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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.



Table of Contents

REPORT ISSUED HISTORY	6
1 CERTIFICATION	7
2 . SUMMARY OF TEST RESULTS	8
2.1 TEST FACILITY	9
2.2 MEASUREMENT UNCERTAINTY	9
3 GENERAL INFORMATION	10
3.1 GENERAL DESCRIPTION OF EUT	10
3.2 DESCRIPTION OF TEST MODES	12
3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING	14
3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	15
3.5 DESCRIPTION OF SUPPORT UNITS	16
4 CONDUCTED EMISSION	17
4.1 LIMIT	17
4.2 MEASUREMENT INSTRUMENTS LIST	17
4.3 TEST PROCEDURES	18
4.4 TEST SETUP LAYOUT	18
4.5 DEVIATION FROM TEST STANDARD	18
4.6 EUT OPERATING CONDITIONS	19
4.7 TEST RESULTS	20
5 ANTENNA CONDUCTED SPURIOUS EMISSION	22
5.1 LIMIT	22
5.2 MEASUREMENT INSTRUMENTS LIST	22
5.3 TEST PROCEDURES	22
5.4 TEST SETUP LAYOUT	22
5.5 DEVIATION FROM TEST STANDARD	22
5.6 EUT OPERATING CONDITIONS	22
5.7 TEST RESULTS - 2412-2462 MHZ	23
5.8 TEST RESULTS - 5745-5825 MHZ	47
6 6 DB BANDWIDTH	65
6.1 LIMIT	65
6.2 MEASUREMENT INSTRUMENTS LIST	65
6.3 TEST PROCEDURES	65
6.4 TEST SETUP LAYOUT	65
6.5 DEVIATION FROM TEST STANDARD	65
6.6 EUT OPERATING CONDITIONS	65
6.7 TEST RESULTS - 2412-2462 MHZ	66
6.8 TEST RESULTS - 5745-5825 MHZ	78
7 MAXIMUM PEAK CONDUCTED OUTPUT POWER	88



Table of Contents

7.1	LIMIT	88
7.2	MEASUREMENT INSTRUMENTS LIST	88
7.3	TEST PROCEDURES	88
7.4	TEST SETUP LAYOUT	88
7.5	DEVIATION FROM TEST STANDARD	88
7.6	EUT OPERATING CONDITIONS	88
7.7	TEST RESULTS - 2412-2462 MHZ	89
7.8	TEST RESULTS - 5745-5825 MHZ	97
8	RADIATED SPURIOUS EMISSION (9 KHZ TO 1 GHZ)	104
8.1	LIMIT	104
8.2	MEASUREMENT INSTRUMENTS LIST	105
8.3	MEASURING INSTRUMENTS SETTING	105
8.4	TEST PROCEDURES	106
8.5	DEVIATION FROM TEST STANDARD	106
8.6	TEST SETUP LAYOUT	106
8.7	EUT OPERATING CONDITIONS	107
8.8	TEST RESULTS - 2412-2462 MHZ	108
8.9	TEST RESULTS - 5745-5825 MHZ	110
9	RADIATED SPURIOUS EMISSION (ABOVE 1 GHZ)	112
9.1	LIMIT	112
9.2	MEASUREMENT INSTRUMENTS LIST	113
9.3	MEASURING INSTRUMENTS SETTING	113
9.4	TEST PROCEDURES	114
9.5	DEVIATION FROM TEST STANDARD	114
9.6	TEST SETUP LAYOUT	114
9.7	EUT OPERATING CONDITIONS	115
9.8	TEST RESULTS - 2412-2462 MHZ	116
9.9	TEST RESULTS - 5745-5825 MHZ	164
9.10	TEST RESULTS (RESTRICTED BANDS)	196
10	POWER SPECTRAL DENSITY	212
10.1	LIMIT	212
10.2	MEASUREMENT INSTRUMENTS LIST	212
10.3	TEST PROCEDURES	212
10.4	TEST SETUP LAYOUT	212
10.5	DEVIATION FROM TEST STANDARD	212
10.6	EUT OPERATING CONDITIONS	212
10.7	TEST RESULTS - 2412-2462 MHZ	213
10.8	TEST RESULTS - 5745-5825 MHZ	227



Table of Contents

11	RF EXPOSURE COMPLIANCE	239
11.1	LIMIT	239
11.2	MEASUREMENT INSTRUMENTS LIST	239
11.3	MPE CALCULATION METHOD	239
11.4	TEST SETUP LAYOUT	240
11.5	DEVIATION FROM TEST STANDARD	240
11.6	EUT OPERATING CONDITIONS	240
11.7	TEST RESULTS - 2412-2462 MHZ	241
11.8	TEST RESULTS - 5745-5825 MHZ	249
12	EUT TEST PHOTO	256



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REPORT ISSUED HISTORY

Revised Version No.	Description	Issued Date
-	Initial Issue.	Nov. 06, 2013



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1 CERTIFICATION

Equipment : IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client
Brand Name : Teraoka
Model Name : AP-3001g
Applicant : Teraoka Weigh-System Pte Ltd.
Date of Test : May 17, 2013 ~ Oct. 01, 2013
Standards : RSS-210, Issue 8, 2010
FCC Part 15, Subpart C: 2012
ANSI C63.4: 2009

The above equipment has been tested and found compliance with the requirement of the relative standards by Neutron Engineering Inc. EMC Laboratory.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. NEI-FCCP-1-1305157) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).



2. SUMMARY OF TEST RESULTS

RSS-210, Issue 8, 2010; FCC Part 15, Subpart C: 2012			
Standard Clause		Test Item	Result
RSS-210	FCC Part 15, Subpart C		
NOTE (2)	15.207	Conducted Emission	PASS
A8.5	15.247 (c)	Antenna conducted Spurious Emission	PASS
A8.2 (a)	15.247 (a)(2)	6 dB Bandwidth	PASS
A8.4 (4)	15.247 (b)	Maximum Peak Conducted Output Power	PASS
NOTE (3)	15.247 (c)	Radiated Spurious Emission	PASS
A8.2 (b)	15.247 (d)(e)	Power Spectral Density	PASS
NOTE (4)	15.205	Restricted Bands	PASS
NOTE (5)	15.203	Antenna Requirement	PASS
NOTE (6)	1.1307 1.1310 2.1091 2.1093	RF Exposure Compliance	PASS

NOTE:

- (1) N/A: denotes test is not applicable in this Test Report
- (2) Reference standerads is RSS-GEN 7.2.4
- (3) Reference standerads is RSS-GEN 7.2.5
- (4) Reference standerads is RSS-GEN 7.2.2
- (5) Reference standerads is RSS-GEN 7.1.2
- (6) Reference standerads is RSS-102
- (7) This test report only covers radio operating bands: 2400-2483.5 MHz (IEEE 802.11b/g/n) and 5725-5825 MHz (IEEE 802.11a/n).
The test for radio operating bands: 5150-5250 MHz, 5250-5350 MHz and 5470-5725 MHz (IEEE 802.11a/n) is covered in another test report: NEI-FCCP-2-1305157.
- (8) The test follows FCC KDB Publication NO. 558074 D01 DTS Meas Guidance v03r01(Measurement Guidelines of DTS)



2.1 TEST FACILITY

The test facilities used to collect the test data in this report:

Conducted emission Test:

C01: (VCCI RN: C-2918; FCC RN: 95335; FCC DN: TW1010)
No.132-1, Ln. 329, Sec. 2, Balian Rd., Xizhi Dist., New Taipei City 221, Taiwan (R.O.C.)

Radiated emission Test (Below 1 GHz):

CB08: (FCC RN: 614388; FCC DN: TW1054; IC Assigned Code: 4428C-1)
1F., No. 61, Ln. 77, Sing-ai Rd., Neihu Dist., Taipei City 114, Taiwan (R.O.C.)

Radiated emission Test (Above 1 GHz):

CB08: (VCCI RN: G-91; FCC RN: 614388; FCC DN: TW1054; IC Assigned Code: 4428C-1)
1F., No. 61, Ln. 77, Sing-ai Rd., Neihu Dist., Taipei City 114, Taiwan (R.O.C.)

2.2 MEASUREMENT UNCERTAINTY

The measurement uncertainty is not specified by FCC rules and for reference only.

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately **95%**.

The measurement instrumentation uncertainty considerations contained in CISPR 16-4-2.

A. Conducted emission test:

Test Site	Measurement Frequency Range	U , (dB)	NOTE
C01	150 kHz ~ 30 MHz	1.94	

B. Radiated emission test:

Test Site	Item	Measurement Frequency Range	Uncertainty	NOTE
CB08	Radiated emission at 3m	Horizontal Polarization	30 - 200MHz	3.35 dB
			200 - 1000MHz	3.11 dB
		Vertical Polarization	1 - 18GHz	3.97 dB
			18 - 40GHz	4.01 dB
	Radiated emission at 3m	Horizontal Polarization	30 - 200MHz	3.22 dB
			200 - 1000MHz	3.24 dB
		Vertical Polarization	1 - 18GHz	4.05 dB
			18 - 40GHz	4.04 dB

Our calculated Measurement Instrumentation Uncertainty is shown in the tables above. These are our U_{lab} values in CISPR 16-4-2 terminology.

Since Table 1 of CISPR 16-4-2 has values of measurement instrumentation uncertainty, called U_{CISPR} , as follows:

- Conducted Disturbance (mains port) – 150 kHz – 30 MHz: 3.6 dB
- Radiated Disturbance (electric field strength on an open area test site or alternative test site) – 30 MHz – 1000 MHz: 5.2 dB

It can be seen that our U_{lab} values are smaller than U_{CISPR} .

If U_{lab} is less than or equal to U_{CISPR} , then:

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

If U_{lab} is greater than U_{CISPR} , then:

- compliance is deemed to occur if no measured disturbance level, increased by $(U_{lab} - U_{CISPR})$, exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level, increased by $(U_{lab} - U_{CISPR})$, exceeds the disturbance limit.



3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	
Brand Name	Teraoka	
Model Name	AP-3001g	
OEM Brand/Model Name	N/A	
Model Difference	N/A	
Product Description	The EUT is an IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client.	
	Operation Frequency	2412~2462 MHz, 5745~5825 MHz
	Modulation Type	DBPSK, DQPSK, CCK, BPSK, QPSK, 16QAM, 64QAM, MIMO 2412~2462 MHz: IEEE 802.11b: DSSS IEEE 802.11g: OFDM IEEE 802.11n: OFDM (2 TX & 2 RX) 5745~5825 MHz: IEEE 802.11a: OFDM IEEE 802.11n: BPSK (2 TX & 2 RX)
	Bit Rate of Transmitter	IEEE 802.11b: 1, 2, 5.5 and 11 Mbps IEEE 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps IEEE 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps IEEE 802.11n: HT20: 130 Mbps (max.) IEEE 802.11n: HT40: 300 Mbps (max.)
	Number Of Channel	Please refer to the Note 2.
	Antenna Designation	Please refer to the Note 3.
	Antenna Gain(Peak)	Please refer to the Note 3.
	Maximum Conducted Output Power	Peak Output Power: 2412~2462 MHz: IEEE 802.11b: 16.64 dBm IEEE 802.11g: 21.35 dBm IEEE 802.11n (20 MHz): 23.05 dBm IEEE 802.11n (40 MHz): 19.99 dBm 5745~5825 MHz: IEEE 802.11a: 21.09 dBm IEEE 802.11n (20 MHz): 24.14 dBm IEEE 802.11n (40 MHz): 23.72 dBm
	More details of EUT technical specification, please refer to the User's Manual.	
	Power Source	Supplied from System USB port.
Power Rating	I/P: DC 5V	
Connecting I/O Port(s)	Please refer to the User's Manual	
Products Covered	N/A	
EUT Modification(s)	N/A	



NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2. Channel List:

2412-2462 MHz Band (IEEE 802.11b/g/n (20MHz))					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	05	2432	09	2452
02	2417	06	2437	10	2457
03	2422	07	2442	11	2462
04	2427	08	2447		

2422-2452 MHz Band (IEEE 802.11n (40MHz))					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
03	2422	06	2437	09	2452
04	2427	07	2442		
05	2432	08	2447		

5745-5825 MHz Band (IEEE 802.11a/n (20MHz))					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	157	5785	165	5825
153	5765	161	5805		

5755-5795 MHz Band (IEEE 802.11n (40MHz))					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795		

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
0(2.4G)	N/A	N/A	Printed	N/A	2.26
1(2.4G)	N/A	N/A	Printed	N/A	1.7
0 (5G)	N/A	N/A	Printed	N/A	4.29
1 (5G)	N/A	N/A	Printed	N/A	4.95

4. The EUT incorporates MIMO function. Physically, the EUT provides two completed transmitters and two receivers (2T2R).

2412-2462 MHz Band	
Modulated type	TX Function
IEEE 802.11b	1 TX
IEEE 802.11g	1 TX
IEEE 802.11n (20MHz)	2 TX

2422-2452 MHz Band	
Modulated type	TX Function
IEEE 802.11n (40MHz)	2 TX

5745-5825 MHz Band	
Modulated type	TX Function
IEEE 802.11a	1 TX
IEEE 802.11n (20MHz)	2 TX

5755-5795 MHz Band	
Modulated type	TX Function
IEEE 802.11n (40MHz)	2 TX



3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

2412-2462 MHz Band					
Test Items	IEEE	Mode	Data Rate	Channel	Note
Conducted Emission	802.11b	DSSS	1 Mbps	06	
Antenna conducted Spurious Emission	802.11b	DSSS	1 Mbps	01/06/11	
	802.11g	OFDM	6 Mbps	01/06/11	
	802.11n (20 MHz)	BPSK	MCS8	01/06/11	
	802.11n (40 MHz)	BPSK	MCS8	03/06/09	
6 dB Bandwidth	802.11b	DSSS	1 Mbps	01/06/11	
	802.11g	OFDM	6 Mbps	01/06/11	
	802.11n (20 MHz)	BPSK	MCS8	01/06/11	
	802.11n (40 MHz)	BPSK	MCS8	03/06/09	
Maximum Peak Conducted Output Power	802.11b	DSSS	1 Mbps	01/06/11	
	802.11g	OFDM	6 Mbps	01/06/11	
	802.11n (20 MHz)	BPSK	MCS8	01/06/11	
	802.11n (40 MHz)	BPSK	MCS8	03/06/09	
Radiated Spurious Emission (30 MHz to 1 GHz)	802.11n (20 MHz)	OFDM	MCS8	06	
Radiated Spurious Emission (above 1 GHz)	802.11b	DSSS	1 Mbps	01/06/11	
	802.11g	OFDM	6 Mbps	01/06/11	
	802.11n (20 MHz)	BPSK	MCS8	01/06/11	
	802.11n (40 MHz)	BPSK	MCS8	03/06/09	
Restricted Bands	802.11b	DSSS	1 Mbps	01/06/11	
	802.11g	OFDM	6 Mbps	01/06/11	
	802.11n (20 MHz)	BPSK	MCS8	01/06/11	
	802.11n (40 MHz)	BPSK	MCS8	03/06/09	
Antenna Requirement	---		---	---	
RF Exposure Compliance	---		---	---	



5745-5825 MHz Band					
Test Items	IEEE	Mode	Data Rate	Channel	Note
Antenna conducted Spurious Emission	802.11a	OFDM	6 Mbps	149/157/165	
	802.11n (20 MHz)	BPSK	MCS8	149/157/165	
	802.11n (40 MHz)	BPSK	MCS8	151/159	
6 dB Bandwidth	802.11a	OFDM	6 Mbps	149/157/165	
	802.11n (20 MHz)	BPSK	MCS8	149/157/165	
	802.11n (40 MHz)	BPSK	MCS8	151/159	
Maximum Peak Conducted Output Power	802.11a	OFDM	6 Mbps	149/157/165	
	802.11n (20 MHz)	BPSK	MCS8	149/157/165	
	802.11n (40 MHz)	BPSK	MCS8	151/159	
Radiated Spurious Emission (30 MHz to 1 GHz)	802.11n (20 MHz)	OFDM	MCS8	157	
Radiated Spurious Emission (above 1 GHz)	802.11a	OFDM	6 Mbps	149/157/165	
	802.11n (20 MHz)	BPSK	MCS8	149/157/165	
	802.11n (40 MHz)	BPSK	MCS8	151/159	
Restricted Bands	802.11a	OFDM	6 Mbps	149/157/165	
	802.11n (20 MHz)	BPSK	MCS8	149/157/165	
	802.11n (40 MHz)	BPSK	MCS8	151/159	
Antenna Requirement	---		---	---	
RF Exposure Compliance	---		---	---	

NOTE: The measurements are performed at the highest, middle, lowest available channels.



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3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

2412-2462 MHz Band						
IEEE	802.11b			802.11g		
Test software Version						
Frequency	2412 MHz	2437 MHz	2462 MHz	2412 MHz	2437 MHz	2462 MHz
Parameter	16	16	16	15	15	15

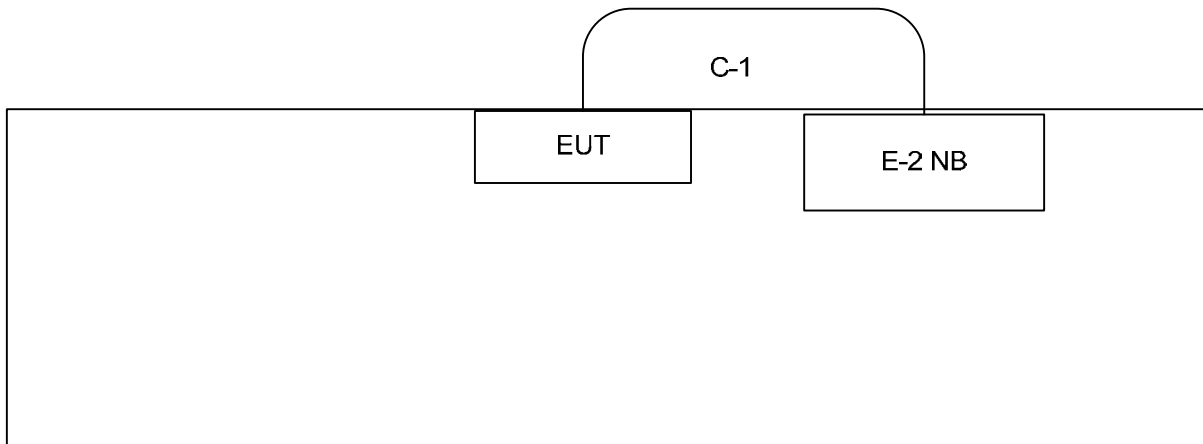
2412-2462 MHz Band				2422-2452 MHz Band		
IEEE	802.11n (20 MHz)			802.11n (40 MHz)		
Test software Version						
Frequency	2412 MHz	2437 MHz	2462 MHz	2422 MHz	2437 MHz	2452 MHz
Parameter	12	12	12	9	9	9

5745-5825 MHz Band						
IEEE	802.11a			802.11n (20 MHz)		
Test software Version						
Frequency	5745 MHz	5785 MHz	5825 MHz	5745 MHz	5785 MHz	5825 MHz
Parameter	12	12	12	12	12	12

5755-5795 MHz Band						
IEEE	802.11n (40 MHz)					
Test software Version						
Frequency	5755 MHz	5795 MHz				
Parameter	12	12				



3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED





3.5 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
E-1	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Teraoka	AP-3001g	SUFAP3001G	N/A	EUT
E-2	Notebook PC	DELL	PP18L	DOC	PF329 A01	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	2.0M	USB

NOTE: The support equipment was authorized by Declaration of Conformity (DOC).



4 CONDUCTED EMISSION

4.1 LIMIT

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 - 5.0	73.00	60.00	56.00	46.00
5.0 - 30.0	73.00	60.00	60.00	50.00

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.
3. The test result calculated as following:
 Measurement Value = Reading Level + Correct Factor
 Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)
 Margin Level = Measurement Value – Limit Value

4.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	TWO-LINE V-NETWORK	R&S	ENV216	101050	Apr. 22, 2014
2	Test Cable	TIMES	CFD300-NL	C01	Jun. 16, 2014
3	EMI Test Receiver	R&S	ESCI	100082	Mar. 21, 2014
4	Measurement Software	EZ	EZ_EMG (Version NB-02A)	N/A	N/A

NOTE: **N/A**: denotes No Model Name, No Serial No. or No Calibration specified.

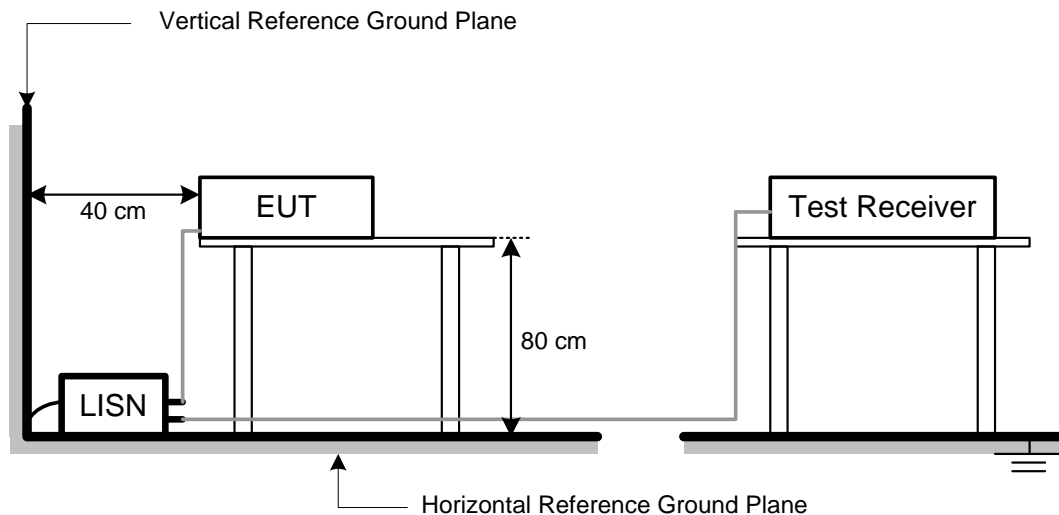
4.3 TEST PROCEDURES

- 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 equipments 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.

NOTE:

- a. Reading in which marked as Peak, QP or AVG means measurements by using are Quasi-Peak or Average Mode with Detector BW=9 kHz (6 dB Bandwidth).
- b. All readings are Peak Mode value unless otherwise stated QP or AVG in column of Note. If the Peak or QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only Peak or QP Mode was measured, but AVG Mode didn't perform.

4.4 TEST SETUP LAYOUT



4.5 DEVIATION FROM TEST STANDARD

No deviation



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4.6 EUT OPERATING CONDITIONS

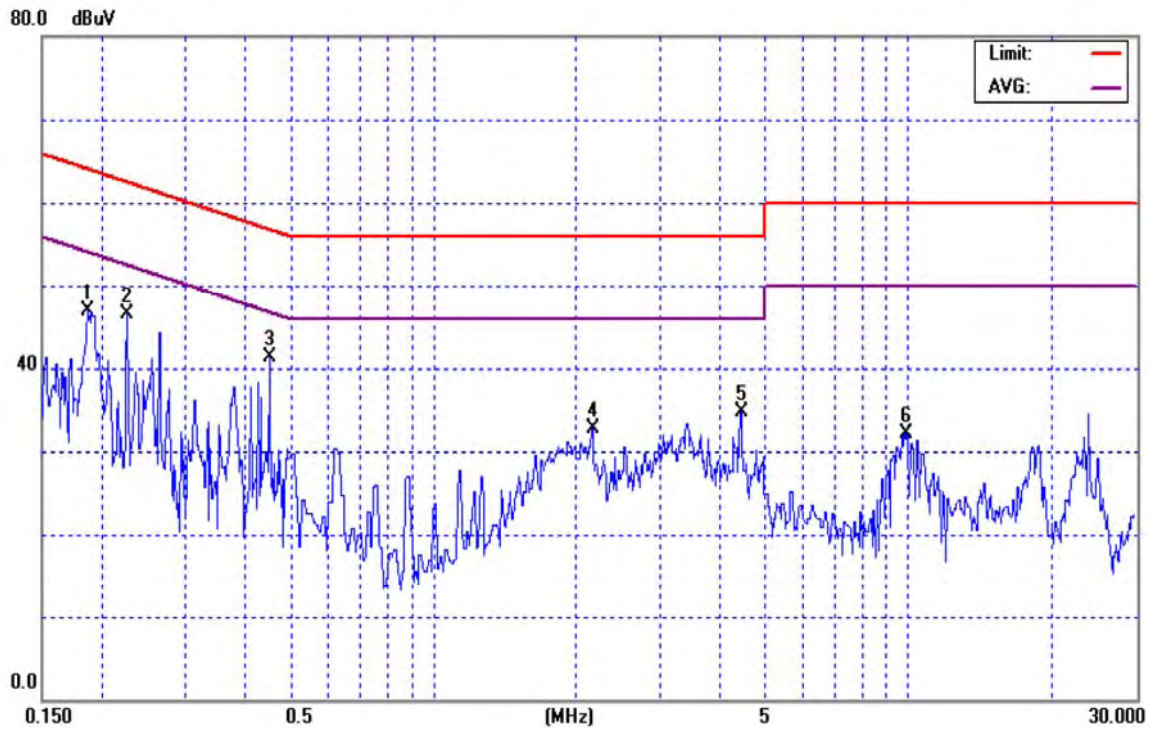
The EUT used during radiated and/or conducted emission measurement was designed to exercise in a manner similar to a typical use.



4.7 TEST RESULTS

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	30°C	Relative Humidity	65%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2437 MHz		

Phase: Line

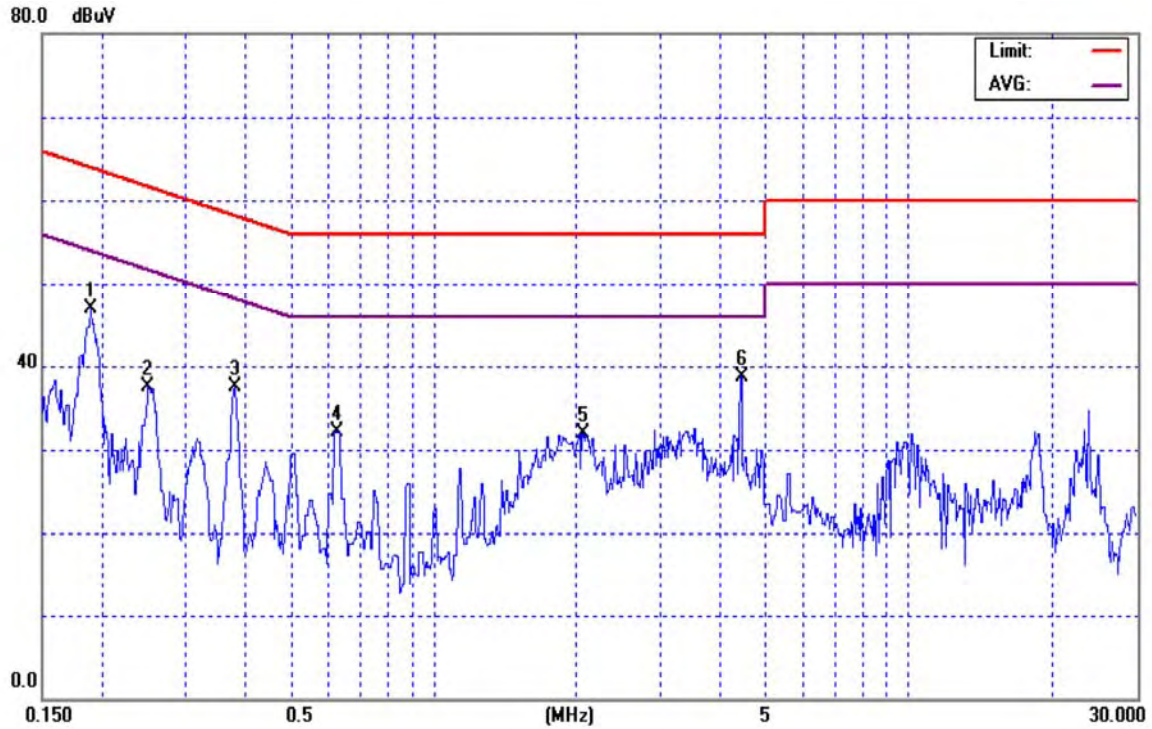


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1871	37.30	9.59	46.89	64.16	-17.27	peak	
2		0.2263	36.99	9.60	46.59	62.58	-15.99	peak	
3	*	0.4510	31.70	9.66	41.36	56.86	-15.50	peak	
4		2.1560	23.04	9.65	32.69	56.00	-23.31	peak	
5		4.4330	24.91	9.74	34.65	56.00	-21.35	peak	
6		9.9000	22.16	9.85	32.01	60.00	-27.99	peak	



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	30°C	Relative Humidity	65%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2437 MHz		

Phase: Neutral



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1892	37.38	9.57	46.95	64.07	-17.12	peak	
2		0.2508	27.91	9.58	37.49	61.73	-24.24	peak	
3		0.3803	27.81	9.64	37.45	58.27	-20.82	peak	
4		0.6260	22.51	9.64	32.15	56.00	-23.85	peak	
5		2.0570	22.31	9.62	31.93	56.00	-24.07	peak	
6		4.4330	29.07	9.72	38.79	56.00	-17.21	peak	



5 ANTENNA CONDUCTED SPURIOUS EMISSION

5.1 LIMIT

Test Item	Frequency Range (MHz)	Limit
Antenna conducted Spurious Emission	30-25000	20 dB less than the peak value of fundamental frequency

5.2 MEASUREMENT INSTRUMENTS LIST

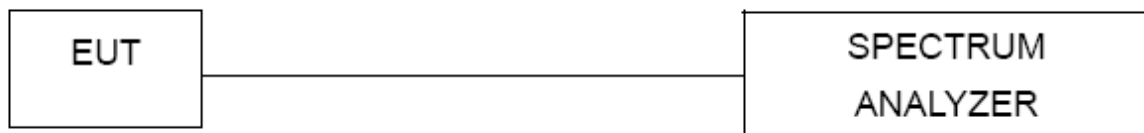
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Oct. 01, 2013

NOTE: **N/A**: denotes No Model Name, No Serial No. or No Calibration specified.

5.3 TEST PROCEDURES

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting: RBW= 100KHz, VBW=300KHz, Sweep time = Auto.

5.4 TEST SETUP LAYOUT



5.5 DEVIATION FROM TEST STANDARD

No deviation

5.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing.



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5.7 TEST RESULTS - 2412-2462 MHZ

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b		

Channel of Worst Data			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2397.20	-28.22	2487.60	-42.83
Result			
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.			



