



## TEST REPORT

**Application No.:**

SZEM2011011613CR

**Applicant:**

UBTECH ROBOTICS CORP LTD

**Address of Applicant:**

16th and 22nd Floor, Block C1, Nanshan I Park, No.1001 Xueyuan Road, Nanshan District, Shenzhen City, China

**Manufacturer:**

UBTECH ROBOTICS CORP LTD

**Address of Manufacturer:**

16th and 22ND Floor, block C1 Nanshan I Park, NO.1001 Xueyuan Road, Nanshan District, Shenzhen City, 518055, P.R.CHINA

**Factory:**

UBTECH (KUNMING) CO., LTD

**Address of Factory:**

Room No.2, Block 2, Shilin Street, Chenggong District, Kunming City, Yunnan Province, P.R.CHINA

**Equipment Under Test (EUT):**

**EUT Name:** ADIBOT

**Model No.:** ADAS101

**Trade mark:** UBTECH

**FCC ID:** 2AHJX-ADAS101

**Standard(s) :** 47 CFR Part 15, Subpart E 15.407

**Date of Receipt:** 2020-11-17

**Date of Test:** 2020-11-27 to 2020-12-13

**Date of Issue:** 2020-12-13

**Test Result:**

Pass\*

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

Keny Xu  
EMC Laboratory Manager



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

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**Revision Record**

Version	Chapter	Date	Modifier	Remark
01		2020-12-13		Original

**Authorized for issue by:**

	 _____ <b>Leo Li/Project Engineer</b>	
	 _____ <b>Eric Fu/Reviewer</b>	

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## 2 Test Summary

<b>Radio Spectrum Technical Requirement</b>				
<b>Item</b>	<b>Standard</b>	<b>Method</b>	<b>Requirement</b>	<b>Result</b>
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	47 CFR Part 15, Subpart E 15.407	N/A	47 CFR Part 15, Subpart C 15.407 (c)	Pass

<b>Radio Spectrum Matter Part</b>				
<b>Item</b>	<b>Standard</b>	<b>Method</b>	<b>Requirement</b>	<b>Result</b>
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 & 15.407 b(6)	Pass
Duty Cycle	47 CFR Part 15, Subpart E 15.407	KDB 789033 II B 1	KDB 789033 D02 II B 1	Pass
99% Bandwidth	47 CFR Part 15, Subpart E 15.407	KDB 789033 II D	N/A	Pass
26dB Emission bandwidth	47 CFR Part 15, Subpart E 15.407	KDB 789033 D02 II C 1	47 CFR Part 15, Subpart C 15.407 (a)	Pass
Maximum Conducted output power	47 CFR Part 15, Subpart E 15.407	KDB 789033 D02 II E	47 CFR Part 15, Subpart C 15.407 (a)	Pass
Peak Power spectrum density	47 CFR Part 15, Subpart E 15.407	KDB 789033 D02 II F	47 CFR Part 15, Subpart C 15.407 (a)	Pass
Radiated Emissions	47 CFR Part 15, Subpart E 15.407	KDB 789033 D02 II G	47 CFR Part 15, Subpart C 15.209 & 15.407(b)	Pass
Radiated Emissions which fall in the restricted bands	47 CFR Part 15, Subpart E 15.407	KDB 789033 D02 II G	47 CFR Part 15, Subpart C 15.209 & 15.407(b)	Pass
Frequency Stability	47 CFR Part 15, Subpart E 15.407	ANSI C63.10 (2013) Section 6.8	47 CFR Part 15, Subpart C 15.407 (g)	Pass
Minimum 6 dB bandwidth (5.725-5.85 GHz band )	47 CFR Part 15, Subpart E 15.407	KDB 789033 D02 II C 2	47 CFR Part 15, Subpart C 15.407 (e)	Pass

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## 4 General Information

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

Rated voltage:	AC 120V/60Hz
Operation Frequency (80MHz):	U-NII-1: 5210MHz; U-NII-3: 5775MHz
Operation Frequency (40MHz):	U-NII-1: 5190-5230MHz; U-NII-3: 5755-5795MHz
Operation Frequency (20MHz):	U-NII-1: 5180-5240MHz; U-NII-3: 5745-5825MHz
Modulation Type:	802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK); 802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM); 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
Channel Spacing:	802.11a/n(HT20)/ac(HT20): 20MHz; 802.11n(HT40)/ac(HT40): 40MHz; 802.11ac(HT80): 80MHz
Antenna Type:	ANT 1: FPC Antenna; ANT 2: FPC Antenna
Antenna Gain:	U-NII-1: ANT 1:1.28dBi; ANT 2:1.28dBi; U-NII-3: ANT 1:1.32dBi; ANT 2:1.32dBi
Remark:	Two antennas can simultaneous transmission

### 4.2 Cable

Cable	Length	Shielding	Core
AC cable	120cm	Unshielded	Non-Core

### 4.3 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
--	--	--	--

The EUT has been tested as an independent unit.



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**4.4 Measurement Uncertainty**

Test Item	Measurement Uncertainty
Conducted Emissions at AC Power Line (150kHz-30MHz)	± 3.0dB (150kHz to 30MHz)
Duty Cycle	± 0.37%
99% Bandwidth	± 3%
26dB Emission bandwidth	± 3%
Maximum Conducted output power	± 0.75dB
Peak Power spectrum density	± 2.84dB
Radiated Emissions	± 4.5dB (Below 1GHz); ± 4.8dB (Above 1GHz)
Radiated Emissions which fall in the restricted bands	± 4.5dB (below 1GHz); ± 4.8dB (above 1GHz);
Frequency Stability	± 7.25 x 10-8
Minimum 6 dB bandwidth (5.725-5.85 GHz band )	± 3%

## Remark:

The  $U_{lab}$  (lab Uncertainty) is less than  $U_{cispr}$  (CISPR 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, 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**

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. 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: CN1178**

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

Designation Number: CN1178. Test Firm Registration Number: 406779.

- **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 Mains Terminals (150kHz-30MHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	ZhongYu Electron	GB-88	SEM001-06	2019-06-13	2022-06-12
EMI Test Receiver	Rohde&Schwarz	ESCI	SEM004-02	2020-03-24	2021-03-23
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM024-01	2020-07-10	2021-07-09
LISN	Rohde&Schwarz	ENV216	SEM007-01	2020-09-23	2021-09-22
LISN	ETS-LINDGREN	3816/2	SEM007-02	2020-04-01	2021-03-31

Duty Cycle					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2020-04-01	2021-03-31
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2020-05-21	2021-05-20
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2020-03-25	2021-03-24

99% Bandwidth					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2020-04-01	2021-03-31
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2020-05-21	2021-05-20
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2020-03-25	2021-03-24

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**26dB Emission bandwidth**

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2020-04-01	2021-03-31
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2020-05-21	2021-05-20
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2020-03-25	2021-03-24

**Maximum Conducted output power**

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2020-04-01	2021-03-31
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2020-05-21	2021-05-20
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2020-03-25	2021-03-24

**Peak Power spectrum density**

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2020-04-01	2021-03-31
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2020-05-21	2021-05-20
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2020-03-25	2021-03-24

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**Frequency Stability**

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2020-04-01	2021-03-31
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2020-05-21	2021-05-20
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2020-03-25	2021-03-24

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

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2020-04-01	2021-03-31
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2020-05-21	2021-05-20
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2020-03-25	2021-03-24

**Radiated Emissions which fall in the restricted bands**

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018-03-13	2021-03-12
EXA Signal Analyzer	Agilent Technologies Inc	N9010A	SEM004-12	2020-04-09	2021-04-08
Horn Antenna	Rohde&Schwarz	HF907	SEM003-07	2018-04-13	2021-04-12
Pre-Amplifier	Compliance Directions Systems Inc.	PAP-0126	SEM004-11	2020-09-23	2021-09-22
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A

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Coaxial Cable	SGS	N/A	SEM026-01	2020-07-10	2021-07-09
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<b>Radiated Spurious Emissions (Above 1GHz)</b>					
<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No</b>	<b>Inventory No</b>	<b>Cal Date</b>	<b>Cal Due Date</b>
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018-03-13	2021-03-12
EXA Signal Analyzer	Agilent Technologies Inc	N9010A	SEM004-12	2020-04-09	2021-04-08
Horn Antenna	Rohde&Schwarz	HF907	SEM003-07	2018-04-13	2021-04-12
Pre-Amplifier	Compliance Directions Systems Inc.	PAP-0126	SEM004-11	2020-09-23	2021-09-22
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2020-07-10	2021-07-09

<b>Radiated Spurious Emissions (Below 1GHz)</b>					
<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No</b>	<b>Inventory No</b>	<b>Cal Date</b>	<b>Cal Due Date</b>
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2020-07-19	2023-07-18
MXE EMI Receiver	Agilent Technologies	N9038A	SEM004-15	2020-11-02	2021-11-01
BiConiLog Antenna	ETS-LINDGREN	3142C	SEM003-02	2019-05-24	2022-05-23
Pre-Amplifier	Agilent Technologies	8447D	SEM005-01	2020-04-01	2021-03-31
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM025-01	2020-07-10	2021-07-09

<b>General used equipment</b>					
<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No</b>	<b>Inventory No</b>	<b>Cal Date</b>	<b>Cal Due Date</b>
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2020-09-15	2021-09-14
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2020-09-15	2021-09-14
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2020-04-07	2021-04-06

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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

Standard Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an 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 integrated on the main PCB and no consideration of replacement. The best case gain of the Antenna is 1.28dBi for both ANT 1 and ANT2 in U-NII-1 band; 1.32dBi for both ANT 1 and ANT 2 in U-NII-3 band.

Antenna location: Refer to Internal photos.



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## 6.2 Transmission in the Absence of Data

### 6.2.1 Test Requirement:

47 CFR Part 15, Subpart C 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 (RTL8822CE) 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 & 15.407 b(6)  
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.

Detector: Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

#### 7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 23.4 °C      Humidity: 55.8 % RH      Atmospheric Pressure: 1010 mbar

#### 7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	06	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Final test	07	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.

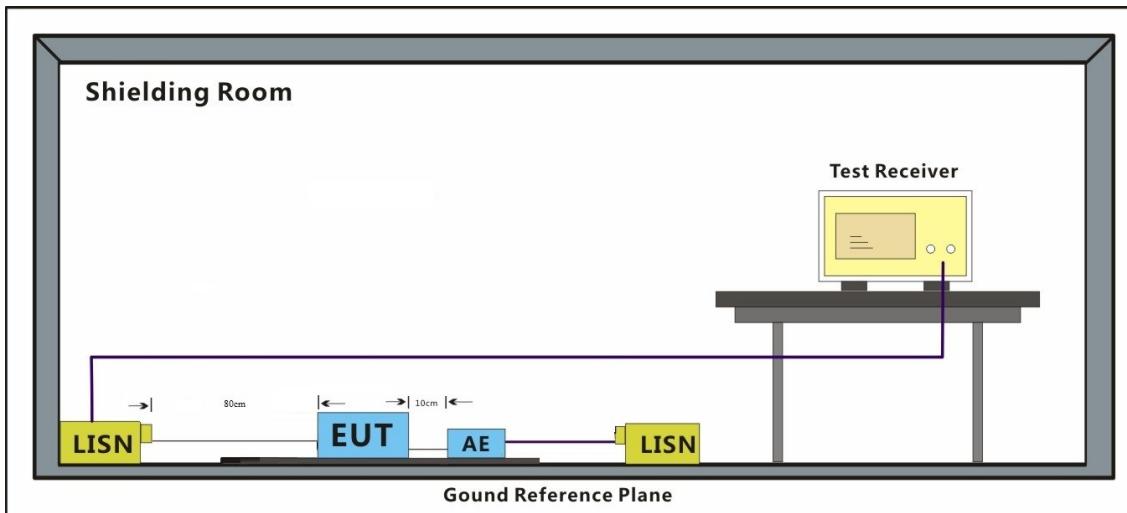
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**7.1.3 Test Setup Diagram****7.1.4 Measurement Procedure and Data**

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

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



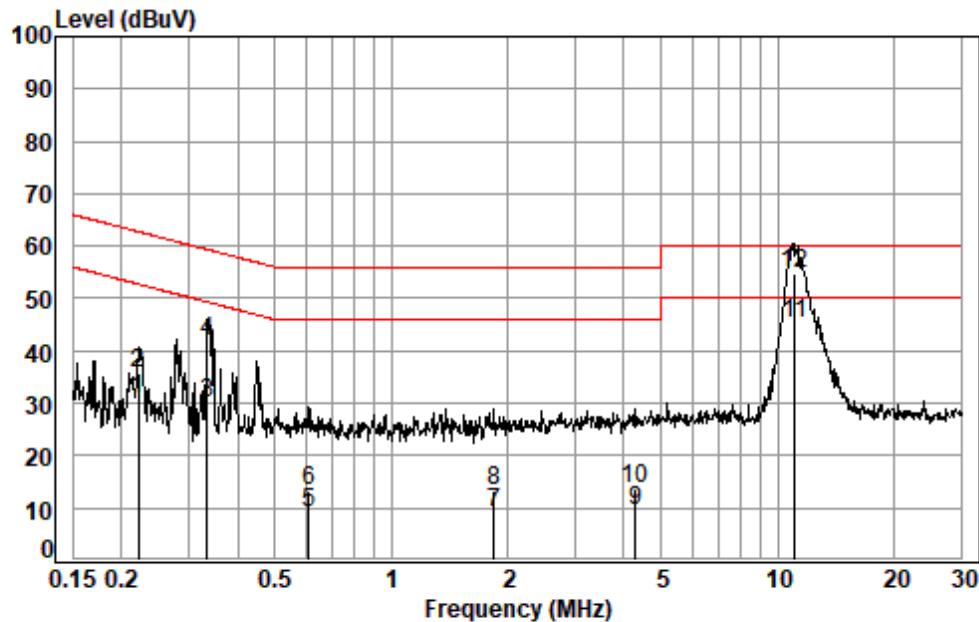
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Test Mode: 06; Line: Live line



Site : Shielding Room

Condition: Line

Job No. : 11613CR

Test mode: 06

Freq	Cable	LISN	Read	Limit		Over	Remark
	Freq	Loss	Factor	Level	Level	Line	
1	0.2220	0.04	9.64	21.00	30.68	52.74	-22.06 Average
2	0.2220	0.04	9.64	26.24	35.92	62.74	-26.82 QP
3	0.3338	0.06	9.67	20.19	29.92	49.35	-19.43 Average
4	0.3338	0.06	9.67	32.26	41.99	59.35	-17.36 QP
5	0.6108	0.08	9.68	-0.67	9.09	46.00	-36.91 Average
6	0.6108	0.08	9.68	3.62	13.38	56.00	-42.62 QP
7	1.8483	0.12	9.70	-0.79	9.03	46.00	-36.97 Average
8	1.8483	0.12	9.70	3.52	13.34	56.00	-42.66 QP
9	4.2918	0.15	9.75	-0.50	9.40	46.00	-36.60 Average
10	4.2918	0.15	9.75	3.93	13.83	56.00	-42.17 QP
11	11.0797	0.16	9.95	35.14	45.25	50.00	-4.75 Average
12	11.0797	0.16	9.95	44.52	54.63	60.00	-5.37 QP

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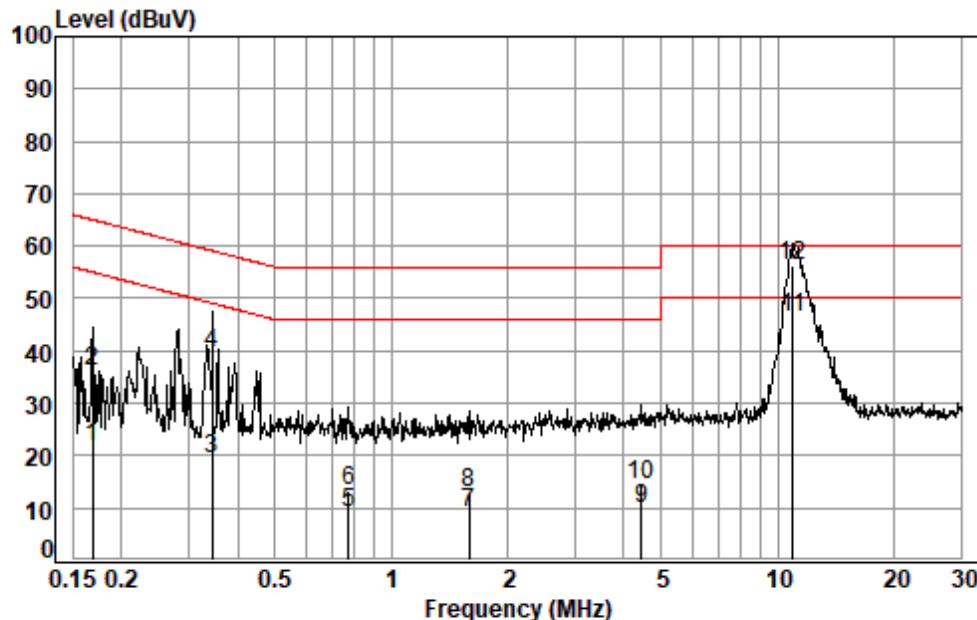
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Test Mode: 06; Line: Neutral Line



Site : Shielding Room

Condition: Neutral

Job No. : 11613CR

Test mode: 06

Freq	Cable	LISN	Read	Limit		Over	Remark
	Loss	Factor	Level	Level	Line	Limit	
	MHz	dB	dB	dBuV	dBuV	dBuV	dB
1	0.1685	0.03	9.63	12.01	21.67	55.03	-33.36 Average
2	0.1685	0.03	9.63	26.30	35.96	65.03	-29.07 QP
3	0.3446	0.06	9.66	9.74	19.46	49.09	-29.63 Average
4	0.3446	0.06	9.66	29.77	39.49	59.09	-19.60 QP
5	0.7752	0.09	9.67	-0.78	8.98	46.00	-37.02 Average
6	0.7752	0.09	9.67	3.41	13.17	56.00	-42.83 QP
7	1.5935	0.12	9.67	-0.73	9.06	46.00	-36.94 Average
8	1.5935	0.12	9.67	3.27	13.06	56.00	-42.94 QP
9	4.4540	0.16	9.74	0.00	9.90	46.00	-36.10 Average
10	4.4540	0.16	9.74	4.50	14.40	56.00	-41.60 QP
11	10.9629	0.16	9.98	36.11	46.25	50.00	-3.75 Average
12	10.9629	0.16	9.98	46.17	56.31	60.00	-3.69 QP

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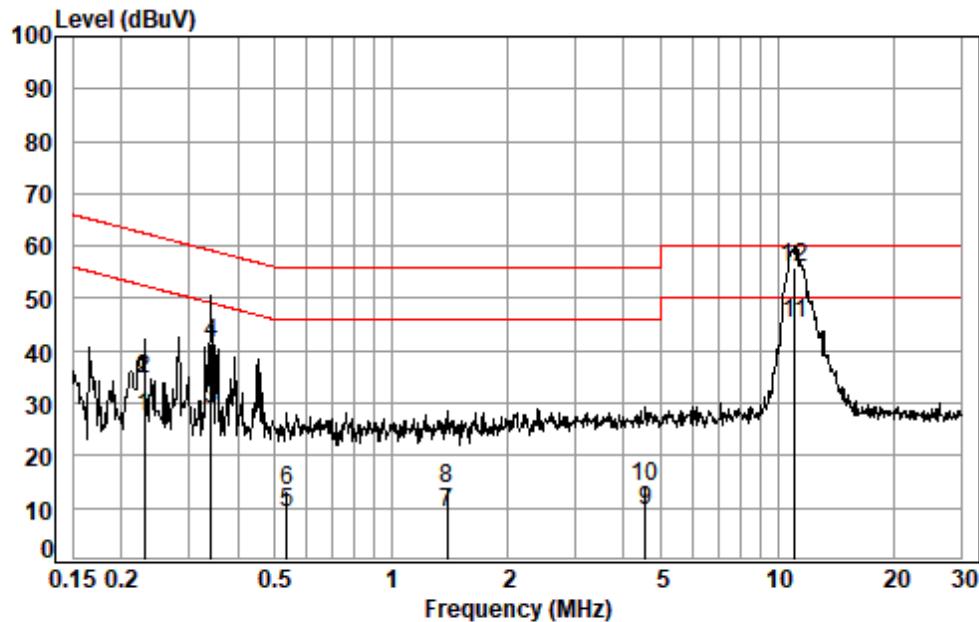
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Test Mode: 07; Line: Live line



