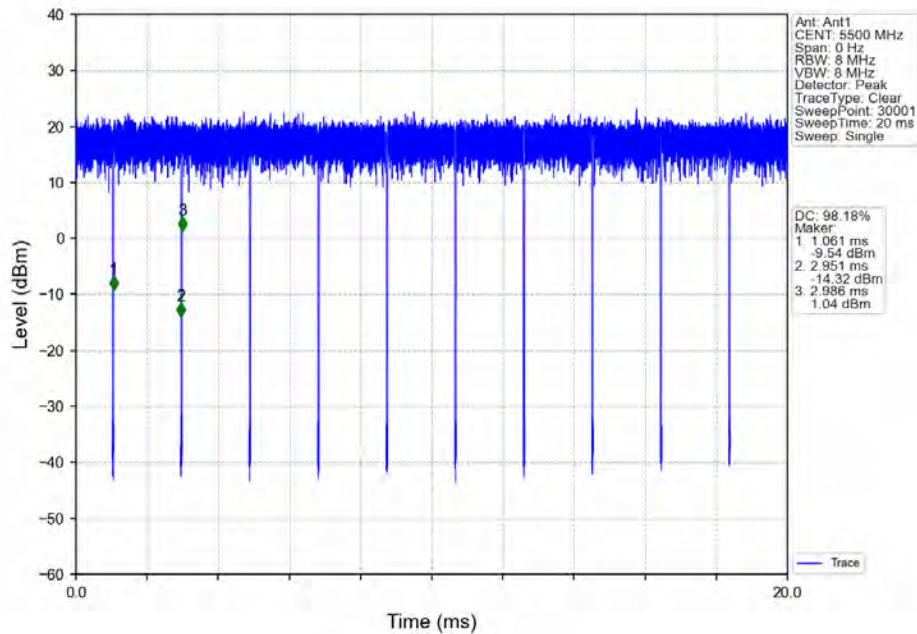
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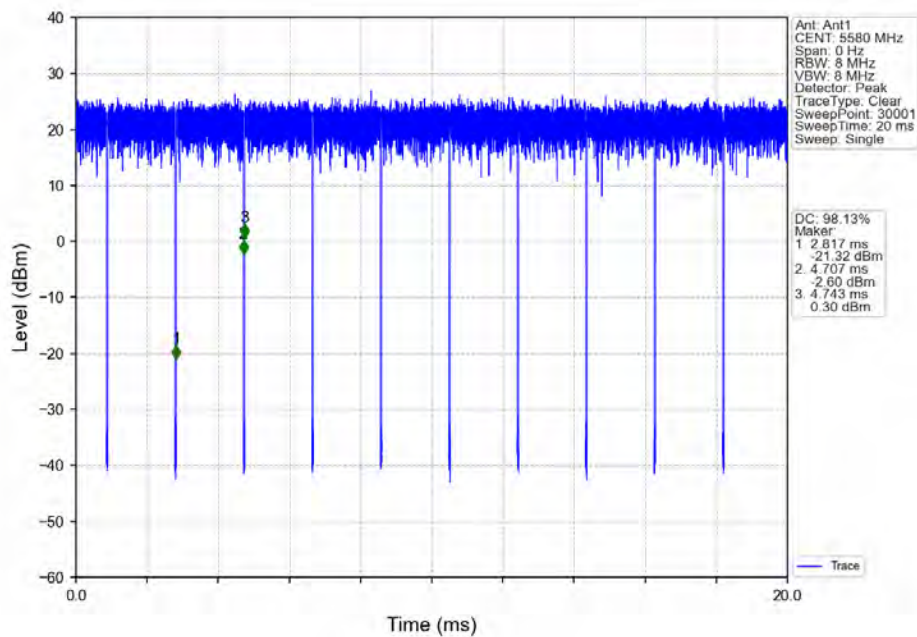
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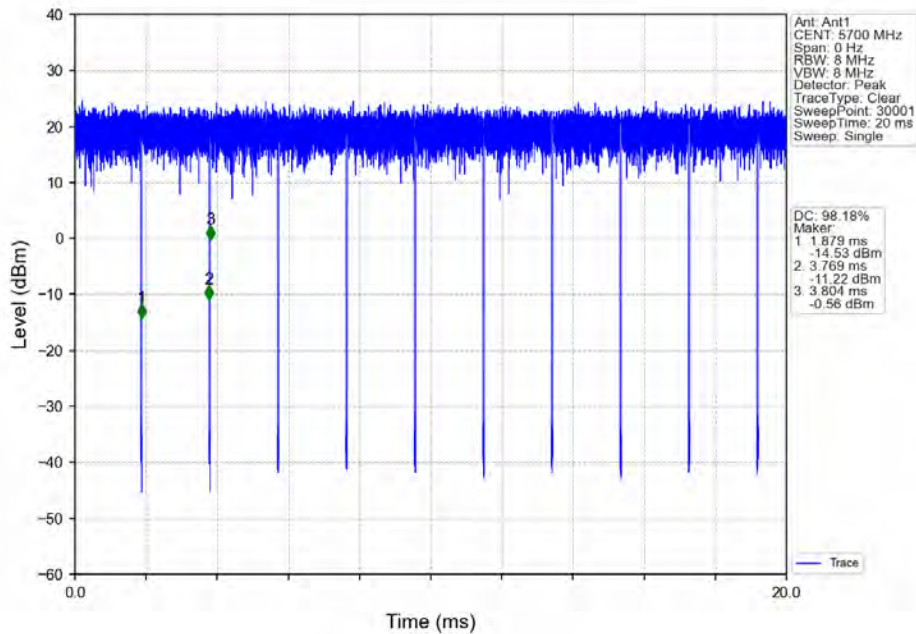
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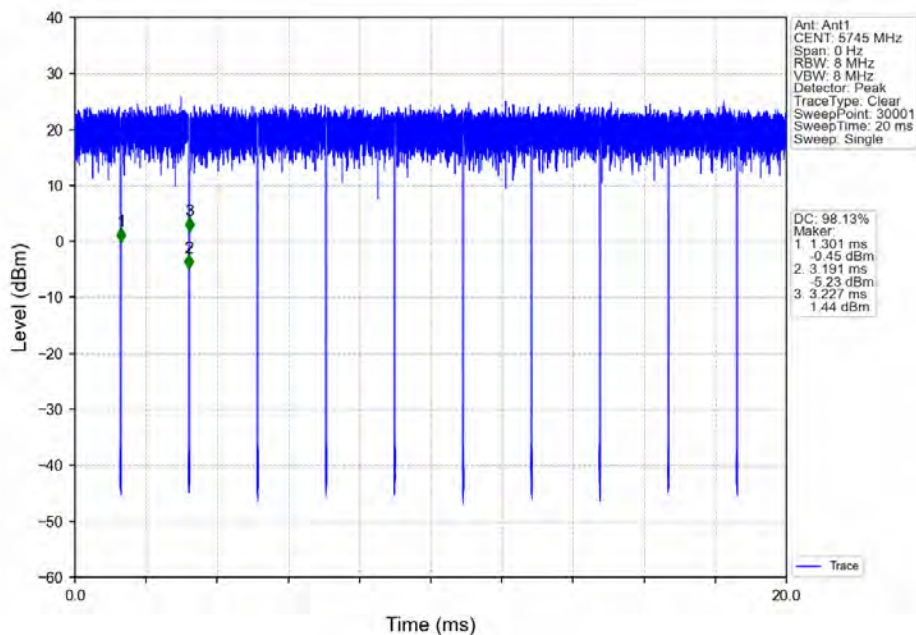
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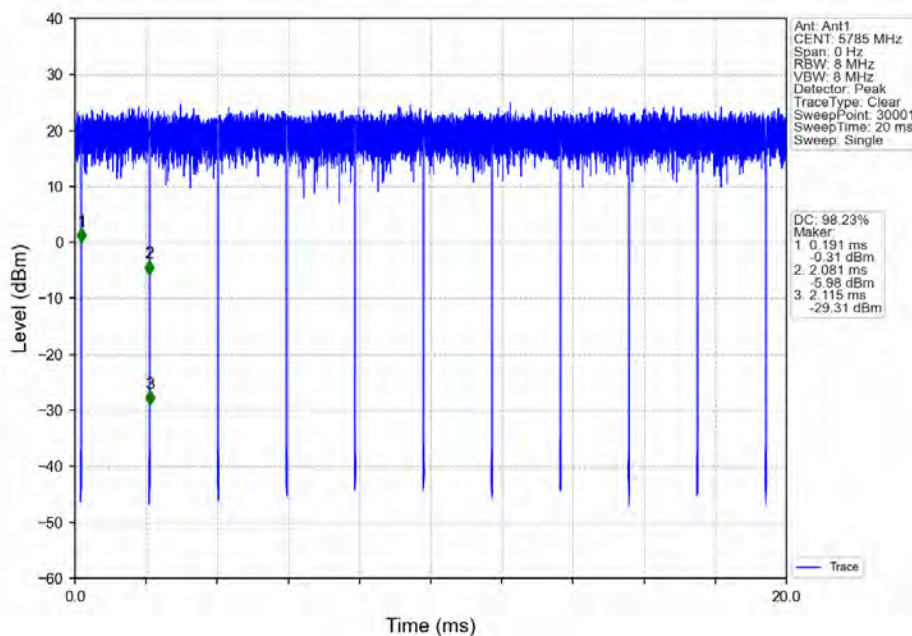
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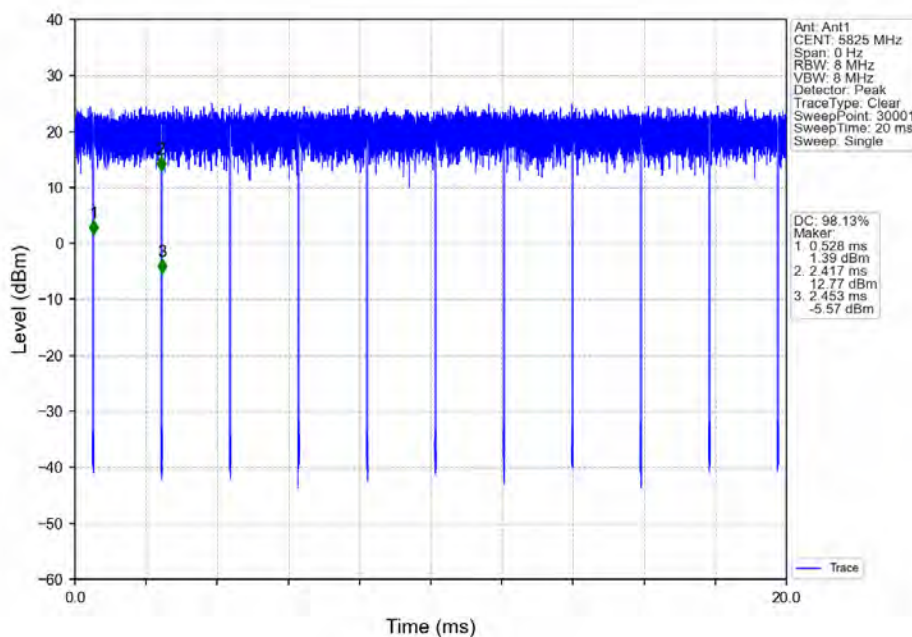
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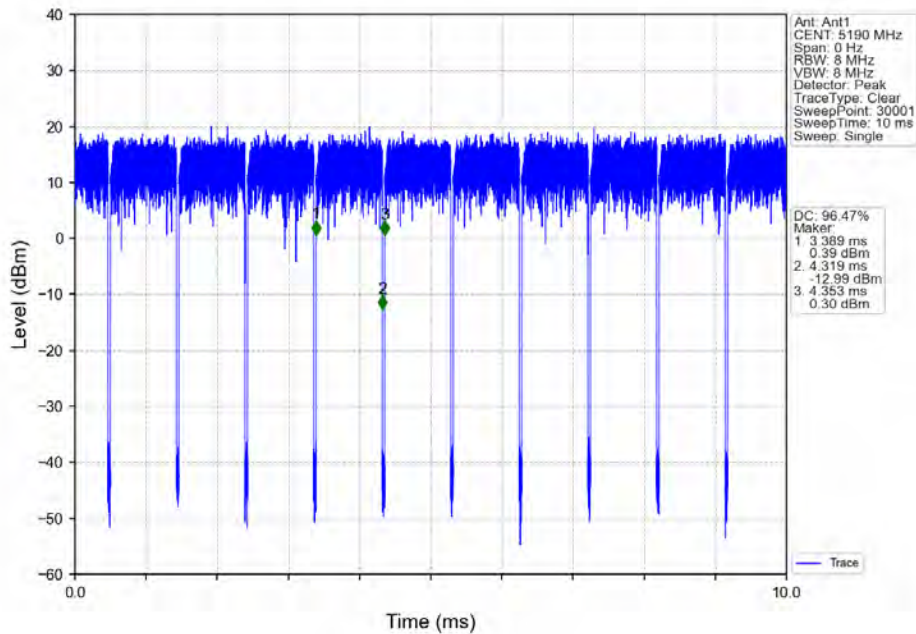
