TEST REPORT

Application No.:	GZCR2203000250AT
Applicant:	Skycatch, Inc
Address of Applicant:	424 9th St San Francisco CA 94103
Manufacturer:	Skycatch, Inc
Address of Manufacturer:	424 9th St San Francisco CA 94103
Equipment Under Test (EUT):	
EUT Name:	Skycatch Secure Controller
Model No.:	SKC-SC-01
Trade Mark:	
Standard(s) :	47 CFR Part 15, Subpart E 15.407
Date of Receipt:	2022-03-08
Date of Test:	2022-03-10 to 2022-04-10
Date of Issue:	2022-04-11
Test Result:	**Pass***

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

Kobe Jian
EMC Laboratory Manager

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		*2022-04-11*		*Original*

Authorized for issue by				
		 **Curry Wu/Project Engineer**		
		 **Ricky Liu/Reviewer**		

SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch Testing Center, EEC Laboratory.
No.198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

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 C 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 & 15.407 b(6)	Pass
Duty Cycle		ANSI C63.10 (2013) Section 12.2	KDB 789033 D02 v02r01 II B 1	Pass
99% Bandwidth		KDB 789033 II D	N/A	Pass
26dB Emission bandwidth		KDB 789033 D02 II C 1	47 CFR Part 15, Subpart C 15.407 (a)	Pass
Minimum 6 dB bandwidth (5.725-5.85 GHz band)		KDB 789033 D02 II C 2	47 CFR Part 15, Subpart C 15.407 (e)	Pass
Maximum Conducted output power		KDB 789033 D02 II E	47 CFR Part 15, Subpart C 15.407 (a)	Pass
Peak Power spectrum density		KDB 789033 D02 II F	47 CFR Part 15, Subpart C 15.407 (a)	Pass
Radiated Emissions (below 1GHz)		KDB 789033 D02 II G	47 CFR Part 15, Subpart C 15.209 & 15.407(b)	Pass
Radiated Emissions (above 1GHz)		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		KDB 789033 D02 II G	47 CFR Part 15, Subpart C 15.209 & 15.407(b)	Pass
Frequency Stability		ANSI C63.10 (2013) Section 6.8	47 CFR Part 15, Subpart C 15.407 (g)	Pass

Note:

E.U.T./EUT means Equipment Under Test.

Pass means the test result passed the test standard requirement, please find the detailed decision rule in the report relative section.

EUT powered by built-in battery and external battery, both conditions are tested, EUT powered by built-in battery with the external battery is worst case; only worst case test data recorded in this report.

3 Contents

4 General Information

4.1 Details of E.U.T.

Power supply:	External Battery: DC 7.6V,4920mAh Lithium-ion rechargeable battery (to be charged from type C port) Built-in Battery: DC 7.2V,5000mAh Lithium-ion rechargeable battery
Operation Frequency:	1.4MHz BW:5728.5MHz-5846.5MHz; 3MHz BW:5730.5MHz-5844.5MHz; 10MHz BW:5730.5MHz-5844.5MHz; 20MHz BW:5735.5MHz-5839.5MHz; 40MHz BW:5745.5MHz-5829.5MHz
Modulation Type:	OFDM
Number of Channels:	1.4MHz BW:60; 3MHz BW:39; 10MHz BW:115; 20MHz BW:105; 40MHz BW:85
Channel Spacing:	1.4MHz BW:2MHz; 3MHz BW:3MHz; 10MHz BW:1MHz; 20MHz BW:1MHz; 40MHz BW:1MHz
Antenna Type:	PCB Pattern
Antenna Gain:	3.5dBi declared by applicant

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Adapter	Skycatch	QC24-CN	N/A

4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emissions at AC Power Line (150kHz-30MHz)	±2.76dB
Duty Cycle	± 0.37%
99% Bandwidth	± 3%
26dB Emission bandwidth	± 3%
Minimum 6 dB bandwidth (5.725-5.85 GHz band)	± 3%
Maximum Conducted output power	± 0.75dB
Peak Power spectrum density	± 2.84dB
Radiated Emissions (below 1GHz)	±5.00dB (30MHz-1GHz; 3m);±4.38dB (30MHz-1GHz; 10m)
Radiated Emissions (above 1GHz)	± 4.52dB (1GHz-6GHz);± 4.54dB (above 6GHz)
Radiated Emissions which fall in the restricted bands	±5.00dB (30MHz-1GHz; 3m);±4.38dB (30MHz-1GHz; 10m);± 4.52dB (1GHz-6GHz);± 4.54dB (above 6GHz)
Frequency Stability	± 7.25 x 10-8
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.	

4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory,

198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663

Tel: +86 20 82155555 Fax: +86 20 82075059

No tests were sub-contracted.

4.5 Test Facility

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

- **NVLAP (Lab Code: 200611-0)**

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

- **ACMA**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian/New Zealand Regulatory Compliance Mark (RCM).

- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

- **CNAS (Lab Code: L0167)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAS-CL01:2018 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2017 General Requirements) for the Competence of Testing Laboratories.

- **FCC Recognized Accredited Test Firm(Registration No.: 486818)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: CN5016, Test Firm Registration Number: 486818.

- **ISED (Registration No.: 4620B, CAB identifier: CN0052)**

SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Innovation Science and Economic Development Canada for Wireless Device Testing laboratories to test to Canadian radio equipment requirements. Registration No. 4620B, CAB identifier: CN0052.

- **VCCI (Registration No.: R-12460, C-12584, G-20107 and T-11179)**

The 10m Semi-anechoic chamber, 966 Anechoic Chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-12460, C-12584, G-20107 and T-11179 respectively.

- **CBTL (Lab Code: TL129)**

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2017, the Basic Rules, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

5 Equipment List

Conducted Emissions at AC Power Line (150kHz-30MHz)					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Shielding Room	ChangZhou ZhongYu	8m x 3m x 3.8m	EMC0306	N/A	N/A
Two-Line V-Network	Rohde & Schwarz	ENV216	EMC0118	2021-12-23	2022-12-22
Two-Line V-Network-GZ	Rohde & Schwarz	ENV216	EMC2135	2021-09-24	2022-09-23
Coaxial Cable	HangTianXing	2m	EMC0107	2020-09-09	2022-09-08
Test Software E3c	Audix	Ver. 5.4.1221b	GZE100-62	N/A	N/A
EMI Test Receiver(9kHz-3.6GHz)	Rohde & Schwarz	ESR3	EMC2221	2021-06-01	2022-05-31

Duty Cycle					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
MXA Signal Analyzer(10Hz-8.4GHz)	Agilent Technologies	N9020A	SEM004-10	2021-03-02	2022-03-01
				2022-03-01	2023-02-28
ESG Vector Signal Generator(250kHz-6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11
				2022-03-11	2023-03-10
EXG Analog Signal Generator(9kHz-3GHz)	Agilent Technologies	N5171B	SEM006-04	2021-07-12	2022-07-11
Power Meter (U2021XA_Ch2)	Agilent Technologies	U2021XA_Ch2	SEM009-02	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch3)	Agilent Technologies	U2021XA_Ch3	SEM009-03	2021-05-19	2022-05-18
EXA Signal Analzer(10Hz-44GHz)	Agilent Technologies	N9010A	EMC2138	2021-09-16	2022-09-15
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
MI CABLE	SGS-EMC	0.8M	EMC2136	2021-11-01	2023-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2021-11-01	2023-11-01
Test Software	TST	V2.0	GZE100-78	N/A	N/A

99% Bandwidth					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
MXA Signal Analyzer(10Hz-8.4GHz)	Agilent Technologies	N9020A	SEM004-10	2021-03-02	2022-03-01
				2022-03-01	2023-02-28
ESG Vector Signal Generator(250kHz-6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11
				2022-03-11	2023-03-10
EXG Analog Signal Generator(9kHz-3GHz)	Agilent Technologies	N5171B	SEM006-04	2021-07-12	2022-07-11
Power Meter (U2021XA_Ch2)	Agilent Technologies	U2021XA_Ch2	SEM009-02	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch3)	Agilent Technologies	U2021XA_Ch3	SEM009-03	2021-05-19	2022-05-18
EXA Signal Analzer(10Hz-44GHz)	Agilent Technologies	N9010A	EMC2138	2021-09-16	2022-09-15
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
MI CABLE	SGS-EMC	0.8M	EMC2136	2021-11-01	2023-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2021-11-01	2023-11-01
Test Software	TST	V2.0	GZE100-78	N/A	N/A

26dB Emission bandwidth					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
MXA Signal Analyzer(10Hz-8.4GHz)	Agilent Technologies	N9020A	SEM004-10	2021-03-02	2022-03-01
				2022-03-01	2023-02-28
ESG Vector Signal Generator(250kHz-6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11
				2022-03-11	2023-03-10
EXG Analog Signal Generator(9kHz-3GHz)	Agilent Technologies	N5171B	SEM006-04	2021-07-12	2022-07-11
Power Meter (U2021XA_Ch2)	Agilent Technologies	U2021XA_Ch2	SEM009-02	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch3)	Agilent Technologies	U2021XA_Ch3	SEM009-03	2021-05-19	2022-05-18
EXA Signal Analzer(10Hz-44GHz)	Agilent Technologies	N9010A	EMC2138	2021-09-16	2022-09-15
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
MI CABLE	SGS-EMC	0.8M	EMC2136	2021-11-01	2023-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2021-11-01	2023-11-01
Test Software	TST	V2.0	GZE100-78	N/A	N/A

Minimum 6 dB bandwidth (5.725-5.85 GHz band)					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
MXA Signal Analyzer(10Hz-8.4GHz)	Agilent Technologies	N9020A	SEM004-10	2021-03-02	2022-03-01
				2022-03-01	2023-02-28
ESG Vector Signal Generator(250kHz-6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11
				2022-03-11	2023-03-10
EXG Analog Signal Generator(9kHz-3GHz)	Agilent Technologies	N5171B	SEM006-04	2021-07-12	2022-07-11
Power Meter (U2021XA_Ch2)	Agilent Technologies	U2021XA_Ch2	SEM009-02	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch3)	Agilent Technologies	U2021XA_Ch3	SEM009-03	2021-05-19	2022-05-18
EXA Signal Analzer(10Hz-44GHz)	Agilent Technologies	N9010A	EMC2138	2021-09-16	2022-09-15
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
MI CABLE	SGS-EMC	0.8M	EMC2136	2021-11-01	2023-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2021-11-01	2023-11-01
Test Software	TST	V2.0	GZE100-78	N/A	N/A

Maximum Conducted output power					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
MXA Signal Analyzer(10Hz-8.4GHz)	Agilent Technologies	N9020A	SEM004-10	2021-03-02	2022-03-01
				2022-03-01	2023-02-28
ESG Vector Signal Generator(250kHz-6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11
				2022-03-11	2023-03-10
EXG Analog Signal Generator(9kHz-3GHz)	Agilent Technologies	N5171B	SEM006-04	2021-07-12	2022-07-11
Power Meter (U2021XA_Ch2)	Agilent Technologies	U2021XA_Ch2	SEM009-02	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch3)	Agilent Technologies	U2021XA_Ch3	SEM009-03	2021-05-19	2022-05-18
EXA Signal Analzer(10Hz-44GHz)	Agilent Technologies	N9010A	EMC2138	2021-09-16	2022-09-15
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
MI CABLE	SGS-EMC	0.8M	EMC2136	2021-11-01	2023-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2021-11-01	2023-11-01
Test Software	TST	V2.0	GZE100-78	N/A	N/A

Peak Power spectrum density					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
MXA Signal Analyzer(10Hz-8.4GHz)	Agilent Technologies	N9020A	SEM004-10	2021-03-02	2022-03-01
				2022-03-01	2023-02-28
ESG Vector Signal Generator(250kHz-6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11
				2022-03-11	2023-03-10
EXG Analog Signal Generator(9kHz-3GHz)	Agilent Technologies	N5171B	SEM006-04	2021-07-12	2022-07-11
Power Meter (U2021XA_Ch2)	Agilent Technologies	U2021XA_Ch2	SEM009-02	2021-05-19	2022-05-18
Power Meter (U2021XA_Ch3)	Agilent Technologies	U2021XA_Ch3	SEM009-03	2021-05-19	2022-05-18
EXA Signal Analzer(10Hz-44GHz)	Agilent Technologies	N9010A	EMC2138	2021-09-16	2022-09-15
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
MI CABLE	SGS-EMC	0.8M	EMC2136	2021-11-01	2023-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2021-11-01	2023-11-01
Test Software	TST	V2.0	GZE100-78	N/A	N/A

Radiated Emissions (below 1GHz)					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Chamber cable	HangTianXing	N/A	EMC0542	2020-09-09	2022-09-08
Trilog Broadband Antenna(25MHz-1GHz)-Lab	SCHWARZBECK MESS-ELEKTRONIK	VULB 9168	SEM003-18	2019-02-22	2022-02-21
				2022-02-21	2025-02-20
Amplifier(9kHz-1.3GHz)	HP	8447F	EMC2065	2021-05-19	2022-05-18
Active Loop Antenna-RED	ETS-Lindgren	6502	EMC2190	2022-04-06	2024-04-05
10m Semi-Anechoic Chamber	ETS	N/A	EMC0530	2019-10-20	2022-10-19
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A
EMI Test Receiver(1Hz-8GHz)	Rohde & Schwarz	ESW8	EMC2220	2021-05-26	2022-05-25

Radiated Emissions (above 1GHz)					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Chamber cable(Above 1GHz)	Scoflex	KMKM-8.0m	EMC0545	2020-09-09	2022-09-08
Horn Antenna(1GHz-18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2019-09-25	2022-09-24
1GHz-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2021-12-17	2022-12-16
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2021-12-17	2022-12-16
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2020-12-20	2023-12-19
EXA Signal Analyzer(10Hz-44GHz)	Keysight	N9010A	EMC2138	2021-09-16	2022-09-15
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A
Notch Filter (5150-5880)	Mico-Tronics	BRM50716	EMC2168	2021-07-29	2022-07-28
Horn Antenna(14-40GHz)	SCHWARZBECK	BBHA 9170	EMC2041	2020-06-28	2023-06-27
Microwave Broadband Preamplifier (18-40GHz)	SCHWARZBECK	BBV 9721	EMC2172	2021-08-30	2022-08-29

Radiated Emissions which fall in the restricted bands					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
EMI Test Receiver(20Hz-26.5GHz)	Rohde & Schwarz	ESIB26	EMC0522	2021-12-17	2022-12-16
Chamber cable(Above 1GHz)	Scoflex	KMKM-8.0m	EMC0545	2020-09-09	2022-09-08
Horn Antenna(1GHz-18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2019-09-25	2022-09-24
1GHz-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2021-12-17	2022-12-16
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2020-12-20	2023-12-19
MXE EMI Receiver(10Hz-8.4GHz)	Keysight	N9038A	EMC2139	2021-11-01	2022-10-31
EXA Signal Analyzer(10Hz-44GHz)	Keysight	N9010A	EMC2138	2021-09-16	2022-09-15
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A
Notch Filter (5150-5880)	Mico-Tronics	BRM50716	EMC2168	2021-07-29	2022-07-28

Horn Antenna(14-40GHz)	SCHWARZBECK	BBHA 9170	EMC2041	2020-06-28	2023-06-27
Microwave Broadband Preamplifier (18-40GHz)	SCHWARZBECK	BBV 9721	EMC2172	2021-08-30	2022-08-29

Frequency Stability

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EXA Signal Analzer(10Hz-44GHz)	Agilent Technologies	N9010A	EMC2138	2021-09-16	2022-09-15
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
MI CABLE	SGS-EMC	0.8M	EMC2136	2021-11-01	2023-11-01
Test Software	TST	V2.0	GZE100-78	N/A	N/A

General used equipment

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
DMM	Fluke	73	EMC0006	2021-07-05	2022-07-05
DMM	Fluke	73	EMC0007	2021-07-05	2022-07-05

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 shall be considered sufficient to comply with the provisions of this section. 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. This requirement does not apply to carrier current devices or to devices operated under the provisions of 15.211, 15.213, 15.217, 15.219, 15.221, or 15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the Antenna: 3.5dBi.

Antenna location: Refer to Internal photo.

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 signaling 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:

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

7 Radio Spectrum Matter Test Results

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

Test Requirement 47 CFR Part 15, Subpart C 15.207 & 15.407 b(6)

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

Limit:

Frequency of emission(MHz)	Conducted limit(dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
*Decreases with the logarithm of the frequency.		

7.1.1 E.U.T. Operation

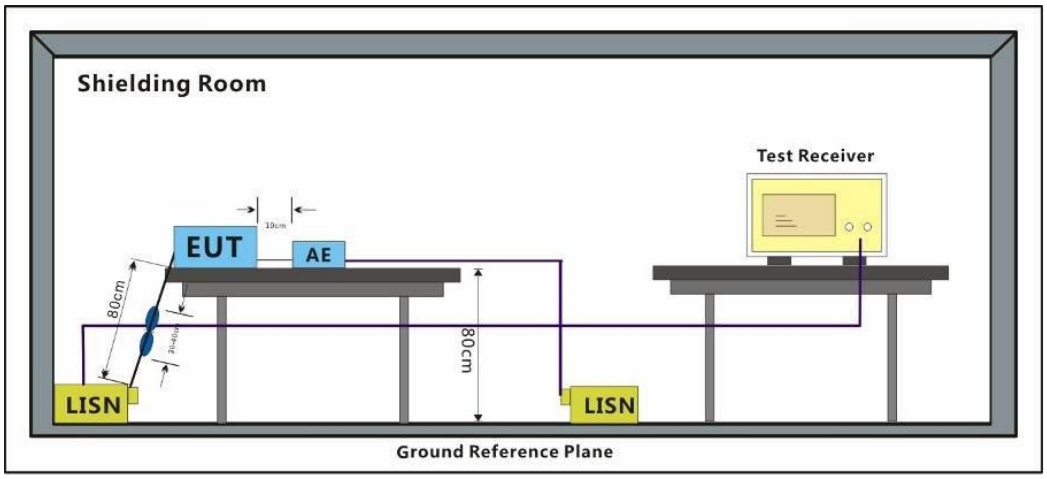
Operating Environment:

Temperature: 24.5 °C Humidity: 53.9 % RH Atmospheric Pressure: 1003 mbar

7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	21	Charge + TX mode(5.8G SDR 1.4MHz)_Keep the EUT in charging and continuously transmitting mode with modulation
Pre-scan	22	Charge + TX mode(5.8G SDR 3MHz)_Keep the EUT in charging and continuously transmitting mode with modulation
Pre-scan	23	Charge + TX mode(5.8G SDR 10MHz)_Keep the EUT in charging and continuously transmitting mode with modulation
Pre-scan	24	Charge + TX mode(5.8G SDR 20MHz)_Keep the EUT in charging and continuously transmitting mode with modulation
Pre-scan	25	Charge + TX mode(5.8G SDR 40MHz)_Keep the EUT in charging and continuously transmitting mode with modulation

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.

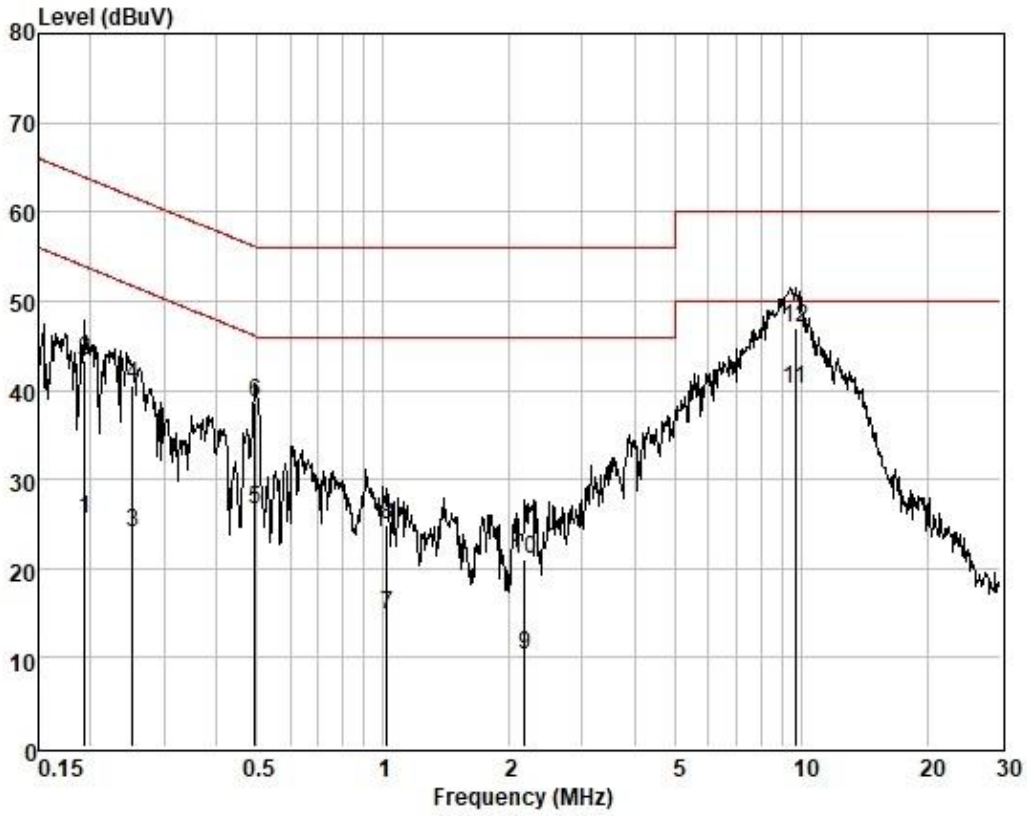
3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,

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

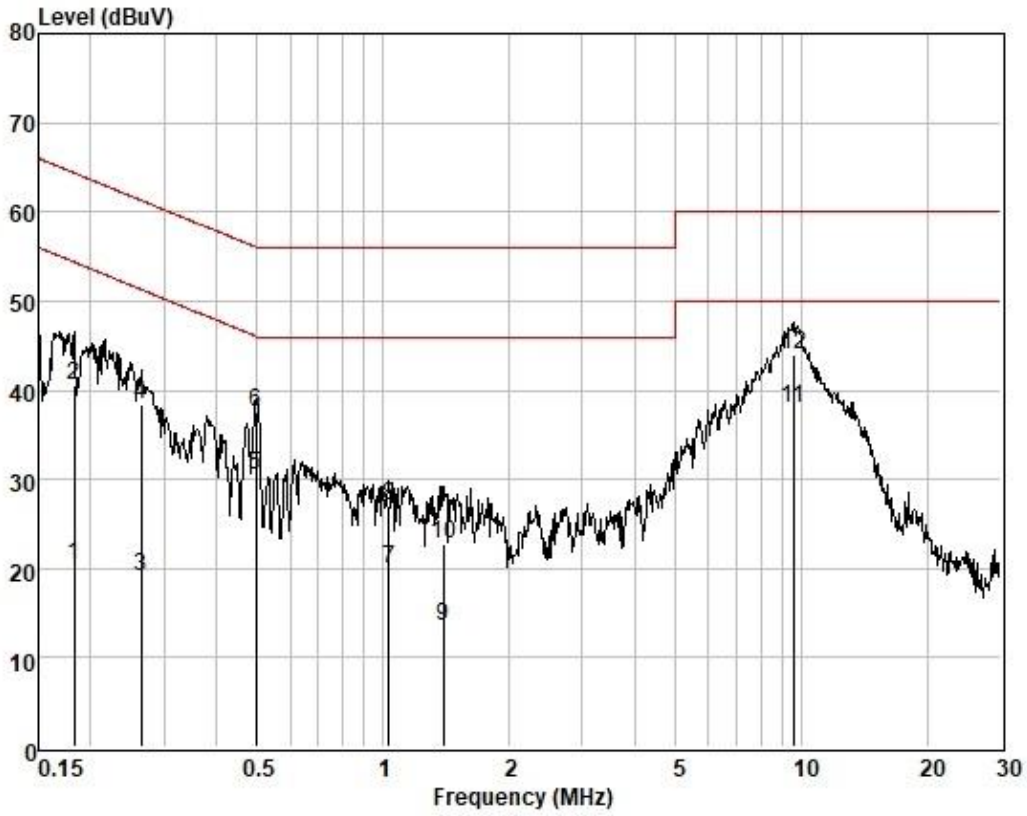
Test Mode: 21; Line: Live line



Condition: LINE
Mode :
Model :

	Freq	Read Level	Cable Loss	LISN Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.193	15.93	0.06	9.56	25.55	53.89	-28.34	Average
2	0.193	33.75	0.06	9.56	43.37	63.89	-20.52	QP
3	0.252	14.30	0.06	9.57	23.93	51.69	-27.76	Average
4	0.252	30.87	0.06	9.57	40.50	61.69	-21.19	QP
5	0.494	16.94	0.07	9.59	26.60	46.10	-19.50	Average
6	0.494	28.94	0.07	9.59	38.60	56.10	-17.50	QP
7	1.021	5.03	0.07	9.60	14.70	46.00	-31.30	Average
8	1.021	15.18	0.07	9.60	24.85	56.00	-31.15	QP
9	2.178	0.66	0.12	9.60	10.38	46.00	-35.62	Average
10	2.178	11.29	0.12	9.60	21.01	56.00	-34.99	QP
11	9.705	30.17	0.23	9.77	40.17	50.00	-9.83	Average
12	9.705	37.00	0.23	9.77	47.00	60.00	-13.00	QP

Test Mode: 21; Line: Neutral Line



Condition: NEUTRAL
Mode :
Model :

	Freq	Read Level	Cable Loss	LISN Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.182	10.67	0.06	9.54	20.27	54.37	-34.10	Average
2	0.182	30.84	0.06	9.54	40.44	64.37	-23.93	QP
3	0.264	9.37	0.06	9.56	18.99	51.29	-32.30	Average
4	0.264	28.71	0.06	9.56	38.33	61.29	-22.96	QP
5	0.497	20.85	0.07	9.58	30.50	46.05	-15.55	Average
6	0.497	27.95	0.07	9.58	37.60	56.05	-18.45	QP
7	1.032	10.27	0.07	9.59	19.93	46.00	-26.07	Average
8	1.032	17.41	0.07	9.59	27.07	56.00	-28.93	QP
9	1.396	3.88	0.09	9.59	13.56	46.00	-32.44	Average
10	1.396	13.03	0.09	9.59	22.71	56.00	-33.29	QP
11	9.603	27.98	0.23	9.78	37.99	50.00	-12.01	Average
12	9.603	33.92	0.23	9.78	43.93	60.00	-16.07	QP

7.2 Duty Cycle

Test Requirement KDB 789033 D02 v02r01 II B 1
Test Method: ANSI C63.10 (2013) Section 12.2

7.2.1 E.U.T. Operation

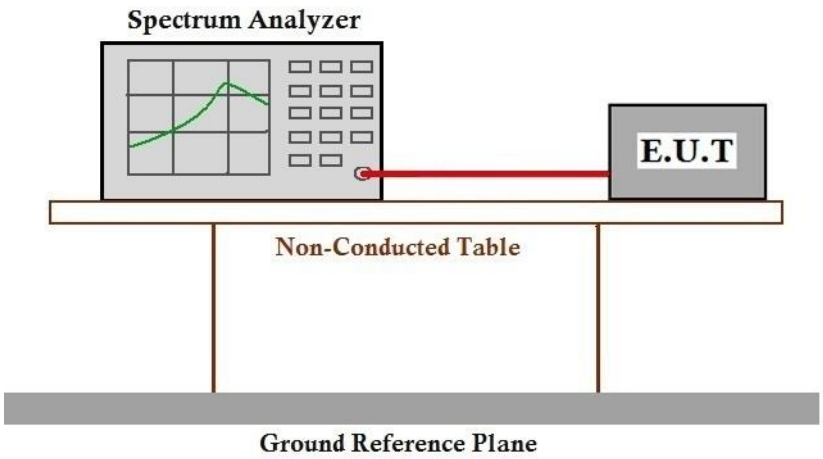
Operating Environment:

Temperature: 21.9 °C Humidity: 52.1 % RH Atmospheric Pressure: 1003 mbar

7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	16	TX mode(5.8G SDR 1.4MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	17	TX mode(5.8G SDR 3MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	18	TX mode(5.8G SDR 10MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	19	TX mode(5.8G SDR 20MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	20	TX mode(5.8G SDR 40MHz)_Keep the EUT in continuously transmitting mode with modulation

7.2.3 Test Setup Diagram



7.2.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.3 99% Bandwidth

Test Requirement N/A

Test Method: KDB 789033 II D

7.3.1 E.U.T. Operation

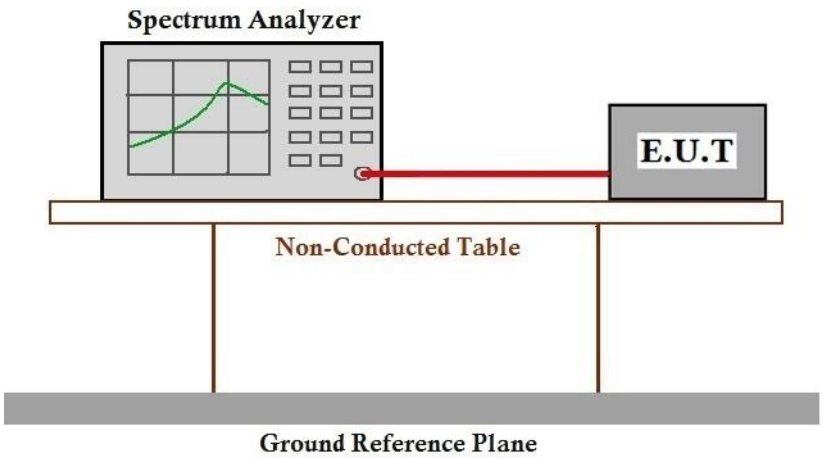
Operating Environment:

Temperature: 21.9 °C Humidity: 52.1 % RH Atmospheric Pressure: 1003 mbar

7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	16	TX mode(5.8G SDR 1.4MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	17	TX mode(5.8G SDR 3MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	18	TX mode(5.8G SDR 10MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	19	TX mode(5.8G SDR 20MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	20	TX mode(5.8G SDR 40MHz)_Keep the EUT in continuously transmitting mode with modulation

7.3.3 Test Setup Diagram



7.3.4 Measurement Procedure and Data

Please Refer to Appendix for Details

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

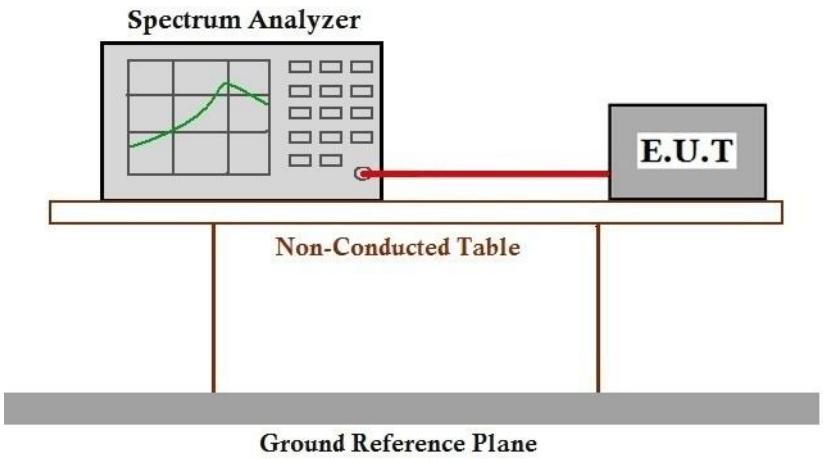
Operating Environment:

Temperature: 21.9 °C Humidity: 52.1 % RH Atmospheric Pressure: 1003 mbar

7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	16	TX mode(5.8G SDR 1.4MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	17	TX mode(5.8G SDR 3MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	18	TX mode(5.8G SDR 10MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	19	TX mode(5.8G SDR 20MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	20	TX mode(5.8G SDR 40MHz)_Keep the EUT in continuously transmitting mode with modulation

7.4.3 Test Setup Diagram



7.4.4 Measurement Procedure and Data

Please Refer to Appendix for Details

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

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

Test Method: KDB 789033 D02 II C 2

Limit:

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

7.5.1 E.U.T. Operation

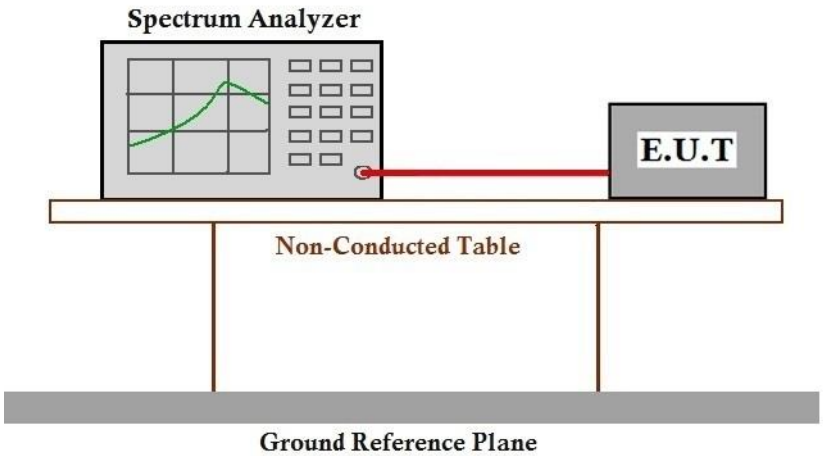
Operating Environment:

Temperature: 21.9 °C Humidity: 52.1 % RH Atmospheric Pressure: 1003 mbar

7.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	16	TX mode(5.8G SDR 1.4MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	17	TX mode(5.8G SDR 3MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	18	TX mode(5.8G SDR 10MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	19	TX mode(5.8G SDR 20MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	20	TX mode(5.8G SDR 40MHz)_Keep the EUT in continuously transmitting mode with modulation

7.5.3 Test Setup Diagram



7.5.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.6 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.

