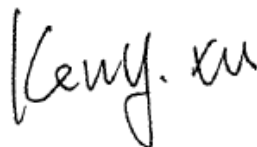


# TEST REPORT

**Application No.:** SZCR2501000078WM  
**Applicant:** vivo Mobile Communication Co., Ltd.  
**Address of Applicant:** No.1, vivo Road, Chang'an, Dongguan, Guangdong, China  
**Manufacturer:** vivo Mobile Communication Co., Ltd.  
**Address of Manufacturer:** No.1, vivo Road, Chang'an, Dongguan, Guangdong, China  
**Equipment Under Test (EUT):**  
**EUT Name:** Mobile phone  
**Model No.:** V2446  
**Trade Mark:** vivo  
**FCC ID:** 2AUCY-V2446  
**Standard(s) :** 47 CFR Part 15, Subpart E 15.407  
**Date of Receipt:** 2025-01-06  
**Date of Test:** 2025-01-17 to 2025-02-10  
**Date of Issue:** 2025-02-20

<b>Test Result:</b>	<b>Pass*</b>
---------------------	--------------

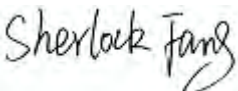
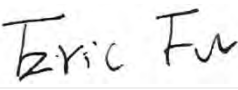
\* In the configuration tested, the EUT complied with the standards specified above.



Keny Xu  
EMC Laboratory Manager



Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2025-02-20		Original

<b>Authorized for issue by:</b>			
			
		<hr/> Sherlock Fang/Project Engineer	
			
		<hr/> 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		ANSI C63.10 (2013) Section 12.3	47 CFR Part 15, Subpart E 15.407 (a)	Pass
Radiated Emissions (Below 1GHz)		ANSI C63.10 (2013) Section 6.4,6.5	47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)	Pass
Radiated Emissions (Above 1GHz)		ANSI C63.10 (2013) Section 6.6	47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)	Pass
Radiated Emissions which fall in the restricted bands		ANSI C63.10 (2013) Section 6.10.5	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		ANSI C63.10 (2013) Section 12.2	ANSI C63.10 (2013) Section 12.2	Pass
99% Bandwidth		ANSI C63.10 (2013) Section 12.4.2	ANSI C63.10 (2013) Section 12.4.2	Pass
26dB Emission bandwidth		ANSI C63.10 (2013) Section 12.4.1	47 CFR Part 15, Subpart E 15.407 (a)	Pass
Minimum 6 dB bandwidth (5.725-5.85 GHz band )		ANSI C63.10 (2013) Section 6.9.2	47 CFR Part 15, Subpart E 15.407 (e)	Pass
Peak Power spectrum density		ANSI C63.10 (2013) Section 12.5	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



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## 4 General Information

### 4.1 Details of E.U.T.

EUT Description:	Mobile phone	
Model No.:	V2446	
Trade Mark:	vivo	
Hardware Version:	MP_0.1	
Software Version:	PD2443IF_EX_A_15.0.1.31.W30	
Power Supply:	DC 3.85V from internal rechargeable battery which can be charged by AC/DC adapter	
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:	PIFA Antenna	
Antenna Gain:	5150MHz to 5250MHz: -0.31dBi(Ant22);	
	5250MHz to 5350MHz: -1.32dBi(Ant22);	
	5470MHz to 5725MHz: -0.47dBi(Ant22);	
	5725MHz to 5850MHz: -1.18dBi(Ant22);	
	Note: The antenna gain are derived from the gain information report provided by the manufacturer.	
Smart System:	<input checked="" type="checkbox"/> SISO	802.11a/n/ac
	<input type="checkbox"/> MIMO	CDD: 802.11a/n/ac: Tx & Rx
		STBC: 802.11n/ac: Tx & Rx
		TXBF: 802.11n/ac: Tx & Rx
<input type="checkbox"/> Diversity	802.11a: Tx & Rx	
TPC Function:	<input type="checkbox"/> Support, <input checked="" type="checkbox"/> Not Support	



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DFS Function:	<input type="checkbox"/> Master	
	<input type="checkbox"/> Slave with radar detection	<input checked="" type="checkbox"/> Slave without radar detection
RF Cable:	4900MHz ~ 5250MHz(1.6dB)	5250MHz ~ 5350MHz(1.7dB)
	5470MHz ~ 5725MHz(1.8dB)	5725MHz ~ 5850MHz (2dB)
<b>Remark:</b> 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 Environment Parameter

Environment Parameter	1020 mbar Selected Values During Tests	
Relative Humidity	42.7-50.8 % RH Ambient	
Value	Temperature(°C)	Voltage(V)
NTNV	20.2~24.6	3.85
<b>Note:</b> NV:Normal Voltage                      LV:Low Extreme Test Voltage                      HV:High Extreme Test Voltage NT:Normal Temperature                      LT:Low Extreme Test Temperature                      HT:High Extreme Test Temperature		



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**4.3 Description of Support Units**

Description	Manufacturer	Model No.	FCC ID
Router	NETGEAR	R7800	PY315100319

**4.4 Measurement Uncertainty**

Test Item	Measurement Uncertainty
Conducted Emissions at AC Power Line (150kHz-30MHz)	± 3.1dB
Maximum Conducted output power	± 0.75dB
Radiated Emissions (Below 1GHz)	± 6.0dB for 3m; ± 5.0dB for 10m
Radiated Emissions (Above 1GHz)	± 4.6dB (1-18GHz); ± 4.8dB (18-40GHz)
Radiated Emissions which fall in the restricted bands	± 6.0dB (below 1GHz); ± 4.6dB (above 1GHz);
Duty Cycle	± 0.37%
99% Bandwidth	± 3%
26dB Emission bandwidth	± 3%
Minimum 6 dB bandwidth (5.725-5.85 GHz band )	± 3%
Peak Power spectrum density	± 2.84dB
Frequency Stability	± 7.25 x 10-8

**Remark:**

The U<sub>lab</sub> (lab Uncertainty) is less than U<sub>CISPR/ETSI</sub> (CISPR/ETSI Uncertainty), so the test results  
 – compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;  
 – non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.



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#### 4.5 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.

#### 4.6 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.

#### 4.7 Deviation from Standards

None

#### 4.8 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	ESR	SZ-WRG-M-047	2025-01-08	2026-01-07
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	2024-07-06	2025-07-05
LISN	Rohde&Schwarz	ENV216	SEM007-01	2024-08-15	2025-08-14
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	2024-08-14	2025-08-13
MXA Signal Analyzer	KEYSIGHT	N9020A	SEM004-19	2024-03-14	2025-03-13
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2024-09-14	2025-09-13
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

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	2024-08-14	2025-08-13
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	2024-07-06	2025-07-05



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

SZEMC-TRF-01 Rev. A/1

Report No.: SZCR250100007806

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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	2025-01-07	2026-01-06
Low Noise Amplifier 1G-18GHz	Tonscend	TAP01018050	SZ-WRG-M-051	2025-01-07	2026-01-06
Low Noise Amplifier 18G-40GHz	Tonscend	TAP18040048	SZ-WRG-M-052	2025-01-08	2026-01-07
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	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Chamber	CRTSGSSAC966	N/A	SZ-WRG-C-063	2025-01-06	2028-01-05
Humidity and Temperature Indicator	deli	8838	SEM002-46	2024-07-24	2025-07-23

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	2025-01-07	2026-01-06
Low Noise Amplifier 30M-8GHz	Tonscend	TAP30M8G30	SZ-WRG-M-050	2025-01-07	2026-01-06
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	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Chamber	CRTSGSSAC966	N/A	SZ-WRG-C-063	2025-01-06	2028-01-05
Humidity and Temperature Indicator	deli	8838	SEM002-46	2024-07-24	2025-07-23



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SZEMC-TRF-01 Rev. A/1

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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

RF Conducted Test					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
DC Power Supply	Chroma	62012P-80-60	SEM011-11	2024-08-14	2025-08-13
MXA Signal Analyzer	KEYSIGHT	N9020A	SEM004-19	2024-03-14	2025-03-13
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2024-09-14	2025-09-13
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

General used equipment					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Humidity/ Temperature Indicator	deli	8838	SEM002-32	2024-07-24	2025-07-23
Humidity/ Temperature Indicator	deli	8838	SEM002-33	2024-07-24	2025-07-23
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2024-03-18	2025-03-17



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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 a PIFA Antenna, and the connection port is integrated inside the product, and the antenna cannot be replaced.

5150MHz to 5250MHz: -0.31dBi(Ant22); \*

5250MHz to 5350MHz: -1.32dBi(Ant22);\*

5470MHz to 5725MHz: -0.47dBi(Ant22); \*

5725MHz to 5850MHz: -1.18dBi(Ant22); \*

*\*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.



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## 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 $\mu$ 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: 22.5 °C Humidity: 44.5 % RH Atmospheric Pressure: 1020 mbar

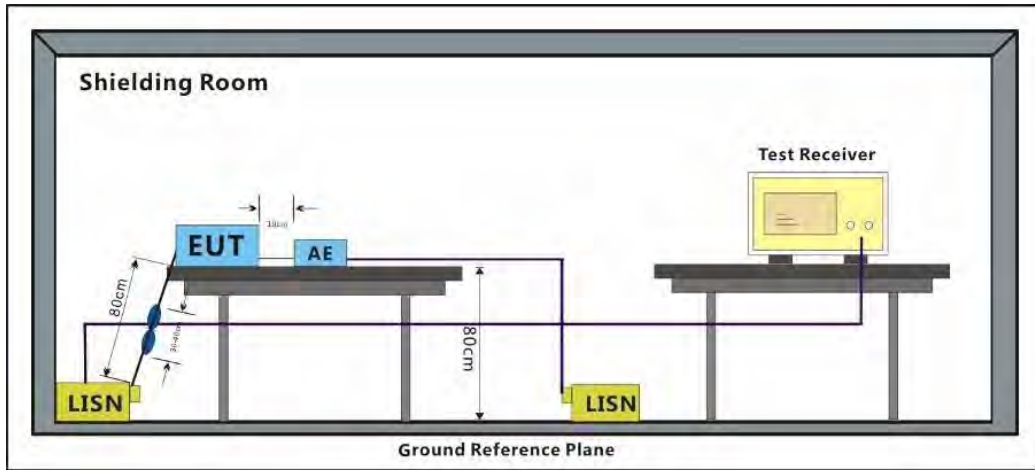
#### 7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	14	Charge + TX mode (U-NII-1) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Pre-scan	15	Charge + TX mode (U-NII-2A) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Pre-scan	16	Charge + TX mode (U-NII-2C) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Pre-scan	17	Charge + TX mode (U-NII-3) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.





**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.

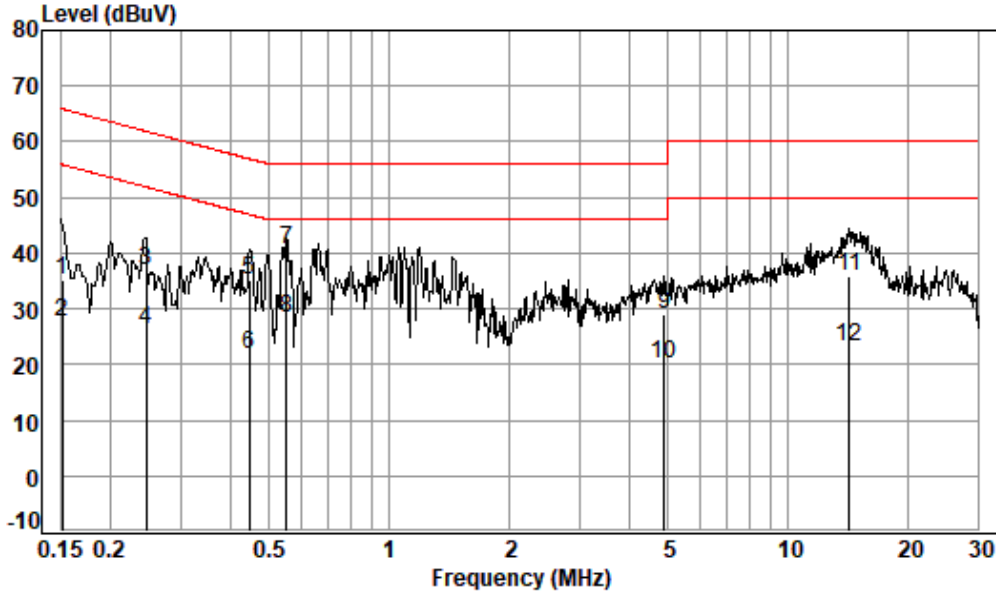
Remark: Level=Read Level+ Cable Loss+ LISN Factor



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Test Mode: 14; Line: Live line



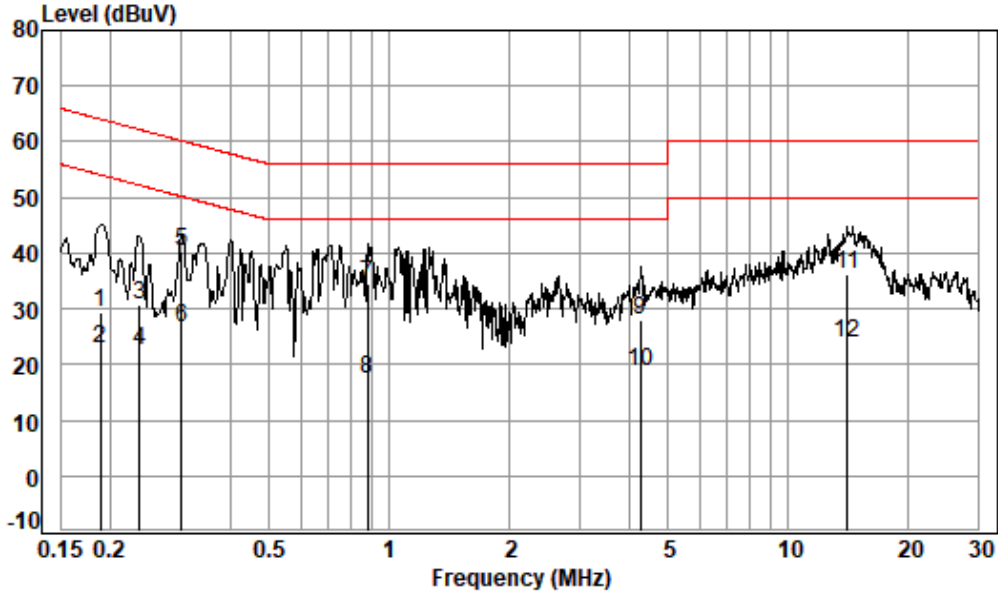
Site : Shielding Room  
 Condition: Line  
 Job No. : 00078WM  
 Test mode: 14

	Freq	Cable Loss	LISN Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1516	0.06	10.19	24.89	35.14	65.91	-30.77	QP
2	0.1516	0.06	10.19	17.54	27.79	55.91	-28.12	Average
3	0.2468	0.07	9.98	26.93	36.98	61.86	-24.88	QP
4	0.2468	0.07	9.98	16.19	26.24	51.86	-25.62	Average
5	0.4468	0.08	9.61	25.36	35.05	56.93	-21.88	QP
6	0.4468	0.08	9.61	12.22	21.91	46.93	-25.02	Average
7 *	0.5523	0.08	9.57	30.90	40.55	56.00	-15.45	QP
8 *	0.5523	0.08	9.57	18.53	28.18	46.00	-17.82	Average
9	4.8738	0.12	9.66	19.08	28.86	56.00	-27.14	QP
10	4.8738	0.12	9.66	10.47	20.25	46.00	-25.75	Average
11	14.2127	0.25	9.89	25.56	35.70	60.00	-24.30	QP
12	14.2127	0.25	9.89	13.20	23.34	50.00	-26.66	Average



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Test Mode: 14; Line: Neutral Line



Site : Shielding Room  
 Condition: Neutral  
 Job No. : 00078WM  
 Test mode: 14

	Freq	Cable Loss	LISN Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1894	0.06	10.09	19.12	29.27	64.06	-34.79	QP
2	0.1894	0.06	10.09	12.80	22.95	54.06	-31.11	Average
3	0.2366	0.06	9.95	20.78	30.79	62.22	-31.43	QP
4	0.2366	0.06	9.95	12.46	22.47	52.22	-29.75	Average
5 *	0.3019	0.07	9.77	30.44	40.28	60.19	-19.91	QP
6 *	0.3019	0.07	9.77	16.78	26.62	50.19	-23.57	Average
7	0.8803	0.09	9.58	24.75	34.42	56.00	-21.58	QP
8	0.8803	0.09	9.58	7.64	17.31	46.00	-28.69	Average
9	4.2466	0.12	9.55	18.22	27.89	56.00	-28.11	QP
10	4.2466	0.12	9.55	9.01	18.68	46.00	-27.32	Average
11	14.0629	0.25	9.81	26.21	36.27	60.00	-23.73	QP
12	14.0629	0.25	9.81	13.71	23.77	50.00	-26.23	Average



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**7.2 Maximum Conducted output power**

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

Test Method: ANSI C63.10 (2013) Section 12.3

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: 22.6 °C Humidity: 42.7 % RH Atmospheric Pressure: 1020 mbar

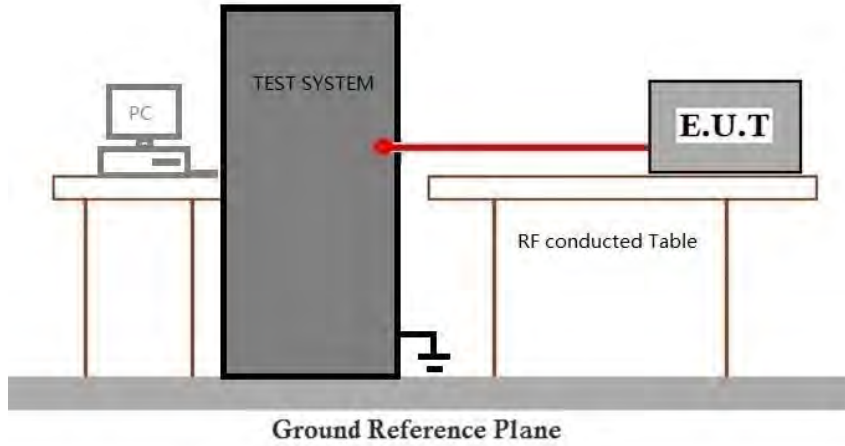
**7.2.2 Test Mode Description**

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, 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, 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, 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, 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: ANSI C63.10 (2013) Section 6.4,6.5

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: 20.2 °C Humidity: 45.2 % RH Atmospheric Pressure: 1020 mbar

**7.3.2 Test Mode Description**

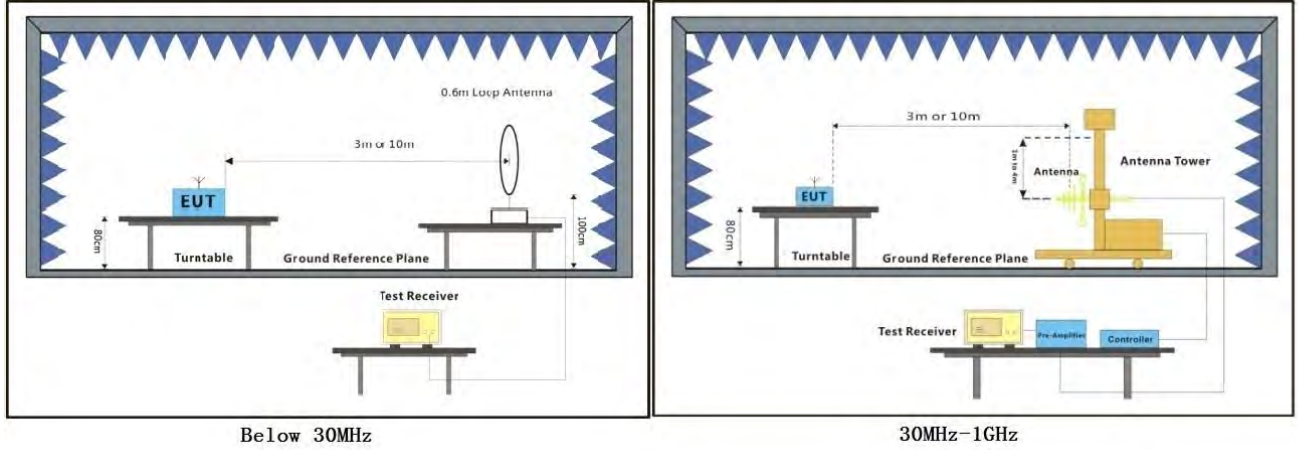
Pre-scan / Final test	Mode Code	Description
Final test	14	Charge + TX mode (U-NII-1) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Pre-scan	15	Charge + TX mode (U-NII-2A) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Pre-scan	16	Charge + TX mode (U-NII-2C) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Pre-scan	17	Charge + TX mode (U-NII-3) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.



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### 7.3.3 Test Setup Diagram



Below 30MHz

30MHz-1GHz



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## 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.

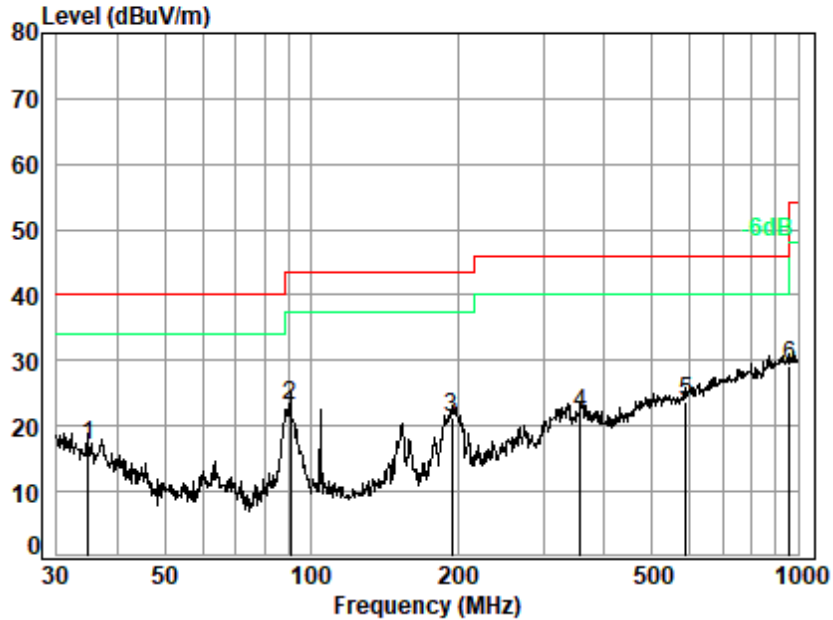


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Test Mode: 14; Polarity: Horizontal



Site : chamber  
 Condition: 3m HORIZONTAL  
 Job No. : 00078WM  
 Test Mode: 14

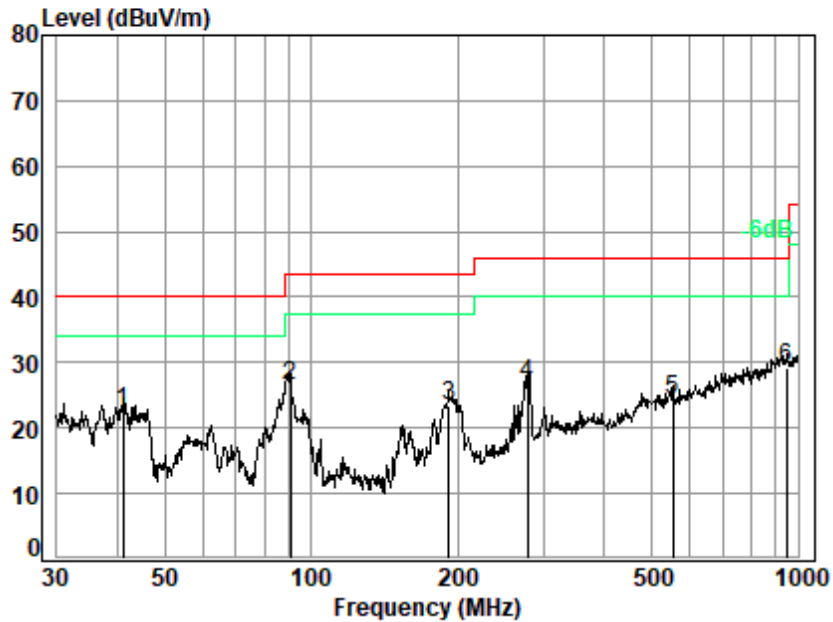
	Ant Freq	Cable Factor	Preamp Loss	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	34.760	19.01	0.73	27.78	25.00	40.00	-23.04	QP
2	90.537	11.77	1.16	27.62	37.82	43.50	-20.37	QP
3	194.453	14.15	1.74	27.19	32.55	43.50	-22.25	QP
4	356.676	20.13	2.43	26.98	26.19	46.00	-24.23	QP
5	588.905	24.37	3.21	27.92	24.05	46.00	-22.29	QP
6 q	958.794	28.10	4.28	26.34	23.09	46.00	-16.87	QP



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Test Mode: 14; Polarity: Vertical



Site : chamber  
 Condition: 3m VERTICAL  
 Job No. : 00078WM  
 Test Mode: 14

	Ant Freq	Cable Factor	Preamp Loss	Read Level	Limit Level	Over Line	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	41.132	15.83	0.79	27.76	33.65	22.51	40.00 -17.49 QP
2	90.537	11.77	1.16	27.62	41.05	26.36	43.50 -17.14 QP
3	191.745	14.26	1.73	27.20	34.72	23.51	43.50 -19.99 QP
4	278.067	16.97	2.12	26.84	34.47	26.72	46.00 -19.28 QP
5	552.883	23.71	3.10	27.78	25.45	24.48	46.00 -21.52 QP
6 q	945.440	28.26	4.24	26.44	23.23	29.29	46.00 -16.71 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: ANSI C63.10 (2013) Section 6.6

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.

**7.4.1 E.U.T. Operation**

Operating Environment:

Temperature: 24.5 °C Humidity: 50.8 % RH Atmospheric Pressure: 1020 mbar

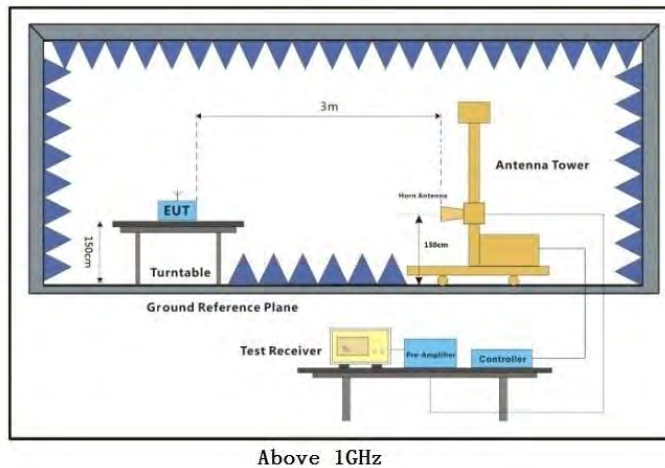


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**7.4.2 Test Mode Description**

Pre-scan / Final test	Mode Code	Description
Final test	14	Charge + TX mode (U-NII-1) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Final test	15	Charge + TX mode (U-NII-2A) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Final test	16	Charge + TX mode (U-NII-2C) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Final test	17	Charge + TX mode (U-NII-3) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.

**7.4.3 Test Setup Diagram**



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**7.4.4 Measurement Procedure and Data**

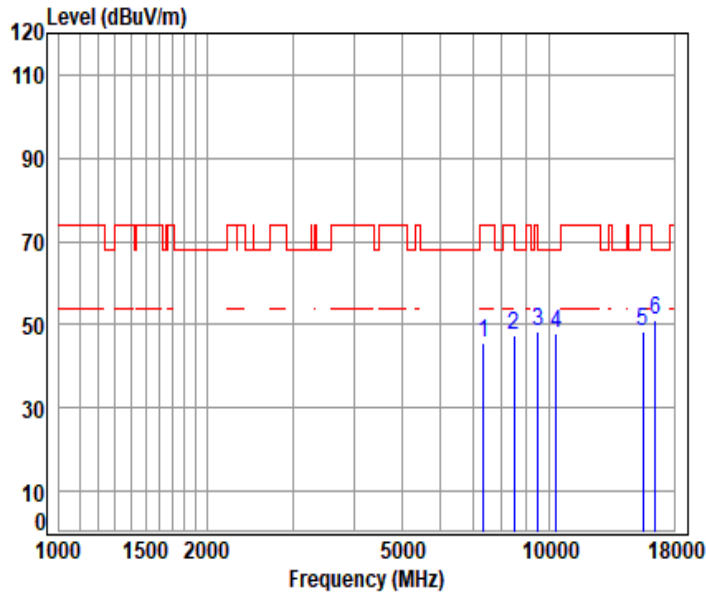
- a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which 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.
6. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for Peak detection (PK) and Average detection (AV) at frequency above 1GHz.
7. For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is  $\geq 1/T$  (Duty cycle < 98%) or 10Hz (Duty cycle  $\geq 98\%$ ) for Average detection (AV) at frequency above 1GHz.



11a\_TX\_CH\_36\_Horizontal



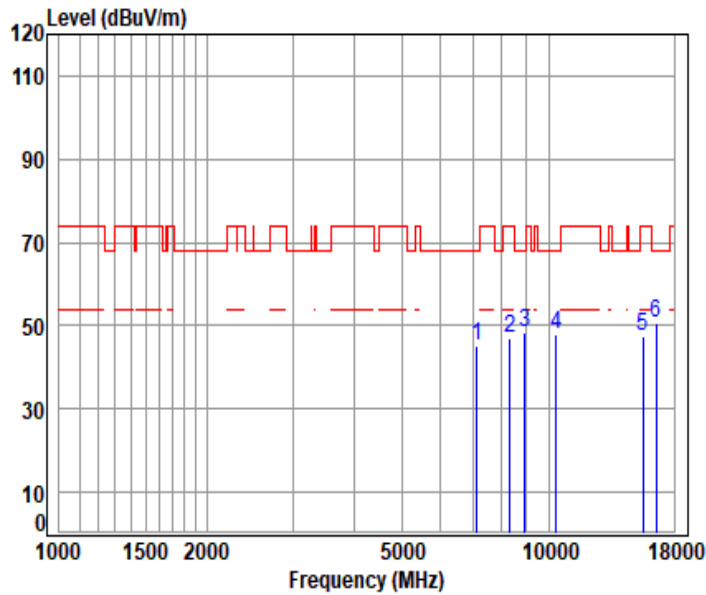
Condition: 3m HORIZONTAL  
 Job No : 00078WM  
 Mode : 5180 TX RSE  
 : 5G Wi-Fi 11a

	Cable Freq	Ant Loss Factor	Preamp Factor	Read Level	Limit Level	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1	7360.057	11.50	36.78	56.41	53.85	45.72	74.00 -28.28 peak
2	8496.769	12.29	38.31	55.45	52.16	47.31	74.00 -26.69 peak
3	9504.150	12.55	38.89	54.55	51.57	48.46	68.20 -19.74 peak
4	10360.000	13.60	39.00	53.88	49.15	47.87	68.20 -20.33 peak
5	15540.000	17.00	38.56	54.14	46.94	48.36	74.00 -25.64 peak
6	pp16490.340	17.68	38.89	54.15	48.46	50.88	68.20 -17.32 peak



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11a\_TX\_CH\_36\_Veritical



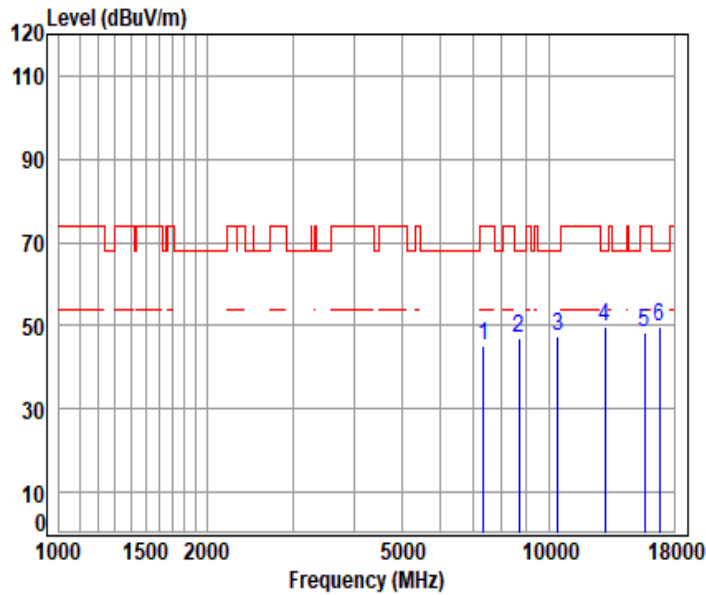
Condition: 3m VERTICAL  
 Job No : 00078WM  
 Mode : 5180 TX RSE  
 : 5G Wi-Fi 11a

	Cable Freq	Loss	Ant Factor	Preamp Factor	Read Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7124.029	11.88	36.45	56.60	53.50	45.23	68.20	-22.97 peak
2	8333.913	11.72	38.44	55.60	52.28	46.84	74.00	-27.16 peak
3	8913.427	12.21	38.57	55.08	52.56	48.26	68.20	-19.94 peak
4	10360.000	13.60	39.00	53.88	49.34	48.06	68.20	-20.14 peak
5	15540.000	17.00	38.56	54.14	46.16	47.58	74.00	-26.42 peak
6	pp16540.810	17.70	39.02	54.16	48.02	50.58	68.20	-17.62 peak



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11a\_TX\_CH\_44\_Horizontal



Condition: 3m HORIZONTAL  
 Job No : 00078WM  
 Mode : 5220 TX RSE  
 : 5G Wi-Fi 11a

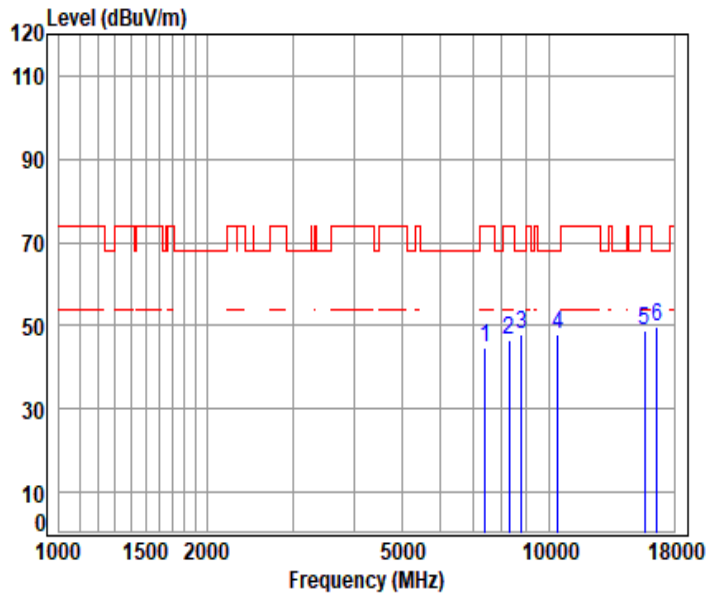
	Cable Freq	Loss	Ant Factor	Preamp Factor	Read Level	Limit	Over	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7337.601	11.51	36.78	56.43	53.15	45.01	74.00	-28.99 peak
2	8689.318	12.08	38.56	55.28	51.80	47.16	68.20	-21.04 peak
3	10440.000	13.63	39.04	53.84	48.81	47.64	68.20	-20.56 peak
4	13019.740	15.83	40.30	54.50	47.99	49.62	68.20	-18.58 Peak
5	15660.000	17.23	38.56	54.10	46.47	48.16	74.00	-25.84 peak
6	pp16829.720	17.67	39.60	54.25	46.66	49.68	68.20	-18.52 peak



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11a\_TX\_CH\_44\_Veritical



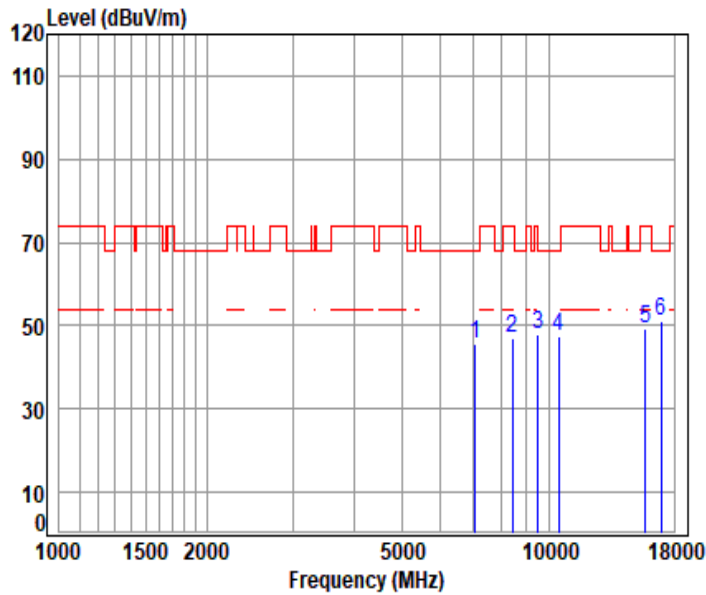
Condition: 3m VERTICAL  
 Job No : 00078WM  
 Mode : 5220 TX RSE  
 : 5G Wi-Fi 11a

	Cable Freq	Loss	Ant Factor	Preamp Factor	Read Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7405.175	11.49	36.71	56.38	52.83	44.65	74.00	-29.35 peak
2	8291.578	11.74	37.88	55.64	52.63	46.61	74.00	-27.39 peak
3	8778.277	12.22	38.50	55.20	52.50	48.02	68.20	-20.18 peak
4	10440.000	13.63	39.04	53.84	48.87	47.70	68.20	-20.50 peak
5	15660.000	17.23	38.56	54.10	47.20	48.89	74.00	-25.11 peak
6	pp16591.430	17.66	39.17	54.18	47.26	49.91	68.20	-18.29 peak



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11a\_TX\_CH\_48\_Horizontal



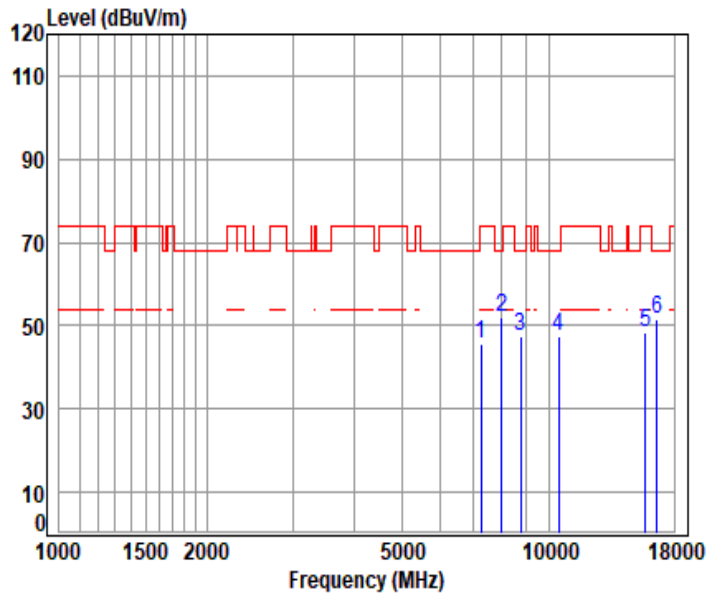
Condition: 3m HORIZONTAL  
 Job No : 00078WM  
 Mode : 5240 TX RSE  
 : 5G Wi-Fi 11a

	Cable Freq	Loss	Ant Factor	Preamp Factor	Read Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7066.214	11.78	36.33	56.65	53.99	45.45	68.20	-22.75 peak
2	8427.813	11.82	38.49	55.51	52.14	46.94	74.00	-27.06 peak
3	9494.476	12.55	38.89	54.55	50.90	47.79	74.00	-26.21 peak
4	10480.000	13.64	39.08	53.81	48.32	47.23	68.20	-20.97 peak
5	15720.000	17.22	38.58	54.08	47.67	49.39	74.00	-24.61 peak
6	pp16967.410	18.11	39.67	54.29	47.48	50.97	68.20	-17.23 peak



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11a\_TX\_CH\_48\_Veritical



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5240 TX RSE

: 5G Wi-Fi 11a

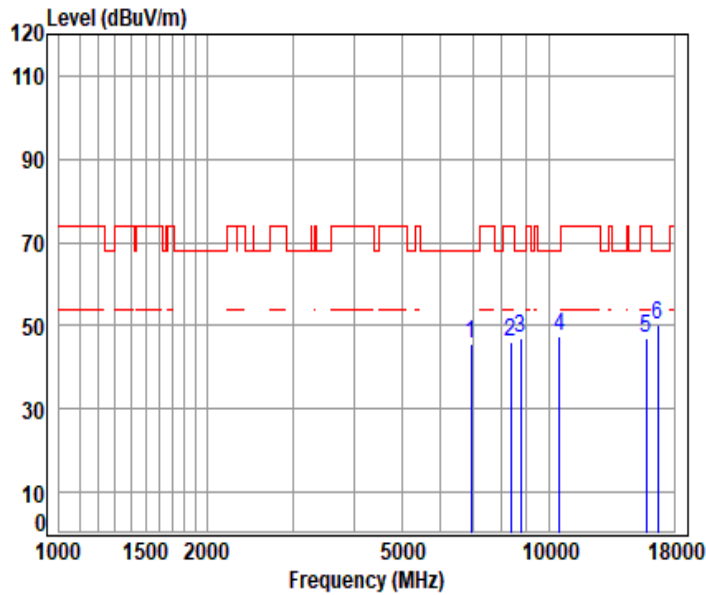
	Cable Freq	Loss	Ant Factor	Preamp Factor	Read Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7278.053	11.51	36.66	56.48	53.86	45.55	74.00	-28.45 peak
2	7993.045	11.56	37.79	55.91	58.42	51.86	68.20	-16.34 peak
3	8760.413	12.19	38.50	55.22	51.90	47.37	68.20	-20.83 peak
4	10480.000	13.64	39.08	53.81	48.65	47.56	68.20	-20.64 peak
5	15720.000	17.22	38.58	54.08	46.82	48.54	74.00	-25.46 peak
6	16625.260	17.63	39.25	54.19	48.85	51.54	68.20	-16.66 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

11a\_TX\_CH\_52\_Horizontal



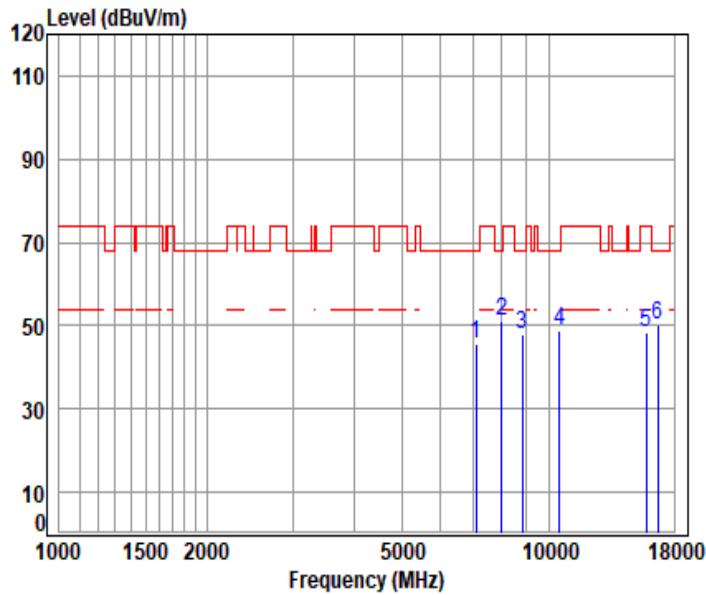
Condition: 3m HORIZONTAL  
 Job No : 00078WM  
 Mode : 5260 TX RSE  
 : 5G Wi-Fi 11a

	Cable Freq	Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	6944.911	11.37	36.11	56.71	54.95	45.72	68.20	-22.48 peak
2	8342.406	11.70	38.58	55.59	51.47	46.16	74.00	-27.84 peak
3	8769.341	12.20	38.50	55.21	51.53	47.02	68.20	-21.18 peak
4	10520.000	13.63	39.14	53.79	48.26	47.24	68.20	-20.96 peak
5	15780.000	17.08	38.52	54.07	45.62	47.15	74.00	-26.85 peak
6	pp16710.150	17.58	39.42	54.21	47.57	50.36	68.20	-17.84 peak



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11a\_TX\_CH\_52\_Vertical



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5260 TX RSE

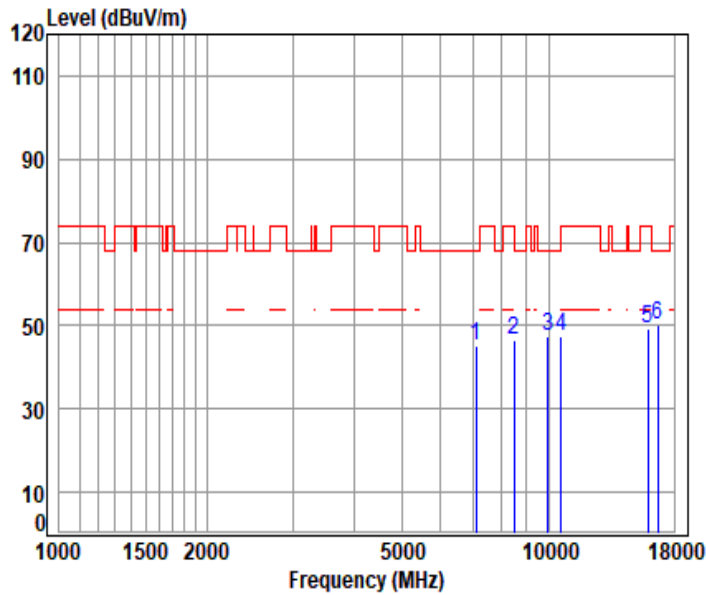
: 5G Wi-Fi 11a

	Cable Freq	Loss	Ant Factor	Preamp Factor	Read Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7087.840	11.91	36.38	56.63	53.95	45.61	68.20	-22.59 peak
2	8001.191	11.56	37.80	55.90	57.72	51.18	68.20	-17.02 peak
3	8823.098	12.24	38.50	55.16	52.37	47.95	68.20	-20.25 peak
4	10520.000	13.63	39.14	53.79	49.63	48.61	68.20	-19.59 peak
5	15780.000	17.08	38.52	54.07	46.88	48.41	74.00	-25.59 peak
6	16659.160	17.61	39.32	54.20	47.48	50.21	68.20	-17.99 peak



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11a\_TX\_CH\_60\_Horizontal



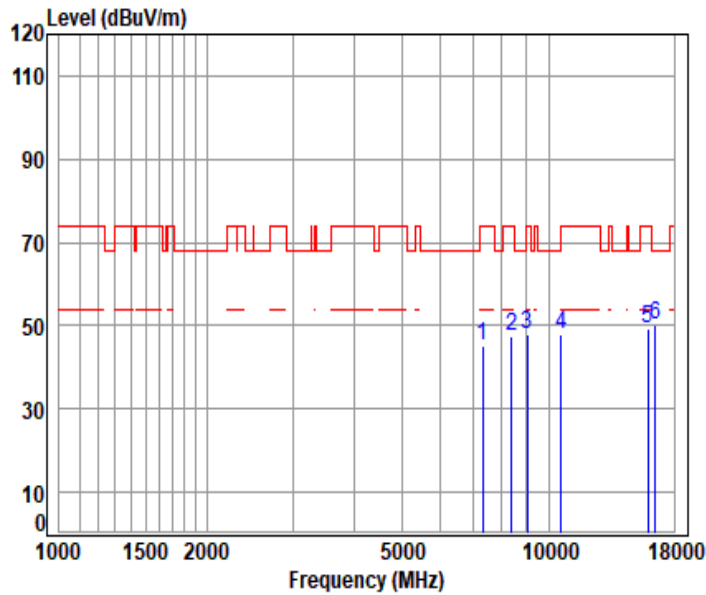
Condition: 3m HORIZONTAL  
 Job No : 00078WM  
 Mode : 5300 TX RSE  
 : 5G Wi-Fi 11a

