

FCC Radio Test Report

FCC ID: 2AXJ4X3600

This report concerns: **Original Grant**

Project No. : 2008C032
Equipment : AX3600 Whole Home Mesh Wi-Fi 6 System
Brand Name : tp-link
Test Model : Deco X68
Series Model : Deco X3600
Applicant : TP-Link Corporation Limited
Address : Room 901, 9/F. , New East Ocean Centre, 9 Science Museum Road,
Tsim Sha Tsui, Kowloon, Hong Kong
Manufacturer : TP-Link Corporation Limited
Address : Room 901, 9/F. , New East Ocean Centre, 9 Science Museum Road,
Tsim Sha Tsui, Kowloon, Hong Kong
Date of Receipt : Aug. 21, 2020
Date of Test : Aug. 21, 2020 ~ Oct. 21, 2020
Issued Date : Nov. 16, 2020
Report Version : R00
Test Sample : Engineering Sample No.: DG2020082029
Standard(s) : FCC Part15, Subpart E(15.407)
ANSI C63.10-2013
FCC KDB 789033 D02 General UNII Test Procedures New Rules
v02r01
FCC KDB 662911 D01 Multiple Transmitter Output v02r01

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.



Prepared by : Simon Ling



Approved by : Ethan Ma



Certificate #5123.02

Add: No.3, Jinshagang 1st Road, Shixia, Dalang Town,Dongguan, Guangdong, China.

Tel: +86-769-8318-3000

Web: www.newbtl.com

Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, A2LA, or any agency of the U.S. Government.

This report is the confidential property of the client. As a mutual protection to the clients, the public and ourselves, the test report shall not be reproduced, except in full, without our written approval.

BTL's laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

Table of Contents	Page
REPORT ISSUED HISTORY	6
1 . SUMMARY OF TEST RESULTS	7
1.1 TEST FACILITY	8
1.2 MEASUREMENT UNCERTAINTY	8
1.3 TEST ENVIRONMENT CONDITIONS	9
2 . GENERAL INFORMATION	10
2.1 GENERAL DESCRIPTION OF EUT	10
2.2 TEST MODES	13
2.3 PARAMETERS OF TEST SOFTWARE	17
2.4 DUTY CYCLE	19
2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	21
2.6 SUPPORT UNITS	21
3 . AC POWER LINE CONDUCTED EMISSIONS TEST	22
3.1 LIMIT	22
3.2 TEST PROCEDURE	22
3.3 DEVIATION FROM TEST STANDARD	22
3.4 TEST SETUP	23
3.5 EUT OPERATION CONDITIONS	23
3.6 TEST RESULTS	23
4 . RADIATED EMISSIONS TEST	24
4.1 LIMIT	24
4.2 TEST PROCEDURE	25
4.3 DEVIATION FROM TEST STANDARD	25
4.4 TEST SETUP	26
4.5 EUT OPERATION CONDITIONS	27
4.6 TEST RESULTS - 9 KHZ to 30 MHZ	27
4.7 TEST RESULTS - 30 MHz TO 1000 MHz	27
4.8 TEST RESULTS - ABOVE 1000 MHz	27
5 . BANDWIDTH TEST	28
5.1 LIMIT	28
5.2 TEST PROCEDURE	28
5.3 TEST PROCEDURE	28
5.4 TEST SETUP	29

Table of Contents	Page
5.5 EUT OPERATION CONDITIONS	29
5.6 TEST RESULTS	29
6 . MAXIMUM OUTPUT POWER TEST	30
6.1 LIMIT	30
6.2 TEST PROCEDURE	30
6.3 DEVIATION FROM STANDARD	30
6.4 TEST SETUP	30
6.5 EUT OPERATION CONDITIONS	30
6.6 TEST RESULTS	30
7 . POWER SPECTRAL DENSITY TEST	31
7.1 LIMIT	31
7.2 TEST PROCEDURE	31
7.3 DEVIATION FROM STANDARD	31
7.4 TEST SETUP	31
7.5 EUT OPERATION CONDITIONS	31
7.6 TEST RESULTS	31
8 . FREQUENCY STABILITY MEASUREMENT	32
8.1 LIMIT	32
8.2 TEST PROCEDURE	32
8.3 DEVIATION FROM STANDARD	32
8.4 TEST SETUP	32
8.5 EUT OPERATION CONDITIONS	32
8.6 TEST RESULTS	32
9 . MEASUREMENT INSTRUMENTS LIST	33
10 . EUT TEST PHOTOS	35
APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS	40
APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ	43
APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1 GHZ	48
APPENDIX D - RADIATED EMISSION - ABOVE 1000 MHZ	51
APPENDIX E - BANDWIDTH	112
APPENDIX F - MAXIMUM OUTPUT POWER	127
APPENDIX G - POWER SPECTRAL DENSITY	154

Table of Contents**Page****APPENDIX H - FREQUENCY STABILITY****178**

REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	Nov. 16, 2020

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC Part15, Subpart E(15.407)				
Standard(s) Section	Test Item	Test Result	Judgement	Remark
15.207 15.407(b)	AC Power Line Conducted Emissions	APPENDIX A	PASS	-----
15.407(b) 15.205(a) 15.209(a)	Radiated Emissions	APPENDIX B APPENDIX C APPENDIX D	PASS	-----
15.407(a) 15.407(e)	Spectrum Bandwidth	APPENDIX E	PASS	-----
15.407(a)	Maximum Output Power	APPENDIX F	PASS	-----
15.407(a)	Power Spectral Density	APPENDIX G	PASS	-----
15.407(g)	Frequency Stability	APPENDIX H	PASS	-----
15.203	Antenna Requirements	-----	PASS	NOTE (3)
15.407(c)	Automatically Discontinue Transmission	-----	PASS	NOTE (3)

Note:

- (1) "N/A" denotes test is not applicable in this test report.
- (2) The device what use a permanently attached antenna were considered sufficient to comply with the provisions of 15.203.
- (3) During no any information transmission, the EUT can automatically discontinue transmission and become standby mode for power saving. the EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.
- (4) For UNII-1 this device was functioned as a
 Access point device Client device

1.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No.3,Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

BTL's Test Firm Registration Number for FCC: 357015

BTL's Designation Number for FCC: CN1240

1.2 MEASUREMENT UNCERTAINTY

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

The BTL measurement uncertainty as below table:

A. AC power line conducted emissions test:

Test Site	Method	Measurement Frequency Range	U, (dB)
DG-C02	CISPR	150kHz ~ 30MHz	2.68

B. Radiated emissions test:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
DG-CB03	CISPR	9kHz ~ 30MHz	V	3.79
		9kHz ~ 30MHz	H	3.57
		30MHz ~ 200MHz	V	4.26
		30MHz ~ 200MHz	H	3.38
		200MHz ~ 1,000MHz	V	3.98
		200MHz ~ 1,000MHz	H	3.94
		1GHz ~ 6GHz	-	3.96
		6GHz ~ 18GHz	-	5.24
		18GHz ~ 26.5GHz	-	3.62
		26.5GHz ~ 40GHz	-	4.00

C. Other Measurement:

Test Item	Uncertainty
Bandwidth	±3.8 %
Maximum Output Power	±0.95 dB
Conducted Spurious Emission	±2.71 dB
Power Spectral Density	±0.86 dB
Temperature	±0.08 °C
Time	±0.58 %
Supply voltages	±0.3 %

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By
AC Power Line Conducted Emissions	25°C	53%	AC 120V/60Hz	Sheldon Ou
Radiated Emissions-9K-30MHz	25°C	60%	AC 120V/60Hz	Sheldon Ou
Radiated Emissions-30 MHz to 1GHz	26°C	52%	AC 120V/60Hz	Sheldon Ou
Radiated Emissions-Above 1000 MHz	24°C	60%	AC 120V/60Hz	Sheldon Ou
Spectrum Bandwidth	26°C	46%	AC 120V/60Hz	Hayden Chen
Maximum Output Power	26°C	46%	AC 120V/60Hz	Laughing Zhang
Power Spectral Density	26°C	46%	AC 120V/60Hz	Hayden Chen
Frequency Stability	Normal & Extreme	46%	Normal & Extreme	Hayden Chen

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	AX3600 Whole Home Mesh Wi-Fi 6 System
Brand Name	tp-link
Test Model	Deco X68
Series Model	Deco X3600
Model Difference(s)	Only differ in model name.
Power Source	DC Voltage supplied from AC adapter. Model: T120250-2B4
Power Rating	I/P: 100-240V~ 50/60Hz 0.8A O/P: 12V  2.5A
Operation Frequency	UNII-1: 5150 MHz~5250 MHz UNII-3: 5725 MHz~5850 MHz
Modulation Type	IEEE 802.11a/n/ac: OFDM IEEE 802.11ax: OFDMA
Bit Rate of Transmitter	IEEE 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps IEEE 802.11n: up to 450 Mbps IEEE 802.11ac: up to 1300 Mbps IEEE 802.11ax: up to 1801.5 Mbps
Maximum Output Power for UNII-1 Non-Beamforming	IEEE 802.11a: 27.31 dBm (0.5383 W) IEEE 802.11ac (VHT20): 27.94 dBm (0.6223 W) IEEE 802.11ac (VHT40): 27.40 dBm (0.5495 W) IEEE 802.11ac (VHT80): 23.37 dBm (0.2173 W) IEEE 802.11ax (HE20): 28.08 dBm (0.6427 W) IEEE 802.11ax (HE40): 27.29 dBm (0.5358 W) IEEE 802.11ax (HE80): 22.73 dBm (0.1875 W)
Maximum Output Power for UNII-3 Non-Beamforming	IEEE 802.11a: 28.50 dBm (0.7079 W) IEEE 802.11ac (VHT20): 28.47 dBm (0.7031 W) IEEE 802.11ac (VHT40): 27.39 dBm (0.5483 W) IEEE 802.11ac (VHT80): 24.20 dBm (0.2630 W) IEEE 802.11ax (HE20): 28.54 dBm (0.7145 W) IEEE 802.11ax (HE40): 27.62 dBm (0.5781 W) IEEE 802.11ax (HE80): 24.26 dBm (0.2667 W)
Maximum Output Power for UNII-1 Beamforming	IEEE 802.11ac (VHT20): 27.62 dBm (0.5781 W) IEEE 802.11ac (VHT40): 27.11 dBm (0.5140 W) IEEE 802.11ac (VHT80): 23.07 dBm (0.2028 W) IEEE 802.11ax (HE20): 27.79 dBm (0.6012 W) IEEE 802.11ax (HE40): 26.96 dBm (0.4966 W) IEEE 802.11ax (HE80): 22.46 dBm (0.1762 W)
Maximum Output Power for UNII-3 Beamforming	IEEE 802.11ac (VHT20): 28.17 dBm (0.6561 W) IEEE 802.11ac (VHT40): 27.06 dBm (0.5082 W) IEEE 802.11ac (VHT80): 23.92 dBm (0.2466 W) IEEE 802.11ax (HE20): 28.18 dBm (0.6577 W) IEEE 802.11ax (HE40): 27.30 dBm (0.5370 W) IEEE 802.11ax (HE80): 23.93 dBm (0.2472 W)

Note:

- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
- Channel List:

IEEE 802.11a IEEE 802.11n (HT20) IEEE 802.11ac (VHT20) IEEE 802.11ax (HE20)		IEEE 802.11n (HT40) IEEE 802.11ac (VHT40) IEEE 802.11ax (HE40)		IEEE 802.11ac (VHT80) IEEE 802.11ax (HE80)	
UNII-1		UNII-1		UNII-1	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230		
44	5220				
48	5240				

IEEE 802.11a IEEE 802.11n (HT20) IEEE 802.11ac (VHT20) IEEE 802.11ax (HE20)		IEEE 802.11n (HT40) IEEE 802.11ac (VHT40) IEEE 802.11ax (HE40)		IEEE 802.11ac (VHT80) IEEE 802.11ax (HE80)	
UNII-3		UNII-3		UNII-3	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	151	5755	155	5775
153	5765	159	5795		
157	5785				
161	5805				
165	5825				

3. Antenna Specification:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1		3101503313	Internal	IPEX	0.94	UNII-1
2		3101503312	Internal	IPEX	0.97	UNII-1
3		3101503314	Internal	IPEX	0.98	UNII-1
1		3101503310	Internal	IPEX	0.92	UNII-3
2		3101503311	Internal	IPEX	0.92	UNII-3

Note:

This EUT supports CDD,

- For UNII-1, all antenna gains are not equal, so Directional gain = $10\log[10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20}]^2 / N$ dBi.
the Directional gain = $10\log[(10^{0.94/20} + 10^{0.97/20} + 10^{0.98/20})^2 / 3]$ dBi = 5.73.
- For UNII-3, all antennas have the same gain, then, Directional gain = $G_{ANT} + \text{Array Gain}$,
For power measurements, Array Gain = 0 dB ($N_{ANT} \leq 4$), so the Directional gain = 0.92.
For power spectral density measurements, $N_{ANT} = 2$, $N_{SS} = 1$. So Directional gain = $G_{ANT} + \text{Array Gain} = G_{ANT} + 10\log(N_{ANT}/N_{SS})$ dB = $0.92 + 10\log(2/1)$ dBi = 3.93.
- a) For UNII-1, Beamforming Gain: 4.7 dB, the Directional gain = $4.7 + 0.98 = 5.68$.
b) For UNII-3, Beamforming Gain: 3 dB the Directional gain = $3 + 0.92 = 3.92$.

4. Table for Antenna Configuration:

UNII-1:

For Non Beamforming:

Operating Mode	TX Mode	3TX
IEEE 802.11a		V (Ant. 1 + Ant. 2 + Ant. 3)
IEEE 802.11ac (VHT20)		V (Ant. 1 + Ant. 2 + Ant. 3)
IEEE 802.11ac (VHT40)		V (Ant. 1 + Ant. 2 + Ant. 3)
IEEE 802.11ac (VHT80)		V (Ant. 1 + Ant. 2 + Ant. 3)
IEEE 802.11ax (HE20)		V (Ant. 1 + Ant. 2 + Ant. 3)
IEEE 802.11ax (HE40)		V (Ant. 1 + Ant. 2 + Ant. 3)
IEEE 802.11ax (HE80)		V (Ant. 1 + Ant. 2 + Ant. 3)

For Beamforming:

Operating Mode	TX Mode	3TX
IEEE 802.11ac (VHT20)		V (Ant. 1 + Ant. 2 + Ant. 3)
IEEE 802.11ac (VHT40)		V (Ant. 1 + Ant. 2 + Ant. 3)
IEEE 802.11ac (VHT80)		V (Ant. 1 + Ant. 2 + Ant. 3)
IEEE 802.11ax (HE20)		V (Ant. 1 + Ant. 2 + Ant. 3)
IEEE 802.11ax (HE40)		V (Ant. 1 + Ant. 2 + Ant. 3)
IEEE 802.11ax (HE80)		V (Ant. 1 + Ant. 2 + Ant. 3)

UNII-3:

For Non Beamforming:

Operating Mode	TX Mode	2TX
IEEE 802.11a		V (Ant. 1 + Ant. 2)
IEEE 802.11ac (VHT20)		V (Ant. 1 + Ant. 2)
IEEE 802.11ac (VHT40)		V (Ant. 1 + Ant. 2)
IEEE 802.11ac (VHT80)		V (Ant. 1 + Ant. 2)
IEEE 802.11ax (HE20)		V (Ant. 1 + Ant. 2)
IEEE 802.11ax (HE40)		V (Ant. 1 + Ant. 2)
IEEE 802.11ax (HE80)		V (Ant. 1 + Ant. 2)

For Beamforming:

Operating Mode	TX Mode	2TX
IEEE 802.11ac (VHT20)		V (Ant. 1 + Ant. 2)
IEEE 802.11ac (VHT40)		V (Ant. 1 + Ant. 2)
IEEE 802.11ac (VHT80)		V (Ant. 1 + Ant. 2)
IEEE 802.11ax (HE20)		V (Ant. 1 + Ant. 2)
IEEE 802.11ax (HE40)		V (Ant. 1 + Ant. 2)
IEEE 802.11ax (HE80)		V (Ant. 1 + Ant. 2)

2.2 TEST MODES

The test system was pre-tested based on the consideration of all possible combinations of EUT operation mode.

Pretest Mode	Description
Mode 1	TX A Mode / CH36, CH40, CH48 (UNII-1)
Mode 2	TX AC (VHT20) Mode / CH36, CH40, CH48 (UNII-1)
Mode 3	TX AC (VHT40) Mode / CH38, CH46 (UNII-1)
Mode 4	TX AC (VHT80) Mode / CH42 (UNII-1)
Mode 5	TX AX (HE20) Mode / CH36, CH40, CH48 (UNII-1)
Mode 6	TX AX (HE40) Mode / CH38, CH46 (UNII-1)
Mode 7	TX AX (HE80) Mode / CH42 (UNII-1)
Mode 8	TX A Mode / CH149,CH157,CH165 (UNII-3)
Mode 9	TX AC (VHT20) Mode / CH149,CH157,CH165 (UNII-3)
Mode 10	TX AC (VHT40) Mode / CH151,CH159 (UNII-3)
Mode 11	TX AC (VHT80) Mode / CH155 (UNII-3)
Mode 12	TX AX (HE20) Mode / CH149,CH157,CH165 (UNII-3)
Mode 13	TX AX (HE40) Mode / CH151,CH159 (UNII-3)
Mode 14	TX AX (HE80) Mode / CH155 (UNII-3)
Mode 15	TX AX (HE20) Mode / CH157 (UNII-3)

Following mode(s) was (were) found to be the worst case(s) and selected for the final test.

AC power line conducted emissions test	
Final Test Mode	Description
Mode 15	TX AX (HE20) Mode / CH157 (UNII-3)

Radiated emissions test-Below 1GHz	
Final Test Mode	Description
Mode 15	TX AX (HE20) Mode / CH157 (UNII-3)

Radiated emissions test-Above 1GHz	
Final Test Mode	Description
Mode 1	TX A Mode / CH36, CH40, CH48 (UNII-1)
Mode 2	TX AC (VHT20) Mode / CH36, CH40, CH48 (UNII-1)
Mode 3	TX AC (VHT40) Mode / CH38, CH46 (UNII-1)
Mode 4	TX AC (VHT80) Mode / CH42 (UNII-1)
Mode 5	TX AX (HE20) Mode / CH36, CH40, CH48 (UNII-1)
Mode 6	TX AX (HE40) Mode / CH38, CH46 (UNII-1)
Mode 7	TX AX (HE80) Mode / CH42 (UNII-1)
Mode 8	TX A Mode / CH149,CH157,CH165 (UNII-3)
Mode 9	TX AC (VHT20) Mode / CH149,CH157,CH165 (UNII-3)
Mode 10	TX AC (VHT40) Mode / CH151,CH159 (UNII-3)
Mode 11	TX AC (VHT80) Mode / CH155 (UNII-3)
Mode 12	TX AX (HE20) Mode / CH149,CH157,CH165 (UNII-3)
Mode 13	TX AX (HE40) Mode / CH151,CH159 (UNII-3)
Mode 14	TX AX (HE80) Mode / CH155 (UNII-3)

Maximum Output Power test_Non Beamforming	
Final Test Mode	Description
Mode 1	TX A Mode / CH36, CH40, CH48 (UNII-1)
Mode 2	TX AC(VHT20) Mode / CH36, CH40, CH48 (UNII-1)
Mode 3	TX AC(VHT40) Mode / CH38, CH46 (UNII-1)
Mode 4	TX AC(VHT80) Mode / CH42 (UNII-1)
Mode 5	TX AX(HE20) Mode / CH36, CH40, CH48 (UNII-1)
Mode 6	TX AX(HE40) Mode / CH38, CH46 (UNII-1)
Mode 7	TX AX(HE80) Mode / CH42 (UNII-1)
Mode 8	TX A Mode / CH149,CH157,CH165 (UNII-3)
Mode 9	TX AC(VHT20) Mode / CH149,CH157,CH165 (UNII-3)
Mode 10	TX AC(VHT40) Mode / CH151,CH159 (UNII-3)
Mode 11	TX AC(VHT80) Mode / CH155 (UNII-3)
Mode 12	TX AX(HE20) Mode / CH149,CH157,CH165 (UNII-3)
Mode 13	TX AX(HE40) Mode / CH151,CH159 (UNII-3)
Mode 14	TX AX(HE80) Mode / CH155 (UNII-3)

Maximum Output Power test_Beamforming	
Final Test Mode	Description
Mode 2	TX AC(VHT20) Mode / CH36, CH40, CH48 (UNII-1)
Mode 3	TX AC(VHT40) Mode / CH38, CH46 (UNII-1)
Mode 4	TX AC(VHT80) Mode / CH42 (UNII-1)
Mode 5	TX AX(HE20) Mode / CH36, CH40, CH48 (UNII-1)
Mode 6	TX AX(HE40) Mode / CH38, CH46 (UNII-1)
Mode 7	TX AX(HE80) Mode / CH42 (UNII-1)
Mode 9	TX AC(VHT20) Mode / CH149,CH157,CH165 (UNII-3)
Mode 10	TX AC(VHT40) Mode / CH151,CH159 (UNII-3)
Mode 11	TX AC(VHT80) Mode / CH155 (UNII-3)
Mode 12	TX AX(HE20) Mode / CH149,CH157,CH165 (UNII-3)
Mode 13	TX AX(HE40) Mode / CH151,CH159 (UNII-3)
Mode 14	TX AX(HE80) Mode / CH155 (UNII-3)

Other Conducted test	
Test Mode	Description
Mode 1	TX A Mode / CH36, CH40, CH48 (UNII-1)
Mode 2	TX AC(VHT20) Mode / CH36, CH40, CH48 (UNII-1)
Mode 3	TX AC(VHT40) Mode / CH38, CH46 (UNII-1)
Mode 4	TX AC(VHT80) Mode / CH42 (UNII-1)
Mode 5	TX AX(HE20) Mode / CH36, CH40, CH48 (UNII-1)
Mode 6	TX AX(HE40) Mode / CH38, CH46 (UNII-1)
Mode 7	TX AX(HE80) Mode / CH42 (UNII-1)
Mode 8	TX A Mode / CH149,CH157,CH165 (UNII-3)
Mode 9	TX AC(VHT20) Mode / CH149,CH157,CH165 (UNII-3)
Mode 10	TX AC(VHT40) Mode / CH151,CH159 (UNII-3)
Mode 11	TX AC(VHT80) Mode / CH155 (UNII-3)
Mode 12	TX AX(HE20) Mode / CH149,CH157,CH165 (UNII-3)
Mode 13	TX AX(HE40) Mode / CH151,CH159 (UNII-3)
Mode 14	TX AX(HE80) Mode / CH155 (UNII-3)

Note:

- (1) For radiated emission below 1 GHz test, the IEEE 802.11ax(HE20) is found to be the worst case and recorded.
- (2) All the bit rate of transmitter have been tested and found the lowest rate is found to be the worst case and recorded.
- (3) For radiated emission above 1 GHz test, 1GHz~26.5GHz and 26.5GHz~40GHz have been pre-tested and in this report only recorded the worst case. The remaining spurious points are all below the limit value of 20dB.
- (4) VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for 802.11n HT20 and HT40 are the same or lower than 802.11ac VHT20 and VHT40.
- (5) IEEE 802.11ax full RU mode was evaluated and measured inside report.
- (6) The measurements for RF Output Power were tested, the Non Beamforming and Beamforming are recorded in the report. The worst case was Non Beamforming and only worst case were documented for other test items.
- (7) Radiated emissions above 1GHz have tested the vertical and horizontal polarities, the worst case is vertical, and only the worst case recorded in this report.

2.3 PARAMETERS OF TEST SOFTWARE

Non-Beamforming

UNII-1			
Test Software	QSPR		
Test Frequency (MHz)	5180	5200	5240
IEEE 802.11a	80	88	90
IEEE 802.11ac (VHT20)	79	88	91
IEEE 802.11ax (HE20)	77	87	90
Test Frequency (MHz)	5190	5230	
IEEE 802.11ac (VHT40)	74	89	
IEEE 802.11ax (HE40)	72	88	
Test Frequency (MHz)	5210		
IEEE 802.11ac (VHT80)	73		
IEEE 802.11ax (HE80)	70		

UNII-3			
Test Software	accessMTool V3.1.0.3		
Test Frequency (MHz)	5745	5785	5825
IEEE 802.11a	99	101	99
IEEE 802.11ac (VHT20)	98	101	98
IEEE 802.11ax (HE20)	98	100	98
Test Frequency (MHz)	5755	5795	
IEEE 802.11ac (VHT40)	98	98	
IEEE 802.11ax (HE40)	98	96	
Test Frequency (MHz)	5775		
IEEE 802.11ac (VHT80)	83		
IEEE 802.11ax (HE80)	82		

Beamforming

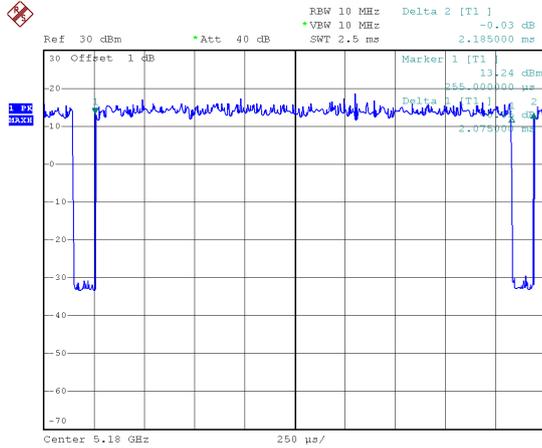
UNII-1			
Test Software	QSPR		
Test Frequency (MHz)	5180	5200	5240
IEEE 802.11ac (VHT20)	78	87	90
IEEE 802.11ax (HE20)	97	99	97
Test Frequency (MHz)	5190	5230	/
IEEE 802.11ac (VHT40)	73	88	/
IEEE 802.11ax (HE40)	71	87	/
Test Frequency (MHz)	5210	/	/
IEEE 802.11ac (VHT80)	72	/	/
IEEE 802.11ax (HE80)	69	/	/

UNII-3			
Test Software	accessMTool V3.1.0.3		
Test Frequency (MHz)	5745	5785	5825
IEEE 802.11ac (VHT20)	98	101	98
IEEE 802.11ax (HE20)	98	100	98
Test Frequency (MHz)	5755	5795	/
IEEE 802.11ac (VHT40)	98	98	/
IEEE 802.11ax (HE40)	98	96	/
Test Frequency (MHz)	5775	/	/
IEEE 802.11ac (VHT80)	83	/	/
IEEE 802.11ax (HE80)	82	/	/

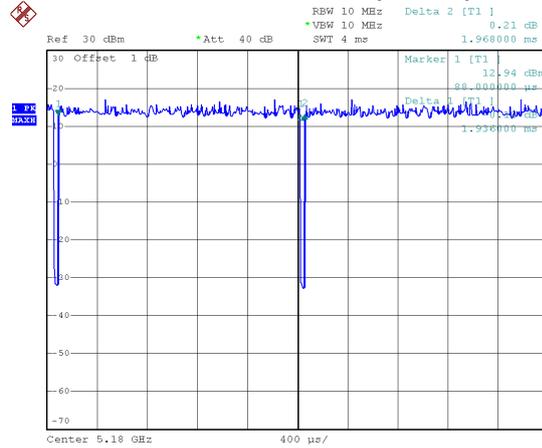
2.4 DUTY CYCLE

If duty cycle is $\geq 98\%$, duty factor is not required.
 If duty cycle is $< 98\%$, duty factor shall be considered.
 The output power = measured power + duty factor.
 The power spectral density = measured power spectral density + duty factor.