7.6.1 E.U.T. Operation

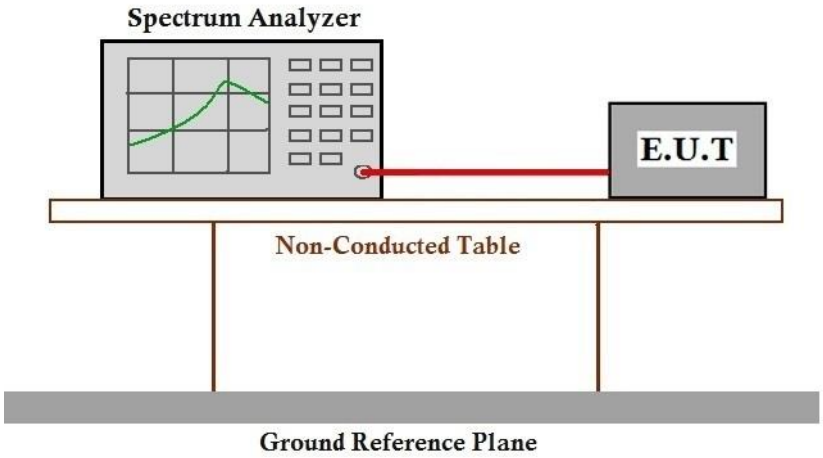
Operating Environment:

Temperature: 21.9 °C Humidity: 52.1 % RH Atmospheric Pressure: 1003 mbar

7.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	16	TX mode(5.8G SDR 1.4MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	17	TX mode(5.8G SDR 3MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	18	TX mode(5.8G SDR 10MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	19	TX mode(5.8G SDR 20MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	20	TX mode(5.8G SDR 40MHz)_Keep the EUT in continuously transmitting mode with modulation

7.6.3 Test Setup Diagram



7.6.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.7 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.

7.7.1 E.U.T. Operation

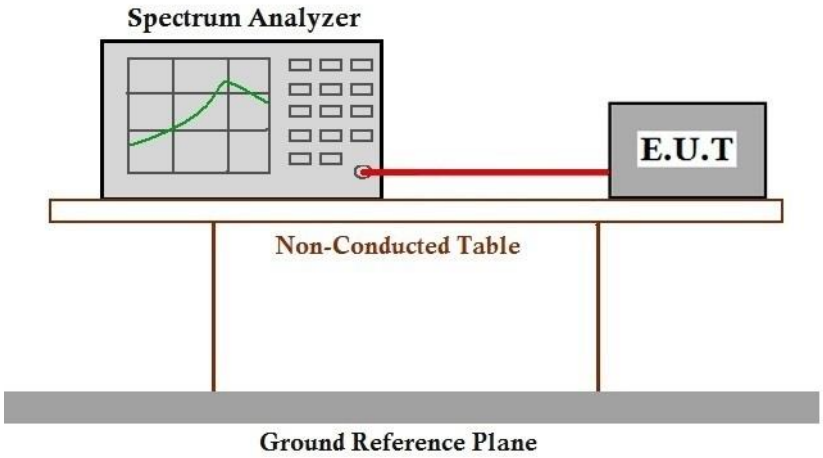
Operating Environment:

Temperature: 21.9 °C Humidity: 52.1 % RH Atmospheric Pressure: 1003 mbar

7.7.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	16	TX mode(5.8G SDR 1.4MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	17	TX mode(5.8G SDR 3MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	18	TX mode(5.8G SDR 10MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	19	TX mode(5.8G SDR 20MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	20	TX mode(5.8G SDR 40MHz)_Keep the EUT in continuously transmitting mode with modulation

7.7.3 Test Setup Diagram



7.7.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.8 Radiated Emissions (below 1GHz)

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

Test Method: KDB 789033 D02 II G

Limit:

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

7.8.1 E.U.T. Operation

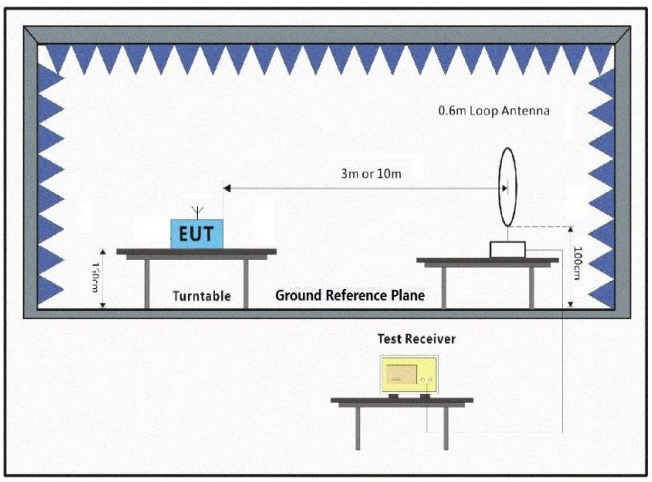
Operating Environment:

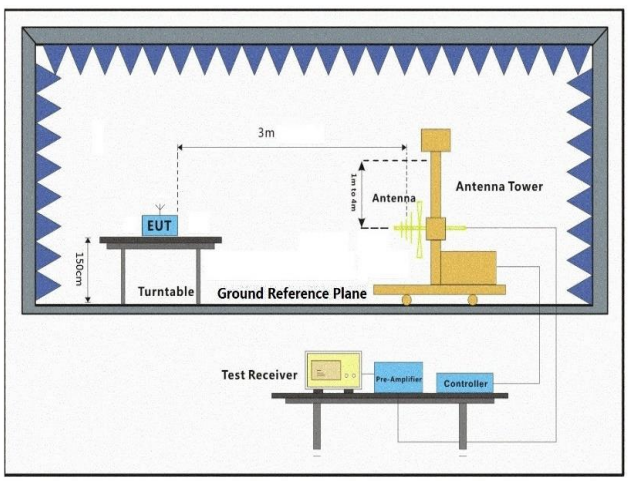
Temperature: 22.8 °C Humidity: 52.4 % RH Atmospheric Pressure: 1003 mbar

7.8.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Pre-scan	16	TX mode(5.8G SDR 1.4MHz)_Keep the EUT in continuously transmitting mode with modulation
Pre-scan	17	TX mode(5.8G SDR 3MHz)_Keep the EUT in continuously transmitting mode with modulation
Pre-scan	18	TX mode(5.8G SDR 10MHz)_Keep the EUT in continuously transmitting mode with modulation
Pre-scan	19	TX mode(5.8G SDR 20MHz)_Keep the EUT in continuously transmitting mode with modulation
Pre-scan	20	TX mode(5.8G SDR 40MHz)_Keep the EUT in continuously transmitting mode with modulation
Pre-scan	21	Charge + TX mode(5.8G SDR 1.4MHz)_Keep the EUT in charging and continuously transmitting mode with modulation
Final test	22	Charge + TX mode(5.8G SDR 3MHz)_Keep the EUT in charging and continuously transmitting mode with modulation
Pre-scan	23	Charge + TX mode(5.8G SDR 10MHz)_Keep the EUT in charging and continuously transmitting mode with modulation
Pre-scan	24	Charge + TX mode(5.8G SDR 20MHz)_Keep the EUT in charging and continuously transmitting mode with modulation
Pre-scan	25	Charge + TX mode(5.8G SDR 40MHz)_Keep the EUT in charging and continuously transmitting mode with modulation

7.8.3 Test Setup Diagram





7.8.4 Measurement Procedure and Data

a. 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 peak, quasi-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.

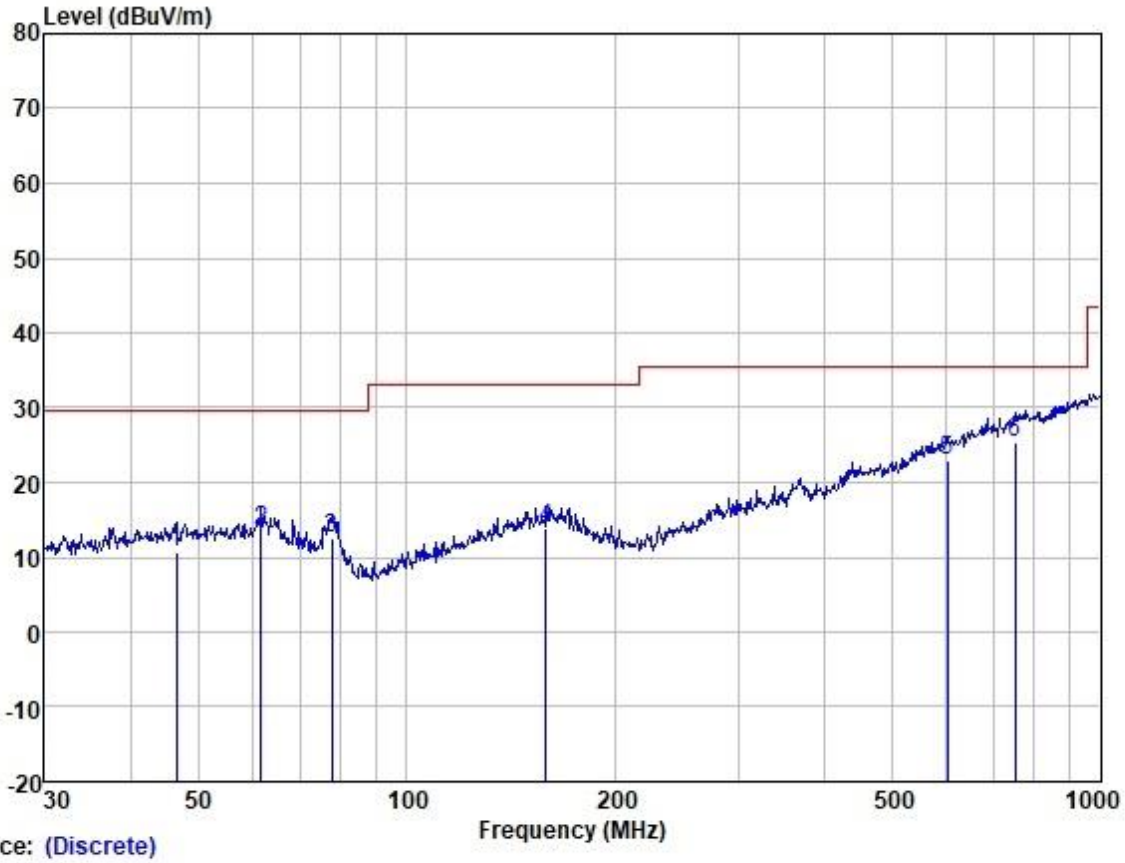
Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

2. 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 1GHz, 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.

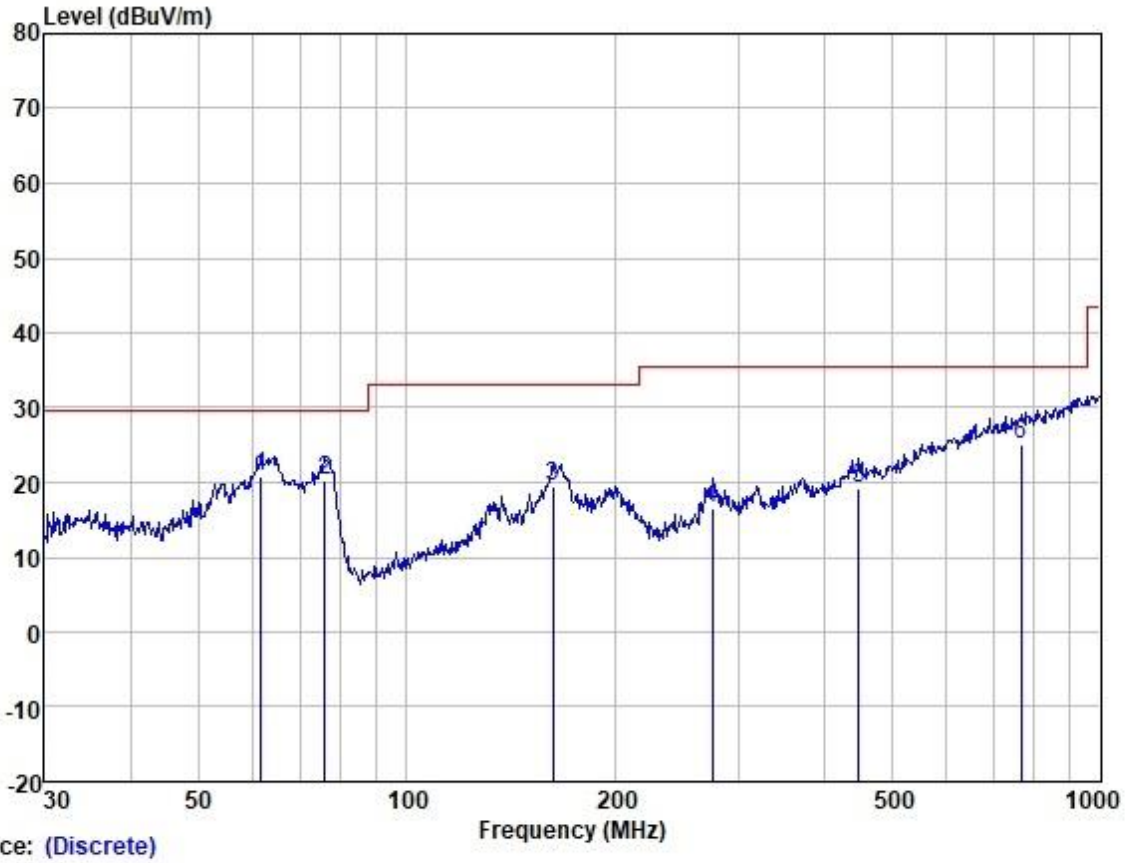
Test Mode: 22; Polarity: Horizontal; Modulation: OFDM; Channel: middle



Trace: (Discrete)
Site : SGS
Condition:
Job :
Model :
Power :
Test Mode:

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	46.503	23.03	13.70	1.13	27.17	10.69	29.50	-18.81	HORIZONTAL	QP
2	61.562	26.42	13.10	1.28	27.15	13.65	29.50	-15.85	HORIZONTAL	QP
3	77.865	28.66	9.40	1.46	27.10	12.42	29.50	-17.08	HORIZONTAL	QP
4	158.668	24.84	13.41	2.33	26.80	13.78	33.10	-19.32	HORIZONTAL	QP
5	601.427	26.32	19.77	5.14	28.21	23.02	35.60	-12.58	HORIZONTAL	QP
6	752.743	25.30	22.03	6.01	28.09	25.25	35.60	-10.35	HORIZONTAL	QP

Test Mode: 22; Polarity: Vertical; Modulation: OFDM; Channel: middle



Trace: (Discrete)
Site : SGS
Condition:
Job :
Model :
Power :
Test Mode:

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	61.562	33.48	13.10	1.28	27.15	20.71	29.50	-8.79	VERTICAL	QP
2	76.244	36.03	9.91	1.45	27.10	20.29	29.50	-9.21	VERTICAL	QP
3	162.611	30.65	13.23	2.35	26.79	19.44	33.10	-13.66	VERTICAL	QP
4	276.124	27.24	12.75	3.07	26.57	16.49	35.60	-19.11	VERTICAL	QP
5	447.982	25.53	17.05	4.19	27.68	19.09	35.60	-16.51	VERTICAL	QP
6	768.748	25.00	22.14	6.05	28.06	25.13	35.60	-10.47	VERTICAL	QP

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

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

Note:

L_3: Level @ 3m distance. Unit: uV/m;

L_{10}: Level @ 10m distance. Unit: uV/m;

D_3: 3m distance. Unit: m

D_{10}: 10m distance. Unit: m

The level at 3m test distance is below:

Frequency (MHz)	Level @ 10m (dBuV/m)	Level @ 10m (uV/m)	Level @ 3m (uV/m)	Level @ 3m (dBuV/m)	Limit @ 3m (dBuV/m)	Margin (dB)	Ant. Polarization
46.503	10.69	3.42	11.41	21.15	40	-18.85	H
61.562	13.65	4.81	16.05	24.11	40	-15.89	H
77.865	12.42	4.18	13.93	22.88	40	-17.12	H
158.668	13.78	4.89	16.29	24.24	43.5	-19.26	H
601.427	23.02	14.16	47.19	33.48	46	-12.52	H
752.743	25.25	18.30	61.01	35.71	46	-10.29	H
61.562	20.71	10.85	36.17	31.17	40	-8.83	V
76.244	20.29	10.34	34.47	30.75	40	-9.25	V
162.611	19.44	9.38	31.25	29.90	43.5	-13.60	V
276.124	16.49	6.68	22.25	26.95	46	-19.05	V
447.982	19.09	9.01	30.02	29.55	46	-16.45	V
768.748	25.13	18.05	60.17	35.59	46	-10.41	V

7.9 Radiated Emissions (above 1GHz)

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

Test Method: KDB 789033 D02 II G

Measurement Distance: 3m

Limit:

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

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

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

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

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

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

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

7.9.1 E.U.T. Operation

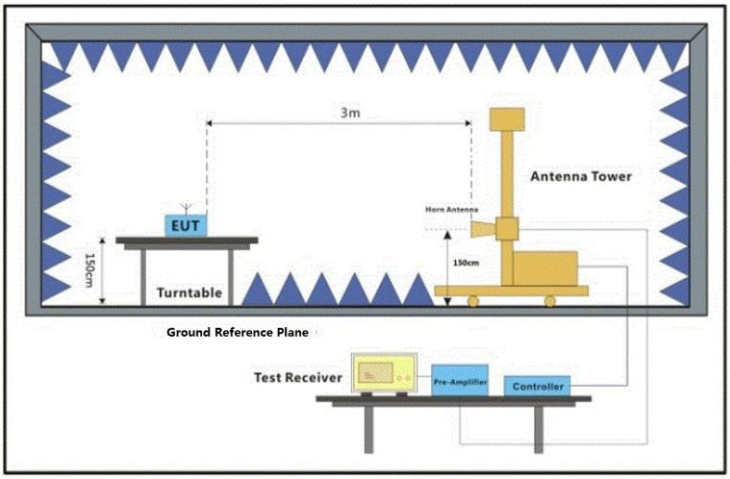
Operating Environment:

Temperature: 23.1 °C Humidity: 53.5 % RH Atmospheric Pressure: 1003 mbar

7.9.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	16	TX mode(5.8G SDR 1.4MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	17	TX mode(5.8G SDR 3MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	18	TX mode(5.8G SDR 10MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	19	TX mode(5.8G SDR 20MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	20	TX mode(5.8G SDR 40MHz)_Keep the EUT in continuously transmitting mode with modulation
Pre-scan	21	Charge + TX mode(5.8G SDR 1.4MHz)_Keep the EUT in charging and continuously transmitting mode with modulation
Pre-scan	22	Charge + TX mode(5.8G SDR 3MHz)_Keep the EUT in charging and continuously transmitting mode with modulation
Pre-scan	23	Charge + TX mode(5.8G SDR 10MHz)_Keep the EUT in charging and continuously transmitting mode with modulation
Pre-scan	24	Charge + TX mode(5.8G SDR 20MHz)_Keep the EUT in charging and continuously transmitting mode with modulation
Pre-scan	25	Charge + TX mode(5.8G SDR 40MHz)_Keep the EUT in charging and continuously transmitting mode with modulation

7.9.3 Test Setup Diagram



7.9.4 Measurement Procedure and Data

a. 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 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 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, quasi-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.

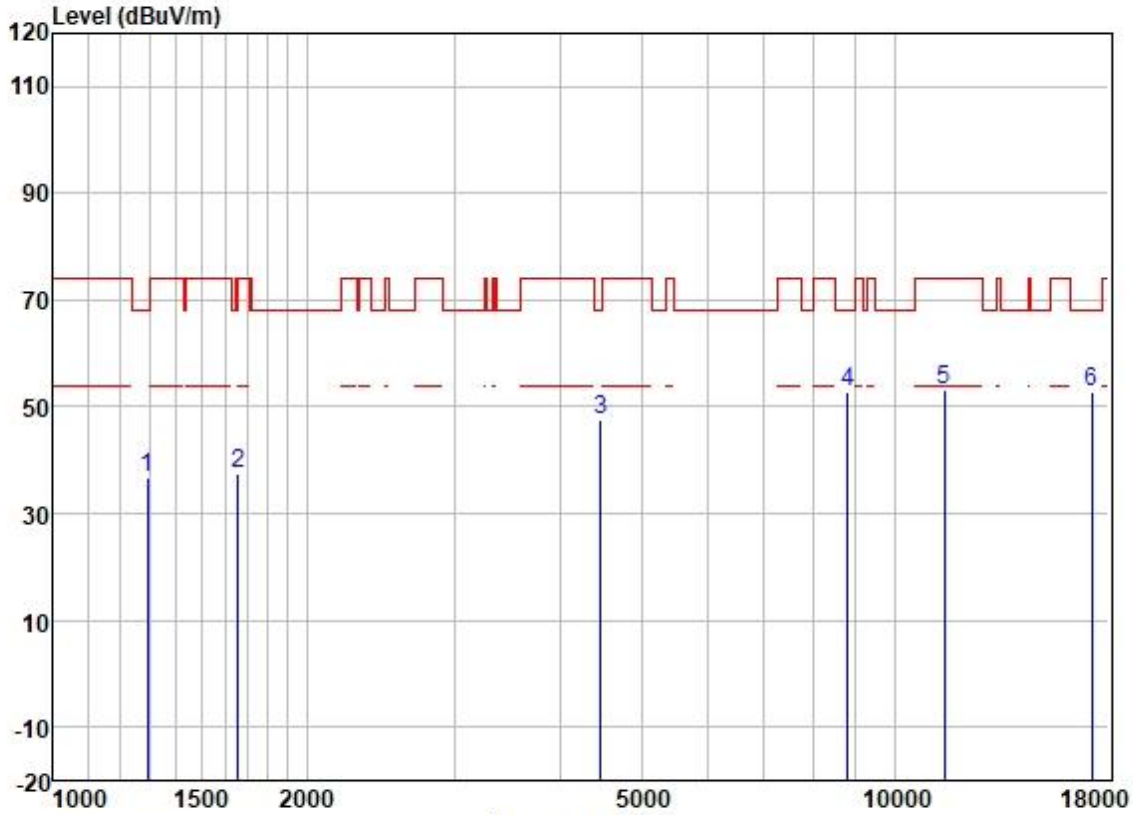
Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

2. Scan from 1GHz 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.

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.

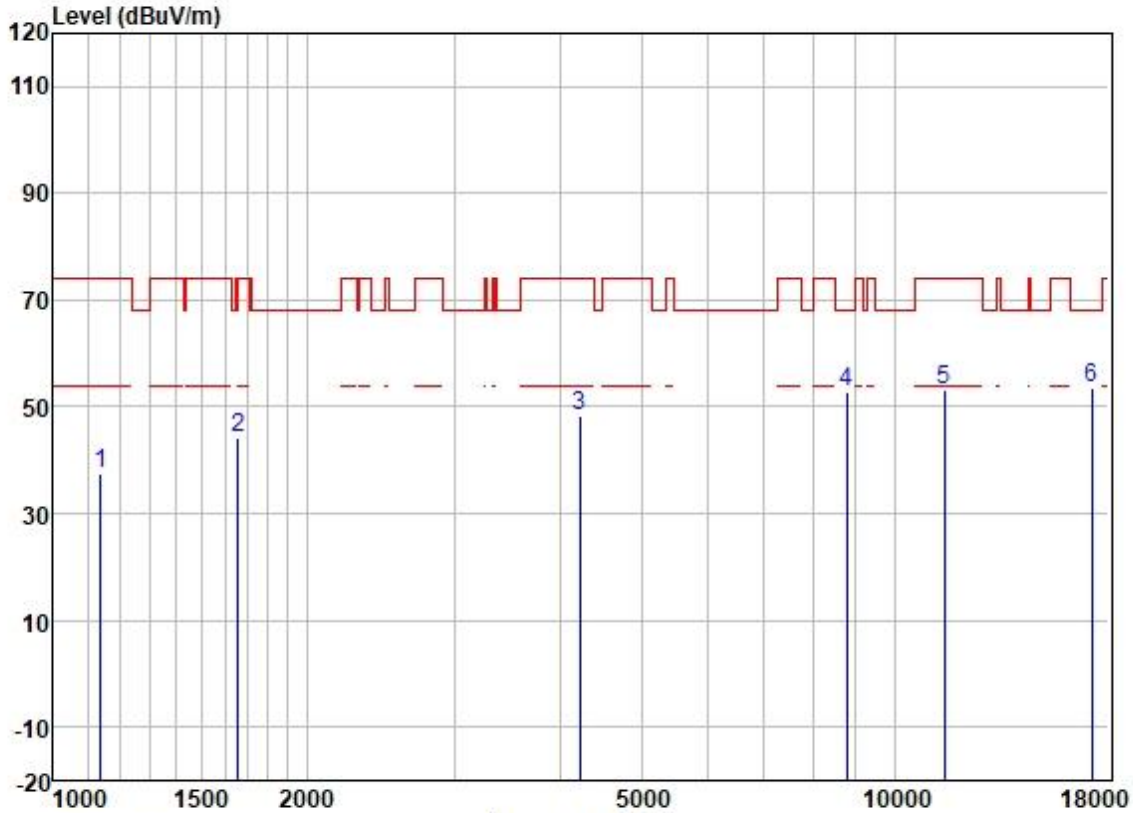
Test Mode: 16; Polarity: Horizontal; Modulation: OFDM; Channel: Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1293.359	47.24	25.18	2.57	38.31	36.68	68.20	-31.52	HORIZONTAL	Peak
2	1658.337	47.14	25.65	2.80	37.93	37.66	68.20	-30.54	HORIZONTAL	Peak
3	4469.214	48.78	30.77	4.93	36.81	47.67	68.20	-20.53	HORIZONTAL	Peak
4	8789.516	45.88	37.33	7.24	37.54	52.91	68.20	-15.29	HORIZONTAL	Peak
5	11457.000	42.17	39.91	8.37	37.15	53.30	74.00	-20.70	HORIZONTAL	Peak
6	17185.500	35.56	42.79	9.92	35.33	52.94	68.20	-15.26	HORIZONTAL	Peak

