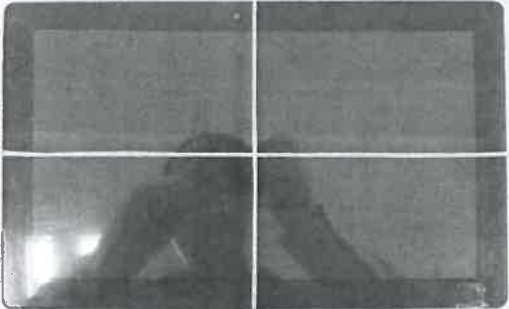


Prüfbericht-Nr.: <i>Test Report No.:</i>	17052720 002	Auftrags-Nr.: <i>Order No.:</i>	1 64045796	Seite 1 von 44 <i>Page 1 of 44</i>	
Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	N/A	Auftragsdatum: <i>Order date.:</i>	21.09.2015		
Auftraggeber: <i>Client:</i>	Lightcomm Technology Co., Ltd. RM1708-10, 17/F, PROSPERITY CENTRE, 25 CHONG YIP STREET, KWUN TONG, HONG KONG				
Prüfgegenstand: <i>Test item:</i>	11.6" QUAD CODE TABLET				
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	DL1168A, MID1102-MA				
Auftrags-Inhalt: <i>Order content:</i>	FCC Certification				
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				
Wareneingangsdatum: <i>Date of receipt:</i>	18.09.2015				
Prüfmuster-Nr.: <i>Test sample No.:</i>	ES150922017E-1, ES150922017E-2, ES150922017E-3				
Prüfzeitraum: <i>Testing period:</i>	19.09.2015 - 23.09.2015				
Ort der Prüfung: <i>Place of testing:</i>	Shenzhen Emtek 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:				
08.10.2015	Ryan Yang / Senior Project Engineer	08.10.2015	Sam Lin / Technical Certifier		
Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>
Sonstiges / Other:					
Only evaluate the Wi-Fi function(2.4GHz) in this test report. FCC ID: XMF-MID1102					
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 specifications(s) F(ail) = failed a.m. test specifications(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 auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines. <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>					
V04					

Test Summary

5.1.1 ANTENNA REQUIREMENT*RESULT: Pass***5.1.2 MAXIMUM PEAK CONDUCTED OUTPUT POWER***RESULT: Pass***5.1.3 CONDUCTED POWER SPECTRAL DENSITY***RESULT: Pass***5.1.4 6dB BANDWIDTH***RESULT: Pass***5.1.5 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100 KHz BANDWIDTH***RESULT: Pass***5.1.6 RADIATED SPURIOUS EMISSION***RESULT: Pass***5.1.7 CONDUCTED EMISSION***RESULT: Pass*

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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 D: Test results of Wi-Fi 802.11 b/g/n mode (2.4 GHz)

2 Test Sites

2.1 Test Facilities

Shenzhen Emtex Co., Ltd.

Bldg. 69, Majialong Industry Zone, Nanshan District, Shenzhen, China

FCC Registration No.: 709623

The tests at the test sites 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

Shenzhen Emtek Co., Ltd.