IEEE 802.11a



IEEE 802.11ac (VHT20)

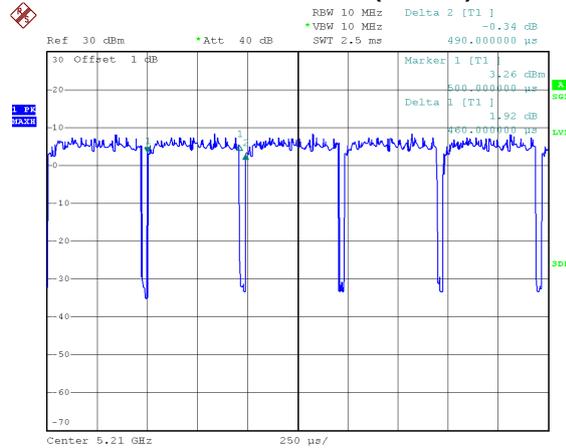
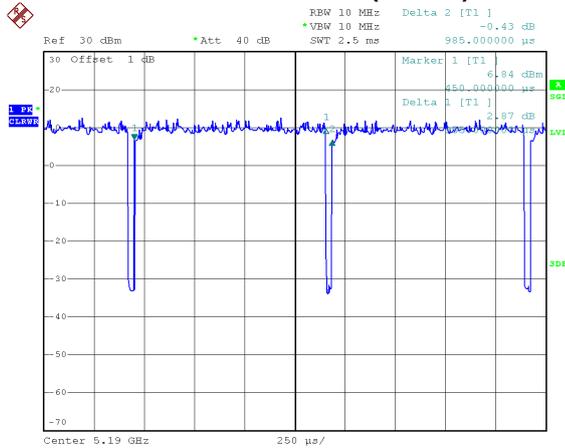


Date: 27.AUG.2020 14:14:49

Duty cycle = $2.075 \text{ ms} / 2.185 \text{ ms} = 94.97\%$
 Duty Factor = $10 * \log(1 / \text{Duty cycle}) = 0.22$
IEEE 802.11ac (VHT40)

Date: 27.AUG.2020 14:15:39

Duty cycle = $1.936 \text{ ms} / 1.968 \text{ ms} = 98.37\%$
 Duty Factor = $10 * \log(1 / \text{Duty cycle}) = 0.00$
IEEE 802.11ac (VHT80)



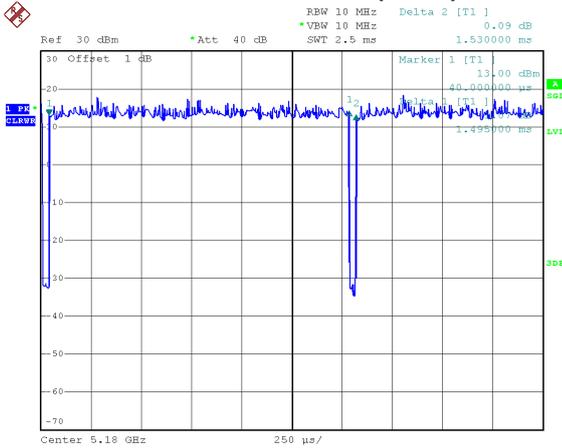
Date: 27.AUG.2020 14:16:21

Duty cycle = $0.955 \text{ ms} / 0.985 \text{ ms} = 96.95\%$
 Duty Factor = $10 * \log(1 / \text{Duty cycle}) = 0.13$

Date: 27.AUG.2020 14:17:19

Duty cycle = $0.460 \text{ ms} / 0.490 \text{ ms} = 93.88\%$
 Duty Factor = $10 * \log(1 / \text{Duty cycle}) = 0.27$

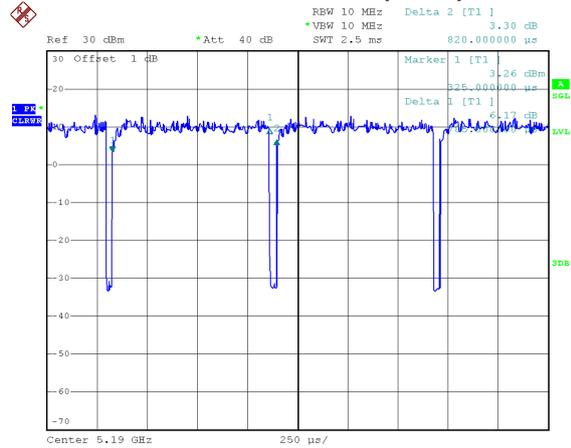
IEEE 802.11ax (HE20)



Date: 27.AUG.2020 14:18:14

Duty cycle = 1.495 ms / 1.530 ms = 97.71%
 Duty Factor = 10 * log(1 / Duty cycle) = 0.10

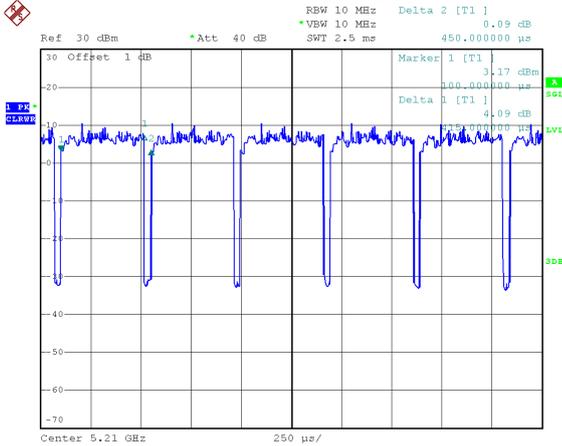
IEEE 802.11ax (HE40)



Date: 27.AUG.2020 14:19:02

Duty cycle = 0.785 ms / 0.820 ms = 95.73%
 Duty Factor = 10 * log(1 / Duty cycle) = 0.19

IEEE 802.11ax (HE80)



Date: 27.AUG.2020 14:19:39

Duty cycle = 0.415 ms / 0.450 ms = 92.22%
 Duty Factor = 10 * log(1 / Duty cycle) = 0.35

NOTE:

For IEEE 802.11a, IEEE 802.11ac (VHT20) and IEEE 802.11ax (HE20):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1 kHz (Duty cycle < 98%).

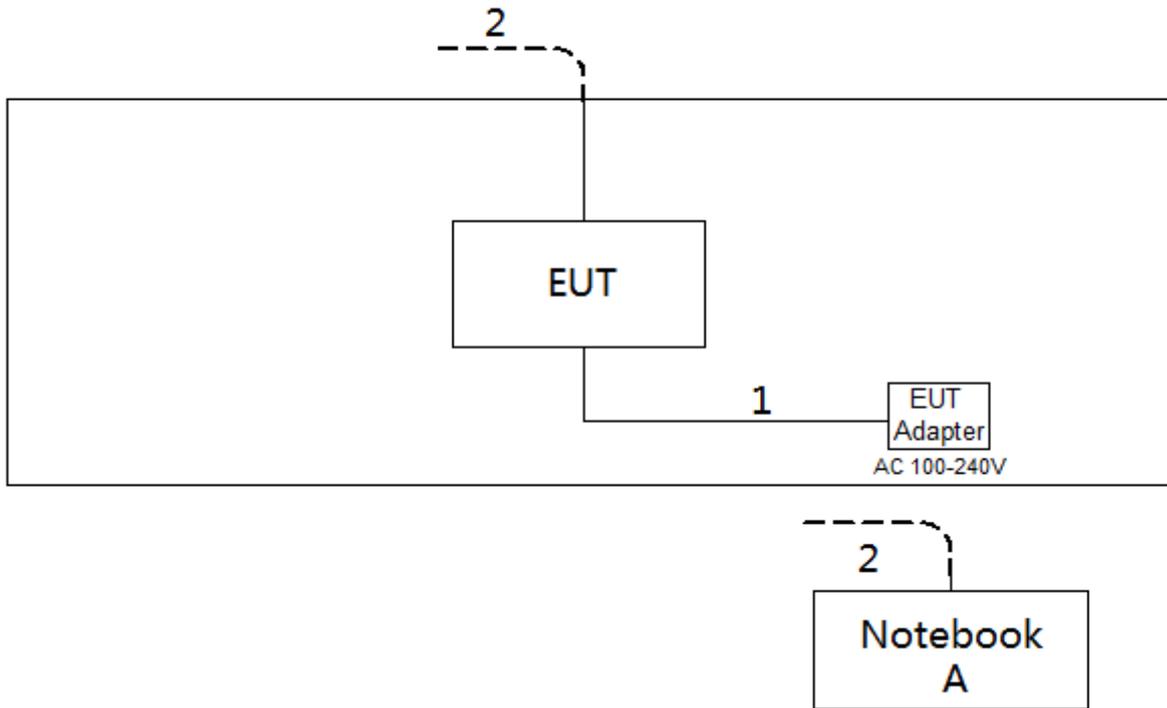
IEEE 802.11ac (VHT40) and IEEE 802.11ax (HE40):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 2 kHz (Duty cycle < 98%).

For IEEE 802.11ac (VHT80) and IEEE 802.11ax (HE80):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 kHz (Duty cycle < 98%).

2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.6 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.
A	Notebook	Dell	Inspiron 15-7559	N/A

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	DC Cable	NO	NO	1.5m
2	RJ45 Cable	NO	NO	10m

3. AC POWER LINE CONDUCTED EMISSIONS TEST

3.1 LIMIT

Frequency (MHz)	Limit (dB μ V)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56*	56 to 46*
0.5 - 5.0	56	46
5.0 - 30.0	60	50

NOTE:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameter	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 KHz

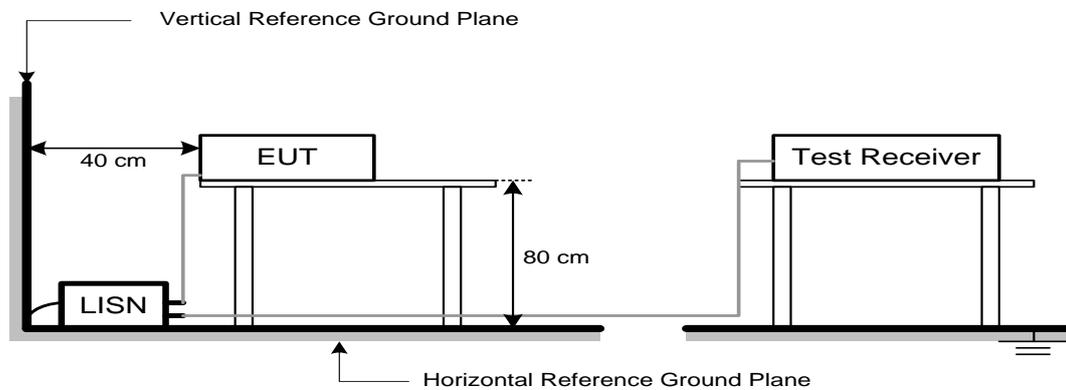
3.2 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item -EUT Test Photos.

3.3 DEVIATION FROM TEST STANDARD

No deviation

3.4 TEST SETUP



3.5 EUT OPERATION CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

The EUT was programmed to be in continuously transmitting/TX mode.

3.6 TEST RESULTS

Please refer to the APPENDIX A.

4. RADIATED EMISSIONS TEST

4.1 LIMIT

In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

LIMITS OF RADIATED EMISSIONS MEASUREMENT (9 kHz to 1000 MHz)

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

LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

Frequency (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength at 3m (dBμV/m)
5150-5250	-27	68.3
5250-5350	-27	68.3
5470-5725	-27	68.3
5725-5850	-27 NOTE (2)	68.3
	10 NOTE (2)	105.3
	15.6 NOTE (2)	110.9
	27 NOTE (2)	122.3

NOTE:

- (1) The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m, where P is the eirp (Watts)}$$

- (2) According to 15.407(b)(4)(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.

4.2 TEST PROCEDURE

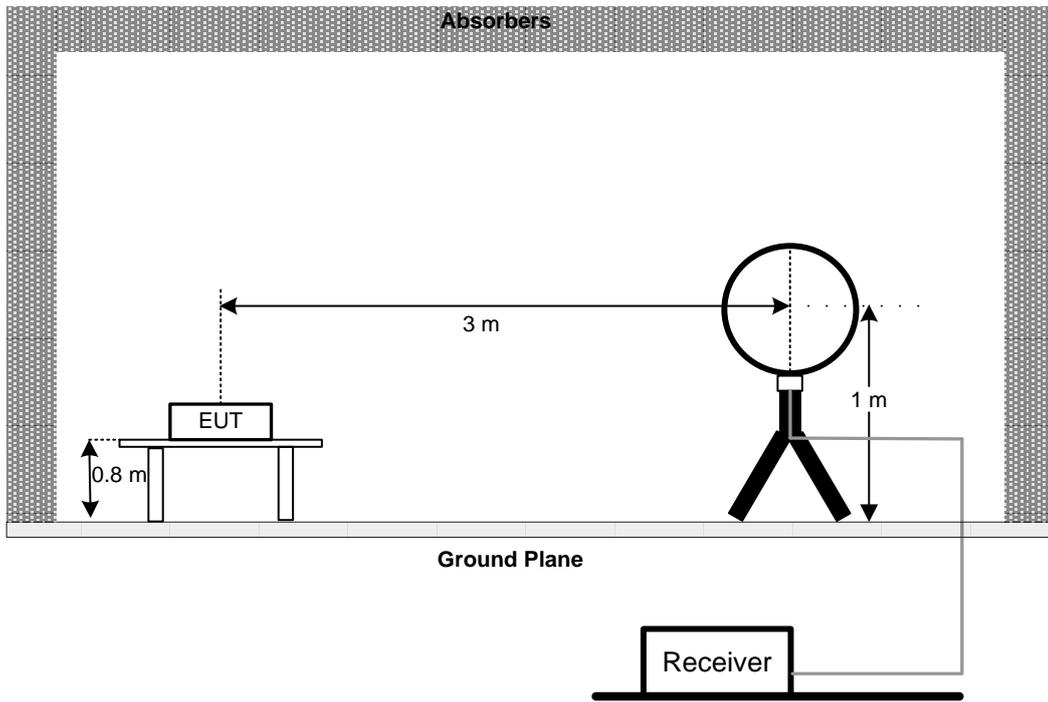
- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- c. The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; the height of the test antenna shall vary between 1 m to 4 m. 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 find the maximum reading (used Bore sight function).
- e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
- f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.
(below 1 GHz)
- h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1 GHz)
- i. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.3 DEVIATION FROM TEST STANDARD

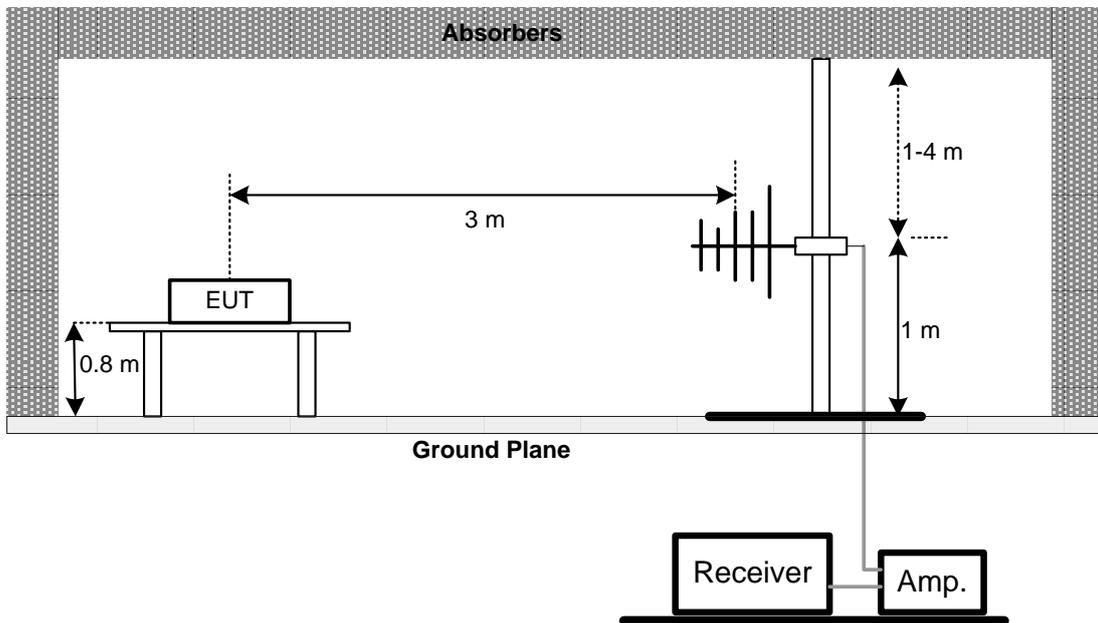
No deviation

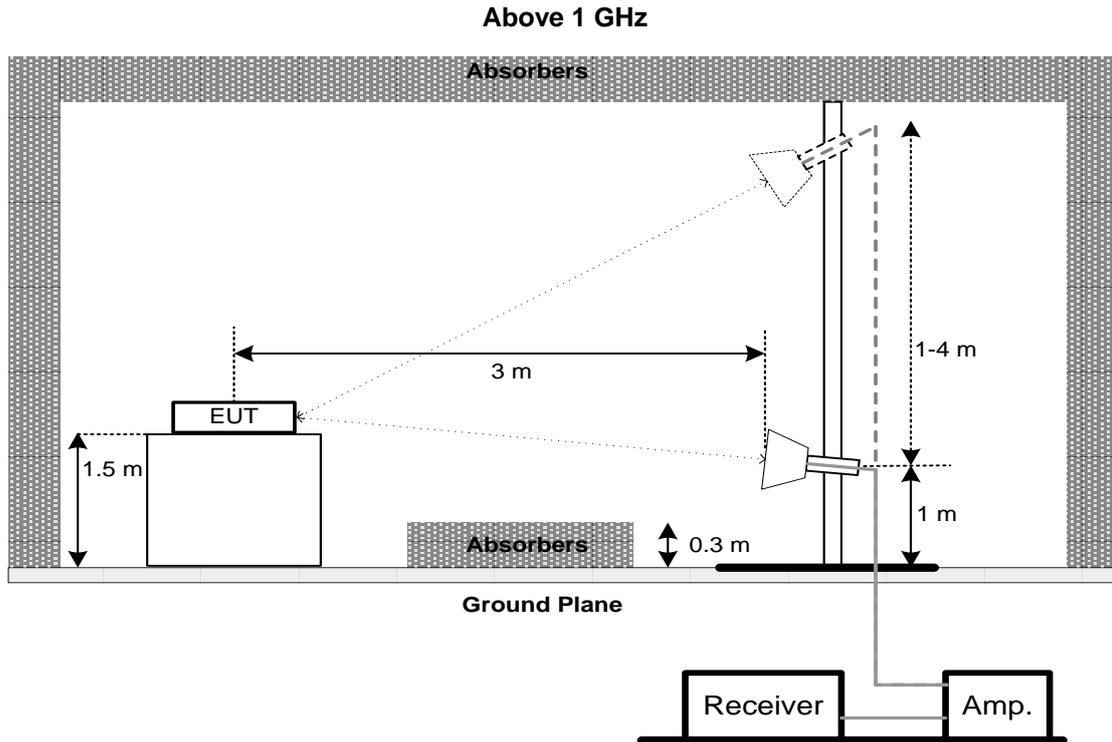
4.4 TEST SETUP

9 kHz to 30 MHz



30 MHz to 1 GHz





4.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 3.5 unless otherwise a special operating condition is specified in the follows during the testing.

4.6 TEST RESULTS - 9 KHZ to 30 MHZ

Please refer to the APPENDIX B

Remark:

- (1) The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
- (2) Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB).
- (3) Limit line = specific limits (dBuV) + distance extrapolation factor.

4.7 TEST RESULTS - 30 MHz TO 1000 MHz

Please refer to the APPENDIX C.

4.8 TEST RESULTS - ABOVE 1000 MHz

Please refer to the APPENDIX D.

Remark:

- (1) No limit: This is fundamental signal, the judgment is not applicable.
For fundamental signal judgment was referred to Peak output test.

5. BANDWIDTH TEST

5.1 LIMIT

FCC Part15, Subpart E (15.407)			
Section	Test Item	Limit	Frequency Range (MHz)
15.407(a)	26 dB Bandwidth	-	5150-5250
15.407(e)	6 dB Bandwidth	Minimum 500 kHz	5725-5850

5.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below
- b. a. Spectrum Setting:
For UNII-1:

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> 26 dB Bandwidth
RBW	300 kHz (Bandwidth 20 MHz) 1 MHz (Bandwidth 40 MHz and 80 MHz)
VBW	1 MHz (Bandwidth 20 MHz) 3 MHz (Bandwidth 40 MHz and 80 MHz)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

For UNII-3:

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	6 dB Bandwidth
RBW	100 kHz
VBW	300 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

- c. Measured the spectrum width with power higher than 6 dB/26 dB below carrier

5.3 TEST PROCEDURE

No deviation.

5.4 TEST SETUP**5.5 EUT OPERATION CONDITIONS**

The EUT was programmed to be in continuously transmitting mode.

5.6 TEST RESULTS

Please refer to the APPENDIX E.

6. MAXIMUM OUTPUT POWER TEST

6.1 LIMIT

FCC Part15, Subpart E (15.407)			
Section	Test Item	Limit	Frequency Range (MHz)
15.407(a)	Conducted Output Power	AP device: 1 Watt (30 dBm)	5150-5250
		Client device: 250 mW (24 dBm)	5725-5850
		1 Watt (30dBm)	5725-5850

Note:

For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

6.2 TEST PROCEDURE

- a. The EUT was directly connected to the power meter and antenna output port as show in the block diagram below.
- b. Test test was performed in accordance with method of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.6 TEST RESULTS

Please refer to the APPENDIX F.

7. POWER SPECTRAL DENSITY TEST

7.1 LIMIT

FCC Part15, Subpart E (15.407)			
Section	Test Item	Limit	Frequency Range (MHz)
15.407(a)	Power Spectral Density	AP device: 17 dBm/MHz Client device: 11 dBm/MHz	5150-5250
		30 dBm/500 kHz	5725-5850

7.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. Spectrum Setting

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RBW	= 1 MHz.
VBW	≥ 3 MHz.
Detector	RMS
Trace average	100 trace
Sweep Time	Auto

Note:

1. The value measured with RBW=1 MHz is to be added with $10\log(500\text{ kHz}/1\text{ MHz})$ which is -3 dB. For example, if the measured value is +10dBm using RBW=1 MHz (that is +10 dBm/MHz), then the converted value will be +7dBm/500kHz.

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.6 TEST RESULTS

Please refer to the APPENDIX G.

8. FREQUENCY STABILITY MEASUREMENT

8.1 LIMIT

FCC Part15, Subpart E (15.407)			
Section	Test Item	Limit	Frequency Range (MHz)
15.407(g)	Frequency Stability	An emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.	5150-5250
			5725-5850

8.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. Spectrum Setting:

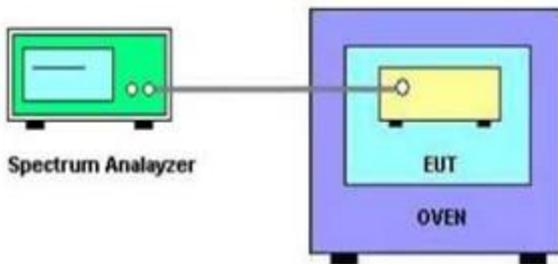
Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Entire absence of modulation emissions bandwidth
RBW	10 kHz
VBW	10 kHz
Sweep Time	Auto

- c. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value.
- d. User manual temperature is 0°C~40°C.

8.3 DEVIATION FROM STANDARD

No deviation.

8.4 TEST SETUP



8.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

8.6 TEST RESULTS

Please refer to the APPENDIX H.

9. MEASUREMENT INSTRUMENTS LIST

AC Power Line Conducted Emissions					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EMI Test Receiver	R&S	ESCI	100382	Feb. 28, 2021
2	LISN	EMCO	3816/2	52765	Mar. 01, 2021
3	TWO-LINE V-NETWORK	R&S	ENV216	101447	Feb. 28, 2021
4	50Ω Terminator	SHX	TF5-3	15041305	Mar. 01, 2021
5	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
6	Cable	N/A	RG223	12m	Mar. 10, 2021
7	643 Shield Room	ETS	6*4*3m	N/A	N/A

Radiated Emissions - 9 kHz to 30 MHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	EM	EM-6876-1	230	Apr. 16, 2021
2	Cable	N/A	RG 213/U	N/A	May 29, 2021
3	EMI Test Receiver	R&S	ESCI	100895	Feb. 28, 2021
4	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
5	966 Chambe Room	RM	9*6*6m	N/A	Jul. 25, 2021

Radiated Emissions - 30 MHz to 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarzbeck	VULB9160	9160-3232	Mar. 09, 2021
2*	Amplifier	HP	8447D	2944A09673	Aug. 11, 2021
3	Receiver	Agilent	N9038A	MY52130039	Jul. 25, 2021
4	Cable	emci	LMR-400(30MHz-1 GHz)(8m+5m)	N/A	May 22, 2021
5	Controller	CT	SC100	N/A	N/A
6	Controller	MF	MF-7802	MF780208416	N/A
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
8	966 Chambe Room	RM	9*6*6m	N/A	Jul. 25, 2021

Radiated Emissions - Above 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Double Ridged Guide Antenna	ETS	3115	75789	May 12, 2021
2	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Jul. 07, 2021
3	Amplifier	Agilent	8449B	3008A02333	Mar. 01, 2021
4	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 07, 2021
5	Receiver	Agilent	N9038A	MY52130039	Jul. 25, 2021
6	Controller	CT	SC100	N/A	N/A
7	Controller	MF	MF-7802	MF780208416	N/A
8	Cable	N/A	EMC104-SM-SM-6000	N/A	May 09, 2021
9	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
10	Band Reject Filter	Micro-Tronics	BRC50705-01	10	Feb. 28, 2021
11	Band Reject Filter	Micro-Tronics	BRC50704-01	8	Feb. 28, 2021
12	Band Reject Filter	Micro-Tronics	BRC50703-01	7	Feb. 28, 2021
13	966 Chambe Room	RM	9*6*6m	N/A	Jul. 25, 2021

Bandwidth & Conducted Output Power & Power Spectral Density					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100185	Jul. 25, 2021
2	RF Cable	Tongkaichuan	N/A	N/A	N/A
3	DC Block	Mini	N/A	N/A	N/A
4	EXA Spectrum Analyzer	Agilent	N9010A	MY55150209	Mar. 01, 2021

Maximum Output Power					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Peak Power Analyzer	Keysight	8990B	MY51000506	Aug. 07, 2021
2	Wideband power sensor	Keysight	N1923A	MY58310004	Jul. 25, 2021
3	Attenuator	WOKEN	6SM3502	VAS1214NL	Feb. 11, 2021
4	RF Cable	Tongkaichuan	N/A	N/A	N/A

Frequency Stability					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100185	Jul. 25, 2021
2	Precision Oven Tester	CEPREI	CEEC-M64T-40	15-008	Feb. 28, 2021
3	RF Cable	Tongkaichuan	N/A	N/A	N/A
4	DC Block	Mini	N/A	N/A	N/A

Remark: "N/A" denotes no model name, serial no. or calibration specified.