	Cable Freq	Loss	Ant Factor	Preamp Factor	Read Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7095.063	11.96	36.39	56.62	53.26	44.99	68.20	-23.21 peak
2	8470.845	12.11	38.36	55.48	51.52	46.51	74.00	-27.49 peak
3	9949.918	12.90	38.90	54.15	49.98	47.63	68.20	-20.57 peak
4	10600.000	13.59	39.30	53.74	48.13	47.28	68.20	-20.92 peak
5	15900.000	17.28	38.70	54.03	47.51	49.46	74.00	-24.54 peak
6	pp16710.150	17.58	39.42	54.21	47.62	50.41	68.20	-17.79 peak



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11a\_TX\_CH\_60\_Vertical



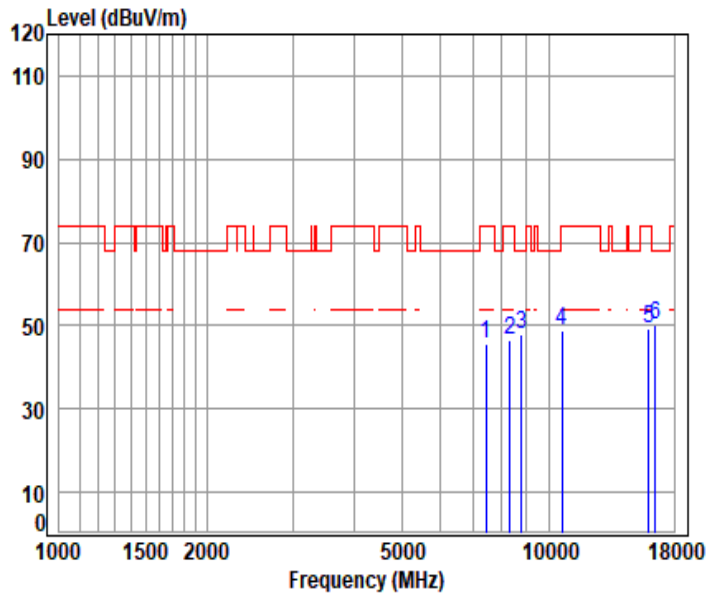
Condition: 3m VERTICAL  
 Job No : 00078WM  
 Mode : 5300 TX RSE  
 : 5G Wi-Fi 11a

	Cable Freq	Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7322.668	11.51	36.75	56.44	53.18	45.00	74.00	-29.00 peak
2	8385.002	11.65	38.63	55.55	52.80	47.53	74.00	-26.47 peak
3	9013.856	12.15	38.60	54.99	52.08	47.84	74.00	-26.16 peak
4	10600.000	13.59	39.30	53.74	48.58	47.73	68.20	-20.47 peak
5	15900.000	17.28	38.70	54.03	47.41	49.36	74.00	-24.64 peak
6	pp16473.550	17.59	38.87	54.14	47.96	50.28	68.20	-17.92 peak



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11a\_TX\_CH\_64\_Horizontal



Condition: 3m HORIZONTAL  
 Job No : 00078WM  
 Mode : 5320 TX RSE  
 : 5G Wi-Fi 11a

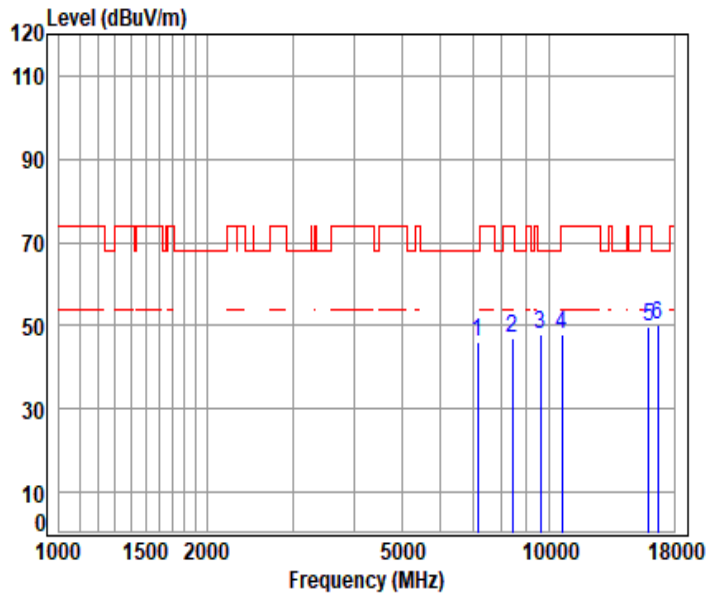
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7442.985	11.38	36.79	56.35	53.89	45.71	74.00	-28.29 peak
2	8308.486	11.75	38.04	55.62	52.48	46.65	74.00	-27.35 peak
3	8787.224	12.23	38.50	55.19	52.22	47.76	68.20	-20.44 peak
4	10640.000	13.77	39.34	53.72	49.26	48.65	74.00	-25.35 peak
5	15960.000	17.20	38.64	54.01	47.65	49.48	74.00	-24.52 peak
6	pp16456.780	17.49	38.86	54.14	48.16	50.37	68.20	-17.83 peak



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11a\_TX\_CH\_64\_Vertical



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5320 TX RSE

: 5G Wi-Fi 11a

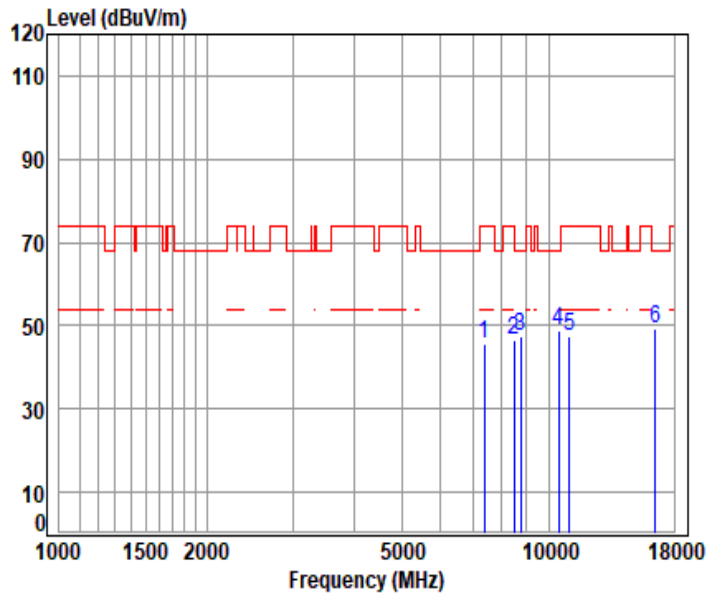
	Cable Freq	Loss	Ant Factor	Preamp Factor	Read Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7153.113	11.74	36.51	56.58	54.47	46.14	68.20	-22.06 peak
2	8427.813	11.82	38.49	55.51	52.36	47.16	74.00	-26.84 peak
3	9611.236	12.46	38.78	54.45	51.12	47.91	68.20	-20.29 peak
4	10640.000	13.77	39.34	53.72	48.30	47.69	74.00	-26.31 peak
5	15960.000	17.20	38.64	54.01	47.99	49.82	74.00	-24.18 peak
6	pp16710.150	17.58	39.42	54.21	47.45	50.24	68.20	-17.96 peak



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11a\_TX\_CH\_100\_Horizontal



Condition: 3m HORIZONTAL  
 Job No : 00078WM  
 Mode : 5500 TX RSE  
 : 5G Wi-Fi 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	7367.558	11.50	36.76	56.41	53.76	45.61	74.00	-28.39 peak
2	8479.478	12.17	38.34	55.47	51.55	46.59	74.00	-27.41 peak
3	8769.341	12.20	38.50	55.21	52.15	47.64	68.20	-20.56 peak
4	10459.120	13.63	39.06	53.82	50.13	49.00	68.20	-19.20 peak
5	11000.000	14.17	39.40	53.50	47.55	47.62	74.00	-26.38 peak
6	pp16500.000	17.74	38.90	54.15	46.83	49.32	68.20	-18.88 peak

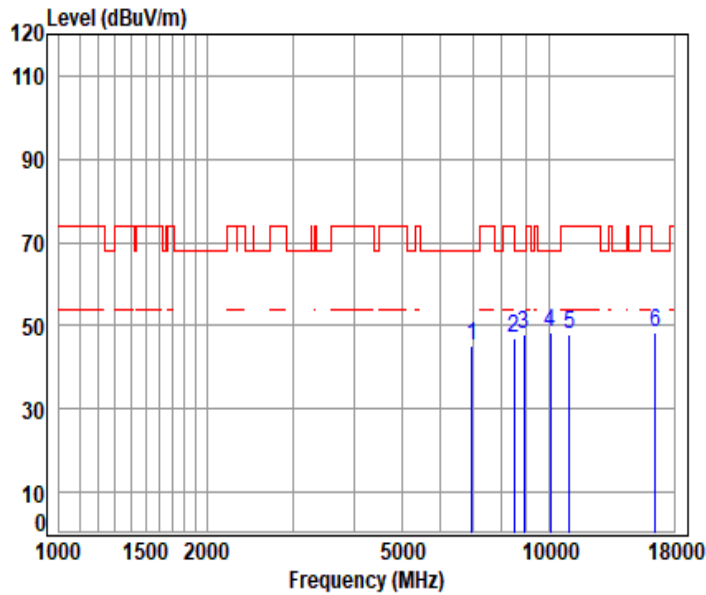


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11a\_TX\_CH\_100\_Vertical



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5500 TX RSE

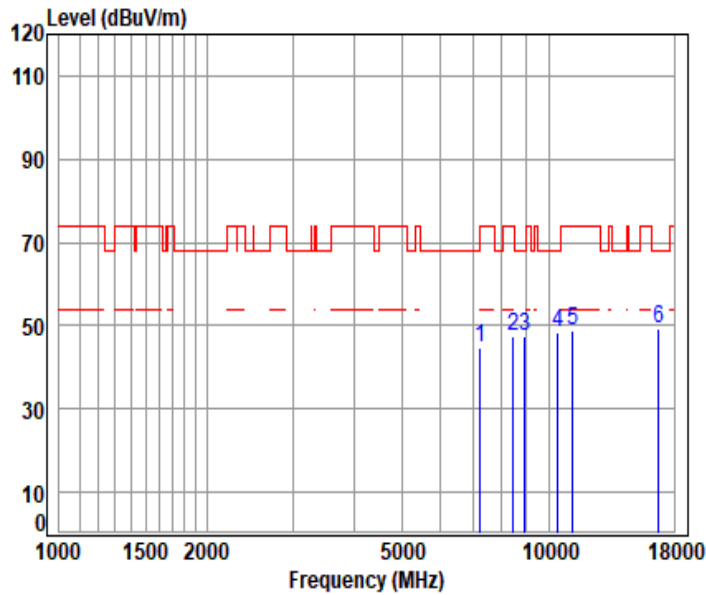
: 5G Wi-Fi 11a

	Cable Freq	Loss	Ant Factor	Preamp Factor	Read Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	6966.166	11.37	36.13	56.71	54.20	44.99	68.20	-23.21 peak
2	8496.769	12.29	38.31	55.45	51.76	46.91	74.00	-27.09 peak
3	8904.353	12.22	38.59	55.09	52.34	48.06	68.20	-20.14 peak
4	10082.540	13.22	39.07	54.05	49.96	48.20	68.20	-20.00 peak
5	11000.000	14.17	39.40	53.50	47.95	48.02	74.00	-25.98 peak
6	pp16500.000	17.74	38.90	54.15	46.08	48.57	68.20	-19.63 peak



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11a\_TX\_CH\_116\_Horizontal



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5580 TX RSE

: 5G Wi-Fi 11a

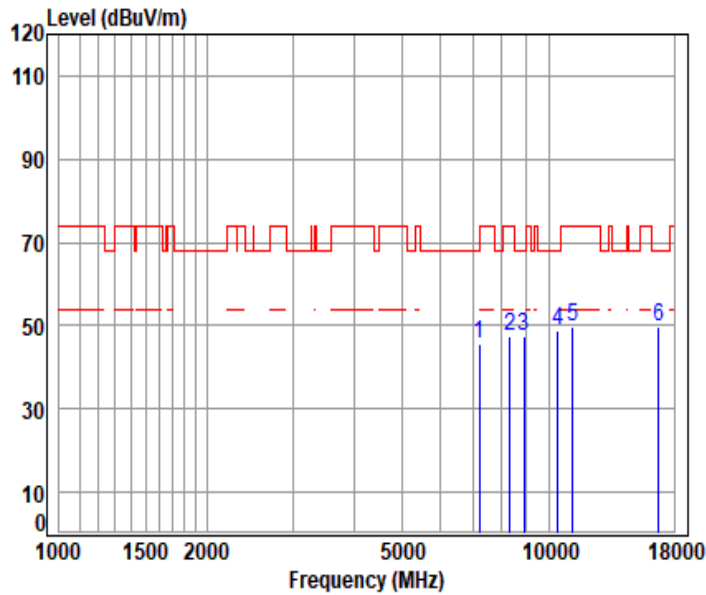
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7226.345	11.52	36.60	56.52	53.20	44.80	68.20	-23.40 peak
2	8445.000	11.94	38.42	55.50	52.41	47.27	74.00	-26.73 peak
3	8940.705	12.19	38.52	55.05	51.58	47.24	68.20	-20.96 peak
4	10416.590	13.62	39.02	53.85	49.75	48.54	68.20	-19.66 peak
5	11160.000	14.72	39.56	53.55	48.04	48.77	74.00	-25.23 peak
6	pp16740.000	17.54	39.48	54.22	46.51	49.31	68.20	-18.89 peak



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11a\_TX\_CH\_116\_Vertical



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5580 TX RSE

: 5G Wi-Fi 11a

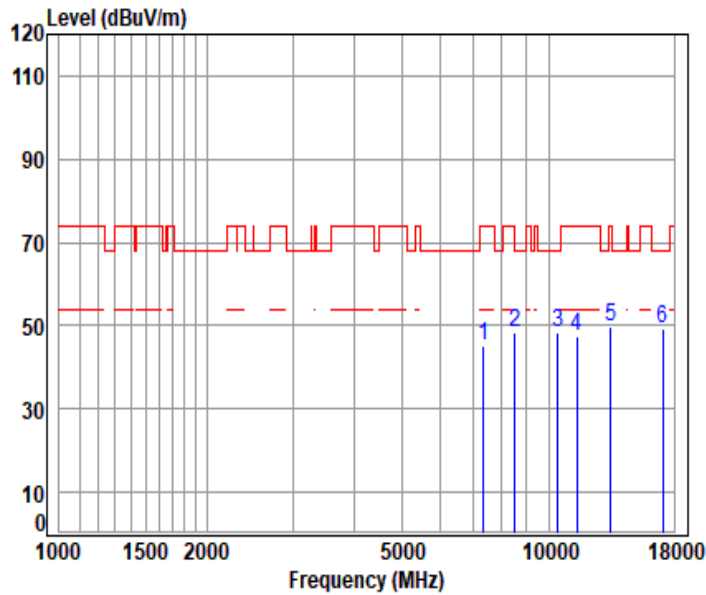
	Cable	Ant	Preamp	Read	Limit	Over			
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	7196.963	11.53	36.59	56.54	54.18	45.76	68.20	-22.44 peak	
2	8325.429	11.73	38.31	55.61	52.88	47.31	74.00	-26.69 peak	
3	8886.231	12.22	38.57	55.10	51.65	47.34	68.20	-20.86 peak	
4	10416.590	13.62	39.02	53.85	50.16	48.95	68.20	-19.25 peak	
5	11160.000	14.72	39.56	53.55	49.09	49.82	74.00	-24.18 peak	
6	pp16740.000	17.54	39.48	54.22	46.83	49.63	68.20	-18.57 peak	



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11a\_TX\_CH\_140\_Horizontal



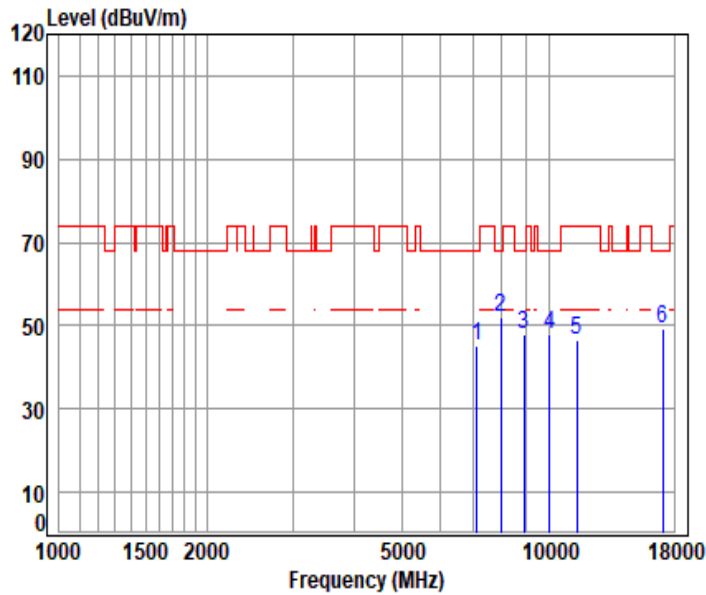
Condition: 3m HORIZONTAL  
 Job No : 00078WM  
 Mode : 5700 TX RSE  
 : 5G Wi-Fi 11a

	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	7352.564	11.50	36.79	56.42	53.36	45.23	74.00	-28.77 peak
2	8531.458	12.20	38.30	55.42	53.46	48.54	68.20	-19.66 peak
3	10437.830	13.63	39.04	53.84	49.38	48.21	68.20	-19.99 peak
4	11400.000	14.21	39.70	53.62	47.30	47.59	74.00	-26.41 peak
5	13369.140	16.10	40.30	54.46	47.82	49.76	74.00	-24.24 Peak
6	pp17100.000	18.47	39.80	54.32	45.22	49.17	68.20	-19.03 peak



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11a\_TX\_CH\_140\_Vertical



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5700 TX RSE

: 5G Wi-Fi 11a

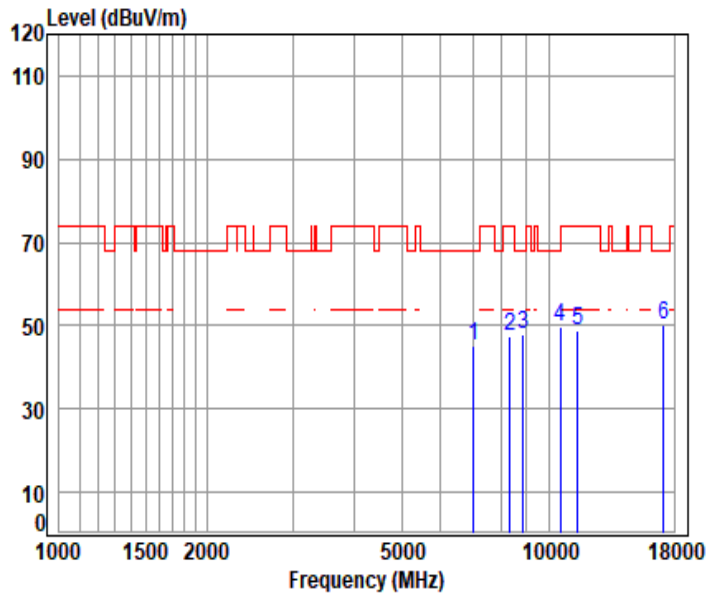
	Cable Freq	Loss	Ant Factor	Preamp Factor	Read Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7124.029	11.88	36.45	56.60	53.28	45.01	68.20	-23.19 peak
2	7984.908	11.56	37.77	55.91	58.44	51.86	68.20	-16.34 peak
3	8904.353	12.22	38.59	55.09	52.39	48.11	68.20	-20.09 peak
4	10010.910	13.04	38.92	54.09	50.24	48.11	68.20	-20.09 peak
5	11400.000	14.21	39.70	53.62	46.36	46.65	74.00	-27.35 peak
6	17100.000	18.47	39.80	54.32	45.38	49.33	68.20	-18.87 peak



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11a\_Straddle\_TX\_CH\_144\_Horizontal



Condition: 3m HORIZONTAL  
 Job No : 00078WM  
 Mode : 5720 TX RSE  
 : 5G Wi-Fi 11a

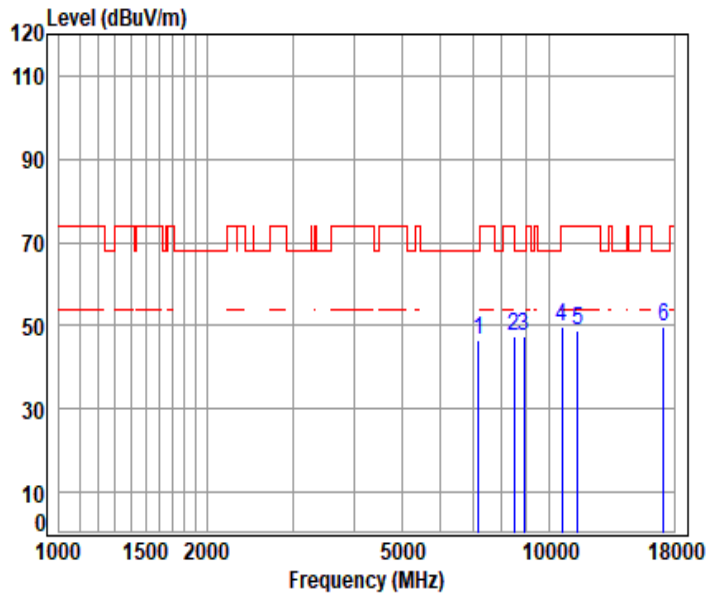
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7016.012	11.47	36.23	56.69	54.37	45.38	68.20	-22.82 peak
2	8333.913	11.72	38.44	55.60	52.89	47.45	74.00	-26.55 peak
3	8850.100	12.23	38.50	55.13	52.12	47.72	68.20	-20.48 peak
4	10544.690	13.62	39.19	53.77	50.54	49.58	68.20	-18.62 peak
5	11440.000	14.55	39.66	53.63	48.20	48.78	74.00	-25.22 peak
6	pp17160.000	18.08	39.86	54.33	46.48	50.09	68.20	-18.11 peak



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11a\_Straddle\_TX\_CH\_144\_Vertical



Condition: 3m VERTICAL  
 Job No : 00078WM  
 Mode : 5720 TX RSE  
 : 5G Wi-Fi 11a

	Cable Freq	Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7182.317	11.60	36.56	56.55	54.72	46.33	68.20	-21.87 peak
2	8479.478	12.17	38.34	55.47	52.22	47.26	74.00	-26.74 peak
3	8877.185	12.23	38.55	55.11	51.70	47.37	68.20	-20.83 peak
4	10620.150	13.68	39.32	53.73	50.26	49.53	74.00	-24.47 peak
5	11440.000	14.55	39.66	53.63	48.04	48.62	74.00	-25.38 peak
6	pp17160.000	18.08	39.86	54.33	46.02	49.63	68.20	-18.57 peak

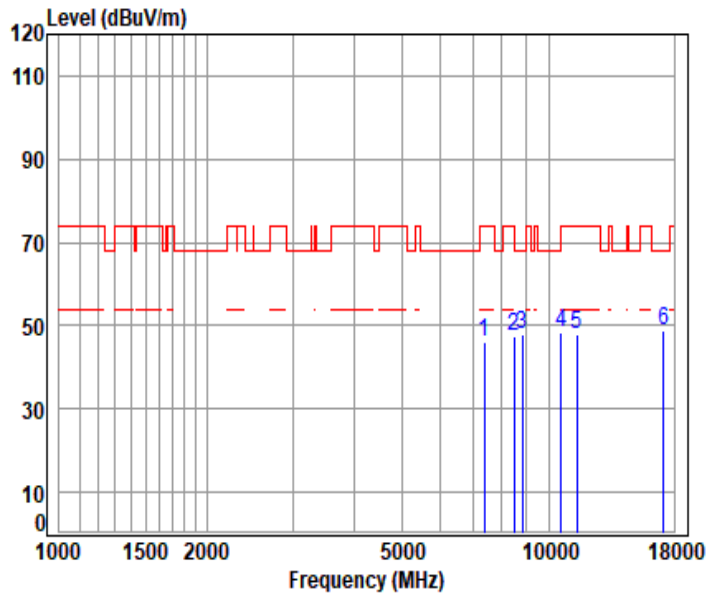


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11n\_40M\_Straddle\_TX\_CH\_142\_Horizontal



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5710 TX RSE

: 5G Wi-Fi 11n40

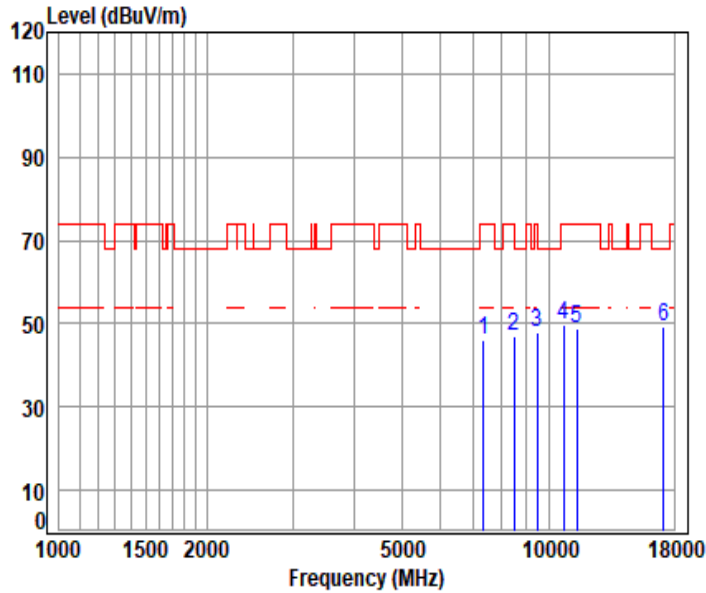
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7390.105	11.50	36.72	56.39	54.15	45.98	74.00	-28.02 peak
2	8479.478	12.17	38.34	55.47	52.39	47.43	74.00	-26.57 peak
3	8823.098	12.24	38.50	55.16	52.11	47.69	68.20	-20.51 peak
4	10587.740	13.60	39.28	53.75	49.34	48.47	68.20	-19.73 peak
5	11420.000	14.38	39.68	53.63	47.28	47.71	74.00	-26.29 peak
6	pp17130.000	18.27	39.83	54.33	45.09	48.86	68.20	-19.34 peak



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11n\_40M\_Straddle\_TX\_CH\_142\_Vertical



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5710 TX RSE

: 5G Wi-Fi 11n40

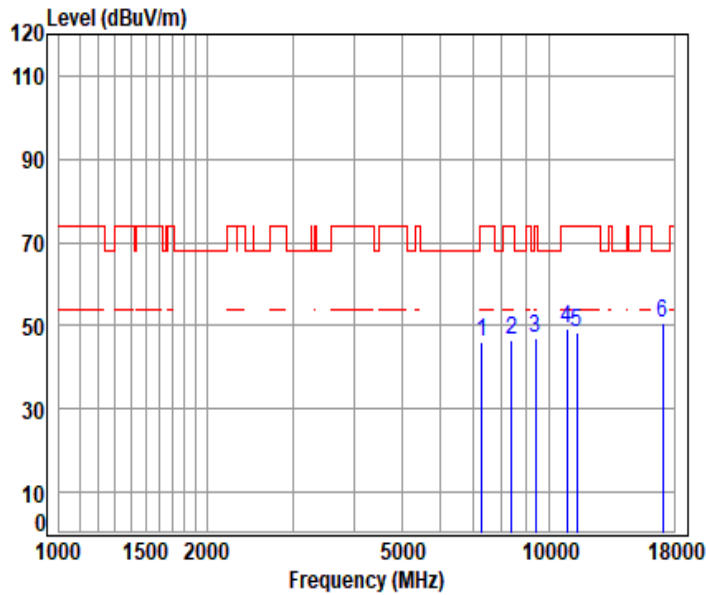
	Cable	Ant	Preamp	Read		Limit	Over		
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7337.601	11.51	36.78	56.43	54.23	46.09	74.00	-27.91	peak
2	8496.769	12.29	38.31	55.45	51.99	47.14	74.00	-26.86	peak
3	9475.153	12.50	38.85	54.57	50.95	47.73	74.00	-26.27	peak
4	10696.140	14.02	39.40	53.68	50.19	49.93	74.00	-24.07	peak
5	11420.000	14.38	39.68	53.63	48.33	48.76	74.00	-25.24	peak
6	pp17130.000	18.27	39.83	54.33	45.54	49.31	68.20	-18.89	peak



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11ac\_80M\_Straddle\_TX\_CH\_138\_Horizontal



Condition: 3m HORIZONTAL

Job No : 00078WM

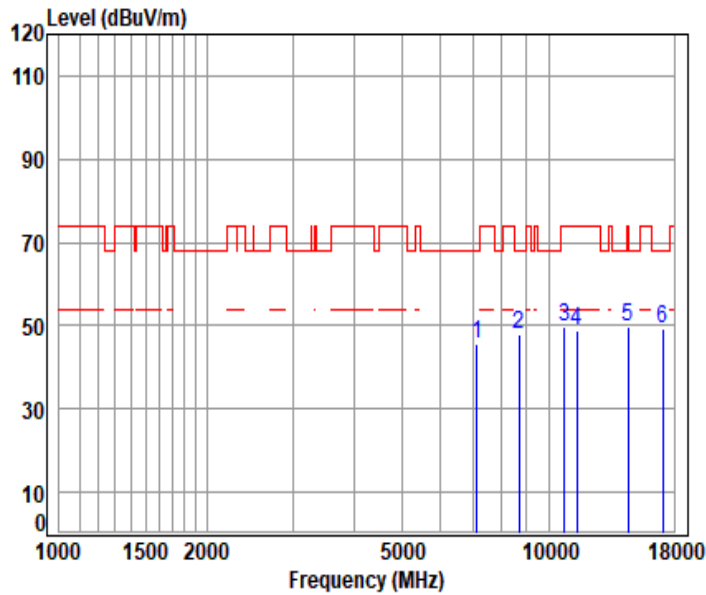
Mode : 5690 TX RSE

: 5G Wi-Fi 11ac80

	Cable Freq	Loss	Ant Factor	Preamp Factor	Read Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	7292.895	11.51	36.69	56.47	54.14	45.87	74.00	-28.13 peak
2	8393.547	11.64	38.61	55.55	52.01	46.71	74.00	-27.29 peak
3	9379.132	12.27	38.80	54.66	50.52	46.93	74.00	-27.07 Peak
4	10871.880	13.88	39.30	53.58	49.45	49.05	74.00	-24.95 peak
5	11380.000	14.30	39.70	53.61	48.18	48.57	74.00	-25.43 peak
6	pp17070.000	18.35	39.77	54.31	46.82	50.63	68.20	-17.57 peak



11ac\_80M\_Straddle\_TX\_CH\_138\_Vertical



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5690 TX RSE

: 5G Wi-Fi 11ac80

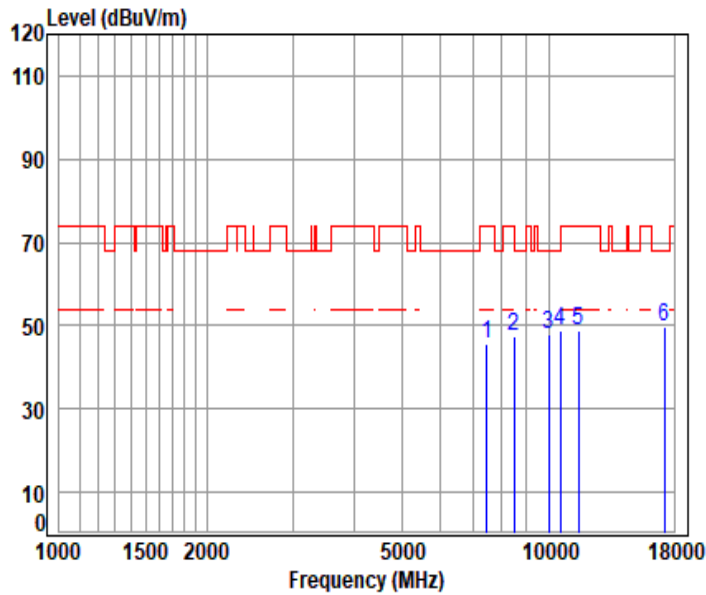
	Cable	Ant	Preamp	Read		Limit	Over		
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7138.557	11.81	36.48	56.59	53.83	45.53	68.20	-22.67	peak
2	8680.473	12.06	38.52	55.29	52.46	47.75	68.20	-20.45	peak
3	10750.750	13.86	39.35	53.65	50.14	49.70	74.00	-24.30	peak
4	11380.000	14.30	39.70	53.61	48.60	48.99	74.00	-25.01	peak
5	pp14504.150	17.05	39.49	54.35	47.63	49.82	68.20	-18.38	Peak
6	17070.000	18.35	39.77	54.31	45.49	49.30	68.20	-18.90	peak



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11a\_TX\_CH\_149\_Horizontal



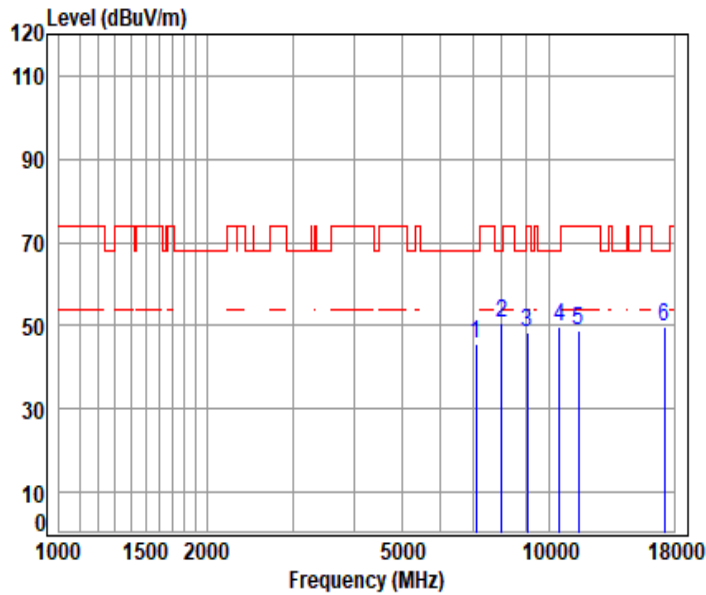
Condition: 3m HORIZONTAL  
 Job No : 00078WM  
 Mode : 5745 TX RSE  
 : 5.8G Wi-Fi 11a

	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1	7465.763	11.32	36.80	56.33	53.87	45.66	74.00 -28.34 peak
2	8496.769	12.29	38.31	55.45	52.46	47.61	74.00 -26.39 peak
3	10000.720	13.01	38.90	54.10	50.02	47.83	68.20 -20.37 peak
4	10544.690	13.62	39.19	53.77	49.72	48.76	68.20 -19.44 peak
5	11490.000	14.97	39.61	53.65	47.75	48.68	74.00 -25.32 peak
6	pp17235.000	17.83	40.01	54.35	46.09	49.58	68.20 -18.62 peak



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11a\_TX\_CH\_149\_Vertical



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5745 TX RSE

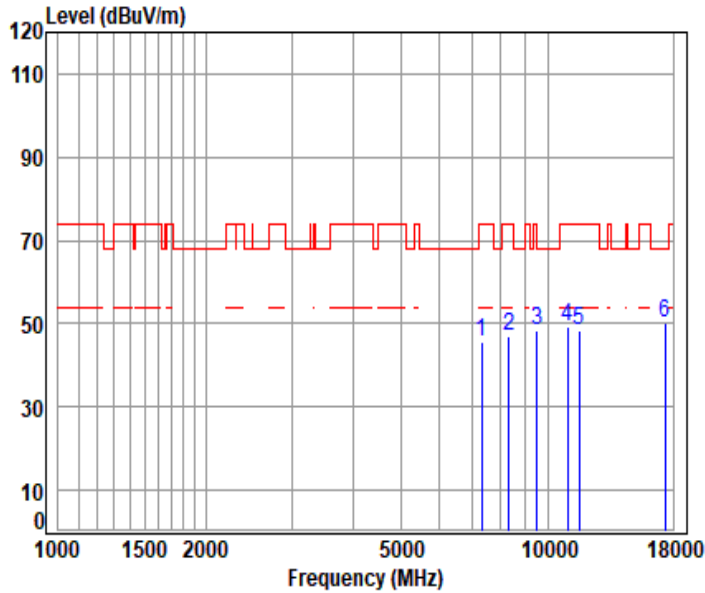
: 5.8G Wi-Fi 11a

	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	7095.063	11.96	36.39	56.62	53.87	45.60	68.20	-22.60 peak
2	pp 7993.045	11.56	37.79	55.91	57.41	50.85	68.20	-17.35 peak
3	9032.237	12.14	38.60	54.97	52.50	48.27	74.00	-25.73 peak
4	10523.230	13.63	39.15	53.79	50.53	49.52	68.20	-18.68 peak
5	11490.000	14.97	39.61	53.65	47.92	48.85	74.00	-25.15 peak
6	17235.000	17.83	40.01	54.35	46.40	49.89	68.20	-18.31 peak



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11a\_TX\_CH\_157\_Horizontal



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5785 TX RSE

: 5.8G Wi-Fi 11a

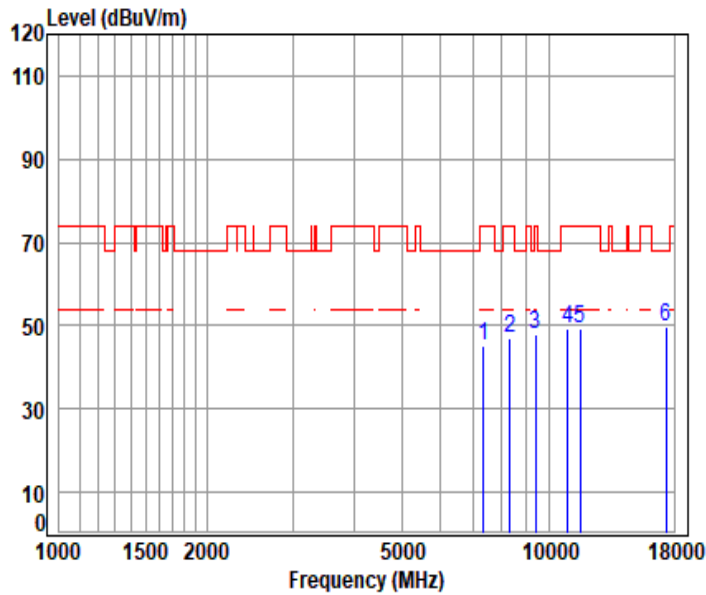
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	7315.214	11.51	36.73	56.45	53.72	45.51	74.00	-28.49 peak
2	8333.913	11.72	38.44	55.60	52.36	46.92	74.00	-27.08 peak
3	9513.836	12.54	38.87	54.54	51.50	48.37	68.20	-19.83 peak
4	10983.190	14.13	39.38	53.51	49.22	49.22	74.00	-24.78 peak
5	11570.000	14.78	39.60	53.67	47.52	48.23	74.00	-25.77 peak
6	pp17355.000	18.00	40.31	54.37	46.31	50.25	68.20	-17.95 peak



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11a\_TX\_CH\_157\_Vertical



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5785 TX RSE

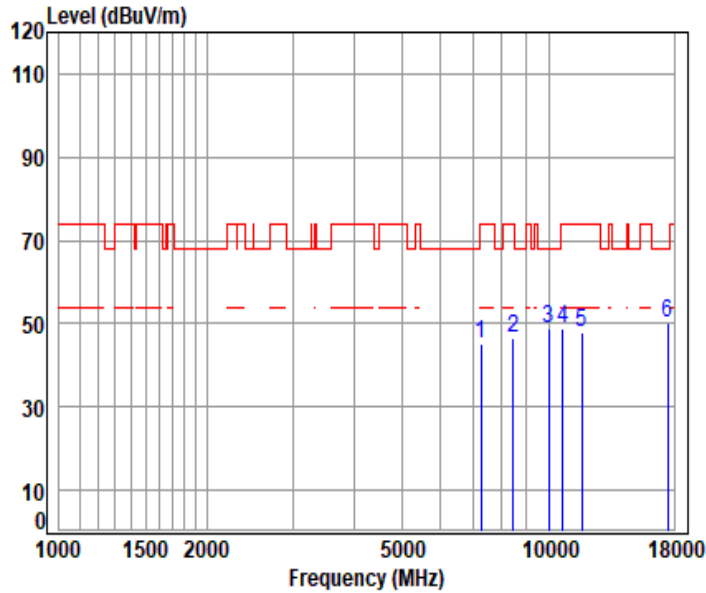
: 5.8G Wi-Fi 11a

	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1	7337.601	11.51	36.78	56.43	53.52	45.38	74.00 -28.62 peak
2	8333.913	11.72	38.44	55.60	52.54	47.10	74.00 -26.90 peak
3	9369.584	12.26	38.80	54.67	51.51	47.90	74.00 -26.10 peak
4	10938.530	14.04	39.34	53.54	49.23	49.07	74.00 -24.93 peak
5	11570.000	14.78	39.60	53.67	48.54	49.25	74.00 -24.75 peak
6	pp17355.000	18.00	40.31	54.37	45.84	49.78	68.20 -18.42 peak



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11a\_TX\_CH\_165\_Horizontal



Condition: 3m HORIZONTAL  
 Job No : 00078WM  
 Mode : 5825 TX RSE  
 : 5.8G Wi-Fi 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	7278.053	11.51	36.66	56.48	53.32	45.01	74.00	-28.99 peak
2	8462.222	12.05	38.38	55.48	51.57	46.52	74.00	-27.48 peak
3	9970.208	12.95	38.90	54.13	50.89	48.61	68.20	-19.59 peak
4	10652.650	13.83	39.35	53.71	49.24	48.71	74.00	-25.29 peak
5	11650.000	14.69	39.55	53.69	47.22	47.77	74.00	-26.23 peak
6	pp17475.000	18.35	40.78	54.40	45.67	50.40	68.20	-17.80 peak

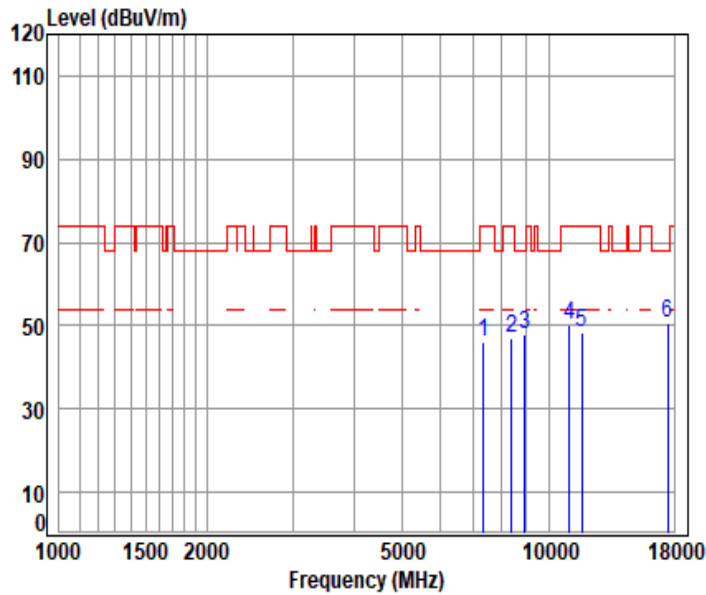


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11a\_TX\_CH\_165\_Vertical



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5825 TX RSE

: 5.8G Wi-Fi 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	54.16	46.04	74.00	-27.96 peak
2	8376.465	11.66	38.65	55.56	52.37	47.12	74.00	-26.88 peak
3	8922.510	12.20	38.55	55.07	52.43	48.11	68.20	-20.09 peak
4	10994.380	14.16	39.39	53.50	49.92	49.97	74.00	-24.03 peak
5	11650.000	14.69	39.55	53.69	47.66	48.21	74.00	-25.79 peak
6	pp17475.000	18.35	40.78	54.40	46.09	50.82	68.20	-17.38 peak



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**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: ANSI C63.10 (2013) Section 6.10.5

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: 24.6 °C Humidity: 50.3 % RH Atmospheric Pressure: 1020 mbar



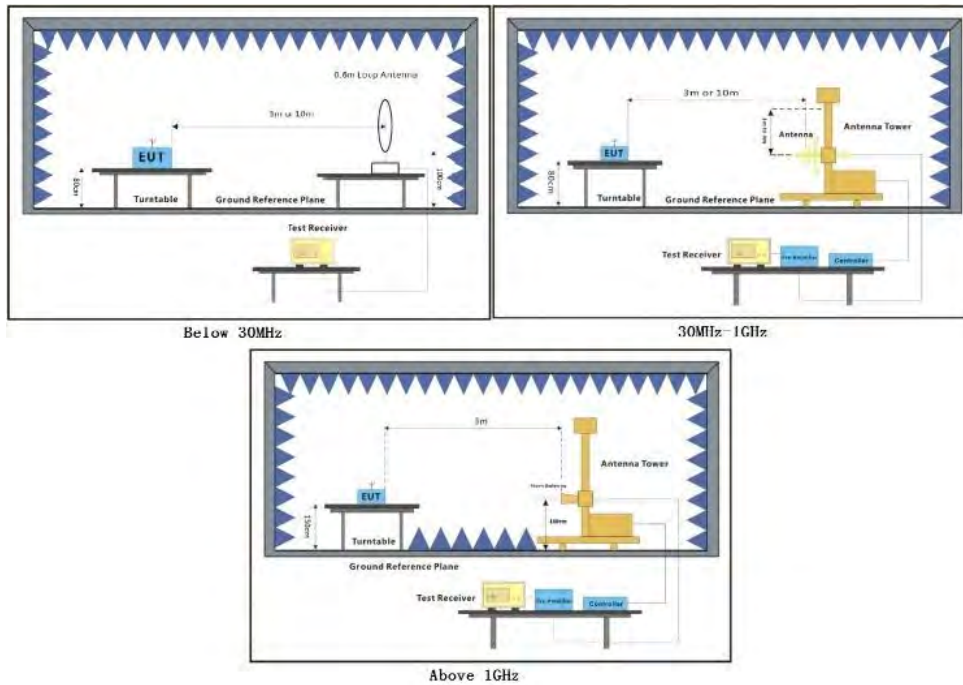
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**7.5.2 Test Mode Description**

Pre-scan / Final test	Mode Code	Description
Final test	14	Charge + TX mode (U-NII-1) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Final test	15	Charge + TX mode (U-NII-2A) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Final test	16	Charge + TX mode (U-NII-2C) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Final test	17	Charge + TX mode (U-NII-3) _Keep the EUT in continuously transmitting mode with all modulation types and being charged. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.

**7.5.3 Test Setup Diagram**



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**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 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

Remark 2.The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for Peak detection (PK) and Average detection (AV) at frequency above 1GHz.

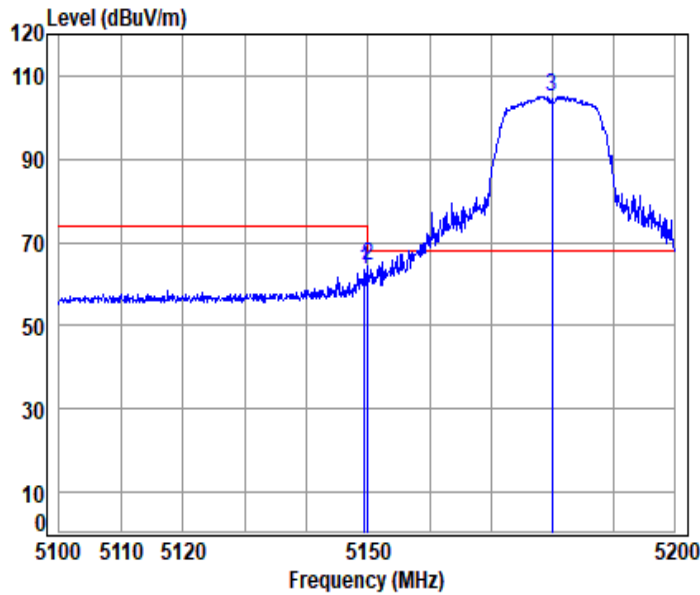
Remark 3. For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is  $\geq 1/T$  (Duty cycle<98%) or 10Hz (Duty cycle $\geq$ 98%) for Average detection (AV) at frequency above 1GHz.



