Prüfbericht-Nr.: *Test Report No.:*	**50046347 002**	**Auftrags-Nr.:** *Order No.:*	164063691	Seite 1 von 116 *Page 1 of 116*
Kunden-Referenz-Nr.: *Client Reference No.:*	N/A	**Auftragsdatum:** *Order date:*	19.05.2016	
Auftraggeber: *Client:*	Lightcomm Technology Co., Ltd. RM 1808 18F, FO TAN INDUSTRIAL CENTRE, NOS. 26-28 AU PUI WAN STREET, FO TAN SHATIN NEW TERRITORIES, HONGKONG			
Prüfgegenstand: *Test item:*	Tablet			
Bezeichnung / Typ-Nr.: *Identification / Type No.:*	DL1026, MID1026-L, DL1026-***			
Auftrags-Inhalt: *Order content:*	FCC Certification			
Prüfgrundlage: *Test specification:*	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			
Wareneingangsdatum: *Date of receipt:*	19.05.2016			
Prüfmuster-Nr.: *Test sample No.:*	A000366608-001, A000366608-002, A000366608-003			
Prüfzeitraum: *Testing period:*	26.05.2016 - 03.06.2016			
Ort der Prüfung: *Place of testing:*	Shenzhen EMTEK Co., Ltd.			
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: *Test result*:*	Pass			

geprüft von / *tested by:*

Datum *Date*	**Name / Stellung** *Name / Position*	**Unterschrift** *Signature*
12.07.2016	Owen Tian/Senior Project Manager	

kontrolliert von / *reviewed by:*

Datum *Date*	**Name / Stellung** *Name / Position*	**Unterschrift** *Signature*
12.07.2016	Winnie Hou/Technical Certifier	

Sonstiges / *Other:*

Zustand des Prüfgegenstandes bei Anlieferung:
Condition of the test item at delivery:

Prüfmuster vollständig und unbeschädigt
Test item complete and undamaged

* 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.
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.

V04

TEST SUMMARY

5.1.1 ANTENNA REQUIREMENT
RESULT: Pass

5.1.2 PEAK OUTPUT POWER
RESULT: Pass

5.1.3 6DB BANDWIDTH AND 99% BANDWIDTH
RESULT: Pass

5.1.4 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100KHZ BANDWIDTH
RESULT: Pass

5.1.5 POWER SPECTRAL DENSITY
RESULT: Pass

5.1.6 SPURIOUS EMISSION
RESULT: Pass

5.1.7 CONDUCTED EMISSIONS
RESULT: Pass

CONTENTS

1. GENERAL REMARKS 4
1.1 COMPLEMENTARY MATERIALS 4
2. TEST SITES 4
2.1 TEST FACILITIES 4
2.2 LIST OF TEST AND MEASUREMENT INSTRUMENTS 5
2.3 TRACEABILITY 6
2.4 CALIBRATION 6
2.5 MEASUREMENT UNCERTAINTY 6
2.6 LOCATION OF ORIGINAL DATA 6
2.7 STATUS OF FACILITY USED FOR TESTING 7
3. GENERAL PRODUCT INFORMATION 8
3.1 PRODUCT FUNCTION AND INTENDED USE 8
3.2 RATINGS AND SYSTEM DETAILS 8
3.3 INDEPENDENT OPERATION MODES 9
3.4 NOISE GENERATING AND NOISE SUPPRESSING PARTS 9
3.5 SUBMITTED DOCUMENTS 9
4. TEST SET-UP AND OPERATION MODES 10
4.1 PRINCIPLE OF CONFIGURATION SELECTION 10
4.2 TEST OPERATION AND TEST SOFTWARE 10
4.3 SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT 10
4.4 COUNTERMEASURES TO ACHIEVE ERM COMPLIANCE 10
4.5 TEST SETUP DIAGRAM 11
5. TEST RESULTS 13
5.1 TRANSMITTER REQUIREMENT & TEST SUITES 13
5.1.1 Antenna Requirement 13
5.1.2 Peak Output Power 14
5.1.3 6dB Bandwidth and 99% Bandwidth 15
5.1.4 Conducted Spurious Emissions measured in 100kHz Bandwidth 16
5.1.5 Power spectral density 33
5.1.6 Spurious Emission 34
5.1.7 Conducted emissions 110
6. PHOTOGRAPHS OF THE TEST SET-UP 113
7. LIST OF TABLES 116
8. LIST OF PHOTOGRAPHS 116

1. General Remarks

1.1 Complementary Materials

None.

2. Test Sites

2.1 Test Facilities

Shenzhen EMTEK Co., Ltd.

(FCC Registration No.: 709623)

Bldg 69, Majialong Industry Zone, Nanshan District,
Shenzhen, Guangdong, 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
Transmitter spurious emissions				
EMI Test Receiver	Rohde & Schwarz	ESU	1302.6005.26	2017-05-16
Loop Antenna	Schwarzbeck	FMZB 1519	1519-012	2017-05-16
Cable	H+B	3M SF104-26.5	295838/4	2017-05-28
Cable	H+B	6M SF104-26.5	295840/4	2017-05-28
Pre-Amplifier	HP	8447F	2944A07999	2017-05-16
Bilog Antenna	Schwarzbeck	VULB9163	142	2017-05-28
Cable	Schwarzbeck	AK9513	ACRX1	2017-05-16
Cable	Rosenberger	N/A	FP2RX2	2017-05-16
Cable	Schwarzbeck	AK9513	CRPX1	2017-05-28
Cable	Schwarzbeck	AK9513	CRRX2	2017-05-28
Pre-Amplifier	A.H.	PAM-0126	1415261	2017-05-16
Horn Antenna	Schwarzbeck	BBHA 9120	707	2017-05-28
Pre-Amplifier	A.H.	PAM-0126	1415261	2017-05-16
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170399	2017-05-16
EMI Test Receiver	Rohde & Schwarz	FSV40	132.1-3008K39-100967-AP	2017-05-16
Pre-Amplifier	Lunar EM	LNA26G40-40	J1013131028001	2017-05-16
Horn Antenna	AHS/USA	SAS-573	184	2017-05-16
Cable	H+B	0.5M SF104-26.5	289147/4	2017-05-16
Cable	H+B	3M SF104-26.5	295838/4	2017-05-16
Cable	H+B	6M SF104-26.5	295840/4	2017-05-16
Radio Spectrum Test				
EMI Test Receiver	Rohde & Schwarz	ESCI	101045	2017-05-16
Vector Signal Generater	Agilent	N5182B	My53050553	2017-05-28
Analog Signal Generator	Agilent	N5171B	My53050878	2017-05-28
Signal Analyzer	Agilent	N9010A	My53470879	2017-05-28
Power Meter	Agilent	PS-X10-100	N/A	2017-05-28
Temp. / Humidity Chamber	Kingson	THS-M1	242	2017-05-28
Conducted Emission				
Test Receiver	Rohde & Schwarz	ESCS30	828985/018	2017-05-16
L.I.S.N.	Schwarzbeck	NNLK8129	8129203	2017-05-16
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100006	2017-05-16
Voltage Probe	Rohde & Schwarz	TK9416	N/A	2017-05-16
I.S.N	Rohde & Schwarz	ENY22	1109.9508.02	2017-05-16
50Ω Coaxial Switch	Anritsu	MP59B	M20531	2017-05-16

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 basics using in house standards or comparisons.

2.5 Measurement Uncertainty

Table 2: Measurement Uncertainty

Parameter	Uncertainty
Radio Frequency	±1x10^-5
Maximum Peak Output Power Test	±1.0dB
Conducted Emissions Test	±2.0dB
Radiated Emission Test	±2.0dB
Power Density	±2.0dB
Occupied Bandwidth Test	±1.0dB
Band Edge Test	±3dB
All emission, radiated	±3dB
Antenna Port Emission	±3dB
Temperature	±0.5℃
Humidity	±3%

2.6 Location of Original Data

The original copies of all test data taken during actual testing were retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

Shenzhen EMTEK Co., Ltd. test facility located at Bldg 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, 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 EUTs are tablet with Wi-Fi, Bluetooth function.
These models are identical except the model name.
For details refer to the User Manual and Circuit Diagram.

3.2 Ratings and System Details

Table 3: Technical Specification of EUT

Technical Specification	Value
Kind of Equipment	Tablet
Type Designation	DL1026, MID1026-L, DL1026-**
FCC ID	XMF-MID1026
Operating Frequency band	2412 – 2462MHz
Extreme Temperature Range	0~+40℃
Operation Voltage	DC 3.7V (via built in battery)
	DC 5V (via AC/DC adapter)
Antenna Gain	2dBi

Table 4: Technical Specification of Wi-Fi

Item	Description			
	IEEE 802.11b	**IEEE 802.11g**	**IEEE 802.11n (HT20)**	**IEEE 802.11n (HT40)**
Operating Frequency band (MHz)	2412 ~ 2462	2412 ~ 2462	2412 ~ 2462	2422 ~ 2452
Channel Number	11	11	11	7
Modulation	DSSS (DBPSK, DQPSK), CCK)	OFDM (DBPSK, DQPSK)	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
Data Rate (Mbps)	1, 2, 5, 11	6, 9, 12, 18, 24, 36, 48, 54	MCS0 ~ MCS7	MCS0 ~ MCS7
Transmitter Output Power (Typical) (dBm)	17.5	15	15	14.5
Media Access Protocol	CSMA/CA with ACK	CSMA/CA with ACK	CSMA/CA with ACK	CSMA/CA with ACK

Table 5: Carrier Frequency

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
2400 – 2483.5 MHz	1	2412 MHz	8	2447 MHz
	2	2417 MHz	9	2452 MHz
	3	2422 MHz	10	2457 MHz
	4	2427 MHz	11	2462 MHz
	5	2432 MHz		
	6	2437 MHz		
	7	2442 MHz		

3.3 Independent Operation Modes

The basic operation modes are:

A. On, Wi-Fi mode (2.4GHz)
   1. Transmitting
      a. Low Channel
      b. Middle Channel
      c. High Channel
   2. Receiving
B. Standby
C. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

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

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum power 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. All testing were performed according to the procedures in ANSI C63.10: 2013.
According to clause 3.1, all tests were applied on model DL1026 only.
Note: The model name was described as 'NS-P16AT08' in test data during testing, however the model is named 'DL1026' finally by manufacture.

4.3 Special Accessories and Auxiliary Equipment

The EUT was tested together with the following accessories:

Description	Manufacturer	Part No.	Rating
AC/DC Adapter	TEKA	TEKA012-0502000UK	Input: AC 100-240V, 50/60Hz, 0.35A; Output: DC 5V, 2A

The EUT was tested with following cables:

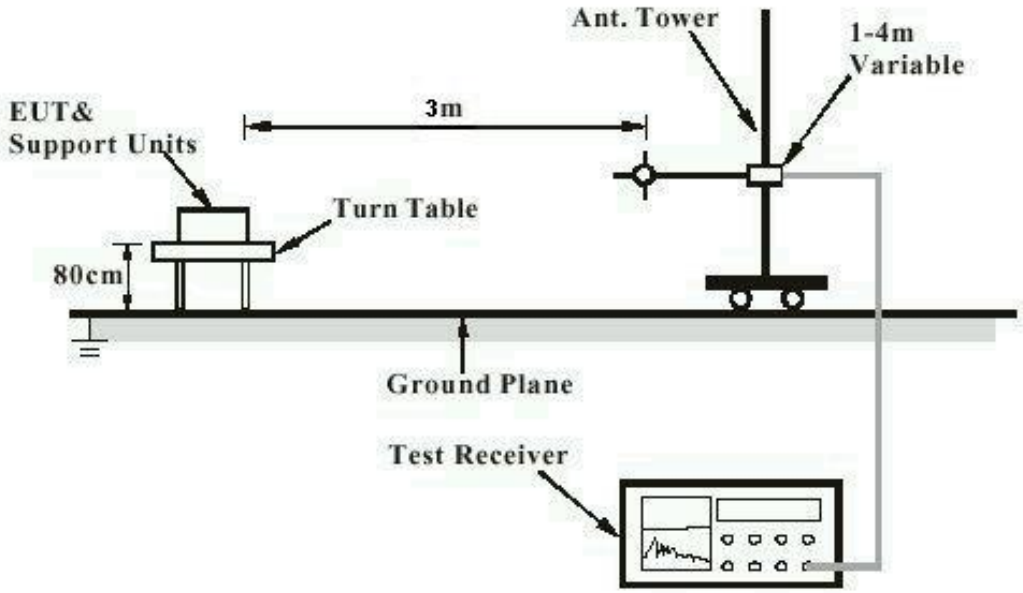
Interface(s)/Port(s):	**Max. cable length, shielding**	**Cable classification**
AC Mains of adapter	2 cores, non-shielded port, 3m	AC Power Input
Micro USB port	4 cores, non-shielded port, 3m	DC Power Input

4.4 Countermeasures to Achieve ERM Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF). No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test



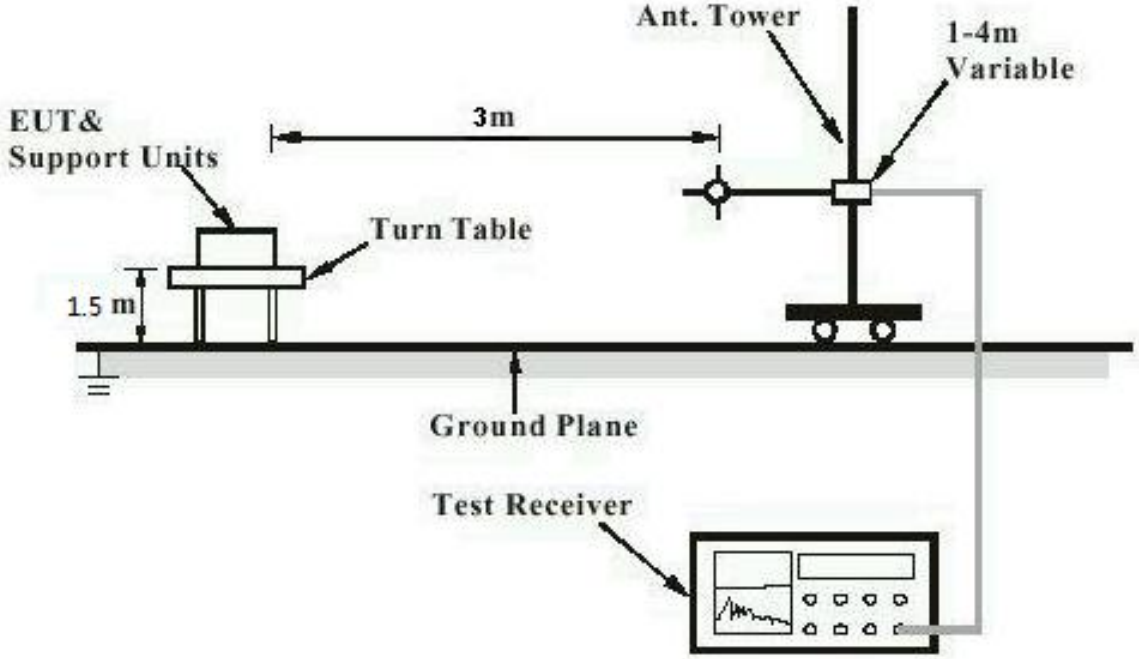


Diagram of Measurement Equipment Configuration for Conduction Measurement

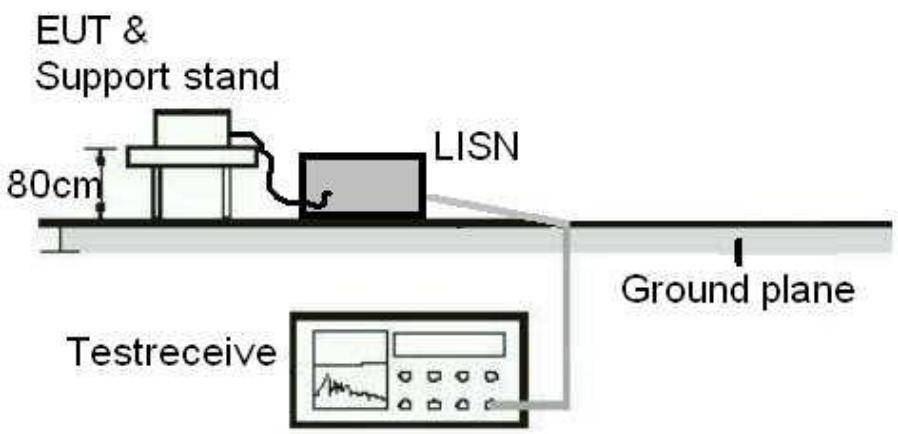
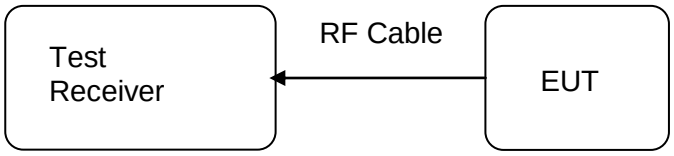