"*" calibration period of equipment list is three year.

Except * item, all calibration period of equipment list is one year.

10. EUT TEST PHOTOS**AC Power Line Conducted Emissions Test Photos**

Radiated Emissions Test Photos**9 kHz to 30 MHz**

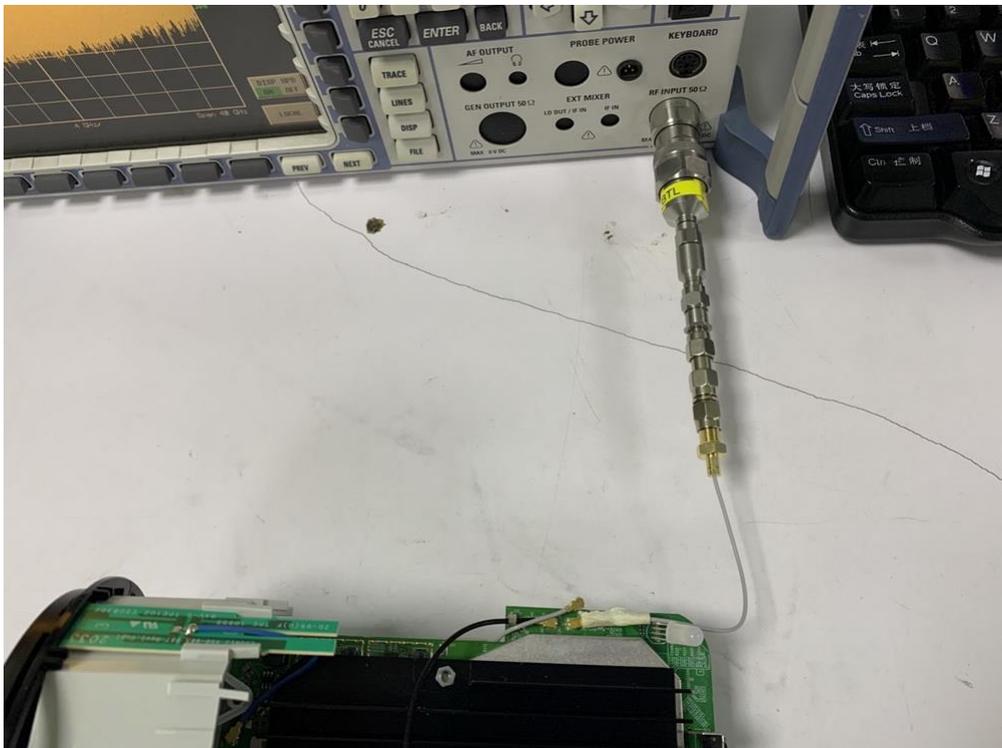
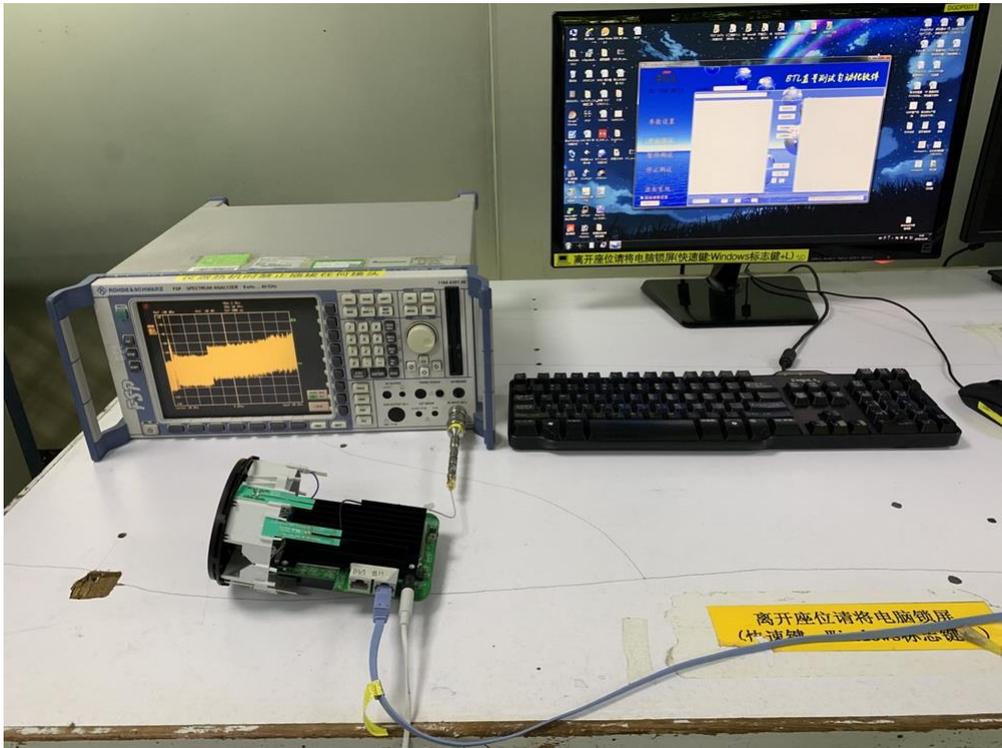
Radiated Emissions Test Photos**30 MHz to 1 GHz**

Radiated Emissions Test Photos

Above 1 GHz



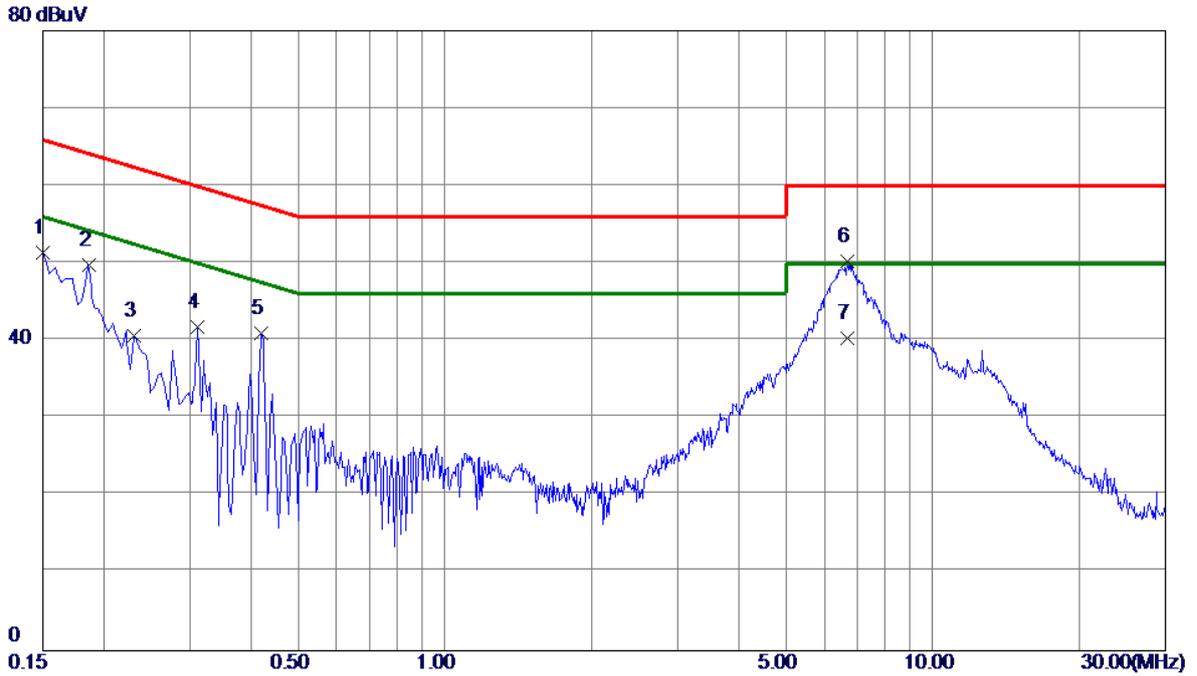
Conducted Test Photos



APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS

Test Mode: TX AX (HE20) Mode CHANNEL 157

Line



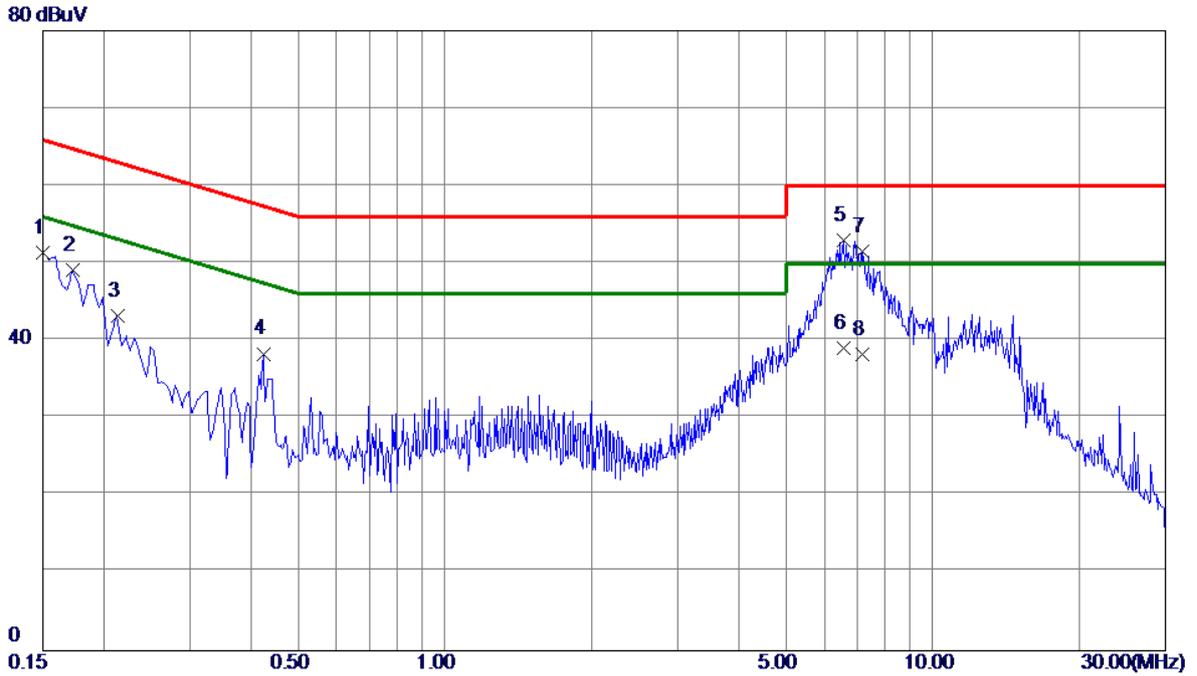
No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	0.1500	41.63	9.67	51.30	66.00	-14.70	Peak	
2	0.1860	39.90	9.87	49.77	64.21	-14.44	Peak	
3	0.2310	30.77	9.89	40.66	62.41	-21.75	Peak	
4	0.3120	31.93	9.89	41.82	59.92	-18.10	Peak	
5	0.4200	31.04	9.93	40.97	57.45	-16.48	Peak	
6	6.6750	39.76	10.45	50.21	60.00	-9.79	QP	
7 *	6.6750	29.81	10.45	40.26	50.00	-9.74	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.
- (3) The test result has included the cable loss.

Test Mode: TX AX (HE20) Mode CHANNEL 157

Neutral



No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Margin dB	Detector	Comment
1	0.1500	41.61	9.74	51.35	66.00	-14.65	Peak	
2	0.1725	39.23	9.91	49.14	64.84	-15.70	Peak	
3	0.2130	33.23	10.00	43.23	63.09	-19.86	Peak	
4	0.4245	28.22	10.10	38.32	57.36	-19.04	Peak	
5 *	6.5760	42.13	10.79	52.92	60.00	-7.08	QP	
6	6.5760	28.29	10.79	39.08	50.00	-10.92	AVG	
7	7.1745	40.74	10.84	51.58	60.00	-8.42	QP	
8	7.1745	27.40	10.84	38.24	50.00	-11.76	AVG	

Note: The test result has included the cable loss.

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.
- (3) The test result has included the cable loss.

APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ

Test Mode: TX AX (HE20) Mode CHANNEL 157

Ant 0°



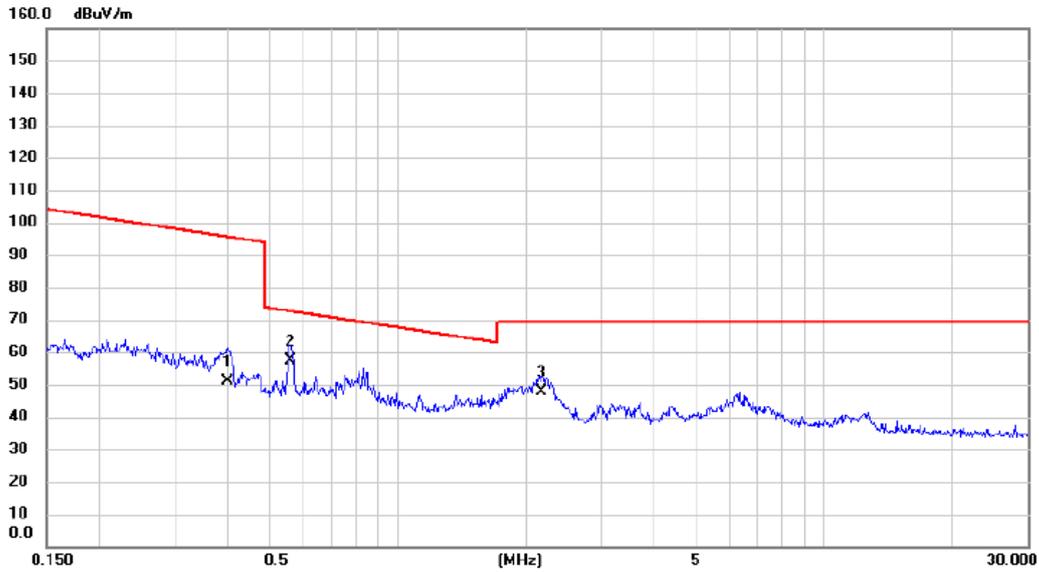
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	0.0180	55.56	13.84	69.40	122.50	-53.10	AVG	
2		0.0360	42.25	12.79	55.04	116.48	-61.44	AVG	
3		0.0726	32.15	12.56	44.71	110.39	-65.68	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX AX (HE20) Mode CHANNEL 157

Ant 0°



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.3997	38.86	12.26	51.12	95.57	-44.45	AVG	
2	*	0.5611	45.25	11.99	57.24	72.62	-15.38	QP	
3		2.1783	36.55	11.21	47.76	69.54	-21.78	QP	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX AX (HE20) Mode CHANNEL 157

Ant 90°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	*	0.0180	57.25	13.84	71.09	122.50	-51.41	AVG	
2		0.0360	43.89	12.79	56.68	116.48	-59.80	AVG	
3		0.0718	31.58	12.55	44.13	110.48	-66.35	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX AX (HE20) Mode CHANNEL 157

Ant 90°



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	0.2378	43.56	12.67	56.23	100.08	-43.85	AVG	
2 *	0.5641	38.68	11.98	50.66	72.58	-21.92	QP	
3	2.1783	31.58	11.21	42.79	69.54	-26.75	QP	

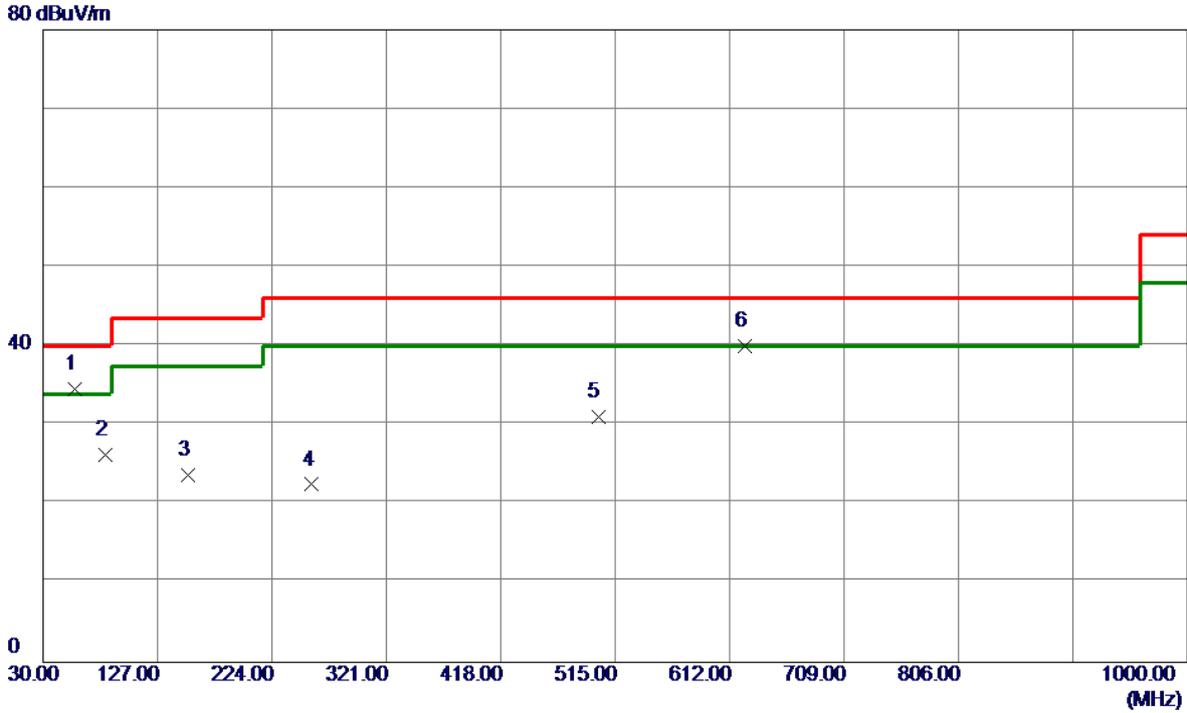
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1 GHZ

Test Mode: TX AX (HE20) Mode CHANNEL 157

Vertical



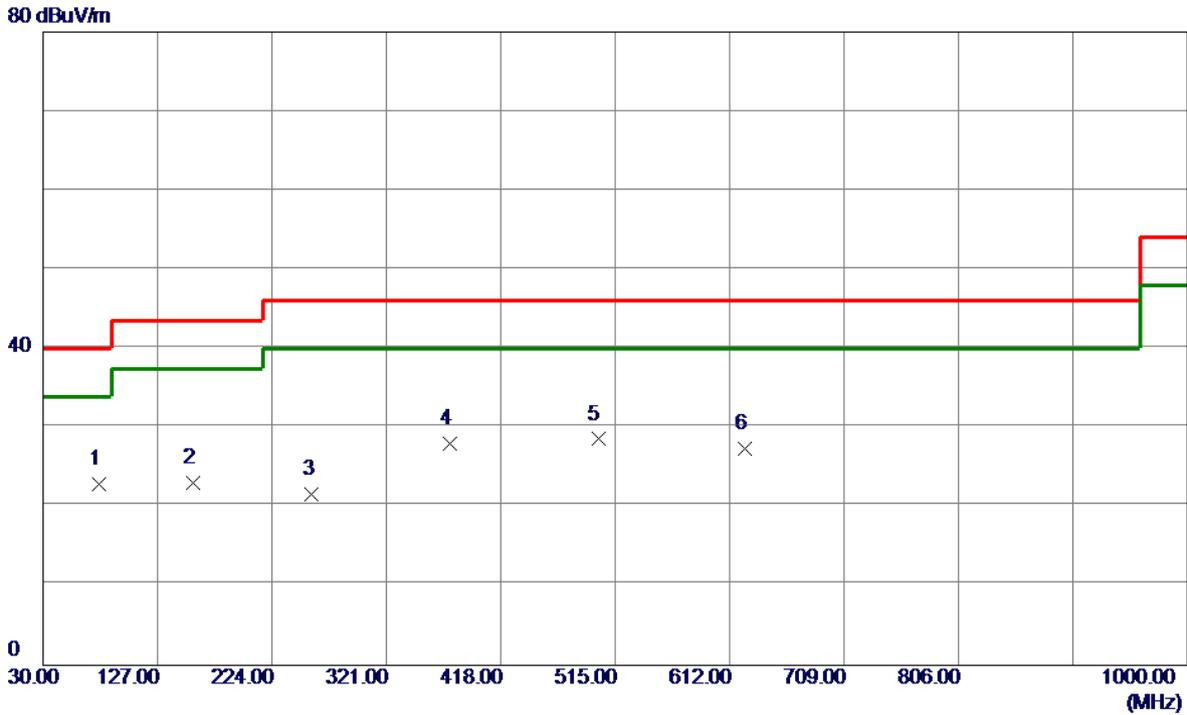
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	57.1600	48.63	-14.09	34.54	40.00	-5.46	Peak	
2	82.3800	43.46	-17.25	26.21	40.00	-13.79	Peak	
3	153.1900	35.18	-11.55	23.63	43.50	-19.87	Peak	
4	257.9500	34.92	-12.44	22.48	46.00	-23.52	Peak	
5	500.4500	38.33	-7.26	31.07	46.00	-14.93	Peak	
6	624.6100	44.83	-4.82	40.01	46.00	-5.99	Peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX AX (HE20) Mode CHANNEL 157

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	77.5300	40.13	-17.28	22.85	40.00	-17.15	Peak	
2	157.0700	34.09	-11.05	23.04	43.50	-20.46	Peak	
3	257.9500	33.98	-12.44	21.54	46.00	-24.46	Peak	
4	375.3200	37.61	-9.60	28.01	46.00	-17.99	Peak	
5	500.4500	35.82	-7.26	28.56	46.00	-17.44	Peak	
6	624.6100	32.24	-4.82	27.42	46.00	-18.58	Peak	

REMARKS:

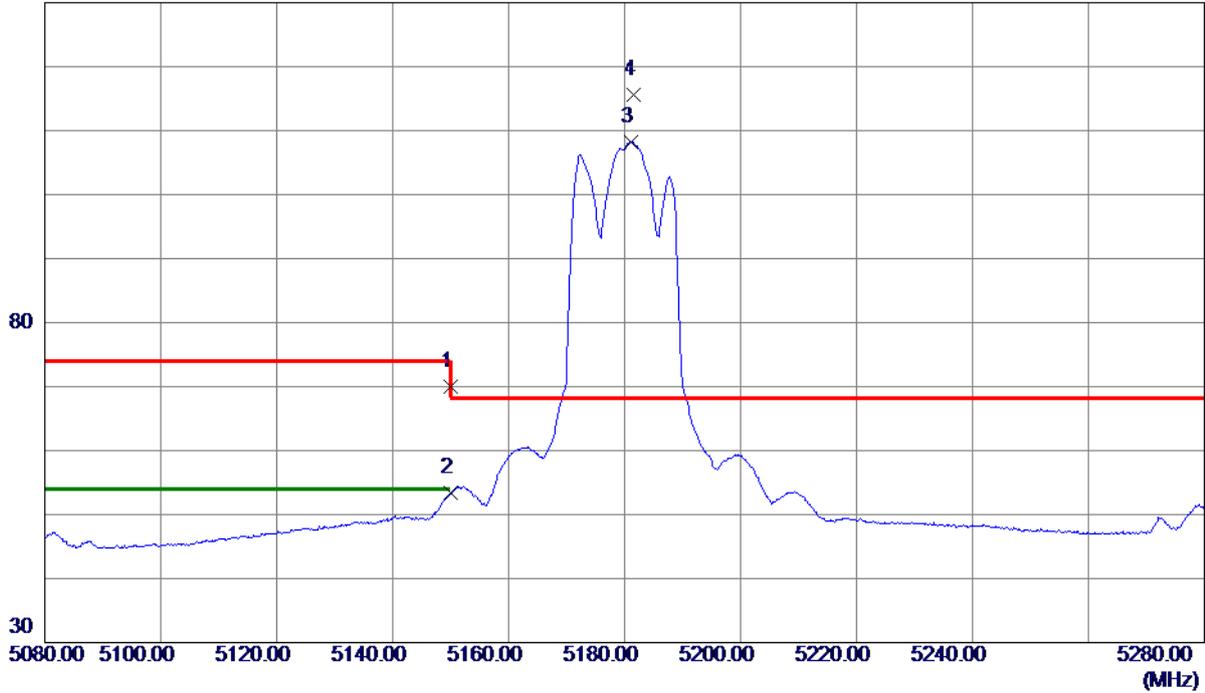
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

APPENDIX D - RADIATED EMISSION - ABOVE 1000 MHZ

Orthogonal Axis	X
Test Mode	UNII-1_TX A Mode 5180 MHz

Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5150.0000	51.06	18.95	70.01	74.00	-3.99	Peak	
2	5150.0000	34.40	18.95	53.35	54.00	-0.65	AVG	
3	5181.1000	89.18	19.03	108.21	999.00	-890.79	AVG	No Limit
4 *	5181.6000	96.65	19.03	115.68	68.30	47.38	Peak	No Limit

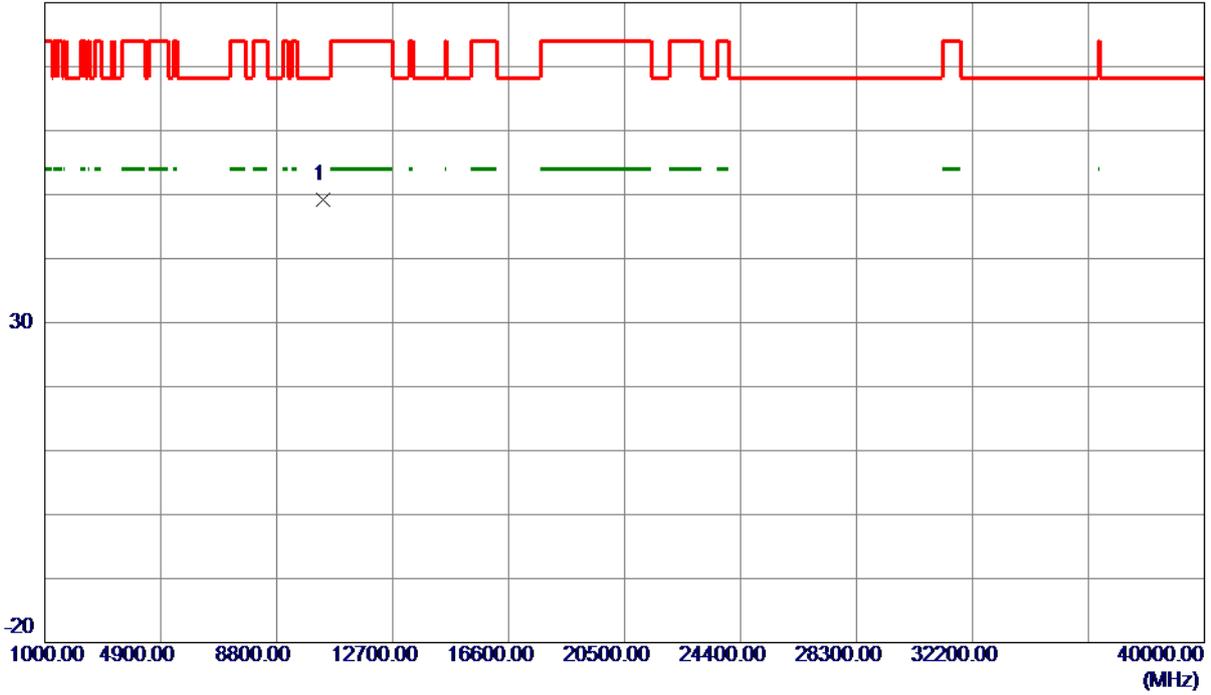
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX A Mode 5180 MHz

