

Prüfbericht-Nr.: <i>Test Report No.:</i>	17046186 001	Auftrags-Nr.: <i>Order No.:</i>	164028024	Seite 1 von 23 Page 1 of 23
Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	24.12.2014	
Auftraggeber: <i>Client:</i>	ETEK Technology (Shenzhen) Co., Ltd, 5/F, Section A, Academy of Aerospace Technology, Keji Nan 10th Rd., Hi-Tech Industrial Park, Shenzhen, China			
Prüfgegenstand: <i>Test item:</i>	Wireless Adapter			
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	TD-2021N-USB			
Auftrags-Inhalt: <i>Order content:</i>	FCC and IC approval			
Prüfgrundlage: <i>Test specification:</i>	CFR47 FCC Part 15: Subpart C Section 15.247 CFR47 FCC Part 15: Subpart C Section 15.207 CFR47 FCC Part 15: Subpart C Section 15.209 FCC KDB publication 447498 D01 v05r02 RSS-247 Issue 1 May 2015 RSS-Gen Issue 4 November 2014 RSS-102 Issue 5 March 2015			
Wareneingangsdatum: <i>Date of receipt:</i>	16.12.2014	Refer to photo documents		
Prüfmuster-Nr.: <i>Test sample No.:</i>	A000144382-003, A000144382-004			
Prüfzeitraum: <i>Testing period:</i>	30.12.2014 - 10.05.2015			
Ort der Prüfung: <i>Place of testing:</i>	Accurate Technology Co., Ltd.			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von / tested by: 		kontrolliert von / reviewed by: 		
08.09.2015	Lin Lin / Project Manager	09.09.2015	Sam Lin / Senior Project Manager	
Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>
Sonstiges / Other: This report is for DTS equipment class.				
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>		Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>		
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested				
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

VD4

TEST SUMMARY

5.1.1 ANTENNA REQUIREMENT

RESULT: Passed

5.1.2 MAXIMUM CONDUCTED OUTPUT POWER

RESULT: Passed

5.1.3 6dB BANDWIDTH AND 99% BANDWIDTH

RESULT: Passed

5.1.4 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100 KHz BANDWIDTH

RESULT: Passed

5.1.5 POWER SPECTRAL DENSITY

RESULT: Passed

5.1.6 SPURIOUS EMISSIONS

RESULT: Passed

5.1.7 CONDUCTED EMISSIONS

RESULT: Passed

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1. General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Test Results of Wi-Fi operation

Appendix B: Test Results of Spurious Emissions and Radiated Emissions in restricted band, ANSI C63.10:2009

Appendix C: Test Results of Spurious Emissions and Radiated Emissions in restricted band, ANSI C63.10:2013

Appendix D: Test Results of Conducted Emissions

Appendix E: Test Results of RF Exposure

2. Test Sites

2.1 Test Facilities

Accurate Technology Co., Ltd.

(FCC Registration No.: 752051 & IC Registration Number: 5077A-2)

F1, Bldg A, Changyuan New Material Port, Keyuan Rd., Science & Industry Park,
Nanshan District, Shenzhen, 518057, P.R. China

The tests at the test site have been conducted under the supervision of a TÜV engineer.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Kind of Equipment	Manufacturer	Type	S/N	Calibrated until
Radio Spectrum Test				
Spectrum Analyzer	Rohde & Schwarz	FSV40	101495	Jan.10, 2016
Vector Signal Generator	Rohde & Schwarz	SMBV100A	260434	Jan.10, 2016
Signal Generator	Rohde & Schwarz	SMB100A	108362	Jan.10, 2016
Power meter and Power sensor	Rohde & Schwarz	OSP120 + OSP-B157	101244 + 100866	Jan.10, 2016
Spectrum Analyzer	Rohde & Schwarz	ESPI	100396	Jan.10, 2016
Conducted emissions				
Test Receiver	Rohde & Schwarz	ESCS30	100307	Jan.11, 2016
L.I.S.N.	Schwarzbeck	NLSK8126	8126431	Jan.11, 2016
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100305	Jan.11, 2016
Spurious Emissions and Radiated emissions				
Spectrum Analyzer	Rohde&Schwarz	FSV40	101495	Jan.10, 2016
Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan.10, 2016
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan.15, 2016
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan.15, 2016
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan.15, 2016
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan.15, 2016
RF Switching Unit+PreAMP	Compliance Direction	RSU-M2	38322	Jan.10, 2016
Pre-Amplifier	Rohde&Schwarz	CBLU11835 40-01	3791	Jan.10, 2016
50 Coaxial Switch	Anritsu Corp	MP59B	6200506474	Jan.10, 2016

2.3 Traceability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table,

Items		Extended Uncertainty
CE	Disturbance Voltage (dBuV)	U=1.94dB, k=2, σ =95%
RE (9kHz-30MHz)	Field strength (dBuV/m)	U=3.08dB, k=2, σ =95%
RE (30-1000MHz)	Field strength (dBuV/m)	U=4.42dB, k=2, σ =95%
RE (above 1000MHz)	Field strength (dBuV/m)	U=4.06dB, k=2, σ =95%

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix1 of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The Accurate Technology Co., Ltd. facility located at F1, Bldg A, Changyuan New Material Port, Keyuan Rd., Science & Industry Park, Nanshan District, Shenzhen, 518057, P.R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3. General Product Information

3.1 Product Function and Intended Use

The EUT is wireless dongle which is designed to provide a high-speed and unrivaled wireless performance for your equipment. It implements 802.11 b/g/n protocols.

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Technical Specification of EUT

Technical Specification	Value
Kind of Equipment:	Wireless Adapter
Type Designation:	TD-2021N-USB
FCC ID:	2AD53ETEK2401
IC:	12708A-ETEK2401
Type of Equipment:	Class B digital equipment
Equipment Class:	DTS
Wireless Technology:	Wi-Fi
Operating Frequency Range:	2412-2462MHz for Wi-Fi
Channel Number:	11 channels for Wi-Fi (802.11b/g/n) 7 channels for Wi-Fi (802.11n HT40 model only)
Channel Separation:	5MHz for Wi-Fi
Type of Modulation:	DSSS for Wi-Fi 802.11b OFDM for Wi-Fi 802.11g/n
Operating Voltage:	DC 5V via USB port
Operating Temperature Range:	-20°C to 70°C
Antenna Type:	Printed Antenna for WiFi
Smart Antenna Systems:	Not Applicable
Number of Antenna:	1 for Wi-Fi
Antenna Gain:	Max. 1.5 dBi for Wi-Fi Antenna

Table 3: List of Radio Frequency Channel, Wi-Fi 802.11 b/g/n 20MHz bandwidth

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
1	2412.00	5	2432.00	9	2452.00
2	2417.00	6	2437.00	10	2457.00
3	2422.00	7	2442.00	11	2462.00
4	2427.00	8	2447.00	--	--

Table 4: List of Radio Frequency Channel, Wi-Fi 802.11 n 40MHz bandwidth

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
3	2422.00	6	2437.00	9	2452.00
4	2427.00	7	2442.00	--	--
5	2432.00	8	2447.00	--	--

3.3 Independent Operation Modes

The basic operation modes are:

- A. Transmitting
 - 1. Low Channel
 - 2. Mid Channel
 - 3. High Channel
- B. Receiving
 - 1. Low Channel
 - 2. Mid Channel
 - 3. High Channel
- C. Standby
- D. Off

Table 5: List of Wi-Fi operation modes

Mode	Wi-Fi Operation	
Antenna	Single	
Bandwidth	20 MHz	40 MHz
802.11b	√	x
802.11g	√	x
802.11n	√	√

Note:

1. The EUT support HT20 and HT40.
2. 802.11n support MCS0 ~ MCS7 data rates.

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

- Bill of Material	- Circuit Diagram
- PCB Layout	- Instruction Manual
- Photo Document	- Rating Label

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5.

During testing, test software Ralink QA Test Program provided by the applicant was used to control the operating channels as well as output power level for Wi-Fi operation.

Table 6: List of Frequencies under Test, Wi-Fi operation

RF Channel of 802.11 b, 802.11g and 802.11n (HT20)			RF Channel of 802.11n (HT40)		
Channel	Channel number	Frequency (MHz)	Channel	Channel number	Frequency (MHz)
Low	1	2412.00	Low	3	2422.00
Middle	6	2437.00	Middle	6	2437.00
High	11	2462.00	High	9	2452.00

Table 7: List of Operation mode under Test, Wi-Fi operation

Config	Data Rates	Transmit Chain
Transmit Chain - 1TX_Non-Beamforming		
802.11b	11Mbps	ANT 1
802.11g	54Mbps	ANT 1
802.11n HT20	MCS7	ANT 1
802.11n HT40	MCS7	ANT 1
Note: Preliminary tests were performed in different data rate and antenna chain to find the worst case. The data rate and antenna chain shown in the table is the worst case.		

Table 8: Power level setting of Wi-Fi in test software

Power Level Setting in Test Software				
Channel	802.11b	802.11g	802.11n HT20	802.11n HT40
Low	25	24	1F	1E
Middle	27	26	23	21
High	27	27	24	23

4.3 Special Accessories and Auxiliary Equipment

Table 9: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	S/N	Rating
Laptop PC	Lenovo	X200	L3-ANW2G	--
Printer	HP	HP Laserjet 1015	CNFG030424	--

4.4 Countermeasures to achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Constructional Data Form or the Technical Construction File. No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test

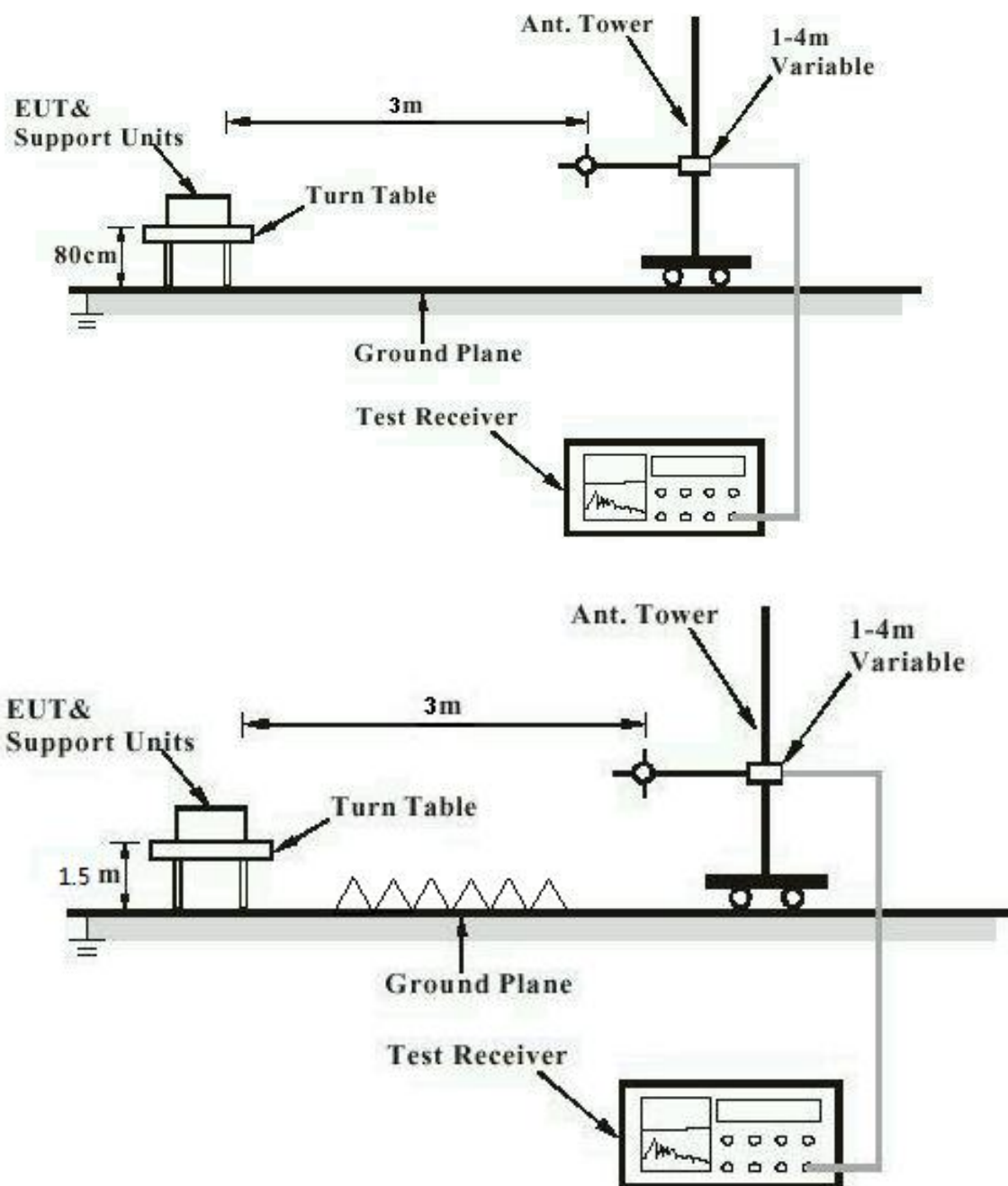


Diagram of Measurement Equipment Configuration for Conduction Measurement

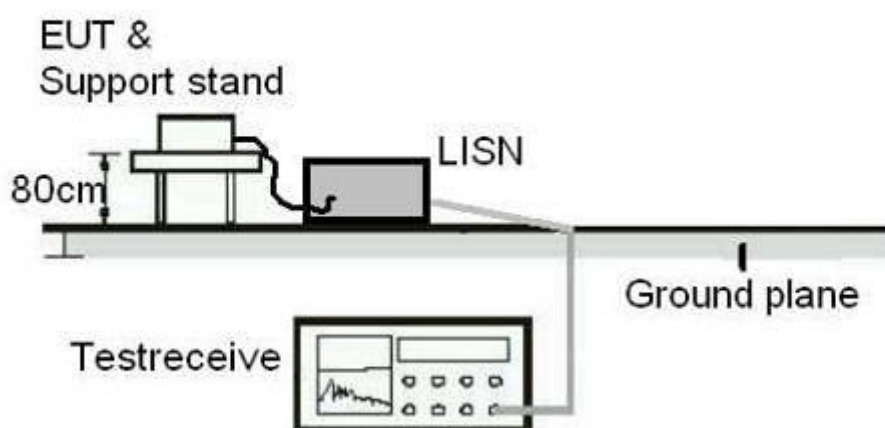
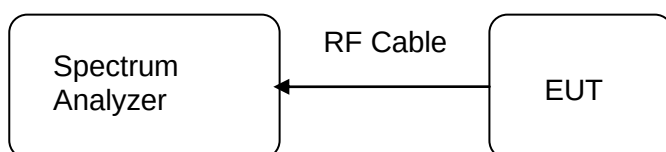


Diagram of Measurement Equipment Configuration for Transmitter Measurement



5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Passed**

Test date	:	2014-12-30 to 2015-01-07
Test standard	:	FCC Part 15.247(b)(4) and Part 15.203
Limit	:	the use of antennas with directional gains that do not exceed 6 dBi

According to the manufacturer declared, the EUT has an internal antenna, the directional gain of antenna is 1.5dBi for WiFi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to compliance the provision.

Refer to EUT photo for details.

5.1.2 Maximum Conducted Output Power

RESULT:**Passed**

Test date	:	2014-12-30 to 2015-01-07
Test standard	:	FCC Part 15.247(b)(3) RSS-247 Section 5.4 RSS-Gen Issue 4 Clause 6.12
Basic standard	:	ANSI C63.10:2009 ANSI C63.10:2013 FCC KDB 558074 v03r02
Limit	:	1Watt
Kind of test site	:	Shielded room

Test setup

Test Channel	:	Low/ Middle/ High
Operation Mode	:	A
Ambient temperature	:	23°C
Relative humidity	:	50%
Atmospheric pressure	:	101.0 kPa

Refer to attached Appendix A for details of test results of Wi-Fi operation.

5.1.3 6dB Bandwidth and 99% Bandwidth

RESULT:**Passed**

Date of testing	:	2014-12-30 to 2015-01-07
Test standard	:	FCC Part 15.247(a)(2) RSS-247 Section 5.2 RSS-Gen Issue 4 Clause 6.6
Basic standard	:	ANSI C63.10:2009 ANSI C63.10:2013 FCC KDB 558074 v03r02
Kind of test site	:	Shielded room

Test setup

Test Channel	:	Low/ Middle/ High
Operation Mode	:	A
Ambient temperature	:	23°C
Relative humidity	:	50%
Atmospheric pressure	:	101.0 kPa

Refer to attached Appendix A for details of test results of Wi-Fi operation.

5.1.4 Conducted Spurious Emissions measured in 100 kHz Bandwidth

RESULT:**Passed**

Date of testing	:	2014-12-30 to 2015-01-07
Test standard	:	FCC part 15.247(d) RSS-247 Section 5.5 RSS-Gen Issue 4 Clause 6.13
Basic standard	:	ANSI C63.10:2009 ANSI C63.10:2013 FCC KDB 558074 v03r02
Limit	:	20dB or 30dB (below that in the 100kHz bandwidth within the band that contains the highest level of the desired power); In addition, radiated emissions which fall in the restricted bands, must also comply with the radiated emission limits specified in 15.209(a)
Kind of test site	:	Shield room

Test setup

Test Channel	:	Low/ Middle/ High
Operation mode	:	A
Ambient temperature	:	23°C
Relative humidity	:	50%
Atmospheric pressure	:	101.0 kPa

Test results of 100kHz Bandwidth of Frequency Band Edge by Conducted method refer to following test graph, and compliance is achieved as well.

Refer to attached Appendix A for details of test results of Wi-Fi operation.

5.1.5 Power Spectral Density

RESULT:**Passed**

Date of testing	:	2014-12-30 to 2015-01-07
Test standard	:	FCC part 15.247(e) RSS-247 Section 5.2
Basic standard	:	ANSI C63.10:2009 ANSI C63.10:2013 FCC KDB 558074 v03r02
Limit	:	8dBm/3kHz
Kind of test site	:	Shield room

Test setup

Test Channel	:	Low/ Middle/ High
Operation mode	:	A
Ambient temperature	:	23°C
Relative humidity	:	50%
Atmospheric pressure	:	101.0 kPa

Refer to attached Appendix A for details of test results of Wi-Fi operation.

5.1.6 Spurious Emissions

RESULT:**Passed**

Date of testing	:	2014-12-30 to 2015-05-10
Test standard	:	FCC part 15.247(d) FCC part 15.209 RSS-247 Section 5.5 RSS-Gen Issue 4 Clause 6.13
Basic standard	:	ANSI C63.10:2009 ANSI C63.10:2013
Limits	:	Refer to 15.209(a) RSS-Gen Issue 4 Clause 8.9 and 8.10
Kind of test site	:	3m Semi-Anechoic Chamber

Test setup

Test Channel	:	Low/ Middle/ High
Operation mode	:	A
Ambient temperature	:	23°C
Relative humidity	:	50%
Atmospheric pressure	:	101.0 kPa

Refer to attached Appendix B and Appendix C for details of test results of Wi-Fi operation.

5.1.7 Conducted emissions

RESULT:**Passed**

Date of testing	:	2014-12-30 to 2015-01-07
Test standard	:	FCC Part 15.207 RSS-Gen Issue 4 Clause 8.8
Basic standard	:	ANSI C63.10:2009 ANSI C63.10:2013
Frequency range	:	0.15MHz – 30MHz
Limits	:	FCC Part 15.207(a) Table 3 of RSS-Gen
Kind of test site	:	Shield Room

Test Setup

Input Voltage	:	DC 5V (via USB port)
Operation Mode	:	A
Ambient temperature	:	23°C
Relative humidity	:	50%
Atmospheric pressure	:	101.0 kPa

Refer to attached Appendix D for details of test results.