Diagram of Measurement Equipment Configuration for Transmitter Measurement



5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT: **Pass**

Test standard	:	Part 15.203
Limit		The use of antennas with directional gains that do not exceed 6dBi

According to the manufacturer declared, the EUT has an internal antenna, the directional gain of antenna is 2dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

5.1.2 Peak Output Power

RESULT: **Pass**

Test date	:	2016-05-26
Test standard	:	FCC Part 15.247(b)(3)
Basic standard	:	ANSI C63.10: 2013 Clause 9.1 of KDB 558074 v03r01
Limit	:	1W
Kind of test site	:	Shielded room

Test setup

Test Channel	:	Low/ Middle/ High
Operation Mode	:	A.1
Ambient temperature	:	25℃
Relative humidity	:	50%
Atmospheric pressure	:	101kPa

Table 6: Test result of Peak Output Power of 802.11b

Channel	Channel Frequency (MHz)	Peak Output Power (dBm)	Limit (dBm)
Low Channel	2412	19.55	30
Middle Channel	2437	19.70	30
High Channel	2462	19.82	30

Table 7: Test result of Peak Output Power of 802.11g

Channel	Channel Frequency (MHz)	Peak Output Power (dBm)	Limit (dBm)
Low Channel	2412	21.05	30
Middle Channel	2437	22.55	30
High Channel	2462	21.32	30

Table 8: Test result of Peak Output Power of 802.11n (HT20)

Channel	Channel Frequency (MHz)	Peak Output Power (dBm)	Limit (dBm)
Low Channel	2412	20.85	30
Middle Channel	2437	22.55	30
High Channel	2462	21.25	30

Table 9: Test result of Peak Output Power of 802.11n (HT40)

Channel	Channel Frequency (MHz)	Peak Output Power (dBm)	Limit (dBm)
Low Channel	2422	19.57	30
Middle Channel	2437	22.39	30
High Channel	2452	19.27	30

5.1.3 6dB Bandwidth and 99% Bandwidth

RESULT: **Pass**

Date of testing	:	2016-05-26
Test standard	:	FCC Part 15.247(a)(2)
Basic standard	:	ANSI C63.10: 2013 Clause 8 of KDB 558074 v03r01
Kind of test site	:	Shielded room

Test setup

Test Channel	:	Low/ Middle/ High
Operation Mode	:	A.1
Ambient temperature	:	25℃
Relative humidity	:	50%
Atmospheric pressure	:	101kPa

Table 10: Test result of 6dB Bandwidth and 99% Bandwidth of 802.11b

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	99% Bandwidth (MHz)
Low Channel	2412	9.566	≥0.5	12.665
Mid Channel	2437	10.040	≥0.5	12.716
High Channel	2462	10.040	≥0.5	12.929

Table 11: Test result of 6dB Bandwidth and 99% Bandwidth of 802.11g

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	99% Bandwidth (MHz)
Low Channel	2412	15.440	≥0.5	16.401
Mid Channel	2437	15.130	≥0.5	16.490
High Channel	2462	15.130	≥0.5	16.419

Table 12: Test result of 6dB Bandwidth and 99% Bandwidth of 802.11n (HT20)

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	99% Bandwidth (MHz)
Low Channel	2412	15.940	≥0.5	17.544
Mid Channel	2437	15.130	≥0.5	17.625
High Channel	2462	15.140	≥0.5	17.560

Table 13: Test result of 6dB Bandwidth and 99% Bandwidth of 802.11n (HT40)

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	99% Bandwidth (MHz)
Low Channel	2412	35.160	≥0.5	35.725
Mid Channel	2437	35.170	≥0.5	35.880
High Channel	2462	35.170	≥0.5	35.793

5.1.4 Conducted Spurious Emissions measured in 100kHz Bandwidth

RESULT: **Pass**

Date of testing	:	2016-05-27
Test standard	:	FCC part 15.247(d) RSS-247 clause 5.5
Basic standard	:	ANSI C63.10: 2013 Clause 13 of KDB 558074 v03r01
Limit	:	20dB (below that in the 100kHz bandwidth within the band that contains the highest level of the desired power)
Kind of test site	:	Shield room

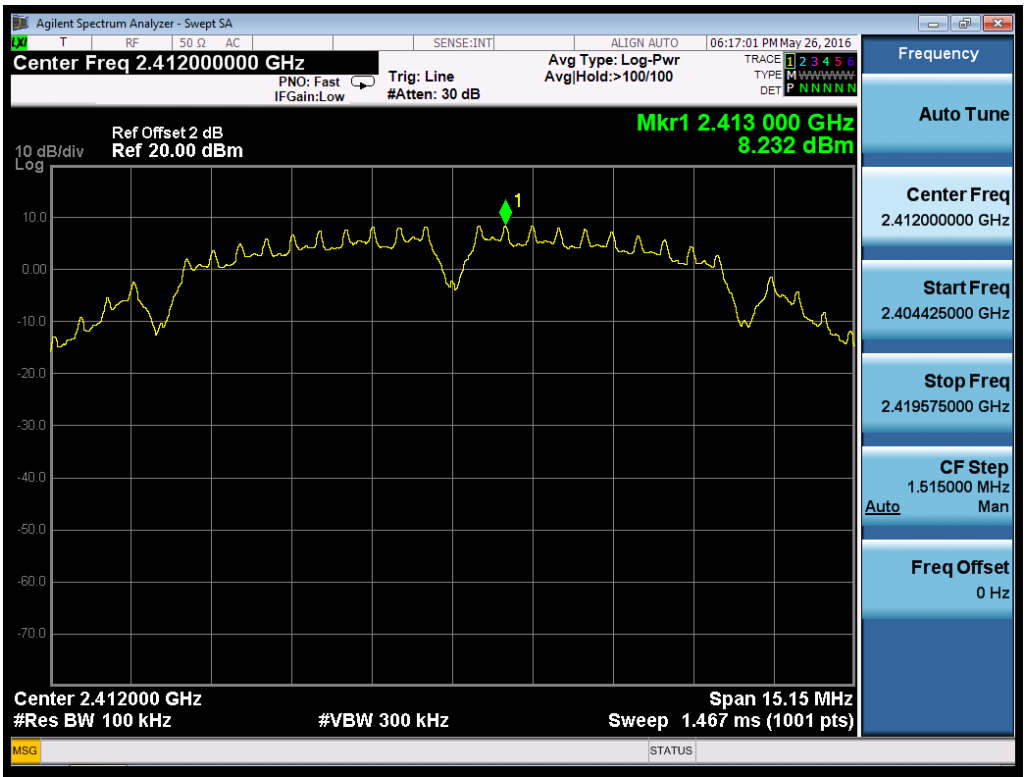
Test setup

Test Channel	:	Low/ Middle/ High
Operation mode	:	A.1
Ambient temperature	:	25℃
Relative humidity	:	50%
Atmospheric pressure	:	101kPa

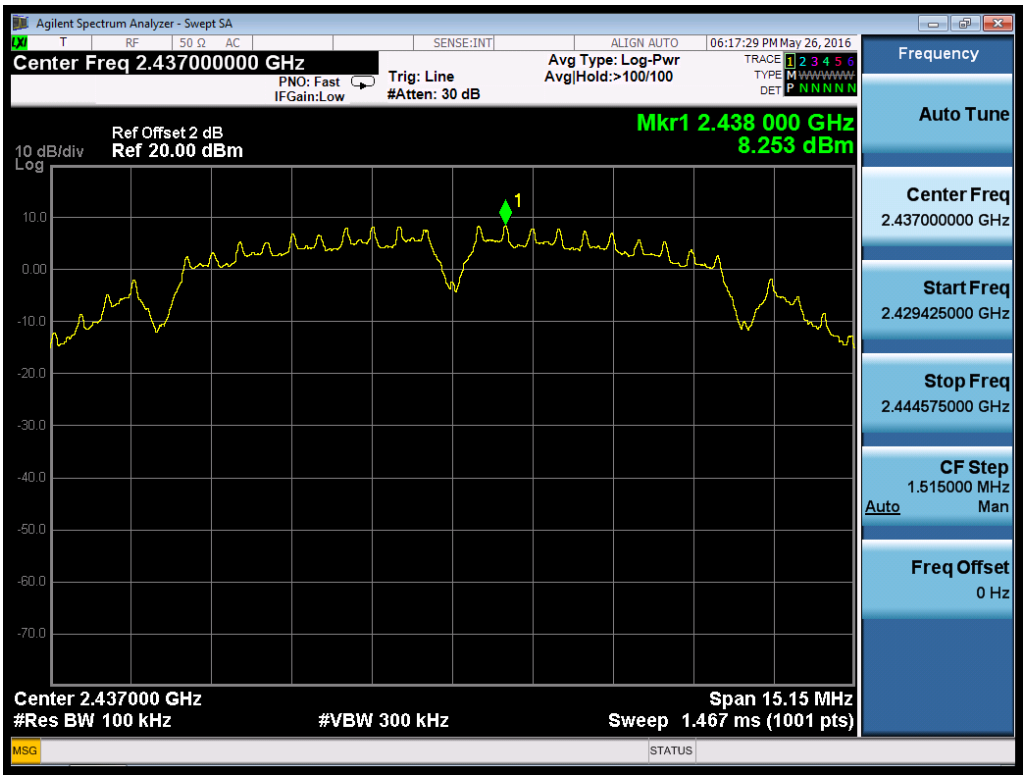
For details refer to following test plot.

Test Plot of Conducted spurious emissions measured in 100kHz Bandwidth of 802.11b

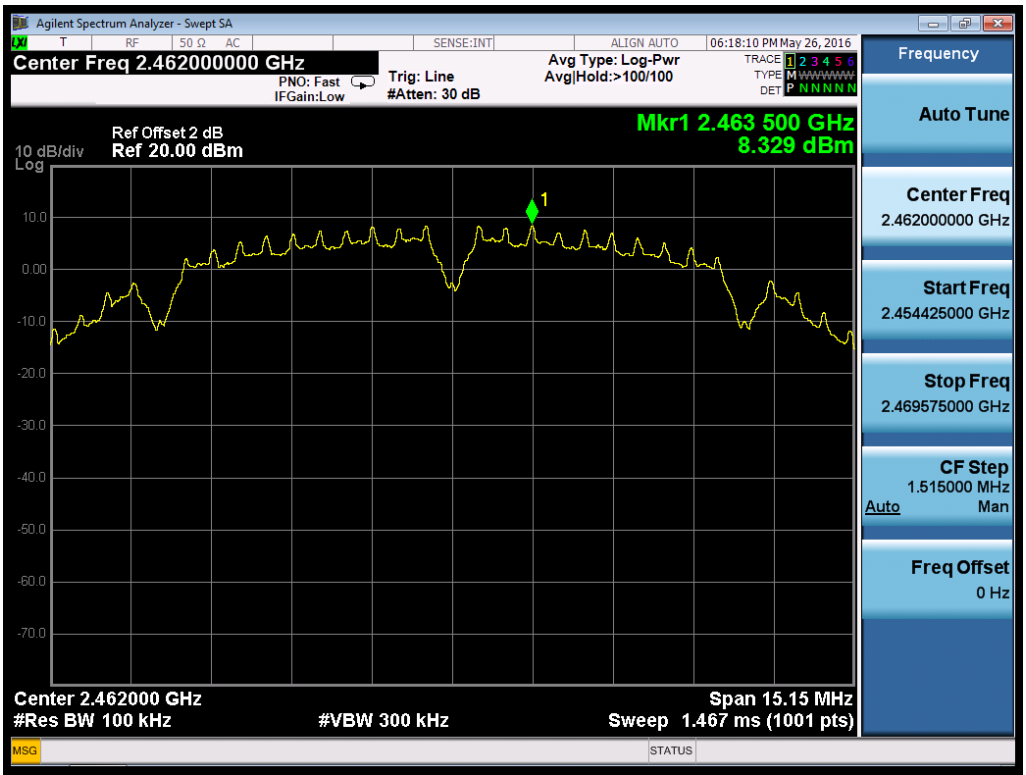
Low Channel



Middle Channel



High Channel



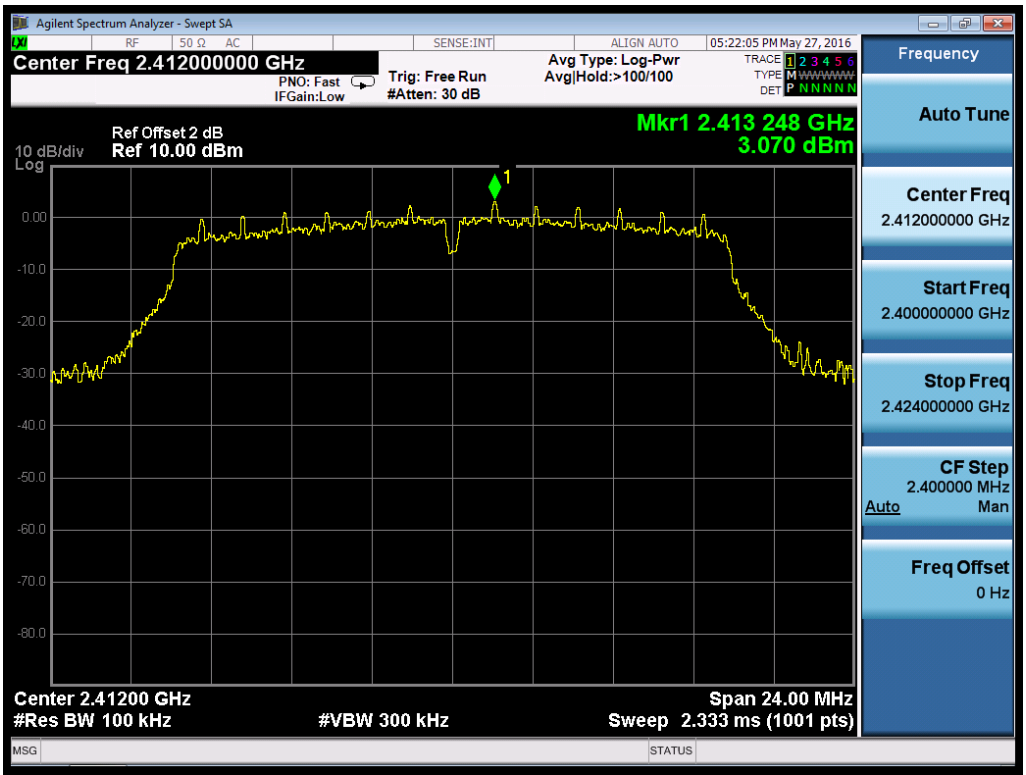
Band Edge

Agilent Spectrum Analyzer - Swept SA
Start Freq 2.390000000 GHz
PNO: Fast
IFGain:Low
Trig: Line
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
06:29:35 PM May 26, 2016
Ref Offset 2 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.400 000 0 GHz
-36.826 dBm
Start 2.39000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.42000 GHz
Sweep 4.000 ms (20000 pts)
Frequency
Auto Tune
Center Freq
2.405000000 GHz
Start Freq
2.390000000 GHz
Stop Freq
2.420000000 GHz
CF Step
3.000000 MHz
Auto
Man
Freq Offset
0 Hz