Site : Shielding Room

Condition: Line

Job No. : 11613CR

Test mode: 07

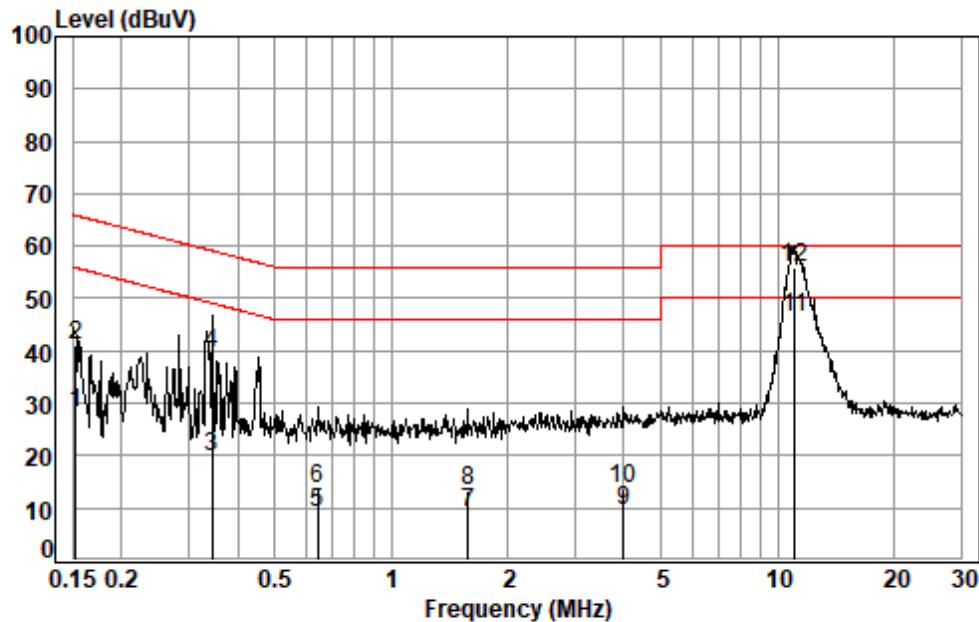
Freq	Cable	LISN	Read	Limit		Over	Remark
	Freq	Loss	Factor	Level	Level	Line	
	MHz	dB	dB	dBuV	dBuV	dBuV	dB
1	0.2292	0.04	9.65	17.57	27.26	52.48	-25.22 Average
2	0.2292	0.04	9.65	24.97	34.66	62.48	-27.82 QP
3	0.3410	0.06	9.67	19.31	29.04	49.18	-20.14 Average
4	0.3410	0.06	9.67	31.73	41.46	59.18	-17.72 QP
5	0.5378	0.08	9.69	-0.61	9.16	46.00	-36.84 Average
6	0.5378	0.08	9.69	3.65	13.42	56.00	-42.58 QP
7	1.3958	0.11	9.69	-0.71	9.09	46.00	-36.91 Average
8	1.3958	0.11	9.69	3.79	13.59	56.00	-42.41 QP
9	4.5494	0.16	9.76	-0.23	9.69	46.00	-36.31 Average
10	4.5494	0.16	9.76	4.15	14.07	56.00	-41.93 QP
11	11.0797	0.16	9.95	34.97	45.08	50.00	-4.92 Average
12	11.0797	0.16	9.95	45.82	55.93	60.00	-4.07 QP



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Test Mode: 07; Line: Neutral Line



Site : Shielding Room

Condition: Neutral

Job No. : 11613CR

Test mode: 07

Freq	Cable	LISN	Read	Limit		Over	Remark
	Freq	Loss	Factor	Level	Level	Line	
	MHz	dB	dB	dBuV	dBuV	dBuV	dB
1	0.1524	0.03	9.62	18.60	28.25	55.87	-27.62 Average
2	0.1524	0.03	9.62	31.27	40.92	65.87	-24.95 QP
3	0.3446	0.06	9.66	9.93	19.65	49.09	-29.44 Average
4	0.3446	0.06	9.66	29.97	39.69	59.09	-19.40 QP
5	0.6440	0.08	9.67	-0.44	9.31	46.00	-36.69 Average
6	0.6440	0.08	9.67	3.86	13.61	56.00	-42.39 QP
7	1.5767	0.12	9.67	-0.70	9.09	46.00	-36.91 Average
8	1.5767	0.12	9.67	3.41	13.20	56.00	-42.80 QP
9	3.9850	0.15	9.73	-0.48	9.40	46.00	-36.60 Average
10	3.9850	0.15	9.73	3.79	13.67	56.00	-42.33 QP
11	10.797	0.16	9.98	36.37	46.51	50.00	-3.49 Average
12	10.797	0.16	9.98	45.87	56.01	60.00	-3.99 QP

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## 7.2 Duty Cycle

Test Requirement KDB 789033 D02 II B 1

Test Method: KDB 789033 II B 1

### 7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 23.6 °C      Humidity: 56.9 % RH      Atmospheric Pressure: 1010 mbar

### 7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	06	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Final test	07	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.

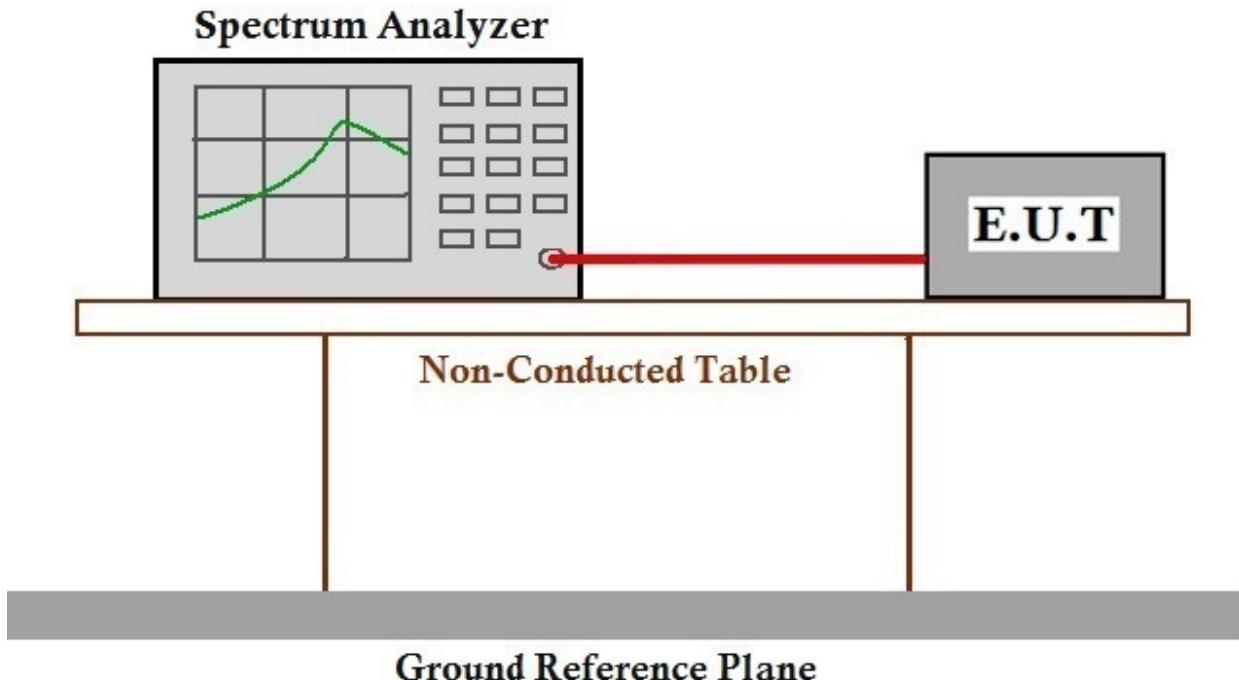
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**7.2.3 Test Setup Diagram****7.2.4 Measurement Procedure and Data**

Please Refer To Appendix For Details



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### 7.3 99% Bandwidth

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

#### 7.3.1 E.U.T. Operation

Operating Environment:  
Temperature: 23.4 °C      Humidity: 56.3 % RH      Atmospheric Pressure: 1010 mbar

#### 7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	06	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Final test	07	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.

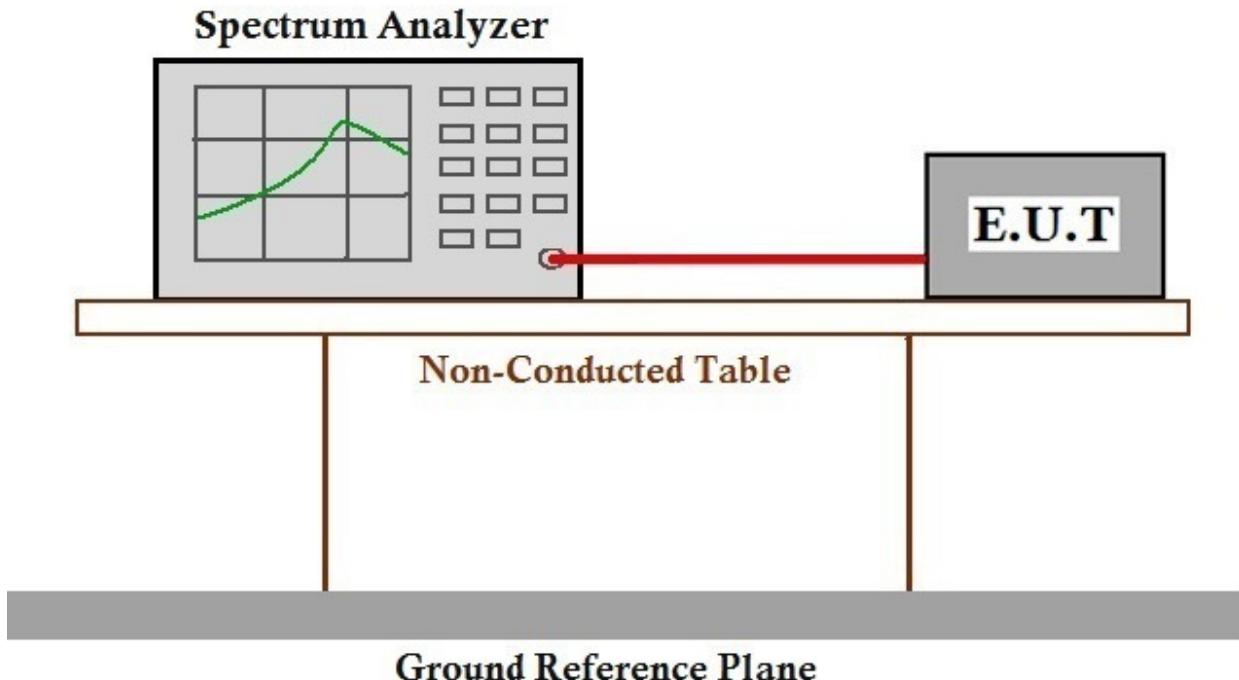


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**7.3.3 Test Setup Diagram****7.3.4 Measurement Procedure and Data**

Please Refer To Appendix For Details



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## 7.4 26dB Emission bandwidth

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

Test Method: KDB 789033 D02 II C 1

### 7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 23.4 °C      Humidity: 56.3 % RH      Atmospheric Pressure: 1010 mbar

### 7.4.2 Test Mode Description

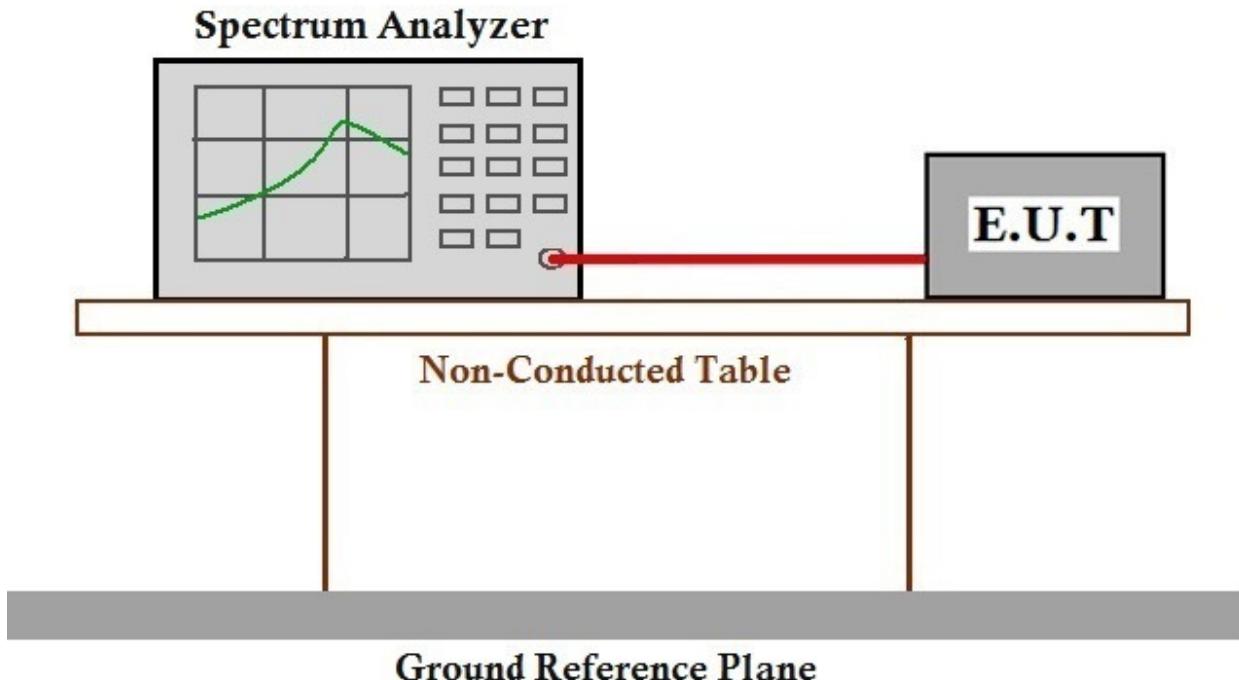
Pre-scan / Final test	Mode Code	Description
Final test	06	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Final test	07	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.

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**7.4.3 Test Setup Diagram****7.4.4 Measurement Procedure and Data**

Please Refer To Appendix For Details



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## 7.5 Maximum Conducted output power

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

Test Method: KDB 789033 D02 II E

Limit:

Frequency band(MHz)	Limit
5150-5250	≤1W(30dBm) for master device
	≤250mW(24dBm) for client device
5250-5350	≤250mW(24dBm) for client device or 11dBm+10logB*
5470-5725	≤250mW(24dBm) for client device 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.

### 7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 22.8 °C      Humidity: 56.8 % RH      Atmospheric Pressure: 1010 mbar

### 7.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	06	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Final test	07	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.

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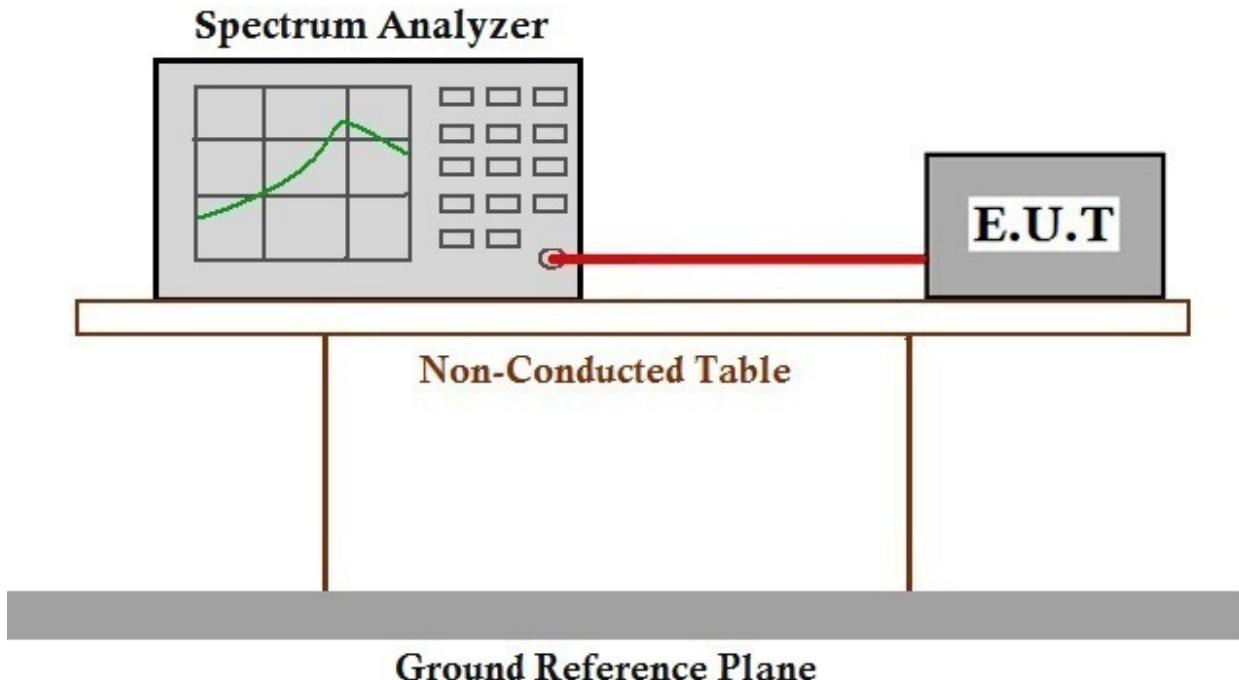
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**7.5.3 Test Setup Diagram****7.5.4 Measurement Procedure and Data**

Please Refer To Appendix For Details



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## 7.6 Peak Power spectrum density

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

Test Method: KDB 789033 D02 II F

Limit:

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

### 7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 22.9 °C      Humidity: 57.2 % RH      Atmospheric Pressure: 1010 mbar

### 7.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	06	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Final test	07	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.