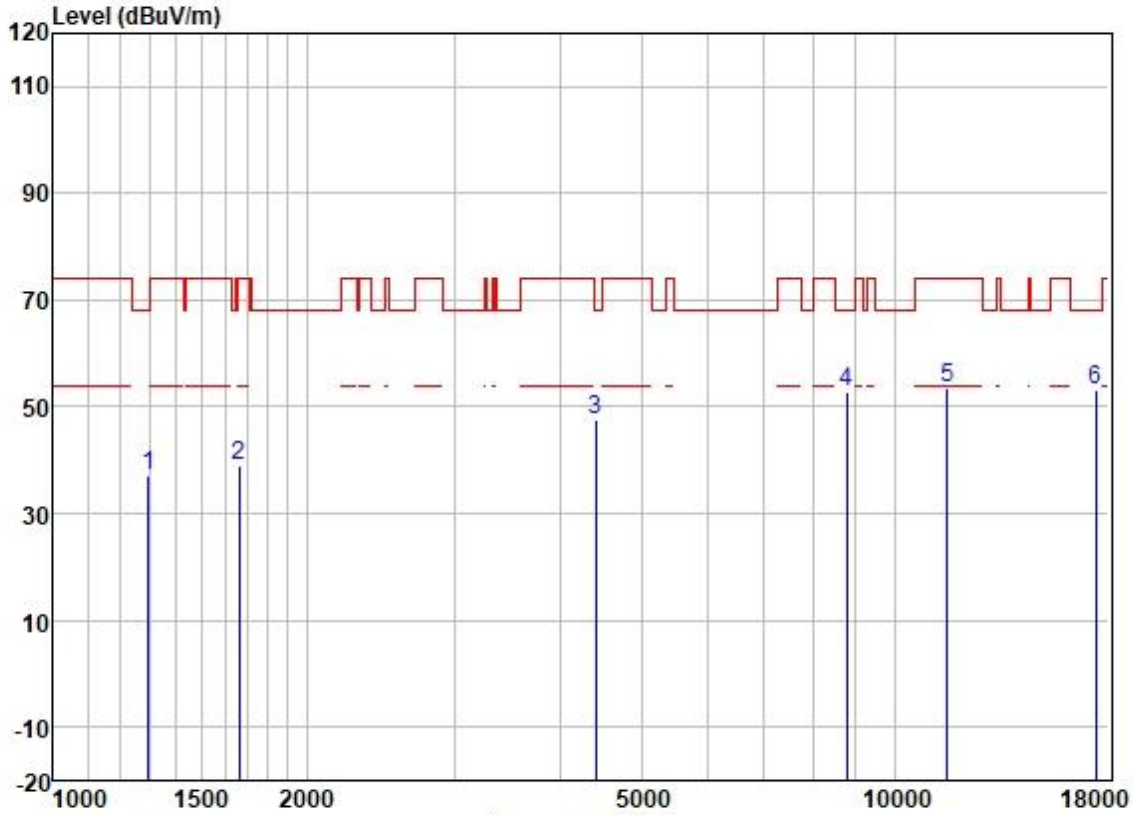
Test Mode: 16; Polarity: Vertical; Modulation: OFDM; Channel: Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1138.904	49.05	24.46	2.27	38.42	37.36	74.00	-36.64	VERTICAL	Peak
2	1658.337	53.67	25.65	2.80	37.93	44.19	68.20	-24.01	VERTICAL	Peak
3	4230.396	50.23	30.26	4.61	36.81	48.29	74.00	-25.71	VERTICAL	Peak
4	8764.146	45.98	37.32	7.19	37.54	52.95	68.20	-15.25	VERTICAL	Peak
5	11457.000	41.88	39.91	8.37	37.15	53.01	74.00	-20.99	VERTICAL	Peak
6	17185.500	36.02	42.79	9.92	35.33	53.40	68.20	-14.80	VERTICAL	Peak

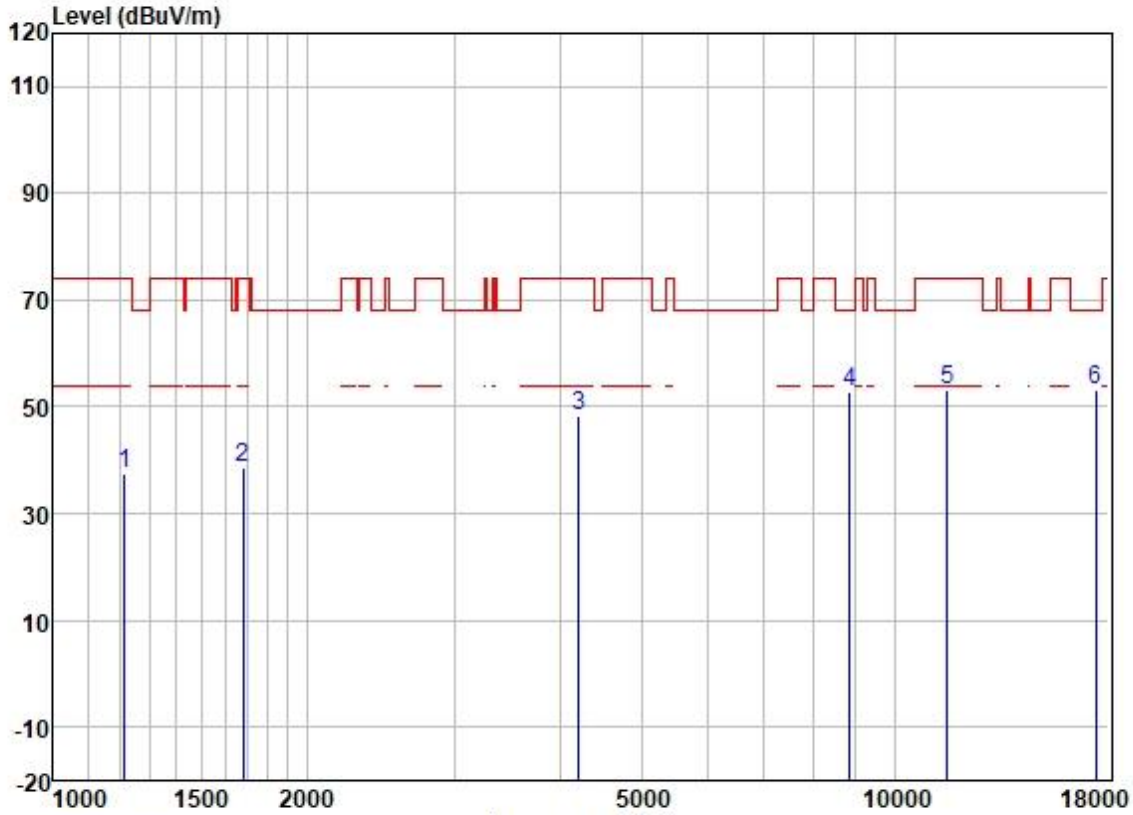
Test Mode: 16; Polarity: Horizontal; Modulation: OFDM; Channel: middle



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1297.103	47.56	25.19	2.58	38.31	37.02	68.20	-31.18	HORIZONTAL	Peak
2	1663.137	48.54	25.65	2.80	37.91	39.08	74.00	-34.92	HORIZONTAL	Peak
3	4417.841	49.04	30.70	4.74	36.81	47.67	68.20	-20.53	HORIZONTAL	Peak
4	8764.146	45.99	37.32	7.19	37.54	52.96	68.20	-15.24	HORIZONTAL	Peak
5	11573.000	42.71	39.78	8.38	37.14	53.73	74.00	-20.27	HORIZONTAL	Peak
6	17359.500	34.66	43.40	10.39	35.32	53.13	68.20	-15.07	HORIZONTAL	Peak

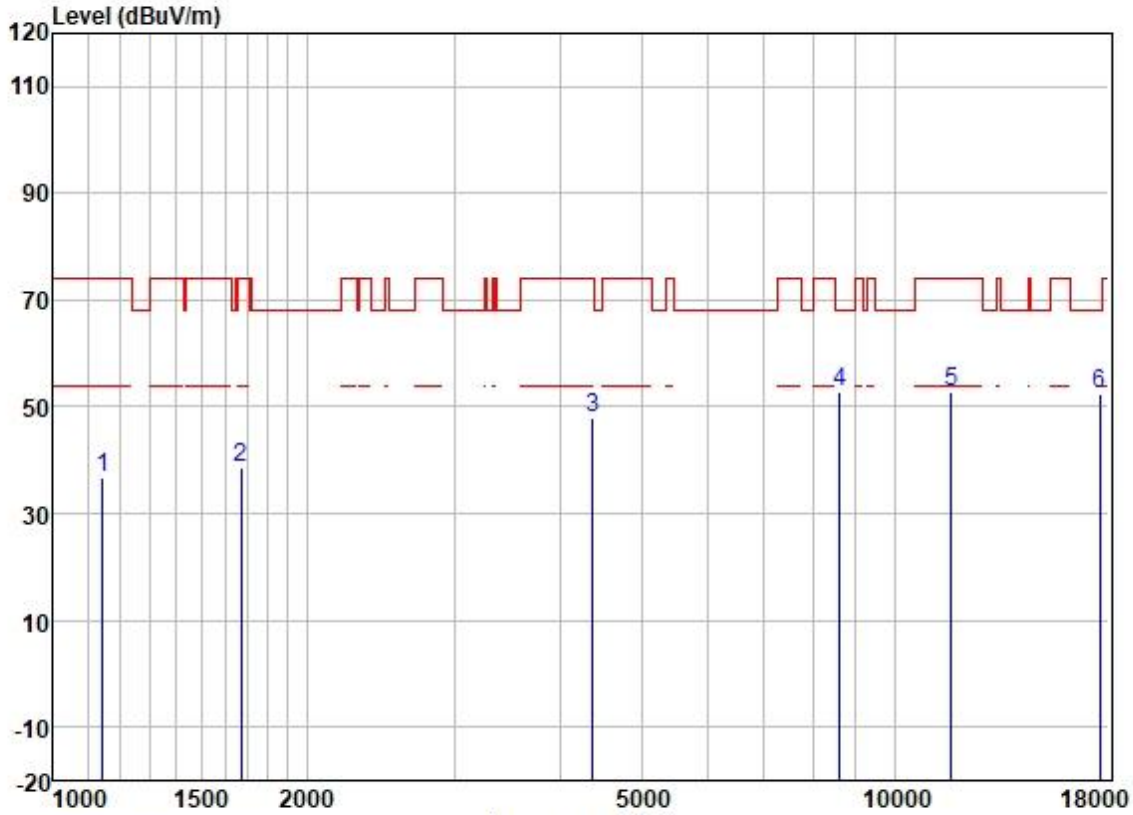
Test Mode: 16; Polarity: Vertical; Modulation: OFDM; Channel: middle



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1213.677	48.76	24.77	2.32	38.37	37.48	74.00	-36.52	VERTICAL	Peak
2	1682.477	48.13	25.68	2.80	37.91	38.70	74.00	-35.30	VERTICAL	Peak
3	4218.186	50.26	30.22	4.60	36.81	48.27	74.00	-25.73	VERTICAL	Peak
4	8840.473	45.55	37.35	7.34	37.53	52.71	68.20	-15.49	VERTICAL	Peak
5	11573.000	42.00	39.78	8.38	37.14	53.02	74.00	-20.98	VERTICAL	Peak
6	17359.500	34.85	43.40	10.39	35.32	53.32	68.20	-14.88	VERTICAL	Peak

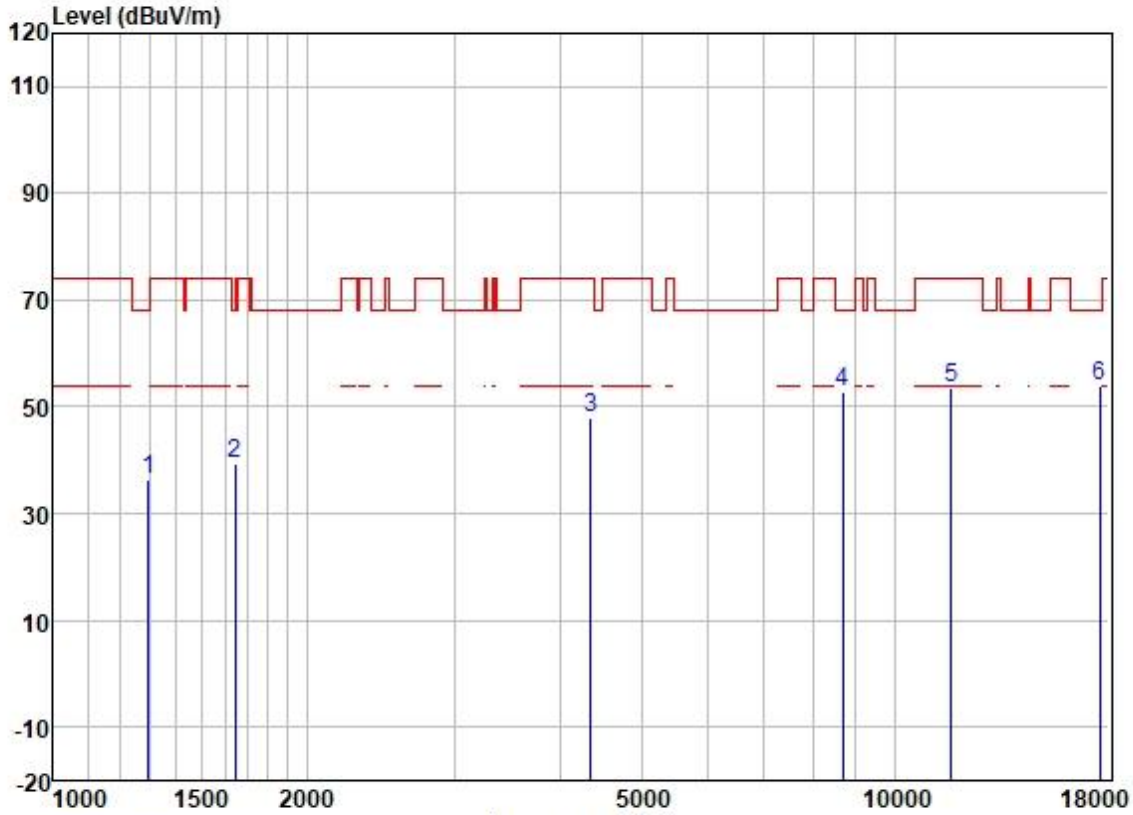
Test Mode: 16; Polarity: Horizontal; Modulation: OFDM; Channel: High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1145.507	48.24	24.48	2.32	38.42	36.62	74.00	-37.38	HORIZONTAL	Peak
2	1672.779	47.87	25.67	2.80	37.91	38.43	74.00	-35.57	HORIZONTAL	Peak
3	4379.699	49.36	30.64	4.69	36.81	47.88	74.00	-26.12	HORIZONTAL	Peak
4	8613.468	46.09	37.24	6.88	37.56	52.65	68.20	-15.55	HORIZONTAL	Peak
5	11693.000	42.19	39.49	8.32	37.13	52.87	74.00	-21.13	HORIZONTAL	Peak
6	17539.500	32.95	43.97	10.76	35.31	52.37	68.20	-15.83	HORIZONTAL	Peak

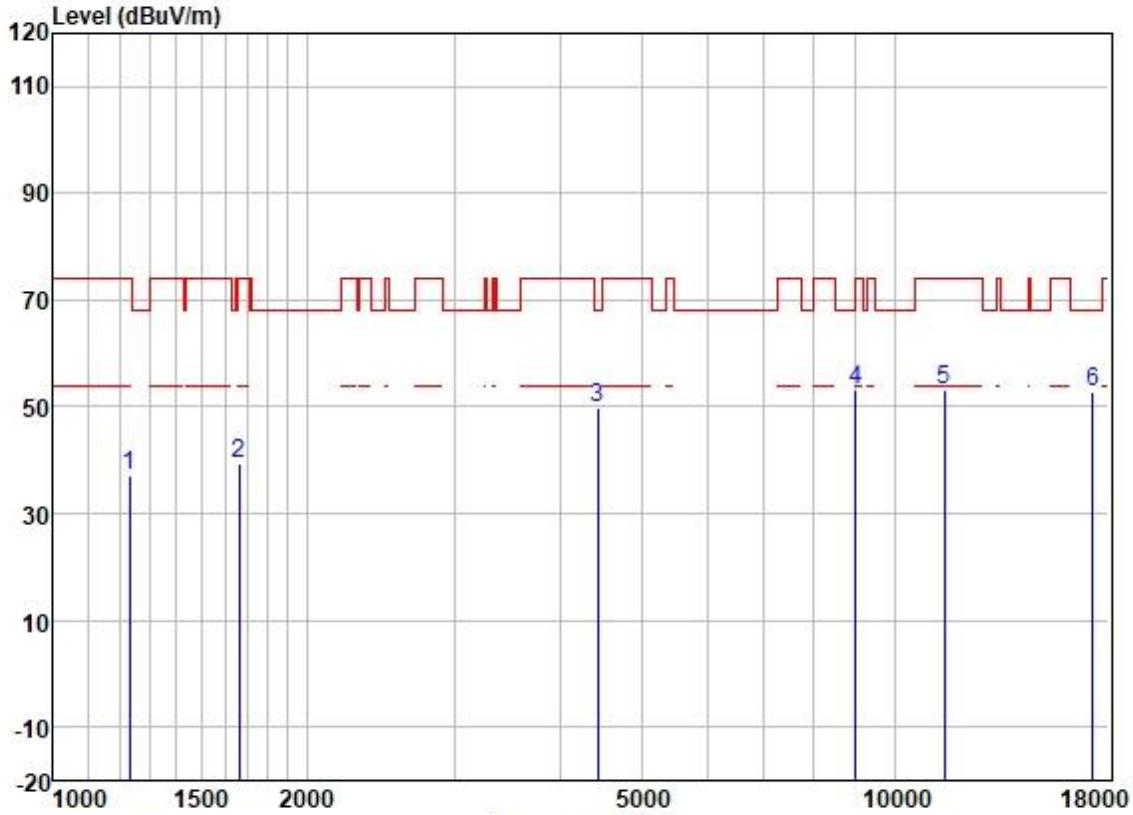
Test Mode: 16; Polarity: Vertical; Modulation: OFDM; Channel: High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1297.103	47.08	25.19	2.58	38.31	36.54	68.20	-31.66	VERTICAL	Peak
2	1644.019	48.76	25.63	2.80	37.93	39.26	68.20	-28.94	VERTICAL	Peak
3	4354.454	49.48	30.59	4.68	36.81	47.94	74.00	-26.06	VERTICAL	Peak
4	8688.480	46.11	37.28	7.02	37.55	52.86	68.20	-15.34	VERTICAL	Peak
5	11693.000	42.69	39.49	8.32	37.13	53.37	74.00	-20.63	VERTICAL	Peak
6	17539.500	34.32	43.97	10.76	35.31	53.74	68.20	-14.46	VERTICAL	Peak

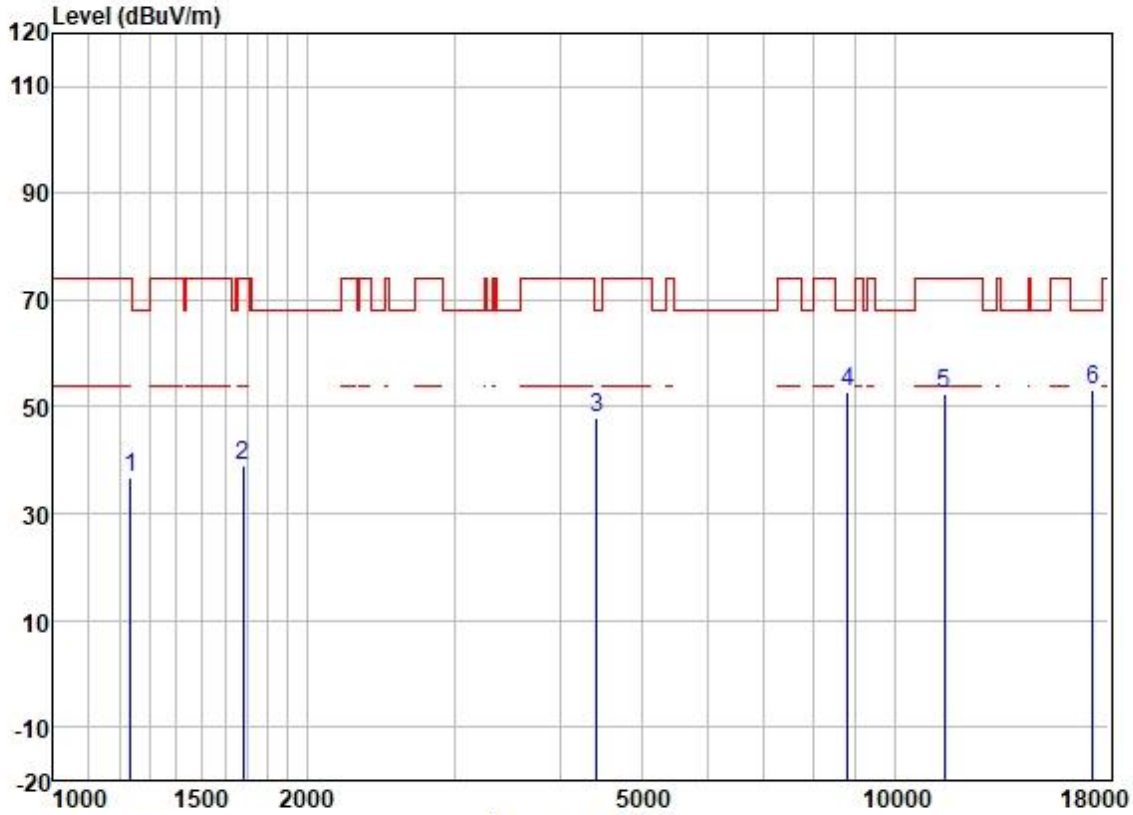
Test Mode: 17; Polarity: Horizontal; Modulation: OFDM; Channel: Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1231.345	48.44	24.91	2.31	38.37	37.29	74.00	-36.71	HORIZONTAL	Peak
2	1663.137	48.64	25.65	2.80	37.91	39.18	74.00	-34.82	HORIZONTAL	Peak
3	4443.453	51.15	30.73	4.83	36.81	49.90	68.20	-18.30	HORIZONTAL	Peak
4	8995.123	45.54	37.40	7.56	37.50	53.00	68.20	-15.20	HORIZONTAL	Peak
5	11461.000	41.94	39.91	8.37	37.15	53.07	74.00	-20.93	HORIZONTAL	Peak
6	17191.500	35.36	42.79	9.92	35.33	52.74	68.20	-15.46	HORIZONTAL	Peak

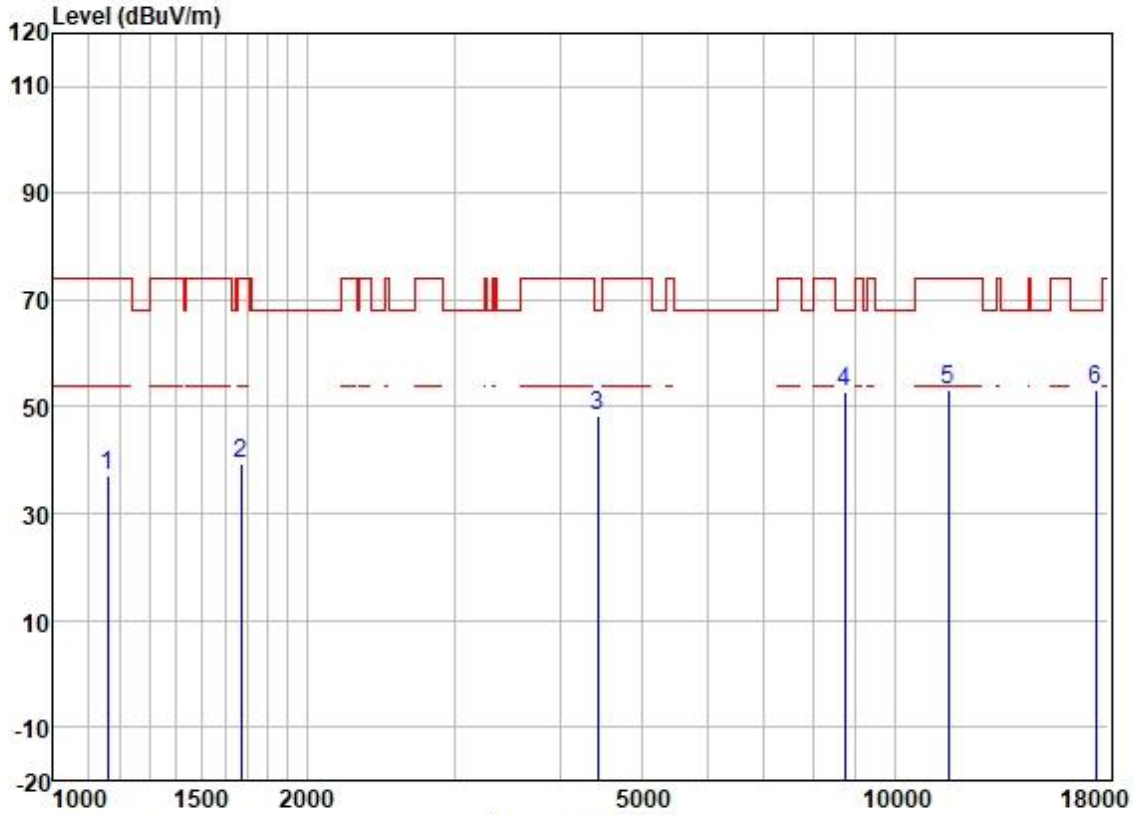
Test Mode: 17; Polarity: Vertical; Modulation: OFDM; Channel: Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1234.909	47.92	24.93	2.30	38.37	36.78	74.00	-37.22	VERTICAL	Peak
2	1682.477	48.27	25.68	2.80	37.91	38.84	74.00	-35.16	VERTICAL	Peak
3	4430.628	49.20	30.72	4.78	36.81	47.89	68.20	-20.31	VERTICAL	Peak
4	8789.516	45.94	37.33	7.24	37.54	52.97	68.20	-15.23	VERTICAL	Peak
5	11461.000	41.42	39.91	8.37	37.15	52.55	74.00	-21.45	VERTICAL	Peak
6	17191.500	35.61	42.79	9.92	35.33	52.99	68.20	-15.21	VERTICAL	Peak

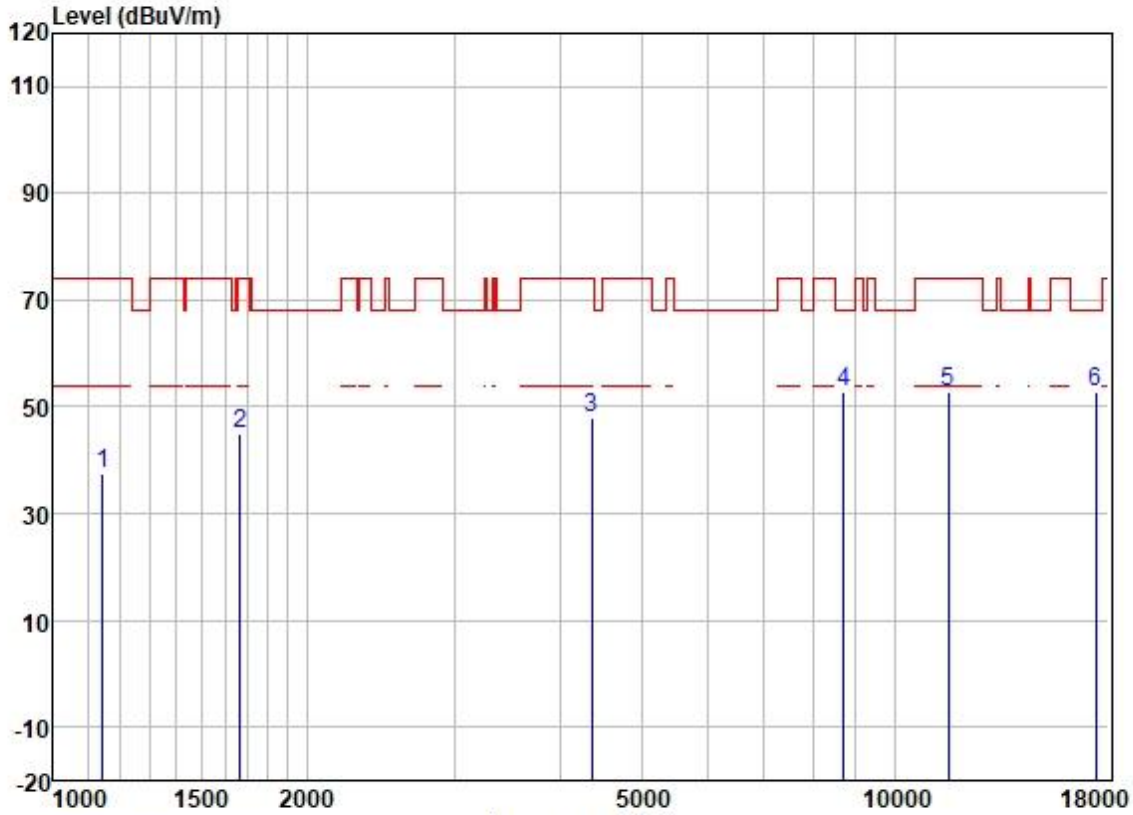
Test Mode: 17; Polarity: Horizontal; Modulation: OFDM; Channel: middle



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1158.828	48.72	24.52	2.40	38.42	37.22	74.00	-36.78	HORIZONTAL	Peak
2	1672.779	48.75	25.67	2.80	37.91	39.31	74.00	-34.69	HORIZONTAL	Peak
3	4443.453	49.58	30.73	4.83	36.81	48.33	68.20	-19.87	HORIZONTAL	Peak
4	8738.852	46.04	37.31	7.13	37.54	52.94	68.20	-15.26	HORIZONTAL	Peak
5	11575.000	42.23	39.78	8.38	37.14	53.25	74.00	-20.75	HORIZONTAL	Peak
6	17362.500	34.54	43.57	10.53	35.32	53.32	68.20	-14.88	HORIZONTAL	Peak

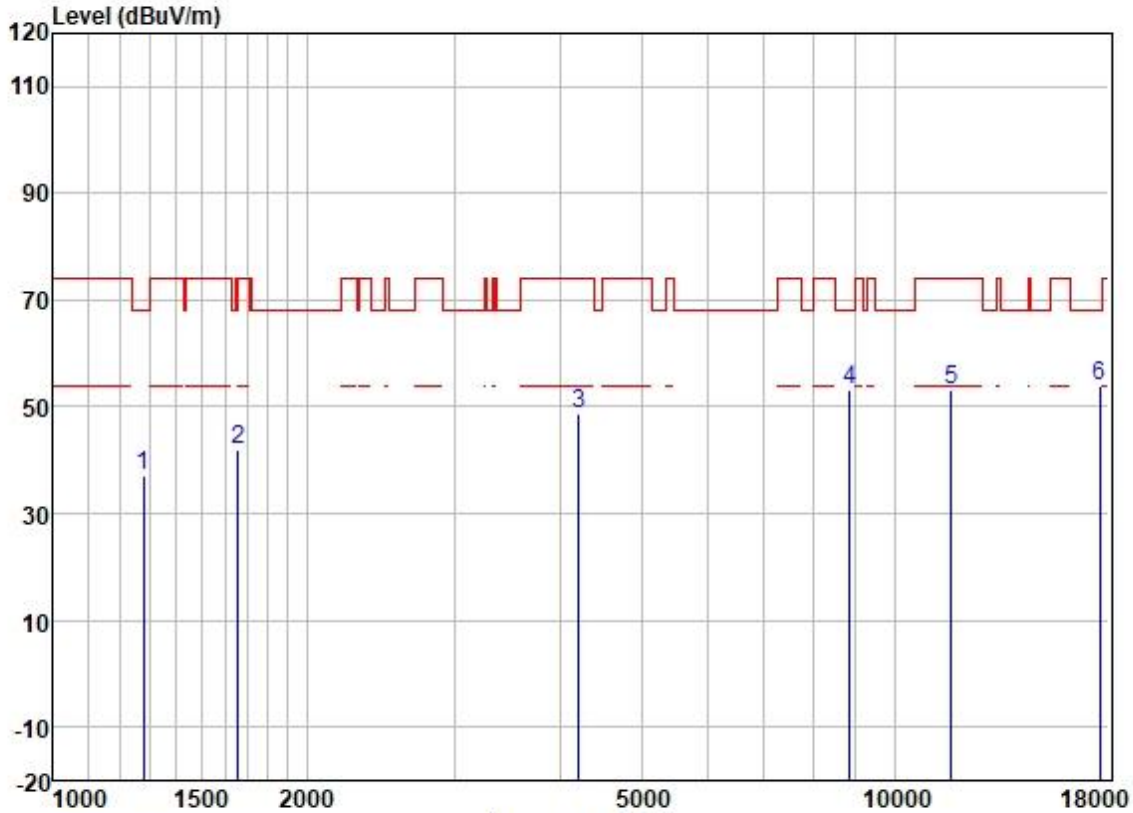
Test Mode: 17; Polarity: Vertical; Modulation: OFDM; Channel: middle