Radio Spectrum Test				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
Spectrum Analyzer	R&S	FSV40	132.1-3008K39-100967-AP	17.05.2016
Spectrum Analyzer	Agilent	E4407B	88156318	17.05.2016
Spectrum Analyzer	Agilent	N9010A	My53470879	17.05.2016
Conducted Emission				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
Test Receiver	R&S	ESCI	26115-010-0027	17.05.2016
L.I.S.N.	R&S	ENV216	101161	17.05.2016
50Ω Coaxial Switch	Anritsu	MP59B	6100175589	17.05.2016
Voltage Probe	R&S	ESH2-Z3	100122	17.05.2016
Radiated Emission & Spurious Emission				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
EMI Test Receiver	R&S	ESU	1302.6005.26	17.05.2016
Loop Antenna	Schwarzbeck	FMZB 1519	1519-012	17.05.2016
Pre-Amplifier	HP	8447F	2944A07999	17.05.2016
Bilog Antenna	Schwarzbeck	VULB9163	142	17.05.2016
Pre-Amplifier	A.H.	PAM-0126	1415261	17.05.2016
Horn Antenna	Schwarzbeck	BBHA 9120	707	17.05.2016
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170399	17.05.2016
Cable	N/A	3M SF104-26.5	295838/4	17.05.2016
Cable	N/A	6M SF104-26.5	295840/4	17.05.2016
Cable	Schwarzbeck	AK9513	ACRX1	17.05.2016
Cable	Rosenberger	N/A	FP2RX2	17.05.2016
Cable	Schwarzbeck	AK9513	CRPX1	17.05.2016
Cable	Schwarzbeck	AK9513	CRRX2	17.05.2016
Cable	H+B	0.5M SF104-26.5	289147/4	17.05.2016
Cable	H+B	3M SF104-26.5	295838/4	17.05.2016

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, 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

Table 2: Measurement Uncertainty

Parameter	Uncertainty
Radio Spectrum	± 1.0 dB
Maximum Peak Output Power Test	± 1.0 dB
Conducted Emissions Test	± 2.0 dB
Radiated Emission Test	± 2.0 dB
Power Density	± 2.0 dB
Occupied Bandwidth Test	± 1.0 dB
Band Edge Test	± 3.0 dB
All emission, Radiated	± 3.0 dB
Antenna Port Emission	± 3.0 dB
Temperature	± 0.5 °C
Humidity	± 3.0 %

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix D 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 Shenzhen Emtek Co., Ltd. Test facility located at Bldg. 69, Majialong Industry Zone, Nanshan District, Shenzhen, 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 11.6" quad code tablet with Wi-Fi, Bluetooth function.

These models are identical except the model name.

Refer to User Manual and Circuit Diagram for further details.

3.2 Ratings and System Details

Table 3: Technical Specification of EUT

Technical Specification	Value
Kind of Equipment	Error! Reference source not found.
Type Designation	DL1168A, MID1102-MA
FCC ID	XMF-MID1102
Operating Frequency	2412 MHz to 2462 MHz for 802.11b/g/n(HT20) 2422 MHz to 2452 MHz for 802.11n(HT40)
Operating Temperature Range	-30 °C ~ +75 °C
Operating Voltage	DC 3.7V via Internal rechargeable lithium battery AC 5.0V via AC/DC adapter
Type of Modulation	DSSS(CCK/DQPSK/DBPSK) for 802.11b OFDM(BPSK/QPSK) for 802.11g OFDM(BPSK/QPSK/16QAM/64QAM) for 802.11n
Data Rate	1/2/5.5/11 Mbps for 802.11b 6/9/12/18/24/36/48/54 Mbps for 802.11g MCS0 ~ MCS7 Mbps for 802.11n(HT20) MCS0 ~ MCS7 Mbps for 802.11n(HT40)
Channel Number	11 channels for 802.11b/g/n(HT20) 9 channels for 802.11n(HT40)
Channel Separation	5 MHz
Antenna Type	PCB Antenna
Antenna Gain	1.56 dBi

Table 4: RF Channel and Frequency of Wi-Fi

RF Channel	Frequency (MHz)	RF 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	/	/

Remark:

1. Test frequencies are lowest channel: 2412 MHz, middle channel: 2437 MHz and highest channel: 2462 MHz for 802.11b/g/n(HT20)
2. Test frequencies are lowest channel: 2422 MHz, middle channel: 2437 MHz and highest channel: 2452 MHz for 802.11n(HT40)

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, Wi-Fi mode (2.4 GHz)
 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 Circuit Diagram for further details.

3.5 Submitted Documents

- Application Form
- Constructional Drawing
- PCB Layout
- Photo Document
- Bill of Material
- Instruction Manual
- FCC Label and Location
- User Manual

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.

