

Report No.: GZCR210802080403

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TEST REPORT

Application No.: GZCR2108020804AT

Applicant: Thundercomm Technology Co.,Ltd

Address of Applicant: Building 4, No. 99, Data Valley Middle Road, Xiantao District, Yubei District,

Chongqing, China.

Manufacturer: Thundercomm Technology Co.,Ltd

Address of Manufacturer: Building 4, No. 99, Middle Road, Xiantao Data, Yubei District, Chongqing

Factory: ZEGNA DAIDONG LIMITED CORPORATION

Address of Factory: No. 41 Gangjian Road, Changping Town, Dongguan City, Guangdong

Province, China.

Equipment Under Test (EUT):

EUT Name: EB5 Edge Al Box

Model No.: EB5

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

Date of Receipt: 2021-08-02

Date of Test: 2021-08-02 to 2021-08-13

Date of Issue: 2021-08-26

Test Result: Pass*

Kobe Jian EMC Laboratory Manager

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



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	Revision Record						
Version	Chapter	Date	Modifier	Remark			
01		2021-08-26		Original			

Authorized for issue by			
	Coly knong		
	Lily Kuang/Project Engineer	_	
	Riday Liu		
	Ricky Liu/Reviewer	_	



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2 Test Summary

Radio Spectrum Technical Requirement							
Item	Standard	Method	Requirement	Result			
Antenna Requirement		N/A	47 CFR Part 15, Subpart C 15.203	Pass			
Transmission in the Absence of Data	47 CFR Part 15, Subpart E 15.407	N/A	47 CFR Part 15, Subpart C 15.407 (c)	Pass			
Frequency Stability		KDB 789033 II A 3	47 CFR Part 15, Subpart C 15.407 (g)	Pass			

Radio Spectrum Matter Part							
Item	Standard	Method	Requirement	Result			
Conducted Emissions at AC Power Line (150kHz-30MHz)		ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207 & 15.407 b(6)	Pass			
Duty Cycle		KDB 789033 D02 II B 2	KDB 789033 D02 II B 1	Pass			
99% Bandwidth		KDB 789033 II D	N/A	Pass			
26dB Emission bandwidth		KDB 789033 D02 II C	47 CFR Part 15, Subpart C 15.407 (a)	Pass			
Minimum 6 dB bandwidth (5.725- 5.85 GHz band)	47 CFR Part 15,	KDB 789033 D02 II C 2	47 CFR Part 15, Subpart C 15.407 (e)	Pass			
Maximum Conducted output power	Subpart E 15.407	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 which fall in the restricted bands		KDB 789033 D02 II G	47 CFR Part 15, Subpart C 15.209 & 15.407(b)	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			

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.



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4 General Information

4.1 Details of E.U.T.

Power supply: Adapter

Model: HKA09019047-6U

Input: AC 100-240V, 50/60Hz, 1.5A Output: DC 19.0V, 4.74A, 90.06W

Test voltage: AC 120V, 60Hz or AC 240V, 50Hz

Note: Both nominal AC 120V, 60Hz and AC 240 V, 50Hz are required for testing in accordance with FCC KDB174176, this report only shows the results

of the worst test result(AC 120V, 60Hz);

Cable(s): DC cable:145cm with a ferrite core

AC cable:137cm unshielded

Internal Source: More than 108MHz

Operation Frequency:

INDIE (HAIT TOOMITZ					
Band	Mode	Frequency Range(MHz)	Number of channels		
UNII Band I	802.11a/n/ax(HT20)	5180-5240	4		
	802.11n/ax(HT40)	5190-5230	2		
	802.11ac/ax(HT80)	5210	1		
UNII Band II-A	802.11a/n/ax(HT20)	5260-5320	4		
	802.11n/ax(HT40)	5270-5310	2		
	802.11ac/ax(HT80)	5290	1		
UNII Band II-C	802.11a/n/ax(HT20)	5500-5700	11		
	802.11n/ax(HT40)	5510-5670	5		
	802.11ac/ax(HT80)	5530-5610	2		
UNII Band III	802.11a/n/ax(HT20)	5745-5825	5		
	802.11n/ax(HT40)	5755-5795	2		
	802.11ac/ax(HT80)	5775	1		

Modulation Type: 802.11a: OFDM (BPSK, QPSK, 16QAM, 64QAM)

802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM)

802.11ac: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)

802.11ax: OFDM (1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK)

DFS Function: Slave without radar detection

TPC Function: Not support

Antenna Type: Monopole Antenna

Antenna Gain: Antenna1: 2.4dBi, Antenna2: 2.4dBi

Note: MIMO for 802.11n/ac/ax.

This Devices transmitting with Cyclic Delay Diversity (CDD).



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4.2 Description of Support Units

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

4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emissions at AC Power Line (150kHz- 30MHz)	3.12dB
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
	5.06dB (30MHz-1GHz; 3m)
Radiated Emissions	4.46dB (30MHz-1GHz;10m)
Radiated Effissions	5.08dB (1GHz-6GHz)
	5.14dB (above 6GHz)
	5.06dB (30MHz-1GHz; 3m)
Dedicted Excissions which fall in the rectified hands	4.46dB (30MHz-1GHz; 10m)
Radiated Emissions which fall in the restricted bands	5.08dB (1GHz-6GHz)
	5.14dB (above 6GHz)
Frequency Stability	± 7.25 x 10 ⁻⁸

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.



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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



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5 Equipment List

Conducted Emissions at AC Power Line (150kHz-30MHz)						
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date	
Shielding Room	ChangZhou ZhongYu	8m x 3m x 3.8m	EMC0306	N/A	N/A	
Two-Line V-Network	Rohde & Schwarz	ENV216	EMC0118	2021-01-08	2022-01-06	
Two-Line V-Network-GZ	Rohde & Schwarz	ENV216	EMC2135	2020-09-25	2021-09-24	
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	ESR4	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
ESG Vector Signal Generator(250kHz- 6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11
EXG Analog Signal	Agilent	NEAZAD	SEM000 04	2020-07-14	2021-07-13
Generator(9kHz-3GHz)	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	2020-09-17	2021-09-16
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A
MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2019-11-02	2021-11-01

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
ESG Vector Signal Generator(250kHz- 6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11
EXG Analog Signal	Agilent	NE474D	CEMOOC 04	2020-07-14	2021-07-13
Generator(9kHz-3GHz)	Technologies	N5171B	SEM006-04	2021-07-12	2022-07-11



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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	2020-09-17	2021-09-16
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A
MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2019-11-02	2021-11-01

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		
ESG Vector Signal Generator(250kHz- 6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11		
EXG Analog Signal	Agilent	NE474D	CEMOOC 04	2020-07-14	2021-07-13		
Generator(9kHz-3GHz)	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	2020-09-17	2021-09-16		
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14		
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A		
MI CABLE	SGS-EMC	M8.0	EMC2136	2019-11-02	2021-11-01		
MI CABLE	SGS-EMC	M8.0	EMC2137	2019-11-02	2021-11-01		

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			
ESG Vector Signal Generator(250kHz- 6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11			
EXG Analog Signal	Agilent	NE171D	SEMONS 04	2020-07-14	2021-07-13			
Generator(9kHz-3GHz)	Technologies	NOTATE	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			



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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	2020-09-17	2021-09-16
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A
MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2019-11-02	2021-11-01

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		
ESG Vector Signal Generator(250kHz- 6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11		
EXG Analog Signal	Agilent	NE474D	CEMOOC 04	2020-07-14	2021-07-13		
Generator(9kHz-3GHz)	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	2020-09-17	2021-09-16		
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14		
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A		
MI CABLE	SGS-EMC	M8.0	EMC2136	2019-11-02	2021-11-01		
MI CABLE	SGS-EMC	0.8M	EMC2137	2019-11-02	2021-11-01		

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			
ESG Vector Signal Generator(250kHz- 6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11			
EXG Analog Signal Generator(9kHz-3GHz)	Agilent Technologies	N5171B	SEM006-04	2020-07-14 2021-07-12	2021-07-13 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			



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EXA Signal Analzer(10Hz-44GHz)	Agilent Technologies	N9010A	EMC2138	2020-09-17	2021-09-16
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A
MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01
MI CABLE	SGS-EMC	0.8M	EMC2137	2019-11-02	2021-11-01

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	2021-01-08	2022-01-07		
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	2021-01-08	2022-01-07		
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	2020-11-13	2021-11-12		
EXA Signal Analyzer(10Hz-44GHz)	Keysight	N9010A	EMC2138	2020-09-17	2021-09-16		
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A		
Notch Filter	Mina Tranica	DDM50740	EMC0460	2020-07-31	2021-07-30		
(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	2020-09-09	2021-09-08		

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	2022-02-22			
Amplifier(9kHz-1.3GHz)	HP	8447F	EMC2065	2021-05-19	2022-05-18			
Active Loop Antenna- RED	ETS-Lindgren	6502	EMC2190	2019-12-27	2021-12-26			
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			



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 EMI Test Receiver(1Hz-8GHz)
 Rohde & Schwarz
 ESW8
 EMC2220
 2021/5/26
 2022/5/25

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	2021-01-08	2022-01-07		
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2021-01-08	2022-01-07		
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	2020-09-17	2021-09-16		
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A		
Notch Filter	Mico-Tronics	BRM50716	EMC2168	2020-07-31	2021-07-30		
(5150-5880)	IVIICO-TTOTIICS	DRIVIOU/ 10	EIVIC2100	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	2020-09-09	2021-09-08		

Frequency Stability							
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		
ESG Vector Signal Generator(250kHz- 6GHz)	Keysight	E4438C	SEM006-03	2021-03-12	2022-03-11		
EXG Analog Signal	Agilent	NEAZAD	OFM000 04	2020-07-14	2021-07-13		
Generator(9kHz-3GHz)	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	2020-09-17	2021-09-16		
6dB Attenuator	HP	8491A	EMC2062	2020-04-15	2022-04-14		
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A		
MI CABLE	SGS-EMC	0.8M	EMC2136	2019-11-02	2021-11-01		
MI CABLE	SGS-EMC	0.8M	EMC2137	2019-11-02	2021-11-01		



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General used equipment								
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date			
DMM	Fluke	73	EMC0006	2020-07-07	2021-07-06			
DIVIIVI	Fluke	/3	EIVICUUU	2021-07-05	2022-07-05			
DMM	Fluke	73	EMC0007	2020-07-07	2021-07-06			
				2021-07-05	2022-07-05			



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6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203

6.1.2 Conclusion

15.203 Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator 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 connector is a RP-SMA type that comply with Part15.203, the best case gain of the antenna1/antenna2 is 2.4dBi.

Antenna location: Refer to Internal photos.





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6.2 Transmission in the Absence of Data

6.2.1 Test Requirement:

47 CFR Part 15, Subpart C 15.407 (c)

6.2.2 Conclusion

6.2.2 Conclusion

Standard Requirement:

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

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

EUT Details:

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

6.3 Frequency Stability

6.3.1 Test Requirement:

47 CFR Part 15, Subpart C 15.407 (g)

6.3.2 Conclusion

The grantee declared that the emissions are maintained within the band of operation under all conditions of normal operation as specified in the user's manual, it comply the frequency stability requirement.



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7 Radio Spectrum Matter Test Results

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

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

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

Limit:

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

7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 22.6 °C Humidity: 61.4 % RH Atmospheric Pressure: 1010 mbar

7.1.2 Test Mode Description

Pre-scan / Mode Final test Code

Description

Final test 02

TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80). Only the data of worst case is recorded in the report.

TX mode (U-NII-2A)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80). Only the data of worst case is recorded in the report.

TX mode (U-NII-2C)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the

Pre-scan 04

Pre-scan

03

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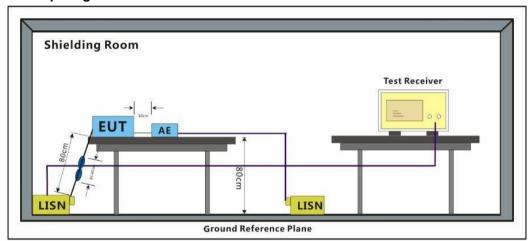
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worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80). Only the data of worst case is recorded in the report.

TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80). Only the data of worst case is recorded in the report.

Pre-scan 05

7.1.3 Test Setup Diagram





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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 $50 \text{ohm}/50 \mu\text{H}$ + 5 ohm 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: Measured Level=Read Level+ Cable Loss+ LISN Factor

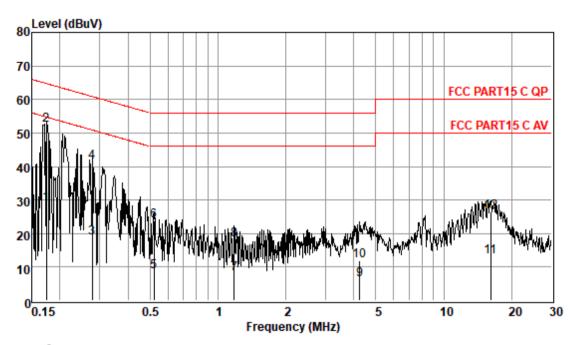




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Test Mode: 02; Line: Live line



Pol :LINE Mode : Model :

Frequenc MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
0.17	19.11	0.06	9.62	28.79	54.77	-25.98	Average
0.17	42.81	0.06	9.62	52.49	64.77	-12.28	QP _
0.28	8.99	0.06	9.62	18.67	50.90	-32.23	Average
0.28	31.77	0.06	9.62	41.45	60.90	-19.45	QP
0.52	-1.11	0.07	9.63	8.59	46.00	-37.41	Average
0.52	14.14	0.07	9.63	23.84	56.00	-32.16	QP
1.18	-1.57	0.08	9.61	8.12	46.00	-37.88	Average
1.18	8.48	0.08	9.61	18.17	56.00	-37.83	QP
4.25	-3.44	0.17	9.63	6.36	46.00	-39.64	Average
4.25	2.09	0.17	9.63	11.89	56.00	-44.11	QP
16.14	2.92	0.32	9.75	12.99	50.00	-37.01	Average
16.14	16.35	0.32	9.75	26.42	60.00	-33.58	QP



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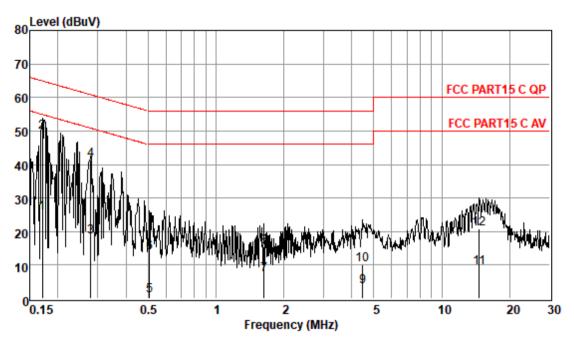
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Test Mode: 02; Line: Neutral Line



Pol :NEUTRAL

Mode : Model :

Frequenc MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
0.17	16.06	0.06	9.55	25.67	54.94	-29.27	Average
0.17	40.17	0.06	9.55	49.78	64.94	-15.16	QP _
0.28	8.88	0.06	9.54	18.48	50.85	-32.37	Average
0.28	31.61	0.06	9.54	41.21	60.85	-19.64	QP
0.51	-8.70	0.07	9.55	0.92	46.00	-45.08	Average
0.51	4.05	0.07	9.55	13.67	56.00	-42.33	QP
1.64	-2.61	0.10	9.55	7.04	46.00	-38.96	Average
1.64	5.86	0.10	9.55	15.51	56.00	-40.49	QP
4.45	-6.03	0.17	9.56	3.70	46.00	-42.30	Average
4.45	0.53	0.17	9.56	10.26	56.00	-45.74	QP
14.59	-0.85	0.30	9.64	9.09	50.00	-40.91	Average
14.59	10.97	0.30	9.64	20.91	60.00	-39.09	QP



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7.2 Duty Cycle

Test Requirement KDB 789033 D02 II B 1
Test Method: KDB 789033 D02 II B 2

7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 24.7 °C Humidity: 46.3 % RH Atmospheric Pressure: 1010 mbar

7.2.2 Test Mode Description

Pre-scan / Mode Final test Code

Description

Final test 02

TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80). Only the data of worst case is recorded in the report.