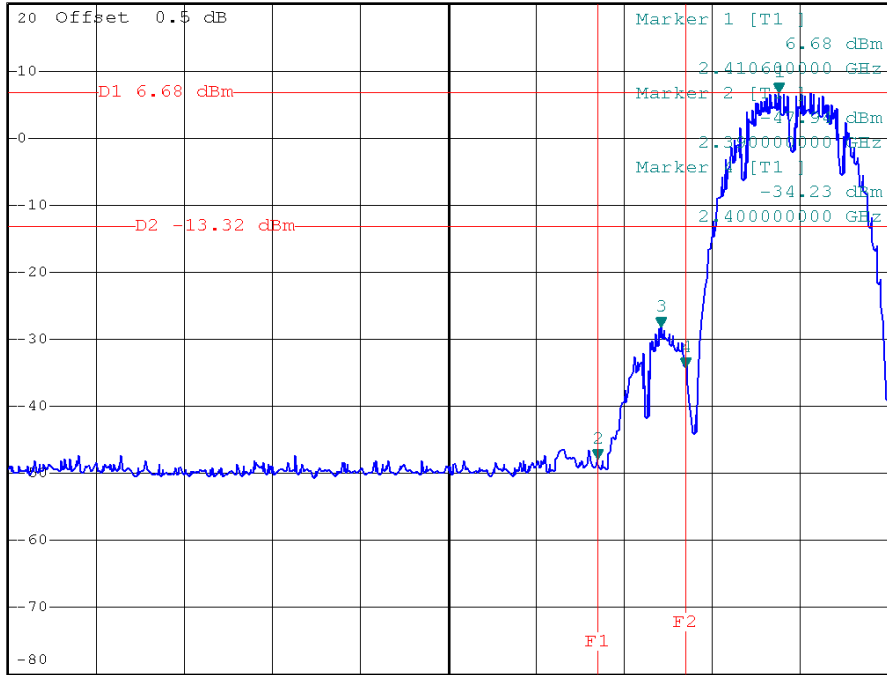
IEEE 802.11b/The max. radio frequency power in any 100kHz bandwidth outside the frequency band



*RBW 100 kHz Marker 3 [T1]
*VBW 300 kHz -28.22 dBm
SWT 10 ms 2.397200000 GHz

Ref 20 dBm *Att 30 dB

1 PK VIEW



Start 2.323 GHz 10 MHz/ Stop 2.423 GHz

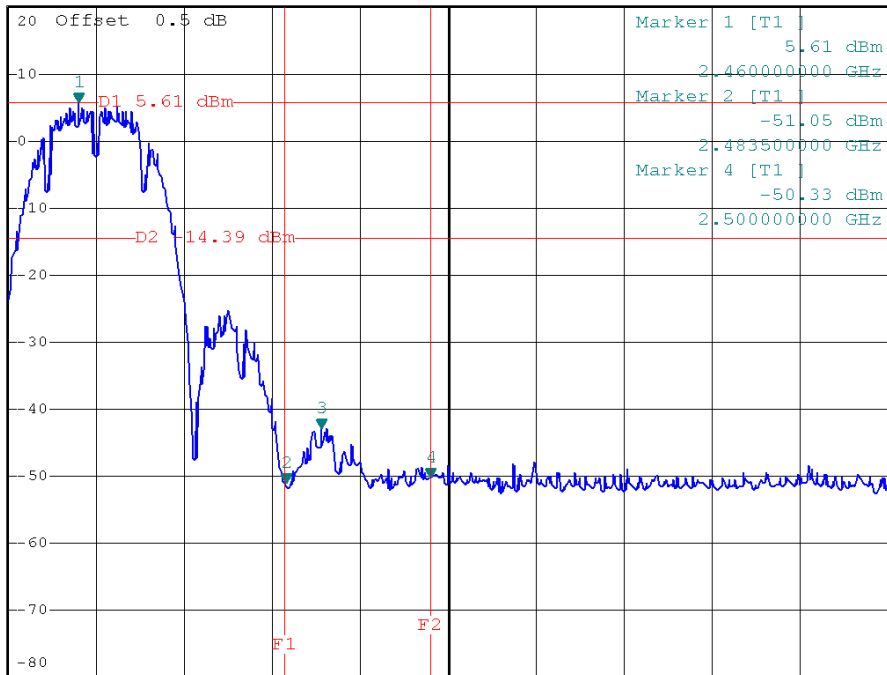
IEEE 802.11b/The max. radio frequency power in any 100 kHz bandwidth within the frequency band



*RBW 100 kHz Marker 3 [T1]
*VBW 300 kHz -42.83 dBm
SWT 10 ms 2.487600000 GHz

Ref 20 dBm *Att 30 dB

1 PK VIEW



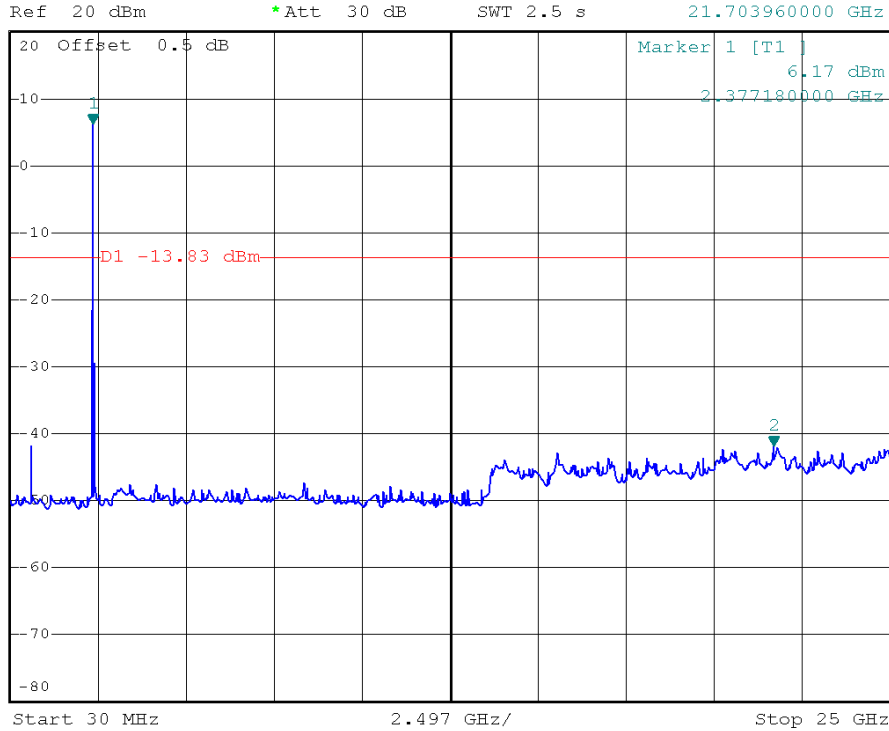
Start 2.452 GHz 10 MHz/ Stop 2.552 GHz



IEEE 802.11b/2412 MHz/10 Harmonic of the frequency



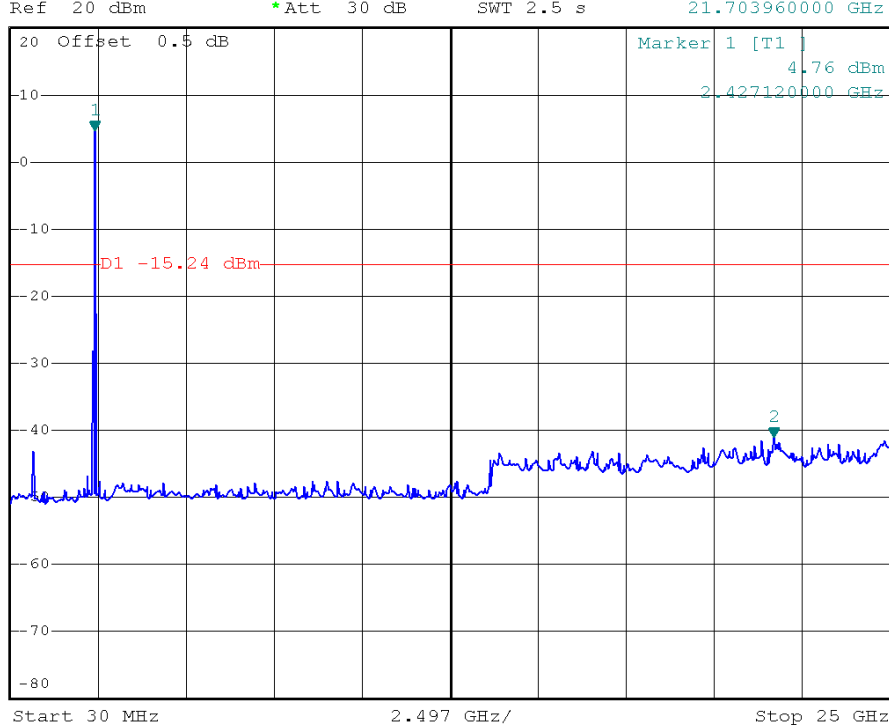
*RBW 100 kHz Marker 2 [T1]
*VBW 300 kHz -41.92 dBm
SWT 2.5 s 21.703960000 GHz



IEEE 802.11b/2437 MHz/10 Harmonic of the frequency



*RBW 100 kHz Marker 2 [T1]
*VBW 300 kHz -41.00 dBm
SWT 2.5 s 21.703960000 GHz





IEEE 802.11b/2462 MHz/10 Harmonic of the frequency

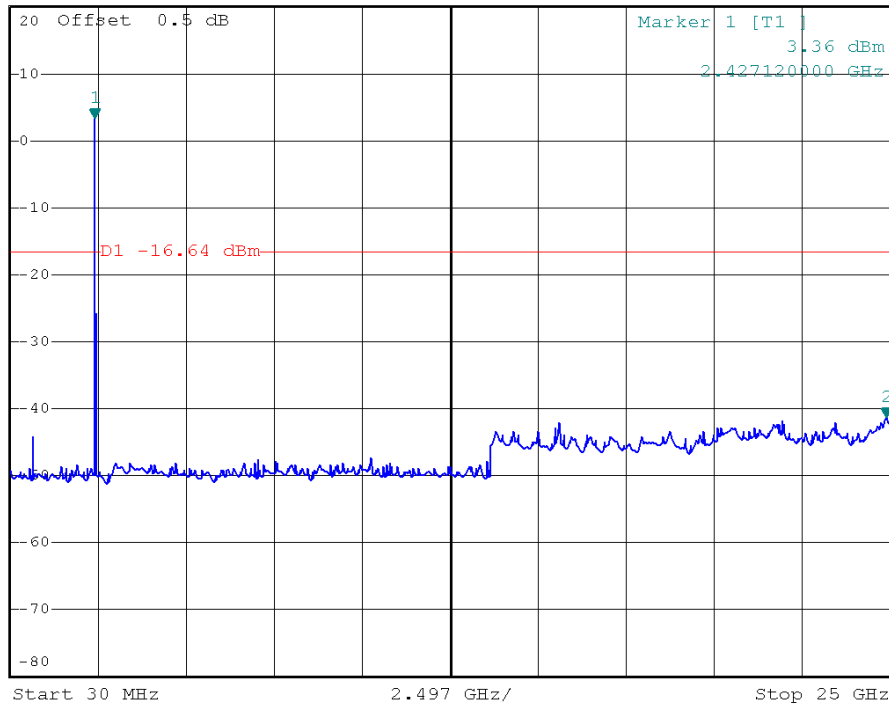


*RBW 100 kHz Marker 2 [T1]
*VBW 300 kHz -41.16 dBm
SWT 2.5 s 24.900120000 GHz

Ref 20 dBm

*Att 30 dB

1 PK
VIEW





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E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g		

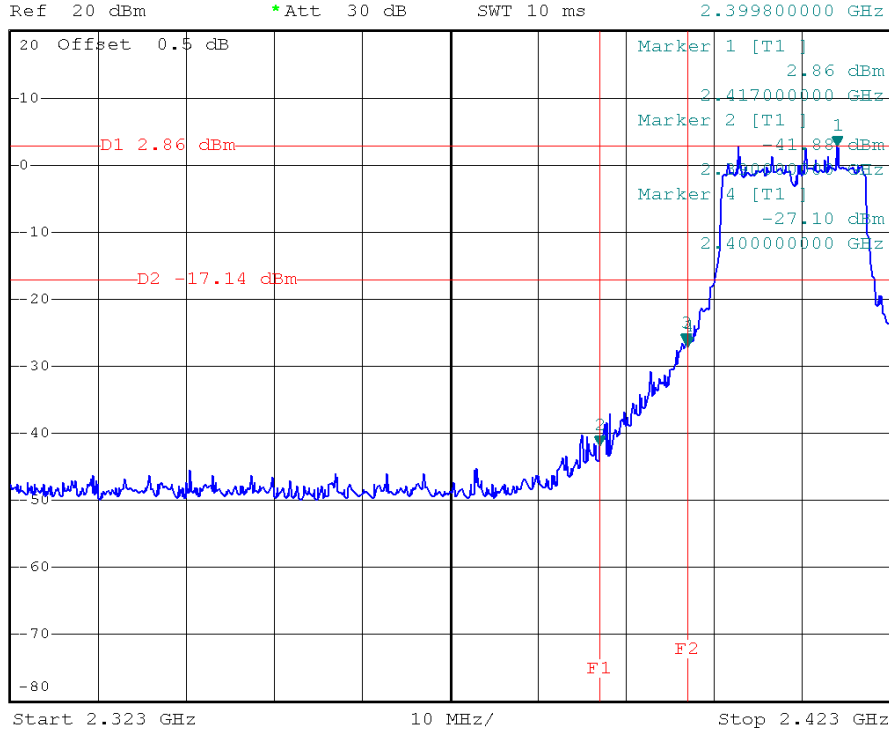
Channel of Worst Data			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2399.80	-26.50	2483.80	-37.92
Result			
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.			



IEEE 802.11g/The max. radio frequency power in any 100kHz bandwidth outside the frequency band



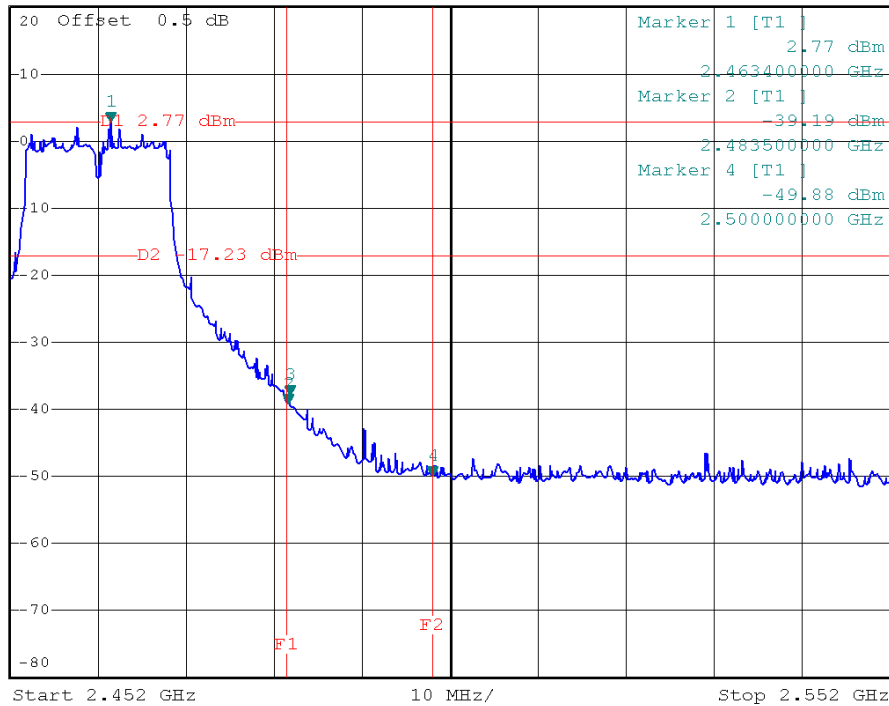
*RBW 100 kHz Marker 3 [T1] -26.50 dBm
*VBW 300 kHz
SWT 10 ms 2.399800000 GHz



IEEE 802.11g/The max. radio frequency power in any 100 kHz bandwidth within the frequency band



*RBW 100 kHz Marker 3 [T1] -37.92 dBm
*VBW 300 kHz
SWT 10 ms 2.483800000 GHz





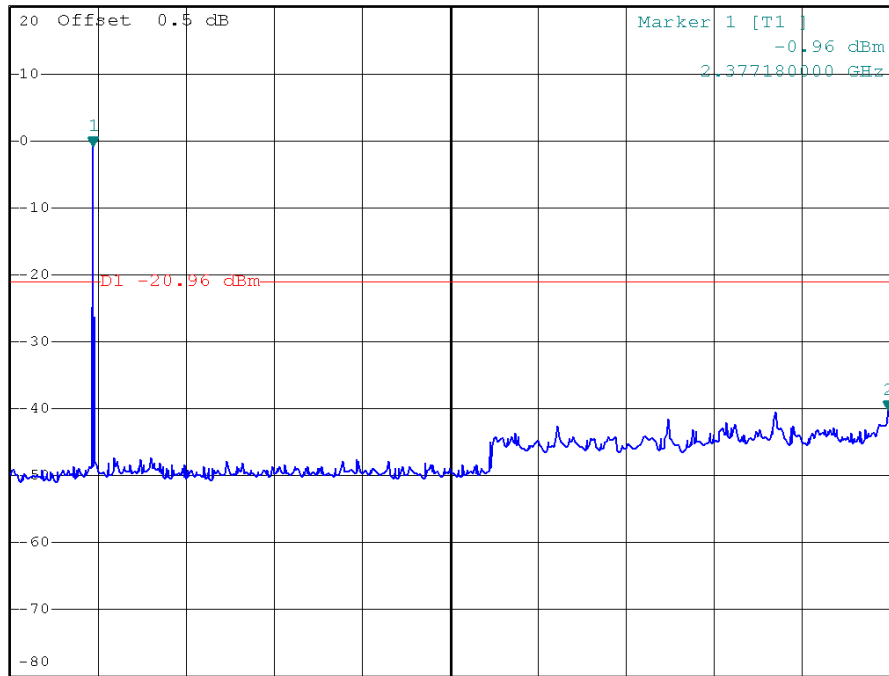
IEEE 802.11g/2412 MHz/10 Harmonic of the frequency



*RBW 100 kHz Marker 2 [T1]
*VBW 300 kHz -40.18 dBm
SWT 2.5 s 24.950060000 GHz

Ref 20 dBm *Att 30 dB

1 PK VIEW



Start 30 MHz 2.497 GHz/ Stop 25 GHz

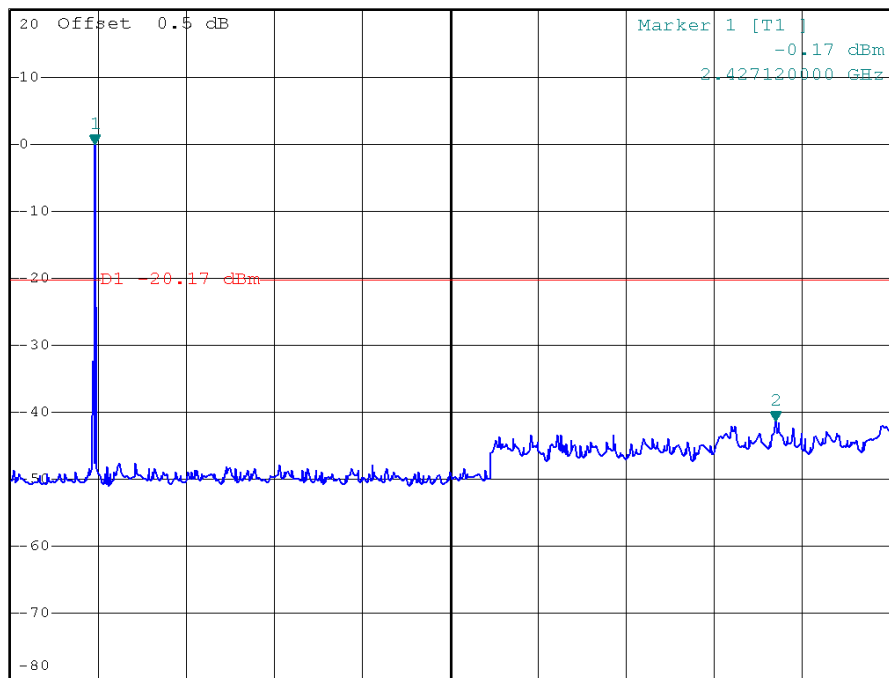
IEEE 802.11g/2437 MHz/10 Harmonic of the frequency



*RBW 100 kHz Marker 2 [T1]
*VBW 300 kHz -41.34 dBm
SWT 2.5 s 21.753900000 GHz

Ref 20 dBm *Att 30 dB

1 PK VIEW



Start 30 MHz 2.497 GHz/ Stop 25 GHz



IEEE 802.11g/2462 MHz/10 Harmonic of the frequency

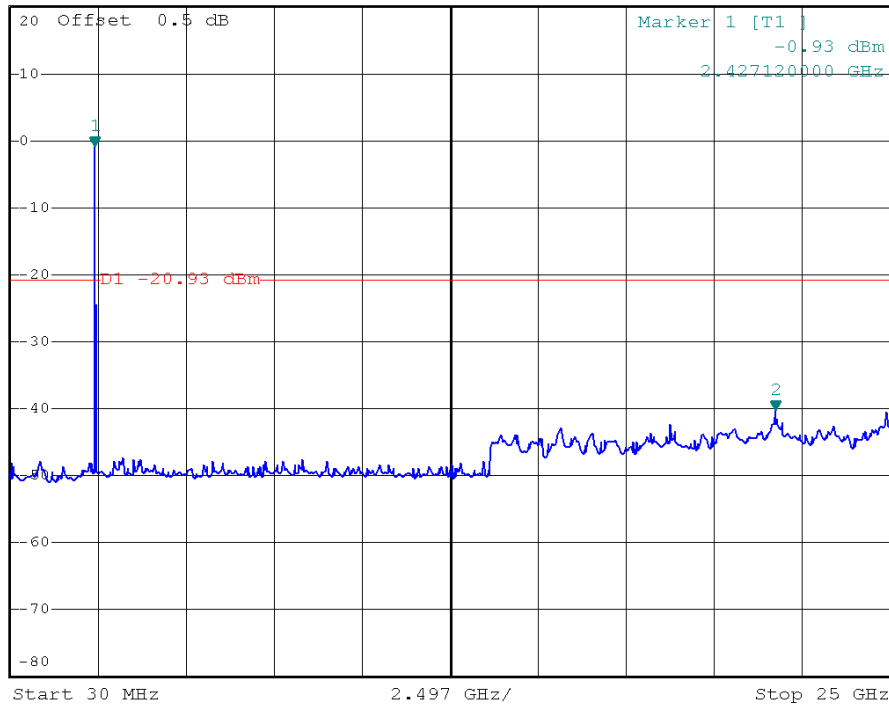


*RBW 100 kHz Marker 2 [T1]
 *VBW 300 kHz -40.35 dBm
 SWT 2.5 s 21.753900000 GHz

Ref 20 dBm

*Att 30 dB

1 PK VIEW





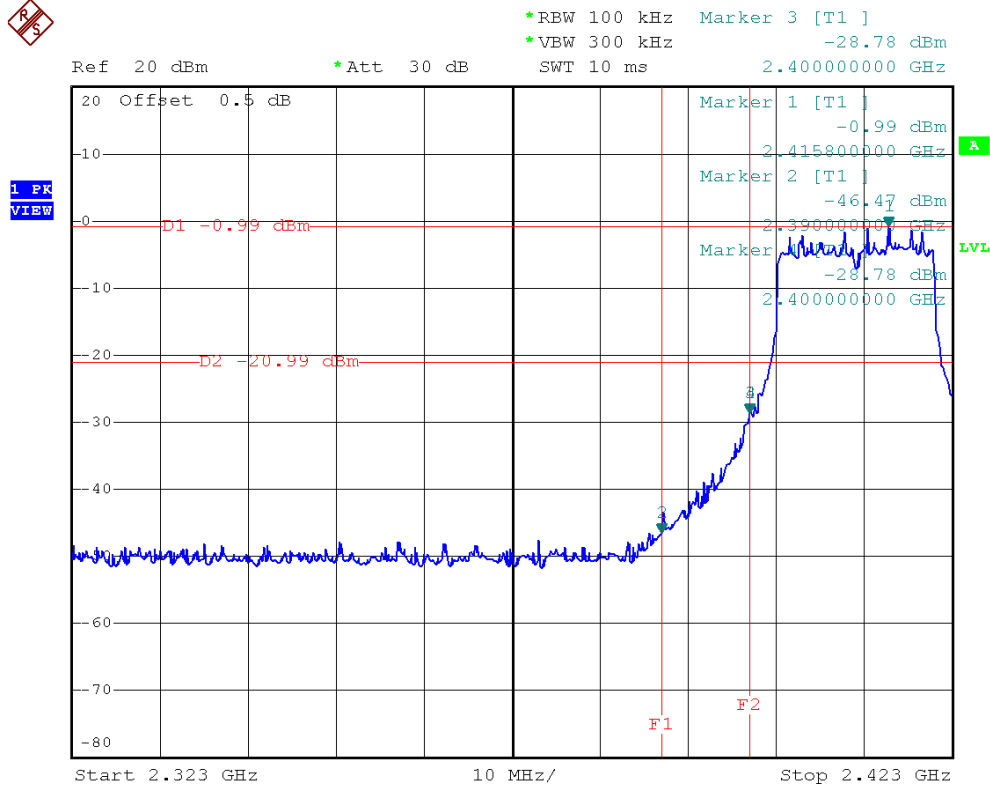
Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.0		

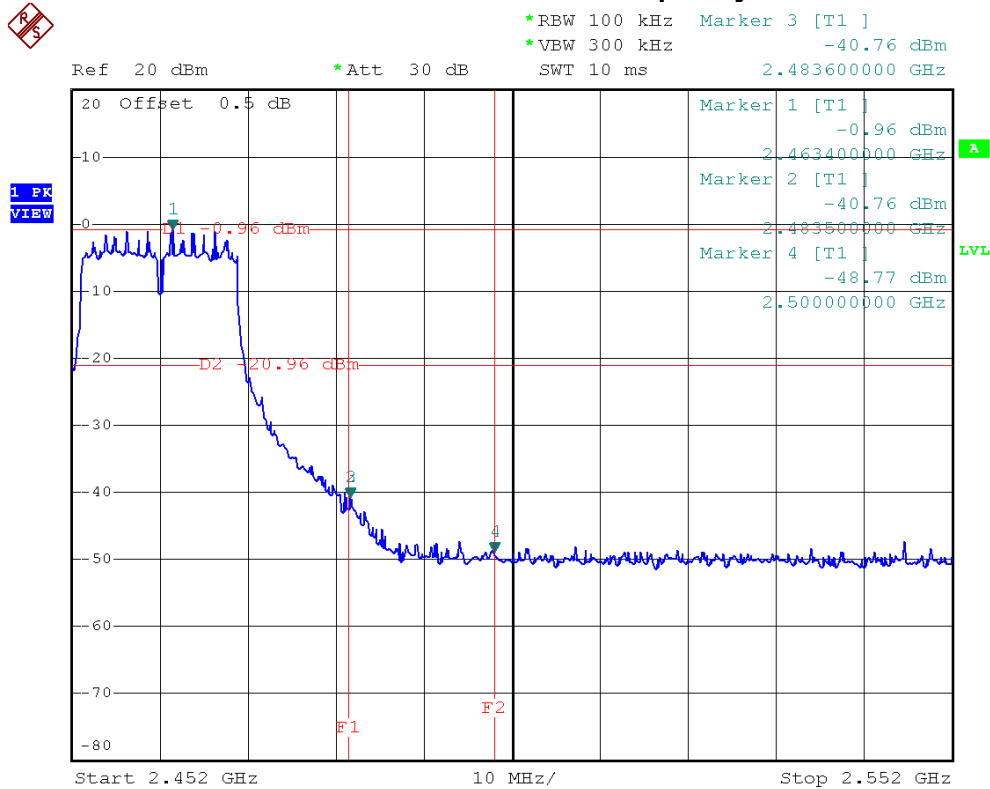
Channel of Worst Data			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2400.00	-28.78	2483.60	-40.76
Result			
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.			



IEEE 802.11n (20 MHz)/ANT.0/The max. radio frequency power in any 100kHz bandwidth outside the frequency band

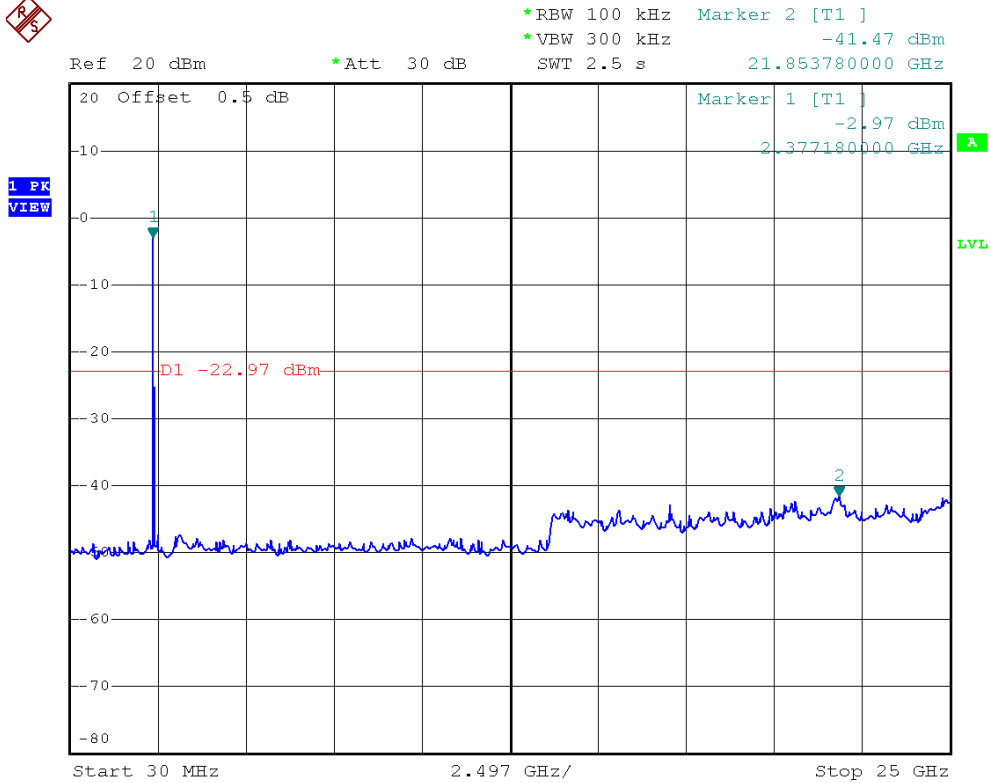


IEEE 802.11n (20 MHz)/ANT.0/The max. radio frequency power in any 100 kHz bandwidth within the frequency band

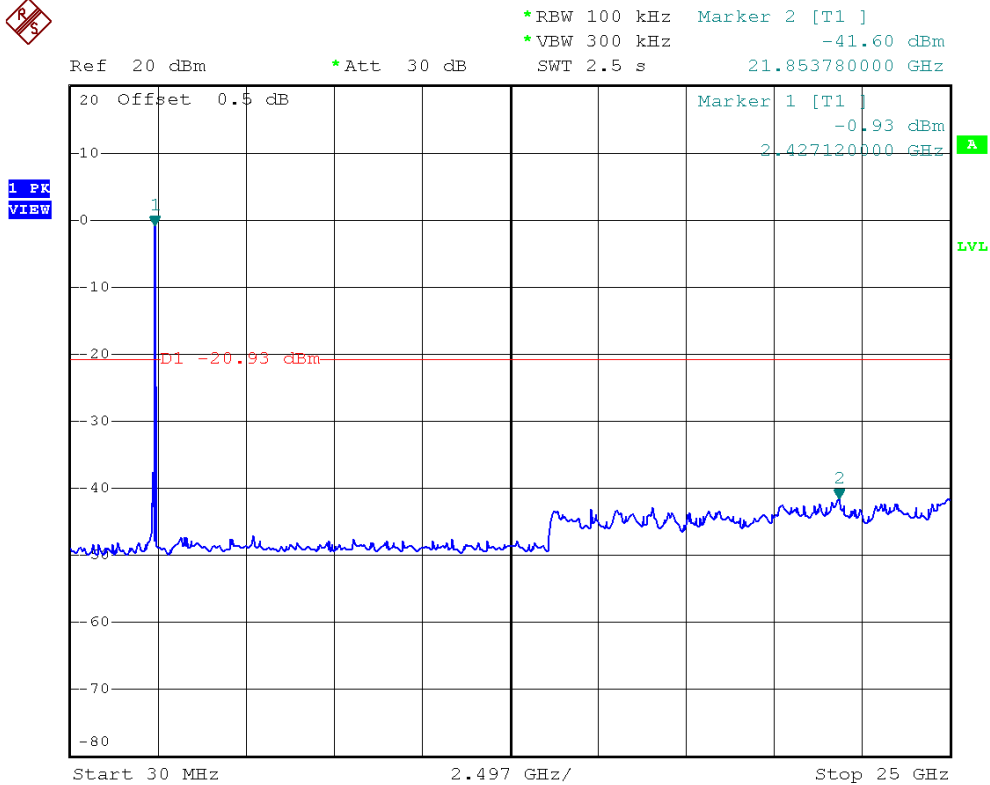




IEEE 802.11n (20 MHz)/ANT.0/2412 MHz/10 Harmonic of the frequency



IEEE 802.11n (20 MHz)/ANT.0/2437 MHz/10 Harmonic of the frequency





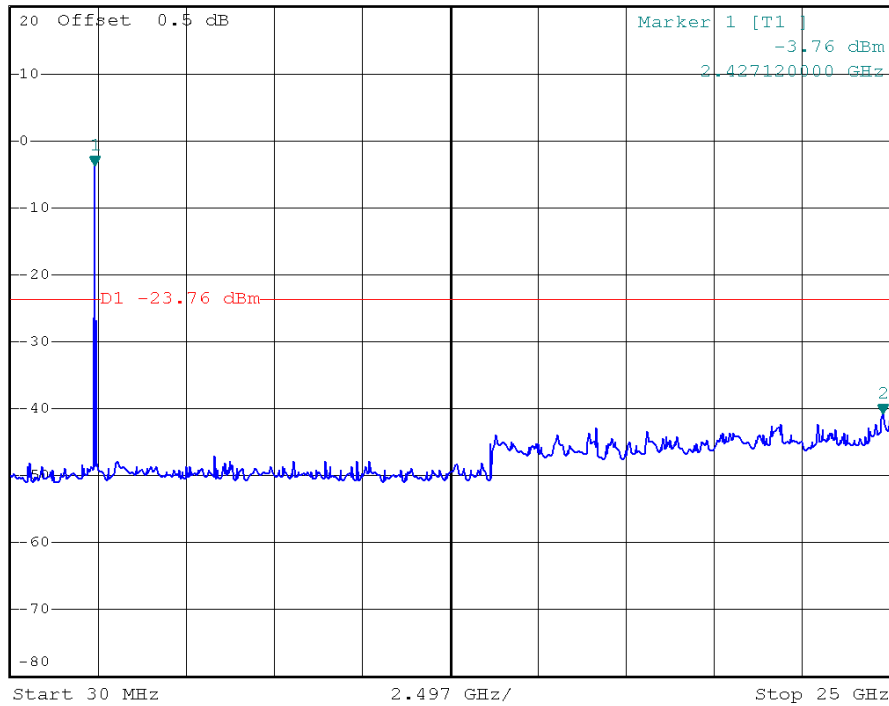
IEEE 802.11n (20 MHz)/ANT.0/2462 MHz/10 Harmonic of the frequency