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 MID1102-MA only.

4.3 Special Accessories and Auxiliary Equipment

Table 5: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	S/N	Rating
AC/DC Adapter	TEKA	TEKA012-0502000UK	N/A	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 EMC 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 (Below 1GHz)

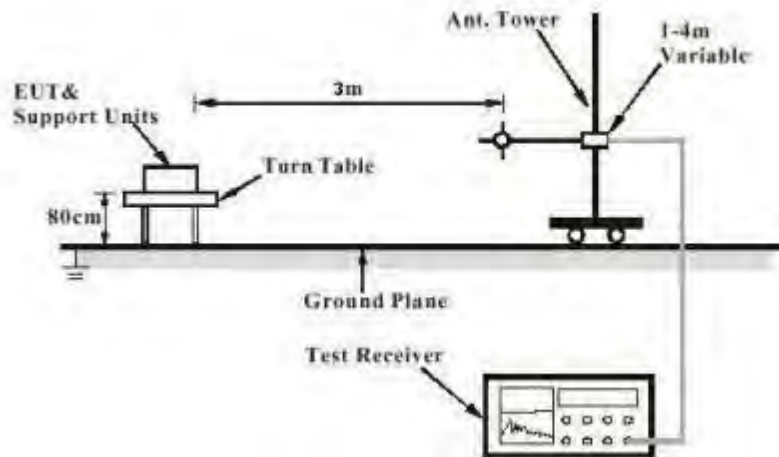


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

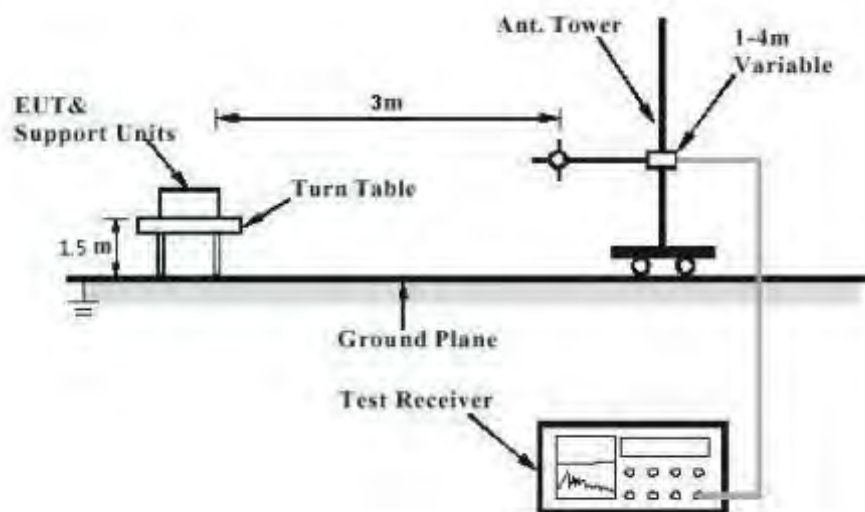


Diagram of Measurement Configuration for Mains Conduction Measurement

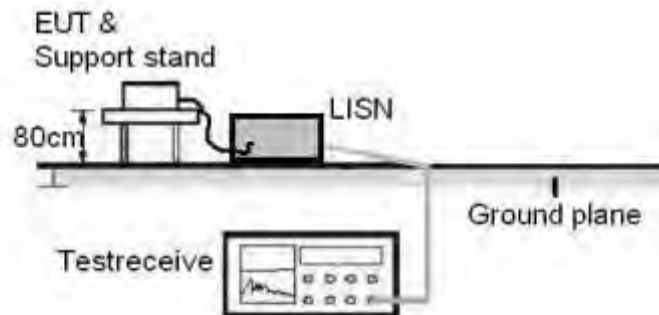
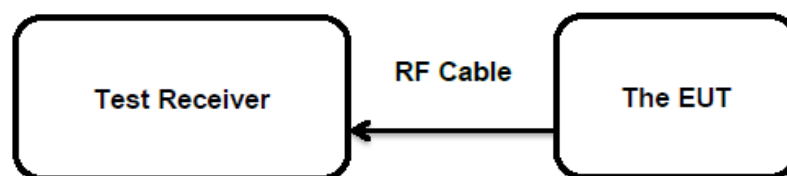