TX mode (U-NII-2A)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE

802.11ax(HE80). Only the data of worst case is recorded in the report.

TX mode (U-NII-2C)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80). Only the data of worst case is recorded in the report.

TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of

Final test 03

Final test 04

Final test 05

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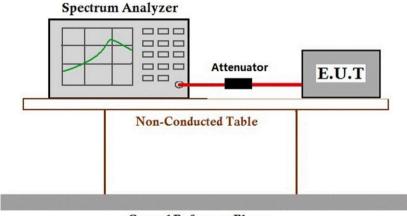


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IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80). Only the data of worst case is recorded in the report.

7.2.3 Test Setup Diagram



Ground Reference Plane

7.2.4 Measurement Procedure and Data

Please Refer to Appendix for Details



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7.3 99% Bandwidth

Test Requirement N/A

Test Method: KDB 789033 II D

7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 24.7 °C Humidity: 46.3 % RH Atmospheric Pressure: 1010 mbar

7.3.2 Test Mode Description

Pre-scan / Mode Final test Code

Description

Final test 02

TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80). Only the data of worst case is recorded in the report.

TX mode (U-NII-2A)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80). Only the data of worst case is recorded in the report.

TX mode (U-NII-2C)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40). Only the data of worst case is recorded in the report.

TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of

Final test 03

Final test 04

Final test 05

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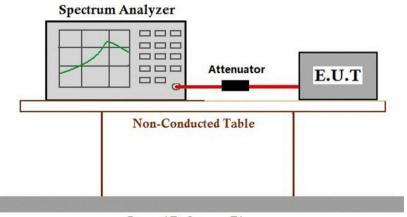


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IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80). Only the data of worst case is recorded in the report.

7.3.3 Test Setup Diagram



Ground Reference Plane

7.3.4 Measurement Procedure and Data

Please Refer to Appendix for Details





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7.4 26dB Emission bandwidth

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

Test Method: KDB 789033 D02 II C 1

7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 24.7 °C Humidity: 46.3 % RH Atmospheric Pressure: 1010 mbar

7.4.2 Test Mode Description

Pre-scan / Mode Final test Code

Description

Final test 02

TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80). Only the data of worst case is recorded in the report.

TX mode (U-NII-2A)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80). Only the data of worst case is recorded in the report.

TX mode (U-NII-2C)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40). Only the data of worst case is recorded in the report.

TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of

Final test 03

Final test 04

Final test 05

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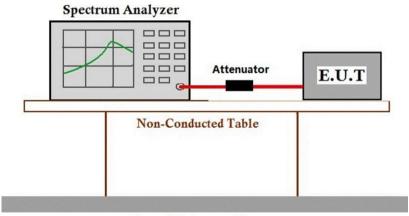


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IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80). Only the data of worst case is recorded in the report.

7.4.3 Test Setup Diagram



Ground Reference Plane

7.4.4 Measurement Procedure and Data

Please Refer to Appendix for Details



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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: 24.7 °C Humidity: 46.3 % RH Atmospheric Pressure: 1010 mbar

7.5.2 Test Mode Description

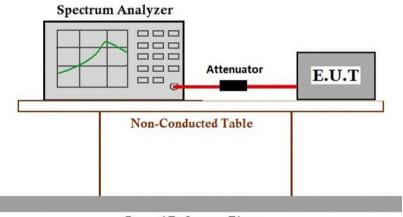
Pre-scan / Mode Final test Code

Description

TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80). Only the data of worst case is recorded in the report.

Final test 05

7.5.3 Test Setup Diagram



Ground Reference Plane

7.5.4 Measurement Procedure and Data

Please Refer to Appendix for Details



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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	requency band(MHz) Limit		
F150 F2	050	≤1W(30dBm) for master device	
5150-52	250	≤250mW(24dBm) for client device	
5250-53	350	≤250mW(24dBm) for client device or 11dBm+10logB*	
5470-57	5470-5725 ≤250mW(24dBm) for client device or 11dBm+10log		
5725-58	350	≤1W(30dBm)	
Remark: *	* Where B is the 26dB emission bandwidth in MHz.		
0	The maximum conducted output power must be measured over any interva of continuous transmission using instrumentation calibrated in terms of ar rms-equivalent voltage.		

7.6.1 E.U.T. Operation

Final test

Final test

Operating Environment:

Temperature: 24.7 °C Humidity: 46.3 % RH Atmospheric Pressure: 1010 mbar

7.6.2 Test Mode Description

Pre-scan / Mode Final test Code

02

03

Description

TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40). Only the data of worst case is recorded in the report.

TX mode (U-NII-2A)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40). Only the data of worst case is recorded in the report.

Final test 04

TX mode (U-NII-2C)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been



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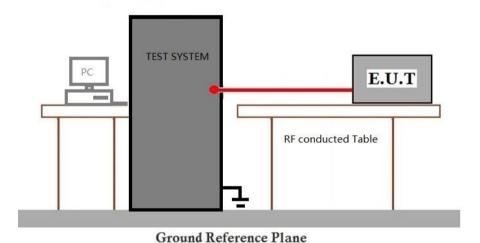
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tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80). Only the data of worst case is recorded in the report.

TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40). Only the data of worst case is recorded in the report.

Final test 05

7.6.3 Test Setup Diagram



7.6.4 Measurement Procedure and Data

Please Refer to Appendix for Details



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7.7 Peak Power spectrum density

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

Test Method: KDB 789033 D02 II F

Limit:

Frequenc	y band(MHz)	Limit	
5150-5250		≤17dBm in 1MHz for master device	
		≤11dBm in 1MHz for client device	
5250-5	5350 ≤11dBm in 1MHz for client device		
5470-5	725	≤11dBm in 1MHz for client device	
5725-5	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: 24.7 °C Atmospheric Pressure: 1010 mbar Humidity: 46.3 % RH

7.7.2 Test Mode Description

Pre-scan /	Mode
Final test	Code

Description

Final test 02

TX mode (U-NII-1) Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80). Only the data of worst case is recorded in the report.

TX mode (U-NII-2A) Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IFFF 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80). Only the data of worst case is recorded in the report.

TX mode (U-NII-2C)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the

Final test

03

Final test 04

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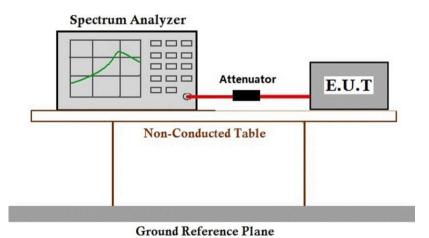
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worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80). Only the data of worst case is recorded in the report.

TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40). Only the data of worst case is recorded in the report.

Final test 05

7.7.3 Test Setup Diagram



7.7.4 Measurement Procedure and Data

Please Refer to Appendix for Details



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7.8 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

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: 21.5 °C Humidity: 54.2 % RH Atmospheric Pressure: 1010 mbar

7.8.2 Test Mode Description

Pre-scan / Mode Final test Code

Description

Final test 02

TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of



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IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80). Only the data of worst case is recorded in the report.

TX mode (U-NII-2A)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80). Only the data of worst case is recorded in the report.

TX mode (U-NII-2C)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80). Only the data of worst case is recorded in the report.

TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80). Only the data of worst case is recorded in the report.

Final test 03

Final test 04

Final test 05



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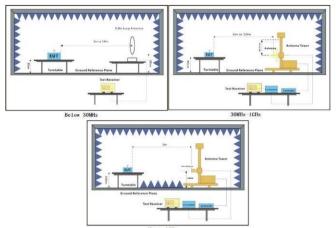
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7.8.3 Test Setup Diagram





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7.8.4 Measurement Procedure and Data

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

Remark:

- 1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
- 2. Pretest the EUT at antenna 1 and antenna 2 and MIMO mode find the worst case is MIMO mode. only record the worst case test data 802.11a in this report.

Note: All average values corresponding to peaks are measured, only the frequency of the maximum average is recorded in the report;



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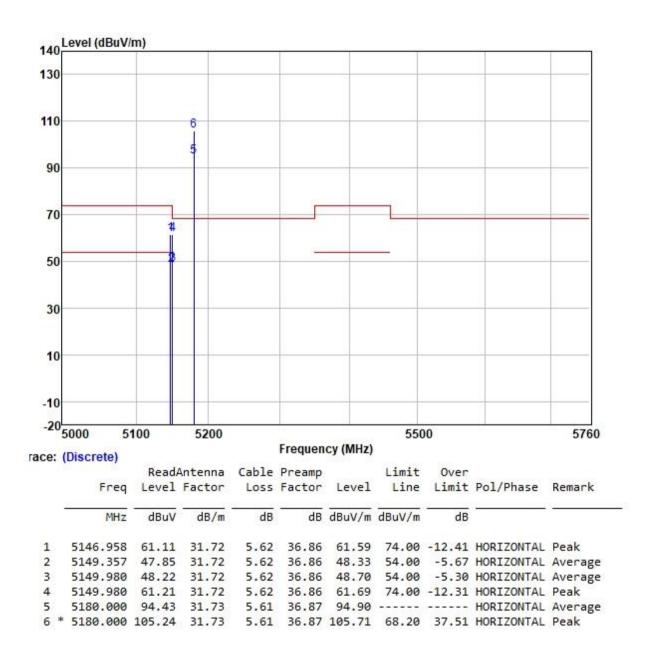
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Test Mode: 02; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low