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Appendix A

Test Results of Wi-Fi operation

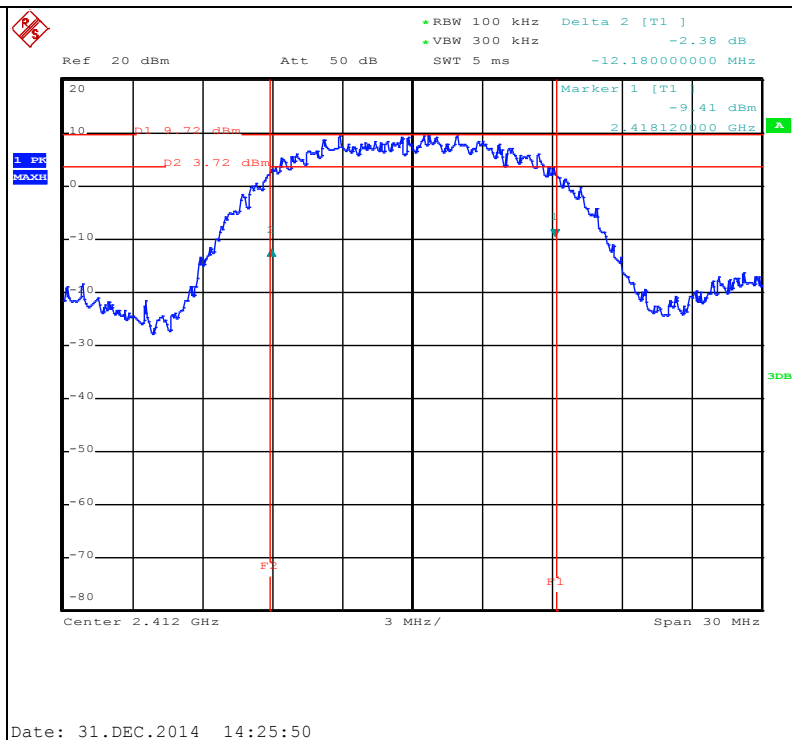
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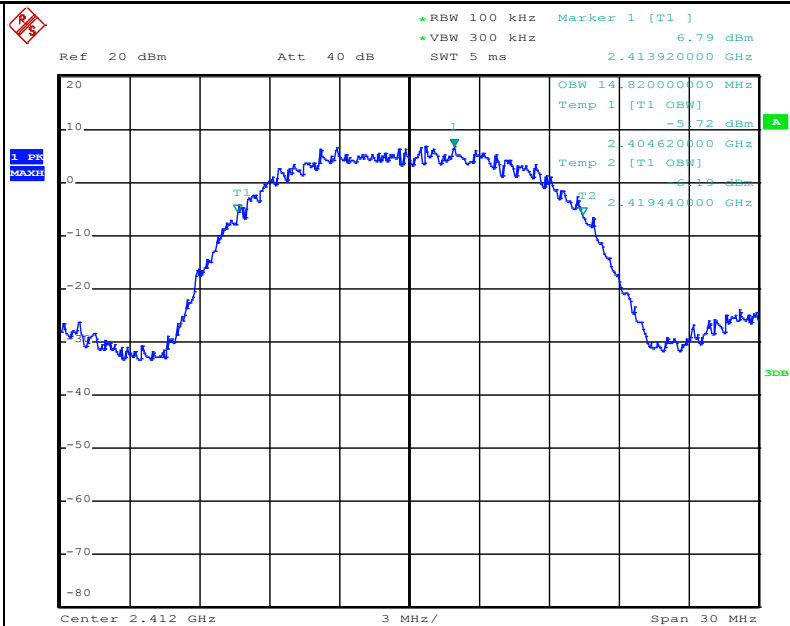
Appendix A.1: Maximum Conducted Output Power_802.11b

Channel	Channel Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit(dBm)
Low Channel	2412	16.30	30
Middle Channel	2437	16.20	30
High Channel	2462	16.20	30

Appendix A.2: 6dB Bandwidth and 99% Bandwidth_802.11b

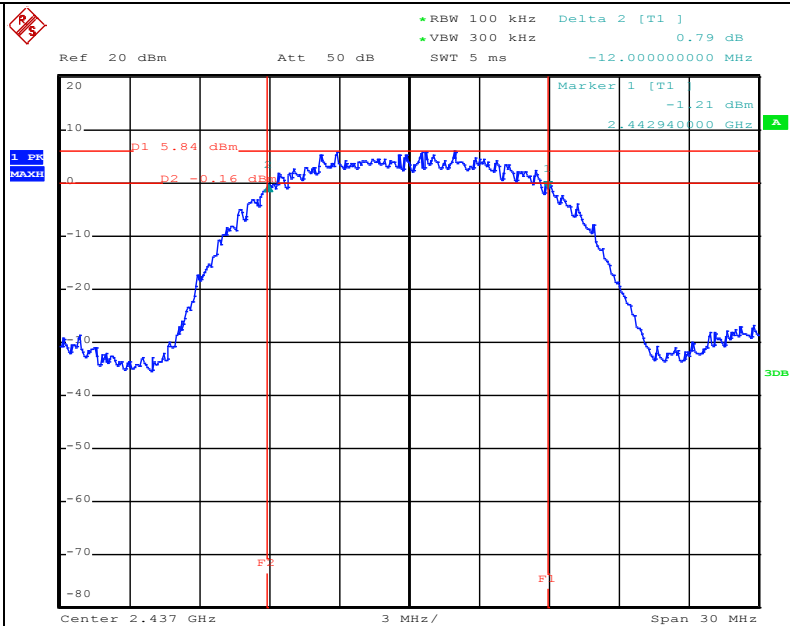
Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low Channel	2412	12.18	14.82
Middle Channel	2437	12.00	14.82
High Channel	2462	12.18	14.76

Low Channel 6dB Bandwidth**Low Channel 99% Bandwidth**



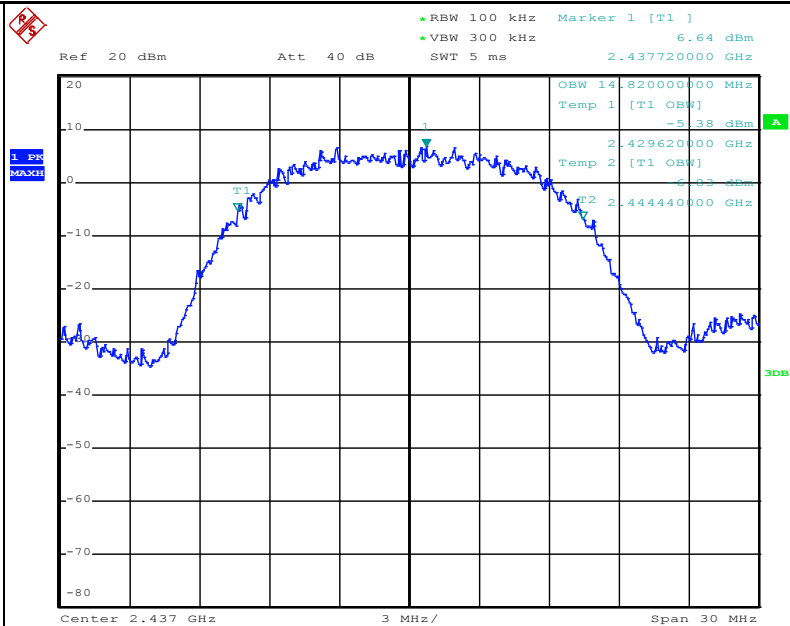
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Middle Channel 6dB Bandwidth



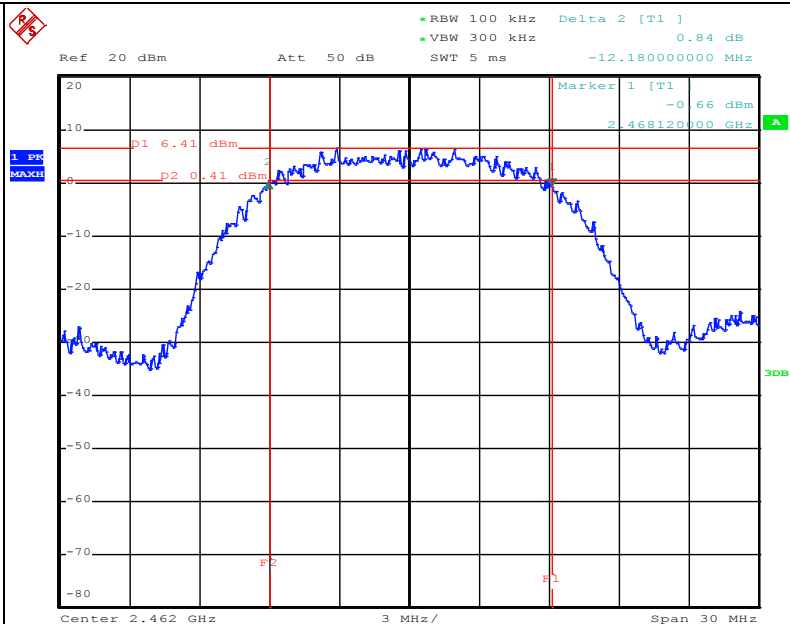
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Middle Channel 99% Bandwidth



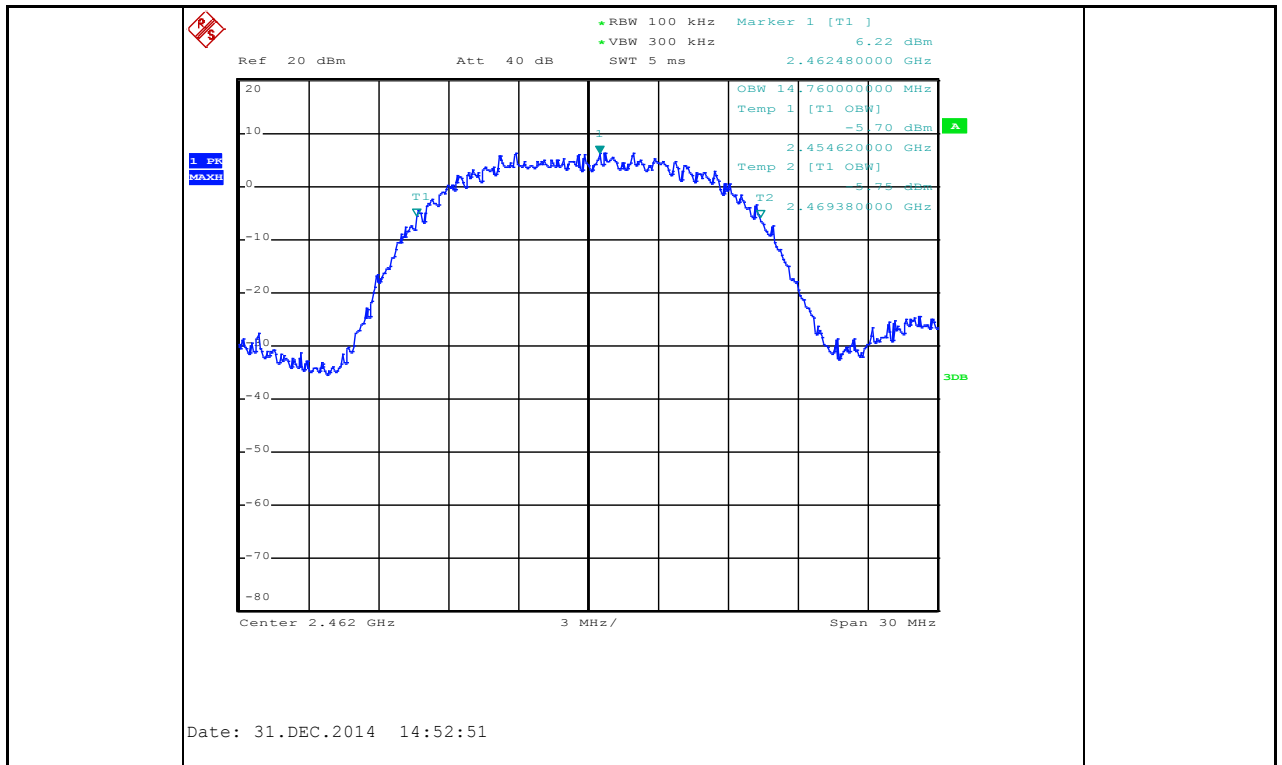
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High Channel 6dB Bandwidth



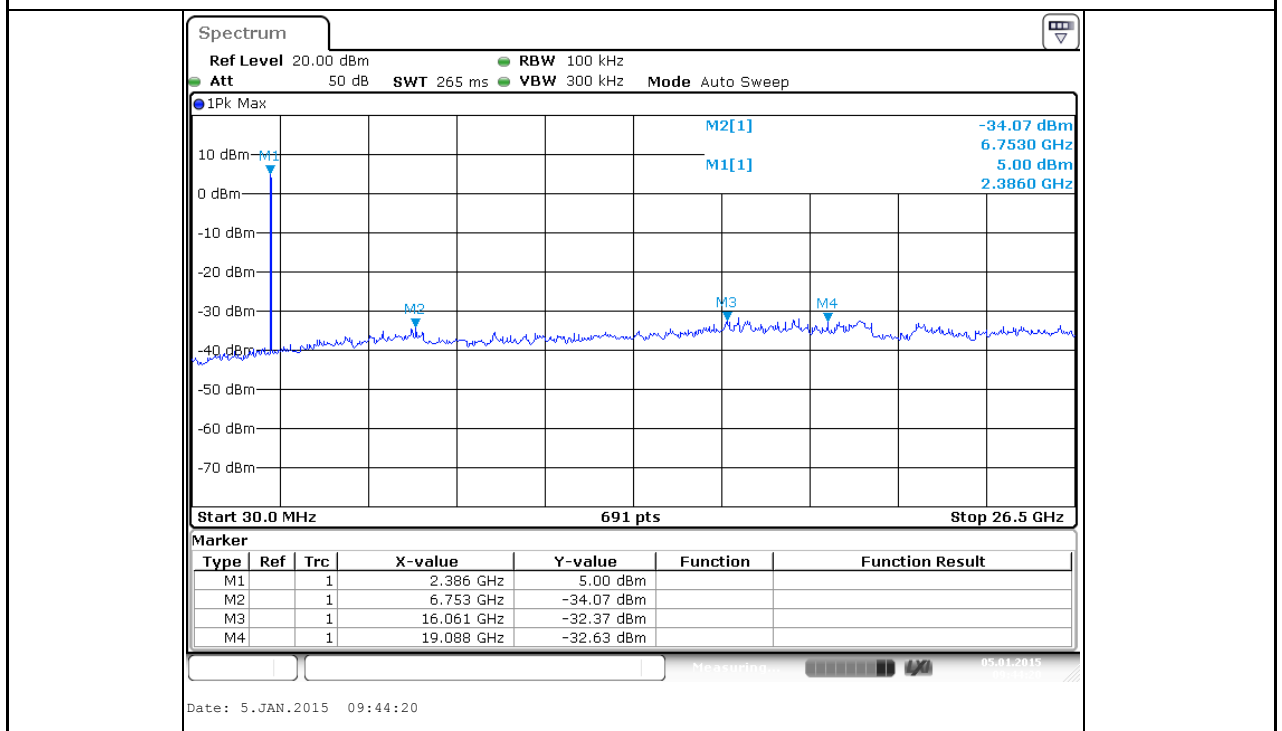
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High Channel 99% Bandwidth

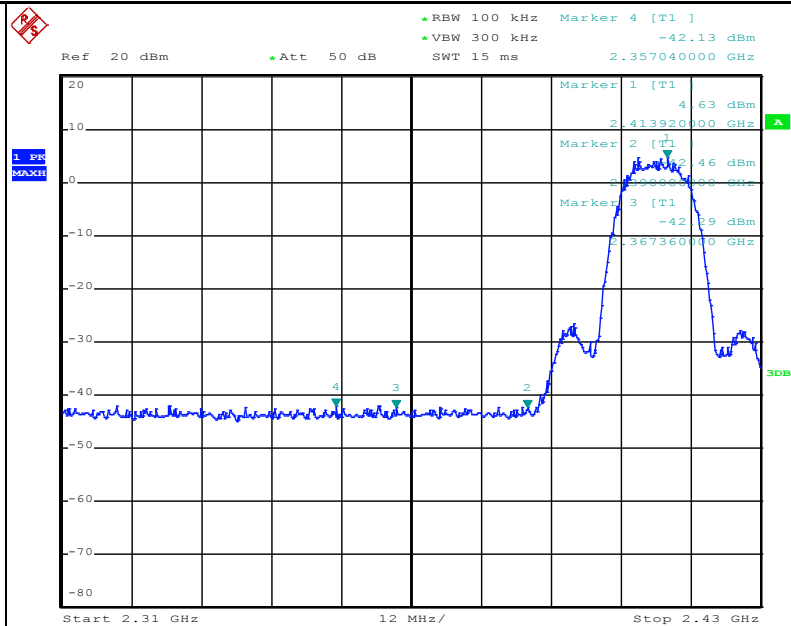


Appendix A.3: Conducted Spurious Emissions measured in 100kHz Bandwidth_802.11b

Low Channel 1

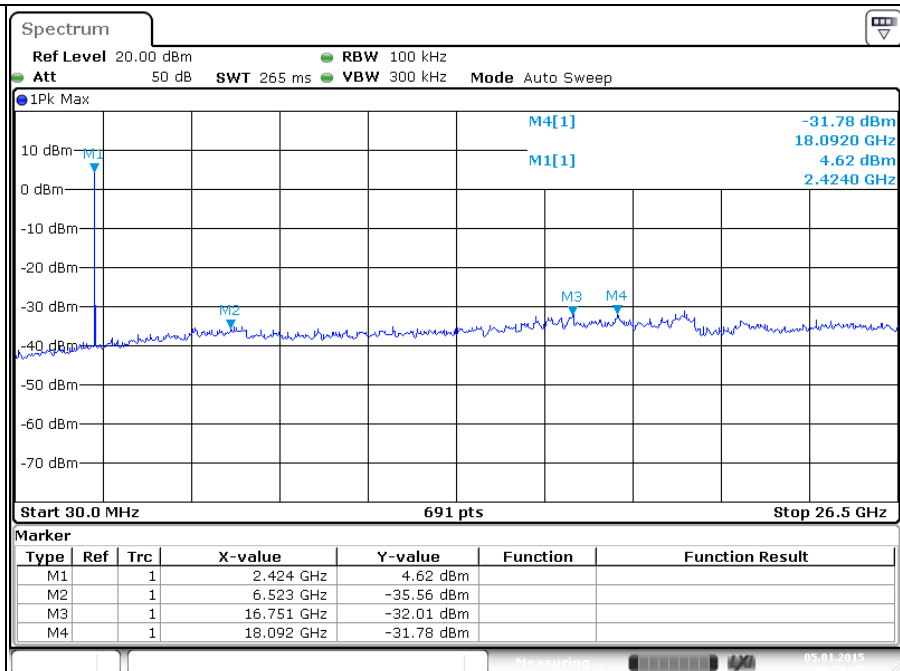


Low Channel 2



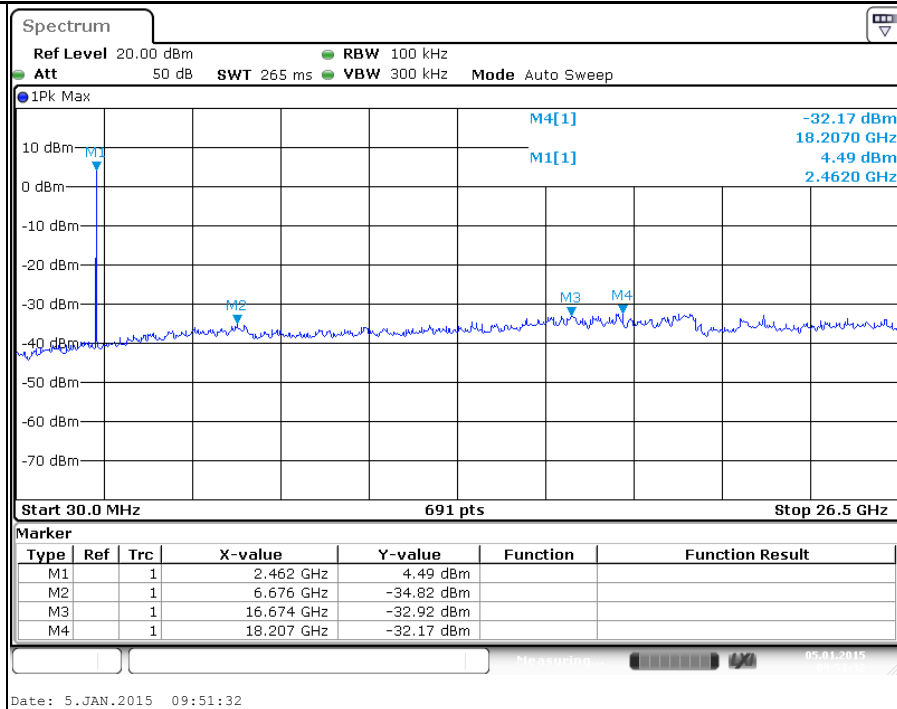
Date: 19.JAN.2015 17:33:38

Middle Channel 1

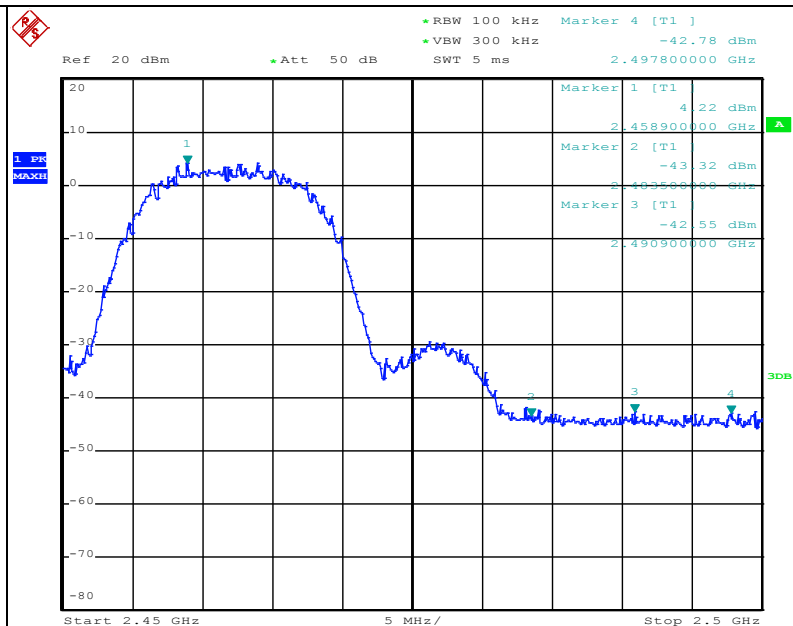


Date: 5.JAN.2015 09:50:46

High Channel 1



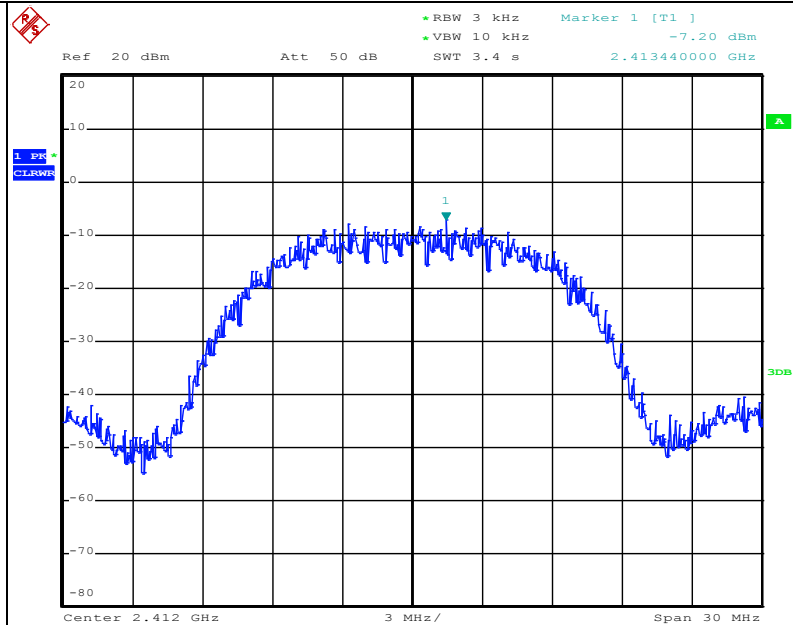
High Channel 2



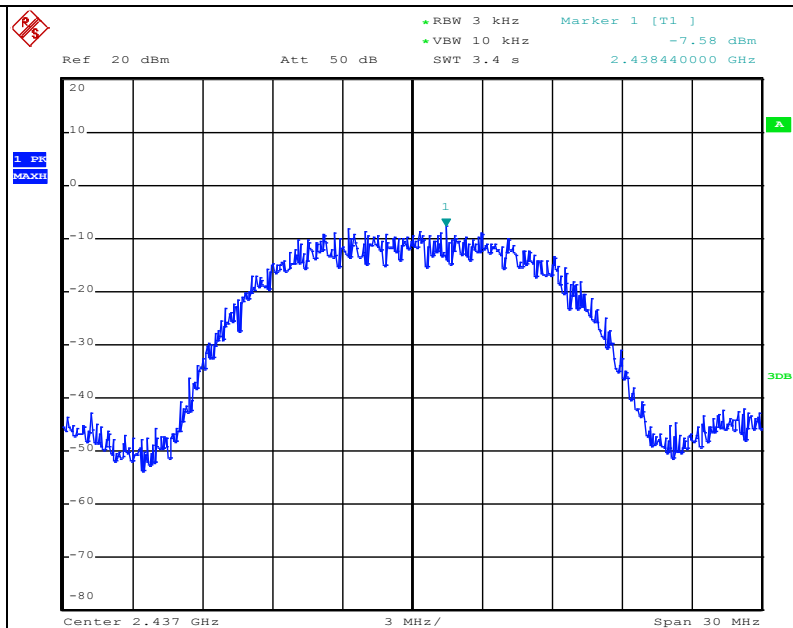
Date: 19.JAN.2015 17:36:39

Appendix A.4: Power Spectral Density_802.11b

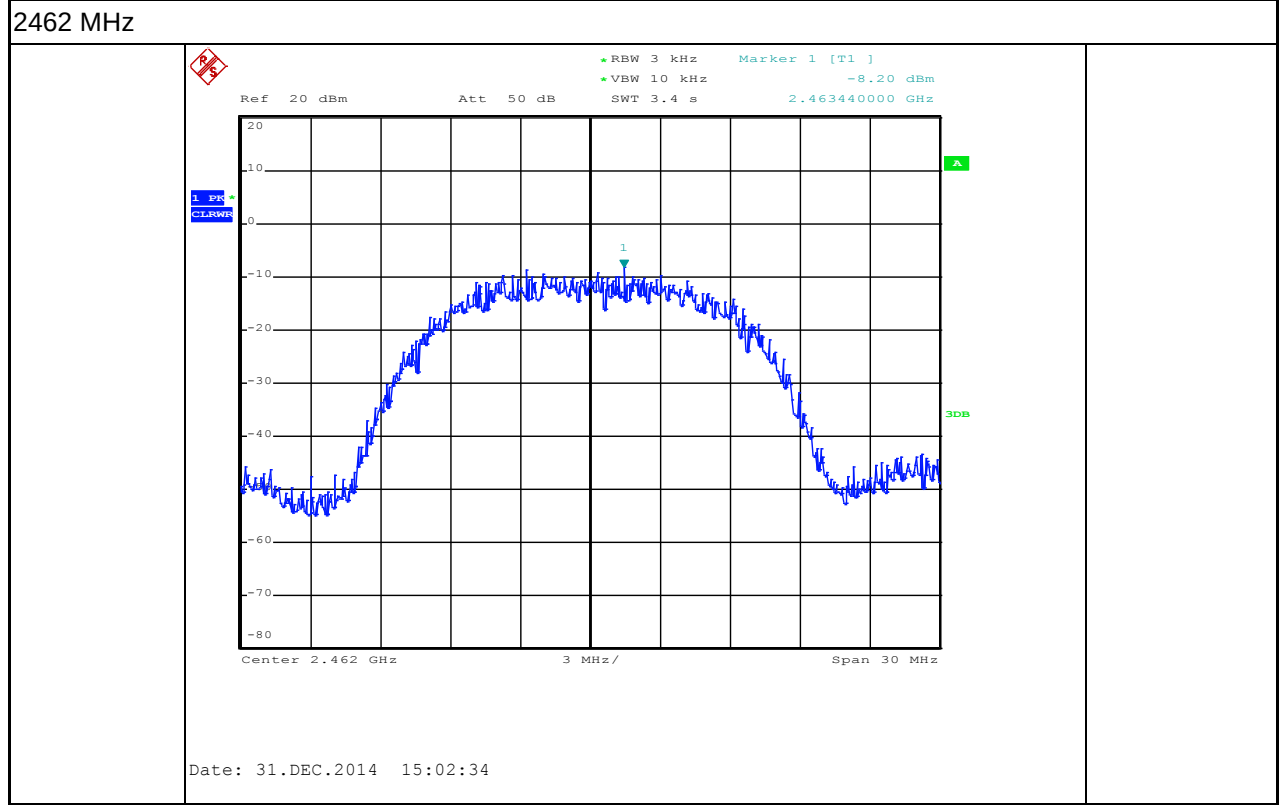
Channel (MHz)	Result (dBm/3kHz)	Limit (dBm/3kHz)	Conclusion
2412	-7.20	8	Pass
2437	-7.58	8	Pass
2462	-8.20	8	Pass