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1145.507	48.96	24.48	2.32	38.42	37.34	74.00	-36.66	VERTICAL	Peak
2	1667.951	54.53	25.66	2.80	37.91	45.08	74.00	-28.92	VERTICAL	Peak
3	4367.058	49.38	30.62	4.68	36.81	47.87	74.00	-26.13	VERTICAL	Peak
4	8713.630	45.94	37.30	7.07	37.55	52.76	68.20	-15.44	VERTICAL	Peak
5	11575.000	41.72	39.78	8.38	37.14	52.74	74.00	-21.26	VERTICAL	Peak
6	17362.500	34.09	43.57	10.53	35.32	52.87	68.20	-15.33	VERTICAL	Peak

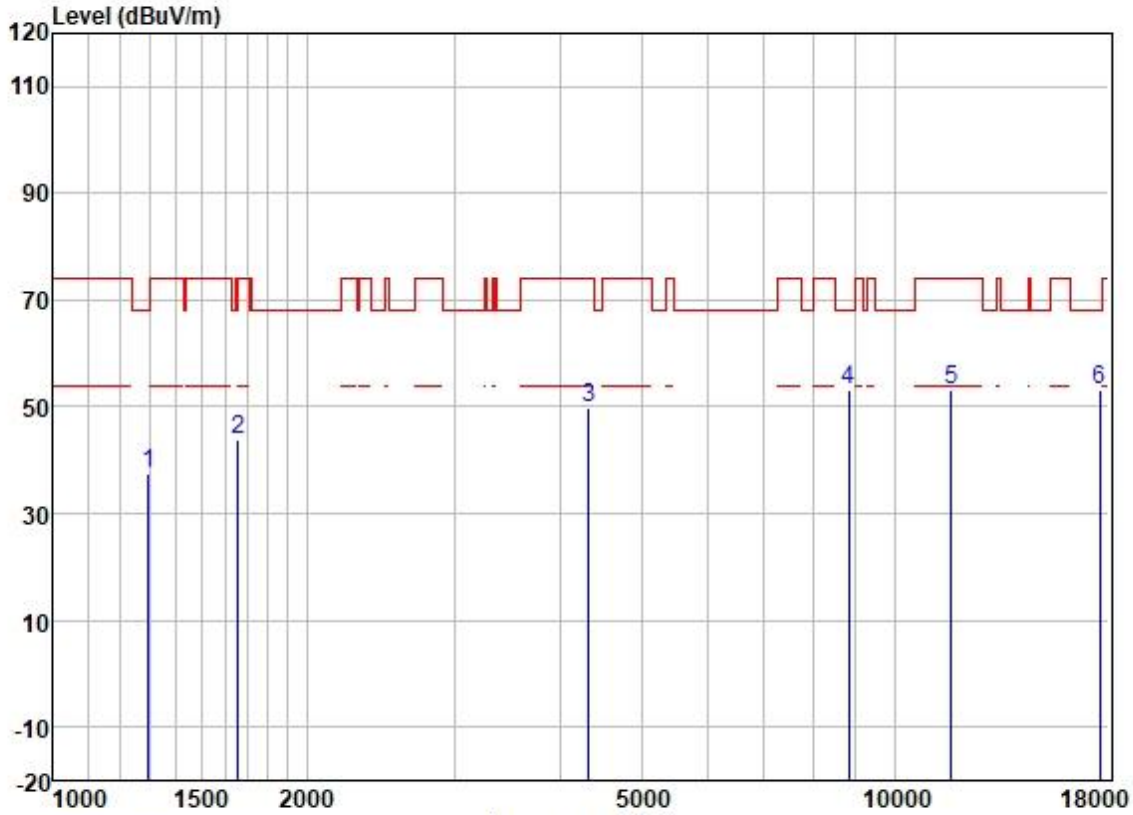
Test Mode: 17; Polarity: Horizontal; Modulation: OFDM; Channel: High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1278.492	47.74	25.14	2.50	38.33	37.05	68.20	-31.15	HORIZONTAL	Peak
2	1658.337	51.33	25.65	2.80	37.93	41.85	68.20	-26.35	HORIZONTAL	Peak
3	4218.186	50.67	30.22	4.60	36.81	48.68	74.00	-25.32	HORIZONTAL	Peak
4	8840.473	46.06	37.35	7.34	37.53	53.22	68.20	-14.98	HORIZONTAL	Peak
5	11689.000	42.55	39.49	8.32	37.13	53.23	74.00	-20.77	HORIZONTAL	Peak
6	17533.500	34.34	43.97	10.76	35.31	53.76	68.20	-14.44	HORIZONTAL	Peak

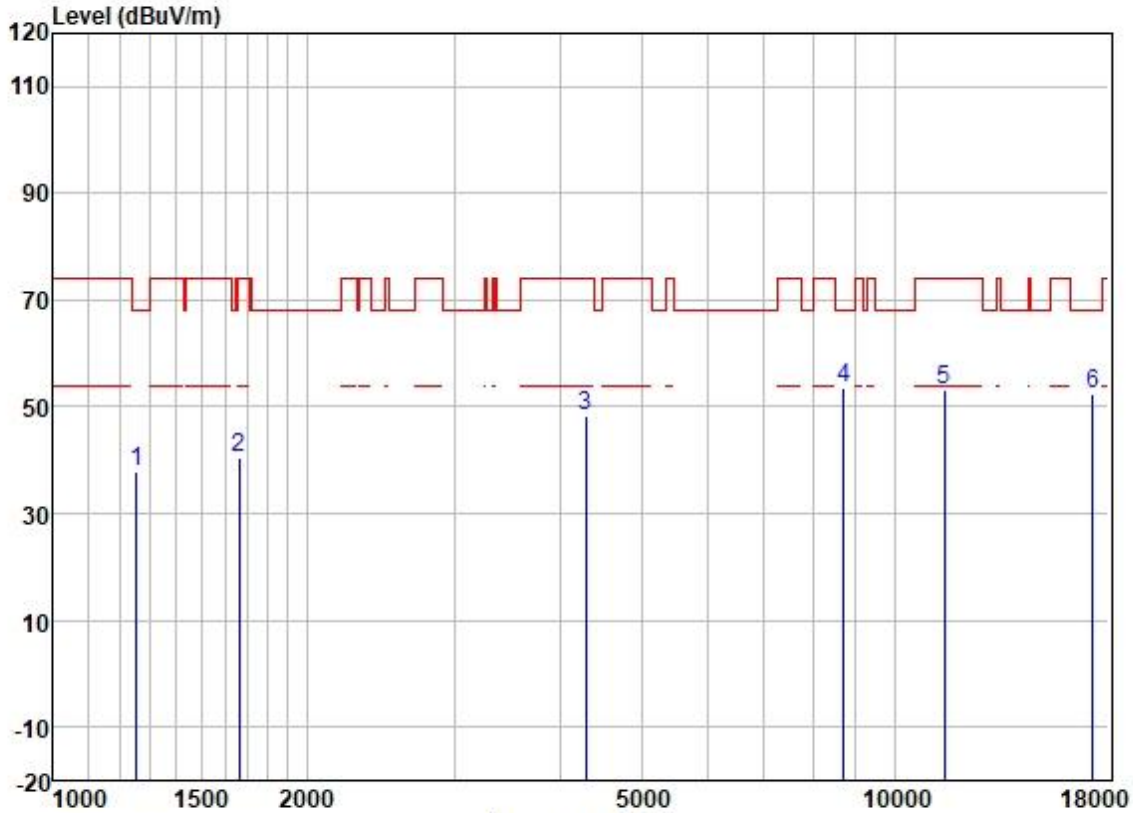
Test Mode: 17; Polarity: Vertical; Modulation: OFDM; Channel: High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1297.103	47.99	25.19	2.58	38.31	37.45	68.20	-30.75	VERTICAL	Peak
2	1658.337	53.37	25.65	2.80	37.93	43.89	68.20	-24.31	VERTICAL	Peak
3	4329.354	51.27	30.54	4.67	36.81	49.67	74.00	-24.33	VERTICAL	Peak
4	8814.957	46.24	37.34	7.29	37.53	53.34	68.20	-14.86	VERTICAL	Peak
5	11689.000	42.37	39.49	8.32	37.13	53.05	74.00	-20.95	VERTICAL	Peak
6	17533.500	33.59	43.97	10.76	35.31	53.01	68.20	-15.19	VERTICAL	Peak

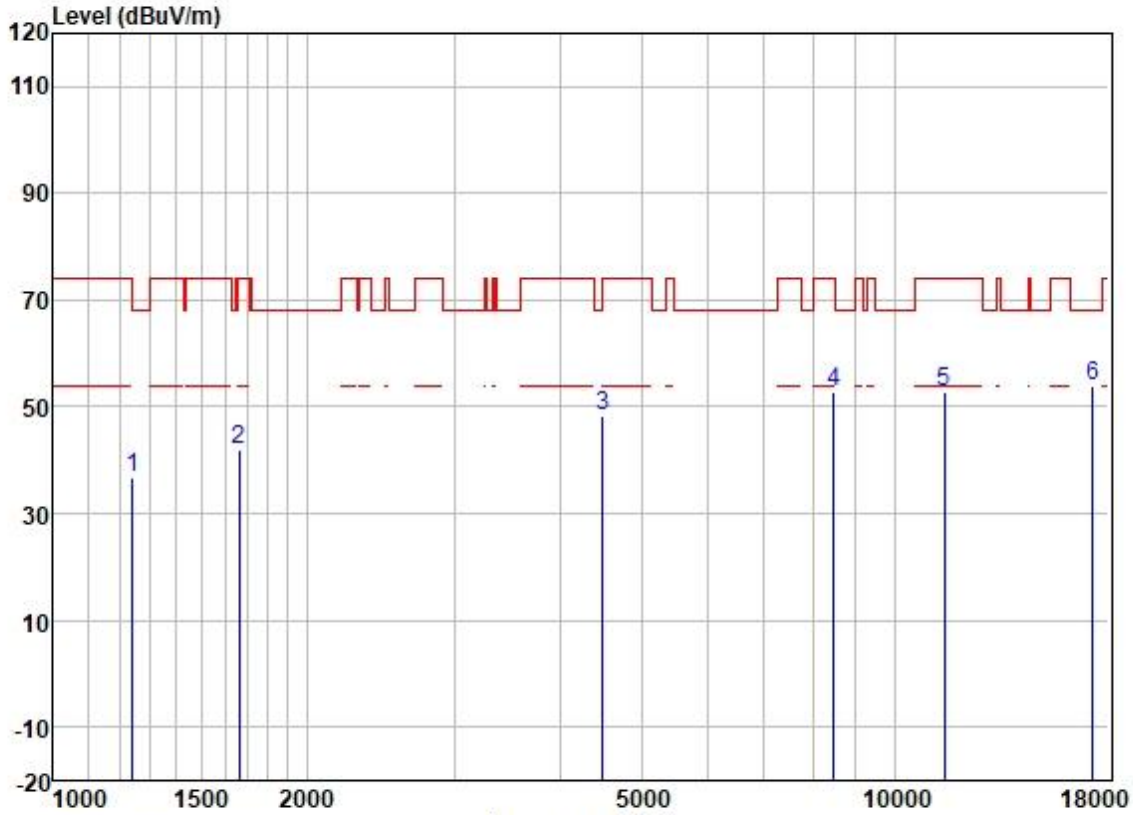
Test Mode: 18; Polarity: Horizontal; Modulation: OFDM; Channel: Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1256.512	48.64	25.05	2.38	38.35	37.72	68.20	-30.48	HORIZONTAL	Peak
2	1663.137	50.04	25.65	2.80	37.91	40.58	74.00	-33.42	HORIZONTAL	Peak
3	4291.977	49.94	30.45	4.64	36.81	48.22	74.00	-25.78	HORIZONTAL	Peak
4	8713.630	46.57	37.30	7.07	37.55	53.39	68.20	-14.81	HORIZONTAL	Peak
5	11461.000	42.21	39.91	8.37	37.15	53.34	74.00	-20.66	HORIZONTAL	Peak
6	17191.500	35.04	42.79	9.92	35.33	52.42	68.20	-15.78	HORIZONTAL	Peak

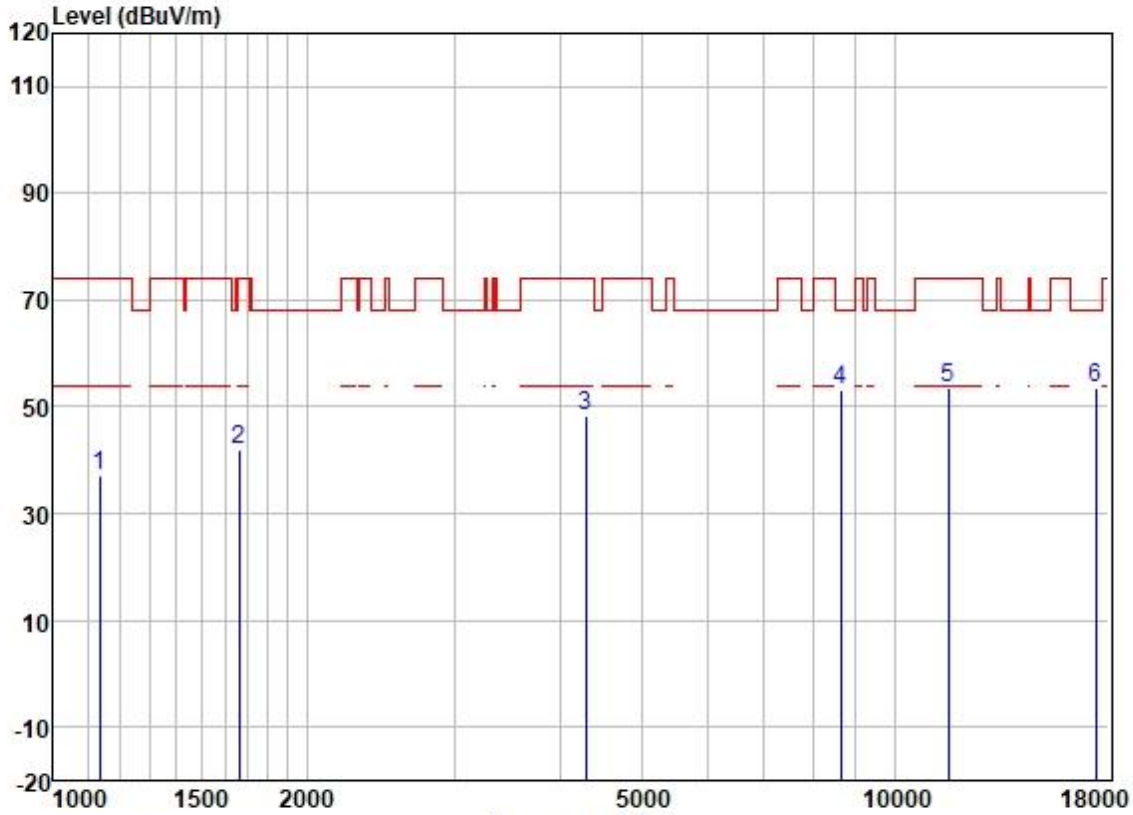
Test Mode: 18; Polarity: Vertical; Modulation: OFDM; Channel: Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1242.068	47.91	24.98	2.31	38.35	36.85	68.20	-31.35	VERTICAL	Peak
2	1663.137	51.49	25.65	2.80	37.91	42.03	74.00	-31.97	VERTICAL	Peak
3	4495.125	49.38	30.80	5.05	36.82	48.41	68.20	-19.79	VERTICAL	Peak
4	8465.379	46.66	37.13	6.68	37.57	52.90	74.00	-21.10	VERTICAL	Peak
5	11461.000	41.77	39.91	8.37	37.15	52.90	74.00	-21.10	VERTICAL	Peak
6	17191.500	36.39	42.79	9.92	35.33	53.77	68.20	-14.43	VERTICAL	Peak

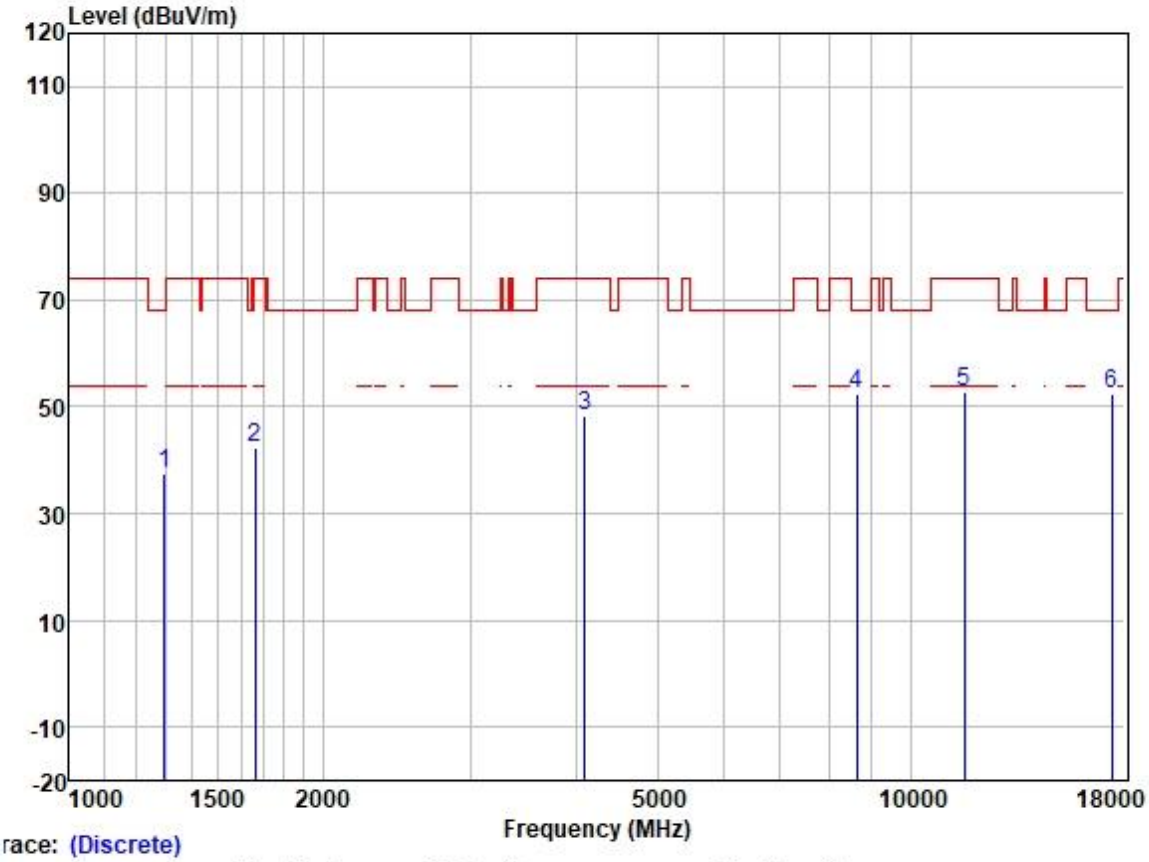
Test Mode: 18; Polarity: Horizontal; Modulation: OFDM; Channel: middle



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1135.617	48.73	24.45	2.25	38.43	37.00	74.00	-37.00	HORIZONTAL	Peak
2	1663.137	51.52	25.65	2.80	37.91	42.06	74.00	-31.94	HORIZONTAL	Peak
3	4291.977	49.98	30.45	4.64	36.81	48.26	74.00	-25.74	HORIZONTAL	Peak
4	8638.399	46.39	37.26	6.92	37.55	53.02	68.20	-15.18	HORIZONTAL	Peak
5	11575.000	42.40	39.78	8.38	37.14	53.42	74.00	-20.58	HORIZONTAL	Peak
6	17362.500	34.84	43.57	10.53	35.32	53.62	68.20	-14.58	HORIZONTAL	Peak

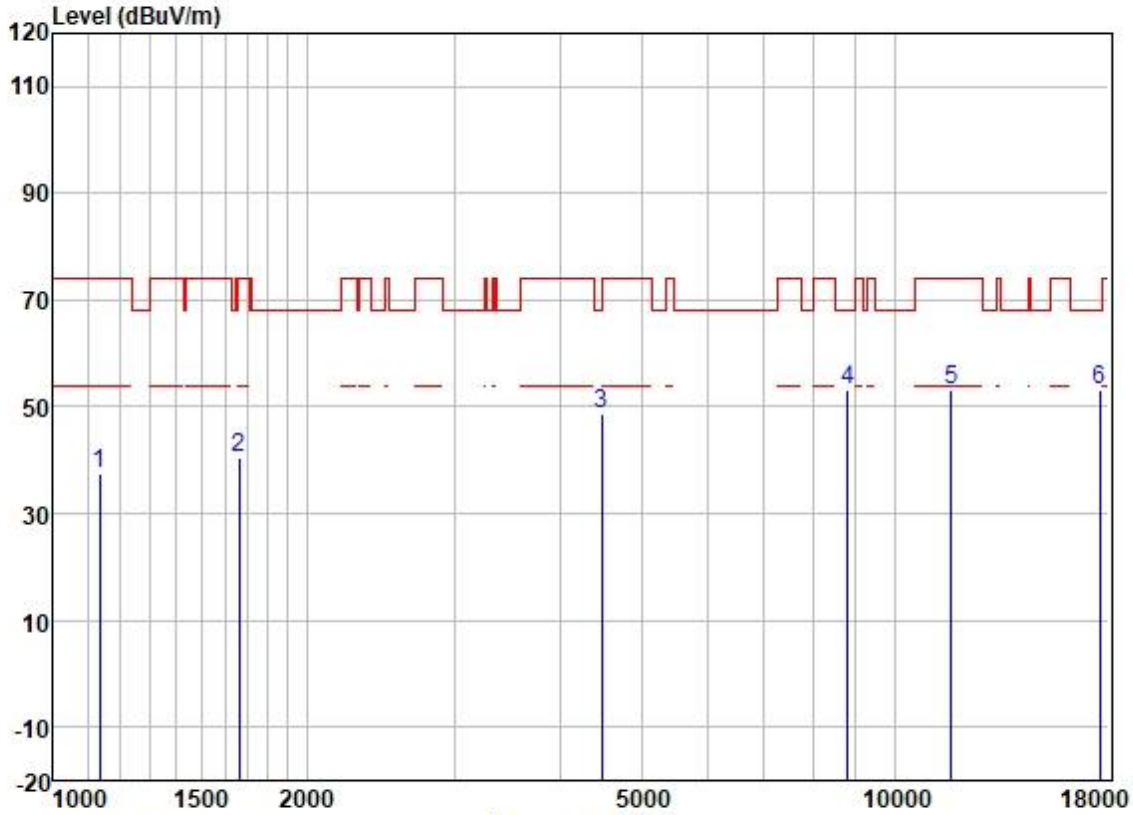
Test Mode: 18; Polarity: Vertical; Modulation: OFDM; Channel: middle



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1297.103	48.00	25.19	2.58	38.31	37.46	68.20	-30.74	VERTICAL	Peak
2	1663.137	51.80	25.65	2.80	37.91	42.34	74.00	-31.66	VERTICAL	Peak
3	4098.010	50.66	29.94	4.60	36.80	48.40	74.00	-25.60	VERTICAL	Peak
4	8638.399	45.73	37.26	6.92	37.55	52.36	68.20	-15.84	VERTICAL	Peak
5	11575.000	41.79	39.78	8.38	37.14	52.81	74.00	-21.19	VERTICAL	Peak
6	17362.500	33.81	43.57	10.53	35.32	52.59	68.20	-15.61	VERTICAL	Peak

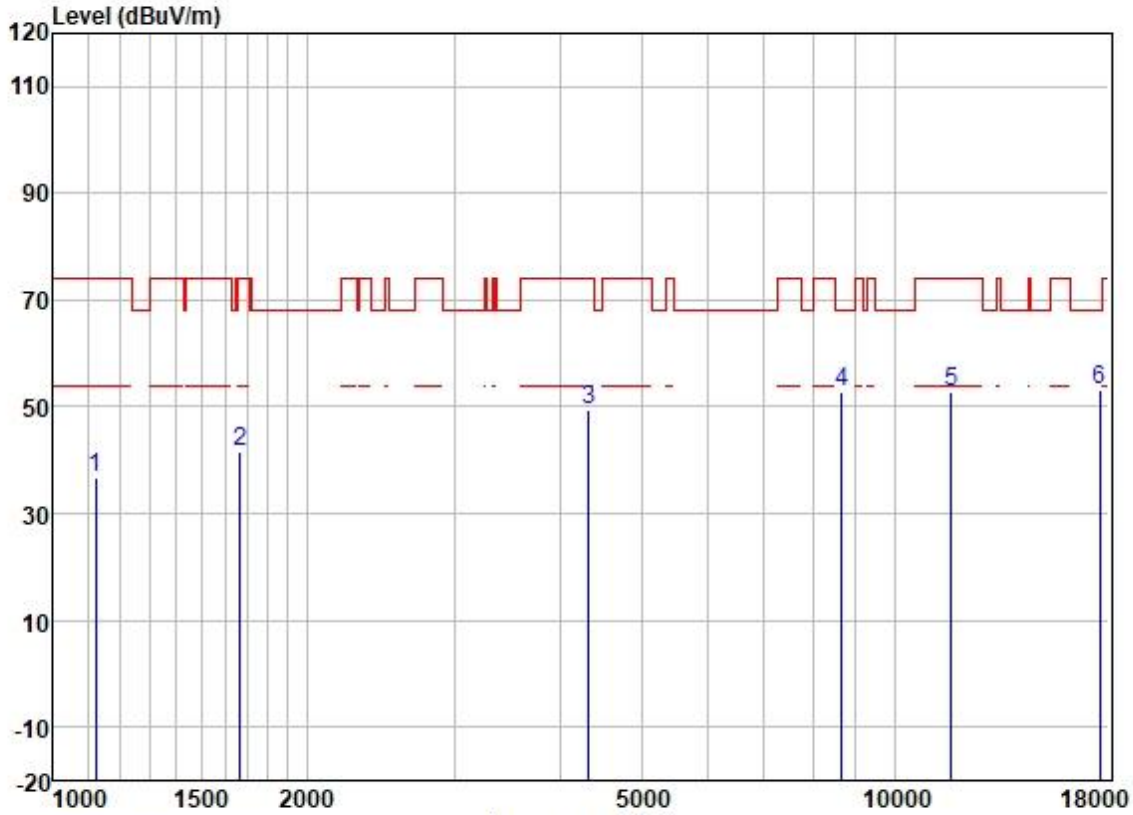
Test Mode: 18; Polarity: Horizontal; Modulation: OFDM; Channel: High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1135.617	49.39	24.45	2.25	38.43	37.66	74.00	-36.34	HORIZONTAL	Peak
2	1663.137	49.91	25.65	2.80	37.91	40.45	74.00	-33.55	HORIZONTAL	Peak
3	4482.150	49.80	30.78	4.99	36.81	48.76	68.20	-19.44	HORIZONTAL	Peak
4	8789.516	46.03	37.33	7.24	37.54	53.06	68.20	-15.14	HORIZONTAL	Peak
5	11689.000	42.61	39.49	8.32	37.13	53.29	74.00	-20.71	HORIZONTAL	Peak
6	17533.500	33.58	43.97	10.76	35.31	53.00	68.20	-15.20	HORIZONTAL	Peak

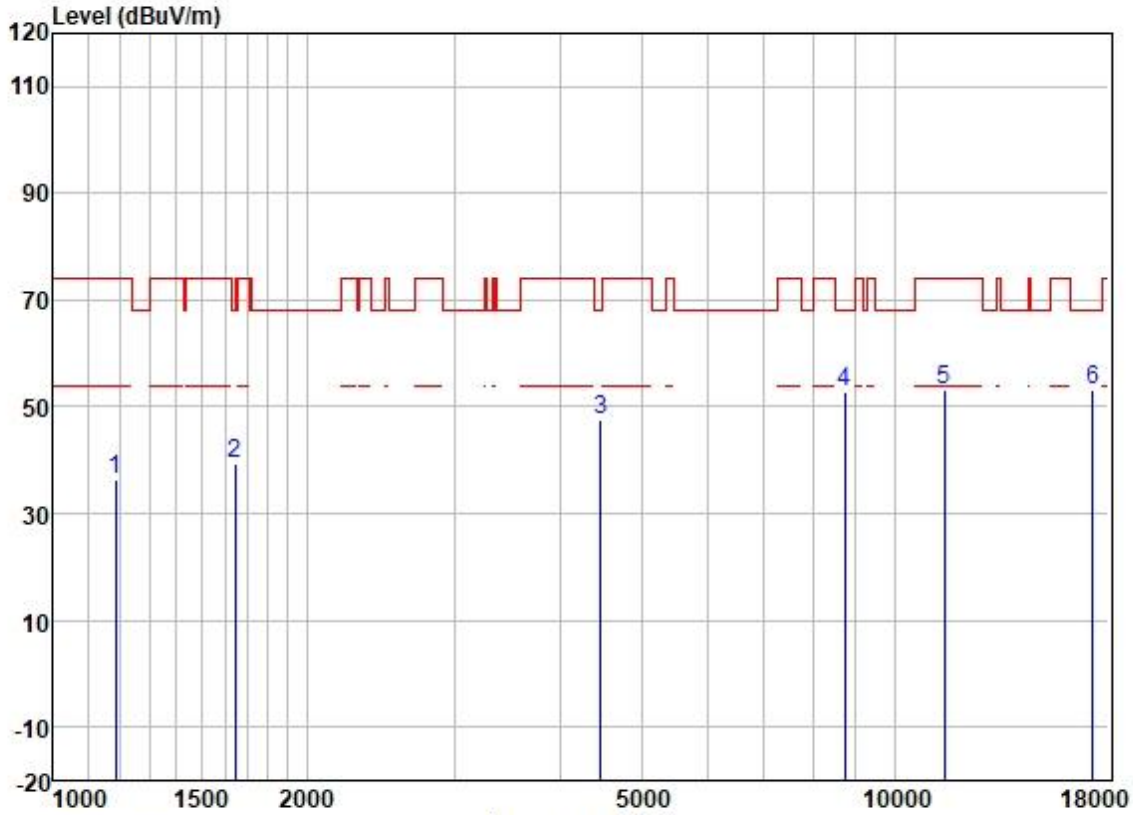
Test Mode: 18; Polarity: Vertical; Modulation: OFDM; Channel: High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1122.563	48.44	24.42	2.22	38.43	36.65	74.00	-37.35	VERTICAL	Peak
2	1667.951	51.03	25.66	2.80	37.91	41.58	74.00	-32.42	VERTICAL	Peak
3	4329.354	51.10	30.54	4.67	36.81	49.50	74.00	-24.50	VERTICAL	Peak
4	8663.404	46.13	37.27	6.97	37.55	52.82	68.20	-15.38	VERTICAL	Peak
5	11689.000	42.01	39.49	8.32	37.13	52.69	74.00	-21.31	VERTICAL	Peak
6	17533.500	33.68	43.97	10.76	35.31	53.10	68.20	-15.10	VERTICAL	Peak