Vertical

80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	10359.3480	34.14	15.11	49.25	68.30	-19.05	Peak	

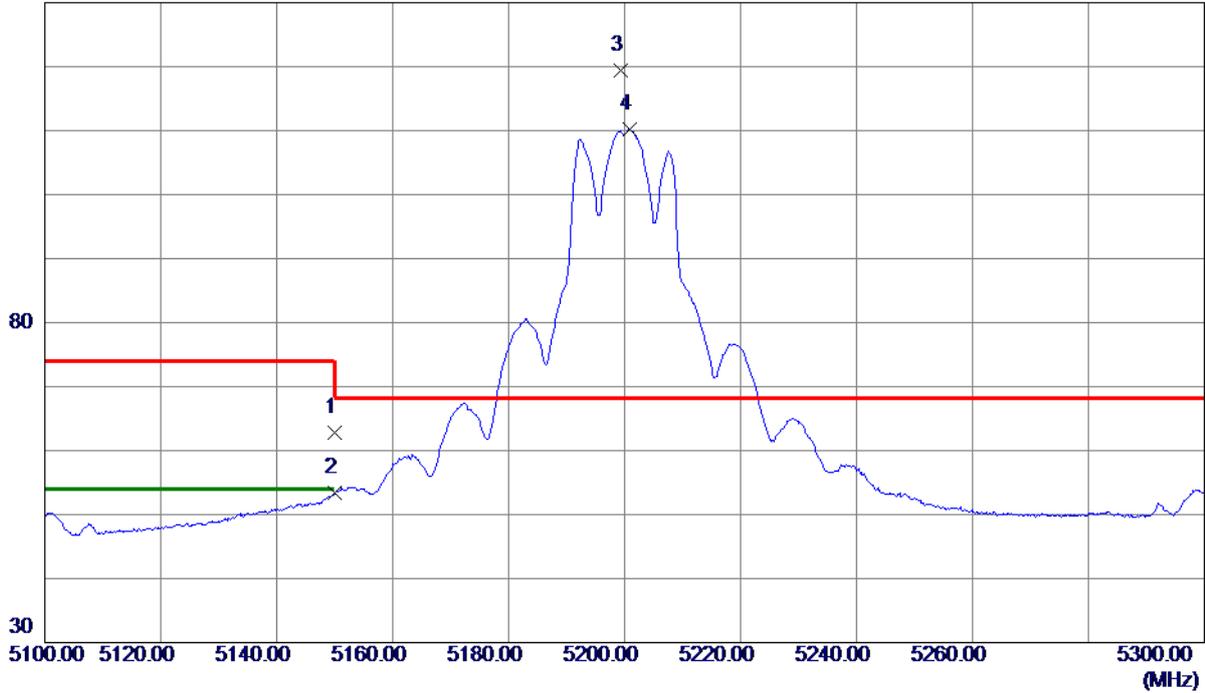
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX A Mode 5200 MHz

Vertical

130 dBuV/m



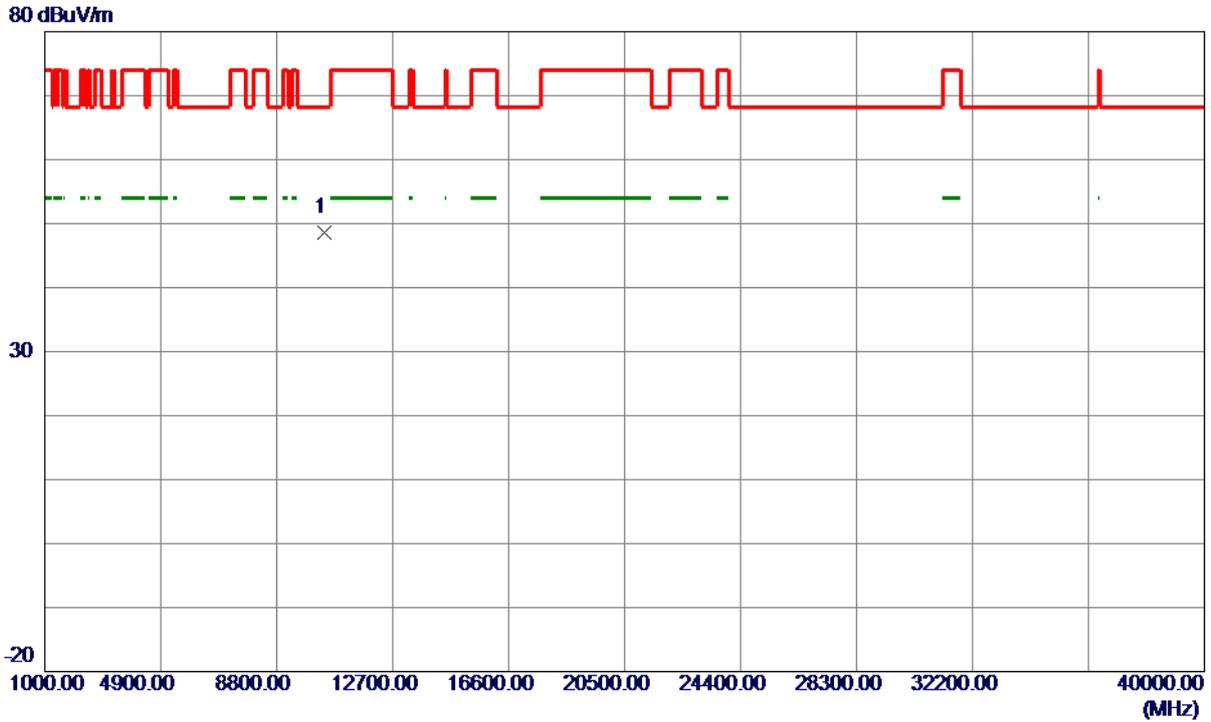
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5150.0000	43.94	18.95	62.89	74.00	-11.11	Peak	
2	5150.0000	34.53	18.95	53.48	54.00	-0.52	AVG	
3 *	5199.3000	100.32	19.08	119.40	68.30	51.10	Peak	No Limit
4	5200.9000	91.14	19.08	110.22	999.00	-888.78	AVG	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX A Mode 5200 MHz

Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	10400.9630	33.51	15.17	48.68	68.30	-19.62	Peak	

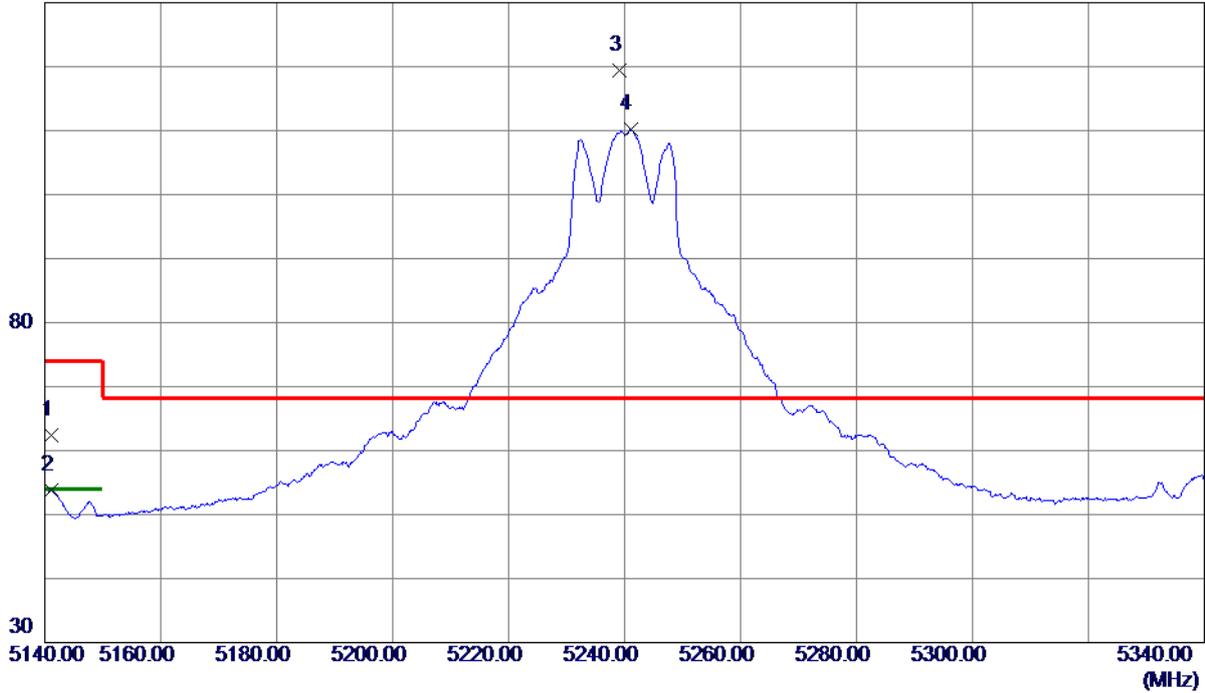
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX A Mode 5240 MHz

Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5141.1000	43.42	18.93	62.35	74.00	-11.65	Peak	
2	5141.1000	34.80	18.93	53.73	54.00	-0.27	AVG	
3 *	5239.1000	100.29	19.18	119.47	68.30	51.17	Peak	No Limit
4	5241.0000	90.99	19.18	110.17	999.00	-888.83	AVG	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX A Mode 5240 MHz

Vertical

80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	10479.3380	33.87	15.29	49.16	68.30	-19.14	Peak	

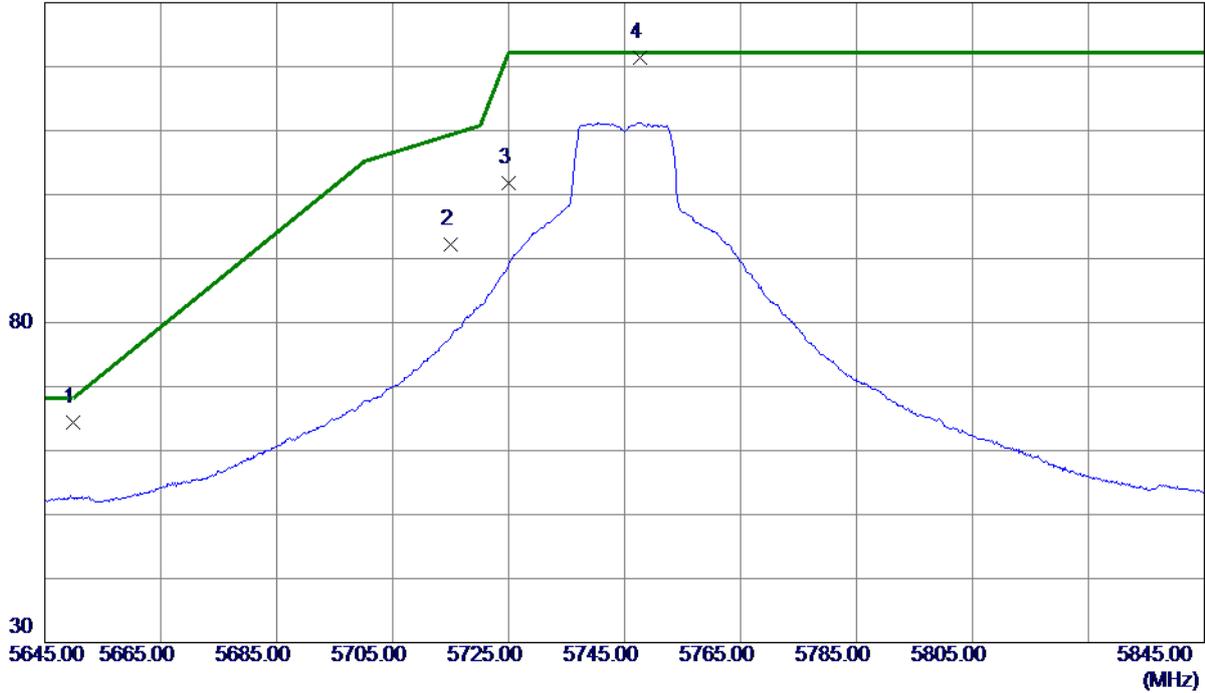
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX A Mode 5745 MHz

Vertical

130 dBuV/m



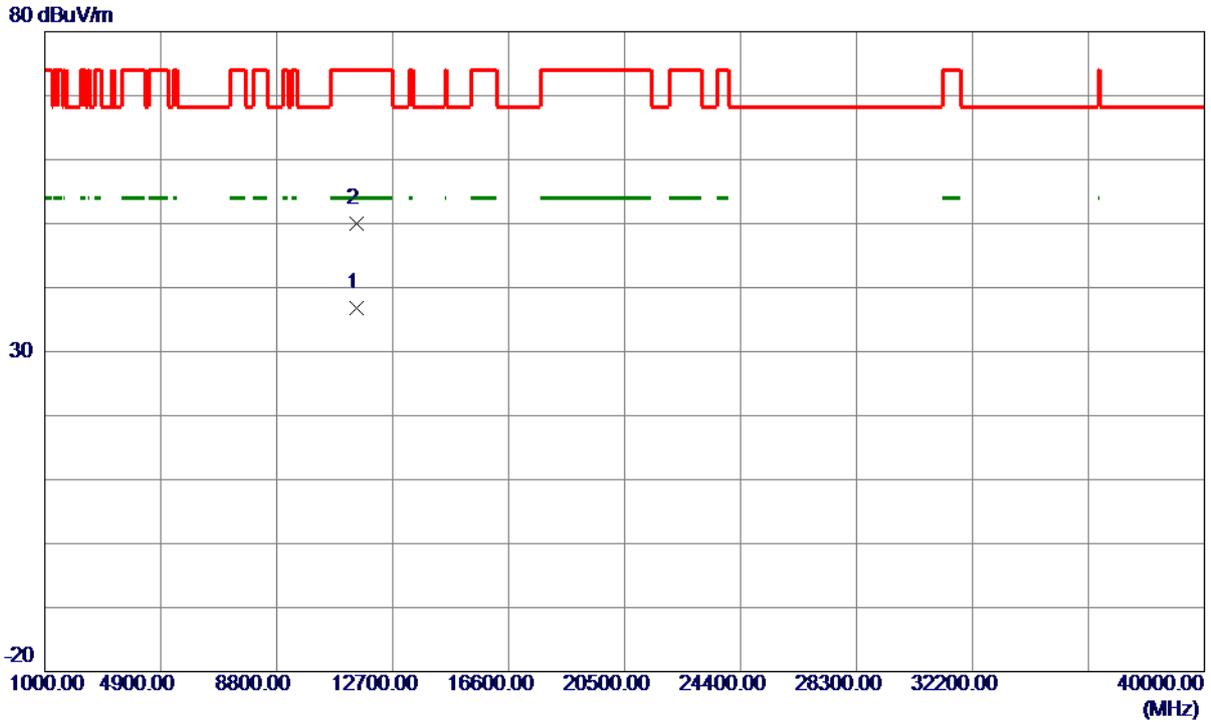
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5649.8000	44.39	19.96	64.35	68.20	-3.85	Peak	
2	5715.0000	72.13	20.01	92.14	109.40	-17.26	Peak	
3	5725.0000	81.82	20.02	101.84	122.20	-20.36	Peak	
4 *	5747.7000	101.34	20.04	121.38	122.20	-0.82	Peak	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX A Mode 5745 MHz

Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	11490.2260	19.59	17.16	36.75	54.00	-17.25	AVG	
2	11490.2570	32.76	17.16	49.92	74.00	-24.08	Peak	

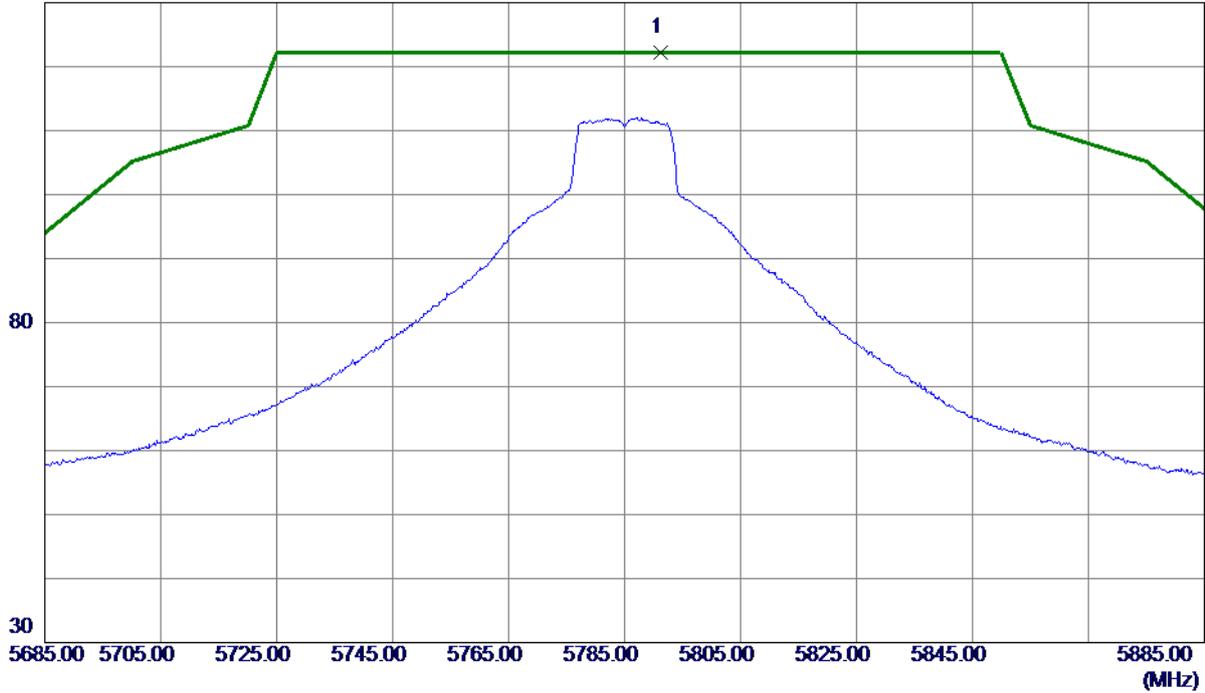
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX A Mode 5785 MHz

Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	5791.2000	102.20	20.07	122.27	122.20	0.07	Peak	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX A Mode 5785 MHz

Vertical

80 dBuV/m



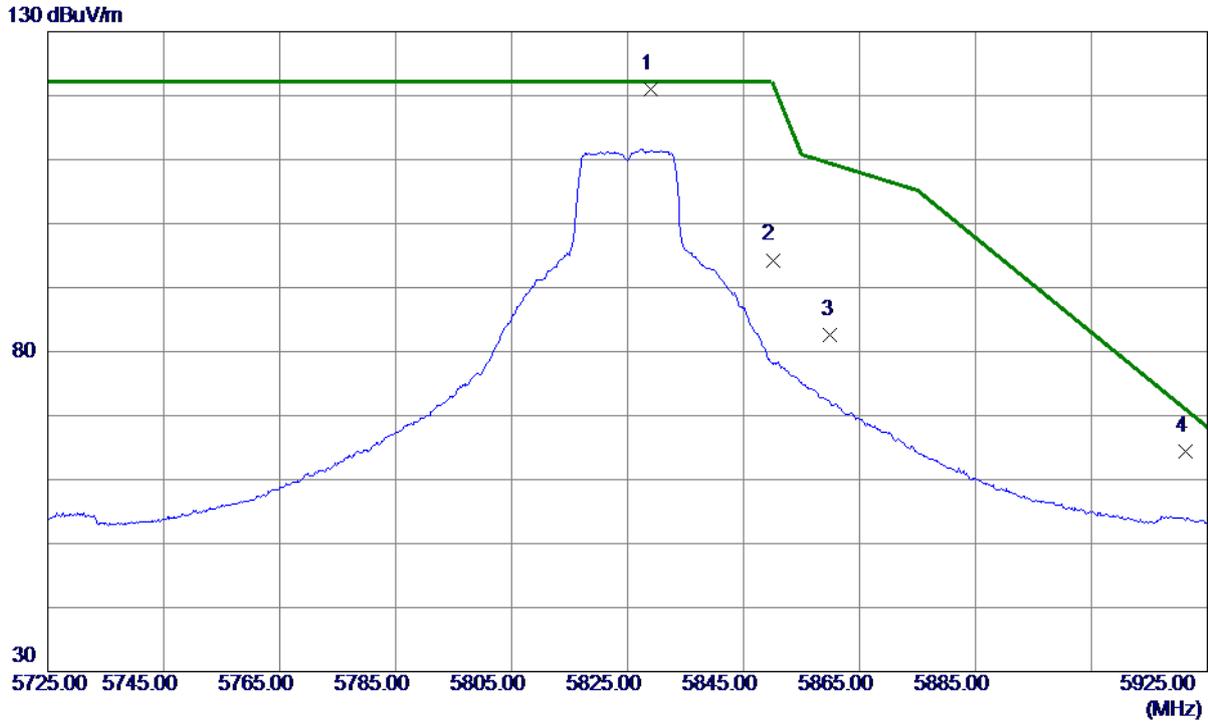
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	11569.4060	33.24	17.25	50.49	74.00	-23.51	Peak	
2 *	11569.6700	19.70	17.25	36.95	54.00	-17.05	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX A Mode 5825 MHz

Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	5829.0000	100.91	20.10	121.01	122.20	-1.19	Peak	No Limit
2	5850.0000	74.19	20.11	94.30	122.20	-27.90	Peak	
3	5860.0000	62.56	20.12	82.68	109.40	-26.72	Peak	
4	5921.2500	44.26	20.16	64.42	70.98	-6.56	Peak	

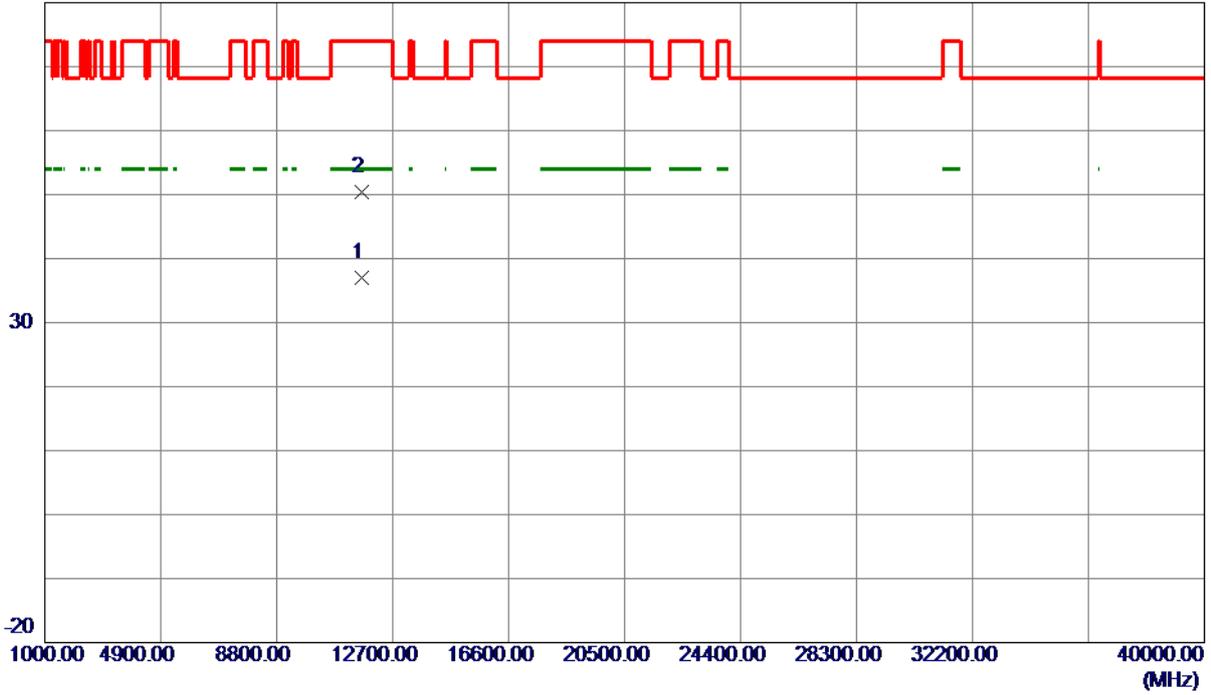
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX A Mode 5825 MHz

Vertical

80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	11649.5630	19.70	17.33	37.03	54.00	-16.97	AVG	
2	11650.2560	33.00	17.33	50.33	74.00	-23.67	Peak	

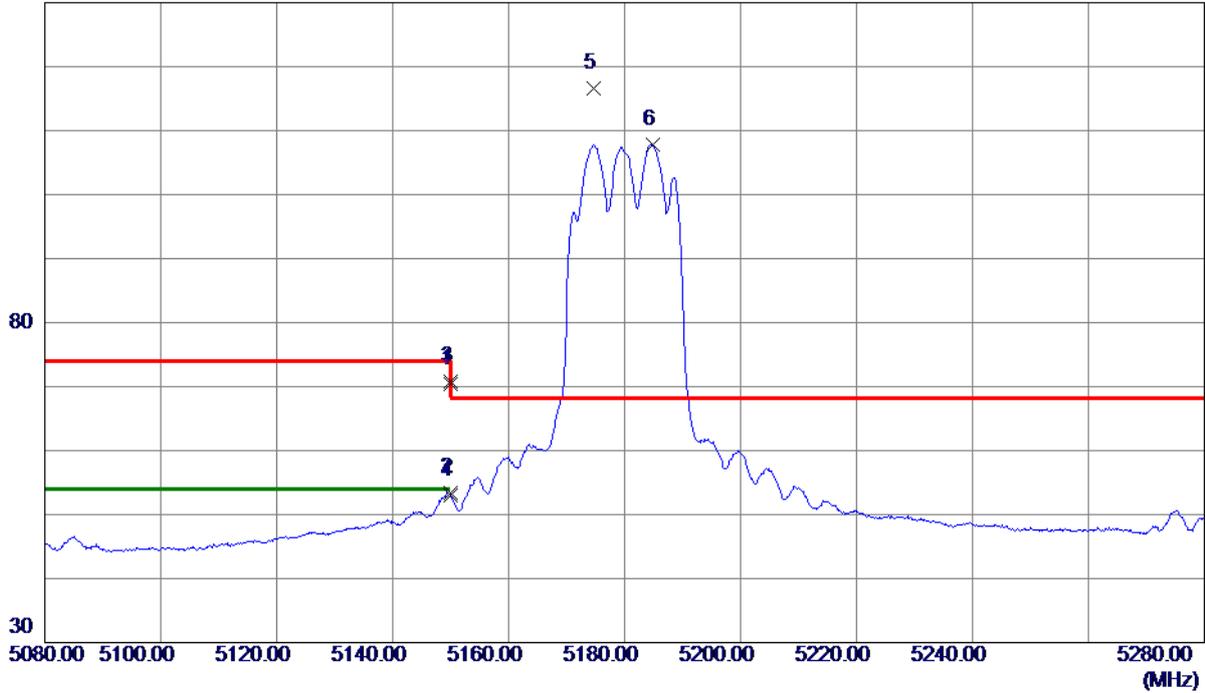
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AC (VHT20) Mode 5180 MHz