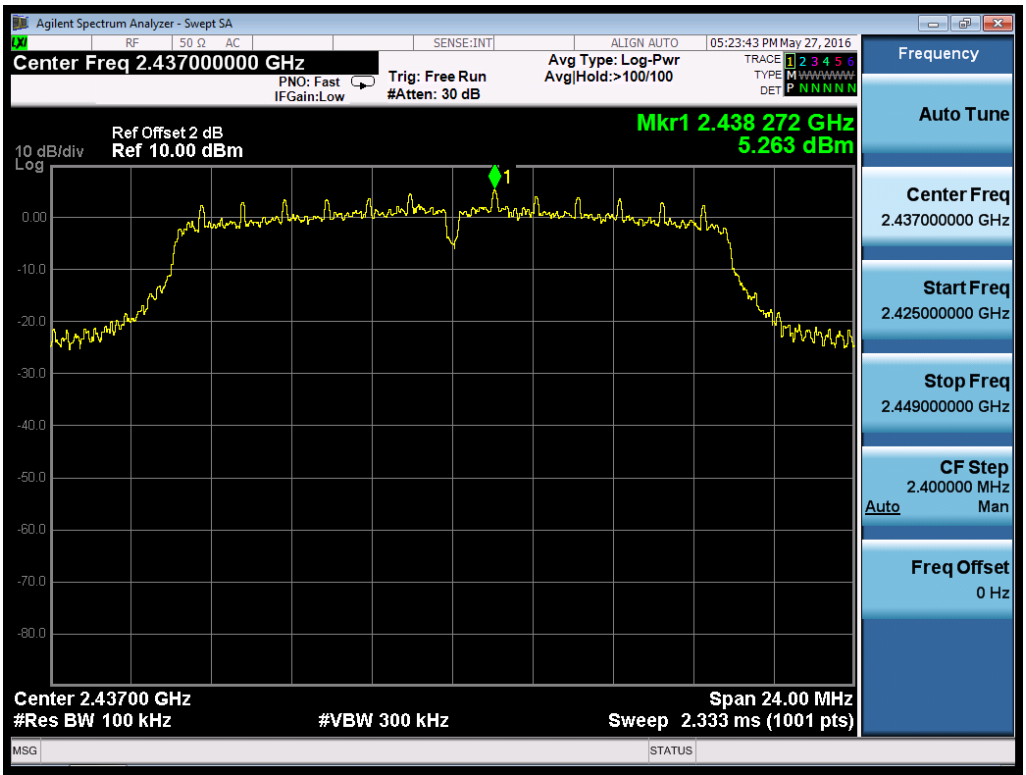
Agilent Spectrum Analyzer - Swept SA
Start Freq 2.450000000 GHz
PNO: Fast
IFGain:Low
Trig: Line
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
06:28:21 PM May 26, 2016
Ref Offset 2 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.483 500 0 GHz
-49.402 dBm
Start 2.45000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.50000 GHz
Sweep 5.333 ms (20000 pts)
Frequency
Auto Tune
Center Freq
2.475000000 GHz
Start Freq
2.450000000 GHz
Stop Freq
2.500000000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz

Test Plot of Conducted spurious emissions measured in 100kHz Bandwidth of 802.11g

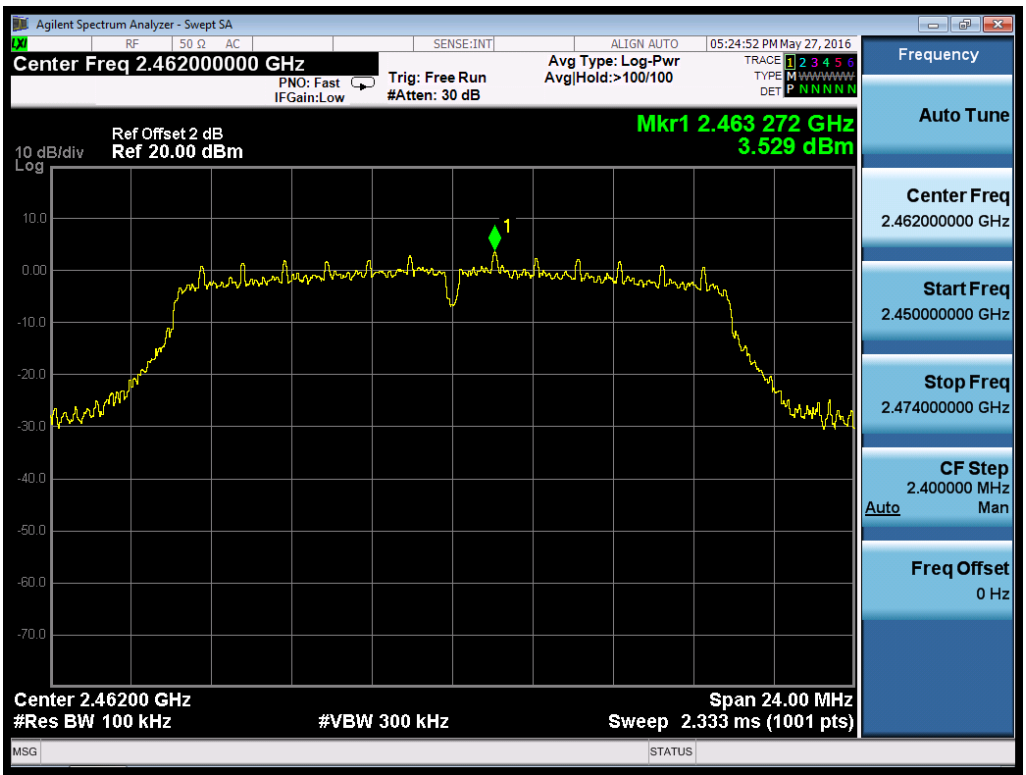
Low Channel



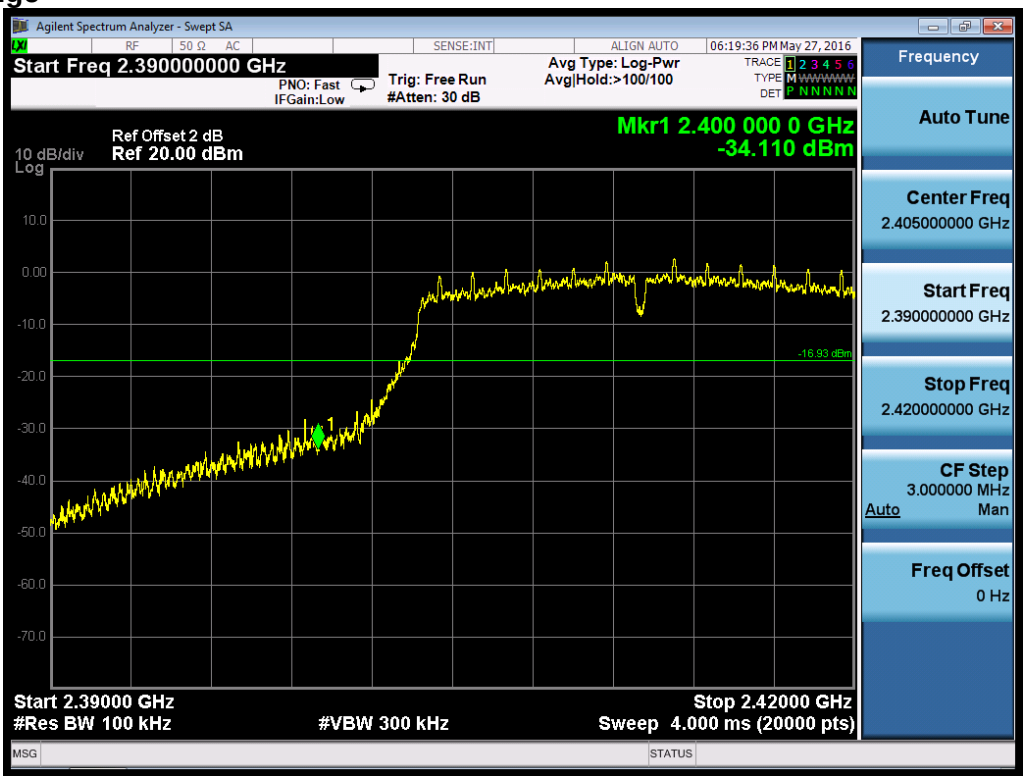
Middle Channel



High Channel



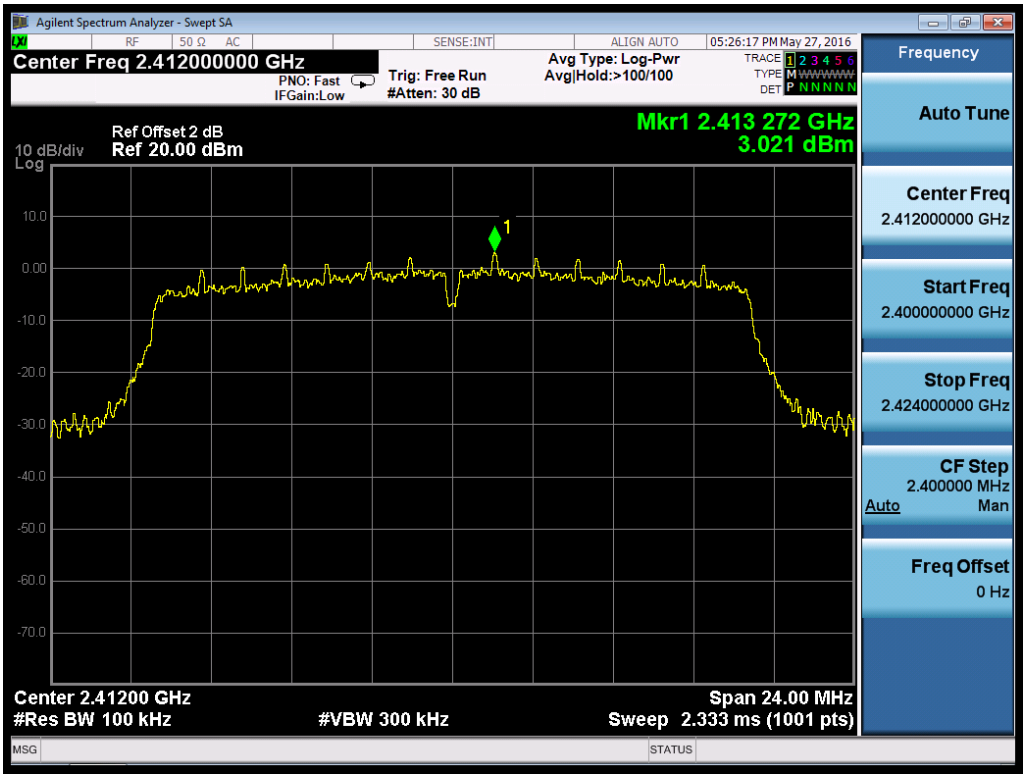
Band Edge


Agilent Spectrum Analyzer - Swept SA
Start Freq 2.390000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
06:19:36 PM May 27, 2016
Ref Offset 2 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.400 000 0 GHz
-34.110 dBm
-16.93 dBm
Start 2.39000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.42000 GHz
Sweep 4.000 ms (20000 pts)
Frequency
Auto Tune
Center Freq
2.405000000 GHz
Start Freq
2.390000000 GHz
Stop Freq
2.420000000 GHz
CF Step
3.000000 MHz
Auto
Man
Freq Offset
0 Hz

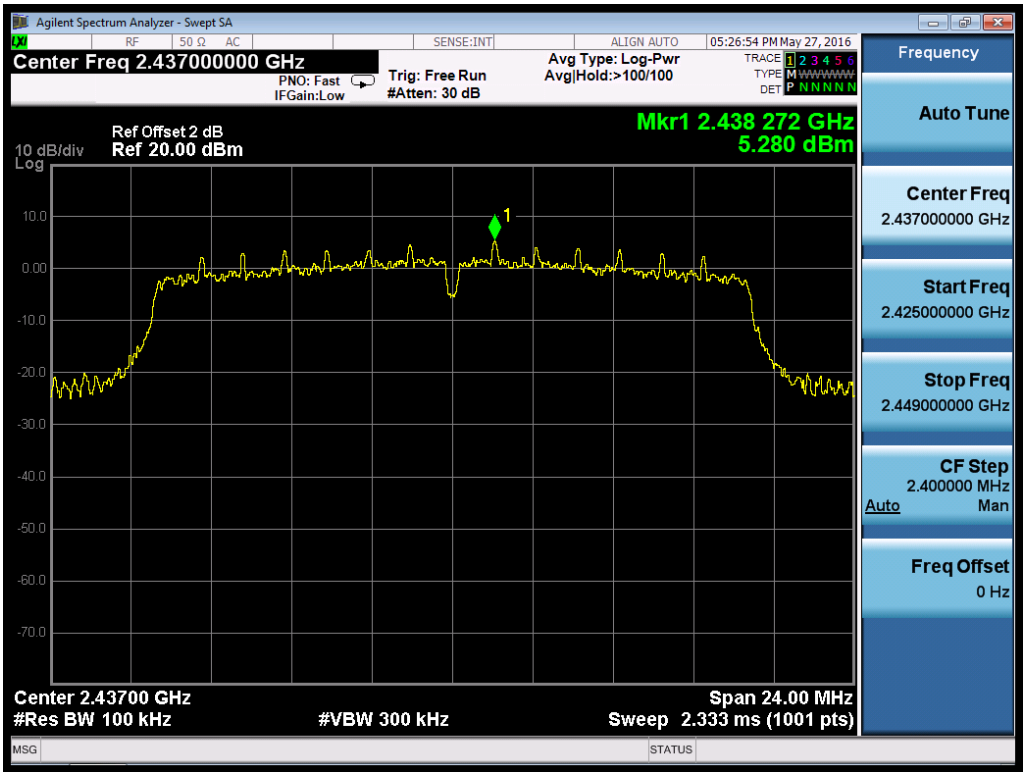
Agilent Spectrum Analyzer - Swept SA
Start Freq 2.450000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
06:21:50 PM May 27, 2016
Ref Offset 2 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.483 500 0 GHz
-46.149 dBm
-16.47 dBm
Start 2.45000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.50000 GHz
Sweep 5.333 ms (20000 pts)
Frequency
Auto Tune
Center Freq
2.475000000 GHz
Start Freq
2.450000000 GHz
Stop Freq
2.500000000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz

Test Plot of Conducted spurious emissions measured in 100kHz Bandwidth of 802.11n (HT20)

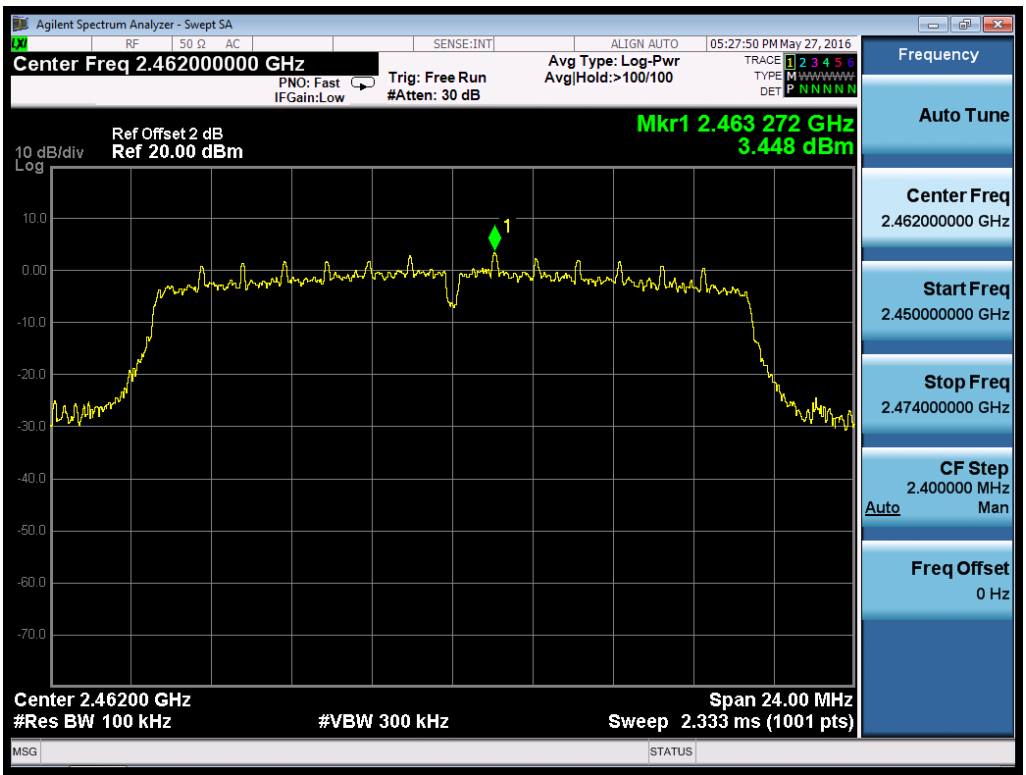
Low Channel



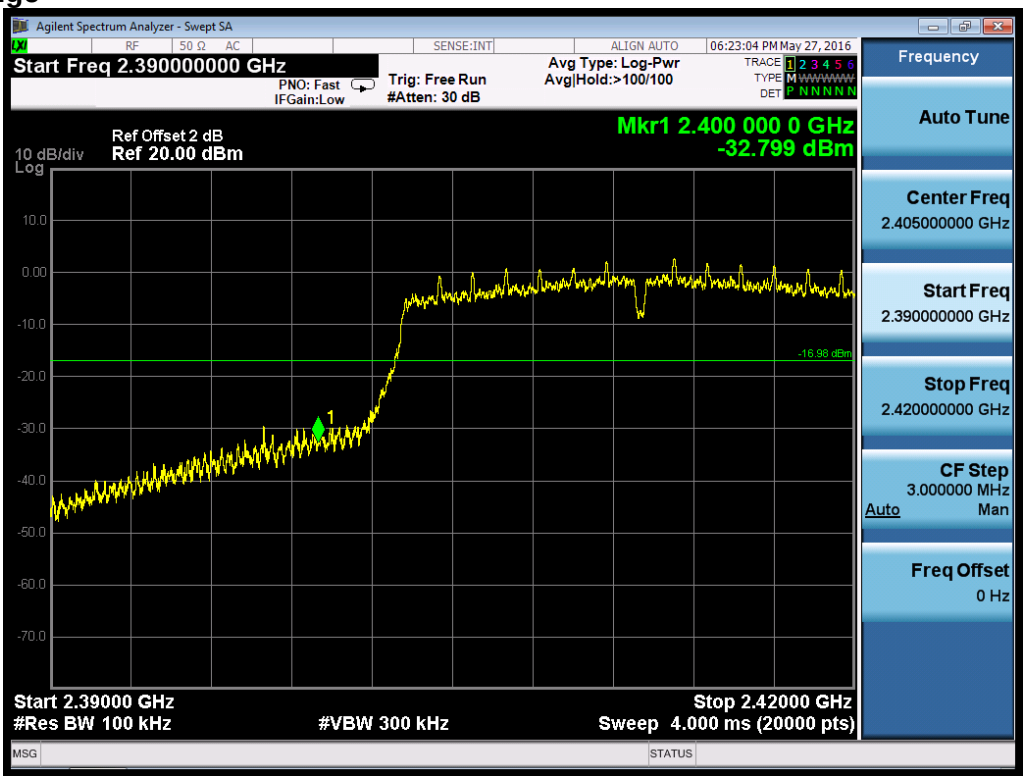
Middle Channel

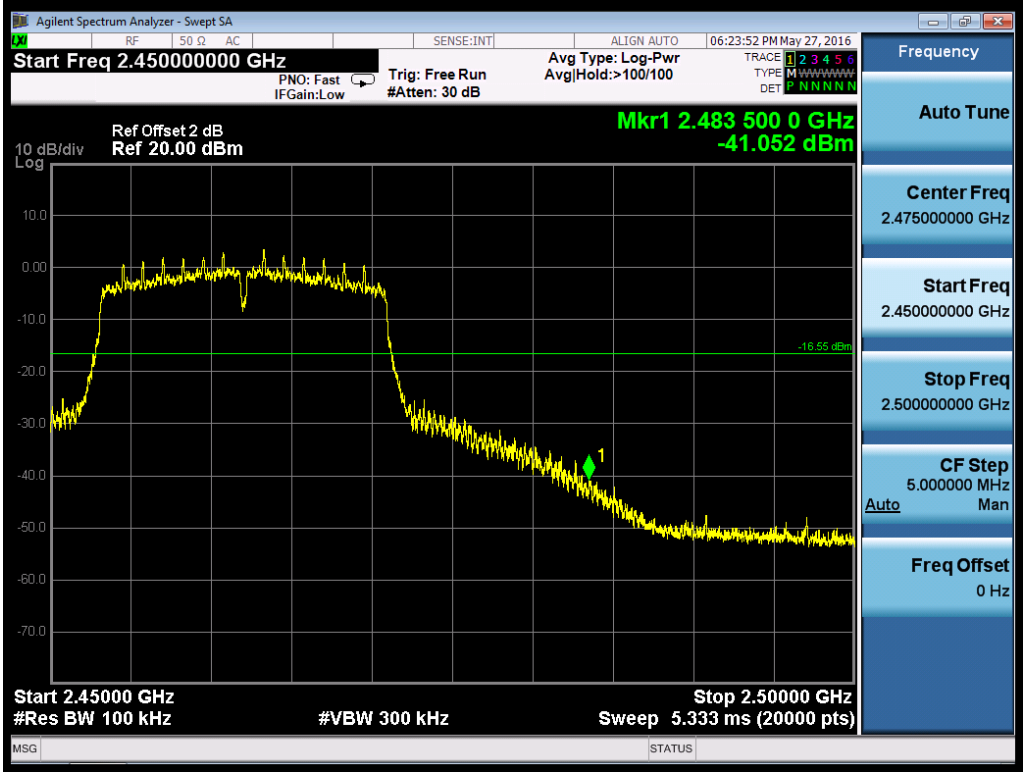


High Channel



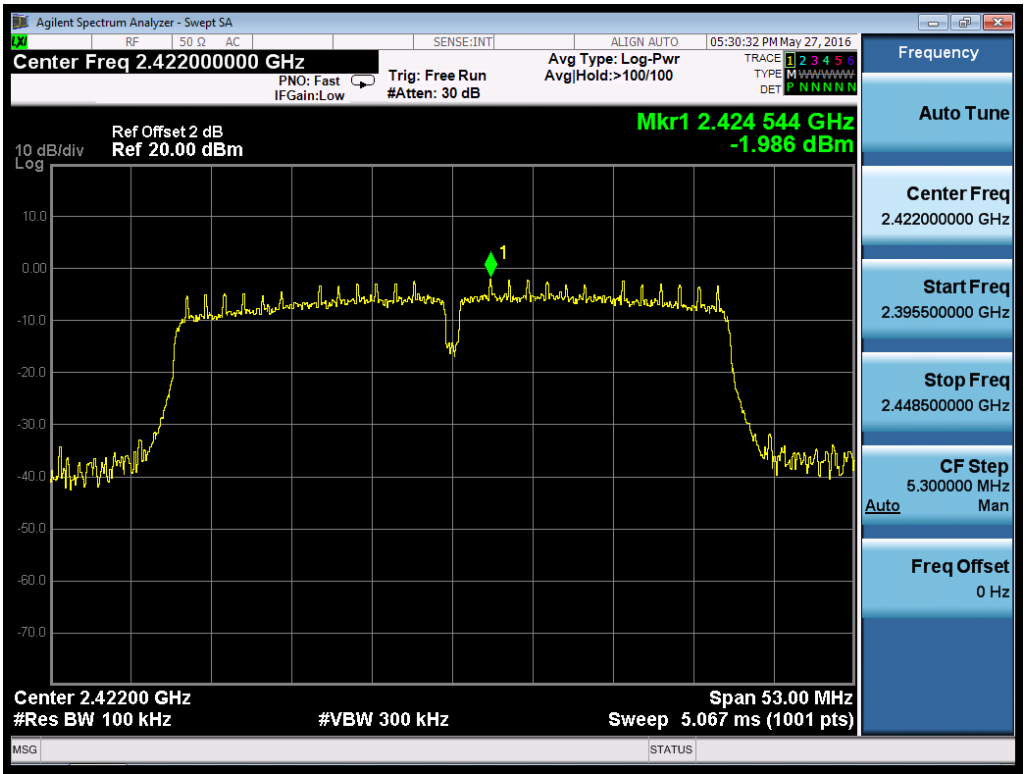
Band Edge


Agilent Spectrum Analyzer - Swept SA
Start Freq 2.390000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
06:23:04 PM May 27, 2016
Ref Offset 2 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.400 000 0 GHz
-32.799 dBm
-16.98 dBm
Start 2.39000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.42000 GHz
Sweep 4.000 ms (20000 pts)
Frequency
Auto Tune
Center Freq
2.405000000 GHz
Start Freq
2.390000000 GHz
Stop Freq
2.420000000 GHz
CF Step
3.000000 MHz
Auto
Man
Freq Offset
0 Hz

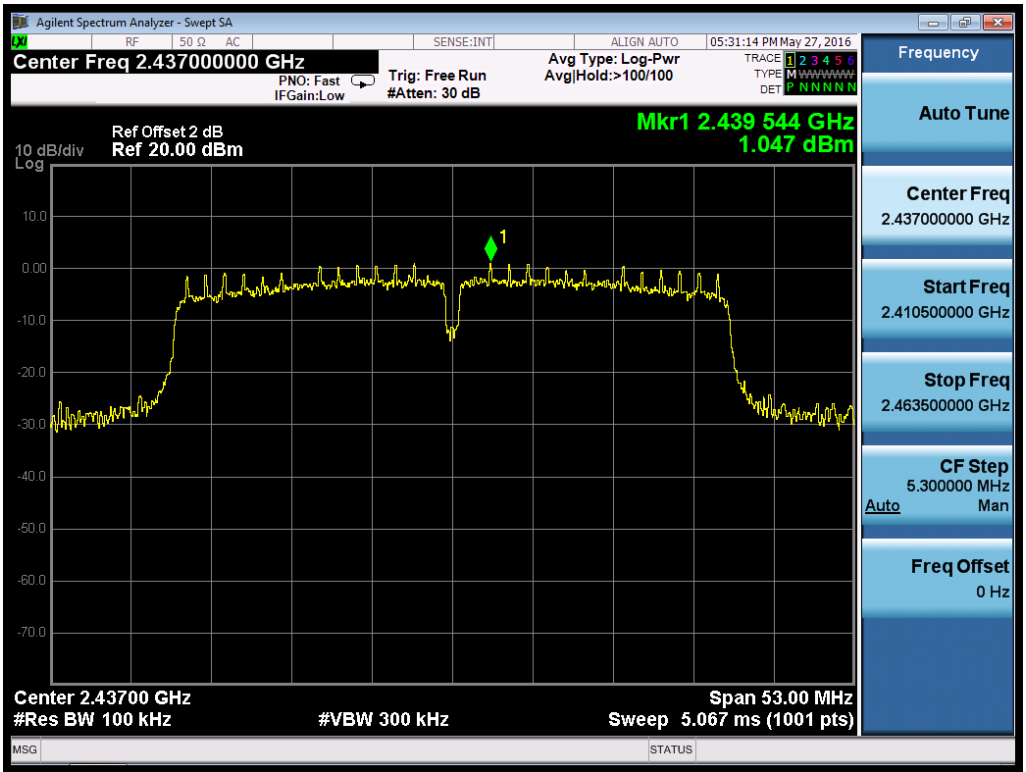

Agilent Spectrum Analyzer - Swept SA
Start Freq 2.450000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
06:23:52 PM May 27, 2016
Ref Offset 2 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.483 500 0 GHz
-41.052 dBm
-16.55 dBm
Start 2.45000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.50000 GHz
Sweep 5.333 ms (20000 pts)
Frequency
Auto Tune
Center Freq
2.475000000 GHz
Start Freq
2.450000000 GHz
Stop Freq
2.500000000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz

Test Plot of Conducted spurious emissions measured in 100kHz Bandwidth of 802.11n (HT40)

