

APPLICATION CERTIFICATION FCC Part 15C

On Behalf of
AMES ADT, Inc.

PROPORT
Model No.: TAB-10A

FCC ID: 2ADLPTAB-10A

Prepared for : AMES ADT, Inc.
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Report Number : ATE20141584
Date of Test : Oct 22-Nov 13,2014
Date of Report : Nov 13,2014

TABLE OF CONTENTS

Description	Page
Test Report Certification	
1. GENERAL INFORMATION	4
1.1. Description of Device (EUT).....	5
1.2. Carrier Frequency of Channels	6
1.3. Special Accessory and Auxiliary Equipment	6
1.4. Description of Test Facility	6
1.5. Measurement Uncertainty	7
2. MEASURING DEVICE AND TEST EQUIPMENT	8
3. OPERATION OF EUT DURING TESTING	9
3.1. Operating Mode	9
3.2. Configuration and peripherals	9
4. TEST PROCEDURES AND RESULTS	10
5. 6DB BANDWIDTH MEASUREMENT.....	11
5.1. Block Diagram of Test Setup.....	11
5.2. The Requirement For Section 15.247(a)(2).....	11
5.3. EUT Configuration on Measurement	11
5.4. Operating Condition of EUT	11
5.5. Test Procedure	11
5.6. Test Result	12
6. MAXIMUM OUTPUT POWER.....	18
6.1. Block Diagram of Test Setup.....	18
6.2. The Requirement For Section 15.247(b)(3).....	18
6.3. EUT Configuration on Measurement	18
6.4. Operating Condition of EUT	18
6.5. Test Procedure	18
6.6. Test Result	19
7. POWER SPECTRAL DENSITY MEASUREMENT	20
7.1. Block Diagram of Test Setup.....	20
7.2. The Requirement For Section 15.247(e).....	20
7.3. EUT Configuration on Measurement	20
7.4. Operating Condition of EUT	20
7.5. Test Procedure	20
7.6. Test Result	21
8. BAND EDGE COMPLIANCE TEST	27
8.1. Block Diagram of Test Setup.....	27
8.2. The Requirement For Section 15.247(d)	27
8.3. EUT Configuration on Measurement	27
8.4. Operating Condition of EUT	27
8.5. Test Procedure	27
8.6. Test Result	28
9. RADIATED SPURIOUS EMISSION TEST	44
9.1. Block Diagram of Test Setup.....	44
9.2. The Limit For Section 15.247(d)	44
9.3. Restricted bands of operation	45

9.4.	Configuration of EUT on Measurement	45
9.5.	Operating Condition of EUT	46
9.6.	Test Procedure	46
9.7.	The Field Strength of Radiation Emission Measurement Results	46
10.	CONDUCTED SPURIOUS EMISSION COMPLIANCE TEST	67
10.1.	Block Diagram of Test Setup.....	67
10.2.	The Requirement For Section 15.247(d)	67
10.3.	EUT Configuration on Measurement	67
10.4.	Operating Condition of EUT	67
10.5.	Test Procedure	68
10.6.	Test Result	68
11.	AC POWER LINE CONDUCTED EMISSION FOR FCC PART 15 SECTION 15.207(A) ..	74
11.1.	Block Diagram of Test Setup.....	74
11.2.	The Emission Limit	74
11.3.	Configuration of EUT on Measurement	75
11.4.	Operating Condition of EUT	75
11.5.	Test Procedure	75
11.6.	Power Line Conducted Emission Measurement Results	75
12.	ANTENNA REQUIREMENT.....	78
12.1.	The Requirement	78
12.2.	Antenna Construction	78

Test Report Certification

Applicant : AMES ADT, Inc..
Manufacturer : AMES ADT, Inc..
EUT Description : PROPORT
(A) MODEL NO.: TAB-10A
(B) SERIAL NO.: N/A
(C) POWER SUPPLY: DC 5V (Power by Adapter)

Measurement Procedure Used:

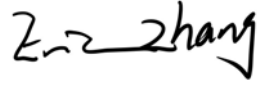
FCC Rules and Regulations Part 15 Subpart C Section 15.247
ANSI C63.4: 2009

The EUT was tested according to DTS test procedure of Jun 05, 2014 KDB558074 D01 DTS Meas Guidance v03r02 for compliance to FCC 47CFR 15.247 requirements

The device described above is tested by ACCURATE TECHNOLOGY CO. LTD to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C Section 15.247 limits. The measurement results are contained in this test report and ACCURATE TECHNOLOGY CO. LTD is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of ACCURATE TECHNOLOGY CO. LTD.

Date of Test : Oct 22-Nov 13,2014
Date of Report: Nov 13,2014

Prepared by : 
(Eric Zhang, Engineer)

Approved & Authorized Signer : 
(Sean Liu, Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	PROPORT
Model Number	:	TAB-10A
Frequency Range	:	802.11b/g/n(20MHz): 2412-2462MHz Bluetooth: 2402-2480MHz
Number of Channels	:	802.11b/g/n (20MHz):11 Bluetooth 3.0+EDR: 79
Antenna Gain	:	0dBi
Power Supply	:	DC 5V (Power by adapter)
Adapter 1		Model number: ADS18B-W 050250 Input: AC 100-240V; 50/60Hz 0.5A Output: DC 5V/2.5A Line: Non-shielded, Non-detachable, 1.5m
Adapter 2		Model number: WA-15G05FU Input: AC 100-240V; 50/60Hz 0.5A Output: DC 5V/3A Line: Non-shielded, Non-detachable, 1.5m
Modulation mode	:	GFSK, Π /4DQPSK, 8DPSK DSSS, OFDM
Applicant	:	AMES ADT, Inc.
Address	:	3291 Racquet Club Drive, Suite A, Traverse City, MI 49684
Manufacturer	:	AMES ADT, Inc.
Address	:	3291 Racquet Club Drive, Suite A, Traverse City, MI 49684
Date of sample received	:	Oct 22, 2014
Date of Test	:	Oct 22-Nov 13, 2014

1.2.Carrier Frequency of Channels

802.11b, 802.11g, 802.11n (20MHz)

Channel	Frequency(MHz)	Channel	Frequency(MHz)
01	2412	07	2442
02	2417	08	2447
03	2422	09	2452
04	2427	10	2457
05	2432	11	2462
06	2437	---	---

802.11n (40MHz)

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

1.3.Special Accessory and Auxiliary Equipment

n.a.

1.4.Description of Test Facility

EMC Lab : Accredited by TUV Rheinland Shenzhen

Listed by FCC

The Registration Number is 752051

Listed by Industry Canada

The Registration Number is 5077A-2

Accredited by China National Accreditation Committee
for Laboratories

The Certificate Registration Number is L3193

Name of Firm : ACCURATE TECHNOLOGY CO. LTD

Site Location : F1, Bldg. A, Changyuan New Material Port, Keyuan Rd.
Science & Industry Park, Nanshan, Shenzhen, Guangdong
P.R. China

1.5.Measurement Uncertainty

Conducted Emission Expanded Uncertainty = 2.23dB, k=2

Radiated emission expanded uncertainty
(9kHz-30MHz) = 3.08dB, k=2

Radiated emission expanded uncertainty
(30MHz-1000MHz) = 4.42dB, k=2

Radiated emission expanded uncertainty
(Above 1GHz) = 4.06dB, k=2

2. MEASURING DEVICE AND TEST EQUIPMENT

Table 1: List of Test and Measurement Equipment

Kind of equipment	Manufacturer	Type	S/N	Calibrated dates	Calibrated until
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 11, 2014	Jan. 10, 2015
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 11, 2014	Jan. 10, 2015
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 11, 2014	Jan. 10, 2015
Pre-Amplifier	Rohde&Schwarz	CBLU118354 0-01	3791	Jan. 11, 2014	Jan. 10, 2015
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 15, 2014	Jan. 14, 2015
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 15, 2014	Jan. 14, 2015
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 15, 2014	Jan. 14, 2015
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1067	Jan. 15, 2014	Jan. 14, 2015
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 11, 2014	Jan. 10, 2015
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 11, 2014	Jan. 10, 2015
Highpass Filter	Wainwright Instruments	WHKX3.6/18 G-10SS	N/A	Jan. 11, 2014	Jan. 10, 2015
Band Reject Filter	Wainwright Instruments	WRCG2400/2 485-2375/2510 -60/11SS	N/A	Jan. 11, 2014	Jan. 10, 2015
Switch Unit with OSP-B157	Rohde & Schwarz	OSP120	101130	Jun. 05, 2014	Jun. 05, 2015

3. OPERATION OF EUT DURING TESTING

3.1.Operating Mode

The mode is used: **1.802.11b Transmitting mode**

Low Channel: 2412MHz

Middle Channel: 2437MHz

High Channel: 2462MHz

2.802.11g Transmitting mode

Low Channel: 2412MHz

Middle Channel: 2437MHz

High Channel: 2462MHz

3.802.11n (20MHz) Transmitting mode

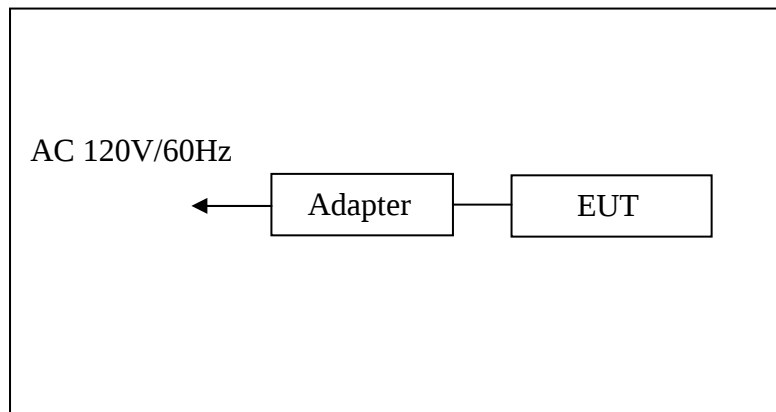
Low Channel: 2412MHz

Middle Channel: 2437MHz

High Channel: 2462MHz

4. Charging

3.2.Configuration and peripherals

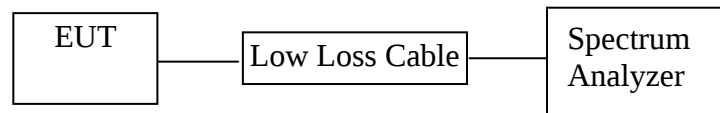


4. TEST PROCEDURES AND RESULTS

FCC Rules	Description of Test	Result
Section 15.247(a)(2)	6dB Bandwidth Test	Compliant
Section 15.247(e)	Power Spectral Density Test	Compliant
Section 15.247(b)(3)	Maximum Peak Output Power Test	Compliant
Section 15.247(d)	Band Edge Compliance Test	Compliant
Section 15.247(d) Section 15.209	Radiated Spurious Emission Test	Compliant
Section 15.247(d)	Conducted Spurious Emission Test	Compliant
Section 15.207	AC Power Line Conducted Emission Test	Compliant
Section 15.203	Antenna Requirement	Compliant

5. 6DB BANDWIDTH MEASUREMENT

5.1. Block Diagram of Test Setup



5.2. The Requirement For Section 15.247(a)(2)

Section 15.247(a)(2): Systems using digital modulation techniques may operate in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

5.3. EUT Configuration on Measurement

The equipment are installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

5.4. Operating Condition of EUT

5.4.1. Setup the EUT and simulator as shown as Section 5.1.

5.4.2. Turn on the power of all equipment.

5.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462 and 2422-2452MHz. We select 2412MHz, 2437MHz, 2462MHz TX frequency to transmit.

5.5. Test Procedure

1. Set resolution bandwidth (RBW) = 100 kHz.
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

5.6.Test Result

The test was performed with 802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
Low	2412	9.24	> 0.5MHz
Middle	2437	9.20	> 0.5MHz
High	2462	9.32	> 0.5MHz

The test was performed with 802.11g

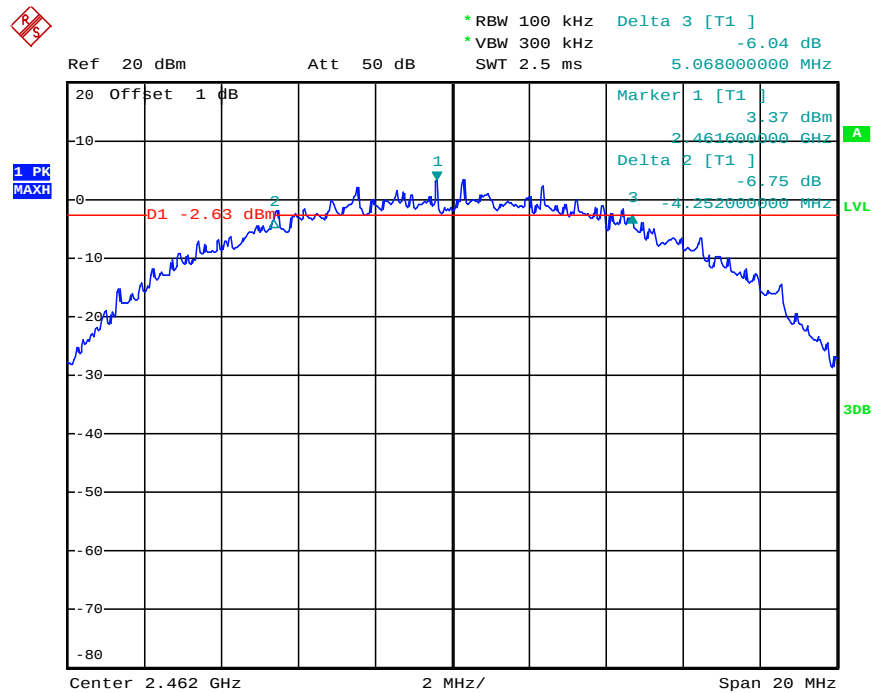
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
Low	2412	16.52	> 0.5MHz
Middle	2437	16.52	> 0.5MHz
High	2462	16.52	> 0.5MHz

The test was performed with 802.11n (Bandwidth: 20 MHz)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
Low	2412	17.68	> 0.5MHz
Middle	2437	17.72	> 0.5MHz
High	2462	17.68	> 0.5MHz

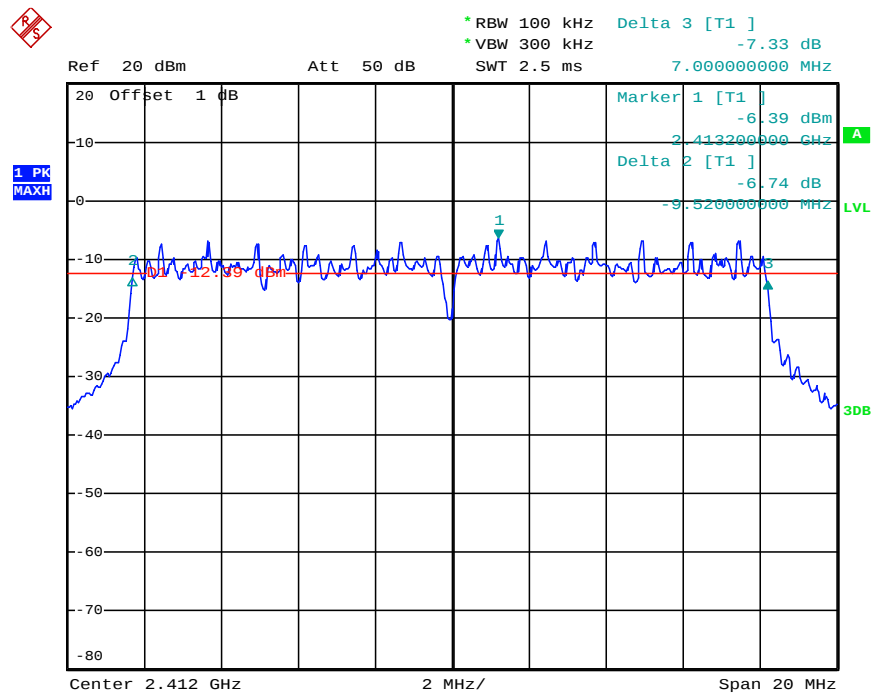
The spectrum analyzer plots are attached as below.

802.11b Channel High 2462MHz



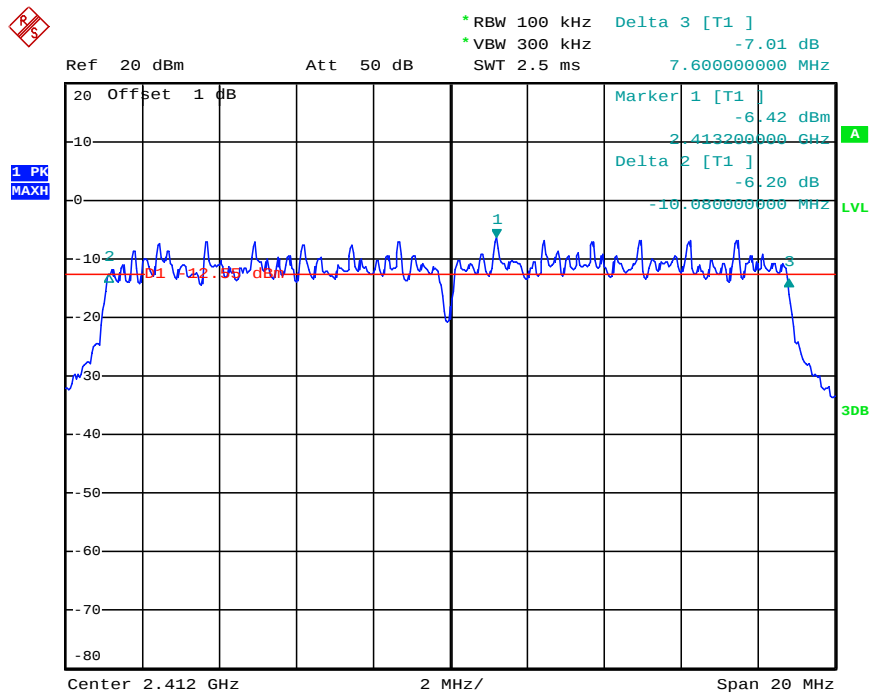
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802.11g Channel Low 2412MHz



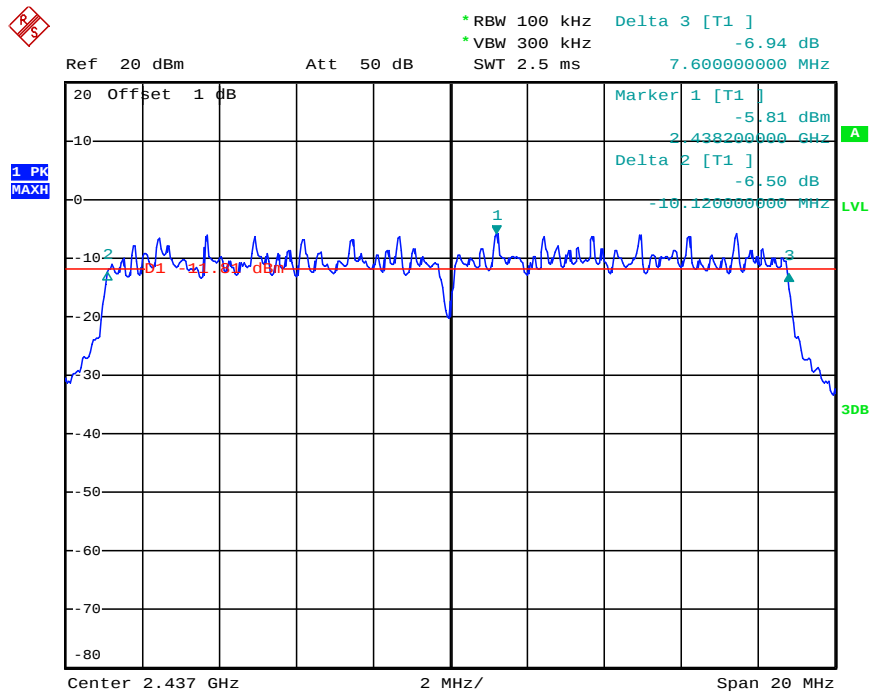
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802.11n Channel Low 2412MHz (20MHz)



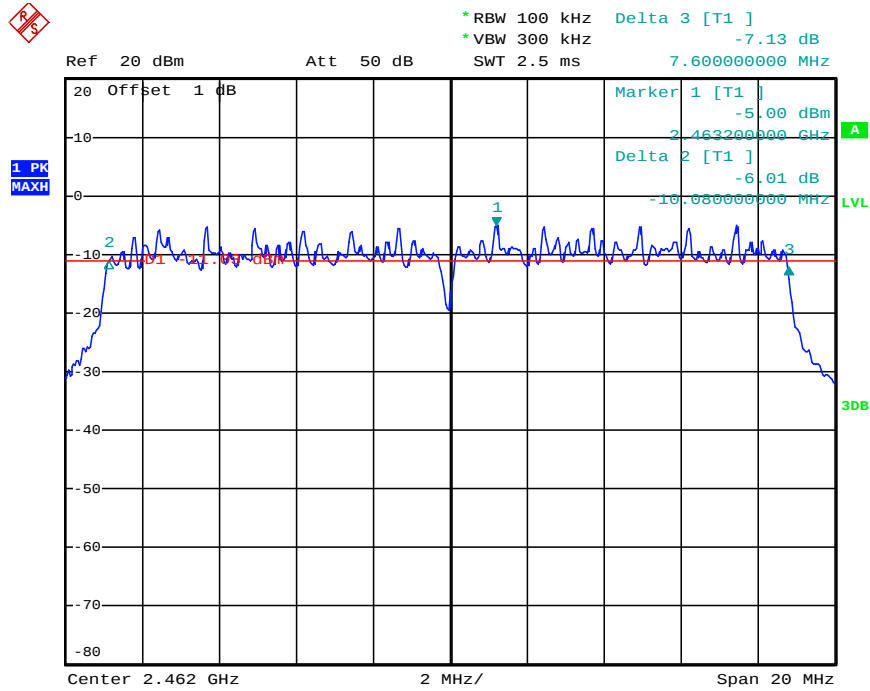
Date: 29.OCT.2014 09:30:25

802.11n Channel Middle 2437MHz(20MHz)



Date: 29.OCT.2014 09:32:15

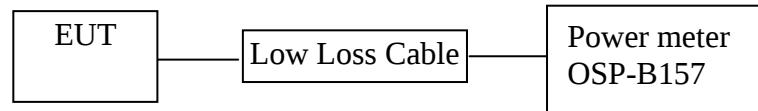
802.11n Channel High 2462MHz(20MHz)



Date: 29.OCT.2014 09:33:11

6. MAXIMUM OUTPUT POWER

6.1. Block Diagram of Test Setup



6.2. The Requirement For Section 15.247(b)(3)

Section 15.247(b)(3): For systems using digital modulation in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz bands: 1 Watt.

6.3. EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

6.4. Operating Condition of EUT

6.4.1. Setup the EUT and simulator as shown as Section 6.1.

6.4.2. Turn on the power of all equipment.

6.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462 and 2422-2452MHz. We select 2412MHz, 2437MHz, 2462MHz TX frequency to transmit.

6.5. Test Procedure

6.5.1. The EUT was tested according to DTS test procedure of Jun 05, 2014 KDB558074 D01 DTS Meas Guidance v03r02 for compliance to FCC 47CFR 15.247 requirements.

6.5.2. The transmitter output was connected to the power meter through a low loss cable.

6.5.3. Measurement the maximum Peak output power.

6.6.Test Result

The test was performed with 802.11b				
Channel	Frequency (MHz)	Peak Output Power(dBm)	Peak Output Power(mW)	Limits dBm / W
Low	2412	13.74	23.66	30 dBm / 1 W
Middle	2437	13.22	20.99	30 dBm / 1 W
High	2462	13.80	23.99	30 dBm / 1 W

The test was performed with 802.11g				
Channel	Frequency (MHz)	Peak Output Power(dBm)	Peak Output Power(mW)	Limits dBm / W
Low	2412	10.67	11.67	30 dBm / 1 W
Middle	2437	11.32	13.55	30 dBm / 1 W
High	2462	12.32	17.06	30 dBm / 1 W

The test was performed with 802.11n (20MHz)				
Channel	Frequency (MHz)	Peak Output Power(dBm)	Peak Output Power(mW)	Limits dBm / W
Low	2412	10.68	11.69	30 dBm / 1 W
Middle	2437	11.33	13.58	30 dBm / 1 W
High	2462	12.22	16.67	30 dBm / 1 W

7. POWER SPECTRAL DENSITY MEASUREMENT

7.1. Block Diagram of Test Setup



7.2. The Requirement For Section 15.247(e)

Section 15.247(e): For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

7.3. EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

7.4. Operating Condition of EUT

7.4.1. Setup the EUT and simulator as shown as Section 7.1.

7.4.2. Turn on the power of all equipment.

7.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462 and 2422-2452MHz. We select 2412MHz, 2437MHz, 2462MHz and 2422MHz, 2437MHz, 2452MHz TX frequency to transmit.