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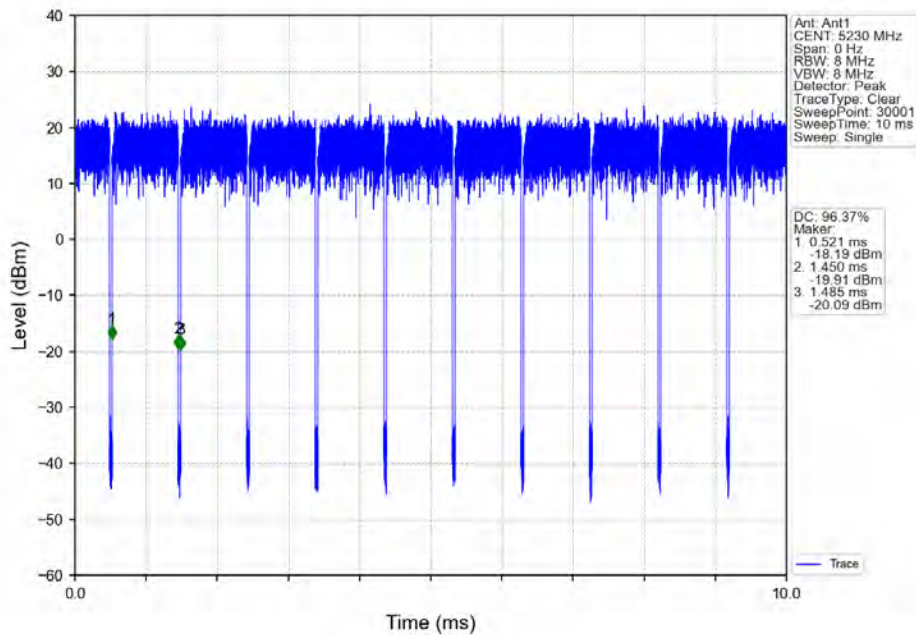
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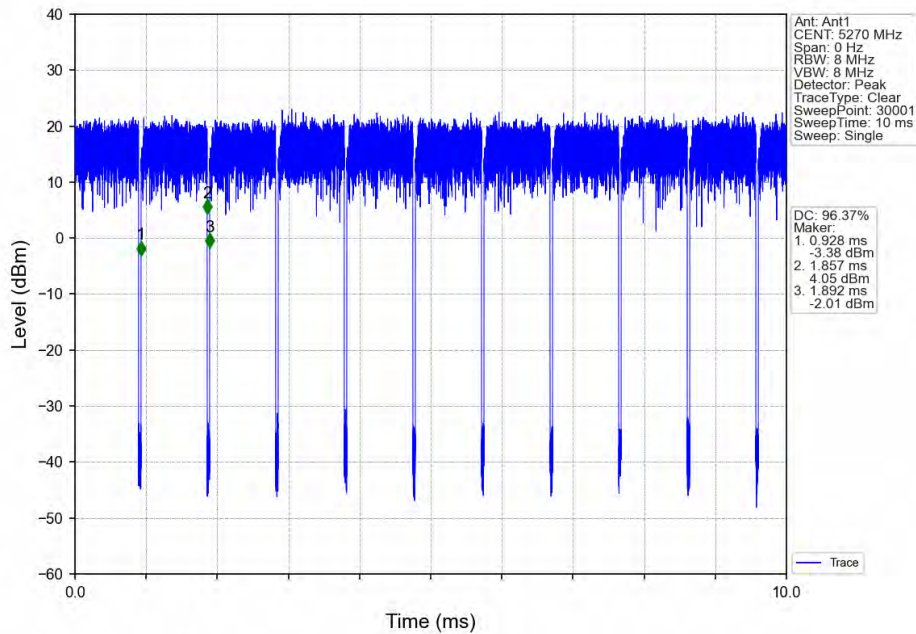
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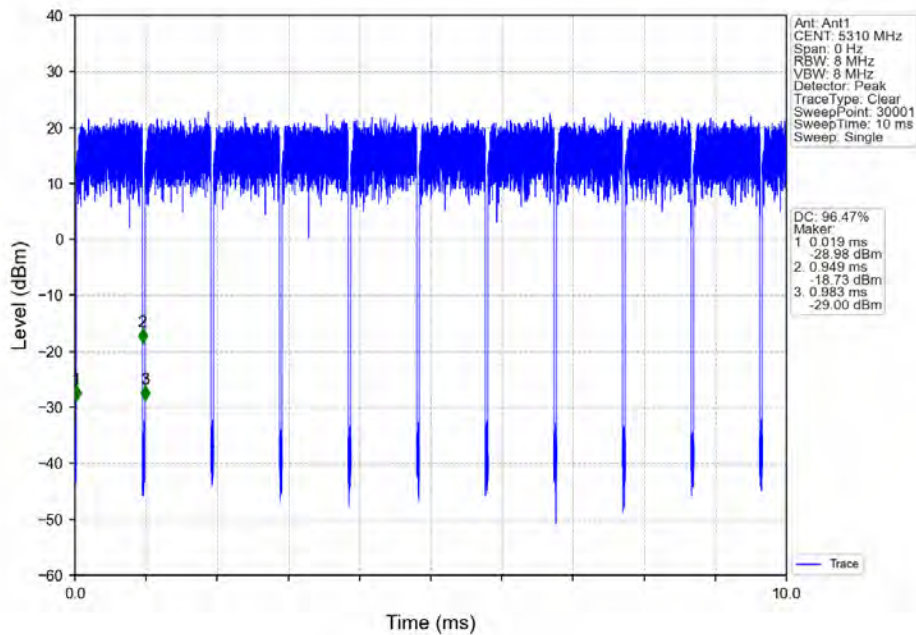
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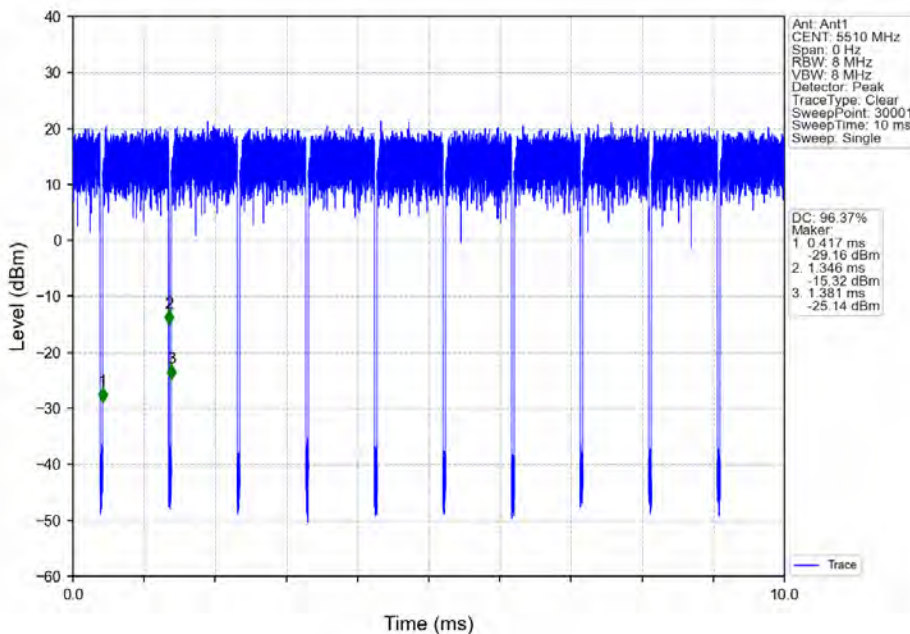
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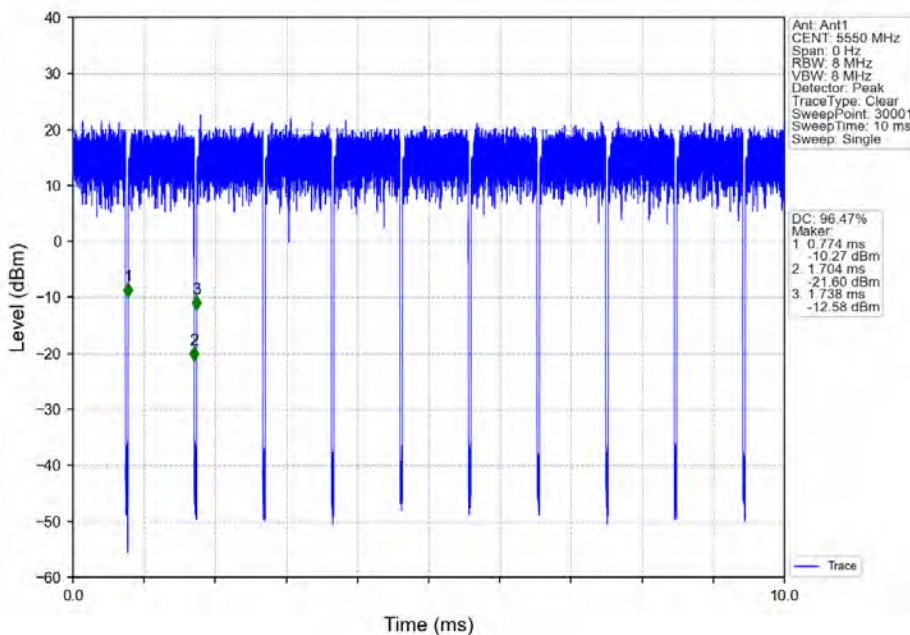
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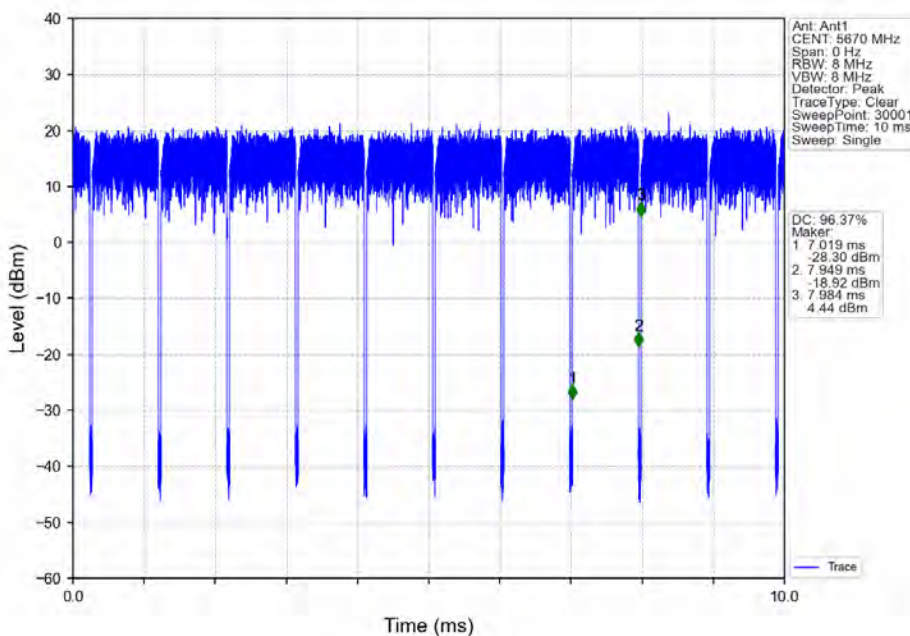