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11a\_TX\_CH\_36\_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5180 Band edge

: 5G Wi-Fi 11a

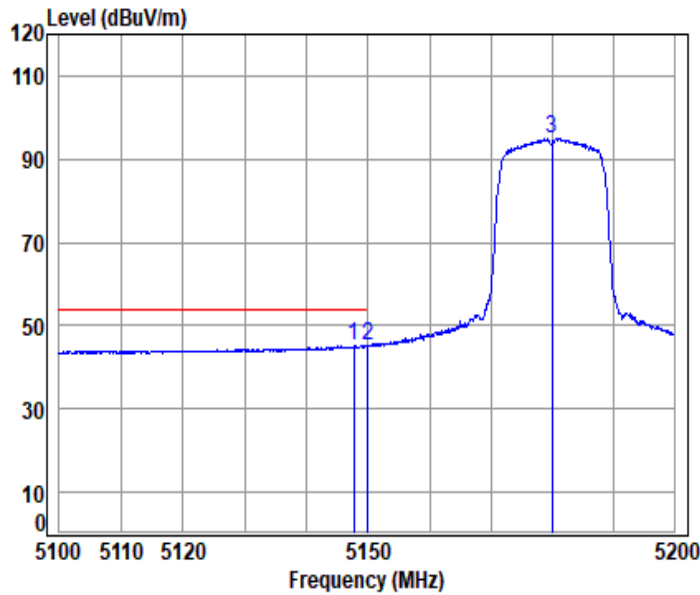
	Cable	Ant	Preamp	Read	Limit	Over			
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5149.357	10.14	32.40	30.84	51.52	63.22	74.00	-10.78	peak
2	5149.980	10.14	32.40	30.84	52.44	64.14	74.00	-9.86	peak
3 pp	5180.000	10.25	32.46	30.83	93.27	105.15	68.20	36.95	peak



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11a\_TX\_CH\_36\_Horizontal-Avg



Condition: 3m HORIZONTAL  
 Job No : 00078WM  
 Mode : 5180 Band edge  
 : 5G Wi-Fi 11a

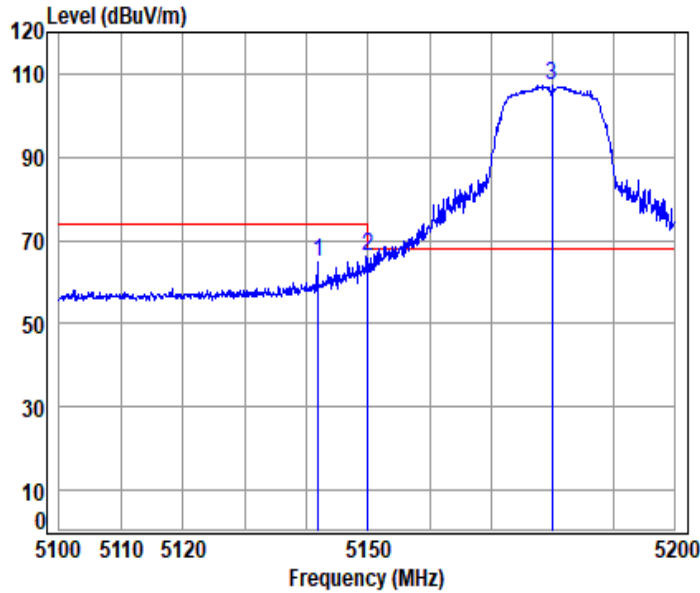
	Cable Freq	Ant Loss	Preamp	Read Level	Limit Level	Over Limit	Remark	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	
1	5147.658	10.13	32.40	30.84	33.47	45.16	54.00	-8.84 Average
2	5149.980	10.14	32.40	30.84	33.60	45.30	54.00	-8.70 Average
3	5180.000	10.25	32.46	30.83	83.02	94.90	-----	----- Average



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11a\_TX\_CH\_36\_Vertical-Peak



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5180 Band edge

: 5G Wi-Fi 11a

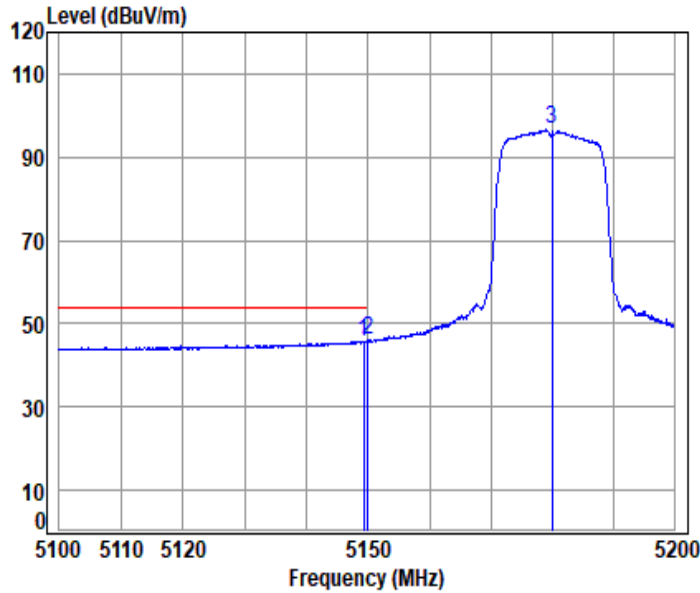
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5141.863	10.11	32.38	30.84	53.28	64.93	74.00	-9.07 Peak
2	5149.980	10.14	32.40	30.84	54.27	65.97	74.00	-8.03 Peak
3 pp	5180.000	10.25	32.46	30.83	95.34	107.22	68.20	39.02 Peak



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11a\_TX\_CH\_36\_Verical-Avg



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5180 Band edge

: 5G Wi-Fi 11a

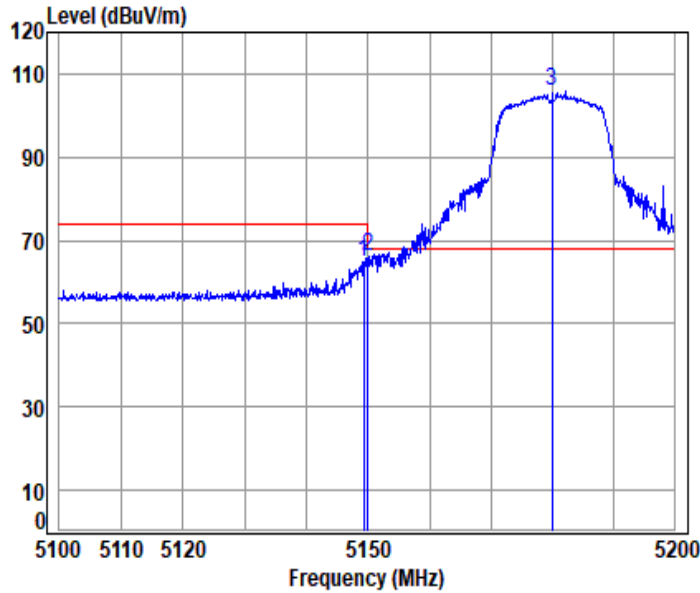
	Cable	Ant	Preamp	Read	Limit	Over			
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5149.257	10.14	32.40	30.84	34.05	45.75	54.00	-8.25	Average
2	pp 5149.980	10.14	32.40	30.84	34.24	45.94	54.00	-8.06	Average
3	5180.000	10.25	32.46	30.83	84.66	96.54	-----	-----	Average



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11n\_HT(20M)\_TX\_CH\_36\_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5180 Band edge

: 5G Wi-Fi 11n20

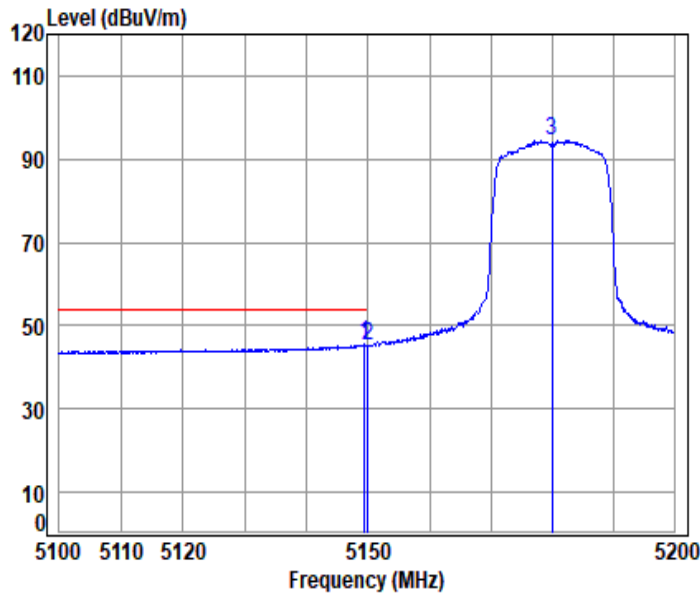
	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Level	Over Limit	Remark	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5149.257	10.14	32.40	30.84	53.26	64.96	74.00	-9.04 peak
2	5149.980	10.14	32.40	30.84	54.47	66.17	74.00	-7.83 peak
3 pp	5180.000	10.25	32.46	30.83	93.95	105.83	68.20	37.63 peak



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11n\_HT(20M)\_TX\_CH\_36\_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5180 Band edge

: 5G Wi-Fi 11n20

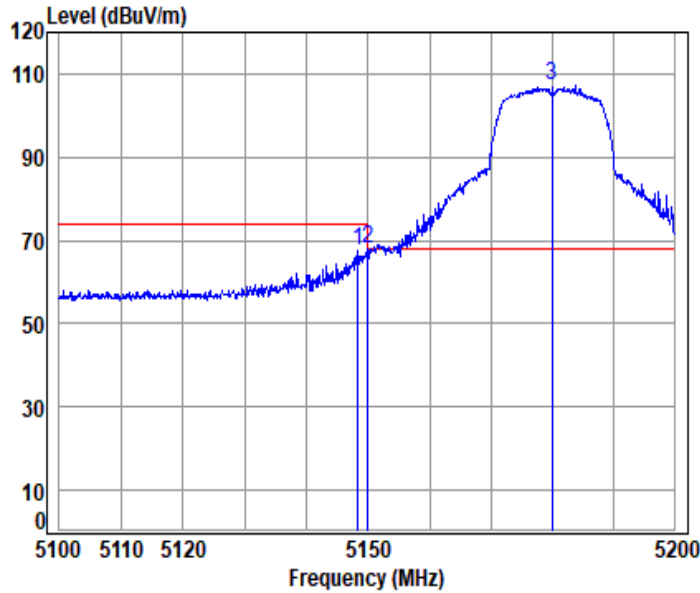
	Cable	Ant	Preamp	Read	Limit	Over			
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp 5149.357	10.14	32.40	30.84	33.78	45.48	54.00	-8.52	Average	
2 5149.980	10.14	32.40	30.84	33.64	45.34	54.00	-8.66	Average	
3 5180.000	10.25	32.46	30.83	82.53	94.41	-----	-----	Average	



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11n\_HT(20M)\_TX\_CH\_36\_Vertical-Peak



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5180 Band edge

: 5G Wi-Fi 11n20

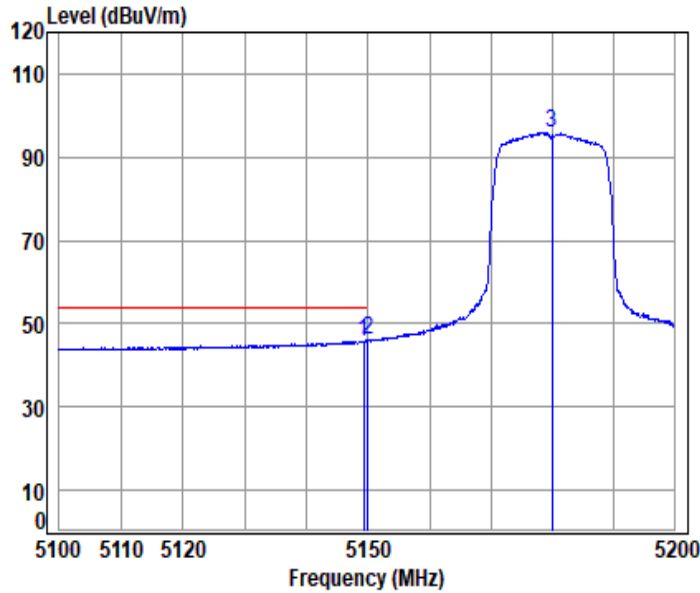
	Cable Freq	Ant Loss	Preamp	Read Level	Limit Level	Over Limit	Remark		
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5148.357	10.13	32.40	30.84	55.67	67.36	74.00	-6.64	Peak
2	5149.980	10.14	32.40	30.84	56.30	68.00	74.00	-6.00	Peak
3	pp 5180.000	10.25	32.46	30.83	95.36	107.24	68.20	39.04	Peak



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11n\_HT(20M)\_TX\_CH\_36\_Vertical-Avg



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5180 Band edge

: 5G Wi-Fi 11n20

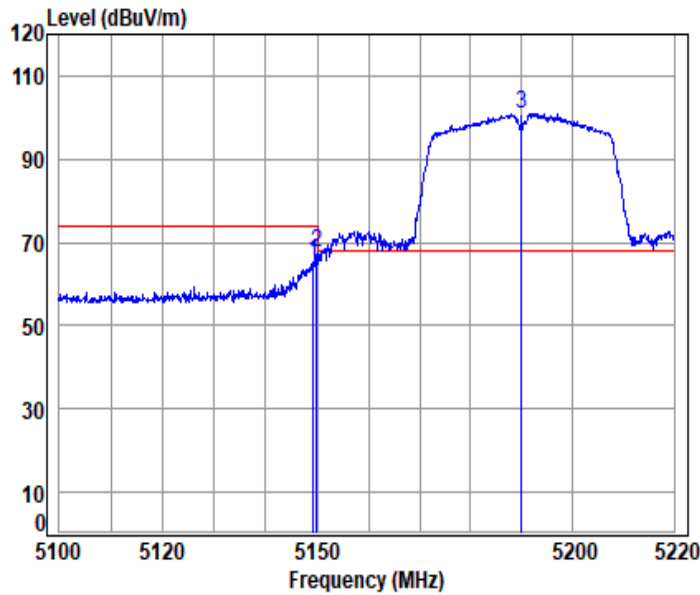
	Cable Freq	Ant Loss	Preamp	Factor	Read Level	Limit Level	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5149.257	10.14	32.40	30.84	34.07	45.77	54.00	-8.23 Average
2 pp	5149.980	10.14	32.40	30.84	34.36	46.06	54.00	-7.94 Average
3	5180.000	10.25	32.46	30.83	84.09	95.97	-----	----- Average



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11n\_HT(40M)\_TX\_CH\_38\_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5190 Band edge

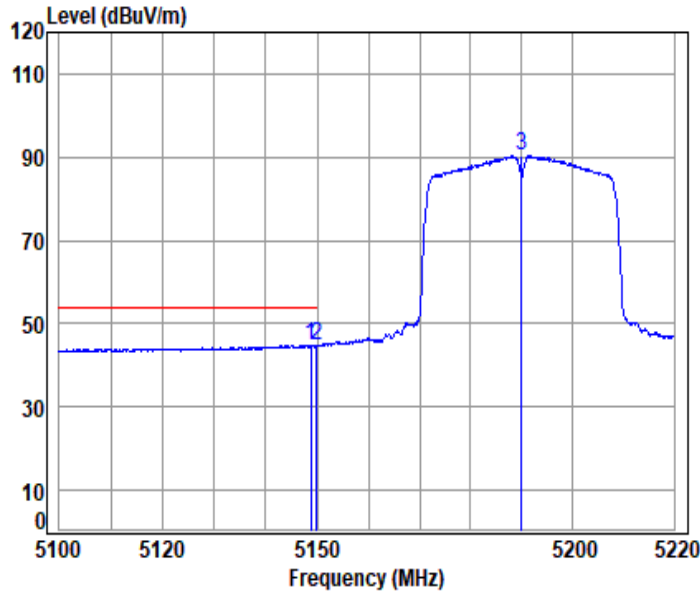
: 5G Wi-Fi 11n40

	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Line	Over Limit	Remark	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	
1	5149.222	10.14	32.40	30.84	53.45	65.15	74.00 -8.85	peak
2	5149.980	10.14	32.40	30.84	55.69	67.39	74.00 -6.61	peak
3 pp	5190.000	10.29	32.48	30.82	89.03	100.98	68.20 32.78	peak



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11n\_HT(40M)\_TX\_CH\_38\_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5190 Band edge

: 5G Wi-Fi 11n40

	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Line	Over Limit	Remark	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	
1 pp	5148.743	10.14	32.40	30.84	33.11	44.81	54.00	-9.19 Average
2	5149.980	10.14	32.40	30.84	33.08	44.78	54.00	-9.22 Average
3	5190.000	10.29	32.48	30.82	78.36	90.31	-----	----- Average

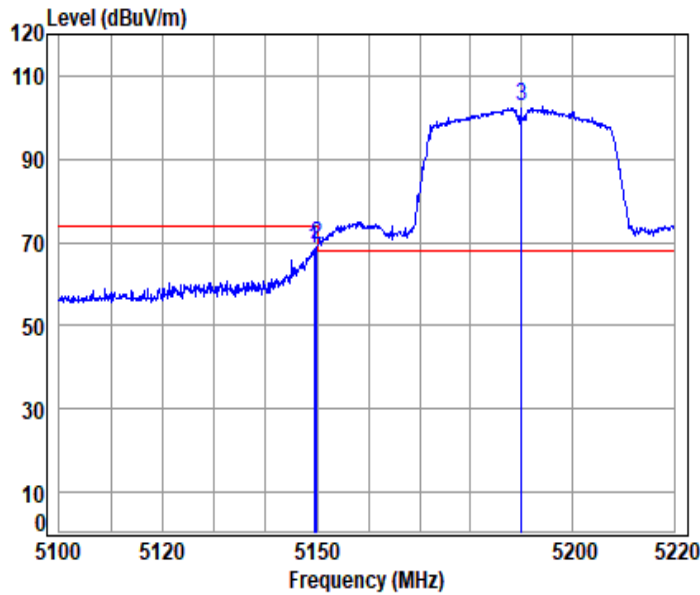


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11n\_HT(40M)\_TX\_CH\_38\_Verical-Peak



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5190 Band edge

: 5G Wi-Fi 11n40

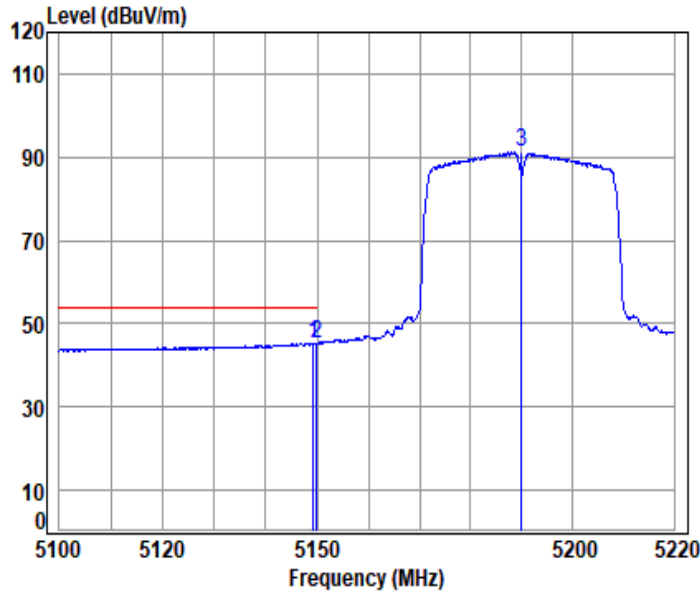
	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1	5149.461	10.14	32.40	30.84	56.72	68.42	74.00 -5.58 Peak
2	5149.980	10.14	32.40	30.84	57.84	69.54	74.00 -4.46 Peak
3 pp	5190.000	10.29	32.48	30.82	90.57	102.52	68.20 34.32 Peak



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11n\_HT(40M)\_TX\_CH\_38\_Vetical-Avg



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5190 Band edge

: 5G Wi-Fi 11n40

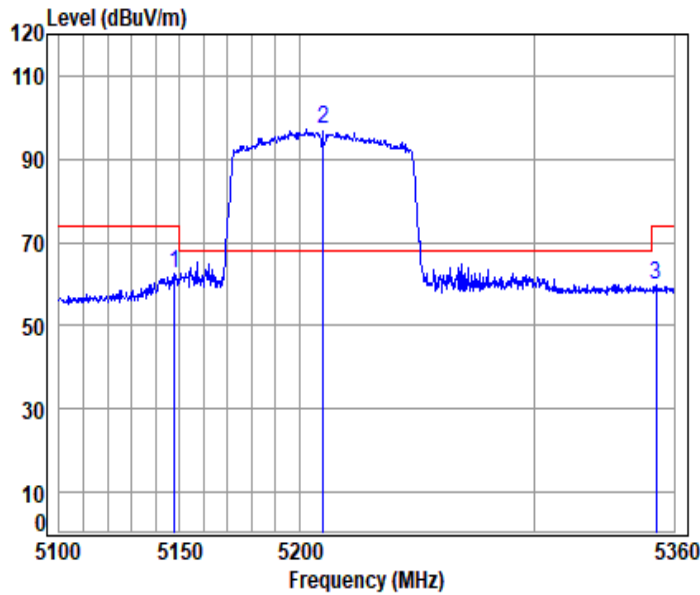
	Cable	Ant	Preamp	Read	Limit	Over			
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp 5149.342	10.14	32.40	30.84	33.68	45.38	54.00	-8.62	Average	
2 5149.980	10.14	32.40	30.84	33.62	45.32	54.00	-8.68	Average	
3 5190.000	10.29	32.48	30.82	79.17	91.12	-----	-----	Average	



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11ac\_VHT(80M)\_TX\_CH\_42\_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5210 Band edge

: 5G Wi-Fi 11ac80

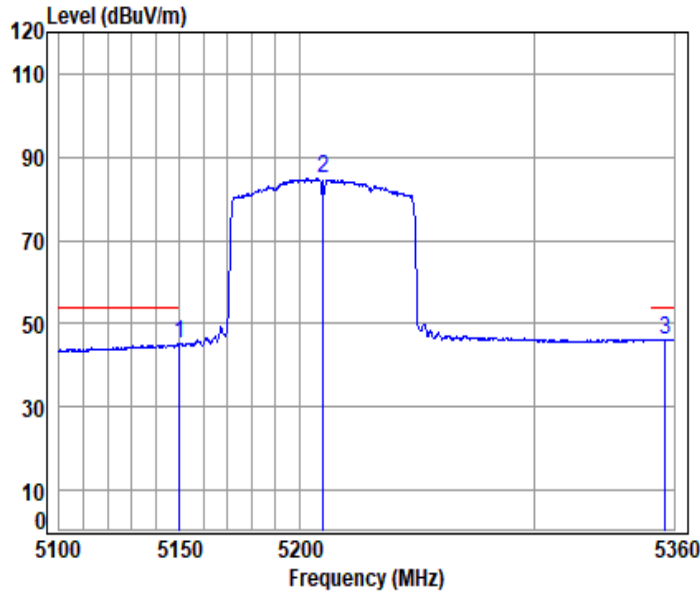
	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1	5147.643	10.13	32.40	30.84	50.65	62.34	74.00 -11.66 peak
2 pp	5210.000	10.32	32.52	30.82	85.06	97.08	68.20 28.88 peak
3	5352.276	10.46	32.80	30.76	47.50	60.00	74.00 -14.00 peak



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11ac\_VHT(80M)\_TX\_CH\_42\_Horizontal-Avg



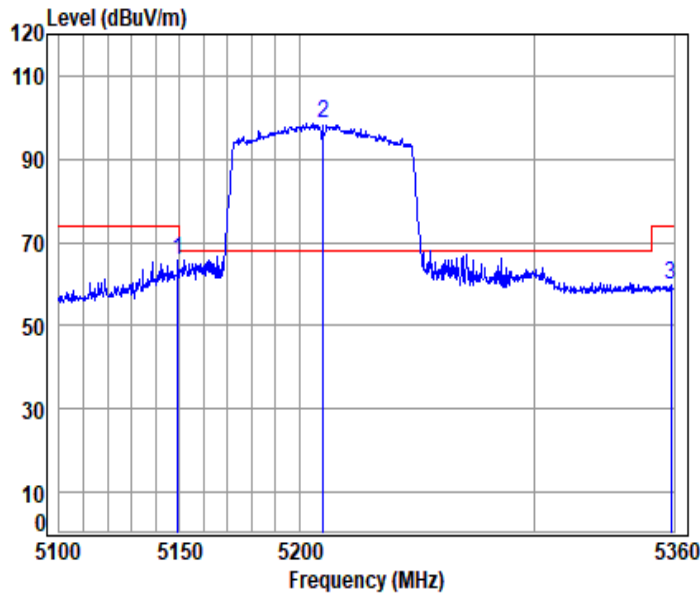
Condition: 3m HORIZONTAL  
 Job No : 00078WM  
 Mode : 5210 Band edge  
 : 5G Wi-Fi 11ac80

	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Line	Over Limit	Remark	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	
1	5149.690	10.14	32.40	30.84	33.58	45.28	54.00	-8.72 Average
2	5210.000	10.32	32.52	30.82	72.77	84.79	-----	----- Average
3 pp	5356.270	10.47	32.80	30.76	33.77	46.28	54.00	-7.72 Average



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11ac\_VHT(80M)\_TX\_CH\_42\_Vertical-Peak



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5210 Band edge

: 5G Wi-Fi 11ac80

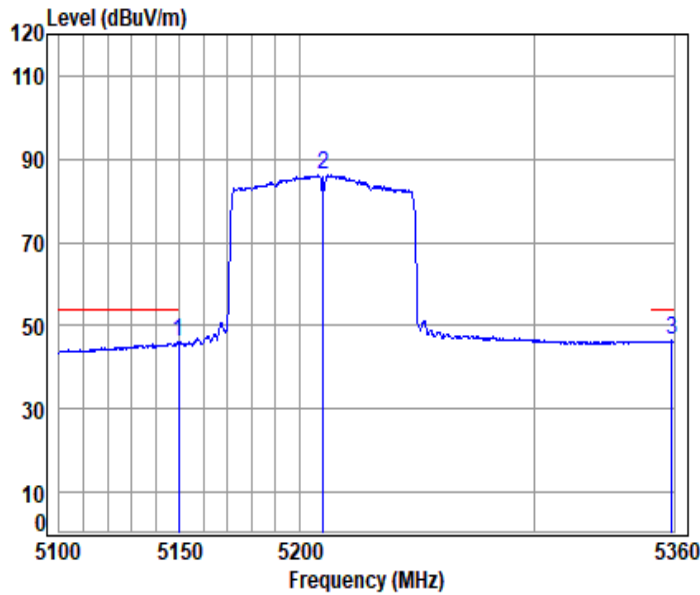
	Cable	Ant	Preamp	Read	Limit	Over		
	Freq	Loss	Factor	Level	Line	Limit	Remark	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5149.178	10.14	32.40	30.84	53.91	65.61	74.00	-8.39 Peak
2	5210.000	10.32	32.52	30.82	86.57	98.59	68.20	30.39 Peak
3	5358.667	10.48	32.80	30.76	47.09	59.61	74.00	-14.39 Peak



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11ac\_VHT(80M)\_TX\_CH\_42\_Vertical-Avg



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5210 Band edge

: 5G Wi-Fi 11ac80

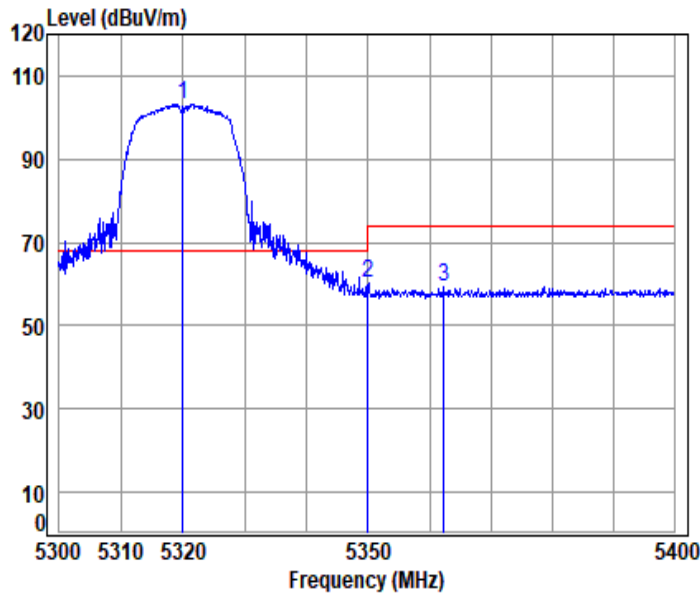
	Cable	Ant	Preamp	Read	Limit	Over			
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5149.435	10.14	32.40	30.84	34.54	46.24	54.00	-7.76	Average
2	5210.000	10.32	32.52	30.82	74.10	86.12	-----	-----	Average
3 pp	5358.934	10.48	32.80	30.76	33.80	46.32	54.00	-7.68	Average



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11a\_TX\_CH\_64\_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5320 Band edge

: 5G Wi-Fi 11a

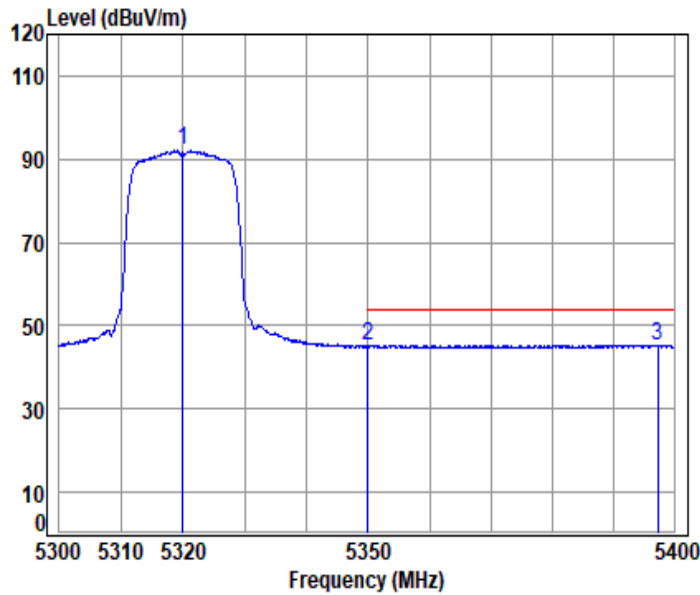
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp 5320.000	10.35	32.74	30.77	90.80	103.12	68.20	34.92	peak
2 5350.020	10.45	32.80	30.76	47.82	60.31	74.00	-13.69	peak
3 5362.381	10.49	32.80	30.76	46.61	59.14	74.00	-14.86	peak



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11a\_TX\_CH\_64\_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5320 Band edge

: 5G Wi-Fi 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	79.74	92.06	-----	----- Average
2	5350.020	10.45	32.80	30.76	32.69	45.18	54.00	-8.82 Average
3	pp 5397.376	10.61	32.80	30.74	32.72	45.39	54.00	-8.61 Average

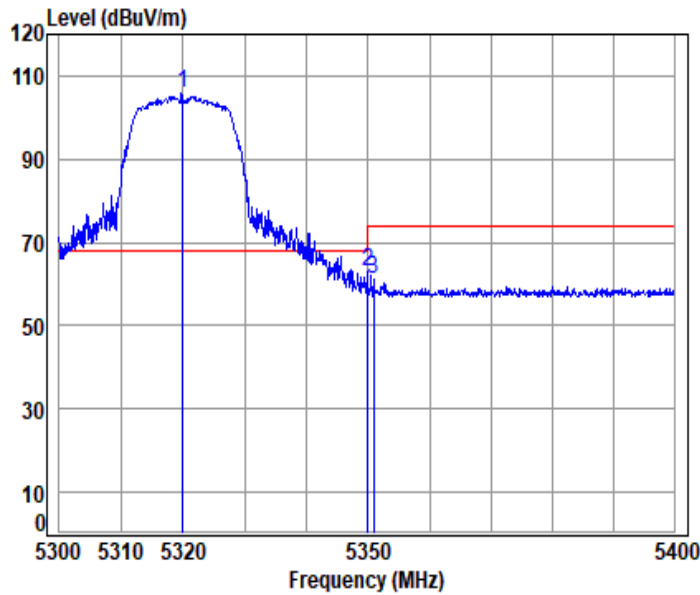


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11a\_TX\_CH\_64\_Vertical-Peak



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5320 Band edge

: 5G Wi-Fi 11a

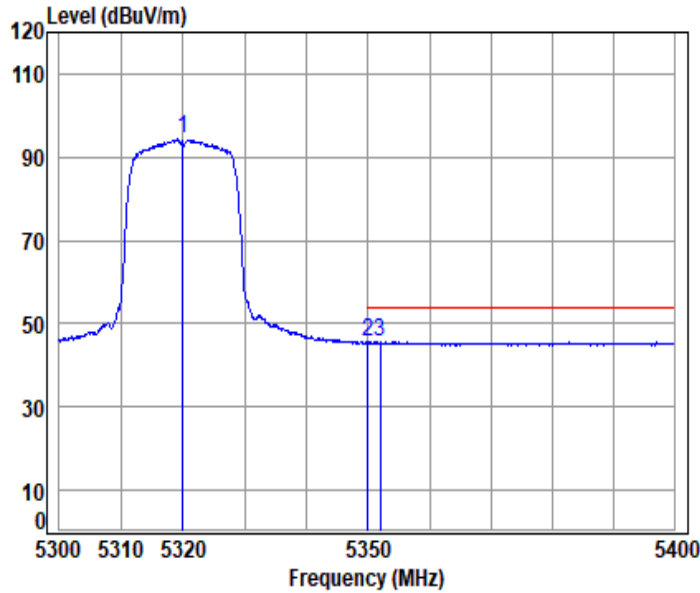
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp 5320.000	10.35	32.74	30.77	93.59	105.91	68.20	37.71	Peak
2 5350.020	10.45	32.80	30.76	50.55	63.04	74.00	-10.96	Peak
3 5350.866	10.45	32.80	30.76	48.53	61.02	74.00	-12.98	Peak



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11a\_TX\_CH\_64\_Verical-Avg



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5320 Band edge

: 5G Wi-Fi 11a

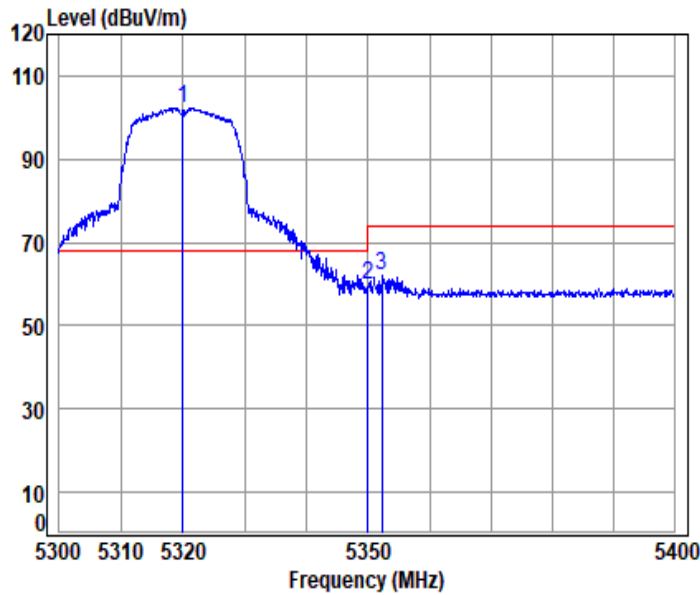
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5320.000	10.35	32.74	30.77	81.93	94.25	-----	----- Average
2	5350.020	10.45	32.80	30.76	33.01	45.50	54.00	-8.50 Average
3	pp 5351.967	10.46	32.80	30.76	33.03	45.53	54.00	-8.47 Average



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11n\_HT(20M)\_TX\_CH\_64\_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5320 Band edge

: 5G Wi-Fi 11n20

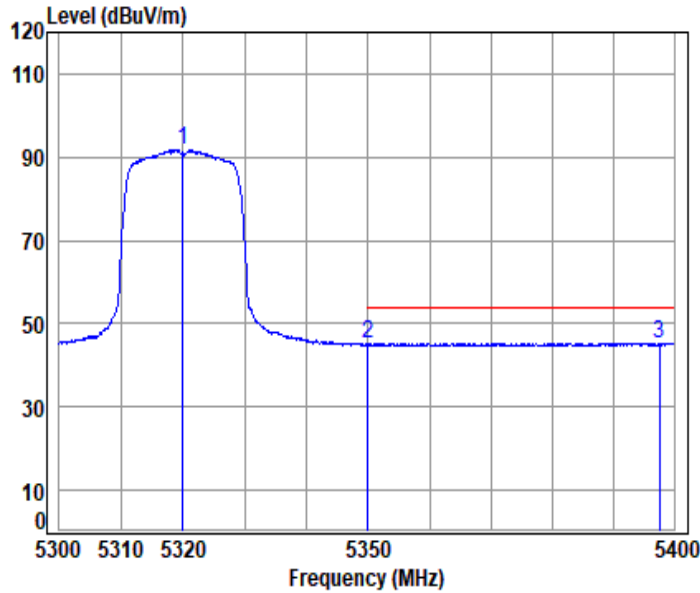
	Cable	Ant	Preamp	Read	Limit	Over			
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp 5320.000	10.35	32.74	30.77	90.04	102.36	68.20	34.16	peak	
2 5350.020	10.45	32.80	30.76	47.34	59.83	74.00	-14.17	peak	
3 5352.267	10.46	32.80	30.76	49.47	61.97	74.00	-12.03	peak	



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11n\_HT(20M)\_TX\_CH\_64\_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5320 Band edge

: 5G Wi-Fi 11n20

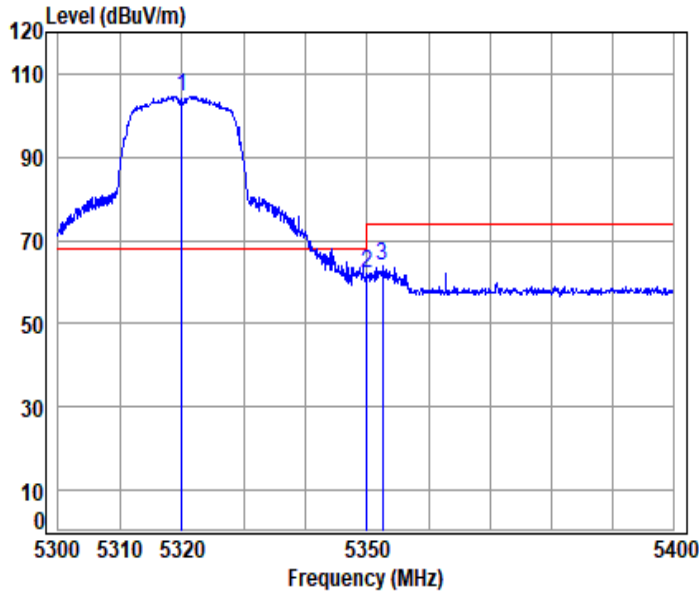
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5320.000	10.35	32.74	30.77	79.42	91.74	-----	----- Average
2	5350.020	10.45	32.80	30.76	32.48	44.97	54.00	-9.03 Average
3	pp 5397.679	10.61	32.80	30.74	32.64	45.31	54.00	-8.69 Average



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11n\_HT(20M)\_TX\_CH\_64\_Vertical-Peak



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5320 Band edge

: 5G Wi-Fi 11n20

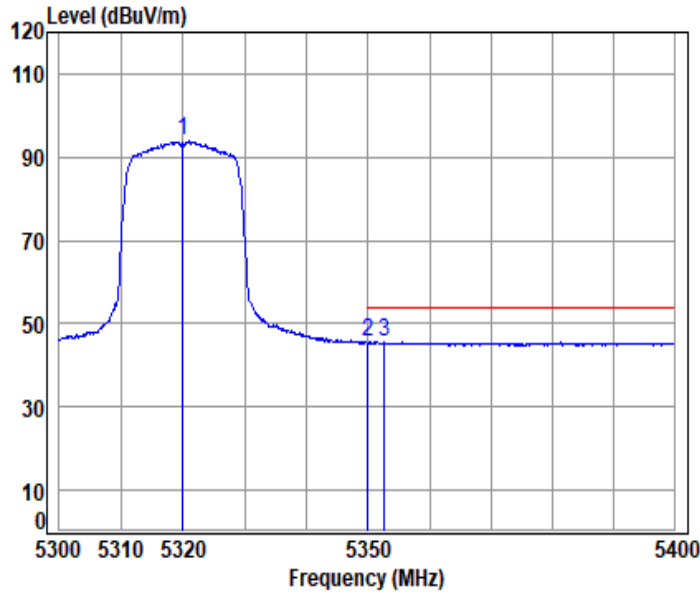
	Cable	Ant	Preamp	Read	Limit	Over			
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp 5320.000	10.35	32.74	30.77	92.26	104.58	68.20	36.38	Peak	
2 5350.020	10.45	32.80	30.76	49.58	62.07	74.00	-11.93	Peak	
3 5352.467	10.46	32.80	30.76	51.42	63.92	74.00	-10.08	Peak	



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11n\_HT(20M)\_TX\_CH\_64\_Vertical-Avg



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5320 Band edge

: 5G Wi-Fi 11n20

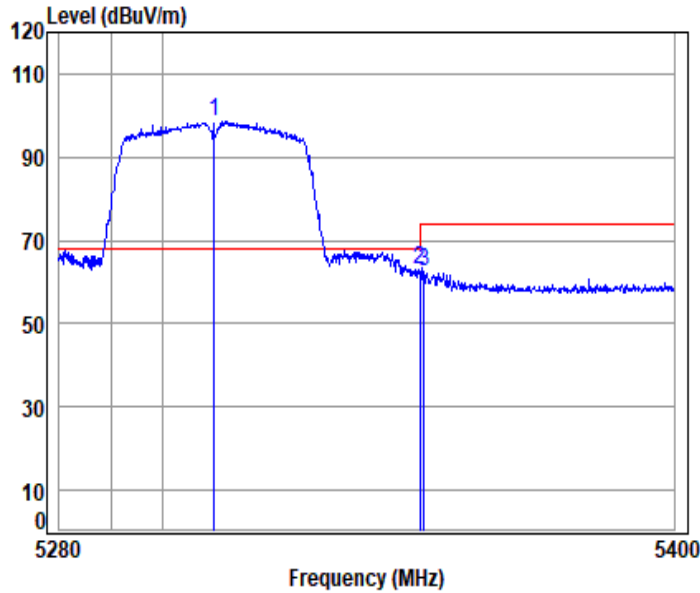
	Cable	Ant	Preamp	Read	Limit	Over		
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5320.000	10.35	32.74	30.77	81.46	93.78	-----	----- Average
2	5350.020	10.45	32.80	30.76	33.02	45.51	54.00	-8.49 Average
3 pp	5352.667	10.46	32.80	30.76	33.14	45.64	54.00	-8.36 Average



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11n\_HT(40M)\_TX\_CH\_62\_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5310 Band edge

: 5G Wi-Fi 11n40

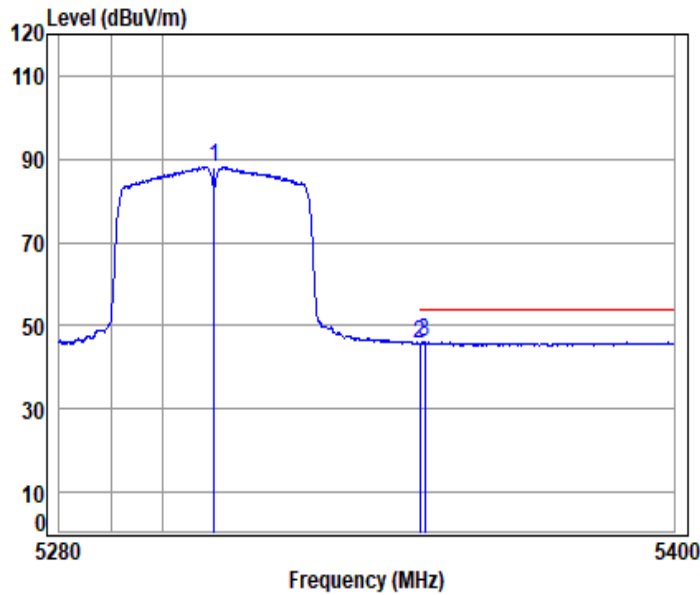
	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Level	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1	pp 5310.000	10.31	32.72	30.78	86.22	98.47	68.20 30.27 peak
2	5350.020	10.45	32.80	30.76	50.31	62.80	74.00 -11.20 peak
3	5350.834	10.45	32.80	30.76	49.96	62.45	74.00 -11.55 peak



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11n\_HT(40M)\_TX\_CH\_62\_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5310 Band edge

: 5G Wi-Fi 11n40

	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	75.89	88.14	-----	----- Average
2	5350.020	10.45	32.80	30.76	33.31	45.80	54.00	-8.20 Average
3	pp 5351.075	10.45	32.80	30.76	33.62	46.11	54.00	-7.89 Average

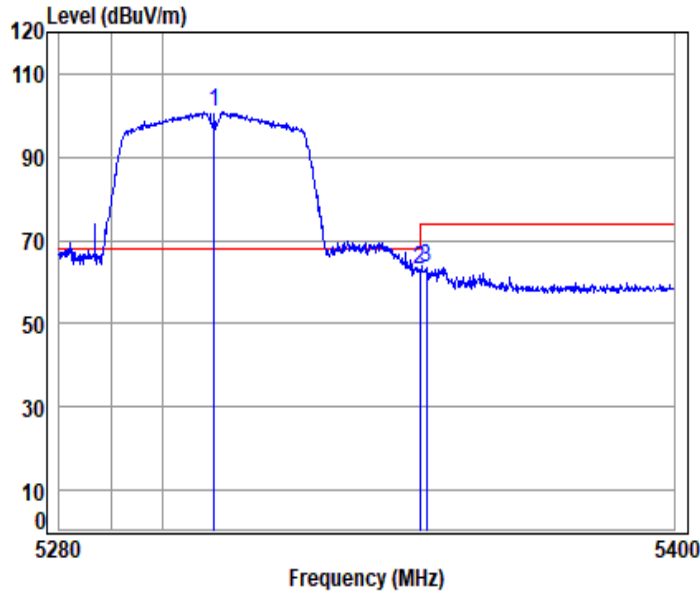


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11n\_HT(40M)\_TX\_CH\_62\_Vertical-Peak



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5310 Band edge

: 5G Wi-Fi 11n40

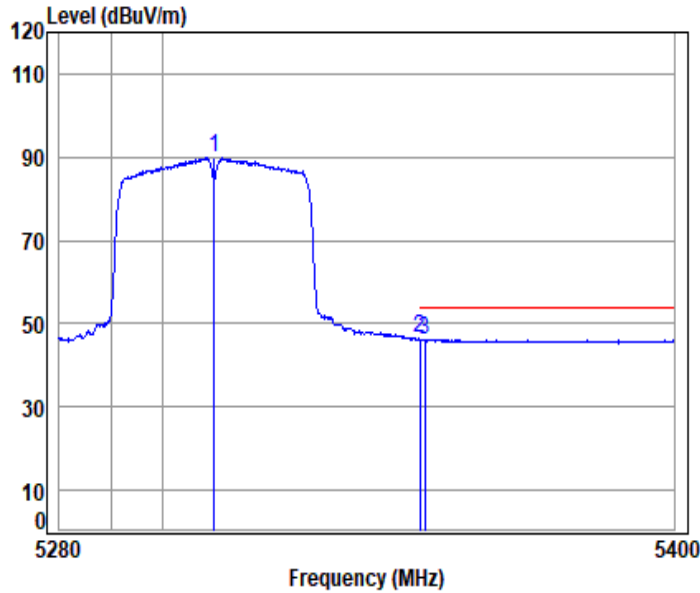
	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Line	Over Limit	Remark	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	
1 pp	5310.000	10.31	32.72	30.78	88.50	100.75	68.20	32.55 Peak
2	5350.020	10.45	32.80	30.76	50.58	63.07	74.00	-10.93 Peak
3	5351.315	10.45	32.80	30.76	50.78	63.27	74.00	-10.73 Peak