7.5. Test Procedure

7.5.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.

7.5.2. Measurement Procedure PKPSD:

This procedure must be used if maximum peak conducted output power was used to demonstrate compliance to the fundamental output power limit, and is optional if the maximum (average) conducted output power was used to demonstrate compliance.

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS channel bandwidth.

3. Set the RBW $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
4. Set the VBW $\geq 3 \times \text{RBW}$.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

7.5.3.Measurement the maximum power spectral density.

7.6.Test Result

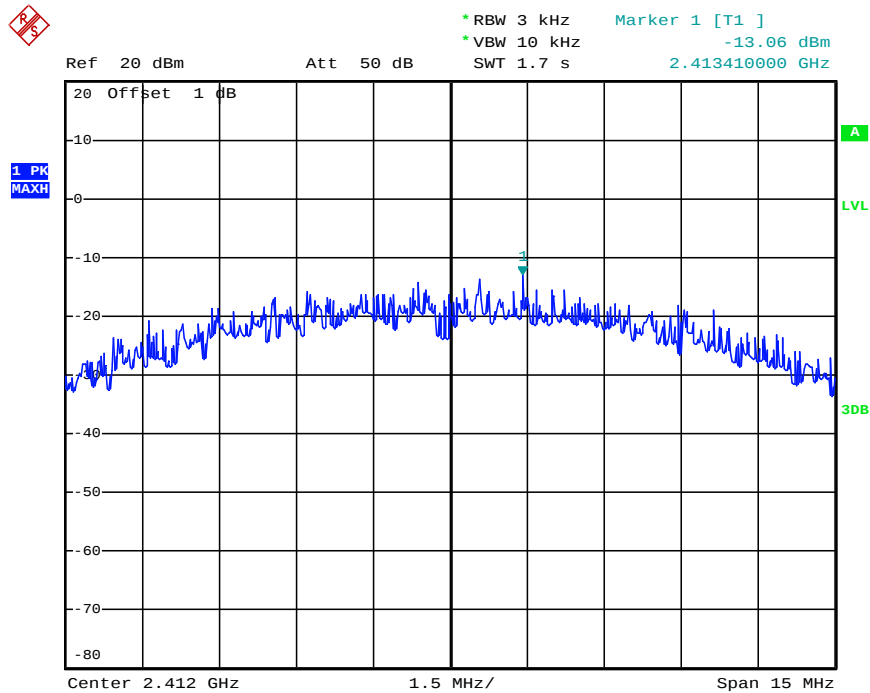
The test was performed with 802.11b			
Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)
Low	2412	-13.06	8 dBm
Middle	2437	-12.13	8 dBm
High	2462	-11.24	8 dBm

The test was performed with 802.11g			
Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)
Low	2412	-22.90	8 dBm
Middle	2437	-21.71	8 dBm
High	2462	-20.27	8 dBm

The test was performed with 802.11n (20MHz)			
Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)
Low	2412	-21.76	8 dBm
Middle	2437	-20.32	8 dBm
High	2462	-19.79	8 dBm

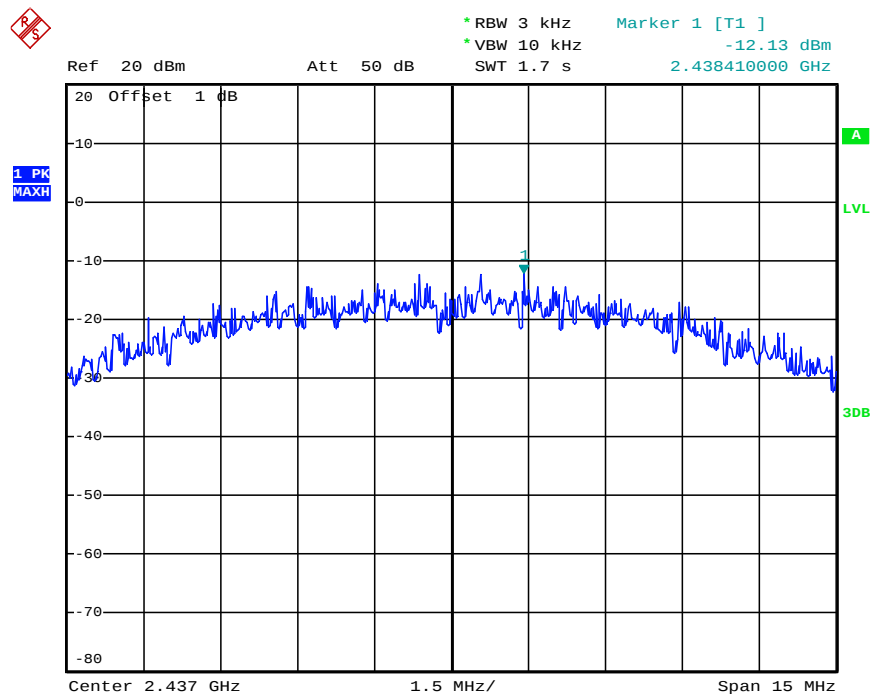
The spectrum analyzer plots are attached as below.

802.11b Channel Low 2412MHz



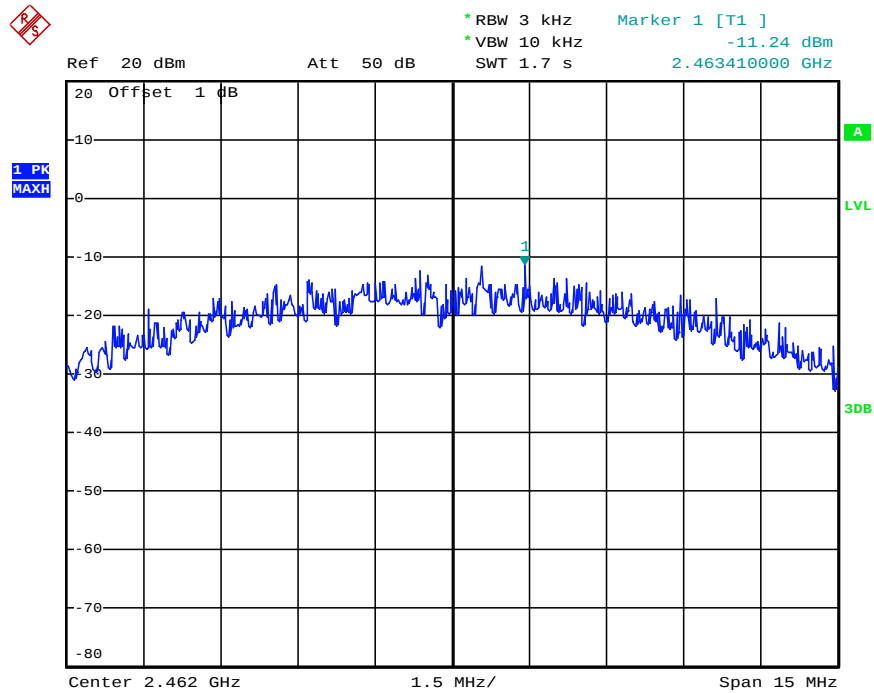
Date: 29.OCT.2014 10:28:06

802.11b Channel Middle 2437MHz



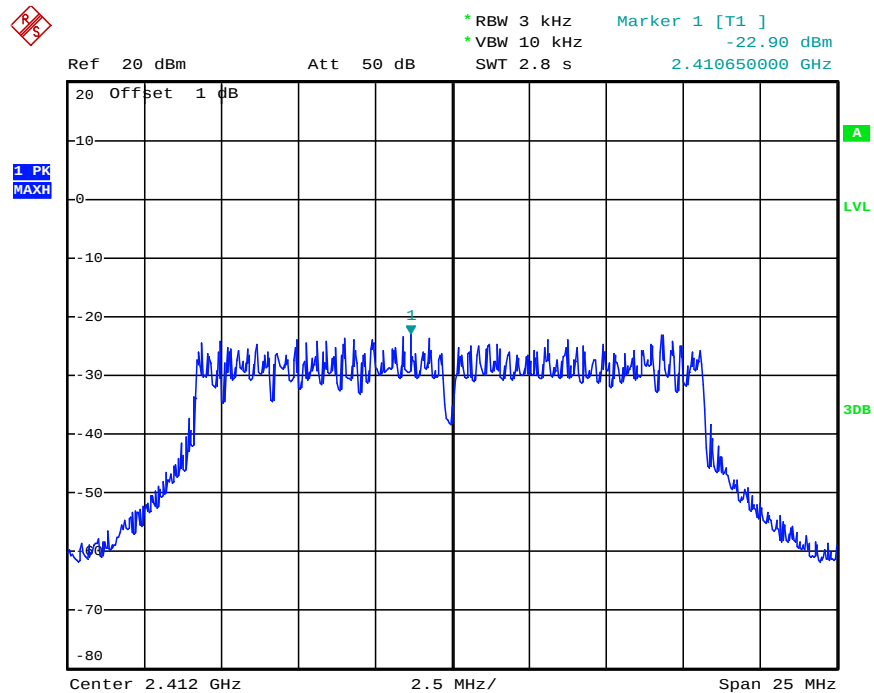
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802.11b Channel High 2462MHz



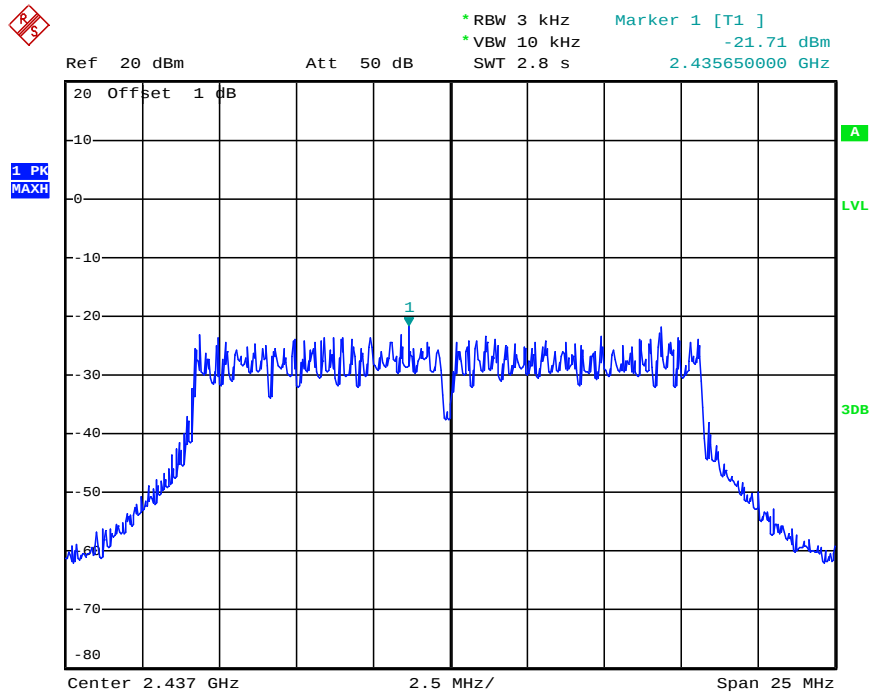
Date: 29.OCT.2014 10:28:55

802.11g Channel Low 2412MHz



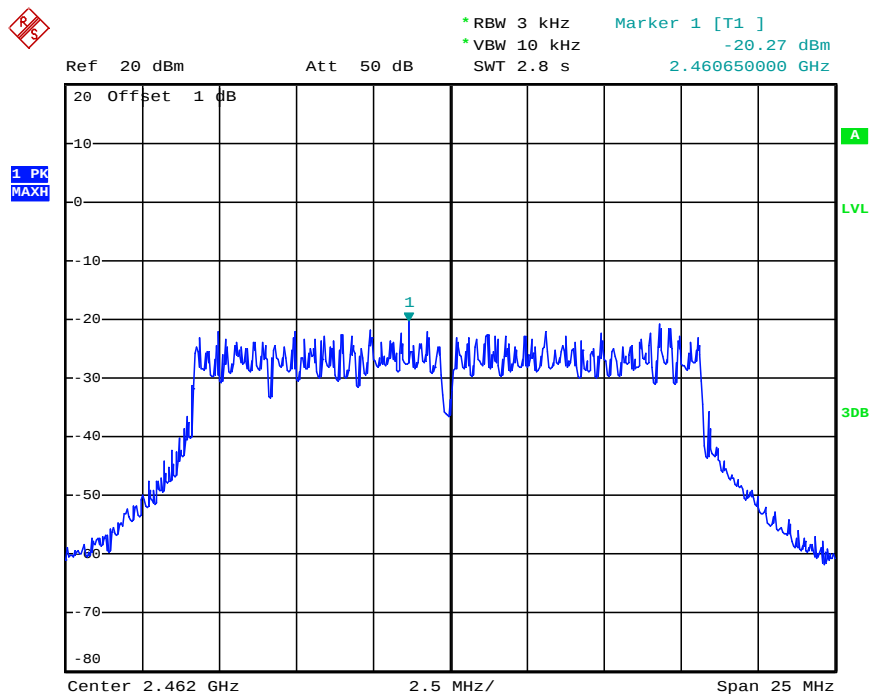
Date: 29.OCT.2014 10:30:34

802.11g Channel Middle 2437MHz



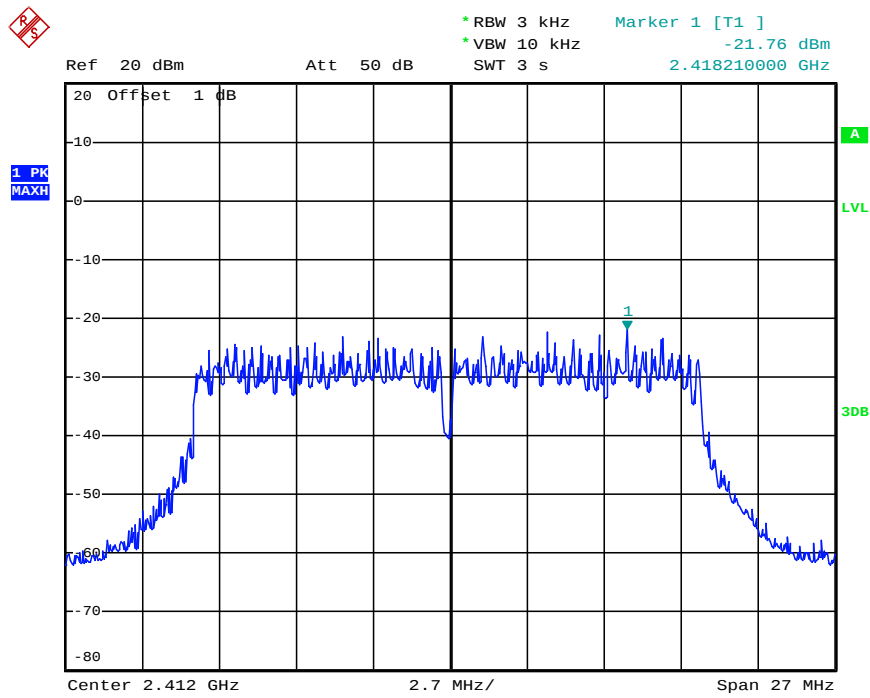
Date: 29.OCT.2014 10:30:10

802.11g Channel High 2462MHz



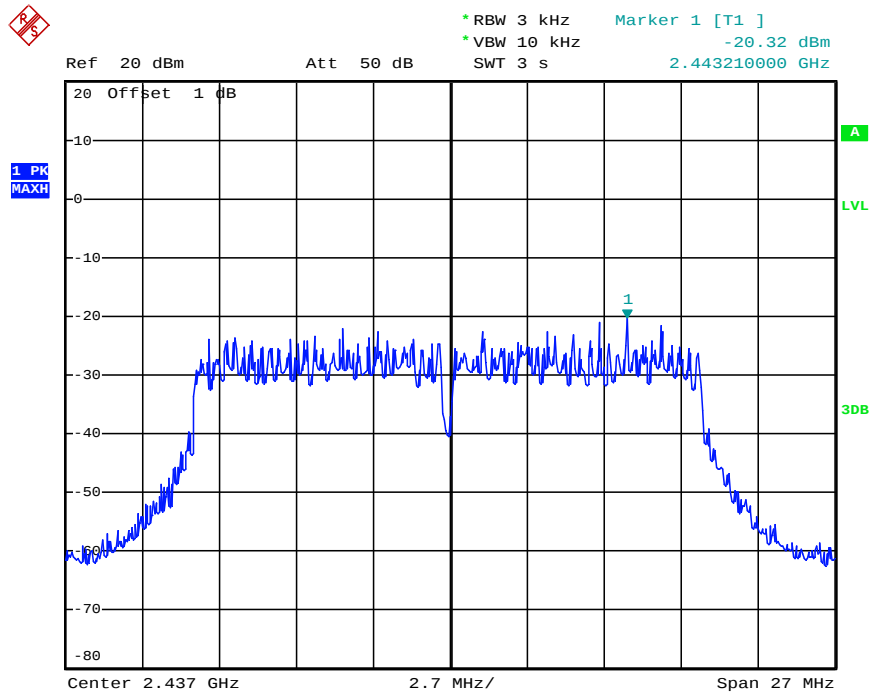
Date: 29.OCT.2014 10:29:32

802.11n Channel Low 2412MHz (20MHz)



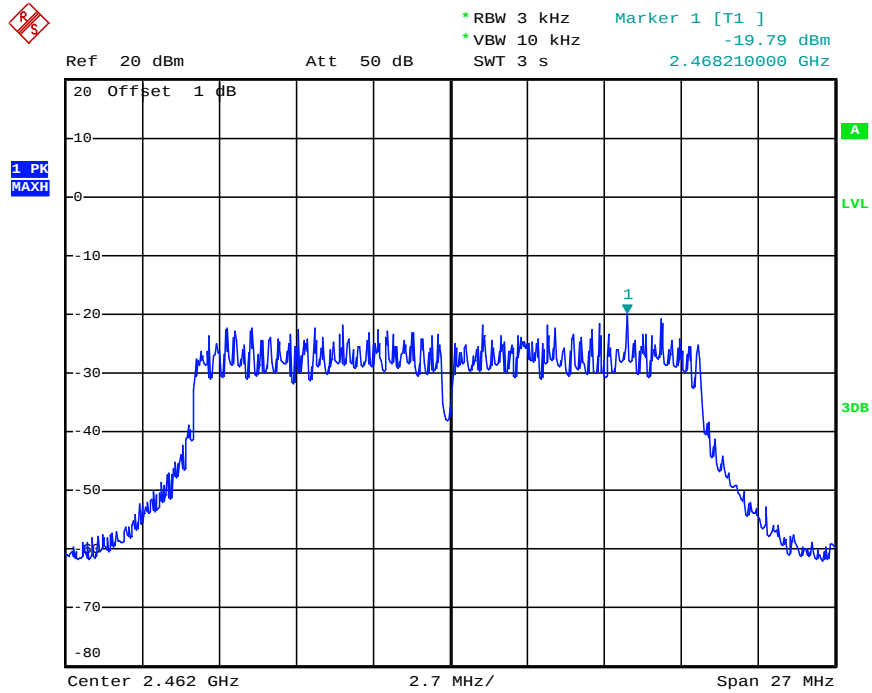
Date: 29.OCT.2014 10:31:12

802.11n Channel Middle 2437MHz (20MHz)



Date: 29.OCT.2014 10:31:37

802.11n Channel High 2462MHz(20MHz)



Date: 29.OCT.2014 10:31:59

8. BAND EDGE COMPLIANCE TEST

8.1. Block Diagram of Test Setup



8.2. The Requirement For Section 15.247(d)

Section 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

8.3. EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

8.4. Operating Condition of EUT

8.4.1. Setup the EUT and simulator as shown as Section 8.1.

8.4.2. Turn on the power of all equipment.

8.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462 and 2422-2452MHz MHz. We select 2412MHz, 2462MHz and 2422MHz, 2452MHz TX frequency to transmit.

8.5. Test Procedure

Conducted Band Edge:

8.5.1. The transmitter output was connected to the spectrum analyzer via a low loss cable.

8.5.2. Set RBW of spectrum analyzer to 100kHz and VBW to 300kHz.

Radiate Band Edge:

8.5.3. The EUT is placed on a turntable, which is 0.8m above the ground plane and worked at highest radiated power.

8.5.4. The turntable was rotated for 360 degrees to determine the position of maximum emission level.

8.5.5. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.