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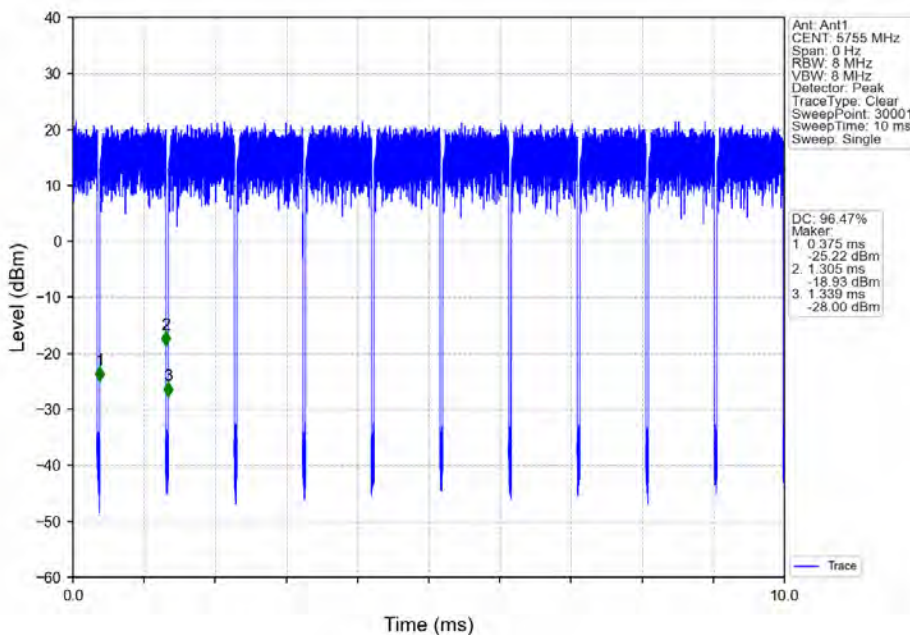
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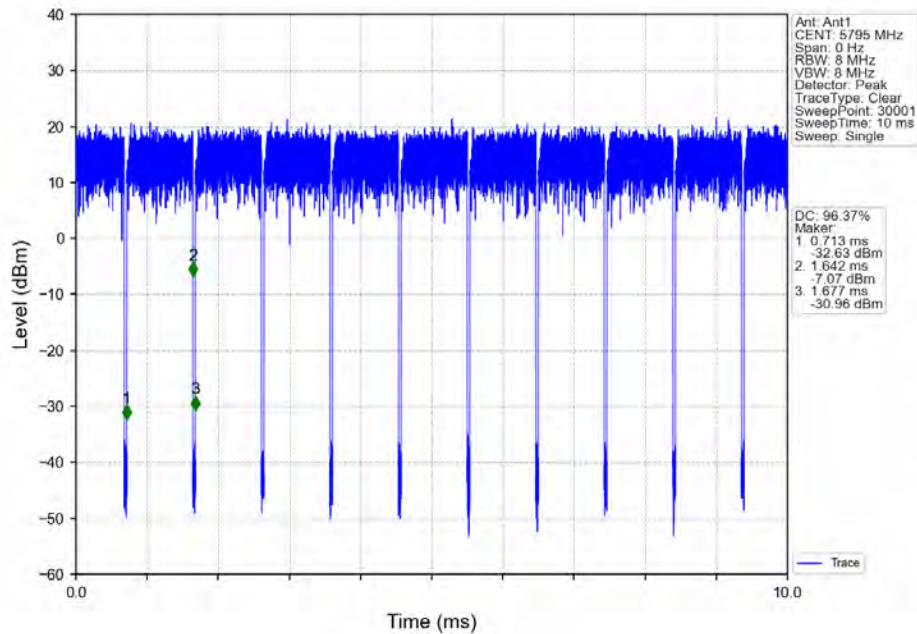
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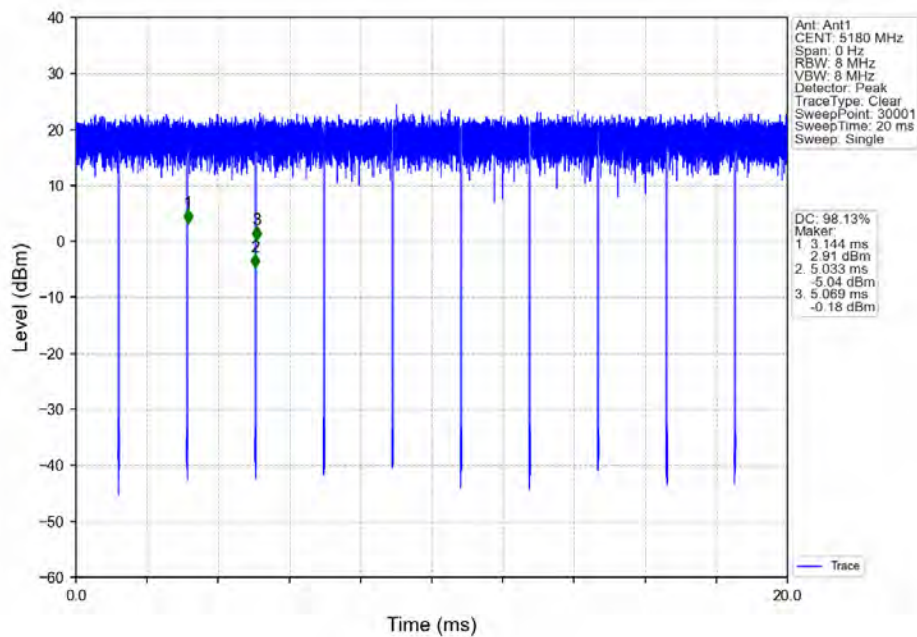
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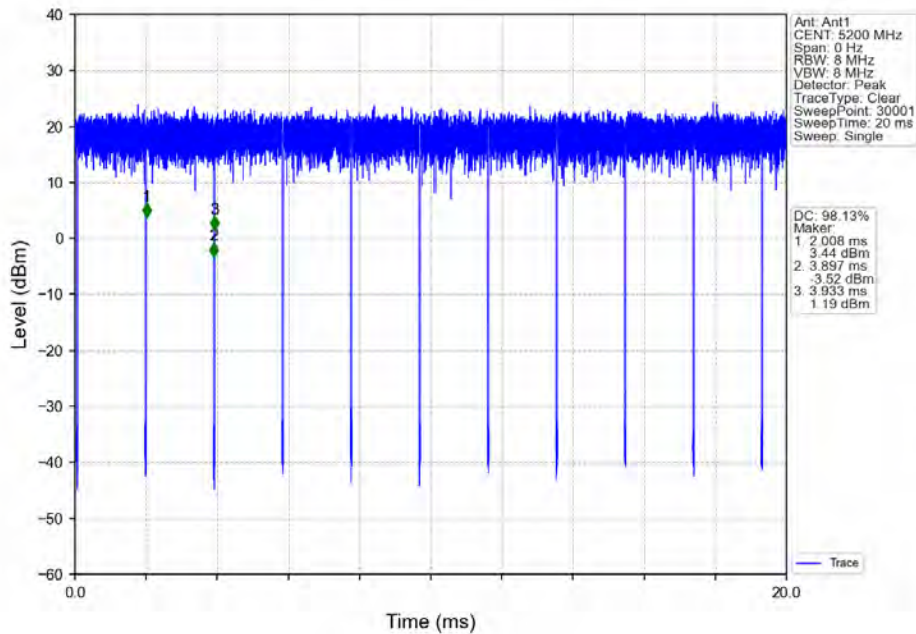
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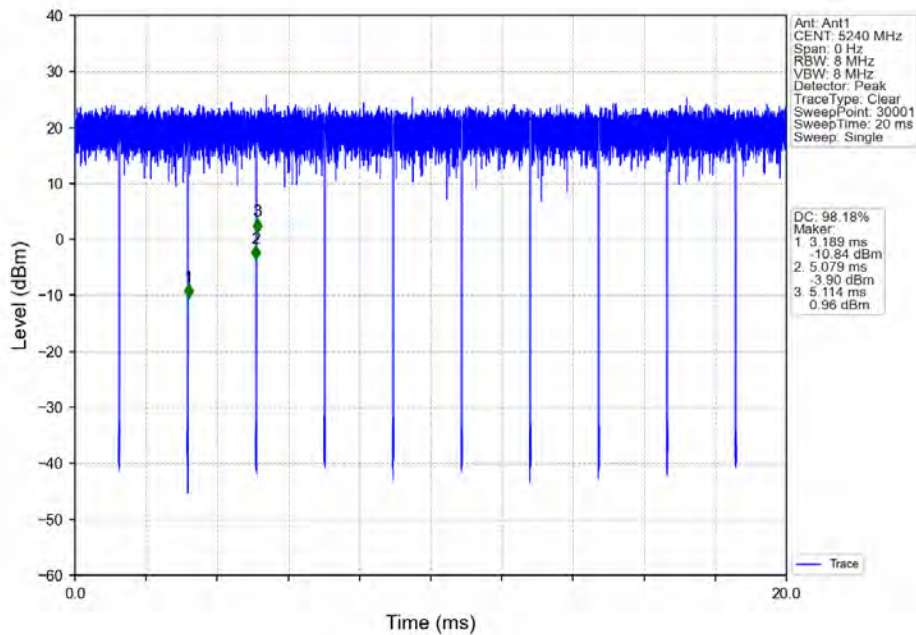