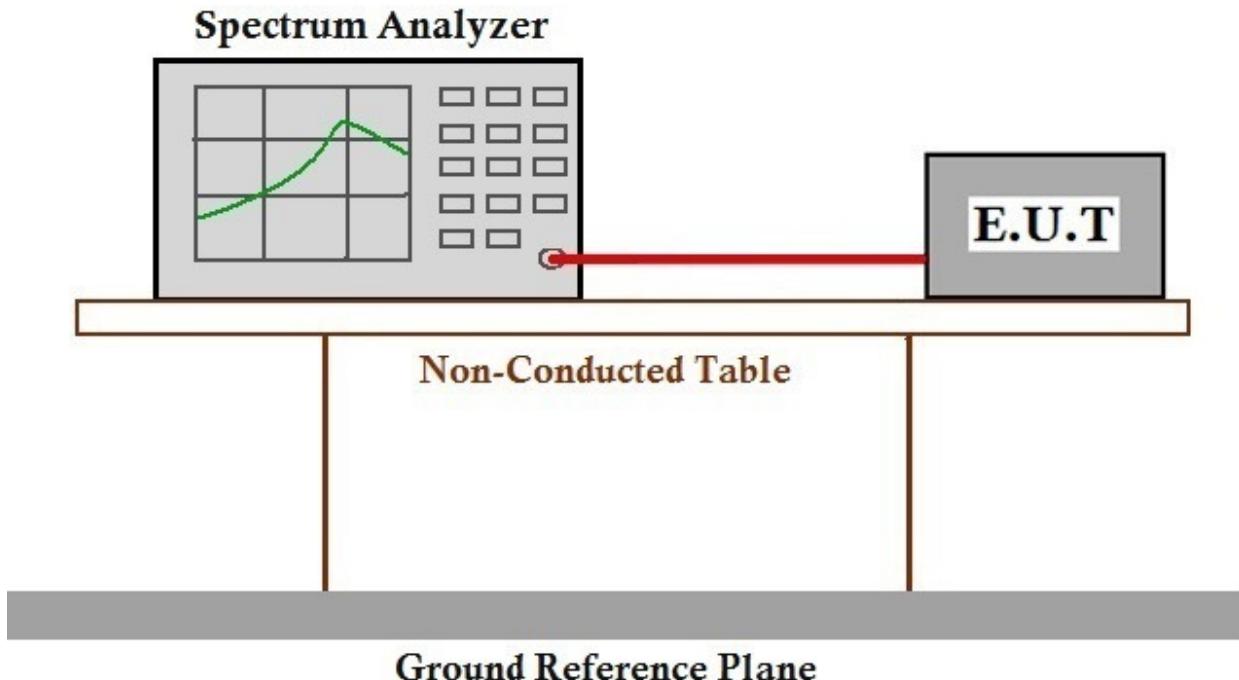
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**7.6.3 Test Setup Diagram****7.6.4 Measurement Procedure and Data**

Please Refer To Appendix For Details

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## 7.7 Radiated Emissions

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

Test Method: KDB 789033 D02 II G

Measurement Distance: 3m

Limit:

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

<sup>\*</sup>(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

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

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

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

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

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

### 7.7.1 E.U.T. Operation

Operating Environment:

Temperature: 24.6 °C

Humidity: 59.8 % RH

Atmospheric Pressure: 1010 mbar

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**7.7.2 Test Mode Description**

Pre-scan / Final test	Mode Code	Description
Final test	06	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Final test	07	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.

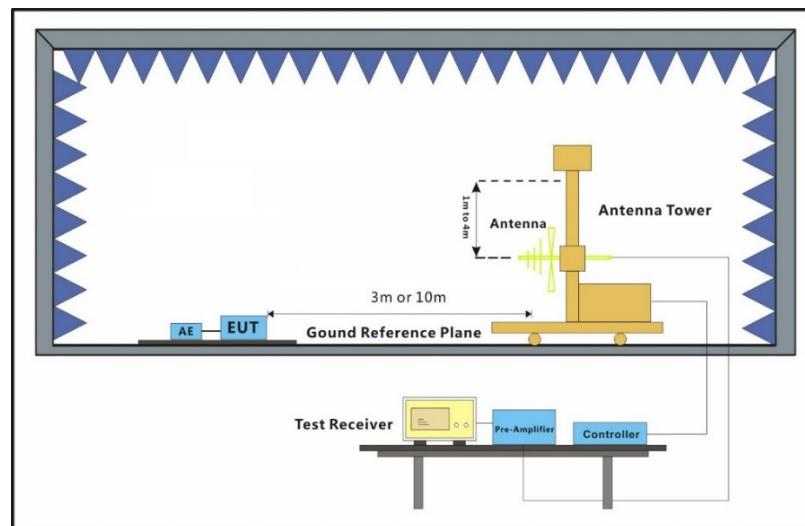
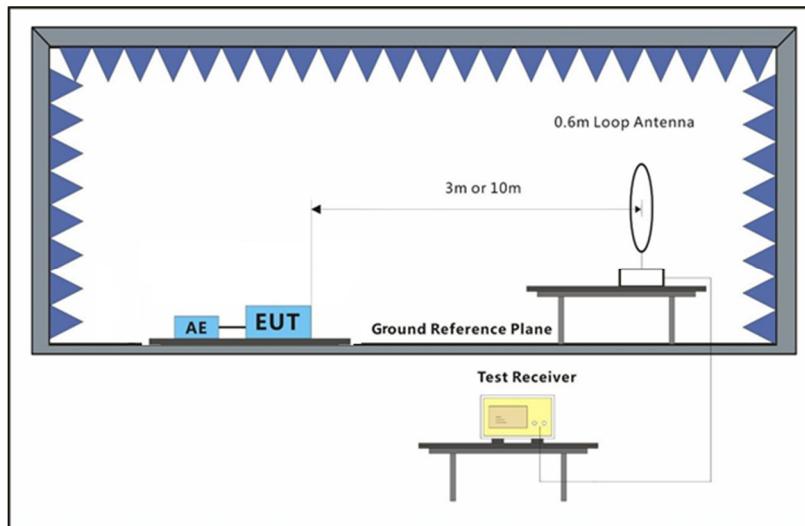
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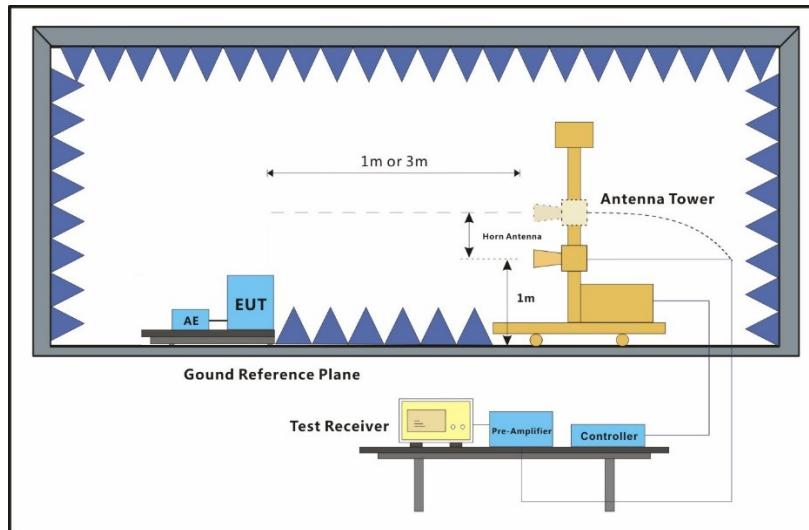
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**7.7.3 Test Setup Diagram**

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**7.7.4 Measurement Procedure and Data**

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 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
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 40GHz, the disturbance above 18GHz and 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. 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.



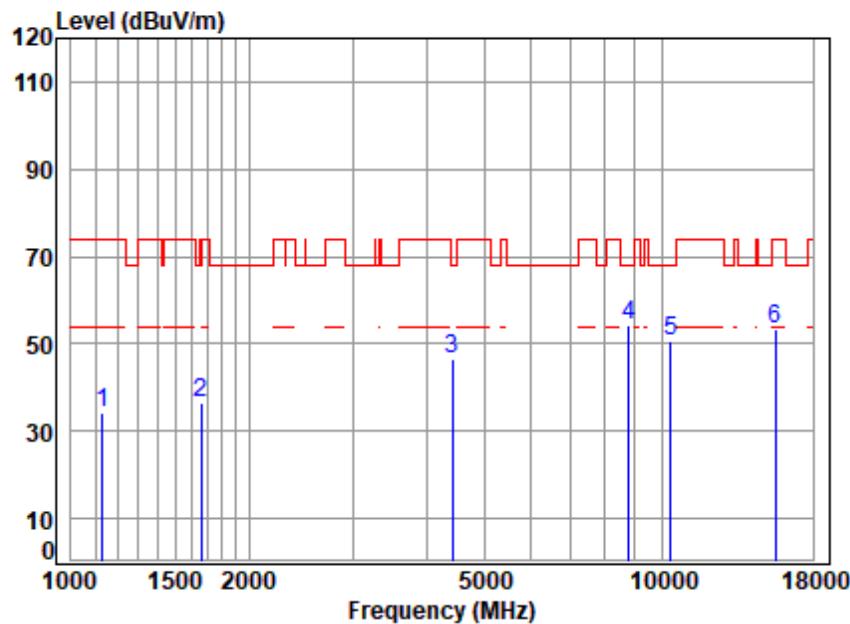
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Test Mode: 06; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Site : chamber  
Condition: 3m HORIZONTAL  
Job No : 11613CR  
Mode : 5180 TX RSE  
Note : 5G WIFI 11A

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1129.072	2.63	24.26	39.71	46.98	34.16	74.00	-39.84 peak
2 1663.137	3.40	26.52	40.04	46.60	36.48	74.00	-37.52 peak
3 4417.841	6.68	33.46	41.80	48.11	46.45	68.20	-21.75 peak
4 8789.516	10.22	37.12	39.24	45.99	54.09	68.20	-14.11 peak
5 10360.000	10.57	37.76	37.29	39.62	50.66	68.20	-17.54 peak
6 15540.000	13.97	40.72	40.38	39.06	53.37	74.00	-20.63 peak

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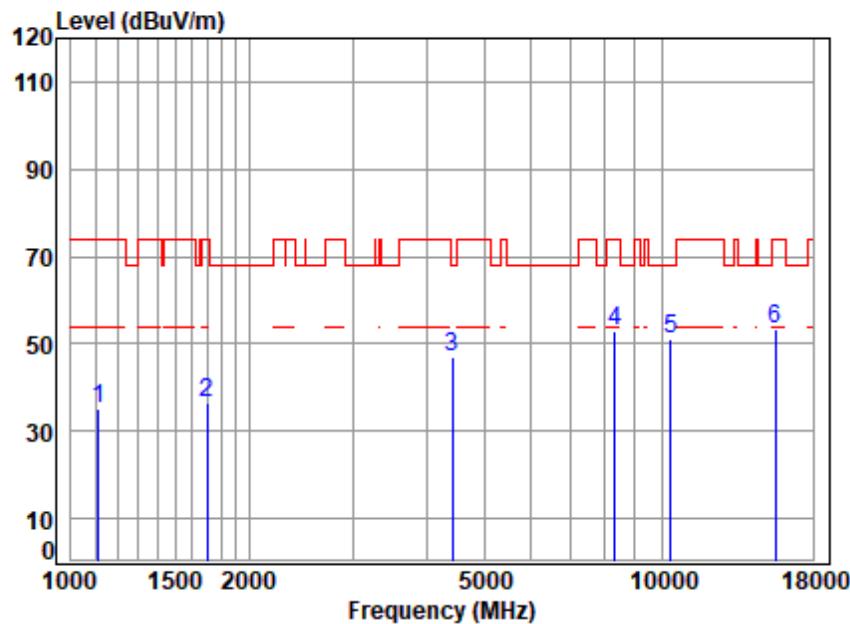
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中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

Test Mode: 06; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Site : chamber  
Condition: 3m VERTICAL  
Job No : 11613CR  
Mode : 5180 TX RSE  
Note : 5G WIFI 11A

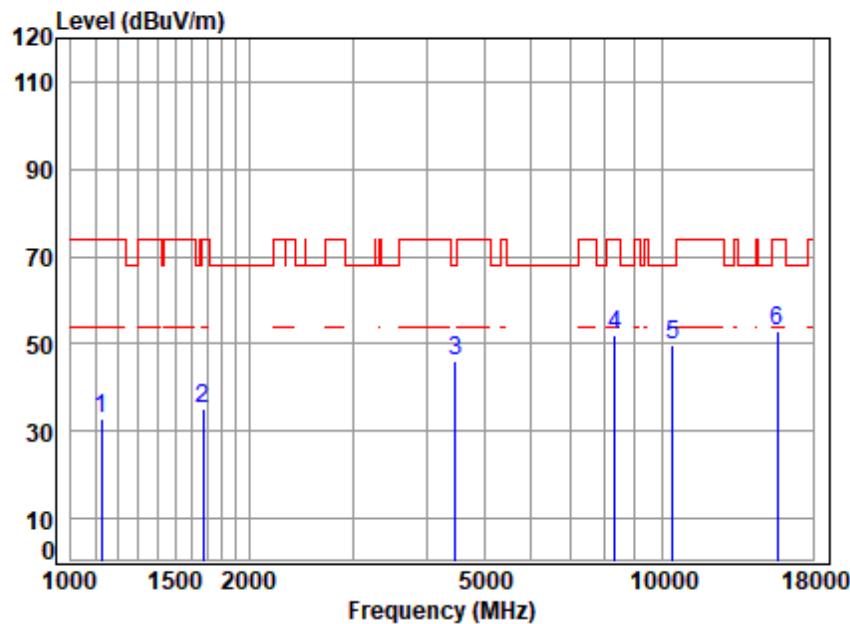
Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1112.872	2.60	24.18	39.69	48.09	35.18	74.00	-38.82 peak
2 1697.129	3.43	26.66	40.06	46.69	36.72	74.00	-37.28 peak
3 4417.841	6.68	33.46	41.80	48.57	46.91	68.20	-21.29 peak
4 8319.836	9.86	36.89	40.15	46.29	52.89	74.00	-21.11 peak
5 10360.000	10.57	37.76	37.29	40.21	51.25	68.20	-16.95 peak
6 15540.000	13.97	40.72	40.38	38.96	53.27	74.00	-20.73 peak

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Test Mode: 06; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:middle



Site : chamber  
Condition: 3m HORIZONTAL  
Job No : 11613CR  
Mode : 5220 TX RSE  
Note : 5G WIFI 11A

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1125.813	2.62	24.24	39.70	45.88	33.04	74.00	-40.96 peak
2 1672.779	3.41	26.56	40.05	45.23	35.15	74.00	-38.85 peak
3 4469.214	6.73	33.55	41.85	47.75	46.18	68.20	-22.02 peak
4 8319.836	9.86	36.89	40.15	45.24	51.84	74.00	-22.16 peak
5 10440.000	10.55	37.72	37.34	38.80	49.73	68.20	-18.47 peak
6 15660.000	14.02	40.80	40.44	38.36	52.74	74.00	-21.26 peak

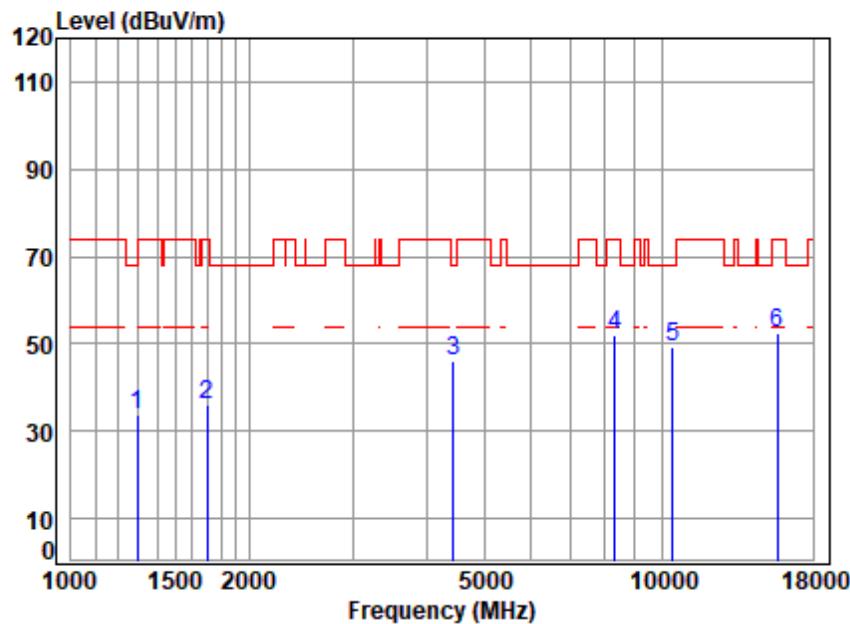
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Test Mode: 06; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:middle



Site : chamber  
Condition: 3m VERTICAL  
Job No : 11613CR  
Mode : 5220 TX RSE  
Note : 5G WIFI 11A

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1293.359	2.93	25.00	39.82	45.58	33.69	68.20	-34.51 peak
2 1697.129	3.43	26.66	40.06	45.84	35.87	74.00	-38.13 peak
3 4443.453	6.71	33.50	41.82	47.57	45.96	68.20	-22.24 peak
4 8319.836	9.86	36.89	40.15	45.52	52.12	74.00	-21.88 peak
5 10440.000	10.55	37.72	37.34	38.22	49.15	68.20	-19.05 peak
6 15660.000	14.02	40.80	40.44	38.19	52.57	74.00	-21.43 peak

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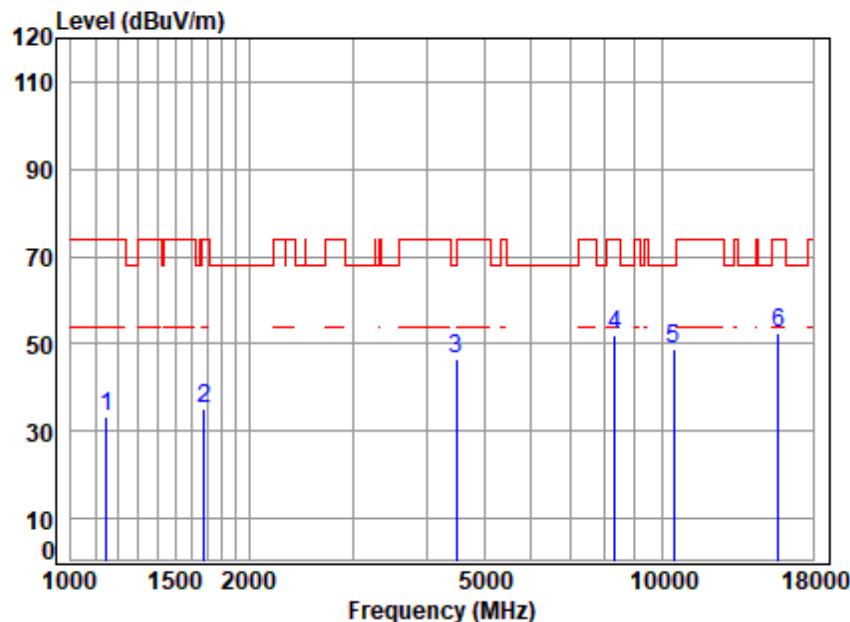
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Test Mode: 06; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Site : chamber  
Condition: 3m HORIZONTAL  
Job No : 11613CR  
Mode : 5240 TX RSE  
Note : 5G WIFI 11A

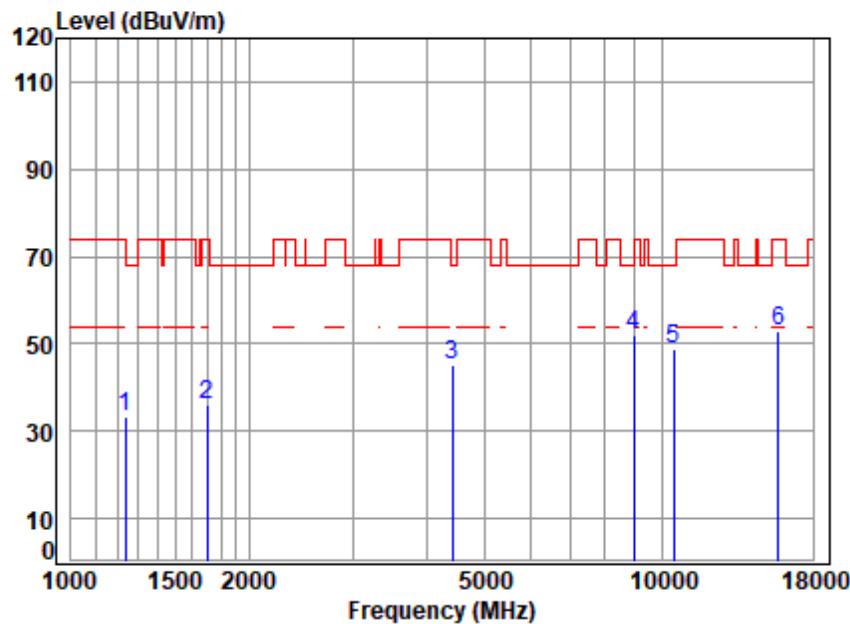
Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1148.823	2.67	24.35	39.72	46.21	33.51	74.00	-40.49 peak
2 1682.477	3.42	26.60	40.05	45.24	35.21	74.00	-38.79 peak
3 4495.125	6.76	33.59	41.87	47.92	46.40	68.20	-21.80 peak
4 8319.836	9.86	36.89	40.15	45.19	51.79	74.00	-22.21 peak
5 10480.000	10.54	37.71	37.36	37.78	48.67	68.20	-19.53 peak
6 15720.000	14.04	40.83	40.47	38.04	52.44	74.00	-21.56 peak