8.5.6. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:

RBW=1MHz, VBW=1MHz

8.5.7. The band edges were measured and recorded.

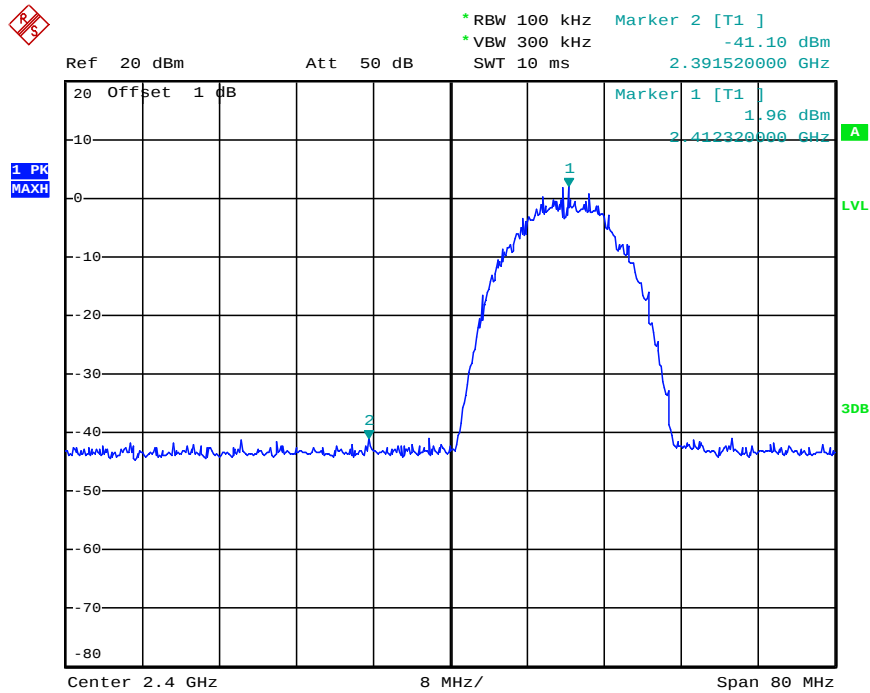
8.6. Test Result

The test was performed with 802.11b		
Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2412	43.06	> 20dBc
2462	43.08	> 20dBc

The test was performed with 802.11g		
Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2412	34.58	> 20dBc
2462	36.90	> 20dBc

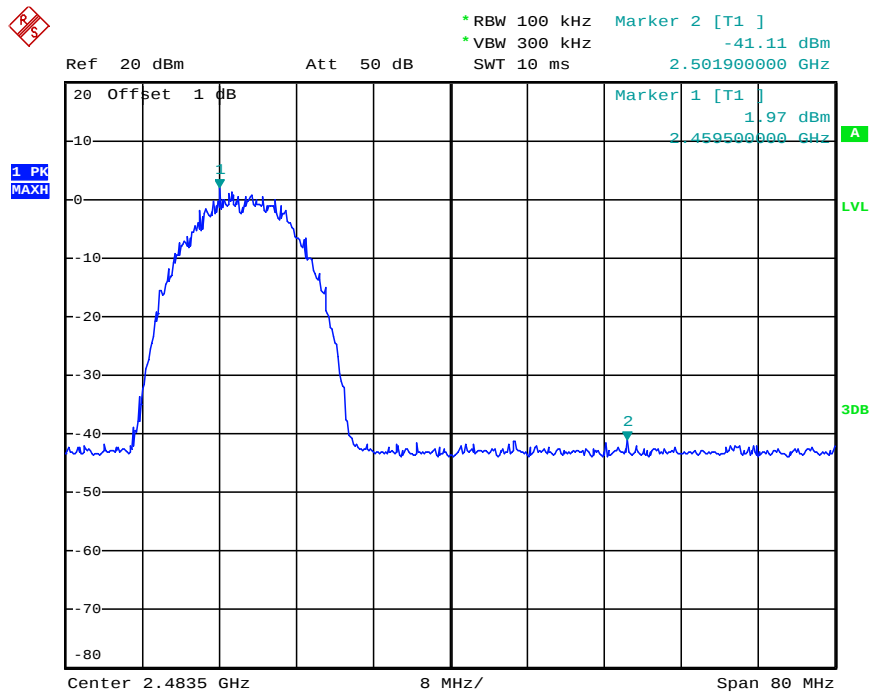
The test was performed with 802.11n (20MHz)		
Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2412	35.26	> 20dBc
2462	36.89	> 20dBc

802.11b Channel Low 2412MHz



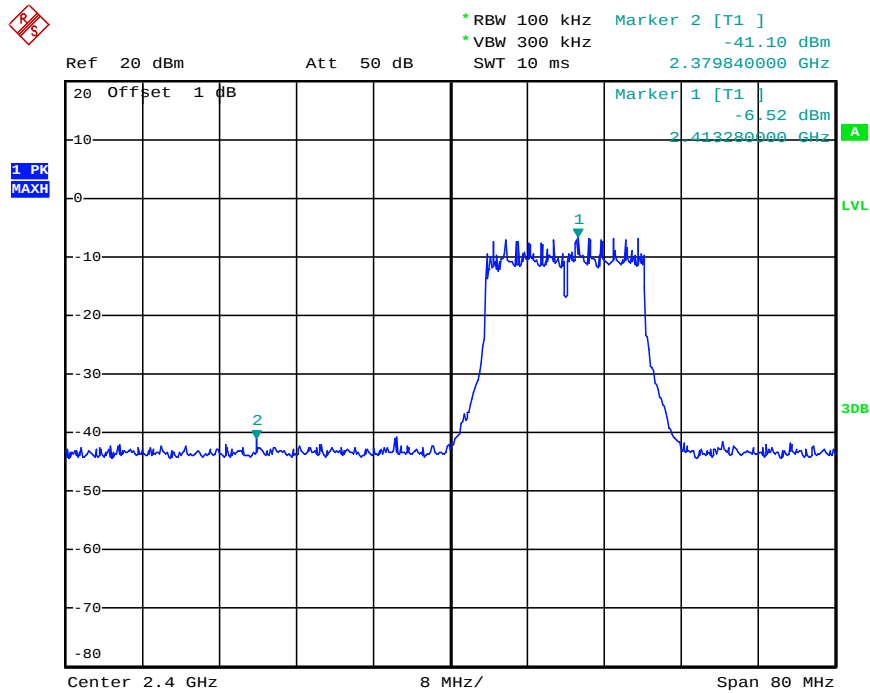
Date: 29.OCT.2014 10:33:44

802.11b Channel High 2462MHz



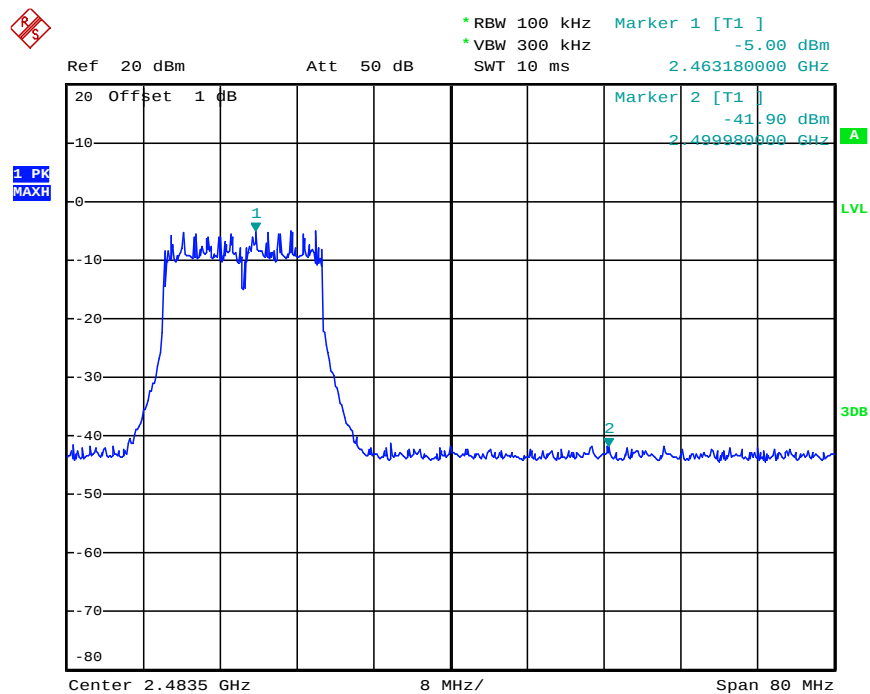
Date: 29.OCT.2014 10:39:54

802.11g Channel Low 2412MHz



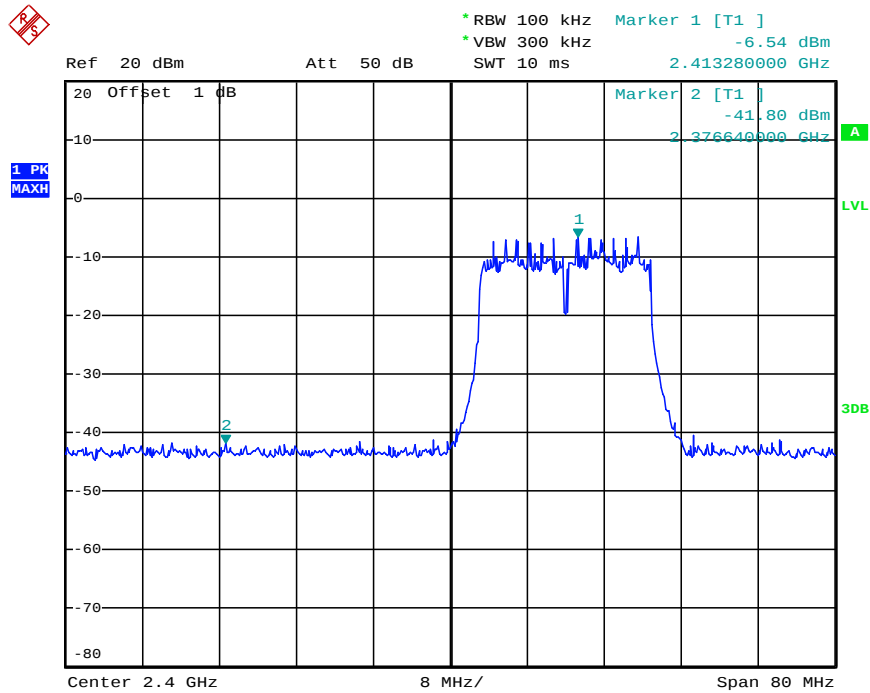
Date: 29.OCT.2014 10:34:32

802.11g Channel High 2462MHz



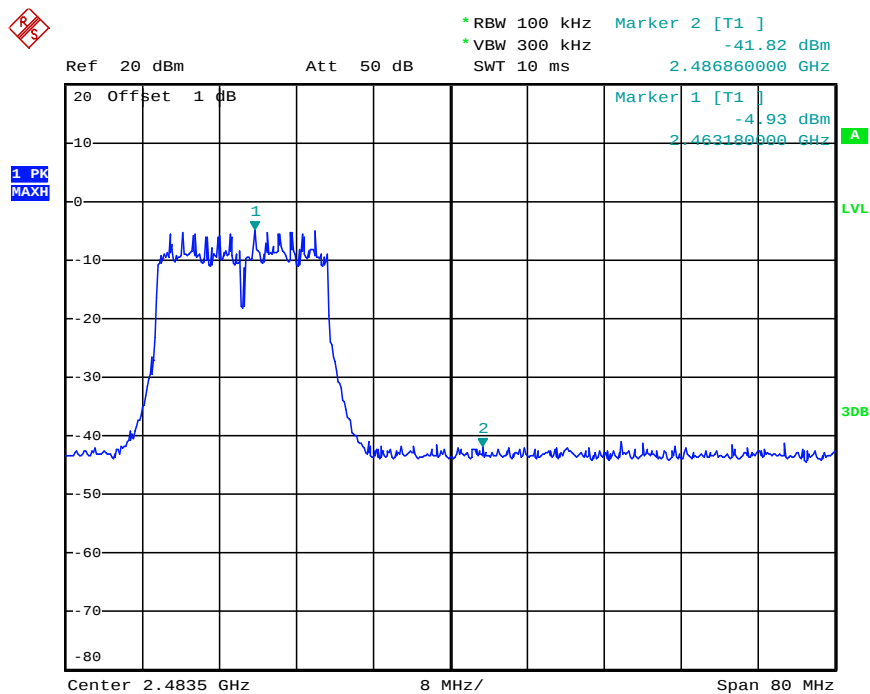
Date: 29.OCT.2014 10:37:40

802.11n Channel Low 2412MHz (20MHz)



Date: 29.OCT.2014 10:35:18

802.11n Channel High 2462MHz (20MHz)



Date: 29.OCT.2014 10:36:53

Radiated Band Edge Result

Note:1. Emissions attenuated more than 20 dB below the permissible value are not reported.

2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

3. Display the measurement of peak values.



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Job No.: STAR2014 #1684

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 1(802.11B)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Horizontal

Power Source: AC 120V/60Hz

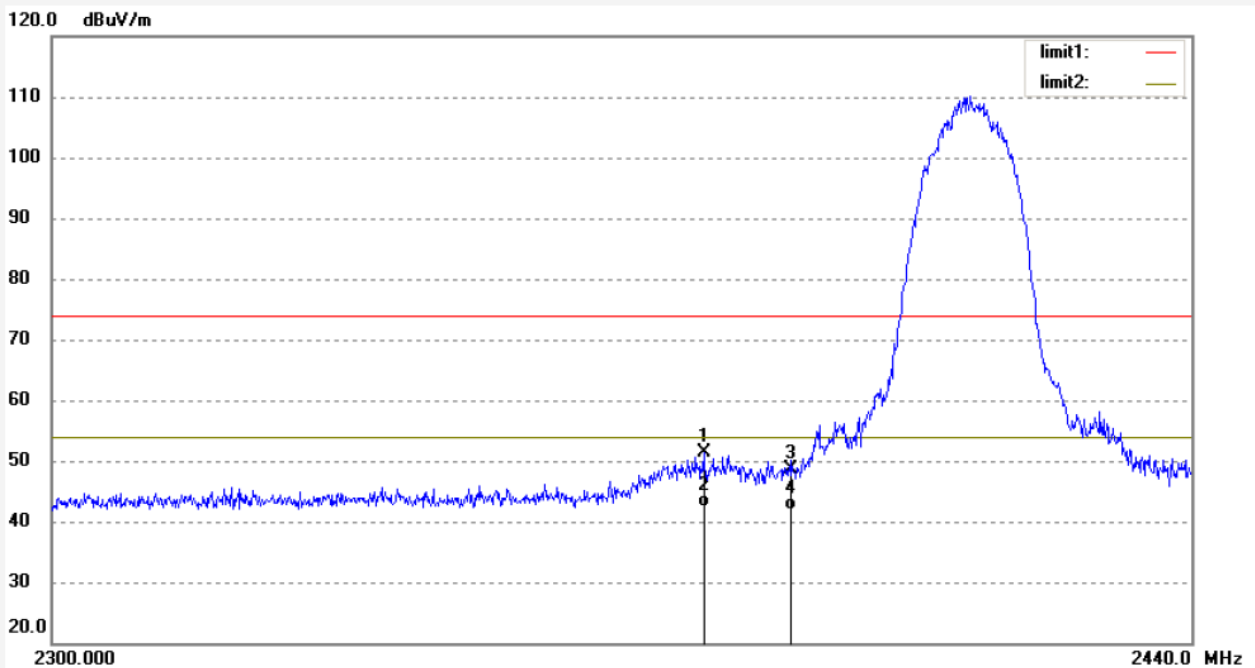
Date: 2014/10/31

Time: 11:34:29

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2379.086	48.20	3.21	51.41	74.00	-22.59	peak			
2	2379.086	39.10	3.21	42.31	54.00	-11.69	AVG			
3	2390.000	45.24	3.34	48.58	74.00	-25.42	peak			
4	2390.000	38.63	3.34	41.97	54.00	-12.03	AVG			

Job No.: STAR2014 #1685

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 1(802.11B)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Vertical

Power Source: AC 120V/60Hz

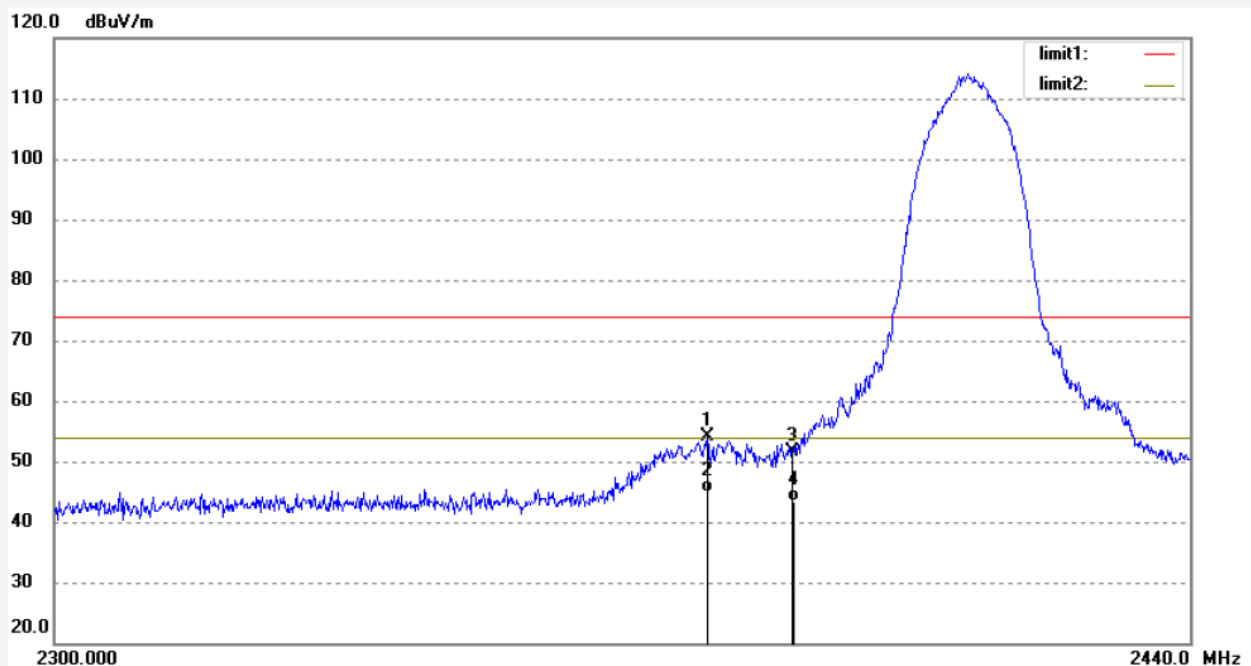
Date: 2014/10/31

Time: 11:39:32

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2379.509	50.96	3.21	54.17	74.00	-19.83	peak			
2	2379.509	41.69	3.21	44.90	54.00	-9.10	AVG			
3	2390.000	48.17	3.34	51.51	74.00	-22.49	peak			
4	2390.000	40.10	3.34	43.44	54.00	-10.56	AVG			

Job No.: STAR2014 #1686

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 11(802.11B)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Vertical

Power Source: AC 120V/60Hz

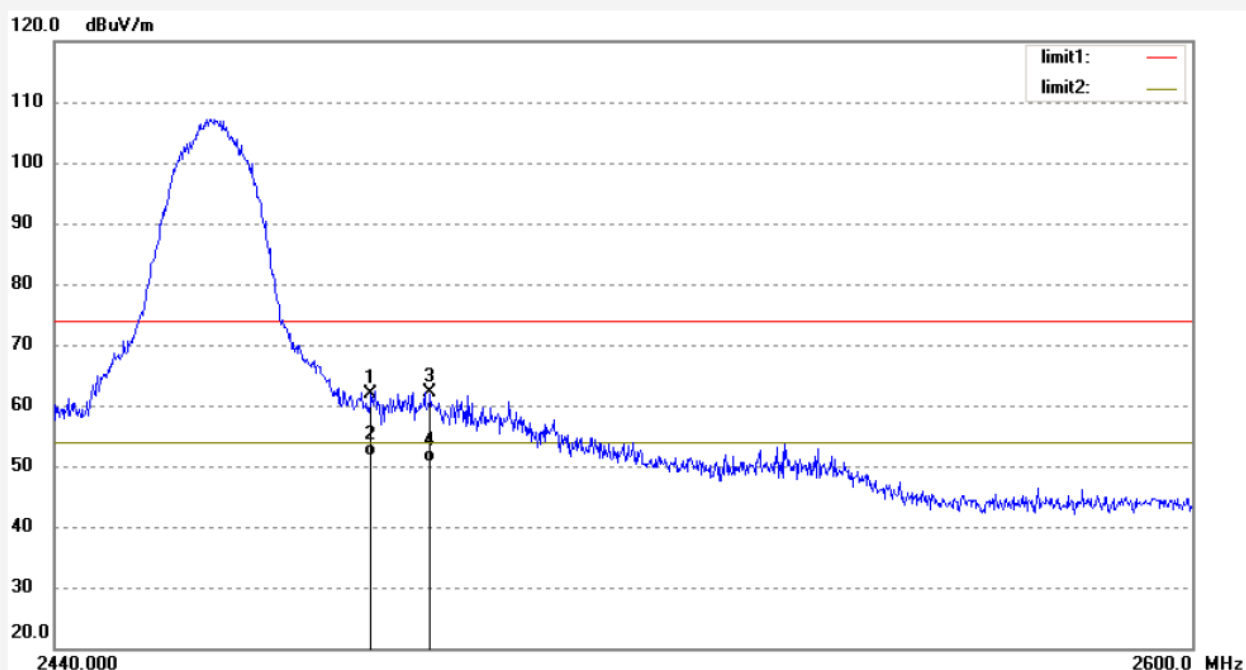
Date: 2014/10/31

Time: 11:43:49

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	58.43	3.45	61.88	74.00	-12.12	peak			
2	2483.500	48.25	3.45	51.70	54.00	-2.30	AVG			
3	2491.785	58.70	3.44	62.14	74.00	-11.86	peak			
4	2491.785	47.10	3.44	50.54	54.00	-3.46	AVG			

Job No.: STAR2014 #1687

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 11(802.11B)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Horizontal

Power Source: AC 120V/60Hz

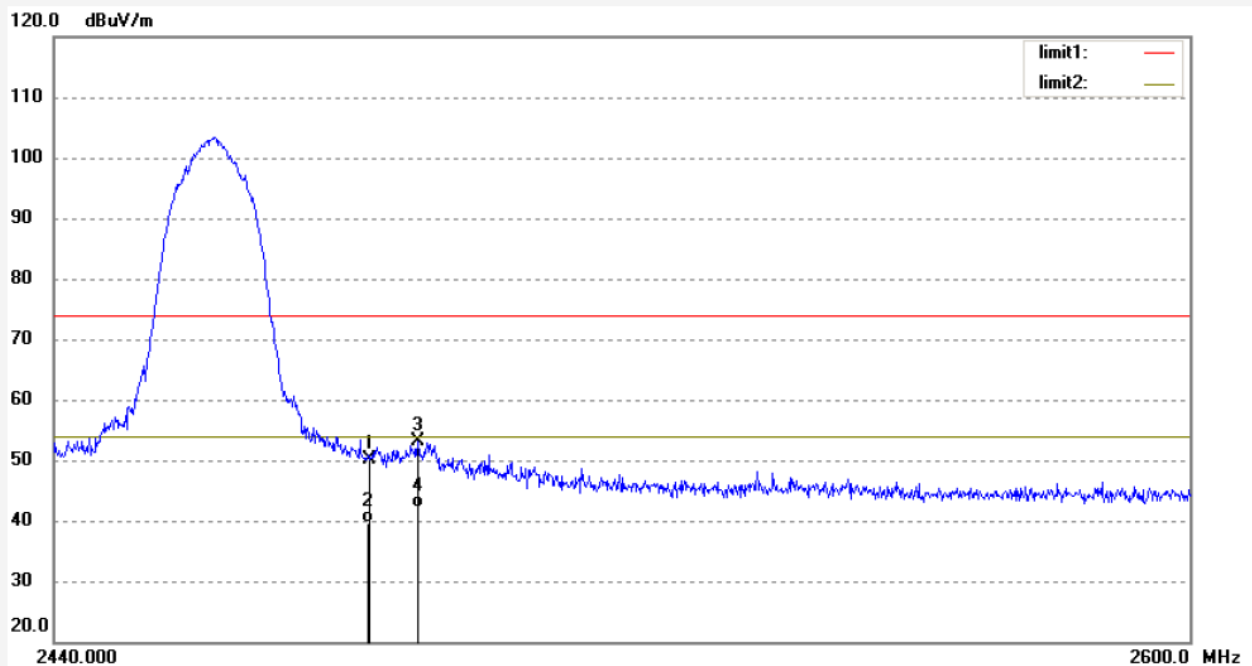
Date: 2014/10/31

Time: 11:48:34

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	46.75	3.45	50.20	74.00	-23.80	peak			
2	2483.500	36.20	3.45	39.65	54.00	-14.35	AVG			
3	2490.200	49.70	3.44	53.14	74.00	-20.86	peak			
4	2490.200	38.67	3.44	42.11	54.00	-11.89	AVG			

Job No.: STAR2014 #1688

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 1(802.11G)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Horizontal

Power Source: AC 120V/60Hz

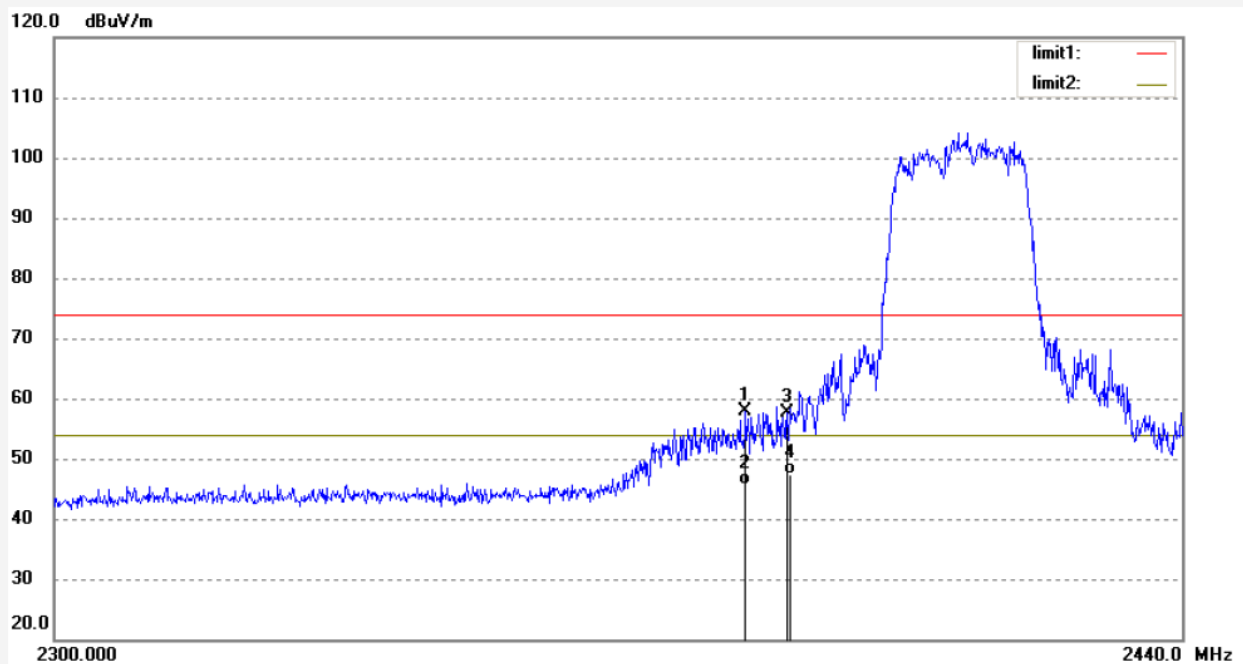
Date: 2014/10/31

Time: 11:55:33

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2384.869	54.59	3.28	57.87	74.00	-16.13	peak			
2	2384.869	42.36	3.28	45.64	54.00	-8.36	AVG			
3	2390.000	54.26	3.34	57.60	74.00	-16.40	peak			
4	2390.000	44.05	3.34	47.39	54.00	-6.61	AVG			