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11n\_HT(40M)\_TX\_CH\_62\_Vertical-Avg



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5310 Band edge

: 5G Wi-Fi 11n40

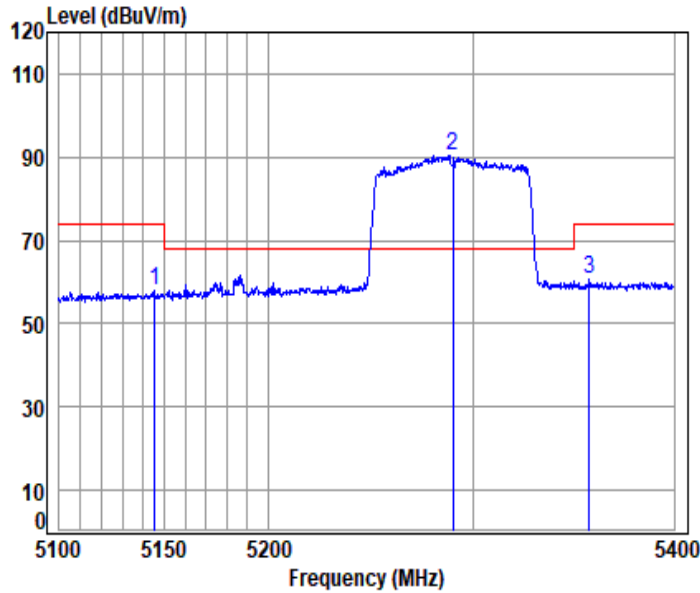
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5310.000	10.31	32.72	30.78	77.51	89.76	-----	Average
2	pp 5350.020	10.45	32.80	30.76	33.88	46.37	54.00	-7.63 Average
3	5351.075	10.45	32.80	30.76	33.78	46.27	54.00	-7.73 Average



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11ac\_VHT(80M)\_TX\_CH\_58\_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5290 Band edge

: 5G Wi-Fi 11ac80

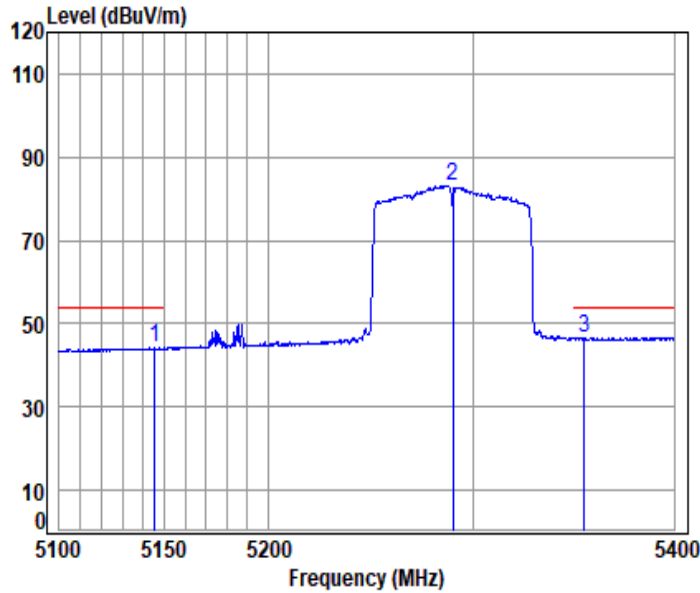
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5145.384	10.12	32.39	30.84	46.08	57.75	74.00	-16.25 peak
2	5290.000	10.28	32.68	30.78	78.31	90.49	68.20	22.29 peak
3	5357.573	10.48	32.80	30.76	47.96	60.48	74.00	-13.52 peak



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11ac\_VHT(80M)\_TX\_CH\_58\_Horizontal-Avg



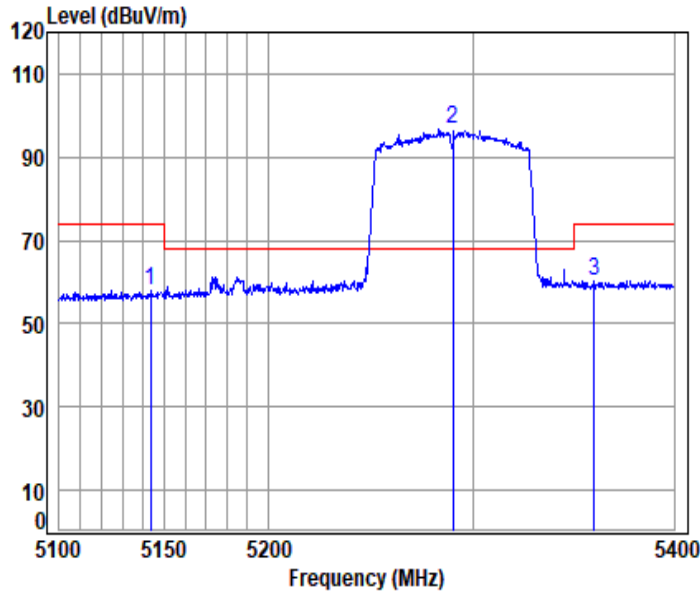
Condition: 3m HORIZONTAL  
 Job No : 00078WM  
 Mode : 5290 Band edge  
 : 5G Wi-Fi 11ac80

	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	5145.679	10.12	32.39	30.84	32.42	44.09	54.00	-9.91	Average
2	5290.000	10.28	32.68	30.78	70.95	83.13	-----	-----	Average
3 pp	5355.124	10.47	32.80	30.76	34.21	46.72	54.00	-7.28	Average



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11ac\_VHT(80M)\_TX\_CH\_58\_Verical-Peak



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5290 Band edge

: 5G Wi-Fi 11ac80

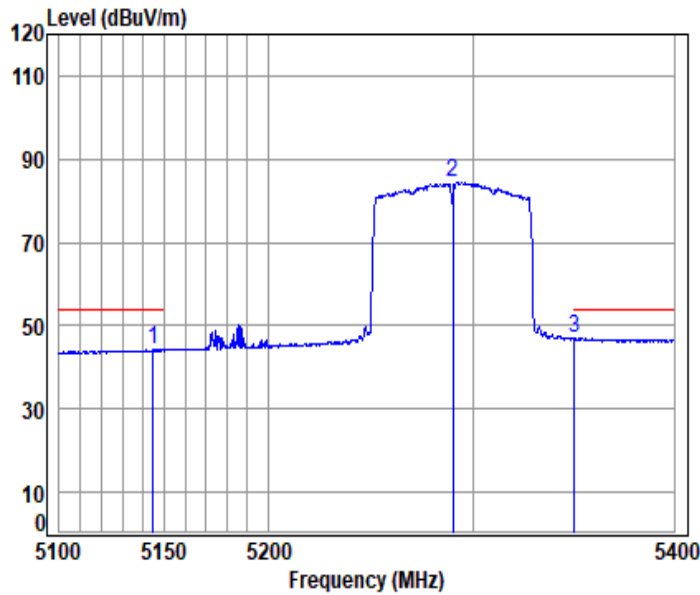
	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Line	Over Limit	Remark	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	
1	5143.326	10.11	32.39	30.84	46.17	57.83	74.00	-16.17 Peak
2	5290.000	10.28	32.68	30.78	84.33	96.51	68.20	28.31 Peak
3	5360.023	10.48	32.80	30.76	47.69	60.21	74.00	-13.79 Peak



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11ac\_VHT(80M)\_TX\_CH\_58\_Vertical-Avg



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5290 Band edge

: 5G Wi-Fi 11ac80

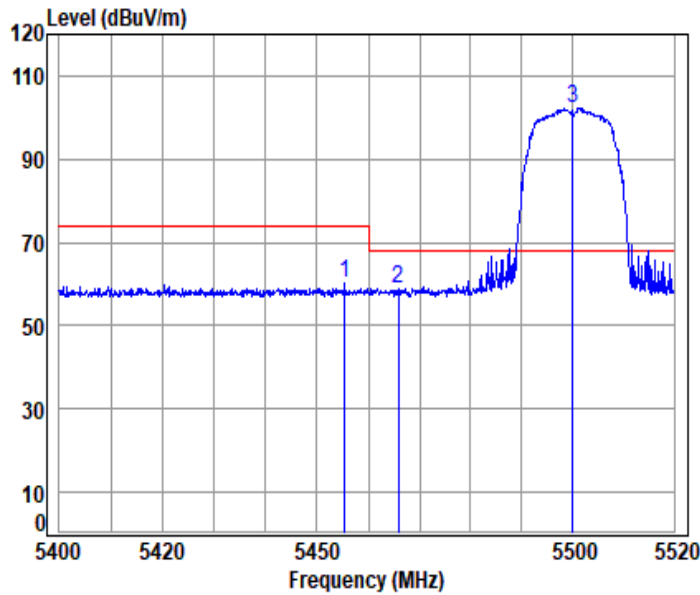
	Cable	Ant	Preamp	Read	Limit	Over			
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5144.796	10.12	32.39	30.84	32.57	44.24	54.00	-9.76	Average
2	5290.000	10.28	32.68	30.78	72.16	84.34	-----	-----	Average
3 pp	5350.229	10.45	32.80	30.76	34.62	47.11	54.00	-6.89	Average



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11a\_TX\_CH\_100\_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5500 Band edge

: 5G Wi-Fi 11a

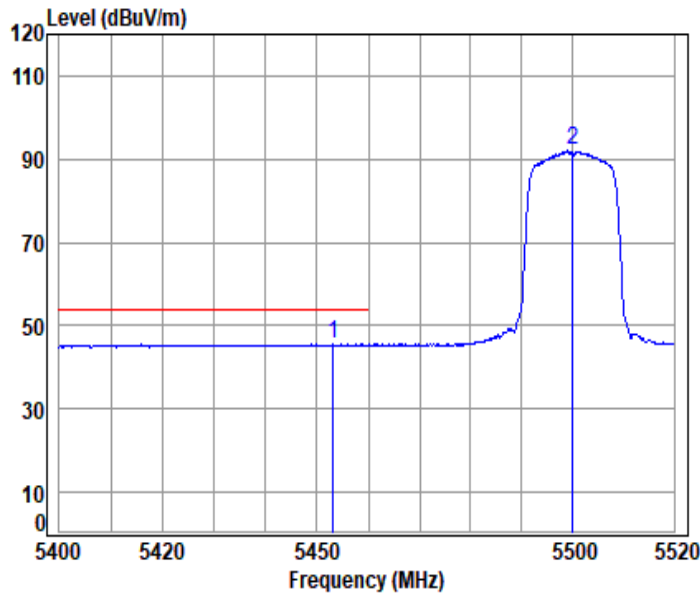
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5455.472	10.60	32.90	30.72	47.66	60.44	74.00	-13.56 peak
2	5465.914	10.59	32.90	30.71	46.23	59.01	68.20	-9.19 peak
3	pp 5500.000	10.58	32.90	30.70	89.37	102.15	68.20	33.95 peak



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11a\_TX\_CH\_100\_Horizontal-Avg



Condition: 3m HORIZONTAL  
 Job No : 00078WM  
 Mode : 5500 Band edge  
 : 5G Wi-Fi 11a

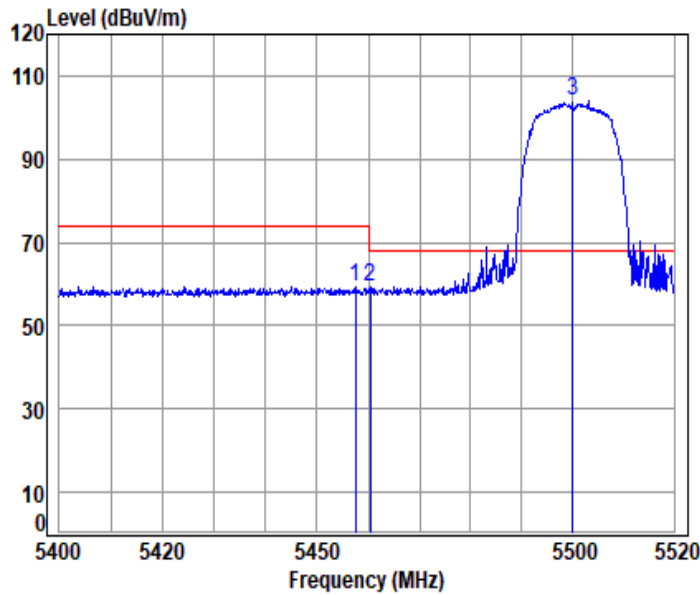
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp 5453.194	10.60	32.90	30.72	32.80	45.58	54.00	-8.42	Average
2 5500.000	10.58	32.90	30.70	79.19	91.97	-----	-----	Average



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11a\_TX\_CH\_100\_Vertical-Peak



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5500 Band edge

: 5G Wi-Fi 11a

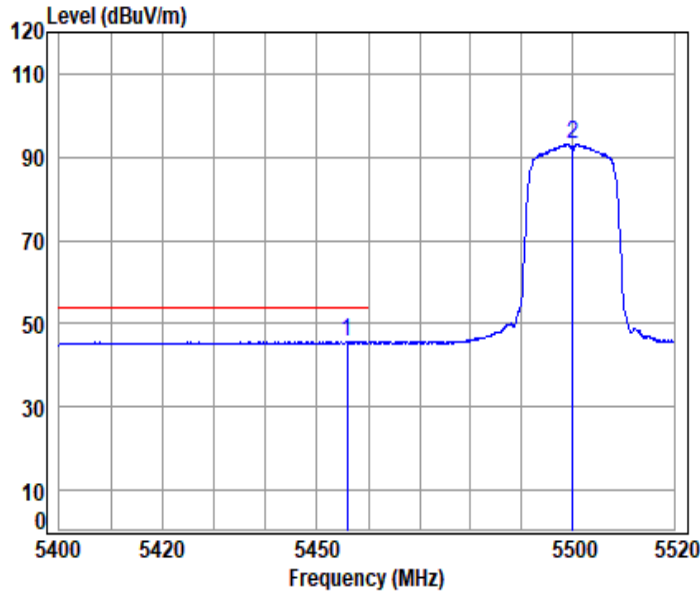
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5457.511	10.60	32.90	30.72	46.67	59.45	74.00	-14.55 Peak
2	5460.390	10.60	32.90	30.72	46.63	59.41	68.20	-8.79 peak
3 pp	5500.000	10.58	32.90	30.70	91.15	103.93	68.20	35.73 Peak



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11a\_TX\_CH\_100\_Vertical-Avg



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5500 Band edge

: 5G Wi-Fi 11a

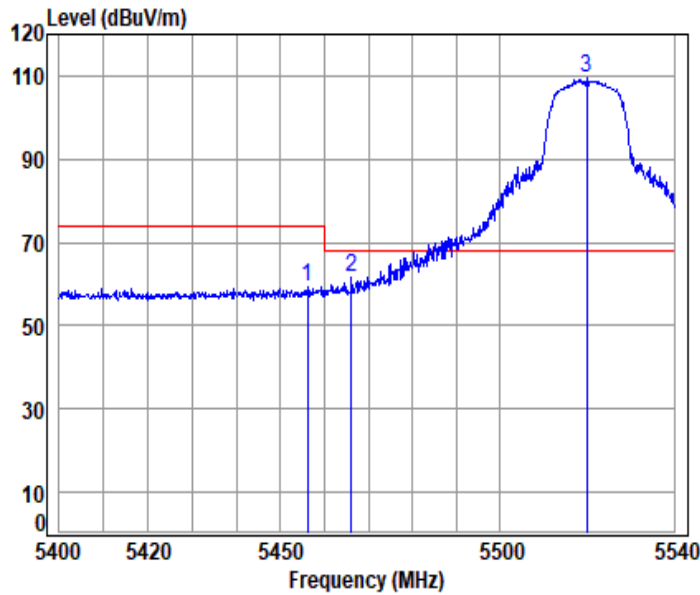
	Cable	Ant	Preamp	Read	Limit	Over			
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp 5455.832	10.60	32.90	30.72	32.85	45.63	54.00	-8.37	Average	
2 5500.000	10.58	32.90	30.70	80.32	93.10	-----	-----	Average	



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11a\_TX\_CH\_104\_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5520 Band edge

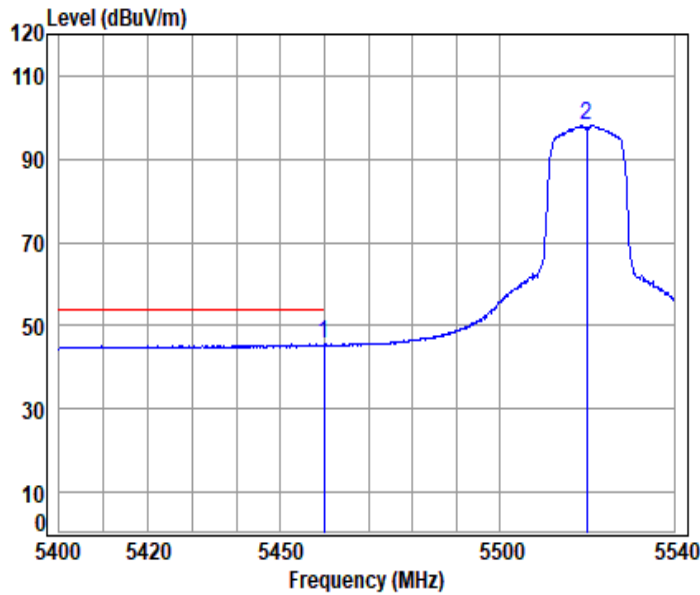
: 5G Wi-Fi 11a

	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	5456.129	10.60	32.90	30.72	46.46	59.24	74.00	-14.76 peak
2	5466.053	10.59	32.90	30.71	48.72	61.50	68.20	-6.70 peak
3 pp	5520.000	10.55	32.90	30.69	96.69	109.45	68.20	41.25 peak



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11a\_TX\_CH\_104\_Horizontal-Avg



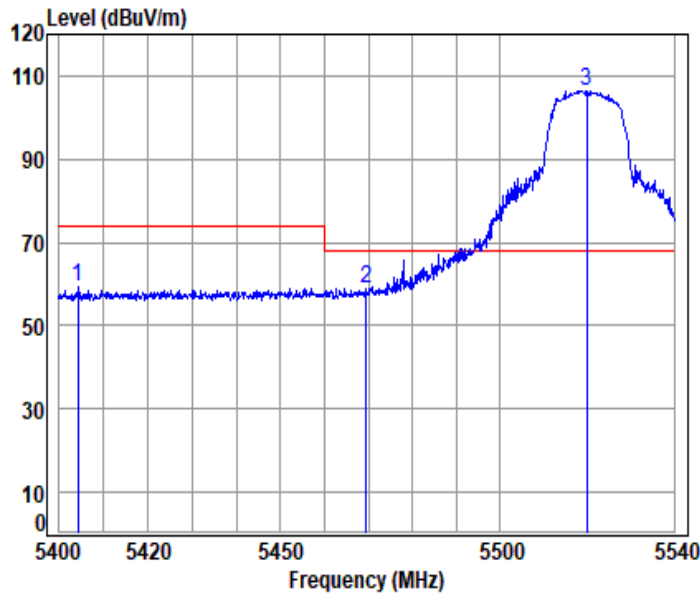
Condition: 3m HORIZONTAL  
 Job No : 00078WM  
 Mode : 5520 Band edge  
 : 5G Wi-Fi 11a

	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Level	Over Limit	Remark	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	
1 pp	5459.901	10.60	32.90	30.72	32.69	45.47	54.00	-8.53 Average
2	5520.000	10.55	32.90	30.69	85.35	98.11	-----	----- Average



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11a\_TX\_CH\_104\_Vertical-Peak



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5520 Band edge

: 5G Wi-Fi 11a

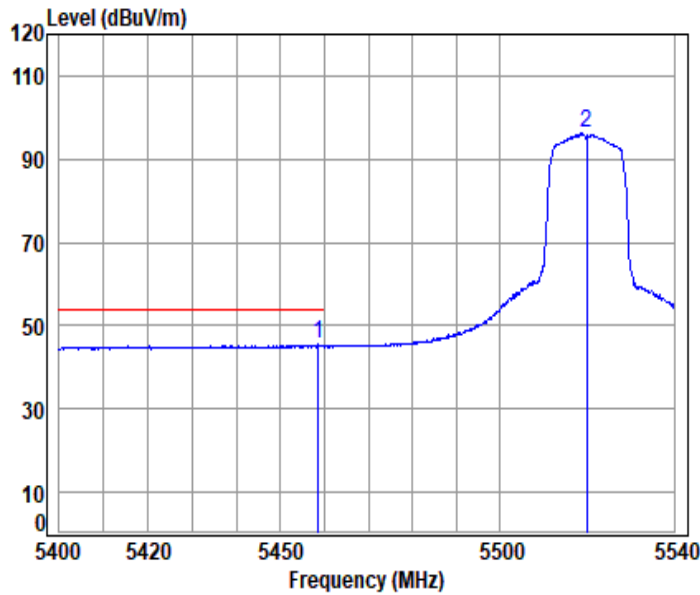
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5404.287	10.62	32.81	30.74	46.81	59.50	74.00	-14.50 peak
2	5469.552	10.59	32.90	30.71	46.30	59.08	68.20	-9.12 peak
3	pp 5520.000	10.55	32.90	30.69	93.69	106.45	68.20	38.25 peak



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11a\_TX\_CH\_104\_Vertical-Avg



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5520 Band edge

: 5G Wi-Fi 11a

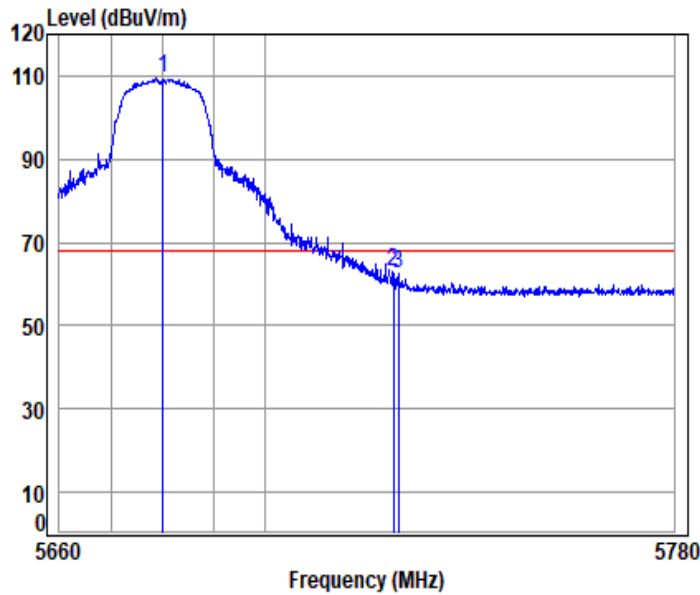
	Cable	Ant	Preamp	Read	Limit	Over			
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp 5458.643	10.60	32.90	30.72	32.70	45.48	54.00	-8.52	Average	
2 5520.000	10.55	32.90	30.69	83.38	96.14	-----	-----	Average	



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11a\_TX\_CH\_136\_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5680 Band edge

: 5G Wi-Fi 11a

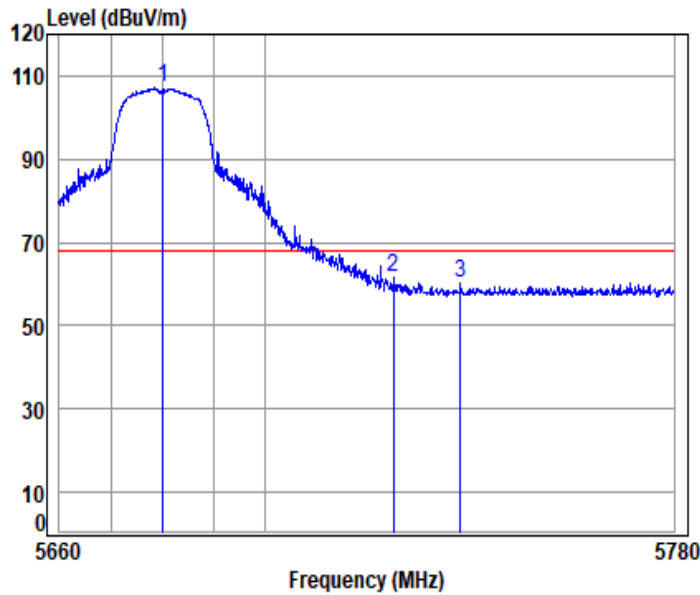
	Cable	Ant	Preamp	Read	Limit	Over			
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp 5680.000	10.53	33.16	30.63	96.32	109.38	68.20	41.18	peak	
2 5725.000	10.68	33.25	30.61	49.86	63.18	68.20	-5.02	peak	
3 5725.929	10.68	33.25	30.61	49.29	62.61	68.20	-5.59	peak	



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11a\_TX\_CH\_136\_Vertical-Peak



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5680 Band edge

: 5G Wi-Fi 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 5680.000	10.53	33.16	30.63	94.11	107.17	68.20	38.97	peak
2 5725.000	10.68	33.25	30.61	48.47	61.79	68.20	-6.41	peak
3 5738.075	10.74	33.28	30.60	46.65	60.07	68.20	-8.13	peak

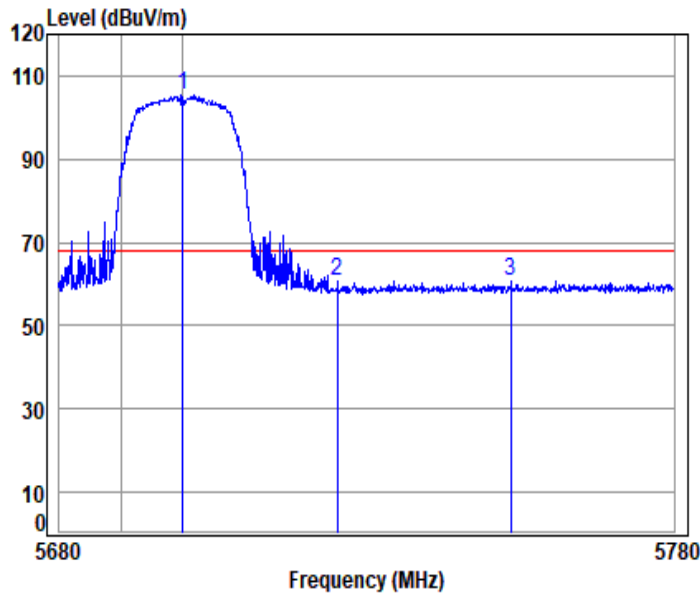


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11a\_TX\_CH\_140\_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5700 Band edge

: 5G Wi-Fi 11a

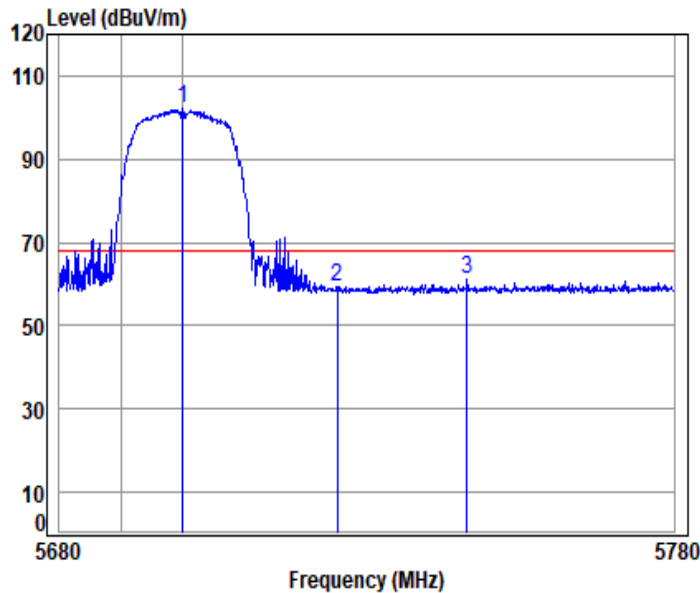
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp 5700.000	10.56	33.20	30.62	92.07	105.21	68.20	37.01	peak
2 5725.000	10.68	33.25	30.61	47.19	60.51	68.20	-7.69	peak
3 5753.330	10.81	33.31	30.60	47.38	60.90	68.20	-7.30	peak



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11a\_TX\_CH\_140\_Vertical-Peak



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5700 Band edge

: 5G Wi-Fi 11a

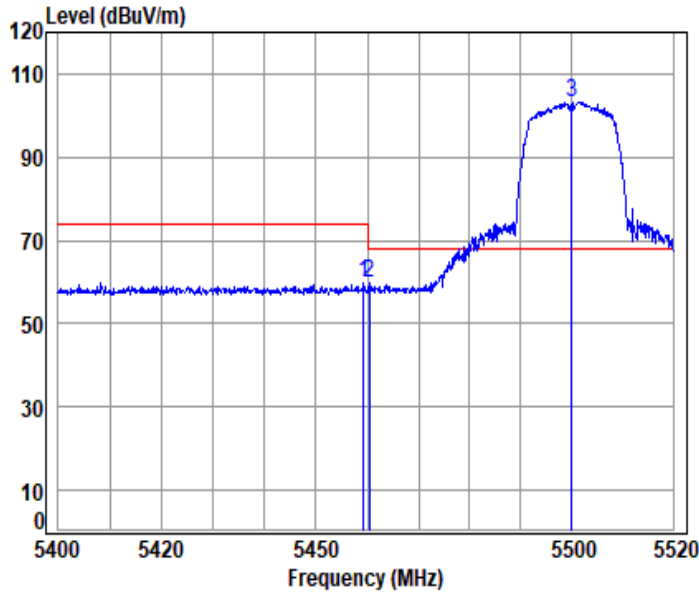
	Cable Freq	Ant Loss	Preamp	Read Level	Limit Line	Over Limit	Remark	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	
1 pp	5700.000	10.56	33.20	30.62	88.88	102.02	68.20	33.82 Peak
2	5725.000	10.68	33.25	30.61	46.04	59.36	68.20	-8.84 Peak
3	5746.105	10.77	33.29	30.60	47.62	61.08	68.20	-7.12 Peak



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11n\_HT(20M)\_TX\_CH\_100\_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5500 Band edge

: 5G Wi-Fi 11n20

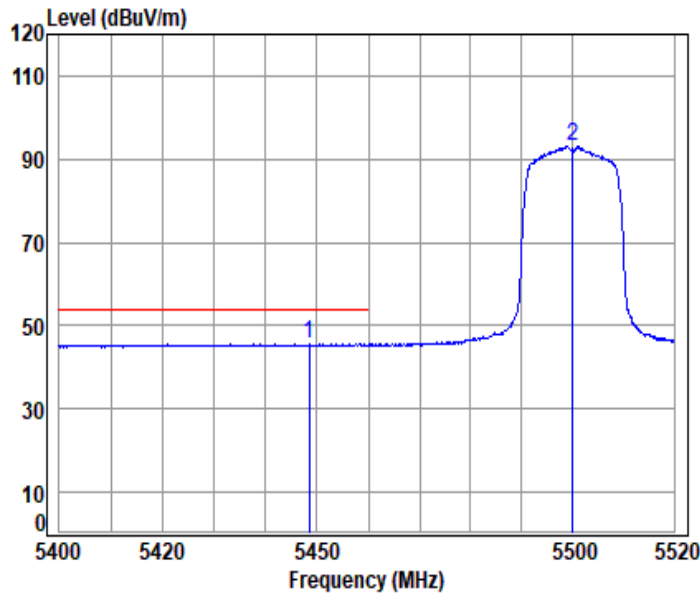
	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Line	Over Limit	Remark	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	
1	5459.311	10.60	32.90	30.72	47.16	59.94	74.00	-14.06 peak
2	5460.390	10.60	32.90	30.72	46.81	59.59	68.20	-8.61 peak
3 pp	5500.000	10.58	32.90	30.70	90.49	103.27	68.20	35.07 peak



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11n\_HT(20M)\_TX\_CH\_100\_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5500 Band edge

: 5G Wi-Fi 11n20

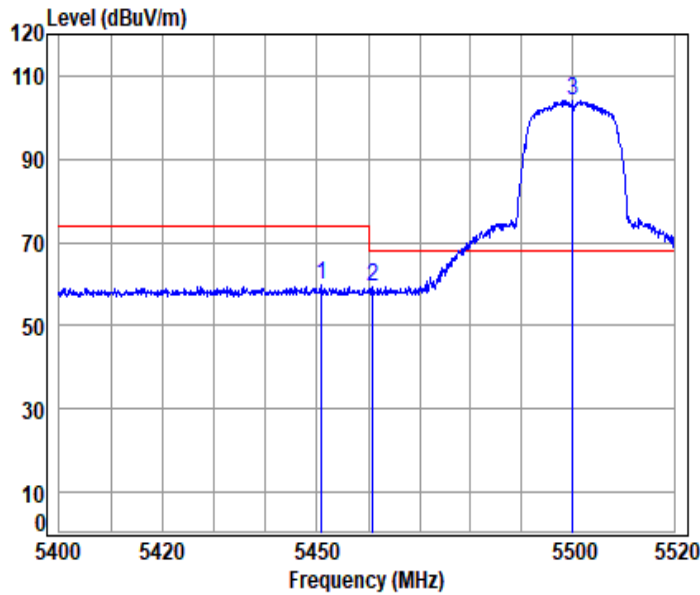
	Cable	Ant	Preamp	Read	Limit	Over			
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp 5448.522	10.60	32.90	30.72	32.76	45.54	54.00	-8.46	Average	
2 5500.000	10.58	32.90	30.70	80.23	93.01	-----	-----	Average	



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11n\_HT(20M)\_TX\_CH\_100\_Vertical-Peak



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5500 Band edge

: 5G Wi-Fi 11n20

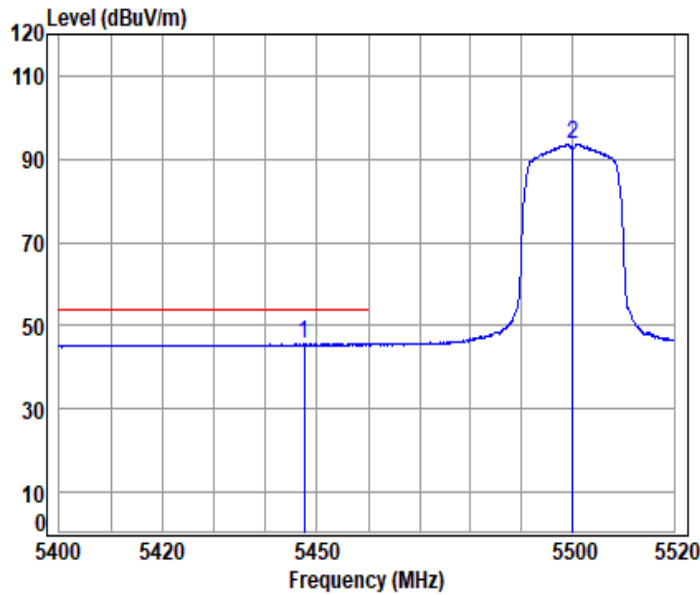
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5450.917	10.60	32.90	30.72	47.19	59.97	74.00	-14.03 Peak
2	5460.871	10.60	32.90	30.72	46.57	59.35	68.20	-8.85 peak
3	pp 5500.000	10.58	32.90	30.70	91.13	103.91	68.20	35.71 Peak



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11n\_HT(20M)\_TX\_CH\_100\_Vertical-Avg



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5500 Band edge

: 5G Wi-Fi 11n20

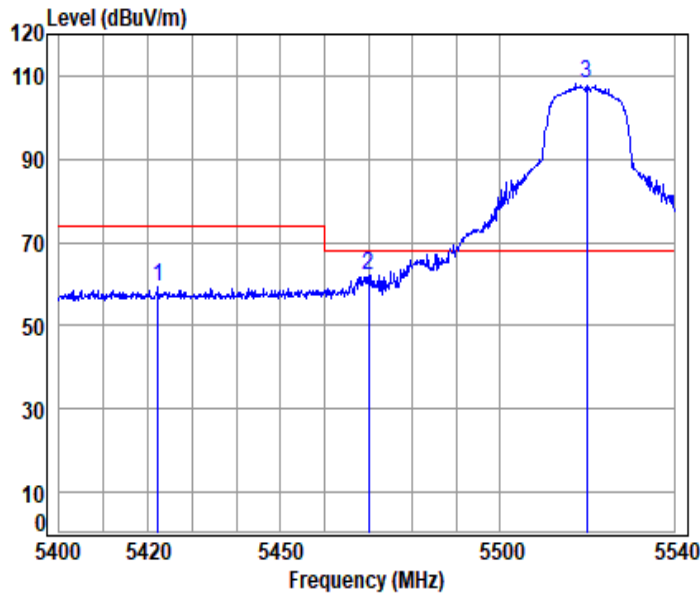
	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Line	Over Limit	Remark	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	
1 pp	5447.444	10.60	32.89	30.72	32.82	45.59	54.00	-8.41 Average
2	5500.000	10.58	32.90	30.70	80.82	93.60	-----	----- Average



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11n\_HT(20M)\_TX\_CH\_104\_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5520 Band edge

: 5G Wi-Fi 11n20

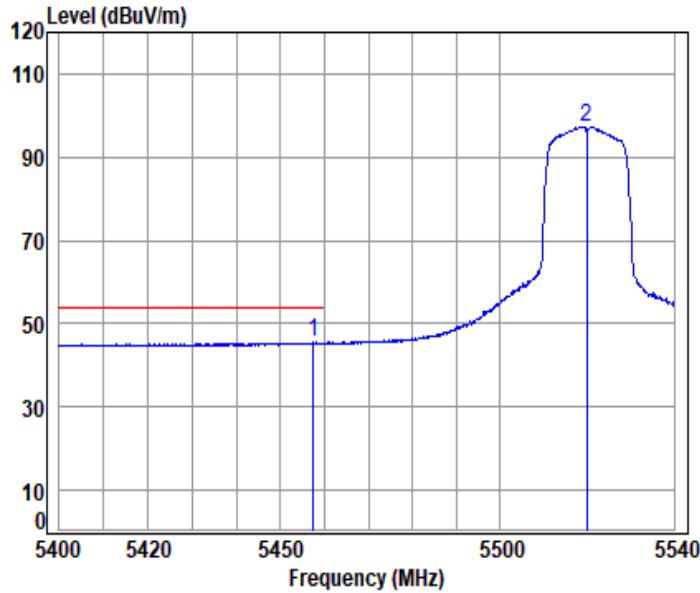
	Cable	Ant	Preamp	Read	Limit	Over			
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	5422.299	10.61	32.84	30.73	46.47	59.19	74.00	-14.81	peak
2	5469.972	10.59	32.90	30.71	49.46	62.24	68.20	-5.96	peak
3	pp 5520.000	10.55	32.90	30.69	95.43	108.19	68.20	39.99	peak



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11n\_HT(20M)\_TX\_CH\_104\_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5520 Band edge

: 5G Wi-Fi 11n20

	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 5457.386	10.60	32.90	30.72	32.64	45.42	54.00	-8.58	Average	
2 5520.000	10.55	32.90	30.69	84.63	97.39	-----	-----	Average	

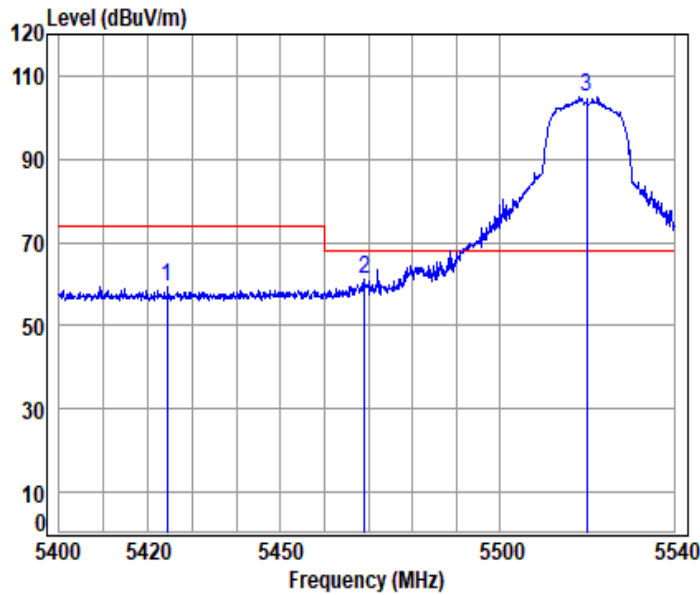


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11n\_HT(20M)\_TX\_CH\_104\_Vertical-Peak



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5520 Band edge

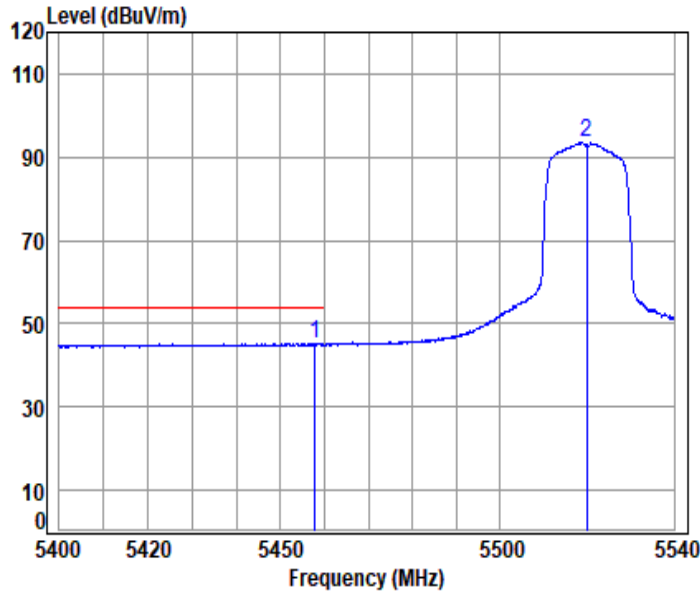
: 5G Wi-Fi 11n20

	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	5424.381	10.61	32.85	30.73	46.41	59.14	74.00	-14.86 peak
2	5468.992	10.59	32.90	30.71	48.57	61.35	68.20	-6.85 peak
3	pp 5520.000	10.55	32.90	30.69	92.10	104.86	68.20	36.66 peak



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11n\_HT(20M)\_TX\_CH\_104\_Vertical-Avg



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5520 Band edge

: 5G Wi-Fi 11n20

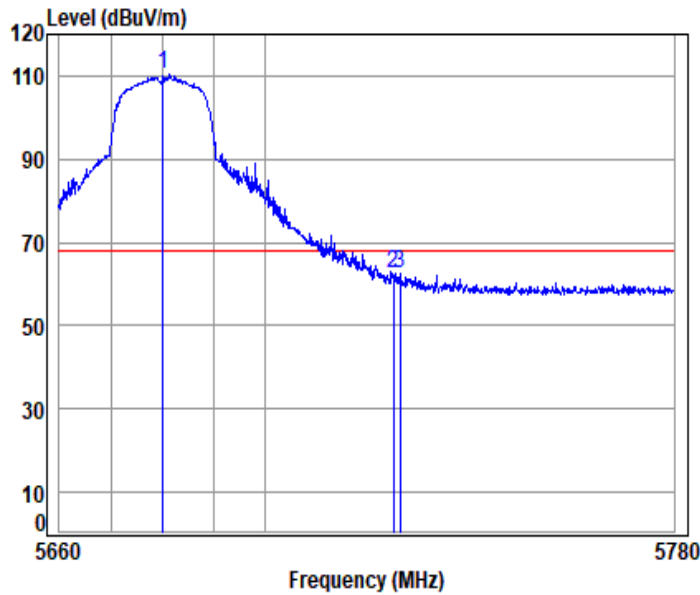
	Cable	Ant	Preamp	Read	Limit	Over			
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp 5457.805	10.60	32.90	30.72	32.45	45.23	54.00	-8.77	Average	
2 5520.000	10.55	32.90	30.69	80.77	93.53	-----	-----	Average	



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11n\_HT(20M)\_TX\_CH\_136\_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5680 Band edge

: 5G Wi-Fi 11n20

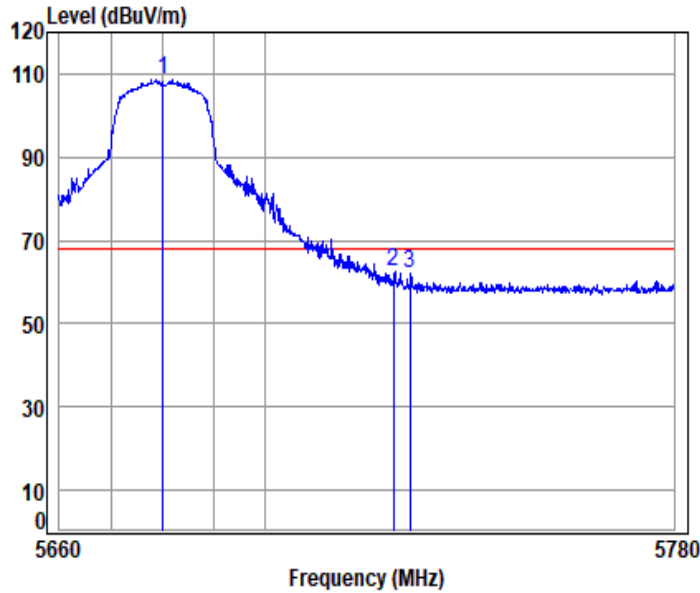
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp 5680.000	10.53	33.16	30.63	97.19	110.25	68.20	42.05	peak
2 5725.000	10.68	33.25	30.61	49.03	62.35	68.20	-5.85	peak
3 5726.169	10.68	33.25	30.61	49.16	62.48	68.20	-5.72	peak



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11n\_HT(20M)\_TX\_CH\_136\_Vertical-Peak



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5680 Band edge

: 5G Wi-Fi 11n20

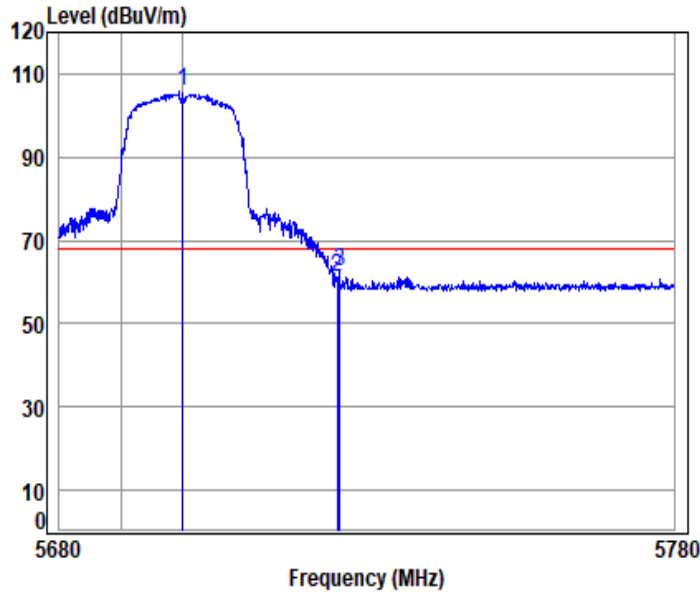
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp 5680.000	10.53	33.16	30.63	95.56	108.62	68.20	40.42	peak
2 5725.000	10.68	33.25	30.61	49.15	62.47	68.20	-5.73	peak
3 5728.211	10.69	33.26	30.61	48.66	62.00	68.20	-6.20	peak



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11n\_HT(20M)\_TX\_CH\_140\_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5700 Band edge