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Test Mode: 06; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High



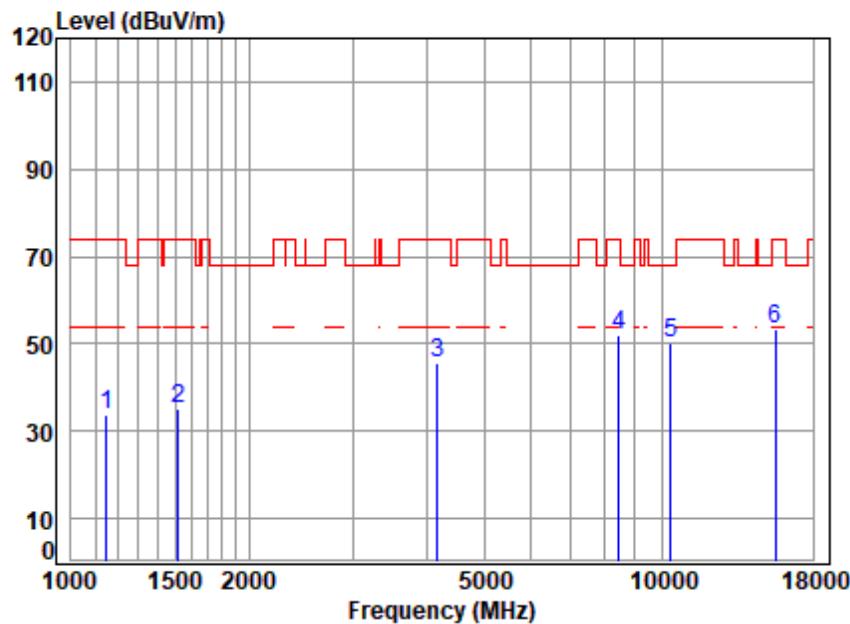
Site : chamber  
Condition: 3m VERTICAL  
Job No : 11613CR  
Mode : 5240 TX RSE  
Note : 5G WIFI 11A

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1234.909	2.83	24.74	39.78	45.33	33.12	74.00	-40.88 peak
2 1697.129	3.43	26.66	40.06	46.10	36.13	74.00	-37.87 peak
3 4417.841	6.68	33.46	41.80	47.04	45.38	68.20	-22.82 peak
4 8943.274	10.28	37.18	38.95	43.66	52.17	68.20	-16.03 peak
5 10480.000	10.54	37.71	37.36	37.75	48.64	68.20	-19.56 peak
6 15720.000	14.04	40.83	40.47	38.44	52.84	74.00	-21.16 peak

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Test Mode: 06; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



Site : chamber  
Condition: 3m HORIZONTAL  
Job No : 11613CR  
Mode : 5180 TX RSE  
Note : 5G WIFI 11N20

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1148.823	2.67	24.35	39.72	46.36	33.66	74.00	-40.34 peak
2 1516.210	3.27	25.87	39.96	45.77	34.95	74.00	-39.05 peak
3 4169.698	6.45	33.02	41.57	47.64	45.54	74.00	-28.46 peak
4 8465.379	10.05	36.98	39.86	44.73	51.90	74.00	-22.10 peak
5 10360.000	10.57	37.76	37.29	39.24	50.28	68.20	-17.92 peak
6 15540.000	13.97	40.72	40.38	38.98	53.29	74.00	-20.71 peak

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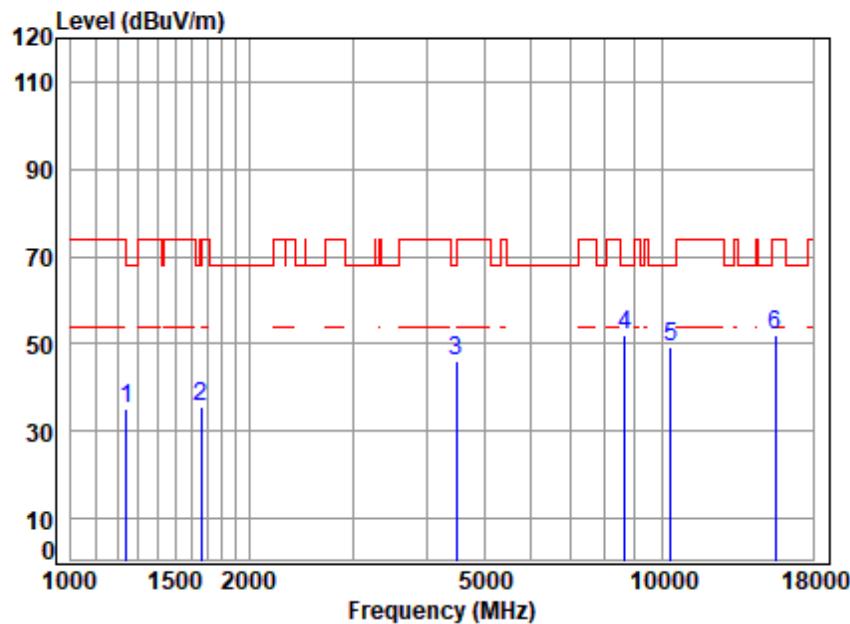
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Test Mode: 06; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



Site : chamber  
Condition: 3m VERTICAL  
Job No : 11613CR  
Mode : 5180 TX RSE  
Note : 5G WIFI 11N20

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1242.068	2.84	24.78	39.79	47.47	35.30	68.20	-32.90 peak
2 1663.137	3.40	26.52	40.04	45.54	35.42	74.00	-38.58 peak
3 4482.150	6.74	33.57	41.86	47.62	46.07	68.20	-22.13 peak
4 8663.404	10.17	37.07	39.48	44.03	51.79	68.20	-16.41 peak
5 10360.000	10.57	37.76	37.29	38.45	49.49	68.20	-18.71 peak
6 15540.000	13.97	40.72	40.38	37.84	52.15	74.00	-21.85 peak

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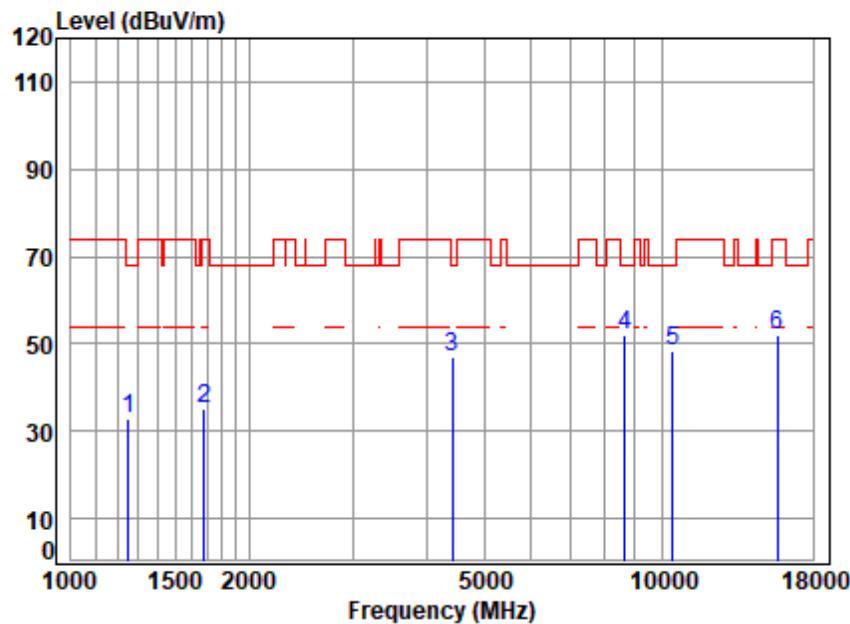
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Test Mode: 06; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:middle



Site : chamber  
Condition: 3m HORIZONTAL  
Job No : 11613CR  
Mode : 5220 TX RSE  
Note : 5G WIFI 11N20

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1249.269	2.85	24.81	39.79	44.89	32.76	68.20	-35.44 peak
2 1682.477	3.42	26.60	40.05	45.22	35.19	74.00	-38.81 peak
3 4417.841	6.68	33.46	41.80	48.72	47.06	68.20	-21.14 peak
4 8638.399	10.16	37.06	39.53	44.29	51.98	68.20	-16.22 peak
5 10440.000	10.55	37.72	37.34	37.51	48.44	68.20	-19.76 peak
6 15660.000	14.02	40.80	40.44	37.83	52.21	74.00	-21.79 peak

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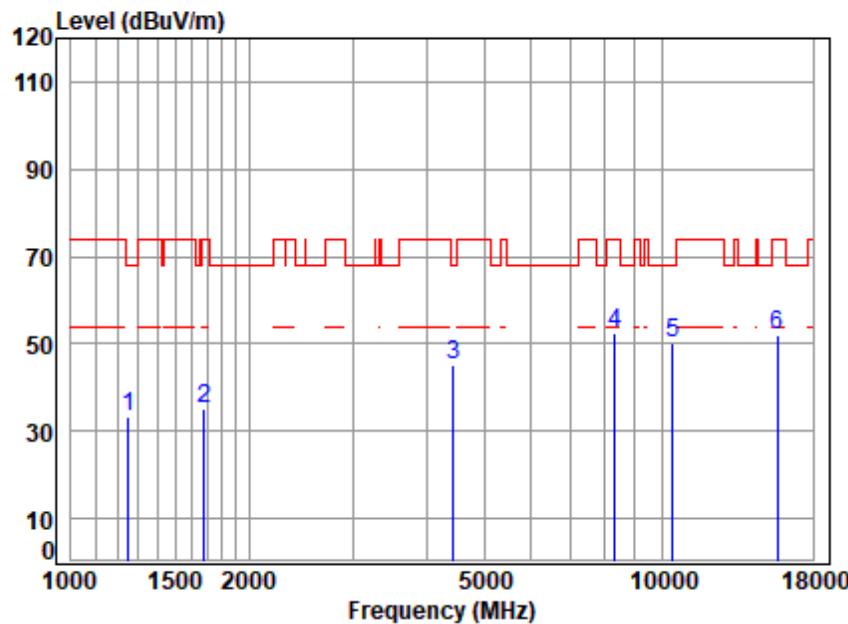
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Test Mode: 06; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:middle



Site : chamber  
Condition: 3m VERTICAL  
Job No : 11613CR  
Mode : 5220 TX RSE  
Note : 5G WIFI 11N20

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1249.269	2.85	24.81	39.79	45.39	33.26	68.20	-34.94 peak
2 1682.477	3.42	26.60	40.05	45.16	35.13	74.00	-38.87 peak
3 4430.628	6.70	33.48	41.81	46.93	45.30	68.20	-22.90 peak
4 8319.836	9.86	36.89	40.15	45.99	52.59	74.00	-21.41 peak
5 10440.000	10.55	37.72	37.34	39.23	50.16	68.20	-18.04 peak
6 15660.000	14.02	40.80	40.44	37.68	52.06	74.00	-21.94 peak

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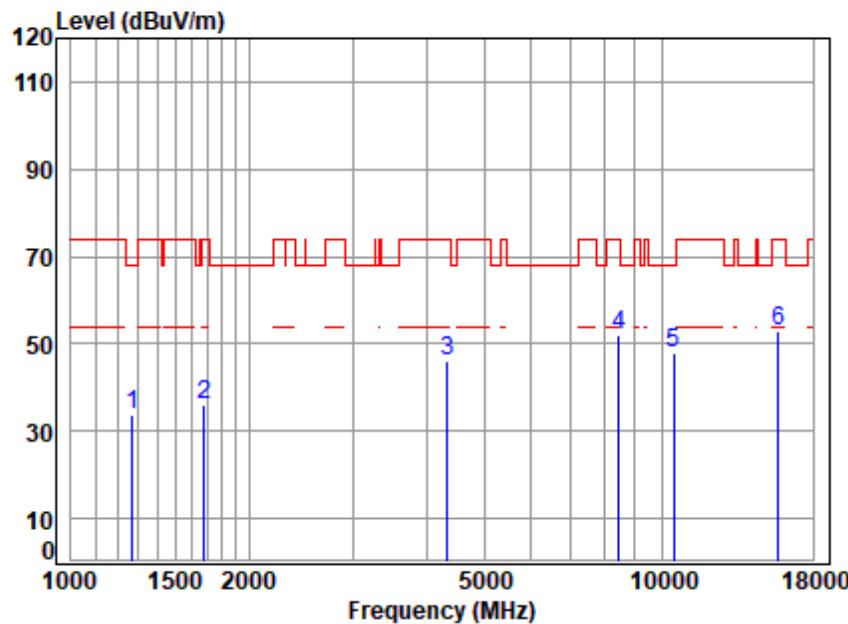
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Test Mode: 06; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High



Site : chamber  
Condition: 3m HORIZONTAL  
Job No : 11613CR  
Mode : 5240 TX RSE  
Note : 5G WIFI 11N20

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1271.123	2.89	24.90	39.81	45.64	33.62	68.20	-34.58 peak
2 1682.477	3.42	26.60	40.05	45.96	35.93	74.00	-38.07 peak
3 4341.886	6.61	33.33	41.73	48.10	46.31	74.00	-27.69 peak
4 8465.379	10.05	36.98	39.86	44.89	52.06	74.00	-21.94 peak
5 10480.000	10.54	37.71	37.36	37.04	47.93	68.20	-20.27 peak
6 15720.000	14.04	40.83	40.47	38.74	53.14	74.00	-20.86 peak

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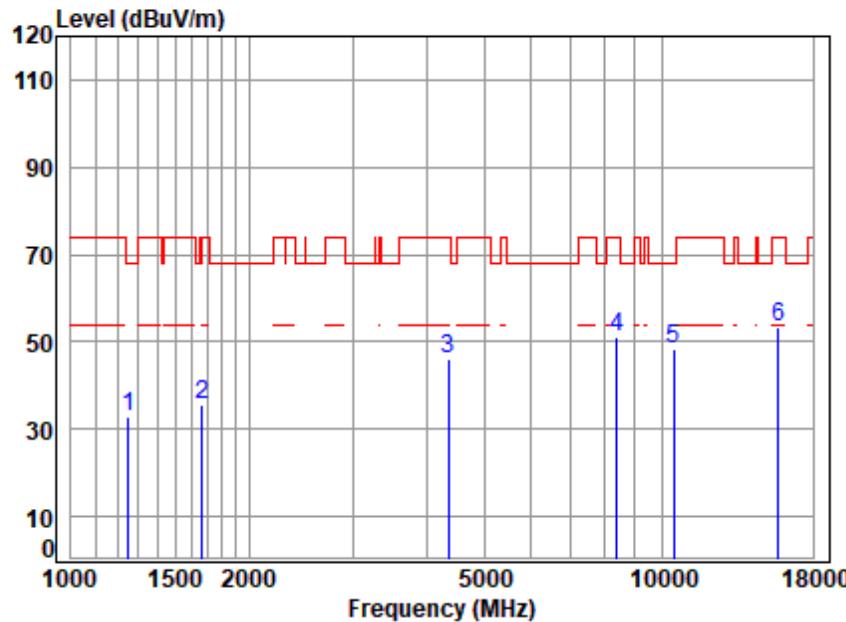
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Test Mode: 06; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High



Site : chamber  
Condition: 3m VERTICAL  
Job No : 11613CR  
Mode : 5240 TX RSE  
Note : 5G WIFI 11N20

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1249.269	2.85	24.81	39.79	45.09	32.96	68.20	-35.24 peak
2 1667.951	3.40	26.54	40.04	45.57	35.47	74.00	-38.53 peak
3 4354.454	6.63	33.35	41.74	47.71	45.95	74.00	-28.05 peak
4 8392.292	9.96	36.94	40.01	44.36	51.25	74.00	-22.75 peak
5 10480.000	10.54	37.71	37.36	37.35	48.24	68.20	-19.96 peak
6 15720.000	14.04	40.83	40.47	39.00	53.40	74.00	-20.60 peak

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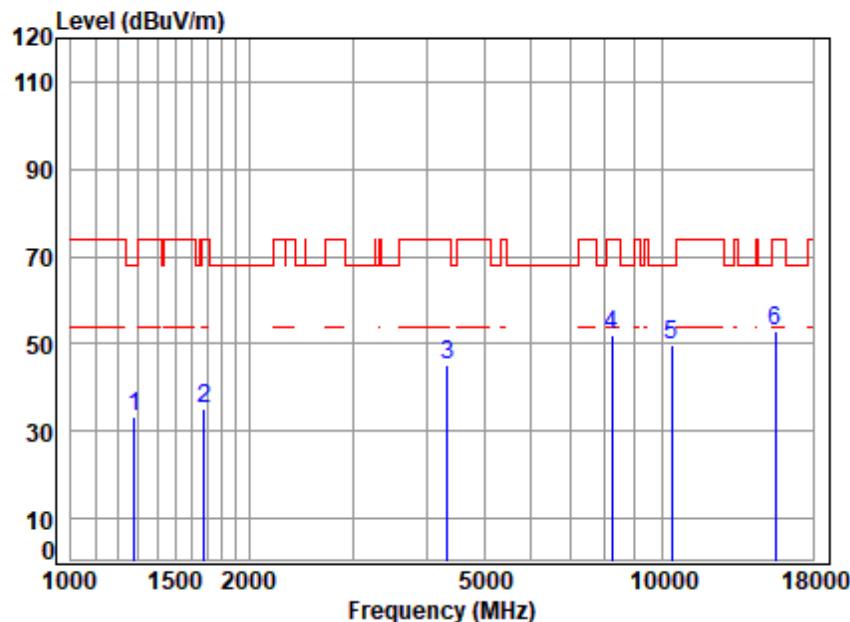
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Test Mode: 06; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



Site : chamber  
Condition: 3m HORIZONTAL  
Job No : 11613CR  
Mode : 5190 TX RSE  
Note : 5G WIFI 11N40

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1282.193	2.91	24.95	39.82	45.12	33.16	68.20	-35.04 peak
2 1682.477	3.42	26.60	40.05	45.05	35.02	74.00	-38.98 peak
3 4341.886	6.61	33.33	41.73	47.05	45.26	74.00	-28.74 peak
4 8224.200	9.73	36.84	40.34	45.63	51.86	74.00	-22.14 peak
5 10380.000	10.57	37.75	37.30	38.77	49.79	68.20	-18.41 peak
6 15570.000	13.98	40.74	40.40	38.61	52.93	74.00	-21.07 peak

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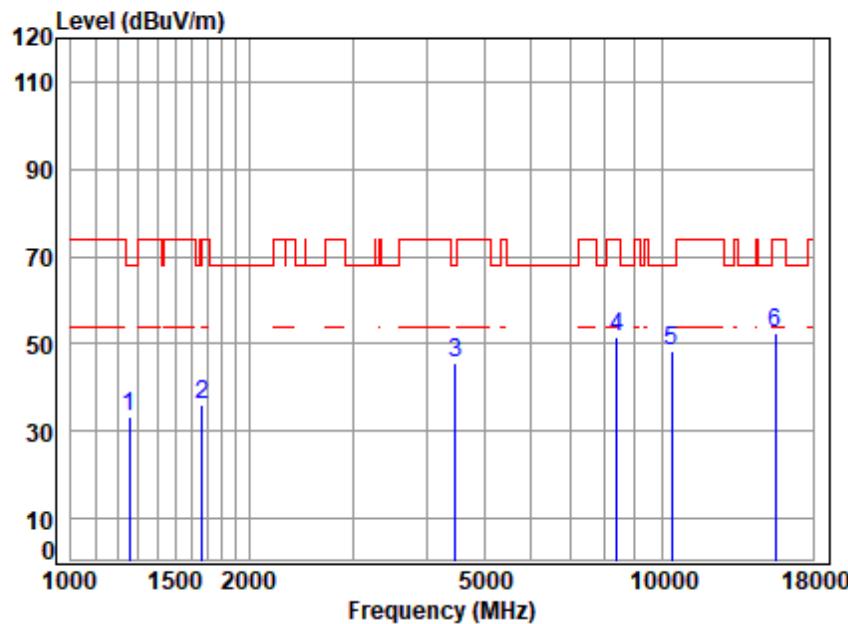
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Test Mode: 06; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