Vertical

130 dBuV/m



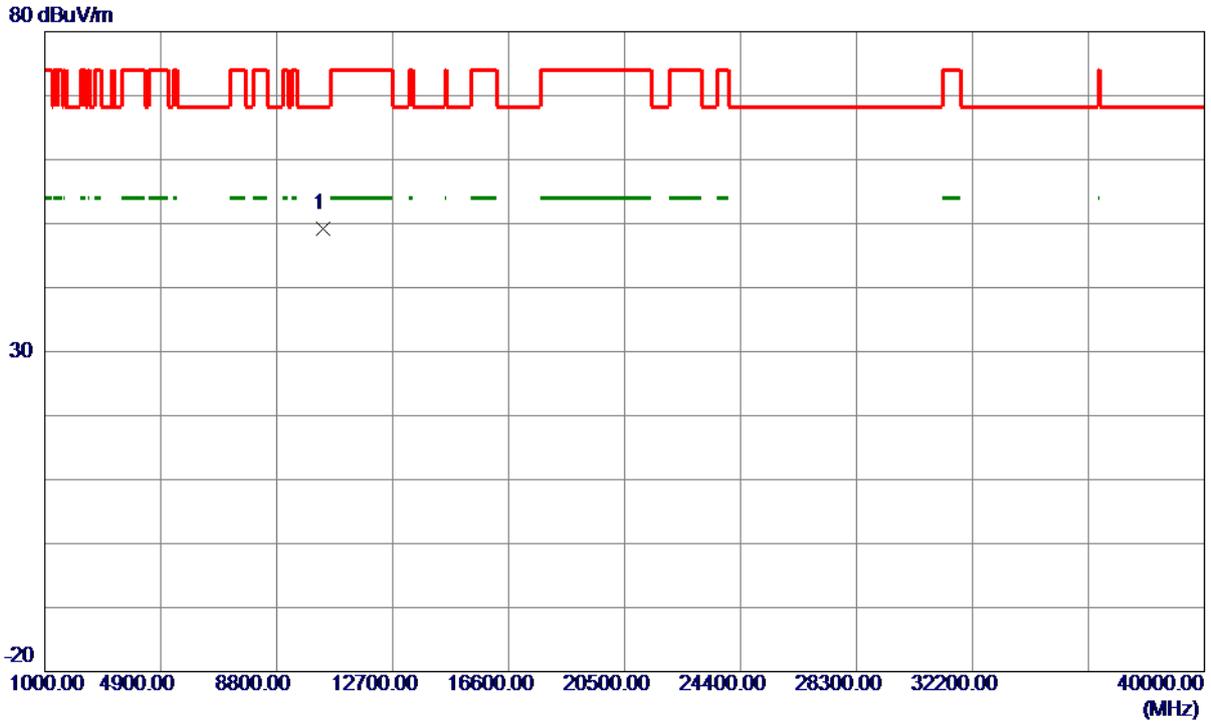
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5149.9000	51.37	18.95	70.32	74.00	-3.68	Peak	
2	5149.9000	34.42	18.95	53.37	54.00	-0.63	AVG	
3	5150.0000	51.94	18.95	70.89	74.00	-3.11	Peak	
4	5150.0000	34.01	18.95	52.96	54.00	-1.04	AVG	
5 *	5174.7000	97.58	19.01	116.59	68.30	48.29	Peak	No Limit
6	5184.8000	88.82	19.04	107.86	999.00	-891.14	AVG	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AC (VHT20) Mode 5180 MHz

Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	10360.8650	34.15	15.11	49.26	68.30	-19.04	Peak	

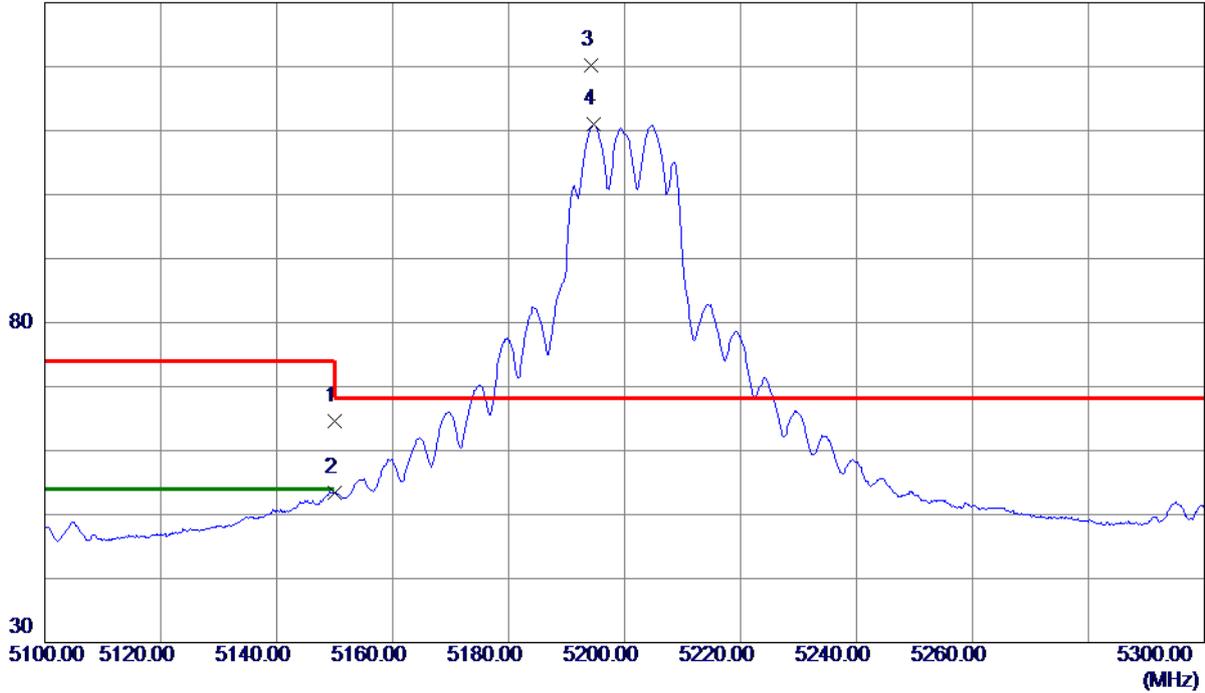
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AC (VHT20) Mode 5200 MHz

Vertical

130 dBuV/m



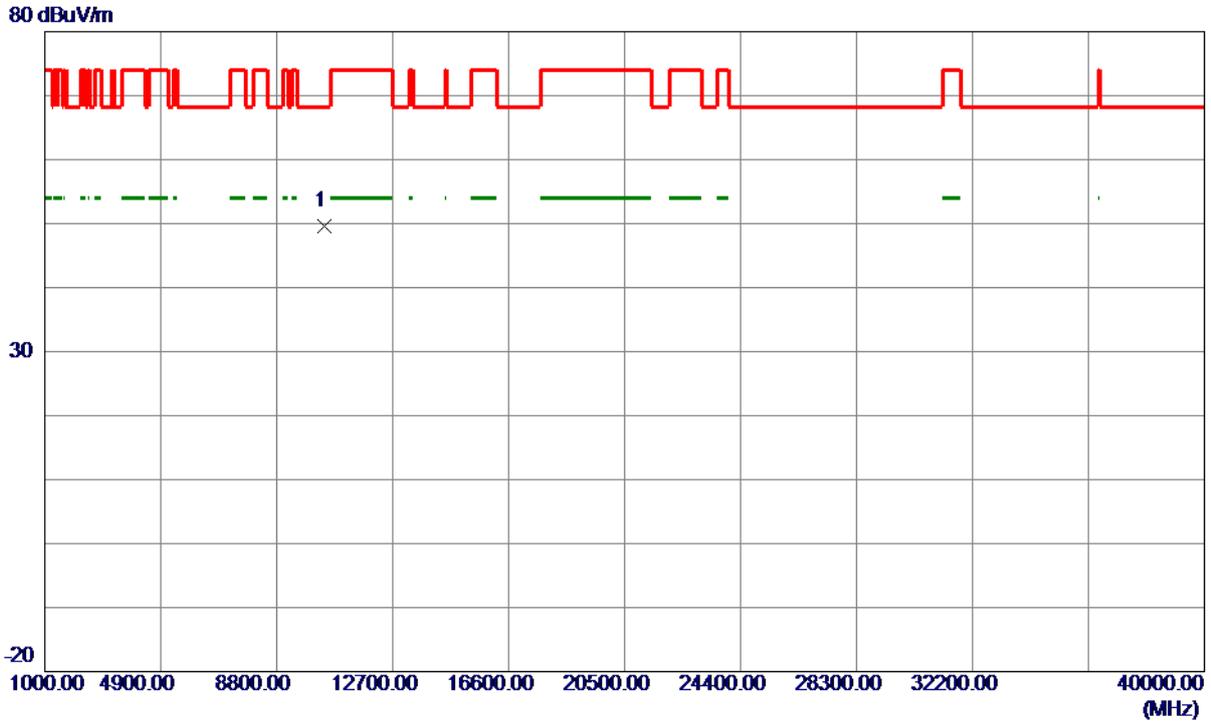
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5150.0000	45.73	18.95	64.68	74.00	-9.32	Peak	
2	5150.0000	34.49	18.95	53.44	54.00	-0.56	AVG	
3 *	5194.2000	101.19	19.06	120.25	68.30	51.95	Peak	No Limit
4	5194.7000	91.89	19.06	110.95	999.00	-888.05	AVG	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AC (VHT20) Mode 5200 MHz

Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	10400.1160	34.39	15.17	49.56	68.30	-18.74	Peak	

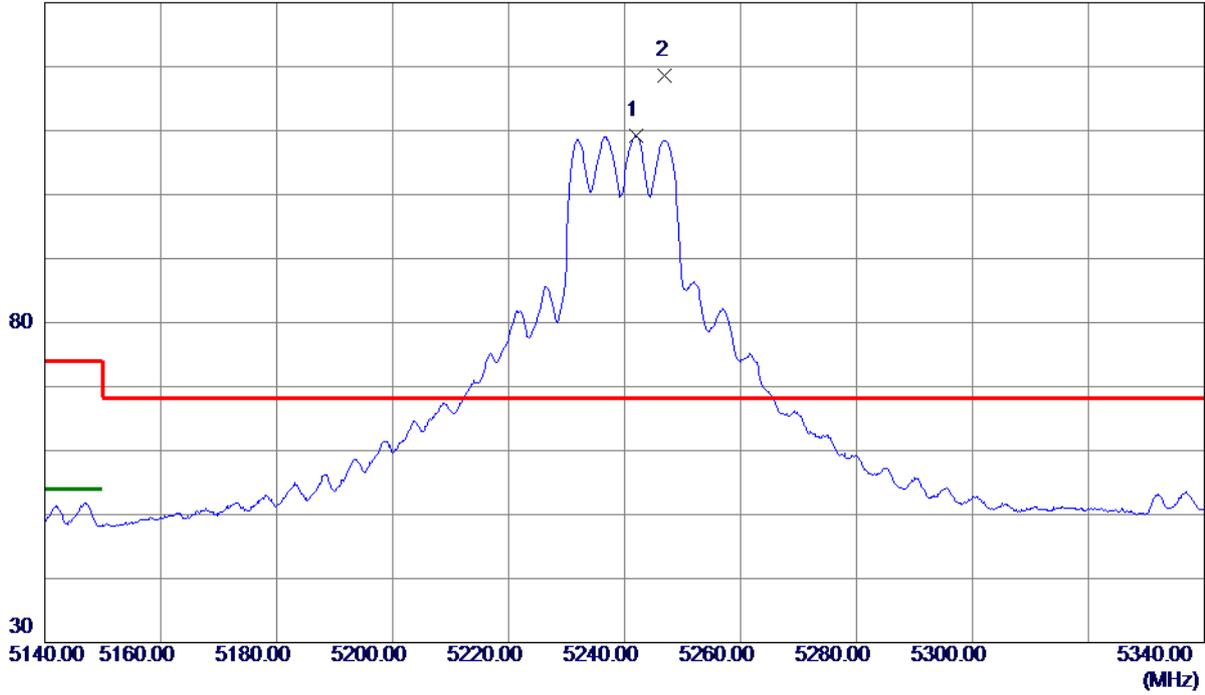
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AC (VHT20) Mode 5240 MHz

Vertical

130 dBuV/m



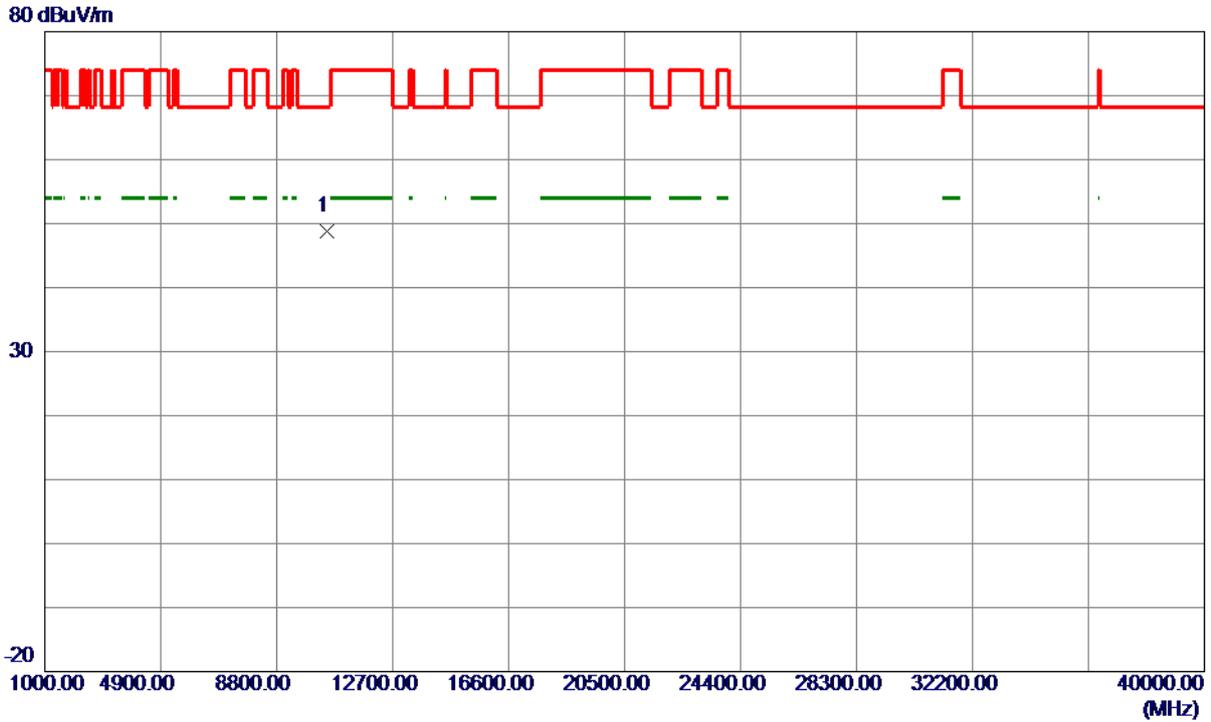
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5241.9000	89.93	19.19	109.12	999.00	-889.88	AVG	No Limit
2 *	5247.0000	99.38	19.20	118.58	68.30	50.28	Peak	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AC (VHT20) Mode 5240 MHz

Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	10480.1470	33.49	15.29	48.78	68.30	-19.52	Peak	

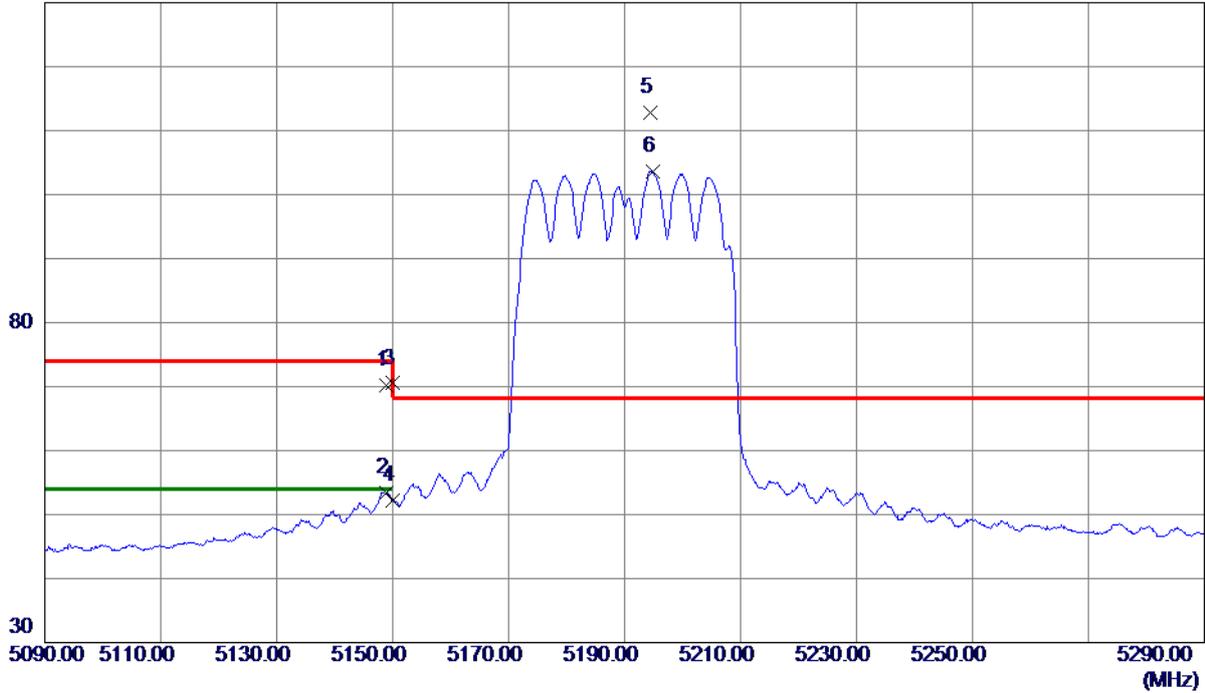
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AC (VHT40) Mode 5190 MHz

Vertical

130 dBuV/m



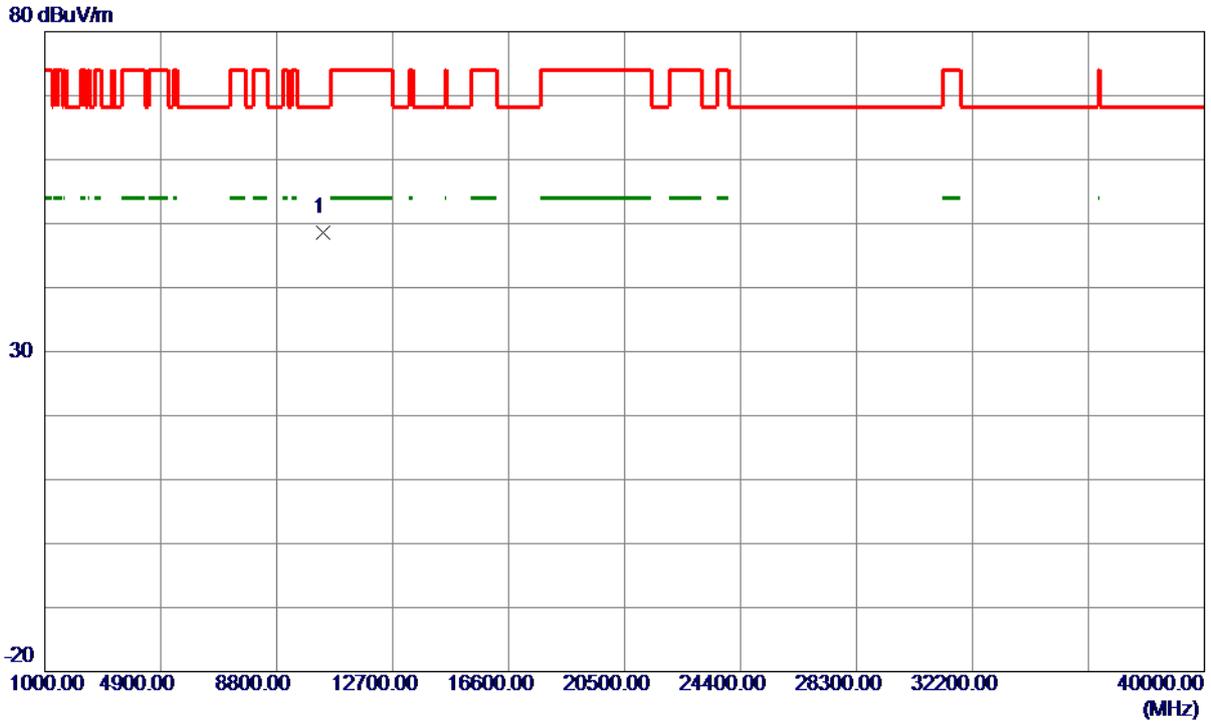
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5148.9000	51.20	18.95	70.15	74.00	-3.85	Peak	
2	5148.9000	34.52	18.95	53.47	54.00	-0.53	AVG	
3	5150.0000	51.55	18.95	70.50	74.00	-3.50	Peak	
4	5150.0000	33.26	18.95	52.21	54.00	-1.79	AVG	
5 *	5194.5000	93.83	19.06	112.89	68.30	44.59	Peak	No Limit
6	5194.8000	84.60	19.06	103.66	999.00	-895.34	AVG	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AC (VHT40) Mode 5190 MHz

Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	10380.9500	33.40	15.14	48.54	68.30	-19.76	Peak	

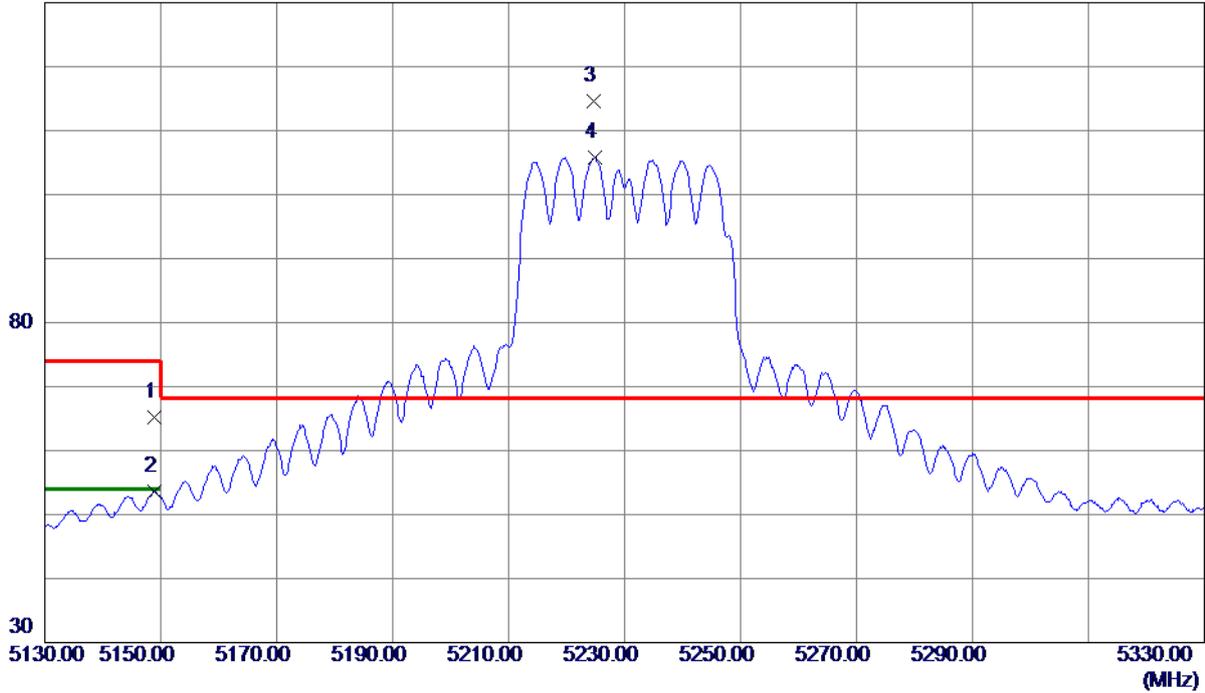
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AC (VHT40) Mode 5230 MHz

Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5148.8000	46.17	18.95	65.12	74.00	-8.88	Peak	
2	5148.8000	34.68	18.95	53.63	54.00	-0.37	AVG	
3 *	5224.6000	95.49	19.14	114.63	68.30	46.33	Peak	No Limit
4	5224.8000	86.63	19.14	105.77	999.00	-893.23	AVG	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AC (VHT40) Mode 5230 MHz

Vertical

80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	10459.3770	34.38	15.26	49.64	68.30	-18.66	Peak	