*RBW 100 kHz Marker 2 [T1]
*VBW 300 kHz -40.69 dBm
SWT 2.5 s 24.800240000 GHz

Ref 20 dBm *Att 30 dB

1 PK VIEW





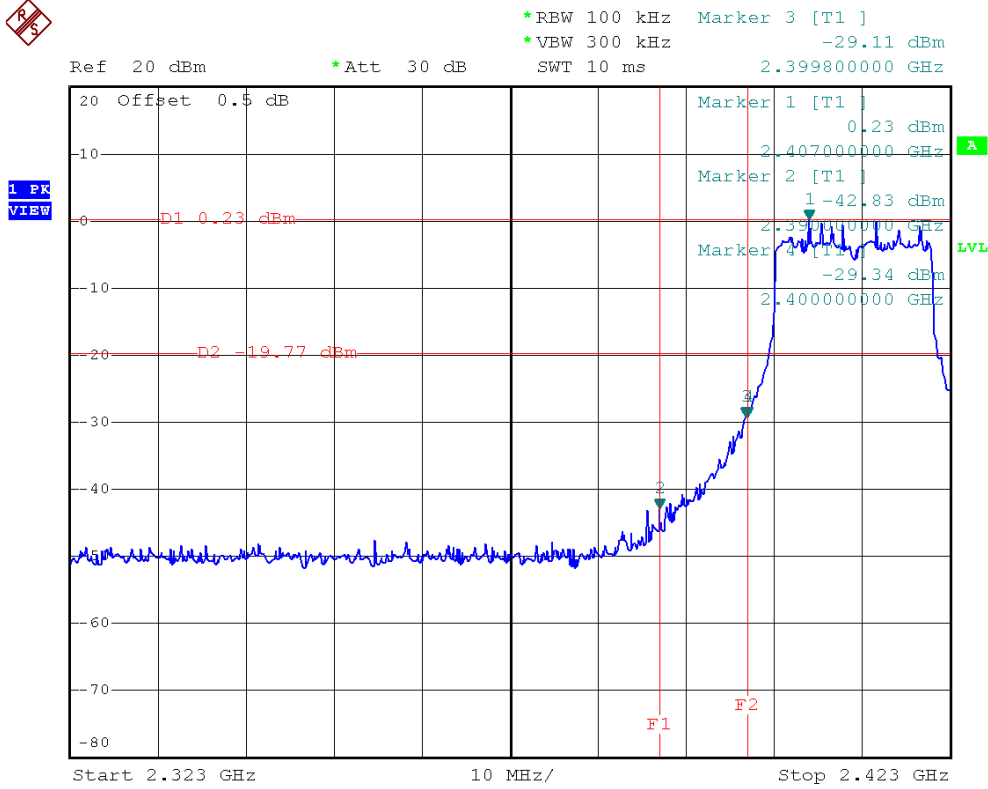
Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.1		

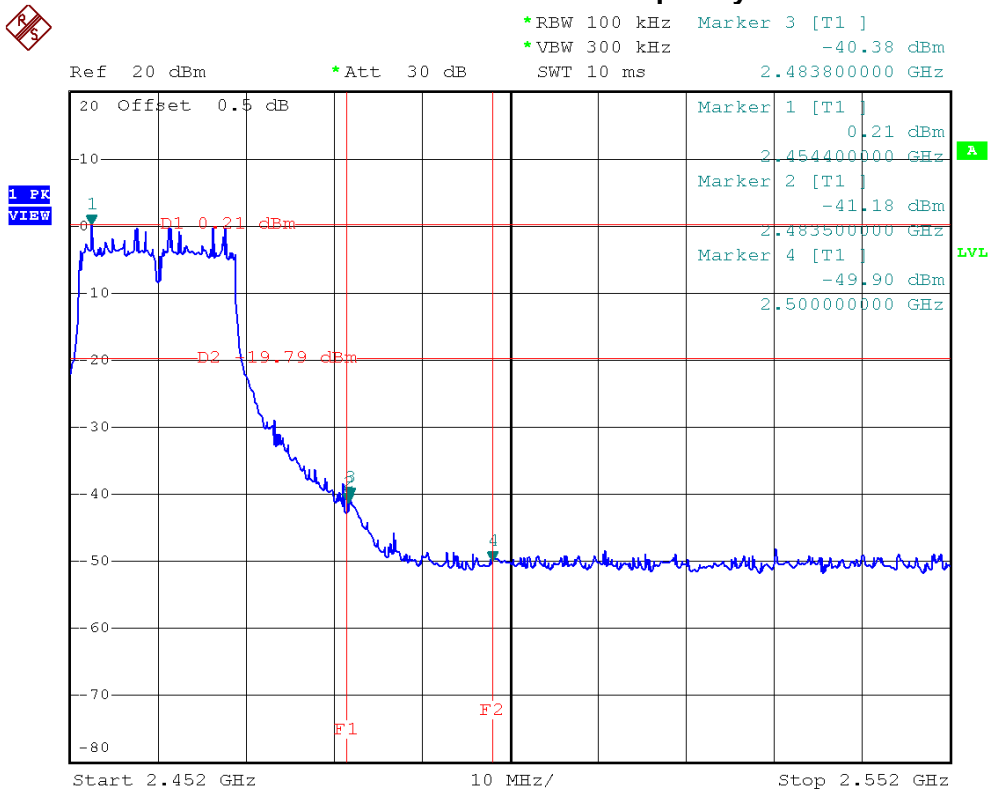
Channel of Worst Data			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2399.80	-29.11	2483.80	-40.38
Result			
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.			



IEEE 802.11n (20 MHz)/ANT.1/The max. radio frequency power in any 100kHz bandwidth outside the frequency band



IEEE 802.11n (20 MHz)/ANT.1/The max. radio frequency power in any 100 kHz bandwidth within the frequency band



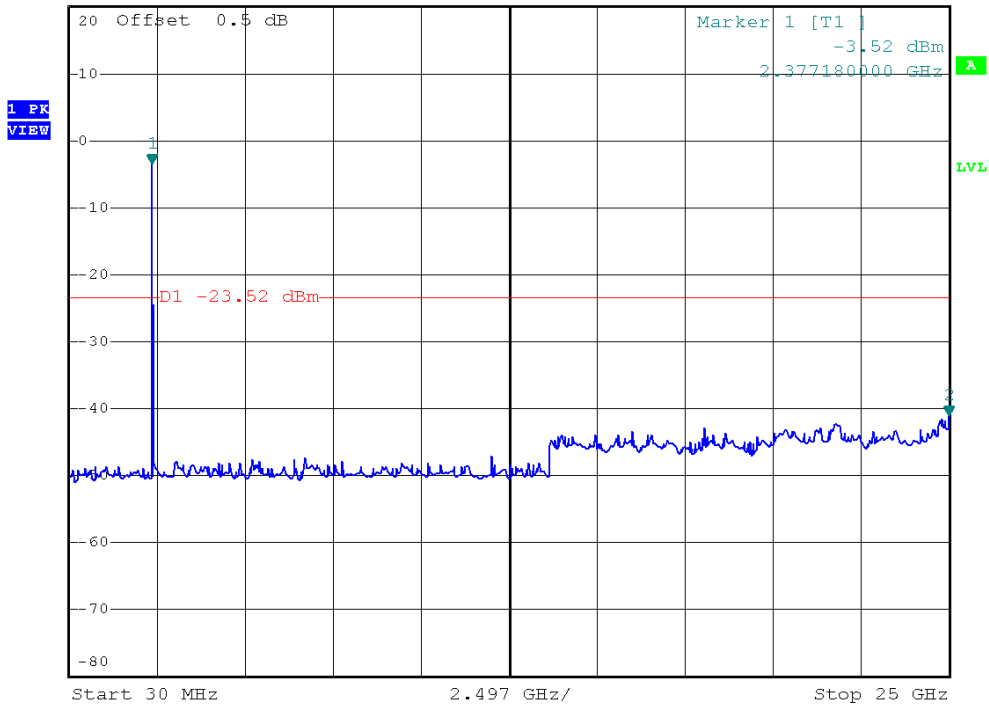


IEEE 802.11n (20 MHz)/ANT.1/2412 MHz/10 Harmonic of the frequency



*RBW 100 kHz Marker 2 [T1]
*VBW 300 kHz -41.10 dBm
SWT 2.5 s 25.000000000 GHz

Ref 20 dBm *Att 30 dB

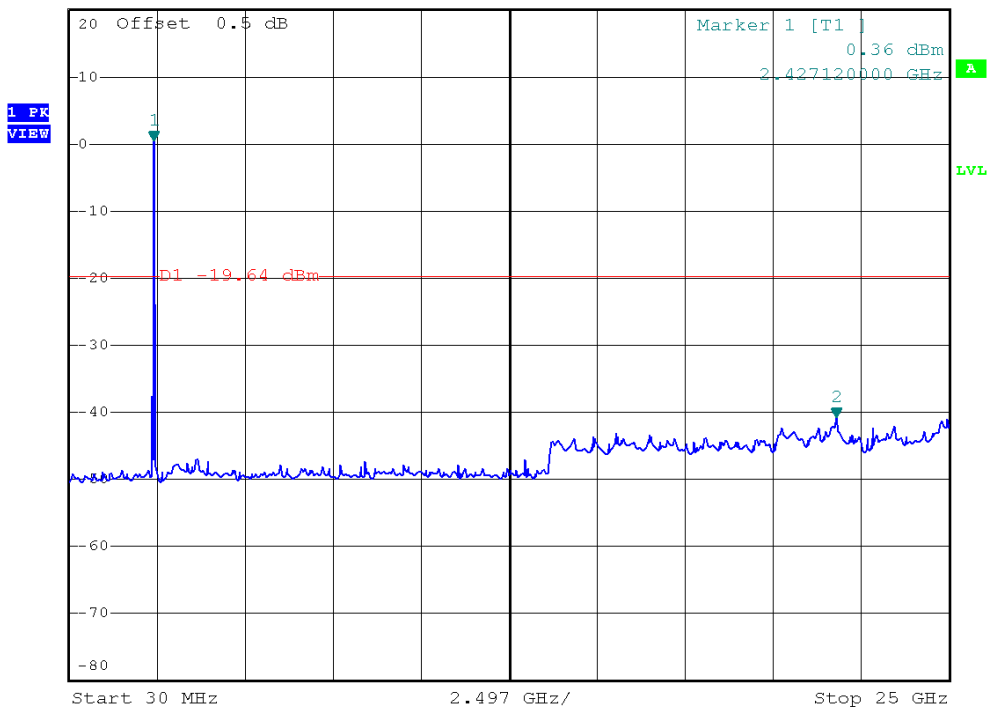


IEEE 802.11n (20 MHz)/ANT.1/2437 MHz/10 Harmonic of the frequency



*RBW 100 kHz Marker 2 [T1]
*VBW 300 kHz -40.83 dBm
SWT 2.5 s 21.803840000 GHz

Ref 20 dBm *Att 30 dB





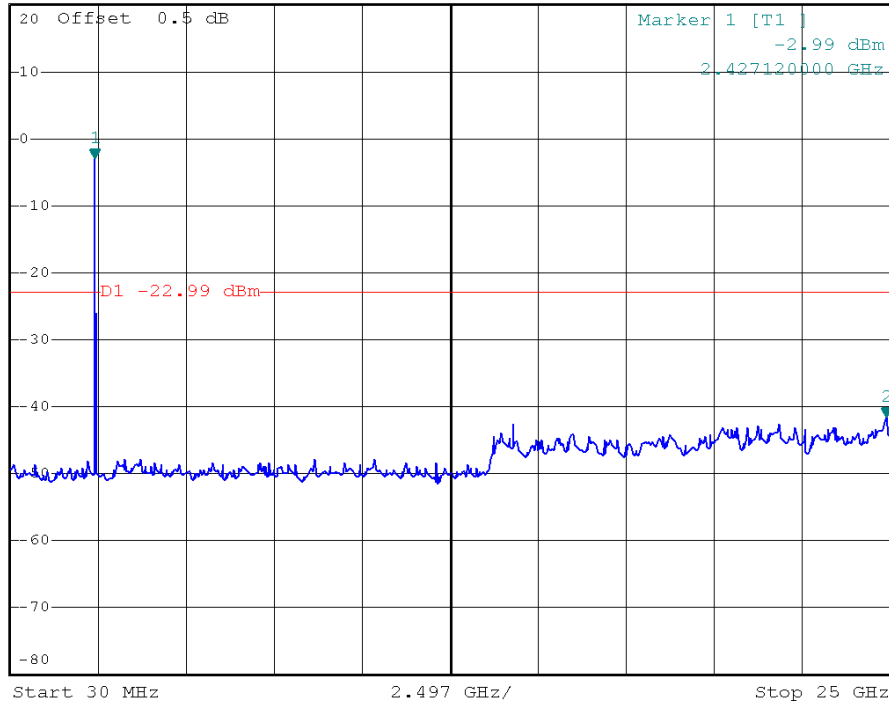
IEEE 802.11n (20 MHz)/ANT.1/2462 MHz/10 Harmonic of the frequency



*RBW 100 kHz Marker 2 [T1]
*VBW 300 kHz -41.51 dBm
SWT 2.5 s 24.900120000 GHz

Ref 20 dBm *Att 30 dB

1 PK
VIEW



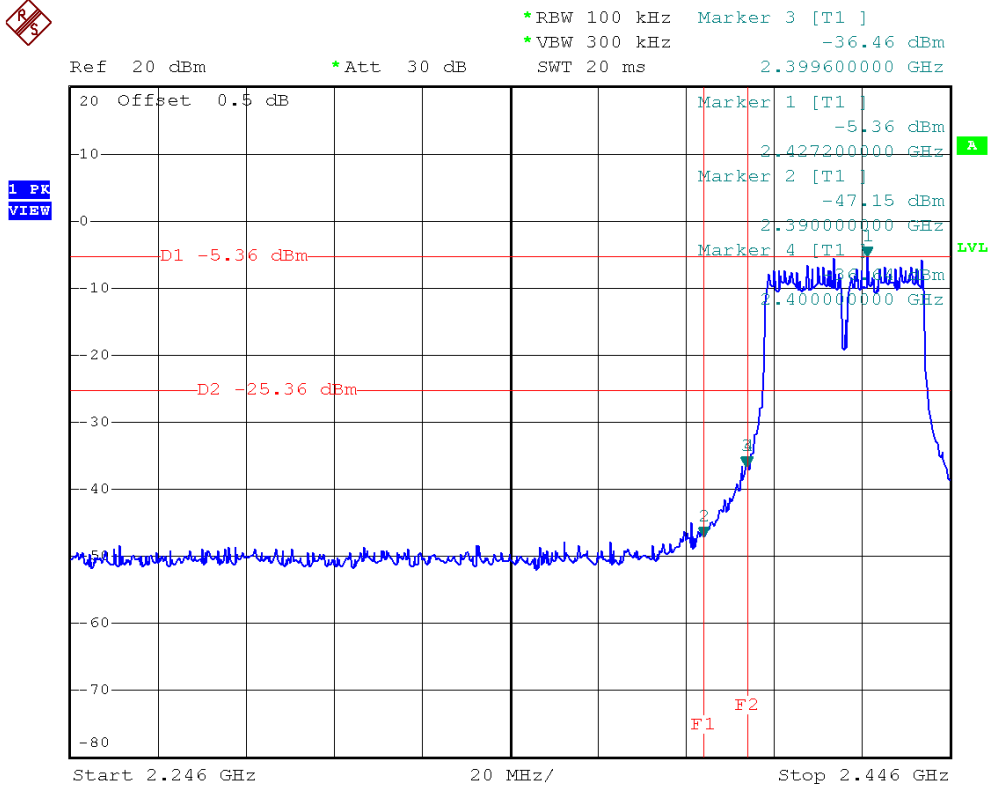


E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.0		

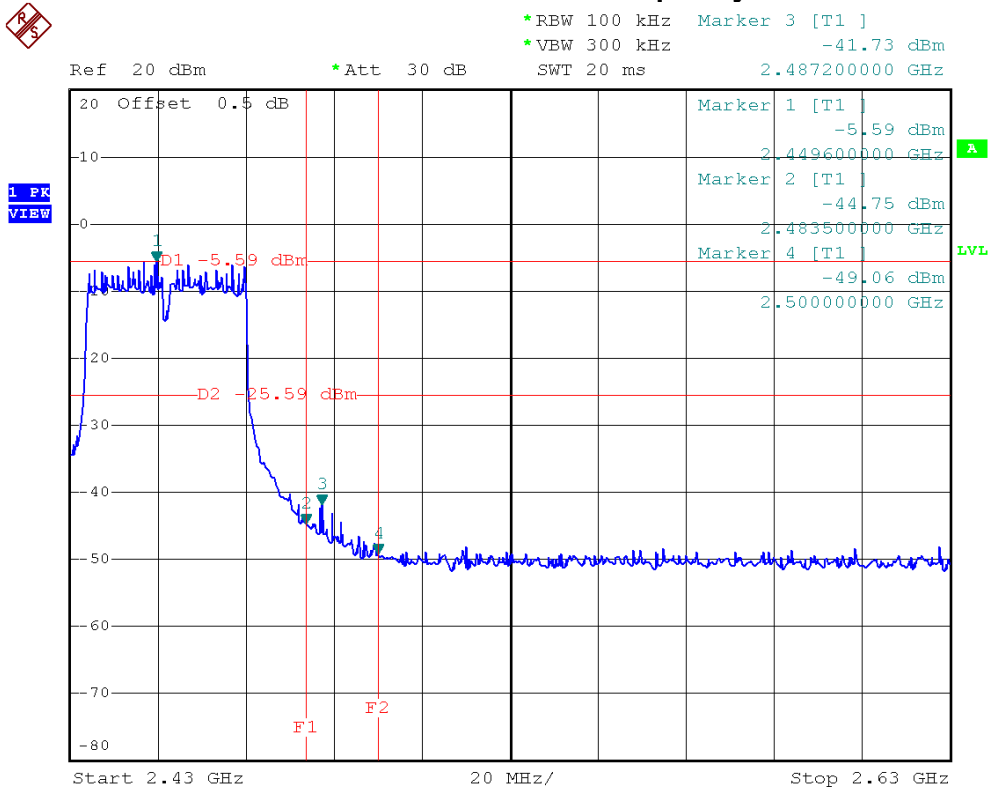
Channel of Worst Data			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2399.60	-36.46	2487.20	-41.73
Result			
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.			



IEEE 802.11n (40 MHz)/ANT.0/The max. radio frequency power in any 100kHz bandwidth outside the frequency band

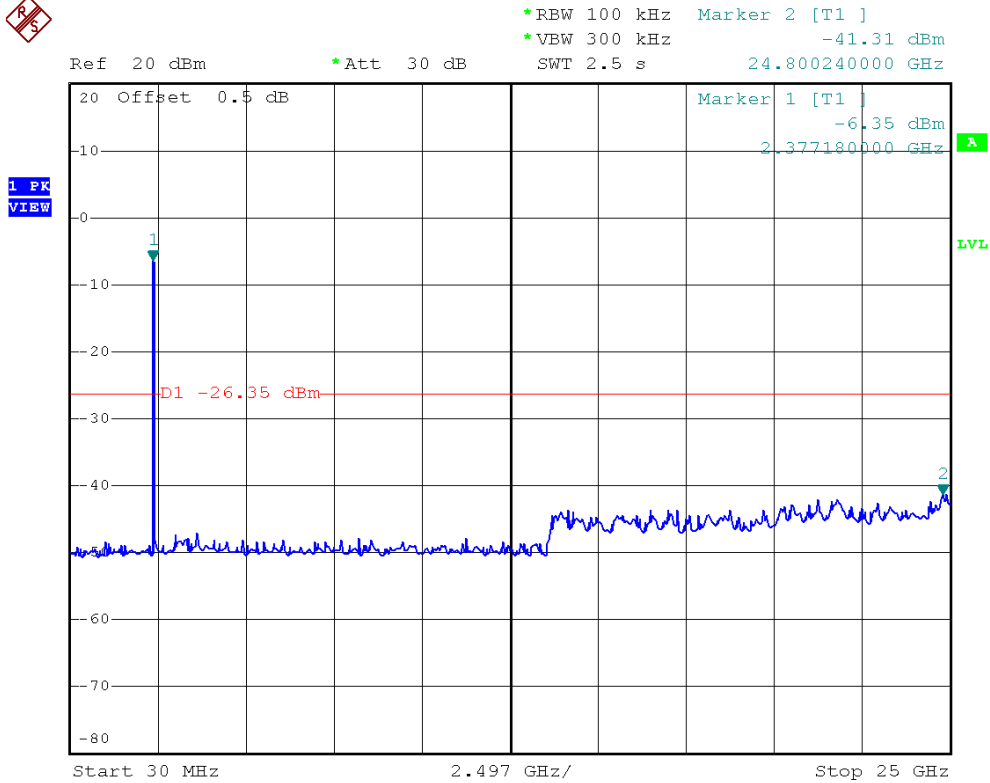


IEEE 802.11n (40 MHz)/ANT.0/The max. radio frequency power in any 100 kHz bandwidth within the frequency band

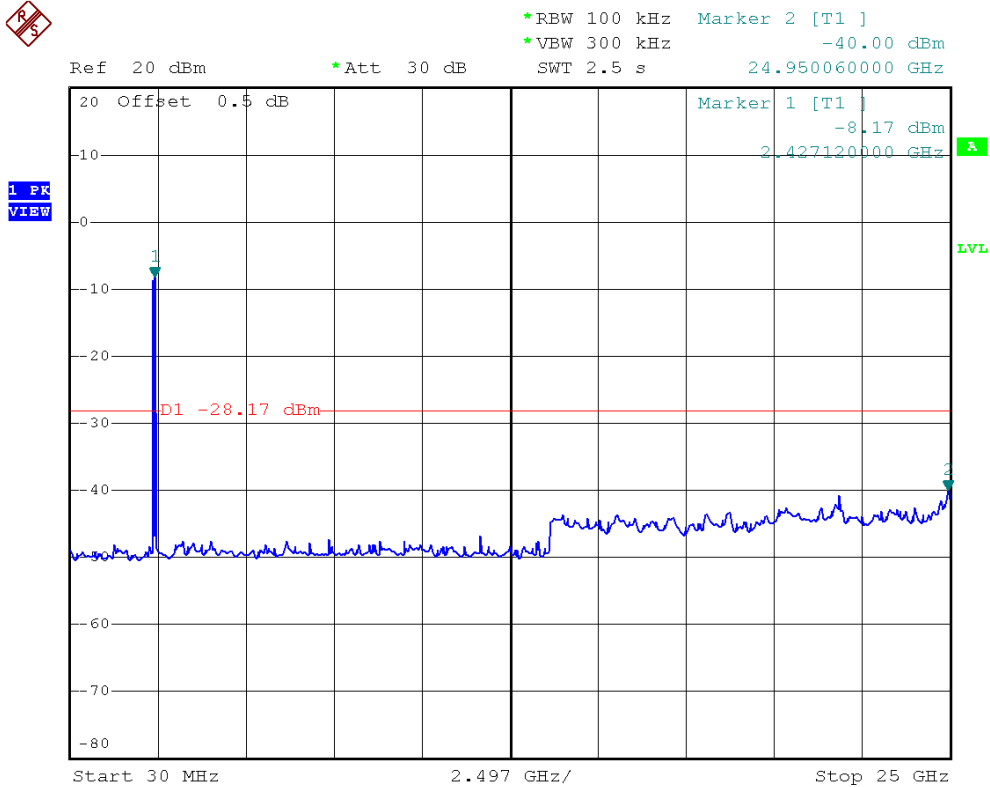




IEEE 802.11n (40 MHz)/ANT.0/2422 MHz/10 Harmonic of the frequency



IEEE 802.11n (40 MHz)/ANT.0/2437 MHz/10 Harmonic of the frequency





IEEE 802.11n (40 MHz)/ANT.0/2452 MHz/10 Harmonic of the frequency

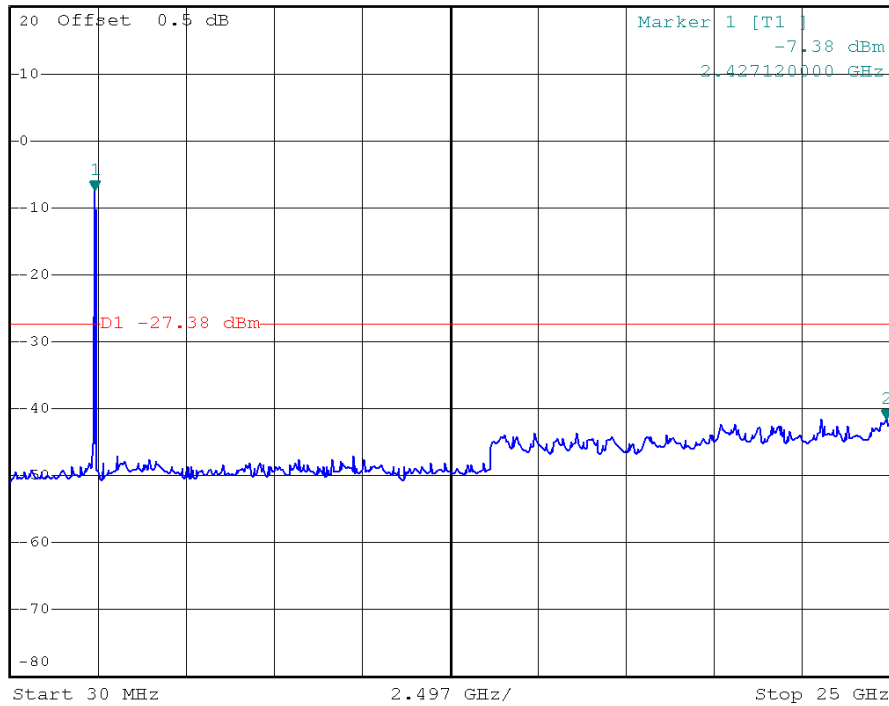


*RBW 100 kHz Marker 2 [T1]
*VBW 300 kHz -41.52 dBm
SWT 2.5 s 24.900120000 GHz

Ref 20 dBm

*Att 30 dB

1 PK
VIEW





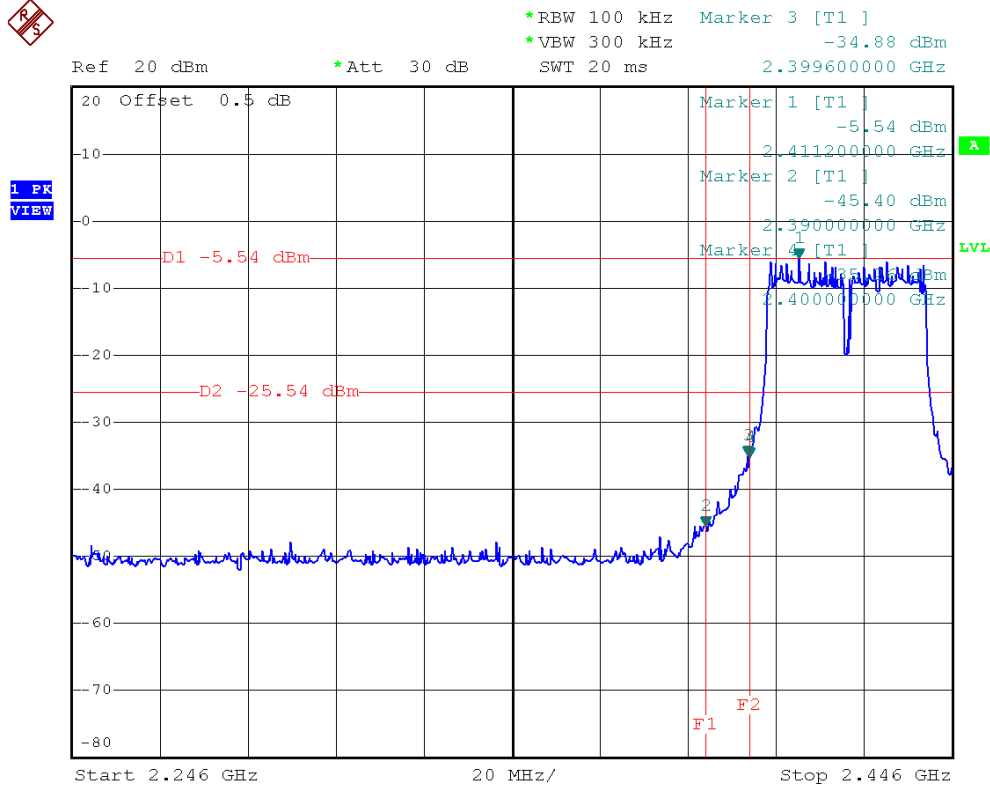
Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.1		

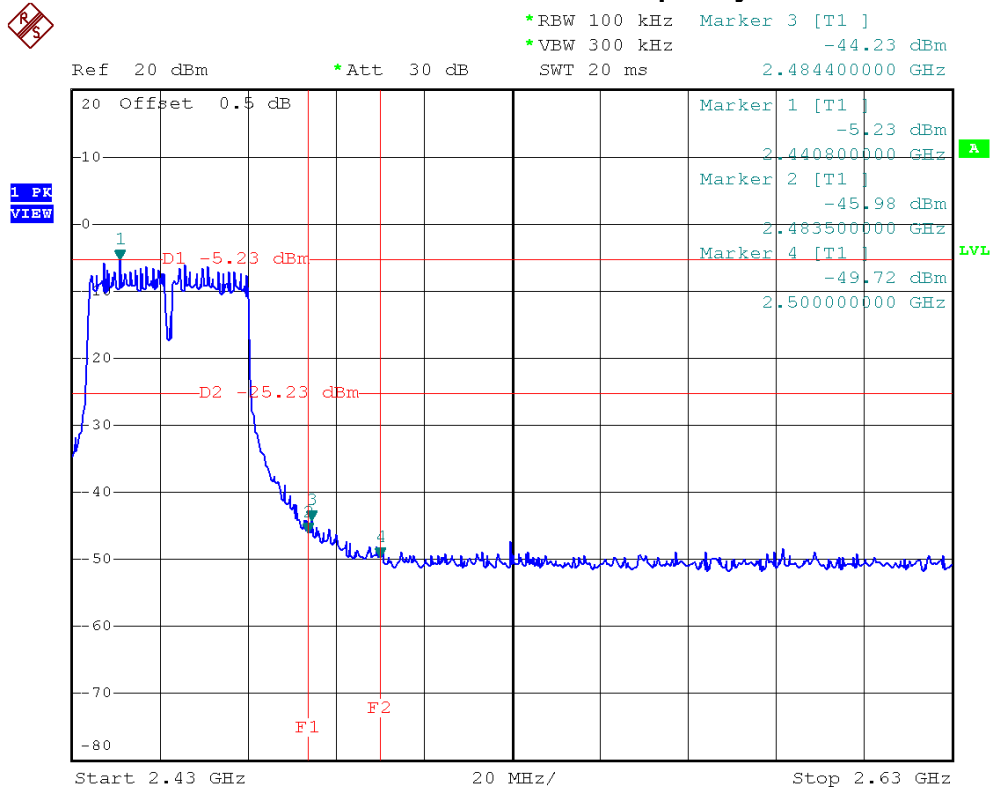
Channel of Worst Data			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2399.60	-34.88	2484.40	-44.23
Result			
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.			