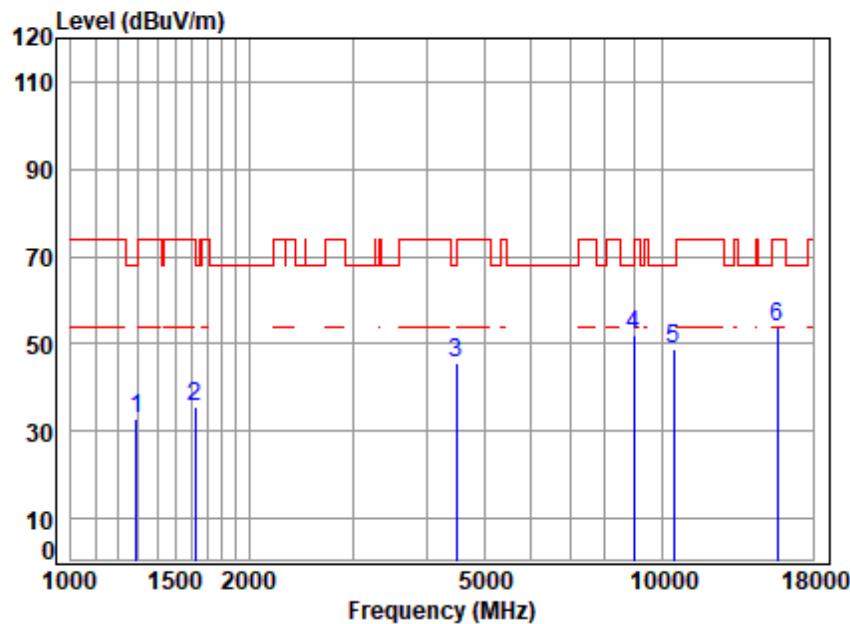
Site : chamber  
Condition: 3m VERTICAL  
Job No : 11613CR  
Mode : 5190 TX RSE  
Note : 5G WIFI 11N40

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1256.512	2.87	24.84	39.80	45.27	33.18	68.20	-35.02 peak
2 1667.951	3.40	26.54	40.04	46.08	35.98	74.00	-38.02 peak
3 4469.214	6.73	33.55	41.85	47.22	45.65	68.20	-22.55 peak
4 8392.292	9.96	36.94	40.01	44.48	51.37	74.00	-22.63 peak
5 10380.000	10.57	37.75	37.30	37.55	48.57	68.20	-19.63 peak
6 15570.000	13.98	40.74	40.40	38.21	52.53	74.00	-21.47 peak

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Test Mode: 06; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High



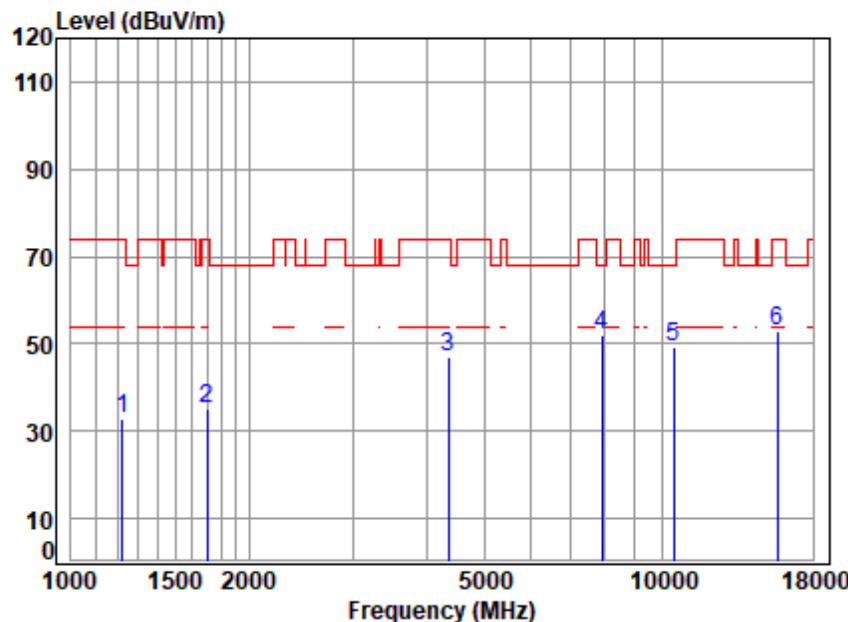
Site : chamber  
Condition: 3m HORIZONTAL  
Job No : 11613CR  
Mode : 5230 TX RSE  
Note : 5G WIFI 11N40

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1289.627	2.92	24.98	39.82	44.70	32.78	68.20	-35.42 peak
2 1620.431	3.36	26.34	40.02	45.86	35.54	74.00	-38.46 peak
3 4482.150	6.74	33.57	41.86	47.15	45.60	68.20	-22.60 peak
4 8969.161	10.29	37.19	38.90	43.43	52.01	68.20	-16.19 peak
5 10460.000	10.54	37.72	37.35	37.97	48.88	68.20	-19.32 peak
6 15690.000	14.03	40.82	40.45	39.28	53.68	74.00	-20.32 peak

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Test Mode: 06; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High



Site : chamber  
Condition: 3m VERTICAL  
Job No : 11613CR  
Mode : 5230 TX RSE  
Note : 5G WIFI 11N40

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1224.247	2.81	24.70	39.78	45.31	33.04	74.00	-40.96 peak
2 1697.129	3.43	26.66	40.06	45.26	35.29	74.00	-38.71 peak
3 4354.454	6.63	33.35	41.74	48.69	46.93	74.00	-27.07 peak
4 7898.049	9.34	36.62	40.89	46.85	51.92	68.20	-16.28 peak
5 10460.000	10.54	37.72	37.35	38.20	49.11	68.20	-19.09 peak
6 15690.000	14.03	40.82	40.45	38.42	52.82	74.00	-21.18 peak

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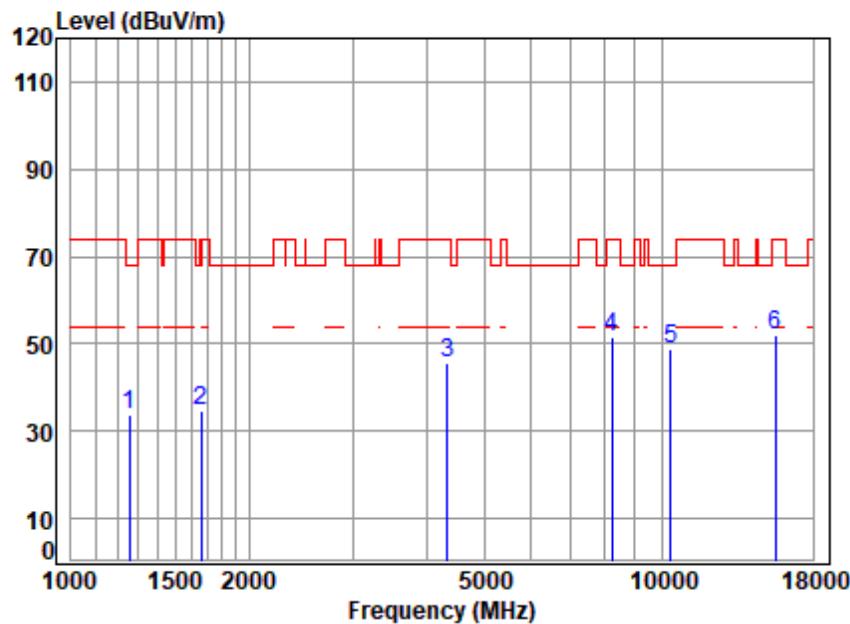
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Test Mode: 06; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Site : chamber  
Condition: 3m HORIZONTAL  
Job No : 11613CR  
Mode : 5180 TX RSE  
Note : 5G WIFI 11AC20

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1256.512	2.87	24.84	39.80	45.74	33.65	68.20	-34.55 peak
2 1663.137	3.40	26.52	40.04	44.91	34.79	74.00	-39.21 peak
3 4341.886	6.61	33.33	41.73	47.20	45.41	74.00	-28.59 peak
4 8224.200	9.73	36.84	40.34	45.55	51.78	74.00	-22.22 peak
5 10360.000	10.57	37.76	37.29	37.75	48.79	68.20	-19.41 peak
6 15540.000	13.97	40.72	40.38	37.55	51.86	74.00	-22.14 peak

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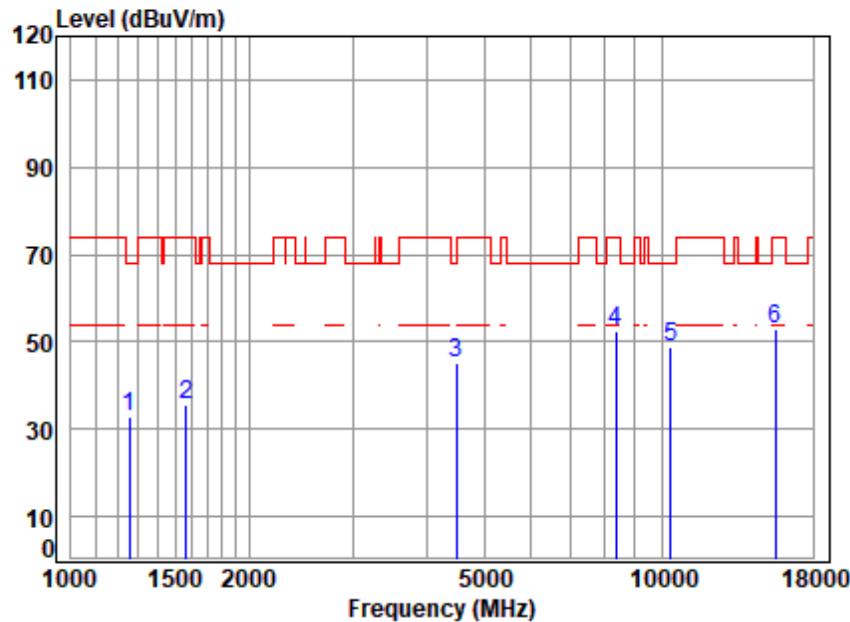
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Test Mode: 06; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Site : chamber  
Condition: 3m VERTICAL  
Job No : 11613CR  
Mode : 5180 TX RSE  
Note : 5G WIFI 11AC20

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1256.512	2.87	24.84	39.80	44.95	32.86	68.20	-35.34 peak
2 1565.191	3.32	26.10	39.99	46.37	35.80	74.00	-38.20 peak
3 4495.125	6.76	33.59	41.87	46.71	45.19	68.20	-23.01 peak
4 8343.918	9.89	36.91	40.10	45.59	52.29	74.00	-21.71 peak
5 10360.000	10.57	37.76	37.29	37.85	48.89	68.20	-19.31 peak
6 15540.000	13.97	40.72	40.38	38.56	52.87	74.00	-21.13 peak

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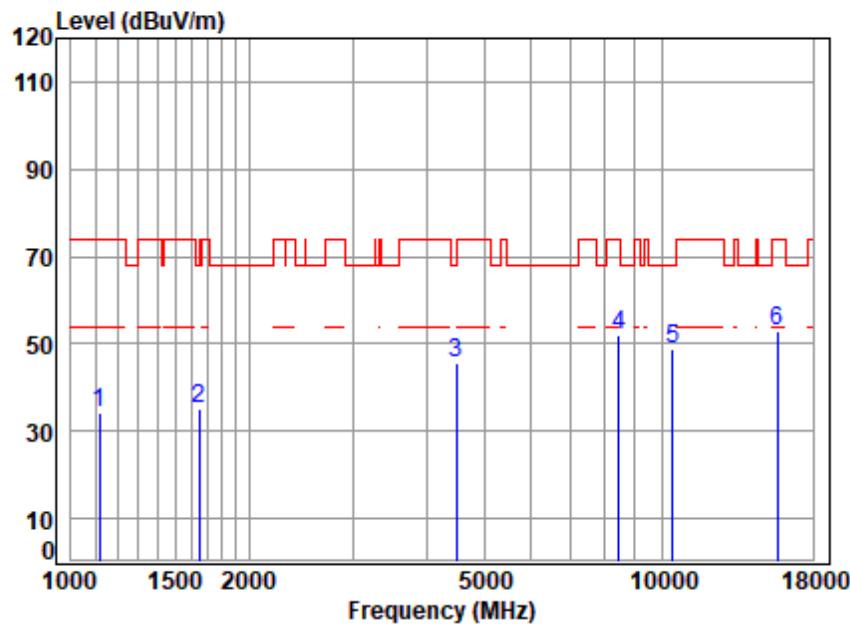
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Test Mode: 06; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:middle



Site : chamber  
Condition: 3m HORIZONTAL  
Job No : 11613CR  
Mode : 5220 TX RSE  
Note : 5G WIFI 11AC20

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1116.093	2.60	24.20	39.70	47.25	34.35	74.00	-39.65 peak
2 1648.778	3.39	26.46	40.03	45.21	35.03	68.20	-33.17 peak
3 4482.150	6.74	33.57	41.86	47.40	45.85	68.20	-22.35 peak
4 8465.379	10.05	36.98	39.86	44.82	51.99	74.00	-22.01 peak
5 10440.000	10.55	37.72	37.34	37.99	48.92	68.20	-19.28 peak
6 15660.000	14.02	40.80	40.44	38.47	52.85	74.00	-21.15 peak

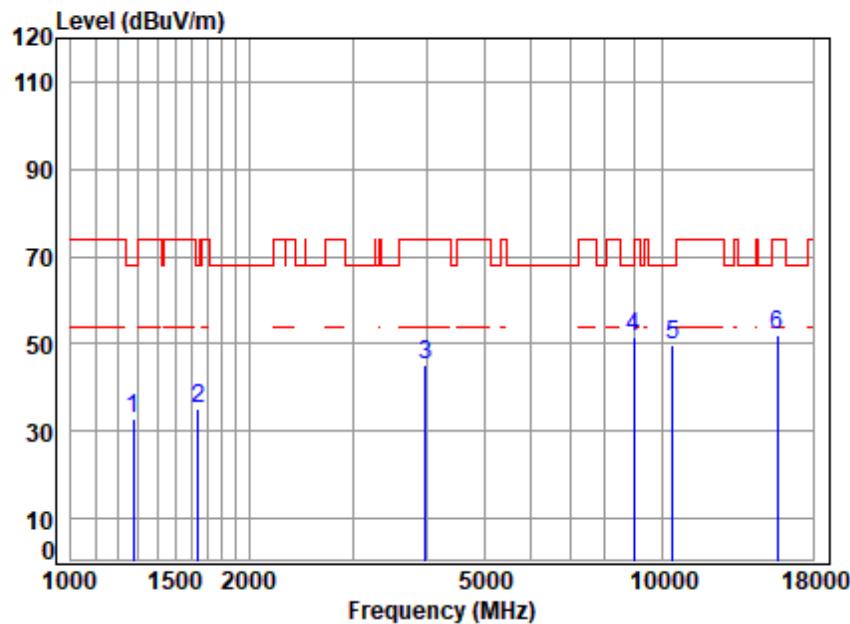
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Test Mode: 06; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:middle



Site : chamber  
Condition: 3m VERTICAL  
Job No : 11613CR  
Mode : 5220 TX RSE  
Note : 5G WIFI 11AC20

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1274.802	2.90	24.92	39.81	44.76	32.77	68.20	-35.43 peak
2 1644.019	3.38	26.44	40.03	45.15	34.94	68.20	-33.26 peak
3 3981.257	6.25	32.66	41.39	47.56	45.08	74.00	-28.92 peak
4 8943.274	10.28	37.18	38.95	43.24	51.75	68.20	-16.45 peak
5 10440.000	10.55	37.72	37.34	38.63	49.56	68.20	-18.64 peak
6 15660.000	14.02	40.80	40.44	37.85	52.23	74.00	-21.77 peak

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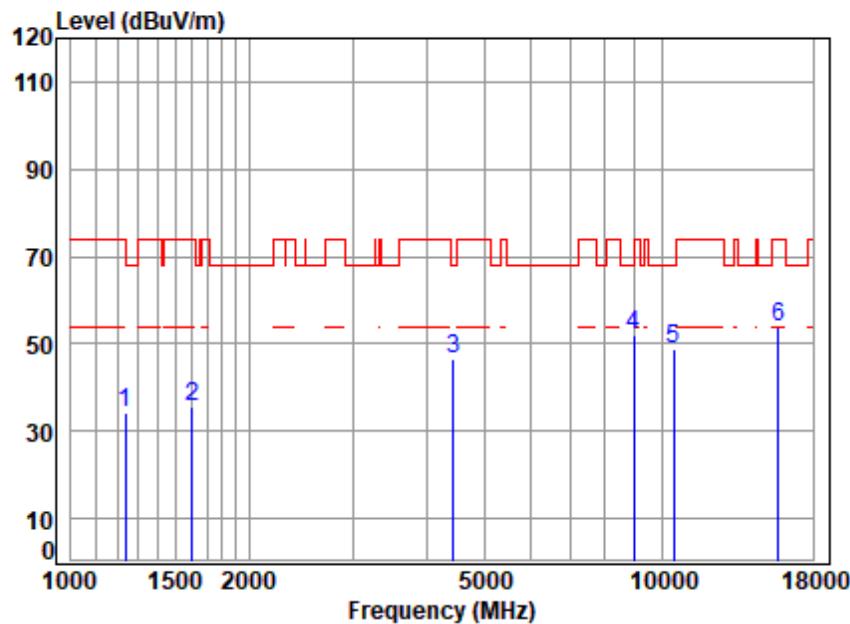
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Test Mode: 06; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



Site : chamber  
Condition: 3m HORIZONTAL  
Job No : 11613CR  
Mode : 5240 TX RSE  
Note : 5G WIFI 11AC20

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1234.909	2.83	24.74	39.78	46.35	34.14	74.00	-39.86 peak
2 1601.804	3.35	26.26	40.01	45.85	35.45	74.00	-38.55 peak
3 4443.453	6.71	33.50	41.82	47.96	46.35	68.20	-21.85 peak
4 8943.274	10.28	37.18	38.95	43.68	52.19	68.20	-16.01 peak
5 10480.000	10.54	37.71	37.36	37.87	48.76	68.20	-19.44 peak
6 15720.000	14.04	40.83	40.47	39.34	53.74	74.00	-20.26 peak