2412 MHz

Date: 31.DEC.2014 15:00:48

2437 MHz

Date: 31.DEC.2014 15:01:31

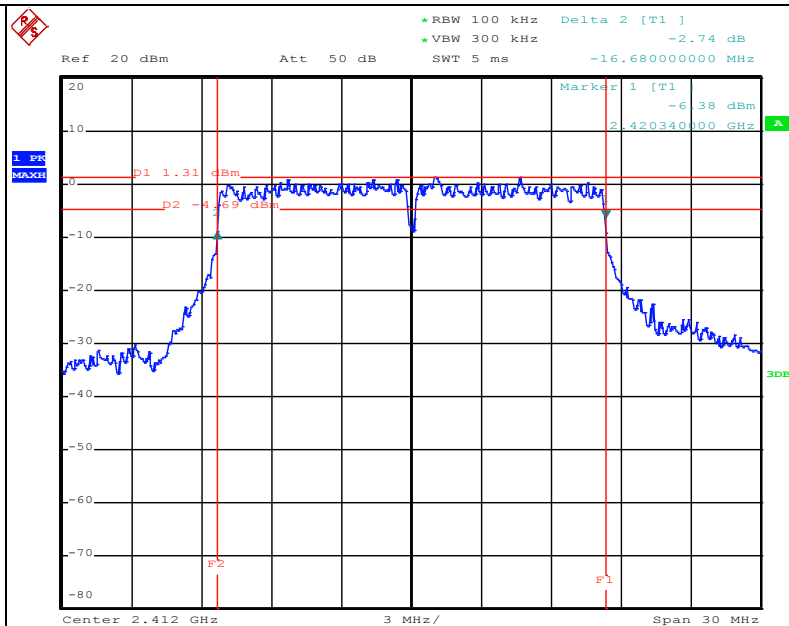


Appendix A.5: Test result of Maximum Conducted Output Power_802.11g

Channel	Channel Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit(dBm)
Low Channel	2412	13.30	30
Middle Channel	2437	13.30	30
High Channel	2462	13.20	30

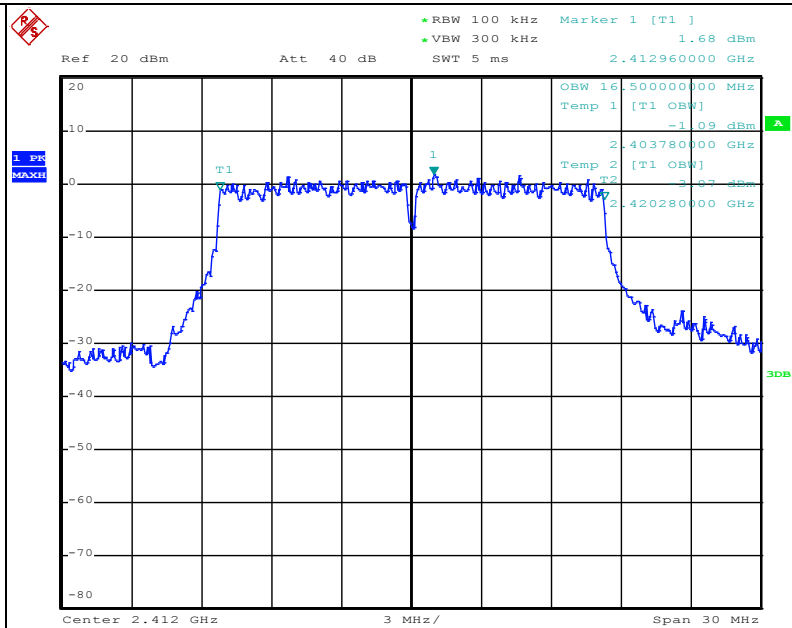
Appendix A.6: 6dB Bandwidth and 99% Bandwidth_802.11g

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low Channel	2412	16.68	16.50
Middle Channel	2437	16.68	16.50
High Channel	2462	16.68	16.50

Low Channel 6dB Bandwidth

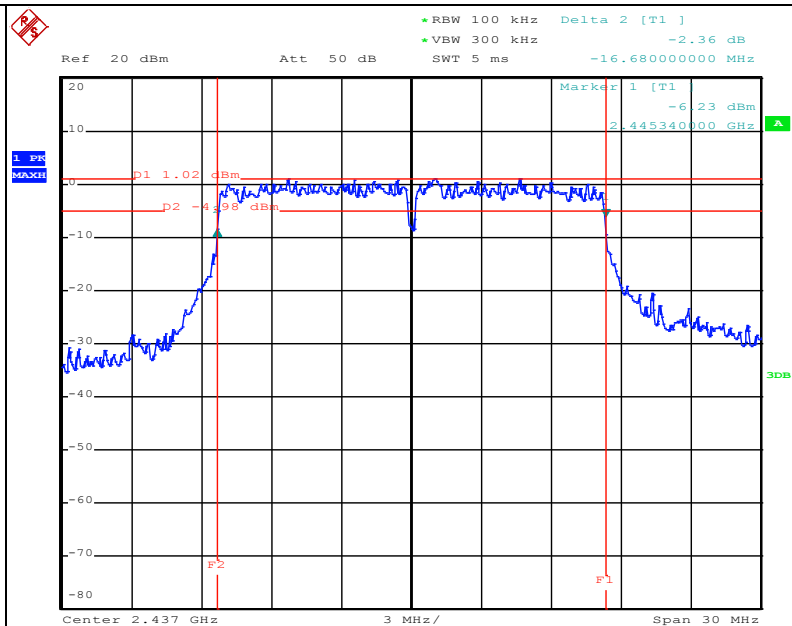
Date: 31.DEC.2014 14:37:07

Low Channel 99% Bandwidth



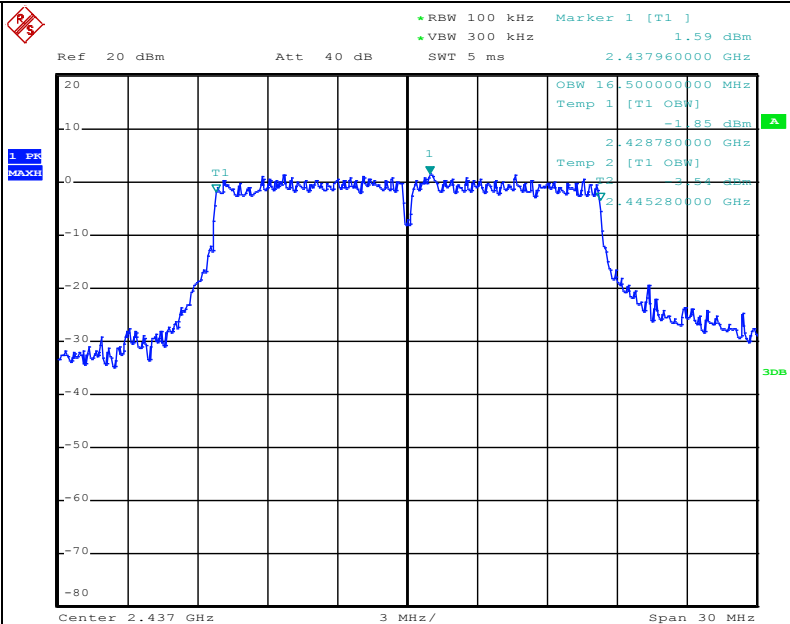
Date: 31.DEC.2014 14:51:26

Middle Channel 6dB Bandwidth



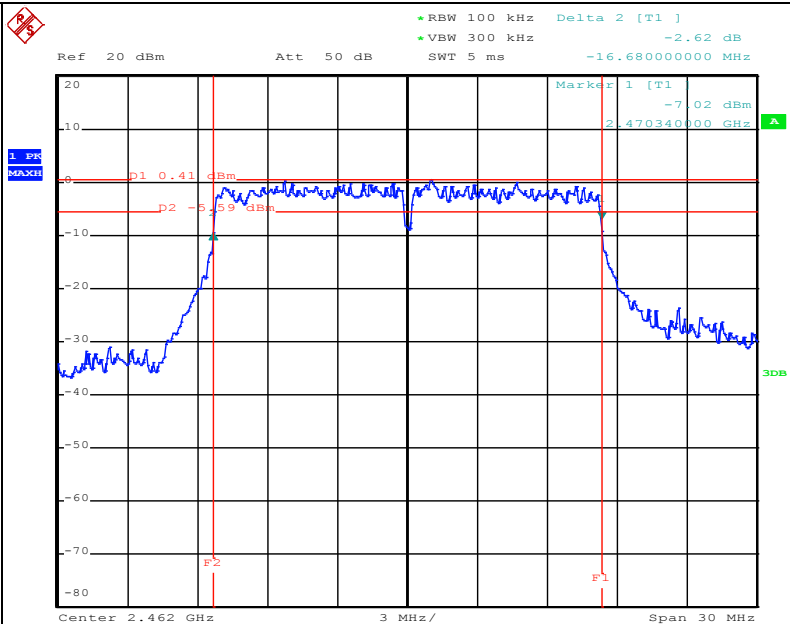
Date: 31.DEC.2014 14:34:11

Middle Channel 99% Bandwidth



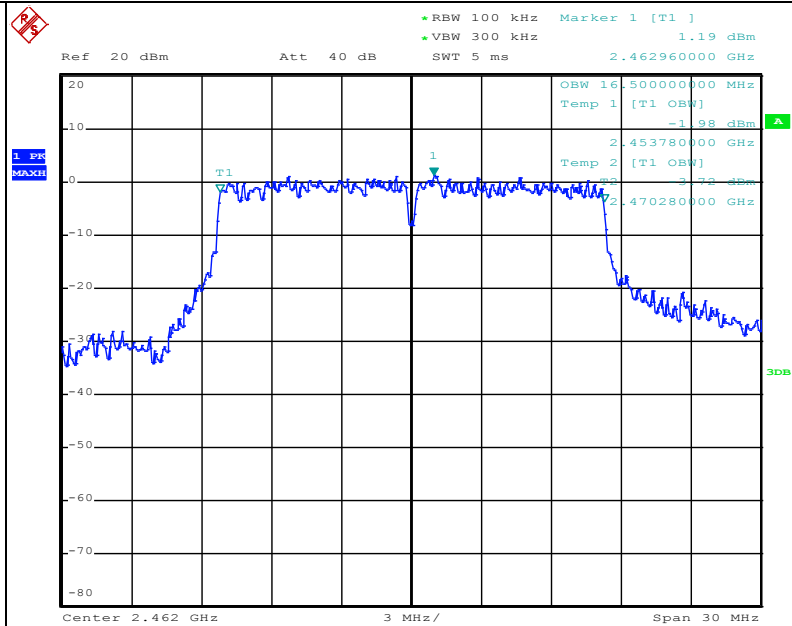
Date: 31.DEC.2014 14:51:58

High Channel 6dB Bandwidth



Date: 31.DEC.2014 14:32:42

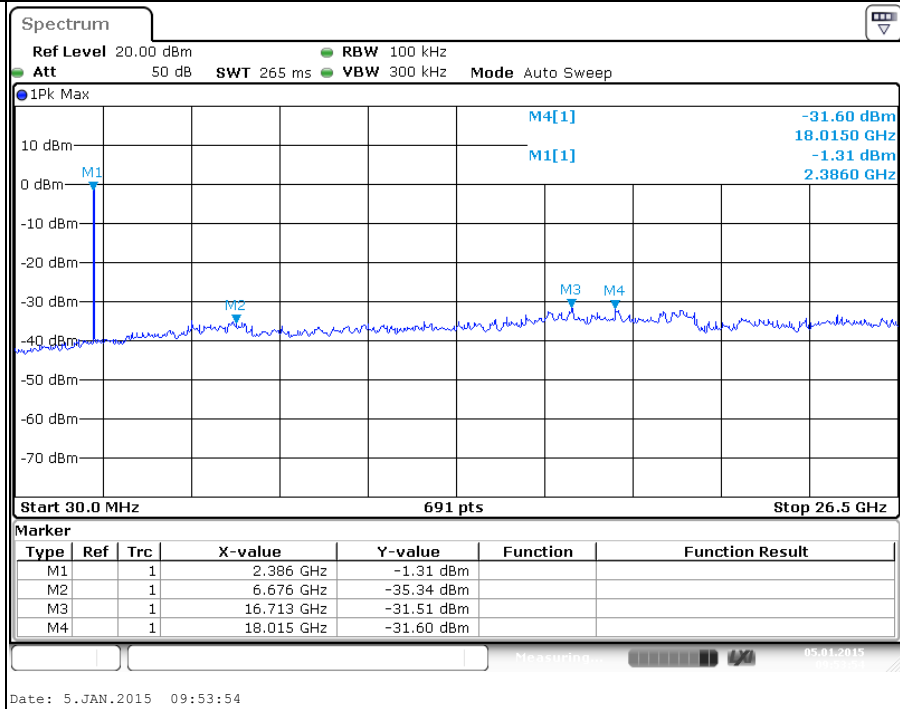
High Channel 99% Bandwidth



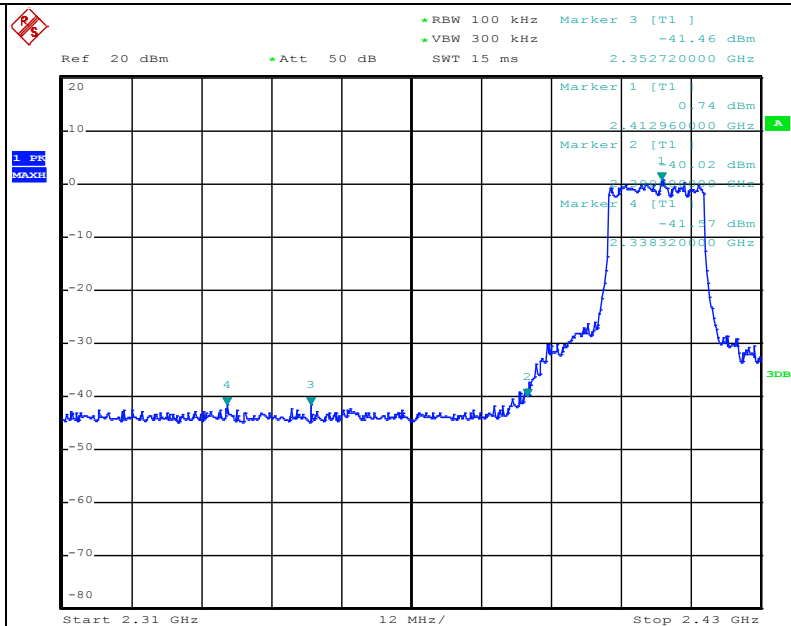
Date: 31.DEC.2014 14:52:25

Appendix A.7: Conducted Spurious Emissions measured in 100kHz Bandwidth_802.11g

Low Channel 1

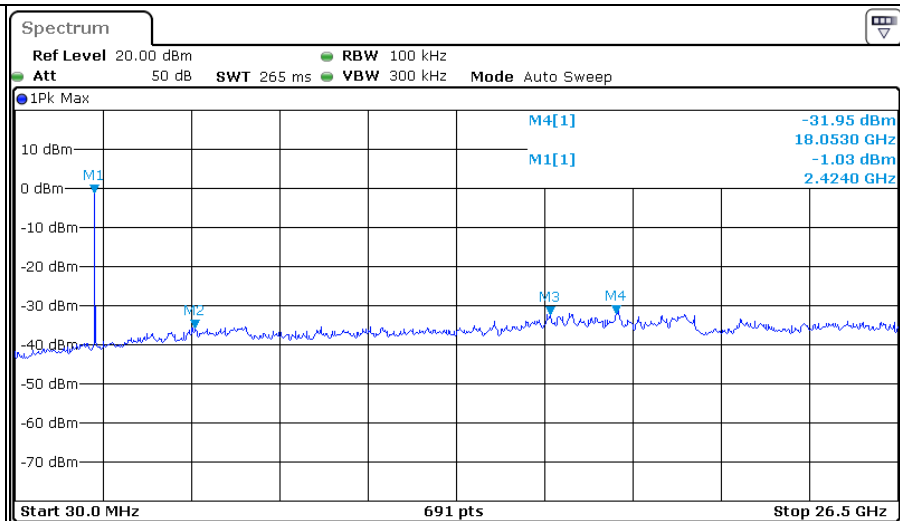


Low Channel 2



Date: 19.JAN.2015 17:39:34

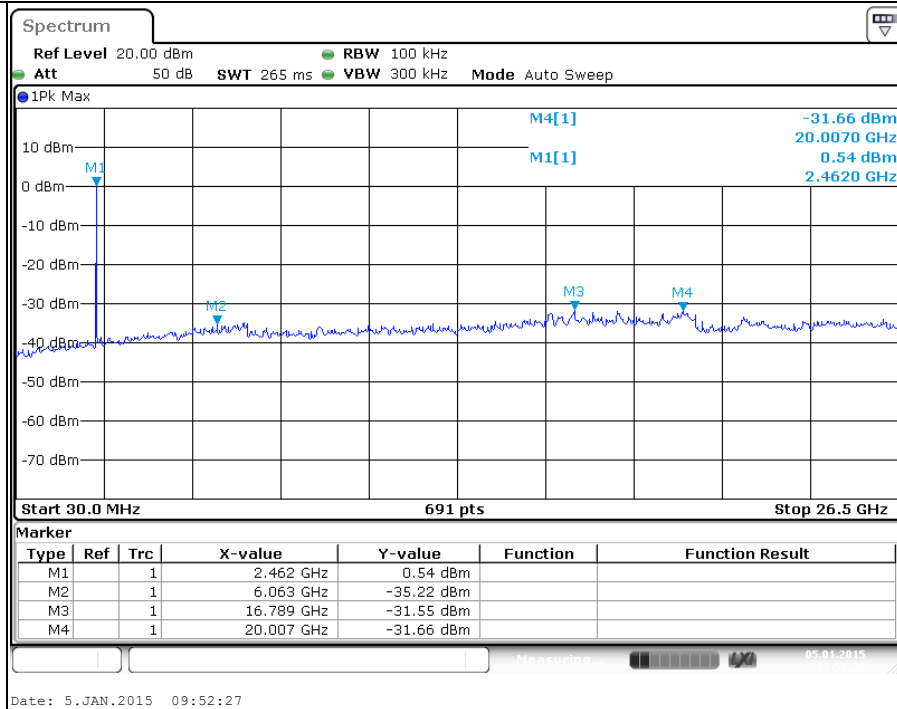
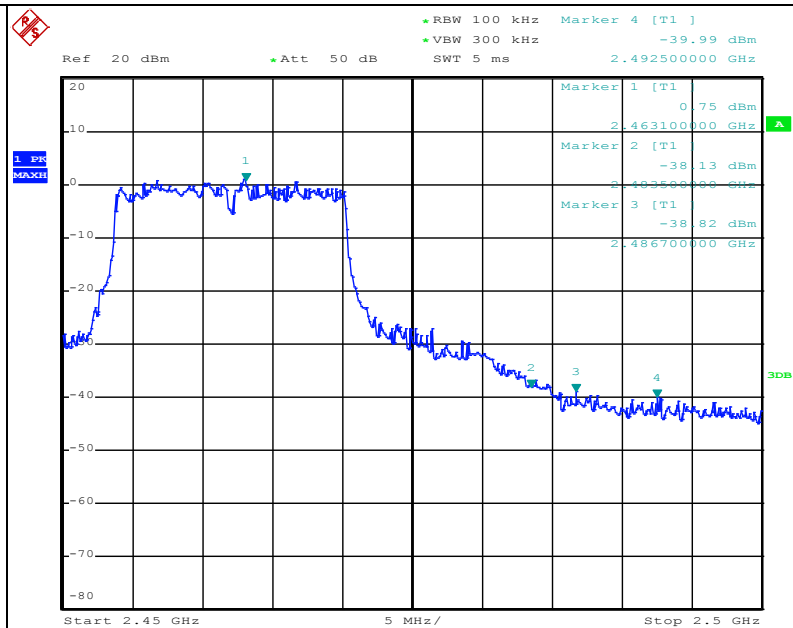
Middle Channel 1