Job No.: STAR2014 #1689

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 1(802.11G)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Vertical

Power Source: AC 120V/60Hz

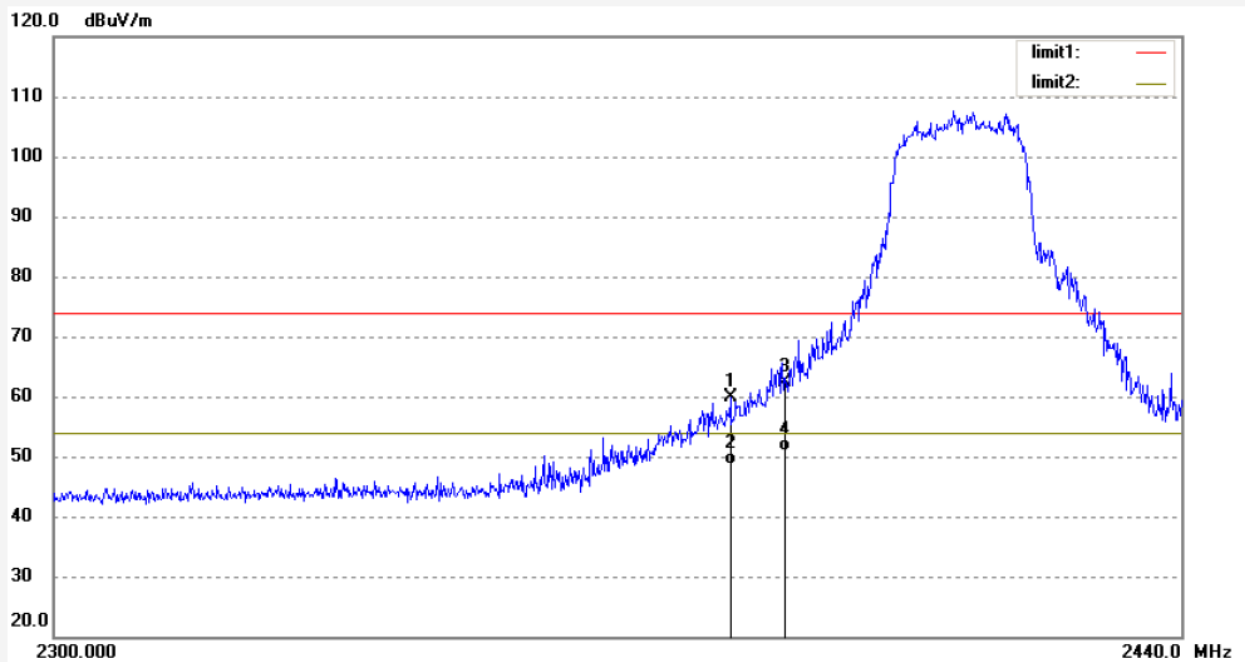
Date: 2014/10/31

Time: 12:01:37

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2383.034	56.54	3.26	59.80	74.00	-14.20	peak			
2	2383.034	45.36	3.26	48.62	54.00	-5.38	AVG			
3	2390.000	58.96	3.34	62.30	74.00	-11.70	peak			
4	2390.000	47.63	3.34	50.97	54.00	-3.03	AVG			

Job No.: STAR2014 #1690

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 11(802.11G)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Vertical

Power Source: AC 120V/60Hz

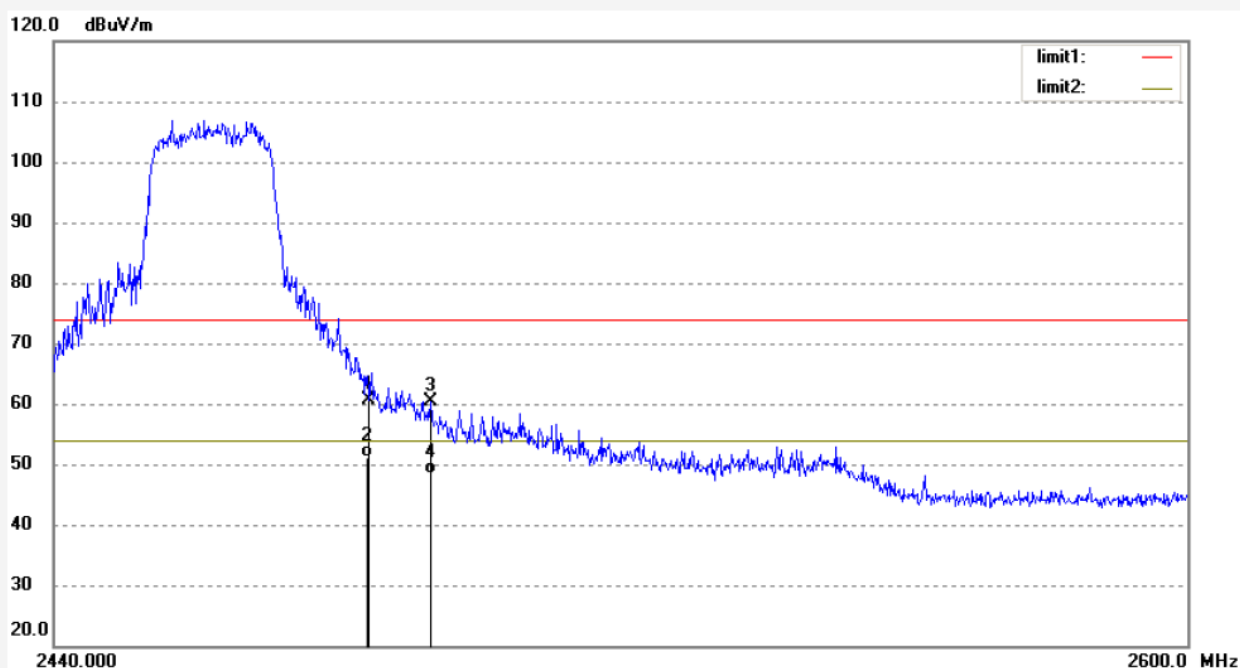
Date: 2014/10/31

Time: 12:06:56

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	57.13	3.45	60.58	74.00	-13.42	peak			
2	2483.500	47.63	3.45	51.08	54.00	-2.92	AVG			
3	2492.102	56.92	3.44	60.36	74.00	-13.64	peak			
4	2492.102	44.96	3.44	48.40	54.00	-5.60	AVG			

Job No.: STAR2014 #1692

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 11(802.11G)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Horizontal

Power Source: AC 120V/60Hz

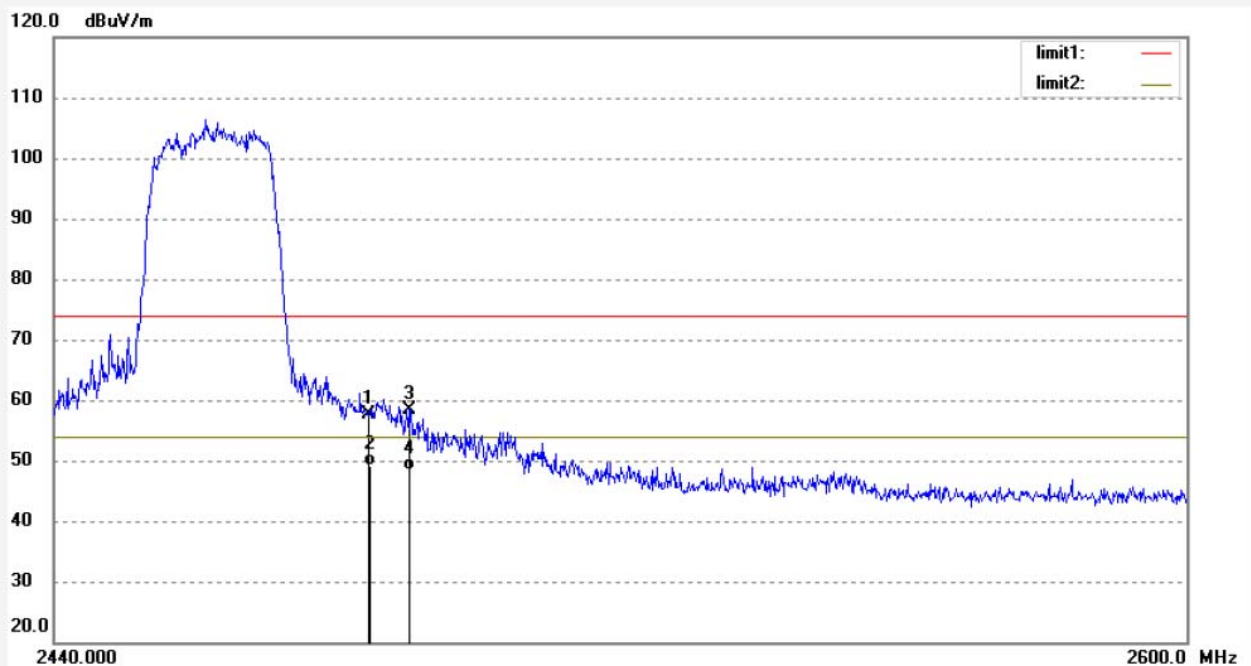
Date: 2014/10/31

Time: 12:12:54

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	54.15	3.45	57.60	74.00	-16.40	peak			
2	2483.500	45.63	3.45	49.08	54.00	-4.92	AVG			
3	2489.249	54.94	3.44	58.38	74.00	-15.62	peak			
4	2489.249	44.93	3.44	48.37	54.00	-5.63	AVG			

Job No.: STAR2014 #1693

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 1(802.11N)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Horizontal

Power Source: AC 120V/60Hz

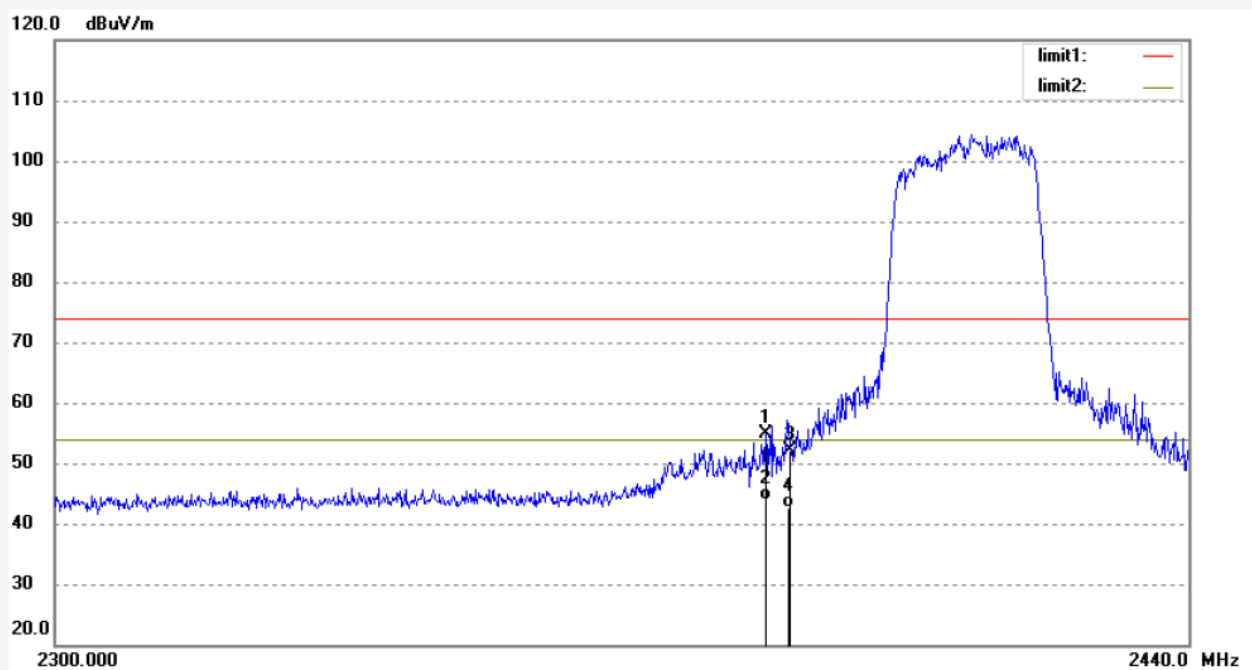
Date: 2014/10/31

Time: 12:17:21

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2386.846	51.56	3.29	54.85	74.00	-19.15	peak			
2	2386.846	40.50	3.29	43.79	54.00	-10.21	AVG			
3	2390.000	48.83	3.34	52.17	74.00	-21.83	peak			
4	2390.000	39.36	3.34	42.70	54.00	-11.30	AVG			

Job No.: STAR2014 #1694

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 1(802.11N)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Vertical

Power Source: AC 120V/60Hz

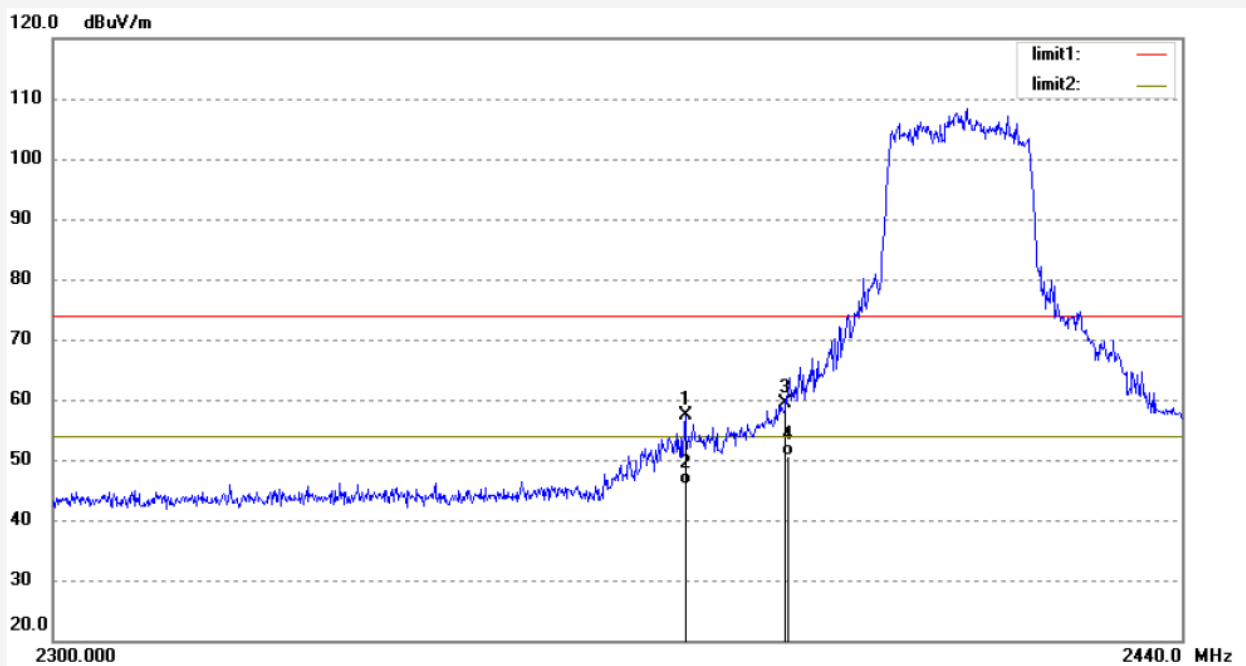
Date: 2014/10/31

Time: 12:23:17

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2377.397	54.28	3.19	57.47	74.00	-16.53	peak			
2	2377.397	42.63	3.19	45.82	54.00	-8.18	AVG			
3	2390.000	55.96	3.34	59.30	74.00	-14.70	peak			
4	2390.000	47.39	3.34	50.73	54.00	-3.27	AVG			

Job No.: STAR2014 #1695

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 11(802.11N)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Vertical

Power Source: AC 120V/60Hz

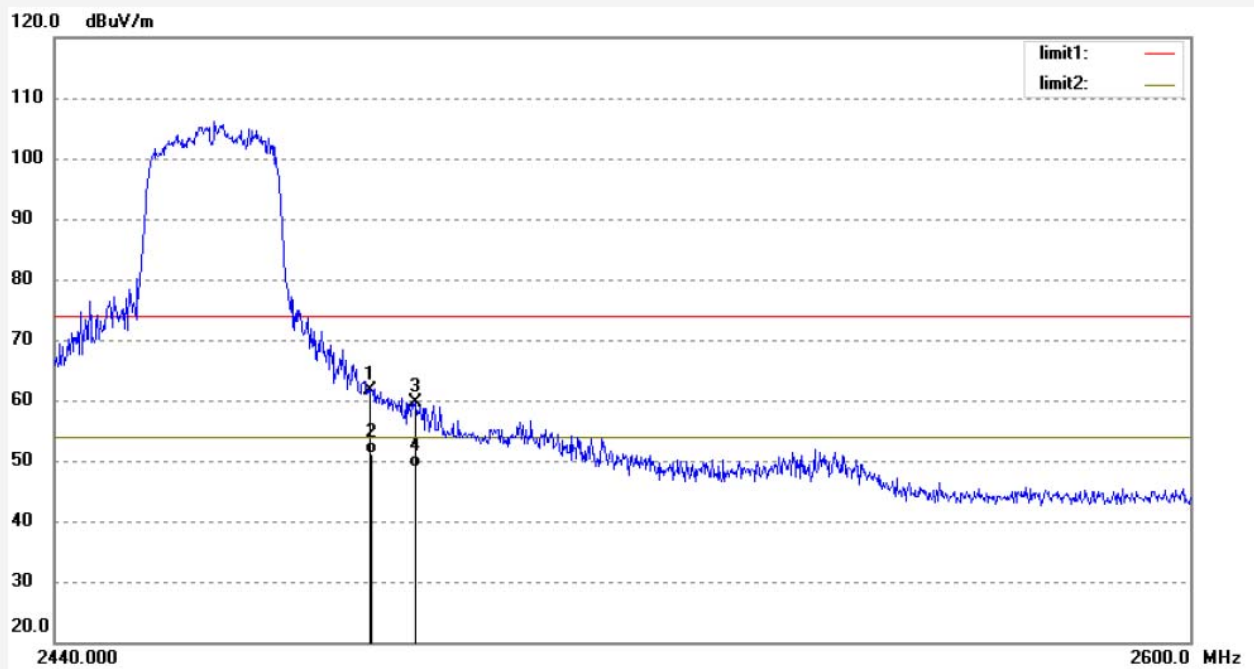
Date: 2014/10/31

Time: 12:28:18

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	58.19	3.45	61.64	74.00	-12.36	peak			
2	2483.500	47.69	3.45	51.14	54.00	-2.86	AVG			
3	2489.883	56.19	3.44	59.63	74.00	-14.37	peak			
4	2489.883	45.36	3.44	48.80	54.00	-5.20	AVG			

Job No.: STAR2014 #1696

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 11(802.11N)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Horizontal

Power Source: AC 120V/60Hz

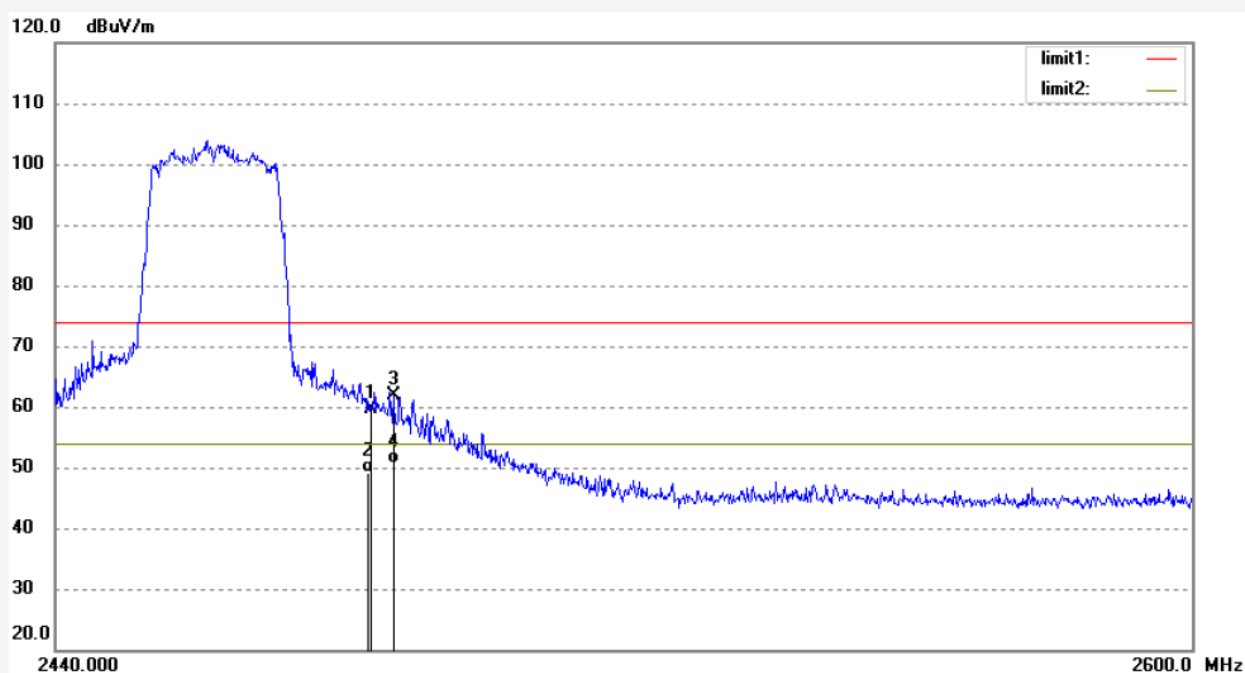
Date: 2014/10/31

Time: 12:34:36

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584

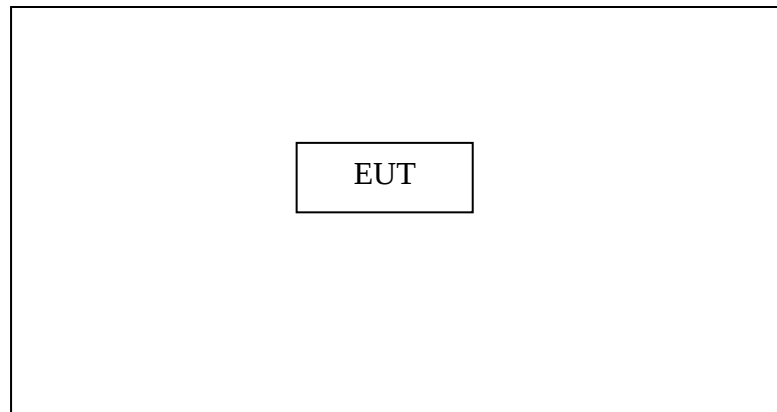


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	56.10	3.45	59.55	74.00	-14.45	peak			
2	2483.500	45.63	3.45	49.08	54.00	-4.92	AVG			
3	2486.558	58.48	3.45	61.93	74.00	-12.07	peak			
4	2486.558	47.30	3.45	50.75	54.00	-3.25	AVG			

9. RADIATED SPURIOUS EMISSION TEST

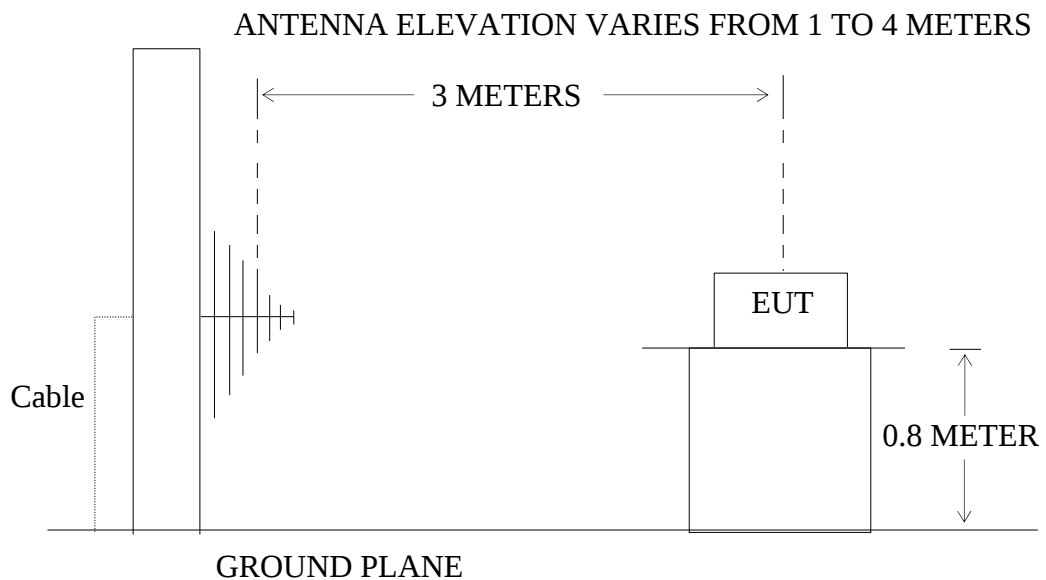
9.1. Block Diagram of Test Setup

9.1.1. Block diagram of connection between the EUT and peripherals



Setup: Transmitting mode

9.1.2. Semi-Anechoic Chamber Test Setup Diagram



9.2. The Limit For Section 15.247(d)

Section 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the

transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

9.3.Restricted bands of operation

9.3.1.FCC Part 15.205 Restricted bands of operation

(a) Except as shown in paragraph (d) of this section, Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(²)
13.36-13.41			

¹Until February 1, 1999, this restricted band shall be 0.490-0.510

²Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emission appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000MHz, Compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

9.4.Configuration of EUT on Measurement

The equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

9.5. Operating Condition of EUT

9.5.1. Setup the EUT and simulator as shown as Section 9.1.

9.5.2. Turn on the power of all equipment.

9.5.3. Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462 and 2422-2452MHz. We select 2412MHz, 2437MHz, 2462MHz and 2422MHz, 2437MHz, 2452MHz TX frequency to transmit.