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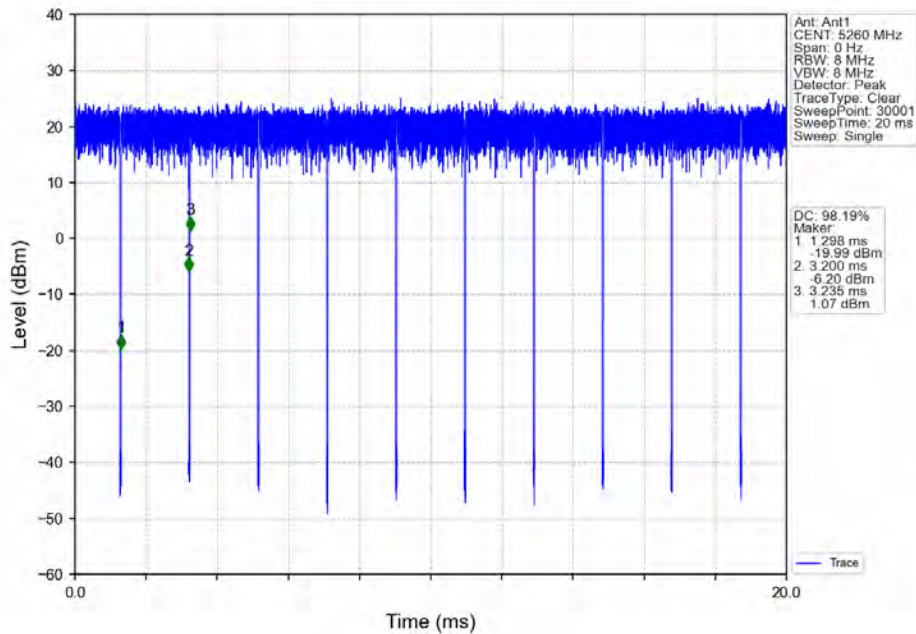
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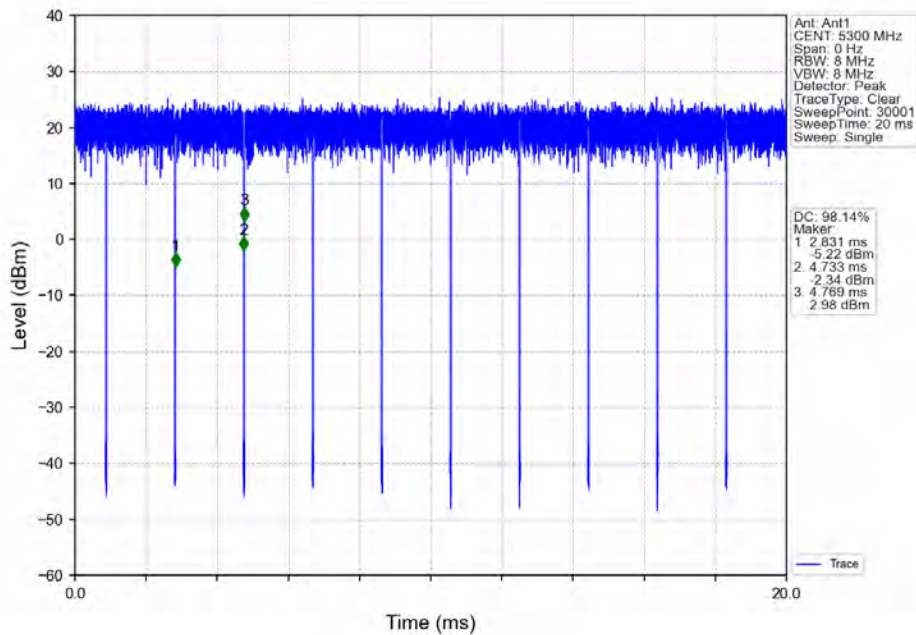
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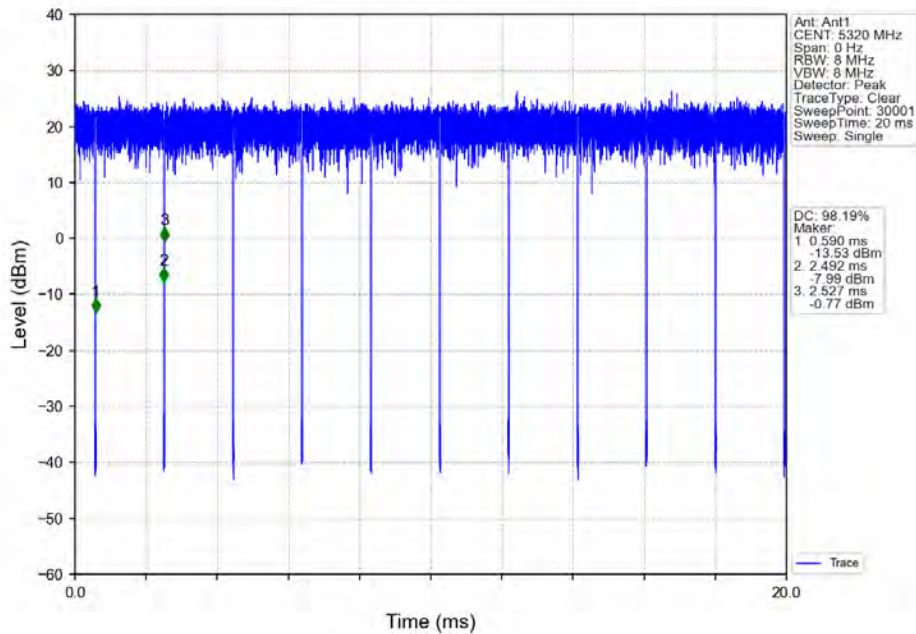
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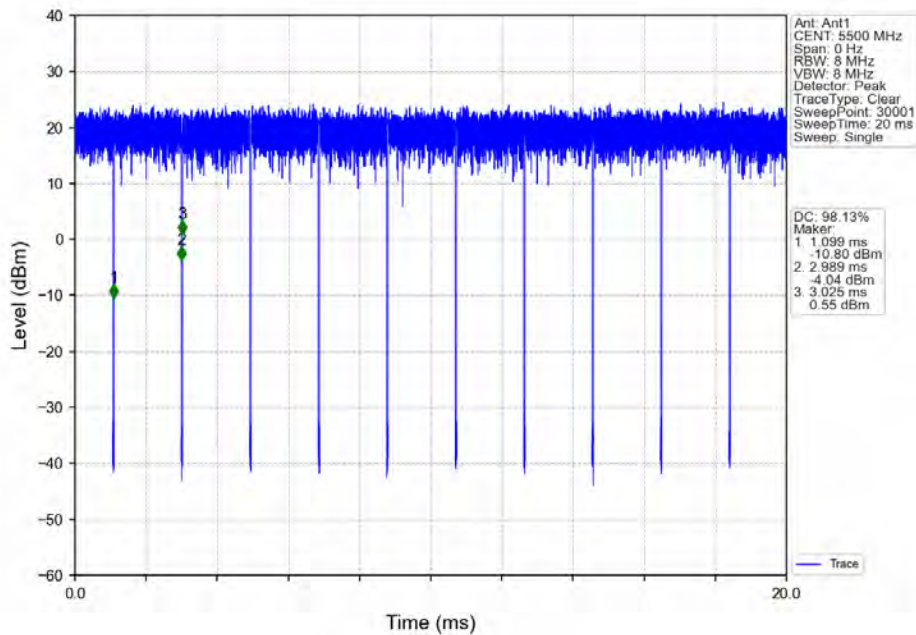
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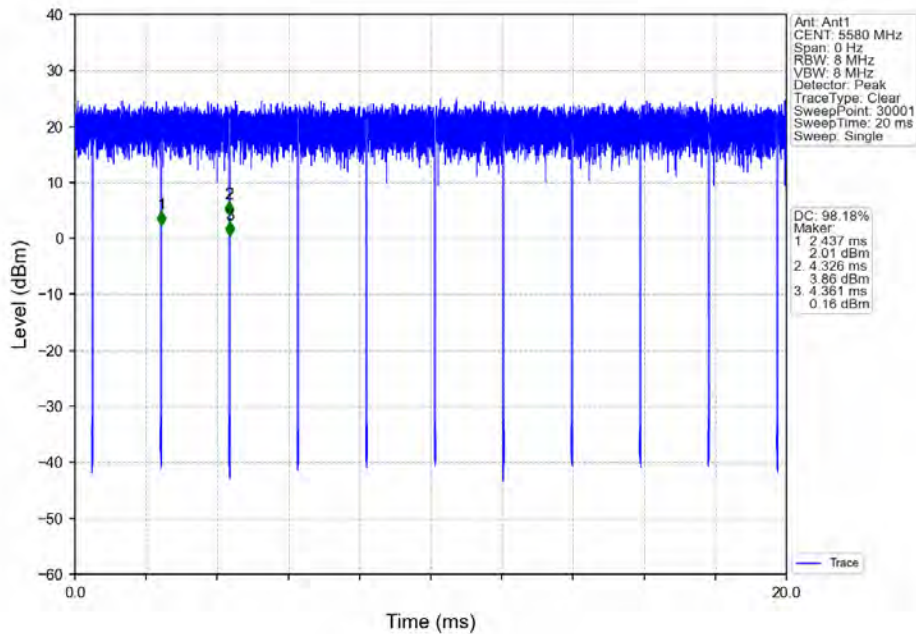
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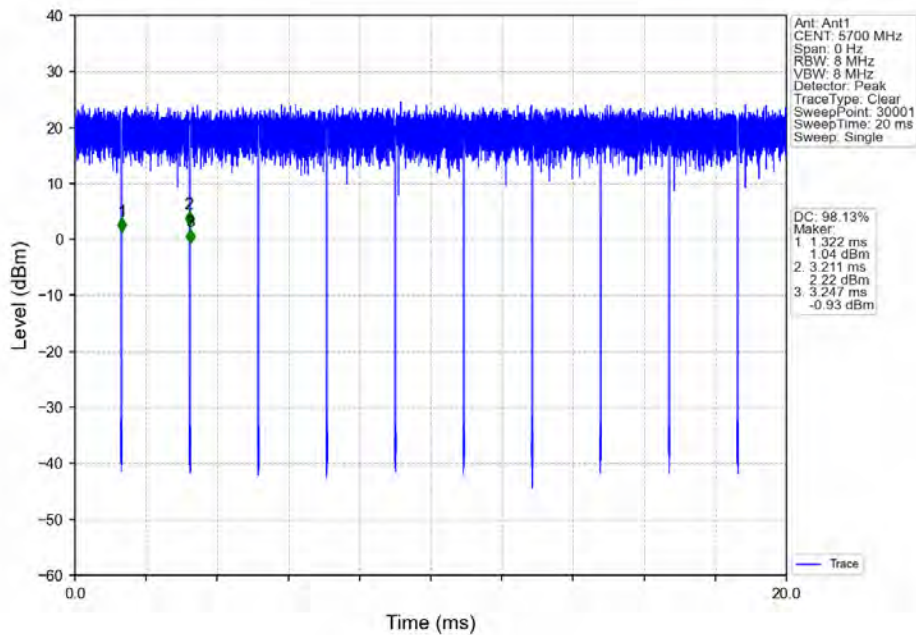