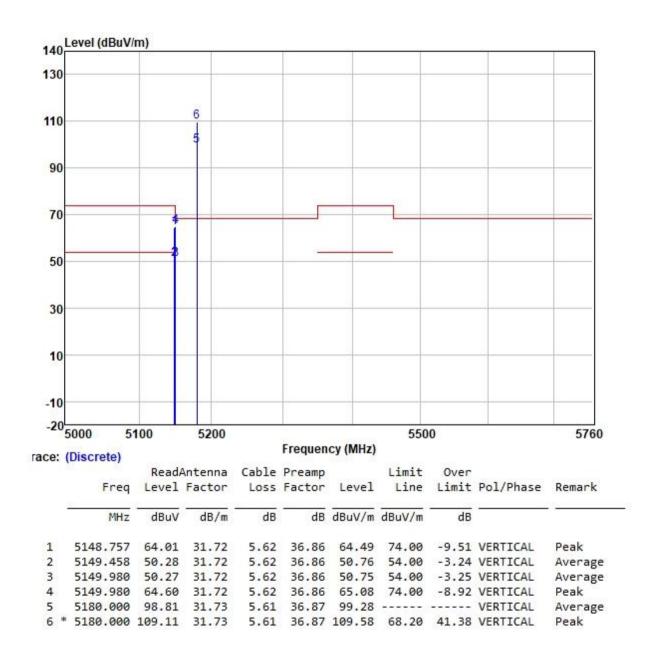
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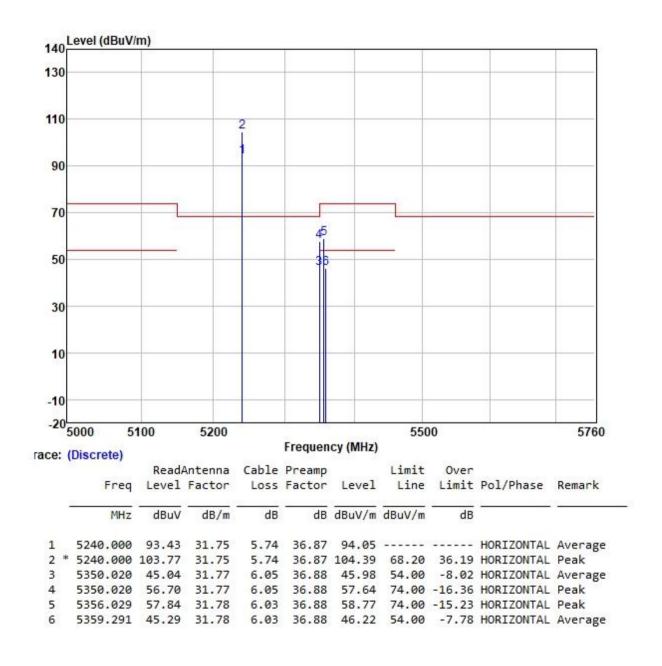
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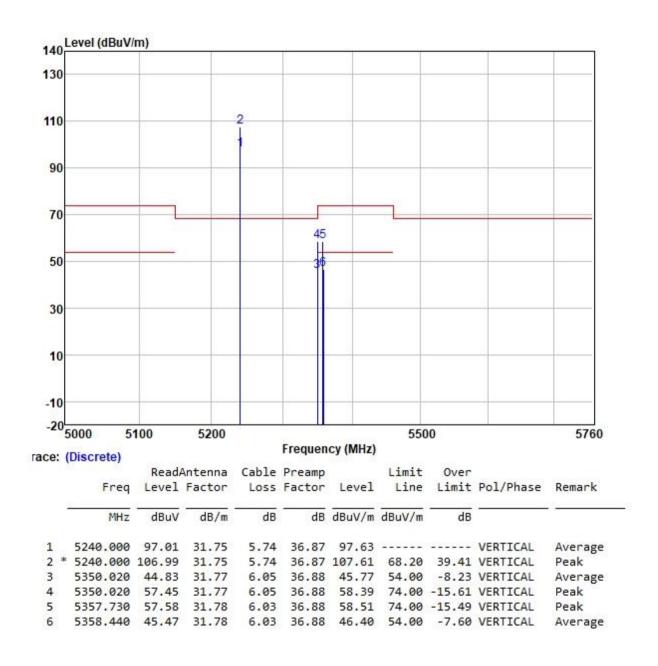
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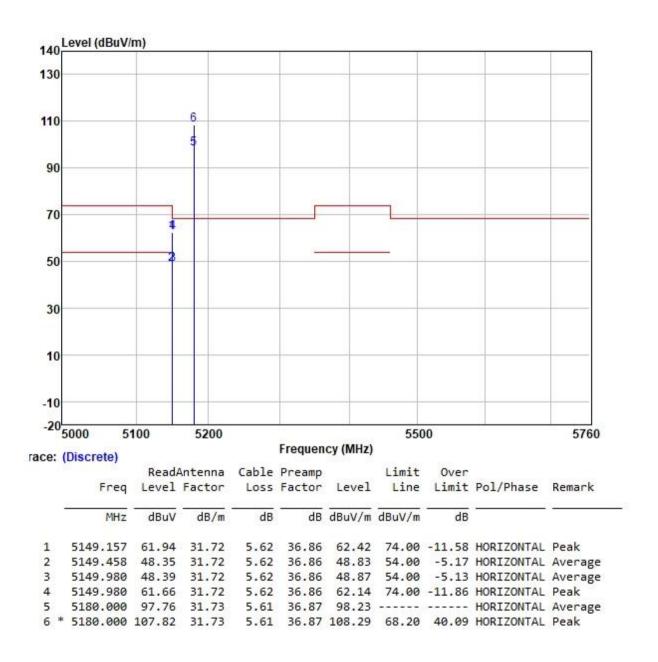
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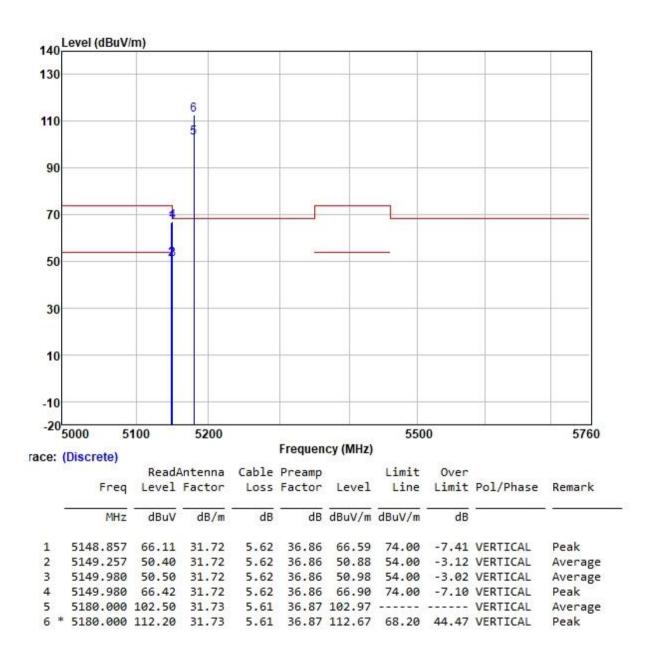
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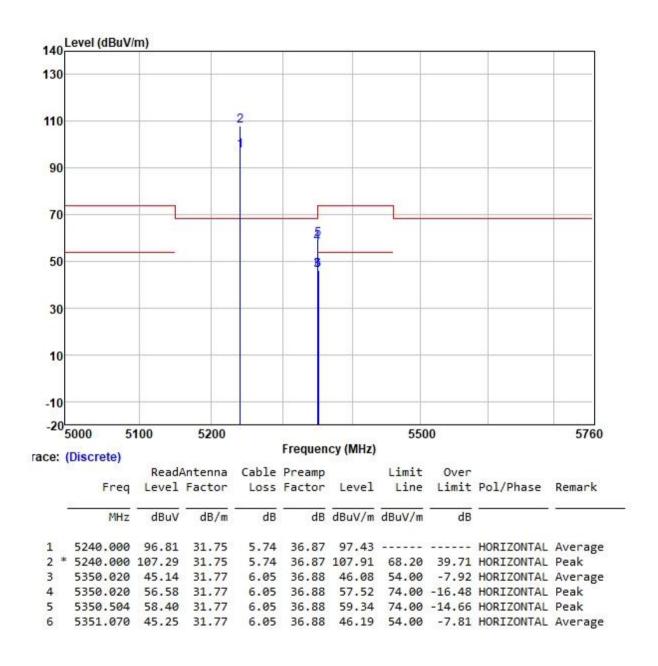
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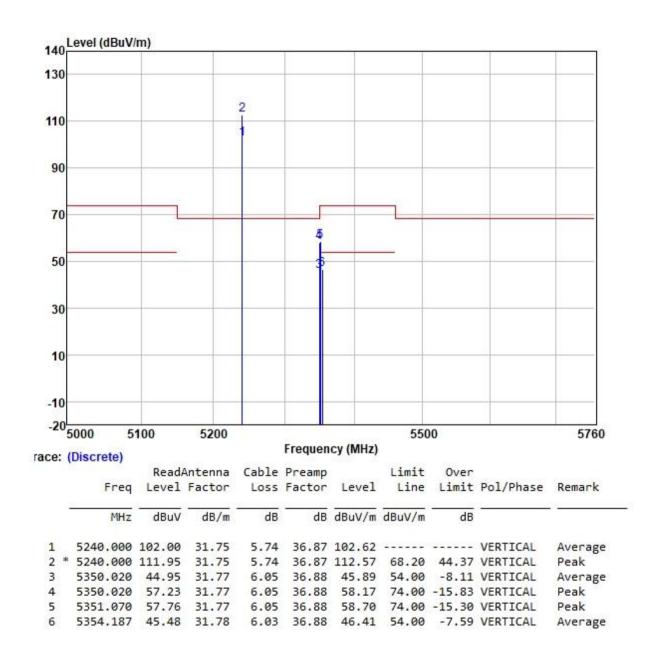
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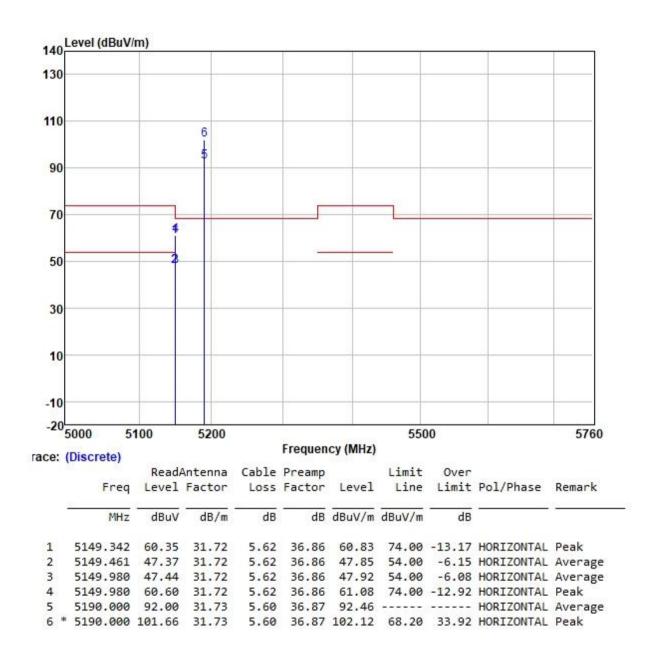
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Test Mode: 02; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low





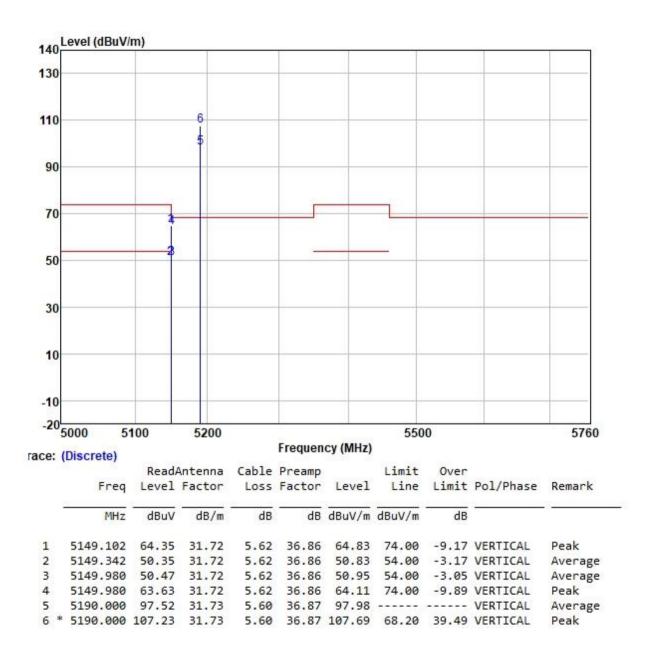
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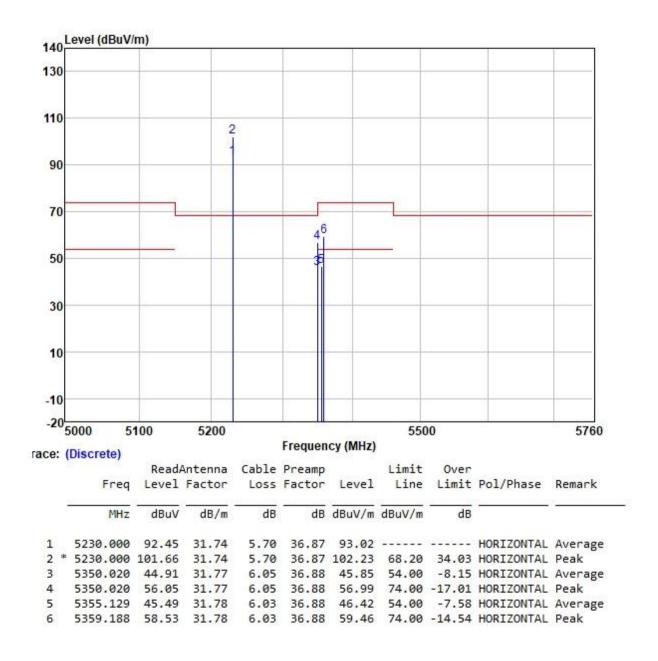
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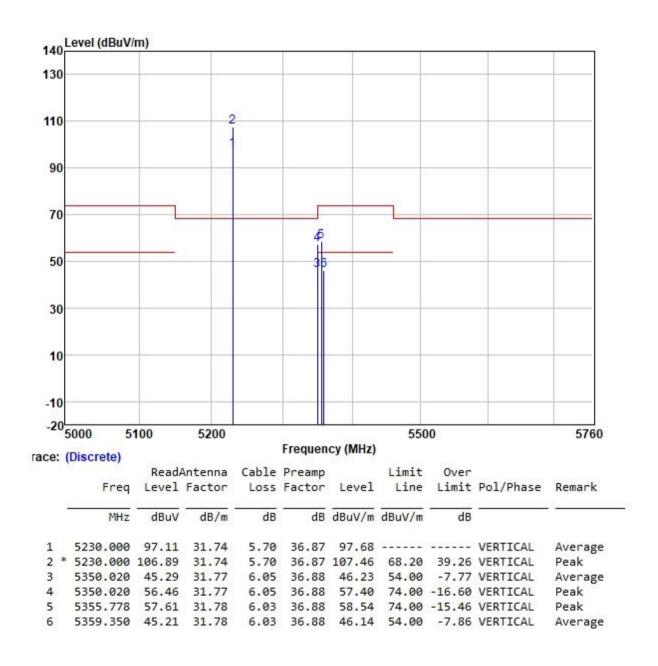
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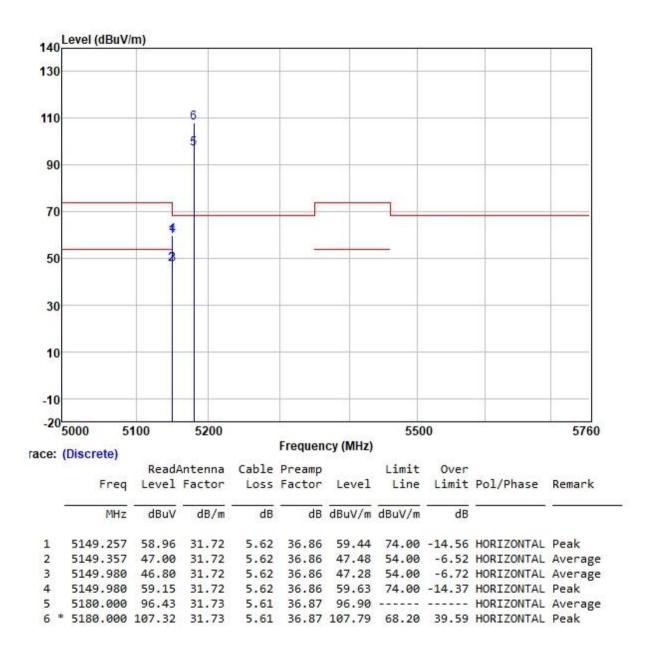
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Test Mode: 02; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low