IEEE 802.11n (40 MHz)/ANT.1/The max. radio frequency power in any 100kHz bandwidth outside the frequency band

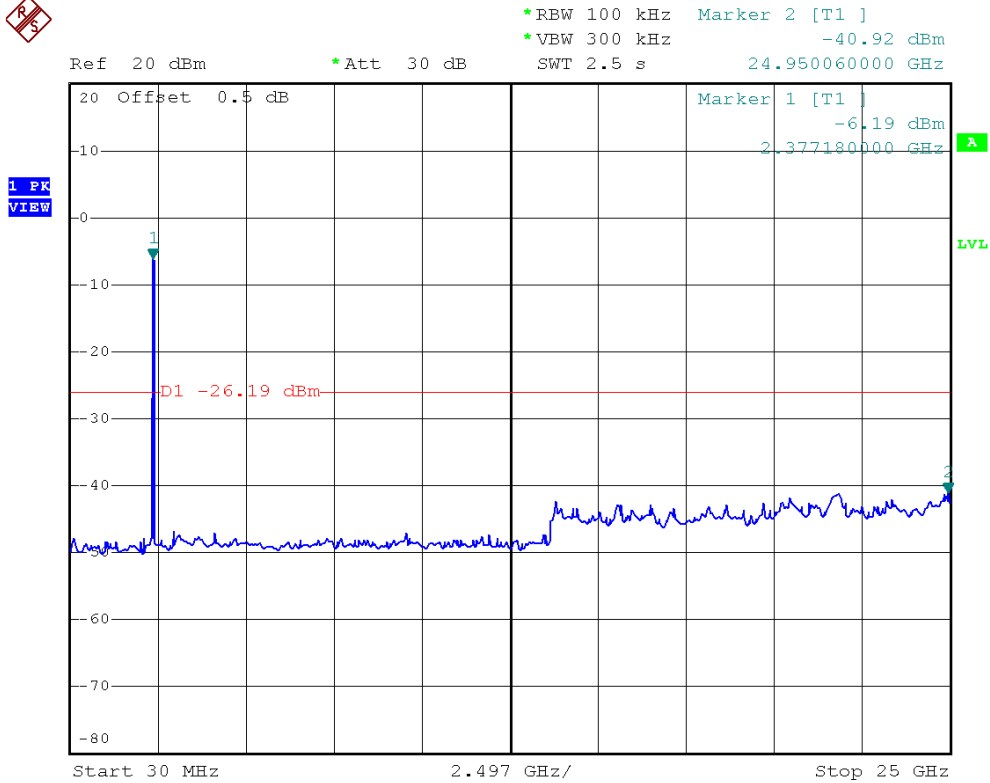


IEEE 802.11n (40 MHz)/ANT.1/The max. radio frequency power in any 100 kHz bandwidth within the frequency band

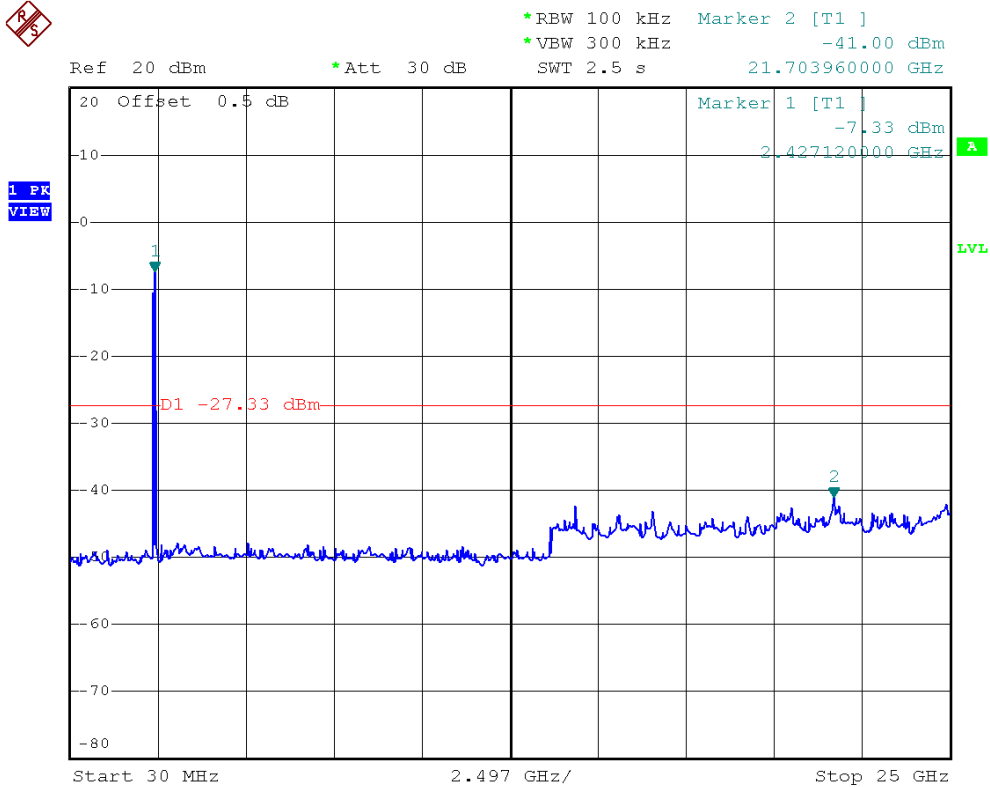




IEEE 802.11n (40 MHz)/ANT.1/2422 MHz/10 Harmonic of the frequency



IEEE 802.11n (40 MHz)/ANT.1/2437 MHz/10 Harmonic of the frequency





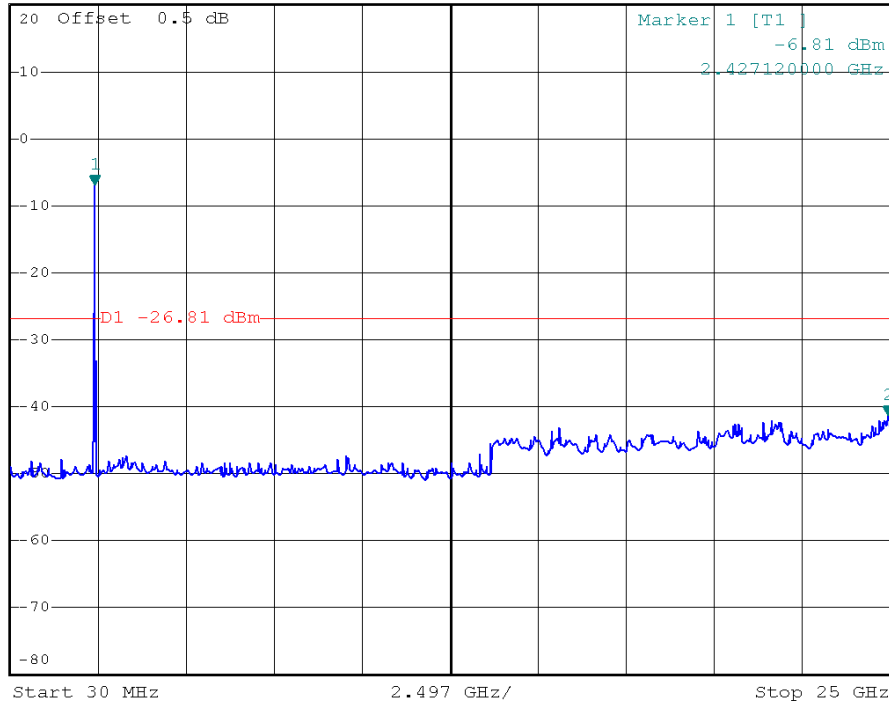
IEEE 802.11n (40 MHz)/ANT.1/2452 MHz/10 Harmonic of the frequency



*RBW 100 kHz Marker 2 [T1]
*VBW 300 kHz -41.22 dBm
SWT 2.5 s 24.950060000 GHz

Ref 20 dBm *Att 30 dB

1 PK
VIEW





5.8 TEST RESULTS - 5745-5825 MHZ

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11a		

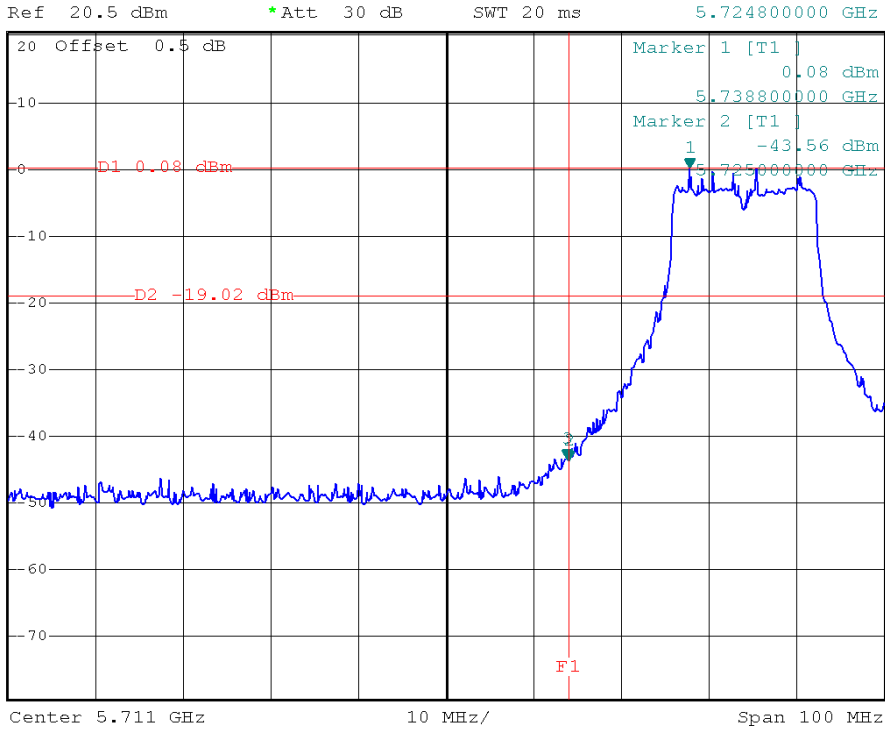
Channel of Worst Data			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
5724.80	-43.49	5851.00	-47.71
Result			
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.			



IEEE 802.11a/The max. radio frequency power in any 100kHz bandwidth outside the frequency band



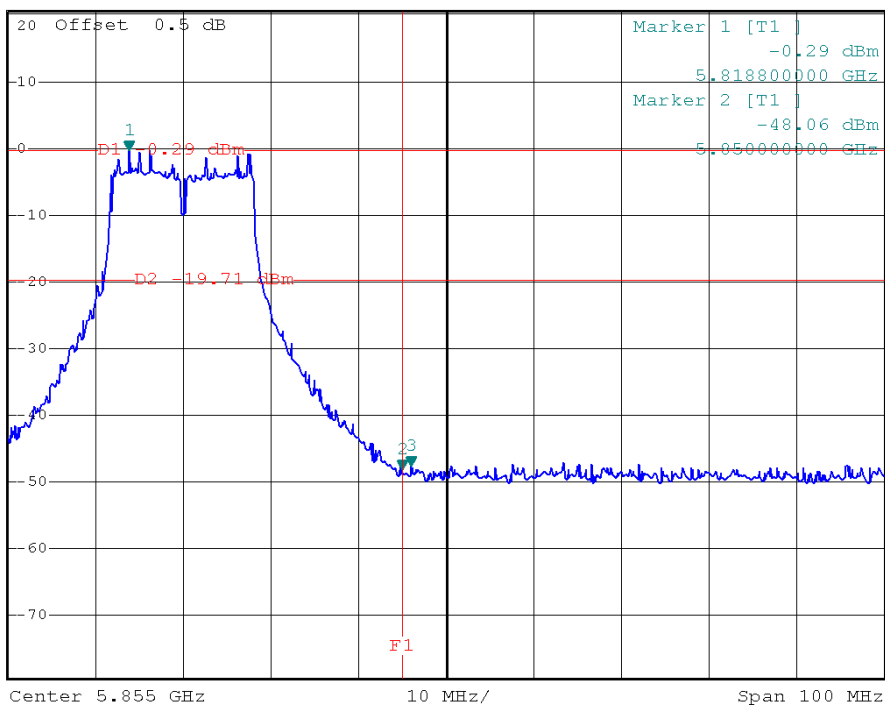
*RBW 100 kHz Marker 3 [T1]
*VBW 300 kHz -43.49 dBm
SWT 20 ms 5.724800000 GHz



IEEE 802.11a/The max. radio frequency power in any 100 kHz bandwidth within the frequency band



*RBW 100 kHz Marker 3 [T1]
*VBW 300 kHz -47.71 dBm
SWT 20 ms 5.851000000 GHz





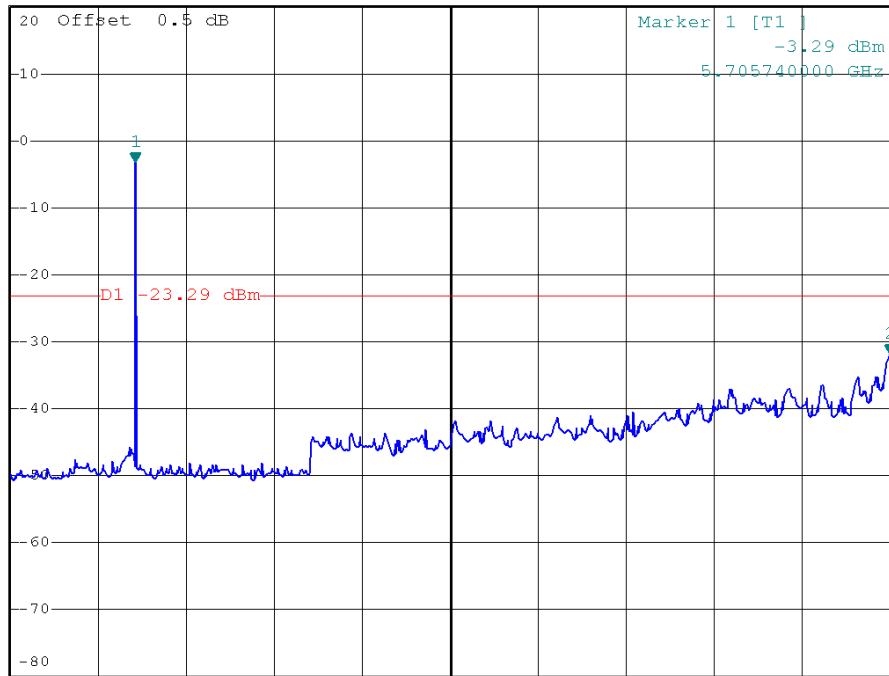
IEEE 802.11a/5745 MHz/10 Harmonic of the frequency



*RBW 100 kHz Marker 2 [T1]
*VBW 300 kHz -31.89 dBm
SWT 4 s 40.000000000 GHz

Ref 20 dBm *Att 30 dB

1 PK VIEW



Start 30 MHz 3.997 GHz/ Stop 40 GHz

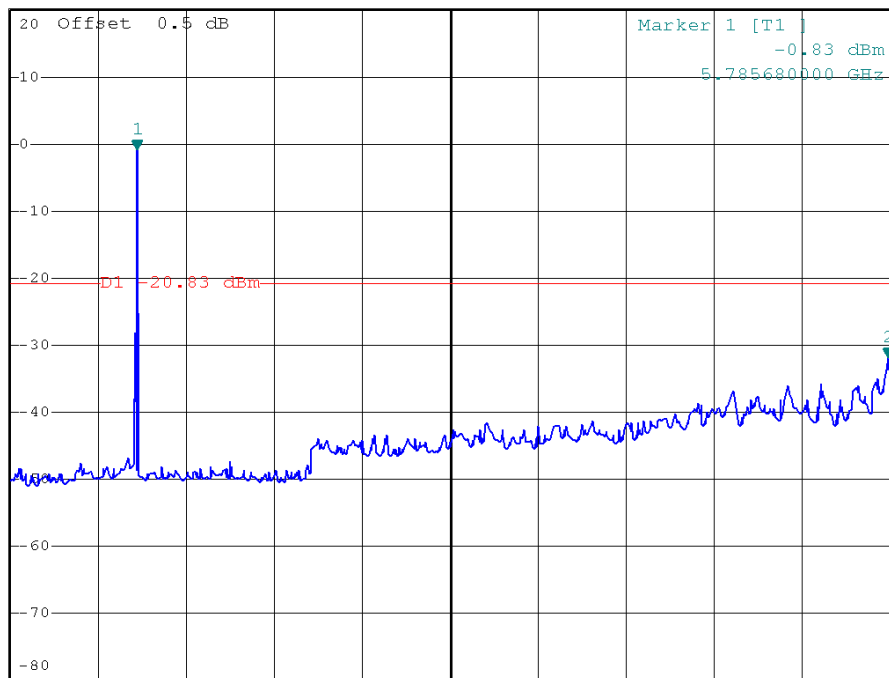
IEEE 802.11a/5785 MHz/10 Harmonic of the frequency



*RBW 100 kHz Marker 2 [T1]
*VBW 300 kHz -31.75 dBm
SWT 4 s 39.920060000 GHz

Ref 20 dBm *Att 30 dB

1 PK VIEW



Start 30 MHz 3.997 GHz/ Stop 40 GHz



IEEE 802.11a/5825 MHz/10 Harmonic of the frequency

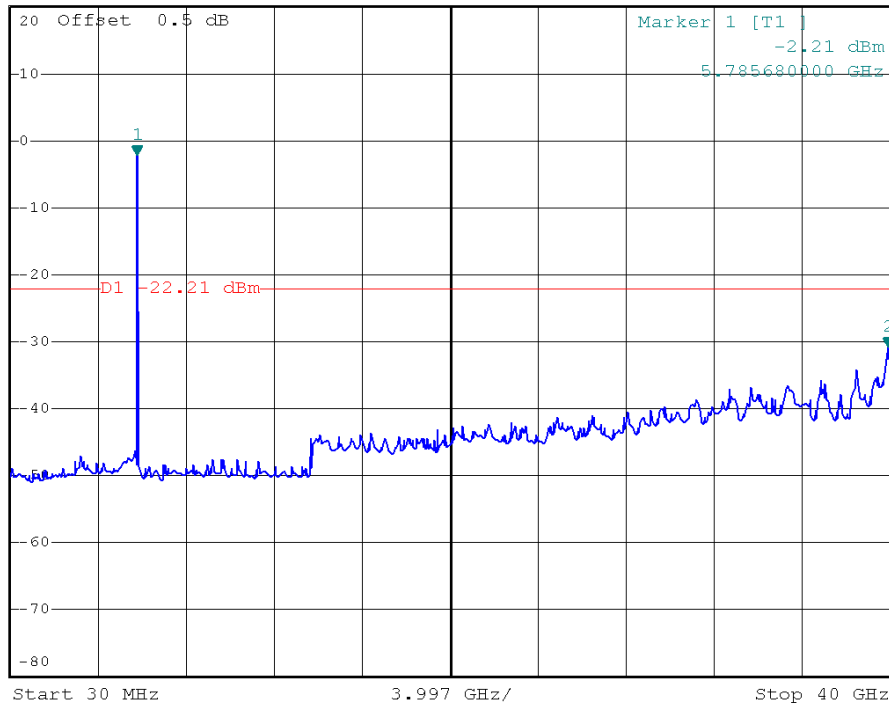


*RBW 100 kHz Marker 2 [T1]
*VBW 300 kHz -30.80 dBm
SWT 4 s 39.920060000 GHz

Ref 20 dBm

*Att 30 dB

1 PK
VIEW





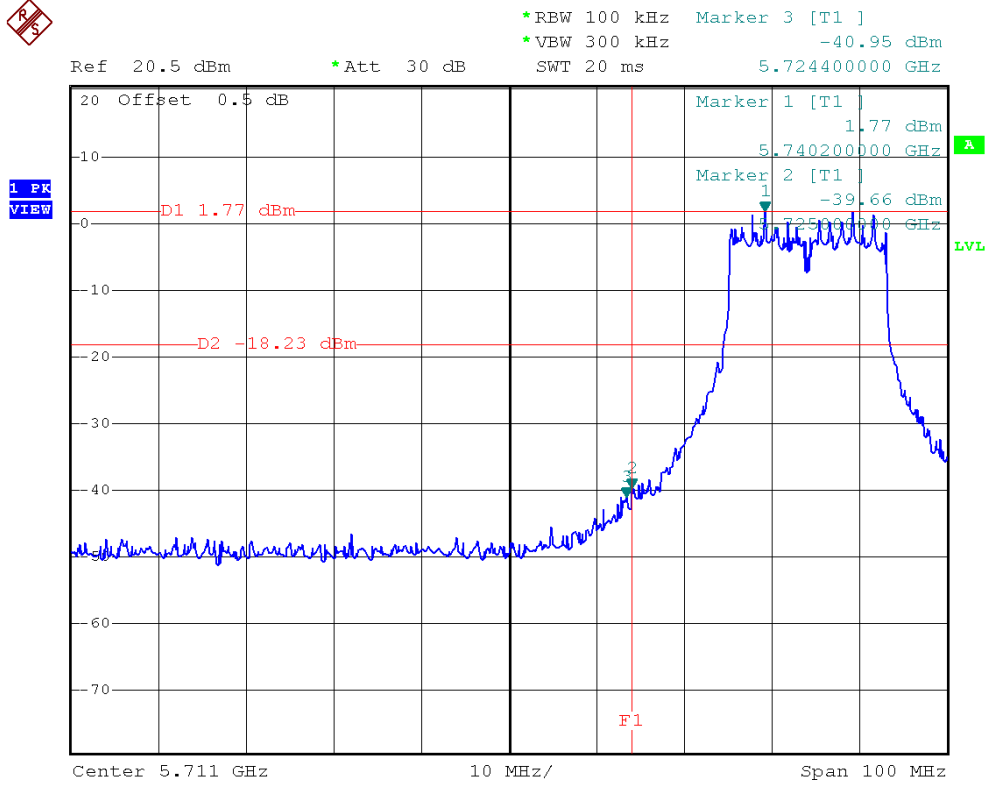
Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.0		

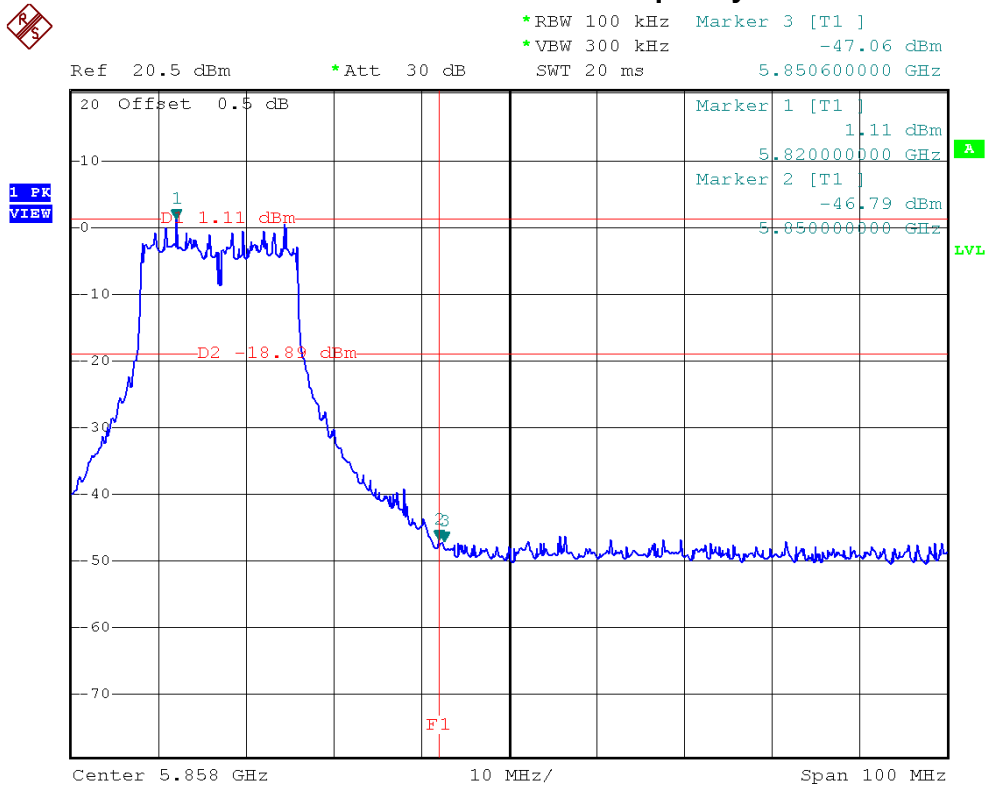
Channel of Worst Data			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
5724.40	-40.95	5850.60	-47.06
Result			
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.			



IEEE 802.11n (20 MHz)/ANT.0/The max. radio frequency power in any 100kHz bandwidth outside the frequency band



IEEE 802.11n (20 MHz)/ANT.0/The max. radio frequency power in any 100 kHz bandwidth within the frequency band





IEEE 802.11n (20 MHz)/ANT.0/5745 MHz/10 Harmonic of the frequency

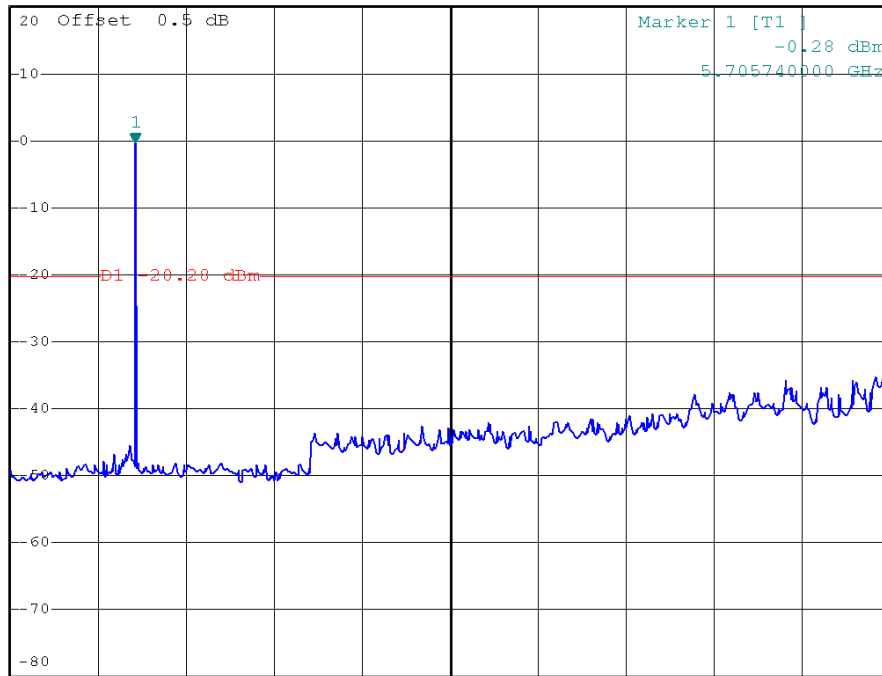


*RBW 100 kHz Marker 2 [T1]
*VBW 300 kHz -30.67 dBm
SWT 4 s 40.000000000 GHz

Ref 20 dBm

*Att 30 dB

1 PK VIEW



Start 30 MHz 3.997 GHz/ Stop 40 GHz

IEEE 802.11n (20 MHz)/ANT.0/5785 MHz/10 Harmonic of the frequency

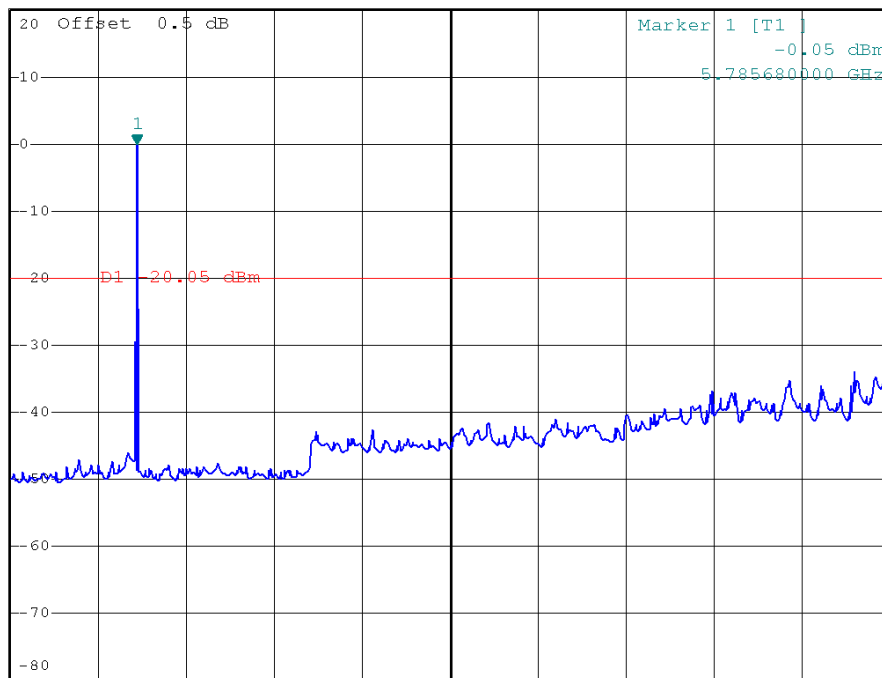


*RBW 100 kHz Marker 2 [T1]
*VBW 300 kHz -30.46 dBm
SWT 4 s 39.920060000 GHz

Ref 20 dBm

*Att 30 dB

1 PK VIEW



Start 30 MHz 3.997 GHz/ Stop 40 GHz



IEEE 802.11n (20 MHz)/ANT.0/5825 MHz/10 Harmonic of the frequency

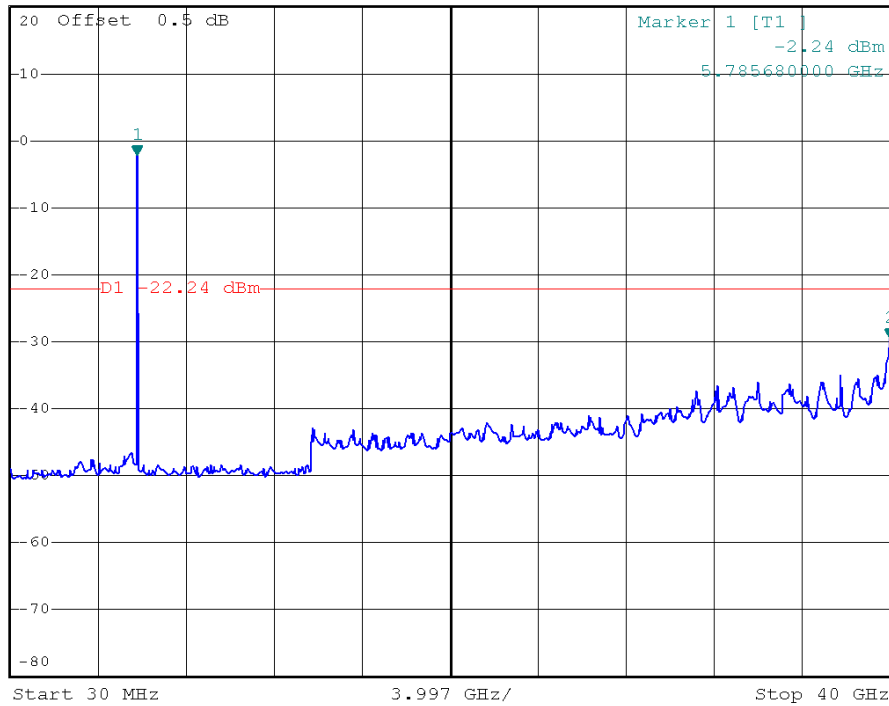


*RBW 100 kHz Marker 2 [T1]
*VBW 300 kHz -29.48 dBm
SWT 4 s 40.000000000 GHz

Ref 20 dBm

*Att 30 dB

1 PK
VIEW





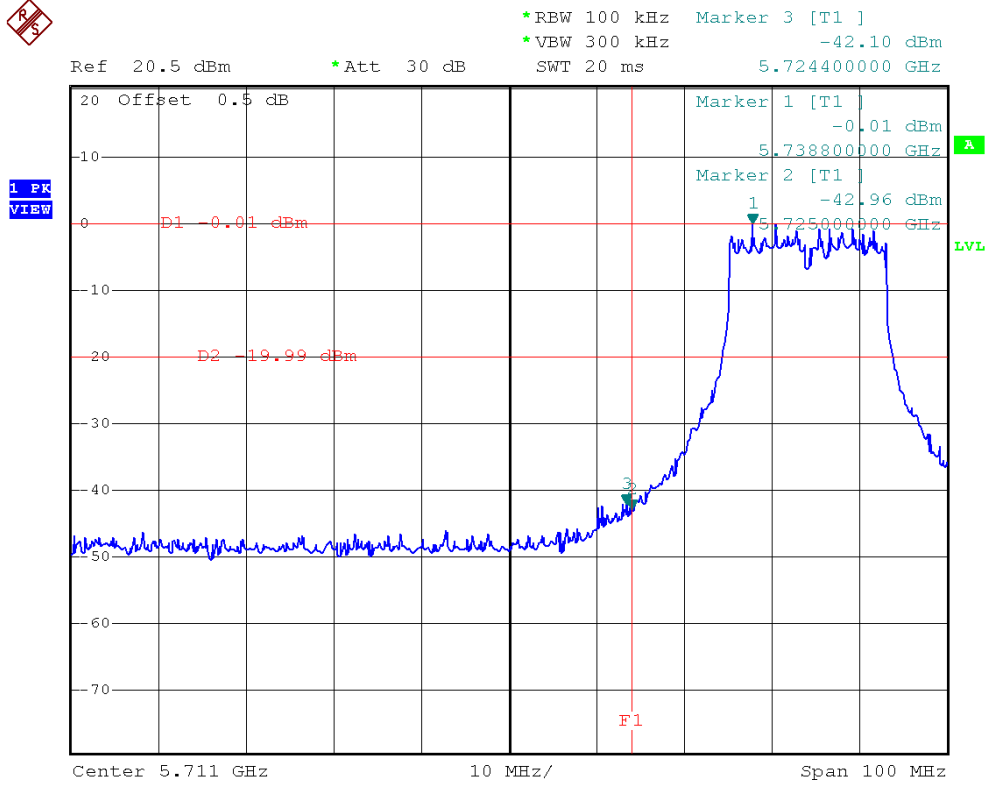
Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.1		

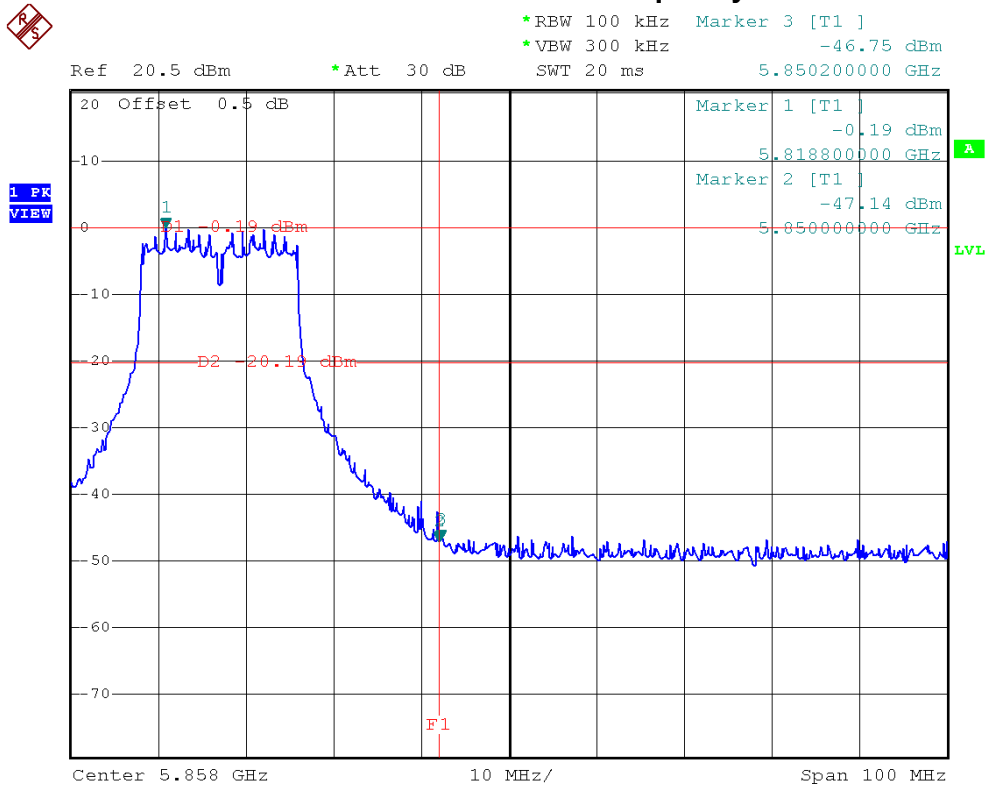
Channel of Worst Data			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
5724.40	-42.10	5850.20	-46.75
Result			
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.			