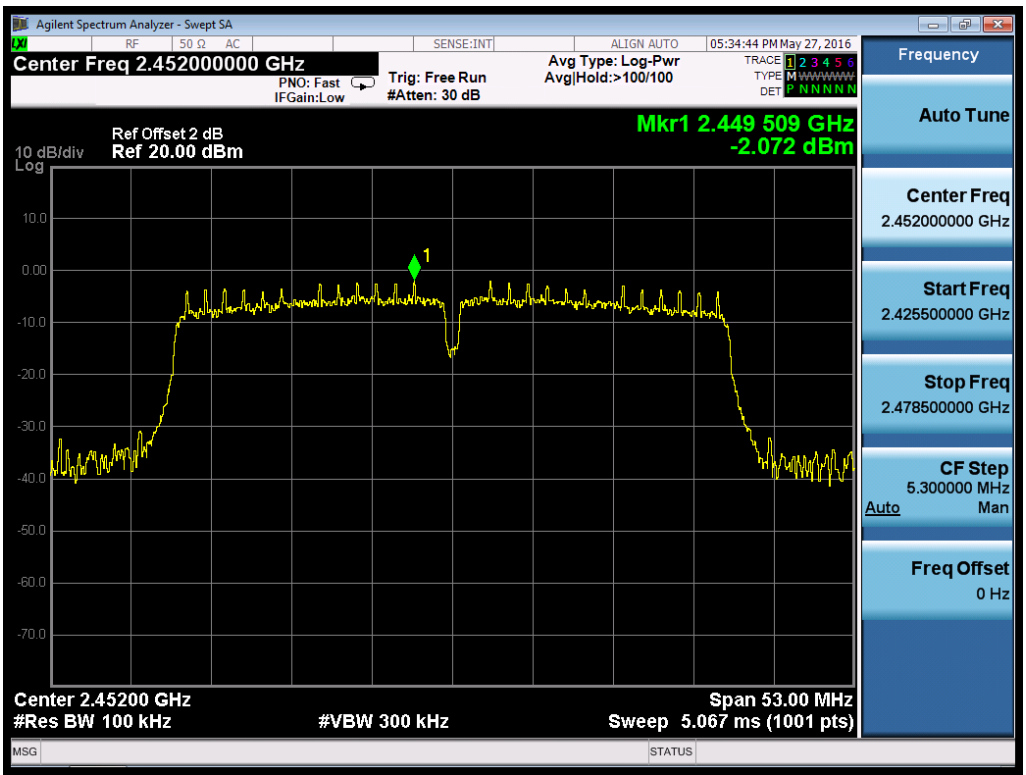
Low Channel



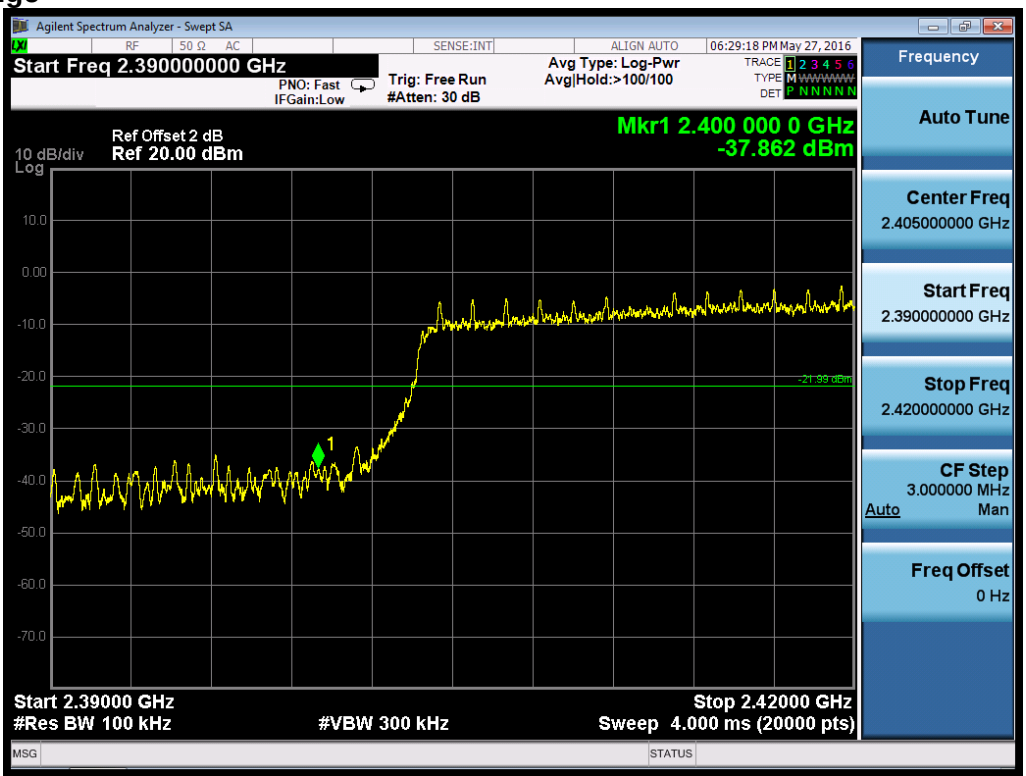
Middle Channel

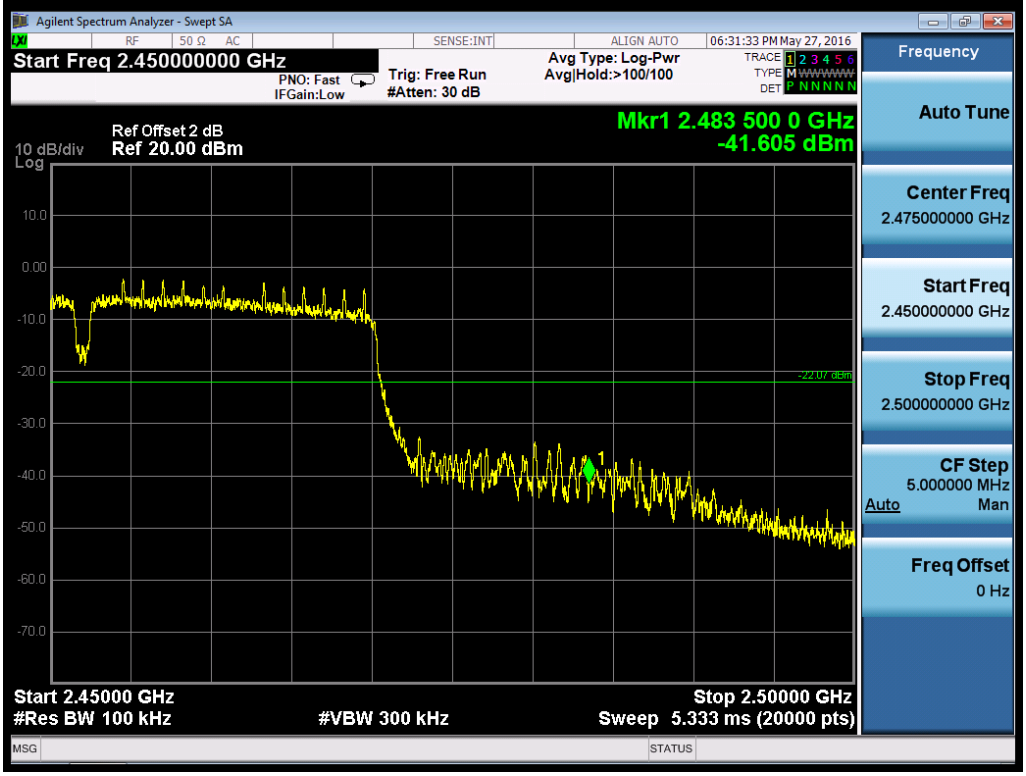


High Channel



Band Edge


Agilent Spectrum Analyzer - Swept SA
Start Freq 2.390000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
06:29:18 PM May 27, 2016
Ref Offset 2 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.400 000 0 GHz
-37.862 dBm
-21.99 dBm
Start 2.39000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.42000 GHz
Sweep 4.000 ms (20000 pts)
Frequency
Auto Tune
Center Freq
2.405000000 GHz
Start Freq
2.390000000 GHz
Stop Freq
2.420000000 GHz
CF Step
3.000000 MHz
Auto
Man
Freq Offset
0 Hz


Agilent Spectrum Analyzer - Swept SA
Start Freq 2.450000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
06:31:33 PM May 27, 2016
Ref Offset 2 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.483 500 0 GHz
-41.605 dBm
-22.07 dBm
Start 2.45000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.50000 GHz
Sweep 5.333 ms (20000 pts)
Frequency
Auto Tune
Center Freq
2.475000000 GHz
Start Freq
2.450000000 GHz
Stop Freq
2.500000000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz

5.1.5 Power spectral density

RESULT: **Pass**

Date of testing	:	2016-05-26
Test standard	:	FCC part 15.247(e)
Basic standard	:	ANSI C63.10: 2013 Clause 10 of KDB 558074 v03r01
Limit	:	8dBm/3kHz
Kind of test site	:	Shield room

Test setup

Test Channel	:	Low/ Middle/ High
Operation mode	:	A.1
Ambient temperature	:	25℃
Relative humidity	:	50%
Atmospheric pressure	:	101kPa

Table 14: Test result of power spectral density:

Mode	Rate (Mbps)	Channel (MHz)	Result (dBm/3kHz)	Limit (dBm/3kHz)	Conclusion
802.11b		2412	-5.728	8	Pass
		2437	-6.017	8	Pass
		2462	-5.796	8	Pass
802.11g		2412	-11.690	8	Pass
		2437	-8.931	8	Pass
		2462	-11.425	8	Pass
802.11n (HT20)		2412	-11.682	8	Pass
		2437	-10.034	8	Pass
		2462	-12.196	8	Pass
802.11n (HT40)		2422	-16.881	8	Pass
		2437	-14.006	8	Pass
		2452	-16.184	8	Pass

5.1.6 Spurious Emission

RESULT: **Pass**

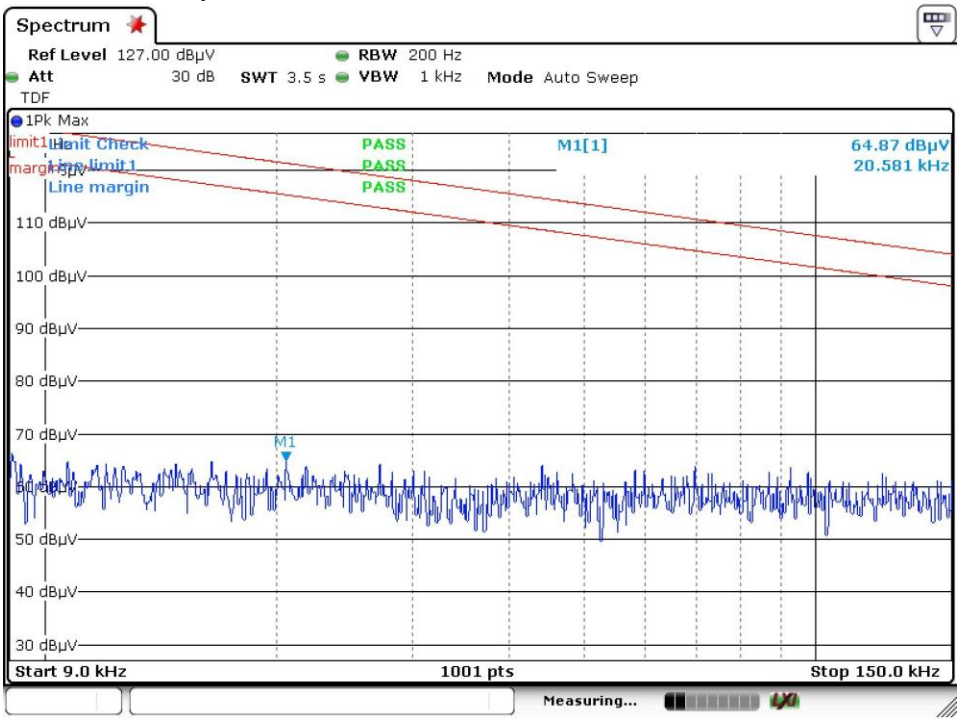
Date of testing	:	2016-06-03
Test standard	:	FCC part 15.247(d)
Basic standard	:	ANSI C63.10: 2013 Clause 11 of KDB 558074 v03r01
Limits	:	FCC part 15.209(a)
Kind of test site	:	3m Semi-Anechoic Chamber & Anechoic Chamber

Test setup

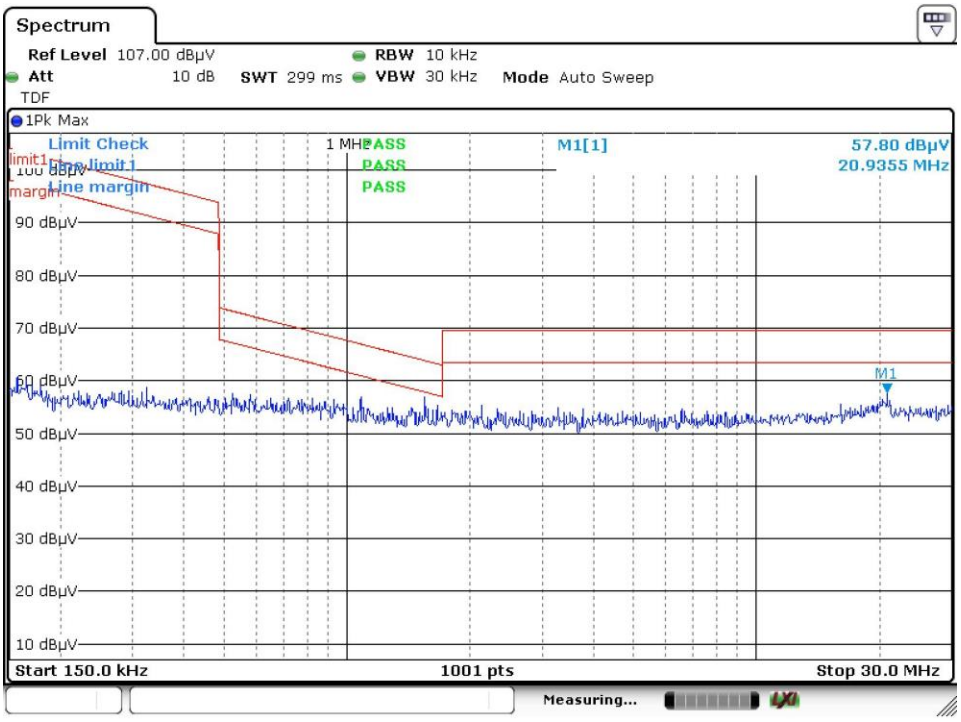
Test Channel	:	Low/ Middle/ High
Operation mode	:	A.1
Ambient temperature	:	24℃
Relative humidity	:	53%
Atmospheric pressure	:	101kPa

For details refer to following test plot.