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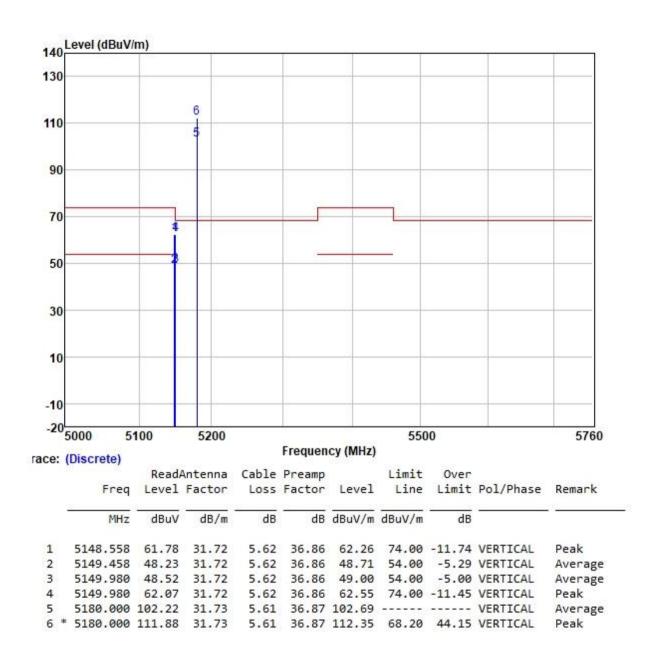
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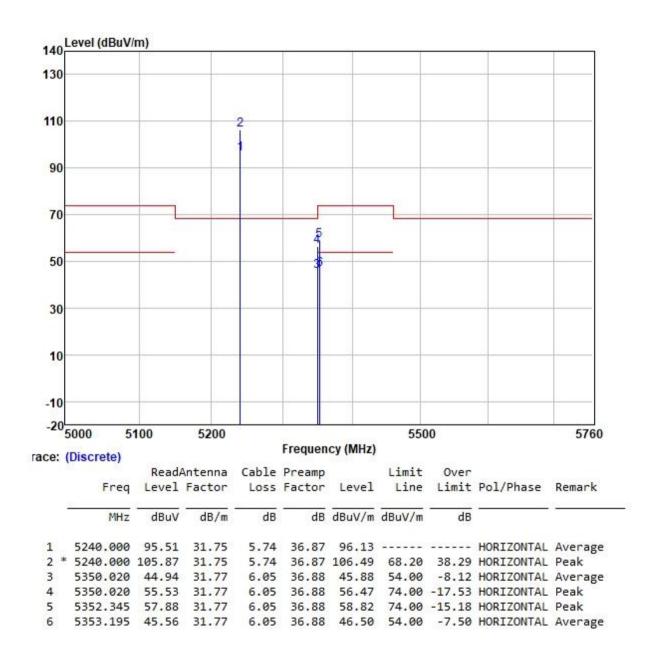
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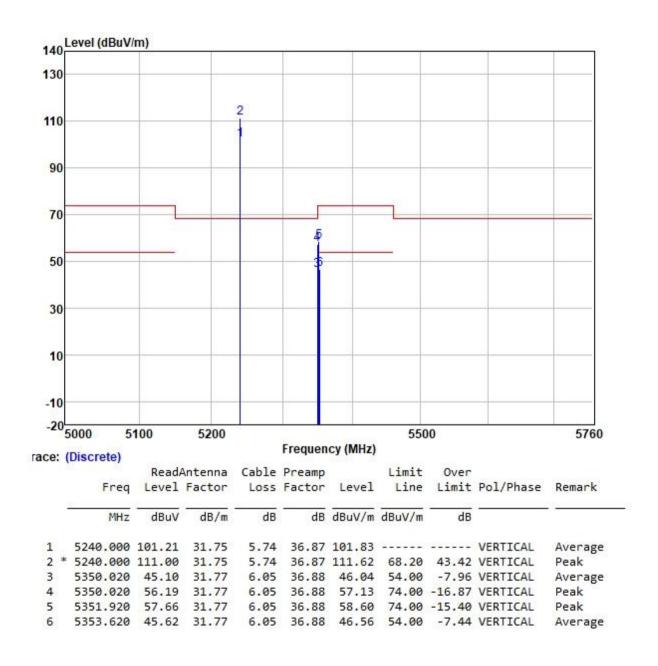
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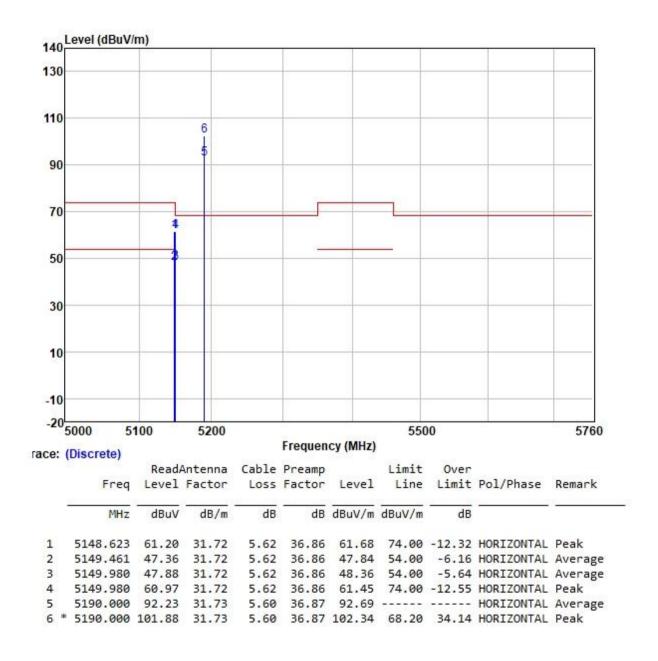
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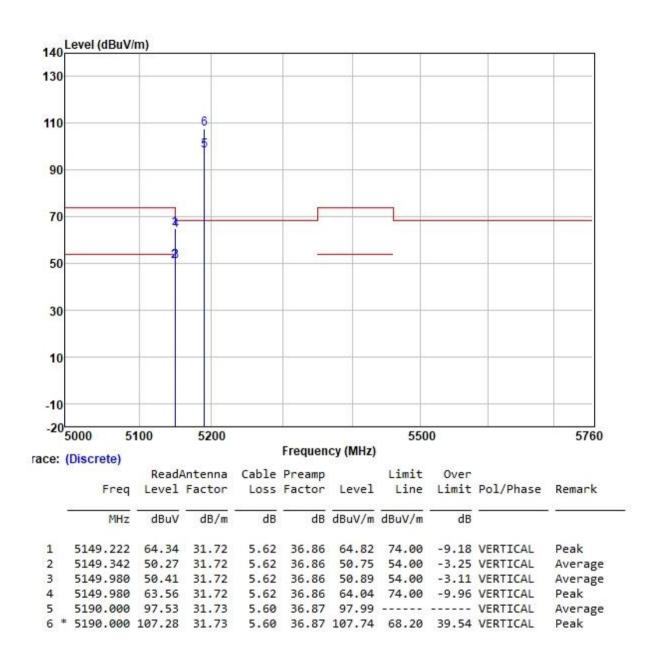
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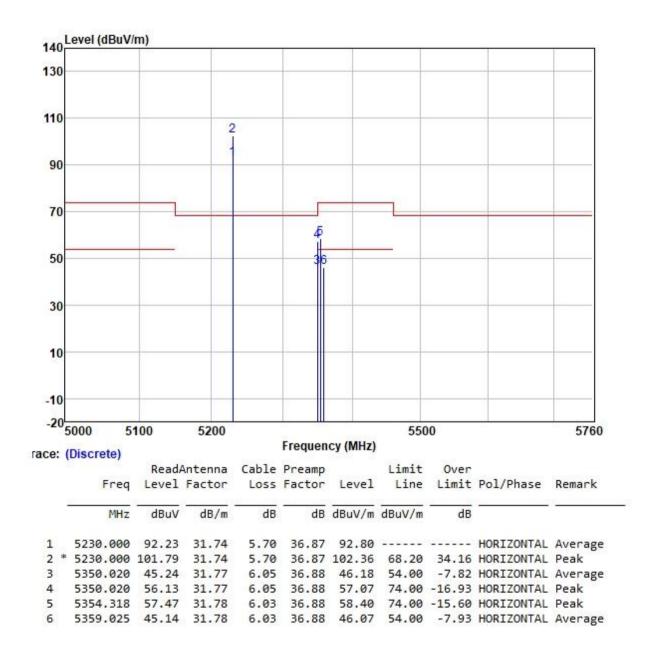
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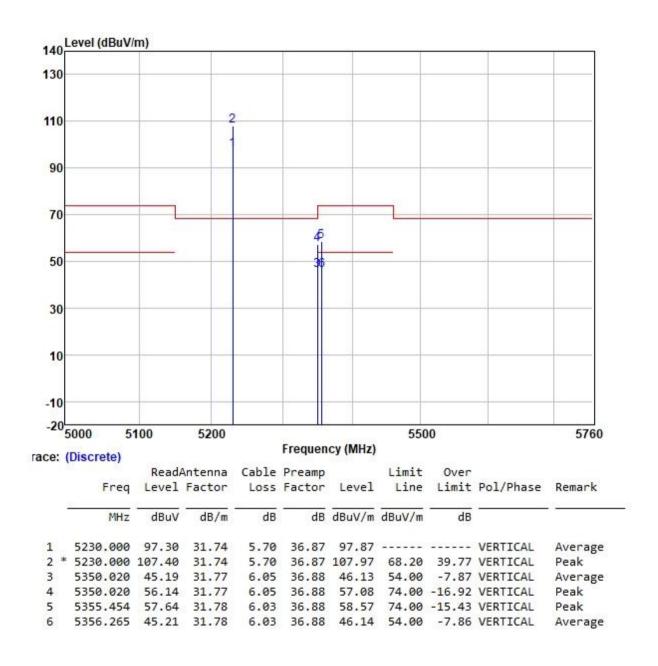
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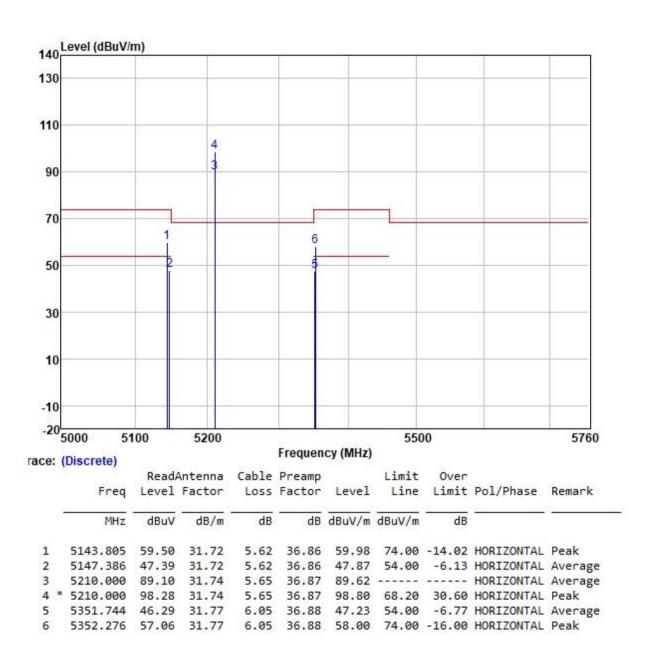
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Test Mode: 02; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle





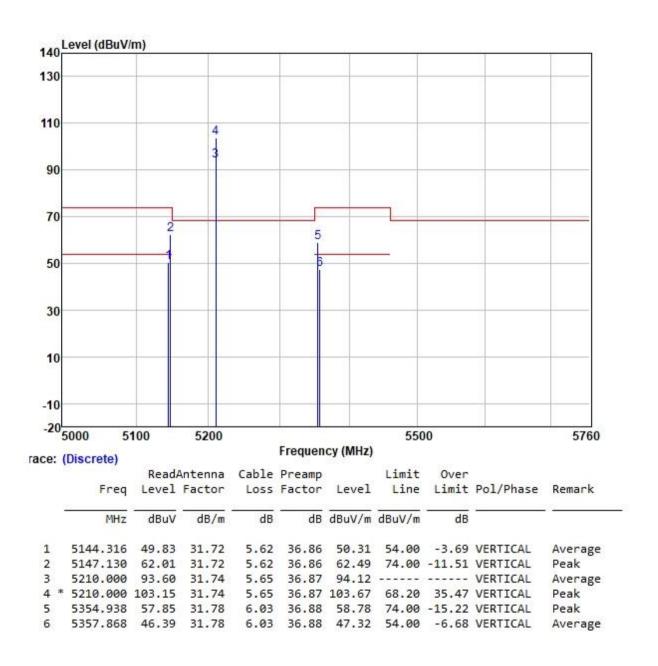
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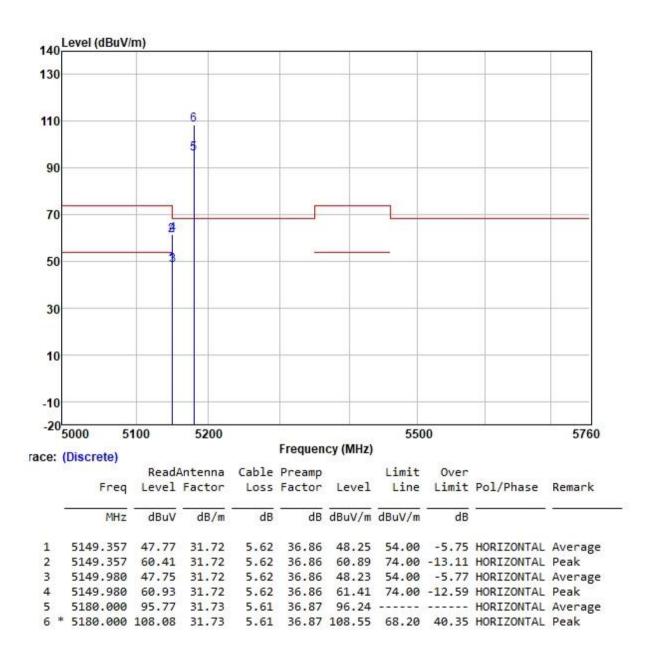
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Test Mode: 02; Polarity: Horizontal; Modulation:802.11ax; Bandwidth:20MHz; Channel:Low