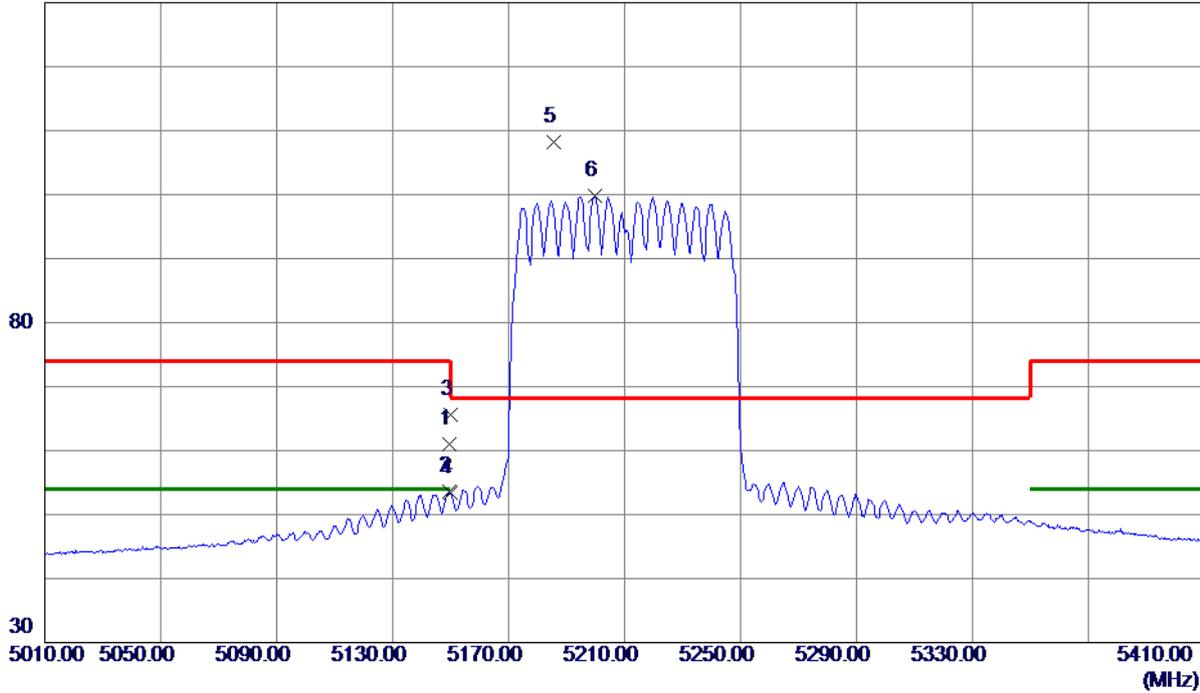
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AC (VHT80) Mode 5210 MHz

Vertical

130 dBuV/m



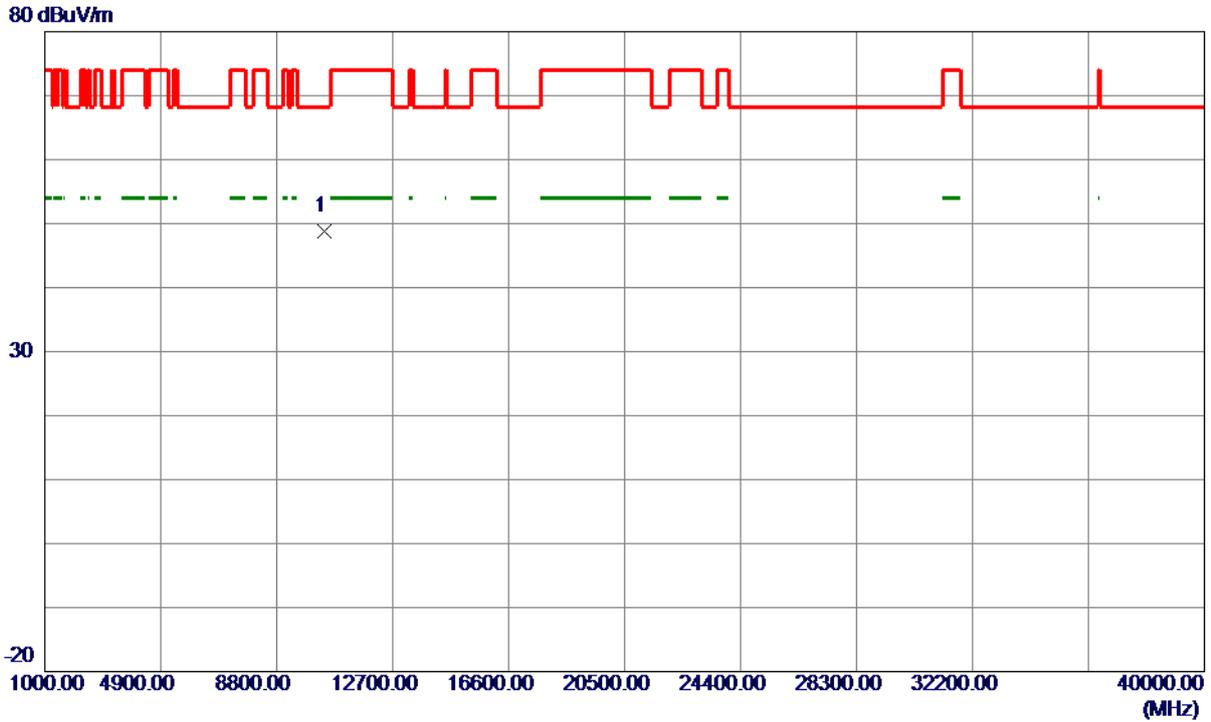
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5149.6000	42.00	18.95	60.95	74.00	-13.05	Peak	
2	5149.6000	34.60	18.95	53.55	54.00	-0.45	AVG	
3	5150.0000	46.74	18.95	65.69	74.00	-8.31	Peak	
4	5150.0000	34.37	18.95	53.32	54.00	-0.68	AVG	
5 *	5185.4000	89.19	19.04	108.23	68.30	39.93	Peak	No Limit
6	5199.8000	80.72	19.08	99.80	999.00	-899.20	AVG	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AC (VHT80) Mode 5210 MHz

Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	10419.4480	33.67	15.20	48.87	68.30	-19.43	Peak	

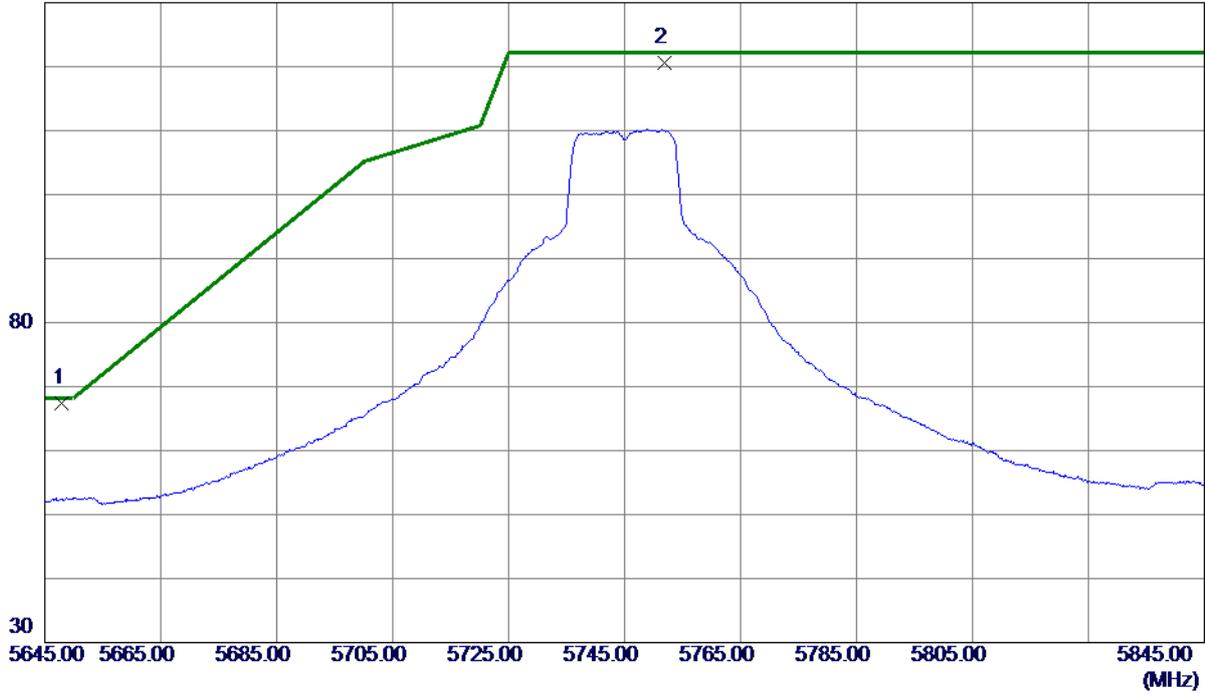
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX AC (VHT20) Mode 5745 MHz

Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	5648.0000	47.37	19.96	67.33	68.20	-0.87	Peak	
2	5751.8000	100.64	20.04	120.68	122.20	-1.52	Peak	No Limit

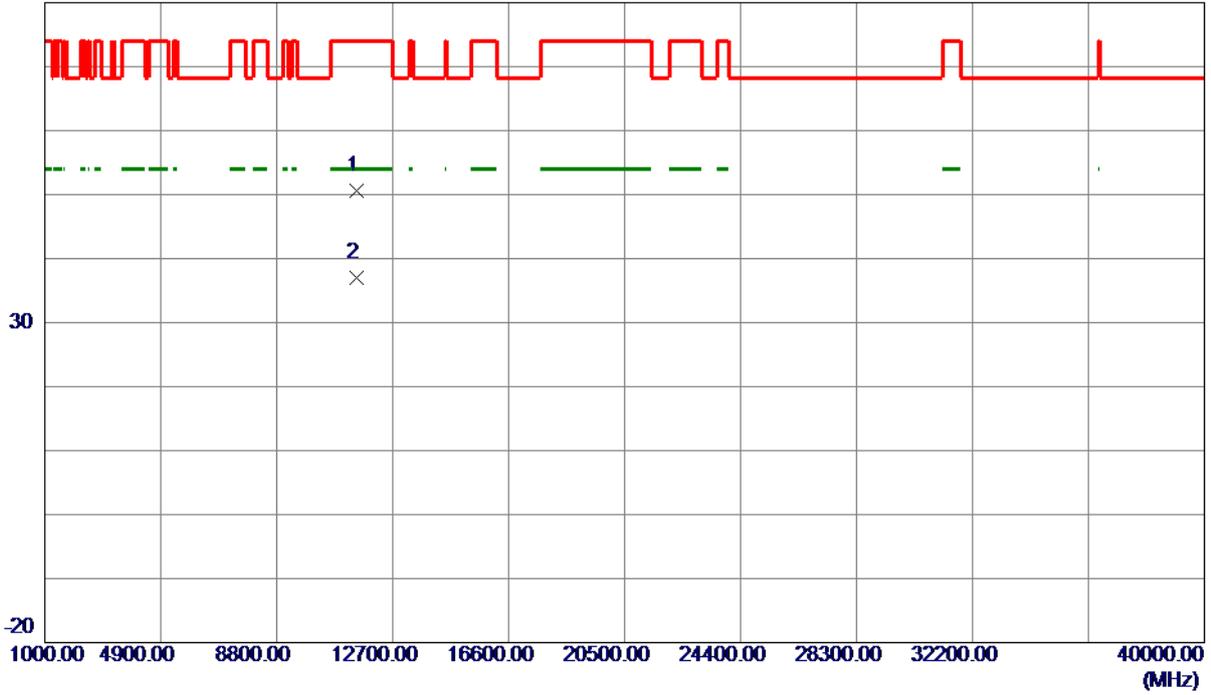
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX AC (VHT20) Mode 5745 MHz

Vertical

80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	11490.6020	33.41	17.16	50.57	74.00	-23.43	Peak	
2 *	11490.8170	19.82	17.16	36.98	54.00	-17.02	AVG	

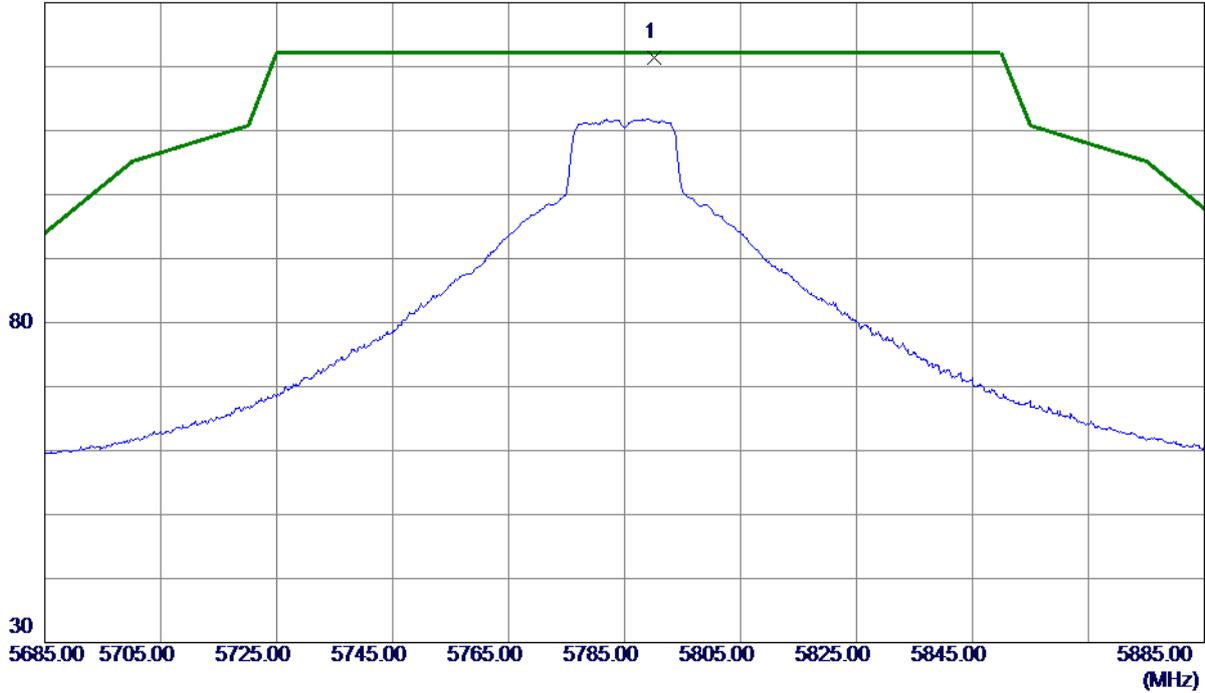
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX AC (VHT20) Mode 5785 MHz

Vertical

130 dBuV/m



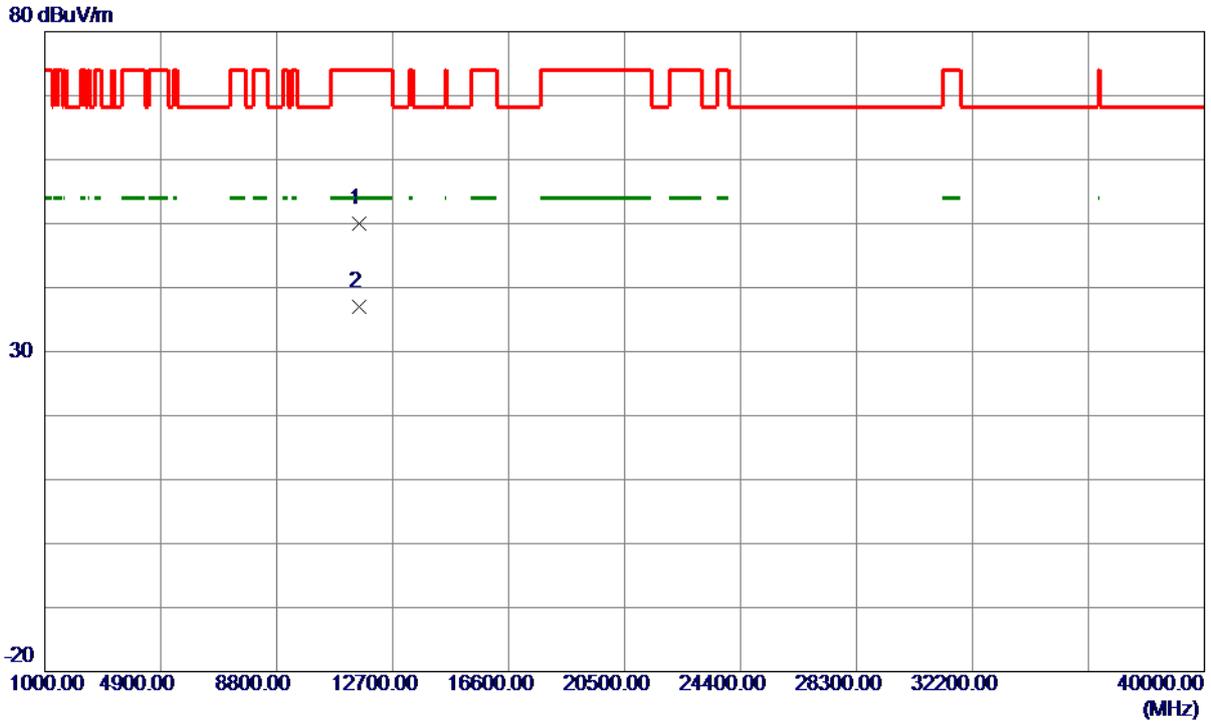
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	5790.2000	101.34	20.07	121.41	122.20	-0.79	Peak	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX AC (VHT20) Mode 5785 MHz

Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	11570.2220	32.79	17.25	50.04	74.00	-23.96	Peak	
2 *	11570.6360	19.84	17.25	37.09	54.00	-16.91	AVG	

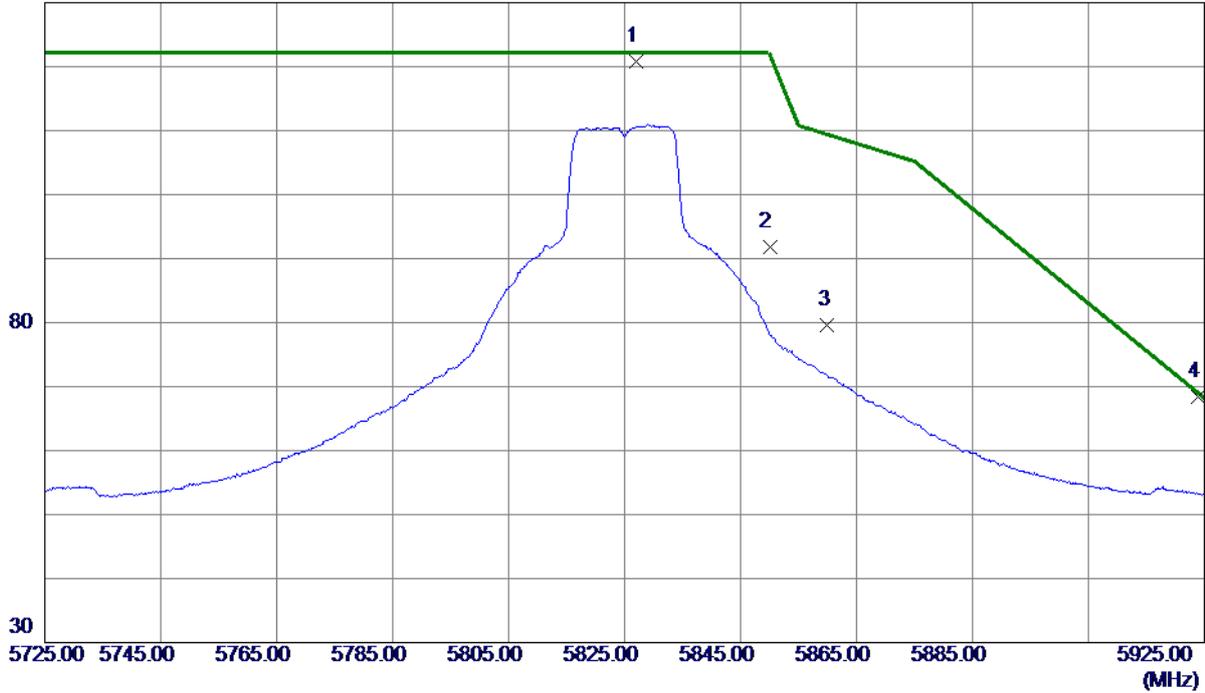
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX AC (VHT20) Mode 5825 MHz

Vertical

130 dBuV/m



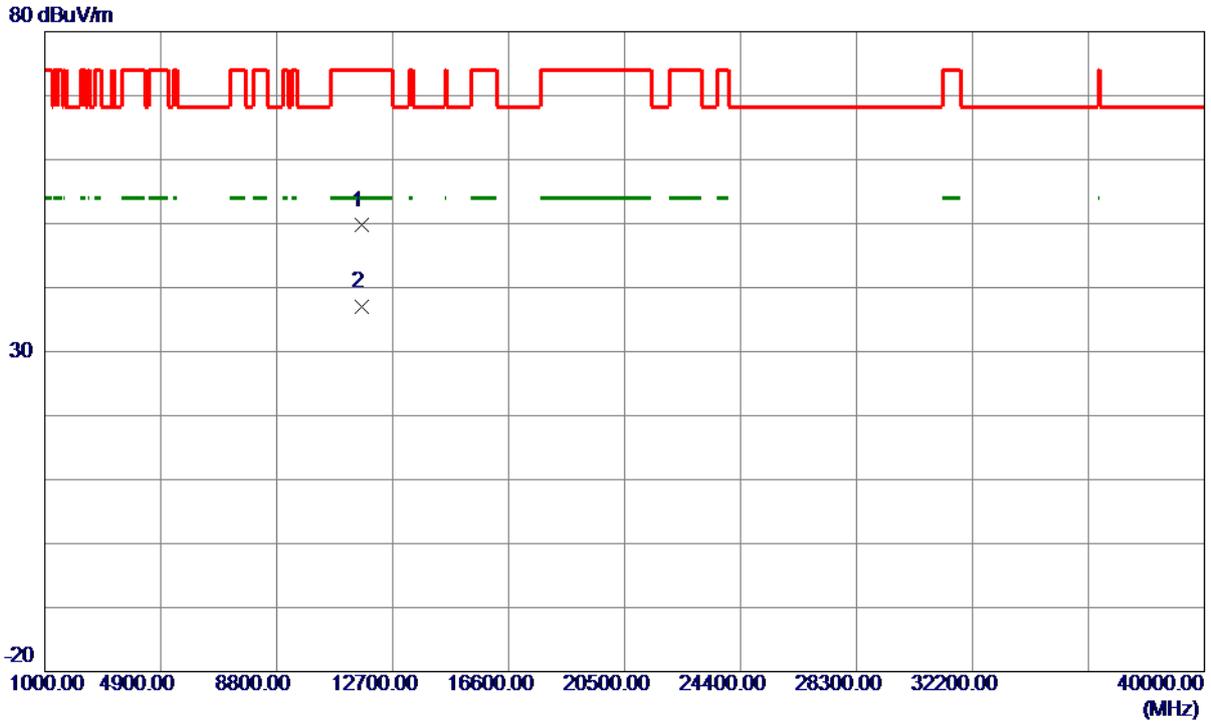
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5827.1000	100.64	20.09	120.73	122.20	-1.47	Peak	No Limit
2	5850.0000	71.67	20.11	91.78	122.20	-30.42	Peak	
3	5860.0000	59.40	20.12	79.52	109.40	-29.88	Peak	
4 *	5923.8000	48.16	20.16	68.32	69.09	-0.77	Peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX AC (VHT20) Mode 5825 MHz

Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	11649.2220	32.37	17.33	49.70	74.00	-24.30	Peak	
2 *	11649.8880	19.72	17.33	37.05	54.00	-16.95	AVG	

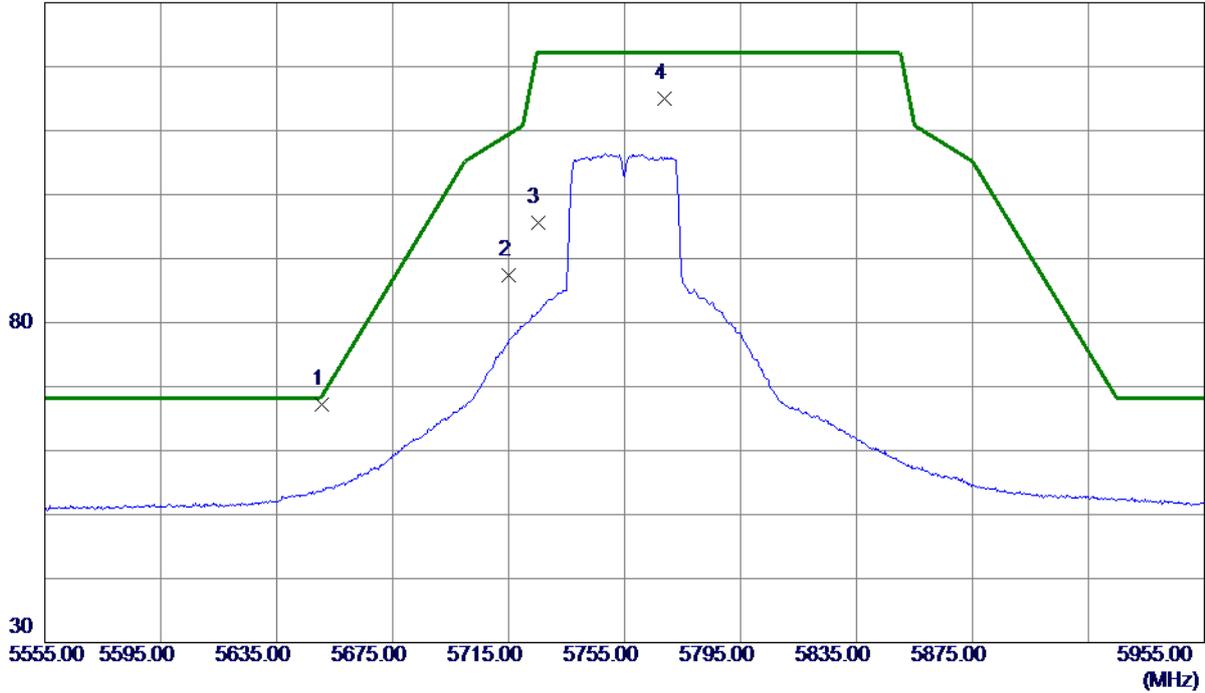
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX AC (VHT40) Mode 5755 MHz

Vertical

130 dBuV/m



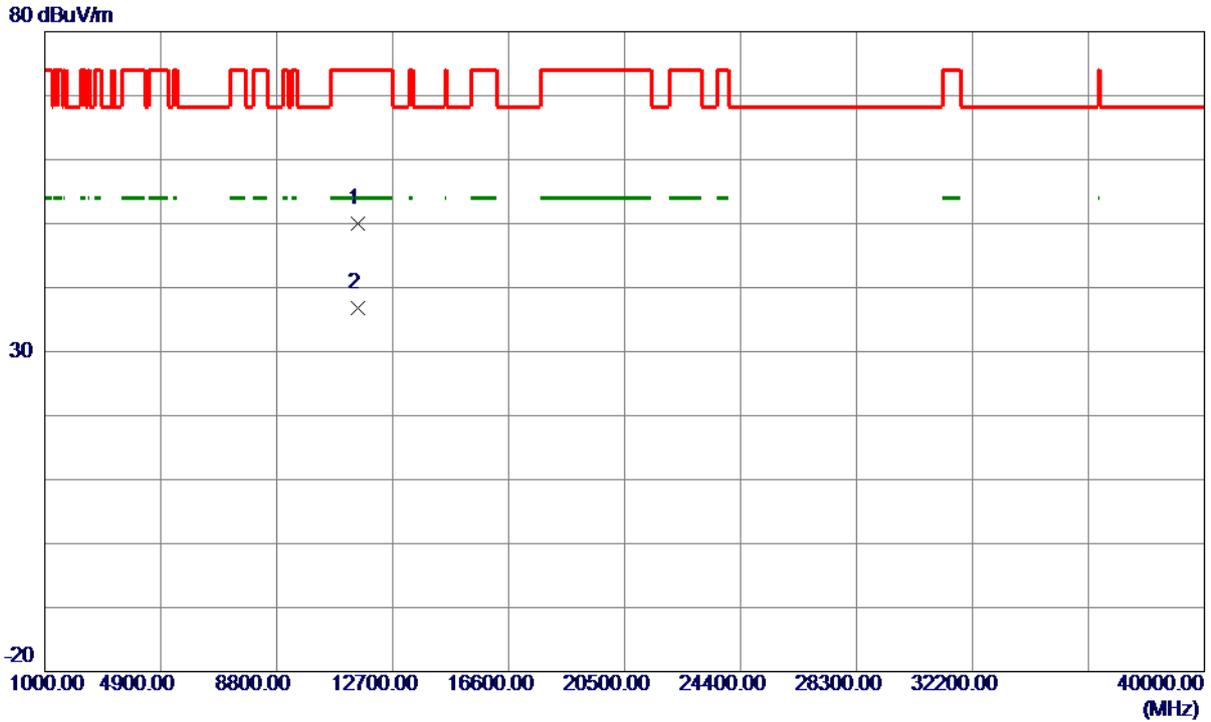
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	5650.4000	47.15	19.96	67.11	68.50	-1.39	Peak	
2	5715.0000	67.38	20.01	87.39	109.40	-22.01	Peak	
3	5725.0000	75.63	20.02	95.65	122.20	-26.55	Peak	
4	5768.8000	94.90	20.05	114.95	122.20	-7.25	Peak	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX AC (VHT40) Mode 5755 MHz

Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	11509.2939	32.80	17.20	50.00	74.00	-24.00	Peak	
2 *	11510.2500	19.66	17.20	36.86	54.00	-17.14	AVG	

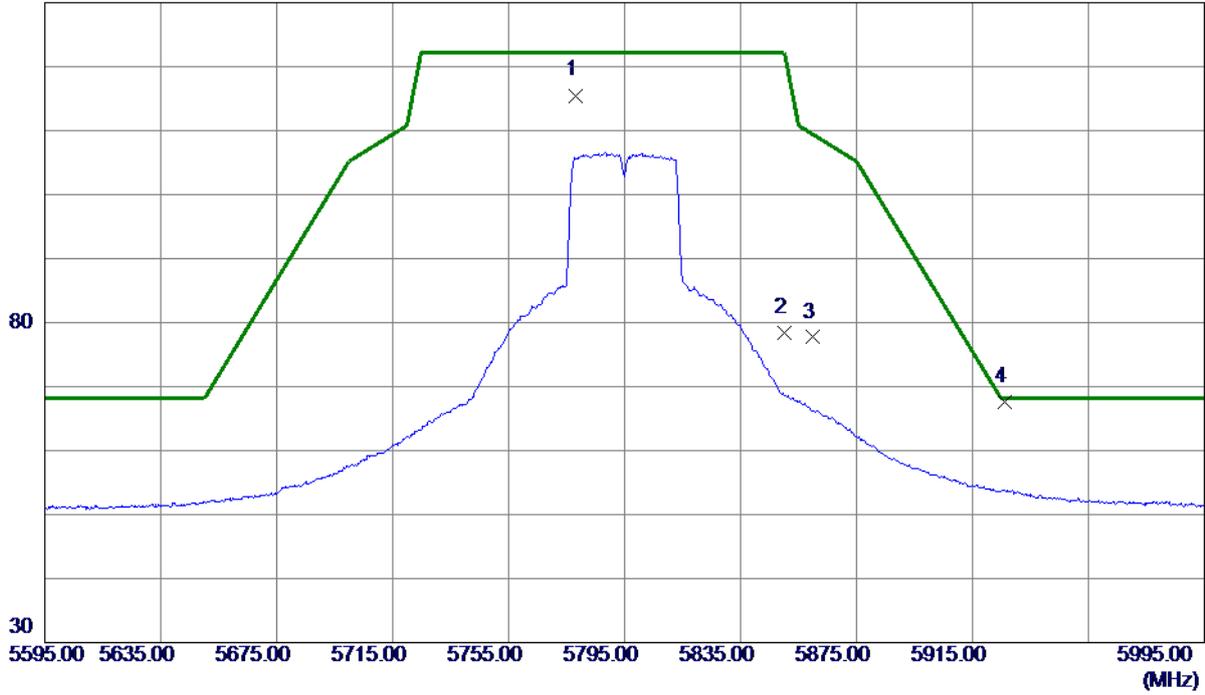
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX AC (VHT40) Mode 5795 MHz

Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5778.2000	95.44	20.06	115.50	122.20	-6.70	Peak	No Limit
2	5850.0000	58.24	20.11	78.35	122.20	-43.85	Peak	
3	5860.0000	57.58	20.12	77.70	109.40	-31.70	Peak	
4 *	5926.2000	47.52	20.17	67.69	68.20	-0.51	Peak	

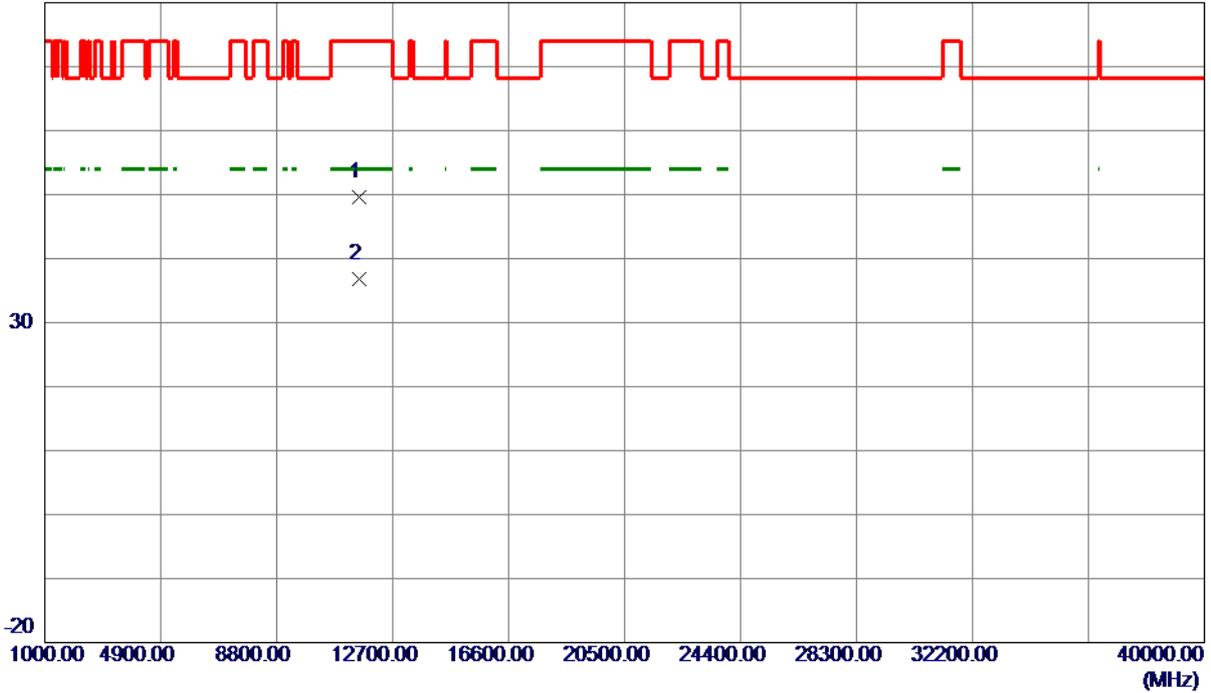
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX AC (VHT40) Mode 5795 MHz

Vertical

80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	11589.7560	32.30	17.27	49.57	74.00	-24.43	Peak	
2 *	11590.1400	19.59	17.27	36.86	54.00	-17.14	AVG	

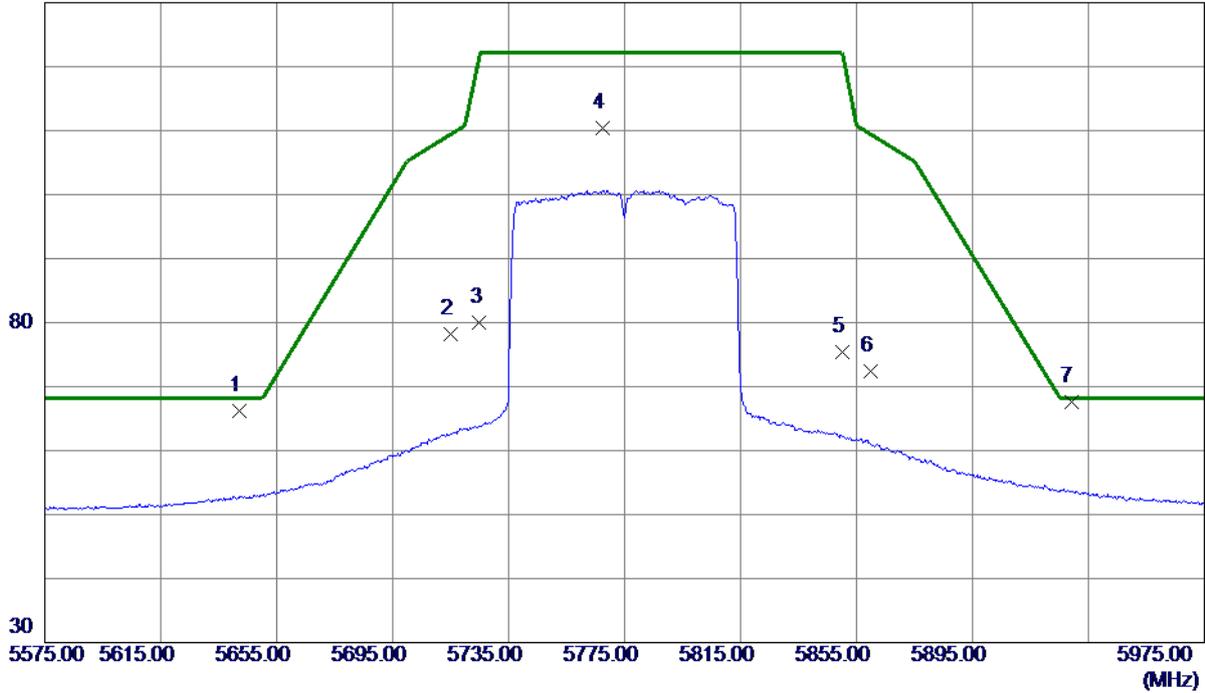
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX AC (VHT80) Mode 5775 MHz

Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5642.2000	46.28	19.96	66.24	68.20	-1.96	Peak	
2	5715.0000	58.10	20.01	78.11	109.40	-31.29	Peak	
3	5725.0000	60.07	20.02	80.09	122.20	-42.11	Peak	
4	5767.4000	90.44	20.05	110.49	122.20	-11.71	Peak	No Limit
5	5850.0000	55.23	20.11	75.34	122.20	-46.86	Peak	
6	5860.0000	52.26	20.12	72.38	109.40	-37.02	Peak	
7 *	5929.0000	47.40	20.17	67.57	68.20	-0.63	Peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX AC (VHT80) Mode 5775 MHz

Vertical

80 dBuV/m



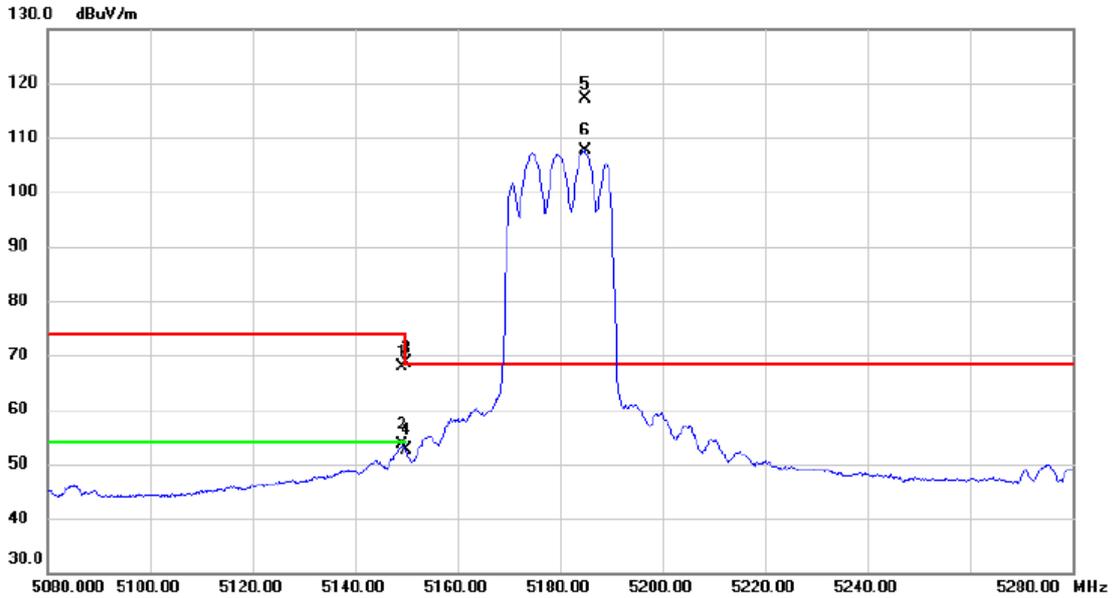
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	11549.8880	32.83	17.24	50.07	74.00	-23.93	Peak	
2 *	11550.9650	19.50	17.24	36.74	54.00	-17.26	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AX (HE20) Mode 5180 MHz

Vertical



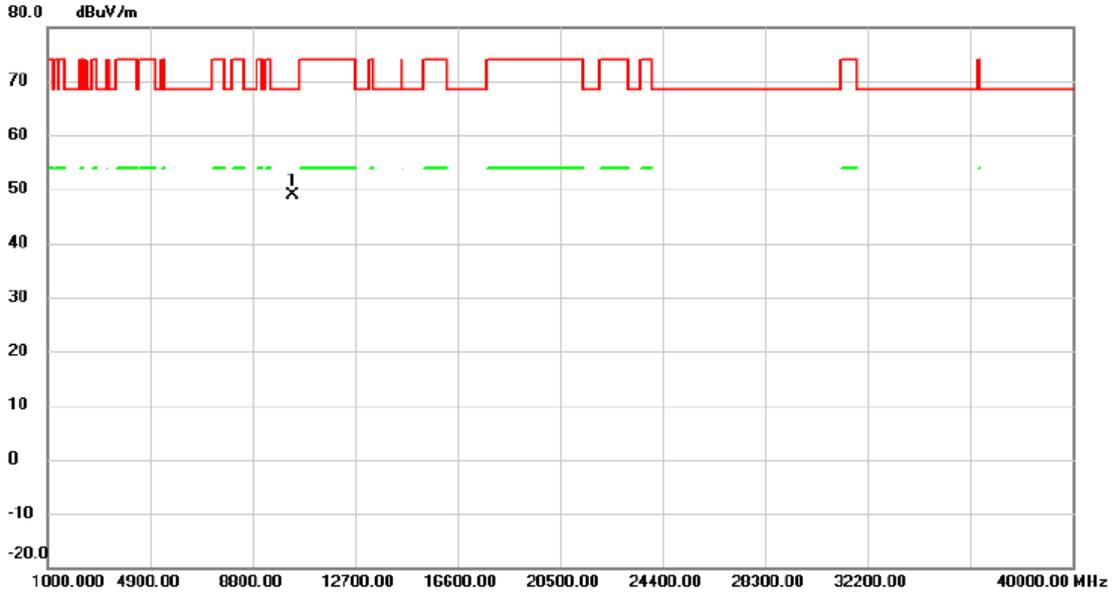
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5149.300	48.93	18.95	67.88	74.00	-6.12	peak	
2		5149.300	34.63	18.95	53.58	54.00	-0.42	AVG	
3		5150.000	49.78	18.95	68.73	74.00	-5.27	peak	
4		5150.000	33.66	18.95	52.61	54.00	-1.39	AVG	
5	*	5184.900	98.18	19.03	117.21	68.30	48.91	peak	No Limit
6	X	5184.900	88.54	19.03	107.57	68.30	39.27	AVG	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AX (HE20) Mode 5180 MHz

Vertical



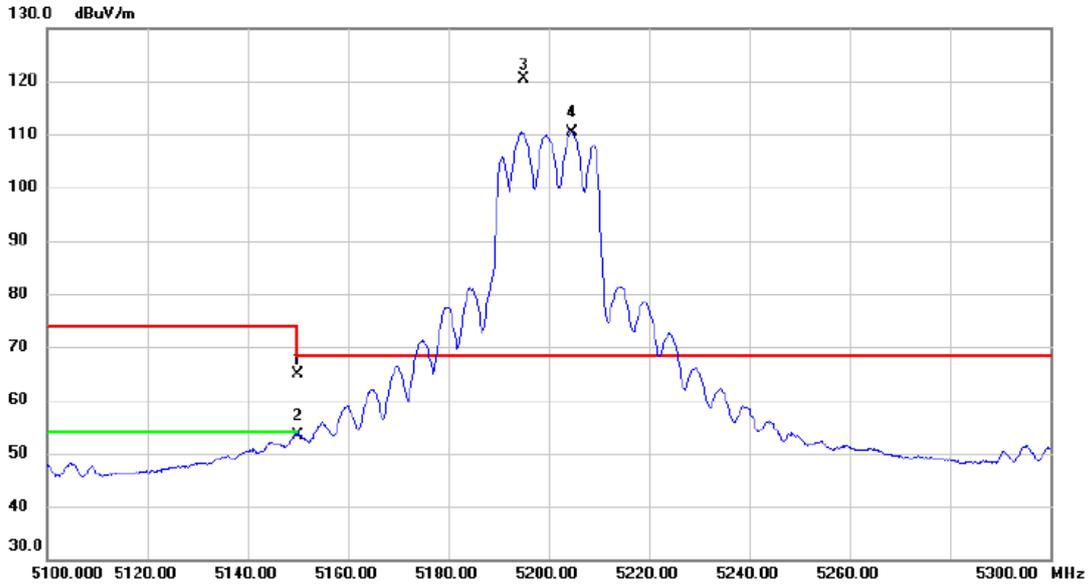
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	*	10359.631	33.83	15.11	48.94	68.30	-19.36	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AX (HE20) Mode 5200 MHz

Vertical



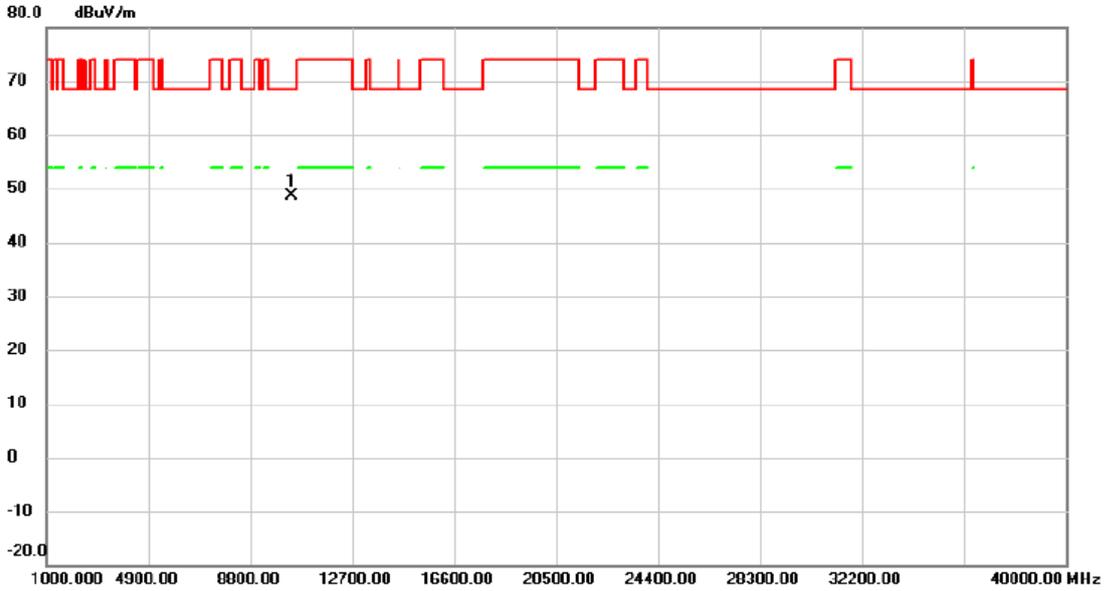
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5150.000	46.05	18.95	65.00	74.00	-9.00	peak	
2		5150.000	34.52	18.95	53.47	54.00	-0.53	AVG	
3	*	5195.200	101.38	19.07	120.45	68.30	52.15	peak	No Limit
4	X	5204.700	91.18	19.09	110.27	68.30	41.97	AVG	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AX (HE20) Mode 5200 MHz

Vertical



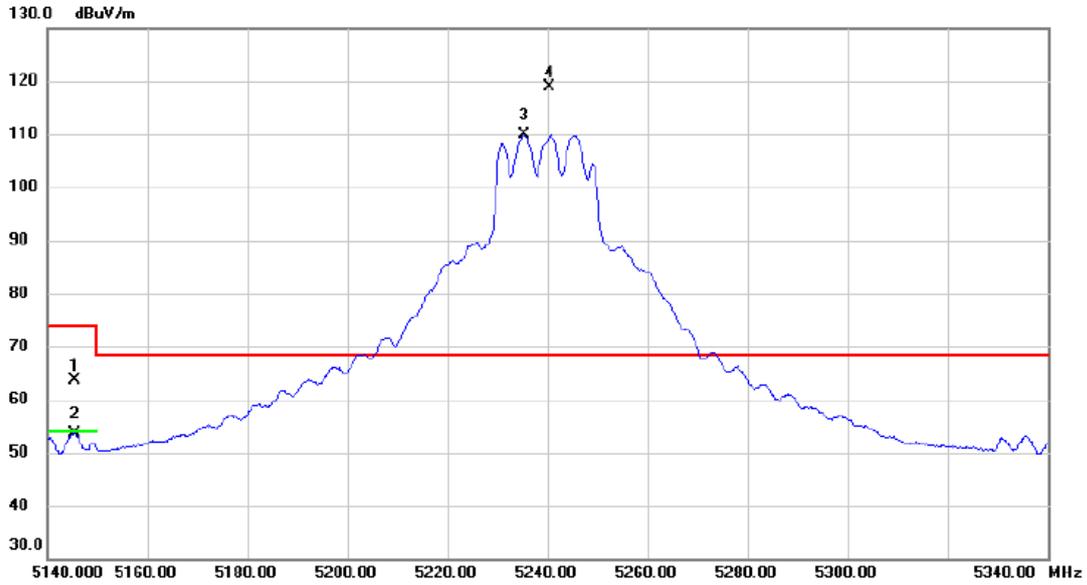
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	*	10399.046	33.37	15.17	48.54	68.30	-19.76	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AX (HE20) Mode 5240 MHz

Vertical



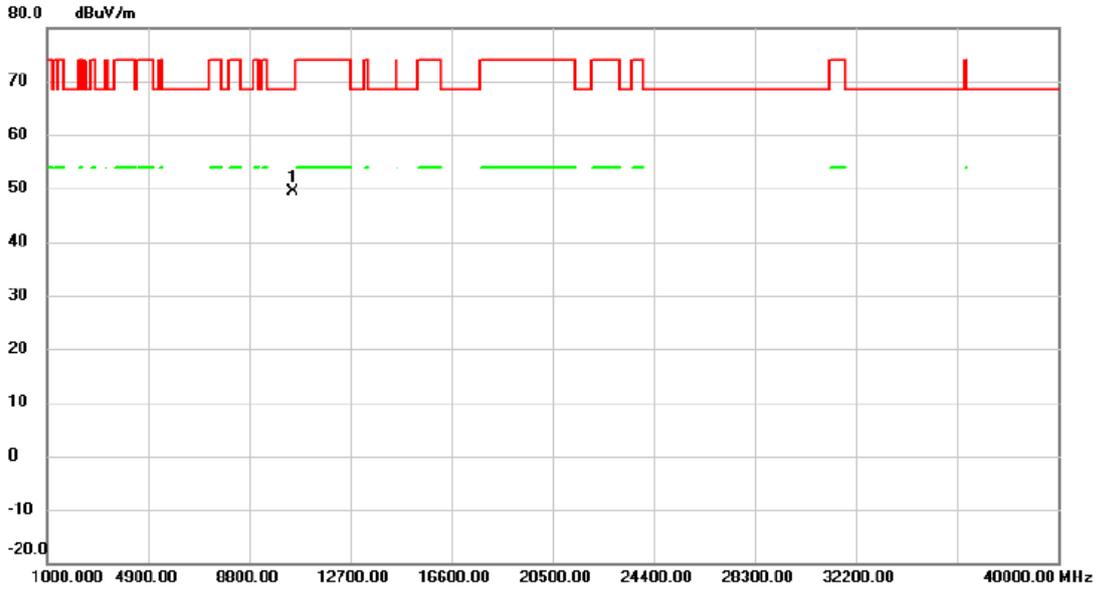
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5145.400	44.73	18.94	63.67	74.00	-10.33	peak	
2		5145.400	34.59	18.94	53.53	54.00	-0.47	AVG	
3	X	5235.300	90.71	19.17	109.88	68.30	41.58	AVG	No Limit
4	*	5240.500	99.61	19.18	118.79	68.30	50.49	peak	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AX (HE20) Mode 5240 MHz

Vertical



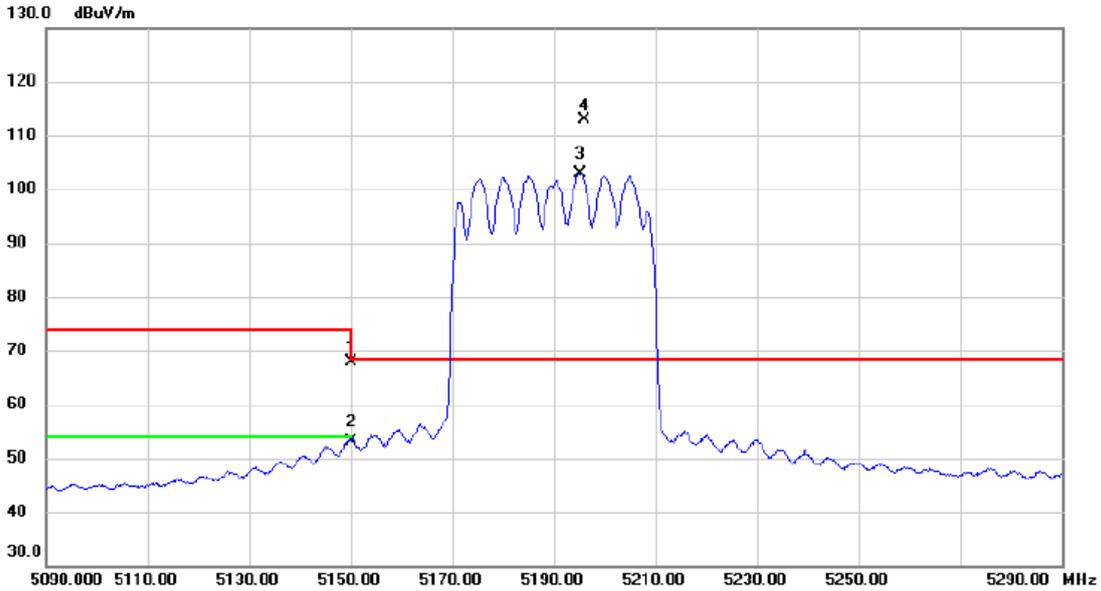
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	10480.440	34.04	15.28	49.32	68.30	-18.98	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AX (HE40) Mode 5190 MHz