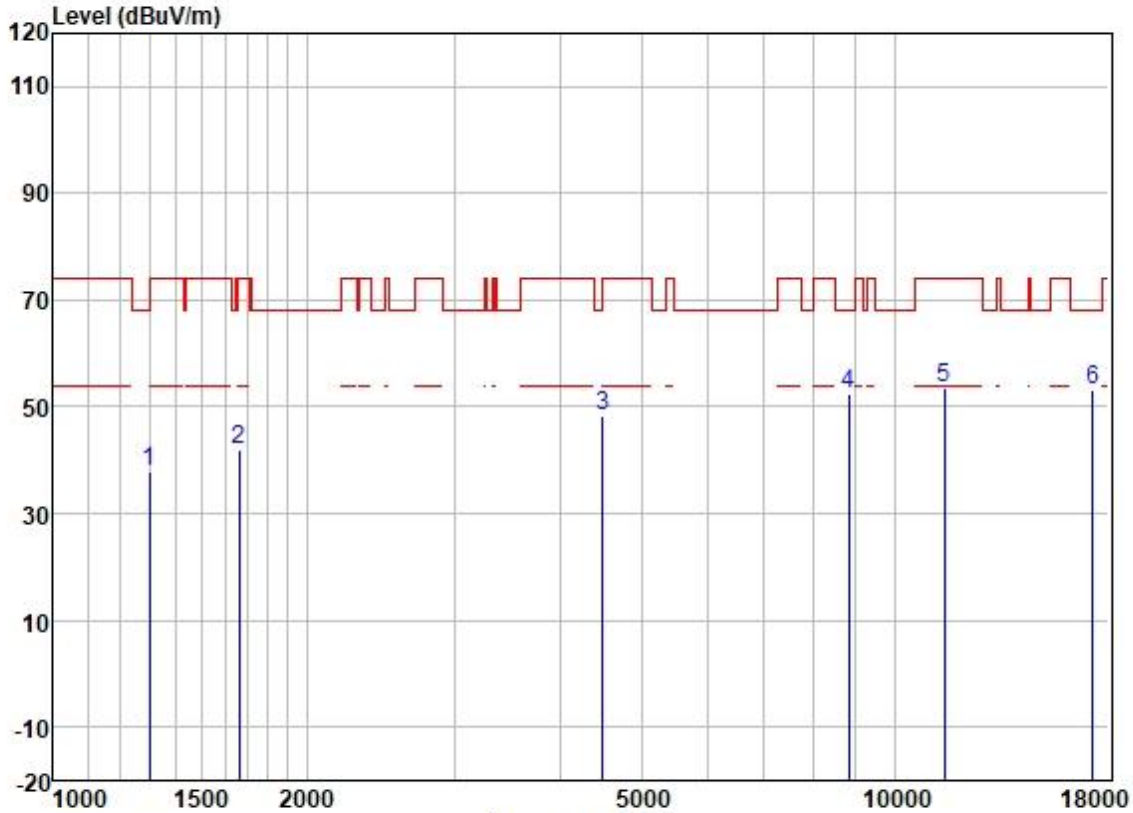
Test Mode: 19; Polarity: Horizontal; Modulation: OFDM; Channel: Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1185.936	47.92	24.62	2.37	38.40	36.51	74.00	-37.49	HORIZONTAL	Peak
2	1644.019	48.72	25.63	2.80	37.93	39.22	68.20	-28.98	HORIZONTAL	Peak
3	4469.214	48.65	30.77	4.93	36.81	47.54	68.20	-20.66	HORIZONTAL	Peak
4	8738.852	46.08	37.31	7.13	37.54	52.98	68.20	-15.22	HORIZONTAL	Peak
5	11471.000	41.90	39.91	8.37	37.15	53.03	74.00	-20.97	HORIZONTAL	Peak
6	17206.500	35.89	42.79	9.92	35.33	53.27	68.20	-14.93	HORIZONTAL	Peak

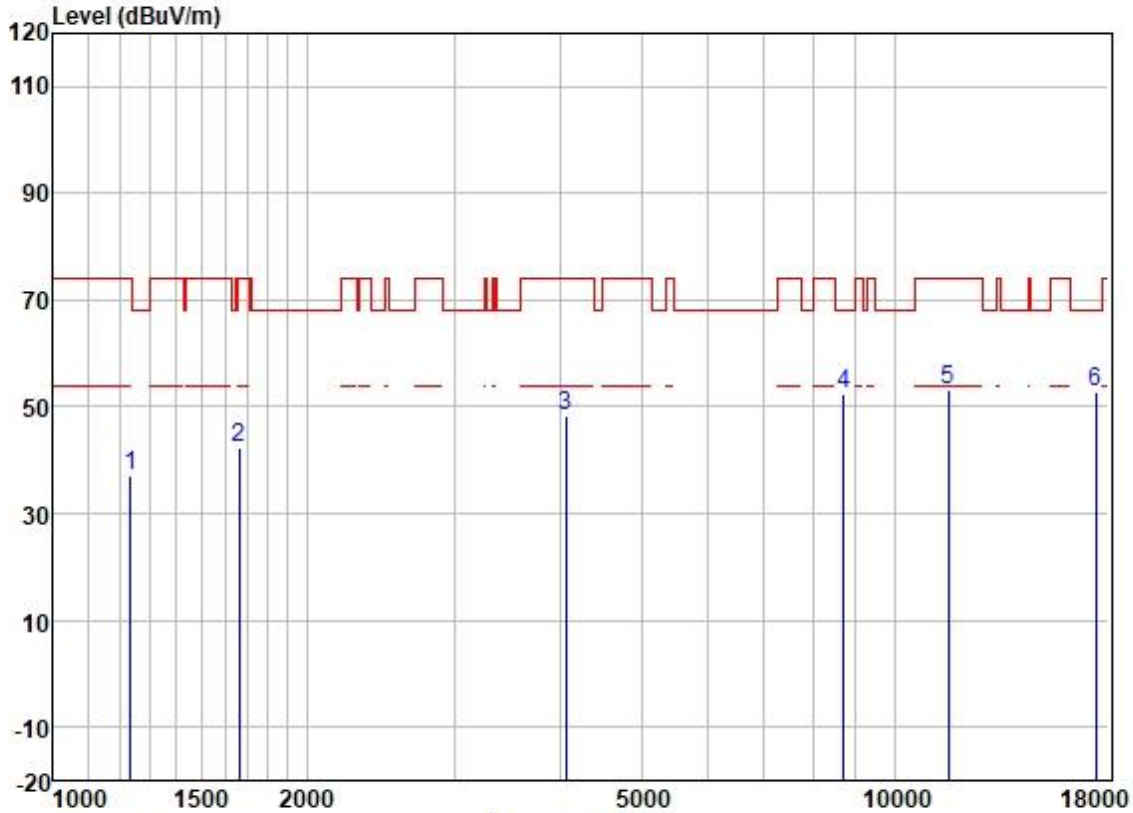
Test Mode: 19; Polarity: Vertical; Modulation: OFDM; Channel: Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1300.858	48.19	25.20	2.60	38.31	37.68	74.00	-36.32	VERTICAL	Peak
2	1663.137	51.60	25.65	2.80	37.91	42.14	74.00	-31.86	VERTICAL	Peak
3	4495.125	49.45	30.80	5.05	36.82	48.48	68.20	-19.72	VERTICAL	Peak
4	8814.957	45.50	37.34	7.29	37.53	52.60	68.20	-15.60	VERTICAL	Peak
5	11471.000	42.23	39.91	8.37	37.15	53.36	74.00	-20.64	VERTICAL	Peak
6	17206.500	35.67	42.79	9.92	35.33	53.05	68.20	-15.15	VERTICAL	Peak

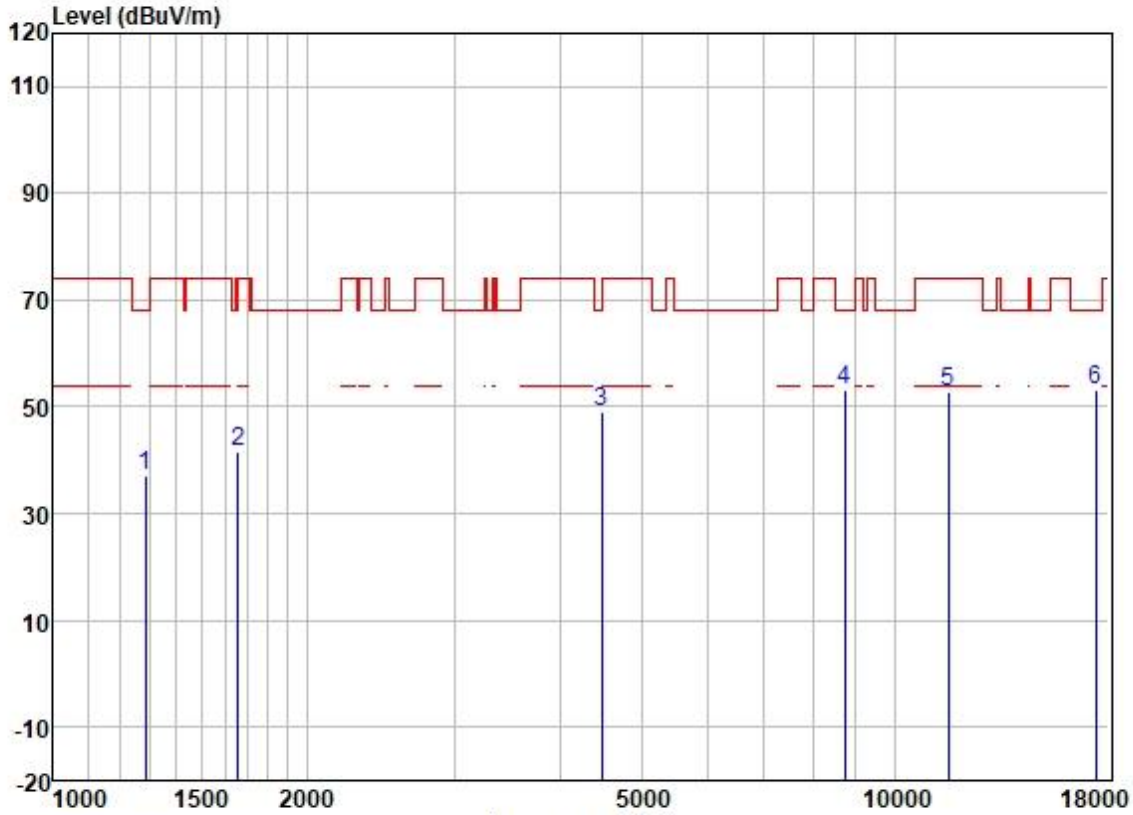
Test Mode: 19; Polarity: Horizontal; Modulation: OFDM; Channel: middle



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1234.909	48.32	24.93	2.30	38.37	37.18	74.00	-36.82	HORIZONTAL	Peak
2	1663.137	51.83	25.65	2.80	37.91	42.37	74.00	-31.63	HORIZONTAL	Peak
3	4062.629	50.73	29.88	4.60	36.80	48.41	74.00	-25.59	HORIZONTAL	Peak
4	8713.630	45.56	37.30	7.07	37.55	52.38	68.20	-15.82	HORIZONTAL	Peak
5	11575.000	42.20	39.78	8.38	37.14	53.22	74.00	-20.78	HORIZONTAL	Peak
6	17362.500	33.89	43.57	10.53	35.32	52.67	68.20	-15.53	HORIZONTAL	Peak

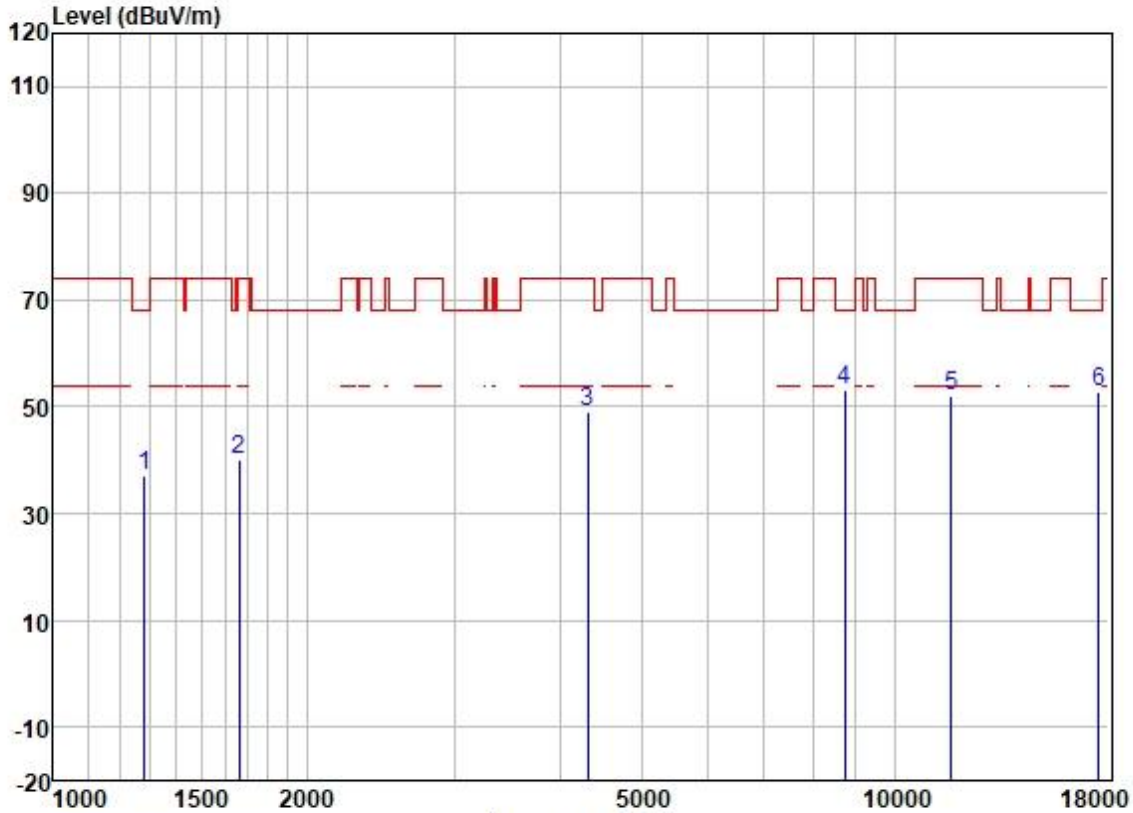
Test Mode: 19; Polarity: Vertical; Modulation: OFDM; Channel: middle



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1285.904	47.73	25.16	2.53	38.33	37.09	68.20	-31.11	VERTICAL	Peak
2	1658.337	50.98	25.65	2.80	37.93	41.50	68.20	-26.70	VERTICAL	Peak
3	4482.150	50.12	30.78	4.99	36.81	49.08	68.20	-19.12	VERTICAL	Peak
4	8738.852	46.20	37.31	7.13	37.54	53.10	68.20	-15.10	VERTICAL	Peak
5	11575.000	41.81	39.78	8.38	37.14	52.83	74.00	-21.17	VERTICAL	Peak
6	17362.500	34.22	43.57	10.53	35.32	53.00	68.20	-15.20	VERTICAL	Peak

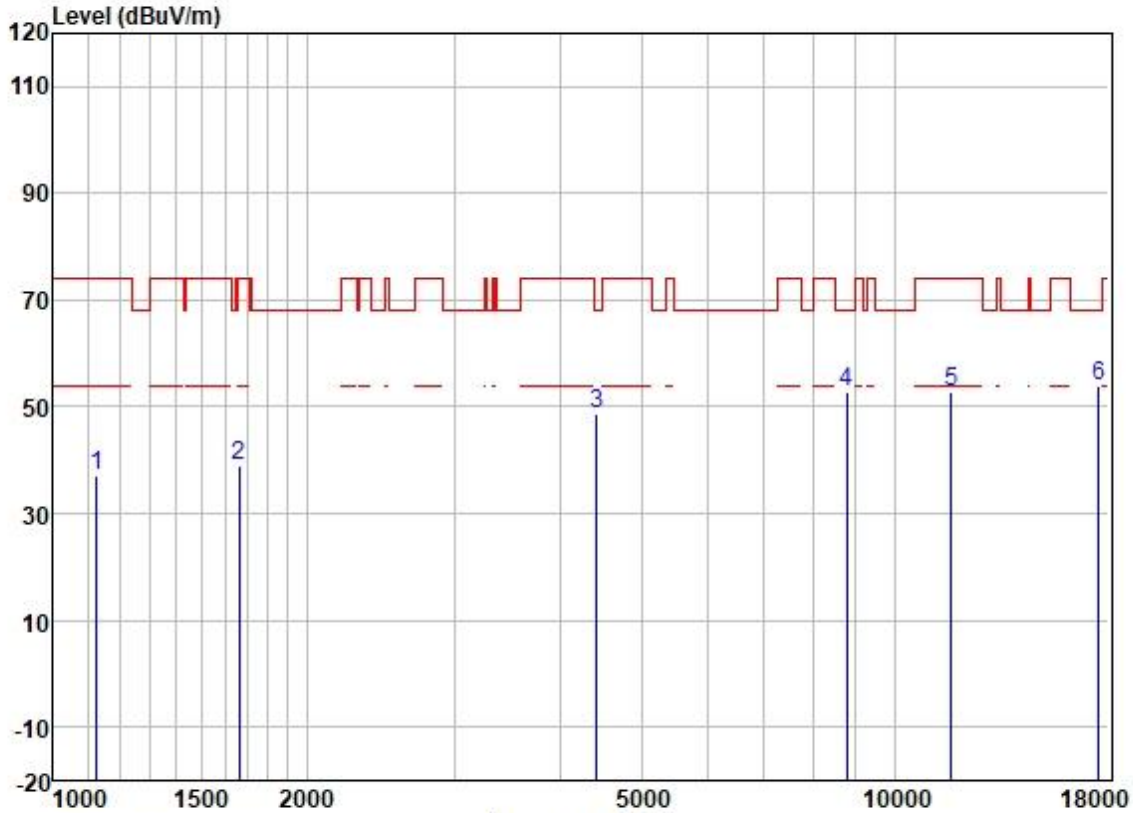
Test Mode: 19; Polarity: Horizontal; Modulation: OFDM; Channel: High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1282.193	47.81	25.15	2.52	38.33	37.15	68.20	-31.05	HORIZONTAL	Peak
2	1663.137	49.71	25.65	2.80	37.91	40.25	74.00	-33.75	HORIZONTAL	Peak
3	4316.859	50.68	30.51	4.66	36.81	49.04	74.00	-24.96	HORIZONTAL	Peak
4	8738.852	46.36	37.31	7.13	37.54	53.26	68.20	-14.94	HORIZONTAL	Peak
5	11679.000	41.39	39.57	8.34	37.13	52.17	74.00	-21.83	HORIZONTAL	Peak
6	17518.500	33.35	43.97	10.76	35.31	52.77	68.20	-15.43	HORIZONTAL	Peak

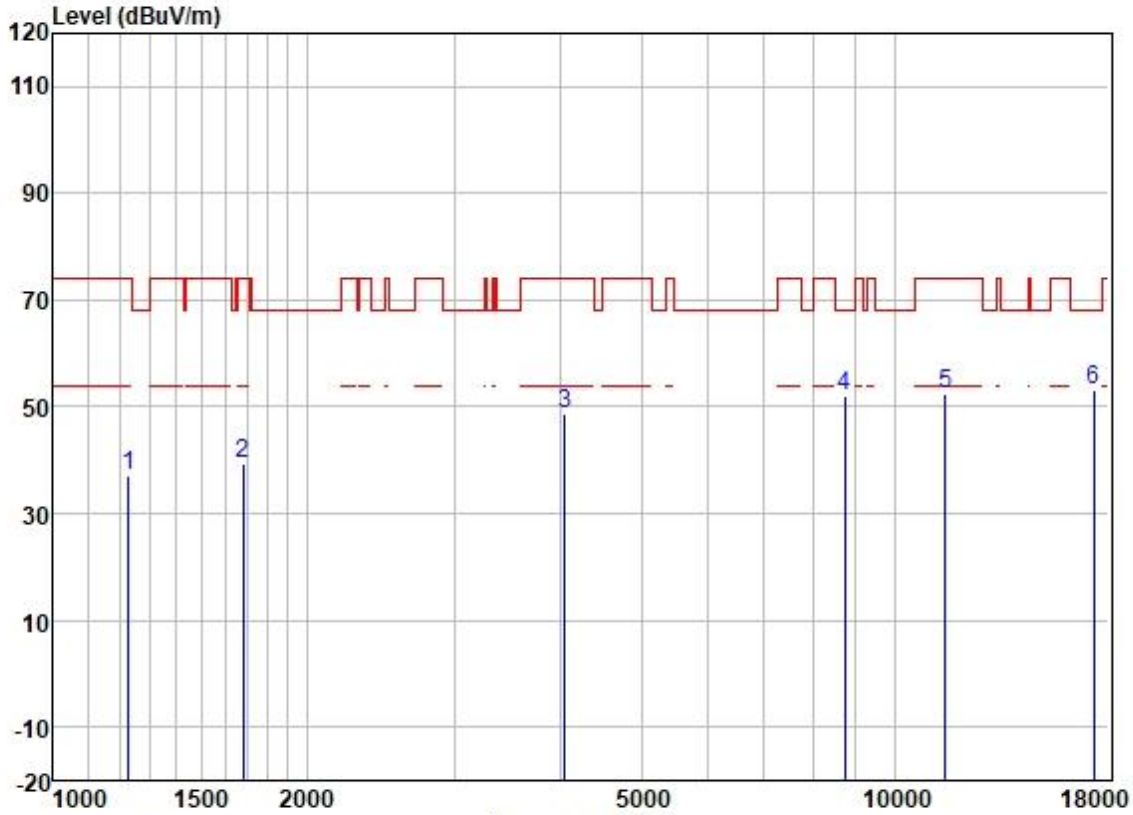
Test Mode: 19; Polarity: Vertical; Modulation: OFDM; Channel: High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1125.813	49.07	24.42	2.21	38.43	37.27	74.00	-36.73	VERTICAL	Peak
2	1663.137	48.50	25.65	2.80	37.91	39.04	74.00	-34.96	VERTICAL	Peak
3	4430.628	49.85	30.72	4.78	36.81	48.54	68.20	-19.66	VERTICAL	Peak
4	8764.146	45.95	37.32	7.19	37.54	52.92	68.20	-15.28	VERTICAL	Peak
5	11679.000	41.92	39.57	8.34	37.13	52.70	74.00	-21.30	VERTICAL	Peak
6	17518.500	34.34	43.97	10.76	35.31	53.76	68.20	-14.44	VERTICAL	Peak

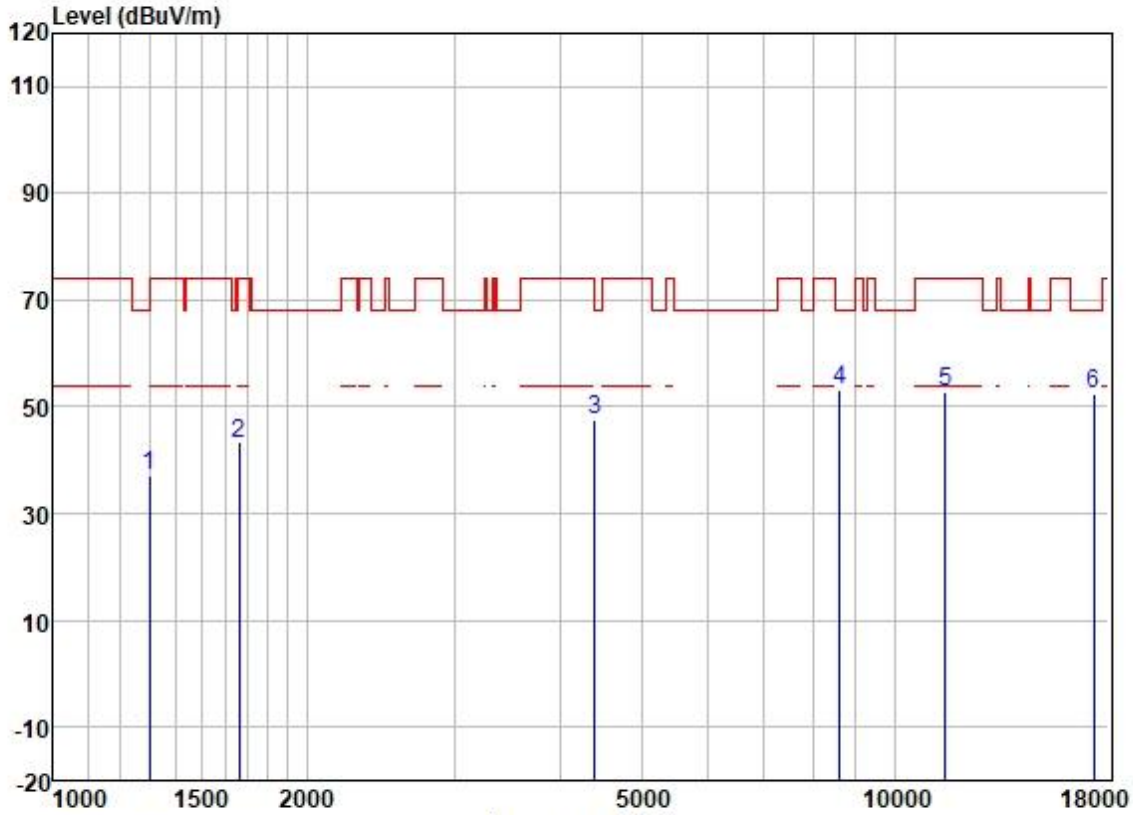
Test Mode: 20; Polarity: Horizontal; Modulation: OFDM; Channel: Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1227.791	48.45	24.88	2.31	38.37	37.27	74.00	-36.73	HORIZONTAL	Peak
2	1682.477	48.64	25.68	2.80	37.91	39.21	74.00	-34.79	HORIZONTAL	Peak
3	4050.904	51.02	29.87	4.60	36.80	48.69	74.00	-25.31	HORIZONTAL	Peak
4	8738.852	45.25	37.31	7.13	37.54	52.15	68.20	-16.05	HORIZONTAL	Peak
5	11491.000	41.33	39.90	8.41	37.15	52.49	74.00	-21.51	HORIZONTAL	Peak
6	17236.500	35.38	43.01	10.08	35.33	53.14	68.20	-15.06	HORIZONTAL	Peak

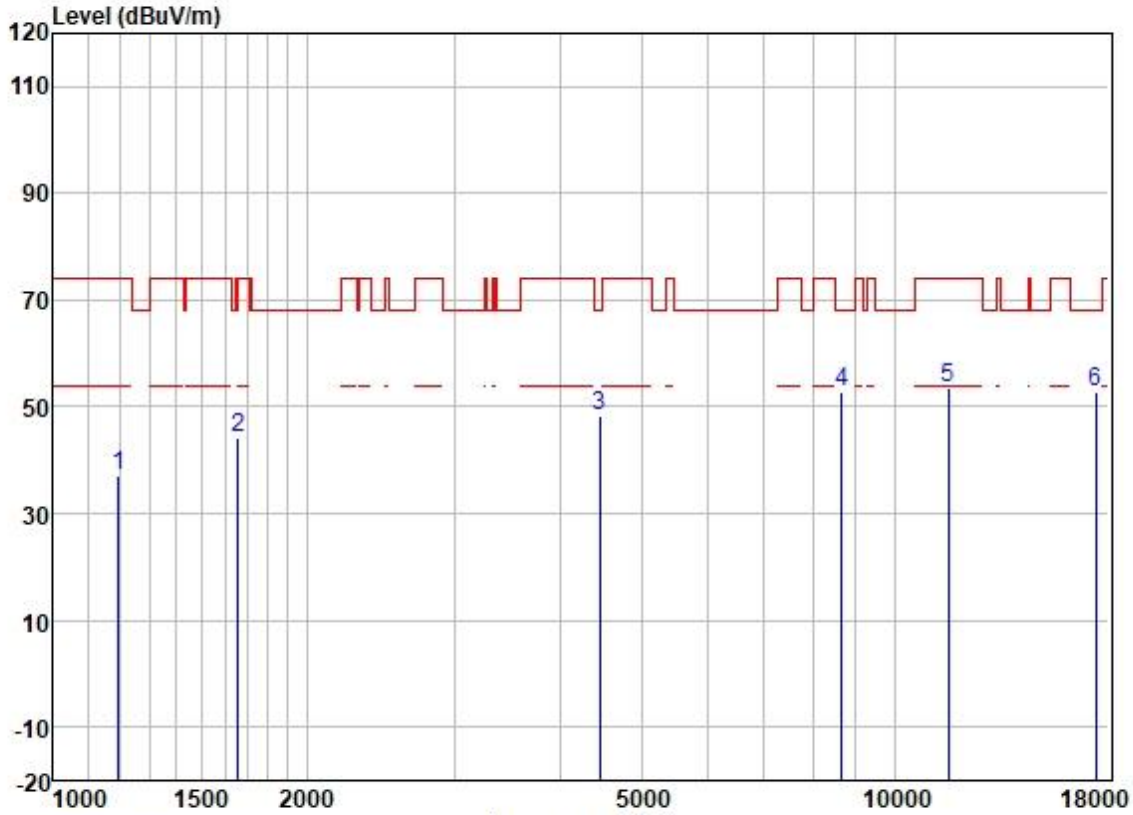
Test Mode: 20; Polarity: Vertical; Modulation: OFDM; Channel: Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1300.858	47.50	25.20	2.60	38.31	36.99	74.00	-37.01	VERTICAL	Peak
2	1663.137	52.74	25.65	2.80	37.91	43.28	74.00	-30.72	VERTICAL	Peak
3	4405.090	48.97	30.68	4.70	36.81	47.54	68.20	-20.66	VERTICAL	Peak
4	8613.468	46.56	37.24	6.88	37.56	53.12	68.20	-15.08	VERTICAL	Peak
5	11491.000	41.68	39.90	8.41	37.15	52.84	74.00	-21.16	VERTICAL	Peak
6	17236.500	34.77	43.01	10.08	35.33	52.53	68.20	-15.67	VERTICAL	Peak