9.6. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4: 2009 on radiated emission measurement. The EUT was tested in 3 orthogonal planes.

The worst-case data rate for this channel to be 1Mbps for 802.11b mode and 6Mbps for 802.11g mode and 150Mbps for 802.11n mode, based on previous with 802.11 WLAN product design architectures.

The final measurement in band 9-90 kHz, 110-490 kHz and above 1000MHz is performed with Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.

When average radiated emissions measurements are specified there is also a limit on the peak emissions level which is 20 dB above the applicable maximum permitted average emission limit

RBW (120 kHz), VBW (300 kHz) for QP detector below 1GHz

Peak detector above 1GHz

RBW (1 MHz), VBW (3MHz) for Peak measurement

RBW (1 MHz), VBW (10Hz) for AV measurement

If the peak-detected amplitude can be shown to comply with the average limit, then it is not necessary to perform a separate average measurement.

9.7. The Field Strength of Radiation Emission Measurement Results

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

2. The fundamental radiated emissions were reduced by Band Reject Filter in the attached plots.

3. The EUT is tested radiation emission at each test mode(802.11 b/g/n) in three axes. The worst emissions are reported in all test mode and channels.

4. The 18-25GHz emissions are not reported, because the levels are too low against the limit.

Below 1G



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Fax:+86-0755-26503396

Job No.: STAR2014 #917

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: PROPORT

Mode: TX Channel 1(802.11b)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Horizontal

Power Source: AC 120V/60Hz

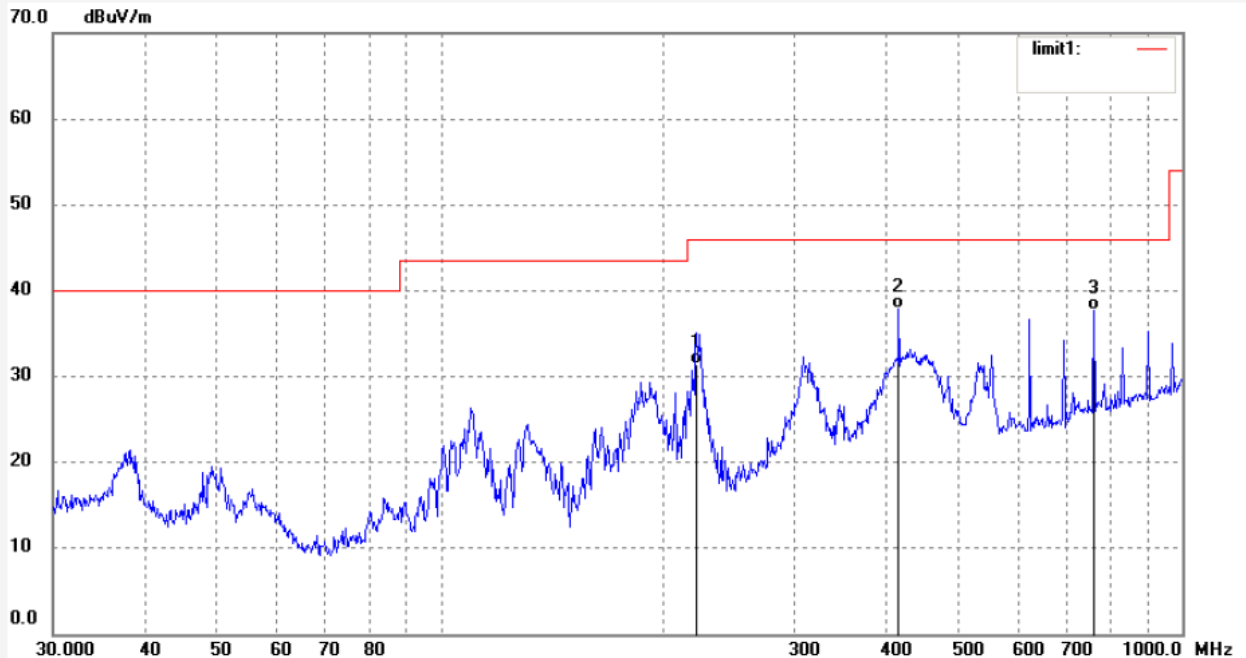
Date: 14/10/20/

Time: 9/44/00

Engineer Signature:

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	221.3921	43.10	-11.63	31.47	46.00	-14.53	QP			
2	414.7223	44.30	-6.41	37.89	46.00	-8.11	QP			
3	760.7036	38.52	-0.86	37.66	46.00	-8.34	QP			



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Site: 2# Chamber

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Fax:+86-0755-26503396

Job No.: STAR2014 #918

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: PROPORT

Mode: TX Channel 1(802.11b)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Vertical

Power Source: AC 120V/60Hz

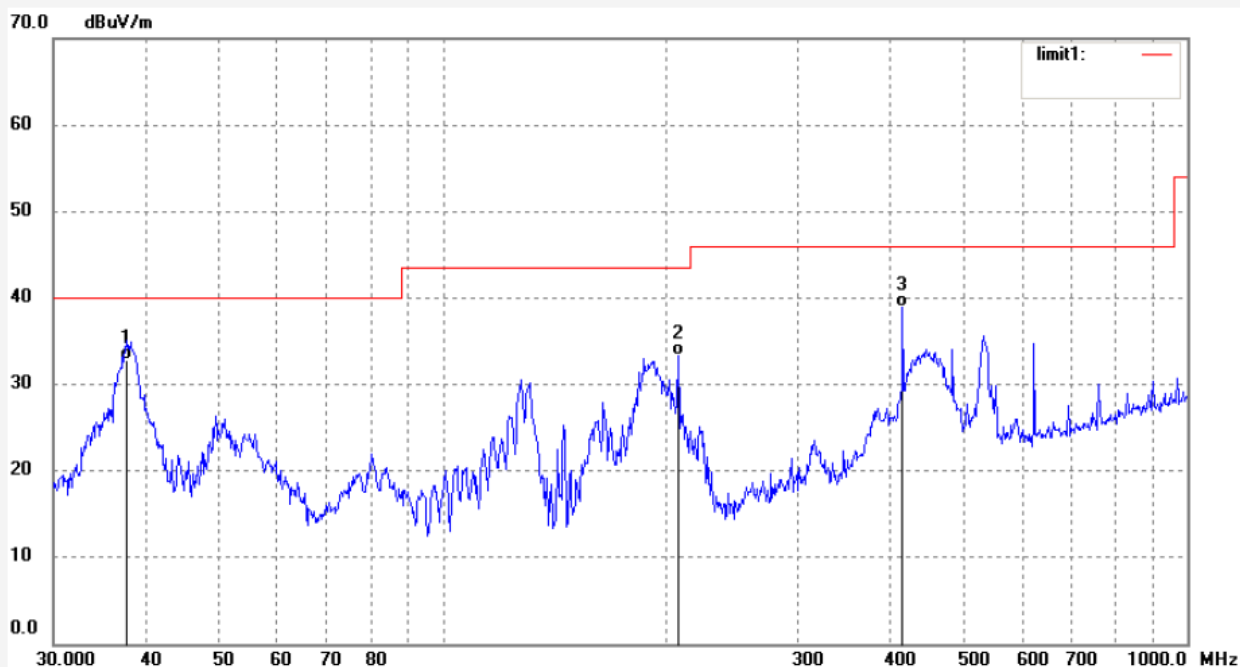
Date: 14/10/20/

Time: 9/48/55

Engineer Signature:

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	37.6798	43.80	-11.02	32.78	40.00	-7.22	QP			
2	207.1226	45.51	-12.24	33.27	43.50	-10.23	QP			
3	414.7223	45.39	-6.41	38.98	46.00	-7.02	QP			

Above 1G



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Job No.: STAR2014 #1698

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 2014/10/31

Temp.(C)/Hum.(%) 25 C / 55 %

Time: 13:48:31

EUT: PROPORT

Engineer Signature: STAR

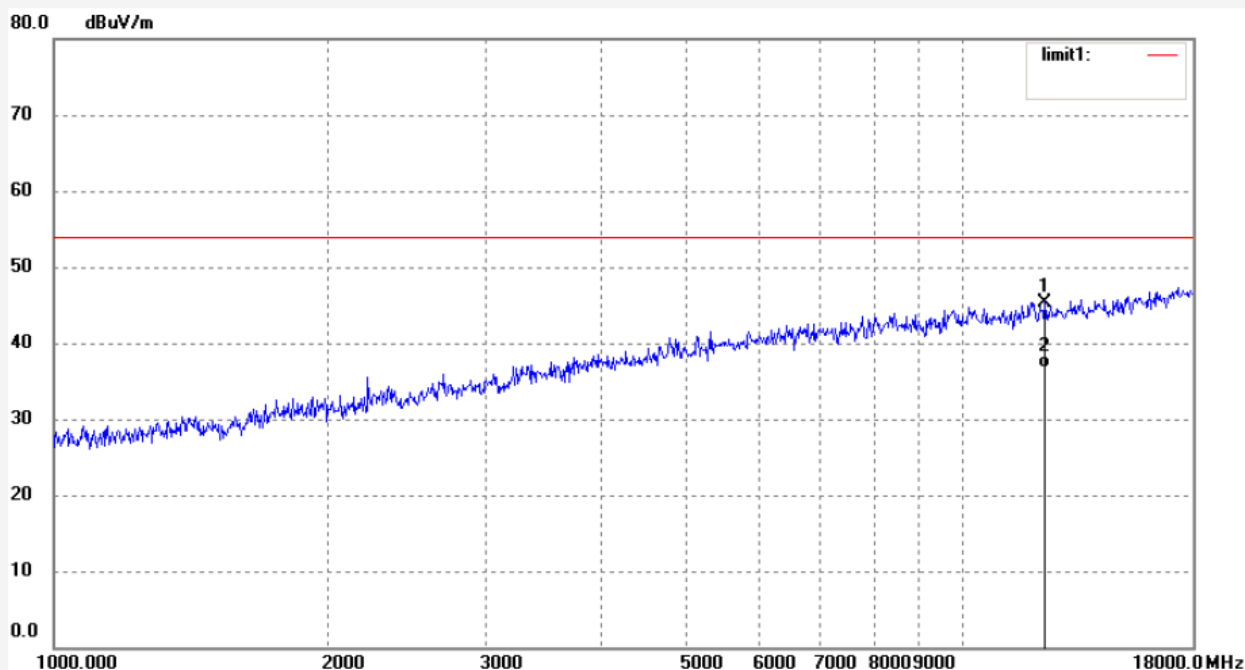
Mode: TX Channel 1(802.11B)

Distance: 3m

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	12365.192	36.78	8.62	45.40	54.00	-8.60	peak			
2	12365.192	28.14	8.62	36.76	54.00	-17.24	AVG			

Job No.: STAR2014 #1699

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 1(802.11B)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Vertical

Power Source: AC 120V/60Hz

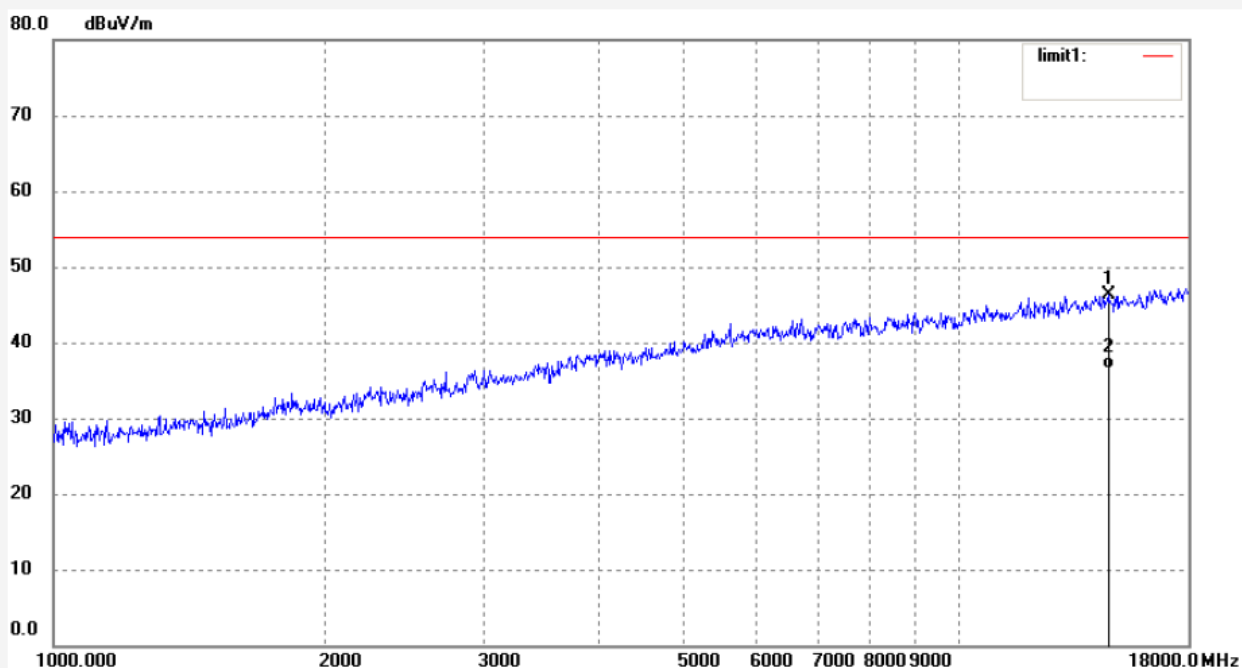
Date: 2014/10/31

Time: 13:52:00

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	14681.959	31.95	14.28	46.23	54.00	-7.77	peak			
2	14681.959	22.30	14.28	36.58	54.00	-17.42	AVG			

Job No.: STAR2014 #1700

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 6(802.11B)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Vertical

Power Source: AC 120V/60Hz

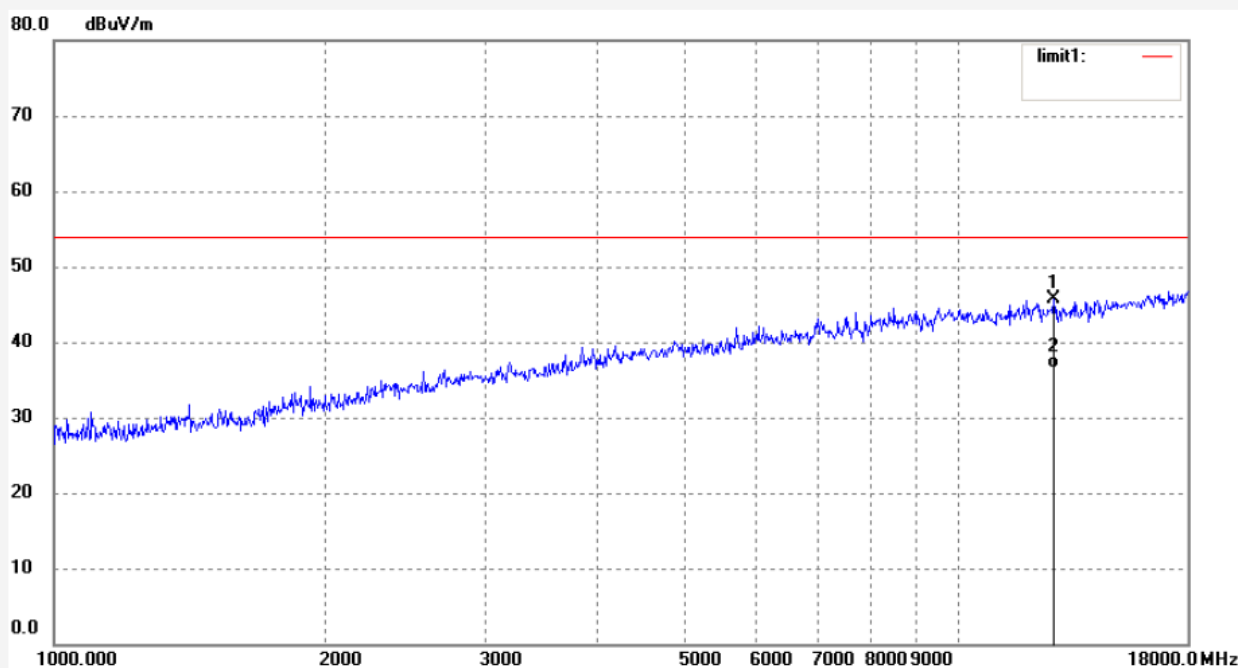
Date: 2014/10/31

Time: 13:56:41

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	12804.727	36.28	9.42	45.70	54.00	-8.30	peak			
2	12804.727	27.10	9.42	36.52	54.00	-17.48	AVG			

Job No.: STAR2014 #1701

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 6(802.11B)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Horizontal

Power Source: AC 120V/60Hz

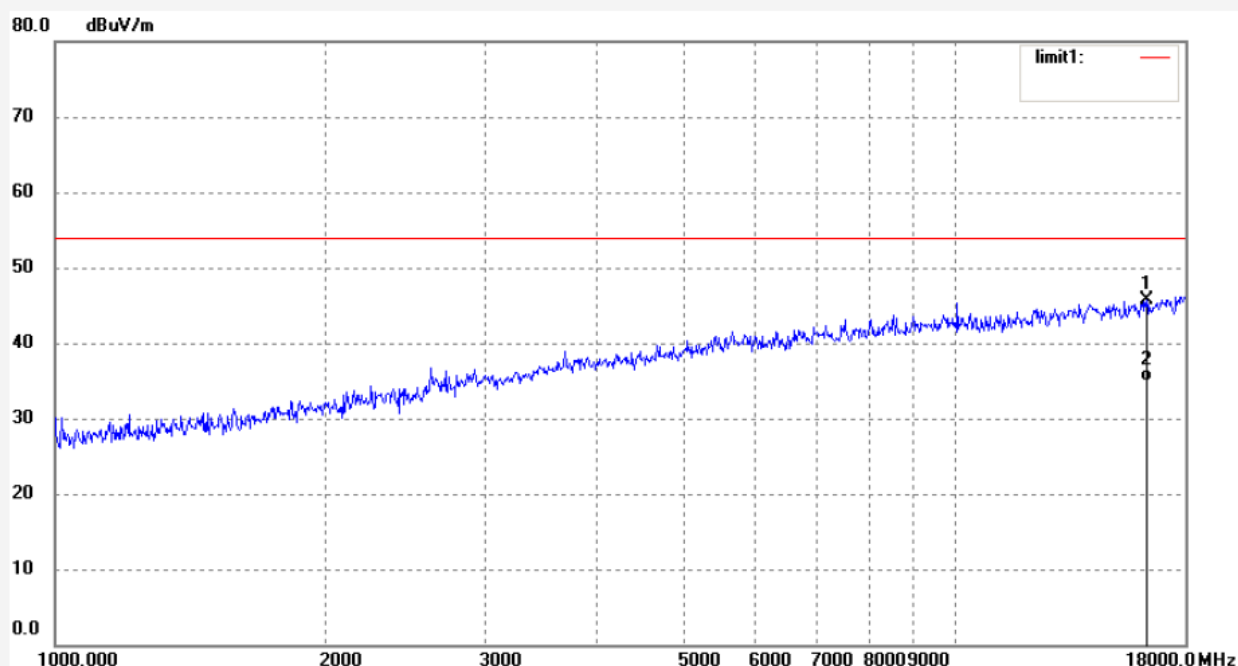
Date: 2014/10/31

Time: 14:02:41

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	16303.933	32.26	13.49	45.75	54.00	-8.25	peak			
2	16303.933	21.44	13.49	34.93	54.00	-19.07	AVG			

Job No.: STAR2014 #1702

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 11(802.11B)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Horizontal

Power Source: AC 120V/60Hz

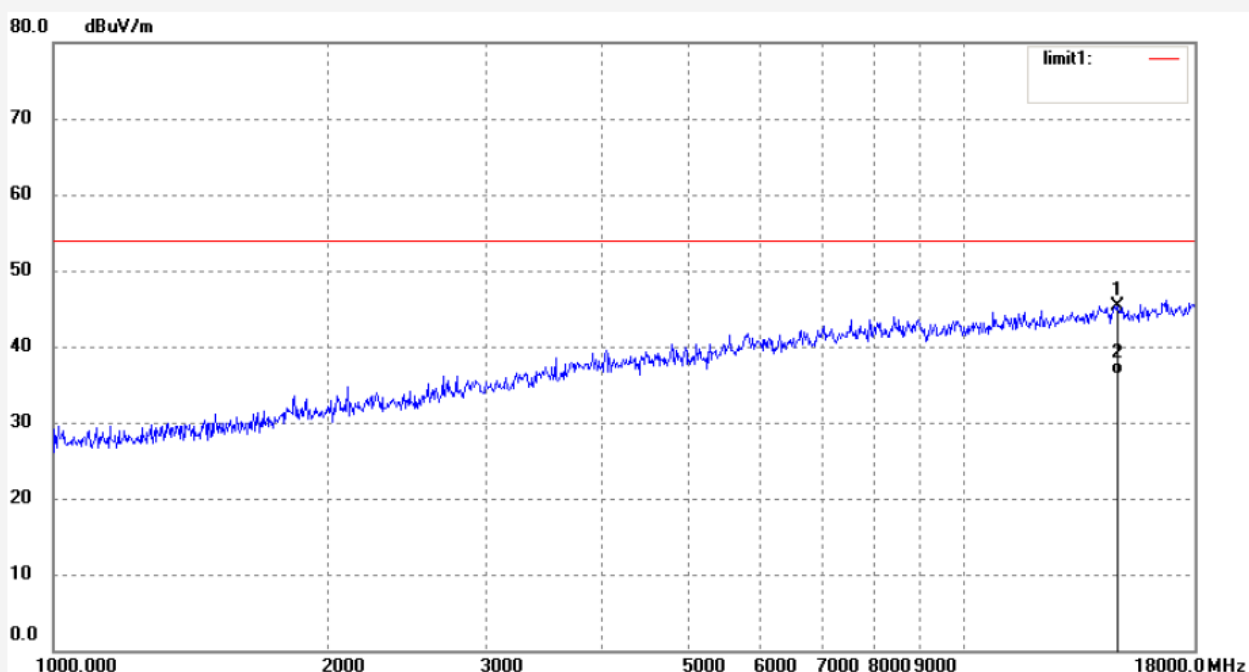
Date: 2014/10/31

Time: 14:06:41

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	14810.727	31.27	14.09	45.36	54.00	-8.64	peak			
2	14810.727	22.25	14.09	36.34	54.00	-17.66	AVG			