Marker					
Type	Ref	Trc	X-value	Y-value	Function
M1	1	1	2.424 GHz	-1.03 dBm	
M2	1	1	5.45 GHz	-35.66 dBm	
M3	1	1	16.061 GHz	-32.22 dBm	
M4	1	1	18.053 GHz	-31.95 dBm	

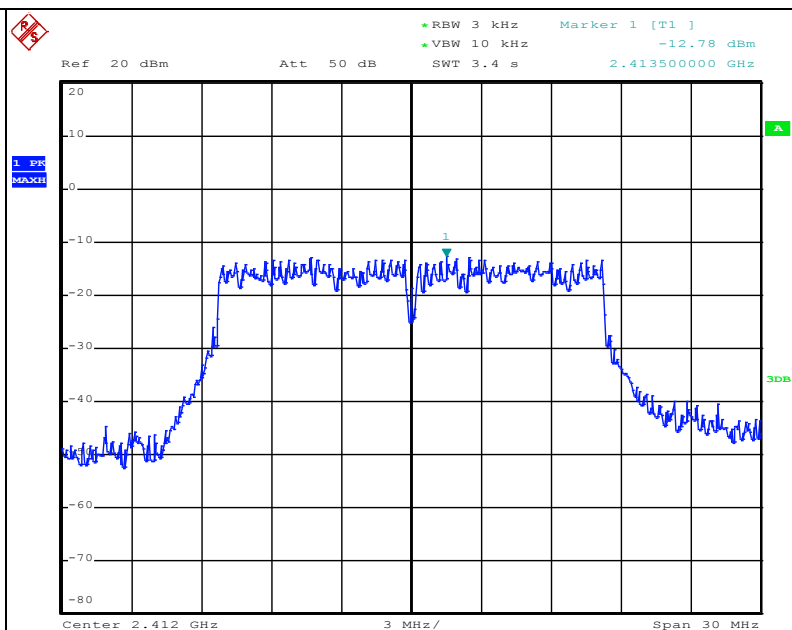
Date: 5.JAN.2015 09:53:12

High Channel 1

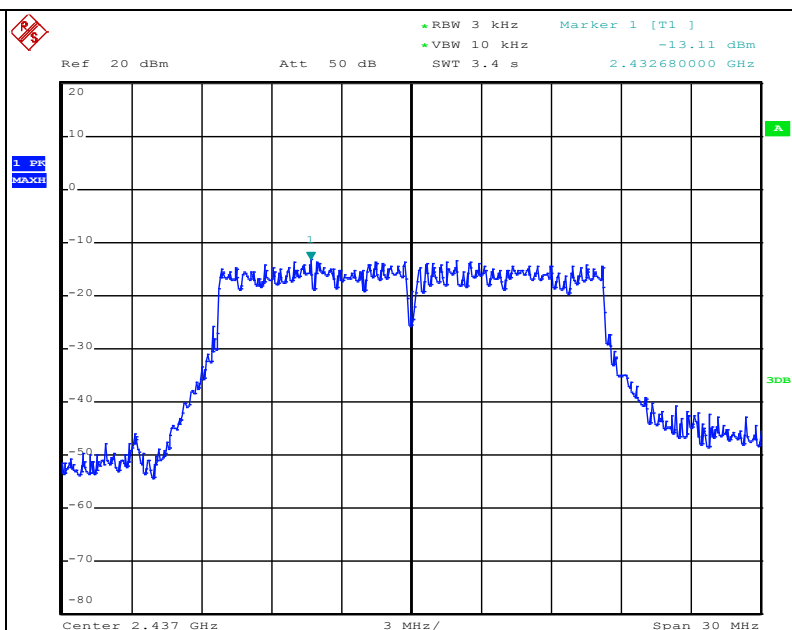
**High Channel 2**

Appendix A.8: Power Spectral Density_802.11g

Channel (MHz)	Result (dBm/3kHz)	Limit (dBm/3kHz)	Conclusion
2412	-12.78	8	Pass
2437	-13.11	8	Pass
2462	-15.78	8	Pass

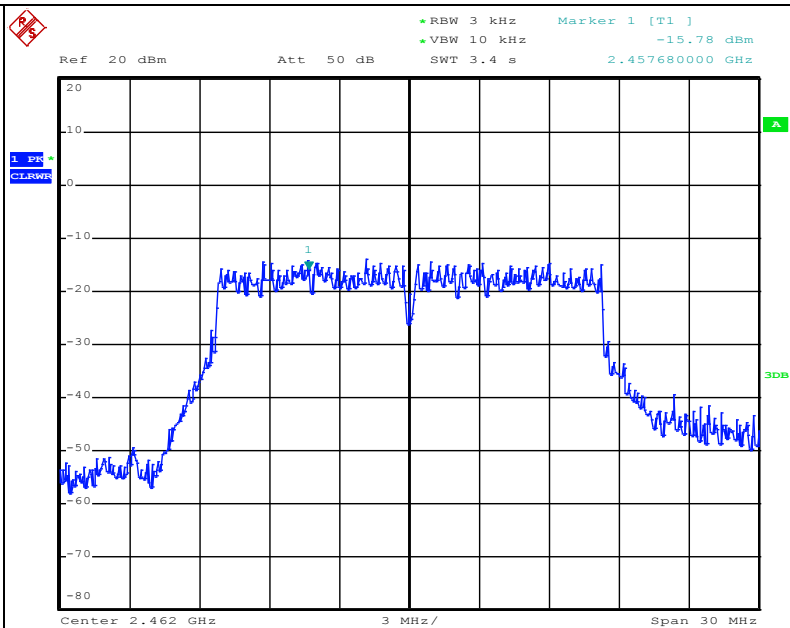
2412 MHz

Date: 31.DEC.2014 15:06:26

2437 MHz

Date: 31.DEC.2014 15:05:47

2462 MHz



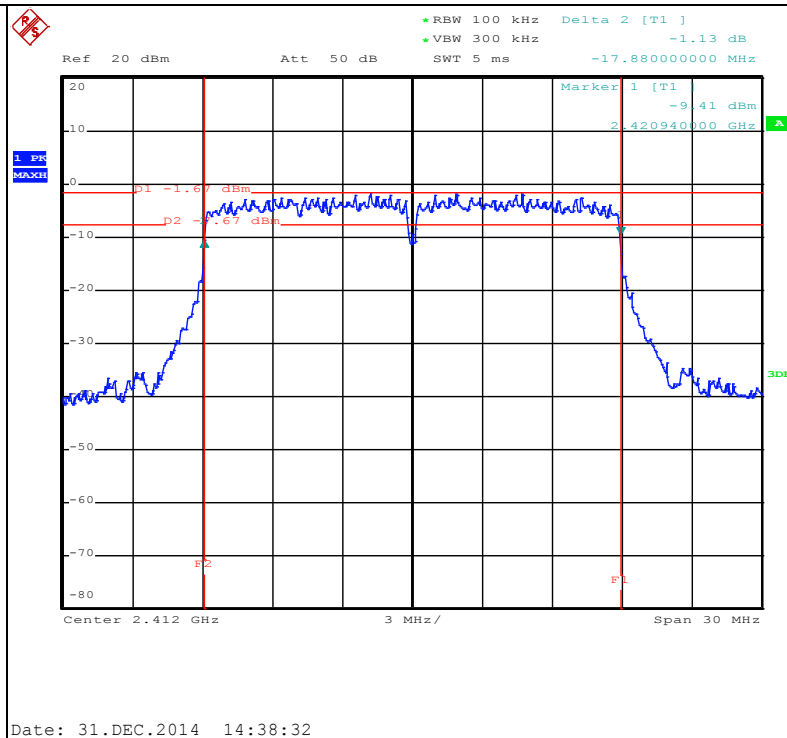
Date: 31.DEC.2014 15:04:37

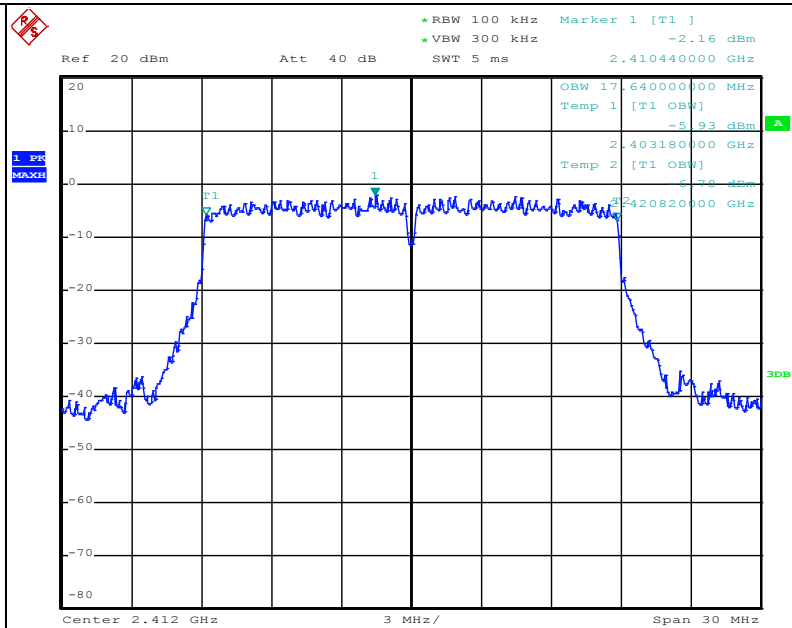
Appendix A.9: Maximum Conducted Output Power_802.11n HT20

Channel	Channel Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit(dBm)
Low Channel	2412	10.10	30
Middle Channel	2437	10.20	30
High Channel	2462	10.20	30

Appendix A.10: 6dB Bandwidth and 99% Bandwidth_802.11n HT20

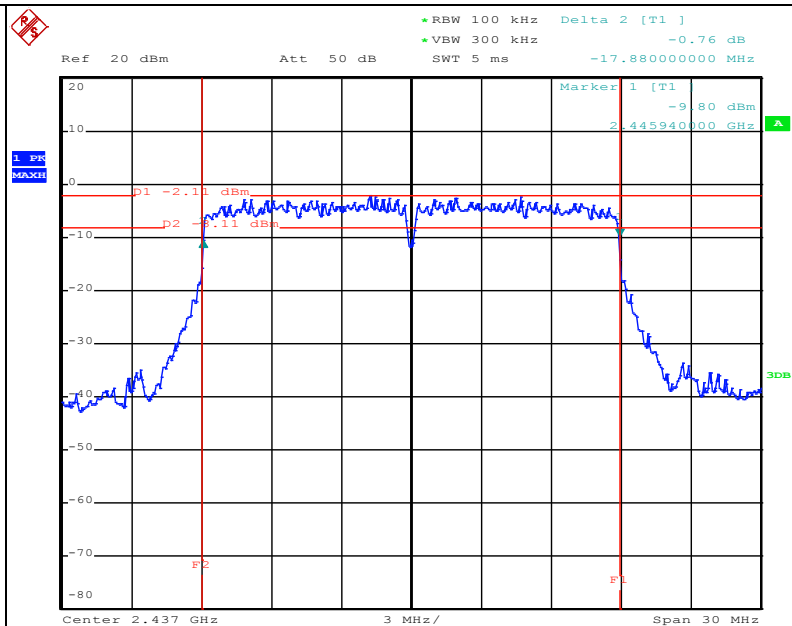
Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low Channel	2412	17.88	17.64
Middle Channel	2437	17.88	17.64
High Channel	2462	17.88	17.64