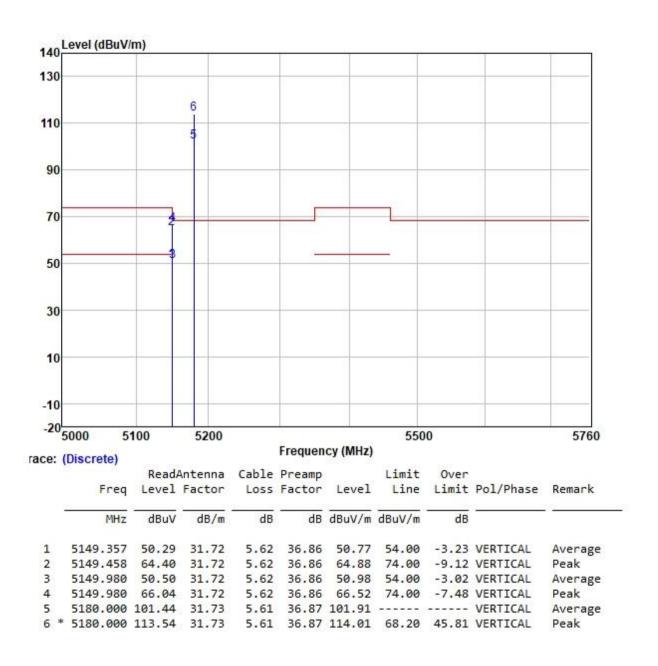
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Test Mode: 02; Polarity: Vertical; Modulation:802.11ax; Bandwidth:20MHz; Channel:Low





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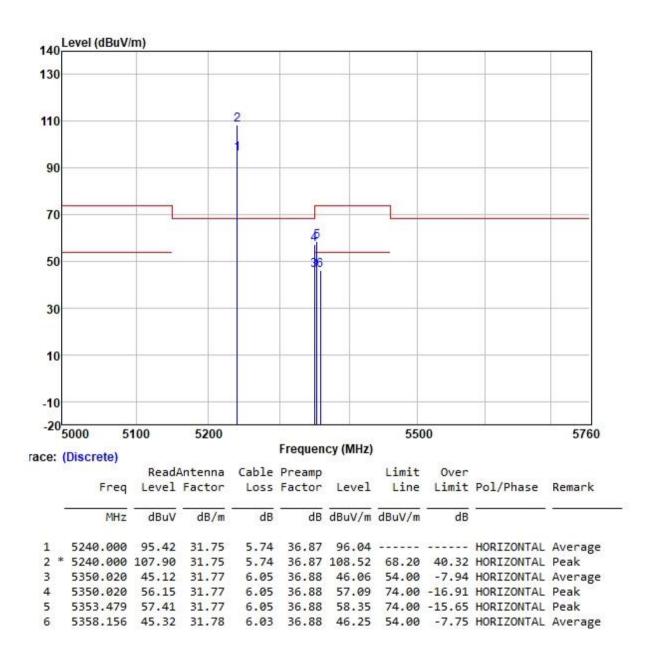
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Test Mode: 02; Polarity: Horizontal; Modulation:802.11ax; Bandwidth:20MHz; Channel:High





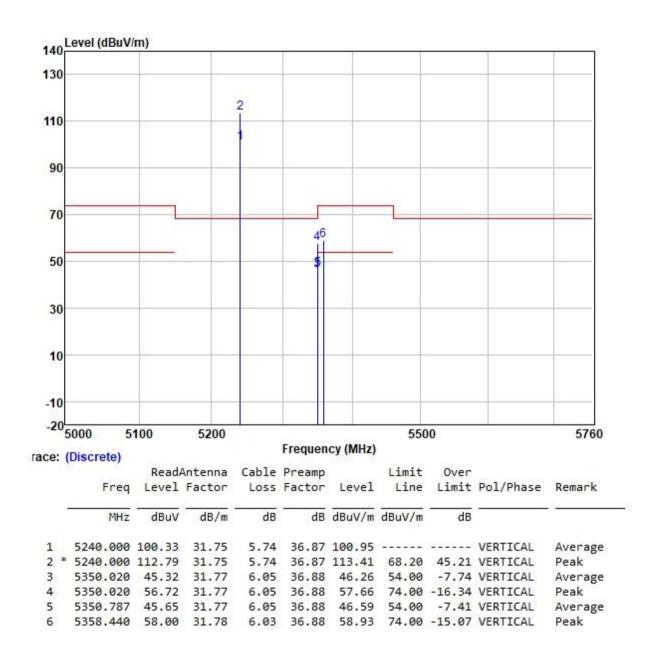
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Test Mode: 02; Polarity: Vertical; Modulation:802.11ax; Bandwidth:20MHz; Channel:High





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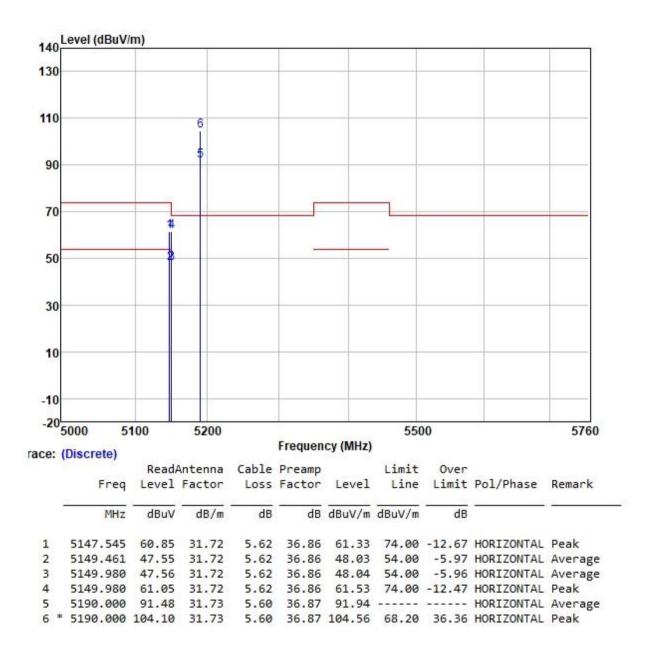
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Test Mode: 02; Polarity: Horizontal; Modulation:802.11ax; Bandwidth:40MHz; Channel:Low





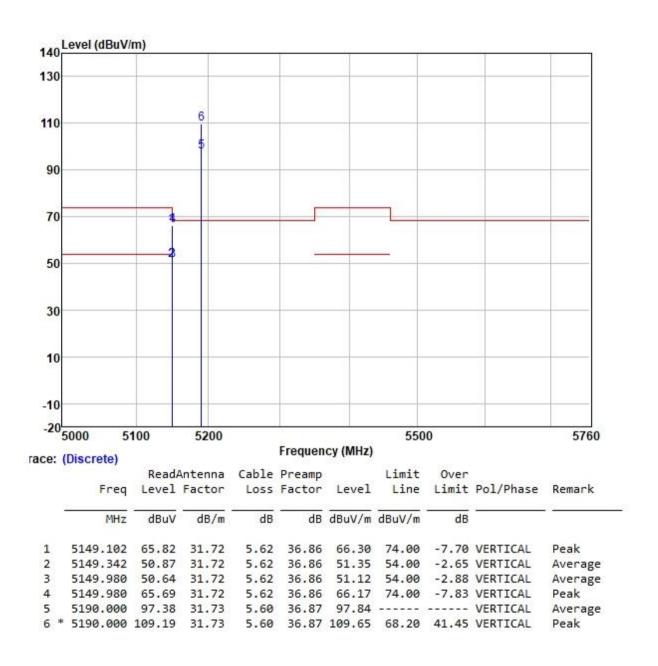
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Test Mode: 02; Polarity: Vertical; Modulation:802.11ax; Bandwidth:40MHz; Channel:Low





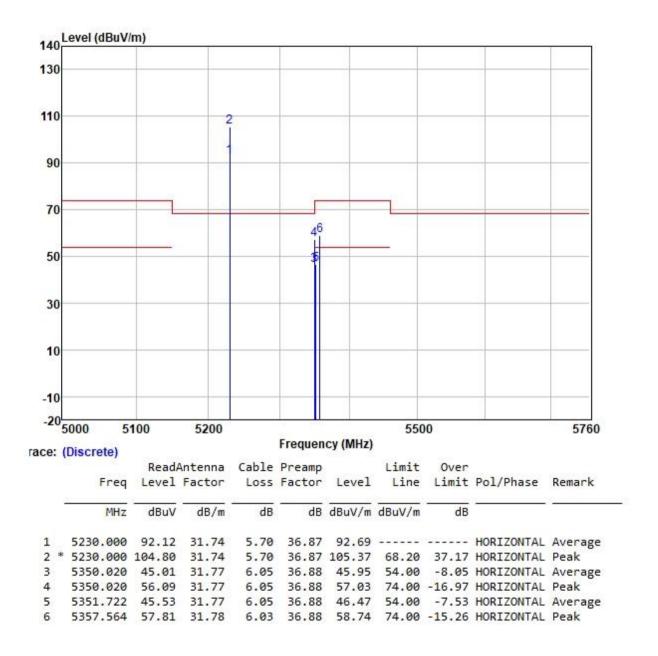
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Report No.: GZCR210802080403

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Test Mode: 02; Polarity: Horizontal; Modulation:802.11ax; Bandwidth:40MHz; Channel:High





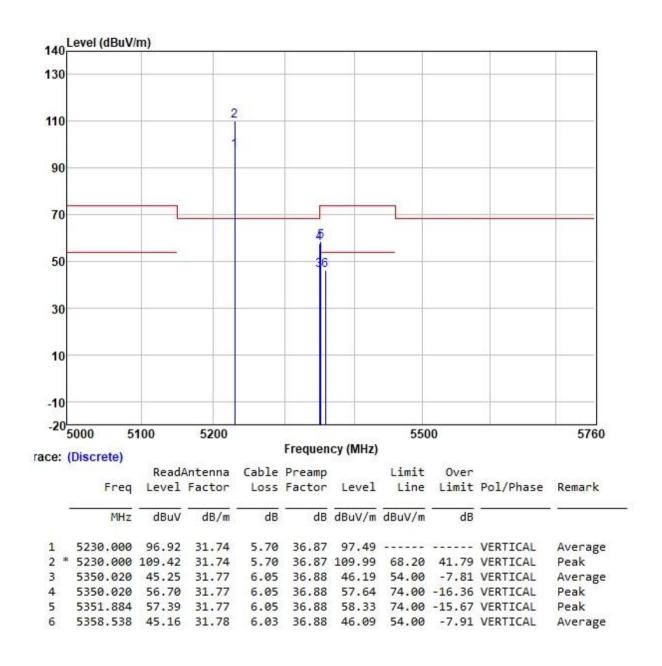
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Test Mode: 02; Polarity: Vertical; Modulation:802.11ax; Bandwidth:40MHz; Channel:High





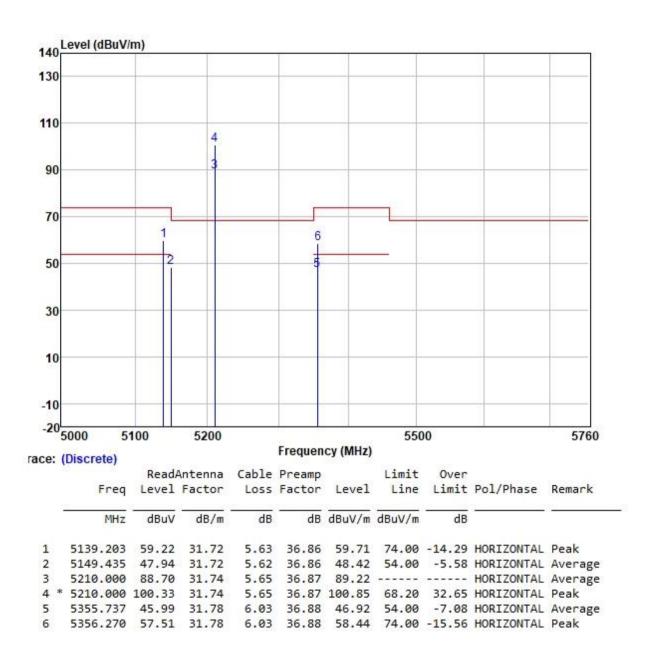
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Test Mode: 02; Polarity: Horizontal; Modulation:802.11ax; Bandwidth:80MHz; Channel:middle





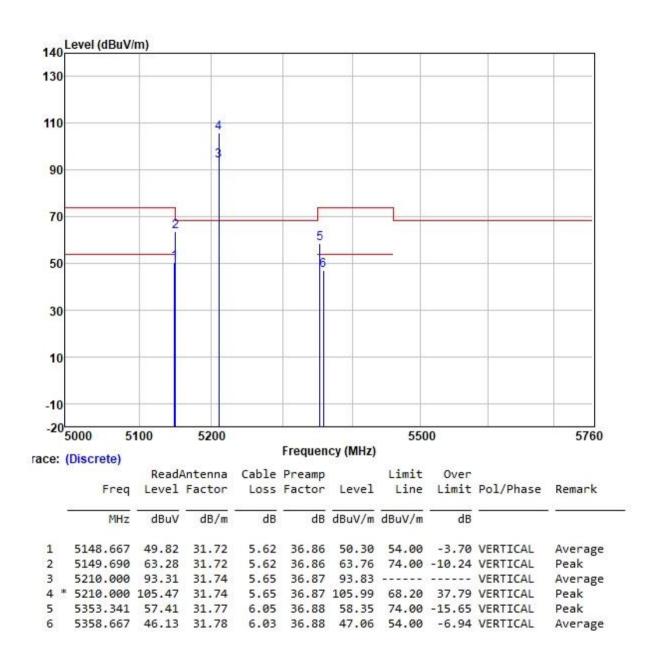
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Test Mode: 02; Polarity: Vertical; Modulation:802.11ax; Bandwidth:80MHz; Channel:middle





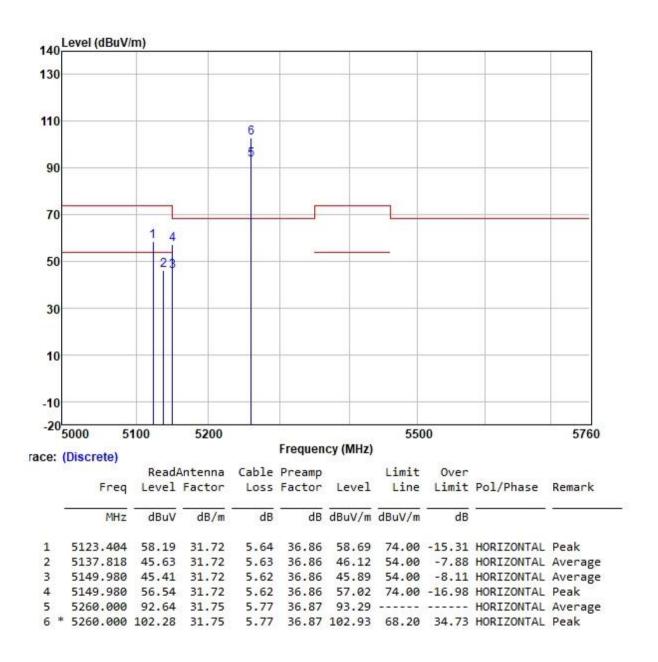
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Test Mode: 03; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low