Job No.: STAR2014 #1703

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 11(802.11B)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Vertical

Power Source: AC 120V/60Hz

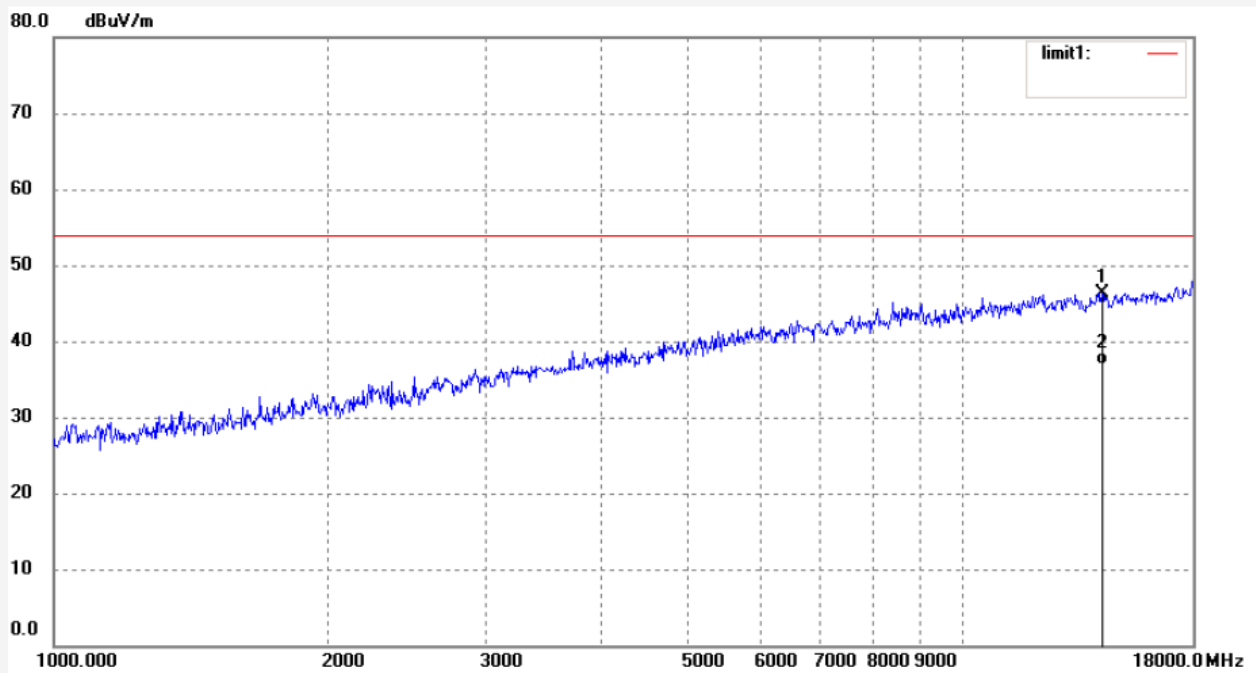
Date: 2014/10/31

Time: 14:10:30

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	14302.334	32.88	13.40	46.28	54.00	-7.72	peak			
2	14302.334	23.60	13.40	37.00	54.00	-17.00	AVG			

Job No.: STAR2014 #1704

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 1(802.11G)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Vertical

Power Source: AC 120V/60Hz

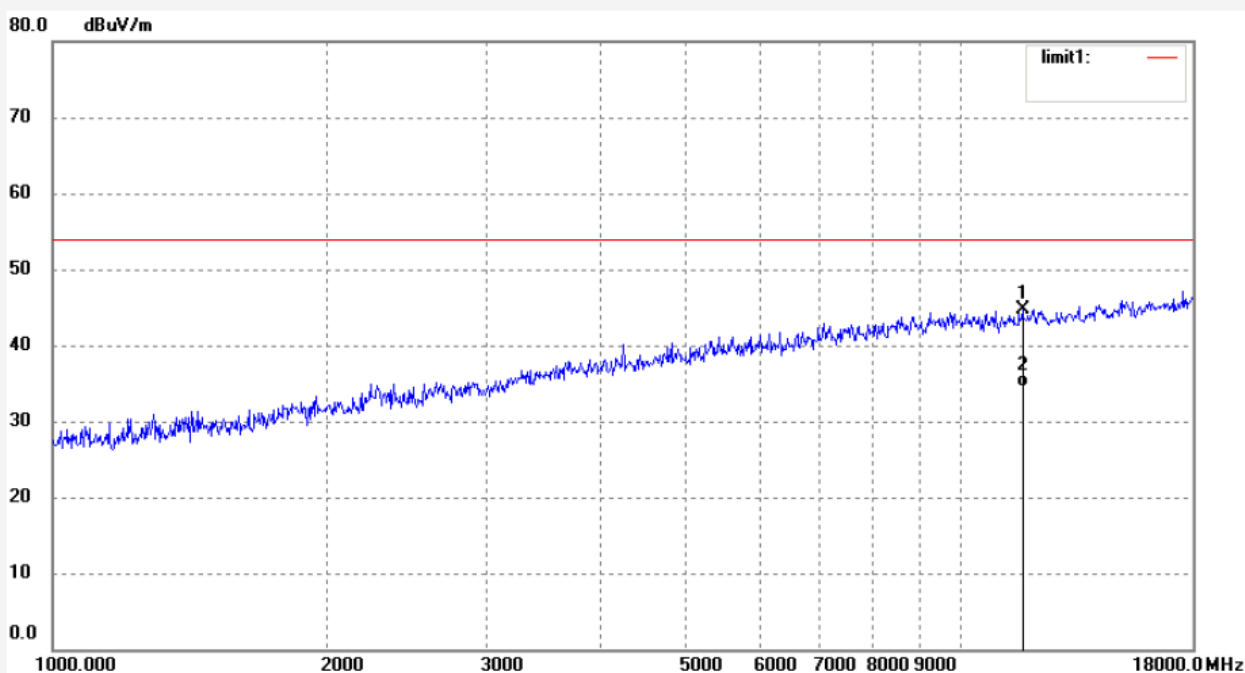
Date: 2014/10/31

Time: 14:15:31

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	11699.910	37.01	7.66	44.67	54.00	-9.33	peak			
2	11699.910	26.89	7.66	34.55	54.00	-19.45	AVG			

Job No.: STAR2014 #1705

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 1(802.11G)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Horizontal

Power Source: AC 120V/60Hz

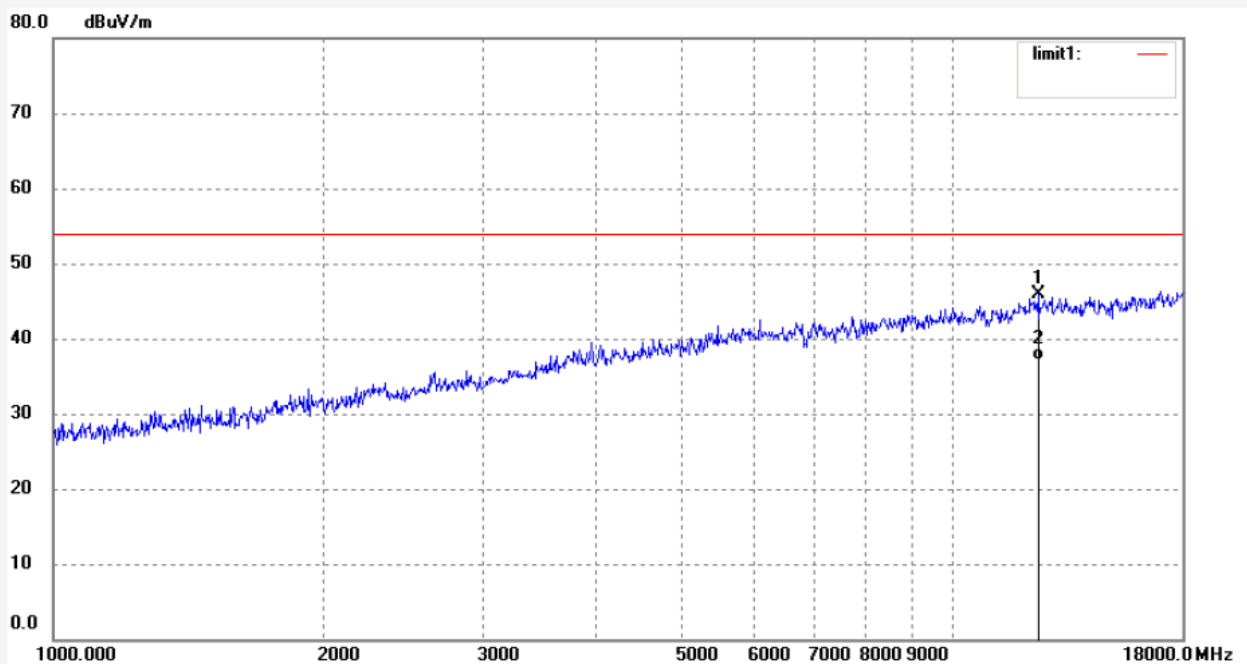
Date: 2014/10/31

Time: 14:18:26

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	12437.385	37.10	8.73	45.83	54.00	-8.17	peak			
2	12437.385	28.40	8.73	37.13	54.00	-16.87	AVG			

Job No.: STAR2014 #1706

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 6(802.11G)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Horizontal

Power Source: AC 120V/60Hz

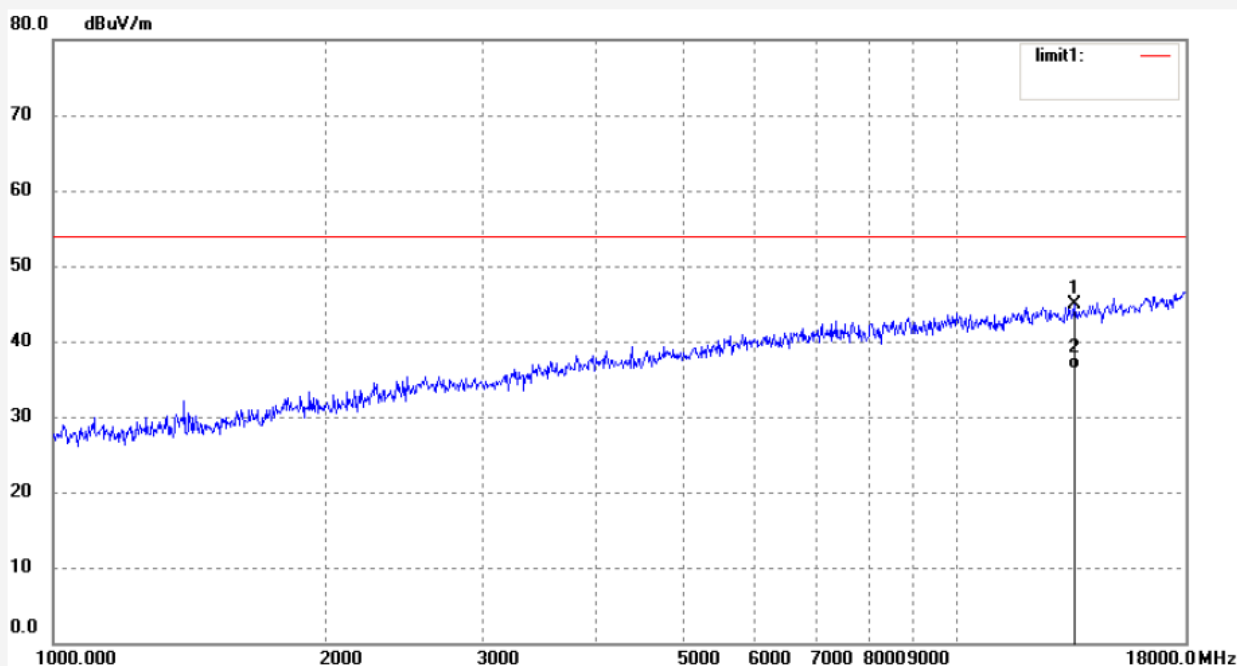
Date: 2014/10/31

Time: 14:22:21

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	13572.278	34.14	10.75	44.89	54.00	-9.11	peak			
2	13572.278	25.61	10.75	36.36	54.00	-17.64	AVG			

Job No.: STAR2014 #1707

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 6(802.11G)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Vertical

Power Source: AC 120V/60Hz

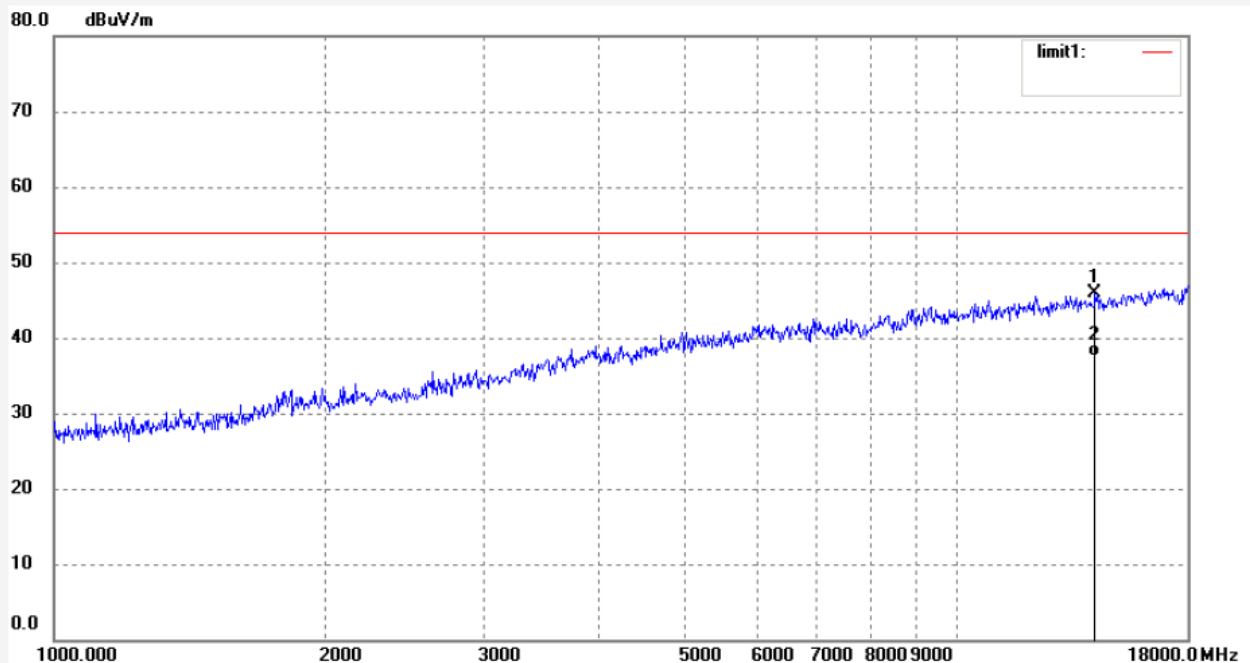
Date: 2014/10/31

Time: 14:27:18

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	14219.315	33.00	12.90	45.90	54.00	-8.10	peak			
2	14219.315	24.60	12.90	37.50	54.00	-16.50	AVG			

Job No.: STAR2014 #1708

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 11(802.11G)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Vertical

Power Source: AC 120V/60Hz

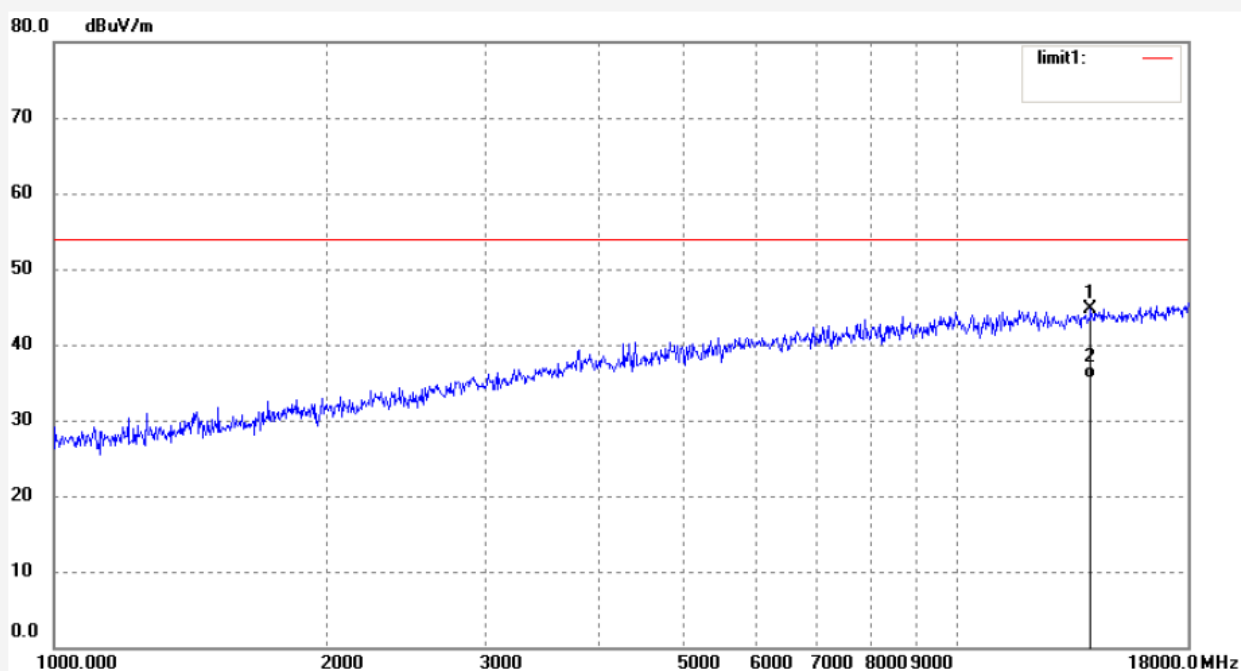
Date: 2014/10/31

Time: 14:31:14

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	14054.720	32.82	11.95	44.77	54.00	-9.23	peak			
2	14054.720	23.54	11.95	35.49	54.00	-18.51	AVG			

Job No.: STAR2014 #1709

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 11(802.11G)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Horizontal

Power Source: AC 120V/60Hz

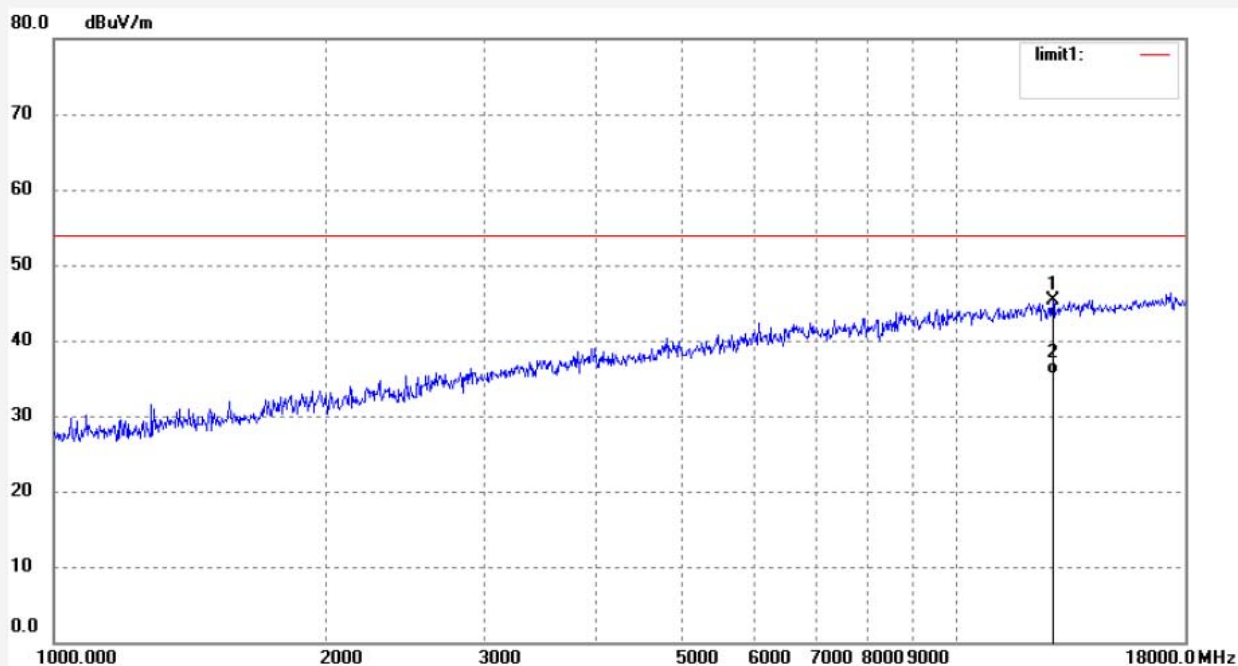
Date: 2014/10/31

Time: 14:34:37

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	12842.052	35.77	9.49	45.26	54.00	-8.74	peak			
2	12842.052	26.06	9.49	35.55	54.00	-18.45	AVG			

Job No.: STAR2014 #1710

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 1(802.11N)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Horizontal

Power Source: AC 120V/60Hz

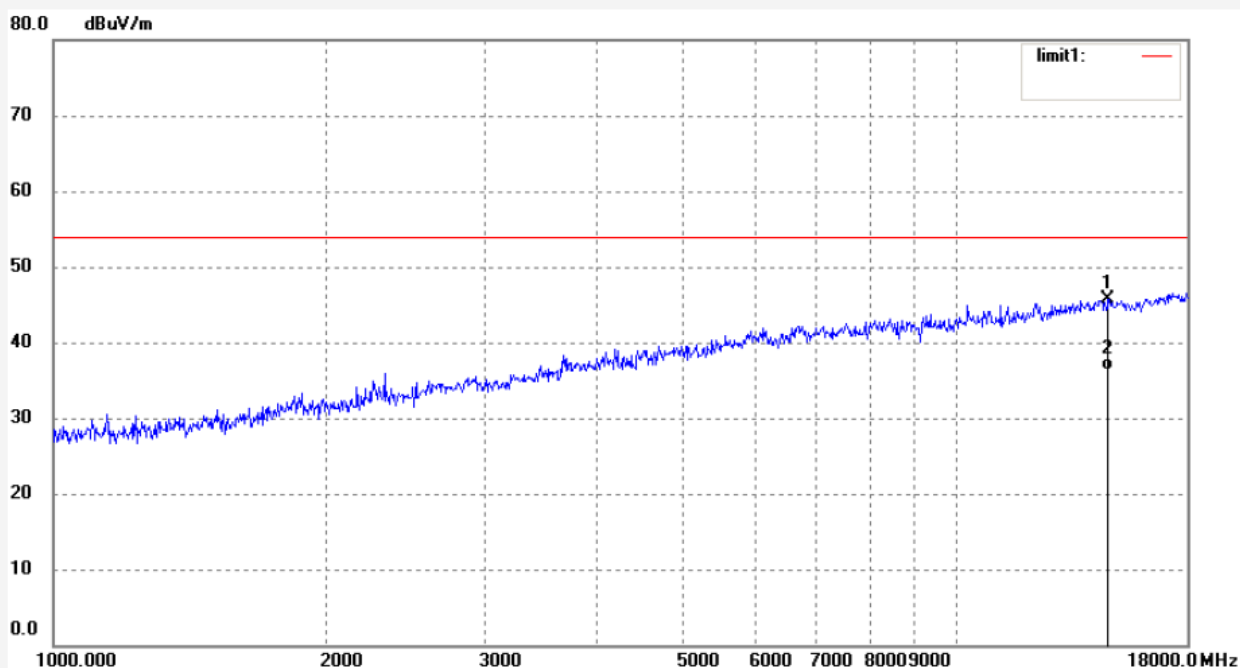
Date: 2014/10/31

Time: 14:38:54

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	14724.757	31.54	14.23	45.77	54.00	-8.23	peak			
2	14724.757	22.10	14.23	36.33	54.00	-17.67	AVG			