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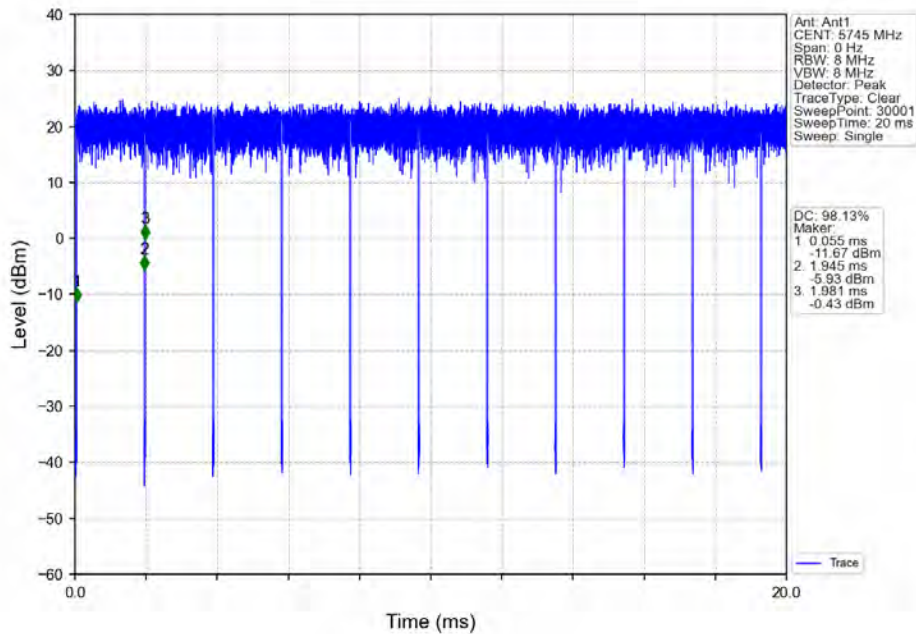
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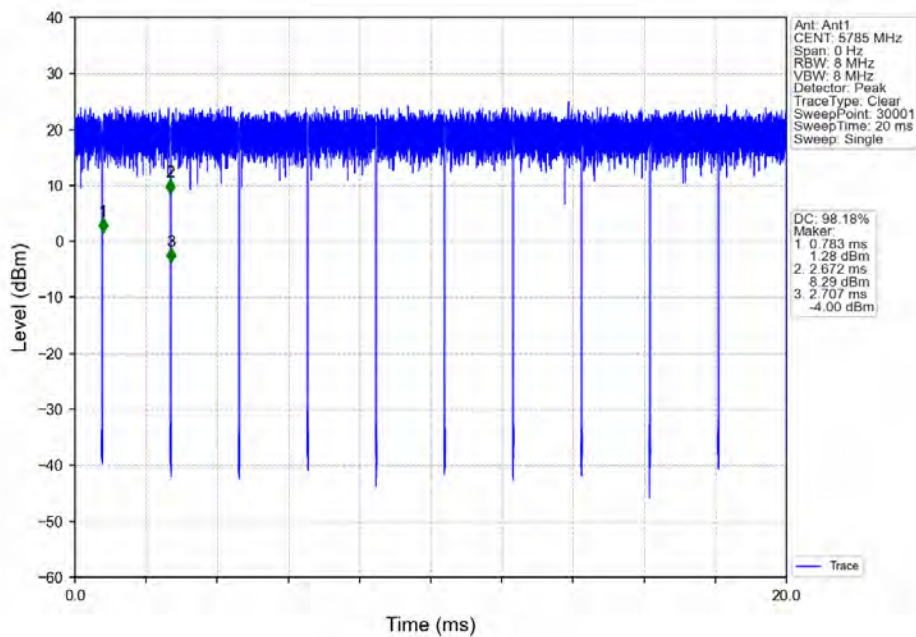
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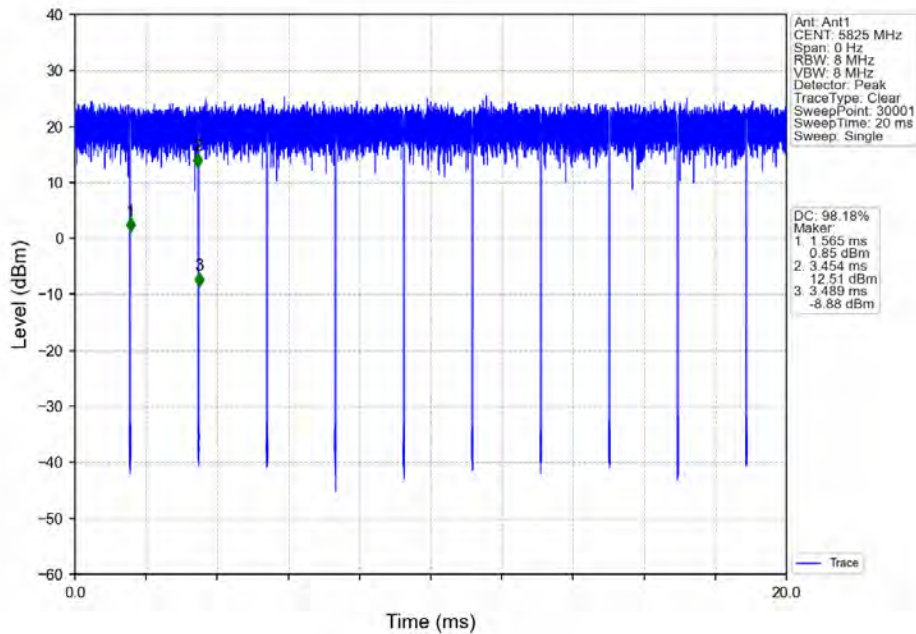
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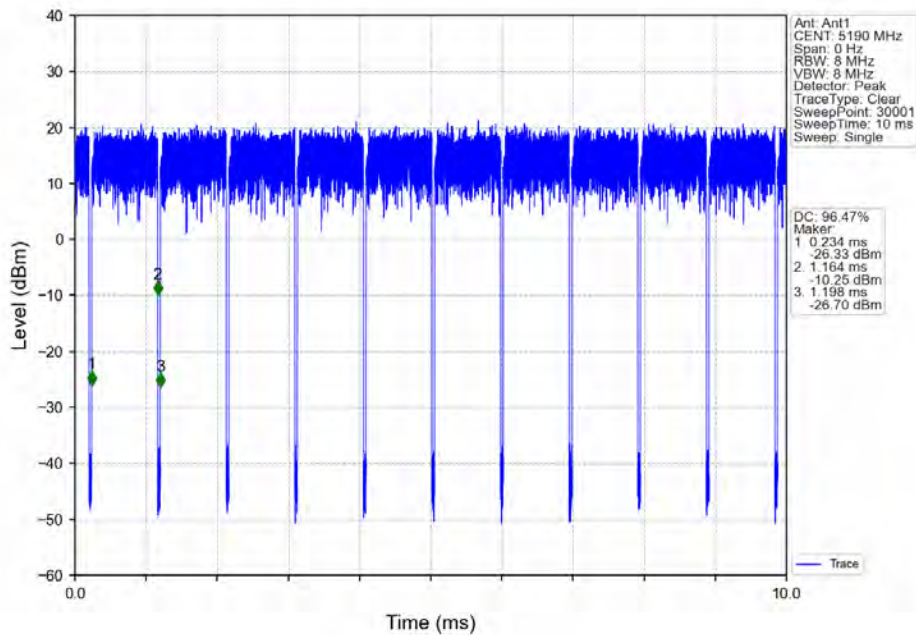
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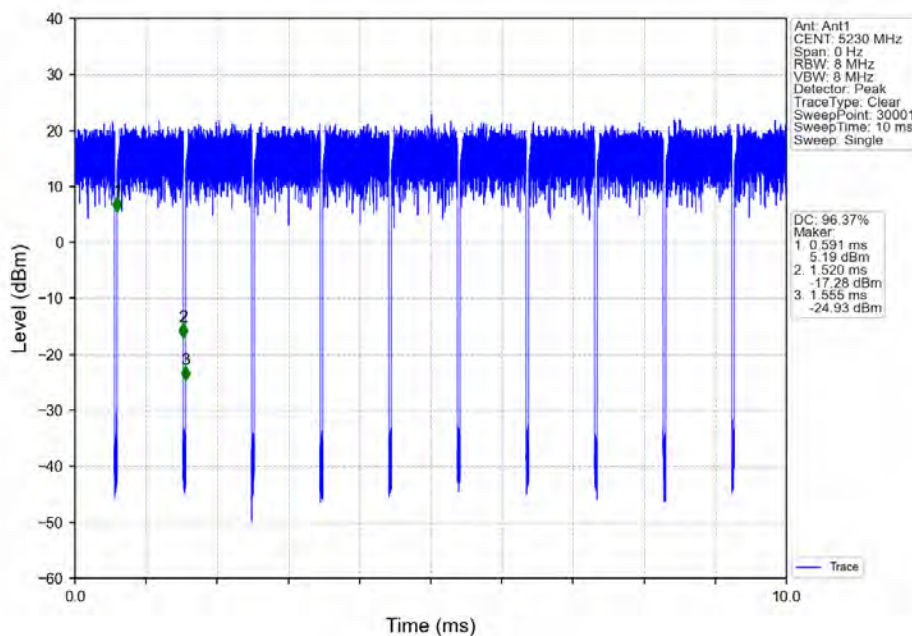
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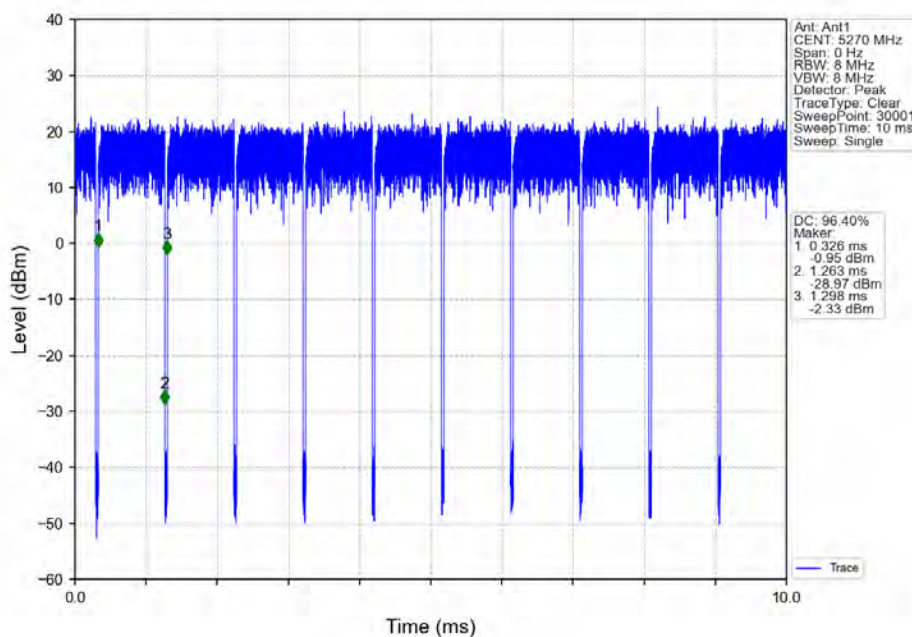