IEEE 802.11n (20 MHz)/ANT.1/The max. radio frequency power in any 100kHz bandwidth outside the frequency band



IEEE 802.11n (20 MHz)/ANT.1/The max. radio frequency power in any 100 kHz bandwidth within the frequency band





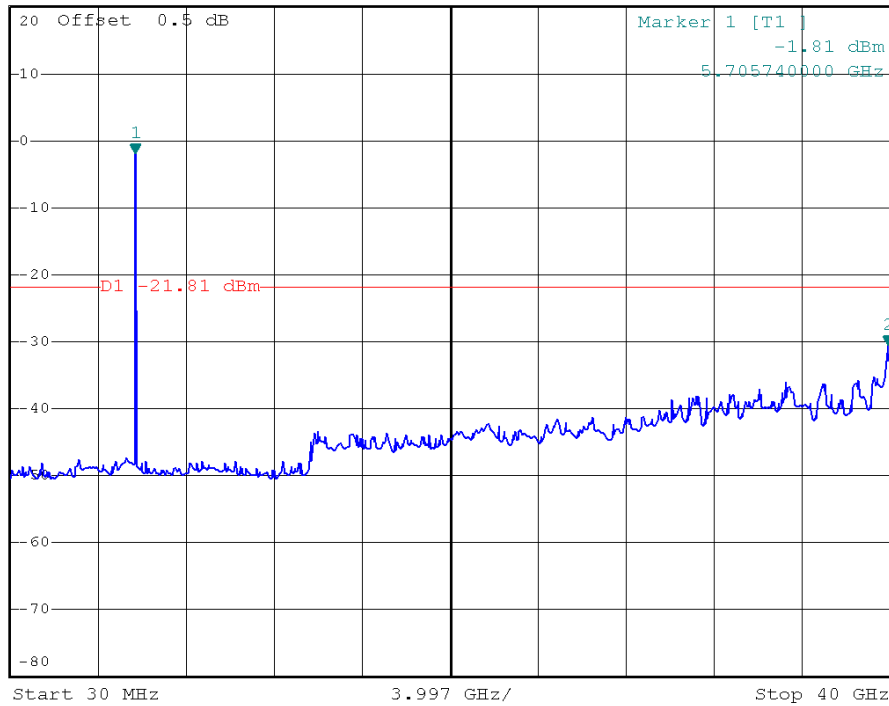
IEEE 802.11n (20 MHz)/ANT.1/5745 MHz/10 Harmonic of the frequency



*RBW 100 kHz Marker 2 [T1]
*VBW 300 kHz -30.43 dBm
SWT 4 s 39.920060000 GHz

Ref 20 dBm *Att 30 dB

1 PK VIEW



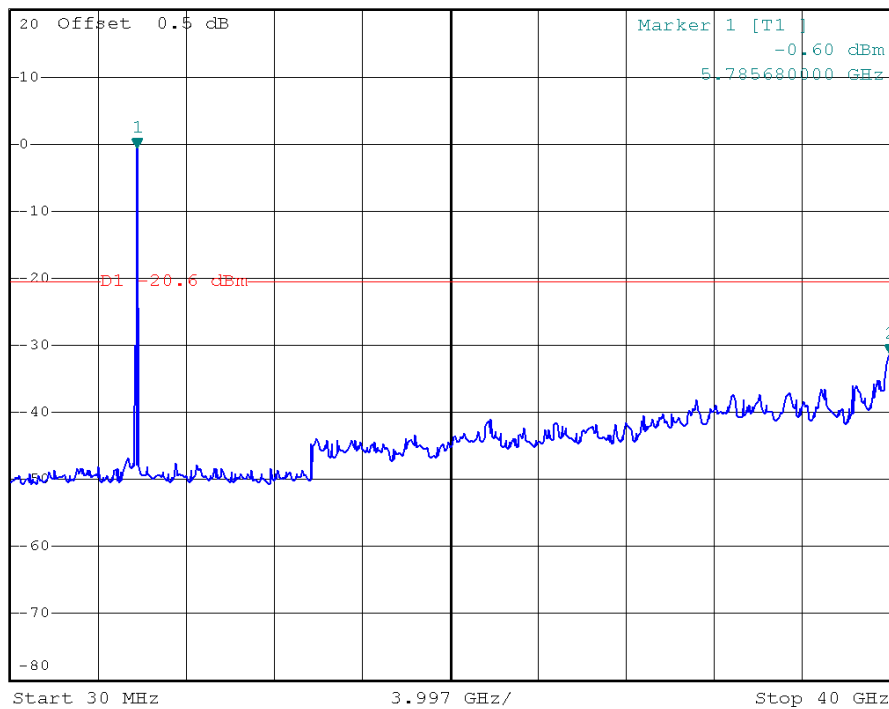
IEEE 802.11n (20 MHz)/ANT.1/5785 MHz/10 Harmonic of the frequency



*RBW 100 kHz Marker 2 [T1]
*VBW 300 kHz -31.28 dBm
SWT 4 s 40.000000000 GHz

Ref 20 dBm *Att 30 dB

1 PK VIEW





IEEE 802.11n (20 MHz)/ANT.1/5825 MHz/10 Harmonic of the frequency

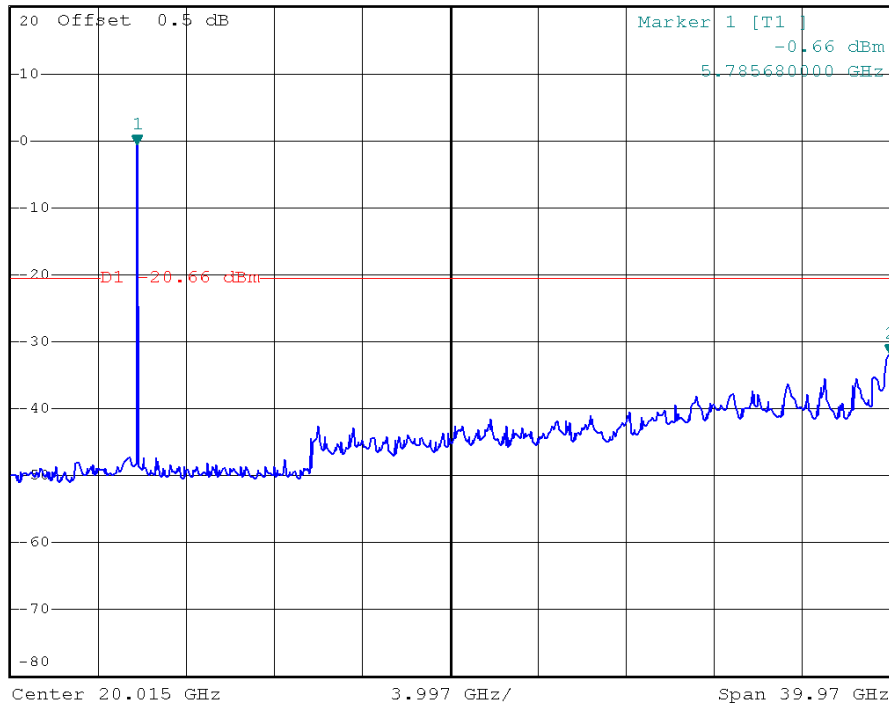


*RBW 100 kHz Marker 2 [T1]
*VBW 300 kHz -31.94 dBm
SWT 4 s 40.000000000 GHz

Ref 20 dBm

*Att 30 dB

1 PK
VIEW





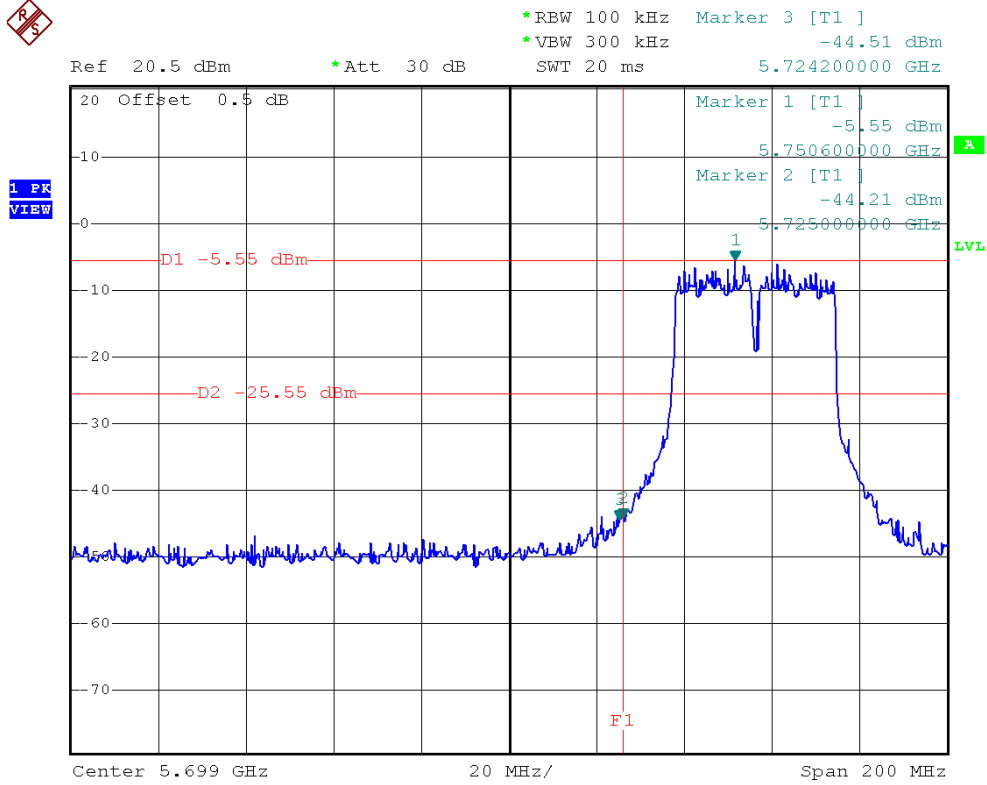
Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.0		

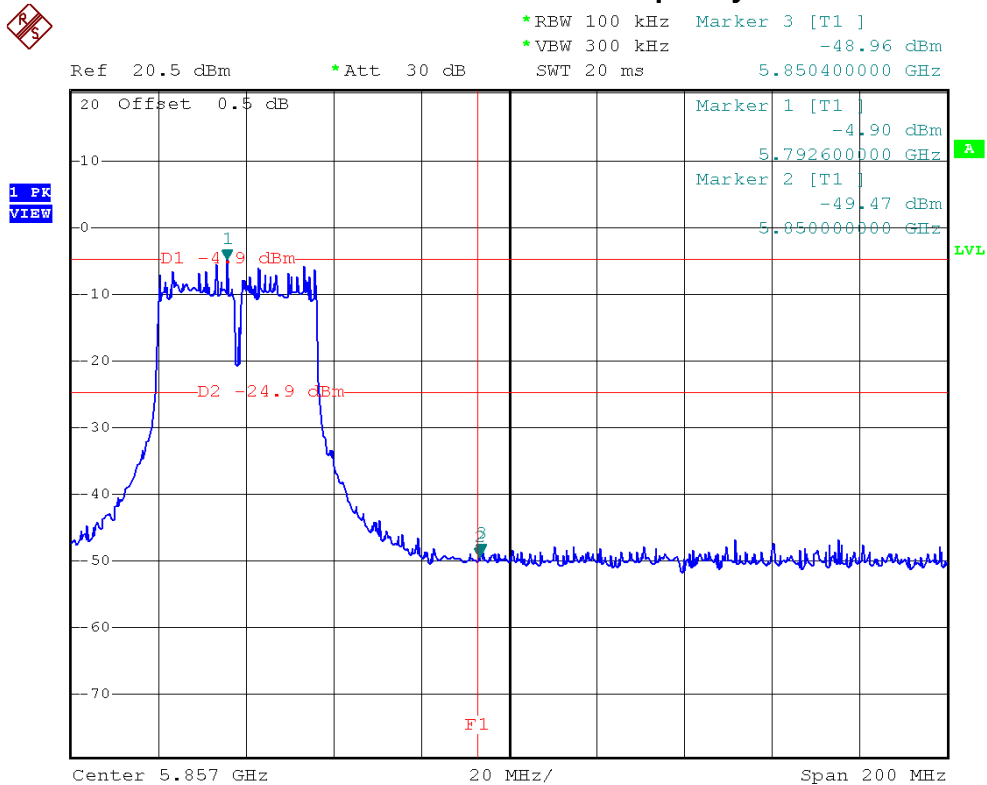
Channel of Worst Data			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
5724.20	-44.51	5850.40	-48.96
Result			
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.			



IEEE 802.11n (40 MHz)/ANT.0/The max. radio frequency power in any 100kHz bandwidth outside the frequency band



IEEE 802.11n (40 MHz)/ANT.0/The max. radio frequency power in any 100 kHz bandwidth within the frequency band





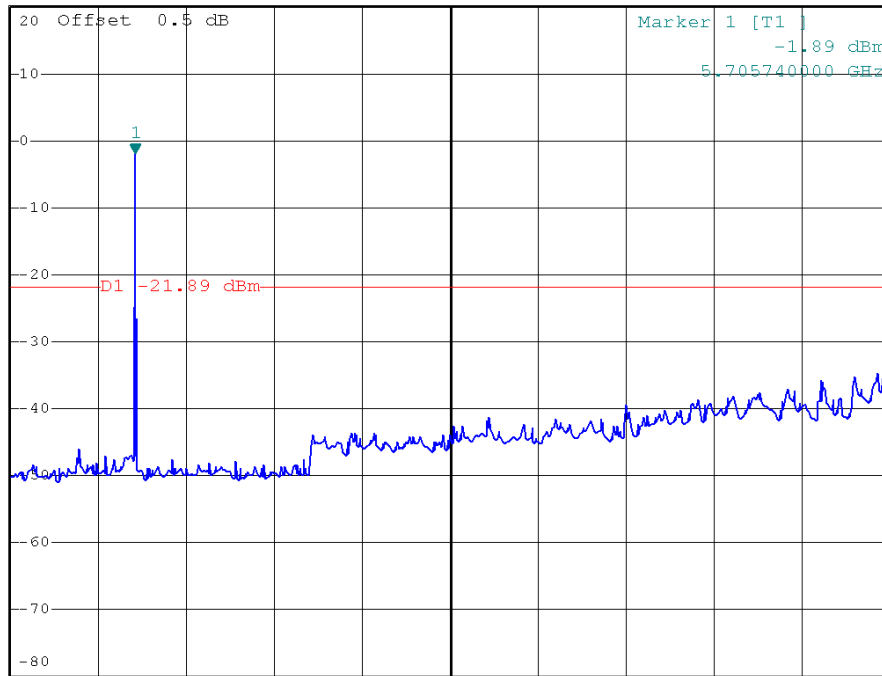
IEEE 802.11n (40 MHz)/ANT.0/5755 MHz/10 Harmonic of the frequency



*RBW 100 kHz Marker 2 [T1]
*VBW 300 kHz -31.31 dBm
SWT 4 s 39.920060000 GHz

Ref 20 dBm *Att 30 dB

1 PK VIEW



Center 20.015 GHz 3.997 GHz/ Span 39.97 GHz

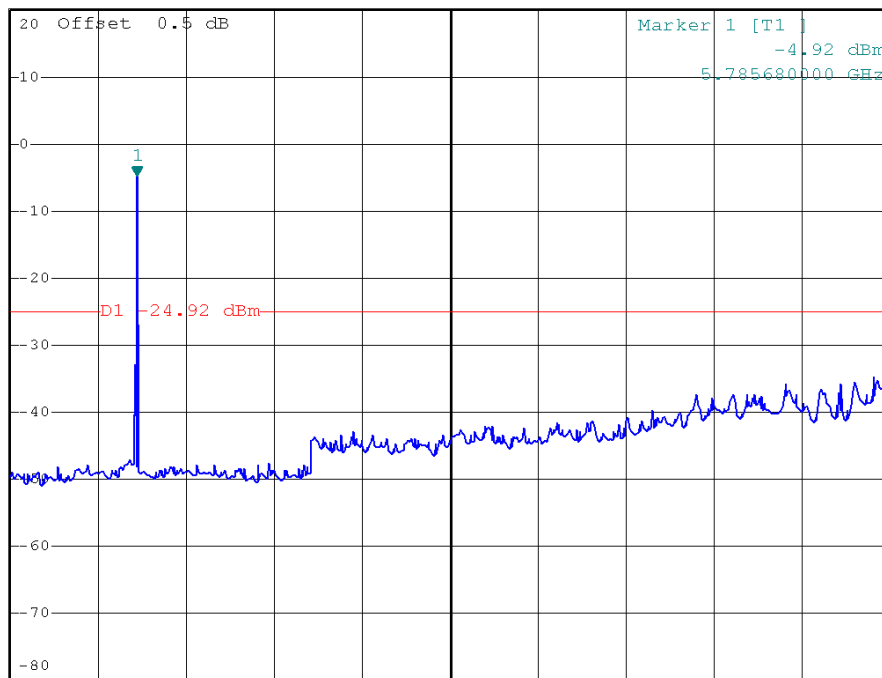
IEEE 802.11n (40 MHz)/ANT.0/5795 MHz/10 Harmonic of the frequency



*RBW 100 kHz Marker 2 [T1]
*VBW 300 kHz -31.31 dBm
SWT 4 s 40.000000000 GHz

Ref 20 dBm *Att 30 dB

1 PK VIEW



Start 30 MHz 3.997 GHz/ Stop 40 GHz



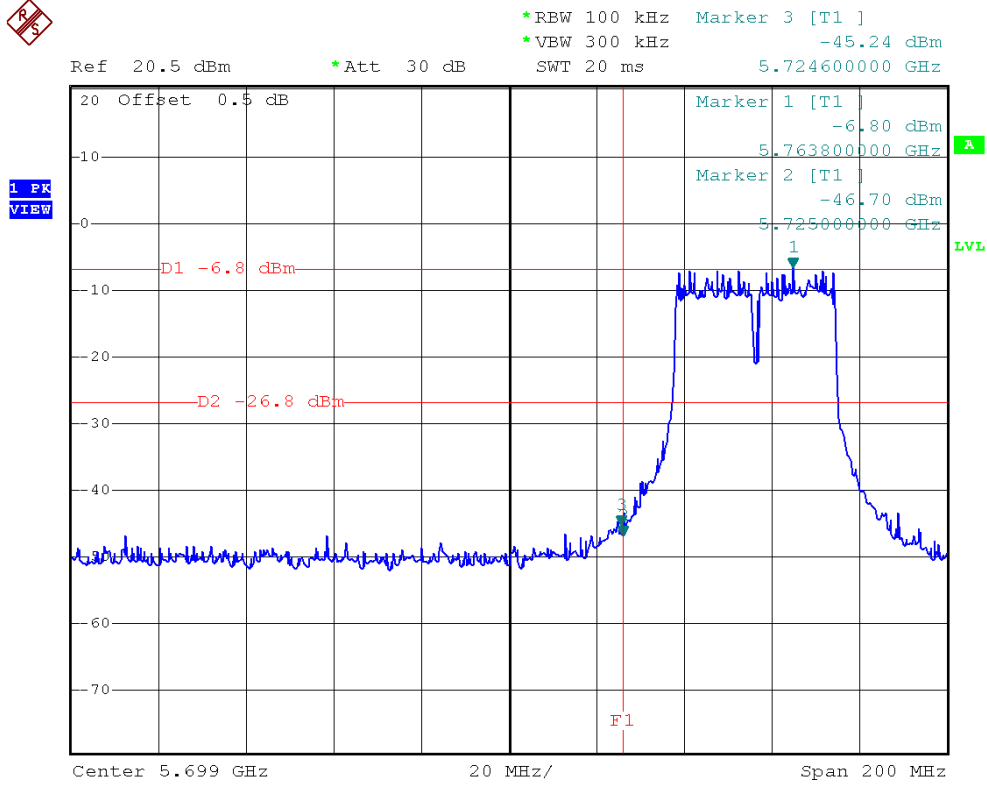
Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.1		

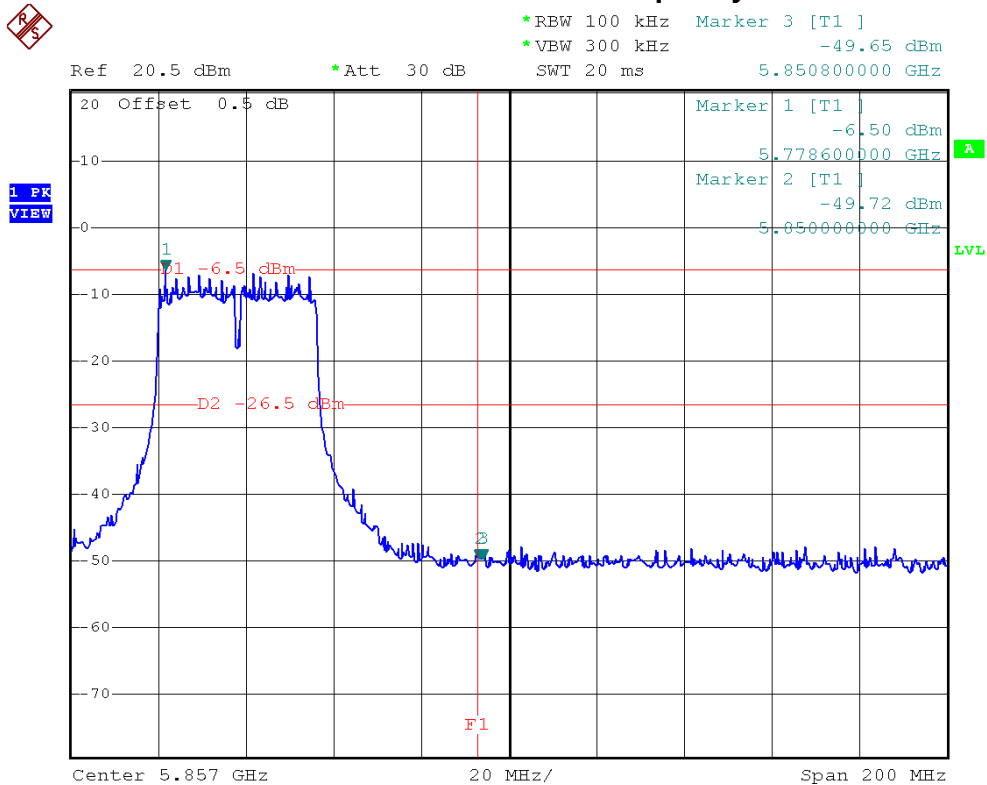
Channel of Worst Data			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
5724.60	-45.24	5850.80	-49.65
Result			
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.			



IEEE 802.11n (40 MHz)/ANT.1/The max. radio frequency power in any 100kHz bandwidth outside the frequency band

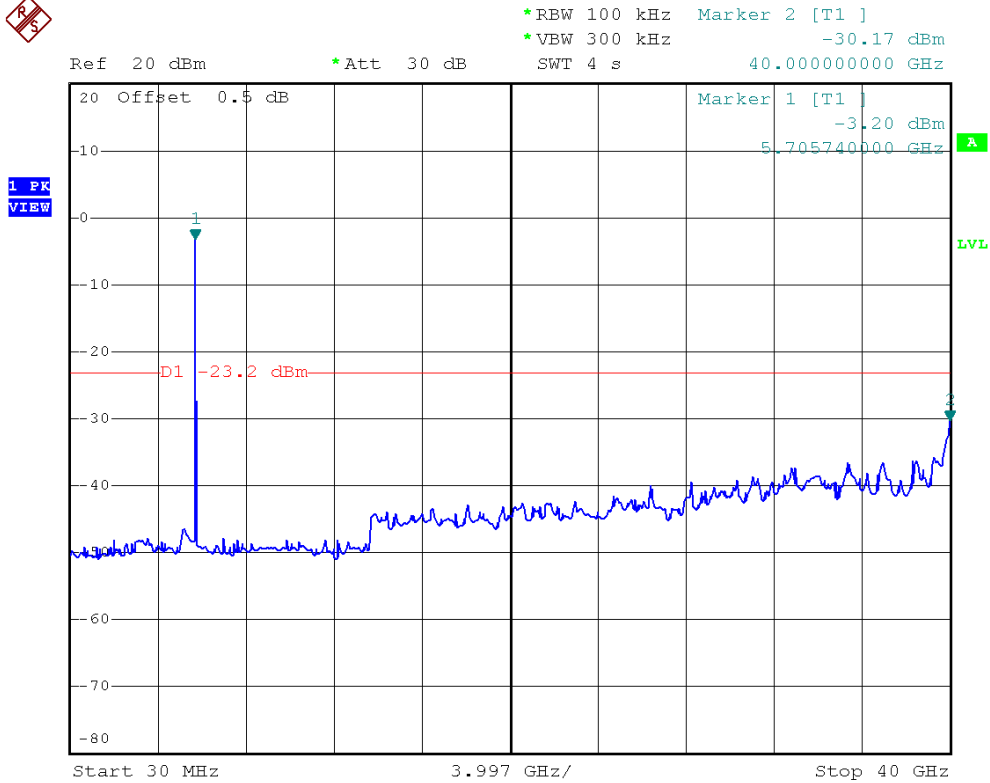


IEEE 802.11n (40 MHz)/ANT.1/The max. radio frequency power in any 100 kHz bandwidth within the frequency band

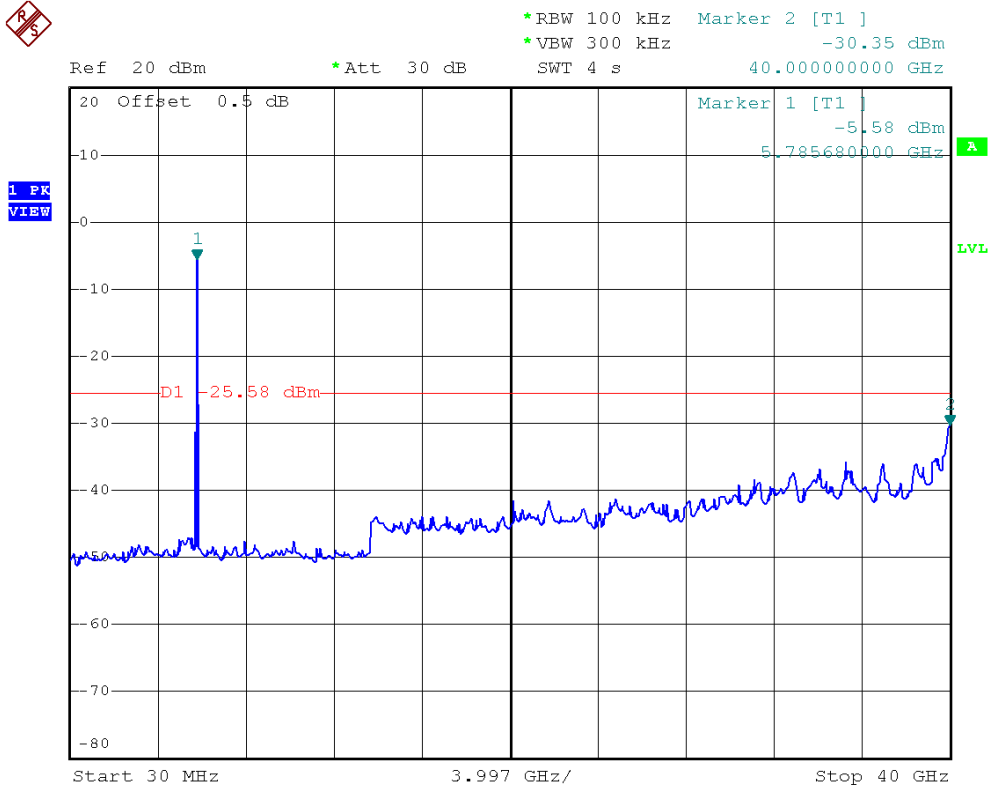




IEEE 802.11n (40 MHz)/ANT.1/5755 MHz/10 Harmonic of the frequency



IEEE 802.11n (40 MHz)/ANT.1/5795 MHz/10 Harmonic of the frequency





6.6 DB BANDWIDTH

6.1 LIMIT

Test Item	Frequency Range (MHz)	Limit
Bandwidth	2400-2483.5	>= 500KHz (6dB bandwidth)

6.2 MEASUREMENT INSTRUMENTS LIST

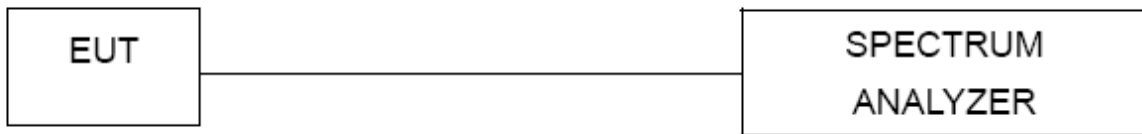
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Oct. 01, 2013

NOTE: N/A: denotes No Model Name, No Serial No. or No Calibration specified.

6.3 TEST PROCEDURES

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. Spectrum Setting: RBW= 100KHz, VBW=300KHz, Sweep time = Auto.

6.4 TEST SETUP LAYOUT



6.5 DEVIATION FROM TEST STANDARD

No deviation

6.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing.