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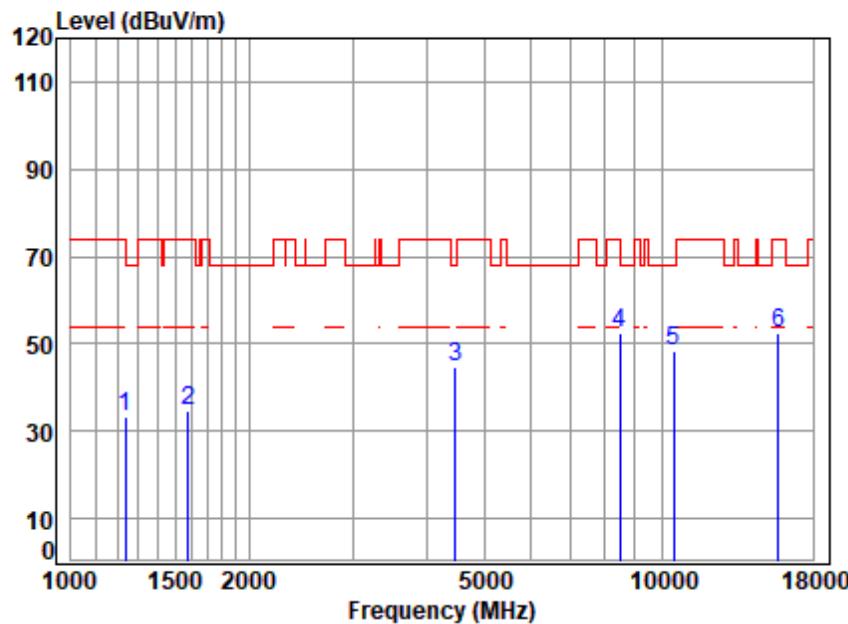
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Test Mode: 06; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:High



Site : chamber  
Condition: 3m VERTICAL  
Job No : 11613CR  
Mode : 5240 TX RSE  
Note : 5G WIFI 11AC20

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1234.909	2.83	24.74	39.78	45.69	33.48	74.00	-40.52 peak
2 1578.822	3.33	26.16	40.00	45.01	34.50	74.00	-39.50 peak
3 4469.214	6.73	33.55	41.85	46.31	44.74	68.20	-23.46 peak
4 8489.882	10.09	36.99	39.81	45.32	52.59	74.00	-21.41 peak
5 10480.000	10.54	37.71	37.36	37.51	48.40	68.20	-19.80 peak
6 15720.000	14.04	40.83	40.47	37.99	52.39	74.00	-21.61 peak

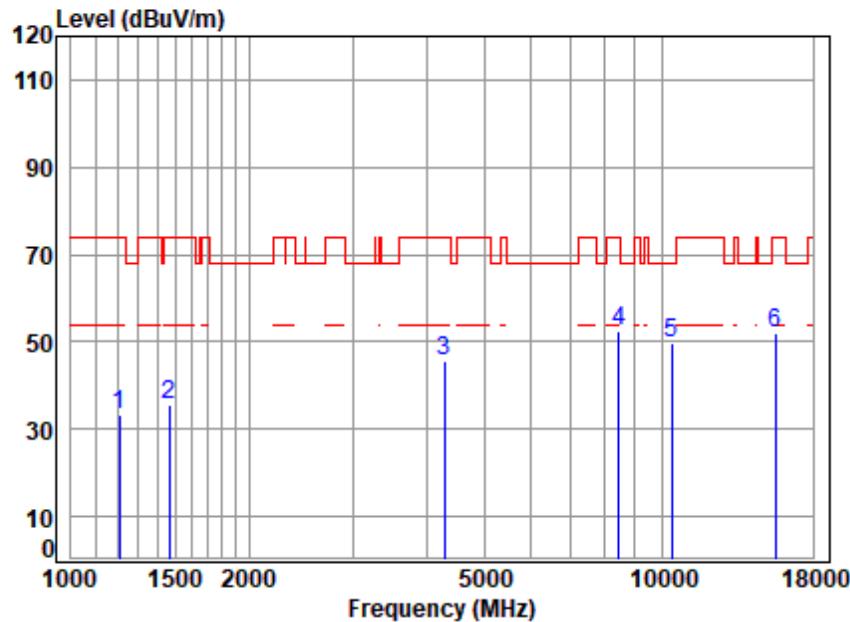
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Test Mode: 06; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



Site : chamber  
Condition: 3m HORIZONTAL  
Job No : 11613CR  
Mode : 5190 TX RSE  
Note : 5G WIFI 11AC40

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1206.682	2.78	24.62	39.76	45.45	33.09	74.00	-40.91 peak
2 1468.761	3.21	25.69	39.93	46.42	35.39	74.00	-38.61 peak
3 4279.589	6.56	33.22	41.67	47.68	45.79	74.00	-28.21 peak
4 8465.379	10.05	36.98	39.86	45.32	52.49	74.00	-21.51 peak
5 10380.000	10.57	37.75	37.30	38.70	49.72	68.20	-18.48 peak
6 15570.000	13.98	40.74	40.40	37.71	52.03	74.00	-21.97 peak

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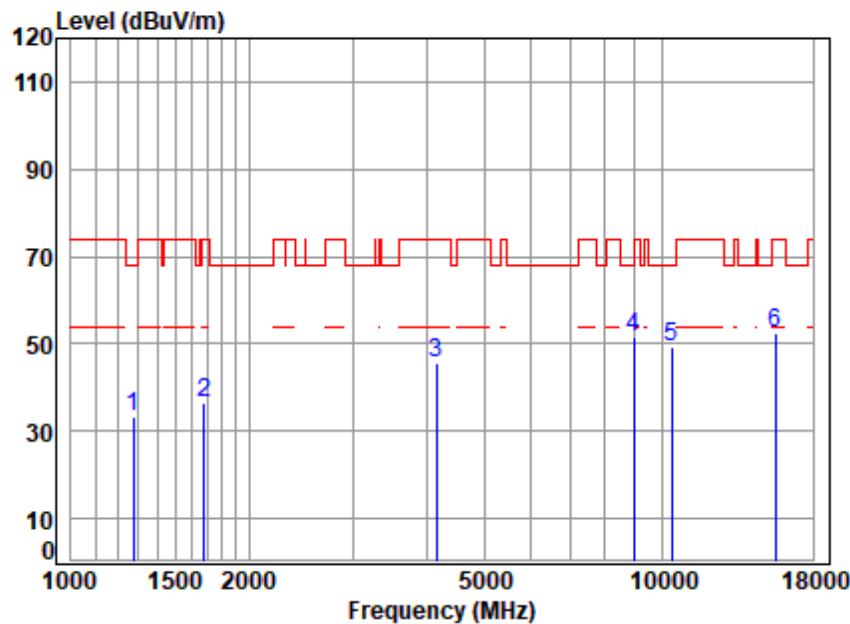
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Test Mode: 06; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



Site : chamber  
Condition: 3m VERTICAL  
Job No : 11613CR  
Mode : 5190 TX RSE  
Note : 5G WIFI 11AC40

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1274.802	2.90	24.92	39.81	45.09	33.10	68.20	-35.10 peak
2 1682.477	3.42	26.60	40.05	46.50	36.47	74.00	-37.53 peak
3 4157.664	6.44	33.00	41.56	47.67	45.55	74.00	-28.45 peak
4 8943.274	10.28	37.18	38.95	43.25	51.76	68.20	-16.44 peak
5 10380.000	10.57	37.75	37.30	38.12	49.14	68.20	-19.06 peak
6 15570.000	13.98	40.74	40.40	38.37	52.69	74.00	-21.31 peak

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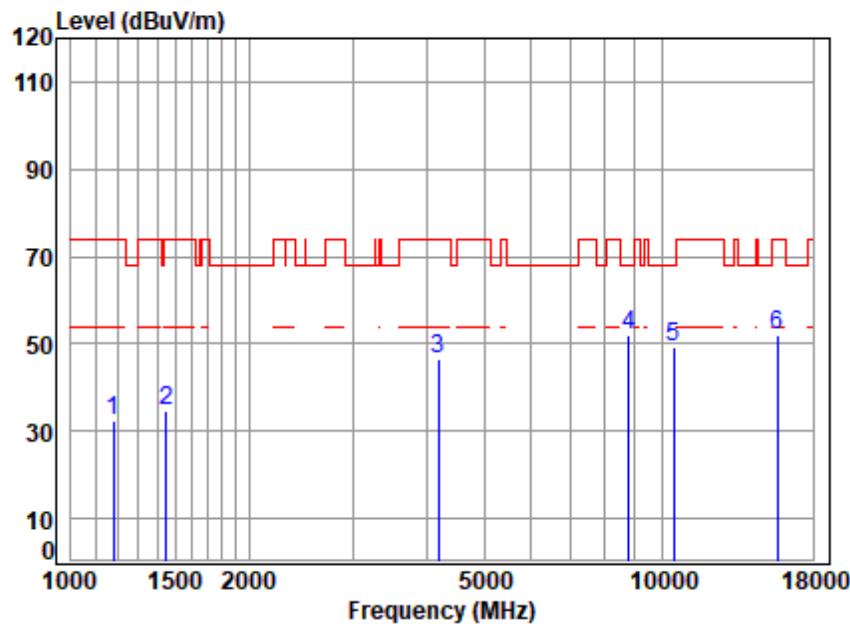
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Test Mode: 06; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



Site : chamber  
Condition: 3m HORIZONTAL  
Job No : 11613CR  
Mode : 5230 TX RSE  
Note : 5G WIFI 11AC40

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1179.100	2.73	24.49	39.74	44.85	32.33	74.00	-41.67 peak
2 1451.878	3.19	25.62	39.92	45.99	34.88	74.00	-39.12 peak
3 4181.768	6.46	33.04	41.58	48.67	46.59	74.00	-27.41 peak
4 8789.516	10.22	37.12	39.24	43.70	51.80	68.20	-16.40 peak
5 10460.000	10.54	37.72	37.35	38.29	49.20	68.20	-19.00 peak
6 15690.000	14.03	40.82	40.45	37.84	52.24	74.00	-21.76 peak

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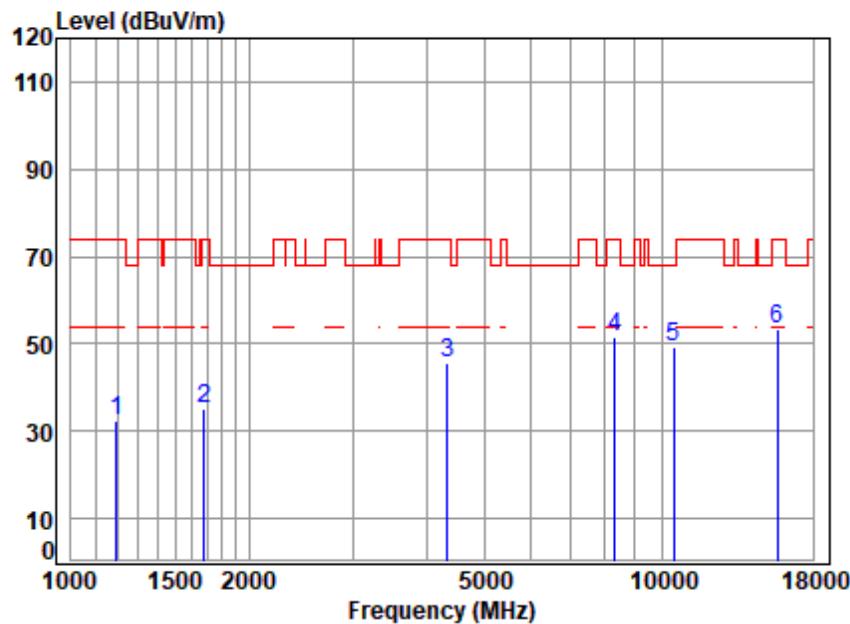
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Test Mode: 06; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



Site : chamber  
Condition: 3m VERTICAL  
Job No : 11613CR  
Mode : 5230 TX RSE  
Note : 5G WIFI 11AC40

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1192.811	2.75	24.56	39.75	45.00	32.56	74.00	-41.44 peak
2 1677.621	3.41	26.58	40.05	45.10	35.04	74.00	-38.96 peak
3 4341.886	6.61	33.33	41.73	47.34	45.55	74.00	-28.45 peak
4 8319.836	9.86	36.89	40.15	44.89	51.49	74.00	-22.51 peak
5 10460.000	10.54	37.72	37.35	38.52	49.43	68.20	-18.77 peak
6 15690.000	14.03	40.82	40.45	38.99	53.39	74.00	-20.61 peak

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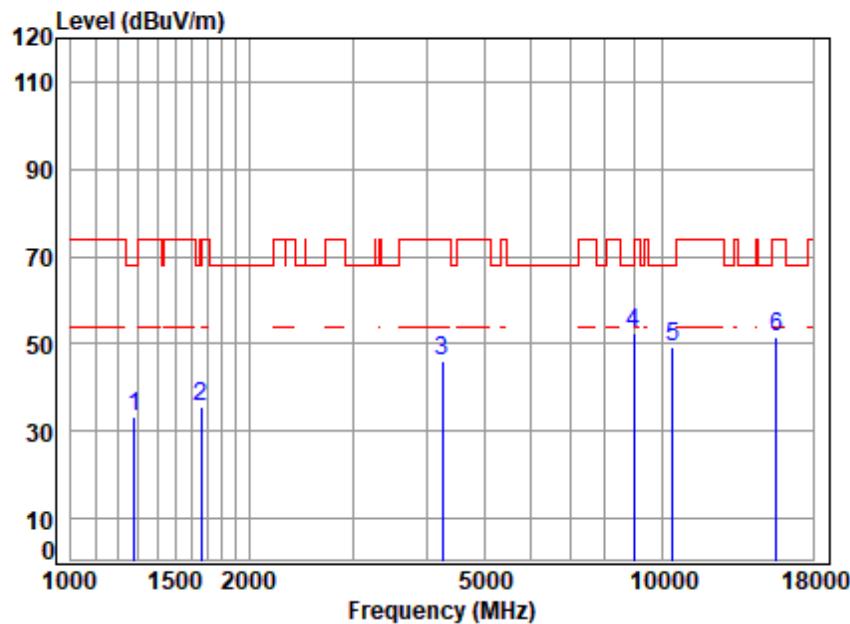
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Test Mode: 06; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



Site : chamber  
Condition: 3m HORIZONTAL  
Job No : 11613CR  
Mode : 5210 TX RSE  
Note : 5G WIFI 11AC80

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1282.193	2.91	24.95	39.82	45.46	33.50	68.20	-34.70 peak
2 1663.137	3.40	26.52	40.04	45.87	35.75	74.00	-38.25 peak
3 4254.921	6.53	33.17	41.65	47.83	45.88	74.00	-28.12 peak
4 8943.274	10.28	37.18	38.95	43.94	52.45	68.20	-15.75 peak
5 10420.000	10.56	37.73	37.33	38.51	49.47	68.20	-18.73 peak
6 15630.000	14.01	40.78	40.42	37.38	51.75	74.00	-22.25 peak

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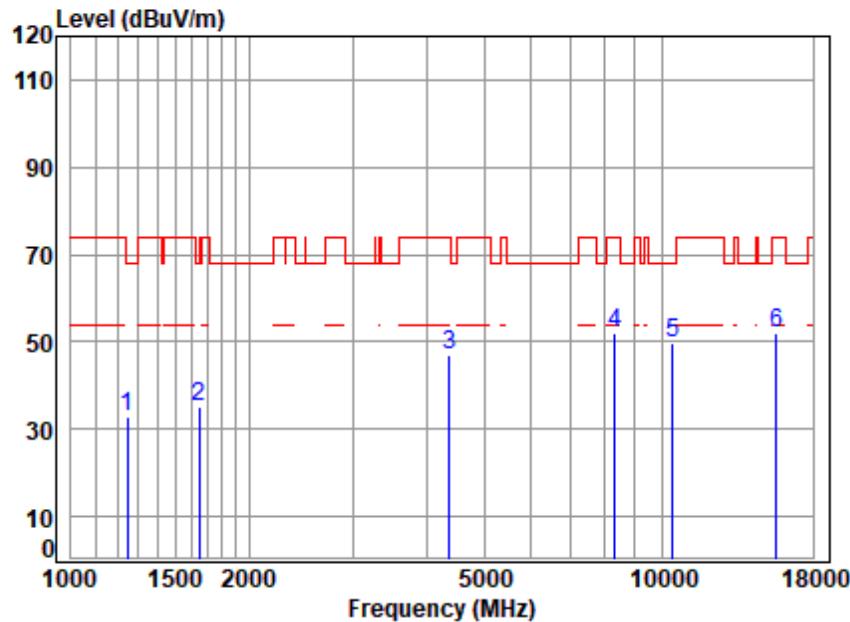
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Test Mode: 06; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



Site : chamber  
Condition: 3m VERTICAL  
Job No : 11613CR  
Mode : 5210 TX RSE  
Note : 5G WIFI 11AC80

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1245.663	2.85	24.79	39.79	45.12	32.97	68.20	-35.23 peak
2 1648.778	3.39	26.46	40.03	45.37	35.19	68.20	-33.01 peak
3 4367.058	6.64	33.37	41.75	48.60	46.86	74.00	-27.14 peak
4 8319.836	9.86	36.89	40.15	45.48	52.08	74.00	-21.92 peak
5 10420.000	10.56	37.73	37.33	38.65	49.61	68.20	-18.59 peak
6 15630.000	14.01	40.78	40.42	37.57	51.94	74.00	-22.06 peak

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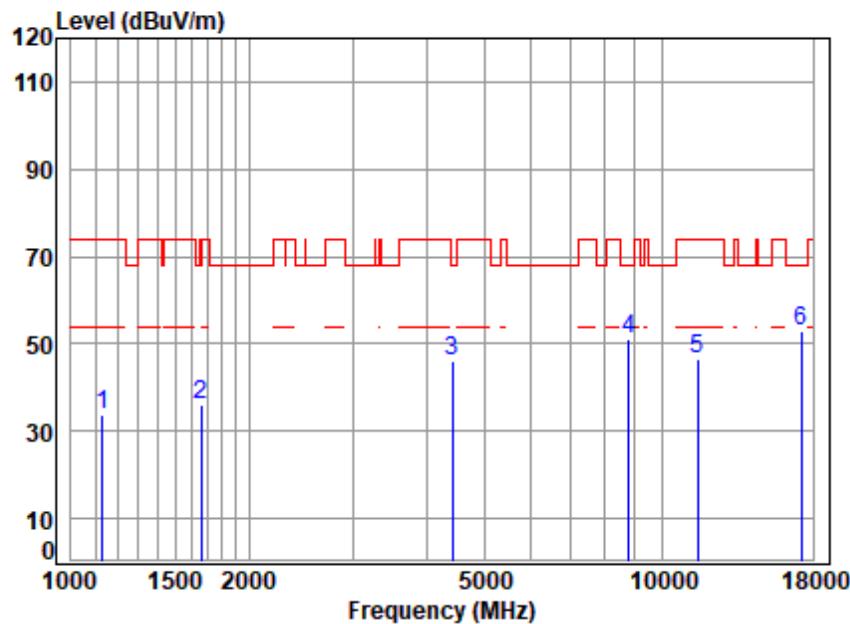
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Test Mode: 07; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Site : chamber  
Condition: 3m HORIZONTAL  
Job No : 11613CR  
Mode : 5745 TX RSE  
Note : 5G WIFI 11A

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1129.072	2.63	24.26	39.71	46.74	33.92	74.00	-40.08 peak
2 1663.137	3.40	26.52	40.04	46.36	36.24	74.00	-37.76 peak
3 4417.841	6.68	33.46	41.80	47.95	46.29	68.20	-21.91 peak
4 8789.516	10.22	37.12	39.24	42.83	50.93	68.20	-17.27 peak
5 11490.000	11.62	37.90	37.86	34.85	46.51	74.00	-27.49 peak
6 17235.000	14.09	42.74	40.28	36.58	53.13	68.20	-15.07 peak