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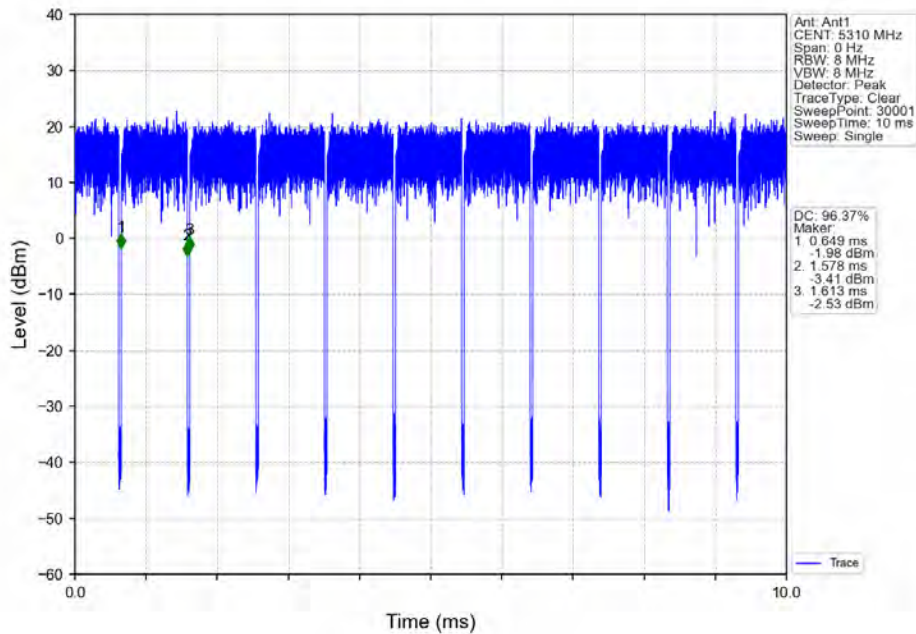
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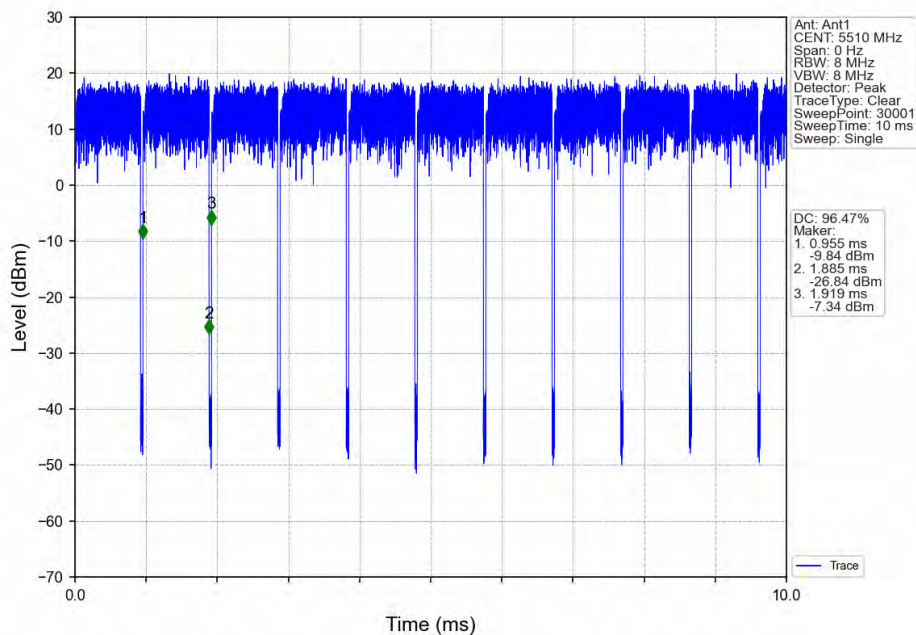
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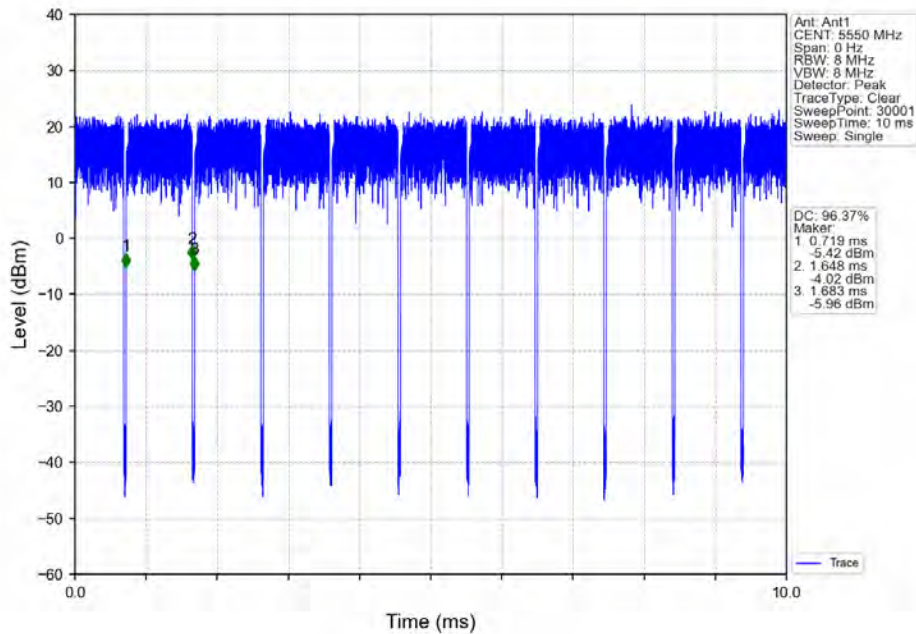
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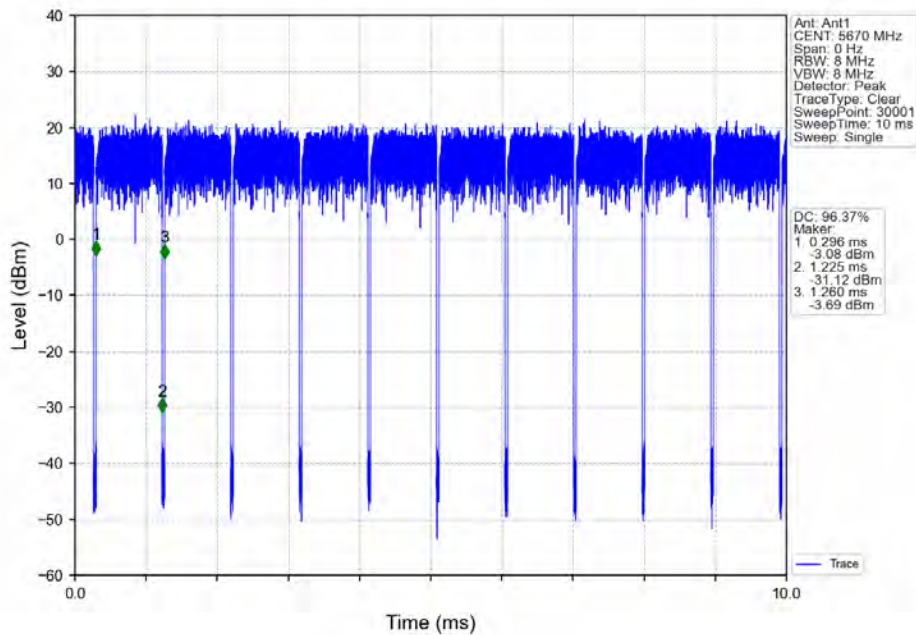
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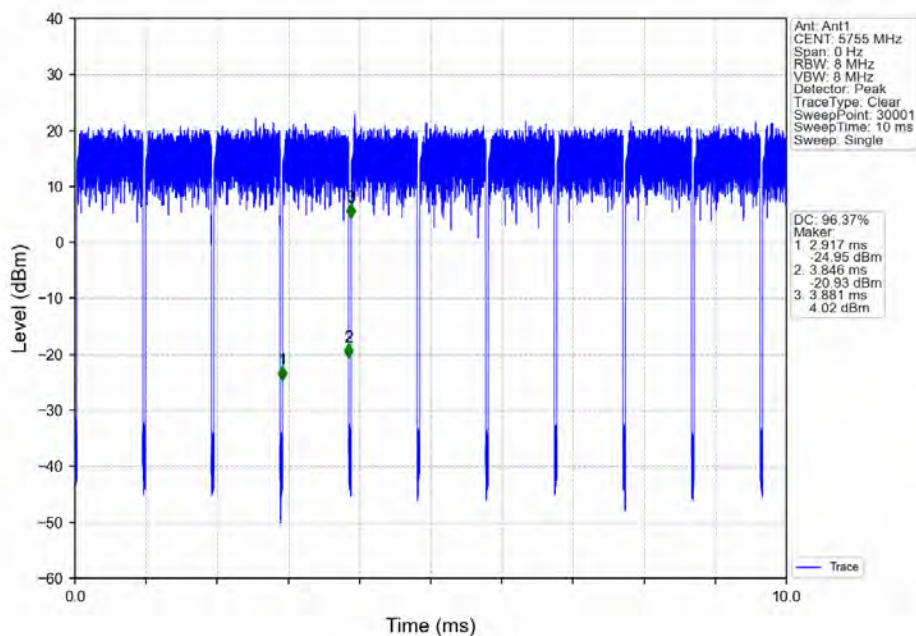
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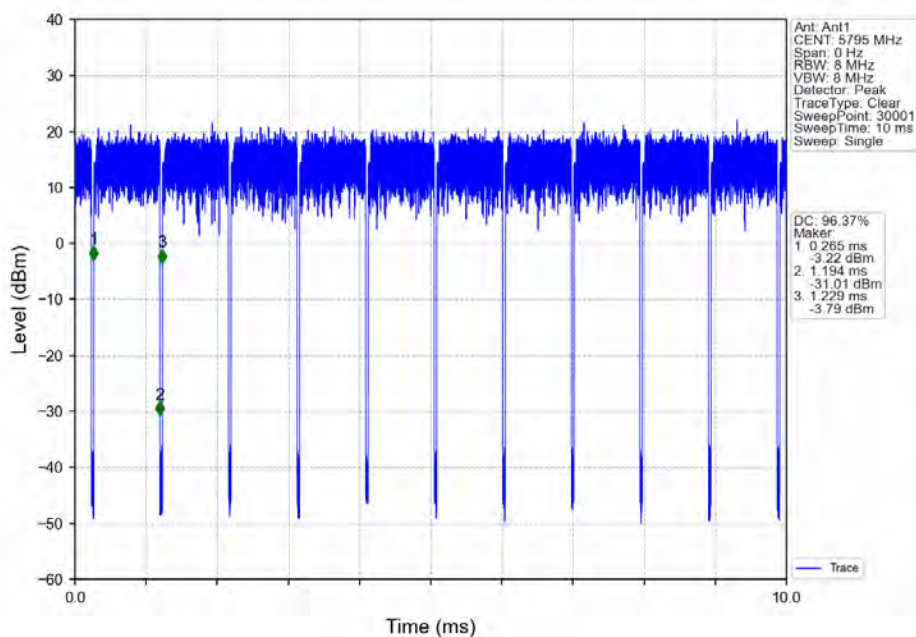
802.11ac(VHT40)_HCH_5670MHz_Ant1_NTNV