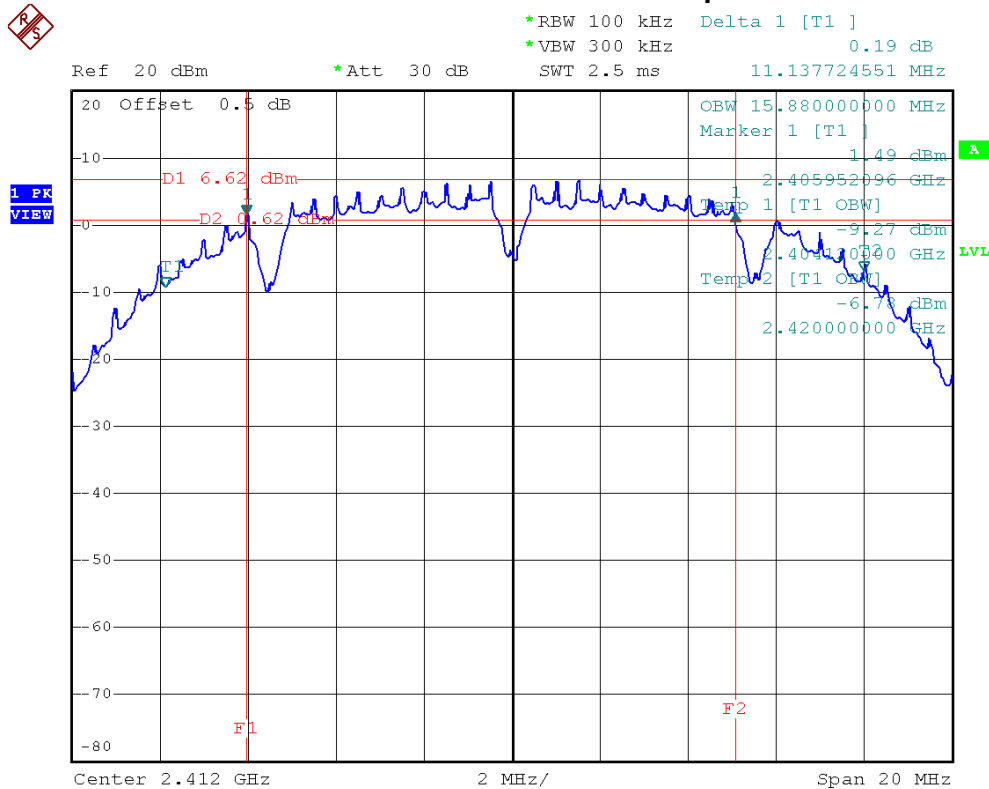


6.7 TEST RESULTS - 2412-2462 MHZ

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
2412 MHz	11.14	15.88	>=500 kHz	PASS
2437 MHz	12.53	15.88	>=500 kHz	PASS
2462 MHz	12.06	15.92	>=500 kHz	PASS

IEEE 802.11b/2412 MHz/6 dB and 99% Occupied Bandwidth

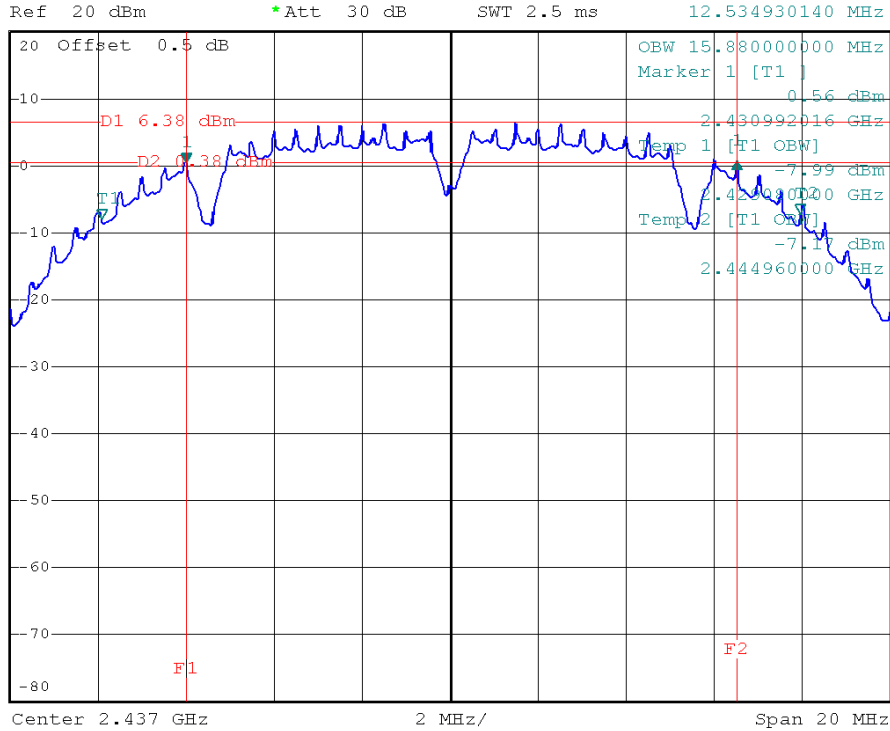




IEEE 802.11b/2437 MHz/6 dB and 99% Occupied Bandwidth



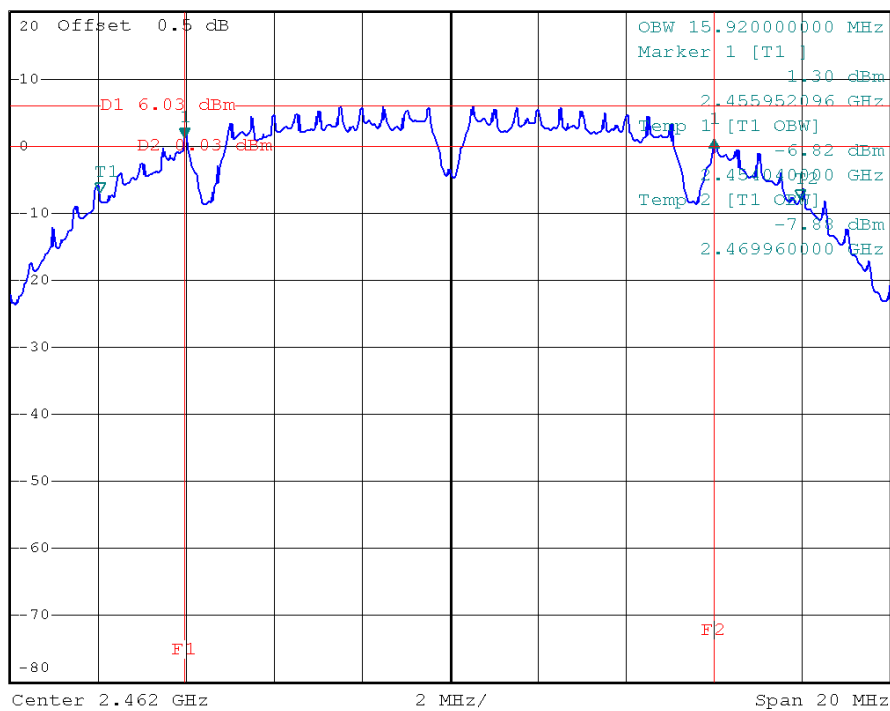
*RBW 100 kHz Delta 1 [T1]
*VBW 300 kHz 0.06 dB
SWT 2.5 ms 12.534930140 MHz



IEEE 802.11b/2462 MHz/6 dB and 99% Occupied Bandwidth



*RBW 100 kHz Delta 1 [T1]
*VBW 300 kHz -0.41 dB
SWT 2.5 ms 12.055888224 MHz

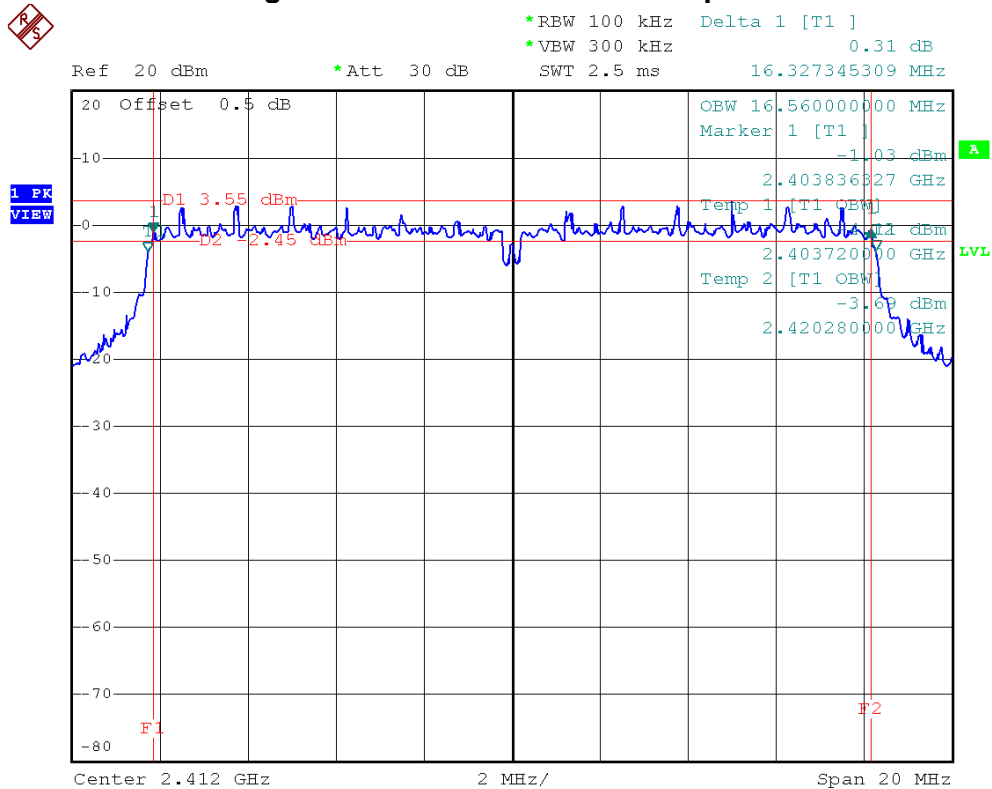




E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
2412 MHz	16.33	16.56	>=500 kHz	PASS
2437 MHz	16.33	16.56	>=500 kHz	PASS
2462 MHz	16.29	16.56	>=500 kHz	PASS

IEEE 802.11g/2412 MHz/6 dB and 99% Occupied Bandwidth

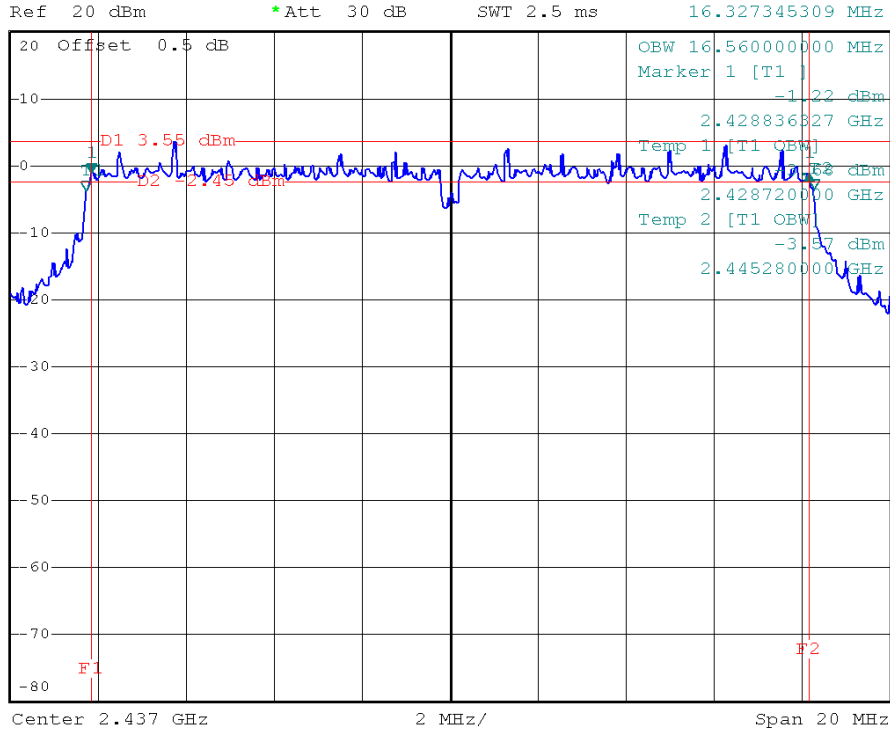




IEEE 802.11g/2437 MHz/6 dB and 99% Occupied Bandwidth



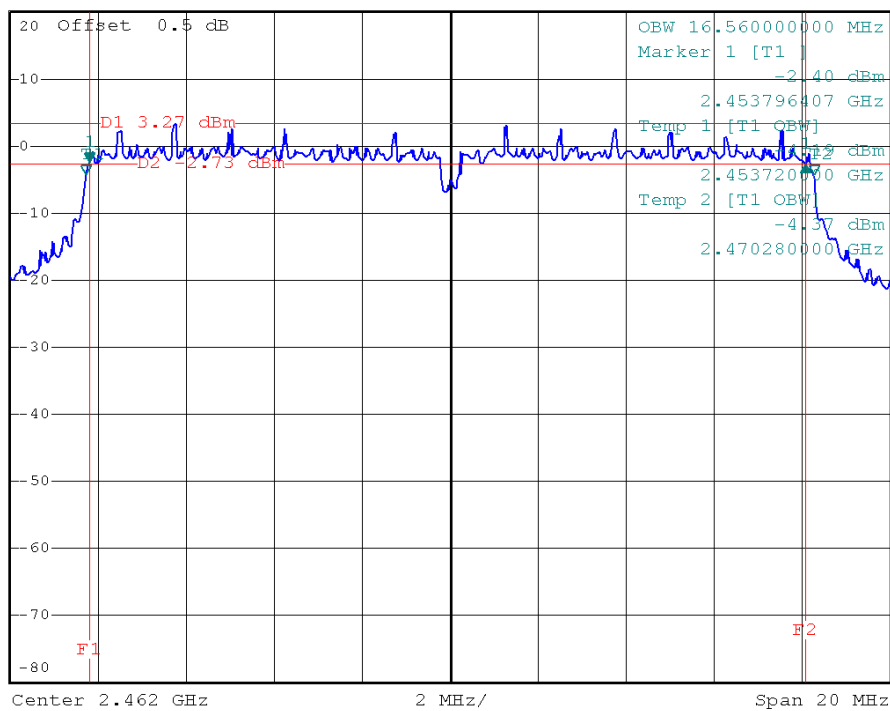
*RBW 100 kHz Delta 1 [T1]
*VBW 300 kHz 0.16 dB
SWT 2.5 ms 16.327345309 MHz



IEEE 802.11g/2462 MHz/6 dB and 99% Occupied Bandwidth



*RBW 100 kHz Delta 1 [T1]
*VBW 300 kHz -0.41 dB
SWT 2.5 ms 16.287425150 MHz

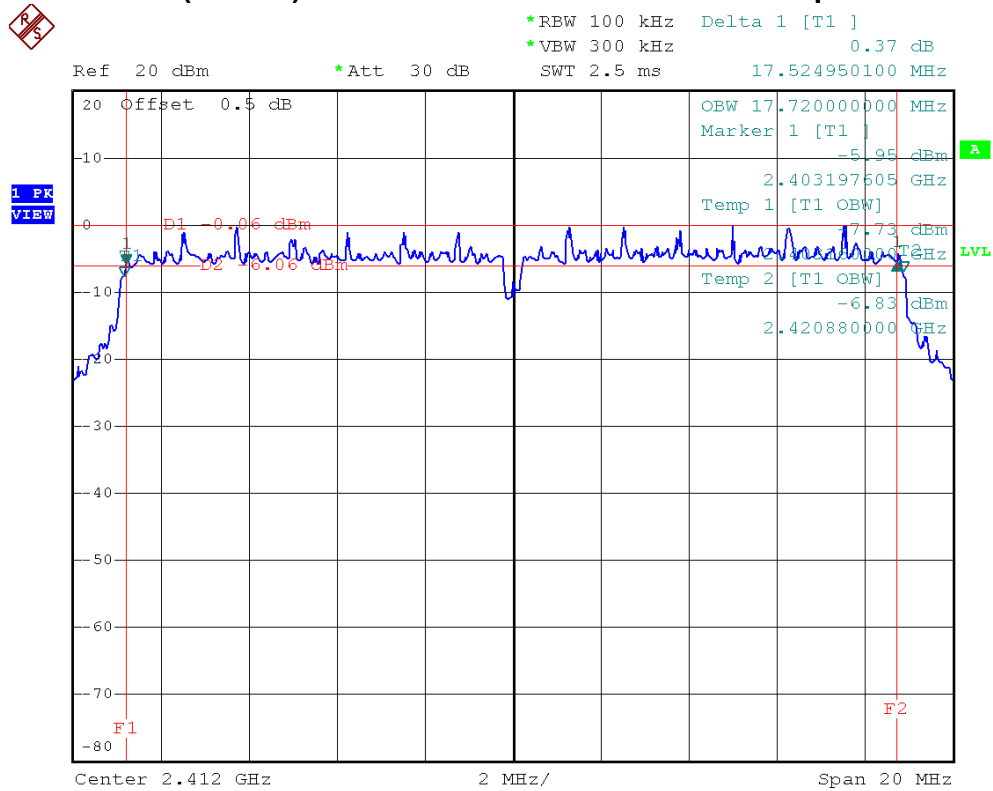




E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.0/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
2412 MHz	17.52	17.72	>=500 kHz	PASS
2437 MHz	17.60	17.72	>=500 kHz	PASS
2462 MHz	17.64	17.72	>=500 kHz	PASS

IEEE 802.11n (20 MHz)/ANT.0/2412 MHz/6 dB and 99% Occupied Bandwidth

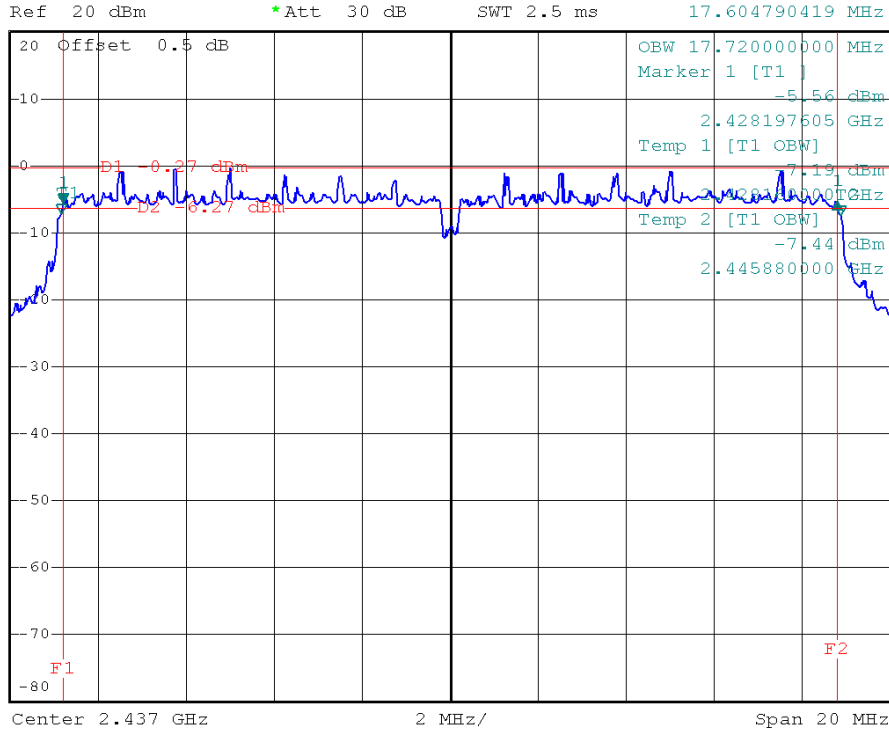




IEEE 802.11n (20 MHz)/ANT.0/2437 MHz/6 dB and 99% Occupied Bandwidth



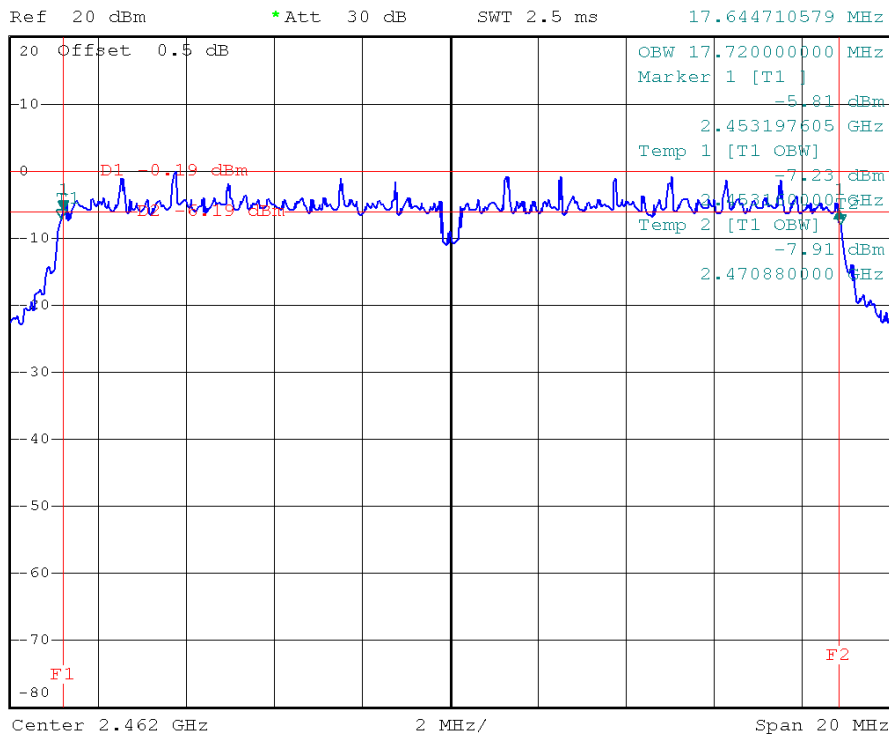
*RBW 100 kHz Delta 1 [T1] 0.26 dB
 *VBW 300 kHz
 SWT 2.5 ms 17.604790419 MHz



IEEE 802.11n (20 MHz)/ANT.0/2462 MHz/6 dB and 99% Occupied Bandwidth



*RBW 100 kHz Delta 1 [T1] -0.05 dB
 *VBW 300 kHz
 SWT 2.5 ms 17.644710579 MHz

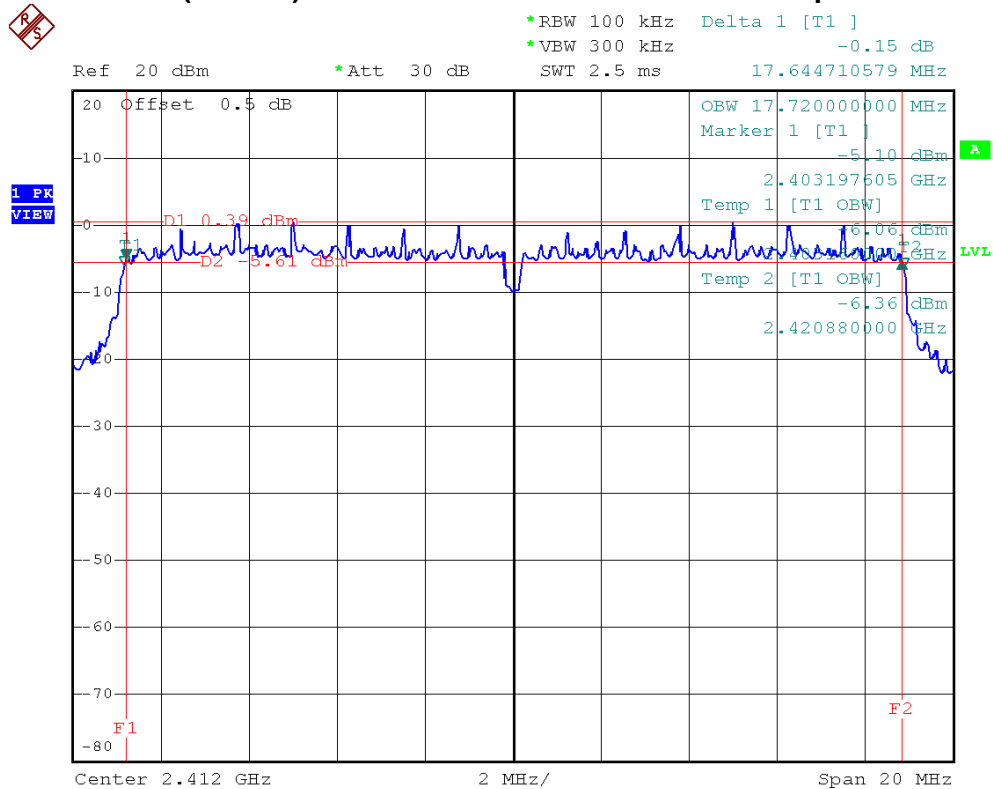




E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.1/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
2412 MHz	17.64	17.72	>=500 kHz	PASS
2437 MHz	17.60	17.72	>=500 kHz	PASS
2462 MHz	17.60	17.76	>=500 kHz	PASS

IEEE 802.11n (20 MHz)/ANT.1/2412 MHz/6 dB and 99% Occupied Bandwidth

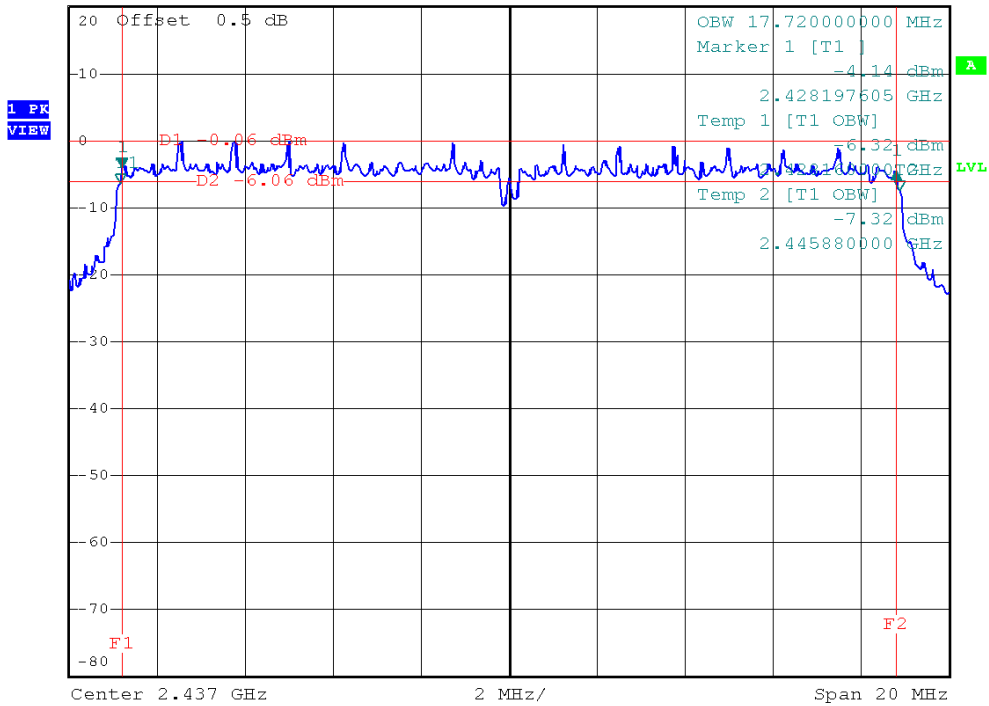




IEEE 802.11n (20 MHz)/ANT.1/2437 MHz/6 dB and 99% Occupied Bandwidth



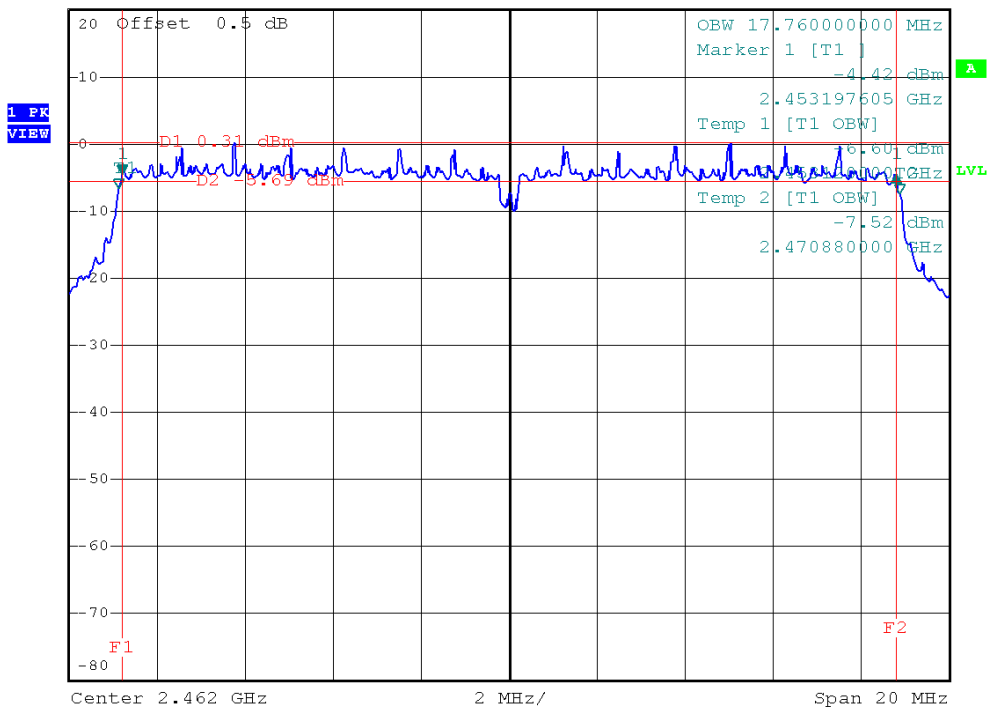
*RBW 100 kHz Delta 1 [T1]
 *VBW 300 kHz -0.37 dB
 Ref 20 dBm *Att 30 dB SWT 2.5 ms 17.604790419 MHz



IEEE 802.11n (20 MHz)/ANT.1/2462 MHz/6 dB and 99% Occupied Bandwidth



*RBW 100 kHz Delta 1 [T1]
 *VBW 300 kHz -0.14 dB
 Ref 20 dBm *Att 30 dB SWT 2.5 ms 17.604790419 MHz

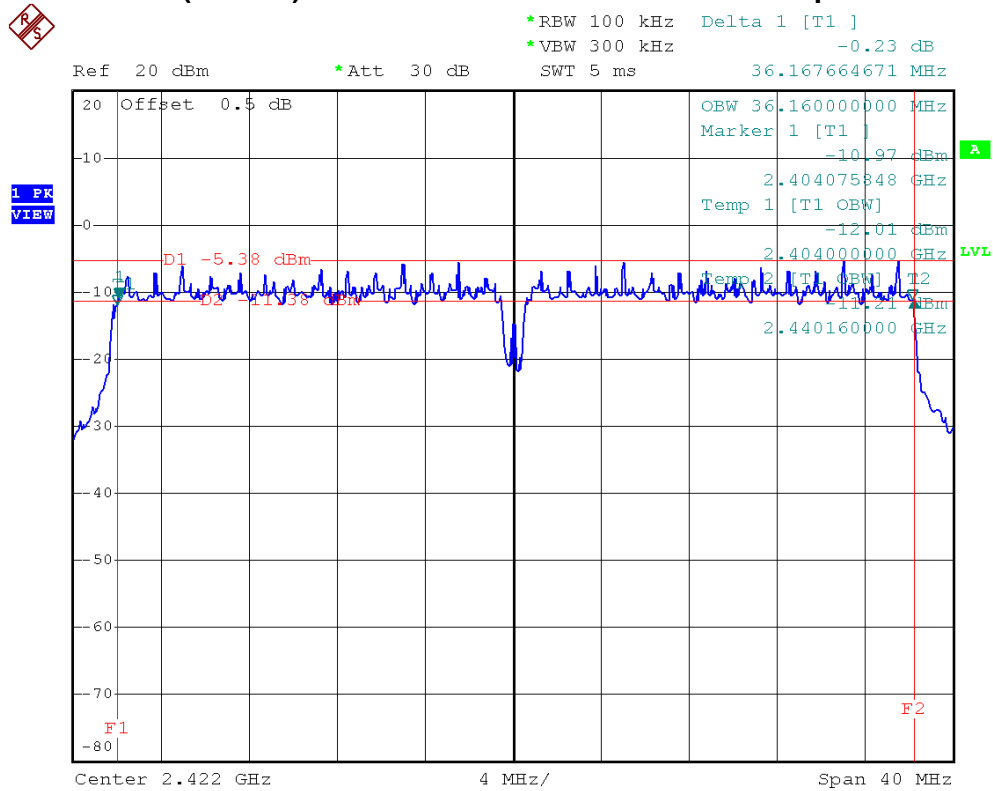




E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.0/2422 MHz, 2437 MHz, 2452 MHz		

Frequency	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
2422 MHz	36.17	36.16	>=500 kHz	PASS
2437 MHz	36.33	36.24	>=500 kHz	PASS
2452 MHz	36.93	36.16	>=500 kHz	PASS