: 5G Wi-Fi 11n20

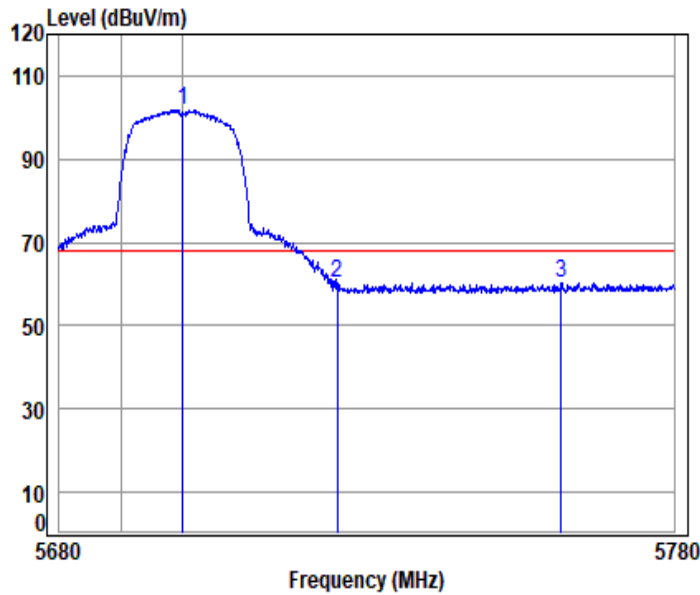
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp 5700.000	10.56	33.20	30.62	92.55	105.69	68.20	37.49	peak
2 5725.000	10.67	33.25	30.61	47.72	61.03	68.20	-7.17	Peak
3 5725.384	10.68	33.25	30.61	49.06	62.38	68.20	-5.82	Peak



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11n\_HT(20M)\_TX\_CH\_140\_Vertical-Peak



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5700 Band edge

: 5G Wi-Fi 11n20

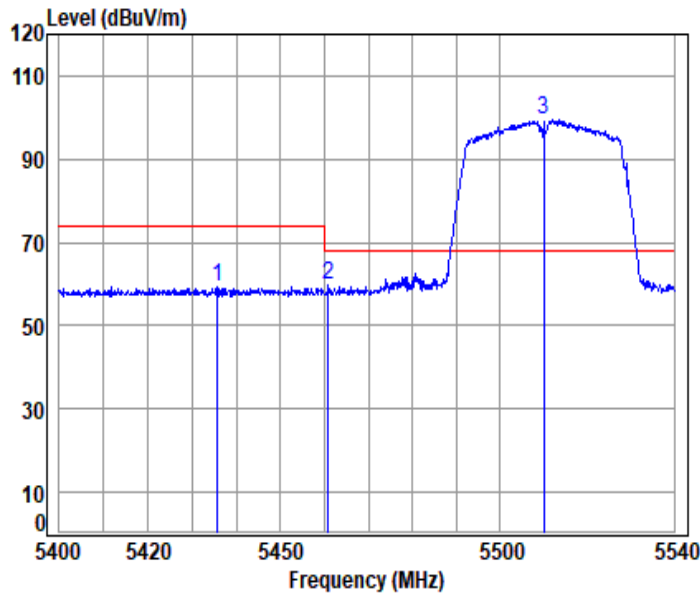
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp 5700.000	10.56	33.20	30.62	88.80	101.94	68.20	33.74	Peak
2 5725.000	10.68	33.25	30.61	47.10	60.42	68.20	-7.78	Peak
3 5761.469	10.84	33.32	30.60	46.82	60.38	68.20	-7.82	Peak



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11n\_HT(40M)\_TX\_CH\_102\_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5510 Band edge

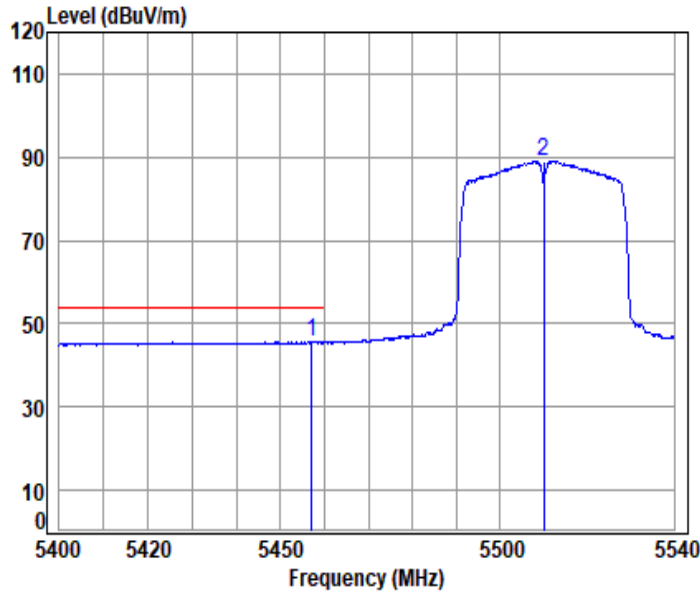
: 5G Wi-Fi 11n40

	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1	5435.639	10.61	32.87	30.73	46.53	59.28	74.00 -14.72 peak
2	5460.879	10.60	32.90	30.72	46.77	59.55	68.20 -8.65 peak
3 pp	5510.000	10.56	32.90	30.70	86.75	99.51	68.20 31.31 peak



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11n\_HT(40M)\_TX\_CH\_102\_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5510 Band edge

: 5G Wi-Fi 11n40

	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	32.99	45.77	54.00	-8.23	Average	
2 5510.000	10.56	32.90	30.70	76.34	89.10	-----	-----	Average	

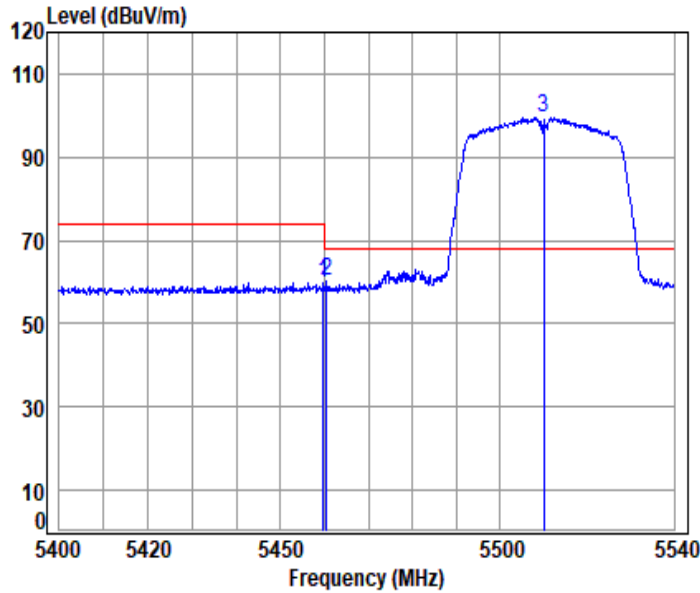


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11n\_HT(40M)\_TX\_CH\_102\_Vertical-Peak



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5510 Band edge

: 5G Wi-Fi 11n40

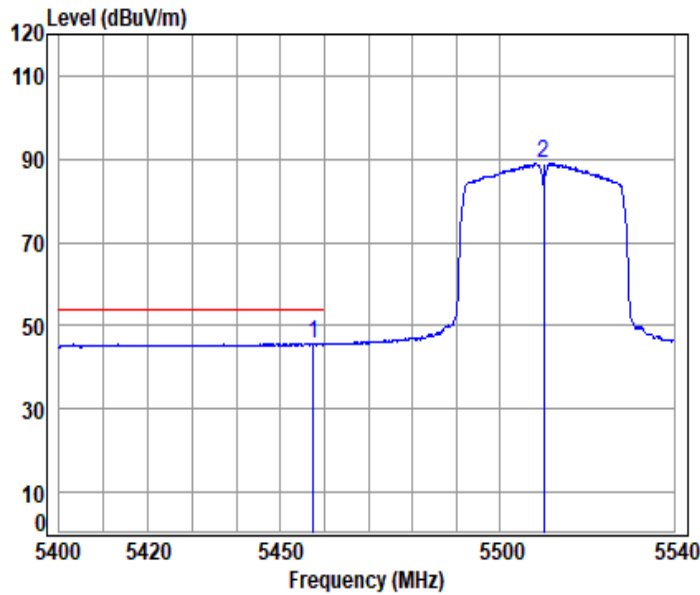
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5459.761	10.60	32.90	30.72	47.07	59.85	74.00	-14.15 Peak
2	5460.460	10.60	32.90	30.72	47.35	60.13	68.20	-8.07 peak
3 pp	5510.000	10.56	32.90	30.70	86.82	99.58	68.20	31.38 Peak



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11n\_HT(40M)\_TX\_CH\_102\_Vertical-Avg



Condition: 3m VERTICAL

Job No : 00078WM

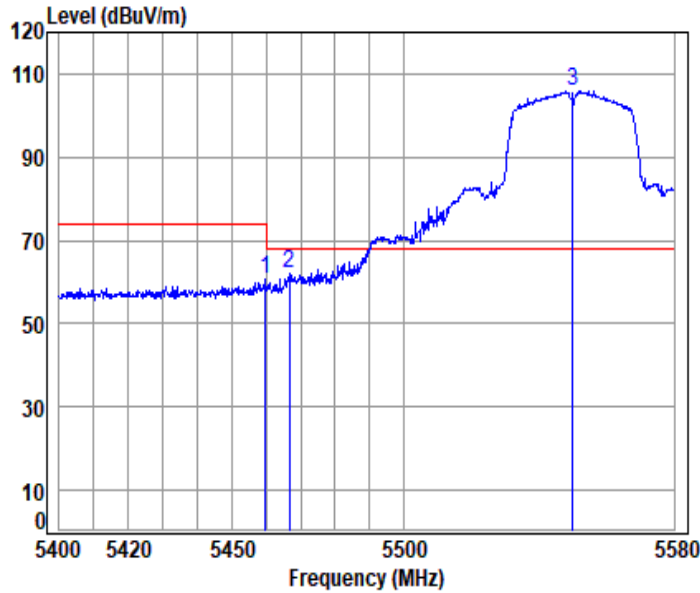
Mode : 5510 Band edge

: 5G Wi-Fi 11n40

	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 5457.526	10.60	32.90	30.72	32.93	45.71	54.00	-8.29	Average	
2 5510.000	10.56	32.90	30.70	76.26	89.02	-----	-----	Average	



11n\_HT(40M)\_TX\_CH\_110\_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5550 Band edge

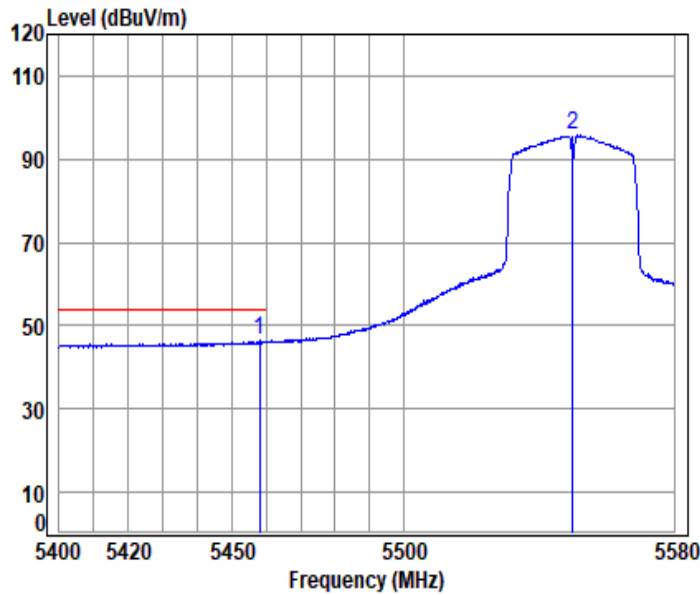
: 5G Wi-Fi 11n40

	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Line	Over Limit	Remark		
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5459.823	10.60	32.90	30.72	47.80	60.58	74.00	-13.42	peak
2	5466.809	10.59	32.90	30.71	49.47	62.25	68.20	-5.95	peak
3	5550.000	10.49	32.90	30.68	93.09	105.80	68.20	37.60	peak



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11n\_HT(40M)\_TX\_CH\_110\_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5550 Band edge

: 5G Wi-Fi 11n40

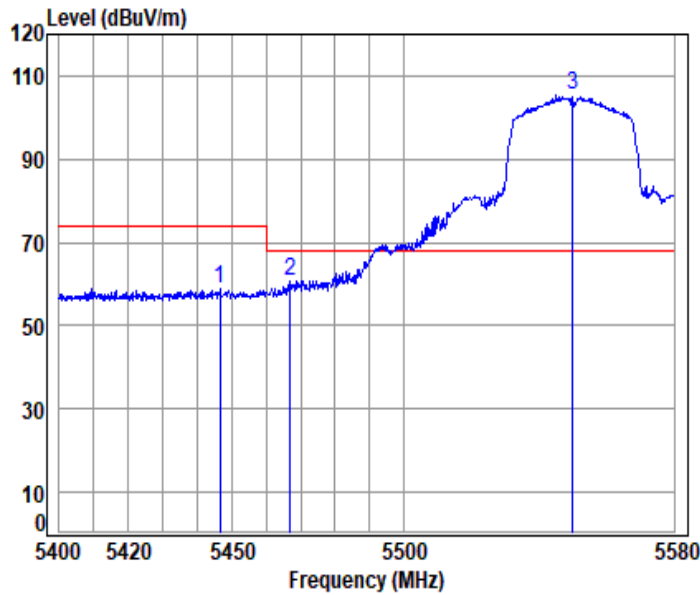
	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Level	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1 pp	5458.033	10.60	32.90	30.72	33.62	46.40	54.00 -7.60 Average
2	5550.000	10.49	32.90	30.68	82.97	95.68	----- Average



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11n\_HT(40M)\_TX\_CH\_110\_Vertical-Peak



Condition: 3m VERTICAL

Job No : 00078WM

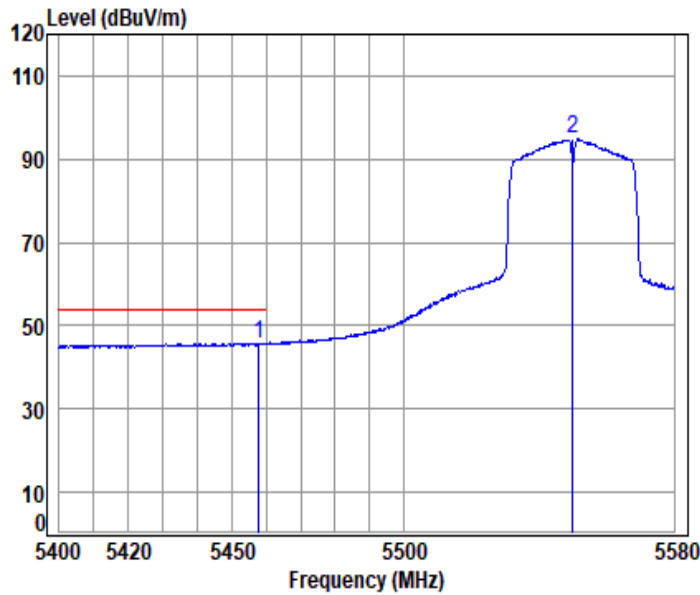
Mode : 5550 Band edge

: 5G Wi-Fi 11n40

	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	5446.412	10.60	32.89	30.72	46.04	58.81	74.00	-15.19 peak
2	5466.989	10.59	32.90	30.71	47.76	60.54	68.20	-7.66 peak
3	pp 5550.000	10.49	32.90	30.68	92.61	105.32	68.20	37.12 peak



11n\_HT(40M)\_TX\_CH\_110\_Vertical-Avg



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5550 Band edge

: 5G Wi-Fi 11n40

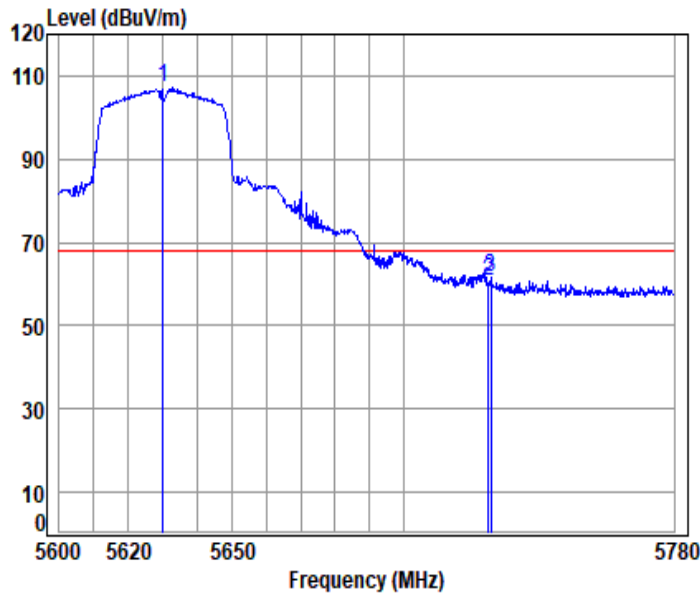
	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	5457.675	10.60	32.90	30.72	33.07	45.85	54.00	-8.15 Average
2	5550.000	10.49	32.90	30.68	82.00	94.71	-----	----- Average



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11n\_HT(40M)\_TX\_CH\_126\_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5630 Band edge

: 5G Wi-Fi 11n40

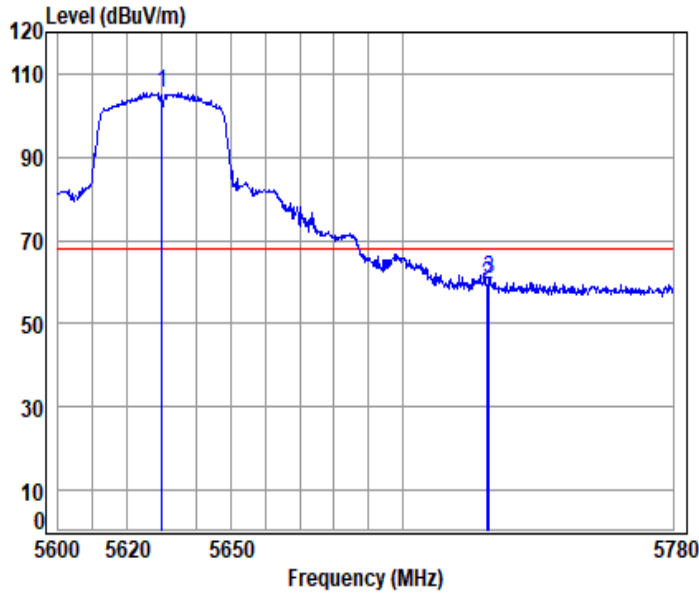
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp 5630.000	10.45	33.06	30.65	94.33	107.19	68.20	38.99	peak
2 5725.000	10.68	33.25	30.61	47.37	60.69	68.20	-7.51	peak
3 5725.763	10.68	33.25	30.61	48.46	61.78	68.20	-6.42	peak



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11n\_HT(40M)\_TX\_CH\_126\_Vertical-Peak



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5630 Band edge

: 5G Wi-Fi 11n40

	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 5630.000	10.45	33.06	30.65	92.74	105.60	68.20	37.40	peak
2 5725.000	10.68	33.25	30.61	46.21	59.53	68.20	-8.67	peak
3 5725.582	10.68	33.25	30.61	47.52	60.84	68.20	-7.36	peak

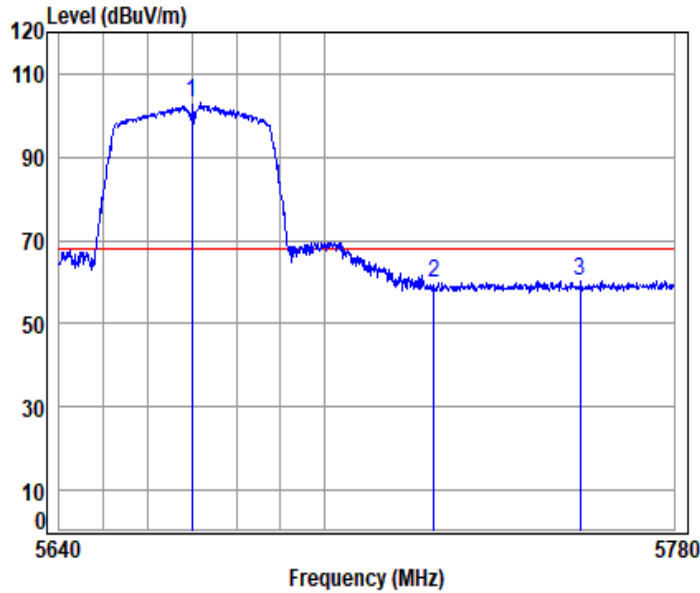


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11n\_HT(40M)\_TX\_CH\_134\_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5670 Band edge

: 5G Wi-Fi 11n40

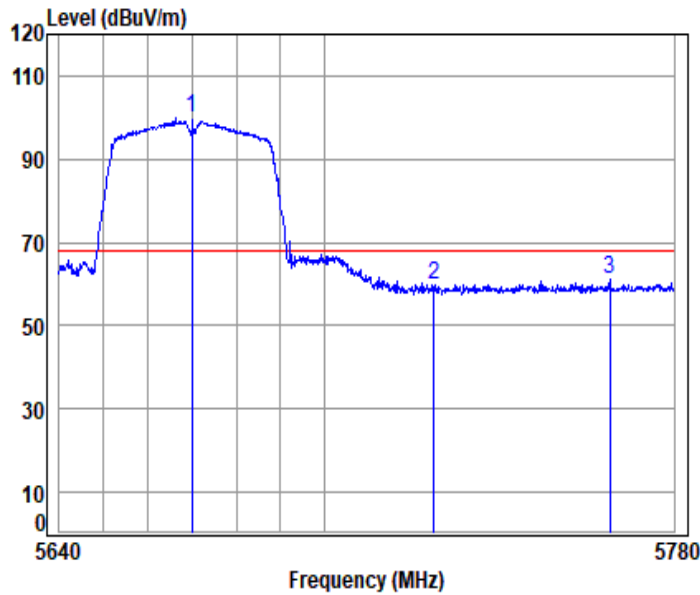
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp 5670.000	10.52	33.14	30.63	90.25	103.28	68.20	35.08	peak
2 5725.000	10.68	33.25	30.61	46.39	59.71	68.20	-8.49	peak
3 5758.498	10.83	33.32	30.60	46.84	60.39	68.20	-7.81	peak



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11n\_HT(40M)\_TX\_CH\_134\_Vertical-Peak



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5670 Band edge

: 5G Wi-Fi 11n40

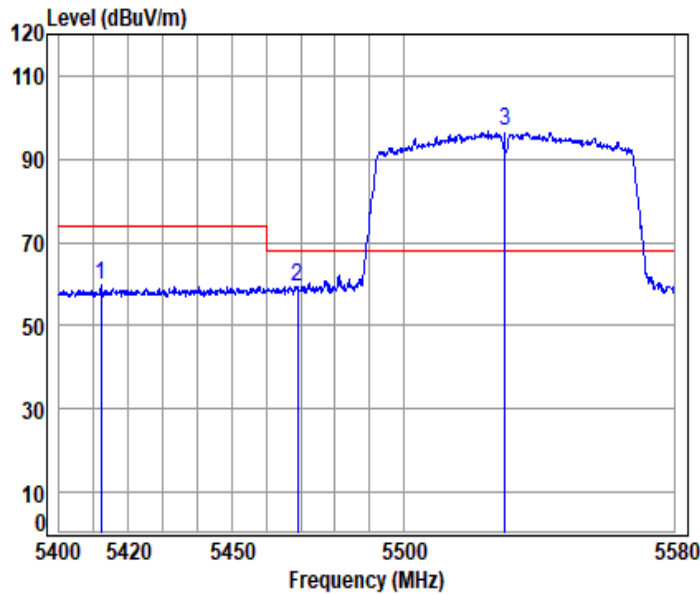
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp 5670.000	10.52	33.14	30.63	86.77	99.80	68.20	31.60	Peak
2 5725.000	10.68	33.25	30.61	46.33	59.65	68.20	-8.55	Peak
3 5765.280	10.86	33.33	30.59	47.36	60.96	68.20	-7.24	Peak



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11ac\_VHT(80M)\_TX\_CH\_106\_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5530 Band edge

: 5G Wi-Fi 11ac80

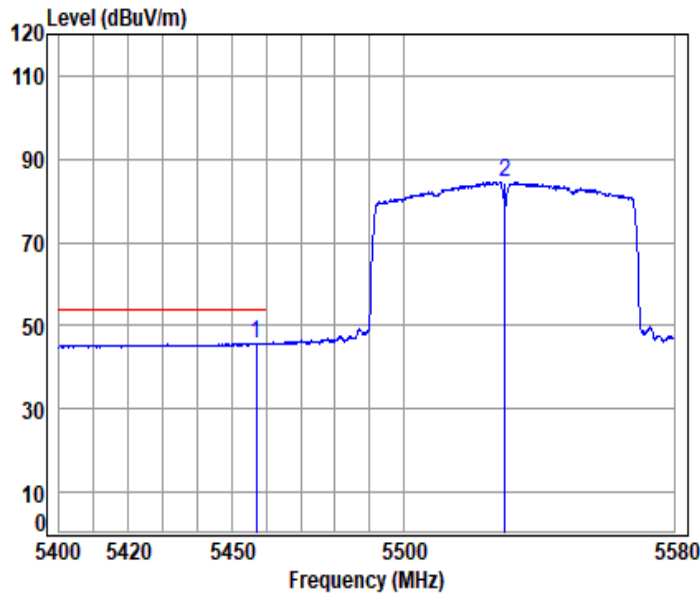
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5412.054	10.62	32.82	30.74	47.03	59.73	74.00	-14.27 peak
2	5469.140	10.59	32.90	30.71	46.70	59.48	68.20	-8.72 peak
3	pp 5530.000	10.53	32.90	30.69	84.06	96.80	68.20	28.60 peak



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11ac\_VHT(80M)\_TX\_CH\_106\_Horizontal-Avg



Condition: 3m HORIZONTAL

Job No : 00078WM

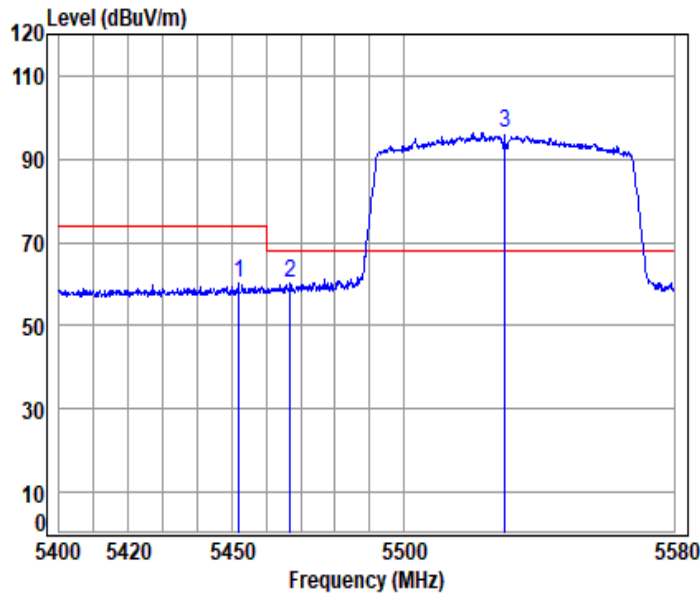
Mode : 5530 Band edge

: 5G Wi-Fi 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 5457.138	10.60	32.90	30.72	33.07	45.85	54.00	-8.15	Average	
2 5530.000	10.53	32.90	30.69	71.76	84.50	-----	-----	Average	



11ac\_VHT(80M)\_TX\_CH\_106\_Vertical-Peak



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5530 Band edge

: 5G Wi-Fi 11ac80

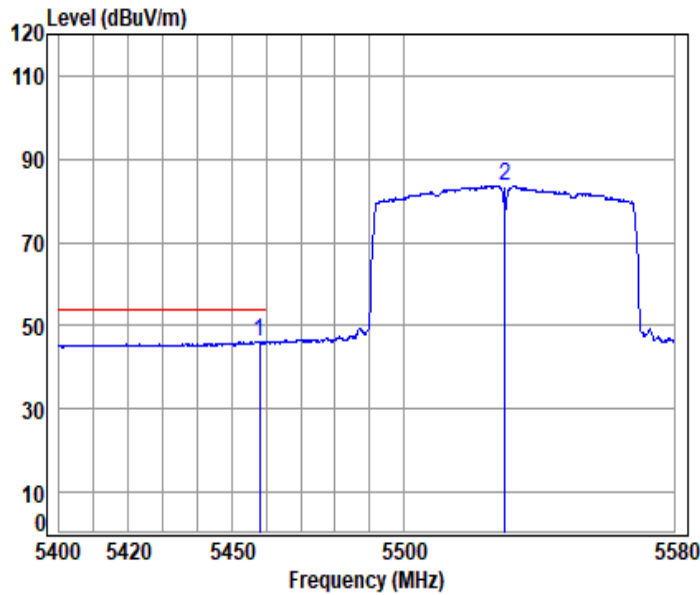
	Cable	Ant	Preamp	Read	Limit	Over			
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	5451.951	10.60	32.90	30.72	47.44	60.22	74.00	-13.78 Peak	
2	5466.989	10.59	32.90	30.71	47.33	60.11	68.20	-8.09 peak	
3	pp 5530.000	10.53	32.90	30.69	83.49	96.23	68.20	28.03 Peak	



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11ac\_VHT(80M)\_TX\_CH\_106\_Vertical-Avg



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5530 Band edge

: 5G Wi-Fi 11ac80

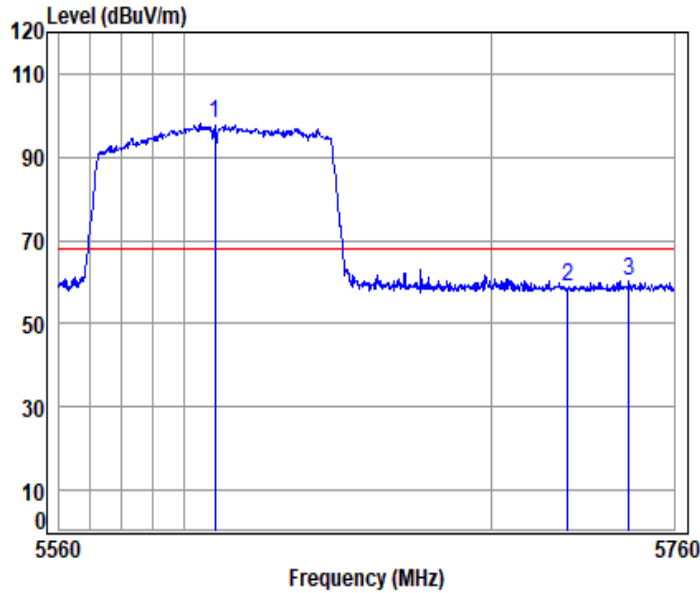
	Cable	Ant	Preamp	Read	Limit	Over			
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp 5458.033	10.60	32.90	30.72	33.33	46.11	54.00	-7.89	Average	
2 5530.000	10.53	32.90	30.69	70.86	83.60	-----	-----	Average	



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11ac\_VHT(80M)\_TX\_CH\_122\_Horizontal-Peak



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5610 Band edge

: 5G Wi-Fi 11ac80

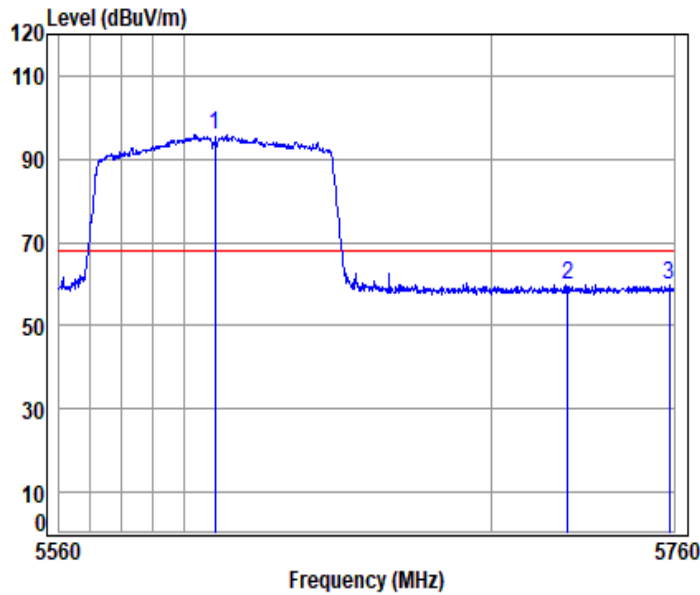
	Cable	Ant	Preamp	Read	Limit	Over			
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp 5610.000	10.43	33.02	30.66	85.15	97.94	68.20	29.74	peak	
2 5725.000	10.68	33.25	30.61	45.76	59.08	68.20	-9.12	peak	
3 5745.160	10.77	33.29	30.60	46.75	60.21	68.20	-7.99	peak	



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11ac\_VHT(80M)\_TX\_CH\_122\_Vertical-Peak



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5610 Band edge

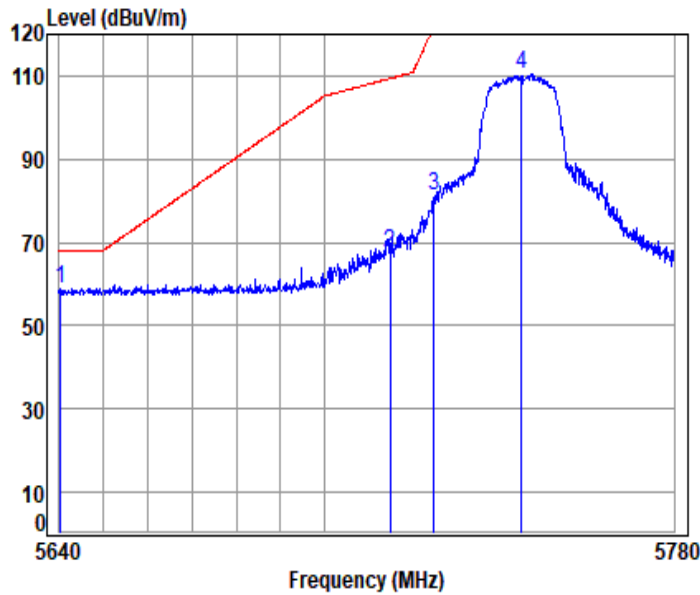
: 5G Wi-Fi 11ac80

	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	83.08	95.87	68.20	27.67	Peak
2 5725.000	10.68	33.25	30.61	46.51	59.83	68.20	-8.37	peak
3 5758.372	10.83	33.32	30.60	46.20	59.75	68.20	-8.45	Peak





11a\_TX\_CH\_149\_Horizontal



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5745 Band edge

: 5.8G Wi-Fi 11a

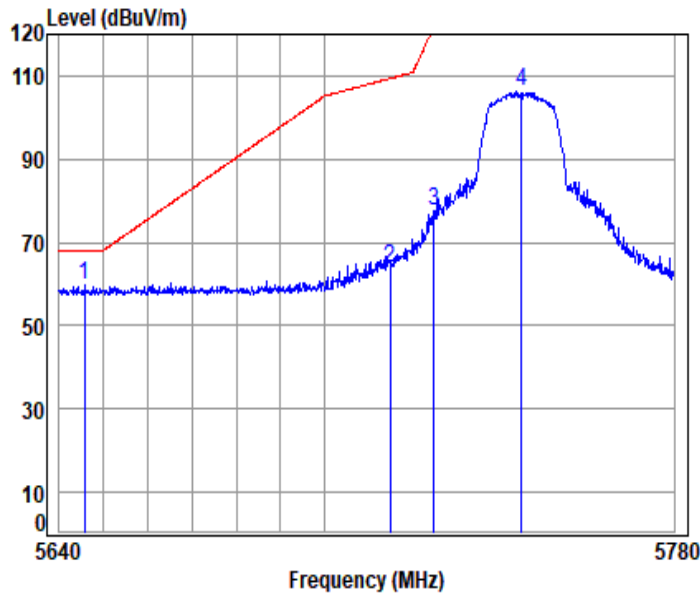
	Cable	Ant	Preamp	Read	Limit	Over			
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	pp 5640.276	10.47	33.08	30.64	46.11	59.02	68.20	-9.18	peak
2	5715.000	10.63	33.23	30.61	54.30	67.55	109.40	-41.85	peak
3	5725.000	10.68	33.25	30.61	68.01	81.33	122.20	-40.87	peak
4	5745.000	10.77	33.29	30.60	96.81	110.27	-----	-----	peak



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11a\_TX\_CH\_149\_Vertical



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5745 Band edge

: 5.8G Wi-Fi 11a

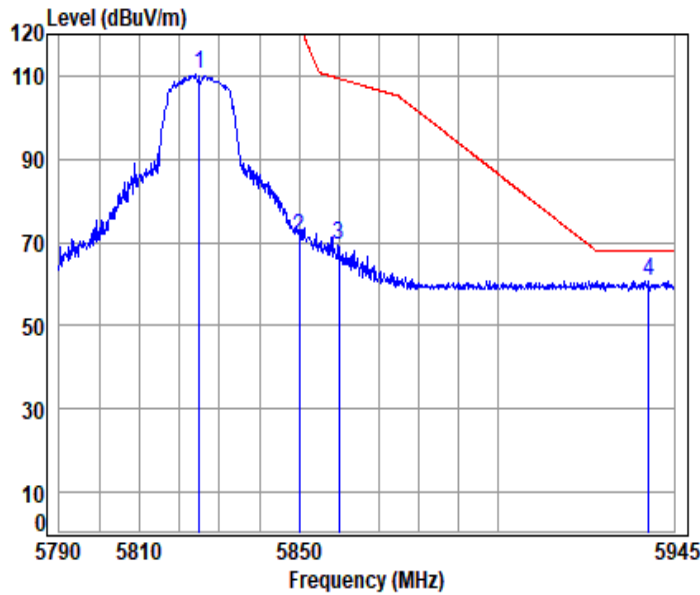
	Cable Freq	Ant Loss	Preamp	Read Level	Limit Level	Over Limit	Remark	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	
1 pp	5645.673	10.48	33.09	30.64	46.84	59.77	68.20	-8.43 peak
2	5715.000	10.63	33.23	30.61	50.59	63.84	109.40	-45.56 peak
3	5725.000	10.68	33.25	30.61	64.36	77.68	122.20	-44.52 peak
4	5745.000	10.77	33.29	30.60	92.73	106.19	-----	----- peak



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11a\_TX\_CH\_165\_Horizontal



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5825 Band edge

: 5.8G Wi-Fi 11a

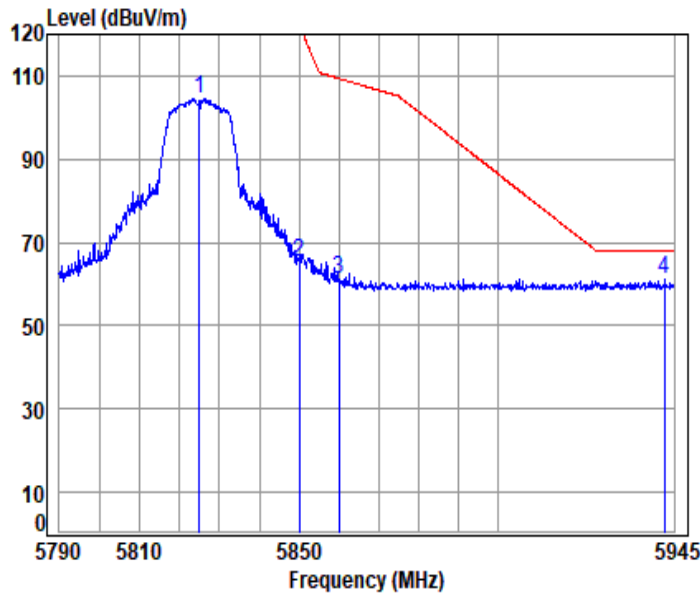
	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5825.000	10.99	33.50	30.57	96.45	110.37	-----	----- peak
2	5850.000	10.95	33.60	30.56	57.21	71.20	122.20	-51.00 peak
3	5860.000	10.94	33.58	30.56	55.41	69.37	109.40	-40.03 peak
4 pp	5938.564	10.86	33.58	30.52	46.88	60.80	68.20	-7.40 peak



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11a\_TX\_CH\_165\_Vertical



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5825 Band edge

: 5.8G Wi-Fi 11a

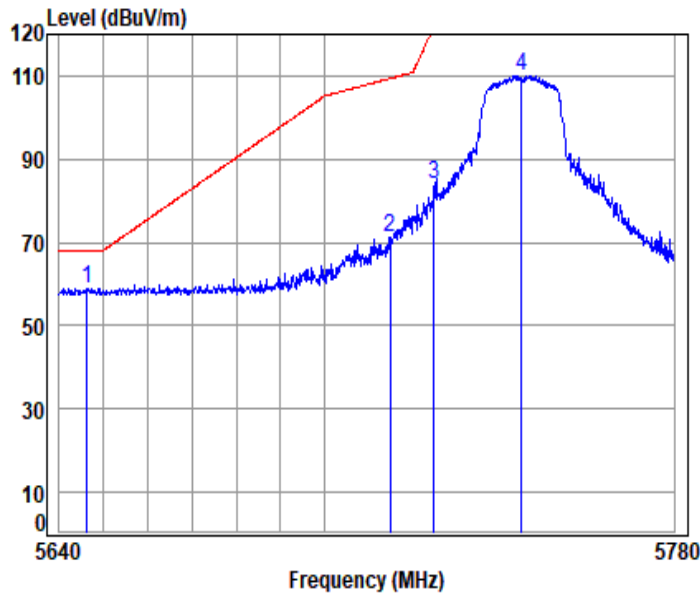
	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5825.000	10.99	33.50	30.57	90.60	104.52	-----	----- peak
2	5850.000	10.95	33.60	30.56	51.47	65.46	122.20	-56.74 peak
3	5860.000	10.94	33.58	30.56	47.34	61.30	109.40	-48.10 peak
4 pp	5942.645	10.86	33.59	30.52	47.25	61.18	68.20	-7.02 peak



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11n\_HT(20M)\_TX\_CH\_149\_Horizontal



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5745 Band edge

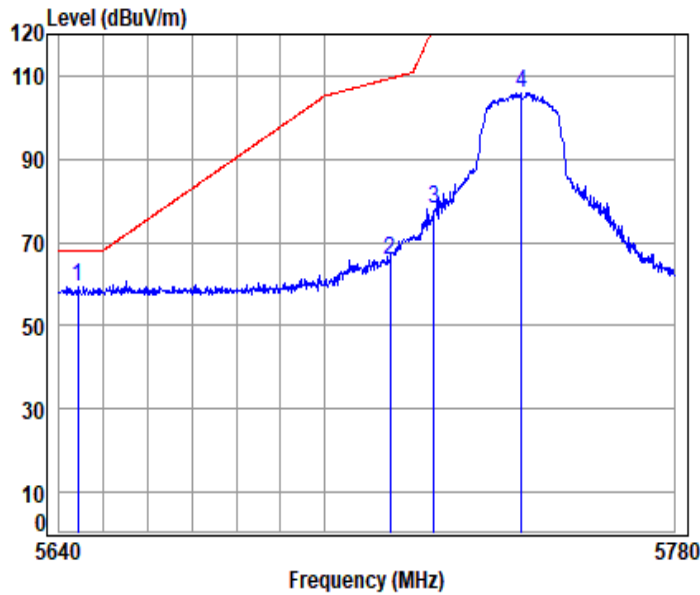
: 5.8G Wi-Fi 11n20

	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 5646.227	10.48	33.09	30.64	46.15	59.08	68.20	-9.12	peak
2 5715.000	10.63	33.23	30.61	57.76	71.01	109.40	-38.39	peak
3 5725.000	10.68	33.25	30.61	70.53	83.85	122.20	-38.35	peak
4 5745.000	10.77	33.29	30.60	96.56	110.02	-----	-----	peak



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11n\_HT(20M)\_TX\_CH\_149\_Vertical



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5745 Band edge

: 5.8G Wi-Fi 11n20

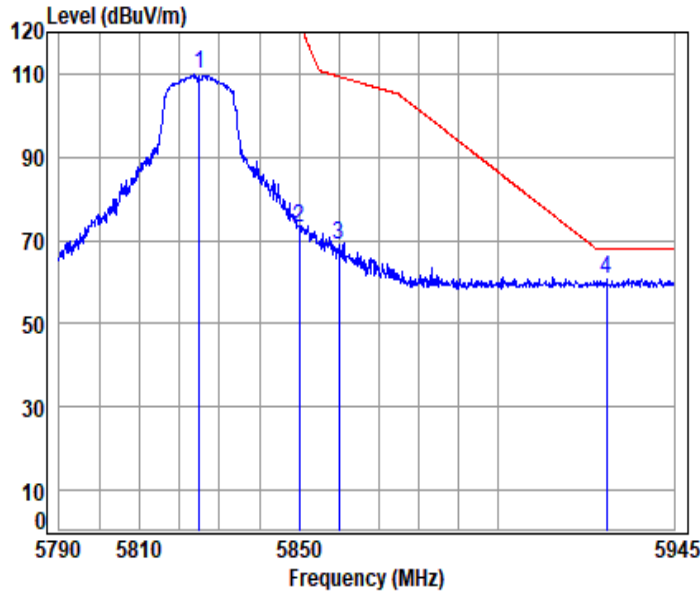
	Cable Freq	Ant Loss	Preamp	Read Level	Limit Level	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1 pp	5644.289	10.48	33.09	30.64	46.44	59.37	68.20 -8.83 peak
2	5715.000	10.63	33.23	30.61	52.46	65.71	109.40 -43.69 peak
3	5725.000	10.68	33.25	30.61	64.78	78.10	122.20 -44.10 peak
4	5745.000	10.77	33.29	30.60	92.51	105.97	----- -44.10 peak



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11n\_HT(20M)\_TX\_CH\_165\_Horizontal



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5825 Band edge

: 5.8G Wi-Fi 11n20

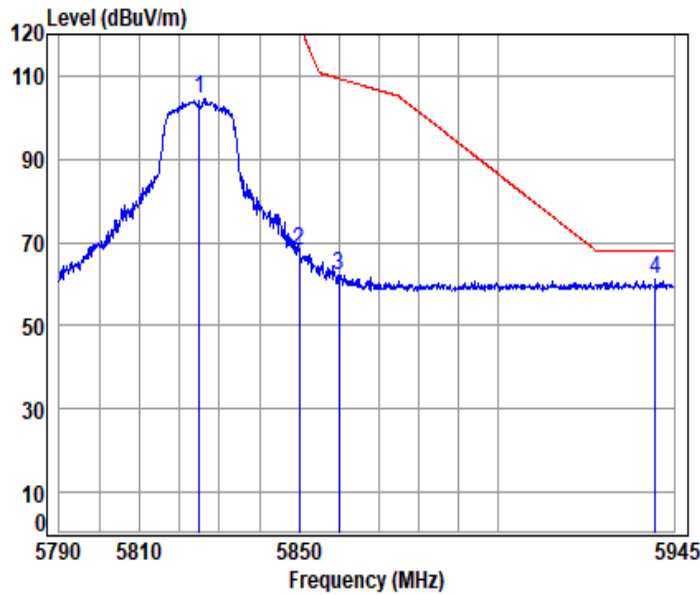
	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5825.000	10.99	33.50	30.57	95.94	109.86	-----	----- peak
2	5850.000	10.95	33.60	30.56	59.23	73.22	122.20	-48.98 peak
3	5860.000	10.94	33.58	30.56	54.72	68.68	109.40	-40.72 peak
4 pp	5927.749	10.87	33.56	30.53	46.80	60.70	68.20	-7.50 peak



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11n\_HT(20M)\_TX\_CH\_165\_Vertical



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5825 Band edge

: 5.8G Wi-Fi 11n20

	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	90.49	104.41	-----	----- peak
2	5850.000	10.95	33.60	30.56	54.15	68.14	122.20	-54.06 peak
3	5860.000	10.94	33.58	30.56	48.28	62.24	109.40	-47.16 peak
4 pp	5940.290	10.86	33.58	30.52	47.07	60.99	68.20	-7.21 peak