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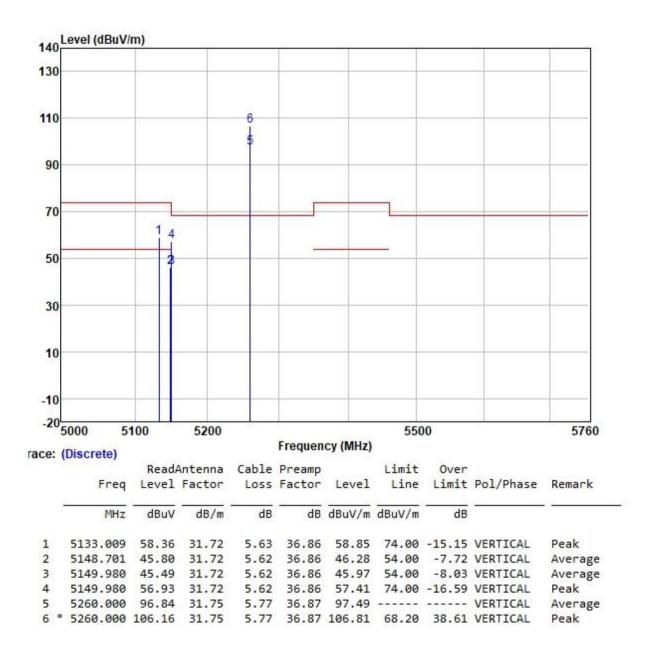
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Test Mode: 03; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low





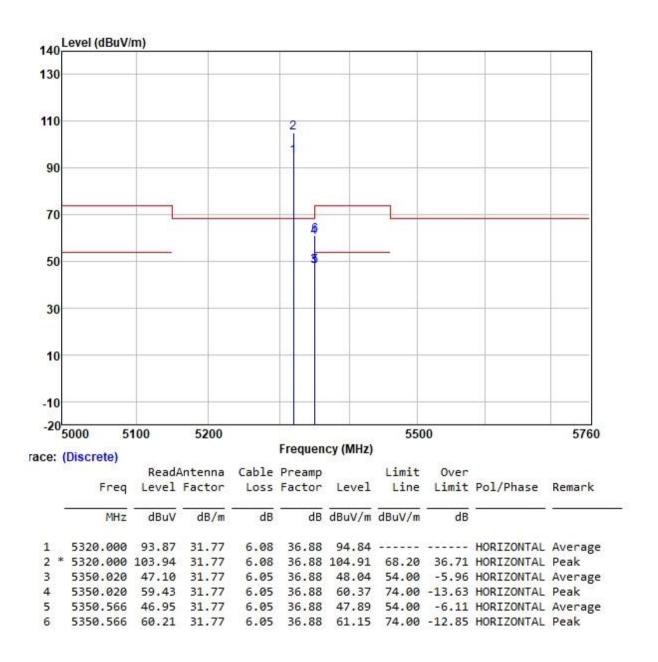
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Test Mode: 03; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High





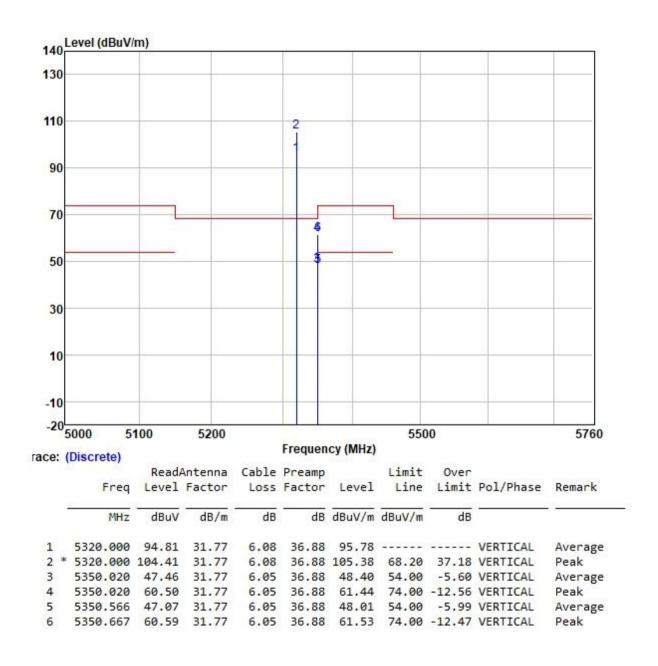
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Test Mode: 03; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High





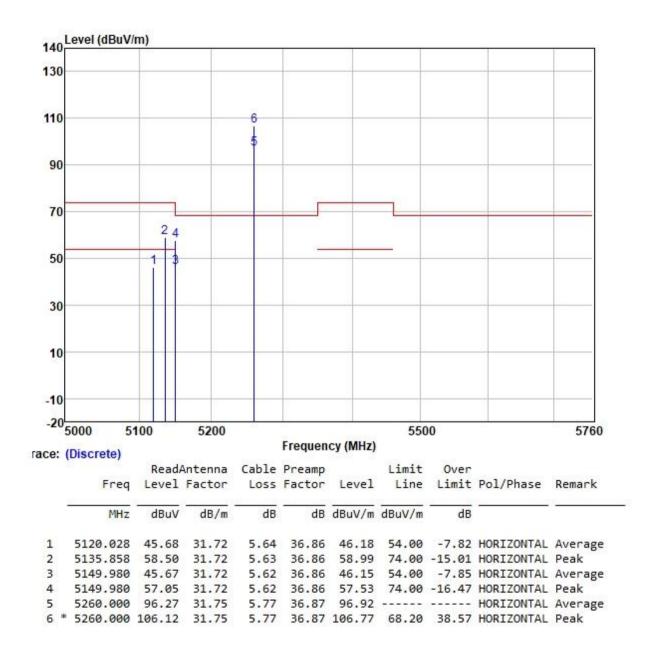
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Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low





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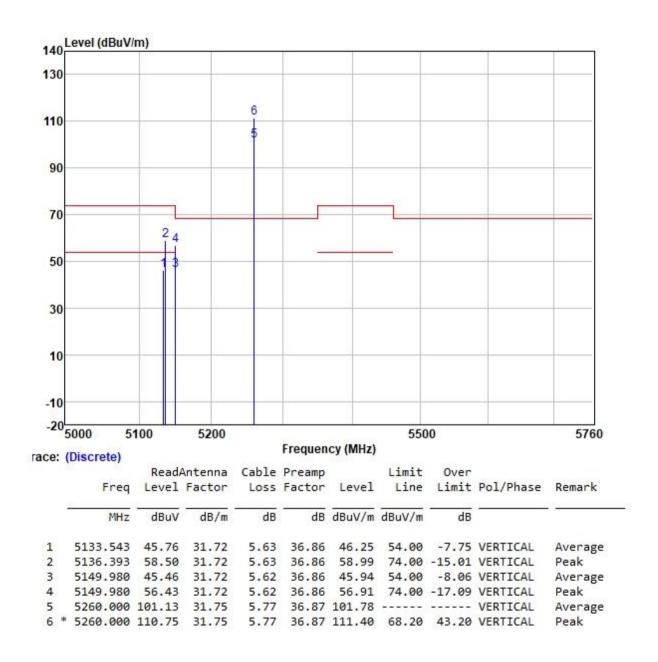
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Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



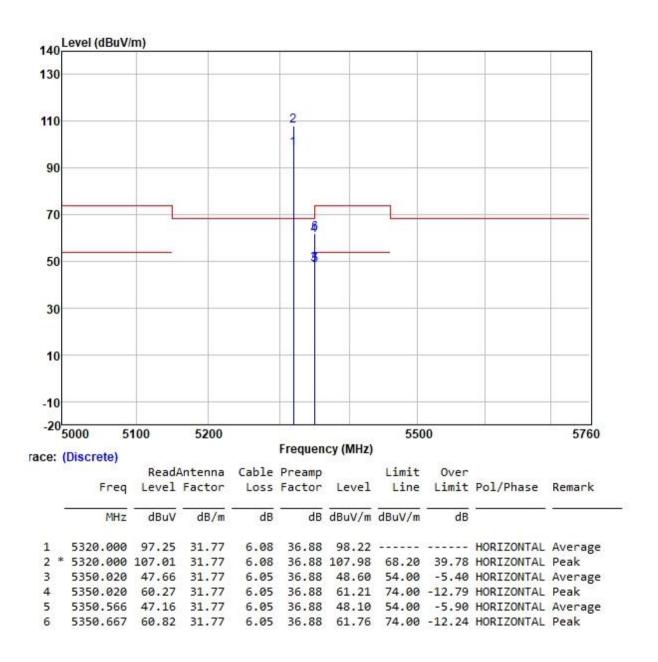




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Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High



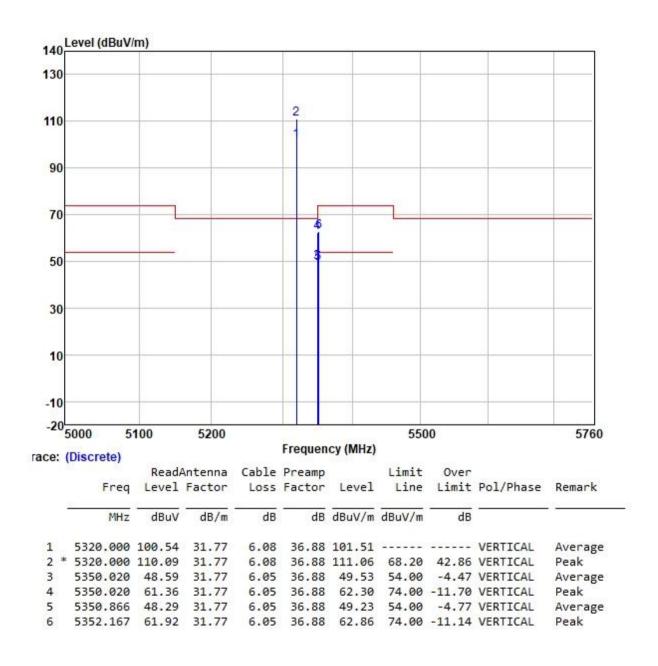




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Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High





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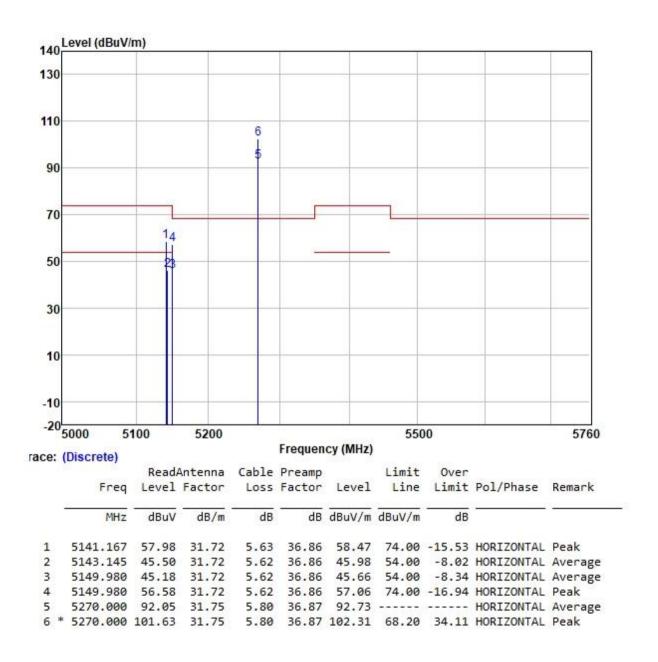
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Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



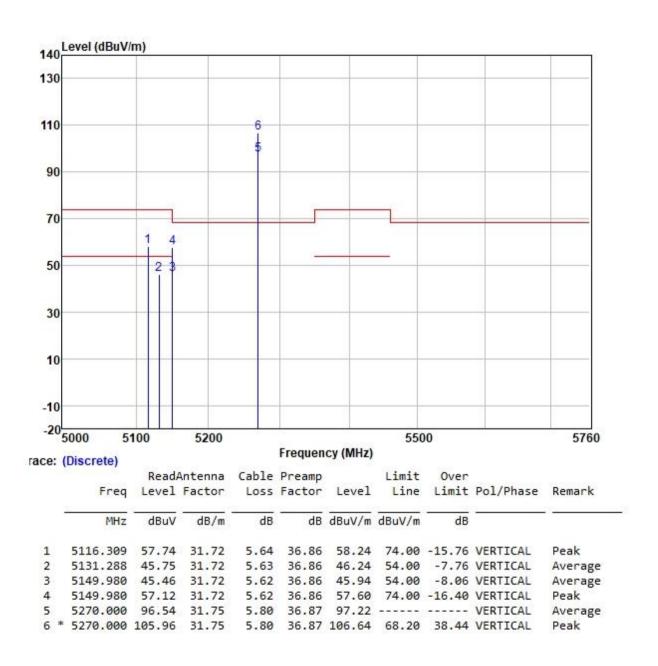




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Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low





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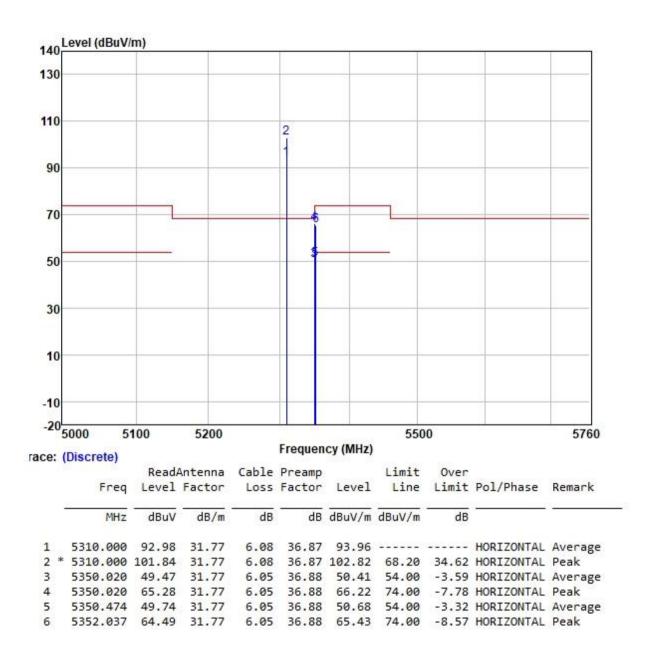
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Test Mode: 03; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High