Test Plot of 802.11b, Low Channel - X

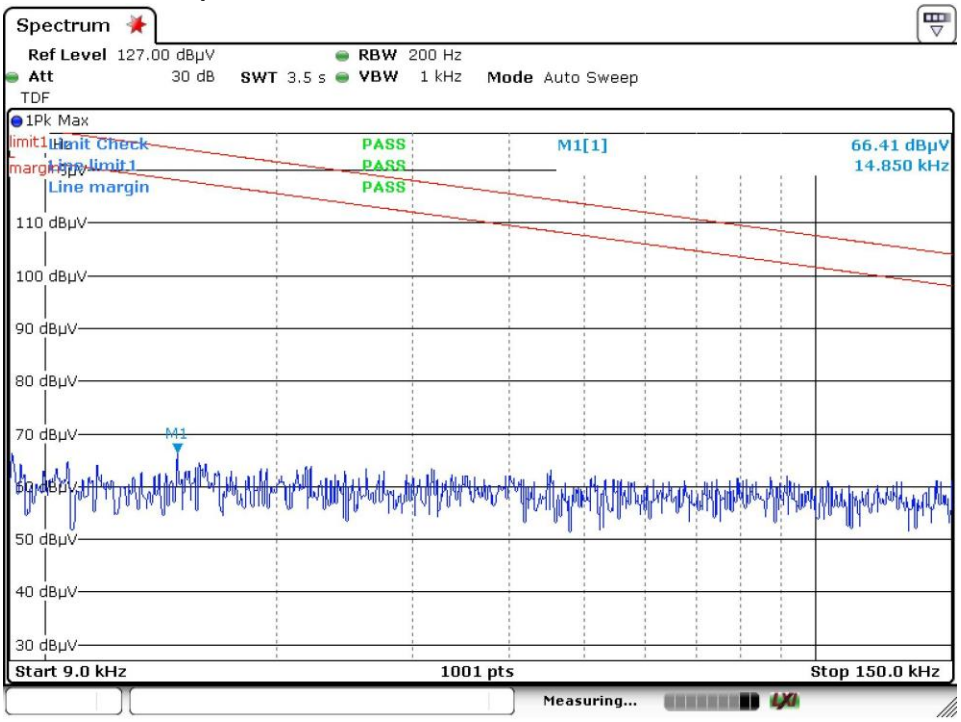


P

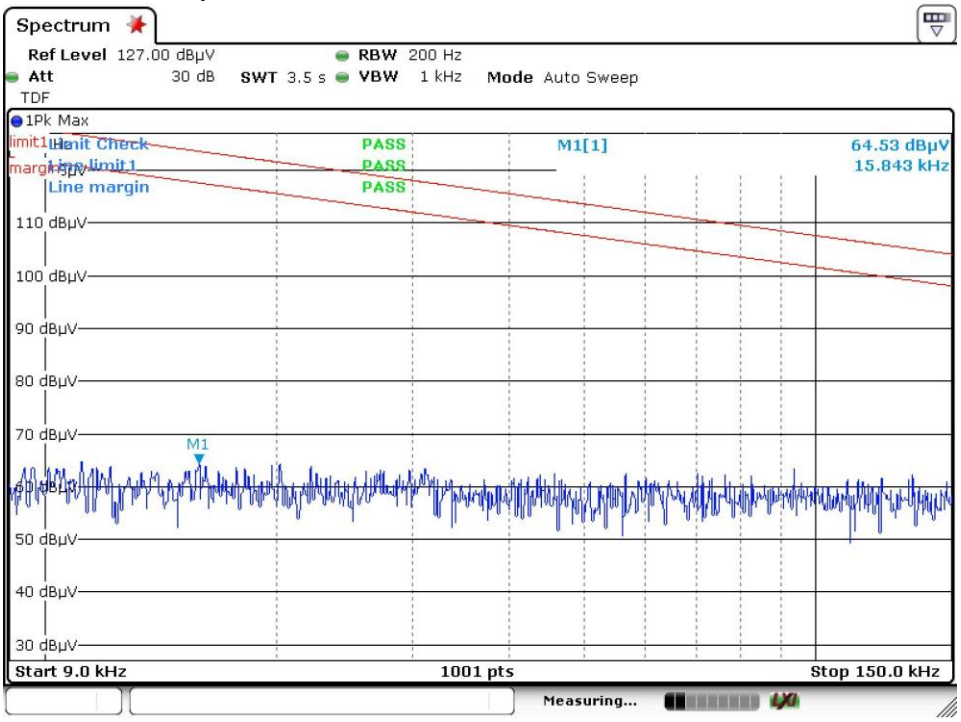


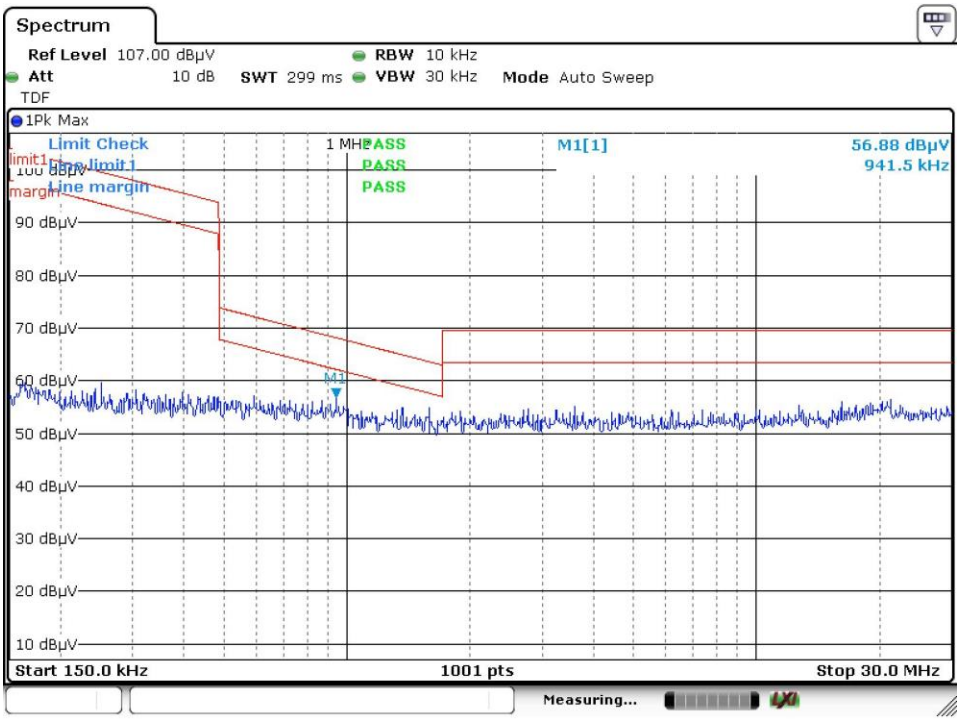
P

Test Plot of 802.11b, Low Channel - Y

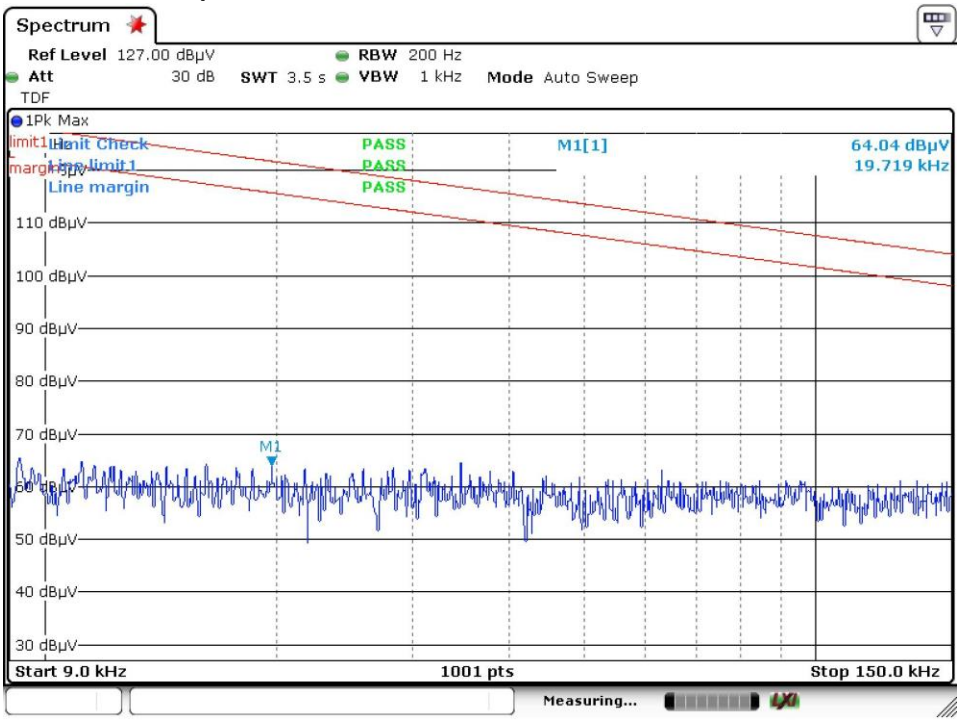


Test Plot of 802.11b, Low Channel - Z

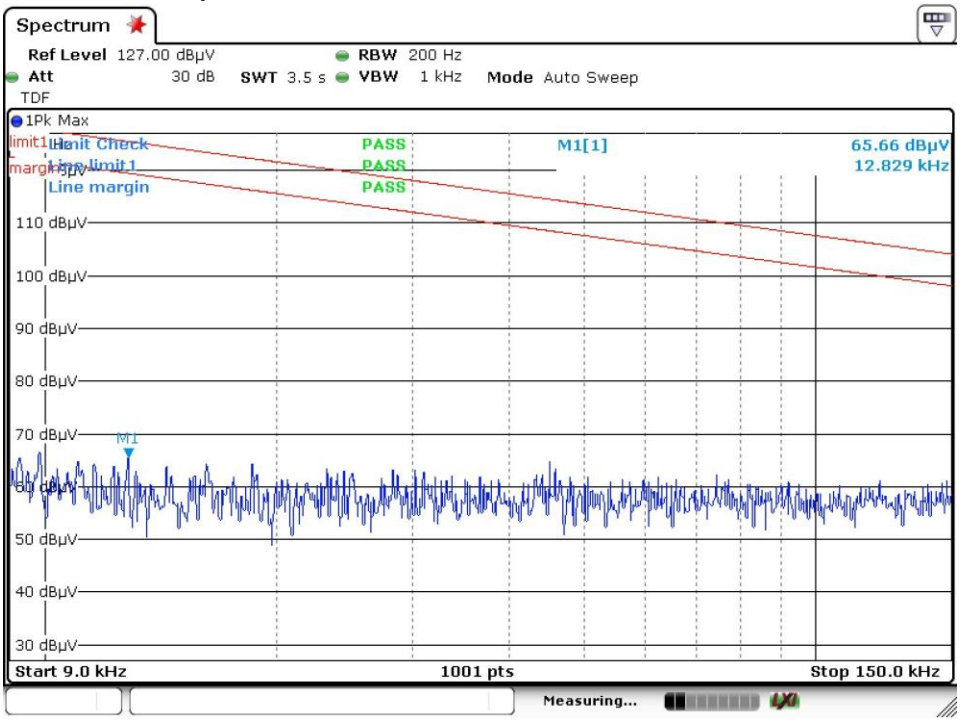


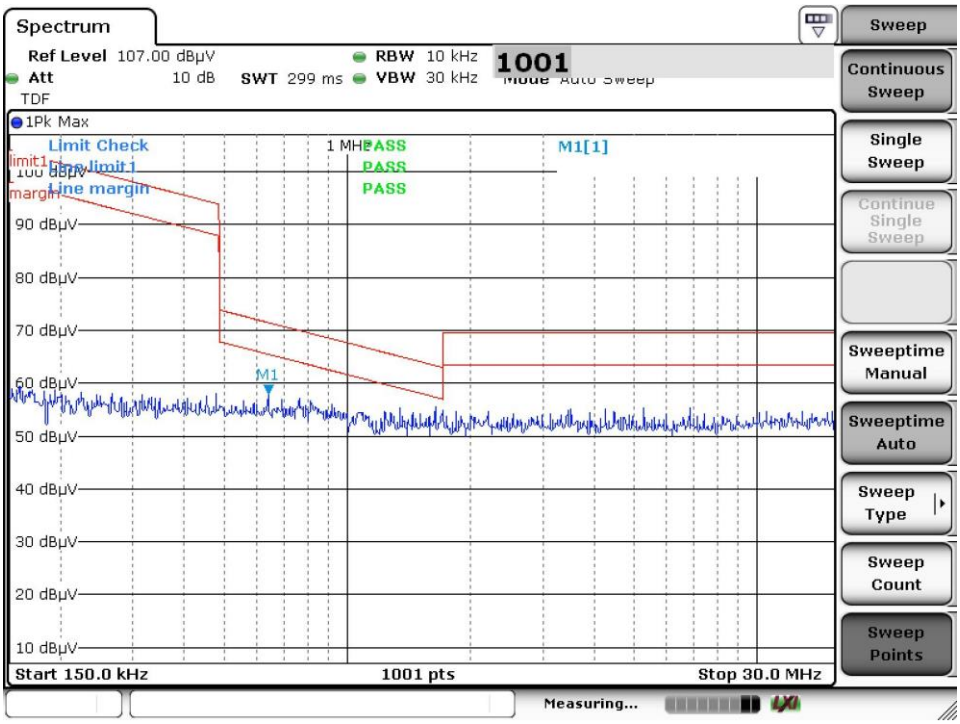


Test Plot of 802.11b, Middle Channel - X

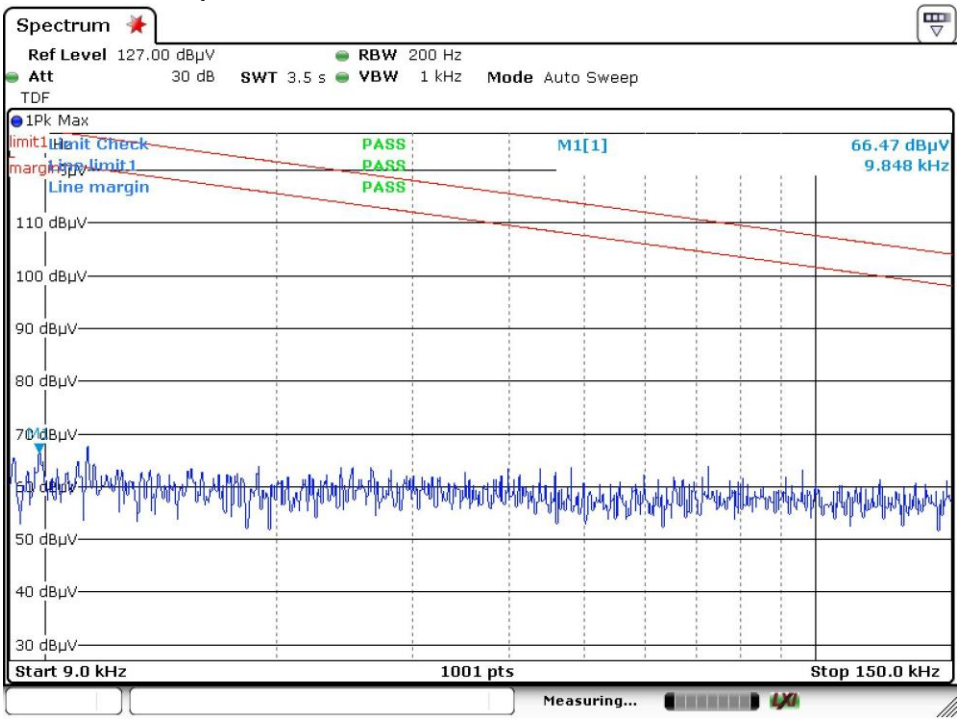


Test Plot of 802.11b, Middle Channel - Y

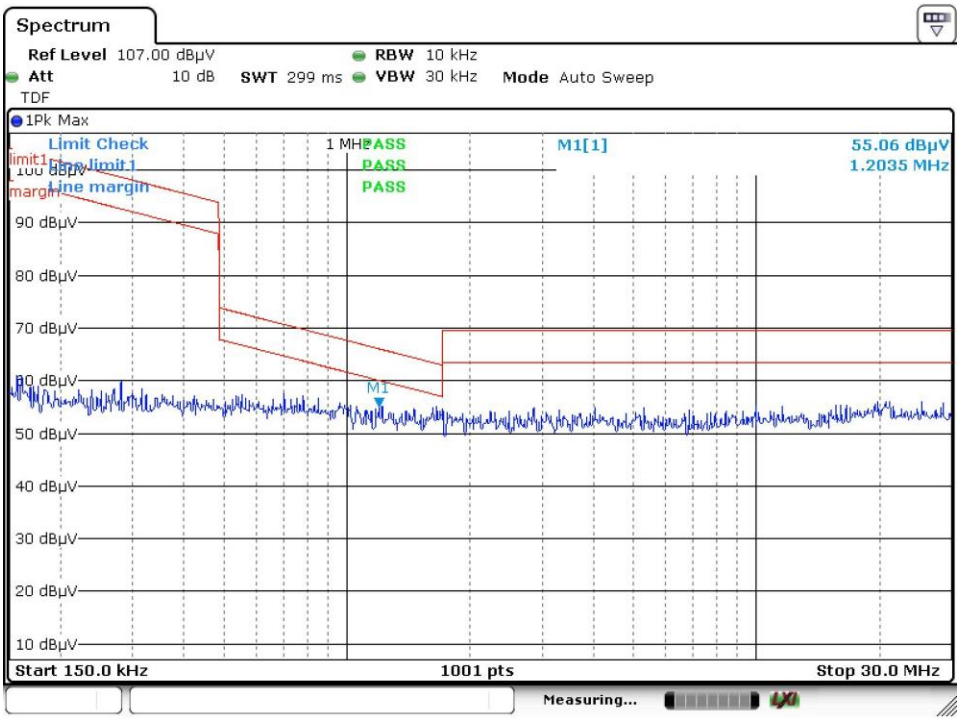




Test Plot of 802.11b, Middle Channel - Z

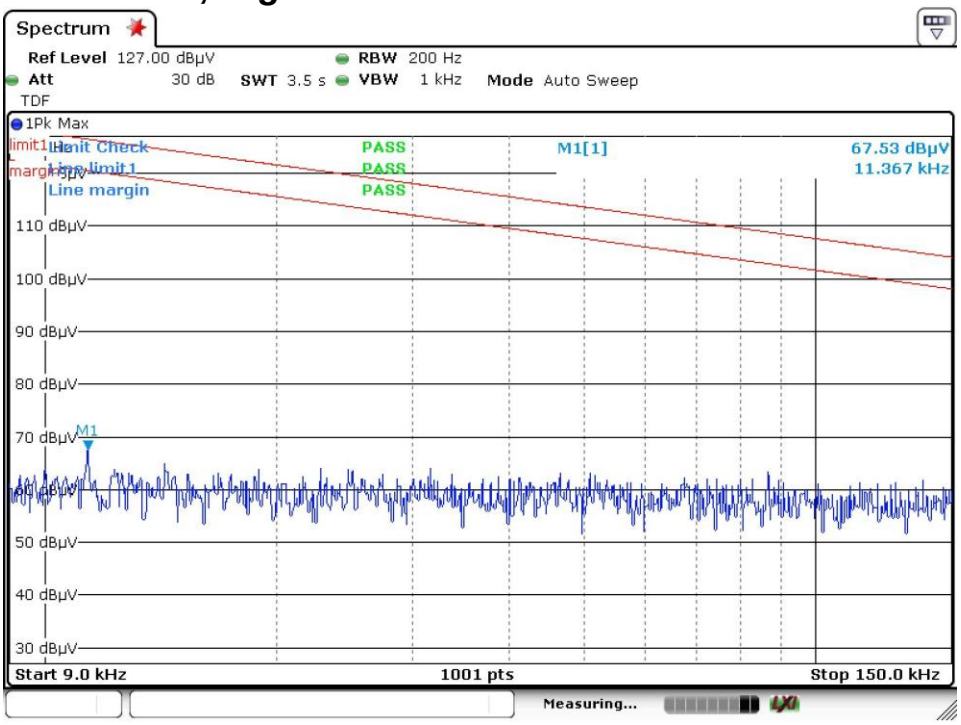


P

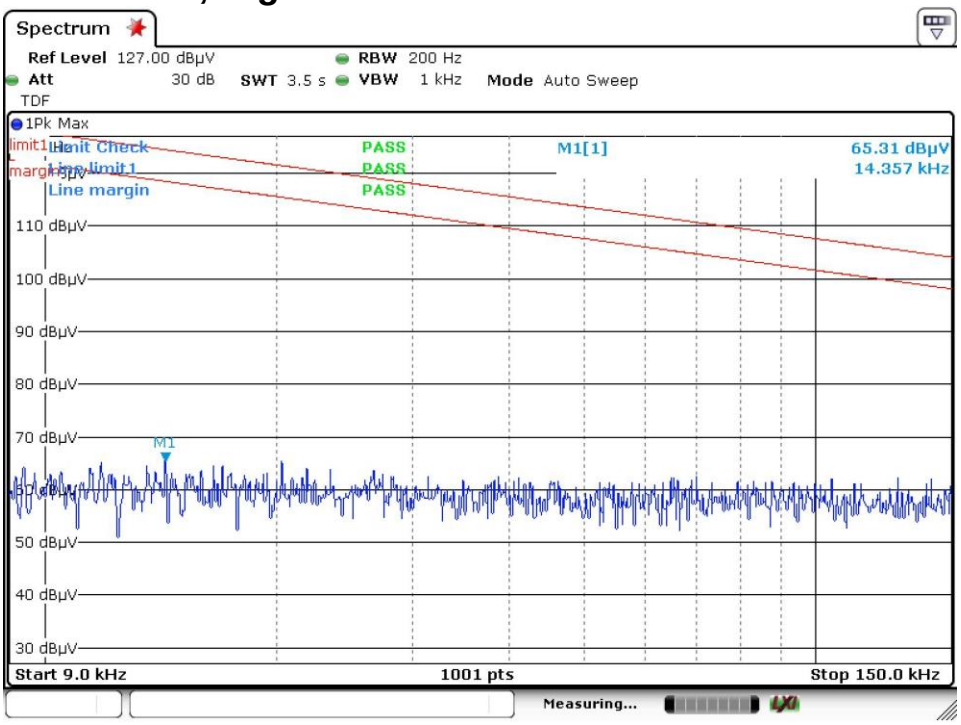


P

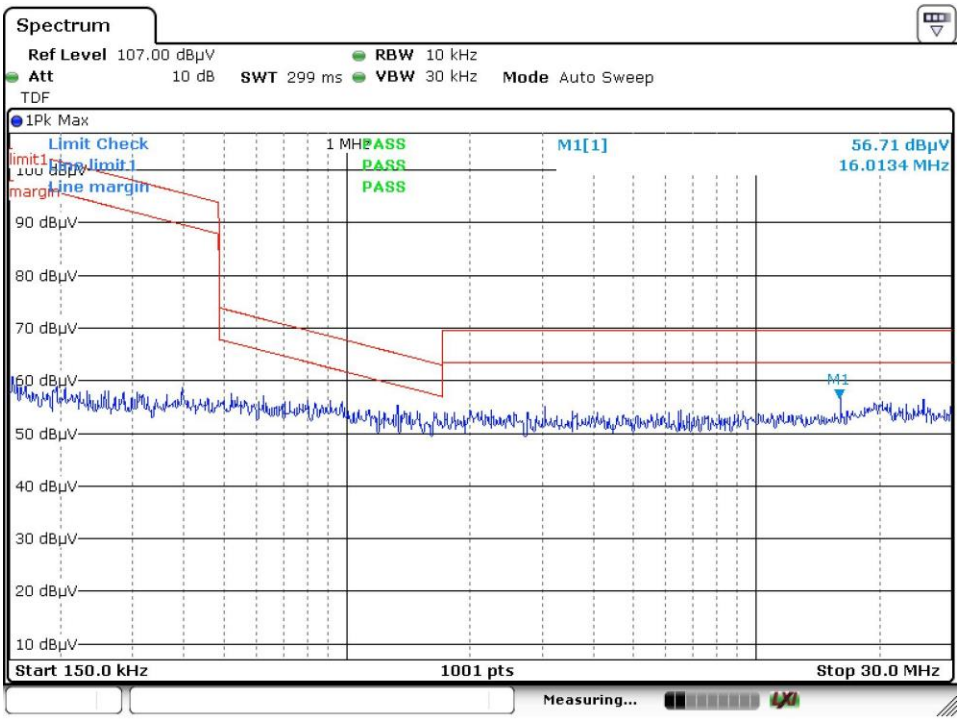
Test Plot of 802.11b, High Channel - X



Test Plot of 802.11b, High Channel - Y