Vertical



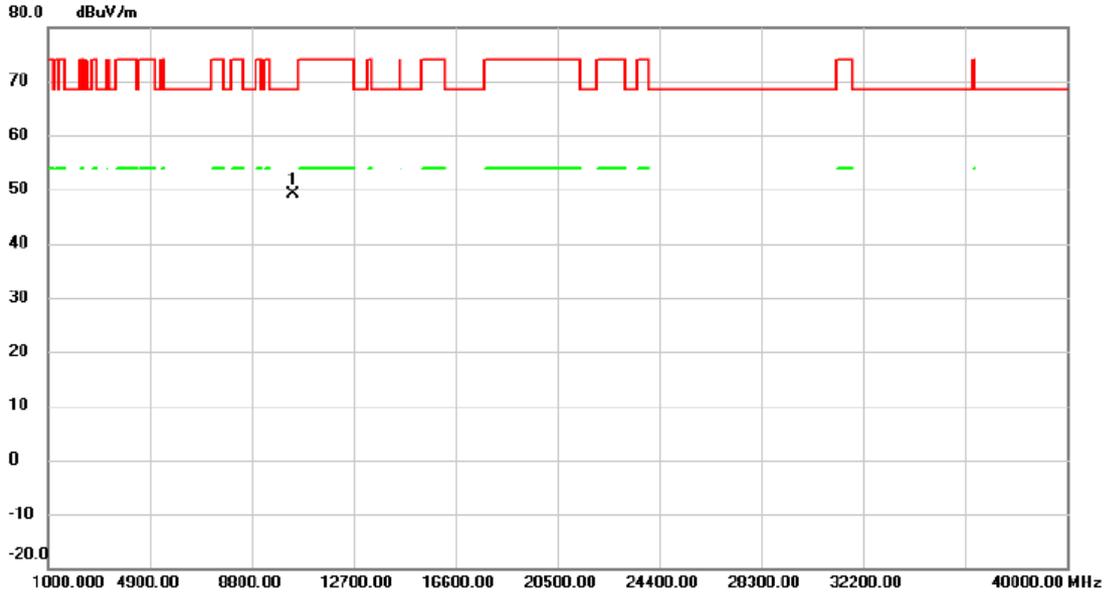
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5150.000	48.97	18.95	67.92	74.00	-6.08	peak	
2	5150.000	34.20	18.95	53.15	54.00	-0.85	AVG	
3 X	5195.300	83.93	19.07	103.00	68.30	34.70	AVG	No Limit
4 *	5196.000	93.77	19.07	112.84	68.30	44.54	peak	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AX (HE40) Mode 5190 MHz

Vertical



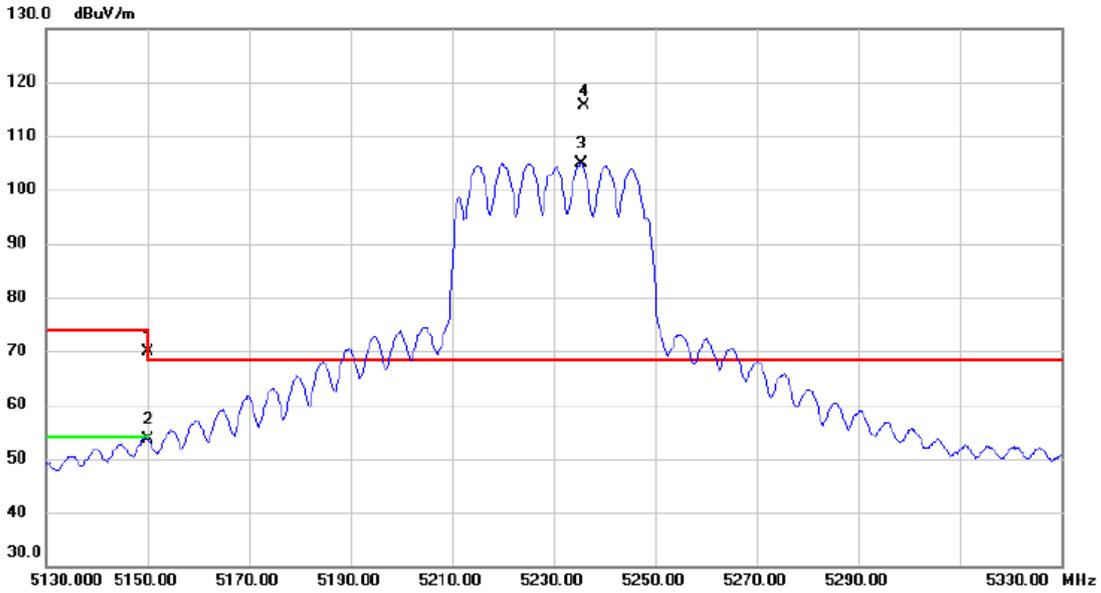
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	*	10381.000	33.88	15.13	49.01	68.30	-19.29	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AX (HE40) Mode 5230 MHz

Vertical



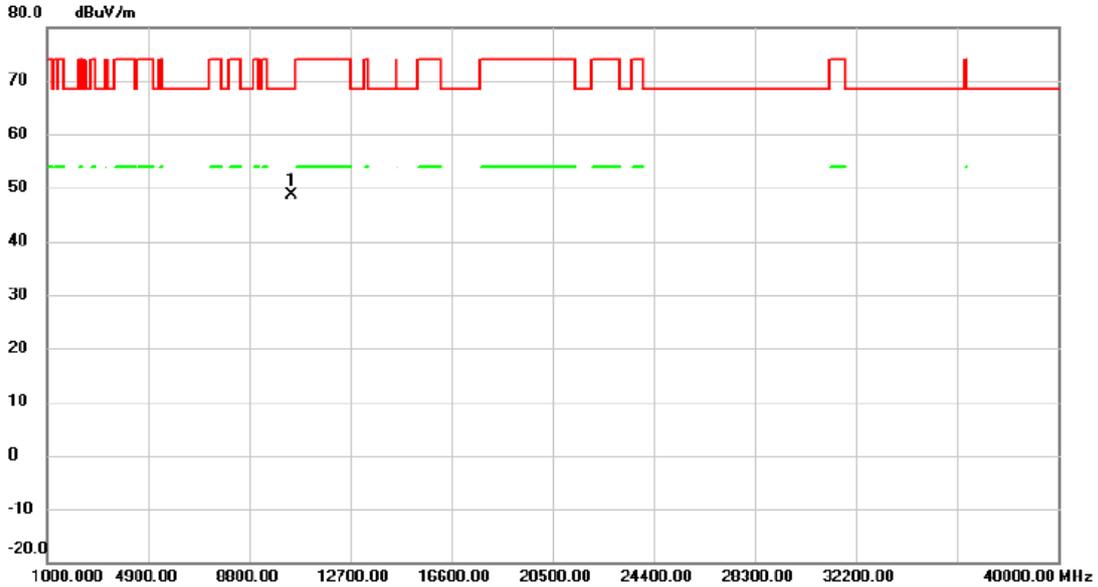
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	5150.000	50.89	18.95	69.84	74.00	-4.16	peak	
2	5150.000	34.58	18.95	53.53	54.00	-0.47	AVG	
3 X	5235.400	85.77	19.17	104.94	68.30	36.64	AVG	No Limit
4 *	5235.900	96.48	19.17	115.65	68.30	47.35	peak	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AX (HE40) Mode 5230 MHz

Vertical



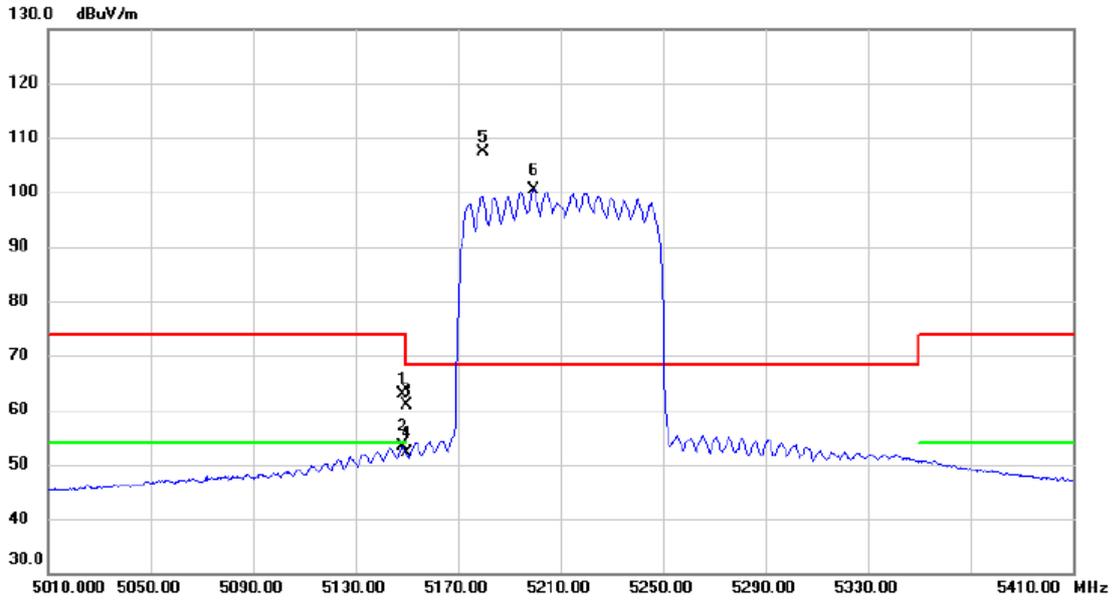
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	10460.704	33.31	15.26	48.57	68.30	-19.73	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AX (HE80) Mode 5210 MHz

Vertical



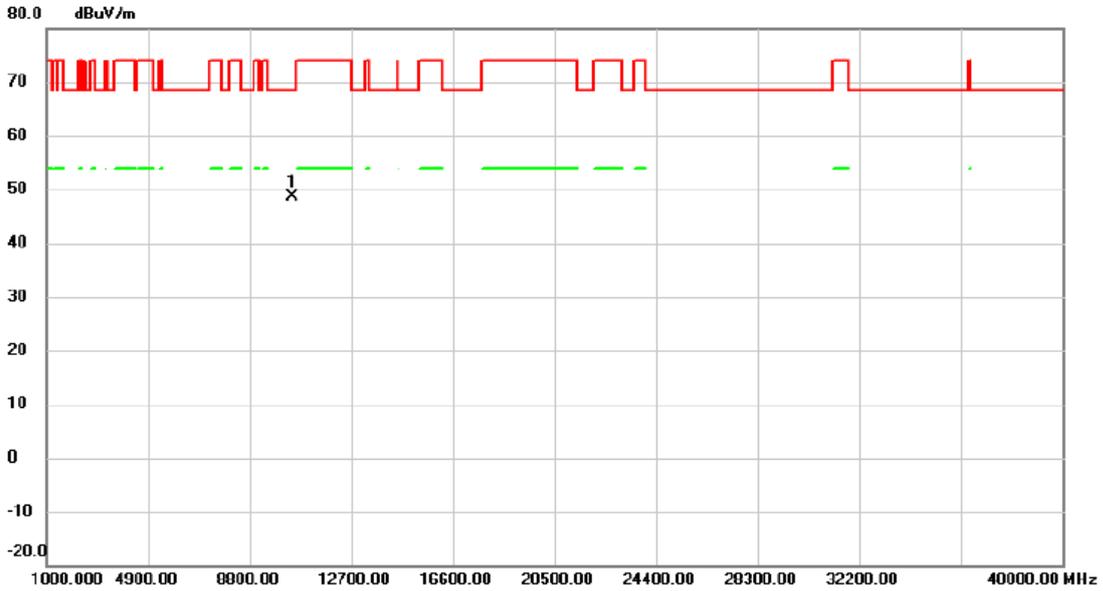
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5148.200	43.85	18.95	62.80	74.00	-11.20	peak	
2		5148.200	34.36	18.95	53.31	54.00	-0.69	AVG	
3		5150.000	41.84	18.95	60.79	74.00	-13.21	peak	
4		5150.000	33.24	18.95	52.19	54.00	-1.81	AVG	
5	*	5179.800	88.32	19.03	107.35	68.30	39.05	peak	No Limit
6	X	5199.400	81.42	19.08	100.50	68.30	32.20	AVG	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-1_TX AX (HE80) Mode 5210MHz

Vertical



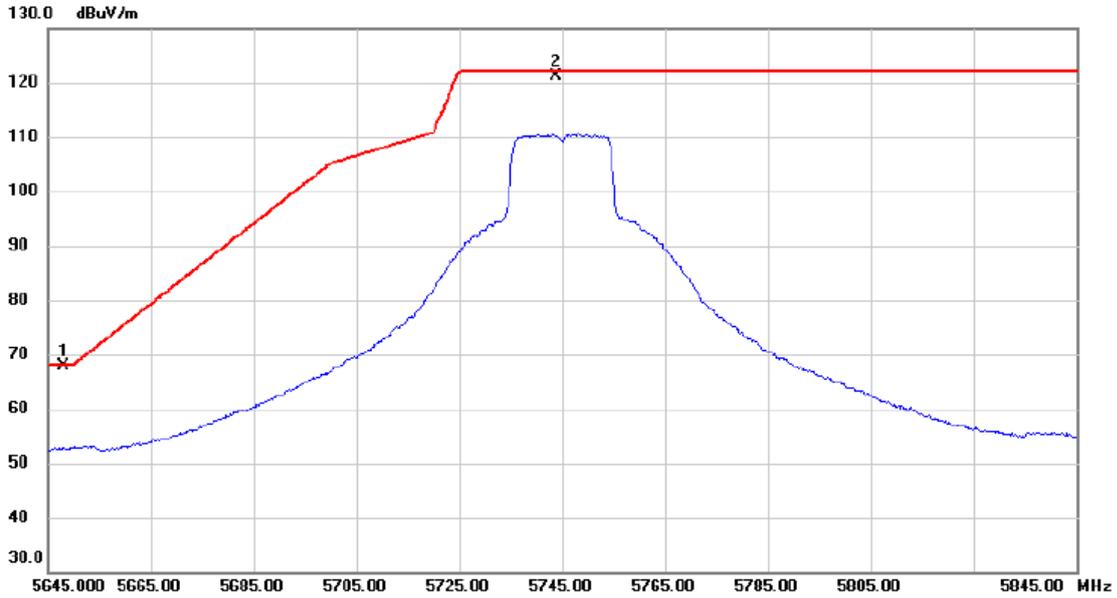
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	10419.508	33.45	15.21	48.66	68.30	-19.64	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX AX (HE20) Mode 5745 MHz

Vertical



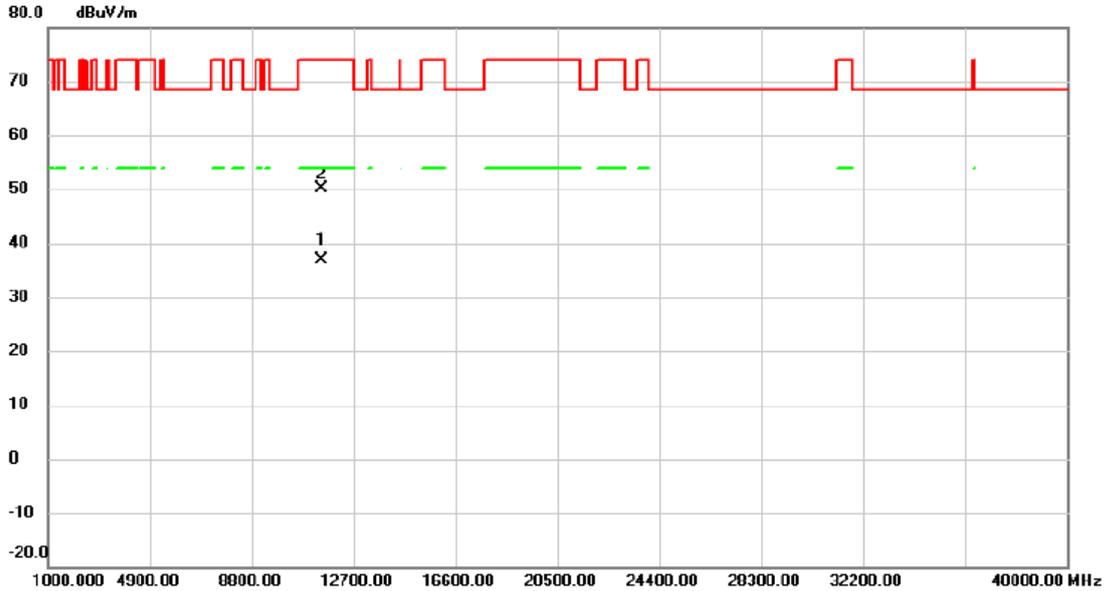
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	*	5648.100	47.92	19.97	67.89	68.20	-0.31	peak	
2		5743.700	101.06	20.03	121.09	122.20	-1.11	peak	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX AX (HE20) Mode 5745 MHz

Vertical



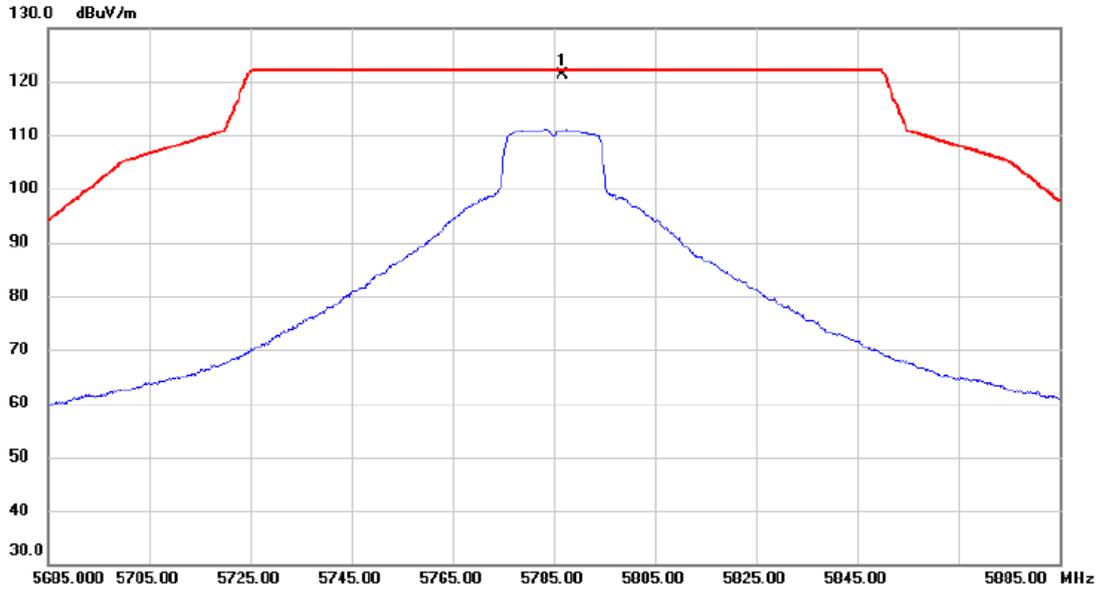
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	11489.102	19.65	17.16	36.81	54.00	-17.19	AVG	
2	11490.520	32.99	17.16	50.15	74.00	-23.85	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX AX (HE20) Mode 5785 MHz

Vertical



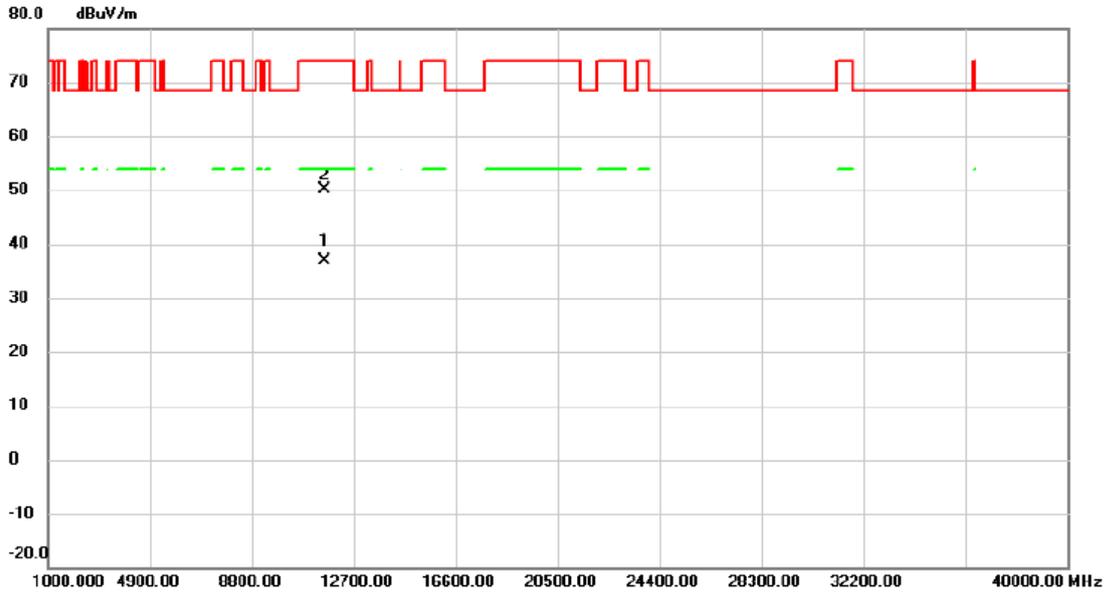
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	5786.600	101.10	20.07	121.17	122.20	-1.03	peak	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX AX (HE20) Mode 5785 MHz

Vertical



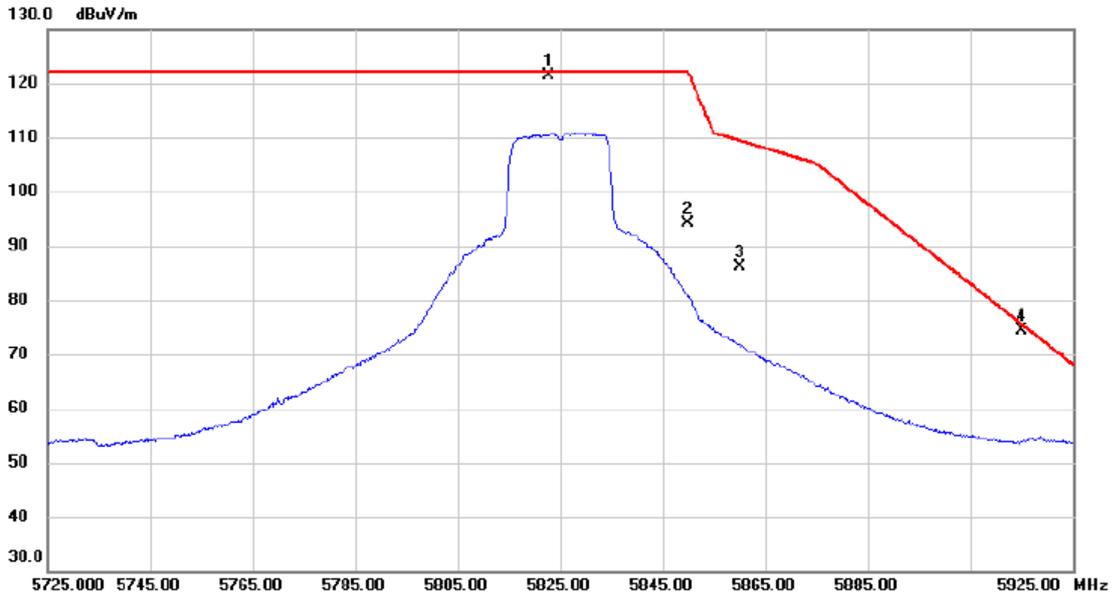
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	11569.175	19.60	17.25	36.85	54.00	-17.15	AVG	
2	11570.118	32.77	17.25	50.02	74.00	-23.98	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX AX (HE20) Mode 5825 MHz

Vertical



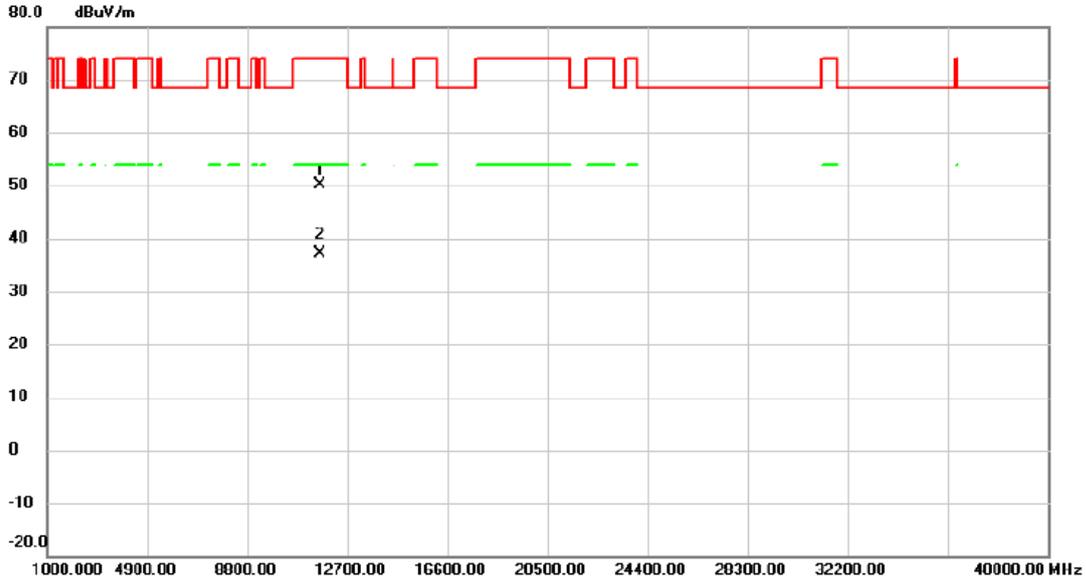
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	5822.600	101.34	20.09	121.43	122.20	-0.77	peak	No Limit
2		5850.000	73.92	20.11	94.03	122.20	-28.17	peak	
3		5860.000	66.05	20.11	86.16	109.40	-23.24	peak	
4		5915.100	54.15	20.17	74.32	75.53	-1.21	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis	X
Test Mode	UNII-3_TX AX (HE20) Mode 5825 MHz

Vertical



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	11649.790	32.74	17.32	50.06	74.00	-23.94	peak	
2 *	11650.765	19.90	17.33	37.23	54.00	-16.77	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.