IEEE 802.11n (40 MHz)/ANT.0/2422 MHz/6 dB and 99% Occupied Bandwidth

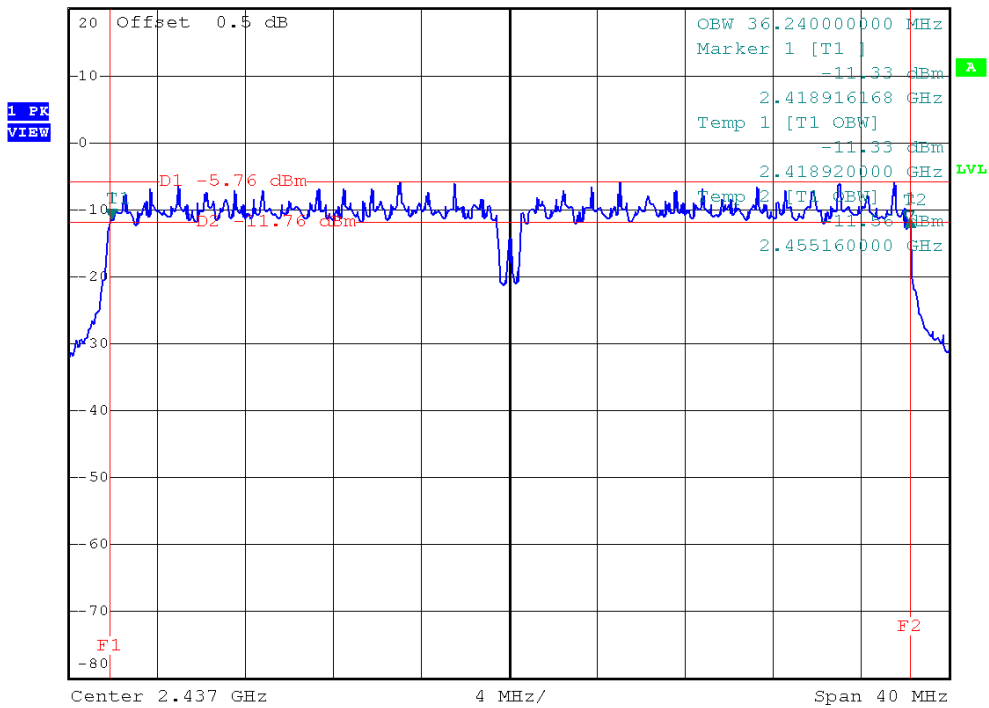




IEEE 802.11n (40 MHz)/ANT.0/2437 MHz/6 dB and 99% Occupied Bandwidth



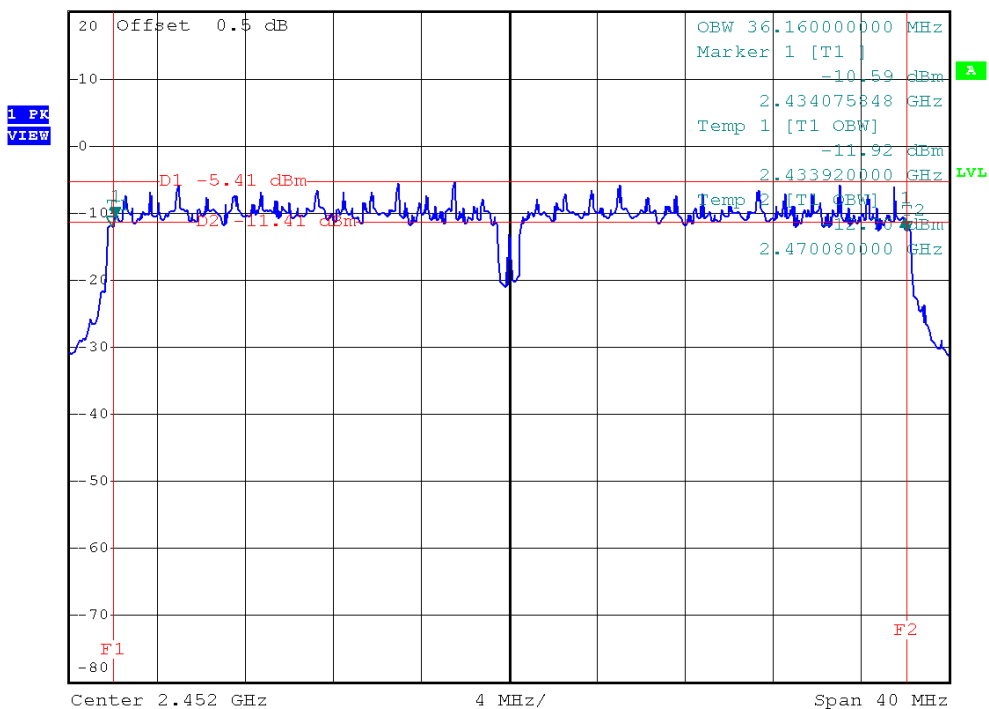
*RBW 100 kHz Delta 1 [T1]
 *VBW 300 kHz -0.14 dB
 Ref 20 dBm *Att 30 dB SWT 5 ms 36.327345309 MHz



IEEE 802.11n (40 MHz)/ANT.0/2452 MHz/6 dB and 99% Occupied Bandwidth



*RBW 100 kHz Delta 1 [T1]
 *VBW 300 kHz -0.37 dB
 Ref 20 dBm *Att 30 dB SWT 5 ms 35.928143713 MHz

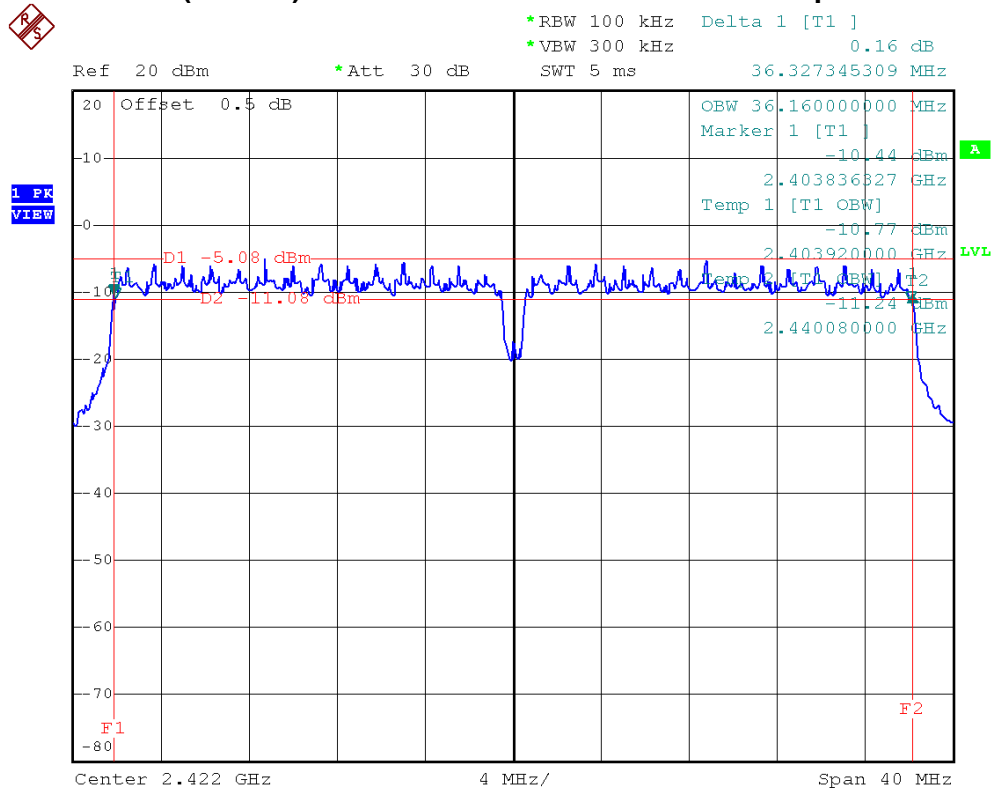




E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.1/2422 MHz, 2437 MHz, 2452 MHz		

Frequency	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
2422 MHz	36.33	36.16	>=500 kHz	PASS
2437 MHz	36.25	36.16	>=500 kHz	PASS
2452 MHz	36.25	36.16	>=500 kHz	PASS

IEEE 802.11n (40 MHz)/ANT.1/2422 MHz/6 dB and 99% Occupied Bandwidth

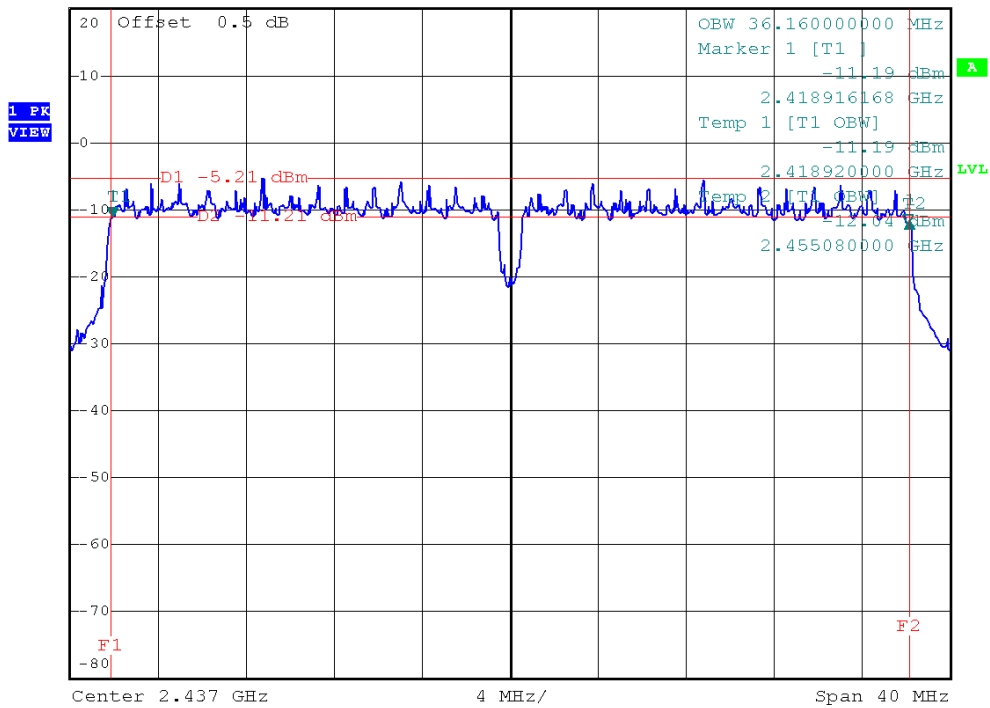




IEEE 802.11n (40 MHz)/ANT.1/2437 MHz/6 dB and 99% Occupied Bandwidth



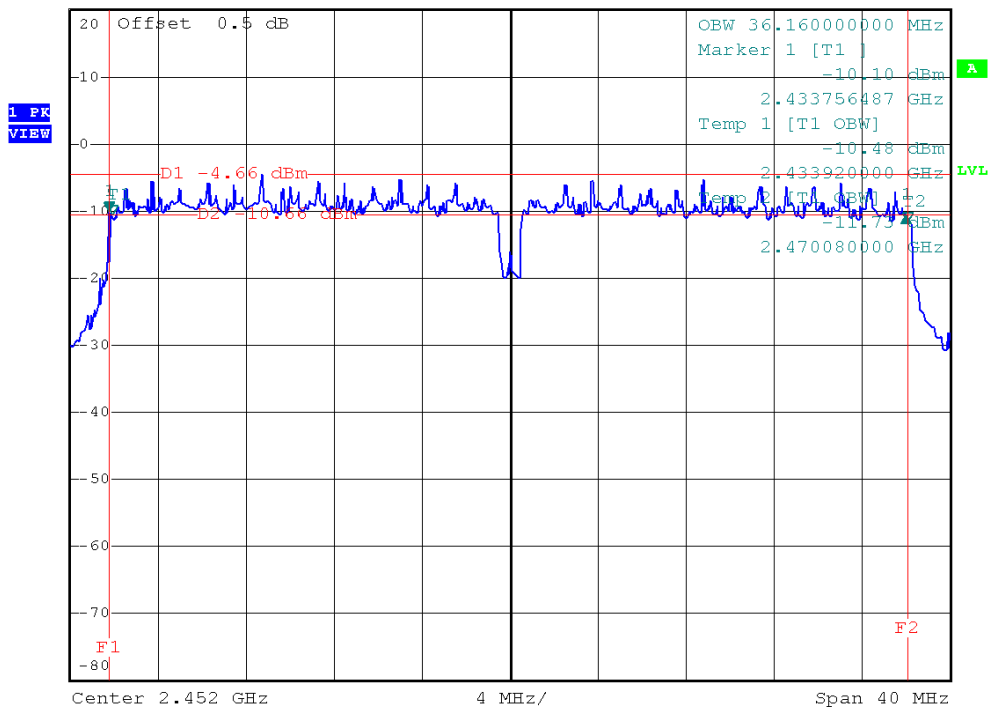
*RBW 100 kHz Delta 1 [T1]
 *VBW 300 kHz -0.39 dB
 Ref 20 dBm *Att 30 dB SWT 5 ms 36.247504990 MHz



IEEE 802.11n (40 MHz)/ANT.1/2452 MHz/6 dB and 99% Occupied Bandwidth



*RBW 100 kHz Delta 1 [T1]
 *VBW 300 kHz -0.38 dB
 Ref 20 dBm *Att 30 dB SWT 5 ms 36.247504990 MHz



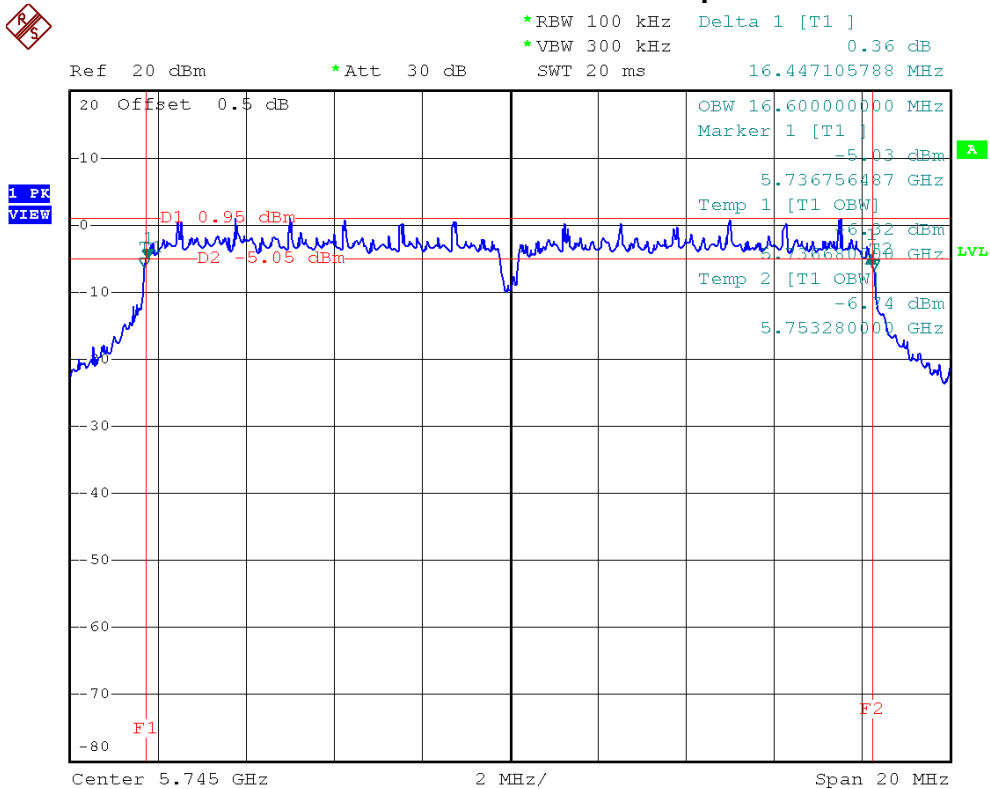


6.8 TEST RESULTS - 5745-5825 MHZ

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11a/5745 MHz, 5785 MHz, 5825 MHz		

Frequency	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
5745 MHz	16.45	16.60	>=500 kHz	PASS
5785 MHz	16.41	16.56	>=500 kHz	PASS
5825 MHz	16.37	16.60	>=500 kHz	PASS

IEEE 802.11a/5745 MHz/6 dB and 99% Occupied Bandwidth

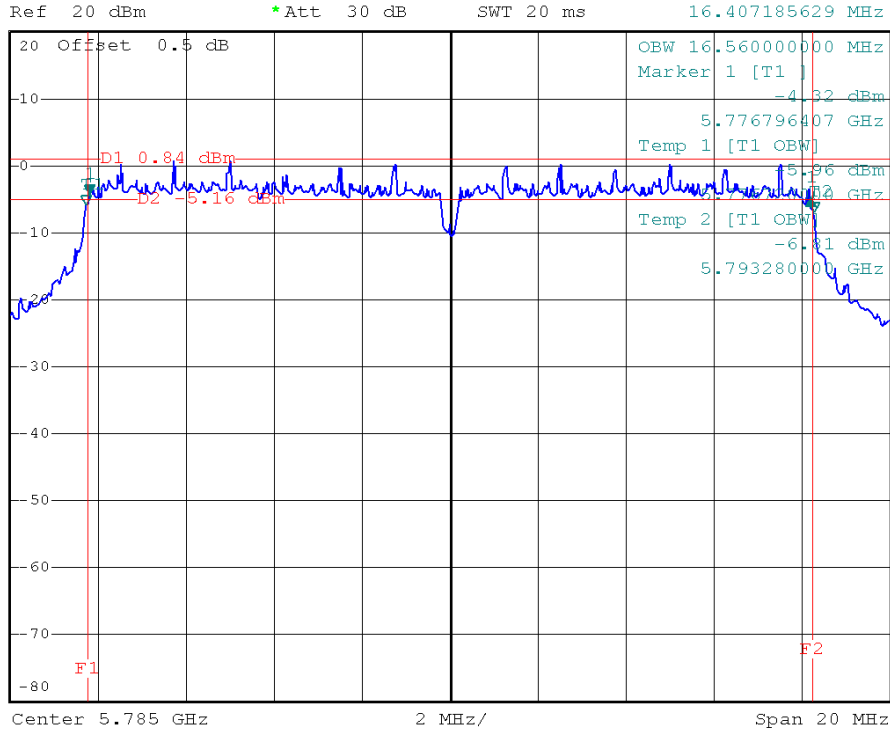




IEEE 802.11a/5785 MHz/6 dB and 99% Occupied Bandwidth



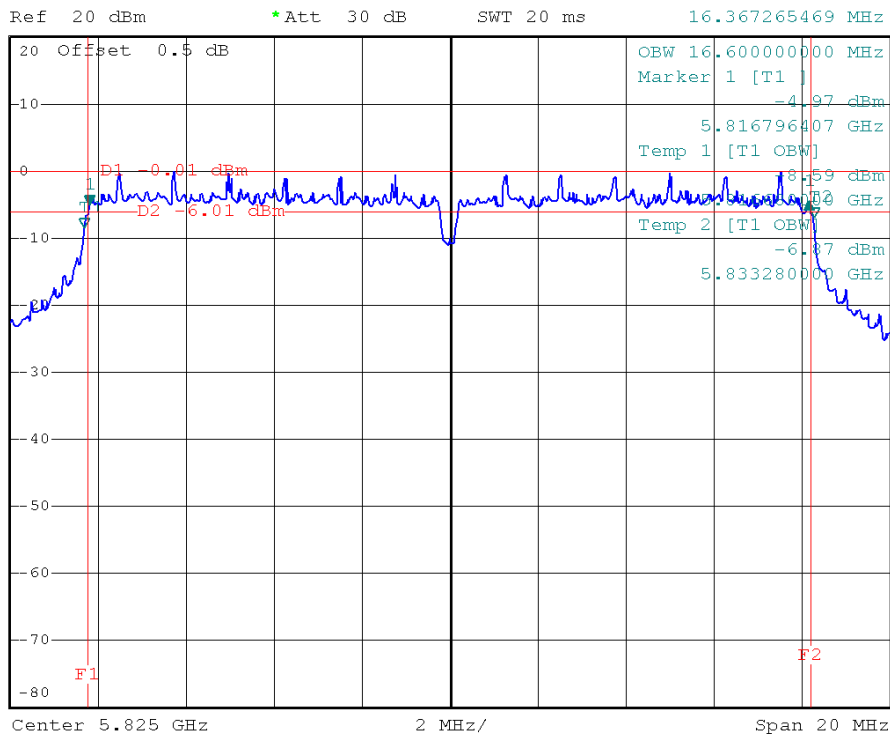
*RBW 100 kHz Delta 1 [T1]
 *VBW 300 kHz -0.50 dB
 SWT 20 ms 16.407185629 MHz



IEEE 802.11a/5825 MHz/6 dB and 99% Occupied Bandwidth



*RBW 100 kHz Delta 1 [T1]
 *VBW 300 kHz 0.30 dB
 SWT 20 ms 16.367265469 MHz

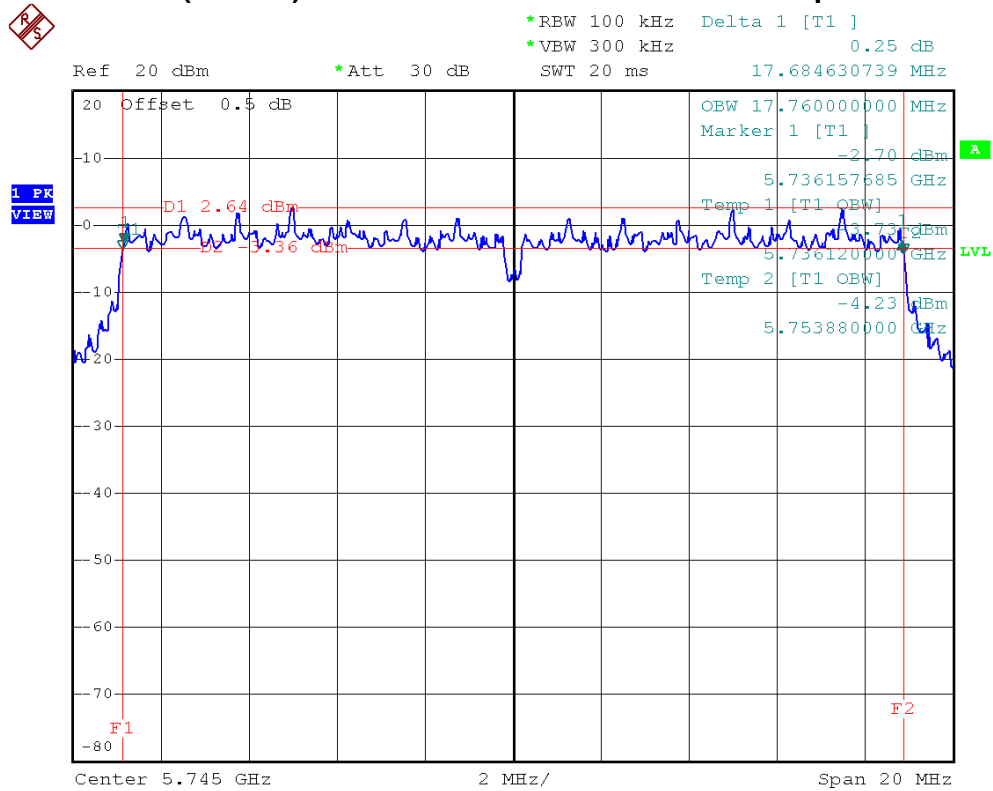




E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.0/5745 MHz, 5785 MHz, 5825 MHz		

Frequency	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
5745 MHz	17.68	17.76	>=500 kHz	PASS
5785 MHz	17.33	17.76	>=500 kHz	PASS
5825 MHz	17.49	17.72	>=500 kHz	PASS

IEEE 802.11n (20 MHz)/ANT.0/5745 MHz/6 dB and 99% Occupied Bandwidth

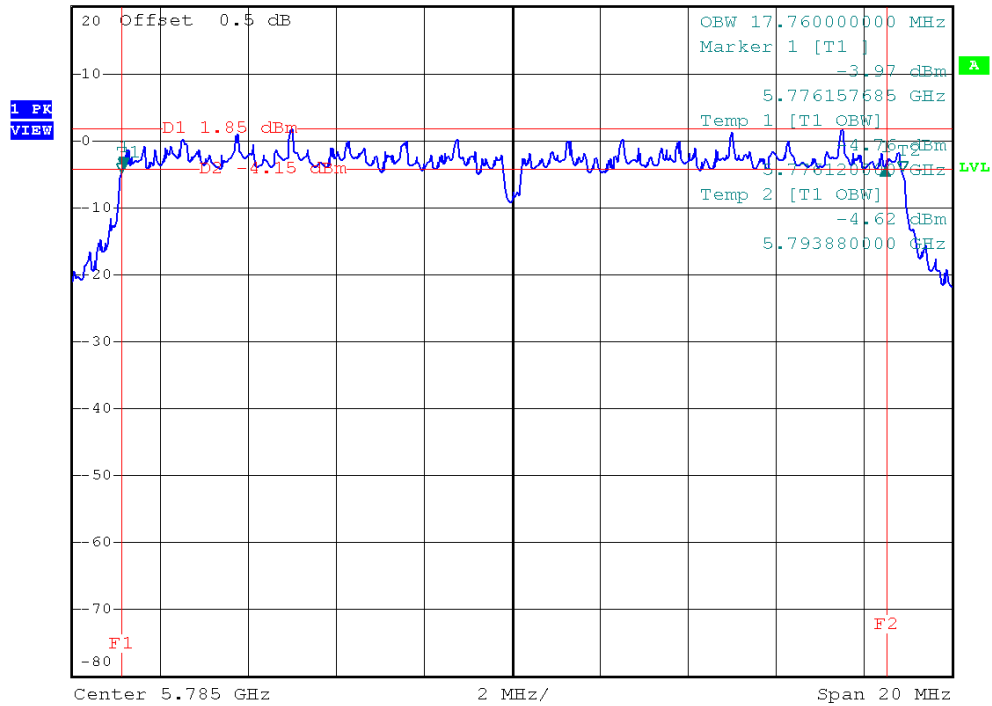




IEEE 802.11n (20 MHz)/ANT.0/5785 MHz/6 dB and 99% Occupied Bandwidth



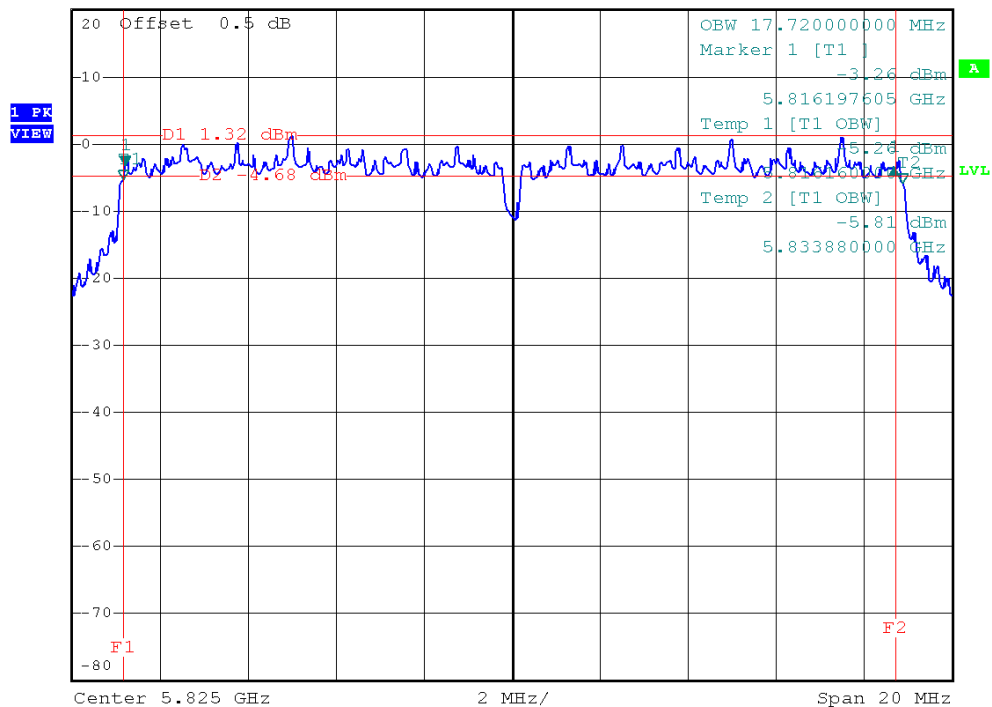
*RBW 100 kHz Delta 1 [T1]
 *VBW 300 kHz -0.05 dB
 Ref 20 dBm *Att 30 dB SWT 20 ms 17.325349301 MHz



IEEE 802.11n (20 MHz)/ANT.0/5825 MHz/6 dB and 99% Occupied Bandwidth



*RBW 100 kHz Delta 1 [T1]
 *VBW 300 kHz -0.24 dB
 Ref 20 dBm *Att 30 dB SWT 20 ms 17.485029940 MHz

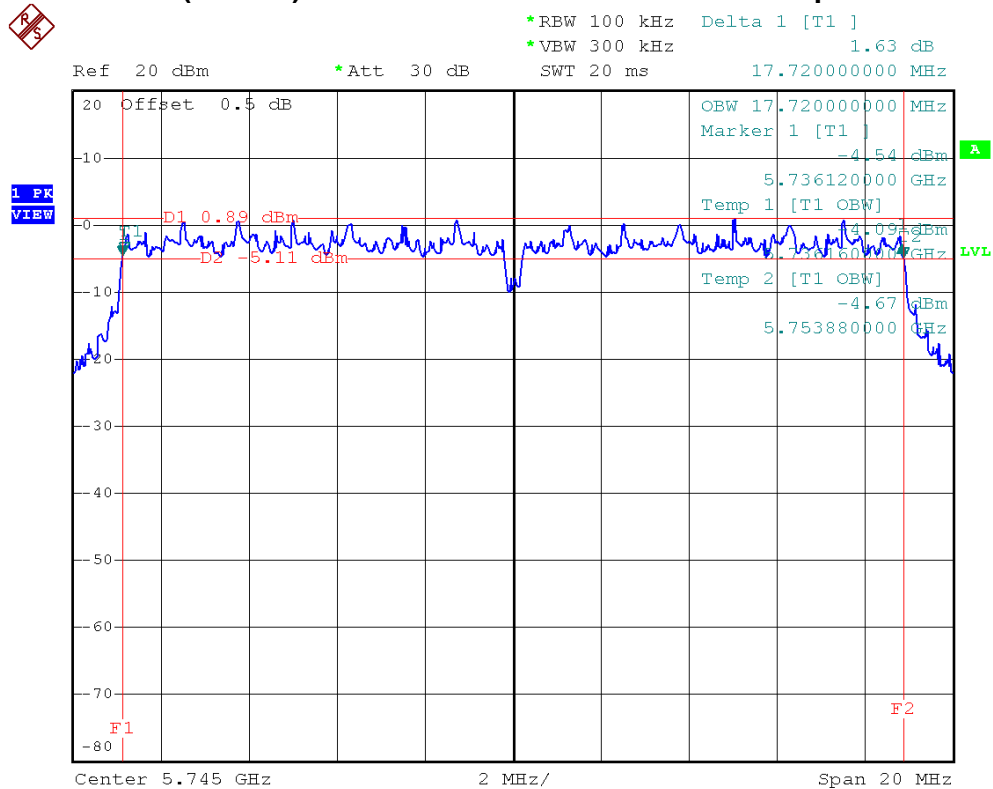




E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.1/5745 MHz, 5785 MHz, 5825 MHz		

Frequency	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
5745 MHz	17.72	17.72	>=500 kHz	PASS
5785 MHz	17.80	17.80	>=500 kHz	PASS
5825 MHz	17.72	17.72	>=500 kHz	PASS

IEEE 802.11n (20 MHz)/ANT.1/5745 MHz/6 dB and 99% Occupied Bandwidth

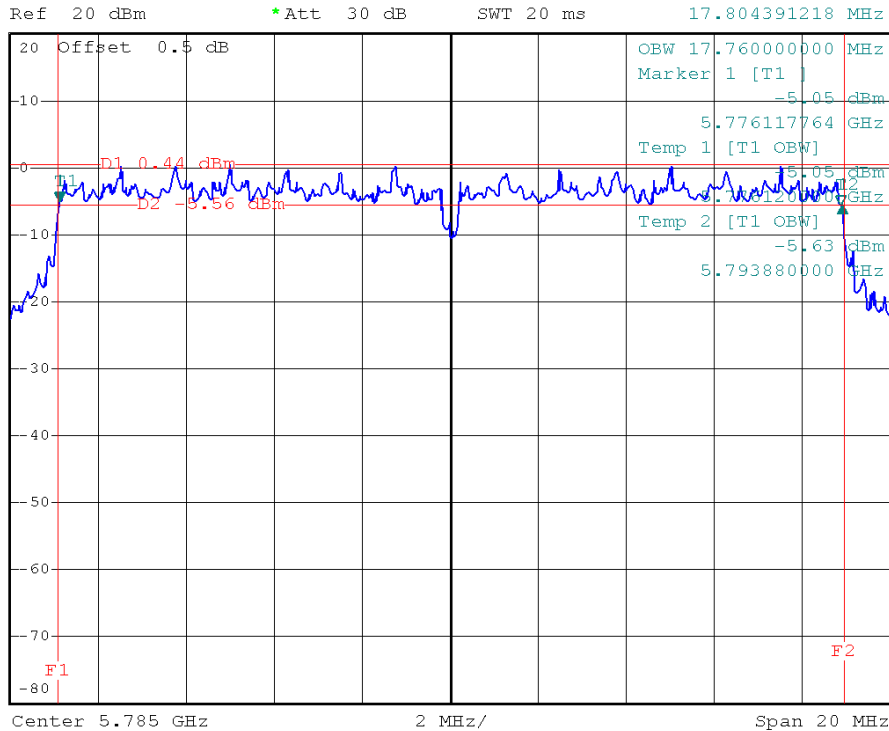




IEEE 802.11n (20 MHz)/ANT.1/5785 MHz/6 dB and 99% Occupied Bandwidth



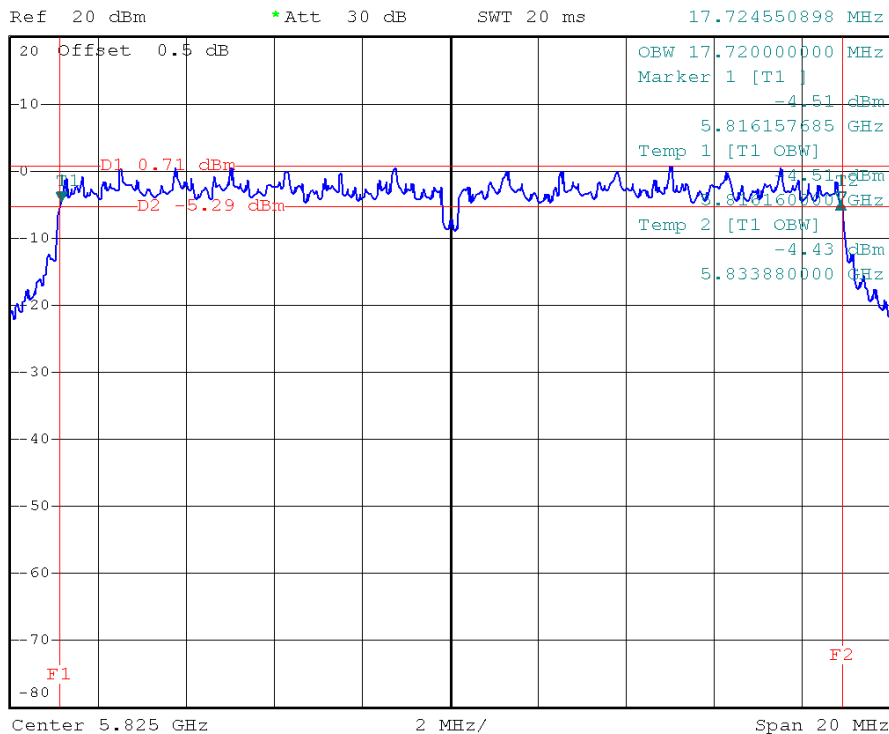
*RBW 100 kHz Delta 1 [T1]
 *VBW 300 kHz -0.44 dB
 SWT 20 ms 17.804391218 MHz