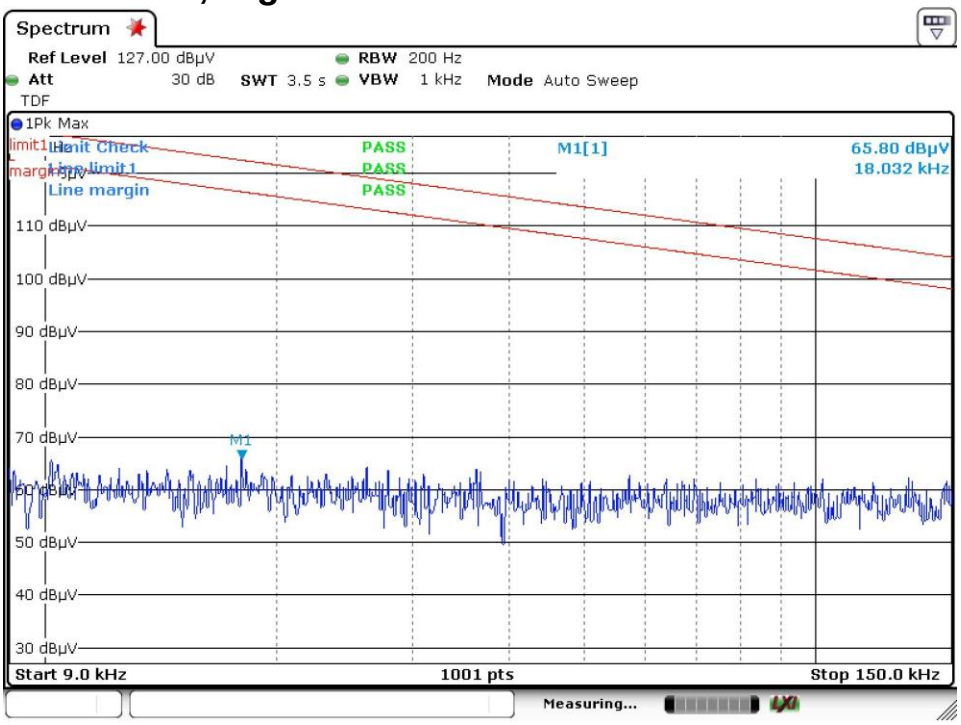


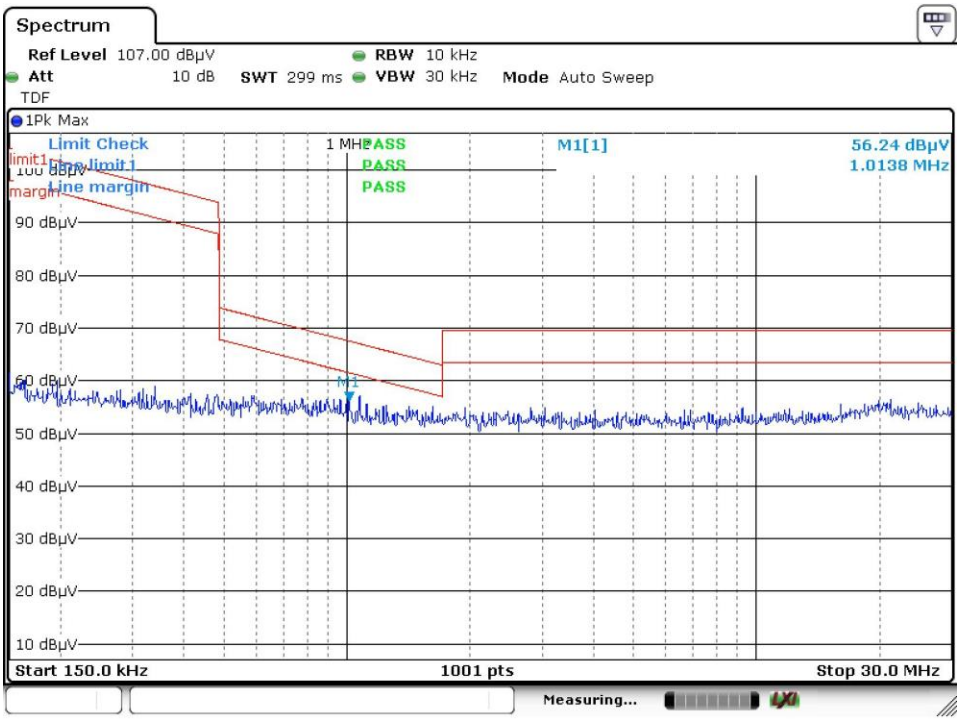
P



P

Test Plot of 802.11b, High Channel - Z





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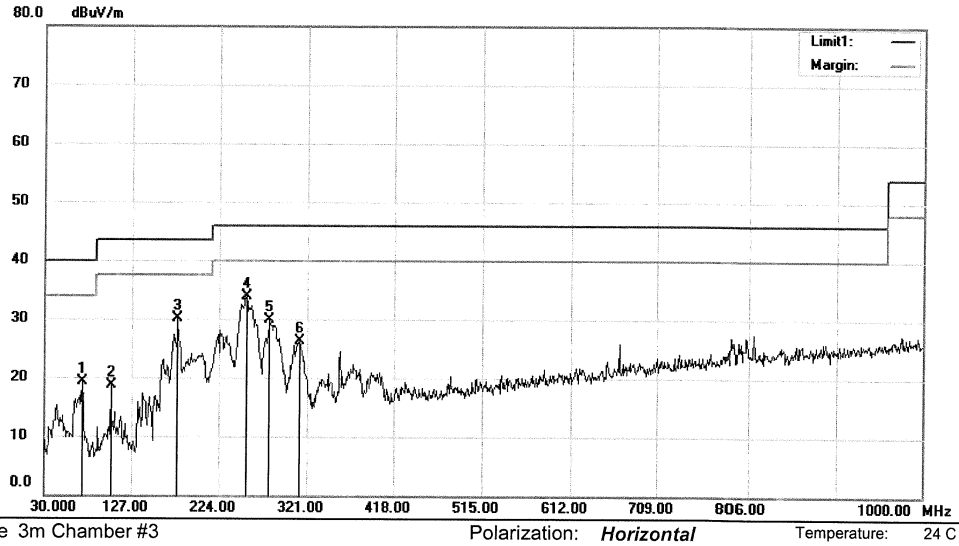
Radiated Emission Measurement

File :TUV Data :#663 Date: 2016/05/27



Site 3m Chamber #3 Polarization: ***Horizontal*** Temperature: 24 C
Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 53 %
EUT: MID
M/N: NS-P16AT08
Mode:11B 2412
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		71.7100	37.57	-18.25	19.32	40.00	-20.68	QP			
2		103.7200	34.07	-15.30	18.77	43.50	-24.73	QP			
3		178.4100	47.36	-17.17	30.19	43.50	-13.31	QP			
4	*	254.0700	47.19	-13.28	33.91	46.00	-12.09	QP			
5		279.2900	42.38	-12.46	29.92	46.00	-16.08	QP			
6		312.2700	37.69	-11.45	26.24	46.00	-19.76	QP			