Job No.: STAR2014 #1711

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 1(802.11N)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Vertical

Power Source: AC 120V/60Hz

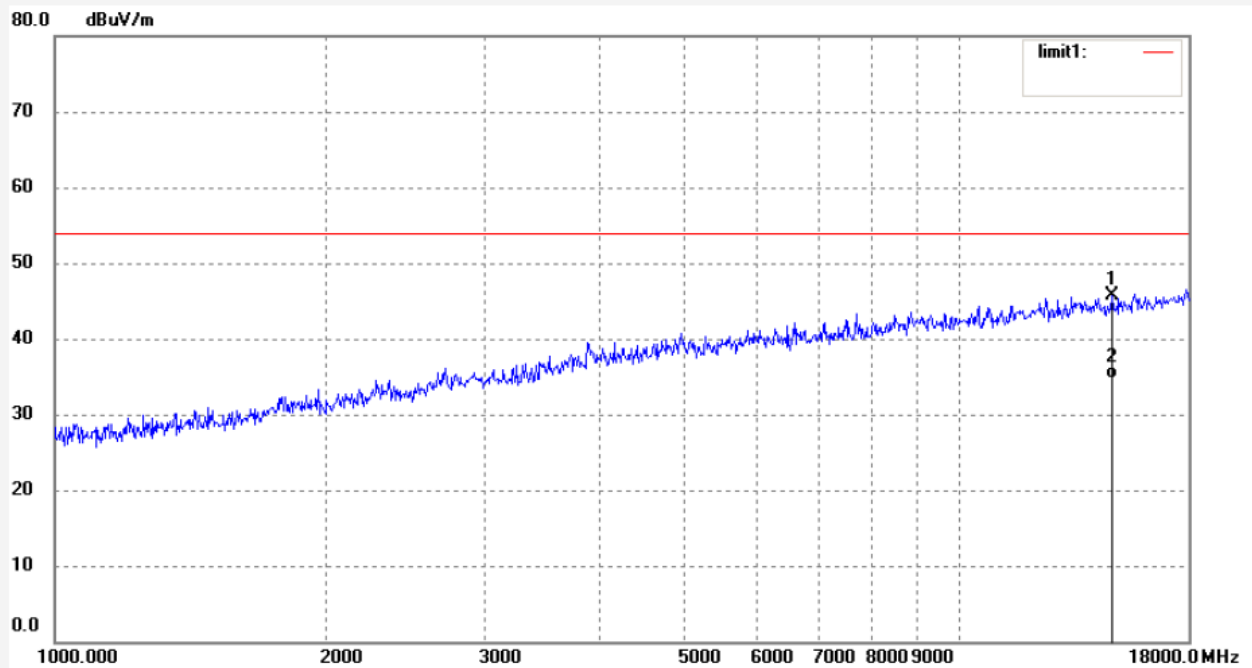
Date: 2014/10/31

Time: 14:42:49

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	14810.727	31.59	14.09	45.68	54.00	-8.32	peak			
2	14810.727	20.69	14.09	34.78	54.00	-19.22	AVG			

Job No.: STAR2014 #1712

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 6(802.11N)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Vertical

Power Source: AC 120V/60Hz

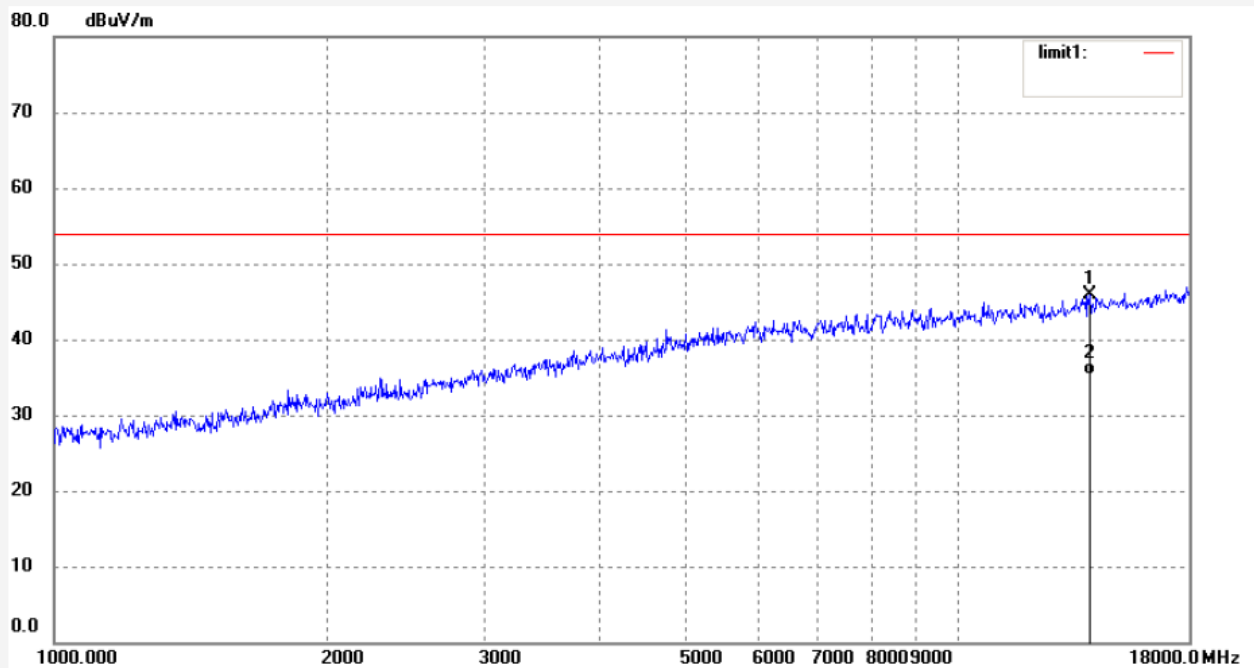
Date: 2014/10/31

Time: 14:46:56

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	13973.138	34.39	11.55	45.94	54.00	-8.06	peak			
2	13973.138	23.69	11.55	35.24	54.00	-18.76	AVG			

Job No.: STAR2014 #1713

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 6(802.11N)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Horizontal

Power Source: AC 120V/60Hz

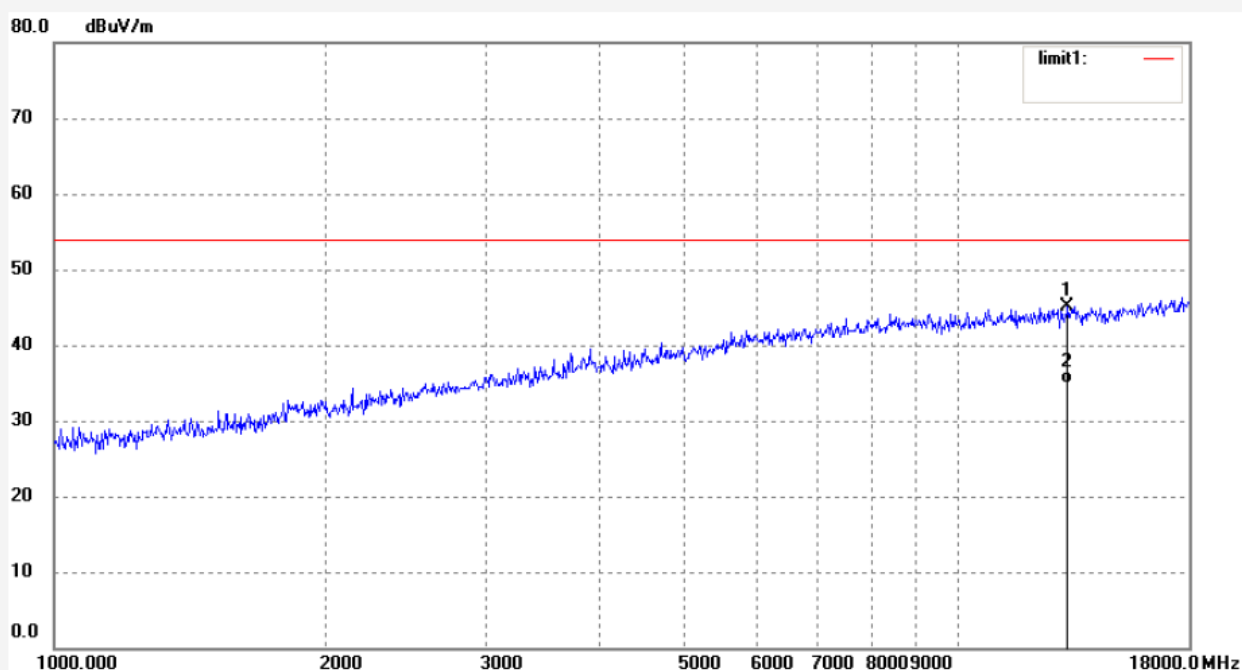
Date: 2014/10/31

Time: 14:50:44

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	13221.345	35.00	10.16	45.16	54.00	-8.84	peak			
2	13221.345	24.69	10.16	34.85	54.00	-19.15	AVG			

Job No.: STAR2014 #1714

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 11(802.11N)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Horizontal

Power Source: AC 120V/60Hz

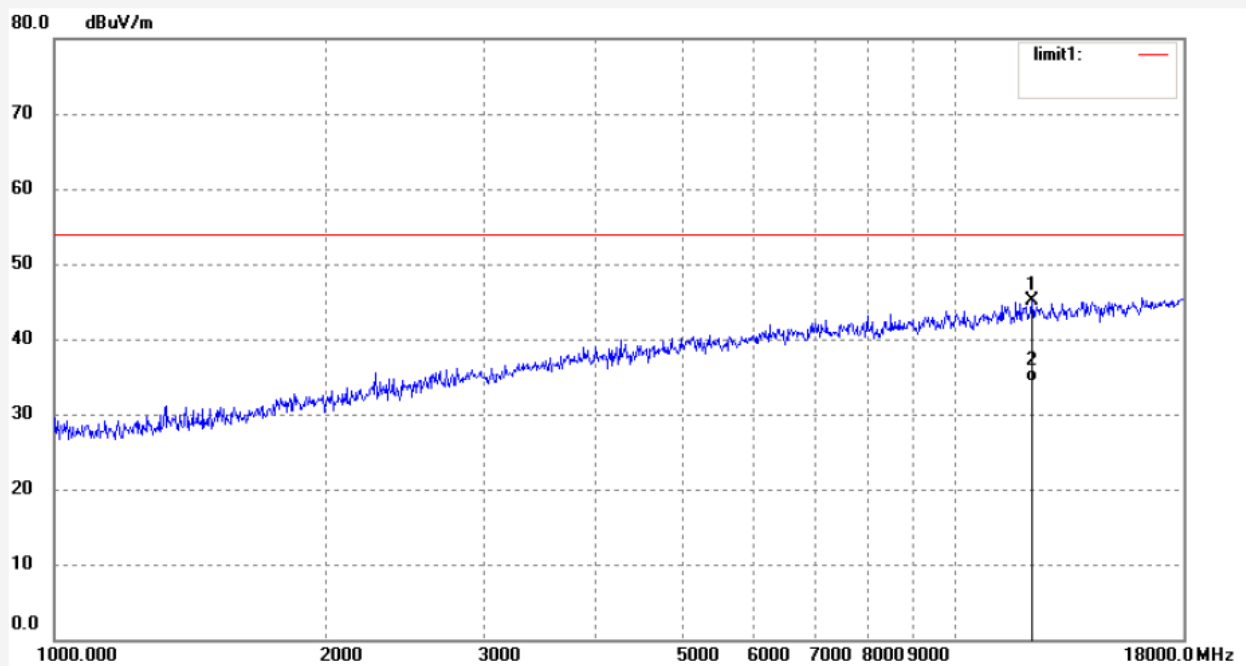
Date: 2014/10/31

Time: 14:55:59

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141585



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	12222.059	36.67	8.37	45.04	54.00	-8.96	peak			
2	12222.059	25.90	8.37	34.27	54.00	-19.73	AVG			

Job No.: STAR2014 #1715

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: PROPORT

Mode: TX Channel 11(802.11N)

Model: TAB-10A

Manufacturer: AMES ADT,Inc./Applied Device Technologies

Polarization: Vertical

Power Source: AC 120V/60Hz

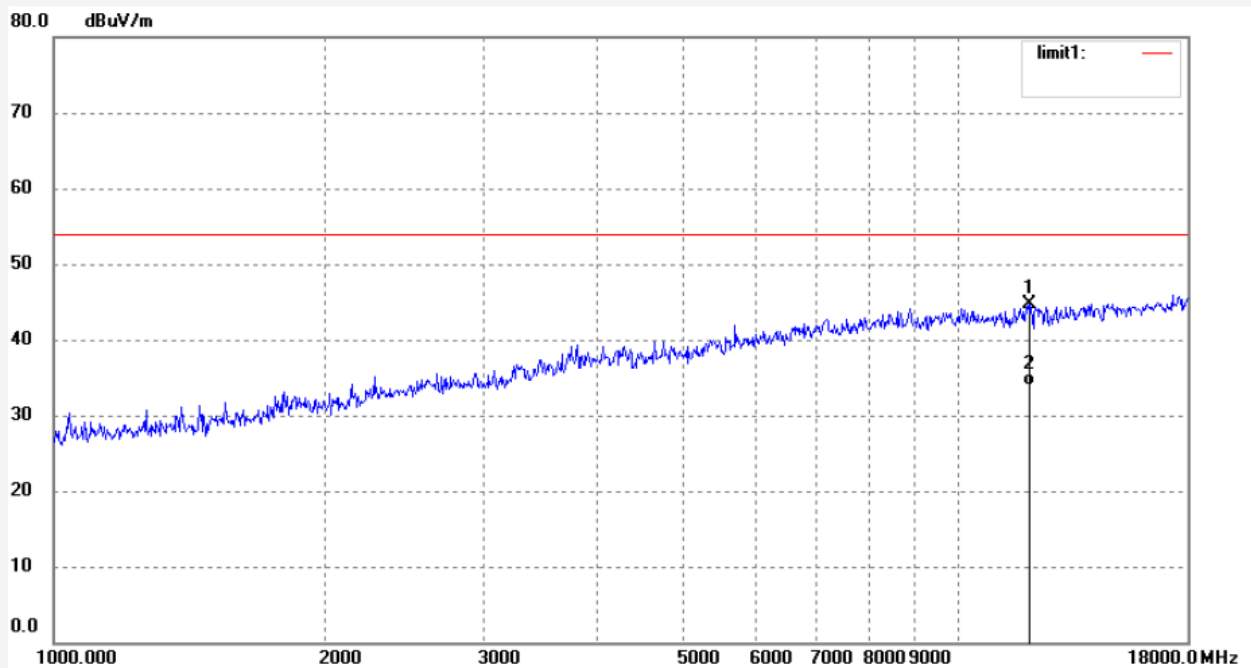
Date: 2014/10/31

Time: 14:59:01

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20141584



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	12045.470	36.55	8.07	44.62	54.00	-9.38	peak			
2	12045.470	25.86	8.07	33.93	54.00	-20.07	AVG			

10. CONDUCTED SPURIOUS EMISSION COMPLIANCE TEST

10.1. Block Diagram of Test Setup



10.2. The Requirement For Section 15.247(d)

Section 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

10.3. EUT Configuration on Measurement

The equipment is installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

10.4. Operating Condition of EUT

10.4.1. Setup the EUT and simulator as shown as Section 10.1.

10.4.2. Turn on the power of all equipment.

10.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462 and 2422-2452MHz. We select 2412MHz, 2437MHz, 2462MHz and 2422MHz, 2437MHz, 2452MHz TX frequency to transmit.

10.5. Test Procedure

10.5.1. The transmitter output was connected to the spectrum analyzer via a low loss cable.

10.5.2. Set RBW of spectrum analyzer to 100kHz and VBW to 300kHz (below 1GHz).

10.5.3. Set RBW of spectrum analyzer to 1MHz and VBW to 3MHz (above 1GHz).

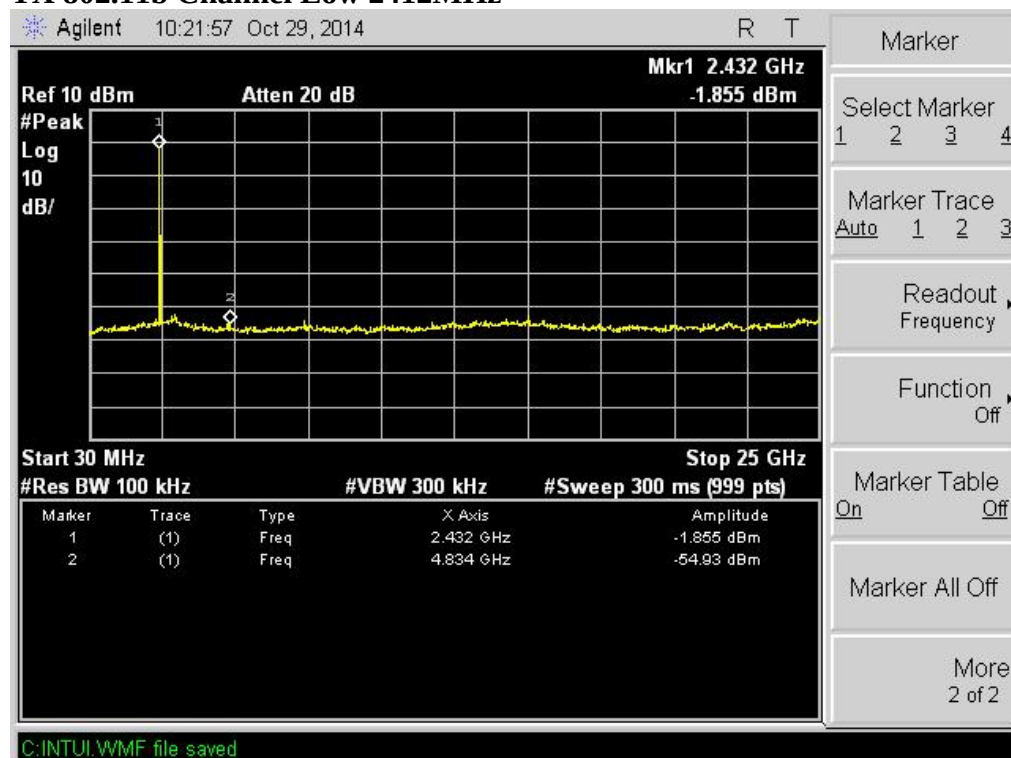
10.5.4. The Conducted Spurious Emission was measured and recorded.

10.6. Test Result

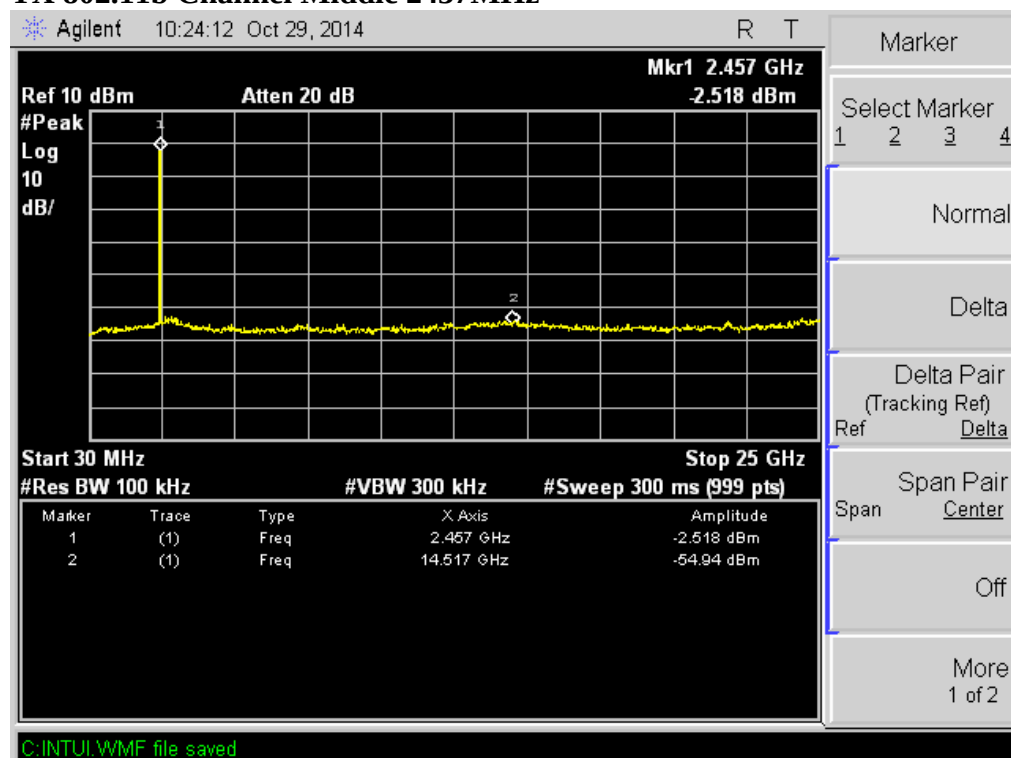
Pass.

The spectrum analyzer plots are attached as below.