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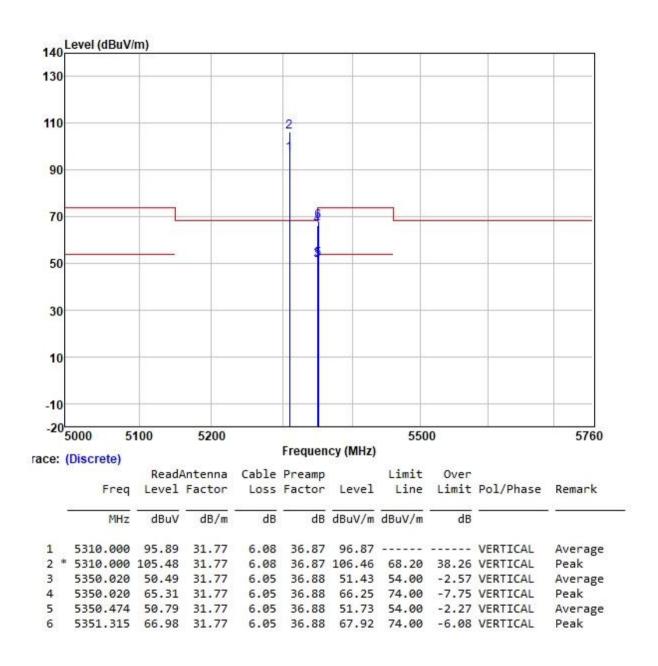
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Test Mode: 03; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High





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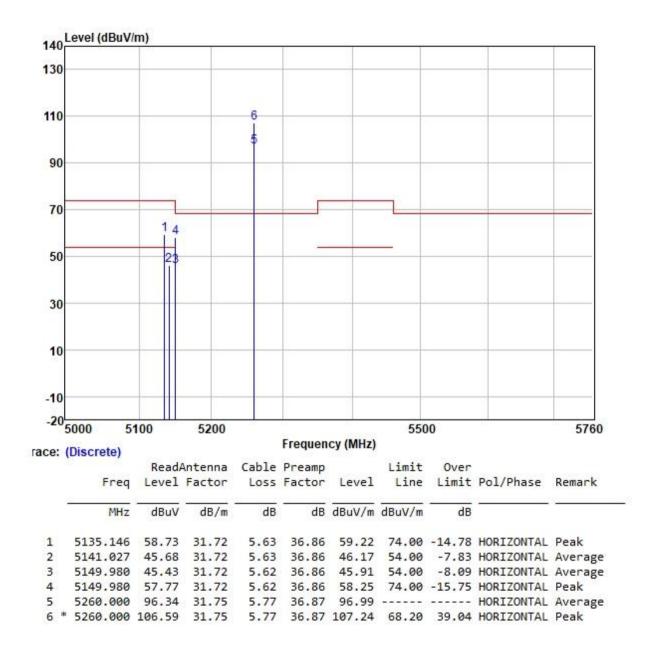
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Test Mode: 03; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low



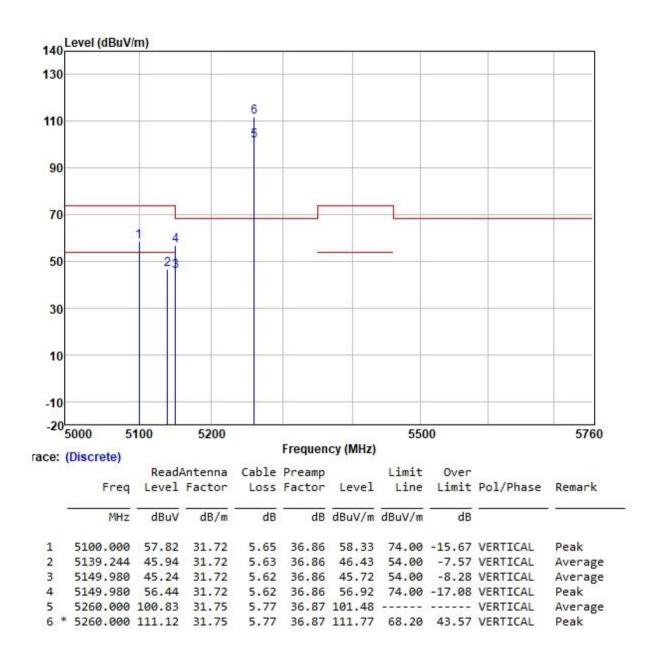




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Test Mode: 03; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:Low





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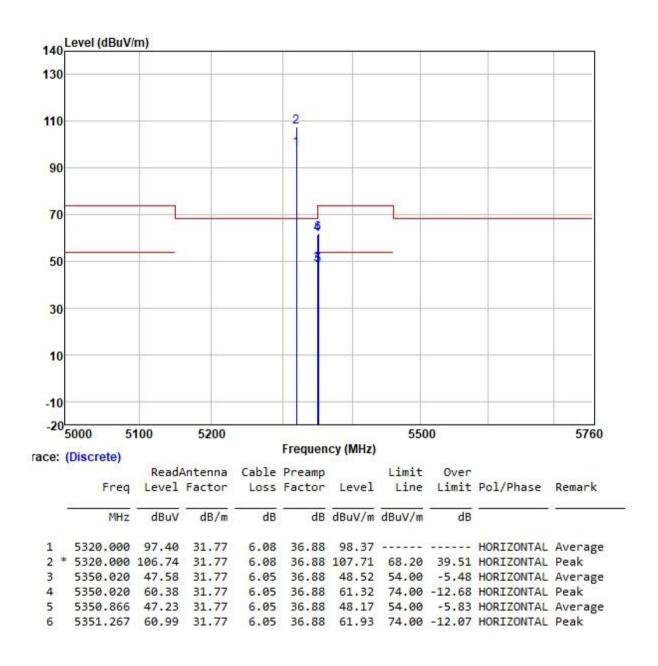
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Test Mode: 03; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:20MHz; Channel:High





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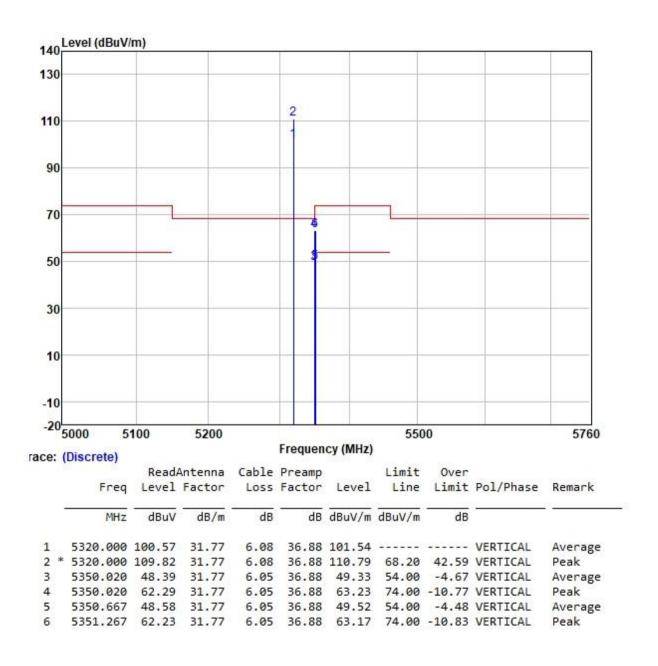
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Test Mode: 03; Polarity: Vertical; Modulation:802.11ac; Bandwidth:20MHz; Channel:High





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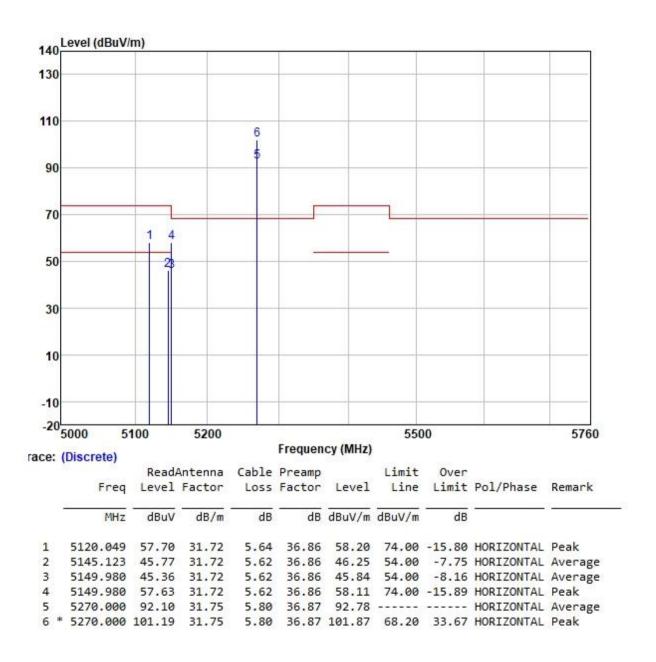
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Test Mode: 03; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low



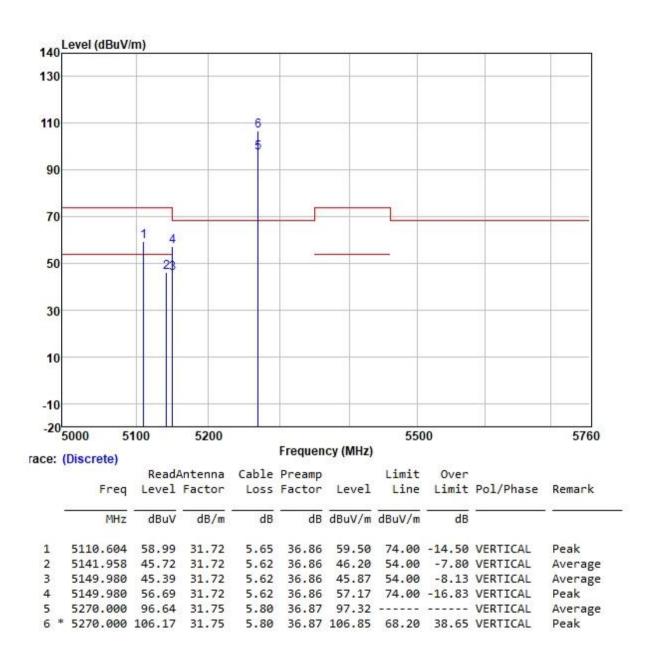




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Test Mode: 03; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:Low





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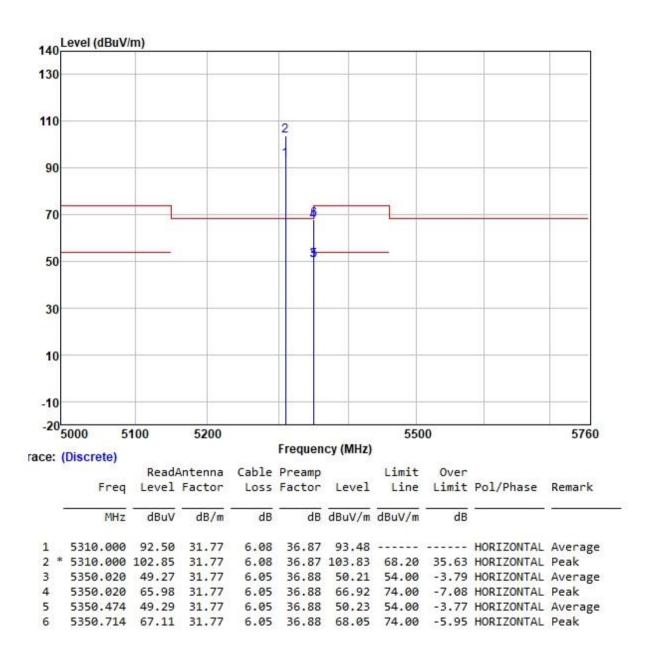
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Test Mode: 03; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:40MHz; Channel:High



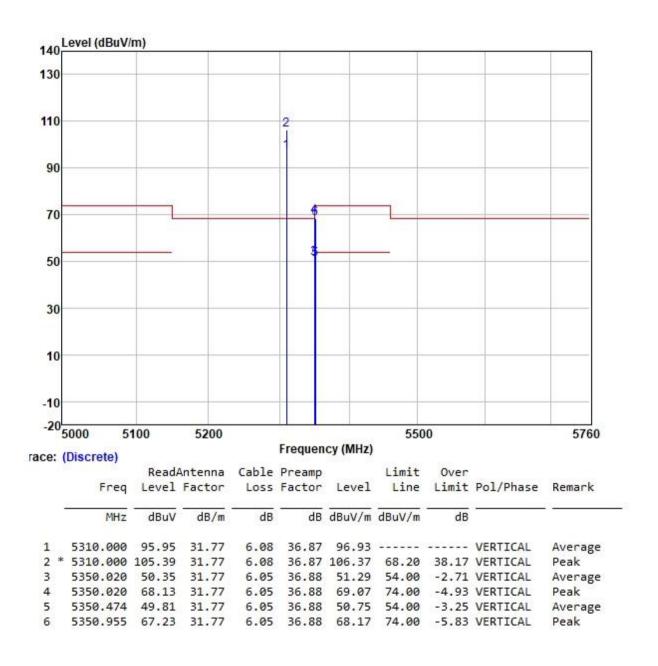




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Test Mode: 03; Polarity: Vertical; Modulation:802.11ac; Bandwidth:40MHz; Channel:High





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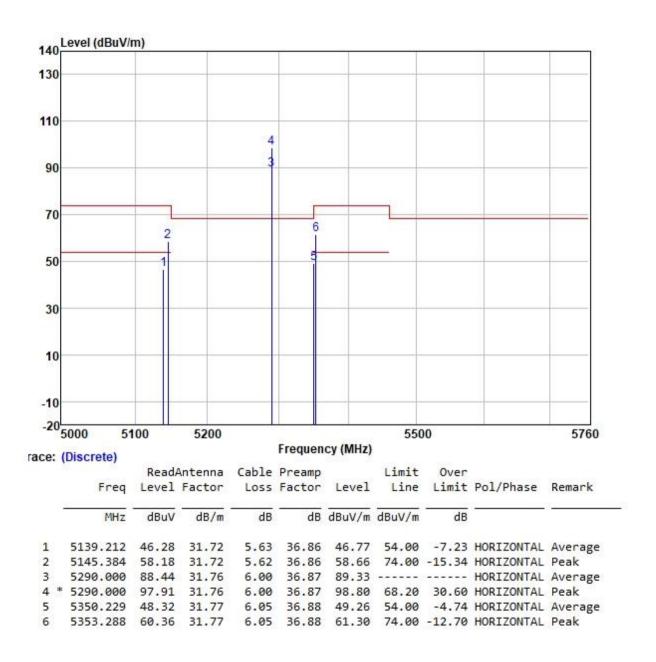
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Test Mode: 03; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle