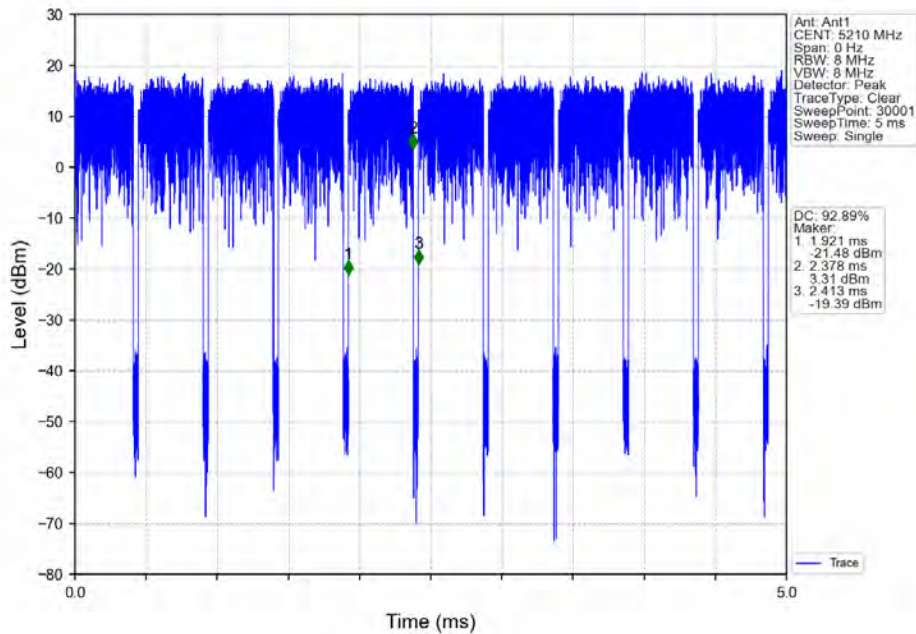
802.11ac(VHT40)_LCH_5755MHz_Ant1_NTNV



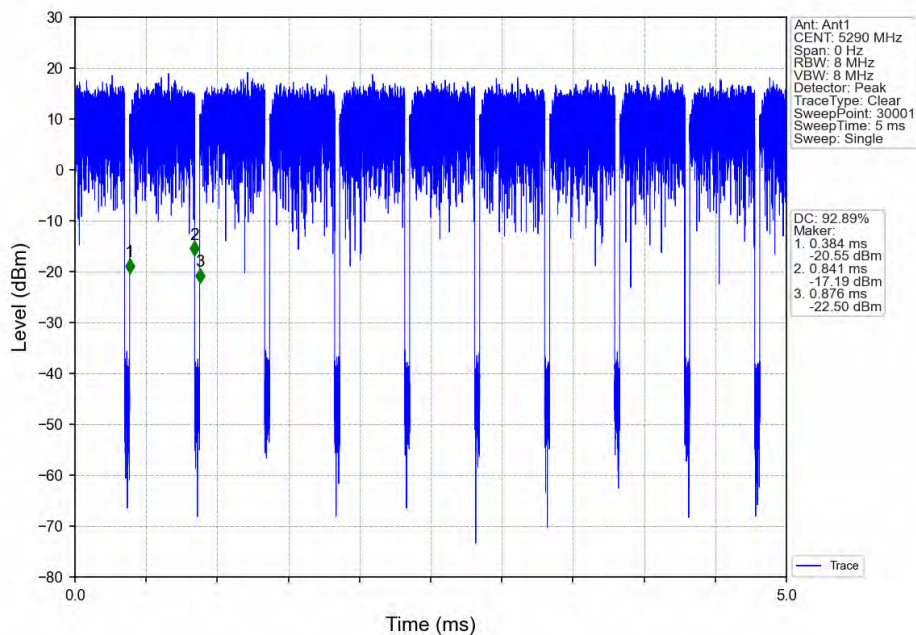
802.11ac(VHT40)_HCH_5795MHz_Ant1_NTNV



802.11ac(VHT80)_MCH_5210MHz_Ant1_NTNV



802.11ac(VHT80)_MCH_5290MHz_Ant1_NTNV



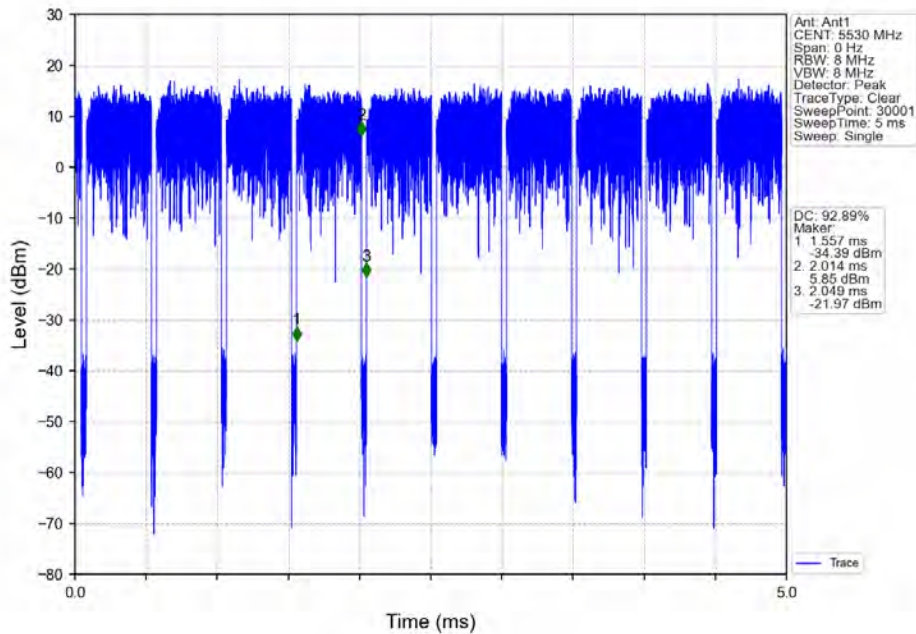
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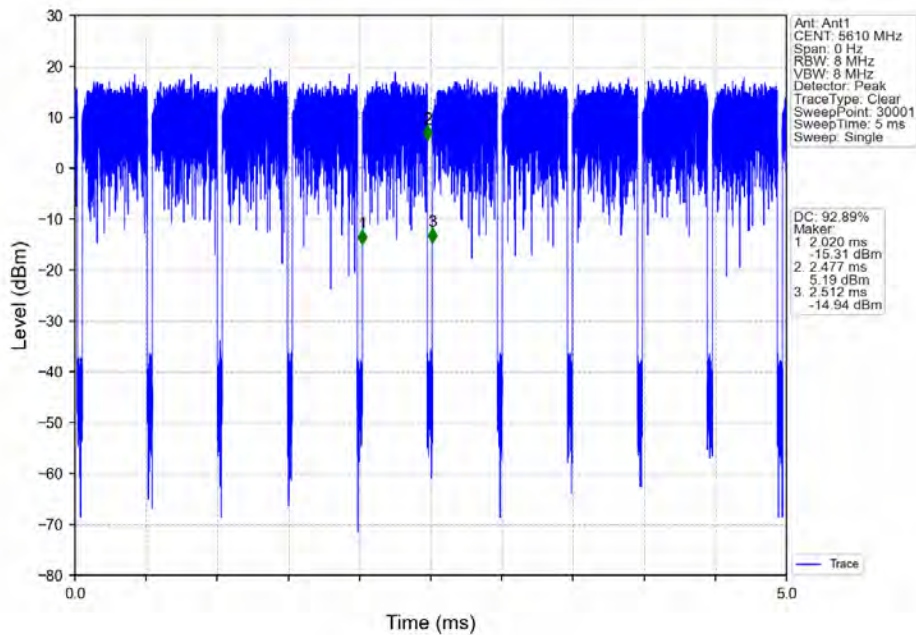
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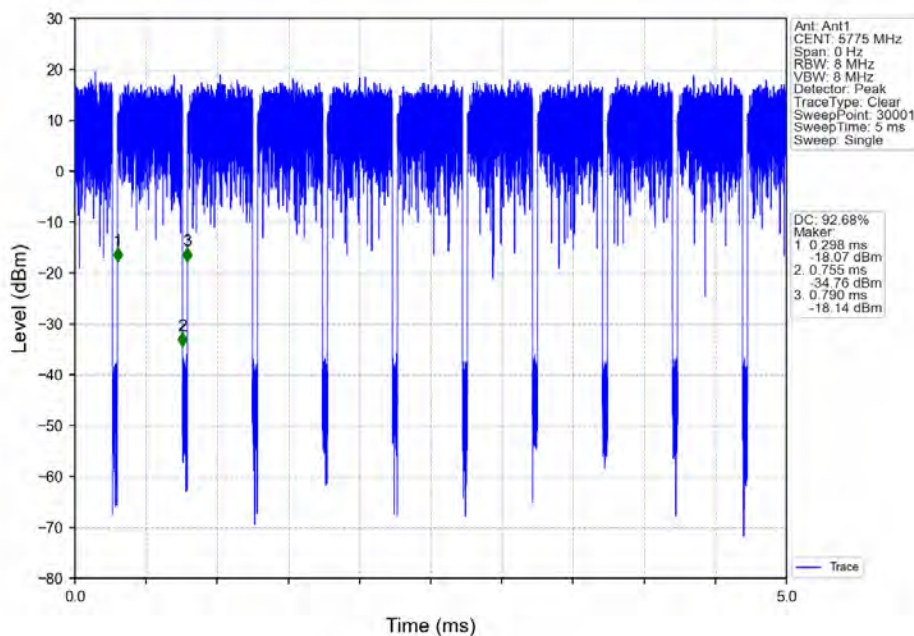
802.11ac(VHT80)_LCH_5530MHz_Ant1_NTNV



802.11ac(VHT80)_HCH_5610MHz_Ant1_NTNV



802.11ac(VHT80)_MCH_5775MHz_Ant1_NTNV



2. Bandwidth

2.1 Test Result

2.1.1 OBW

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	17.471	/	Pass
		5200	1	17.546	/	Pass
		5240	1	17.534	/	Pass
		5260	1	17.512	/	Pass
		5300	1	17.503	/	Pass
		5320	1	17.417	/	Pass
		5500	1	17.427	/	Pass
		5580	1	17.446	/	Pass
		5700	1	17.403	/	Pass
		5745	1	17.455	/	Pass
		5785	1	17.365	/	Pass
		5825	1	17.408	/	Pass
802.11n (HT20)	SISO	5180	1	18.567	/	Pass
		5200	1	18.576	/	Pass
		5240	1	18.507	/	Pass
		5260	1	18.552	/	Pass
		5300	1	18.588	/	Pass
		5320	1	18.536	/	Pass
		5500	1	18.539	/	Pass
		5580	1	18.542	/	Pass
		5700	1	18.521	/	Pass
		5745	1	18.478	/	Pass
		5785	1	18.482	/	Pass
		5825	1	18.481	/	Pass
802.11n (HT40)	SISO	5190	1	36.641	/	Pass
		5230	1	36.621	/	Pass
		5270	1	36.709	/	Pass
		5310	1	36.576	/	Pass
		5510	1	36.600	/	Pass
		5550	1	36.587	/	Pass
		5670	1	36.580	/	Pass



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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 234 of 357

		5755	1	36.613	/	Pass
		5795	1	36.626	/	Pass
802.11ac (VHT20)	SISO	5180	1	18.537	/	Pass
		5200	1	18.511	/	Pass
		5240	1	18.551	/	Pass
		5260	1	18.555	/	Pass
		5300	1	18.570	/	Pass
		5320	1	18.478	/	Pass
		5500	1	18.499	/	Pass
		5580	1	18.442	/	Pass
		5700	1	18.502	/	Pass
		5745	1	18.488	/	Pass
		5785	1	18.507	/	Pass
		5825	1	18.435	/	Pass
802.11ac (VHT40)	SISO	5190	1	36.622	/	Pass
		5230	1	36.612	/	Pass
		5270	1	36.678	/	Pass
		5310	1	36.671	/	Pass
		5510	1	36.711	/	Pass
		5550	1	36.603	/	Pass
		5670	1	36.599	/	Pass
		5755	1	36.581	/	Pass
802.11ac (VHT80)	SISO	5795	1	36.671	/	Pass
		5210	1	76.415	/	Pass
		5290	1	76.412	/	Pass
		5530	1	76.312	/	Pass
		5610	1	76.384	/	Pass
		5775	1	76.243	/	Pass

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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 235 of 357

2.1.2 6dB BW

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5745	1	15.363	≥ 0.5	Pass
		5785	1	16.023	≥ 0.5	Pass
		5825	1	16.061	≥ 0.5	Pass
802.11n (HT20)	SISO	5745	1	15.733	≥ 0.5	Pass
		5785	1	15.469	≥ 0.5	Pass
		5825	1	15.187	≥ 0.5	Pass
802.11n (HT40)	SISO	5755	1	36.100	≥ 0.5	Pass
		5795	1	36.301	≥ 0.5	Pass
802.11ac (VHT20)	SISO	5745	1	16.684	≥ 0.5	Pass
		5785	1	15.886	≥ 0.5	Pass
		5825	1	15.156	≥ 0.5	Pass
802.11ac (VHT40)	SISO	5755	1	36.058	≥ 0.5	Pass
		5795	1	35.684	≥ 0.5	Pass
802.11ac (VHT80)	SISO	5775	1	75.188	≥ 0.5	Pass



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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 236 of 357

2.1.3 26dB BW

Mode	TX Type	Frequency (MHz)	ANT	26dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	23.347	/	Pass
		5200	1	23.608	/	Pass
		5240	1	23.978	/	Pass
		5260	1	23.830	/	Pass
		5300	1	24.114	/	Pass
		5320	1	22.907	/	Pass
		5500	1	23.164	/	Pass
		5580	1	22.485	/	Pass
		5700	1	22.825	/	Pass
802.11n (HT20)	SISO	5180	1	25.001	/	Pass
		5200	1	23.612	/	Pass
		5240	1	23.091	/	Pass
		5260	1	23.828	/	Pass
		5300	1	23.878	/	Pass
		5320	1	24.475	/	Pass
		5500	1	23.348	/	Pass
		5580	1	23.286	/	Pass
		5700	1	24.507	/	Pass
802.11n (HT40)	SISO	5190	1	41.575	/	Pass
		5230	1	41.643	/	Pass
		5270	1	41.572	/	Pass
		5310	1	41.477	/	Pass
		5510	1	41.402	/	Pass
		5550	1	41.947	/	Pass
		5670	1	41.743	/	Pass
802.11ac (VHT20)	SISO	5180	1	23.286	/	Pass
		5200	1	23.927	/	Pass
		5240	1	23.287	/	Pass
		5260	1	23.306	/	Pass
		5300	1	23.653	/	Pass
		5320	1	23.511	/	Pass
		5500	1	24.220	/	Pass
		5580	1	23.558	/	Pass
		5700	1	22.920	/	Pass
802.11ac (VHT40)	SISO	5190	1	42.028	/	Pass
		5230	1	41.516	/	Pass