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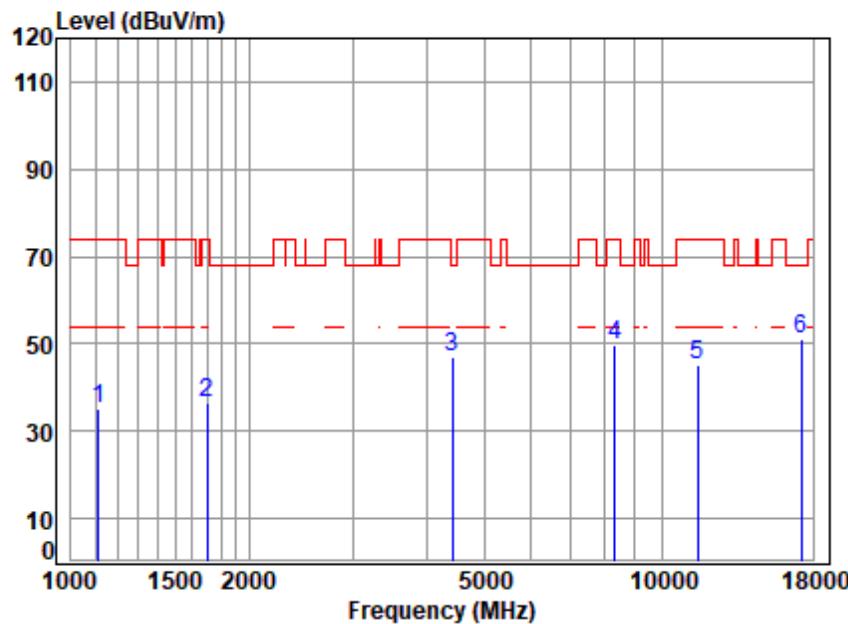
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Test Mode: 07; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Site : chamber  
Condition: 3m VERTICAL  
Job No : 11613CR  
Mode : 5745 TX RSE  
Note : 5G WIFI 11A

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1112.872	2.60	24.18	39.69	48.00	35.09	74.00	-38.91 peak
2 1697.129	3.43	26.66	40.06	46.60	36.63	74.00	-37.37 peak
3 4417.841	6.68	33.46	41.80	48.56	46.90	68.20	-21.30 peak
4 8319.836	9.86	36.89	40.15	43.28	49.88	74.00	-24.12 peak
5 11490.000	11.62	37.90	37.86	33.46	45.12	74.00	-28.88 peak
6 17235.000	14.09	42.74	40.28	34.60	51.15	68.20	-17.05 peak

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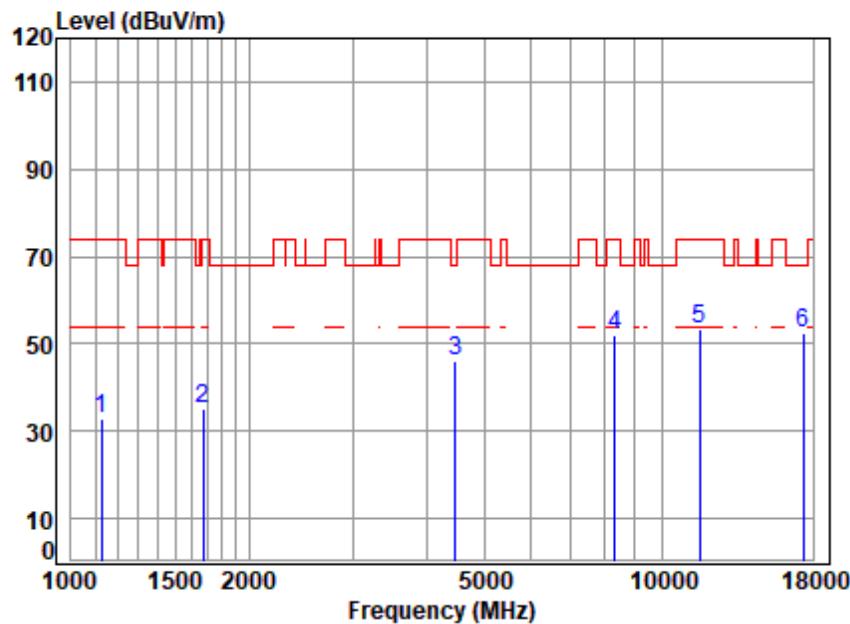
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Test Mode: 07; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:middle



Site : chamber  
Condition: 3m HORIZONTAL  
Job No : 11613CR  
Mode : 5785 TX RSE  
Note : 5G WIFI 11A

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1125.813	2.62	24.24	39.70	45.79	32.95	74.00	-41.05 peak
2 1672.779	3.41	26.56	40.05	45.14	35.06	74.00	-38.94 peak
3 4469.214	6.73	33.55	41.85	47.74	46.17	68.20	-22.03 peak
4 8319.836	9.86	36.89	40.15	45.23	51.83	74.00	-22.17 peak
5 11570.000	11.72	37.87	37.90	41.65	53.34	74.00	-20.66 peak
6 17355.000	14.06	42.81	40.25	35.94	52.56	68.20	-15.64 peak

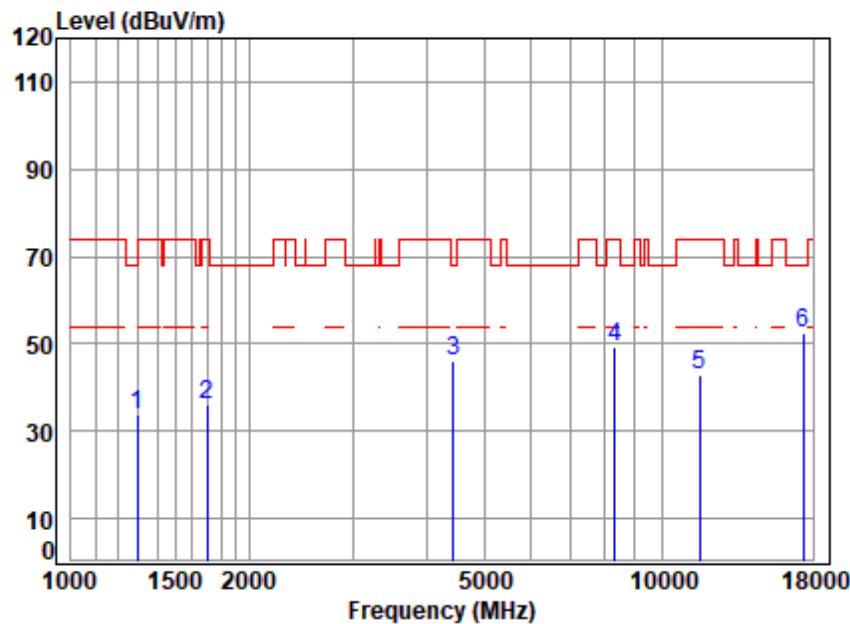
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Test Mode: 07; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:middle



Site : chamber  
Condition: 3m VERTICAL  
Job No : 11613CR  
Mode : 5785 TX RSE  
Note : 5G WIFI 11A

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1293.359	2.93	25.00	39.82	45.69	33.80	68.20	-34.40 peak
2 1697.129	3.43	26.66	40.06	45.95	35.98	74.00	-38.02 peak
3 4443.453	6.71	33.50	41.82	47.76	46.15	68.20	-22.05 peak
4 8319.836	9.86	36.89	40.15	42.71	49.31	74.00	-24.69 peak
5 11570.000	11.72	37.87	37.90	31.33	43.02	74.00	-30.98 peak
6 17355.000	14.06	42.81	40.25	35.85	52.47	68.20	-15.73 peak

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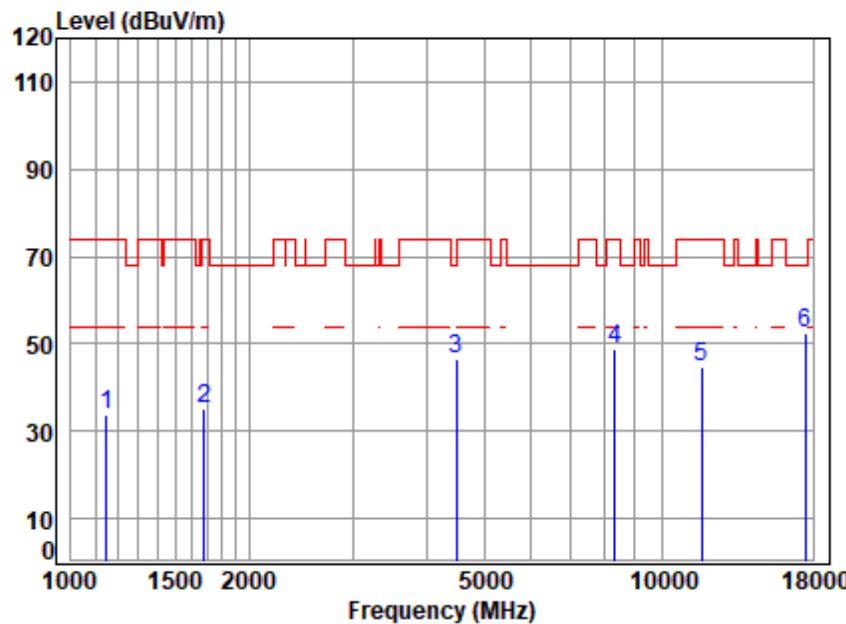
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Test Mode: 07; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Site : chamber  
Condition: 3m HORIZONTAL  
Job No : 11613CR  
Mode : 5825 TX RSE  
Note : 5G WIFI 11A

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1148.823	2.67	24.35	39.72	46.32	33.62	74.00	-40.38 peak
2 1682.477	3.42	26.60	40.05	45.35	35.32	74.00	-38.68 peak
3 4495.125	6.76	33.59	41.87	48.11	46.59	68.20	-21.61 peak
4 8319.836	9.86	36.89	40.15	42.38	48.98	74.00	-25.02 peak
5 11650.000	11.82	37.84	37.94	32.79	44.51	74.00	-29.49 peak
6 17475.000	14.02	42.89	40.23	35.66	52.34	68.20	-15.86 peak

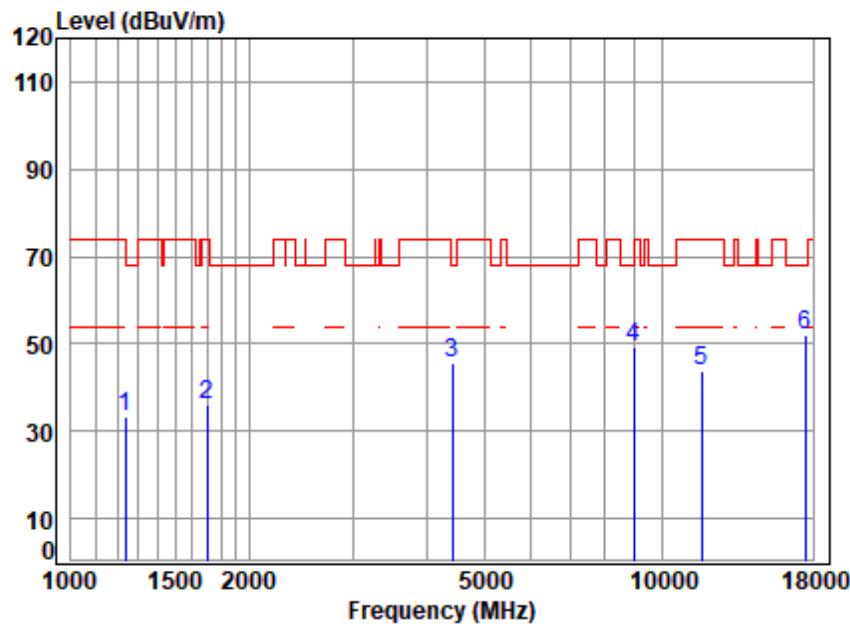
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Test Mode: 07; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Site : chamber  
Condition: 3m VERTICAL  
Job No : 11613CR  
Mode : 5825 TX RSE  
Note : 5G WIFI 11A

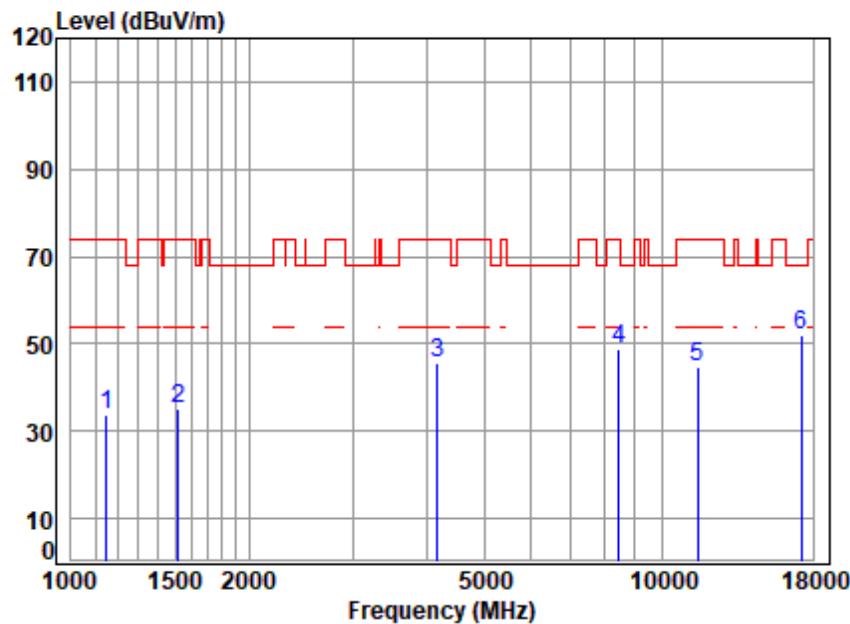
Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1234.909	2.83	24.74	39.78	45.44	33.23	74.00	-40.77 peak
2 1697.129	3.43	26.66	40.06	46.21	36.24	74.00	-37.76 peak
3 4417.841	6.68	33.46	41.80	47.23	45.57	68.20	-22.63 peak
4 8943.274	10.28	37.18	38.95	40.85	49.36	68.20	-18.84 peak
5 11650.000	11.82	37.84	37.94	32.07	43.79	74.00	-30.21 peak
6 17475.000	14.02	42.89	40.23	35.12	51.80	68.20	-16.40 peak

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Test Mode: 07; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



Site : chamber  
Condition: 3m HORIZONTAL  
Job No : 11613CR  
Mode : 5745 TX RSE  
Note : 5G WIFI 11N20

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1148.823	2.67	24.35	39.72	46.35	33.65	74.00	-40.35 peak
2 1516.210	3.27	25.87	39.96	45.76	34.94	74.00	-39.06 peak
3 4169.698	6.45	33.02	41.57	47.71	45.61	74.00	-28.39 peak
4 8465.379	10.05	36.98	39.86	41.80	48.97	74.00	-25.03 peak
5 11490.000	11.62	37.90	37.86	32.99	44.65	74.00	-29.35 peak
6 17235.000	14.09	42.74	40.28	35.31	51.86	68.20	-16.34 peak

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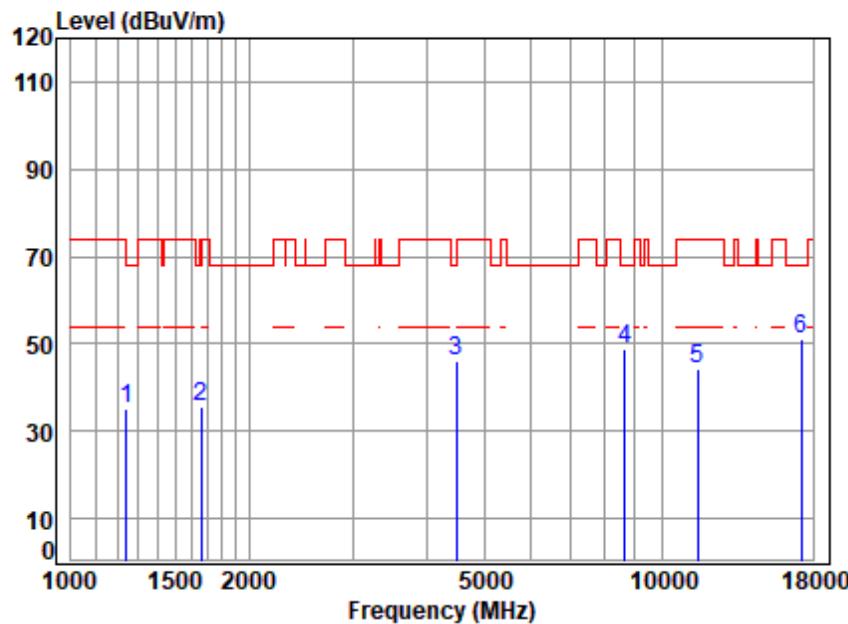
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Test Mode: 07; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



Site : chamber  
Condition: 3m VERTICAL  
Job No : 11613CR  
Mode : 5745 TX RSE  
Note : 5G WIFI 11N20

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1242.068	2.84	24.78	39.79	47.46	35.29	68.20	-32.91 peak
2 1663.137	3.40	26.52	40.04	45.53	35.41	74.00	-38.59 peak
3 4482.150	6.74	33.57	41.86	47.61	46.06	68.20	-22.14 peak
4 8663.404	10.17	37.07	39.48	41.14	48.90	68.20	-19.30 peak
5 11490.000	11.62	37.90	37.86	32.66	44.32	74.00	-29.68 peak
6 17235.000	14.09	42.74	40.28	34.54	51.09	68.20	-17.11 peak

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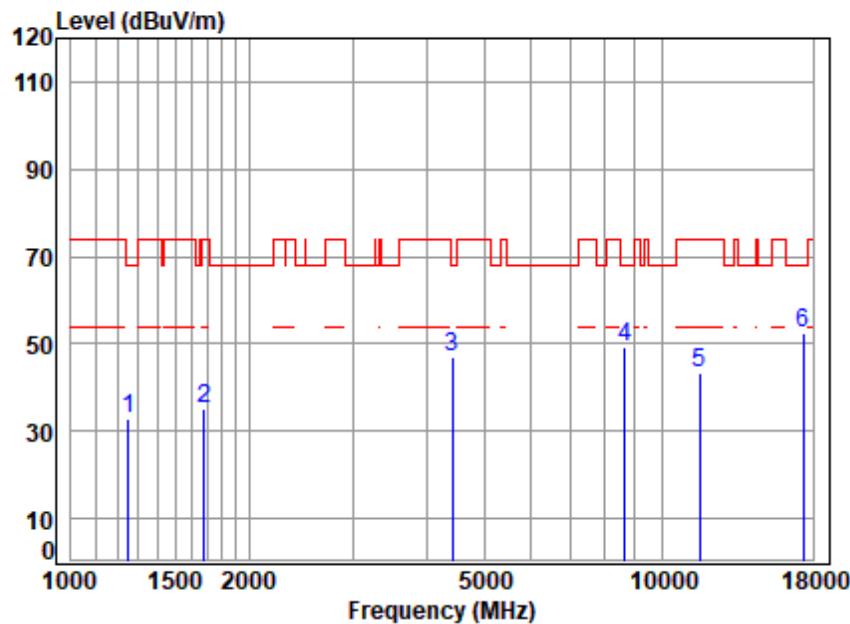
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Test Mode: 07; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:middle



Site : chamber  
Condition: 3m HORIZONTAL  
Job No : 11613CR  
Mode : 5785 TX RSE  
Note : 5G WIFI 11N20

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1249.269	2.85	24.81	39.79	44.88	32.75	68.20	-35.45 peak
2 1682.477	3.42	26.60	40.05	45.21	35.18	74.00	-38.82 peak
3 4417.841	6.68	33.46	41.80	48.71	47.05	68.20	-21.15 peak
4 8638.399	10.16	37.06	39.53	41.40	49.09	68.20	-19.11 peak
5 11570.000	11.72	37.87	37.90	31.72	43.41	74.00	-30.59 peak
6 17355.000	14.06	42.81	40.25	35.63	52.25	68.20	-15.95 peak