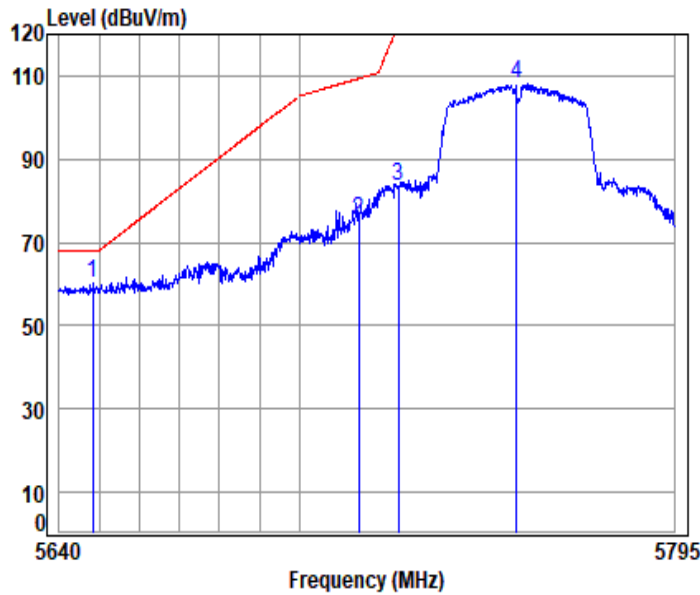


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11n\_HT(40M)\_TX\_CH\_151\_Horizontal



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5755 Band edge

: 5.8G Wi-Fi 11n40

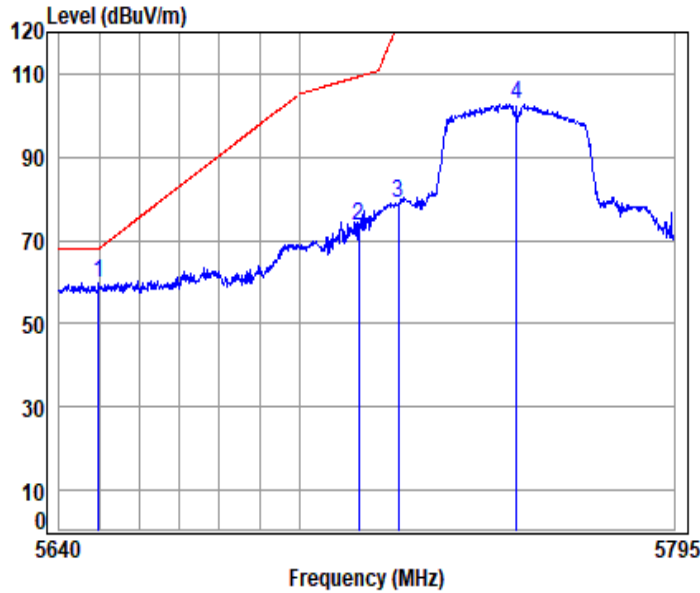
	Cable	Ant	Preamp	Read	Limit	Over			
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	pp 5648.416	10.48	33.10	30.64	47.06	60.00	68.20	-8.20	peak
2	5715.000	10.63	33.23	30.61	62.21	75.46	109.40	-33.94	peak
3	5725.000	10.68	33.25	30.61	69.96	83.28	122.20	-38.92	peak
4	5755.000	10.81	33.31	30.60	94.47	107.99	-----	-----	peak



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11n\_HT(40M)\_TX\_CH\_151\_Vertical



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5755 Band edge

: 5.8G Wi-Fi 11n40

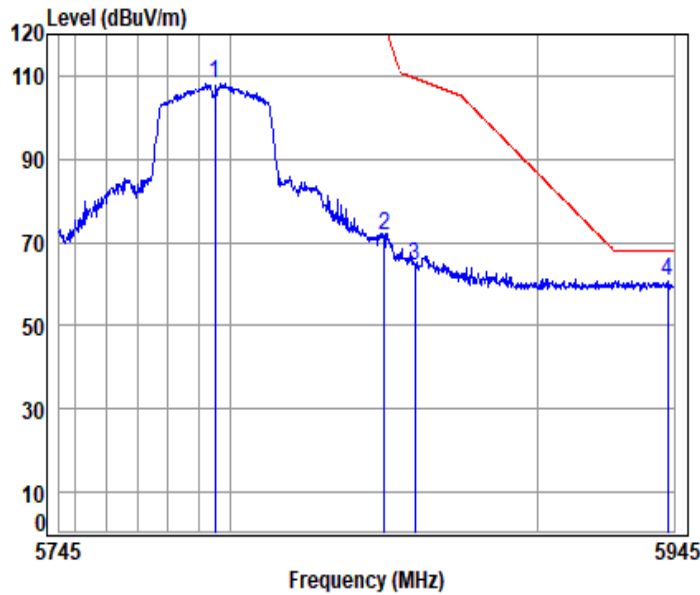
	Cable	Ant	Preamp	Read	Limit	Over		
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp 5649.794	10.48	33.10	30.64	46.76	59.70	68.20	-8.50	peak
2 5715.000	10.63	33.23	30.61	60.42	73.67	109.40	-35.73	peak
3 5725.000	10.68	33.25	30.61	65.60	78.92	122.20	-43.28	peak
4 5755.000	10.81	33.31	30.60	89.09	102.61	-----	-----	peak



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11n\_HT(40M)\_TX\_CH\_159\_Horizontal



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5795 Band edge

: 5.8G Wi-Fi 11n40

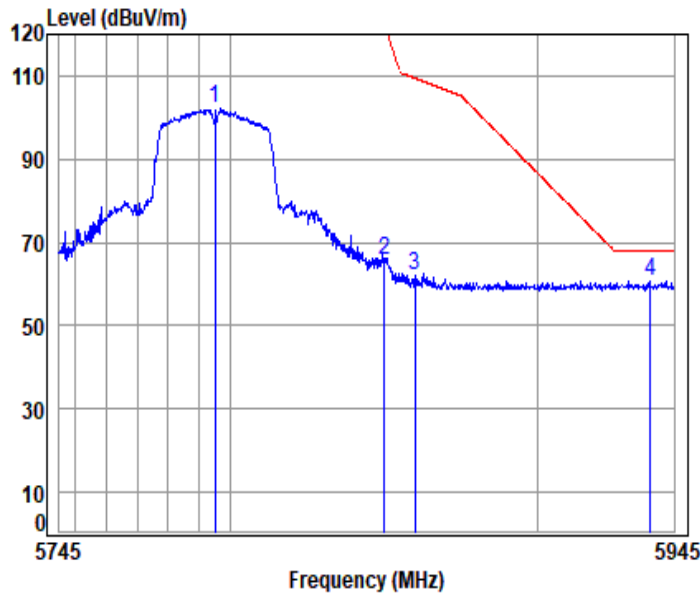
	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Level	Over Limit	Remark		
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5795.000	11.00	33.39	30.58	94.50	108.31	-----	-----	peak
2	5850.000	10.95	33.60	30.56	57.68	71.67	122.20	-50.53	peak
3	5860.000	10.94	33.58	30.56	50.57	64.53	109.40	-44.87	peak
4 pp	5942.966	10.86	33.59	30.52	46.96	60.89	68.20	-7.31	peak



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11n\_HT(40M)\_TX\_CH\_159\_Verical



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5795 Band edge

: 5.8G Wi-Fi 11n40

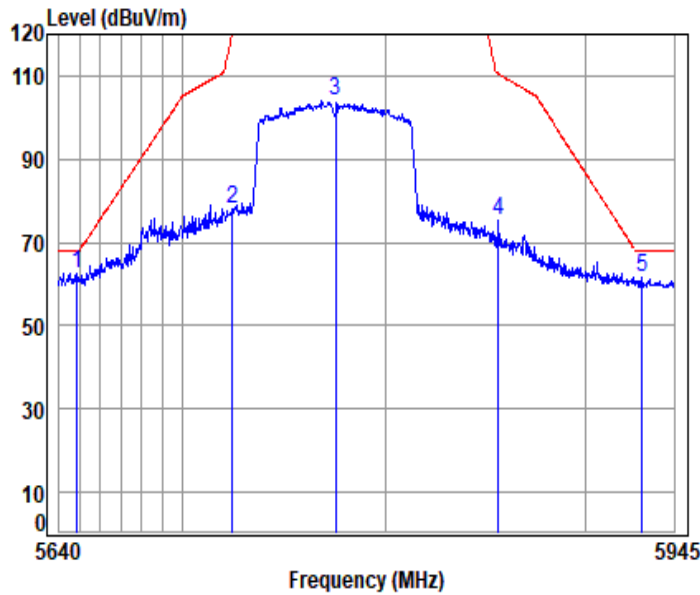
	Cable Freq	Ant Loss	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	5795.000	11.00	33.39	30.58	88.21	102.02	-----	----- peak
2	5850.000	10.95	33.60	30.56	51.55	65.54	122.20	-56.66 peak
3	5860.000	10.94	33.58	30.56	47.96	61.92	109.40	-47.48 peak
4 pp	5937.071	10.86	33.57	30.53	46.92	60.82	68.20	-7.38 peak



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11ac\_VHT(80M)\_TX\_CH\_155\_Horizontal



Condition: 3m HORIZONTAL

Job No : 00078WM

Mode : 5775 Band edge

: 5.8G Wi-Fi 11ac80

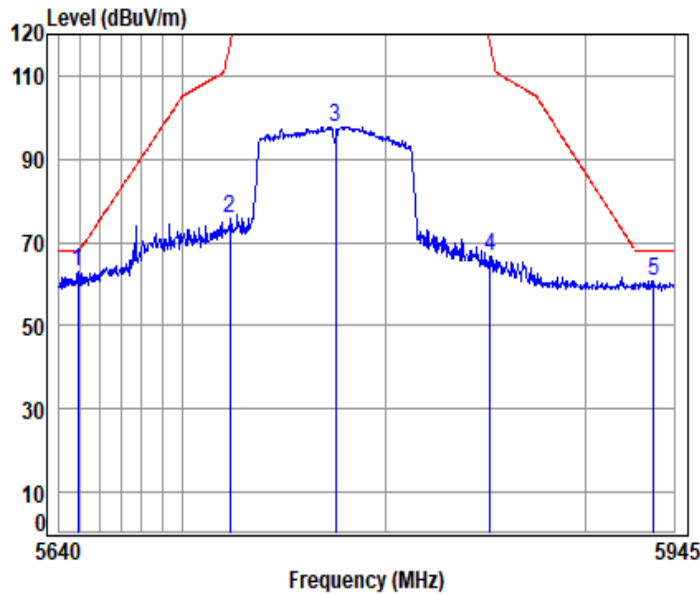
	Cable	Ant	Preamp	Read	Limit	Over			
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1 pp 5648.621	10.48	33.10	30.64	49.73	62.67	68.20	-5.53	Peak	
2 5724.390	10.67	33.25	30.61	64.73	78.04	120.81	-42.77	peak	
3 5775.000	10.91	33.35	30.59	90.23	103.90	-----	-----	peak	
4 5856.124	10.95	33.59	30.56	61.26	75.24	110.48	-35.24	peak	
5 5928.741	10.87	33.56	30.53	47.49	61.39	68.20	-6.81	peak	



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11ac\_VHT(80M)\_TX\_CH\_155\_Vercial



Condition: 3m VERTICAL

Job No : 00078WM

Mode : 5775 Band edge

: 5.8G Wi-Fi 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 5648.918	10.48	33.10	30.64	50.00	62.94	68.20	-5.26	Peak	
2 5723.184	10.67	33.25	30.61	62.45	75.76	118.06	-42.30	peak	
3 5775.000	10.91	33.35	30.59	84.16	97.83	-----	-----	peak	
4 5852.116	10.95	33.60	30.56	52.49	66.48	117.37	-50.89	peak	
5 5934.677	10.86	33.57	30.53	46.93	60.83	68.20	-7.37	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.

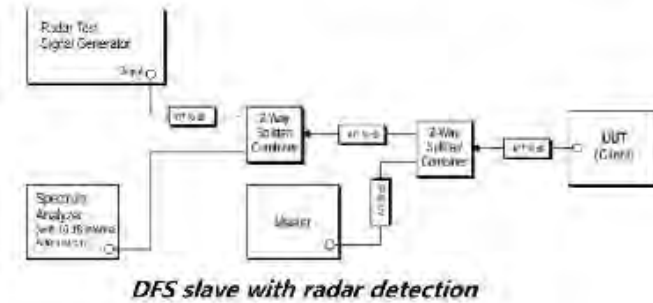
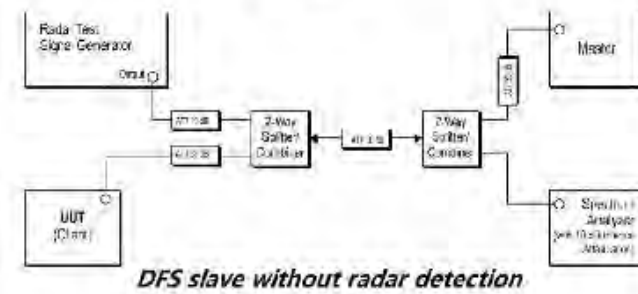
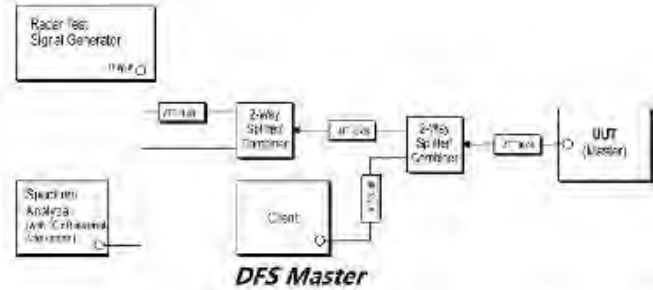
**7.6.1 E.U.T. Operation**

Operating Environment:  
 Temperature: 22.6 °C Humidity: 42.7 % RH Atmospheric Pressure: 1020 mbar



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### 7.6.2 Test Setup Diagram





### 7.6.3 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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**7.7 Duty Cycle**

Test Requirement           ANSI C63.10 (2013) Section 12.2  
 Test Method:               ANSI C63.10 (2013) Section 12.2

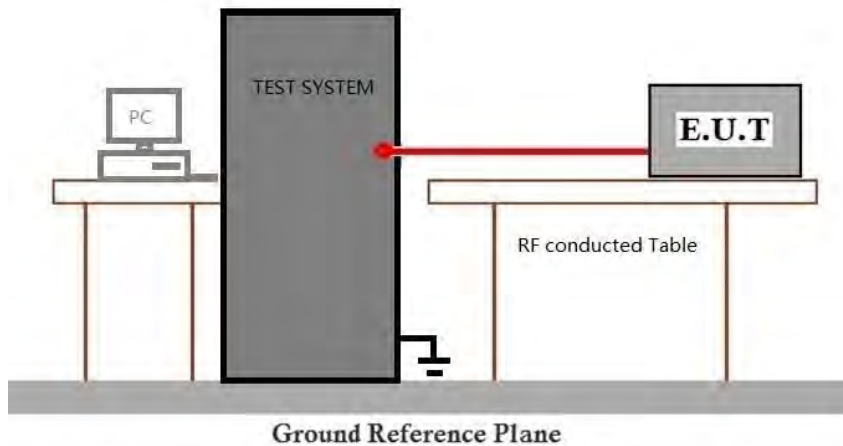
**7.7.1 E.U.T. Operation**

Operating Environment:  
 Temperature:   22.6 °C                   Humidity:   42.7 % 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, 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, 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, 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, Only the data of worst case is recorded in the report.

**7.7.3 Test Setup Diagram**



**7.7.4 Measurement Procedure and Data**

Please Refer to Appendix for Details



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**7.8 99% Bandwidth**

Test Requirement ANSI C63.10 (2013) Section 12.4.2

Test Method: ANSI C63.10 (2013) Section 12.4.2

**7.8.1 E.U.T. Operation**

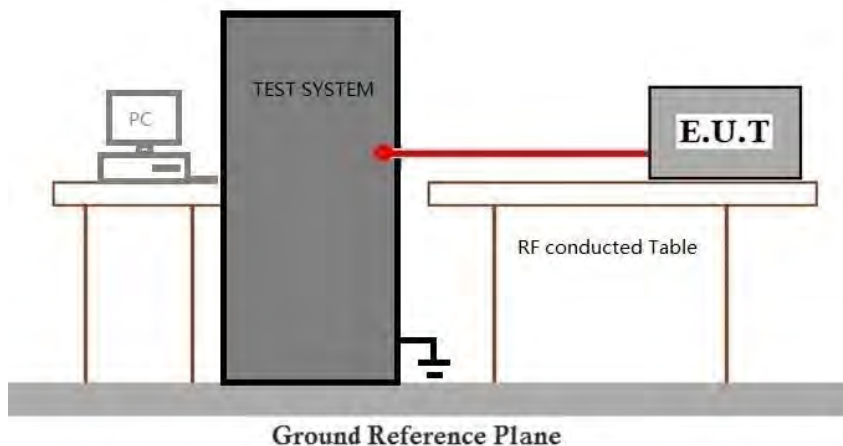
Operating Environment:

Temperature: 22.6 °C Humidity: 42.7 % 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, 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, 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, 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, Only the data of worst case is recorded in the report.

**7.8.3 Test Setup Diagram**



**7.8.4 Measurement Procedure and Data**

Please Refer to Appendix for Details



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**7.9 26dB Emission bandwidth**

Test Requirement 47 CFR Part 15, Subpart E 15.407 (a)  
 Test Method: ANSI C63.10 (2013) Section 12.4.1

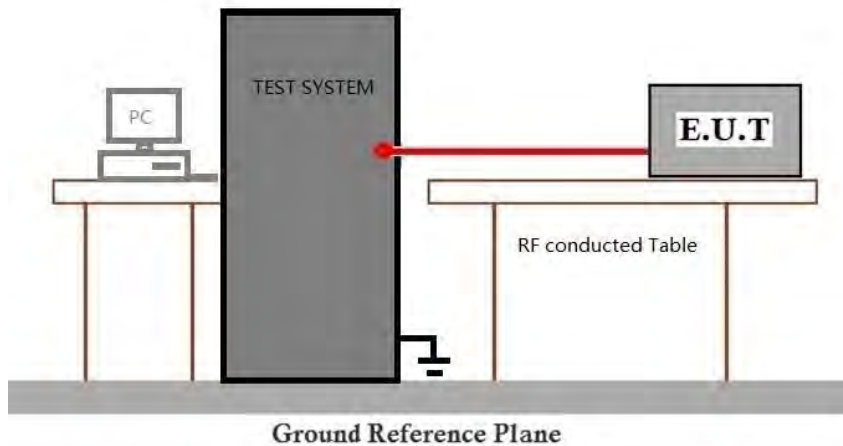
**7.9.1 E.U.T. Operation**

Operating Environment:  
 Temperature: 22.6 °C Humidity: 42.7 % 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, 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, 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, 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, Only the data of worst case is recorded in the report.

**7.9.3 Test Setup Diagram**



**7.9.4 Measurement Procedure and Data**

Please Refer to Appendix for Details



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**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: ANSI C63.10 (2013) Section 6.9.2

Limit:

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

**7.10.1 E.U.T. Operation**

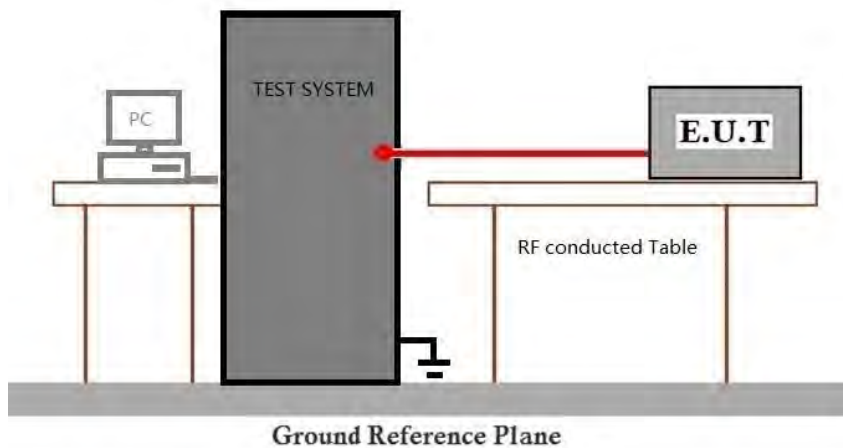
Operating Environment:

Temperature: 22.6 °C Humidity: 42.7 % 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, 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



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**7.11 Peak Power spectrum density**

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

Test Method: ANSI C63.10 (2013) Section 12.5

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: 22.6 °C Humidity: 42.7 % RH Atmospheric Pressure: 1020 mbar

**7.11.2 Test Mode Description**

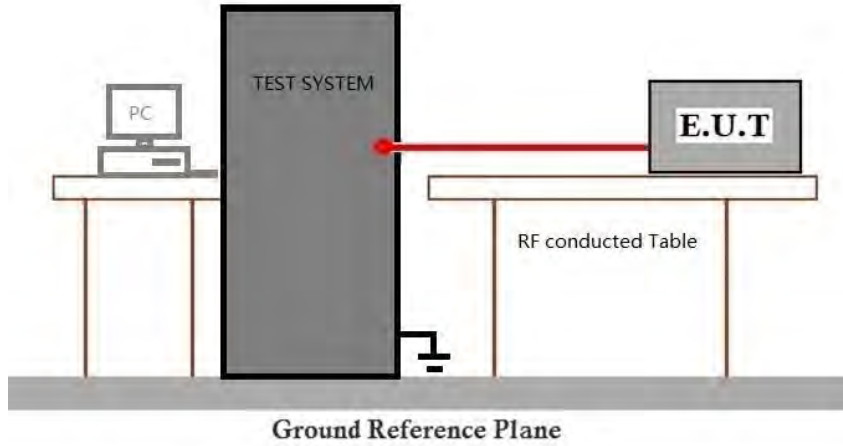
Pre-scan / Final test	Mode Code	Description
Final test	09	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested, Only the data of worst case is recorded in the report.
Final test	10	TX mode (U-NII-2A) _Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested, 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, 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, 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



**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**

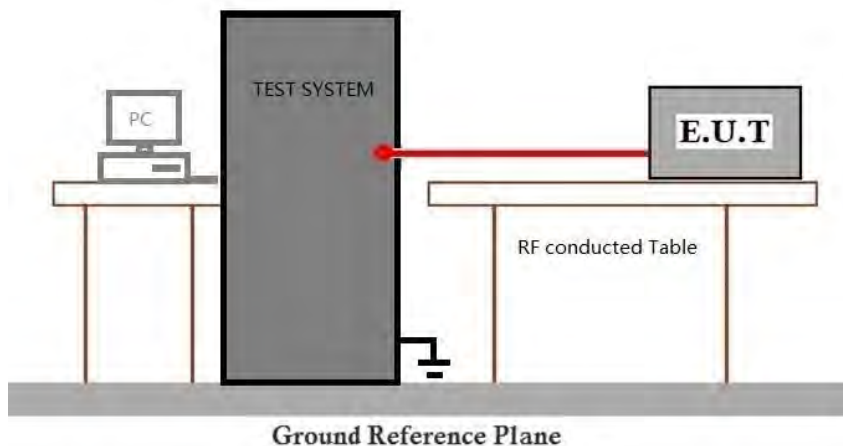
Operating Environment:

Temperature: 22.6 °C Humidity: 42.7 % 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, 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, 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, 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, Only the data of worst case is recorded in the report.

**7.12.3 Test Setup Diagram**



**7.12.4 Measurement Procedure and Data**

Please Refer to Appendix for Details



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**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**

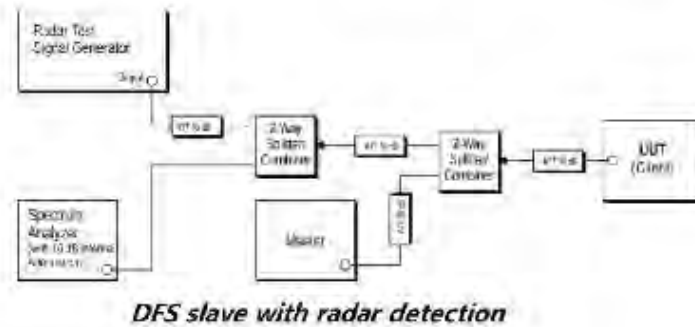
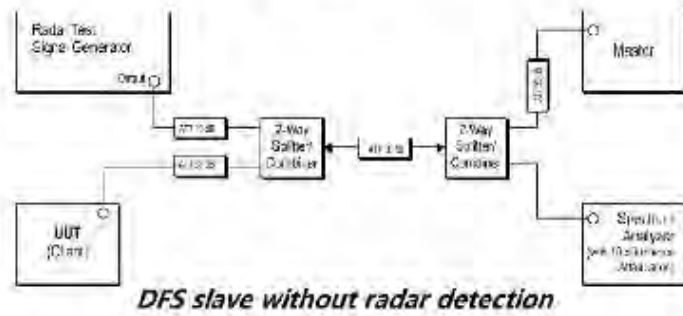
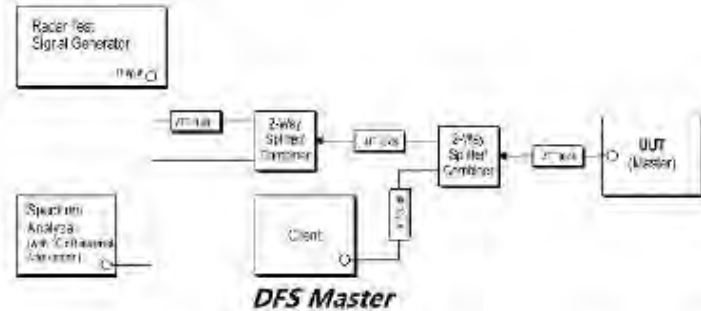
Operating Environment:

Temperature: 22.6 °C Humidity: 42.7 % RH Atmospheric Pressure: 1020 mbar



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### 7.13.2 Test Setup Diagram



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**7.13.3 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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**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: 22.6 °C Humidity: 42.7 % RH Atmospheric Pressure: 1020 mbar

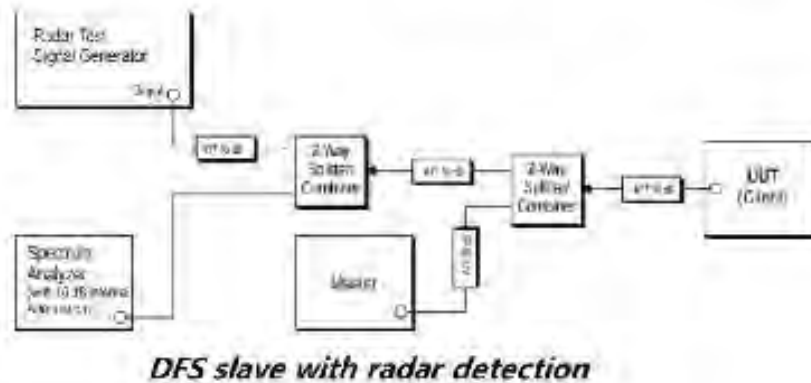
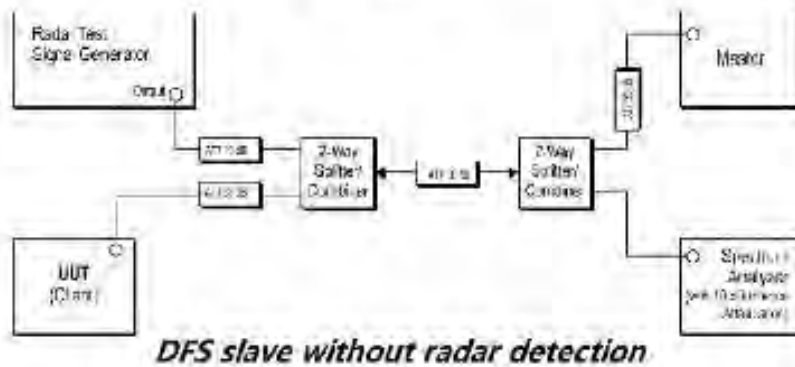
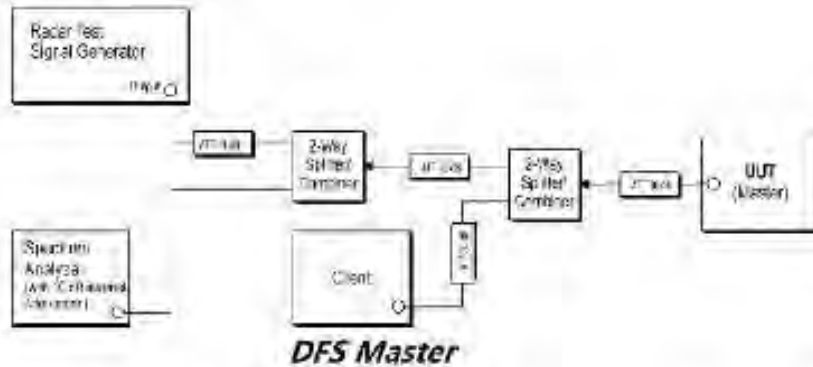


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### 7.14.2 Test Setup Diagram



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**7.14.3 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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## 8 Test Setup Photo

Please refer to SZCR2501000078 Appendix\_Setup Photo

## 9 EUT Constructional Details (EUT Photos)

Refer to Appendix – External and Internal Photos for SZCR2501000078WM.



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## 10 Appendix

### 1. Duty Cycle

#### 1.1 Test Result

##### 1.1.1 Ant22

Ant22							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11a	SISO	5180	1.392	1.428	97.48	0.11	0.03
		5200	1.393	1.428	97.55	0.11	0.07
		5240	1.392	1.428	97.48	0.11	0.03
		5260	1.392	1.428	97.48	0.11	0.06
		5300	1.392	1.427	97.55	0.11	0.07
		5320	1.392	1.428	97.48	0.11	0.07
		5500	1.392	1.428	97.48	0.11	0.03
		5580	1.393	1.428	97.55	0.11	0.03
		5700	1.394	1.428	97.62	0.10	0.03
		5745	1.392	1.428	97.48	0.11	0.06
		5785	1.393	1.428	97.55	0.11	0.03
		5825	1.392	1.427	97.55	0.11	0.03
		5720	1.392	1.428	97.48	0.11	0.03
802.11n (HT20)	SISO	5180	1.300	1.335	97.38	0.12	0.03
		5200	1.302	1.336	97.46	0.11	0.10
		5240	1.302	1.336	97.46	0.11	0.03
		5260	1.301	1.337	97.31	0.12	0.10
		5300	1.301	1.336	97.38	0.12	0.07
		5320	1.300	1.336	97.31	0.12	0.03
		5500	1.300	1.336	97.31	0.12	0.07
		5580	1.300	1.336	97.31	0.12	0.03
		5700	1.302	1.336	97.46	0.11	0.03
		5745	1.301	1.336	97.38	0.12	0.03
		5785	1.301	1.336	97.38	0.12	0.04
		5825	1.301	1.336	97.38	0.12	0.03
		5720	1.301	1.336	97.38	0.12	0.03
802.11n (HT40)	SISO	5190	0.649	0.683	95.02	0.22	0.03
		5230	0.650	0.684	95.03	0.22	0.07



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

SZEMC-TRF-01 Rev. A/1

Report No.: SZCR250100007806

Page: 169 of 319

		5270	0.650	0.683	95.17	0.22	0.03
		5310	0.648	0.683	94.88	0.23	0.07
		5510	0.649	0.683	95.02	0.22	0.07
		5550	0.648	0.683	94.88	0.23	0.07
		5670	0.648	0.683	94.88	0.23	0.03
		5755	0.649	0.684	94.88	0.23	0.07
		5795	0.649	0.683	95.02	0.22	0.07
		5710	0.648	0.683	94.88	0.23	0.07
802.11ac (VHT20)	SISO	5180	1.312	1.347	97.40	0.11	0.04
		5200	1.312	1.348	97.33	0.12	0.03
		5240	1.312	1.347	97.40	0.11	0.04
		5260	1.312	1.348	97.33	0.12	0.07
		5300	1.312	1.347	97.40	0.11	0.03
		5320	1.312	1.348	97.33	0.12	0.03
		5500	1.313	1.348	97.40	0.11	0.04
		5580	1.312	1.347	97.40	0.11	0.03
		5700	1.314	1.348	97.48	0.11	0.07
		5745	1.313	1.348	97.40	0.11	0.07
		5785	1.312	1.348	97.33	0.12	0.03
		5825	1.312	1.348	97.33	0.12	0.03
5720	1.313	1.348	97.40	0.11	0.03		
802.11ac (VHT40)	SISO	5190	0.653	0.687	95.05	0.22	0.03
		5230	0.652	0.687	94.91	0.23	0.04
		5270	0.653	0.687	95.05	0.22	0.03
		5310	0.652	0.687	94.91	0.23	0.07
		5510	0.654	0.687	95.20	0.21	0.10
		5550	0.653	0.687	95.05	0.22	0.03
		5670	0.653	0.687	95.05	0.22	0.03
		5755	0.652	0.687	94.91	0.23	0.07
		5795	0.653	0.687	95.05	0.22	0.03
		5710	0.653	0.687	95.05	0.22	0.03
802.11ac (VHT80)	SISO	5210	0.325	0.358	90.78	0.42	0.00
		5290	0.325	0.359	90.53	0.43	0.04
		5530	0.325	0.359	90.53	0.43	0.07
		5610	0.324	0.358	90.50	0.43	0.04
		5775	0.324	0.358	90.50	0.43	0.04
		5690	0.325	0.359	90.53	0.43	0.04

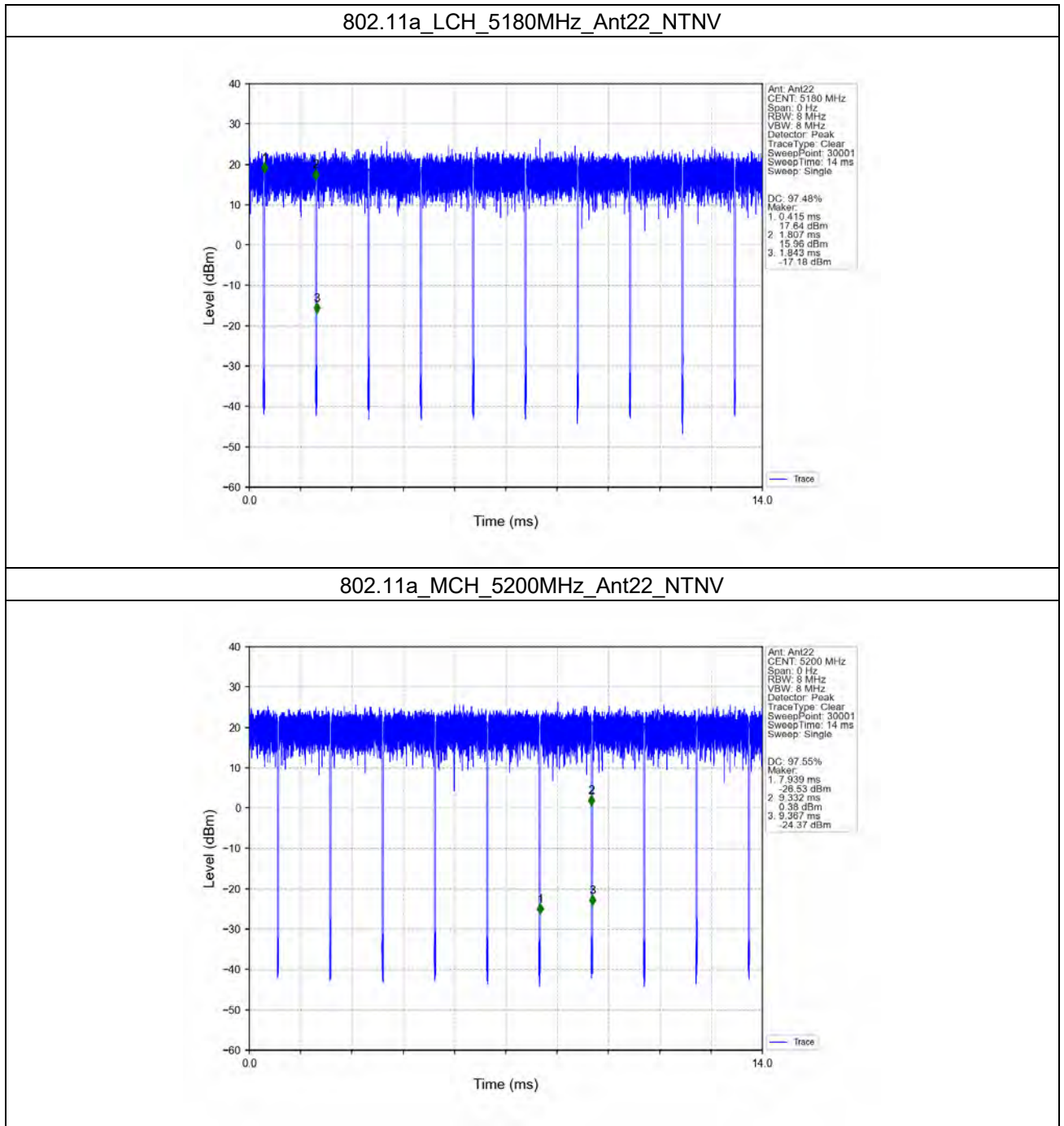


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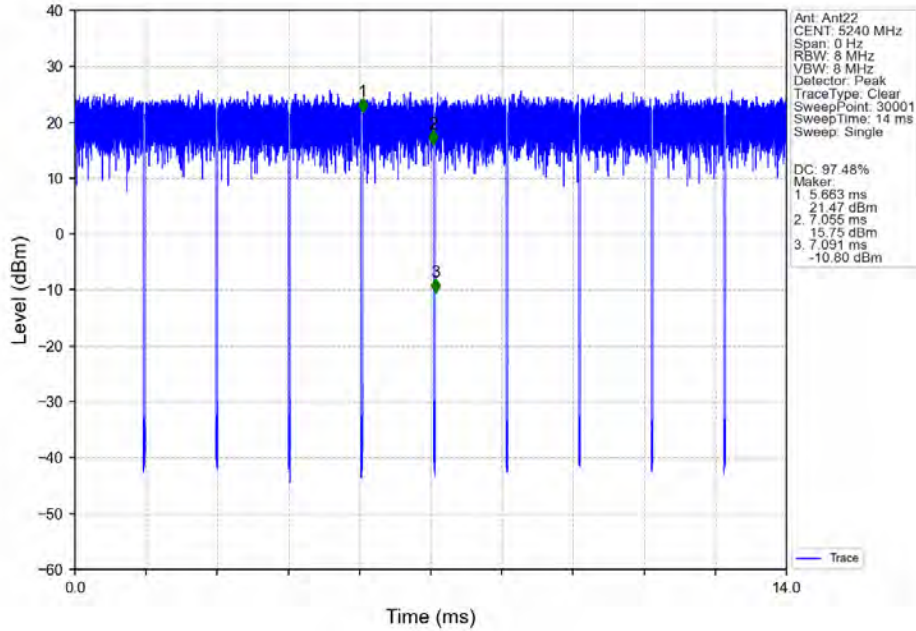
### 1.2 Test Graph

#### 1.2.1 Ant22

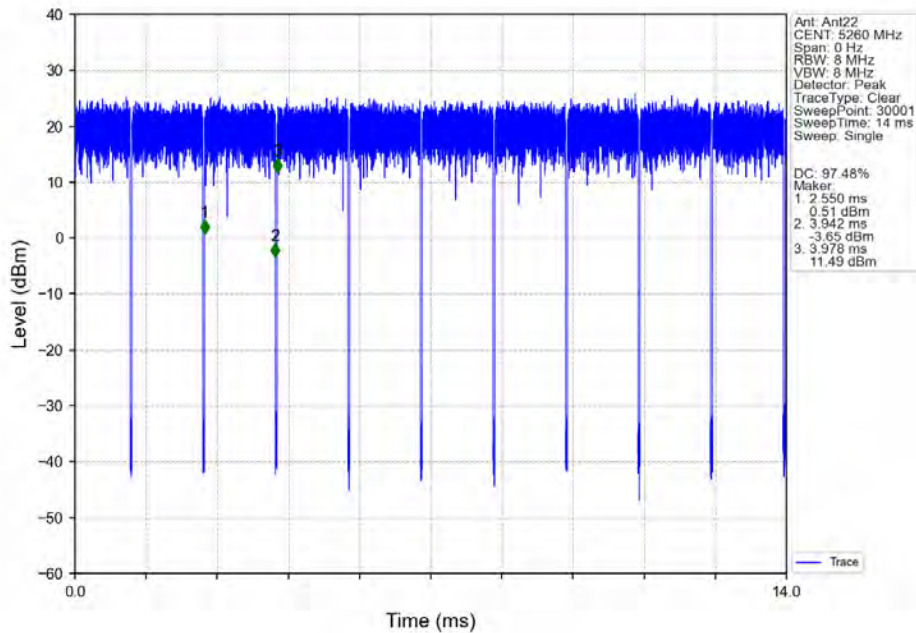


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802.11a\_HCH\_5240MHz\_Ant22\_NTNV



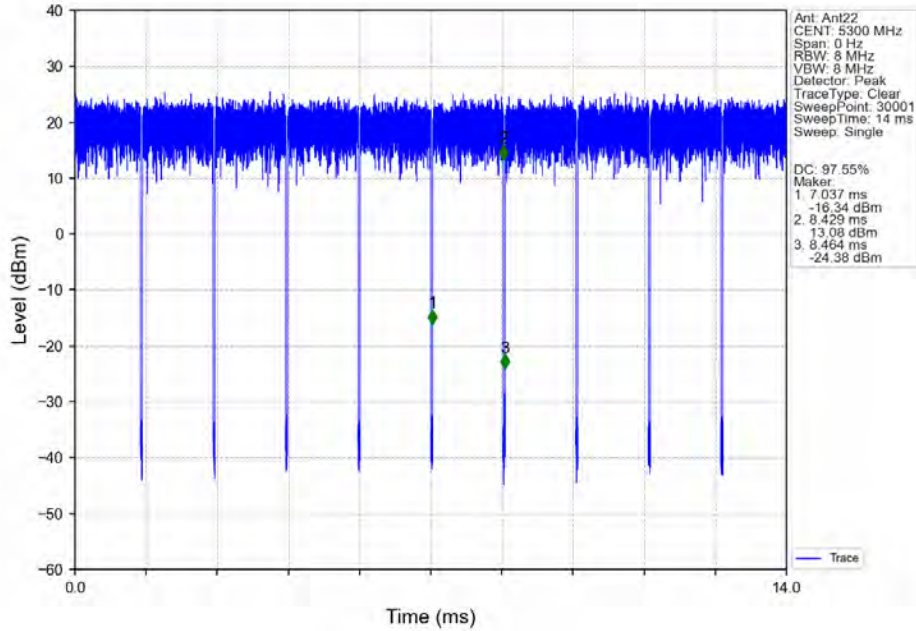
802.11a\_LCH\_5260MHz\_Ant22\_NTNV



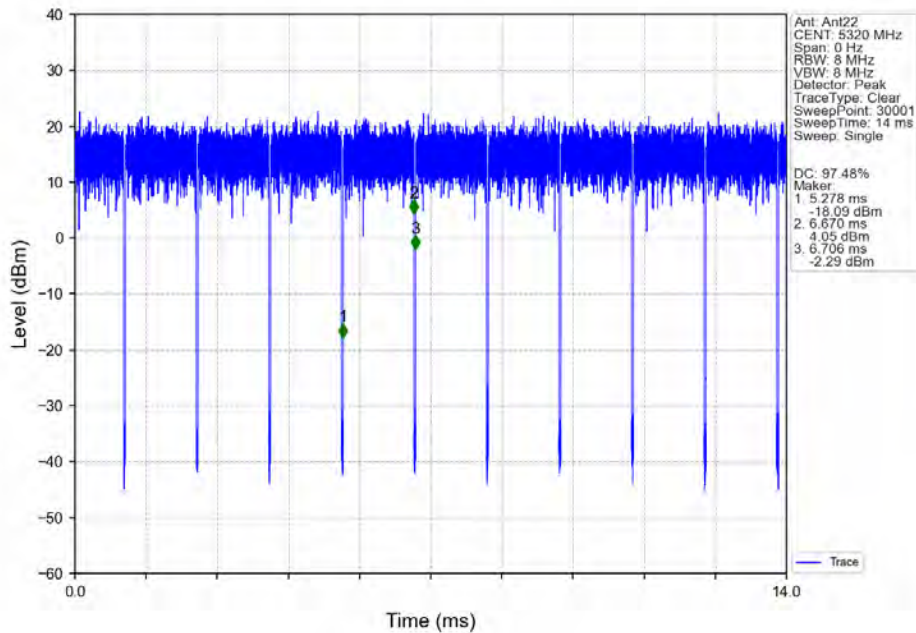
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### 802.11a\_MCH\_5300MHz\_Ant22\_NTNV



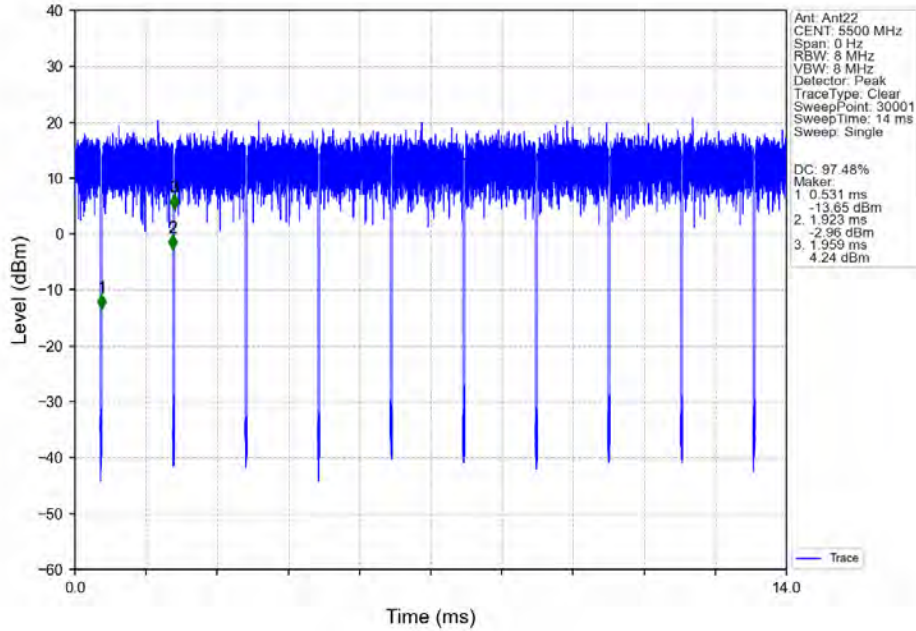
### 802.11a\_HCH\_5320MHz\_Ant22\_NTNV



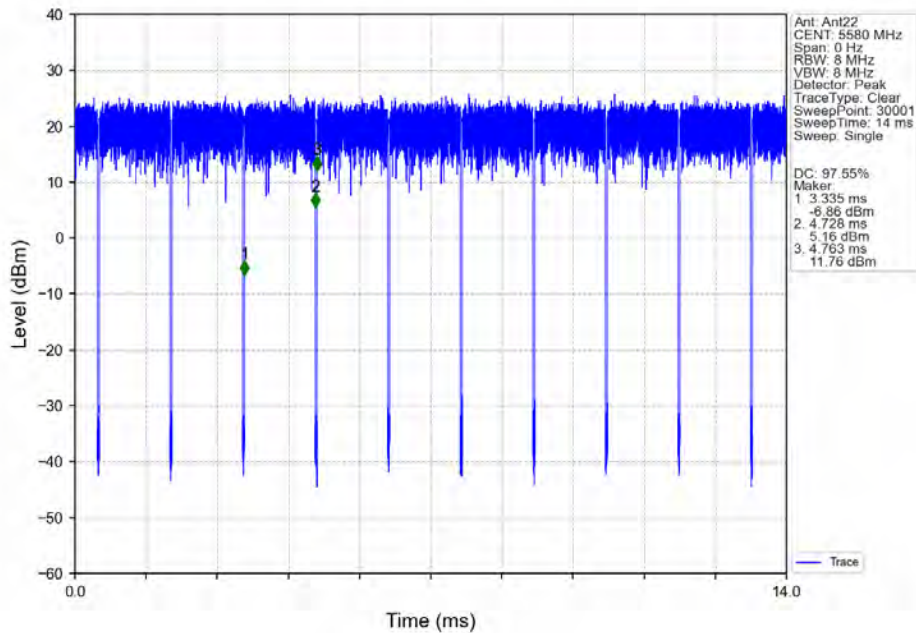
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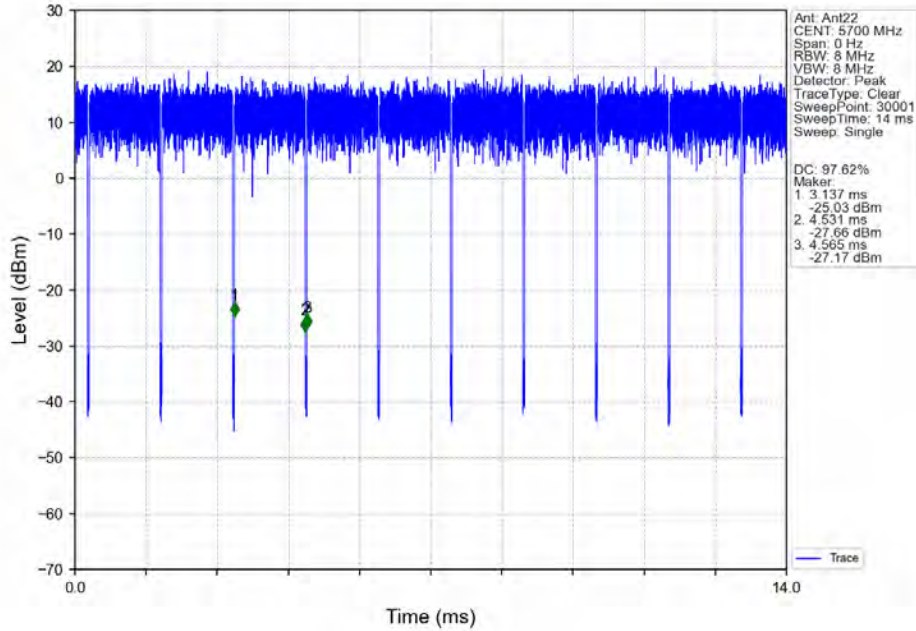
802.11a\_LCH\_5500MHz\_Ant22\_NTNV