Low Channel 6dB Bandwidth**Low Channel 99% Bandwidth**



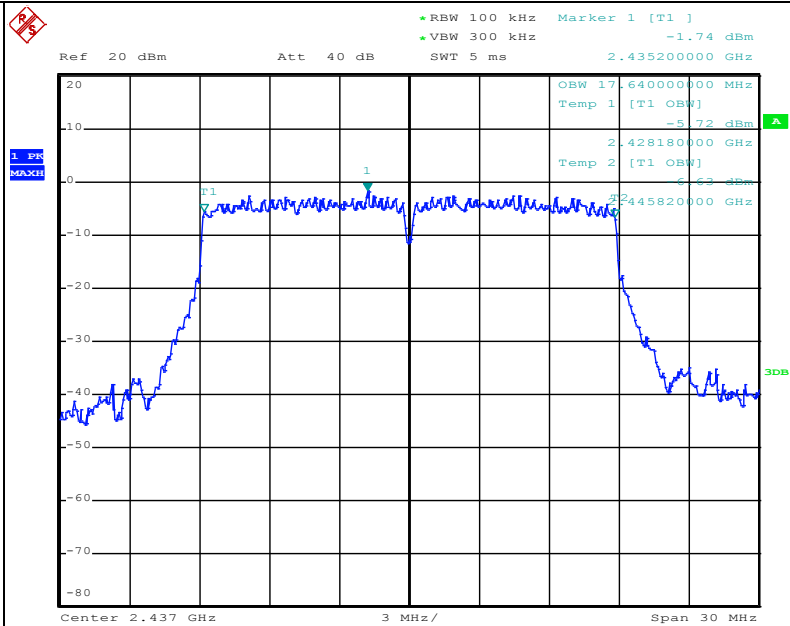
Date: 31.DEC.2014 14:50:32

Middle Channel 6dB Bandwidth



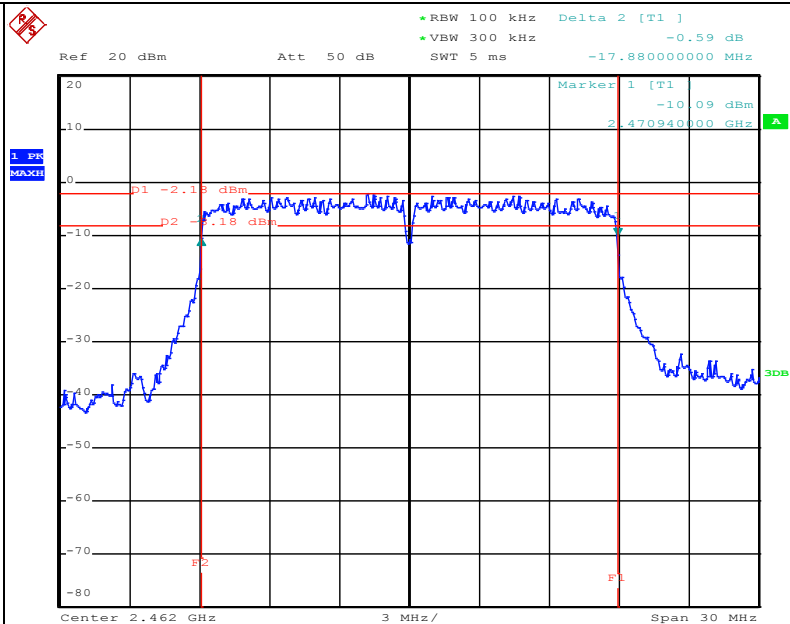
Date: 31.DEC.2014 14:39:35

Middle Channel 99% Bandwidth



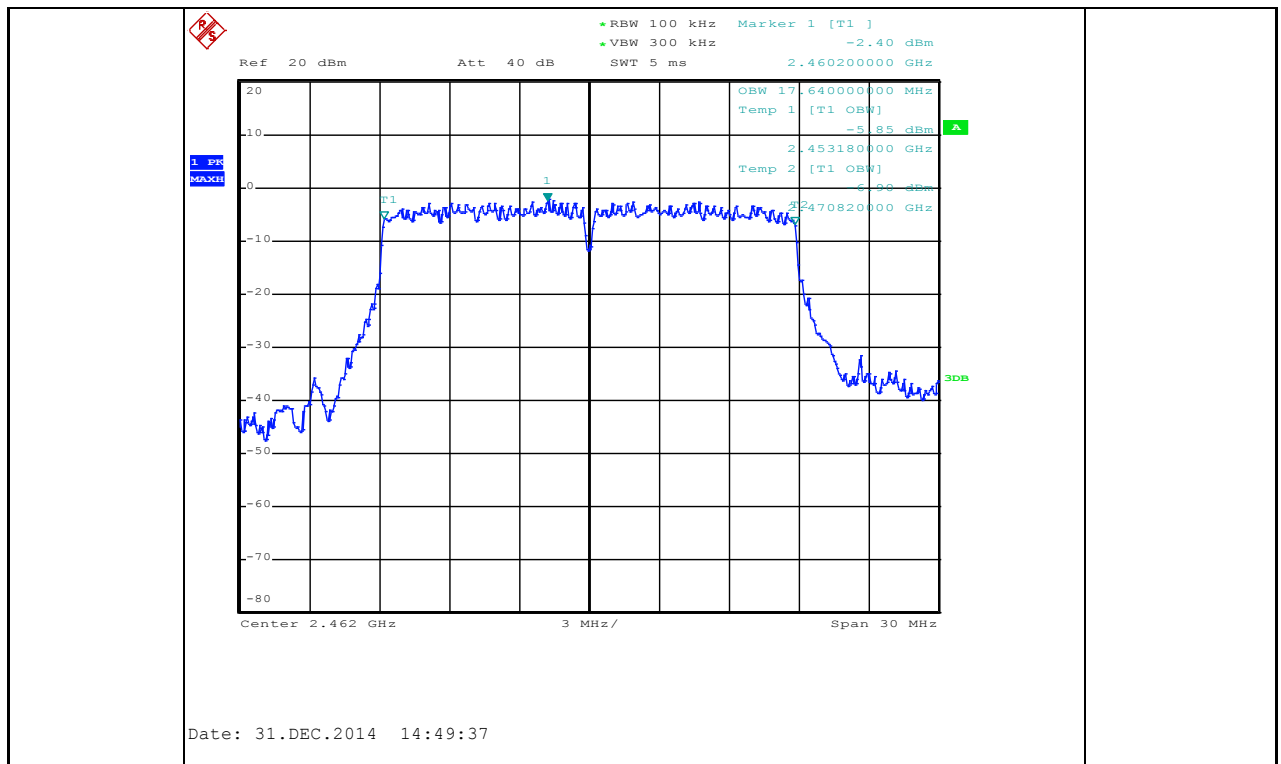
Date: 31.DEC.2014 14:50:06

High Channel 6dB Bandwidth

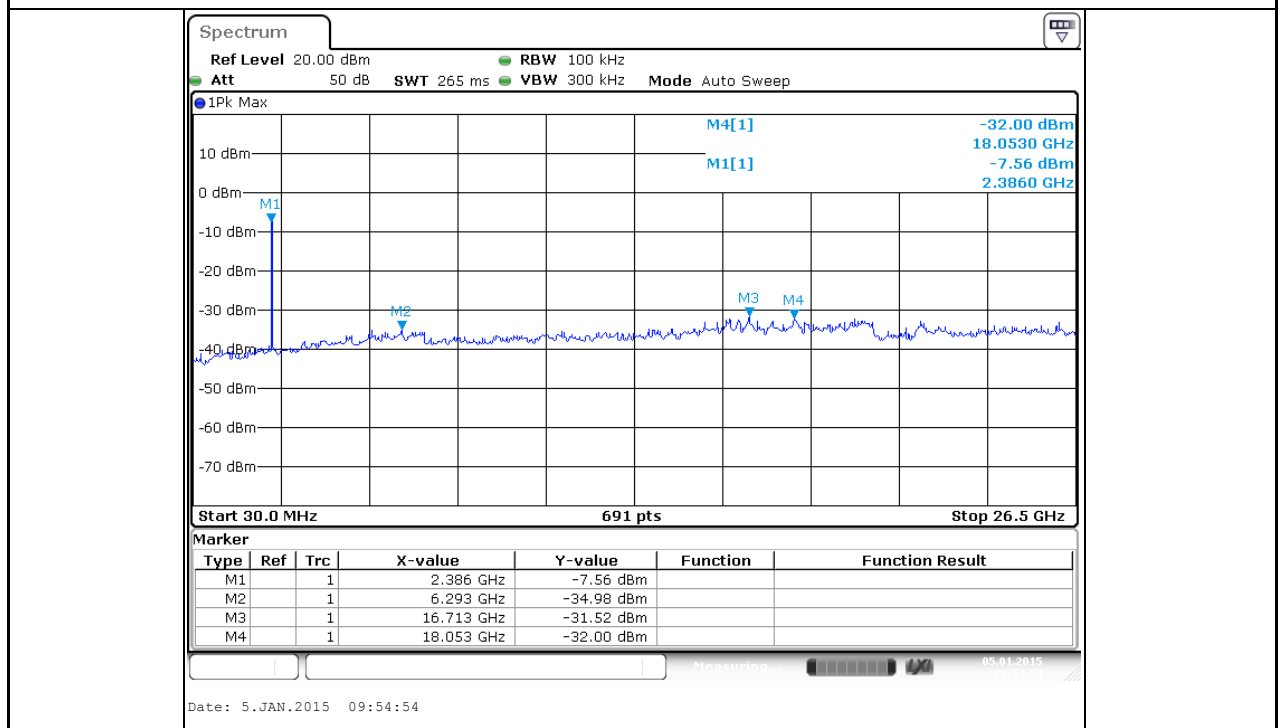


Date: 31.DEC.2014 14:40:48

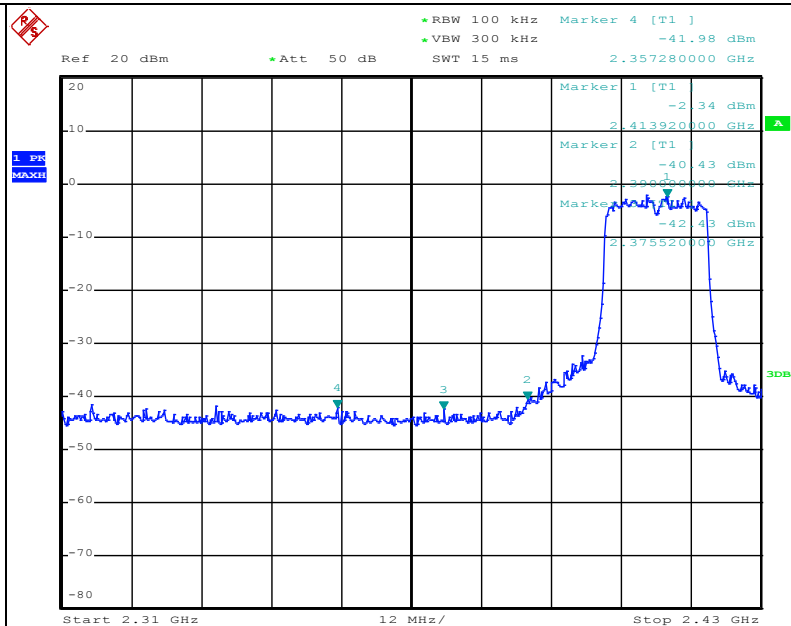
High Channel 99% Bandwidth

**Appendix A.11: Conducted Spurious Emissions measured in 100kHz Bandwidth_802.11n HT20**

Low Channel 1

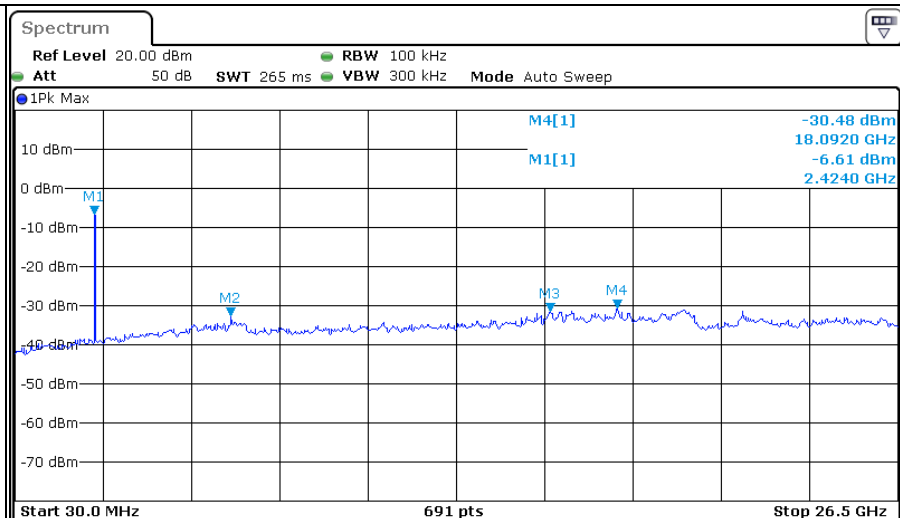


Low Channel 2



Date: 19.JAN.2015 17:40:50

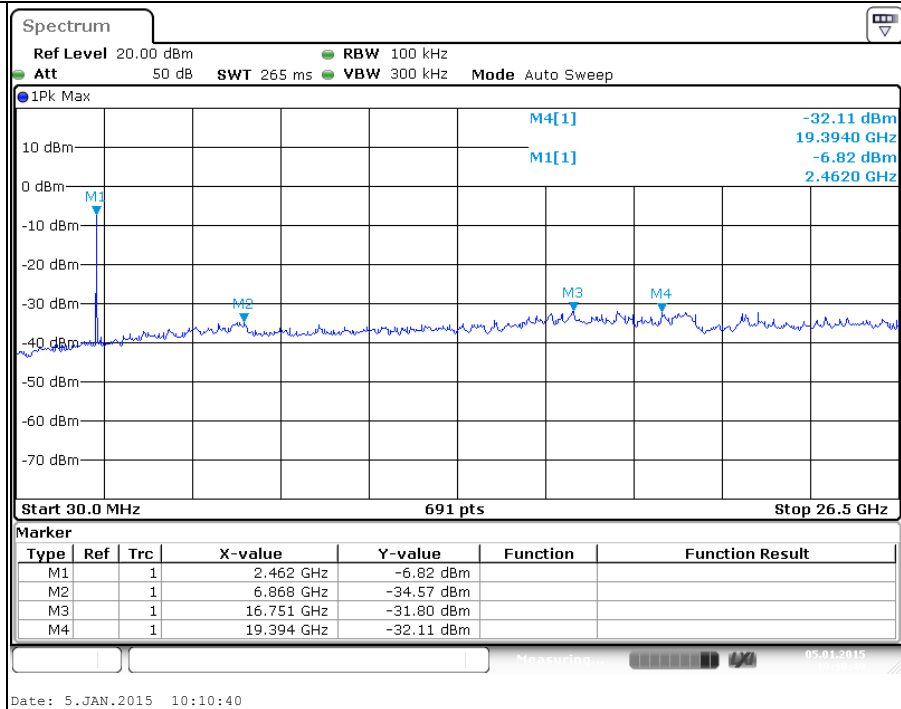
Middle Channel 1



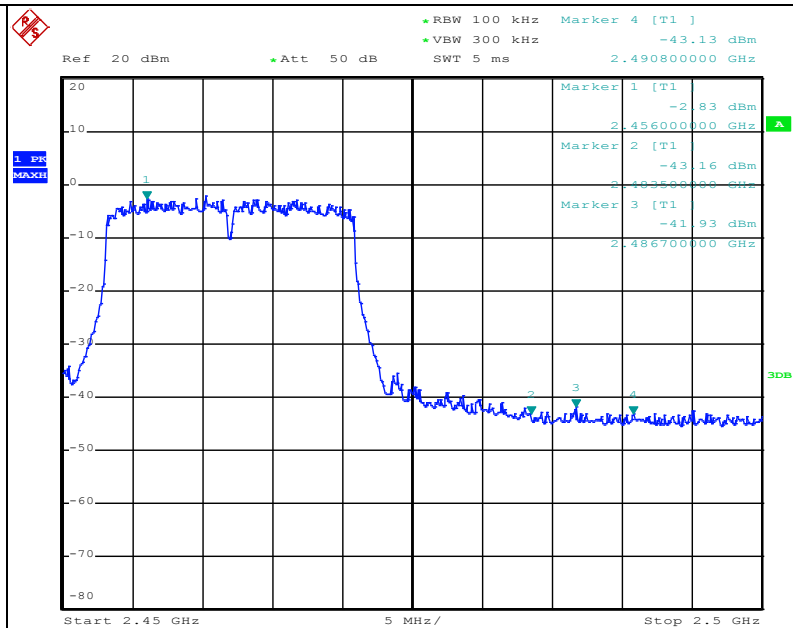
Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1	1			2.424 GHz	-6.61 dBm		
M2	1			6.523 GHz	-32.54 dBm		
M3	1			16.061 GHz	-31.55 dBm		
M4	1			18.092 GHz	-30.48 dBm		

Date: 5.JAN.2015 10:08:19

High Channel 1



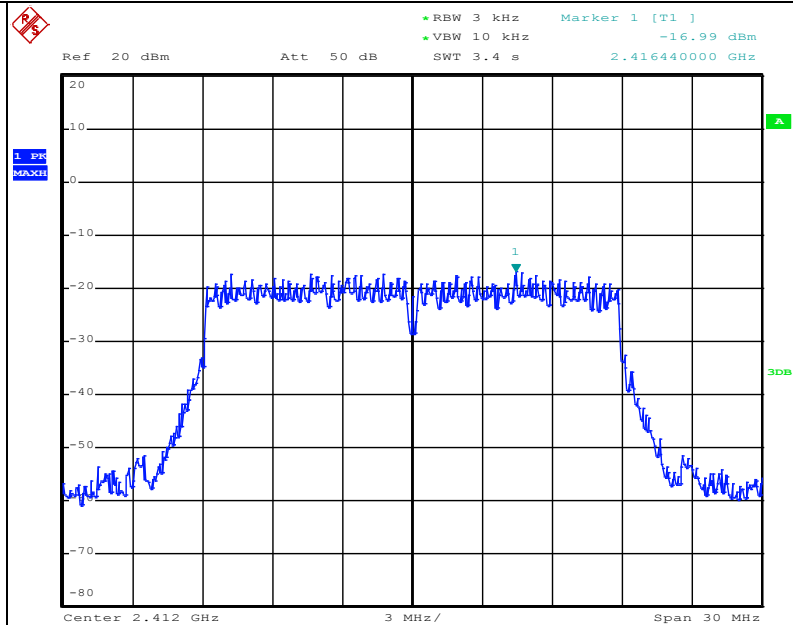
High Channel 2



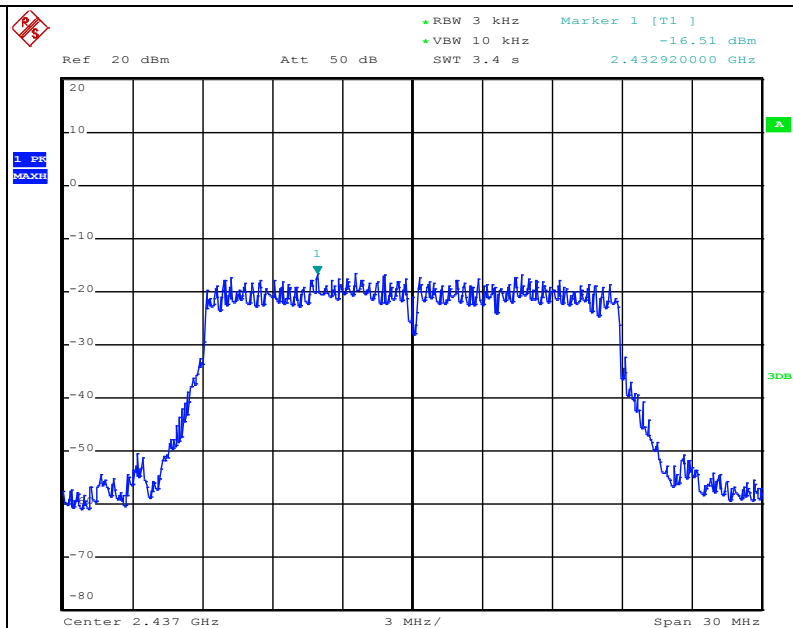
Date: 19.JAN.2015 17:41:44

Appendix A.12: Power Spectral Density_802.11n HT20

Channel (MHz)	Result (dBm/3kHz)	Limit (dBm/3kHz)	Conclusion
2412	-16.99	8	Pass
2437	-16.51	8	Pass
2462	-16.70	8	Pass

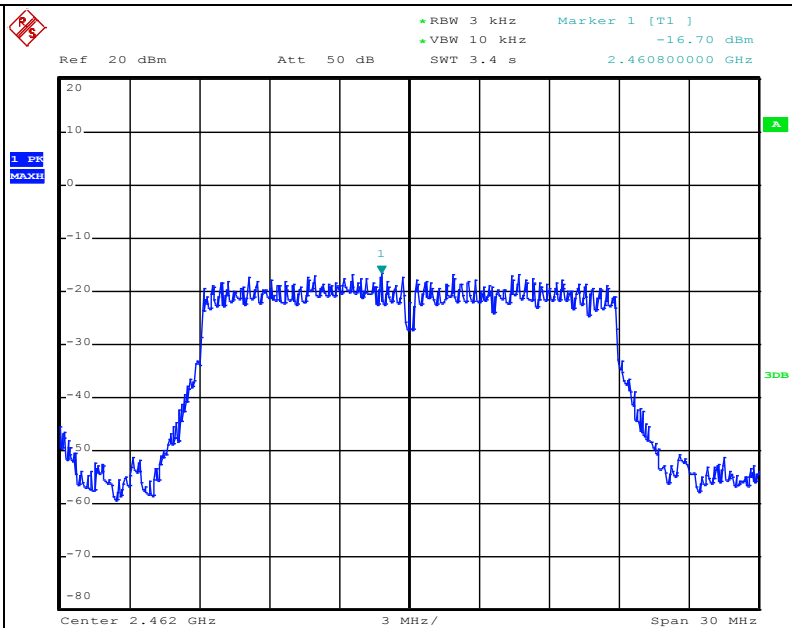
2412 MHz

Date: 31.DEC.2014 15:07:03

2437 MHz

Date: 31.DEC.2014 15:07:33

2462 MHz



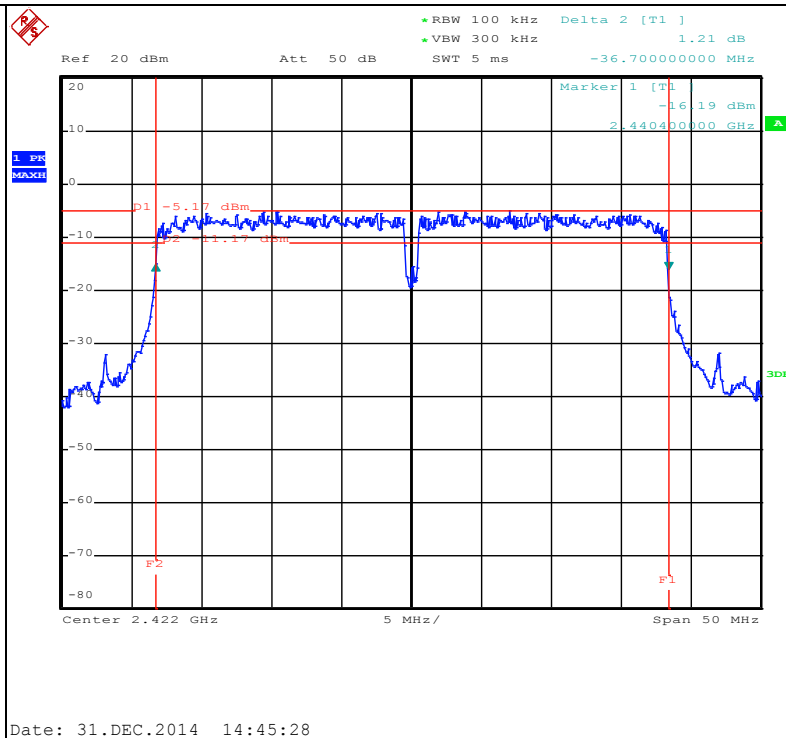
Date: 31.DEC.2014 15:08:00

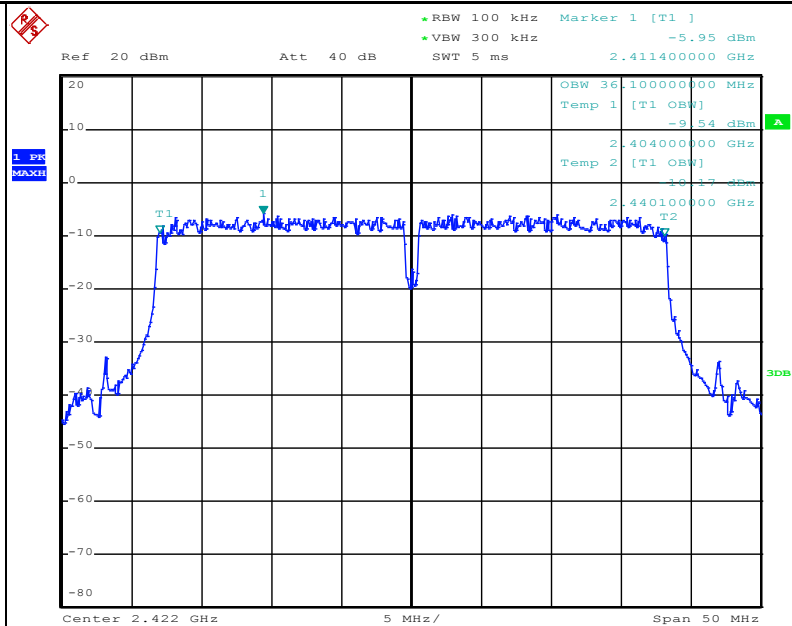
Appendix A.13: Maximum Conducted Output Power_802.11n HT40

Channel	Channel Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit(dBm)
Low Channel	2422	10.30	30
Middle Channel	2437	10.30	30
High Channel	2452	10.50	30

Appendix A.14: 6dB Bandwidth and 99% Bandwidth_802.11n HT40

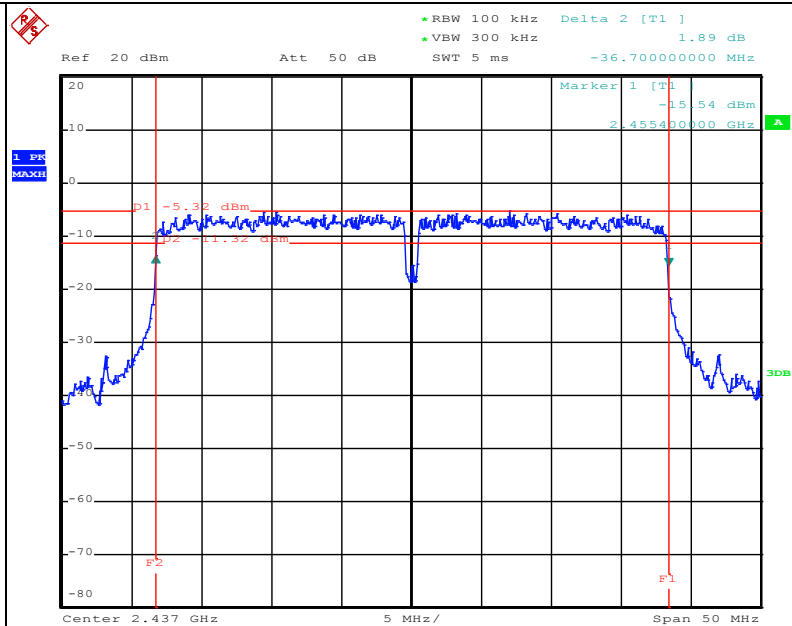
Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low Channel	2422	36.70	36.10
Middle Channel	2437	36.70	36.20
High Channel	2452	36.70	36.20