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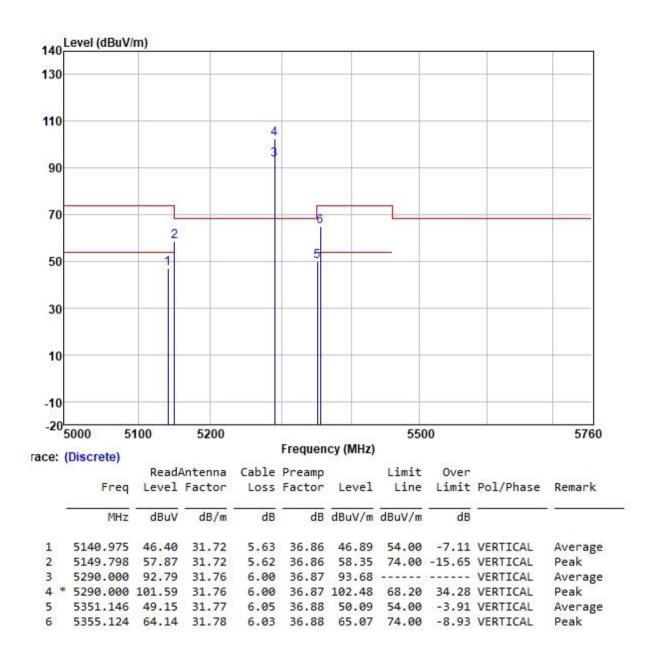
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Test Mode: 03; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:middle



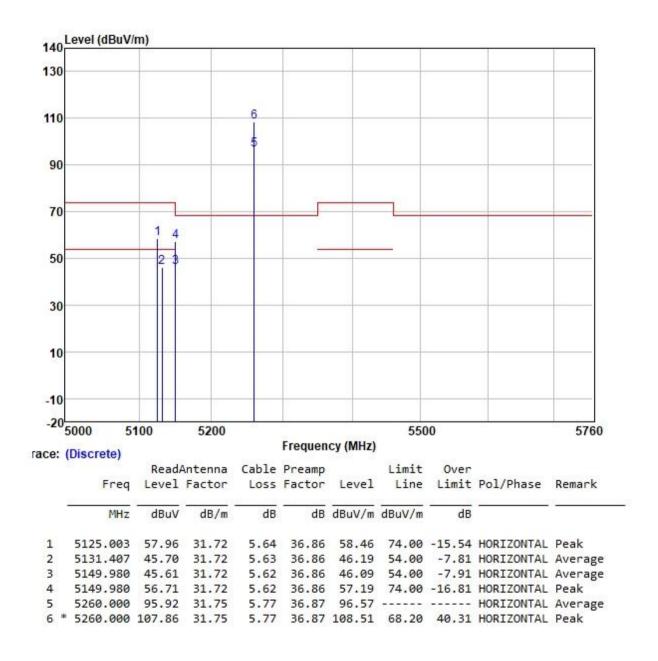




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Test Mode: 03; Polarity: Horizontal; Modulation:802.11ax; Bandwidth:20MHz; Channel:Low





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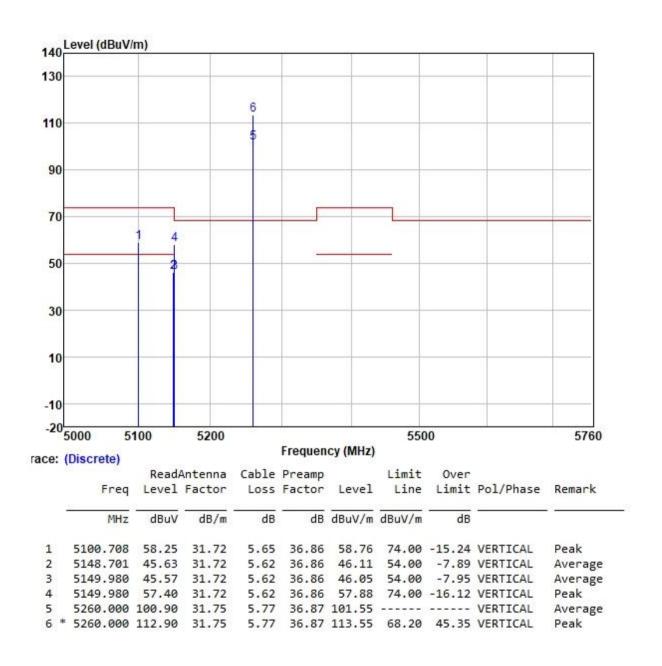
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Test Mode: 03; Polarity: Vertical; Modulation:802.11ax; Bandwidth:20MHz; Channel:Low





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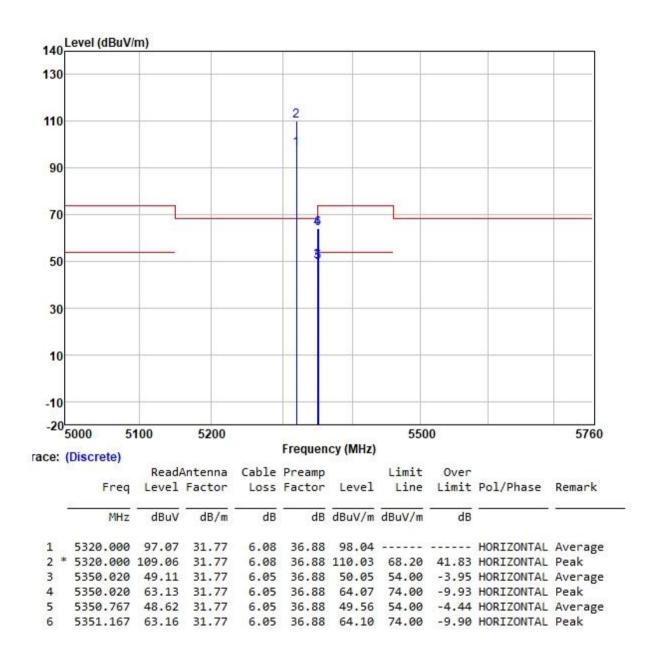
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Test Mode: 03; Polarity: Horizontal; Modulation:802.11ax; Bandwidth:20MHz; Channel:High





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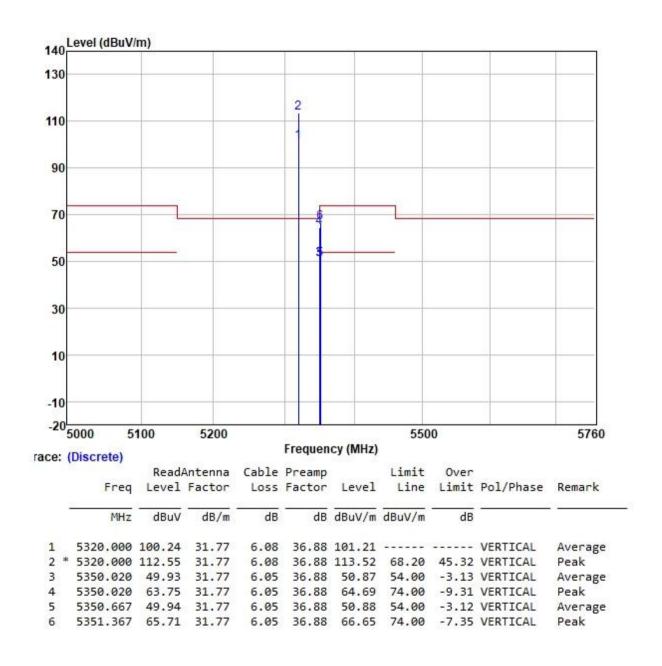
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Test Mode: 03; Polarity: Vertical; Modulation:802.11ax; Bandwidth:20MHz; Channel:High





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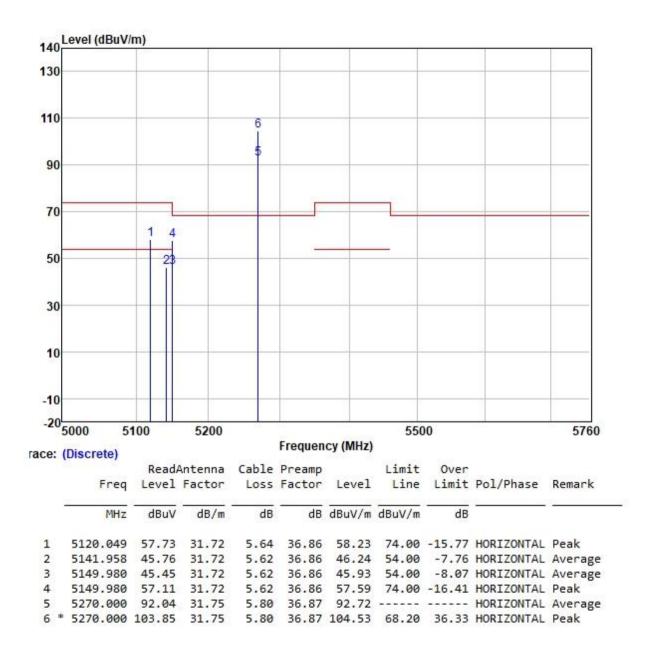
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Test Mode: 03; Polarity: Horizontal; Modulation:802.11ax; Bandwidth:40MHz; Channel:Low





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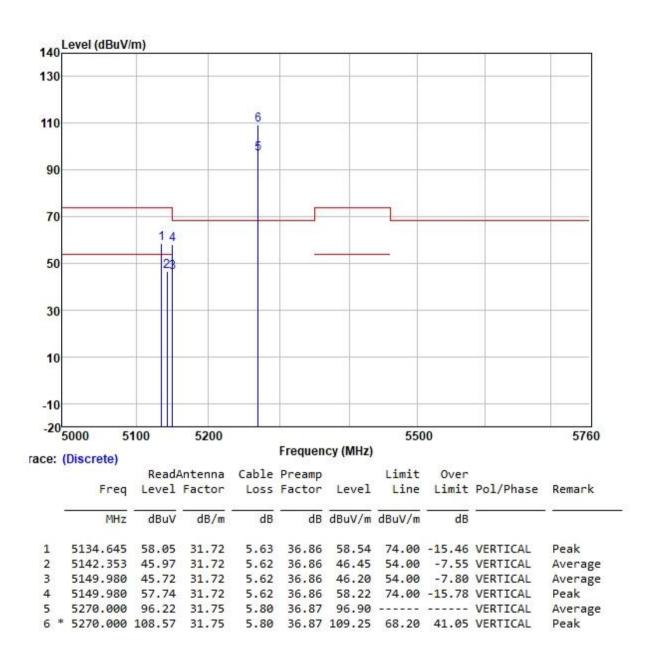
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Test Mode: 03; Polarity: Vertical; Modulation:802.11ax; Bandwidth:40MHz; Channel:Low





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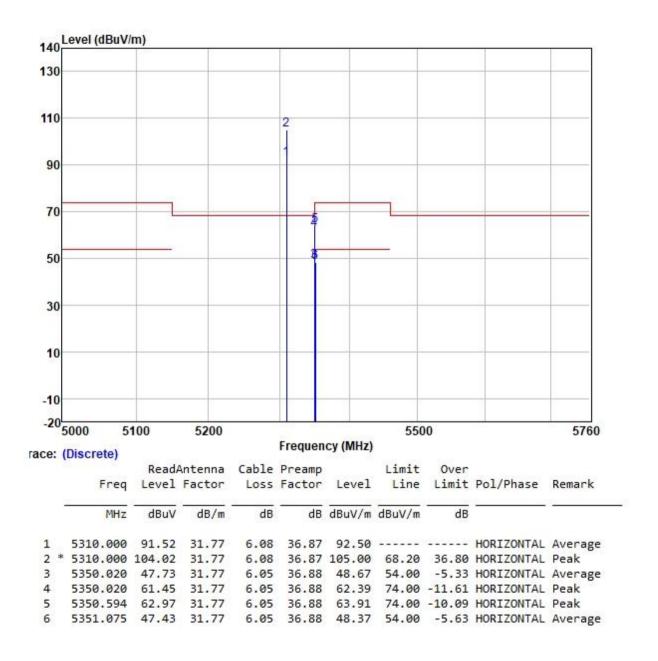
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Test Mode: 03; Polarity: Horizontal; Modulation:802.11ax; Bandwidth:40MHz; Channel:High





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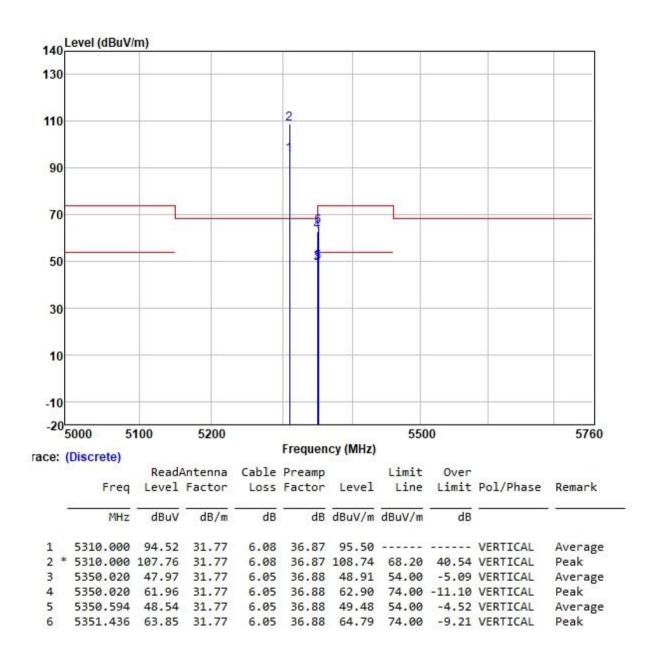
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Test Mode: 03; Polarity: Vertical; Modulation:802.11ax; Bandwidth:40MHz; Channel:High





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