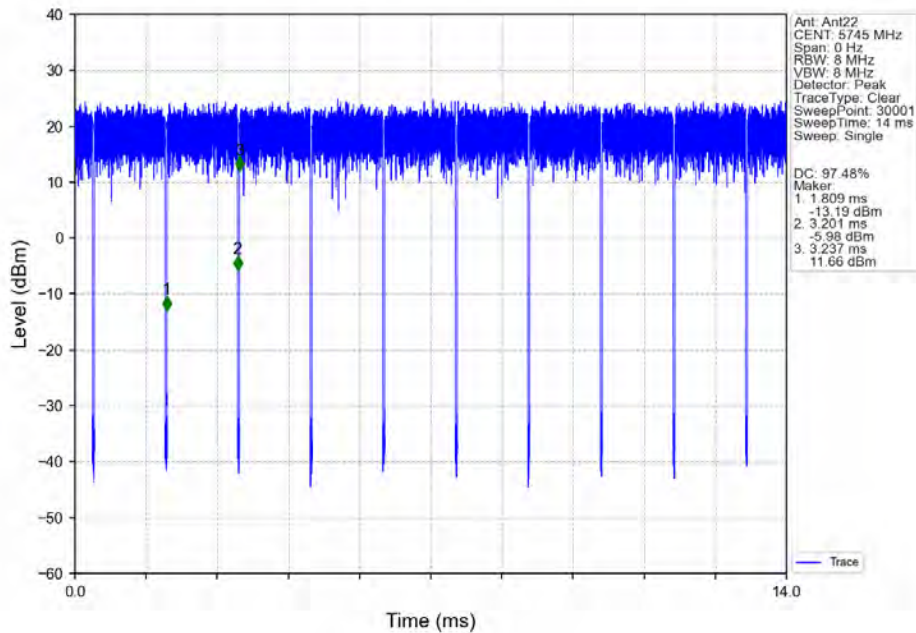
802.11a\_MCH\_5580MHz\_Ant22\_NTNV



802.11a\_HCH\_5700MHz\_Ant22\_NTNV

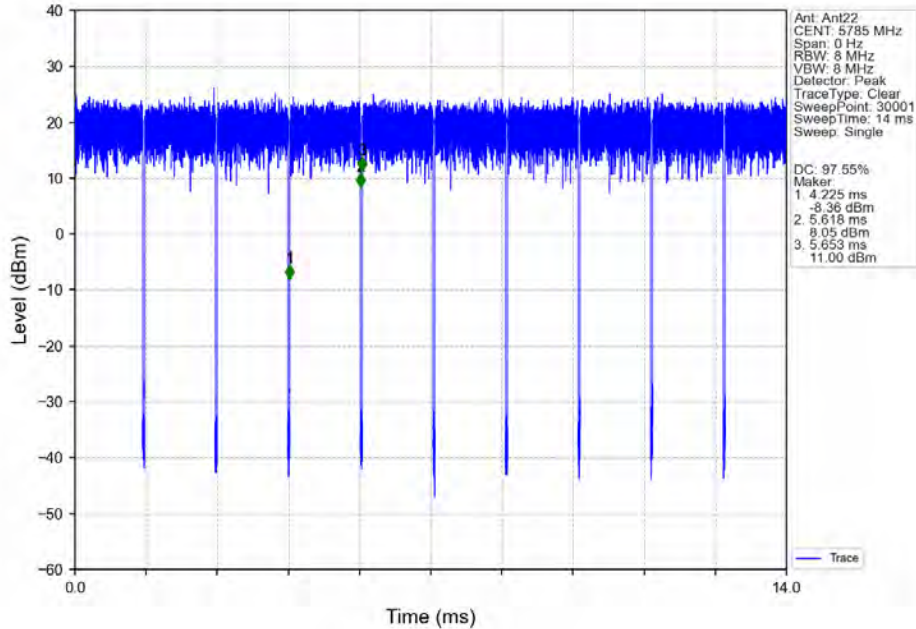


802.11a\_LCH\_5745MHz\_Ant22\_NTNV

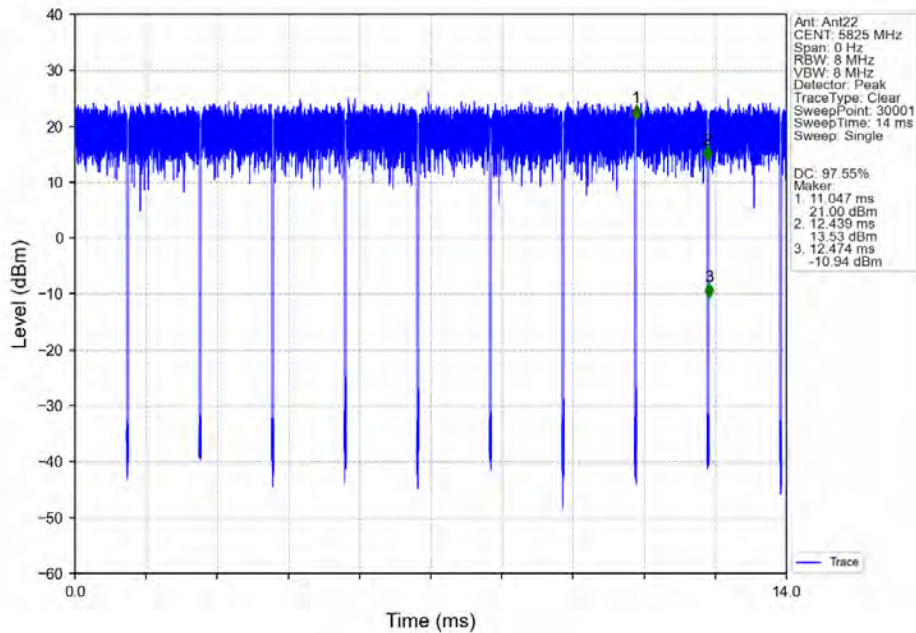


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802.11a\_MCH\_5785MHz\_Ant22\_NTNV



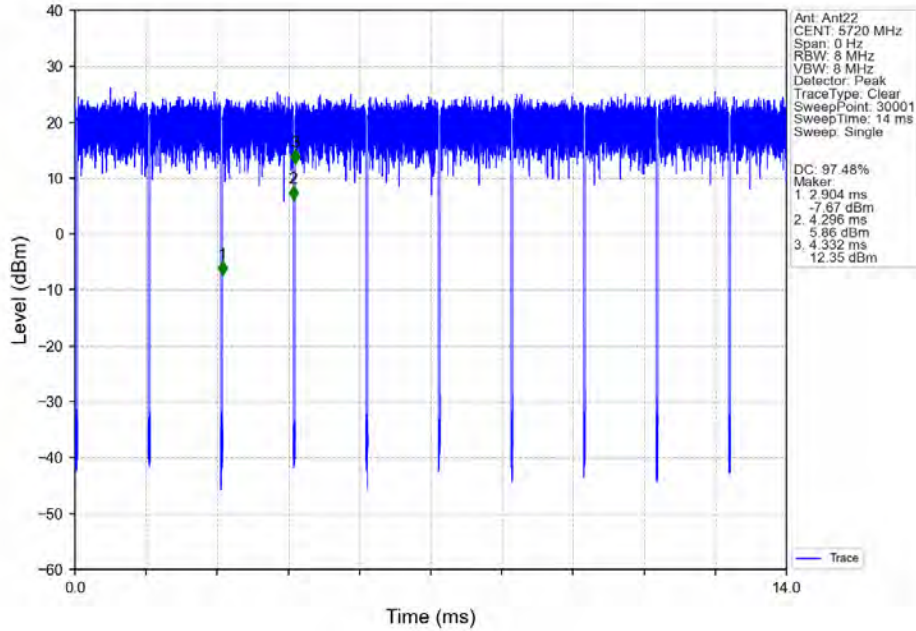
802.11a\_HCH\_5825MHz\_Ant22\_NTNV



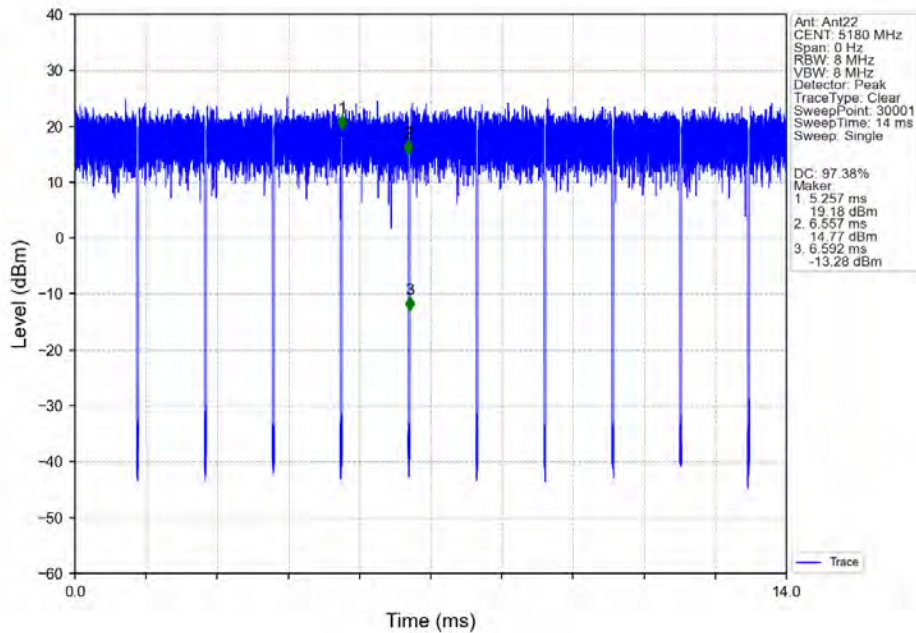
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802.11a\_HCH\_5720MHz\_Ant22\_NTNV

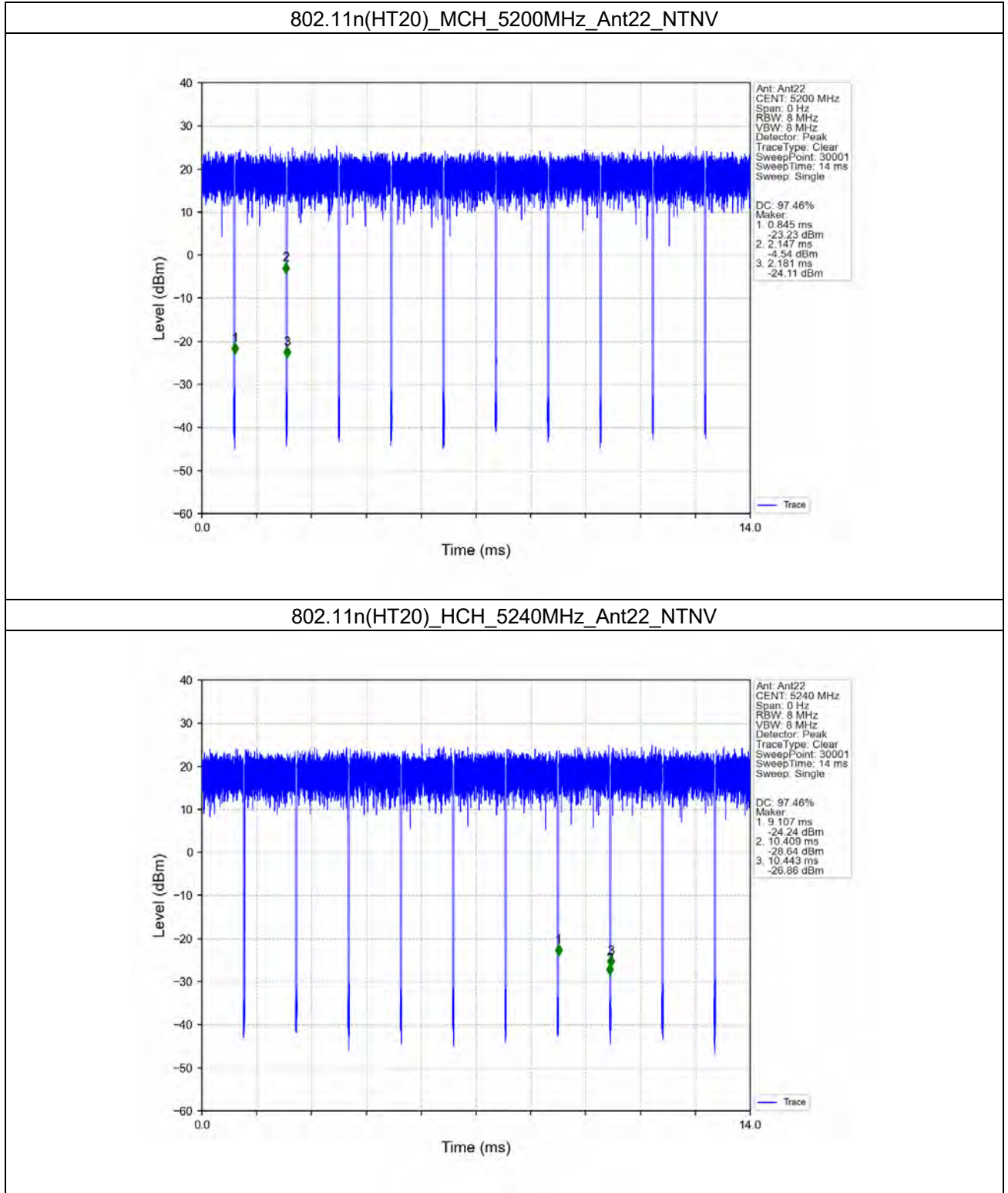


802.11n(HT20)\_LCH\_5180MHz\_Ant22\_NTNV

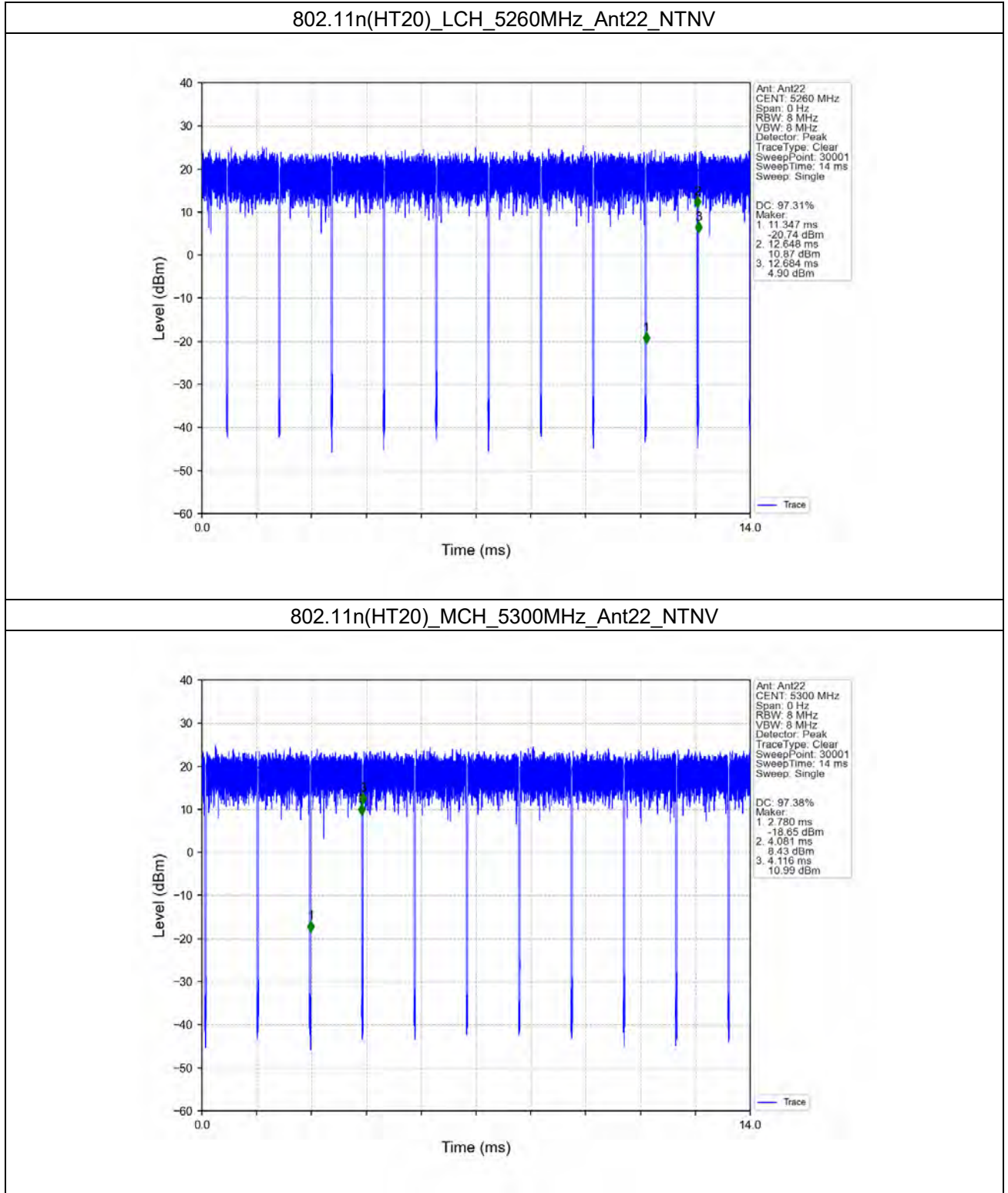


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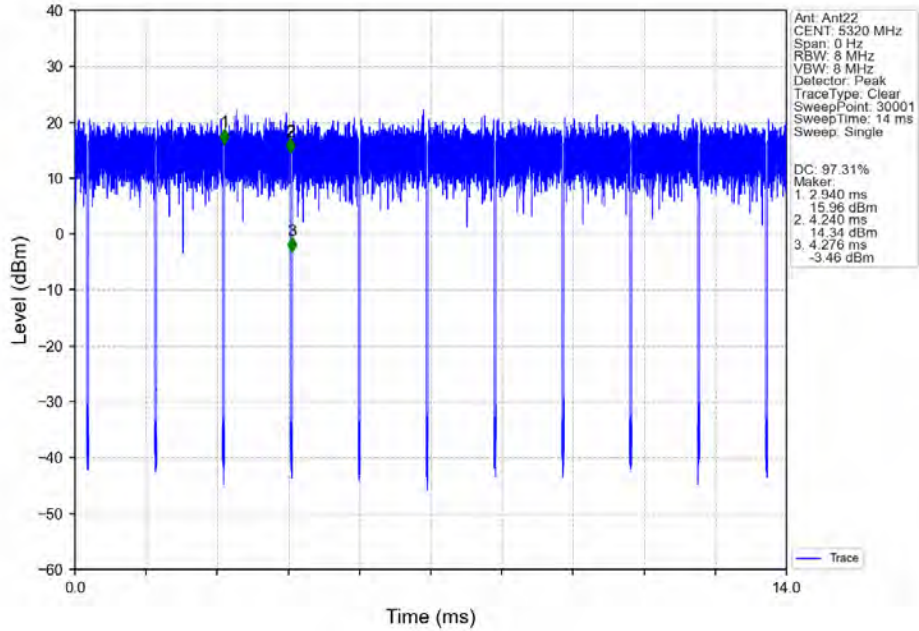


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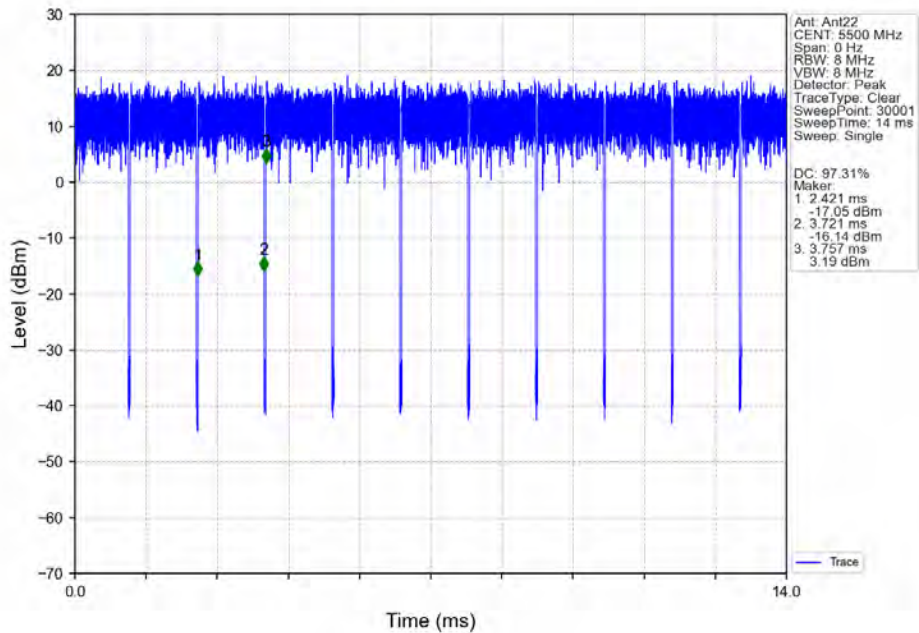
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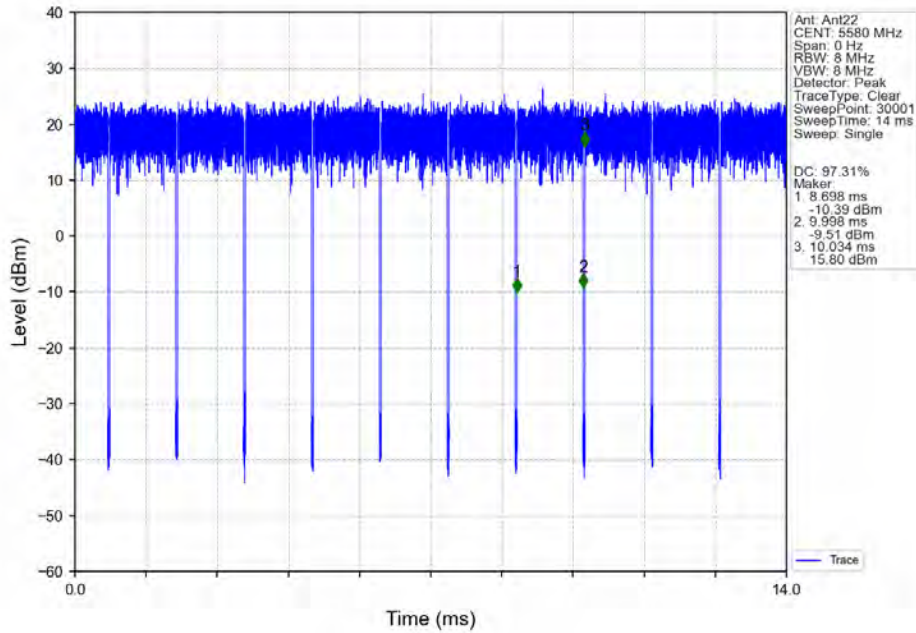
802.11n(HT20)\_HCH\_5320MHz\_Ant22\_NTNV



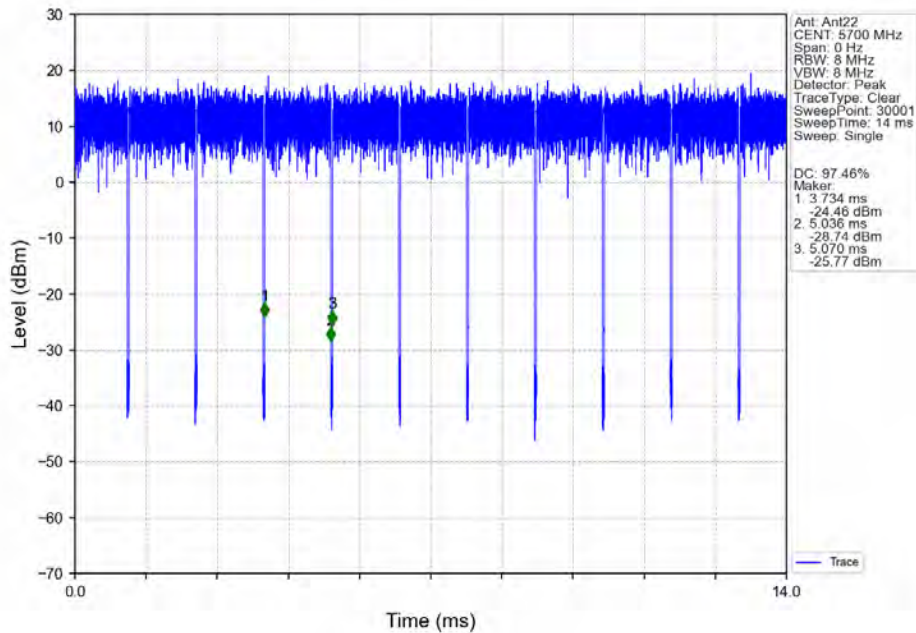
802.11n(HT20)\_LCH\_5500MHz\_Ant22\_NTNV



802.11n(HT20)\_MCH\_5580MHz\_Ant22\_NTNV

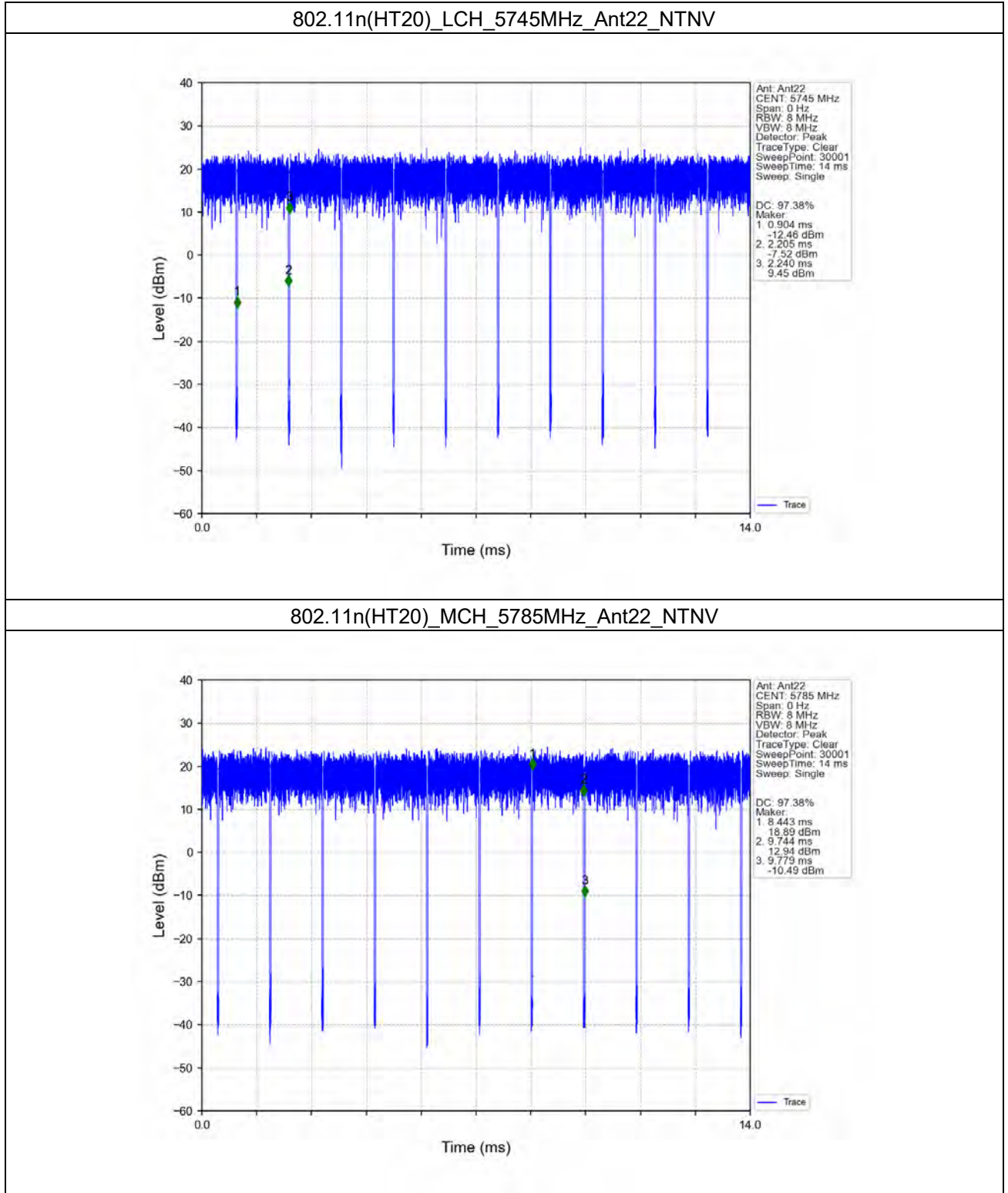


802.11n(HT20)\_HCH\_5700MHz\_Ant22\_NTNV



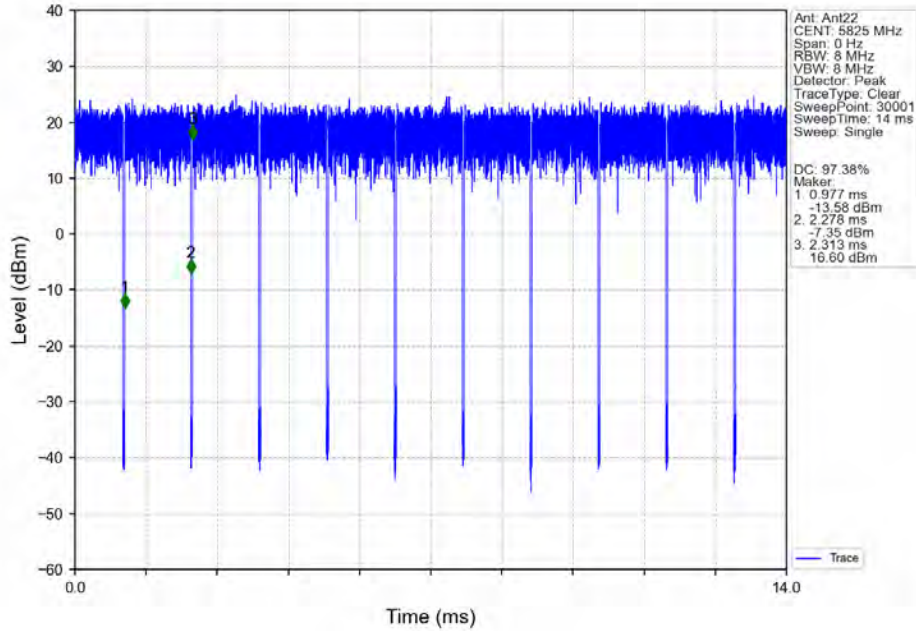
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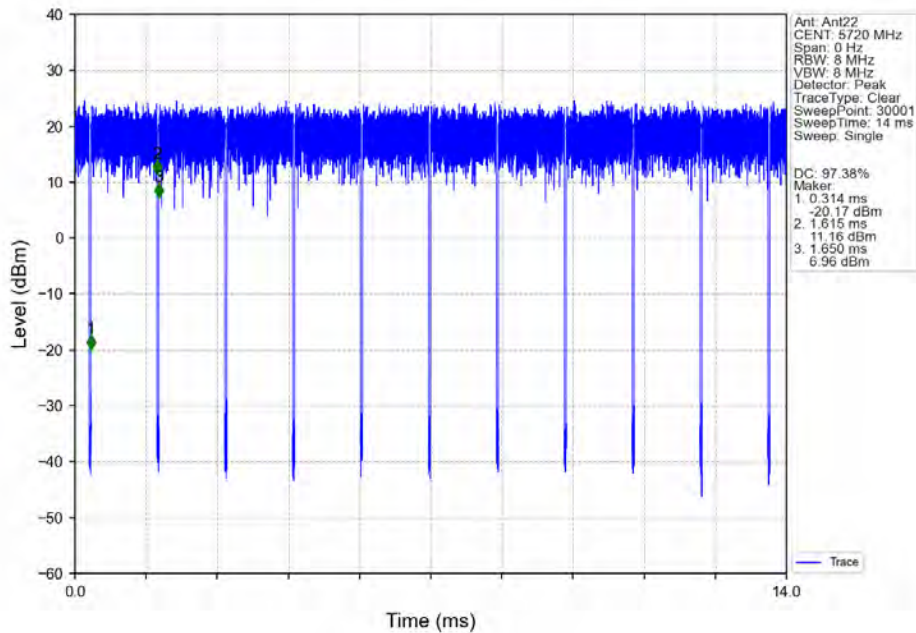


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802.11n(HT20)\_HCH\_5825MHz\_Ant22\_NTNV



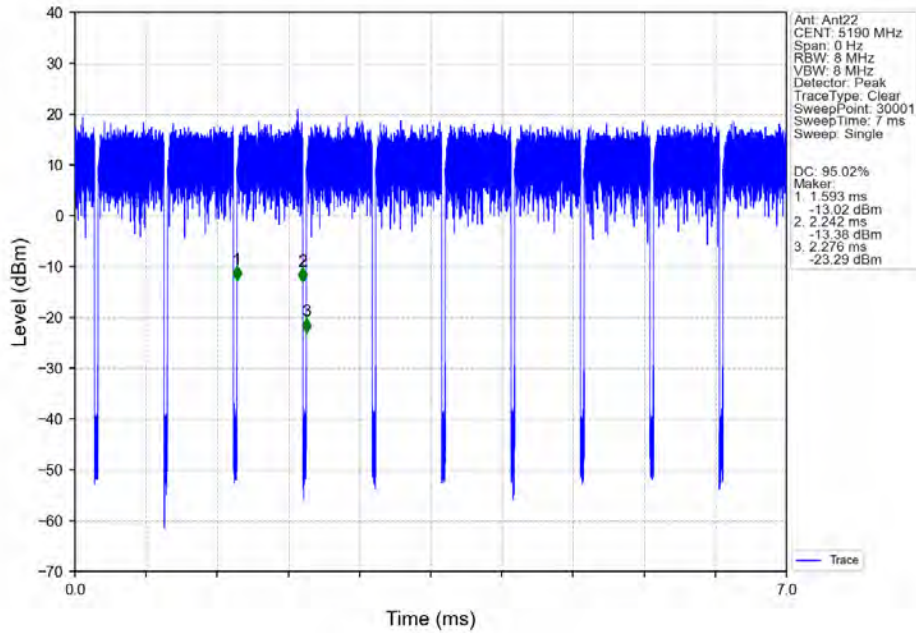
802.11n(HT20)\_HCH\_5720MHz\_Ant22\_NTNV



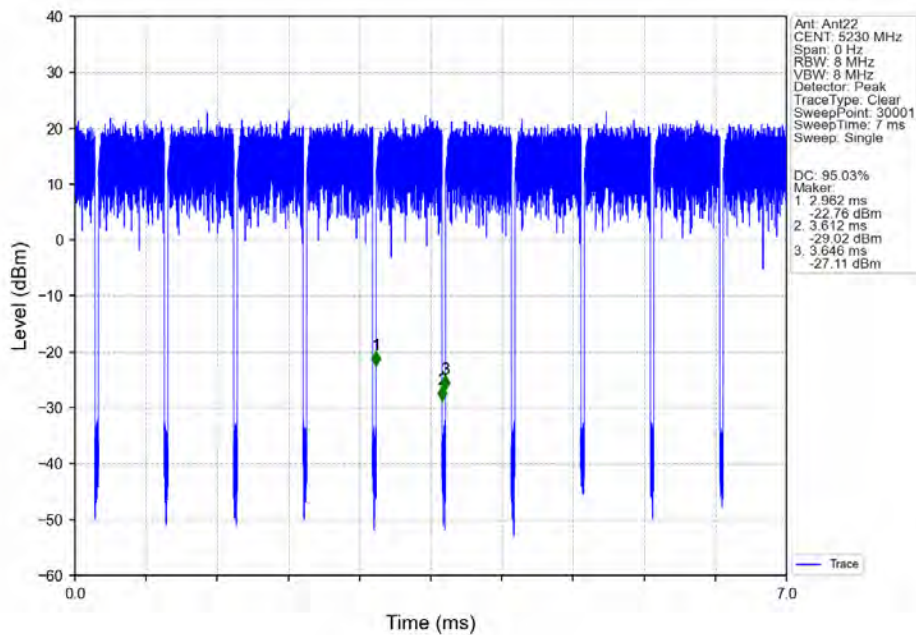
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802.11n(HT40)\_LCH\_5190MHz\_Ant22\_NTNV

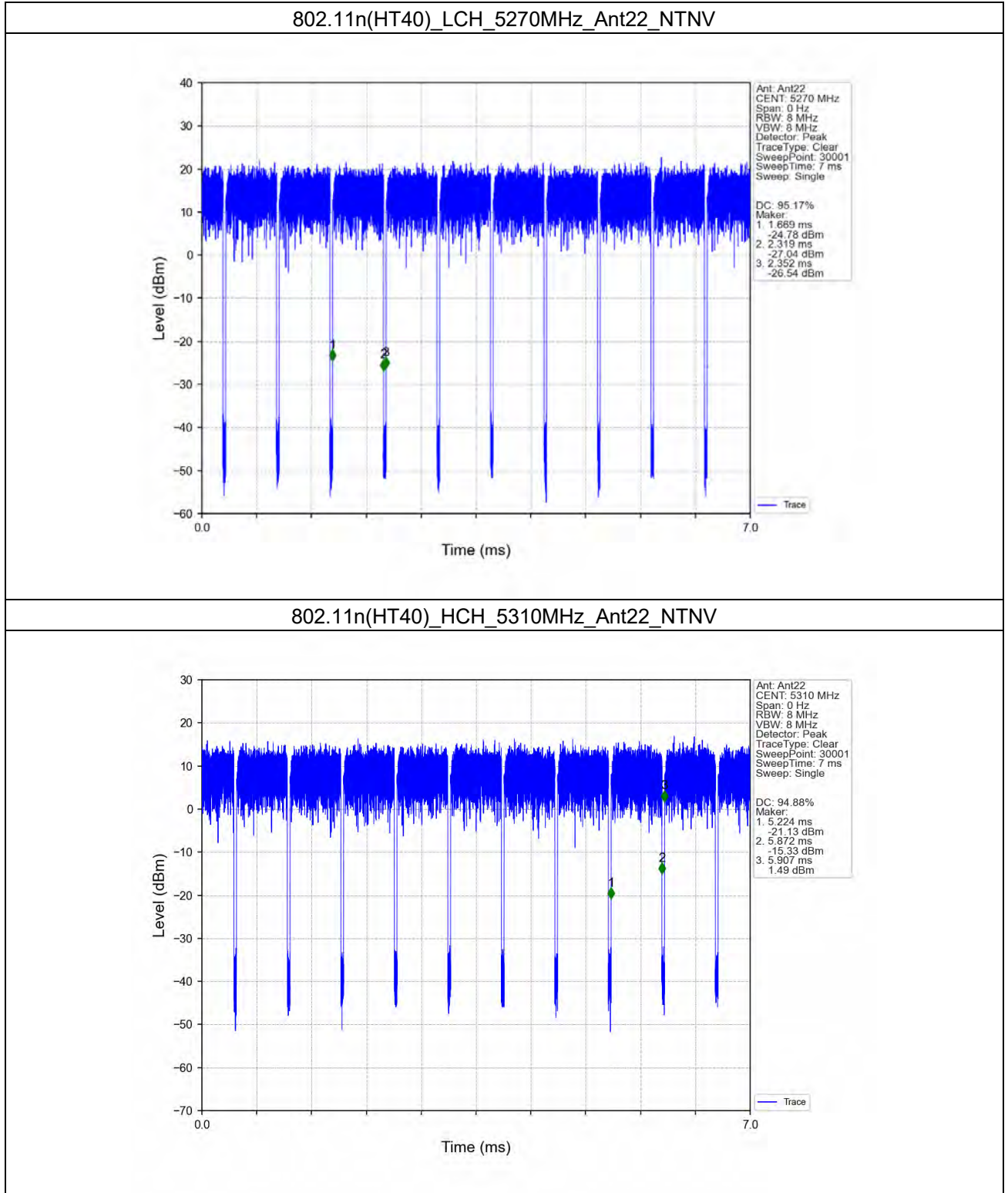


802.11n(HT40)\_HCH\_5230MHz\_Ant22\_NTNV



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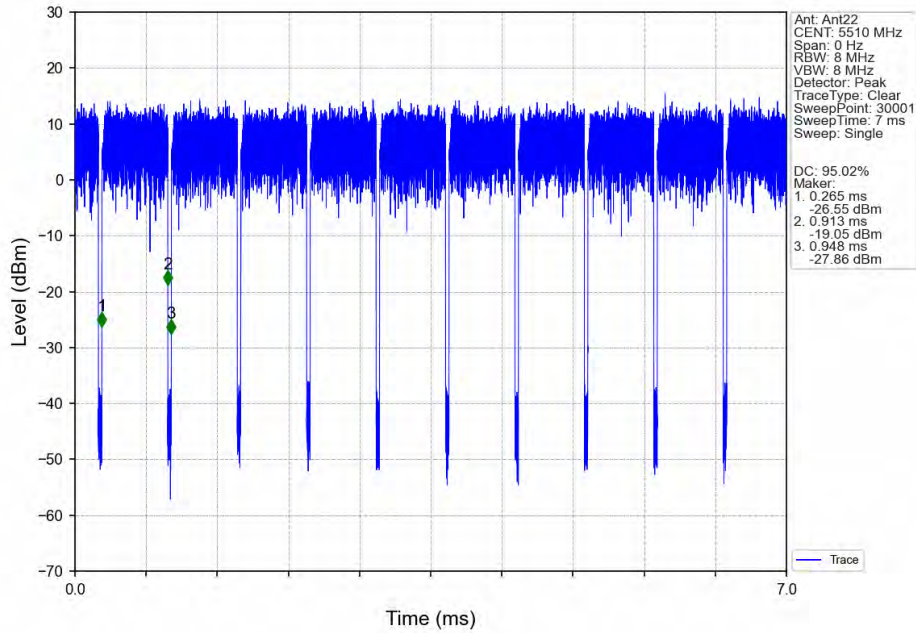
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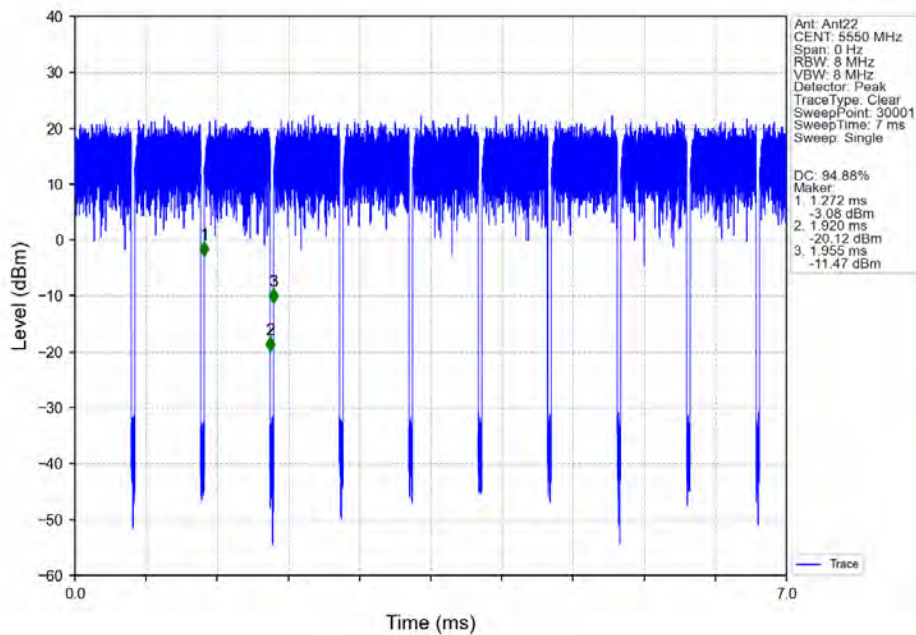
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802.11n(HT40)\_LCH\_5510MHz\_Ant22\_NTNV

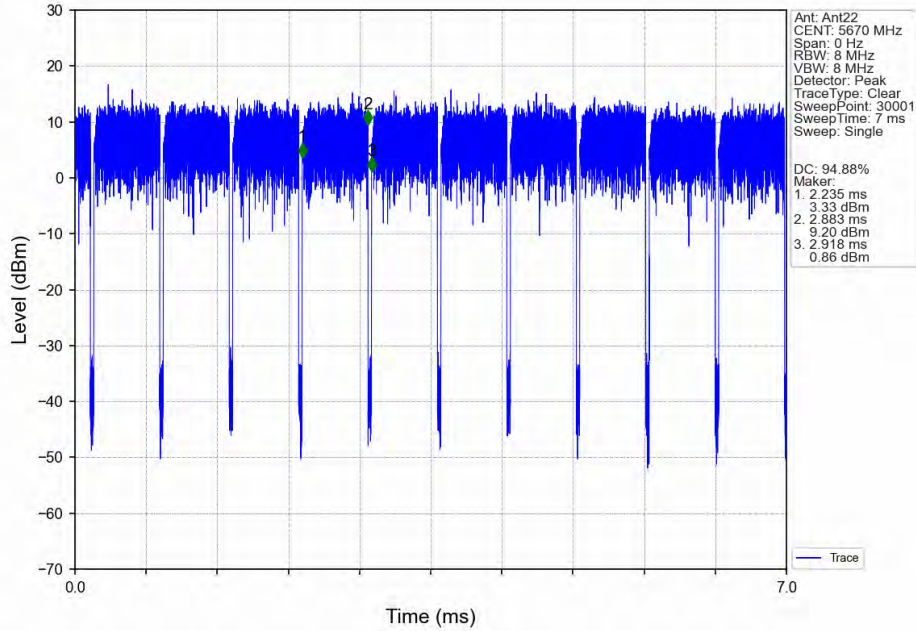


802.11n(HT40)\_MCH\_5550MHz\_Ant22\_NTNV

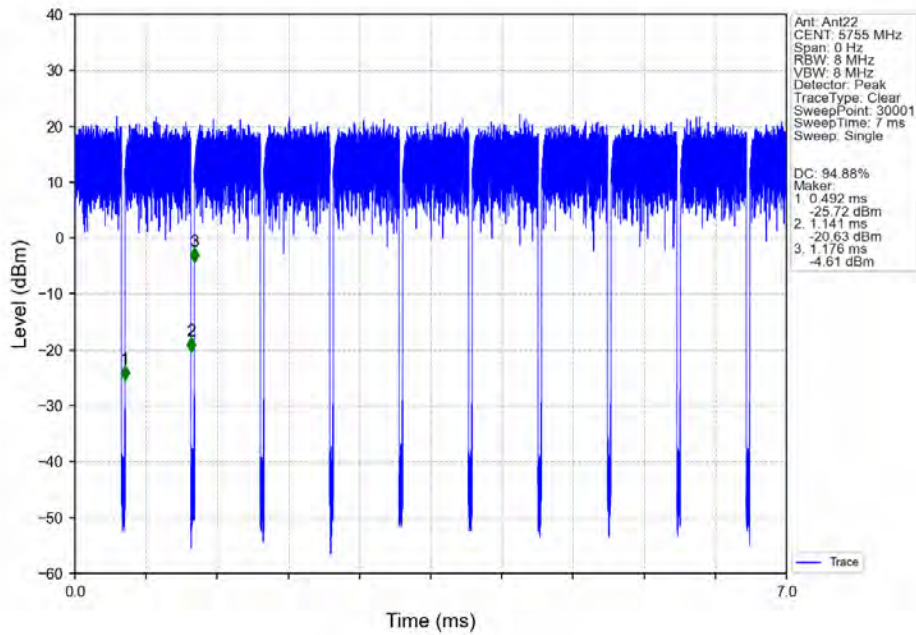


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802.11n(HT40)\_HCH\_5670MHz\_Ant22\_NTNV