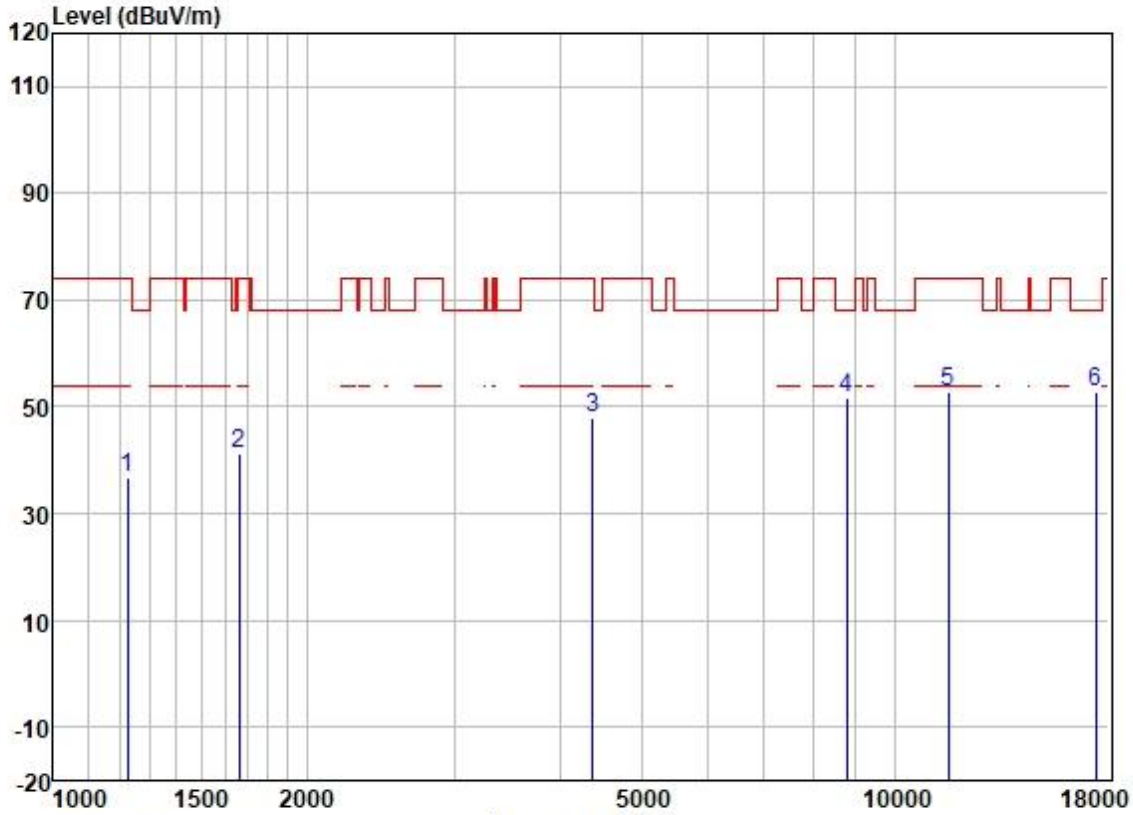
Test Mode: 20; Polarity: Horizontal; Modulation: OFDM; Channel: middle



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1196.264	48.34	24.67	2.35	38.39	36.97	74.00	-37.03	HORIZONTAL	Peak
2	1658.337	53.70	25.65	2.80	37.93	44.22	68.20	-23.98	HORIZONTAL	Peak
3	4456.315	49.57	30.75	4.88	36.81	48.39	68.20	-19.81	HORIZONTAL	Peak
4	8663.404	46.05	37.27	6.97	37.55	52.74	68.20	-15.46	HORIZONTAL	Peak
5	11575.000	42.40	39.78	8.38	37.14	53.42	74.00	-20.58	HORIZONTAL	Peak
6	17362.500	34.04	43.57	10.53	35.32	52.82	68.20	-15.38	HORIZONTAL	Peak

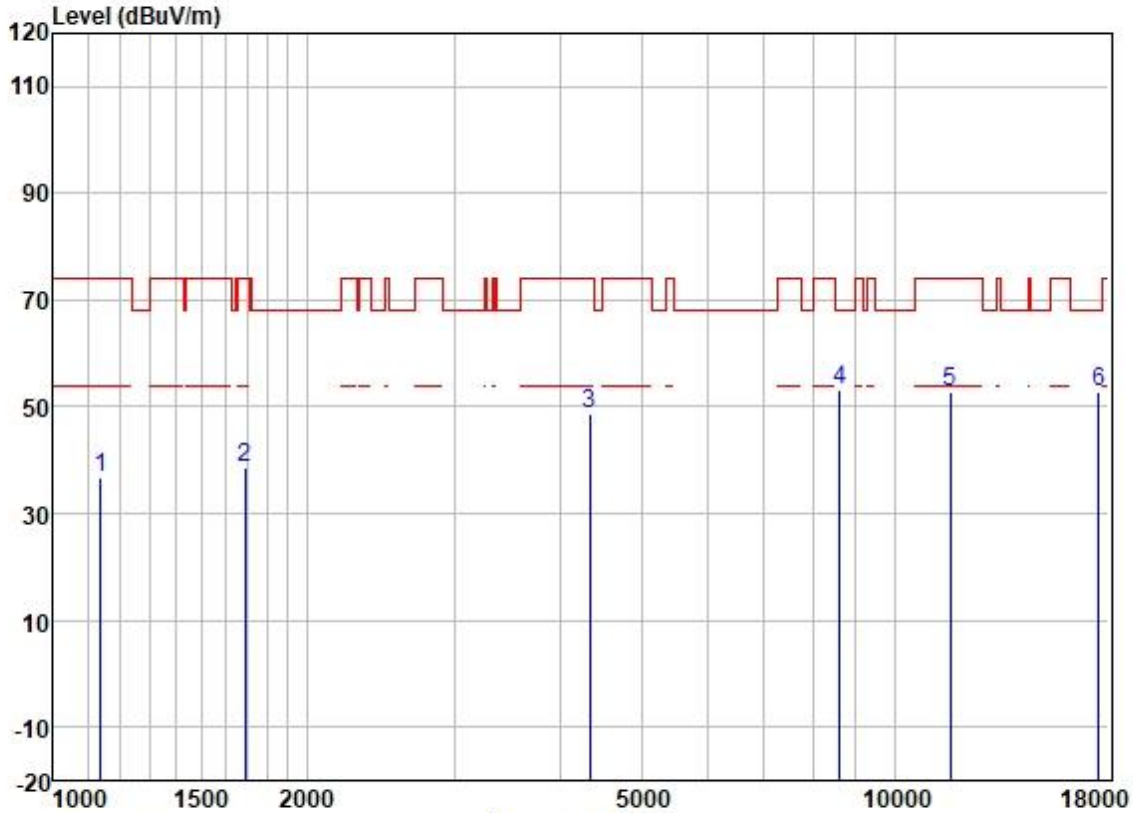
Test Mode: 20; Polarity: Vertical; Modulation: OFDM; Channel: middle



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1224.247	47.88	24.85	2.31	38.37	36.67	74.00	-37.33	VERTICAL	Peak
2	1663.137	50.68	25.65	2.80	37.91	41.22	74.00	-32.78	VERTICAL	Peak
3	4379.699	49.42	30.64	4.69	36.81	47.94	74.00	-26.06	VERTICAL	Peak
4	8764.146	44.71	37.32	7.19	37.54	51.68	68.20	-16.52	VERTICAL	Peak
5	11575.000	41.67	39.78	8.38	37.14	52.69	74.00	-21.31	VERTICAL	Peak
6	17362.500	33.89	43.57	10.53	35.32	52.67	68.20	-15.53	VERTICAL	Peak

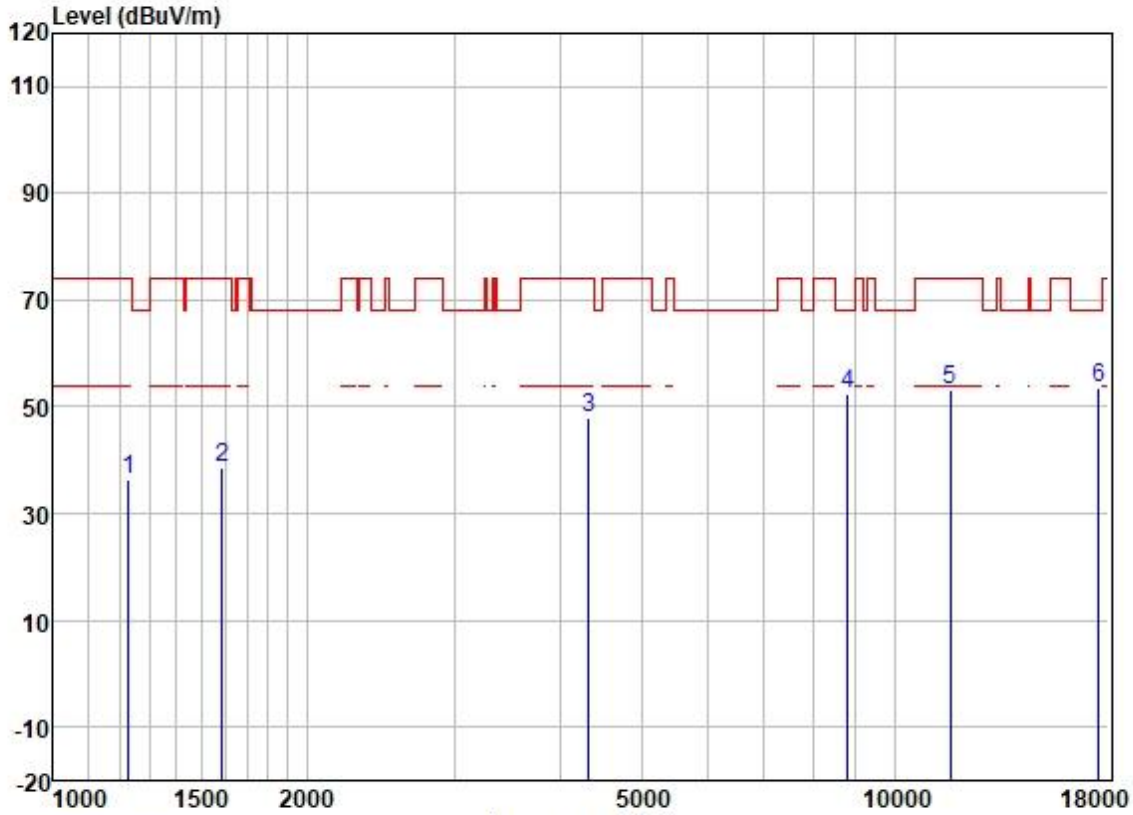
Test Mode: 20; Polarity: Horizontal; Modulation: OFDM; Channel: High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1138.904	48.34	24.46	2.27	38.42	36.65	74.00	-37.35	HORIZONTAL	Peak
2	1692.231	47.89	25.70	2.80	37.89	38.50	74.00	-35.50	HORIZONTAL	Peak
3	4341.886	50.38	30.57	4.67	36.81	48.81	74.00	-25.19	HORIZONTAL	Peak
4	8613.468	46.70	37.24	6.88	37.56	53.26	68.20	-14.94	HORIZONTAL	Peak
5	11659.000	41.89	39.57	8.34	37.13	52.67	74.00	-21.33	HORIZONTAL	Peak
6	17488.500	33.38	43.90	10.77	35.32	52.73	68.20	-15.47	HORIZONTAL	Peak

Test Mode: 20; Polarity: Vertical; Modulation: OFDM; Channel: High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1227.791	47.58	24.88	2.31	38.37	36.40	74.00	-37.60	VERTICAL	Peak
2	1587.975	48.31	25.57	2.80	37.98	38.70	74.00	-35.30	VERTICAL	Peak
3	4329.354	49.44	30.54	4.67	36.81	47.84	74.00	-26.16	VERTICAL	Peak
4	8789.516	45.56	37.33	7.24	37.54	52.59	68.20	-15.61	VERTICAL	Peak
5	11659.000	42.34	39.57	8.34	37.13	53.12	74.00	-20.88	VERTICAL	Peak
6	17488.500	34.23	43.90	10.77	35.32	53.58	68.20	-14.62	VERTICAL	Peak

7.10 Radiated Emissions which fall in the restricted bands

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

Test Method: KDB 789033 D02 II G

Measurement Distance: 3m

Limit:

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

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

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

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

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

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

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

7.10.1 E.U.T. Operation

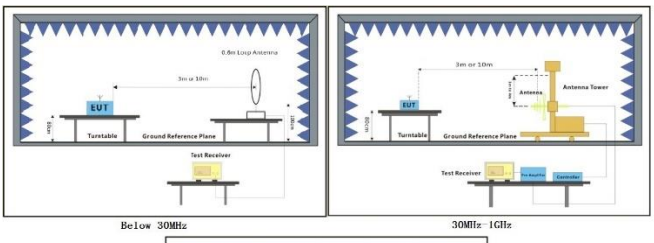
Operating Environment:

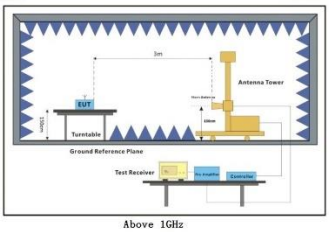
Temperature: 23.1 °C Humidity: 53.5 % RH Atmospheric Pressure: 1003 mbar

7.10.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	16	TX mode(5.8G SDR 1.4MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	17	TX mode(5.8G SDR 3MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	18	TX mode(5.8G SDR 10MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	19	TX mode(5.8G SDR 20MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	20	TX mode(5.8G SDR 40MHz)_Keep the EUT in continuously transmitting mode with modulation
Pre-scan	21	Charge + TX mode(5.8G SDR 1.4MHz)_Keep the EUT in charging and continuously transmitting mode with modulation
Pre-scan	22	Charge + TX mode(5.8G SDR 3MHz)_Keep the EUT in charging and continuously transmitting mode with modulation
Pre-scan	23	Charge + TX mode(5.8G SDR 10MHz)_Keep the EUT in charging and continuously transmitting mode with modulation
Pre-scan	24	Charge + TX mode(5.8G SDR 20MHz)_Keep the EUT in charging and continuously transmitting mode with modulation
Pre-scan	25	Charge + TX mode(5.8G SDR 40MHz)_Keep the EUT in charging and continuously transmitting mode with modulation

7.10.3 Test Setup Diagram





7.10.4 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

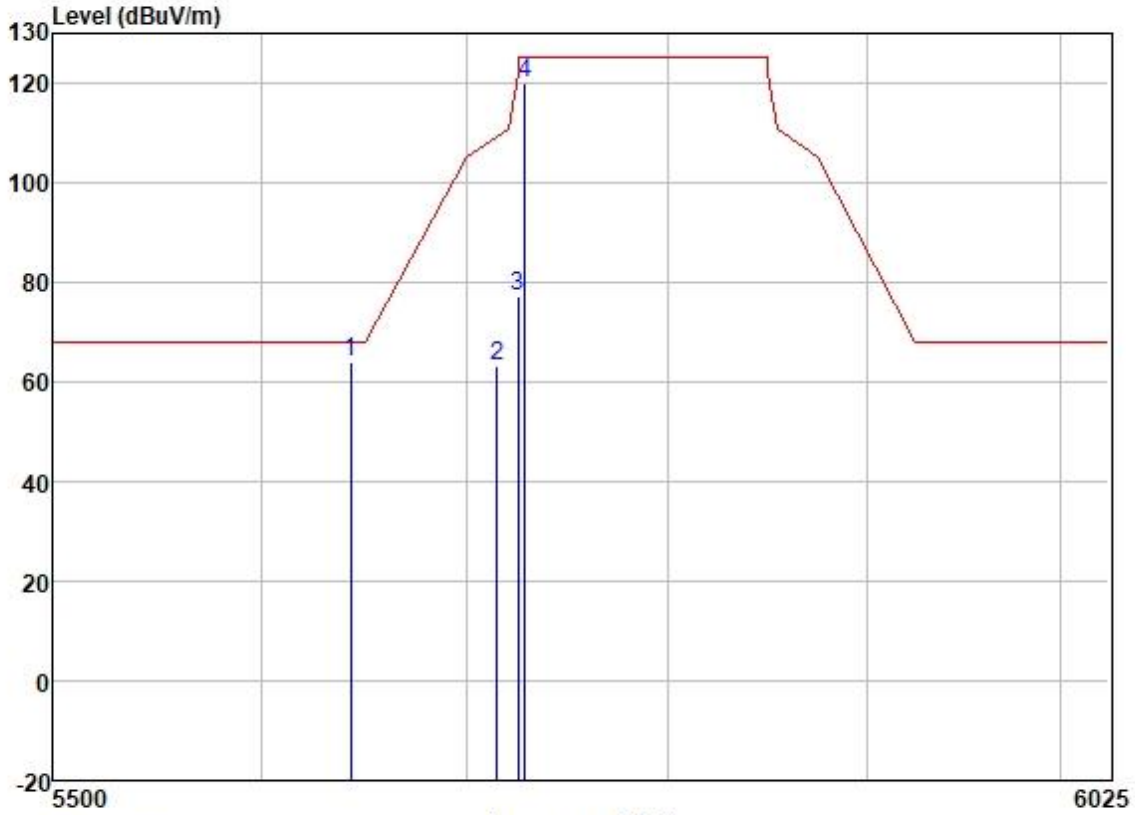
h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.

Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

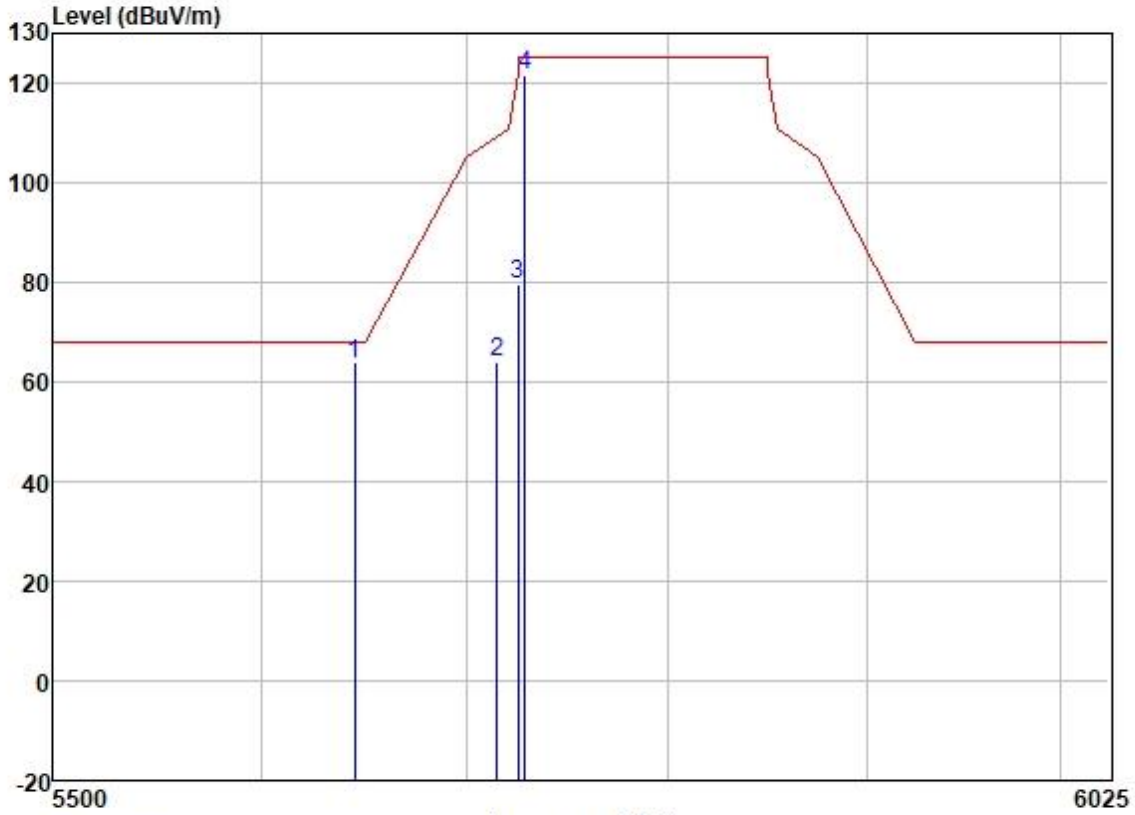
Test Mode: 16; Polarity: Horizontal; Modulation: OFDM; Channel: Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5643.043	62.40	31.95	6.35	36.89	63.81	68.20	-4.39	HORIZONTAL	Peak
2	5715.000	61.83	32.04	6.33	36.89	63.31	109.40	-46.09	HORIZONTAL	Peak
3	5725.000	75.85	32.07	6.25	36.89	77.28	122.20	-44.92	HORIZONTAL	Peak
4	5728.500	118.61	32.07	6.25	36.89	120.04	125.20	-5.16	HORIZONTAL	Peak

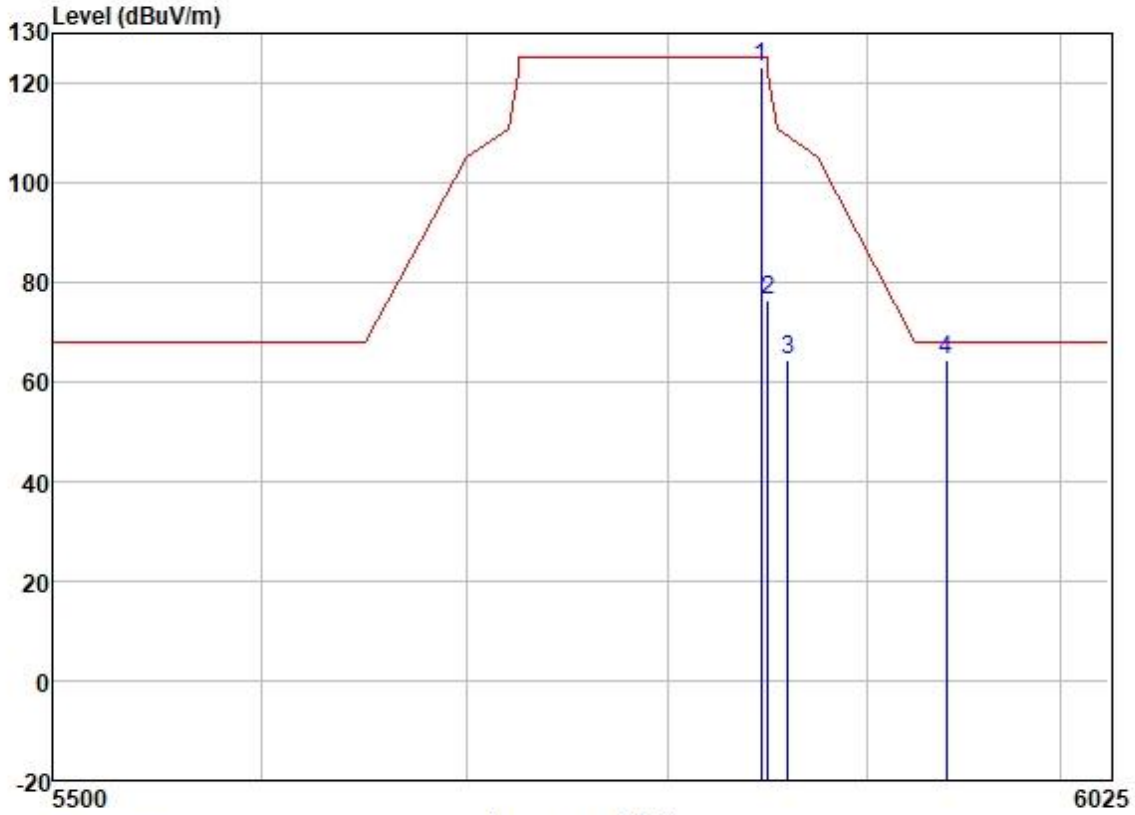
Test Mode: 16; Polarity: Vertical; Modulation: OFDM; Channel: Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5644.980	62.39	31.95	6.35	36.89	63.80	68.20	-4.40	VERTICAL	Peak
2	5715.000	62.49	32.04	6.33	36.89	63.97	109.40	-45.43	VERTICAL	Peak
3	5725.000	78.07	32.07	6.25	36.89	79.50	122.20	-42.70	VERTICAL	Peak
4	5728.500	119.97	32.07	6.25	36.89	121.40	125.20	-3.80	VERTICAL	Peak

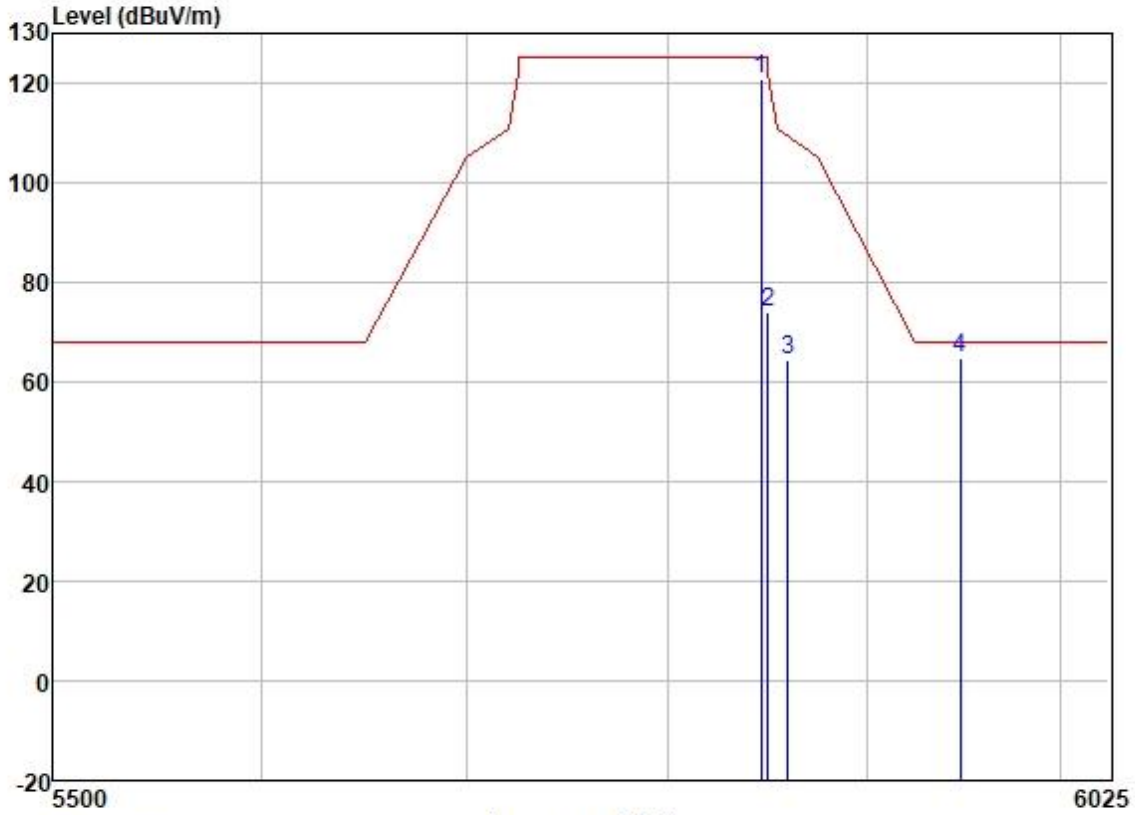
Test Mode: 16; Polarity: Horizontal; Modulation: OFDM; Channel: High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5846.500	121.76	32.25	6.00	36.90	123.11	125.20	-2.09	HORIZONTAL	Peak
2	5850.000	74.94	32.25	6.00	36.90	76.29	122.20	-45.91	HORIZONTAL	Peak
3	5860.000	62.93	32.27	5.96	36.90	64.26	109.40	-45.14	HORIZONTAL	Peak
4	5940.794	62.95	32.34	6.00	36.90	64.39	68.20	-3.81	HORIZONTAL	Peak