Low Channel 6dB Bandwidth**Low Channel 99% Bandwidth**



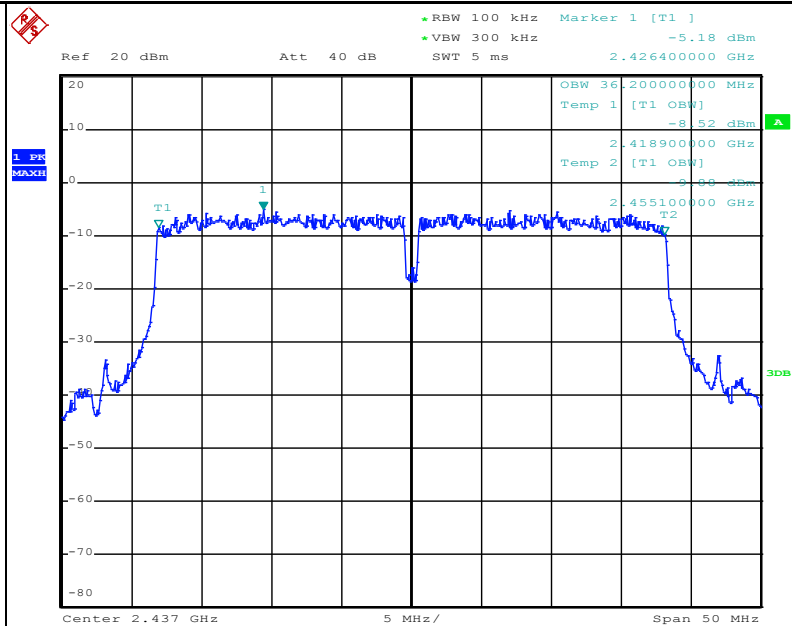
Date: 31.DEC.2014 14:46:31

Middle Channel 6dB Bandwidth



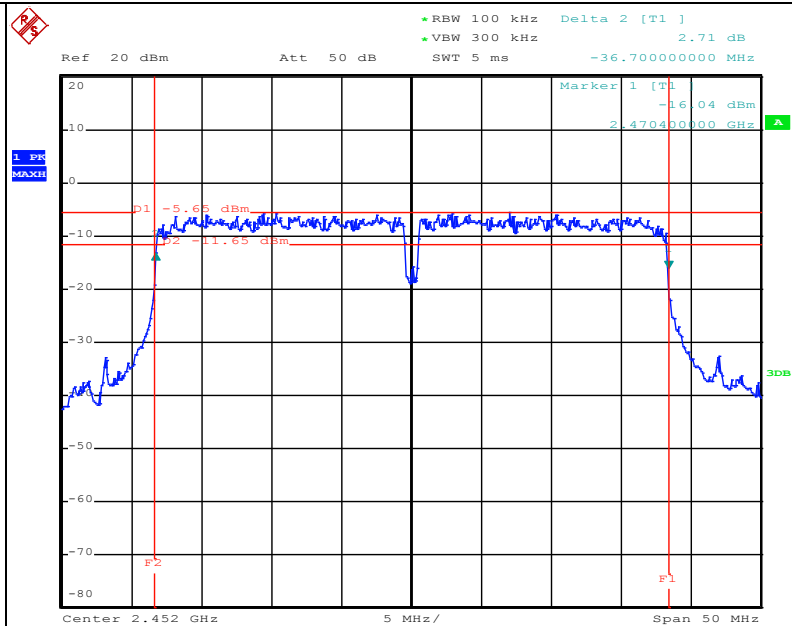
Date: 31.DEC.2014 14:44:20

Middle Channel 99% Bandwidth



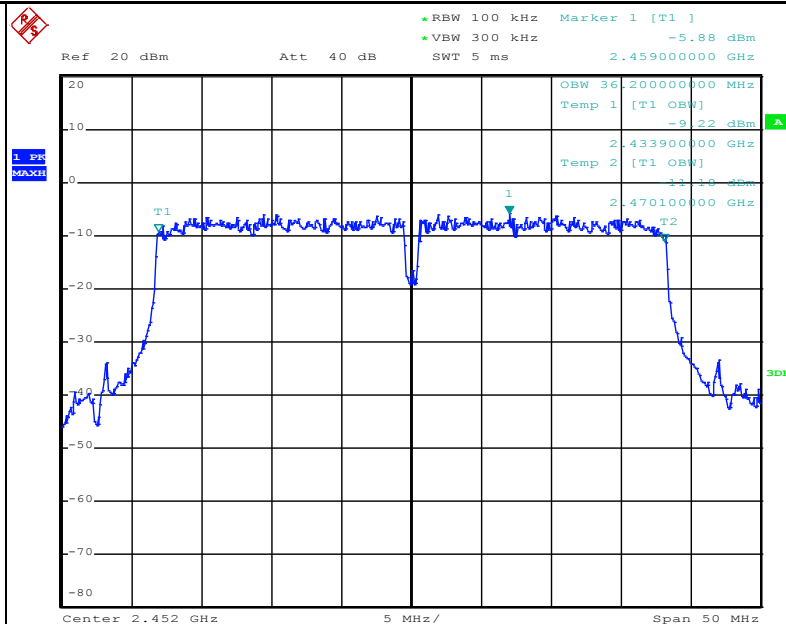
Date: 31.DEC.2014 14:47:00

High Channel 6dB Bandwidth

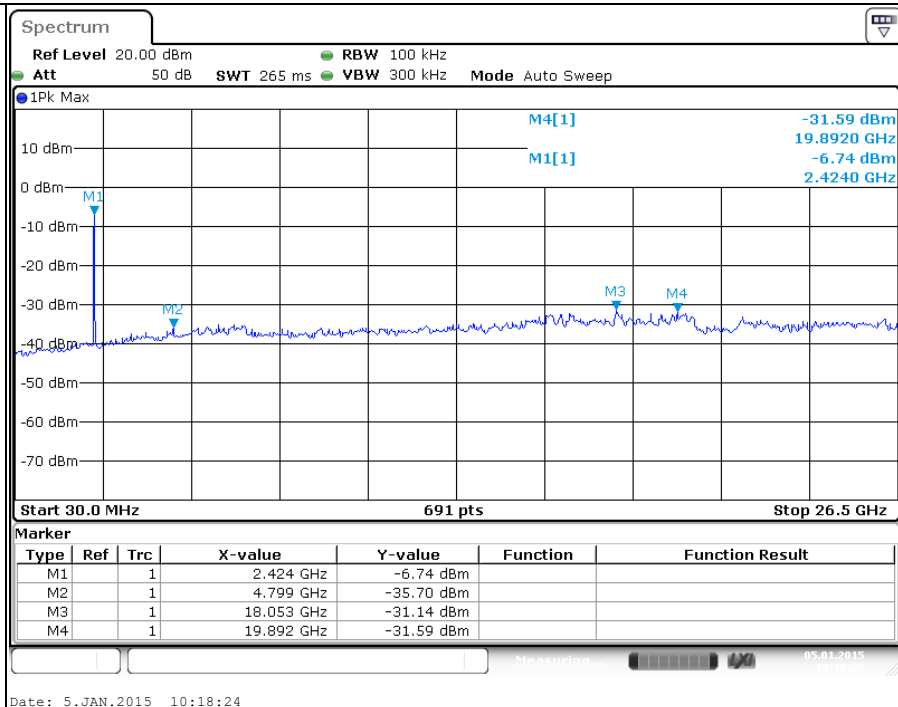


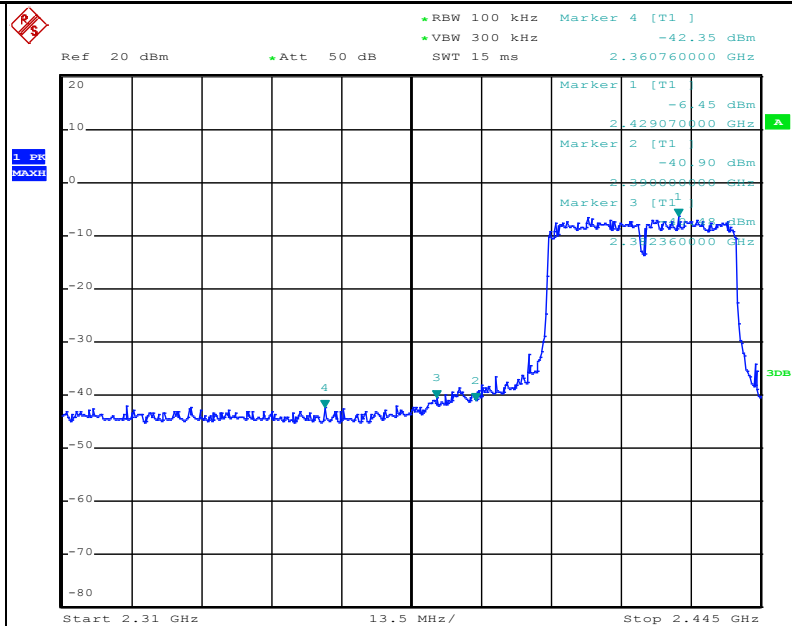
Date: 31.DEC.2014 14:42:33

High Channel 99% Bandwidth



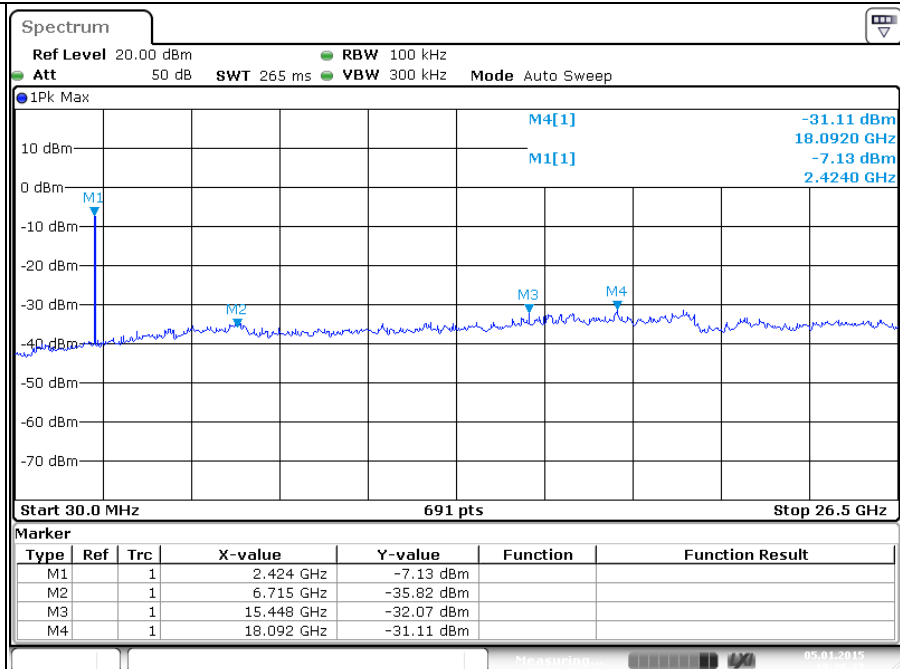
Date: 31.DEC.2014 14:48:28

Appendix A.15: Conducted Spurious Emissions measured in 100kHz Bandwidth_802.11n HT40**Low Channel 1****Low Channel 2**

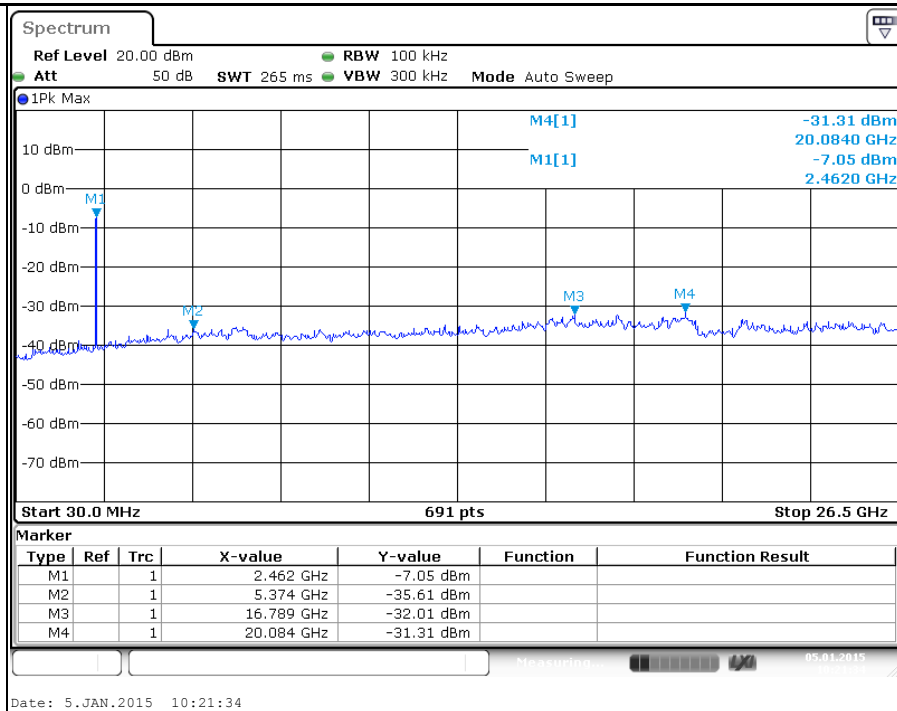


Date: 19.JAN.2015 17:46:57

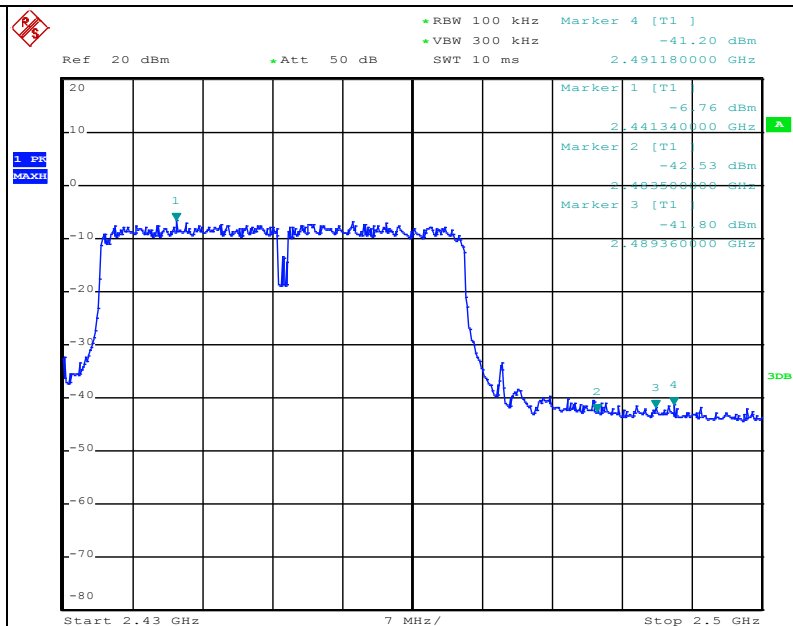
Middle Channel 1



High Channel 1

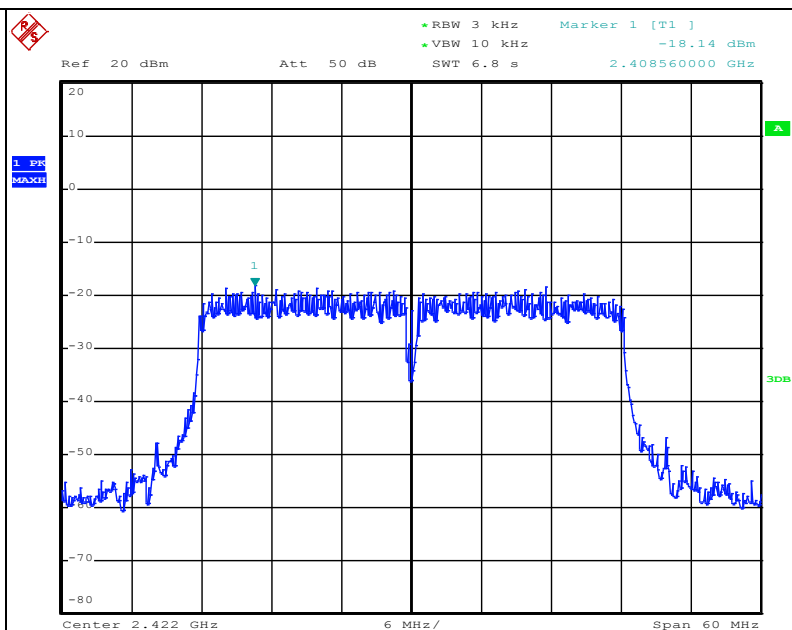


High Channel 2

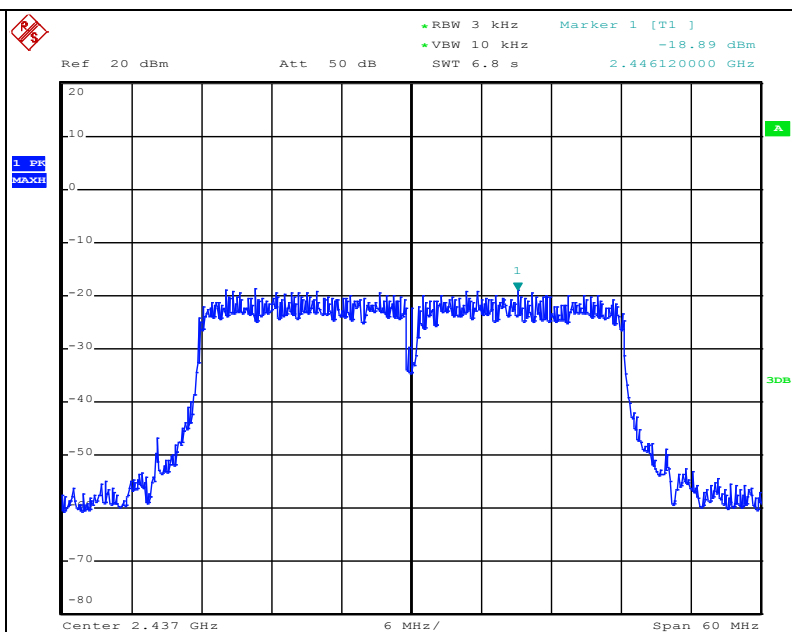


Appendix A.16: Power Spectral Density_802.11n HT40

Channel (MHz)	Result (dBm/3kHz)	Limit (dBm/3kHz)	Conclusion
2422	-18.14	8	Pass
2437	-18.89	8	Pass
2452	-18.38	8	Pass

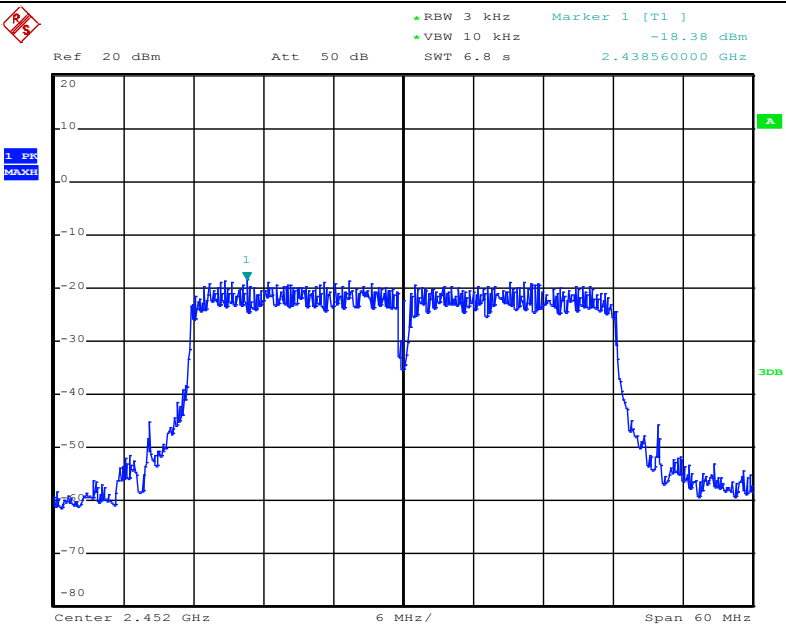
2422 MHz

Date: 31.DEC.2014 15:10:44

2437 MHz

Date: 31.DEC.2014 15:10:10

2452 MHz



Date: 31.DEC.2014 15:09:29

Appendix B

Test Results of Spurious Emissions and Radiated Emissions in restricted band, ANSI C63.10:2009

APPENDIX B.1: SPURIOUS EMISSIONS, 802.11B_1TX	2
APPENDIX B.2: SPURIOUS EMISSIONS, 802.11G_1TX	29
APPENDIX B.3: SPURIOUS EMISSIONS, 802.11N HT20_1TX.....	56
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APPENDIX B.6: RADIATED EMISSION IN RESTRICTED BAND, 802.11G_1TX	114
APPENDIX B.7: RADIATED EMISSION IN RESTRICTED BAND, 802.11N HT20_1TX	118
APPENDIX B.8: RADIATED EMISSION IN RESTRICTED BAND, 802.11N HT40_1TX	122

Appendix B.1: Spurious Emissions, 802.11b_1TX

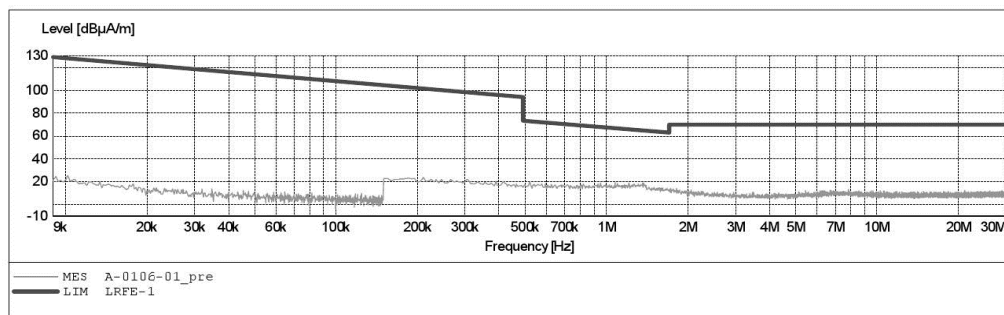
ACCURATE TECHNOLOGY CO., LTD

FCC Class B 3m Radiated

EUT: Wi-Fi Dongle M/N:TD-2021N-USB
 Manufacturer: HUAWEI
 Operating Condition: TX 2412MHz
 Test Site: 1#Shielding Room
 Operator: LAN
 Test Specification: DC 5V
 Comment: X
 Start of Test: 2015-1-6 /

SCAN TABLE: "LFRE Fin"

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



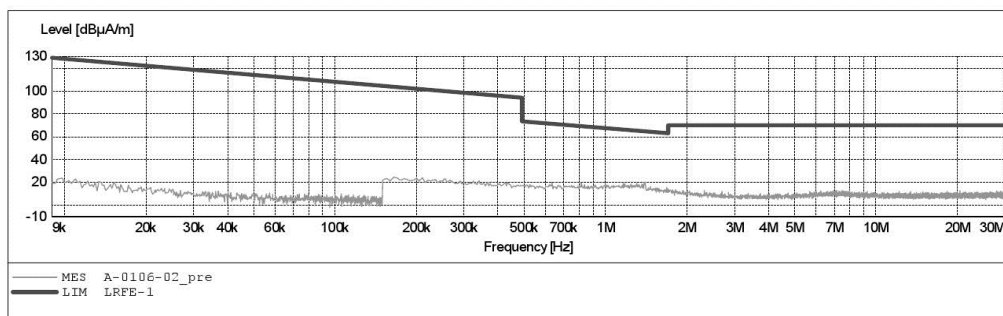
ACCURATE TECHNOLOGY CO., LTD

FCC Class B 3m Radiated

EUT: Wi-Fi Dongle M/N:TD-2021N-USB
 Manufacturer: HUAWEI
 Operating Condition: TX 2412MHz
 Test Site: 1#Shielding Room
 Operator: LAN
 Test Specification: DC 5V
 Comment: Y
 Start of Test: 2015-1-6 /

SCAN TABLE: "LFRE Fin"

Short Description:				_SUB_STD_VTERM2 1.70		
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



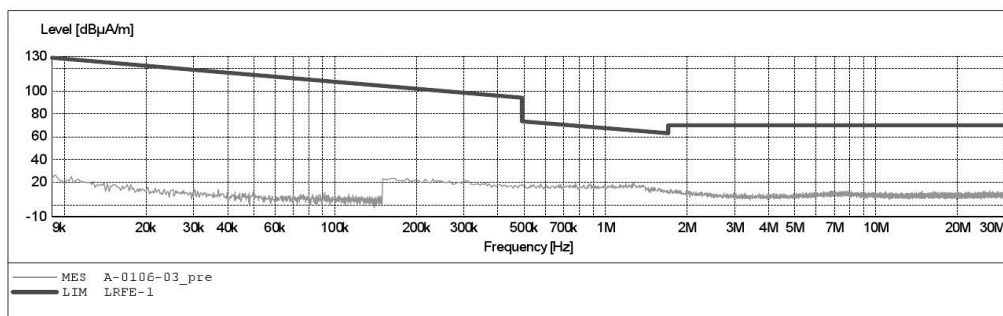
ACCURATE TECHNOLOGY CO., LTD

FCC Class B 3m Radiated

EUT: Wi-Fi Dongle M/N:TD-2021N-USB
 Manufacturer: HUAWEI
 Operating Condition: TX 2412MHz
 Test Site: 1#Shielding Room
 Operator: LAN
 Test Specification: DC 5V
 Comment: Z
 Start of Test: 2015-1-6 /

SCAN TABLE: "LFRE Fin"

Short Description:				_SUB_STD_VTERM2 1.70		
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



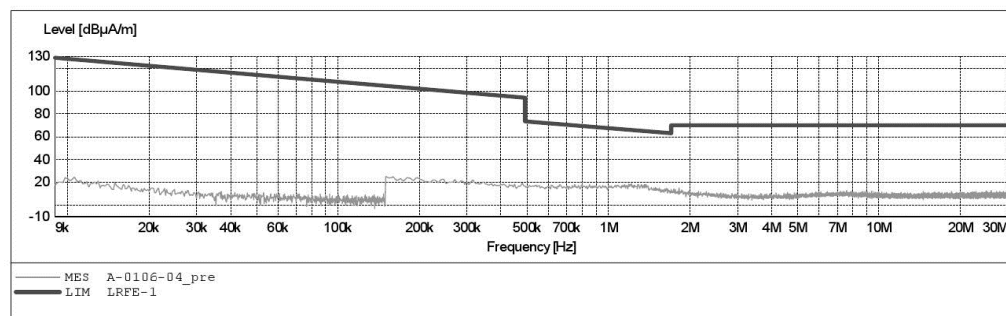
ACCURATE TECHNOLOGY CO., LTD

FCC Class B 3m Radiated

EUT: Wi-Fi Dongle M/N:TD-2021N-USB
 Manufacturer: HUAWEI
 Operating Condition: TX 2437MHz
 Test Site: 1#Shielding Room
 Operator: LAN
 Test Specification: DC 5V
 Comment: X
 Start of Test: 2015-1-6 /

SCAN TABLE: "LFRE Fin"

Short Description:				_SUB_STD_VTERM2 1.70		
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



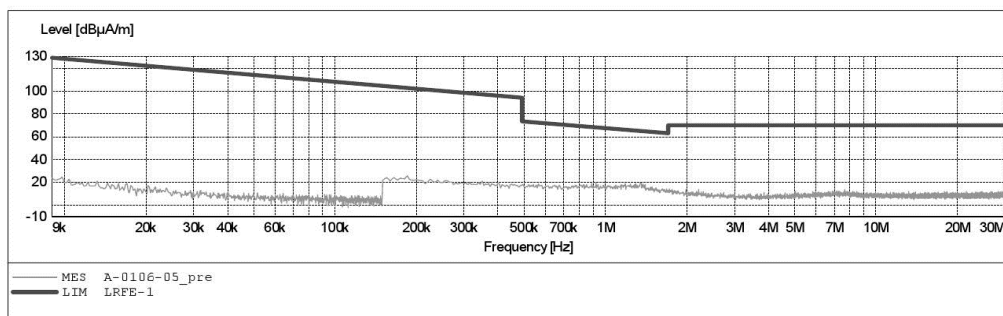
ACCURATE TECHNOLOGY CO., LTD

FCC Class B 3m Radiated

EUT: Wi-Fi Dongle M/N:TD-2021N-USB
 Manufacturer: HUAWEI
 Operating Condition: TX 2437MHz
 Test Site: 1#Shielding Room
 Operator: LAN
 Test Specification: DC 5V
 Comment: Y
 Start of Test: 2015-1-6 /

SCAN TABLE: "LFRE Fin"

Short Description:				_SUB_STD_VTERM2 1.70		
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



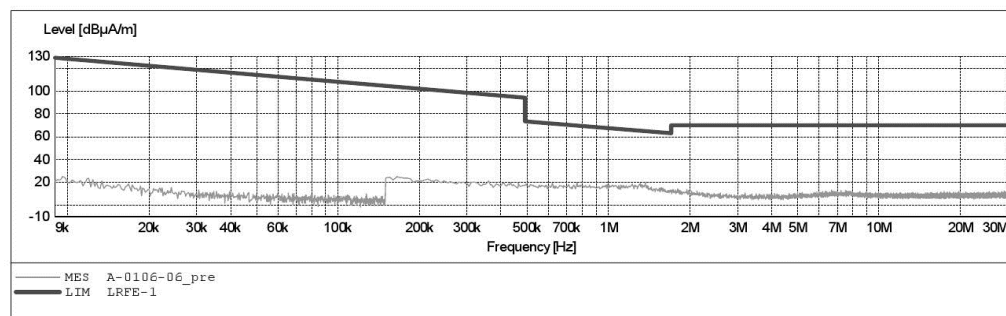
ACCURATE TECHNOLOGY CO., LTD

FCC Class B 3m Radiated

EUT: Wi-Fi Dongle M/N:TD-2021N-USB
 Manufacturer: HUAWEI
 Operating Condition: TX 2437MHz
 Test Site: 1#Shielding Room
 Operator: LAN
 Test Specification: DC 5V
 Comment: Z
 Start of Test: 2015-1-6 /