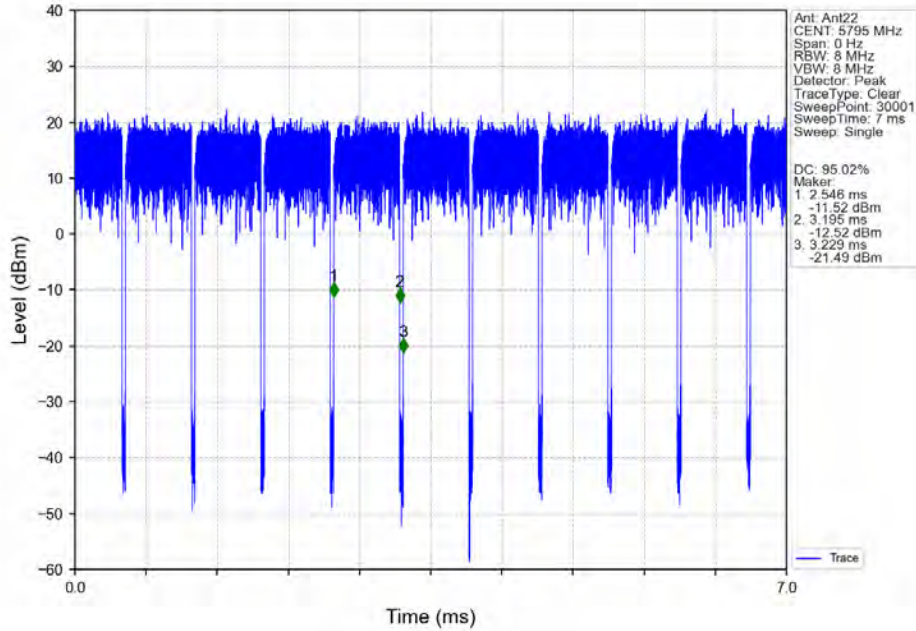


802.11n(HT40)\_LCH\_5755MHz\_Ant22\_NTNV

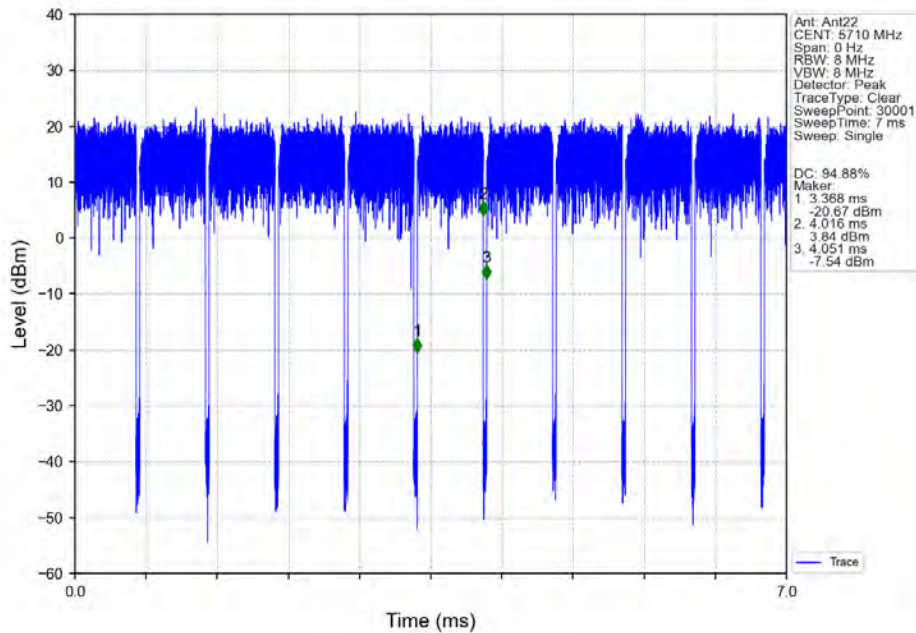


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802.11n(HT40)\_HCH\_5795MHz\_Ant22\_NTNV

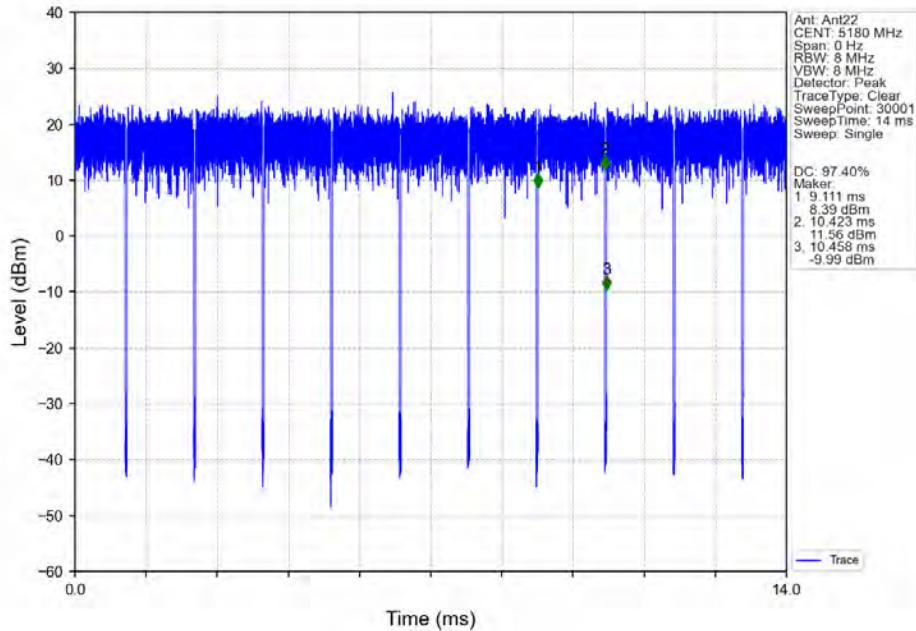


802.11n(HT40)\_HCH\_5710MHz\_Ant22\_NTNV

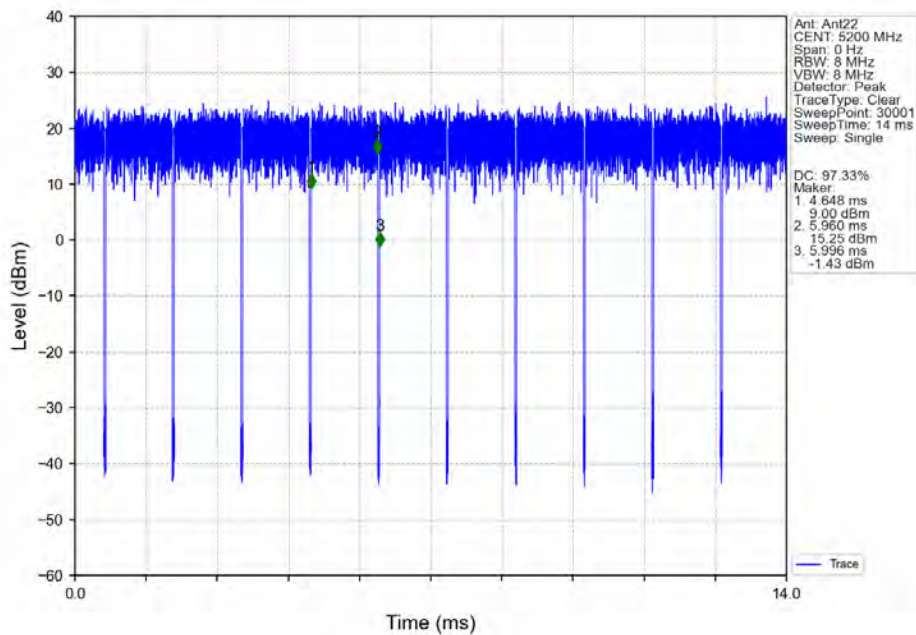


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802.11ac(VHT20)\_LCH\_5180MHz\_Ant22\_NTNV

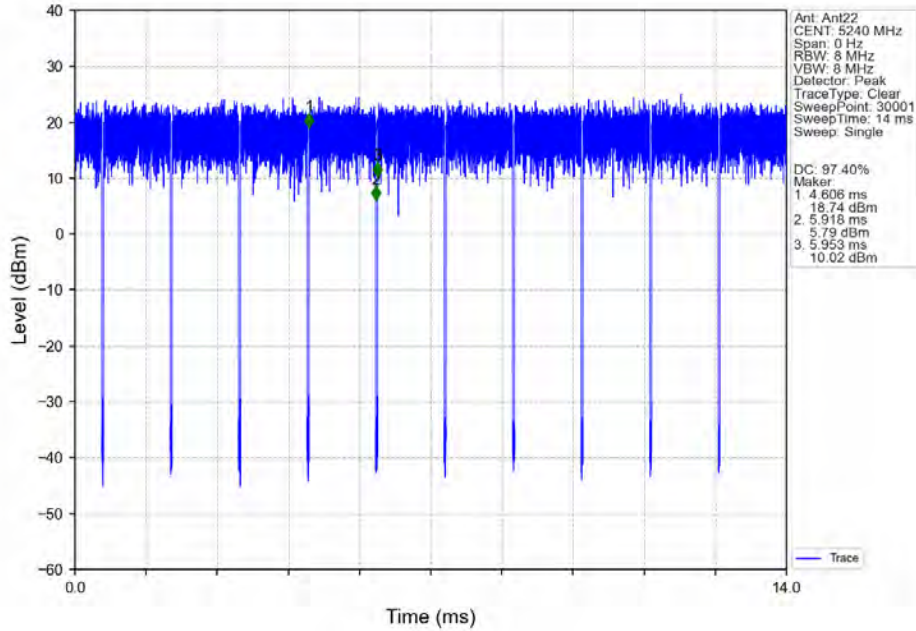


802.11ac(VHT20)\_MCH\_5200MHz\_Ant22\_NTNV

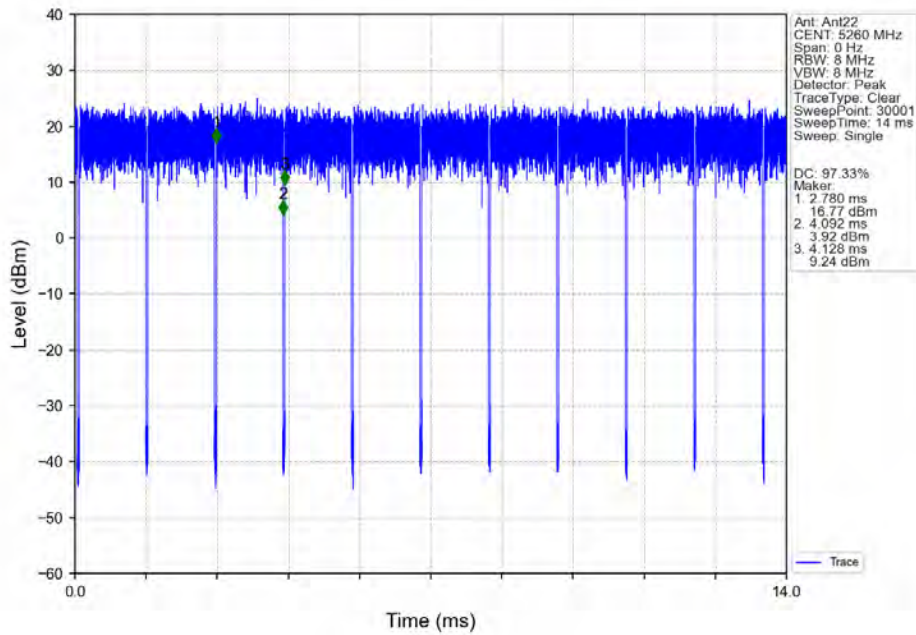


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802.11ac(VHT20)\_HCH\_5240MHz\_Ant22\_NTNV

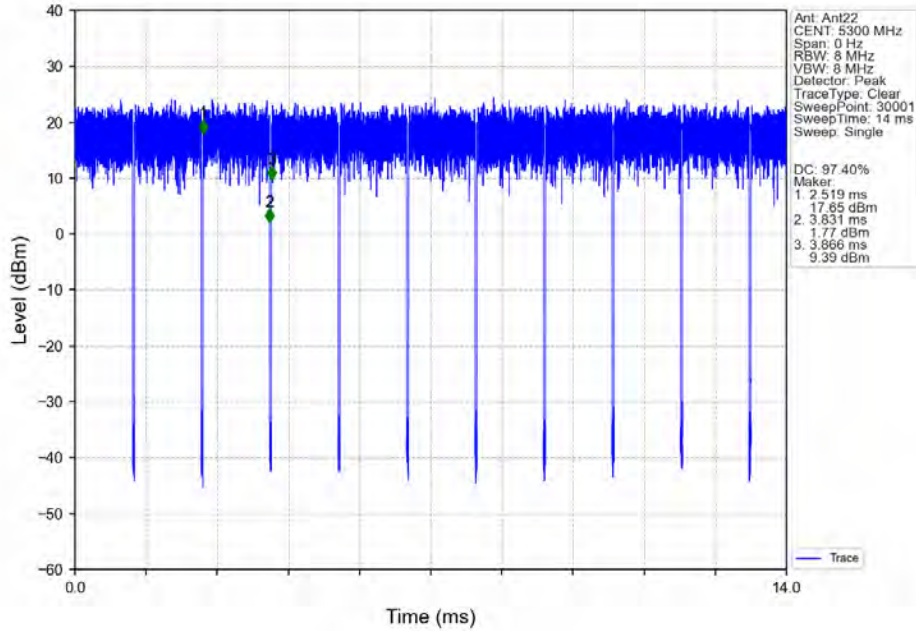


802.11ac(VHT20)\_LCH\_5260MHz\_Ant22\_NTNV

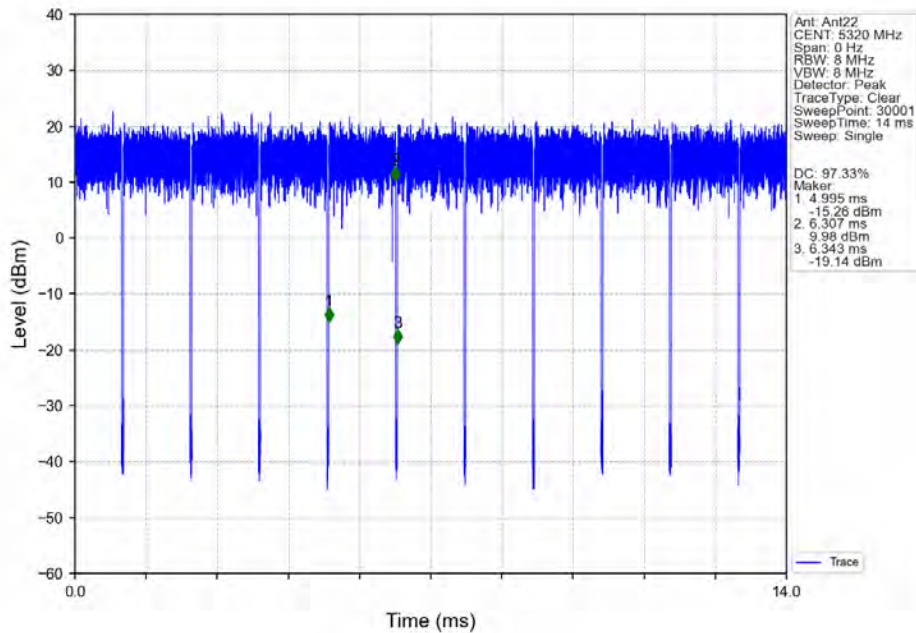


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802.11ac(VHT20)\_MCH\_5300MHz\_Ant22\_NTNV



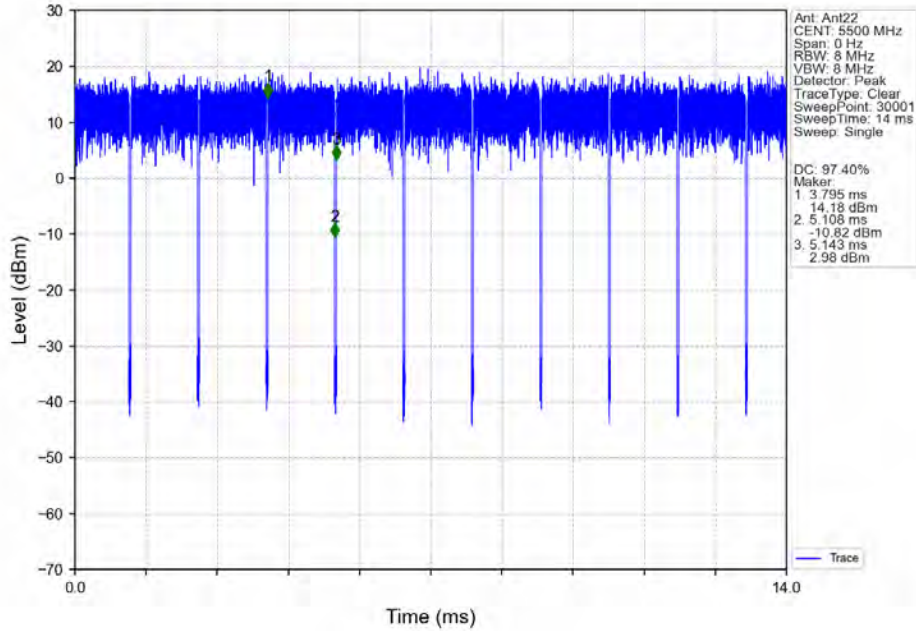
802.11ac(VHT20)\_HCH\_5320MHz\_Ant22\_NTNV



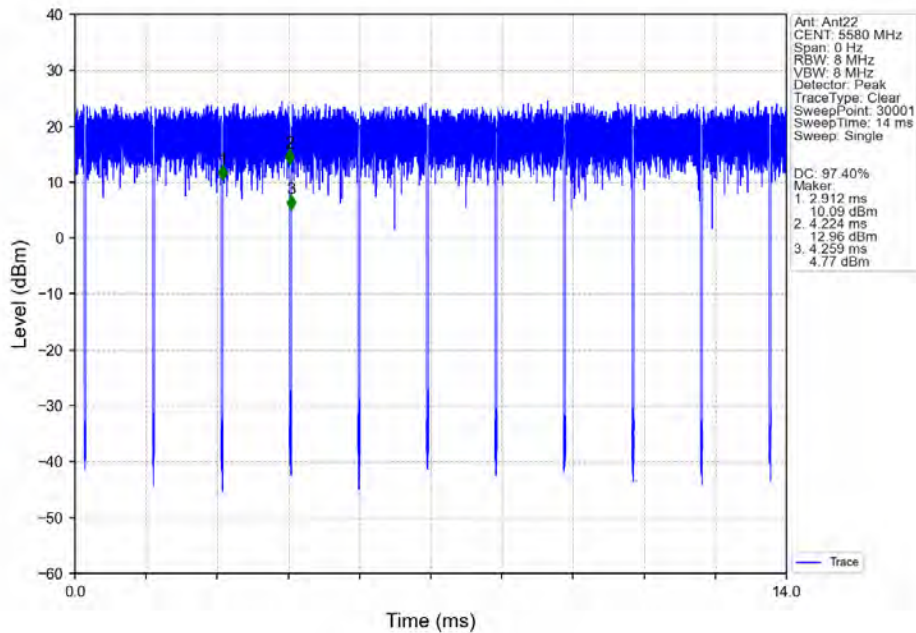
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802.11ac(VHT20)\_LCH\_5500MHz\_Ant22\_NTNV



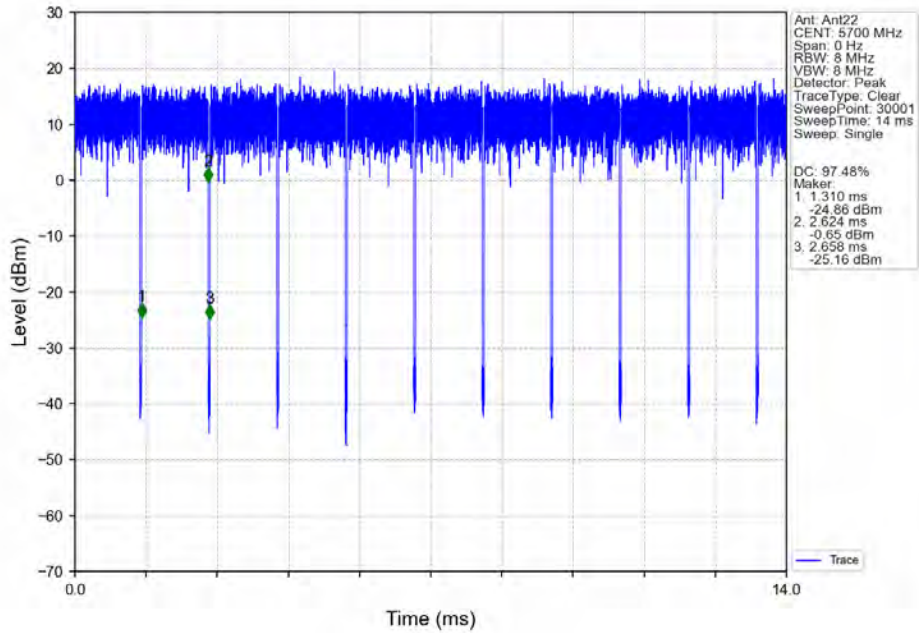
802.11ac(VHT20)\_MCH\_5580MHz\_Ant22\_NTNV



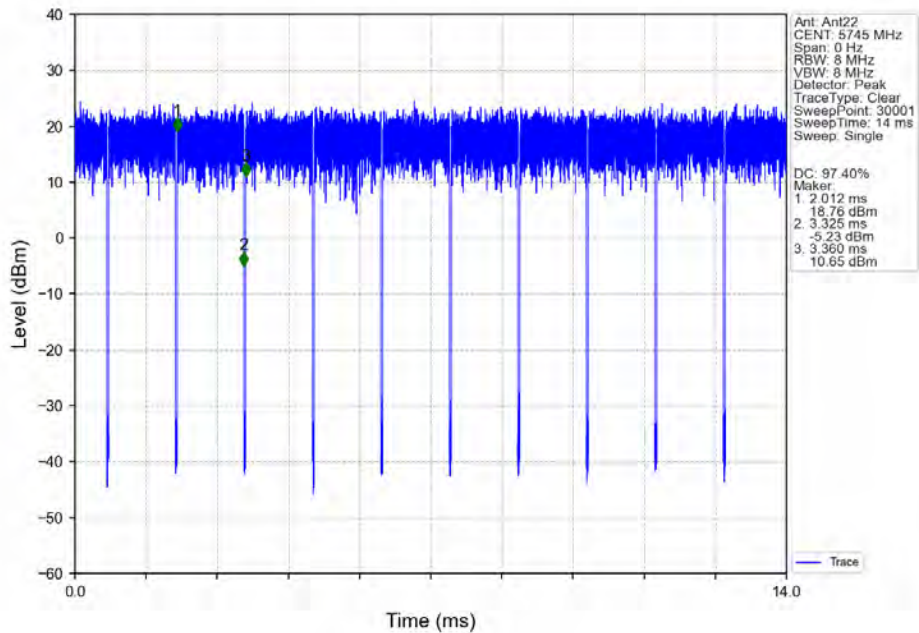
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### 802.11ac(VHT20)\_HCH\_5700MHz\_Ant22\_NTNV



### 802.11ac(VHT20)\_LCH\_5745MHz\_Ant22\_NTNV

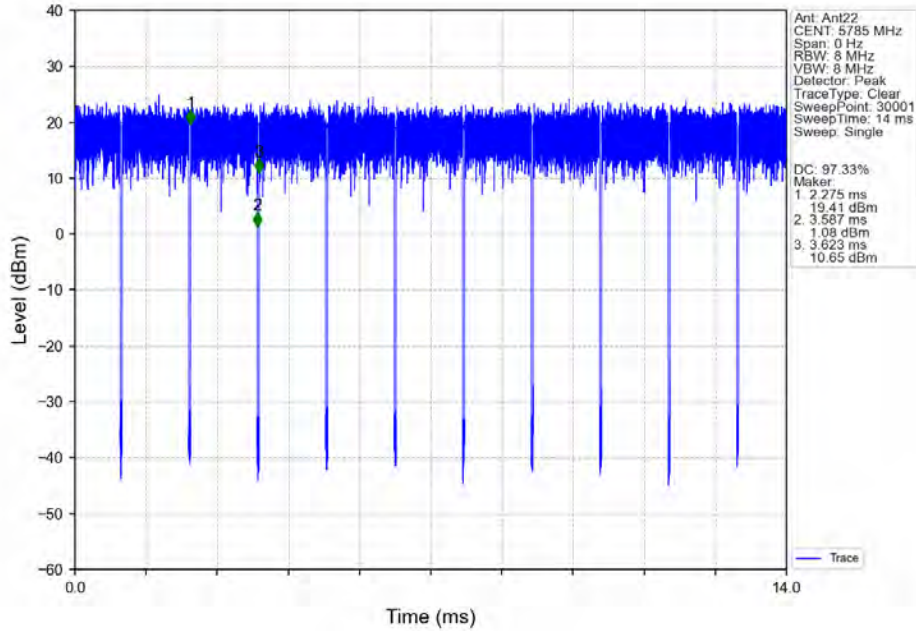


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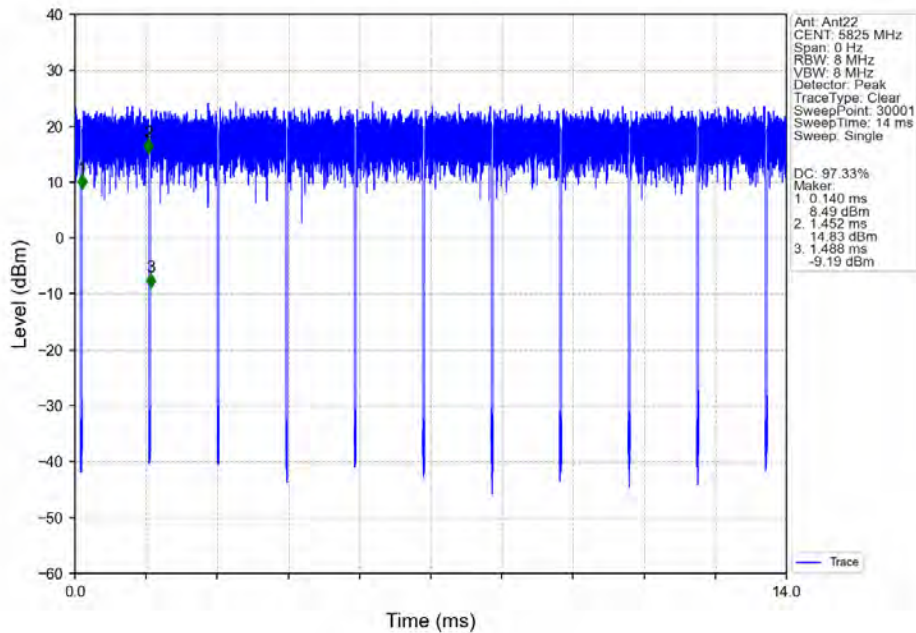
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802.11ac(VHT20)\_MCH\_5785MHz\_Ant22\_NTNV

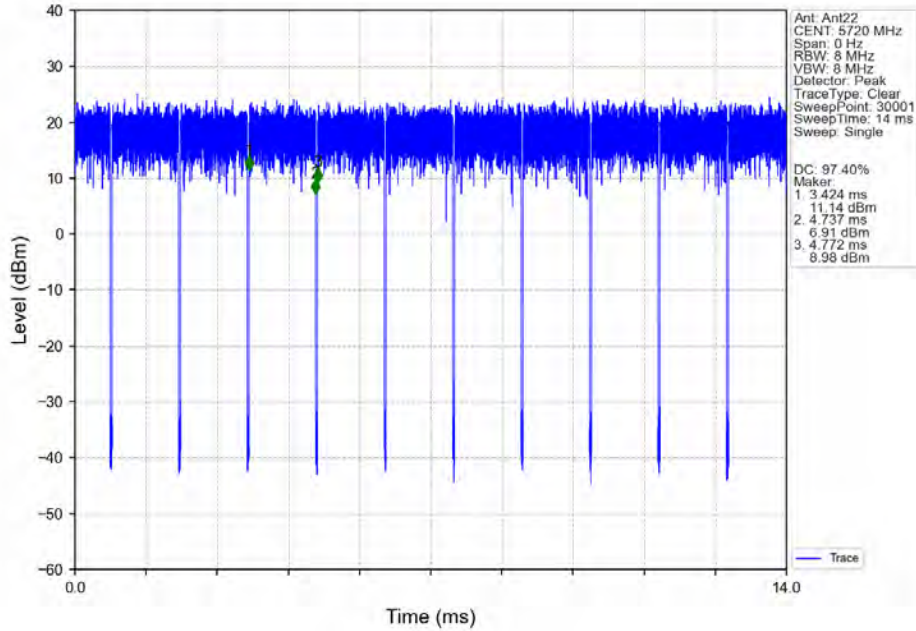


802.11ac(VHT20)\_HCH\_5825MHz\_Ant22\_NTNV

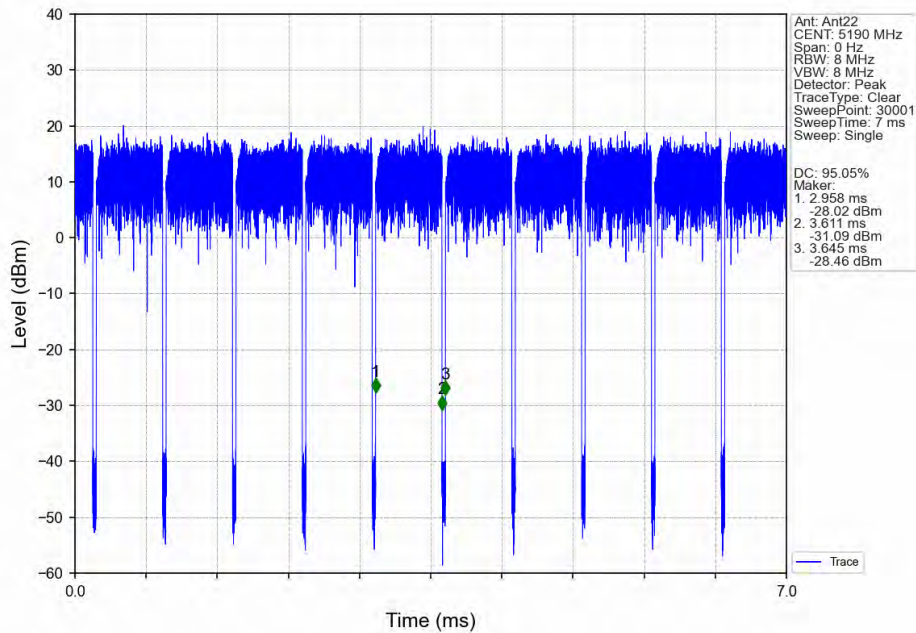


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802.11ac(VHT20)\_HCH\_5720MHz\_Ant22\_NTNV



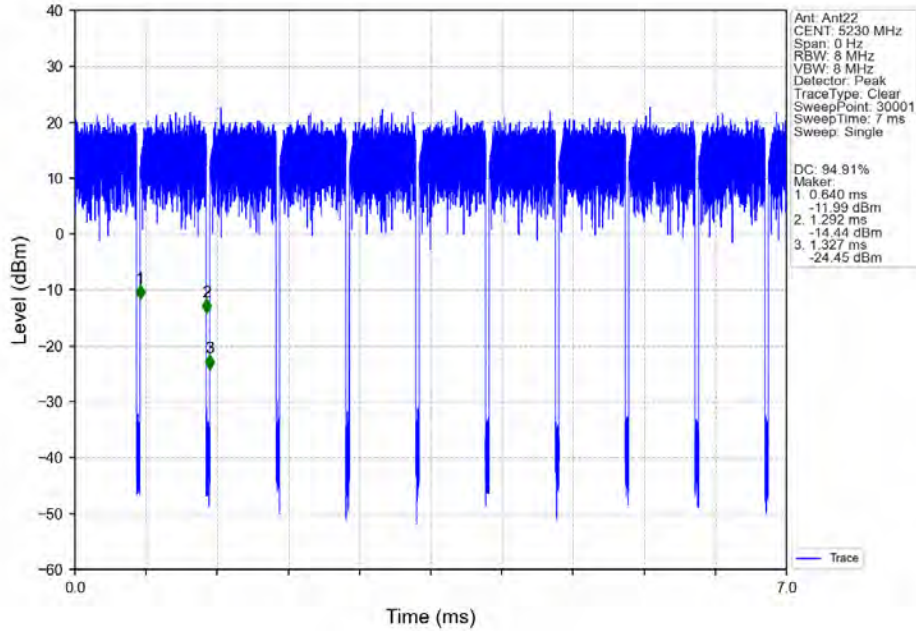
802.11ac(VHT40)\_LCH\_5190MHz\_Ant22\_NTNV



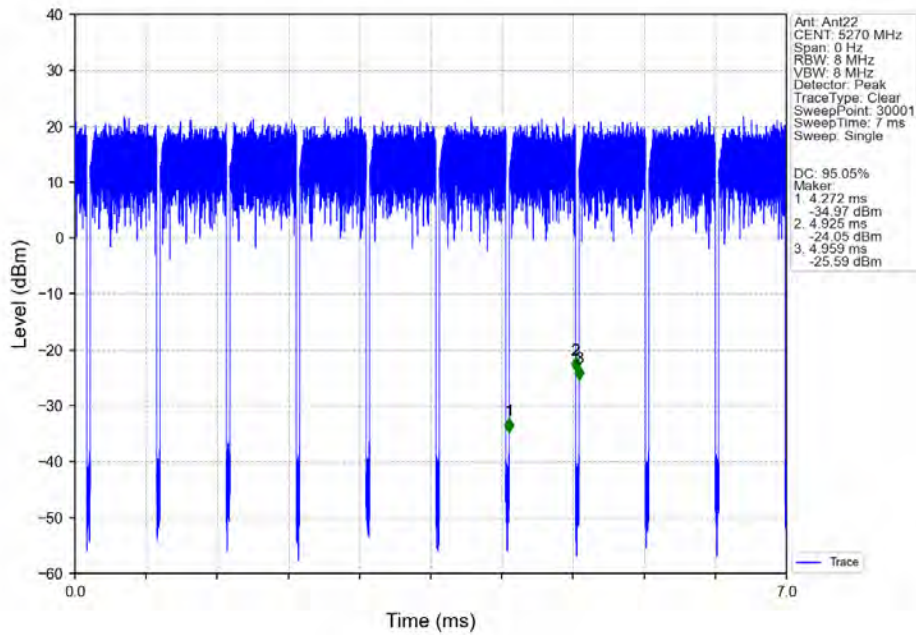
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802.11ac(VHT40)\_HCH\_5230MHz\_Ant22\_NTNV



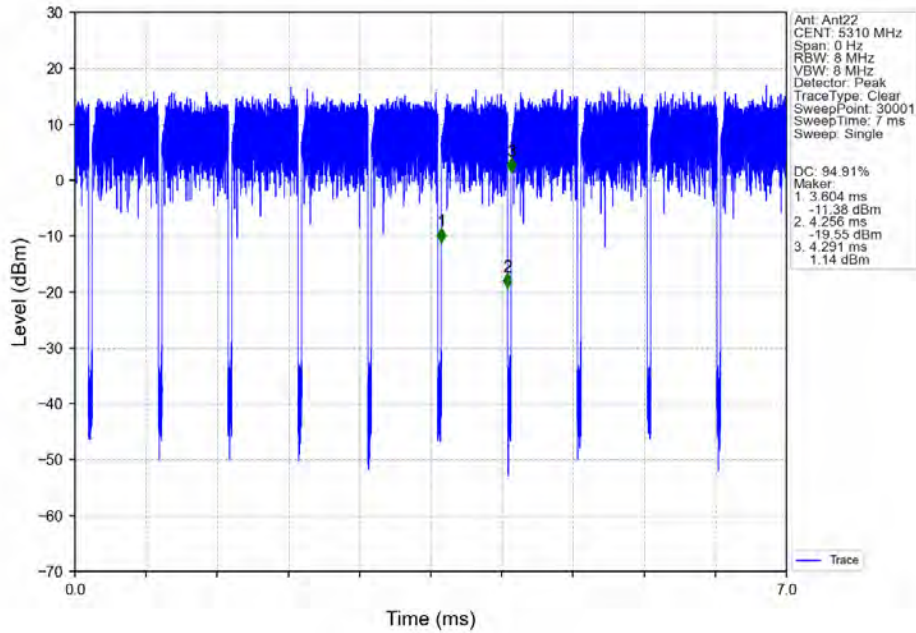
802.11ac(VHT40)\_LCH\_5270MHz\_Ant22\_NTNV



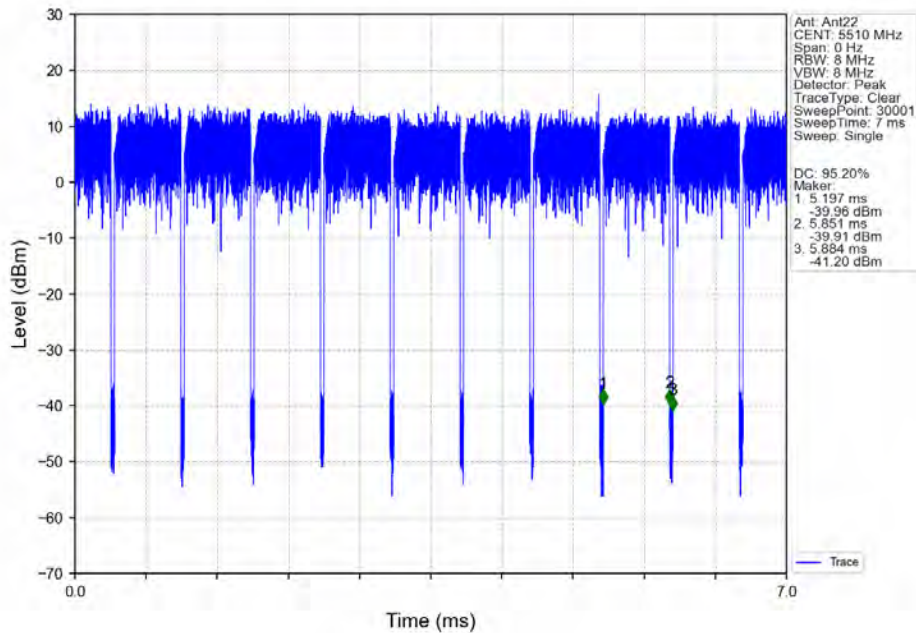
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### 802.11ac(VHT40)\_HCH\_5310MHz\_Ant22\_NTNV



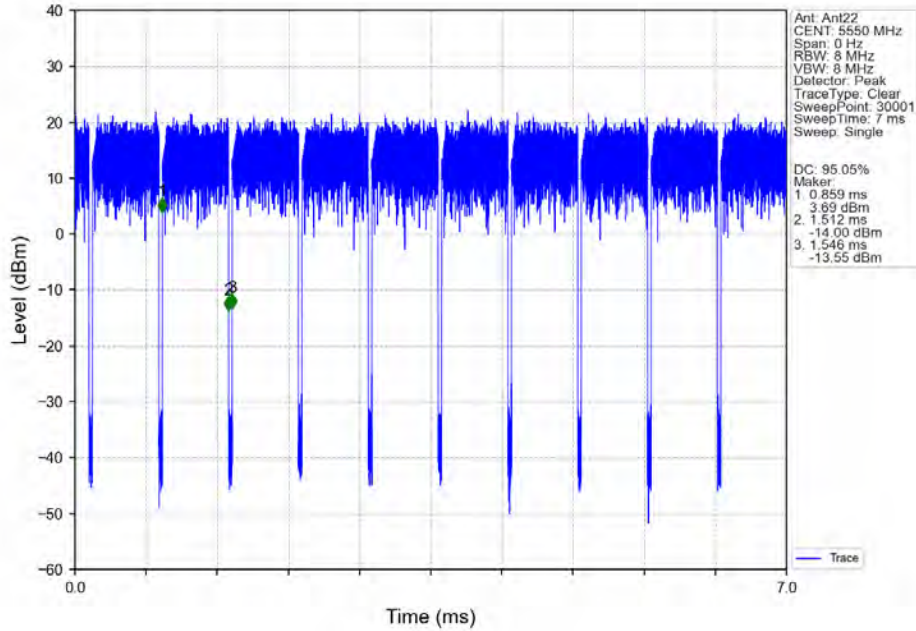
### 802.11ac(VHT40)\_LCH\_5510MHz\_Ant22\_NTNV



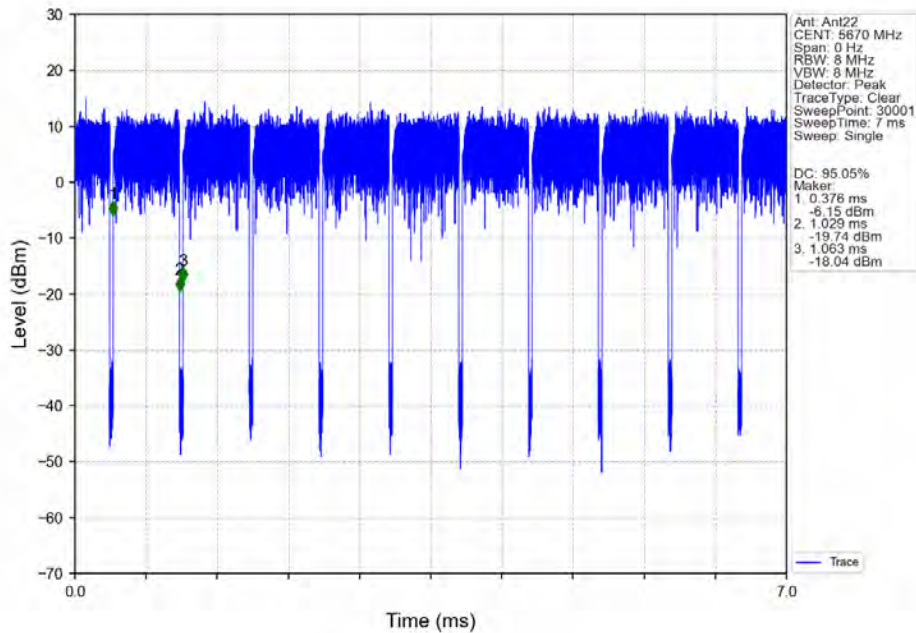
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802.11ac(VHT40)\_MCH\_5550MHz\_Ant22\_NTNV



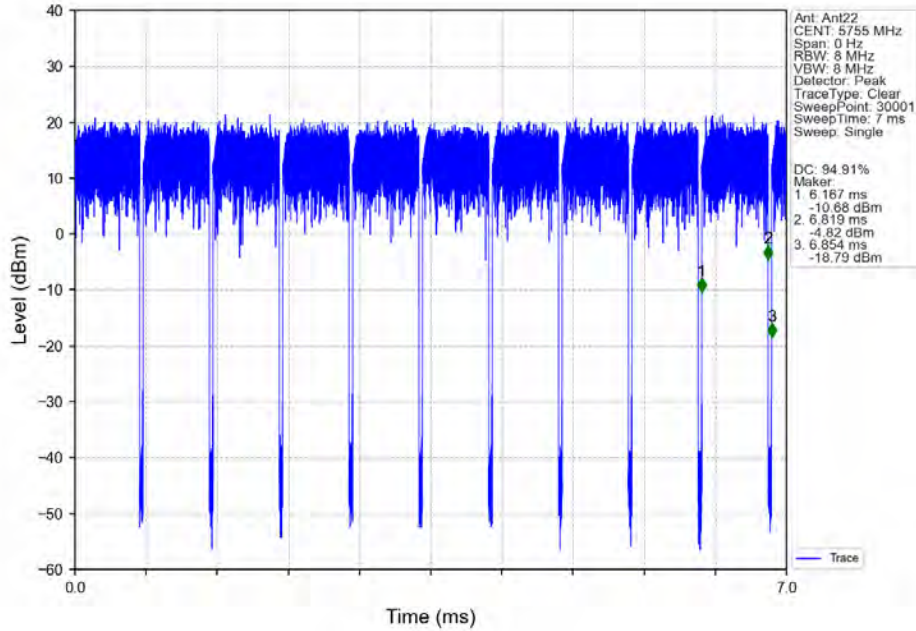
802.11ac(VHT40)\_HCH\_5670MHz\_Ant22\_NTNV



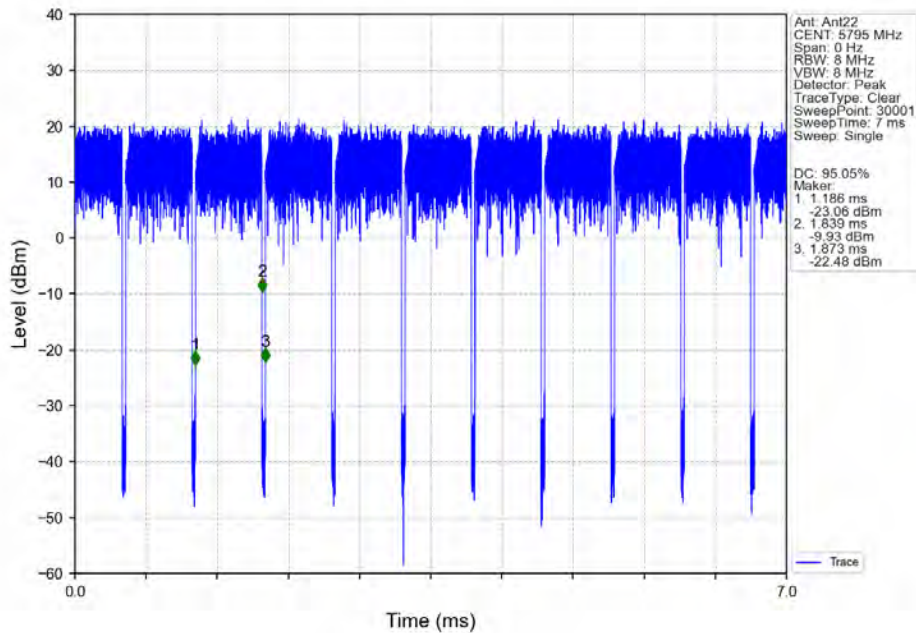
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802.11ac(VHT40)\_LCH\_5755MHz\_Ant22\_NTNV



802.11ac(VHT40)\_HCH\_5795MHz\_Ant22\_NTNV



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