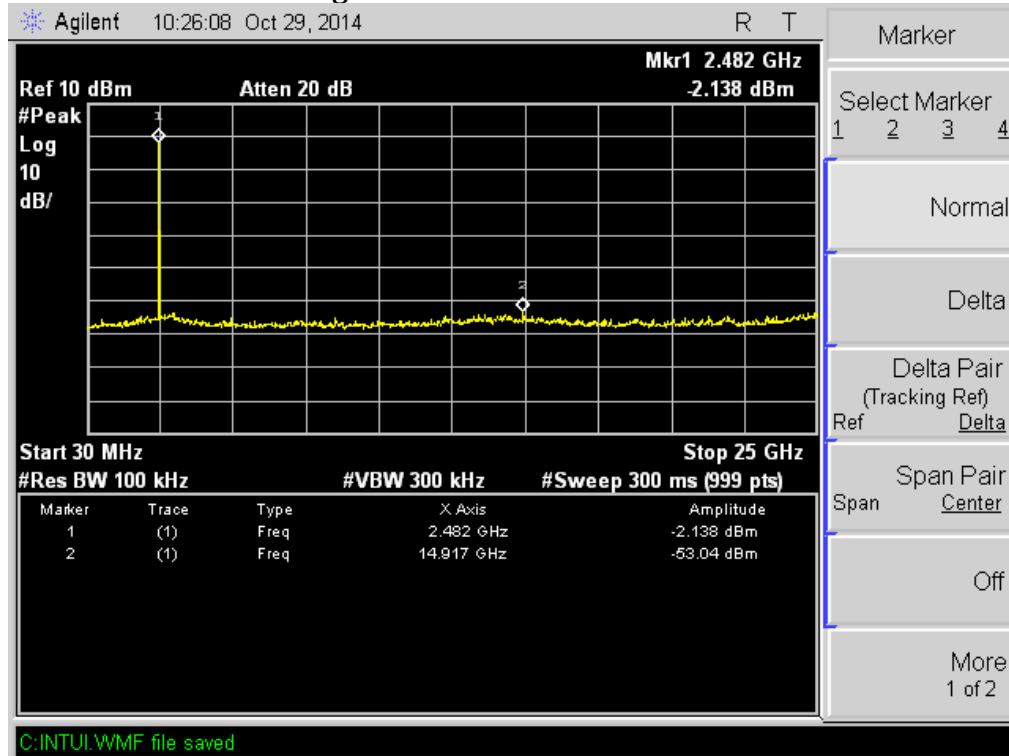
TX 802.11b Channel Low 2412MHz



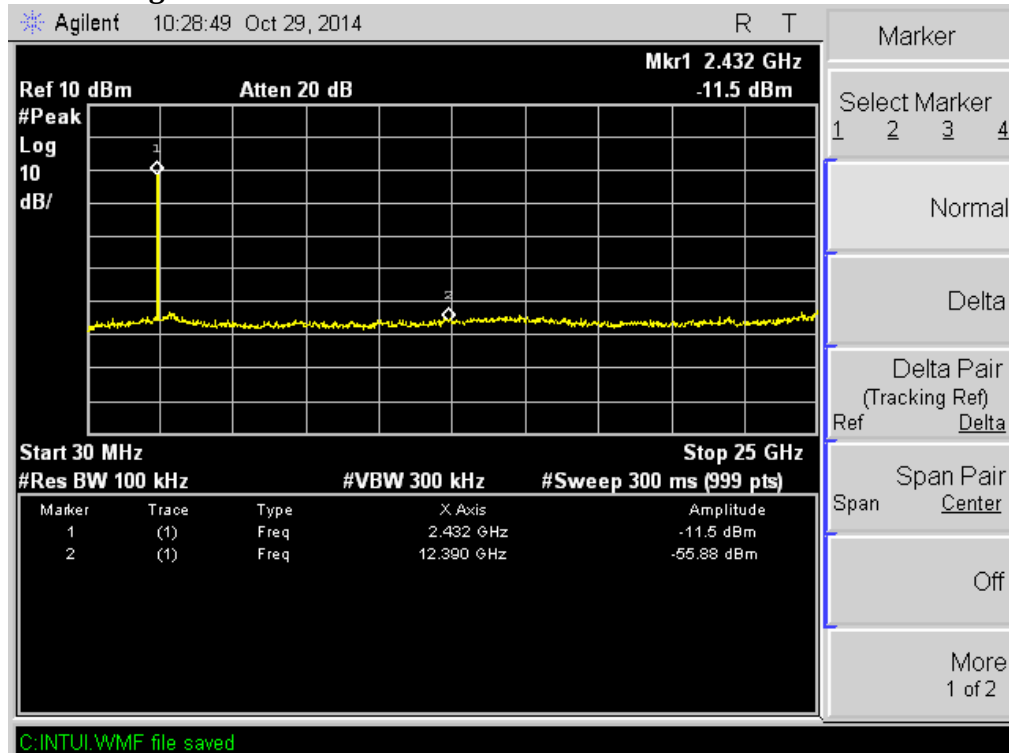
TX 802.11b Channel Middle 2437MHz



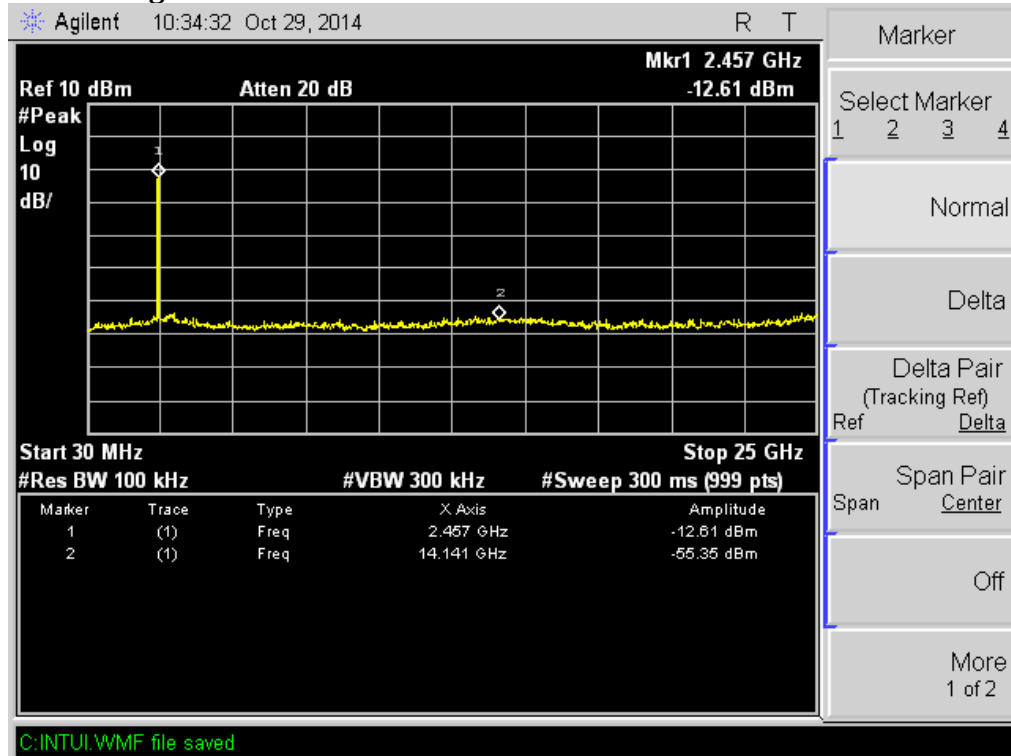
TX 802.11b Channel High 2462MHz



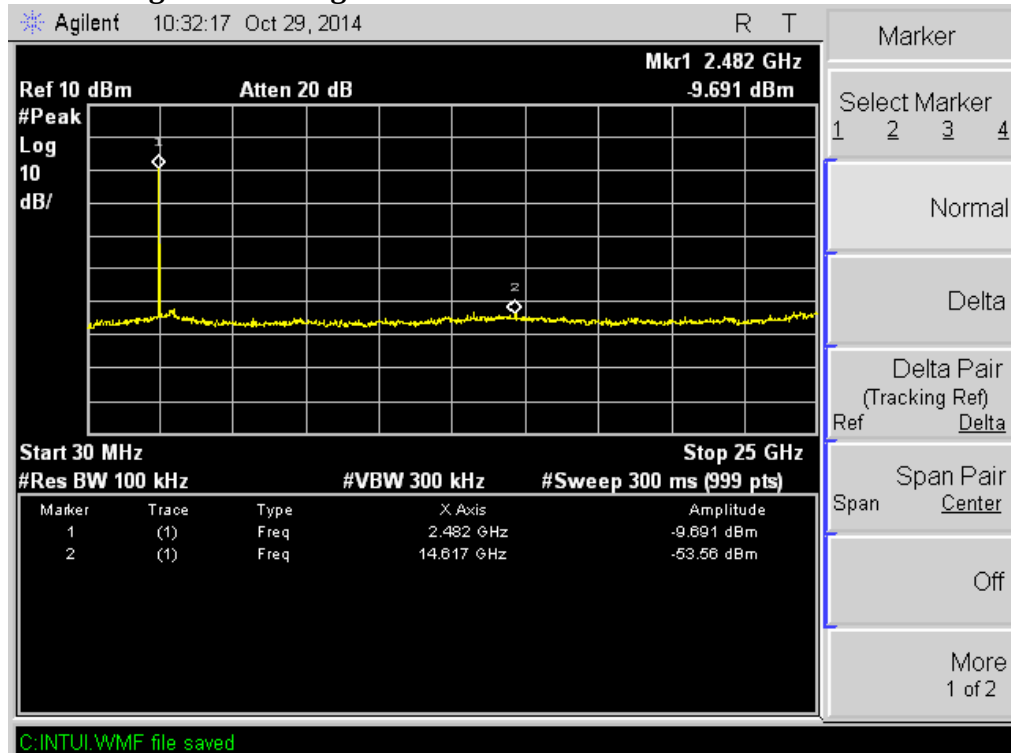
TX 802.11g Channel Low 2412MHz



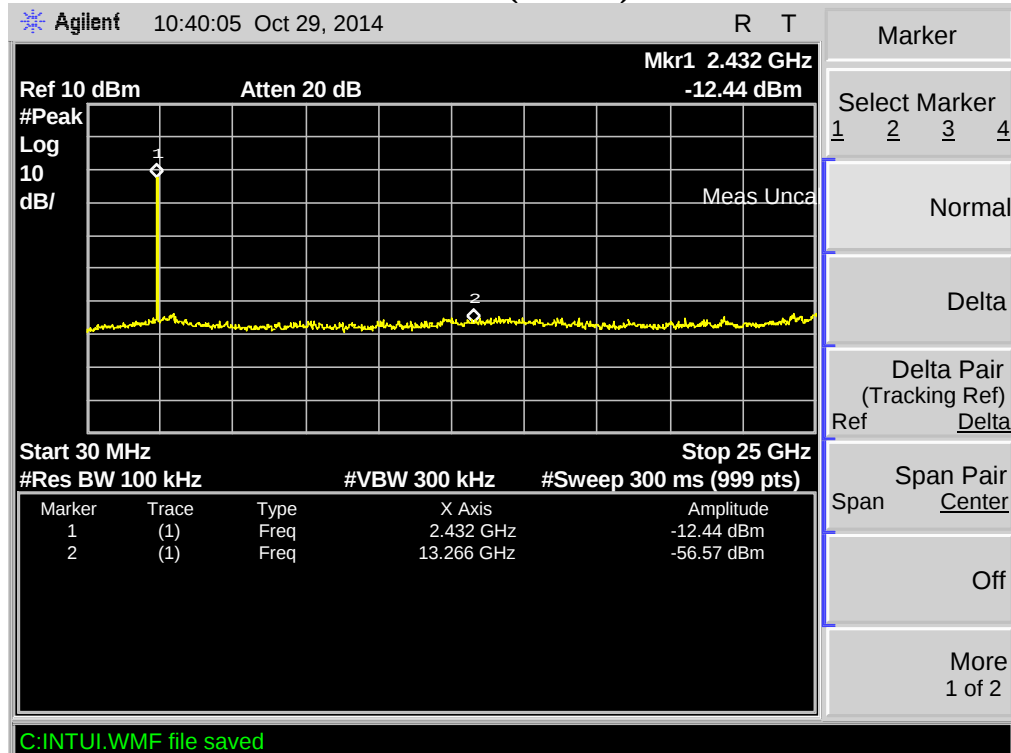
TX 802.11g Channel Middle 2437MHz



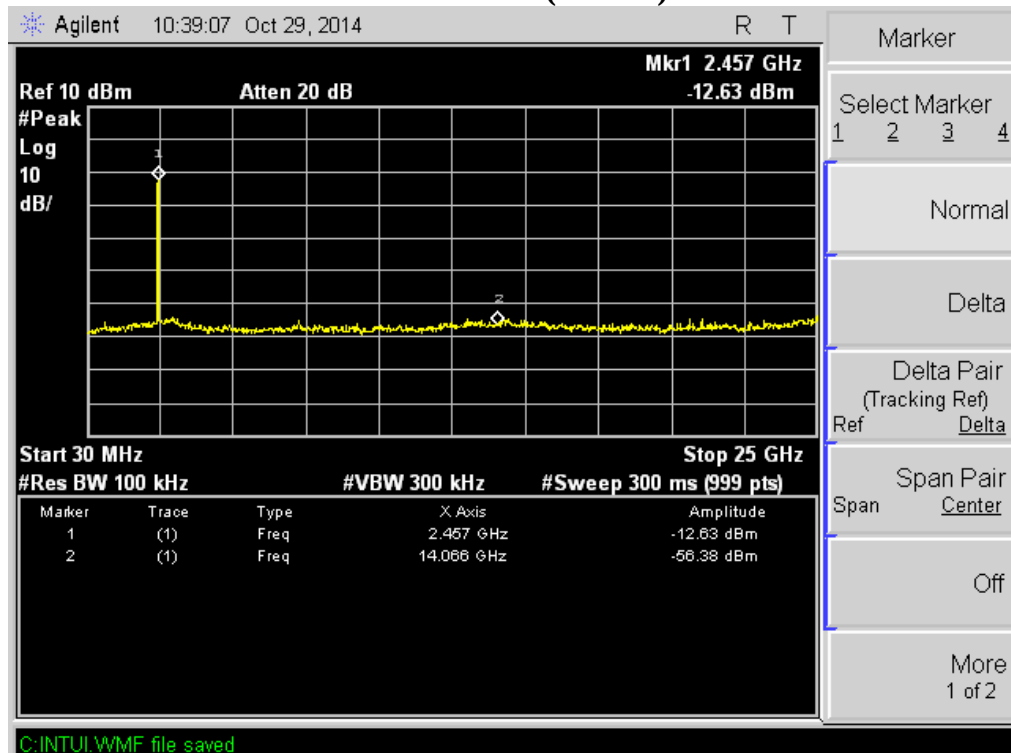
TX 802.11g Channel High 2462MHz



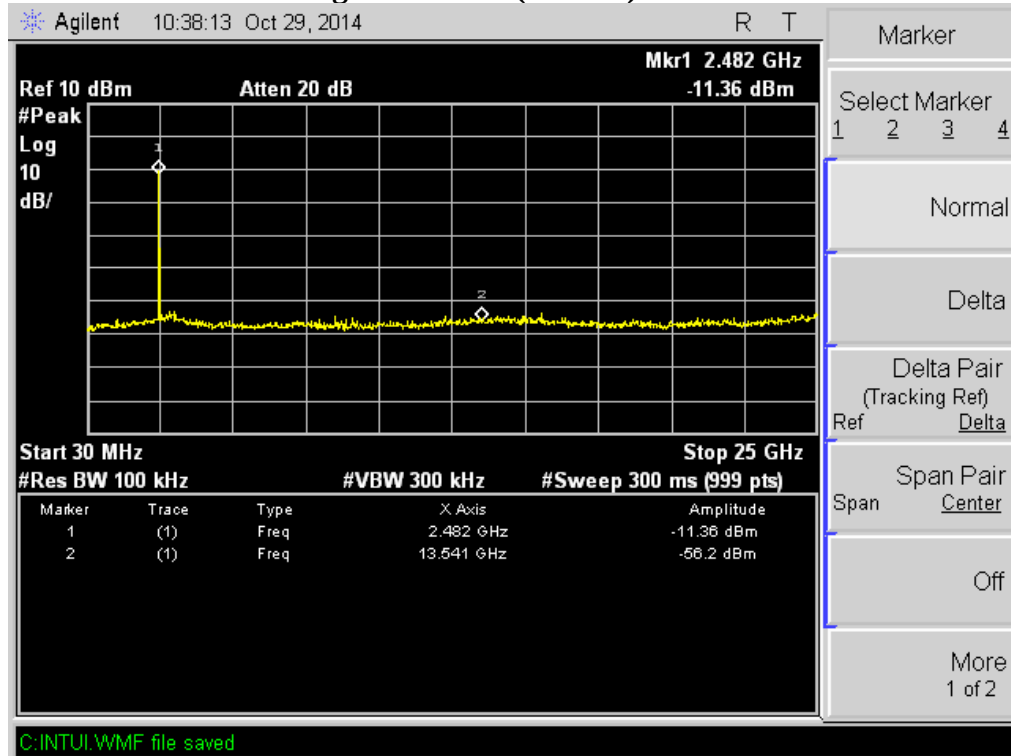
TX 802.11n Channel Low 2412MHz (20MHz)



TX 802.11n Channel Middle 2437MHz (20MHz)



TX 802.11n Channel High 2462MHz (20MHz)

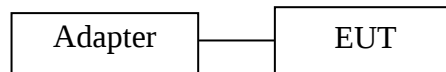


11.AC POWER LINE CONDUCTED EMISSION FOR FCC PART

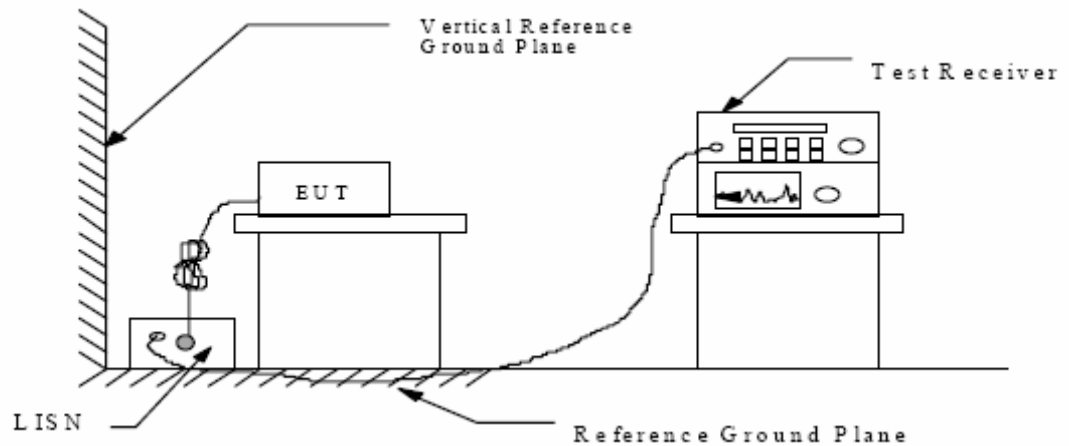
15 SECTION 15.207(A)

11.1.Block Diagram of Test Setup

11.1.1.Block diagram of connection between the EUT and simulators



11.1.2.Shielding Room Test Setup Diagram



11.2.The Emission Limit

11.2.1.Conducted Emission Measurement Limits According to Section 15.207(a)

Frequency (MHz)	Limit dB(μV)	
	Quasi-peak Level	Average Level
0.15 - 0.50	66.0 – 56.0 *	56.0 – 46.0 *
0.50 - 5.00	56.0	46.0
5.00 - 30.00	60.0	50.0

* Decreases with the logarithm of the frequency.

11.3.Configuration of EUT on Measurement

The equipment are installed on the Conducted Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

11.4.Operating Condition of EUT

11.4.1.Setup the EUT and simulator as shown as Section 11.1.

11.4.2.Turn on the power of all equipment.

11.4.3.Let the EUT work in (Charging) mode measure it.

11.5.Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.4: 2009 on Conducted Emission Measurement.

The bandwidth of test receiver (R & S ESCS30) is set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

11.6.Power Line Conducted Emission Measurement Results

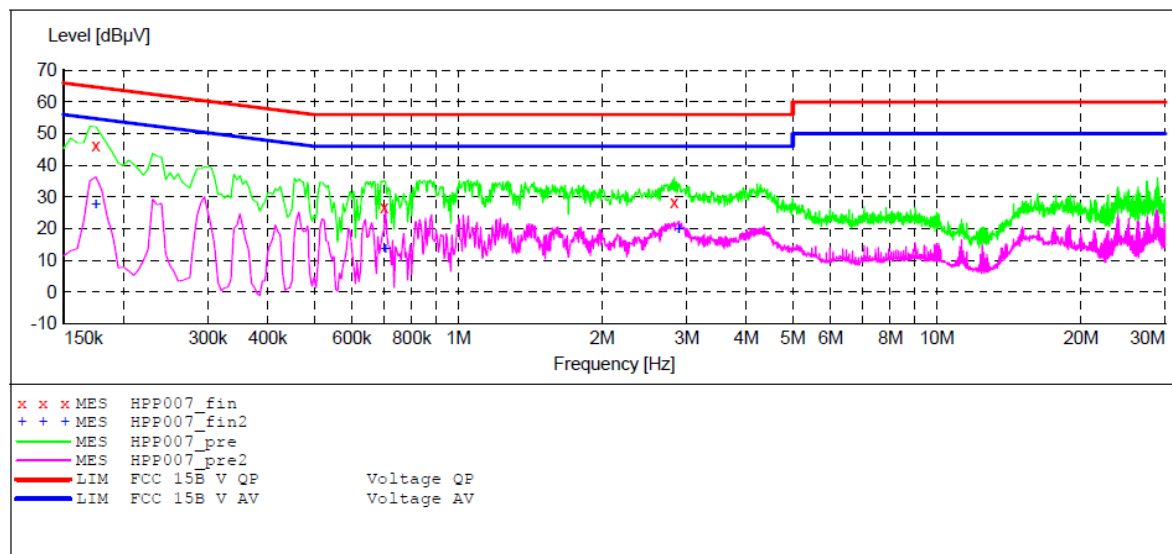
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART15B

EUT: PROPORT M/N:TAB-10A
 Manufacturer: AMES ADT, Inc./Applied Device Technologies
 Operating Condition: Wi-Fi
 Test Site: 1#Shielding Room
 Operator: star
 Test Specification: L 120V/60Hz
 Comment: Report No.: ATE20141584
 Start of Test: 10/16/2014 / 4:09:09PM

SCAN TABLE: "V 150K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 150.0 kHz 30.0 MHz 4.5 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008
 Average



MEASUREMENT RESULT: "HPP007_fin"

10/16/2014 4:12PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.175000	46.30	10.5	65	18.4	QP	L1	GND
0.700000	26.80	10.8	56	29.2	QP	L1	GND
2.830000	28.20	11.0	56	27.8	QP	L1	GND

MEASUREMENT RESULT: "HPP007_fin2"

10/16/2014 4:12PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.175000	27.60	10.5	55	27.1	AV	L1	GND
0.705000	13.50	10.8	46	32.5	AV	L1	GND
2.890000	19.60	11.0	46	26.4	AV	L1	GND

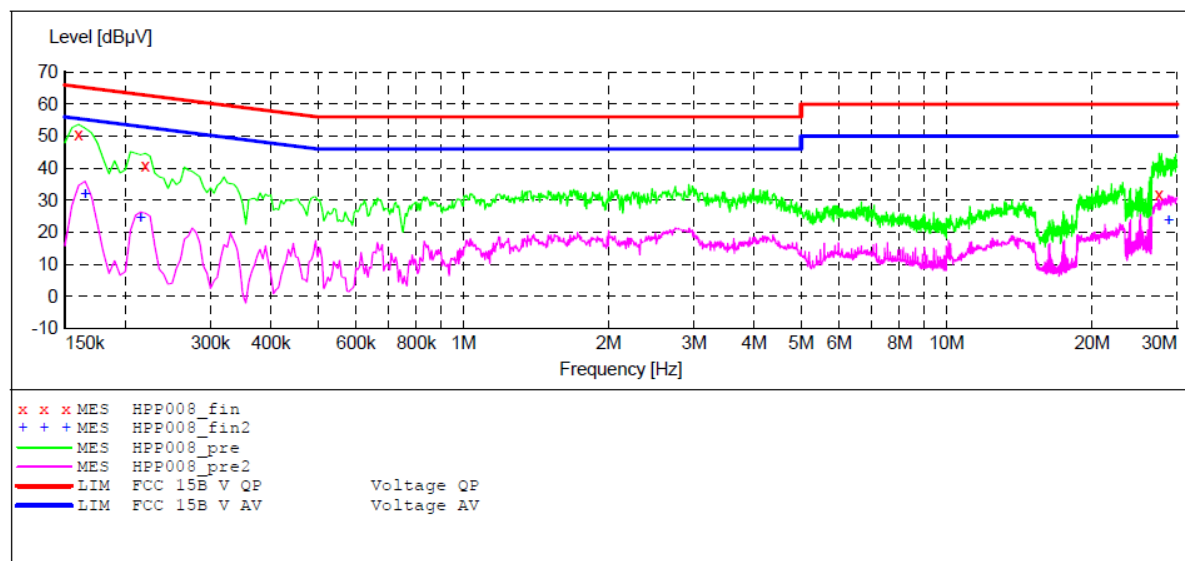
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD FCC PART15B

EUT: PROPORT M/N:TAB-10A
 Manufacturer: AMES ADT,Inc./Applied Device Technologies
 Operating Condition: Wi-Fi
 Test Site: 1#Shielding Room
 Operator: star
 Test Specification: N 120V/60Hz
 Comment: Report No.:ATE20141584
 Start of Test: 10/16/2014 / 4:13:26PM

SCAN TABLE: "V 150K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 150.0 kHz 30.0 MHz 4.5 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008
 Average



MEASUREMENT RESULT: "HPP008_fin"

10/16/2014 4:16PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.160000	50.40	10.5	66	15.1	QP	N	GND
0.220000	40.70	10.6	63	22.1	QP	N	GND
27.550000	32.00	11.5	60	28.0	QP	N	GND

MEASUREMENT RESULT: "HPP008_fin2"

10/16/2014 4:16PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.165000	31.90	10.5	55	23.3	AV	N	GND
0.215000	24.40	10.5	53	28.6	AV	N	GND
28.825000	23.50	11.5	50	26.5	AV	N	GND

12.ANTENNA REQUIREMENT

12.1.The Requirement

According to Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

12.2.Antenna Construction

Device is equipped with unique antenna, which isn't displaced by other antenna. Therefore, the equipment complies with the antenna requirement of Section 15.203.