*:Maximum data x:Over limit !:over margin Operator: KK

File :TUV\Data :#663 *Page: 1*

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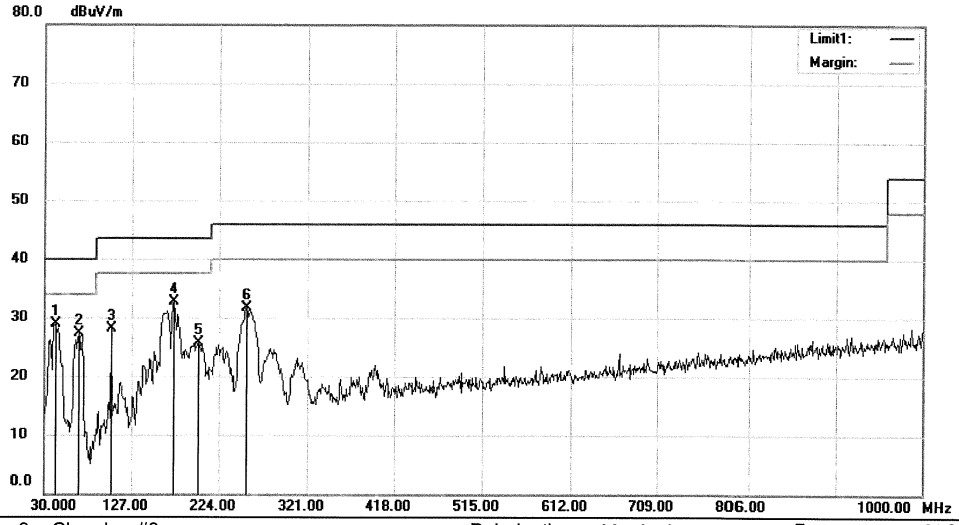
Radiated Emission Measurement

File :TUV Data :#664 Date: 2016/05/27



Site 3m Chamber #3 Polarization: *Vertical* Temperature: 24 C
Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 53 %
EUT: MID
M/N: NS-P16AT08
Mode:11B 2412
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		41.6400	43.99	-15.13	28.86	40.00	-11.14	QP			
2		67.8300	44.57	-17.29	27.28	40.00	-12.72	QP			
3		103.7200	43.40	-15.30	28.10	43.50	-15.40	QP			
4	*	174.5300	49.87	-17.20	32.67	43.50	-10.83	QP			
5		200.7200	41.30	-15.51	25.79	43.50	-17.71	QP			
6		254.0700	44.95	-13.28	31.67	46.00	-14.33	QP			

*:Maximum data x:Over limit !:over margin Operator: KK

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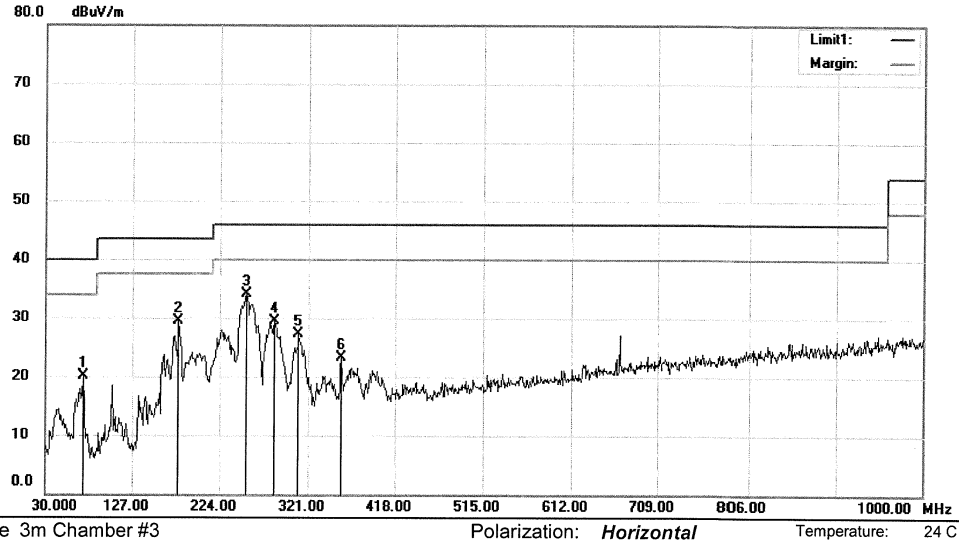
Radiated Emission Measurement

File :TUV Data :#661 Date: 2016/05/27



Site 3m Chamber #3 Polarization: ***Horizontal*** Temperature: 24 C
Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 53 %
EUT: MID
M/N: NS-P16AT08
Mode:11B 2437
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		71.7100	38.28	-18.25	20.03	40.00	-19.97	QP			
2		178.4100	46.62	-17.17	29.45	43.50	-14.05	QP			
3	*	253.1000	47.47	-13.33	34.14	46.00	-11.86	QP			
4		284.1400	41.73	-12.28	29.45	46.00	-16.55	QP			
5		310.3300	38.72	-11.47	27.25	46.00	-18.75	QP			
6		357.8600	33.84	-10.59	23.25	46.00	-22.75	QP			

*:Maximum data x:Over limit !:over margin Operator: KK

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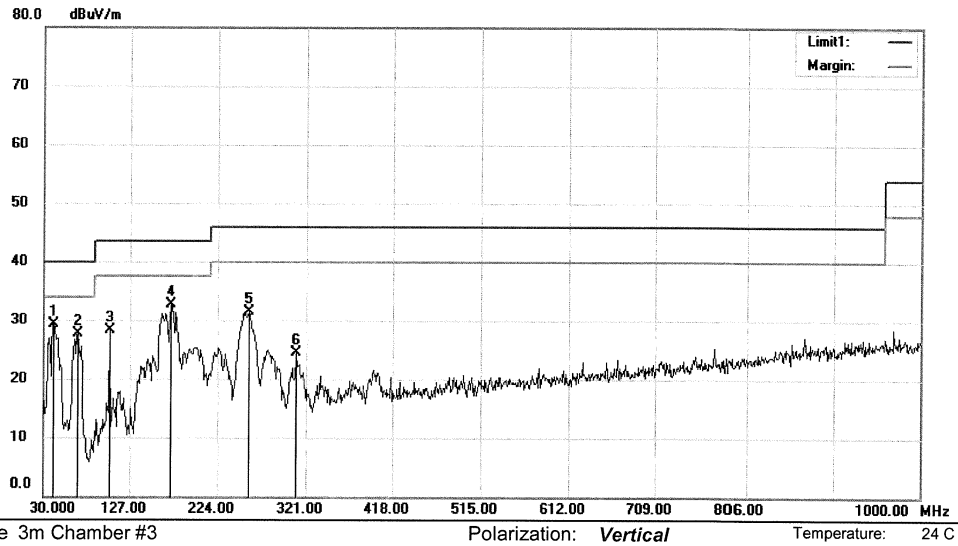
Radiated Emission Measurement

File :TUV Data :#662 Date: 2016/05/27



Site 3m Chamber #3 Polarization: *Vertical* Temperature: 24 C
Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 53 %
EUT: MID
M/N: NS-P16AT08
Mode:11B 2437
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	40.6700	44.73	-15.34	29.39	40.00	-10.61	QP			
2		67.8300	44.96	-17.29	27.67	40.00	-12.33	QP			
3		103.7200	43.61	-15.30	28.31	43.50	-15.19	QP			
4		172.5900	49.92	-17.21	32.71	43.50	-10.79	QP			
5		257.9500	44.66	-13.09	31.57	46.00	-14.43	QP			
6		310.3300	35.95	-11.47	24.48	46.00	-21.52	QP			

*:Maximum data x:Over limit !:over margin Operator: KK

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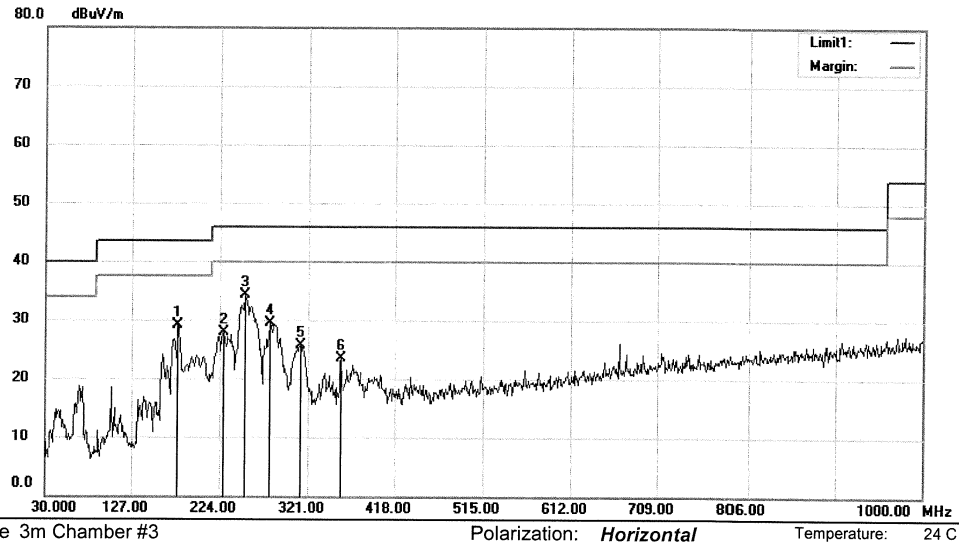
EMTEK Access to the World

Radiated Emission Measurement

File :TUV Data :#659 Date: 2016/05/27



Site 3m Chamber #3 Polarization: *Horizontal* Temperature: 24 C
Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 53 %
EUT: MID
M/N: NS-P16AT08
Mode:11B 2462
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		178.4100	46.20	-17.17	29.03	43.50	-14.47	QP			
2		227.8800	42.20	-14.27	27.93	46.00	-18.07	QP			
3	*	251.1600	47.64	-13.41	34.23	46.00	-11.77	QP			
4		279.2900	41.87	-12.46	29.41	46.00	-16.59	QP			
5		312.2700	37.19	-11.45	25.74	46.00	-20.26	QP			
6		357.8600	34.03	-10.59	23.44	46.00	-22.56	QP			

*:Maximum data x:Over limit !:over margin Operator: KK

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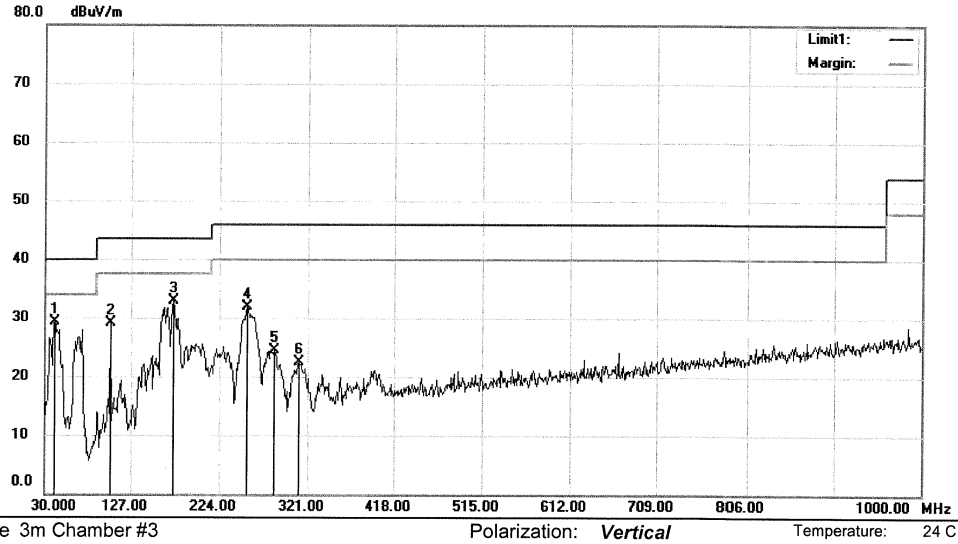
EMTEK Access to the World

Radiated Emission Measurement

File :TUV Data :#660 Date: 2016/05/27



Site 3m Chamber #3 Polarization: ***Vertical*** Temperature: 24 C
Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 53 %
EUT: MID
M/N: NS-P16AT08
Mode:11B 2462
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		40.6700	44.57	-15.34	29.23	40.00	-10.77	QP			
2		103.7200	44.39	-15.30	29.09	43.50	-14.41	QP			
3	*	174.5300	50.13	-17.20	32.93	43.50	-10.57	QP			
4		254.0700	45.21	-13.28	31.93	46.00	-14.07	QP			
5		284.1400	36.84	-12.28	24.56	46.00	-21.44	QP			
6		311.3000	33.96	-11.46	22.50	46.00	-23.50	QP			

*:Maximum data x:Over limit !:over margin Operator: KK

File :TUV\Data :#660 *Page: 1*

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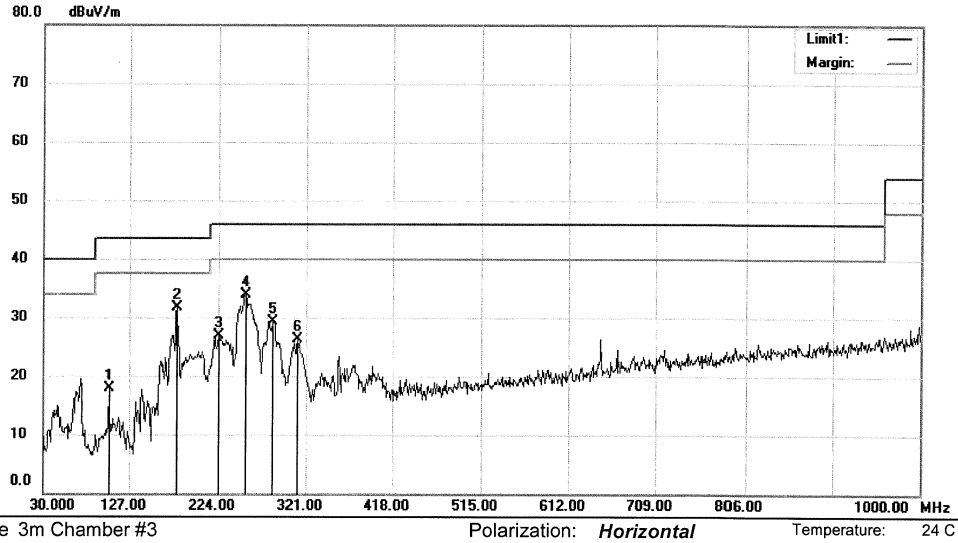
EMTEK Access to the World

Radiated Emission Measurement

File :TUV Data :#653 Date: 2016/05/27



Site 3m Chamber #3 Polarization: ***Horizontal*** Temperature: 24 C
Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 53 %
EUT: MID
M/N: NS-P16AT08
Mode:11G 2412
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		103.7200	33.25	-15.30	17.95	43.50	-25.55	QP			
2	*	179.3800	48.85	-17.17	31.68	43.50	-11.82	QP			
3		224.0000	41.20	-14.39	26.81	46.00	-19.19	QP			
4		254.0700	47.28	-13.28	34.00	46.00	-12.00	QP			
5		284.1400	41.54	-12.28	29.26	46.00	-16.74	QP			
6		311.3000	37.73	-11.46	26.27	46.00	-19.73	QP			

*:Maximum data x:Over limit !:over margin Operator: KK

File :TUV\Data :#653 *Page: 1*