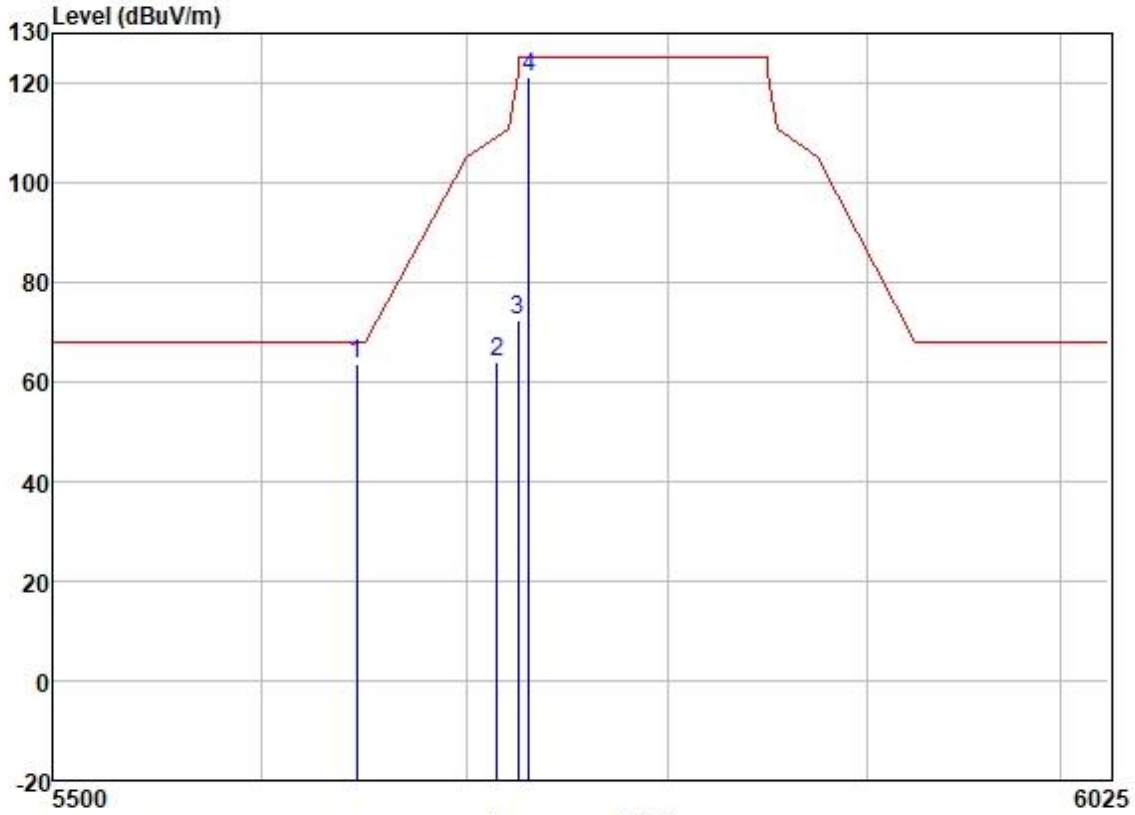
Test Mode: 16; Polarity: Vertical; Modulation: OFDM; Channel: High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5846.500	119.63	32.25	6.00	36.90	120.98	125.20	-4.22	VERTICAL	Peak
2	5850.000	72.71	32.25	6.00	36.90	74.06	122.20	-48.14	VERTICAL	Peak
3	5860.000	63.16	32.27	5.96	36.90	64.49	109.40	-44.91	VERTICAL	Peak
4	5947.977	63.37	32.36	6.05	36.90	64.88	68.20	-3.32	VERTICAL	Peak

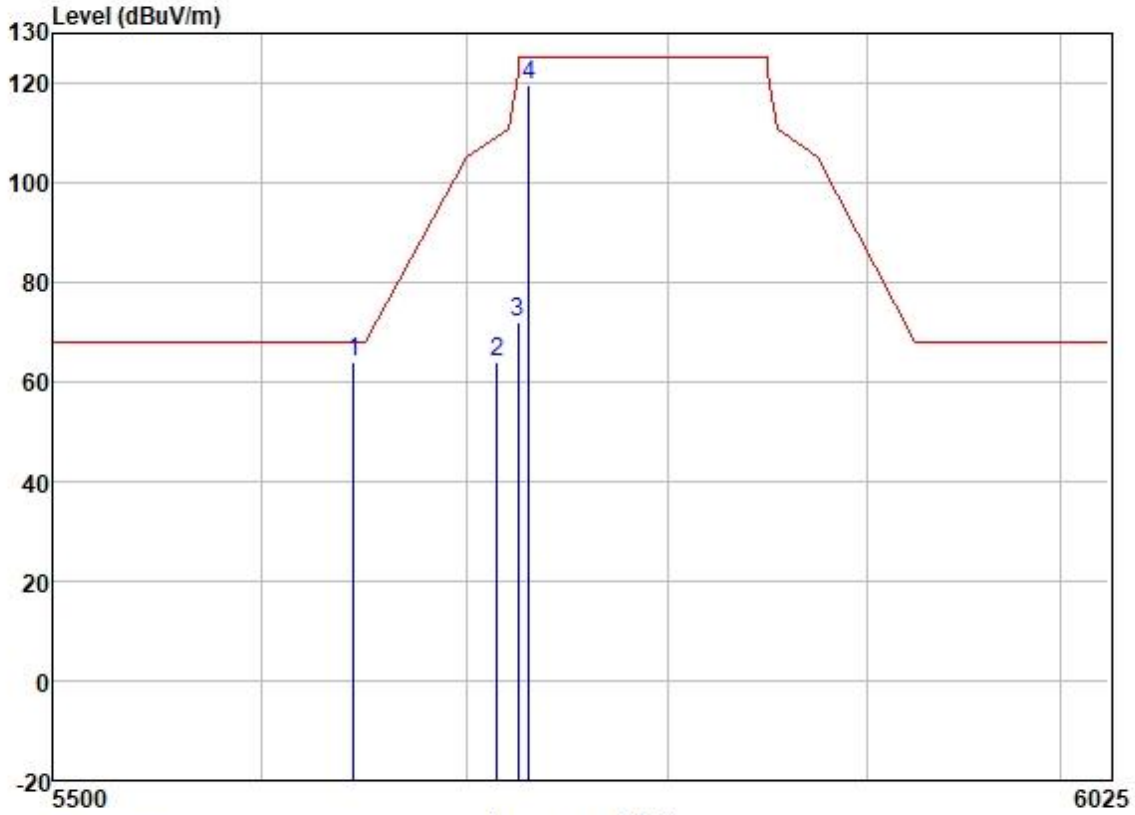
Test Mode: 17; Polarity: Horizontal; Modulation: OFDM; Channel: Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5646.088	62.10	31.95	6.35	36.89	63.51	68.20	-4.69	HORIZONTAL	Peak
2	5715.000	62.36	32.04	6.33	36.89	63.84	109.40	-45.56	HORIZONTAL	Peak
3	5725.000	70.94	32.07	6.25	36.89	72.37	122.20	-49.83	HORIZONTAL	Peak
4	5730.500	119.58	32.07	6.25	36.89	121.01	125.20	-4.19	HORIZONTAL	Peak

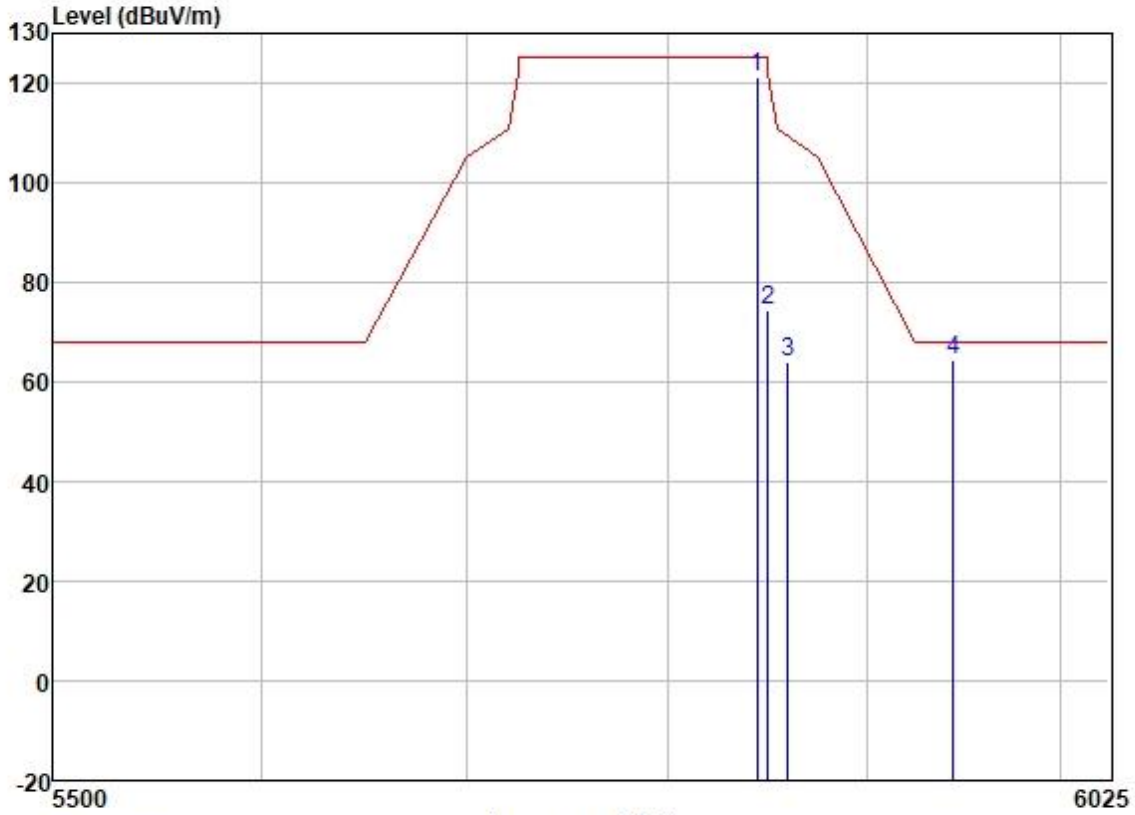
Test Mode: 17; Polarity: Vertical; Modulation: OFDM; Channel: Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5644.289	62.45	31.95	6.35	36.89	63.86	68.20	-4.34	VERTICAL	Peak
2	5715.000	62.51	32.04	6.33	36.89	63.99	109.40	-45.41	VERTICAL	Peak
3	5725.000	70.56	32.07	6.25	36.89	71.99	122.20	-50.21	VERTICAL	Peak
4	5730.500	118.33	32.07	6.25	36.89	119.76	125.20	-5.44	VERTICAL	Peak

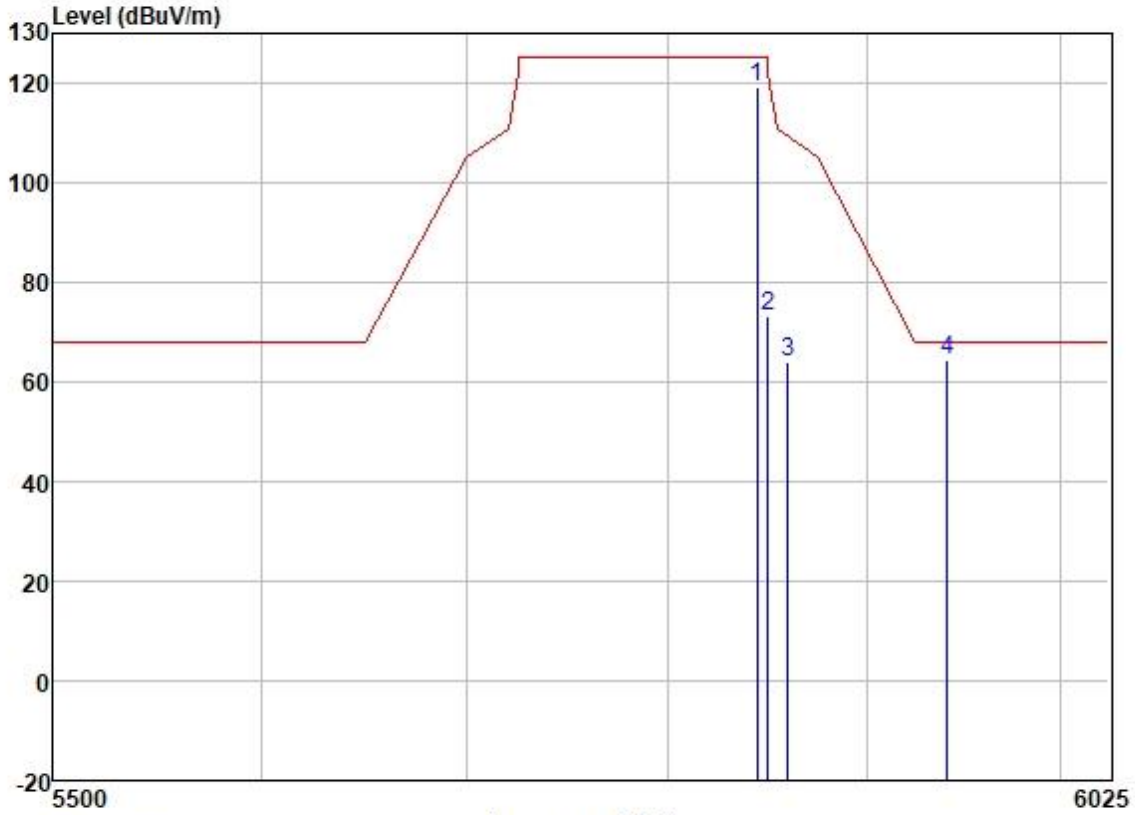
Test Mode: 17; Polarity: Horizontal; Modulation: OFDM; Channel: High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5844.500	119.90	32.25	6.00	36.90	121.25	125.20	-3.95	HORIZONTAL	Peak
2	5850.000	72.92	32.25	6.00	36.90	74.27	122.20	-47.93	HORIZONTAL	Peak
3	5860.000	62.60	32.27	5.96	36.90	63.93	109.40	-45.47	HORIZONTAL	Peak
4	5944.635	62.76	32.36	6.05	36.90	64.27	68.20	-3.93	HORIZONTAL	Peak

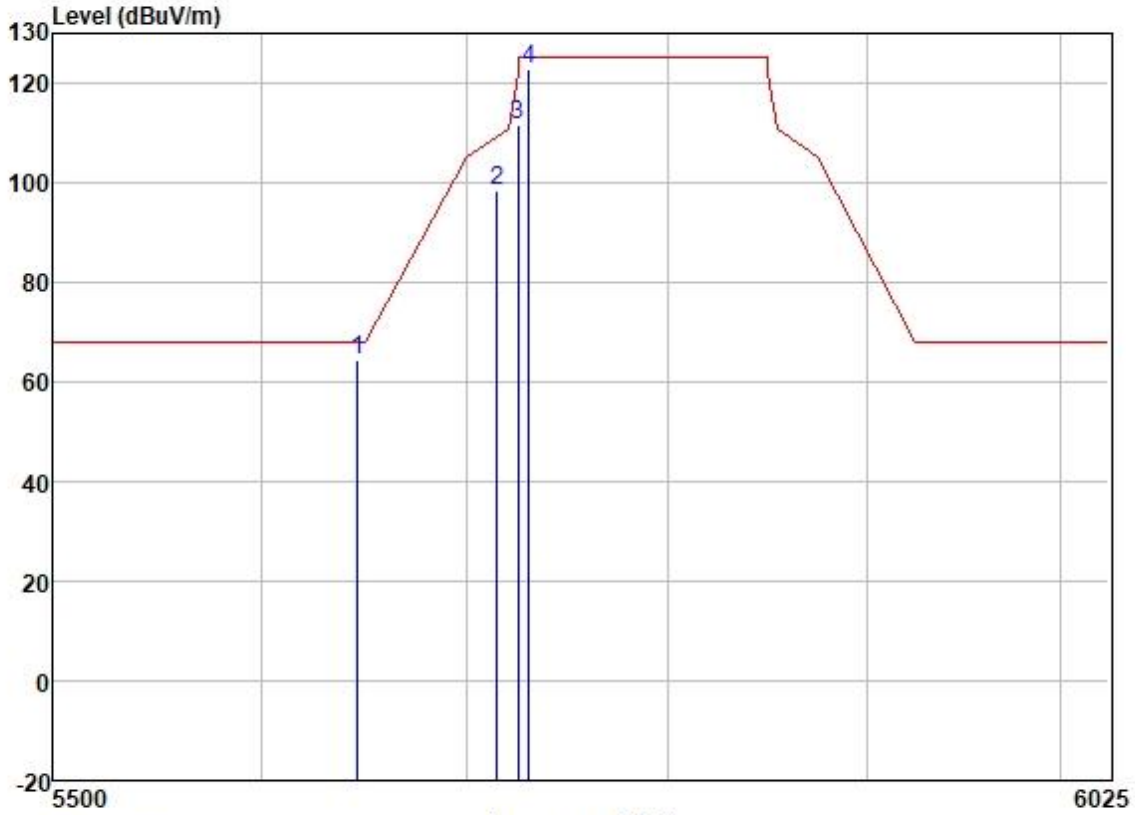
Test Mode: 17; Polarity: Vertical; Modulation: OFDM; Channel: High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5844.500	117.96	32.25	6.00	36.90	119.31	125.20	-5.89	VERTICAL	Peak
2	5850.000	71.95	32.25	6.00	36.90	73.30	122.20	-48.90	VERTICAL	Peak
3	5860.000	62.52	32.27	5.96	36.90	63.85	109.40	-45.55	VERTICAL	Peak
4	5941.629	63.00	32.36	6.05	36.90	64.51	68.20	-3.69	VERTICAL	Peak

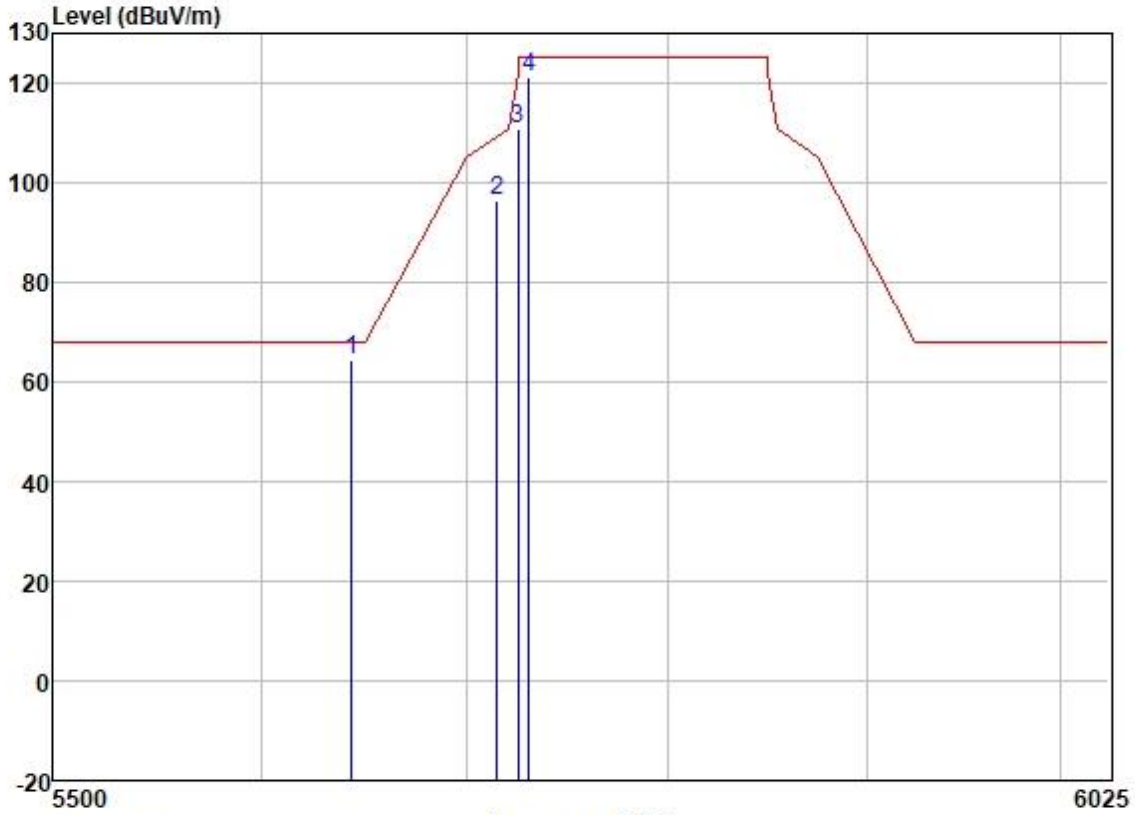
Test Mode: 18; Polarity: Horizontal; Modulation: OFDM; Channel: Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5646.503	62.85	31.95	6.35	36.89	64.26	68.20	-3.94	HORIZONTAL	Peak
2	5715.000	96.84	32.04	6.33	36.89	98.32	109.40	-11.08	HORIZONTAL	Peak
3	5725.000	110.06	32.07	6.25	36.89	111.49	122.20	-10.71	HORIZONTAL	Peak
4	5730.500	121.18	32.07	6.25	36.89	122.61	125.20	-2.59	HORIZONTAL	Peak

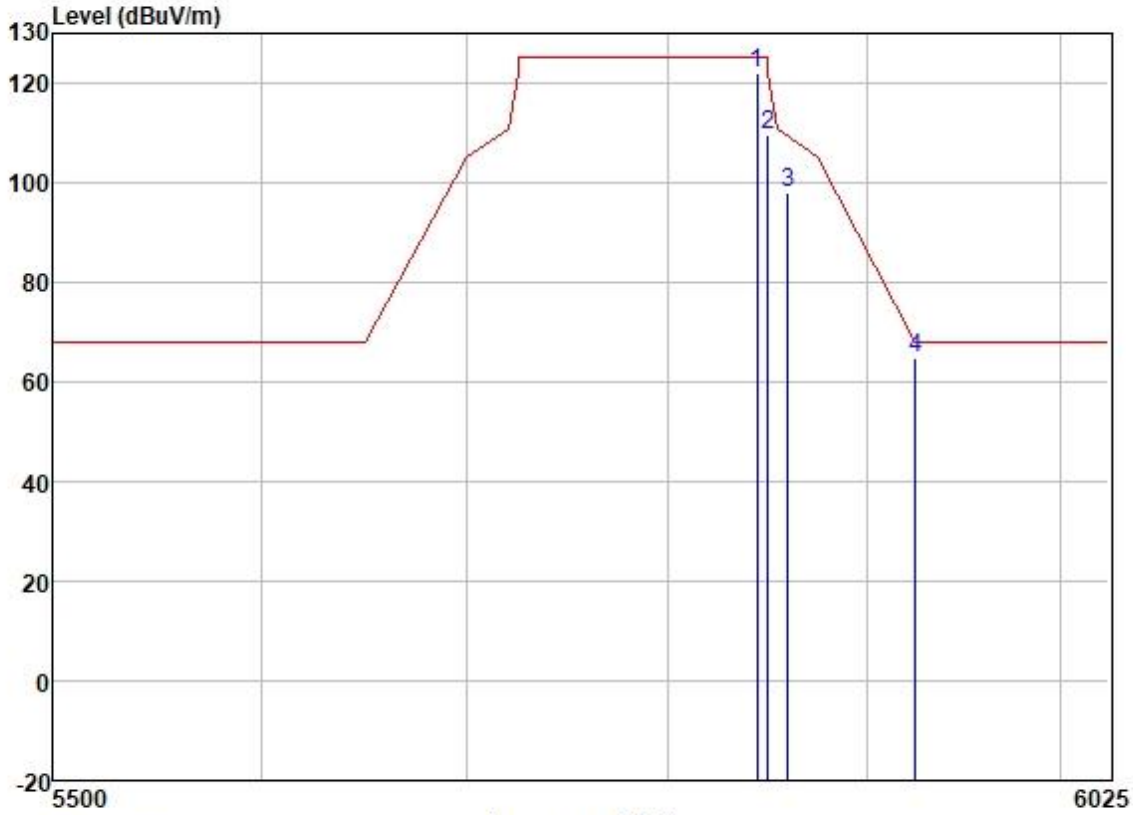
Test Mode: 18; Polarity: Vertical; Modulation: OFDM; Channel: Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5643.735	63.18	31.95	6.35	36.89	64.59	68.20	-3.61	VERTICAL	Peak
2	5715.000	94.76	32.04	6.33	36.89	96.24	109.40	-13.16	VERTICAL	Peak
3	5725.000	109.35	32.07	6.25	36.89	110.78	122.20	-11.42	VERTICAL	Peak
4	5730.500	119.80	32.07	6.25	36.89	121.23	125.20	-3.97	VERTICAL	Peak

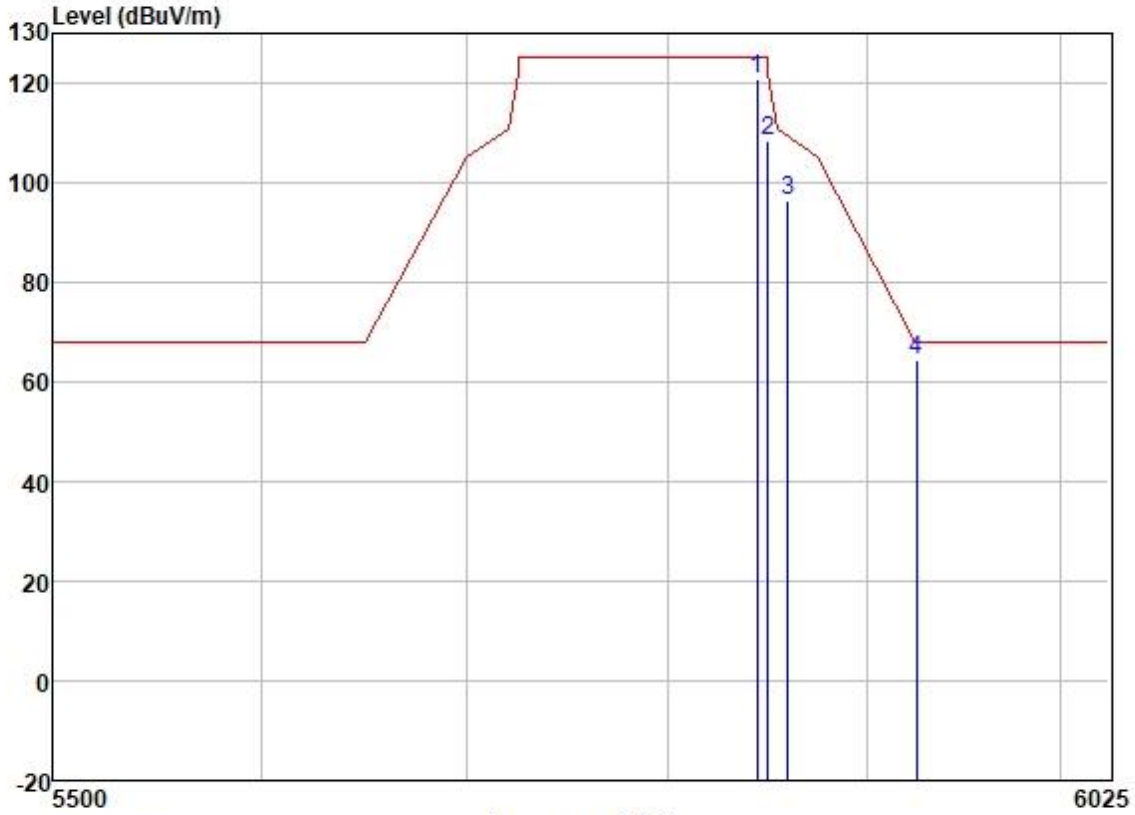
Test Mode: 18; Polarity: Horizontal; Modulation: OFDM; Channel: High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5844.500	120.45	32.25	6.00	36.90	121.80	125.20	-3.40	HORIZONTAL	Peak
2	5850.000	108.28	32.25	6.00	36.90	109.63	122.20	-12.57	HORIZONTAL	Peak
3	5860.000	96.51	32.27	5.96	36.90	97.84	109.40	-11.56	HORIZONTAL	Peak
4	5924.957	63.23	32.34	6.00	36.90	64.67	68.23	-3.56	HORIZONTAL	Peak

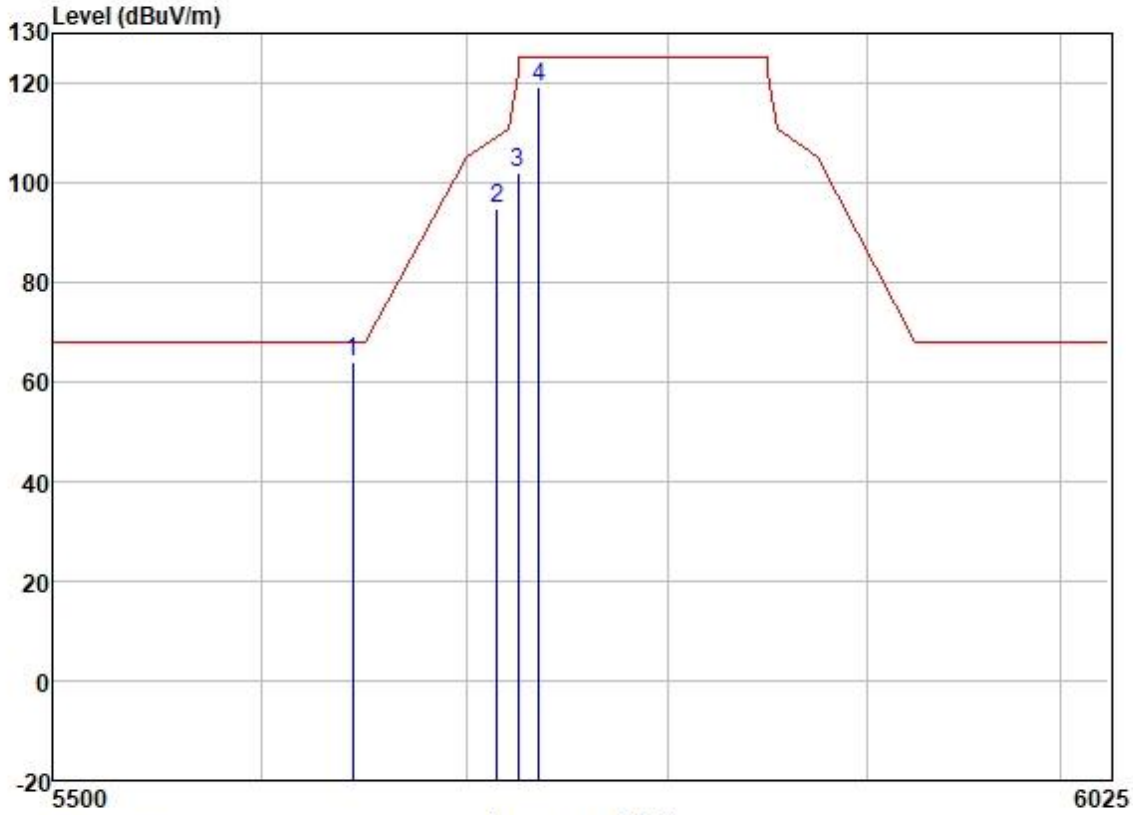
Test Mode: 18; Polarity: Vertical; Modulation: OFDM; Channel: High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5844.500	119.44	32.25	6.00	36.90	120.79	125.20	-4.41	VERTICAL	Peak
2	5850.000	106.94	32.25	6.00	36.90	108.29	122.20	-13.91	VERTICAL	Peak
3	5860.000	94.92	32.27	5.96	36.90	96.25	109.40	-13.15	VERTICAL	Peak
4	5925.623	63.10	32.34	6.00	36.90	64.54	68.20	-3.66	VERTICAL	Peak