SCAN TABLE: "LFRE Fin"

Short Description:				_SUB_STD_VTERM2 1.70		
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



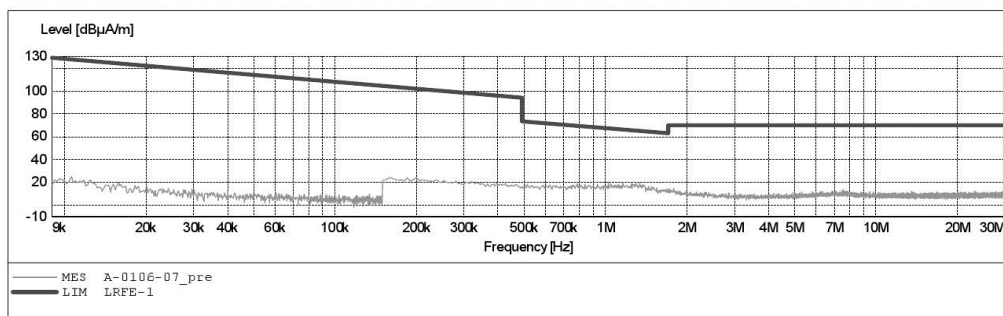
ACCURATE TECHNOLOGY CO., LTD

FCC Class B 3m Radiated

EUT: Wi-Fi Dongle M/N:TD-2021N-USB
 Manufacturer: HUAWEI
 Operating Condition: TX 2462MHz
 Test Site: 1#Shielding Room
 Operator: LAN
 Test Specification: DC 5V
 Comment: X
 Start of Test: 2015-1-6 /

SCAN TABLE: "LFRE Fin"

Short Description:				_SUB_STD_VTERM2 1.70		
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



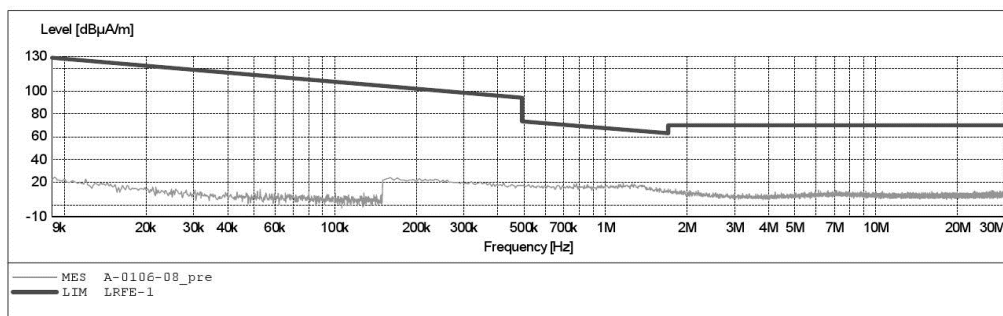
ACCURATE TECHNOLOGY CO., LTD

FCC Class B 3m Radiated

EUT: Wi-Fi Dongle M/N:TD-2021N-USB
 Manufacturer: HUAWEI
 Operating Condition: TX 2462MHz
 Test Site: 1#Shielding Room
 Operator: LAN
 Test Specification: DC 5V
 Comment: Y
 Start of Test: 2015-1-6 /

SCAN TABLE: "LFRE Fin"

Short Description:				_SUB_STD_VTERM2 1.70		
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



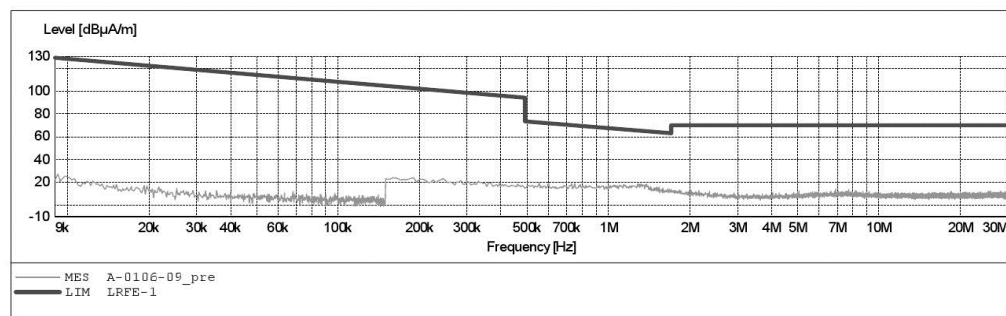
ACCURATE TECHNOLOGY CO., LTD

FCC Class B 3m Radiated

EUT: Wi-Fi Dongle M/N:TD-2021N-USB
 Manufacturer: HUAWEI
 Operating Condition: TX 2462MHz
 Test Site: 1#Shielding Room
 Operator: LAN
 Test Specification: DC 5V
 Comment: Z
 Start of Test: 2015-1-6 /

SCAN TABLE: "LFRE Fin"

Short Description:				_SUB_STD_VTERM2 1.70				
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer		
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M		
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M		





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Job No.: LAN2014 #2004

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Wi-Fi Dongle

Mode: TX 2412MHz

Model: TD-2021N-USB

Manufacturer: HUAWEI

Polarization: Vertical

Power Source: DC 5V

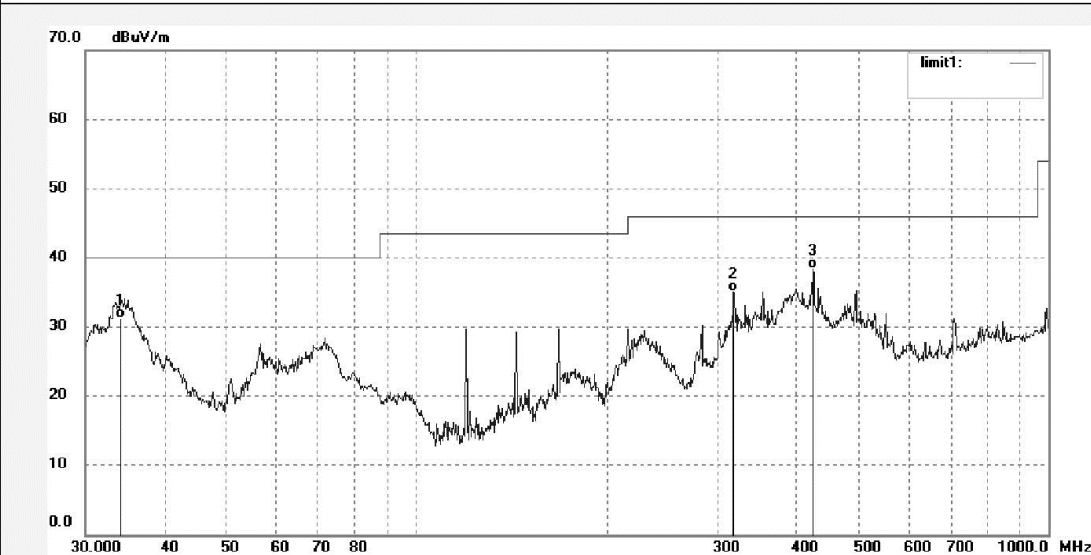
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Time:

Engineer Signature:

Distance: 3m

Note: 802.11b



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.1561	41.58	-10.33	31.25	40.00	-8.75	QP			
2	317.7010	43.90	-8.81	35.09	46.00	-10.91	QP			
3	423.5403	44.61	-6.16	38.45	46.00	-7.55	QP			



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Job No.: LAN2014 #2005

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Wi-Fi Dongle

Mode: TX 2412MHz

Model: TD-2021N-USB

Manufacturer: HUAWEI

Polarization: Horizontal

Power Source: DC 5V

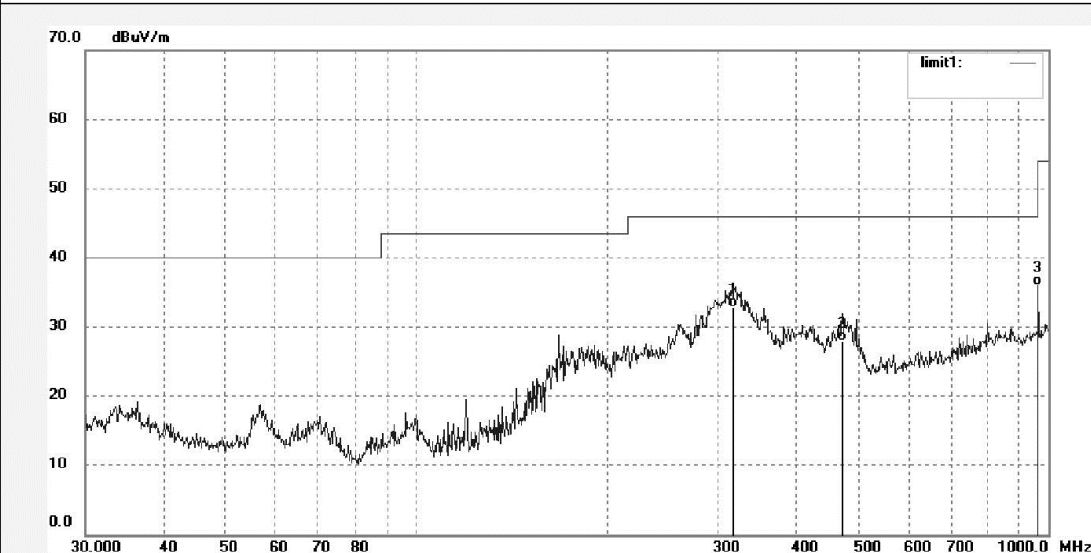
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Time:

Engineer Signature:

Distance: 3m

Note: 802.11b



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	317.7010	41.63	-8.81	32.82	46.00	-13.18	QP			
2	472.1759	33.35	-5.47	27.88	46.00	-18.12	QP			
3	962.1621	33.61	2.38	35.99	54.00	-18.01	QP			

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Job No.: LAN2014 #2006

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Wi-Fi Dongle

Mode: TX 2437MHz

Model: TD-2021N-USB

Manufacturer: HUAWEI

Polarization: Horizontal

Power Source: DC 5V

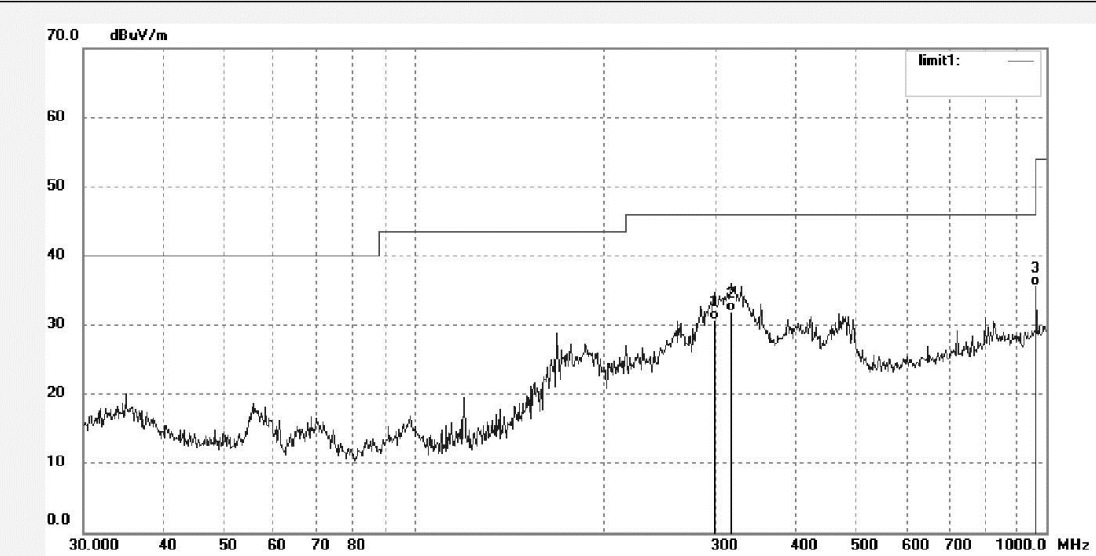
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Time:

Engineer Signature:

Distance: 3m

Note: 802.11b



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	298.2681	40.08	-9.32	30.76	46.00	-15.24	QP			
2	317.7010	40.73	-8.81	31.92	46.00	-14.08	QP			
3	962.1621	33.26	2.37	35.63	54.00	-18.37	QP			



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Job No.: LAN2014 #2007

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Wi-Fi Dongle

Mode: TX 2437MHz

Model: TD-2021N-USB

Manufacturer: HUAWEI

Polarization: Vertical

Power Source: DC 5V

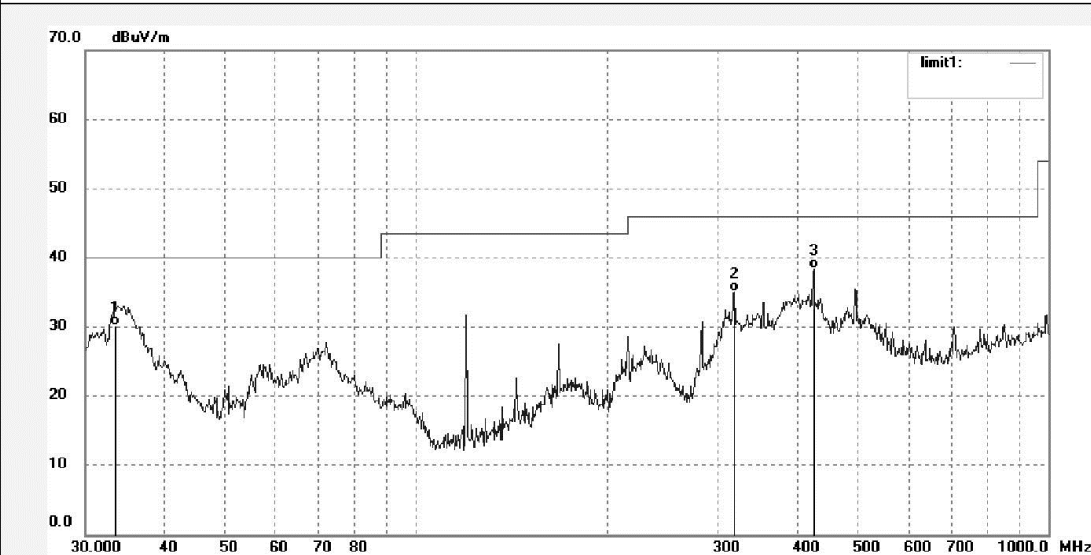
Date: 14/12/30/

Time:

Engineer Signature:

Distance: 3m

Note: 802.11b



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	33.4448	40.39	-10.26	30.13	40.00	-9.87	QP			
2	318.8170	43.89	-8.78	35.11	46.00	-10.89	QP			
3	425.0280	44.56	-6.16	38.40	46.00	-7.60	QP			



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Job No.: LAN2014 #2008

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Wi-Fi Dongle

Mode: TX 2462MHz

Model: TD-2021N-USB

Manufacturer: HUAWEI

Polarization: Vertical

Power Source: DC 5V

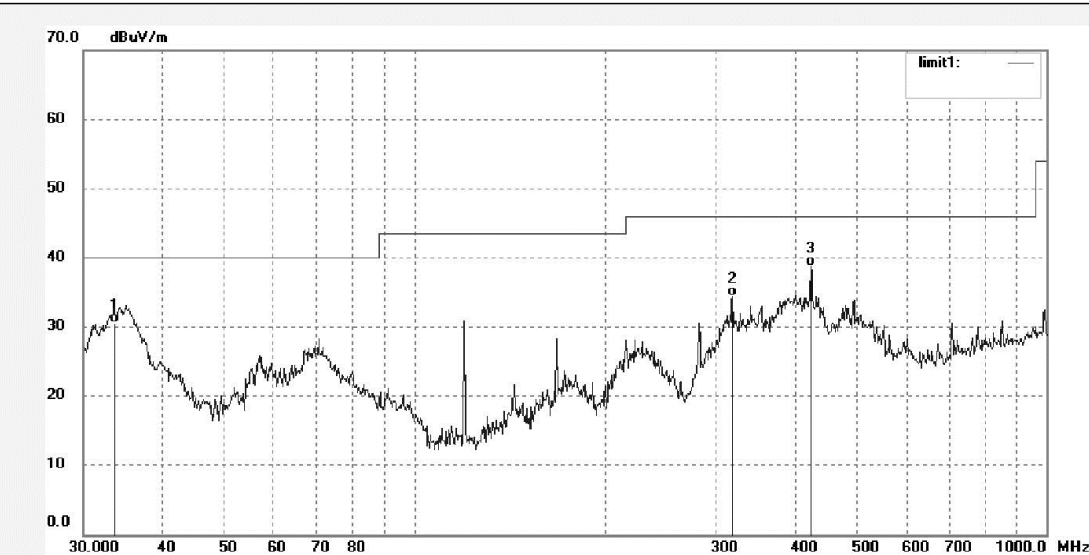
Date: 14/12/30/

Time:

Engineer Signature:

Distance: 3m

Note: 802.11b



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	33.5623	40.74	-10.27	30.47	40.00	-9.53	QP			
2	318.8170	43.20	-8.78	34.42	46.00	-11.58	QP			
3	423.5403	44.89	-6.16	38.73	46.00	-7.27	QP			



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Job No.: LAN2014 #2009

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Wi-Fi Dongle

Mode: TX 2462MHz

Model: TD-2021N-USB

Manufacturer: HUAWEI

Polarization: Horizontal

Power Source: DC 5V

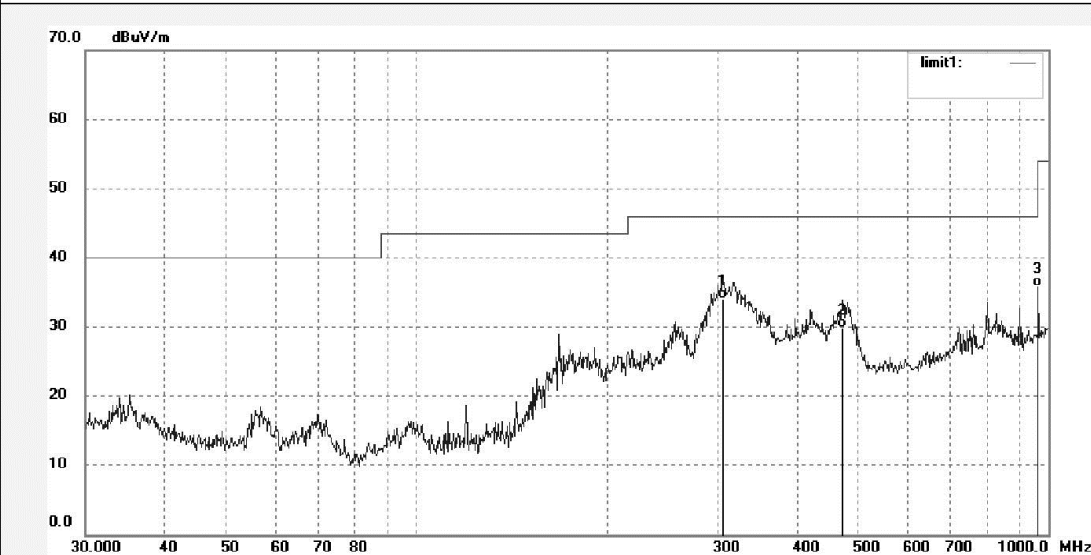
Date: 14/12/30/

Time:

Engineer Signature:

Distance: 3m

Note: 802.11b



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	305.6800	43.13	-9.18	33.95	46.00	-12.05	QP			
2	472.1759	35.33	-5.47	29.86	46.00	-16.14	QP			
3	962.1622	33.41	2.37	35.78	54.00	-18.22	QP			

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Job No.: LAN2014 #2028

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Wi-Fi Dongle

Mode: TX 2412MHz

Model: TD-2021N-USB

Manufacturer: HUAWEI

Polarization: Horizontal

Power Source: DC 5V

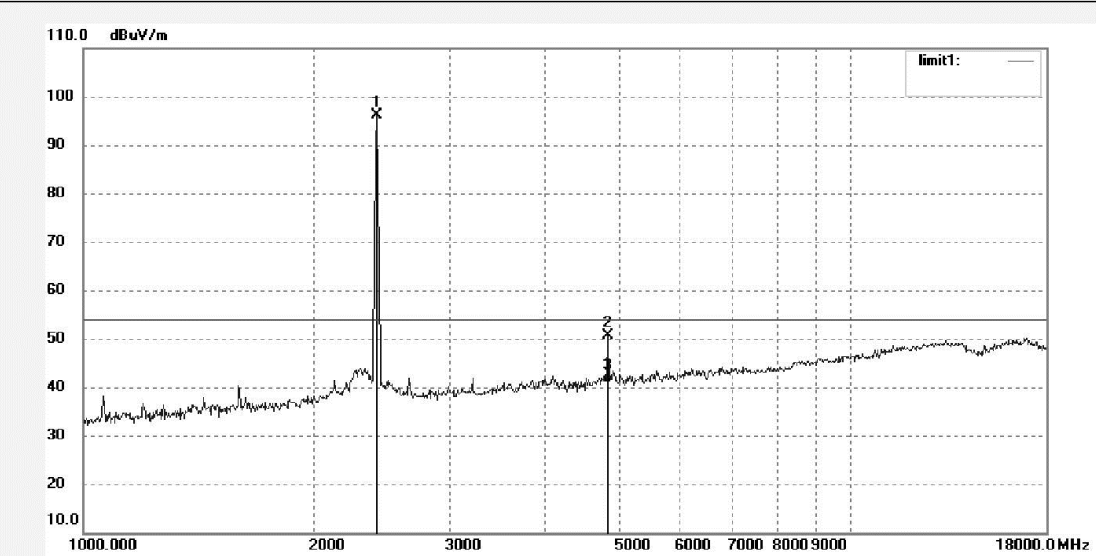
Date: 14/12/31/

Time:

Engineer Signature:

Distance: 3m

Note: 802.11b



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2412.000	103.46	-7.43	96.03	/	/	peak			
2	4824.216	50.81	-0.19	50.62	74.00	-23.38	peak			
3	4824.216	41.02	-0.19	40.83	54.00	-13.17	AVG			

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Job No.: LAN2014 #2029

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Wi-Fi Dongle

Mode: TX 2412MHz

Model: TD-2021N-USB

Manufacturer: HUAWEI

Polarization: Vertical

Power Source: DC 5V

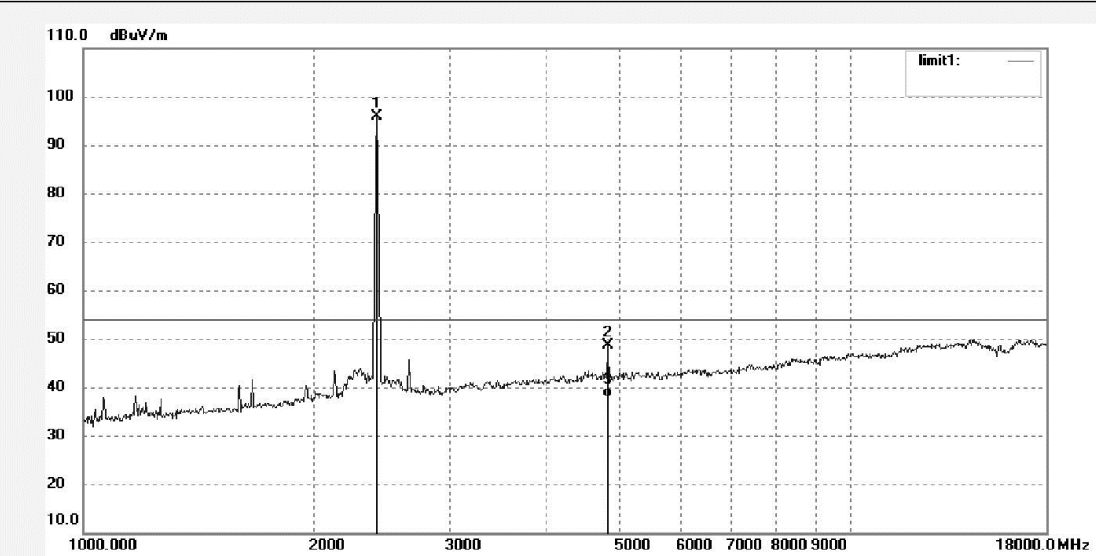
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Time:

Engineer Signature:

Distance: 3m

Note: 802.11b



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2412.000	103.29	-7.43	95.86	/	/	peak			
2	4824.211	48.83	-0.19	48.64	74.00	-25.36	peak			
3	4824.211	37.97	-0.19	37.78	54.00	-16.22	AVG			



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Job No.: LAN2014 #2030

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Wi-Fi Dongle

Mode: TX 2437MHz

Model: TD-2021N-USB

Manufacturer: HUAWEI

Polarization: Vertical

Power Source: DC 5V

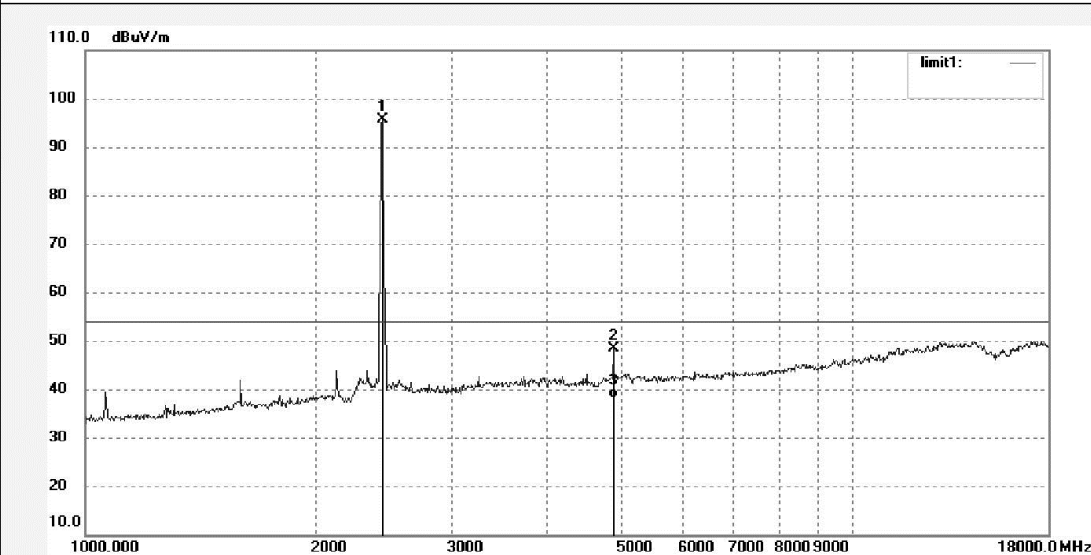
Date: 14/12/31/

Time:

Engineer Signature:

Distance: 3m

Note: 802.11b



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2437.000	102.99	-7.36	95.63	/	/	peak			
2	4874.223	48.37	0.09	48.46	74.00	-25.54	peak			
3	4874.223	38.02	0.09	38.11	54.00	-15.89	AVG			

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Job No.: LAN2014 #2031

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Wi-Fi Dongle

Mode: TX 2437MHz

Model: TD-2021N-USB

Manufacturer: HUAWEI

Polarization: Horizontal

Power Source: DC 5V

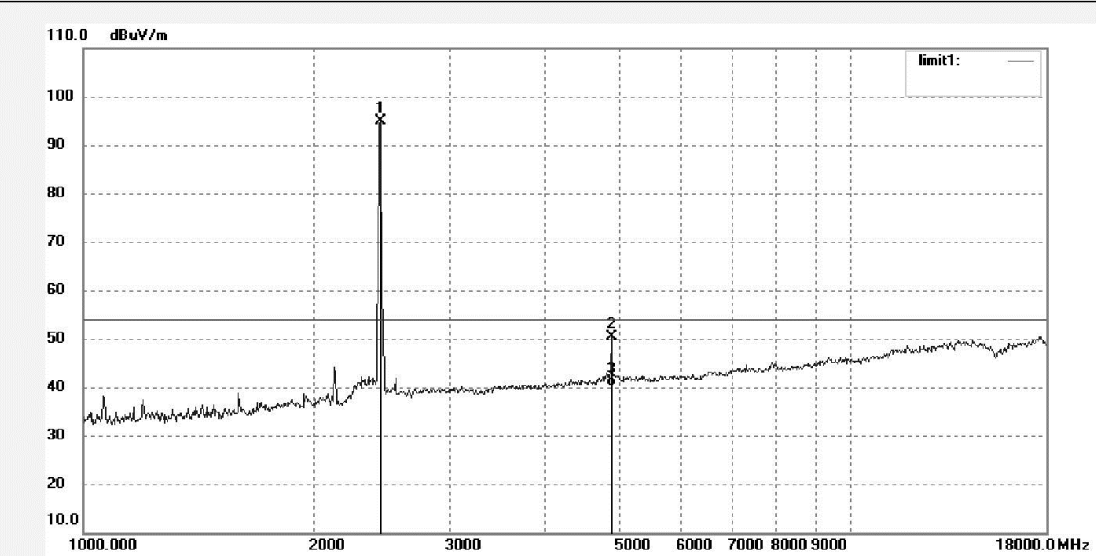
Date: 14/12/31/

Time:

Engineer Signature:

Distance: 3m

Note: 802.11b



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2437.000	102.23	-7.36	94.87	/	/	peak			
2	4874.131	50.40	0.09	50.49	74.00	-23.51	peak			
3	4874.131	40.01	0.09	40.10	54.00	-13.90	AVG			



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Job No.: LAN2014 #2032

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Wi-Fi Dongle

Mode: TX 2462MHz

Model: TD-2021N-USB

Manufacturer: HUAWEI

Polarization: Horizontal

Power Source: DC 5V

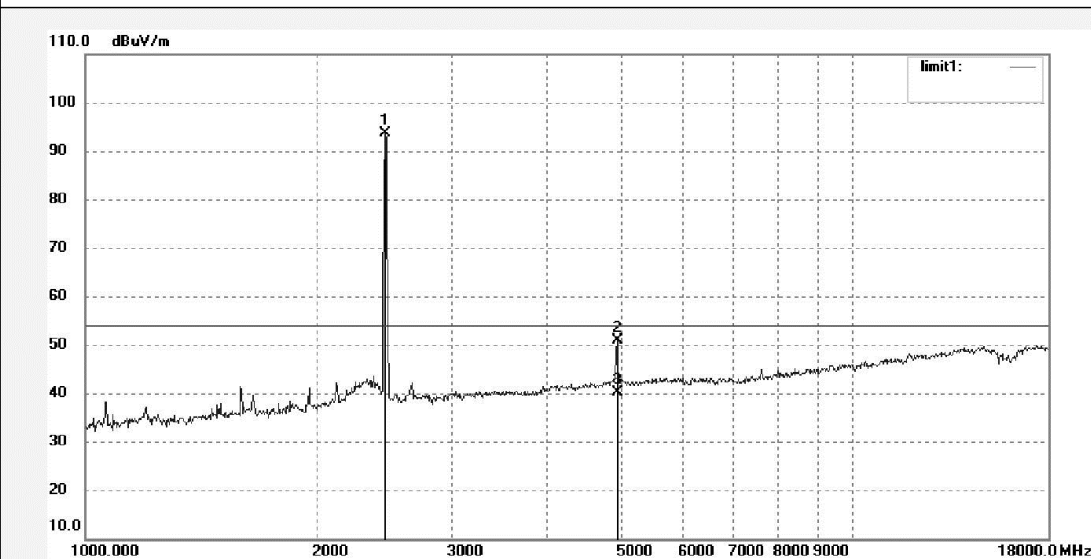
Date: 14/12/31/

Time:

Engineer Signature:

Distance: 3m

Note: 802.11b



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2462.000	100.88	-7.35	93.53	/	/	peak			
2	4924.215	50.55	0.34	50.89	74.00	-23.11	peak			
3	4924.215	39.87	0.34	40.21	54.00	-13.79	AVG			

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Job No.: Ian2014 #2033

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Wi-Fi Dongle

Mode: TX 2462MHz

Model: TD-2021N-USB

Manufacturer: HUAWEI

Polarization: Vertical

Power Source: DC 5V

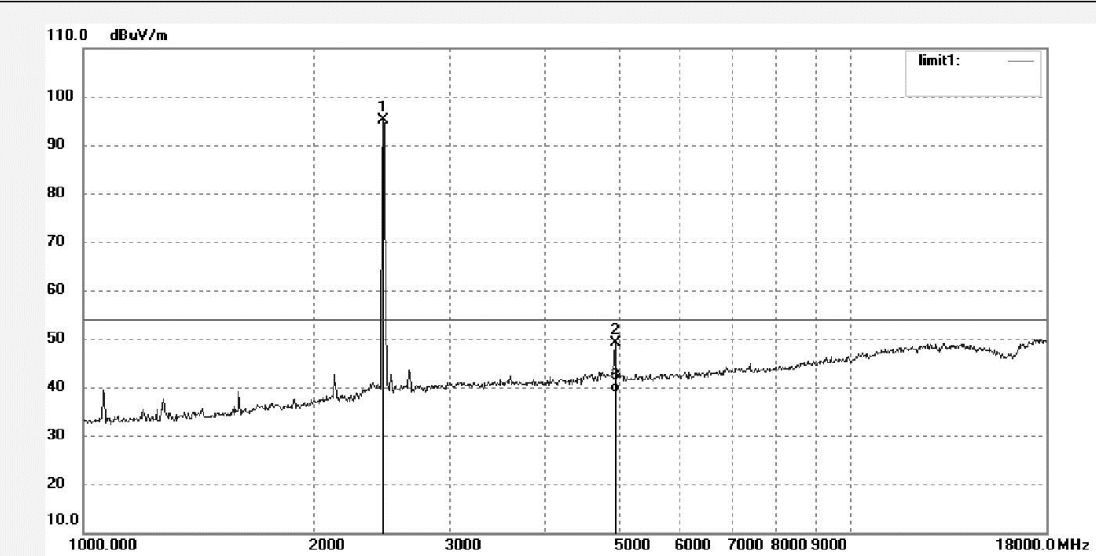
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Time:

Engineer Signature:

Distance: 3m

Note: 802.11b



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2462.000	102.36	-7.35	95.01	/	/	peak			
2	4924.221	48.88	0.34	49.22	74.00	-24.78	peak			
3	4924.221	38.54	0.34	38.88	54.00	-15.12	AVG			

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Job No.: LAN2014 #2095

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Wi-Fi Dongle

Mode: TX 2412MHz

Model: TD-2021N-USB

Manufacturer: HUAWEI

Polarization: Horizontal

Power Source: DC 5V

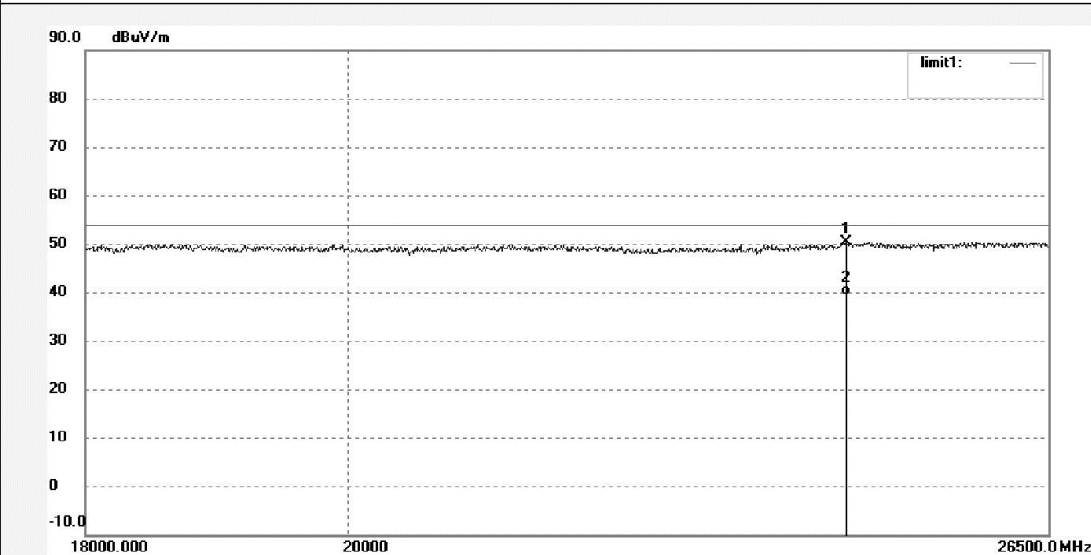
Date: 15/01/04/

Time:

Engineer Signature:

Distance: 3m

Note: 802.11b



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	24432.700	33.47	16.94	50.41	74.00	-23.59	peak			
2	24432.700	22.34	16.94	39.28	54.00	-14.72	AVG			



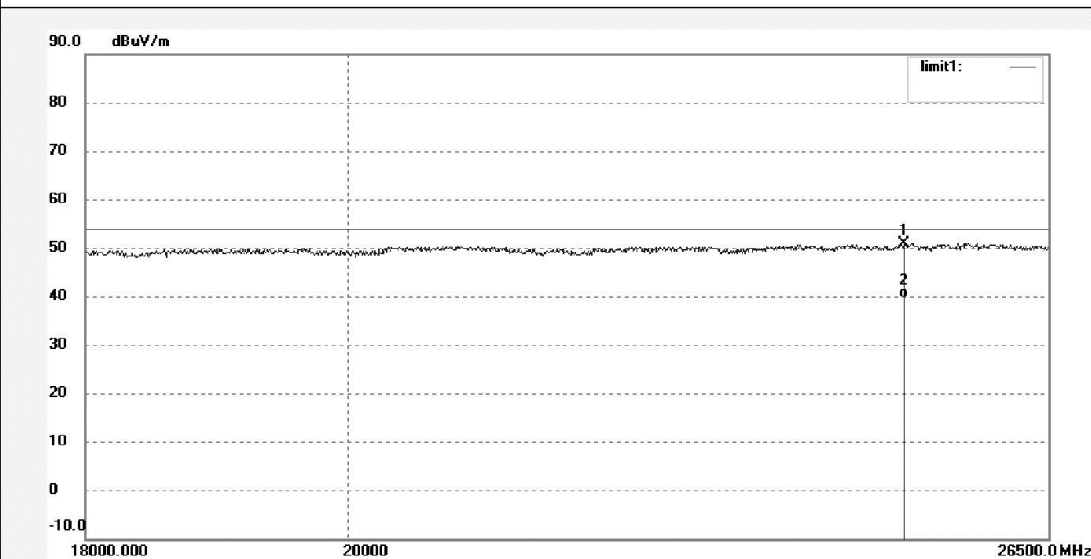
ACCURATE TECHNOLOGY CO., LTD.
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Site: 2# Chamber
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Job No.: LAN2014 #2096
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Wi-Fi Dongle
Mode: TX 2412MHz
Model: TD-2021N-USB
Manufacturer: HUAWEI

Polarization: Vertical
Power Source: DC 5V
Date: 15/01/04/
Time:
Engineer Signature:
Distance: 3m

Note: 802.11b



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	25006.325	34.47	16.50	50.97	74.00	-23.03	peak			
2	25006.325	23.14	16.50	39.64	54.00	-14.36	AVG			



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Job No.: LAN2014 #2097

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Wi-Fi Dongle

Mode: TX 2437MHz

Model: TD-2021N-USB

Manufacturer: HUAWEI

Polarization: Vertical

Power Source: DC 5V

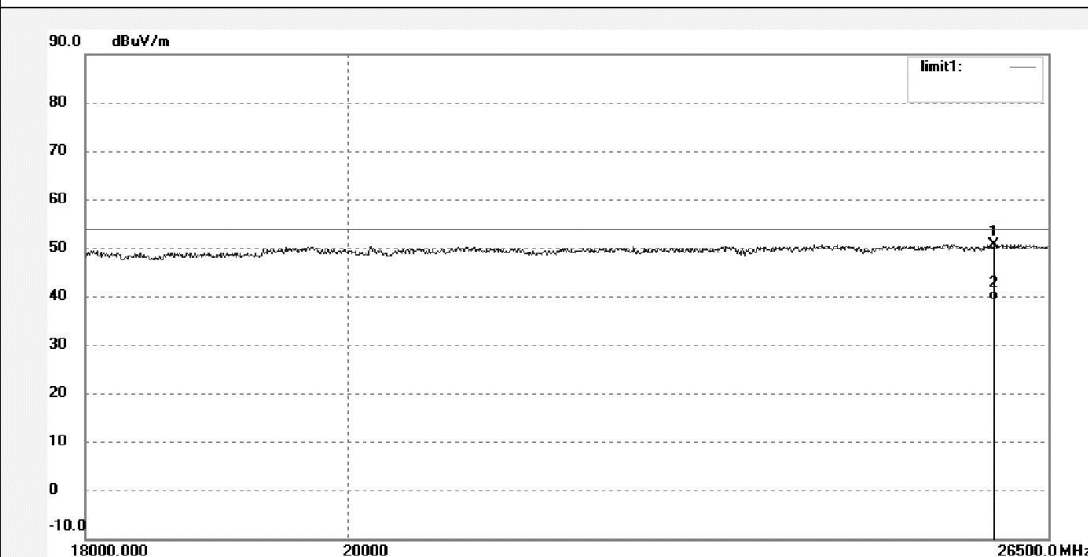
Date: 15/01/04/

Time:

Engineer Signature:

Distance: 3m

Note: 802.11b



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	25922.172	34.25	16.50	50.75	74.00	-23.25	peak			
2	25922.172	22.64	16.50	39.14	54.00	-14.86	AVG			



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Job No.: LAN2014 #2098

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Wi-Fi Dongle

Mode: TX 2437MHz

Model: TD-2021N-USB

Manufacturer: HUAWEI

Polarization: Horizontal

Power Source: DC 5V

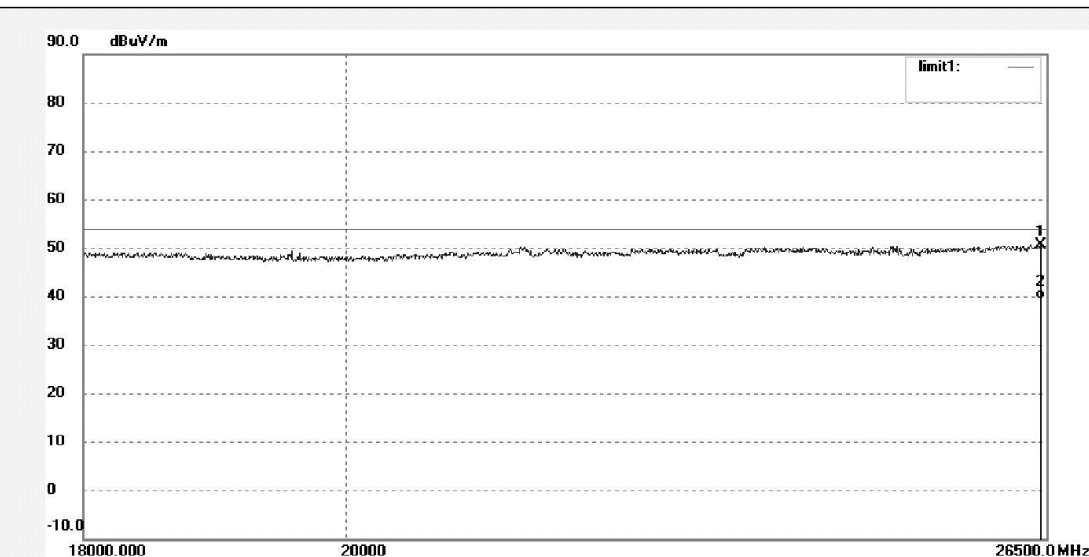
Date: 15/01/04/

Time:

Engineer Signature:

Distance: 3m

Note: 802.11b



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26438.574	34.18	16.50	50.68	74.00	-23.32	peak			
2	26438.574	22.87	16.50	39.37	54.00	-14.63	AVG			



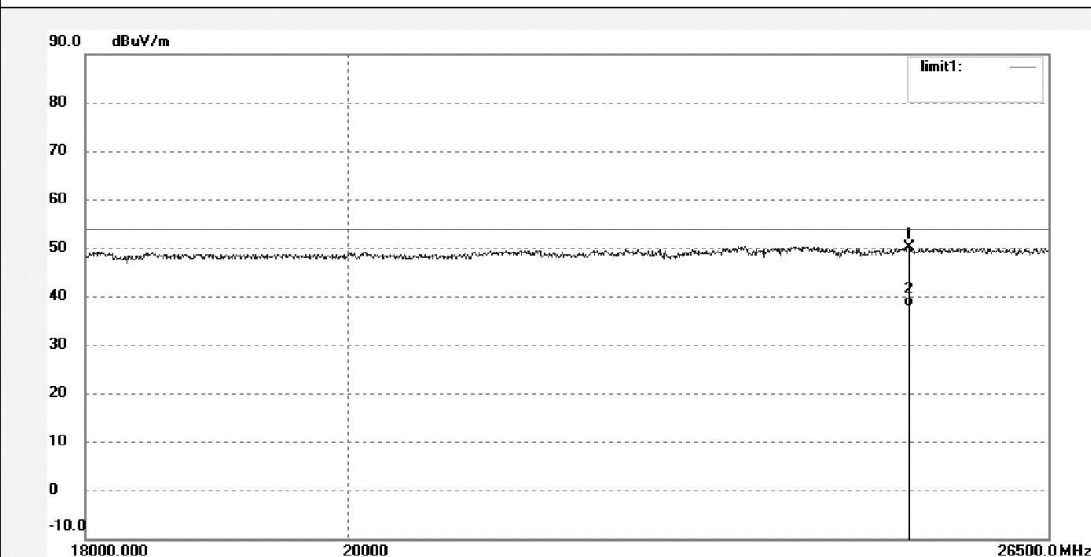
ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LAN2014 #2099
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Wi-Fi Dongle
Mode: TX 2462MHz
Model: TD-2021N-USB
Manufacturer: HUAWEI

Polarization: Horizontal
Power Source: DC 5V
Date: 15/01/04/
Time:
Engineer Signature:
Distance: 3m

Note: 802.11b



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	25054.731	33.56	16.50	50.06	74.00	-23.94	peak			
2	25054.731	21.41	16.50	37.91	54.00	-16.09	AVG			