IEEE 802.11n (20 MHz)/ANT.1/5825 MHz/6 dB and 99% Occupied Bandwidth



*RBW 100 kHz Delta 1 [T1]
 *VBW 300 kHz 0.08 dB
 SWT 20 ms 17.724550898 MHz



**Neutron Engineering Inc.**

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.0/5755 MHz, 5795 MHz		

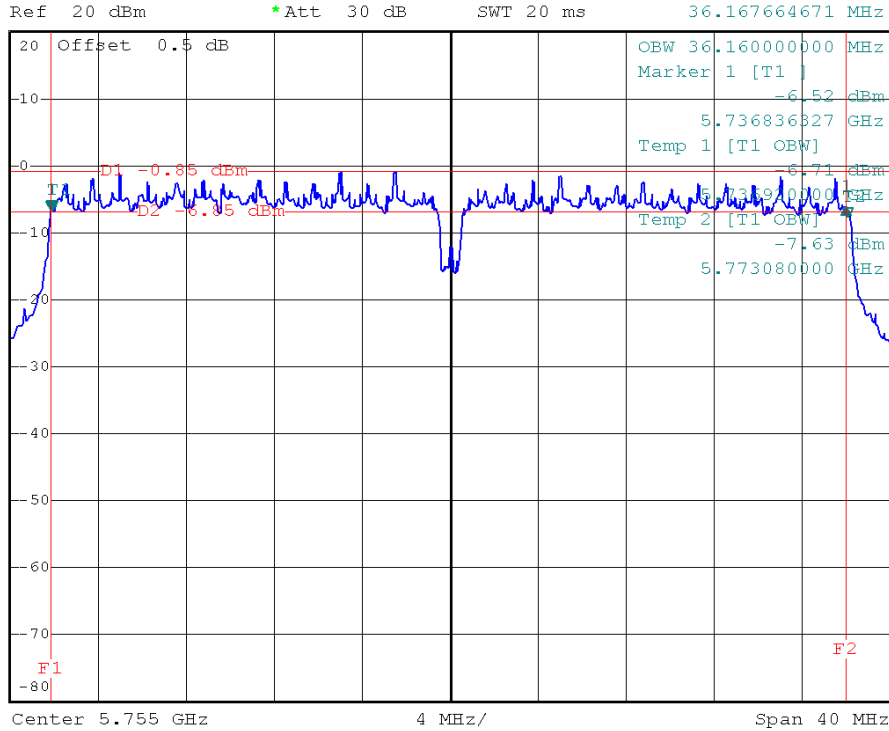
Frequency	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
5755 MHz	36.17	36.16	≥ 500 kHz	PASS
5795 MHz	35.85	36.24	≥ 500 kHz	PASS



IEEE 802.11n (40 MHz)/ANT.0/5755 MHz/6 dB and 99% Occupied Bandwidth



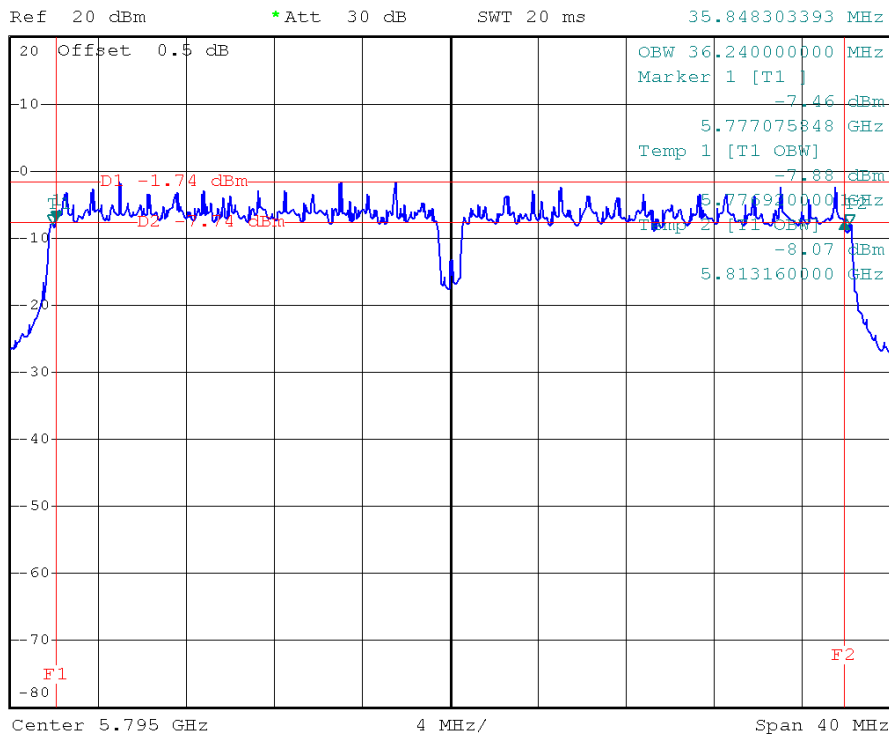
*RBW 100 kHz Delta 1 [T1]
 *VBW 300 kHz 0.47 dB
 SWT 20 ms 36.167664671 MHz



IEEE 802.11n (40 MHz)/ANT.0/5795 MHz/6 dB and 99% Occupied Bandwidth



*RBW 100 kHz Delta 1 [T1]
 *VBW 300 kHz -0.05 dB
 SWT 20 ms 35.848303393 MHz



**Neutron Engineering Inc.**

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.1/2422 MHz, 2437 MHz, 2452 MHz		

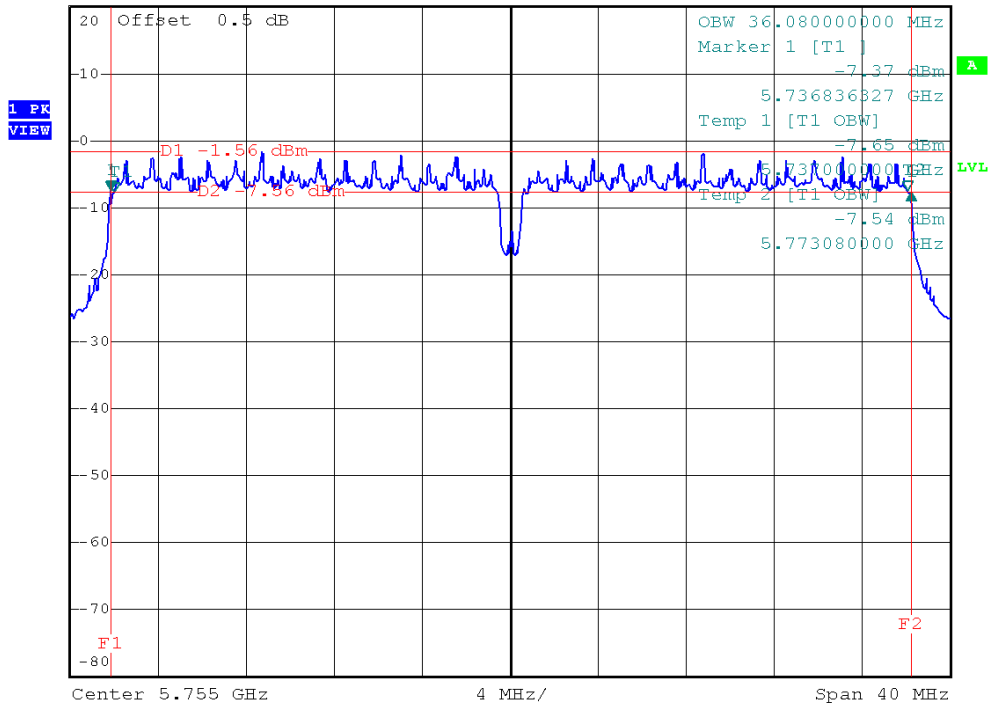
Frequency	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
5755 MHz	36.41	36.08	≥ 500 kHz	PASS
5795 MHz	36.41	36.24	≥ 500 kHz	PASS



IEEE 802.11n (40 MHz)/ANT.1/5755 MHz/6 dB and 99% Occupied Bandwidth



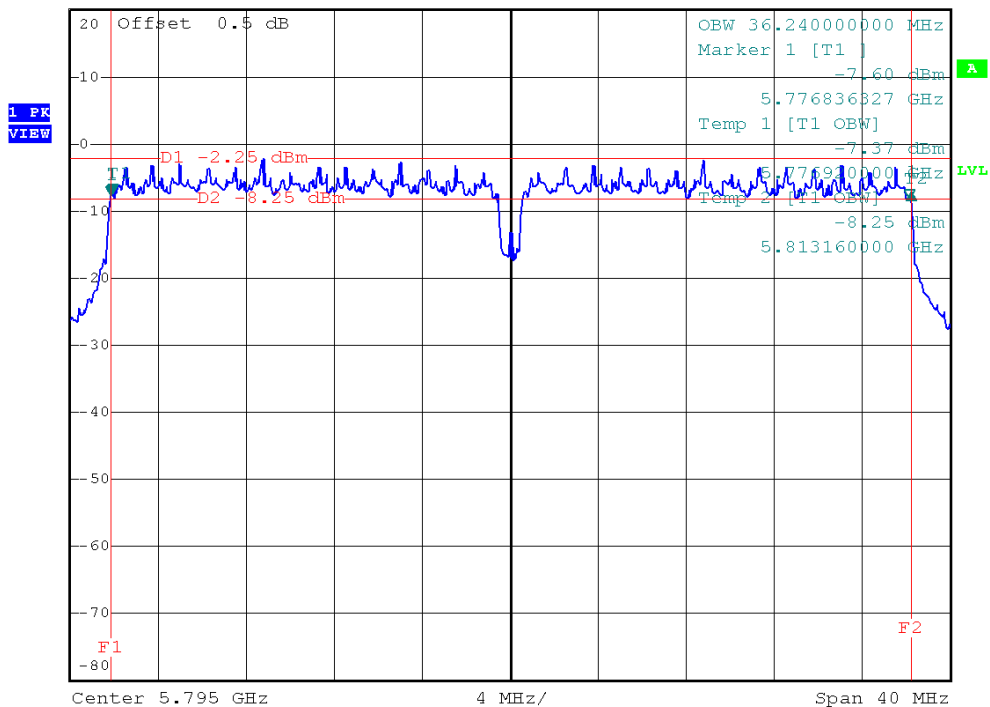
*RBW 100 kHz Delta 1 [T1]
 *VBW 300 kHz -0.34 dB
 Ref 20 dBm *Att 30 dB
 SWT 20 ms 36.407185629 MHz



IEEE 802.11n (40 MHz)/ANT.1/5795 MHz/6 dB and 99% Occupied Bandwidth



*RBW 100 kHz Delta 1 [T1]
 *VBW 300 kHz 0.39 dB
 Ref 20 dBm *Att 30 dB
 SWT 20 ms 36.407185629 MHz





Neutron Engineering Inc.

7 MAXIMUM PEAK CONDUCTED OUTPUT POWER

7.1 LIMIT

Test Item	Frequency Range (MHz)	Limit
Maximum Peak Conducted Output Power	2400-2483.5	1 watt or 30 dBm

7.2 MEASUREMENT INSTRUMENTS LIST

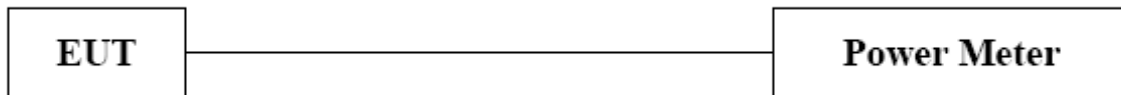
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Power Meter	Anritsu	ML2495A	1128008	Jul. 22, 2013
2	Power Meter Sensor	Anritsu	MA2411B	1126001	Jul. 22, 2013

NOTE: **N/A**: denotes No Model Name, No Serial No. or No Calibration specified.

7.3 TEST PROCEDURES

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

7.4 TEST SETUP LAYOUT



7.5 DEVIATION FROM TEST STANDARD

No deviation

7.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 5.6 Unless otherwise a special operating condition is specified in the follows during the testing.



Neutron Engineering Inc.

7.7 TEST RESULTS - 2412-2462 MHZ

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
2412 MHz	16.64	30	PASS
2437 MHz	16.22	30	PASS
2462 MHz	16.04	30	PASS



Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
2412 MHz	21.35	30	PASS
2437 MHz	21.23	30	PASS
2462 MHz	20.98	30	PASS

**Neutron Engineering Inc.**

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.0/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
2412 MHz	20.02	30	PASS
2437 MHz	19.26	30	PASS
2462 MHz	19.45	30	PASS

**Neutron Engineering Inc.**

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.1/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
2412 MHz	20.05	30	PASS
2437 MHz	19.37	30	PASS
2462 MHz	19.07	30	PASS



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.Total/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
2412 MHz	23.05	30	PASS
2437 MHz	22.33	30	PASS
2462 MHz	22.27	30	PASS

NOTE:

1. The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.
And after obtain each individual transmitter chain power, then sum the output power by using the following formula:
 $((\text{dBm}/\text{Chain 1})/10^{\wedge}\text{Log}) + ((\text{dBm}/\text{Chain 2})/10^{\wedge}\text{log}) + ((\text{dBm}/\text{ChainN})/10^{\wedge}\text{log}) = \text{Combined peak output power in mW.}$

**Neutron Engineering Inc.**

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.0/2422 MHz, 2437 MHz, 2452 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
2422 MHz	16.79	30	PASS
2437 MHz	16.32	30	PASS
2452 MHz	16.40	30	PASS

**Neutron Engineering Inc.**

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.1/2422 MHz, 2437 MHz, 2452 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
2422 MHz	17.16	30	PASS
2437 MHz	16.52	30	PASS
2452 MHz	16.47	30	PASS



Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.Total/2422 MHz, 2437 MHz, 2452 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
2422 MHz	19.99	30	PASS
2437 MHz	19.43	30	PASS
2452 MHz	19.45	30	PASS

NOTE:

- The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.
 And after obtain each individual transmitter chain power, then sum the output power by using the following formula:
 $((\text{dBm}/\text{Chain 1})/10^{\wedge}\text{Log}) + ((\text{dBm}/\text{Chain 2})/10^{\wedge}\text{log}) + ((\text{dBm}/\text{ChainN})/10^{\wedge}\text{log}) = \text{Combined peak output power in mW.}$



Neutron Engineering Inc.

7.8 TEST RESULTS - 5745-5825 MHZ

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11a/5745 MHz, 5785 MHz, 5825 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
5745 MHz	21.09	30	PASS
5785 MHz	20.76	30	PASS
5825 MHz	20.65	30	PASS

**Neutron Engineering Inc.**

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.0/5745 MHz, 5785 MHz, 5825 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
5745 MHz	20.91	30	PASS
5785 MHz	20.98	30	PASS
5825 MHz	20.70	30	PASS



Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.1/5745 MHz, 5785 MHz, 5825 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
5745 MHz	21.33	30	PASS
5785 MHz	20.65	30	PASS
5825 MHz	20.95	30	PASS



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.Total/5745 MHz, 5785 MHz, 5825 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
5745 MHz	24.14	30	PASS
5785 MHz	23.83	30	PASS
5825 MHz	23.84	30	PASS

NOTE:

- The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.
 And after obtain each individual transmitter chain power, then sum the output power by using the following formula:

$$((\text{dBm}/\text{Chain 1})/10^{\wedge}\text{Log}) + ((\text{dBm}/\text{Chain 2})/10^{\wedge}\text{log}) + ((\text{dBm}/\text{ChainN})/10^{\wedge}\text{log}) = \text{Combined peak output power in mW.}$$

**Neutron Engineering Inc.**

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.0/5755 MHz, 5795 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
5755 MHz	20.66	30	PASS
5795 MHz	20.48	30	PASS

**Neutron Engineering Inc.**

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.1/5755 MHz, 5795 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
5755 MHz	20.76	30	PASS
5795 MHz	20.22	30	PASS



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.Total/5755 MHz, 5795 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
5755 MHz	23.72	30	PASS
5795 MHz	23.36	30	PASS

NOTE:

- The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.
And after obtain each individual transmitter chain power, then sum the output power by using the following formula:

$$((\text{dBm}/\text{Chain 1})/10^{\wedge}\text{Log}) + ((\text{dBm}/\text{Chain 2})/10^{\wedge}\text{log}) + ((\text{dBm}/\text{ChainN})/10^{\wedge}\text{log}) = \text{Combined peak output power in mW.}$$



8 RADIATED SPURIOUS EMISSION (9 KHZ TO 1 GHZ)

8.1 LIMIT

20 dB in any 100 kHz bandwidth outside the operating frequency band. 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.

Frequency Range: 9 kHz to 1 GHz		
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

Frequency Range: above 1 GHz				
FREQUENCY (MHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
above 1 GHz	80	60	74	54

NOTE:

1. The limit for radiated test was performed according to FCC PART 15B.
2. The tighter limit applies at the band edges.
3. Emission level (dBuV/m)=20log Emission level (uV/m).
4. The test result calculated as following:
 Measurement Value = Reading Level + Correct Factor
 Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain(if use)
 Margin Level = Measurement Value – Limit Value



8.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Oct. 01, 2013
2	Horn Antenna	Schwarzbeck	BBHA 9120	D-325	Apr. 15, 2014
3	Microwave Pre_amplifier	Agilent	8449B	3008A01714	Apr. 16, 2014
4	Microflex Cable	Harbour industries	27478LL142	1m	May. 13, 2014
5	Microflex Cable	EMC	S104-SMA	8m	May. 13, 2014
6	Microflex Cable	Harbour industries	27478LL142	3m	May. 13, 2014
7	Test Cable	LMR	LMR-400	12m	May. 14, 2014
8	Test Cable	LMR	LMR-400	3m	May. 14, 2014
9	Pre-Amplifier	Anritsu	MH648A	M92649	Jun. 18, 2014
10	Log-Bicon Antenna	Schwarzbeck	VULB9168-352	9168-352	Jun. 11, 2014
11	Preamplifier With Adaptor	EMC	EMC2654045	980030	Feb. 18, 2014
12	Horn Antenna	Schwarzbeck	BBHA 9170	187	Dec. 24, 2013

Remark: "N/A" denotes No Model Name, No Serial No. or No Calibration specified.

8.3 MEASURING INSTRUMENTS SETTING

EMI Test Receiver	Parameter Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP



8.4 TEST PROCEDURES

- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1 GHz. For frequencies above 1 GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m Semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; 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. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.
- g. The testing follows the guidelines in ANSI C63.4 and FCC Public Notice DA 00-705 Measurement Guidelines. In case the emission is fail due to the used RBW/VBW is too wide, marker-delta method of FCC Public Notice DA 00-705 will be followed.

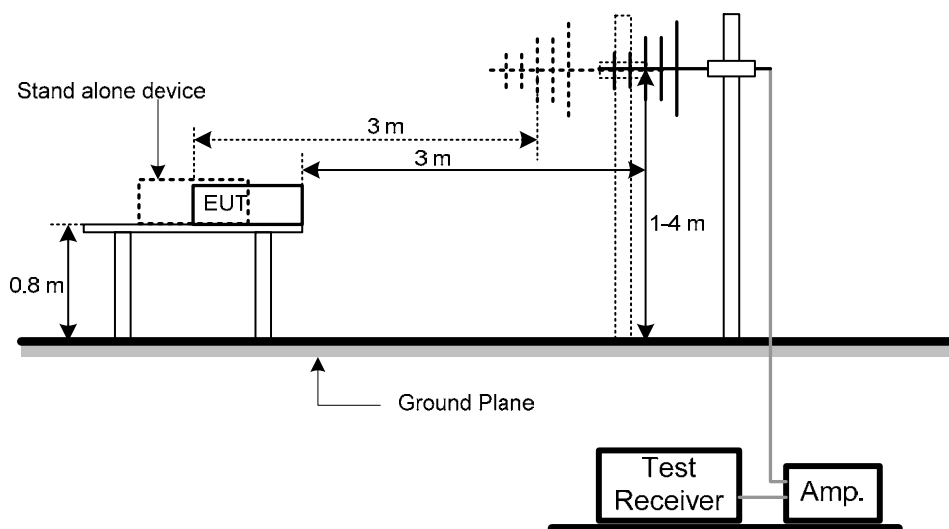
NOTE:

- a. Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode with Detector BW=120 kHz; SPA setting in RBW=100 kHz, VBW =100 kHz, Swp. Time = 0.3 sec./ MHz.
- b. 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.

8.5 DEVIATION FROM TEST STANDARD

No deviation

8.6 TEST SETUP LAYOUT





8.7 EUT OPERATING CONDITIONS

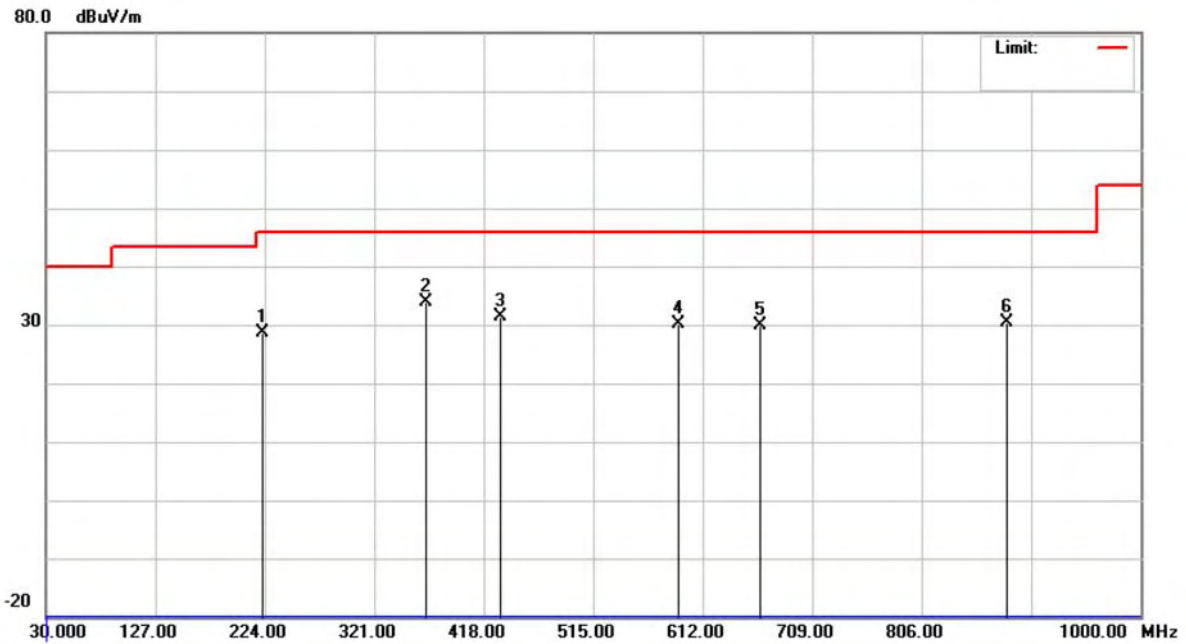
The EUT tested system was configured as the statements of 5.6 Unless otherwise a special operating condition is specified in the follows during the testing.



8.8 TEST RESULTS - 2412-2462 MHZ

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2437 MHz		

Polarization: Vertical

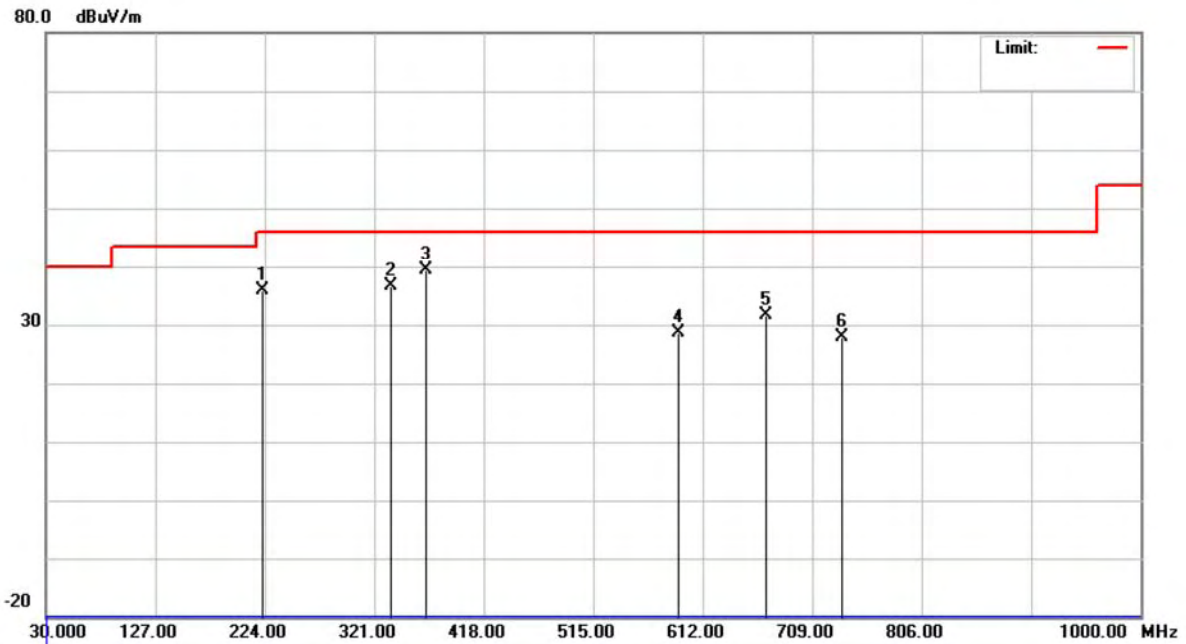


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		221.5749	50.37	-21.75	28.62	46.00	-17.38	peak	
2	*	367.0750	50.66	-16.68	33.98	46.00	-12.02	peak	
3		432.5499	46.38	-15.00	31.38	46.00	-14.62	peak	
4		590.1749	41.52	-11.50	30.02	46.00	-15.98	peak	
5		662.9249	40.27	-10.39	29.88	46.00	-16.12	peak	
6		881.1749	37.70	-7.40	30.30	46.00	-15.70	peak	



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2437 MHz		

Polarization: Horizontal



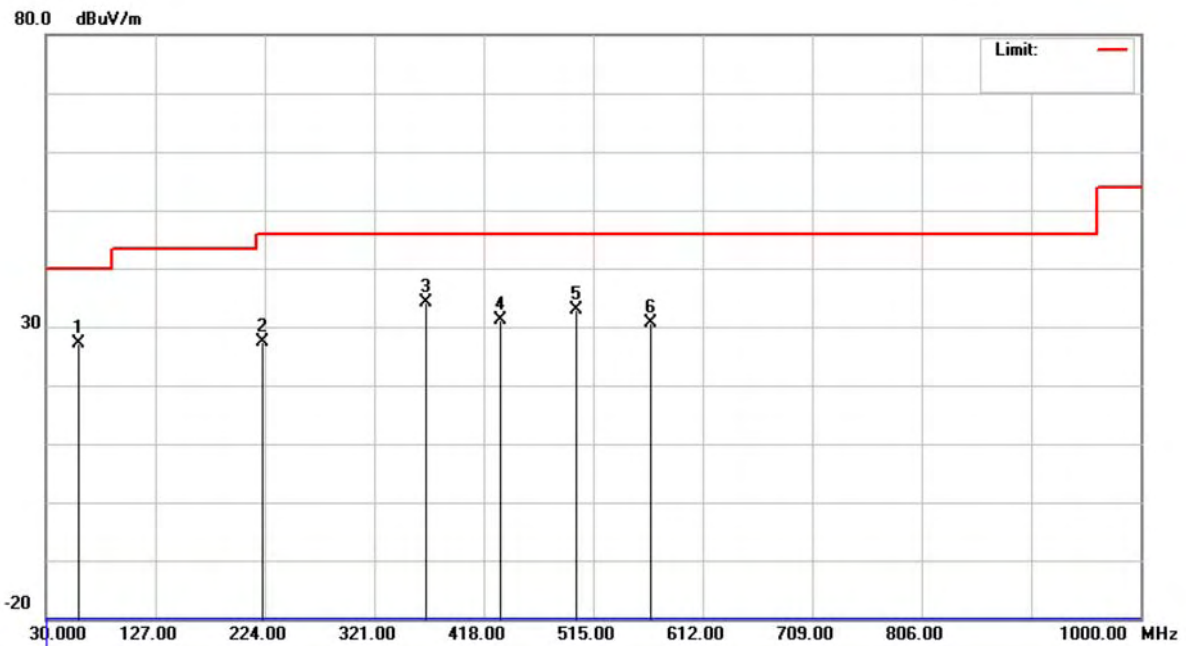
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		221.5749	57.51	-21.75	35.76	46.00	-10.24	peak	
2		335.5499	54.18	-17.45	36.73	46.00	-9.27	peak	
3	*	367.0750	56.13	-16.68	39.45	46.00	-6.55	peak	
4		590.1749	40.14	-11.50	28.64	46.00	-17.36	peak	
5		667.7750	41.95	-10.38	31.57	46.00	-14.43	peak	
6		735.6749	37.40	-9.44	27.96	46.00	-18.04	peak	



8.9 TEST RESULTS - 5745-5825 MHZ

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11a/5785 MHz		

Polarization: Vertical

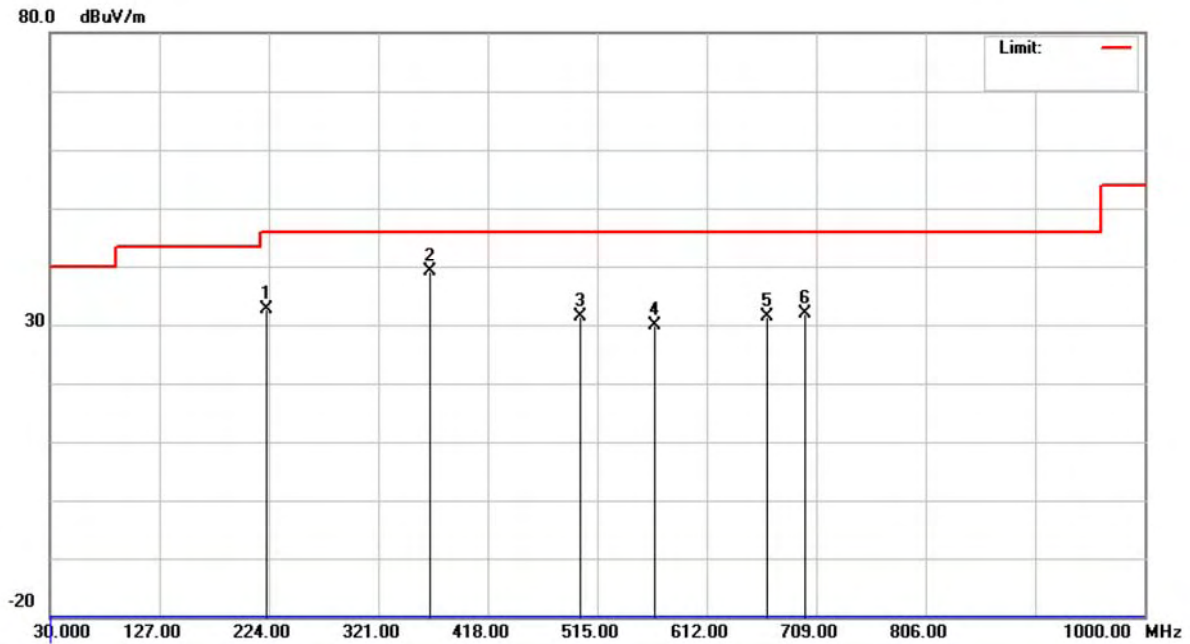


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		59.0999	46.55	-19.45	27.10	40.00	-12.90	peak	
2		221.5749	49.08	-21.75	27.33	46.00	-18.67	peak	
3	*	367.0750	50.75	-16.68	34.07	46.00	-11.93	peak	
4		432.5499	46.11	-15.00	31.11	46.00	-14.89	peak	
5		500.4500	46.76	-13.95	32.81	46.00	-13.19	peak	
6		565.9249	42.54	-11.93	30.61	46.00	-15.39	peak	



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11a/5785 MHz		

Polarization: Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		221.5749	54.48	-21.75	32.73	46.00	-13.27	peak	
2	*	367.0750	55.86	-16.68	39.18	46.00	-6.82	peak	
3		500.4500	45.25	-13.95	31.30	46.00	-14.70	peak	
4		565.9249	41.80	-11.93	29.87	46.00	-16.13	peak	
5		665.3499	41.71	-10.38	31.33	46.00	-14.67	peak	
6		699.2999	42.06	-10.27	31.79	46.00	-14.21	peak	