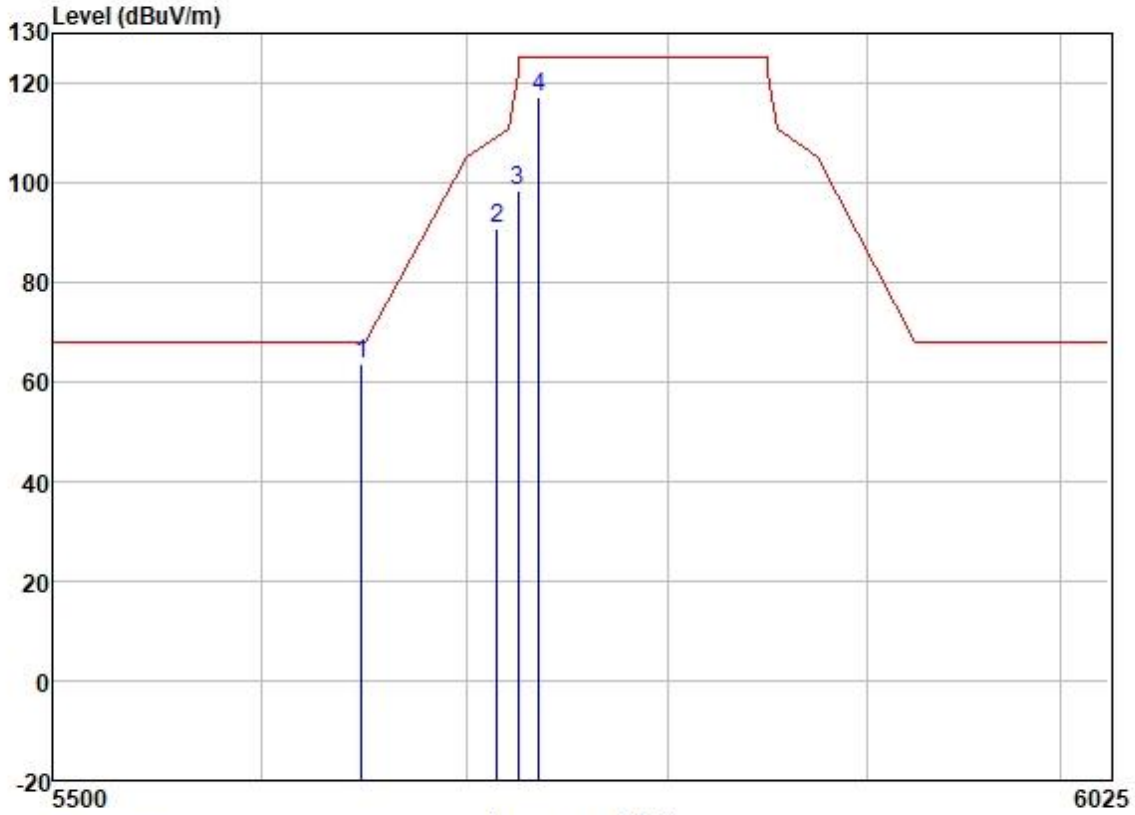
Test Mode: 19; Polarity: Horizontal; Modulation: OFDM; Channel: Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5644.150	62.75	31.95	6.35	36.89	64.16	68.20	-4.04	HORIZONTAL	Peak
2	5715.000	93.25	32.04	6.33	36.89	94.73	109.40	-14.67	HORIZONTAL	Peak
3	5725.000	100.52	32.07	6.25	36.89	101.95	122.20	-20.25	HORIZONTAL	Peak
4	5735.500	117.67	32.07	6.25	36.89	119.10	125.20	-6.10	HORIZONTAL	Peak

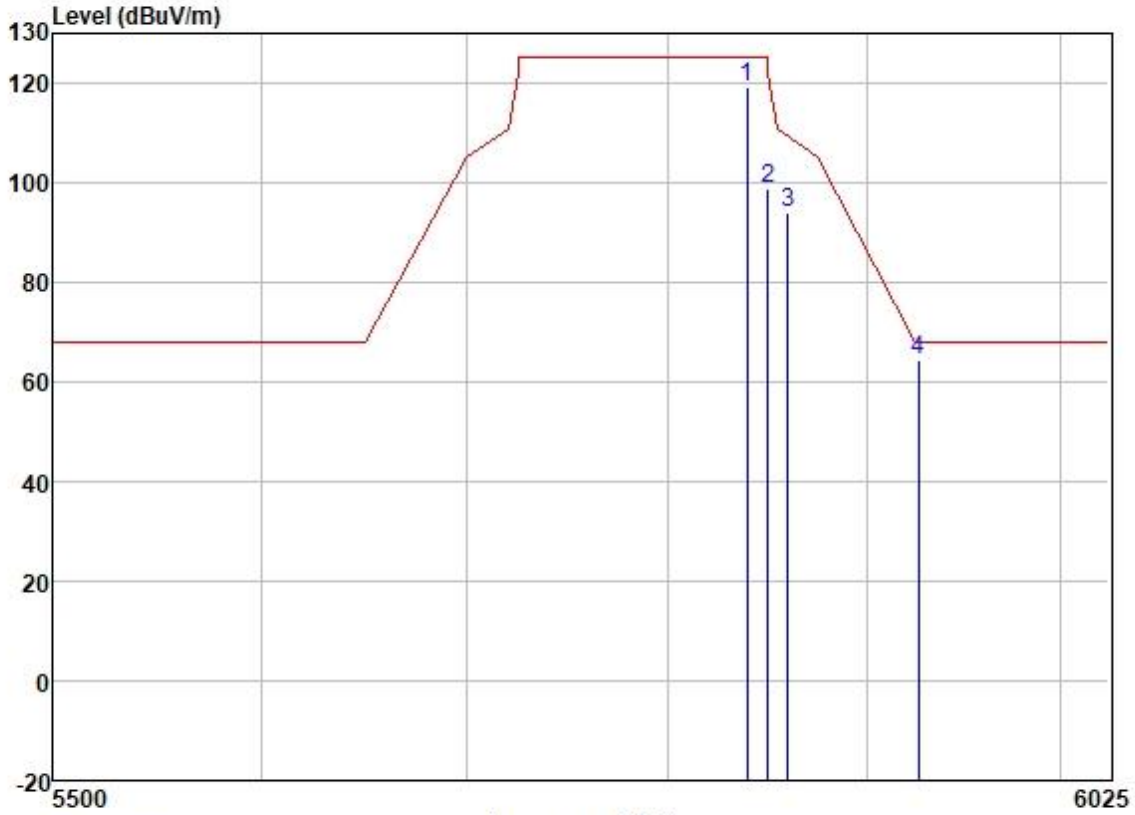
Test Mode: 19; Polarity: Vertical; Modulation: OFDM; Channel: Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5648.442	62.29	31.95	6.35	36.89	63.70	68.20	-4.50	VERTICAL	Peak
2	5715.000	89.18	32.04	6.33	36.89	90.66	109.40	-18.74	VERTICAL	Peak
3	5725.000	97.14	32.07	6.25	36.89	98.57	122.20	-23.63	VERTICAL	Peak
4	5735.500	115.65	32.07	6.25	36.89	117.08	125.20	-8.12	VERTICAL	Peak

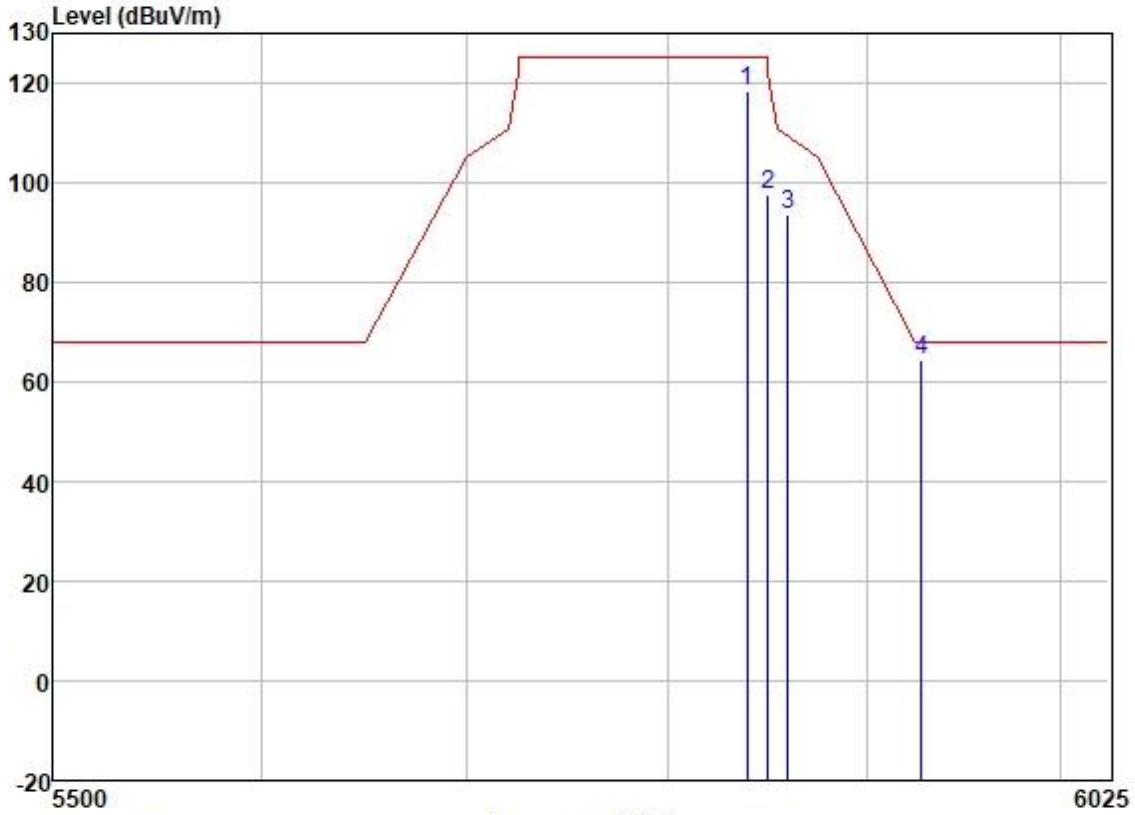
Test Mode: 19; Polarity: Horizontal; Modulation: OFDM; Channel: High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5839.500	117.95	32.25	6.00	36.90	119.30	125.20	-5.90	HORIZONTAL	Peak
2	5850.000	97.34	32.25	6.00	36.90	98.69	122.20	-23.51	HORIZONTAL	Peak
3	5860.000	92.75	32.27	5.96	36.90	94.08	109.40	-15.32	HORIZONTAL	Peak
4	5926.622	63.08	32.34	6.00	36.90	64.52	68.20	-3.68	HORIZONTAL	Peak

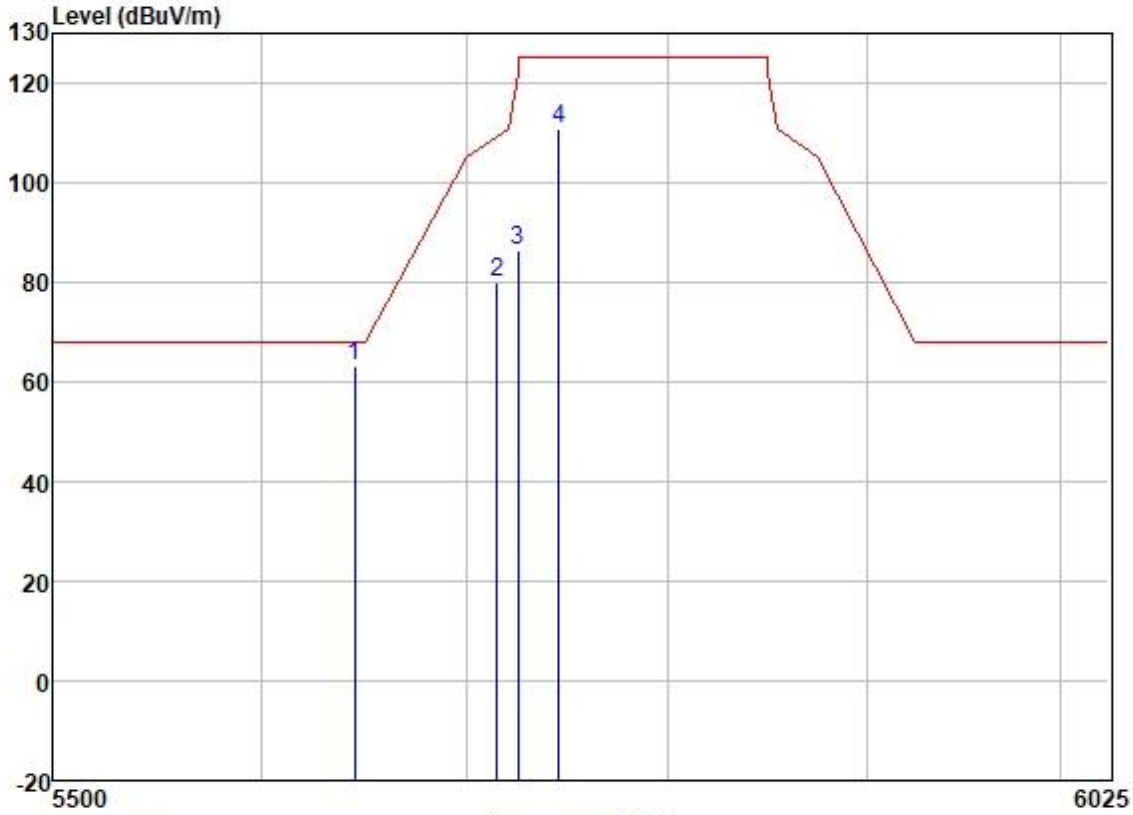
Test Mode: 19; Polarity: Vertical; Modulation: OFDM; Channel: High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5839.500	116.99	32.25	6.00	36.90	118.34	125.20	-6.86	VERTICAL	Peak
2	5850.000	96.05	32.25	6.00	36.90	97.40	122.20	-24.80	VERTICAL	Peak
3	5860.000	92.29	32.27	5.96	36.90	93.62	109.40	-15.78	VERTICAL	Peak
4	5928.121	63.11	32.34	6.00	36.90	64.55	68.20	-3.65	VERTICAL	Peak

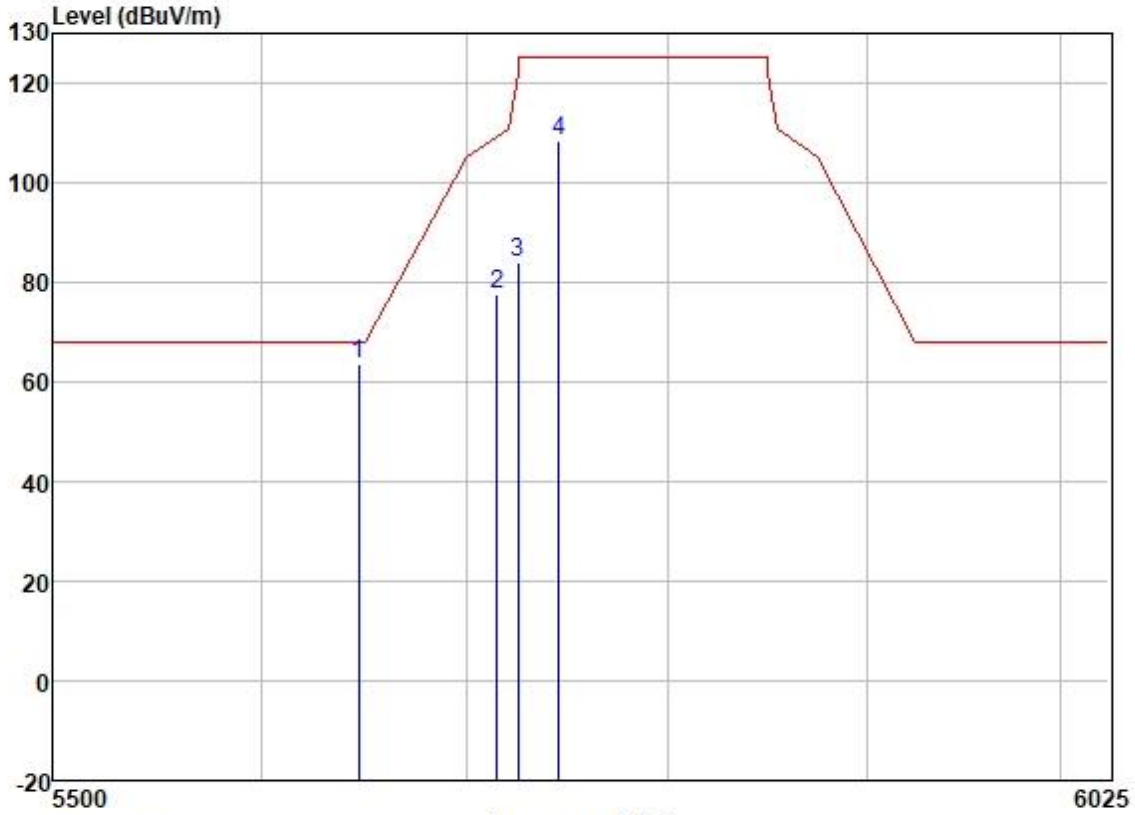
Test Mode: 20; Polarity: Horizontal; Modulation: OFDM; Channel: Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5644.842	61.80	31.95	6.35	36.89	63.21	68.20	-4.99	HORIZONTAL	Peak
2	5715.000	78.68	32.04	6.33	36.89	80.16	109.40	-29.24	HORIZONTAL	Peak
3	5725.000	84.86	32.07	6.25	36.89	86.29	122.20	-35.91	HORIZONTAL	Peak
4	5745.500	109.41	32.10	6.20	36.89	110.82	125.20	-14.38	HORIZONTAL	Peak

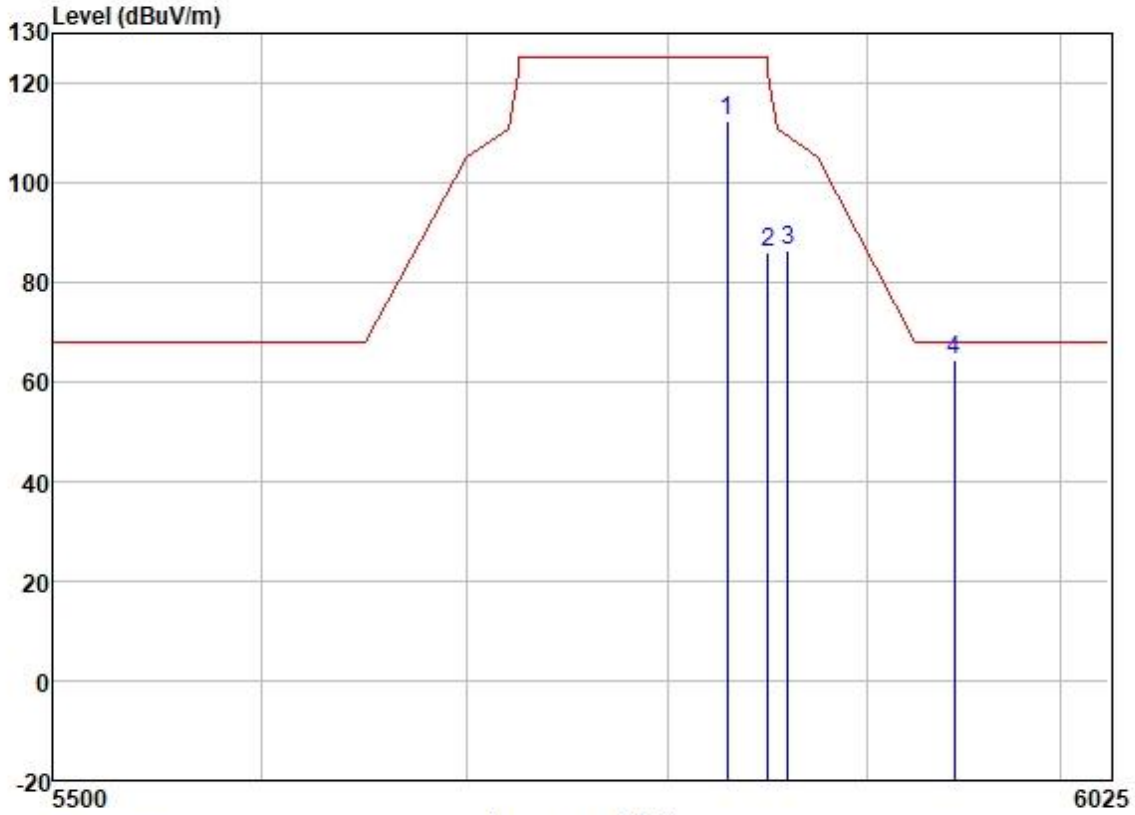
Test Mode: 20; Polarity: Vertical; Modulation: OFDM; Channel: Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5646.919	62.09	31.95	6.35	36.89	63.50	68.20	-4.70	VERTICAL	Peak
2	5715.000	76.02	32.04	6.33	36.89	77.50	109.40	-31.90	VERTICAL	Peak
3	5725.000	82.45	32.07	6.25	36.89	83.88	122.20	-38.32	VERTICAL	Peak
4	5745.500	107.16	32.10	6.20	36.89	108.57	125.20	-16.63	VERTICAL	Peak

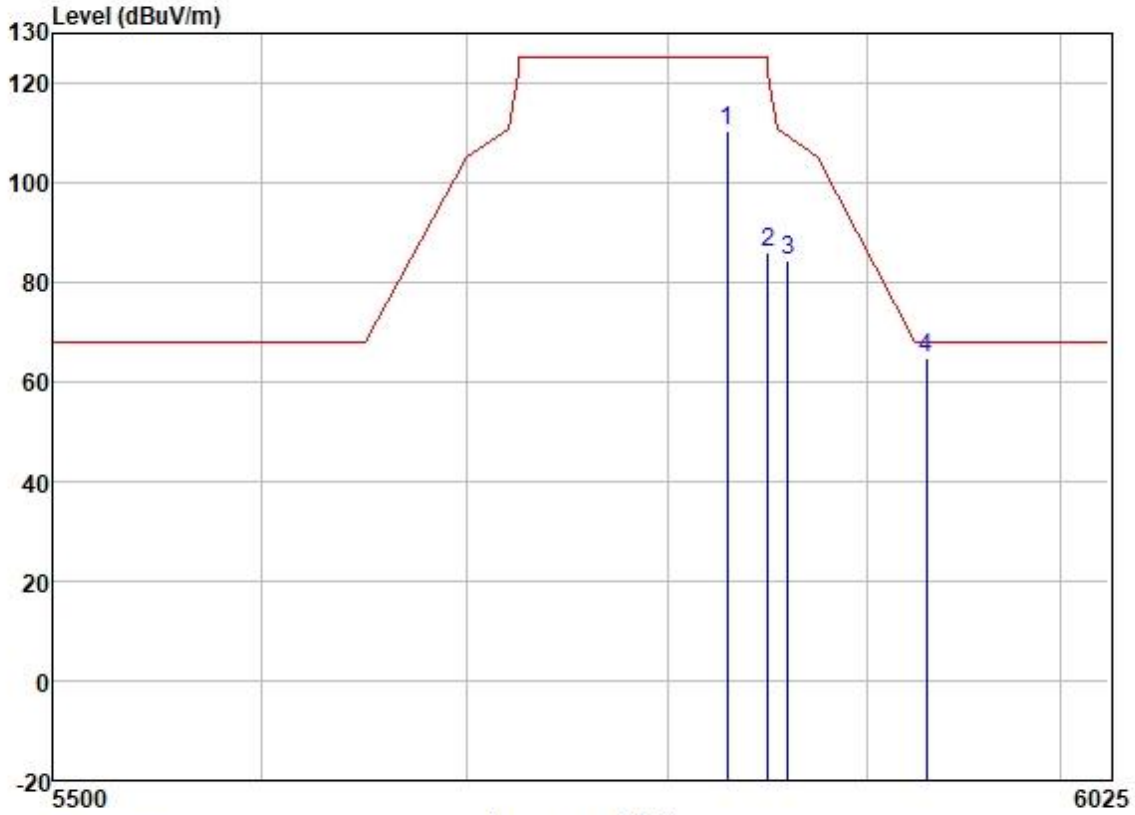
Test Mode: 20; Polarity: Horizontal; Modulation: OFDM; Channel: High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5829.500	110.89	32.23	6.04	36.90	112.26	125.20	-12.94	HORIZONTAL	Peak
2	5850.000	84.62	32.25	6.00	36.90	85.97	122.20	-36.23	HORIZONTAL	Peak
3	5860.000	85.18	32.27	5.96	36.90	86.51	109.40	-22.89	HORIZONTAL	Peak
4	5945.136	62.79	32.36	6.05	36.90	64.30	68.20	-3.90	HORIZONTAL	Peak

Test Mode: 20; Polarity: Vertical; Modulation: OFDM; Channel: High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5829.500	109.23	32.23	6.04	36.90	110.60	125.20	-14.60	VERTICAL	Peak
2	5850.000	84.71	32.25	6.00	36.90	86.06	122.20	-36.14	VERTICAL	Peak
3	5860.000	83.06	32.27	5.96	36.90	84.39	109.40	-25.01	VERTICAL	Peak
4	5930.787	63.35	32.34	6.00	36.90	64.79	68.20	-3.41	VERTICAL	Peak

7.11 Frequency Stability

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

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

7.11.1 E.U.T. Operation

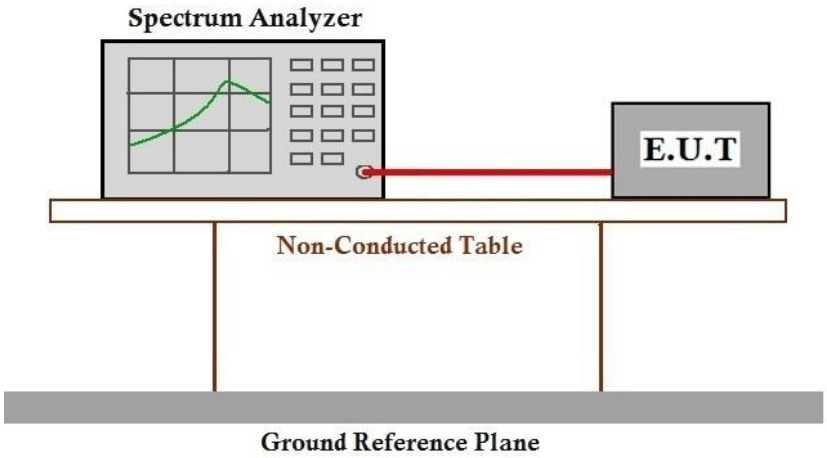
Operating Environment:

Temperature: 21.9 °C Humidity: 52.1 % RH Atmospheric Pressure: 1003 mbar

7.11.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	16	TX mode(5.8G SDR 1.4MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	17	TX mode(5.8G SDR 3MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	18	TX mode(5.8G SDR 10MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	19	TX mode(5.8G SDR 20MHz)_Keep the EUT in continuously transmitting mode with modulation
Final test	20	TX mode(5.8G SDR 40MHz)_Keep the EUT in continuously transmitting mode with modulation

7.11.3 Test Setup Diagram



7.11.4 Measurement Procedure and Data

Test data refer to the appendix

The applicant declares that the emissions are maintained within the band of operation under all conditions of normal operation as specified in the user's manual and meets Section 15.407(g) requirements.

8 Test Setup Photo

Refer to Appendix – Setup photos for GZCR2203000250AT

9 EUT Constructional Details (EUT Photos)

Refer to Appendix - Photographs of EUT Constructional Details for GZCR2203000250AT

10 Appendix

1. Duty Cycle

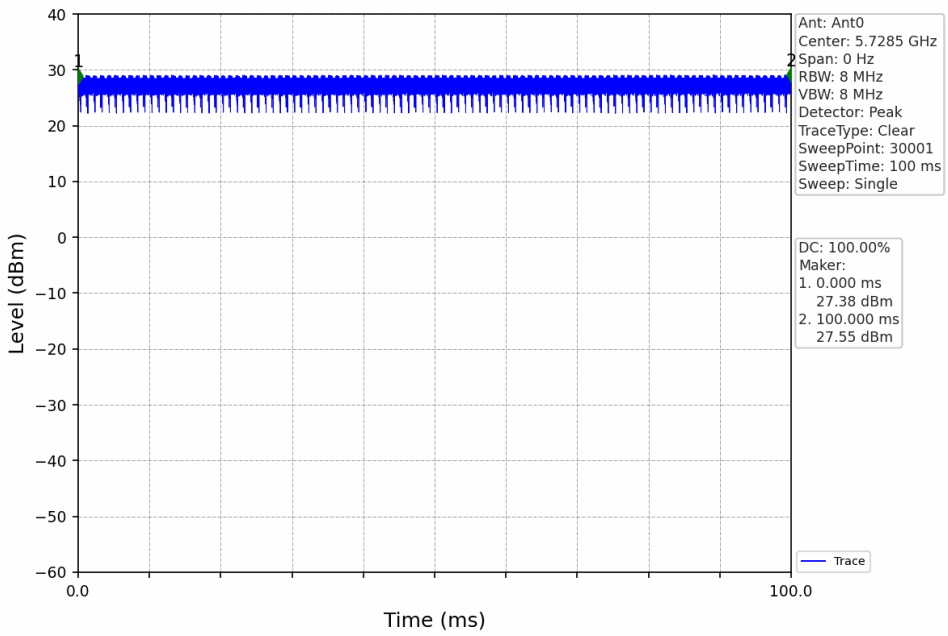
1.1 Ant0

1.1.1 Test Result

Ant0							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
1.4M	SISO	5728.5	100.000	100.000	100.00	0.00	0.00
		5788.5	100.000	100.000	100.00	0.00	0.00
		5846.5	100.000	100.000	100.00	0.00	0.00
3M	SISO	5730.5	100.000	100.000	100.00	0.00	0.00
		5787.5	100.000	100.000	100.00	0.00	0.00
		5844.5	100.000	100.000	100.00	0.00	0.00
10M	SISO	5730.5	100.000	100.000	100.00	0.00	0.00
		5787.5	100.000	100.000	100.00	0.00	0.00
		5844.5	100.000	100.000	100.00	0.00	0.00
20M	SISO	5735.5	19.913	20.000	99.56	0.02	0.00
		5787.5	19.913	20.000	99.57	0.02	0.00
		5839.5	19.913	20.000	99.56	0.02	0.00
40M	SISO	5745.5	19.980	20.000	99.90	0.00	0.00
		5787.5	19.977	20.000	99.89	0.00	0.00
		5829.5	19.980	20.000	99.90	0.00	0.00

1.1.2 Test Graph

1.4M_LCH_5728.5MHz_Ant0_NTNV



1.4M_MCH_5788.5MHz_Ant0_NTNV