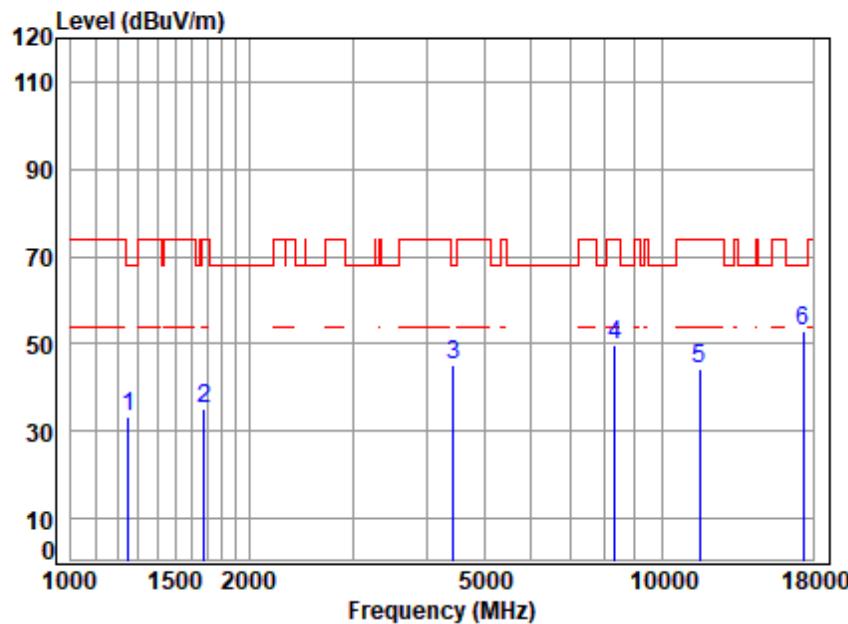
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Test Mode: 07; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:middle



Site : chamber  
Condition: 3m VERTICAL  
Job No : 11613CR  
Mode : 5785 TX RSE  
Note : 5G WIFI 11N20

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1249.269	2.85	24.81	39.79	45.38	33.25	68.20	-34.95 peak
2 1682.477	3.42	26.60	40.05	45.15	35.12	74.00	-38.88 peak
3 4430.628	6.70	33.48	41.81	46.92	45.29	68.20	-22.91 peak
4 8319.836	9.86	36.89	40.15	42.98	49.58	74.00	-24.42 peak
5 11570.000	11.72	37.87	37.90	32.70	44.39	74.00	-29.61 peak
6 17355.000	14.06	42.81	40.25	36.19	52.81	68.20	-15.39 peak

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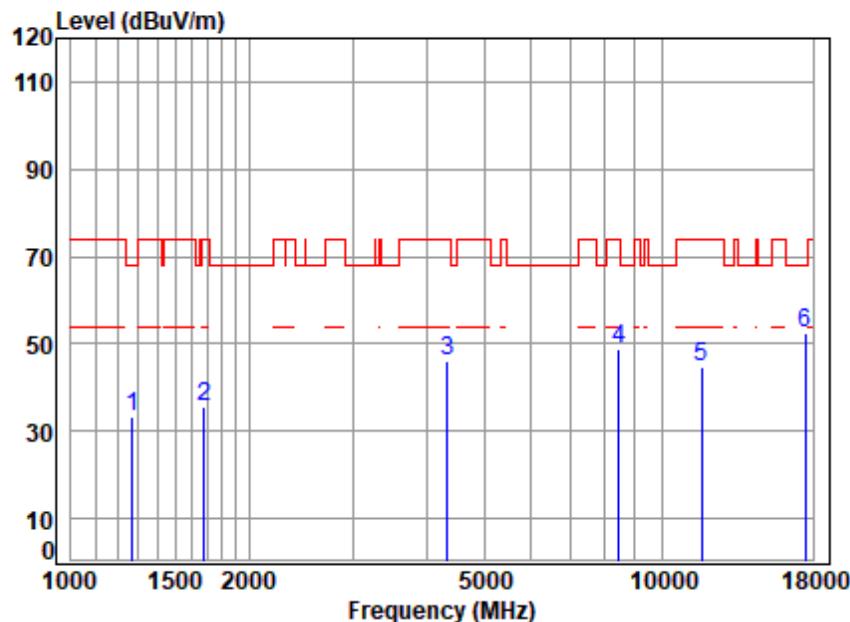
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Test Mode: 07; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High



Site : chamber  
Condition: 3m HORIZONTAL  
Job No : 11613CR  
Mode : 5825 TX RSE  
Note : 5G WIFI 11N20

Freq	Cable Loss	Ant Factor	Preamp Factor	Read	Limit Line	Over Limit	Remark
				Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1271.123	2.89	24.90	39.81	45.52	33.50	68.20	-34.70 peak
2 1682.477	3.42	26.60	40.05	45.84	35.81	74.00	-38.19 peak
3 4341.886	6.61	33.33	41.73	47.98	46.19	74.00	-27.81 peak
4 8465.379	10.05	36.98	39.86	41.77	48.94	74.00	-25.06 peak
5 11650.000	11.82	37.84	37.94	33.18	44.90	74.00	-29.10 peak
6 17475.000	14.02	42.89	40.23	35.97	52.65	68.20	-15.55 peak

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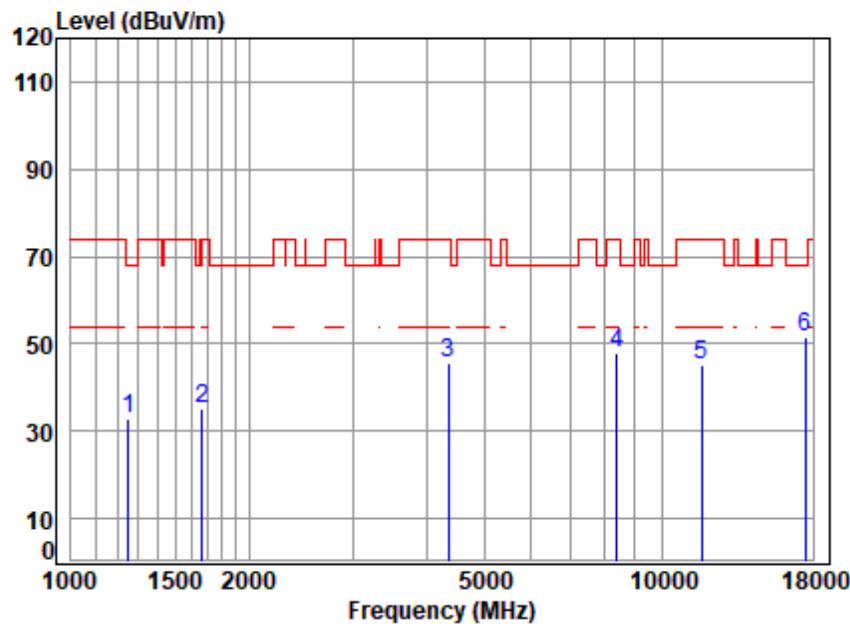
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Test Mode: 07; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High



Site : chamber  
Condition: 3m VERTICAL  
Job No : 11613CR  
Mode : 5825 TX RSE  
Note : 5G WIFI 11N20

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1249.269	2.85	24.81	39.79	44.97	32.84	68.20	-35.36 peak
2 1667.951	3.40	26.54	40.04	45.45	35.35	74.00	-38.65 peak
3 4354.454	6.63	33.35	41.74	47.59	45.83	74.00	-28.17 peak
4 8392.292	9.96	36.94	40.01	41.24	48.13	74.00	-25.87 peak
5 11650.000	11.82	37.84	37.94	33.29	45.01	74.00	-28.99 peak
6 17475.000	14.02	42.89	40.23	34.96	51.64	68.20	-16.56 peak

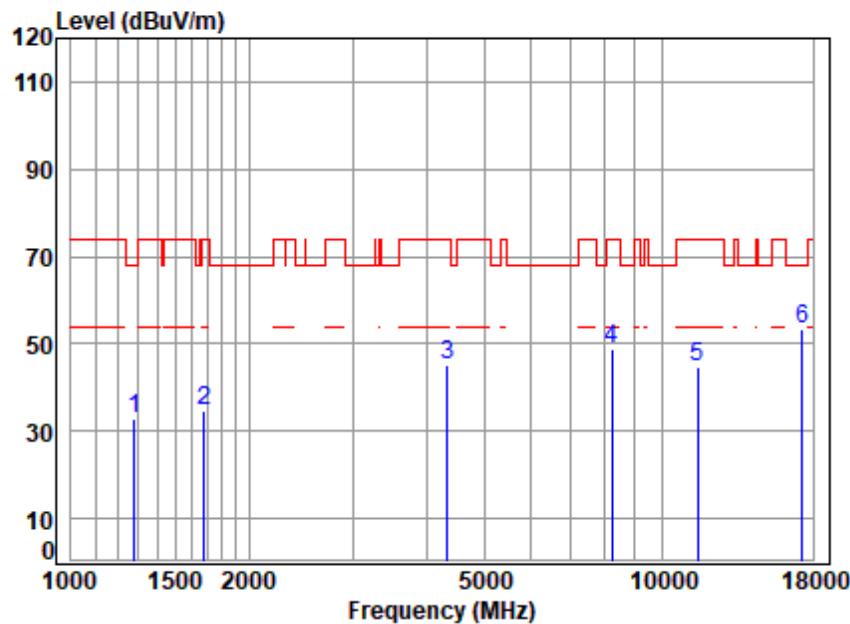
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Test Mode: 07; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



Site : chamber  
Condition: 3m HORIZONTAL  
Job No : 11613CR  
Mode : 5755 TX RSE  
Note : 5G WIFI 11N40

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1282.193	2.91	24.95	39.82	45.00	33.04	68.20	-35.16 peak
2 1682.477	3.42	26.60	40.05	44.93	34.90	74.00	-39.10 peak
3 4341.886	6.61	33.33	41.73	46.93	45.14	74.00	-28.86 peak
4 8224.200	9.73	36.84	40.34	42.51	48.74	74.00	-25.26 peak
5 11510.000	11.64	37.90	37.87	33.05	44.72	74.00	-29.28 peak
6 17265.000	14.08	42.76	40.28	36.60	53.16	68.20	-15.04 peak

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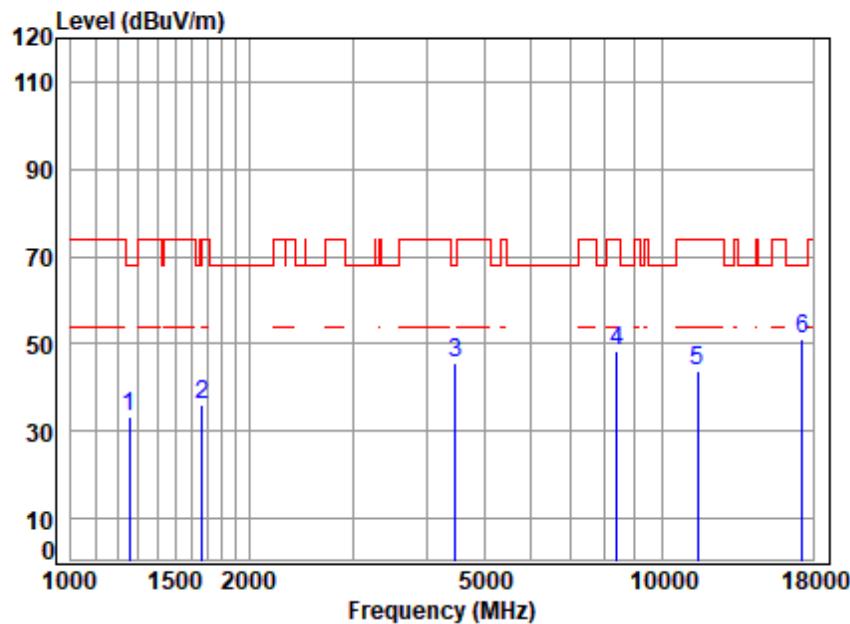
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Test Mode: 07; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



Site : chamber  
Condition: 3m VERTICAL  
Job No : 11613CR  
Mode : 5755 TX RSE  
Note : 5G WIFI 11N40

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1256.512	2.87	24.84	39.80	45.29	33.20	68.20	-35.00 peak
2 1667.951	3.40	26.54	40.04	46.10	36.00	74.00	-38.00 peak
3 4469.214	6.73	33.55	41.85	47.24	45.67	68.20	-22.53 peak
4 8392.292	9.96	36.94	40.01	41.48	48.37	74.00	-25.63 peak
5 11510.000	11.64	37.90	37.87	32.32	43.99	74.00	-30.01 peak
6 17265.000	14.08	42.76	40.28	34.66	51.22	68.20	-16.98 peak

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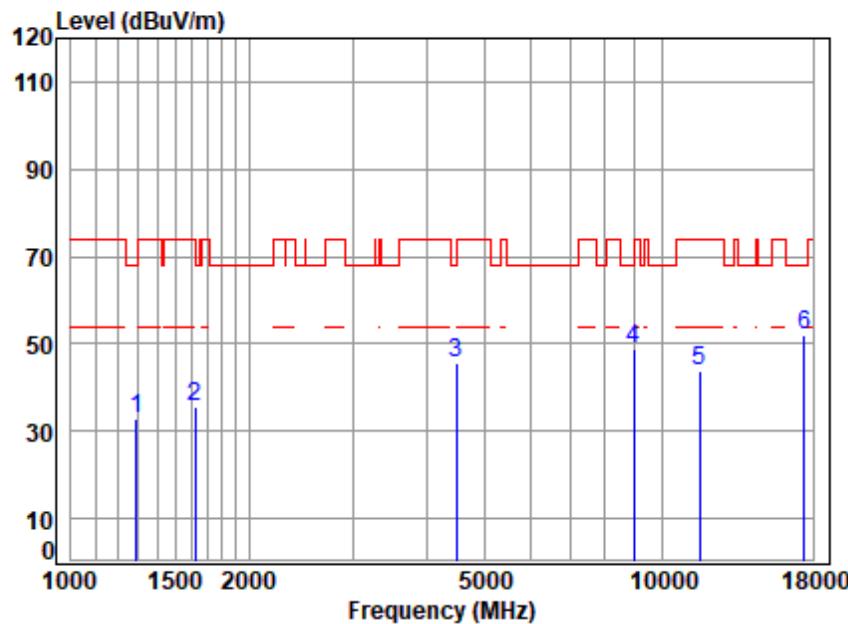
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Test Mode: 07; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High



Site : chamber  
Condition: 3m HORIZONTAL  
Job No : 11613CR  
Mode : 5795 TX RSE  
Note : 5G WIFI 11N40

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1289.627	2.92	24.98	39.82	44.72	32.80	68.20	-35.40 peak
2 1620.431	3.36	26.34	40.02	45.88	35.56	74.00	-38.44 peak
3 4482.150	6.74	33.57	41.86	47.17	45.62	68.20	-22.58 peak
4 8969.161	10.29	37.19	38.90	40.43	49.01	68.20	-19.19 peak
5 11590.000	11.74	37.86	37.91	31.94	43.63	74.00	-30.37 peak
6 17385.000	14.05	42.83	40.25	35.36	51.99	68.20	-16.21 peak

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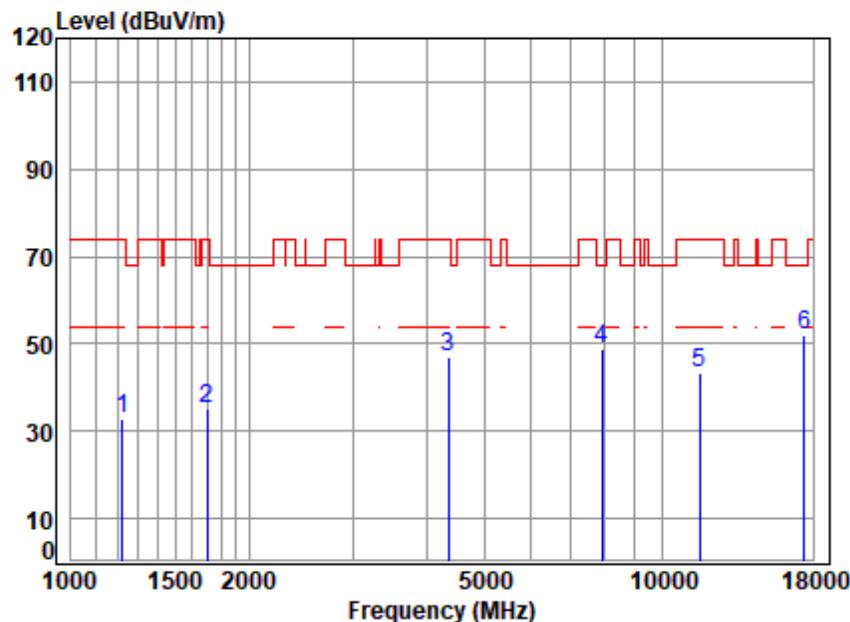
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Test Mode: 07; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High



Site : chamber  
Condition: 3m VERTICAL  
Job No : 11613CR  
Mode : 5795 TX RSE  
Note : 5G WIFI 11N40

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1224.247	2.81	24.70	39.78	45.33	33.06	74.00	-40.94 peak
2 1697.129	3.43	26.66	40.06	45.28	35.31	74.00	-38.69 peak
3 4354.454	6.63	33.35	41.74	48.71	46.95	74.00	-27.05 peak
4 7898.049	9.34	36.62	40.89	43.85	48.92	68.20	-19.28 peak
5 11590.000	11.74	37.86	37.91	31.44	43.13	74.00	-30.87 peak
6 17385.000	14.05	42.83	40.25	35.58	52.21	68.20	-15.99 peak

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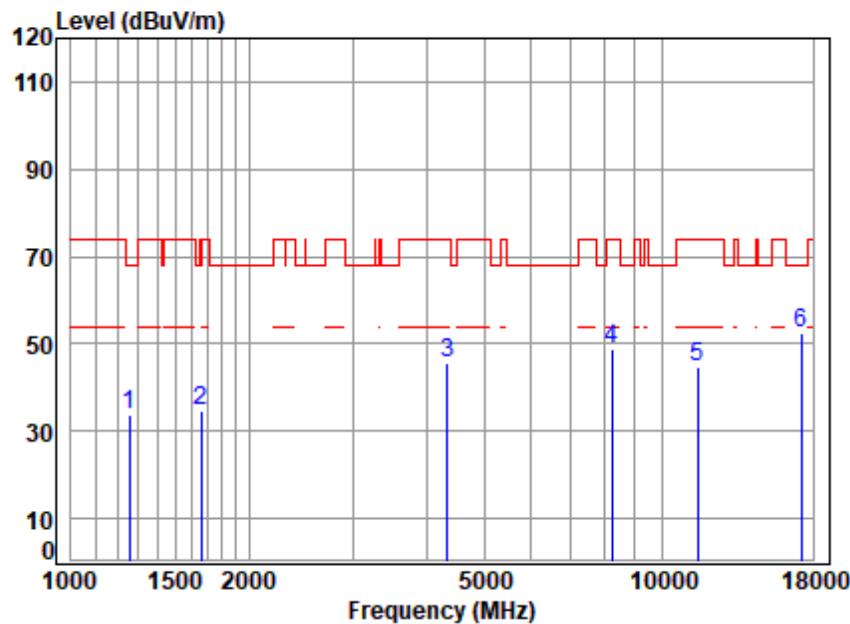
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Test Mode: 07; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



Site : chamber  
Condition: 3m HORIZONTAL  
Job No : 11613CR  
Mode : 5745 TX RSE  
Note : 5G WIFI 11AC20

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark
	Loss	Factor	Factor	Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 1256.512	2.87	24.84	39.80	45.76	33.67	68.20	-34.53 peak
2 1663.137	3.40	26.52	40.04	44.93	34.81	74.00	-39.19 peak
3 4341.886	6.61	33.33	41.73	47.22	45.43	74.00	-28.57 peak
4 8224.200	9.73	36.84	40.34	42.55	48.78	74.00	-25.22 peak
5 11490.000	11.62	37.90	37.86	32.93	44.59	74.00	-29.41 peak
6 17235.000	14.09	42.74	40.28	35.72	52.27	68.20	-15.93 peak

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