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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600210105

Page: 237 of 357

		5270	1	41.321	/	Pass
		5310	1	41.483	/	Pass
		5510	1	41.793	/	Pass
		5550	1	41.312	/	Pass
		5670	1	41.499	/	Pass
802.11ac (VHT80)	SISO	5210	1	83.610	/	Pass
		5290	1	84.151	/	Pass
		5530	1	83.778	/	Pass
		5610	1	84.164	/	Pass



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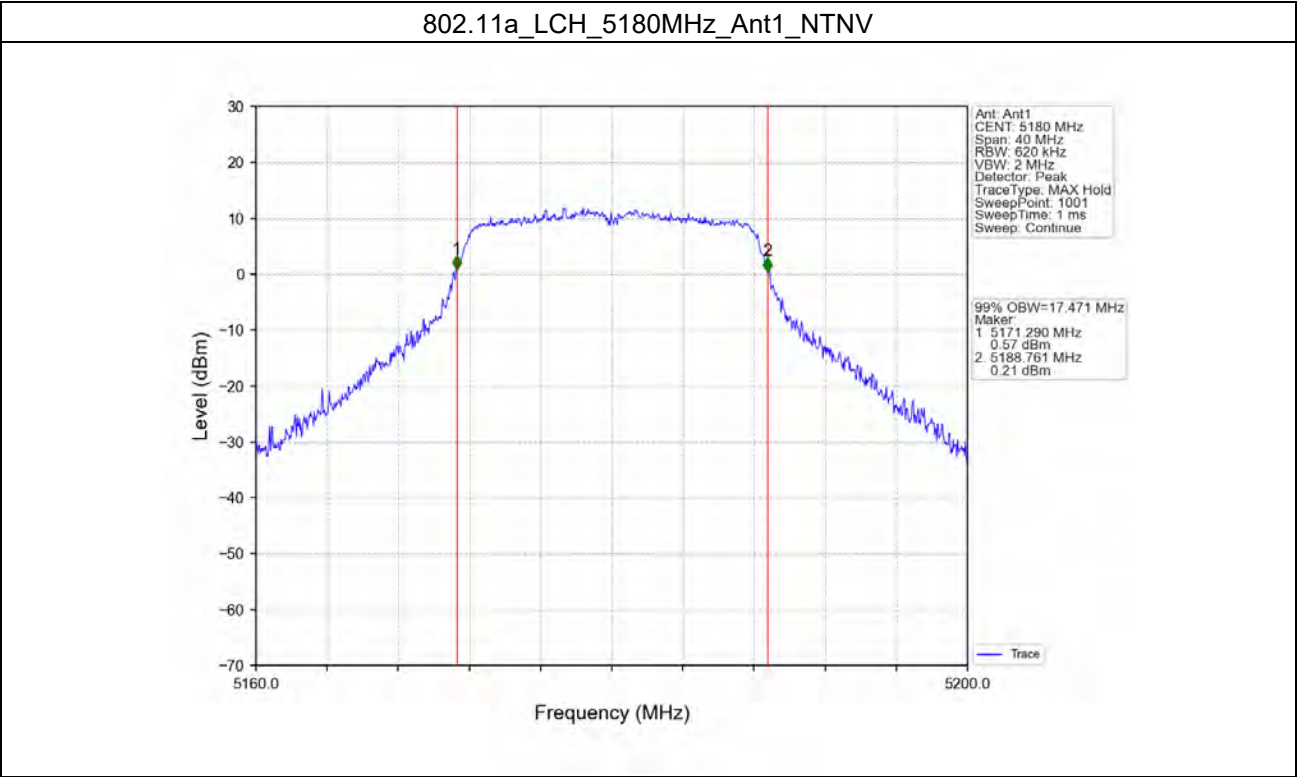
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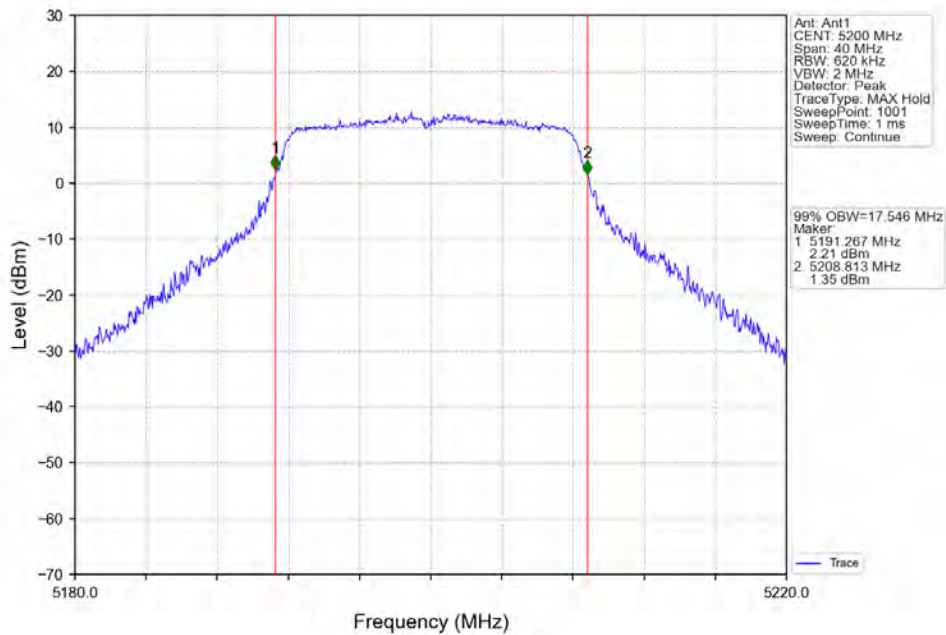
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2.2 Test Graph

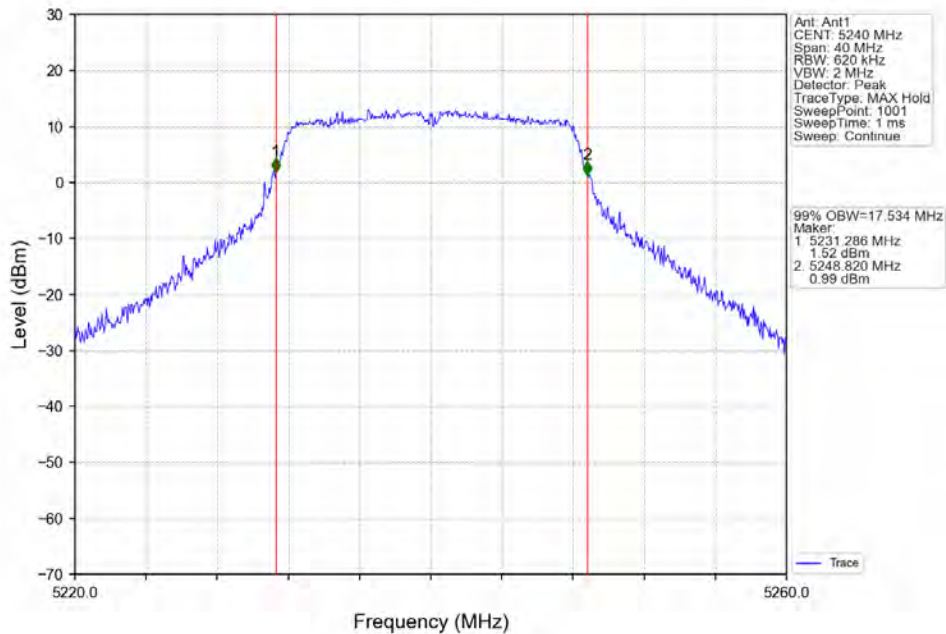
2.2.1 OBW



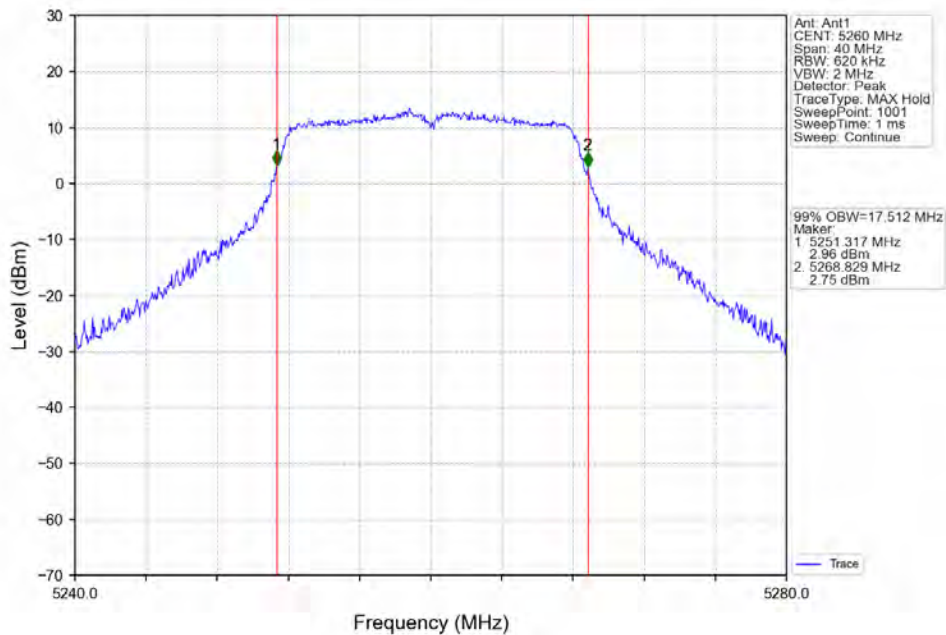
802.11a_MCH_5200MHz_Ant1_NTNV



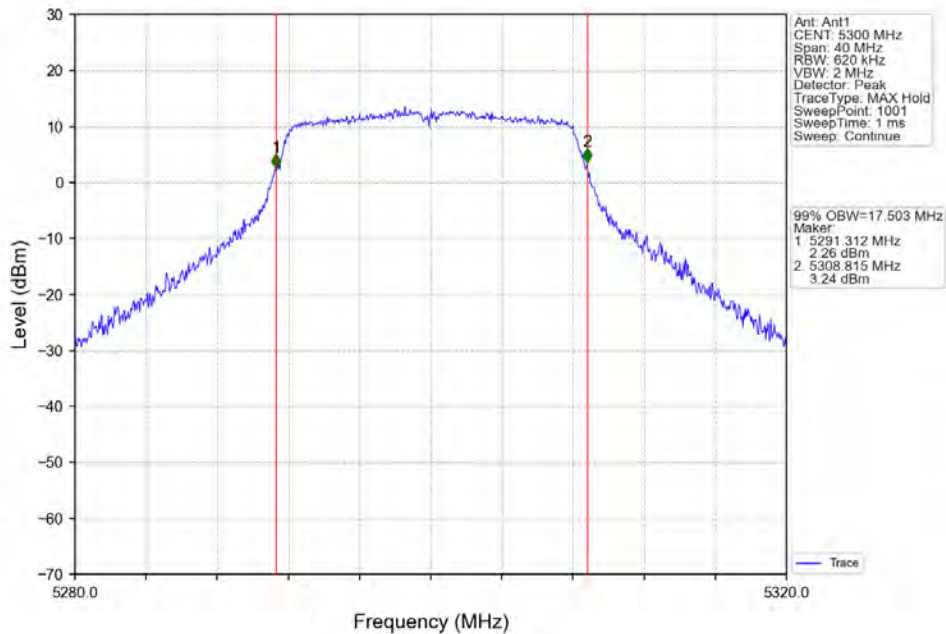
802.11a_HCH_5240MHz_Ant1_NTNV



802.11a_LCH_5260MHz_Ant1_NTNV



802.11a_MCH_5300MHz_Ant1_NTNV



802.11a_HCH_5320MHz_Ant1_NTNV