Diagram of Measurement Configuration for Conducted Transmitter Measurement



5 Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Pass****Test Specification**

Test standard : FCC Part 15.247(b)(4) and Part 15.203
Limits : 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 1.56 dBi, 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.

Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

5.1.2 Maximum Peak Conducted Output Power

RESULT:
Pass
Test Specification

Test standard : FCC Part 15.247(b)(3)
 Basic standard : ANSI C63.10: 2013
 Limits : < 1 Watt
 Kind of test site : Shielded Room

Test Setup

Date of testing : 19.09.2015
 Input voltage : DC 3.7V via Internal rechargeable lithium battery
 Operation mode : A.1
 Test channel : Low / Middle / High
 Ambient temperature : 25 °C
 Relative humidity : 56 %
 Atmospheric pressure : 101 kPa

Table 6: Test Result of Maximum Peak Conducted Output Power

Test Mode	Data Rate	Frequency (MHz)	Measured Power		Limit
			dBm	W	
802.11b	11 Mbps	2412	18.48	0.07047	< 1W(30dBm)
		2437	18.38	0.06887	
		2462	18.32	0.06792	
802.11g	54 Mbps	2412	19.86	0.09683	
		2437	21.39	0.13772	
		2462	19.86	0.09683	
802.11n (HT20)	MCS7 Mbps	2412	19.95	0.09886	
		2437	21.37	0.13709	
		2462	19.59	0.09099	
802.11n (HT40)	MCS7 Mbps	2422	17.90	0.06166	
		2437	21.36	0.13677	
		2452	18.02	0.06339	
Maximum Measured Value			21.39	0.13772	

Note: The cable loss is taken into account in results.
 For the measurement records, refer to following test plot:

5.1.3 Conducted Power Spectral Density

RESULT:
Pass
Test Specification

Test standard : FCC Part 15.247(e)
 Basic standard : ANSI C63.10: 2013
 Limits : < 8 dBm / 3kHz
 Kind of test site : Shielded Room

Test Setup

Date of testing : 19.09.2015
 Input voltage : DC 3.7V via Internal rechargeable lithium battery
 Operation mode : A.1
 Test channel : Low / Middle / High
 Ambient temperature : 25 °C
 Relative humidity : 56 %
 Atmospheric pressure : 101 kPa

Table 7: Test Result of Power Spectral Density

Test Mode	Data Rate	Frequency (MHz)	Measured Peak Power Spectral Density (dBm/3KHz)	Limit (dBm/3kHz)
802.11b	11 Mbps	2412	-7.20	< 8.0
		2437	-7.09	
		2462	-7.25	
802.11g	54 Mbps	2412	-12.39	
		2437	-10.85	
		2462	-12.67	
802.11n (HT20)	MCS7 Mbps	2412	-13.30	
		2437	-11.33	
		2462	-11.93	
802.11n (HT40)	MCS7 Mbps	2422	-18.55	
		2437	-14.17	
		2452	-18.72	
Maximum Measured Value			-7.09	

Note: The cable loss is taken into account in results.
 For the measurement records, refer to following test plot:

Test Plot of Power Spectral Density, 802.11b

Low channel:



Middle channel:

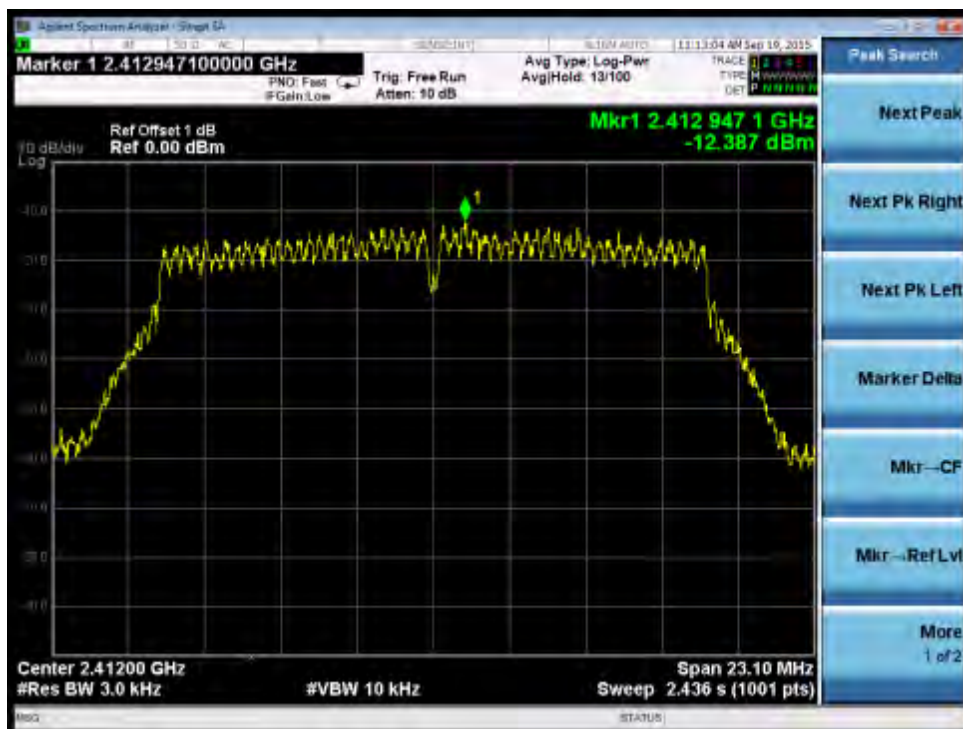


High channel:

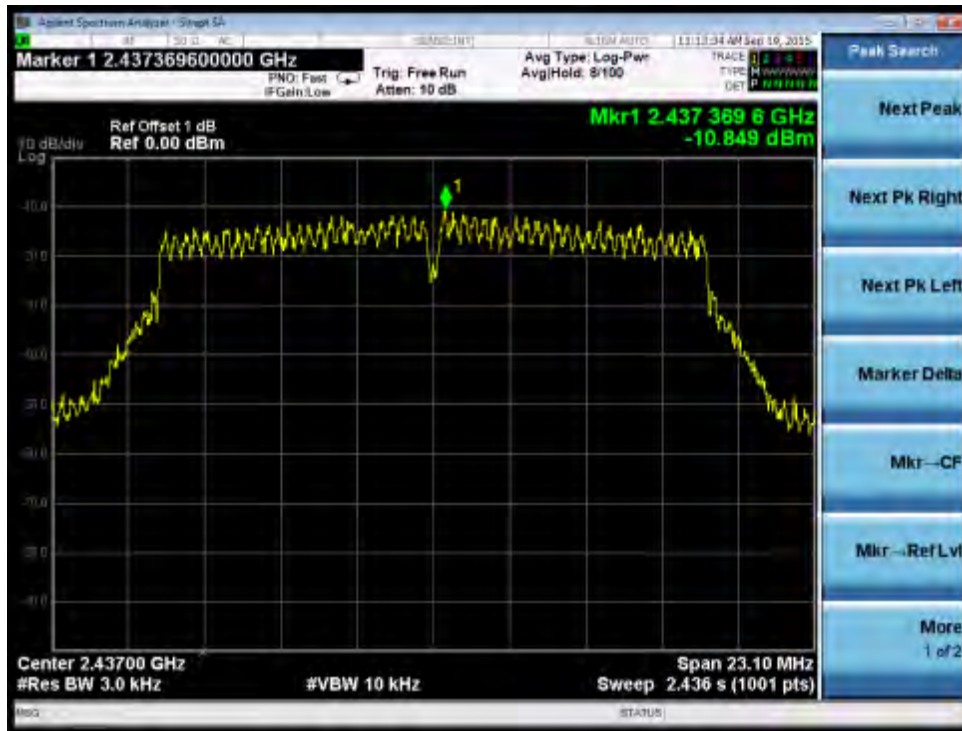


Test Plot of Power Spectral Density, 802.11g

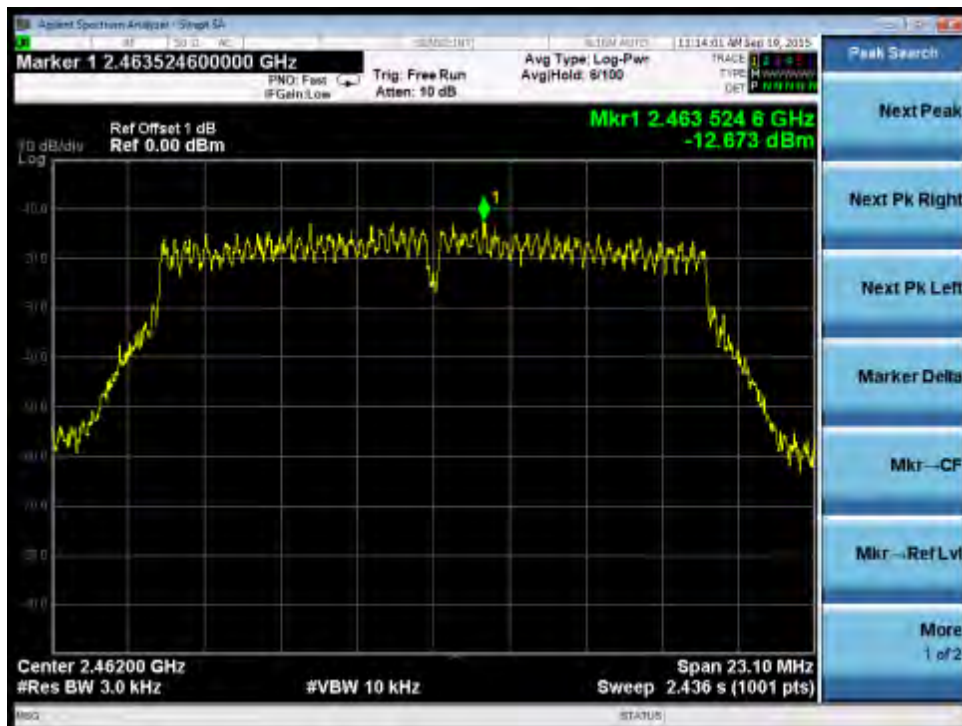
Low channel:



Middle channel:



High channel:

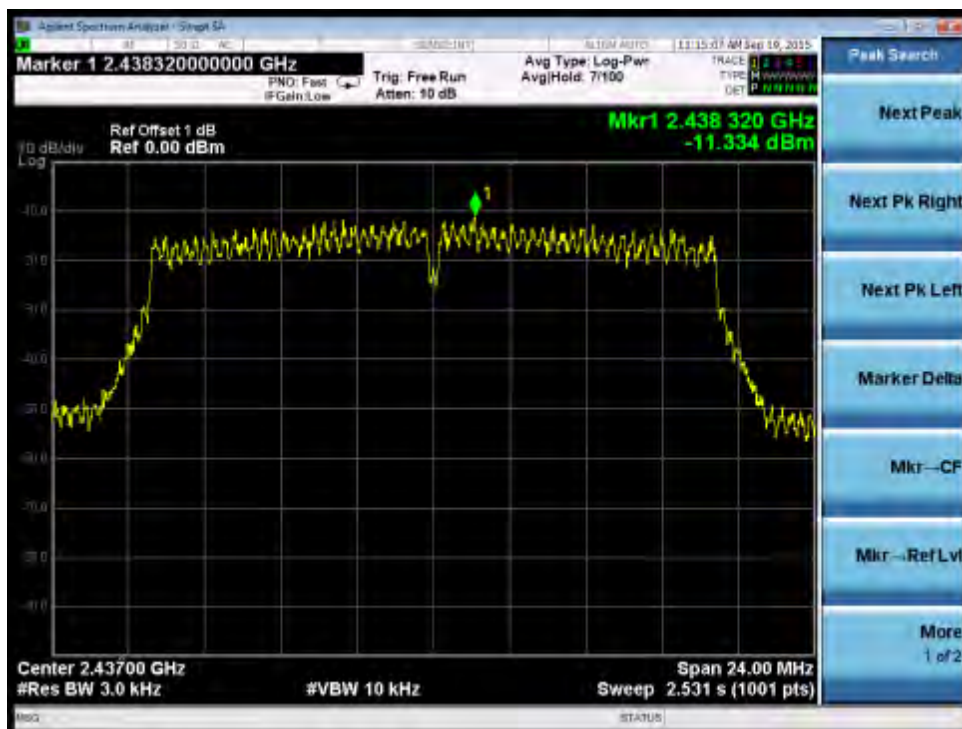


Test Plot of Power Spectral Density, 802.11n(HT20)

Low channel:



Middle channel:

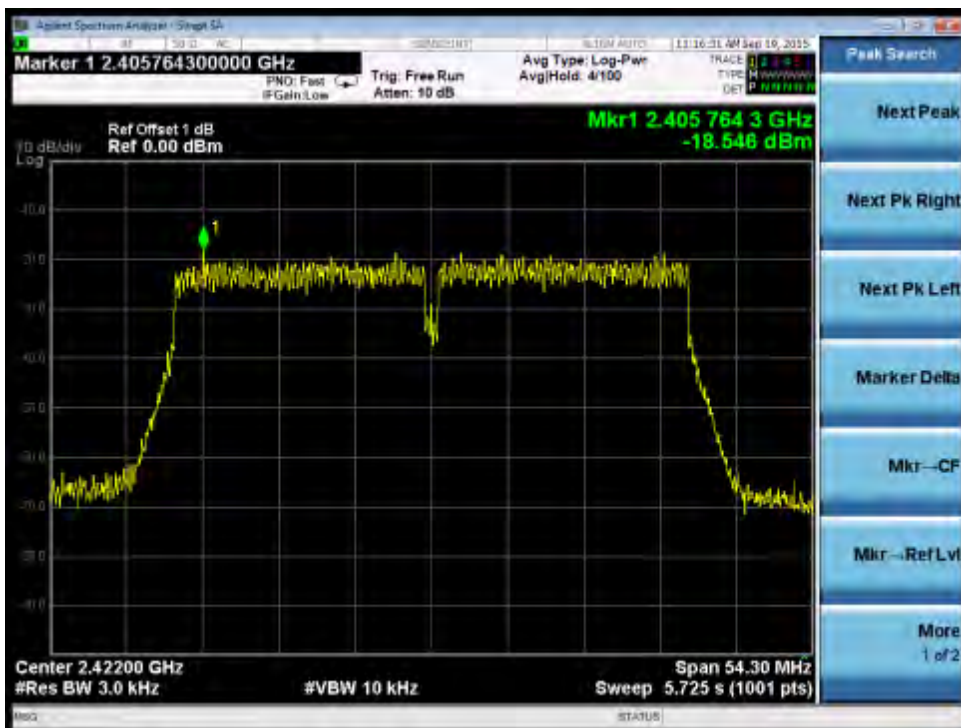


High channel:

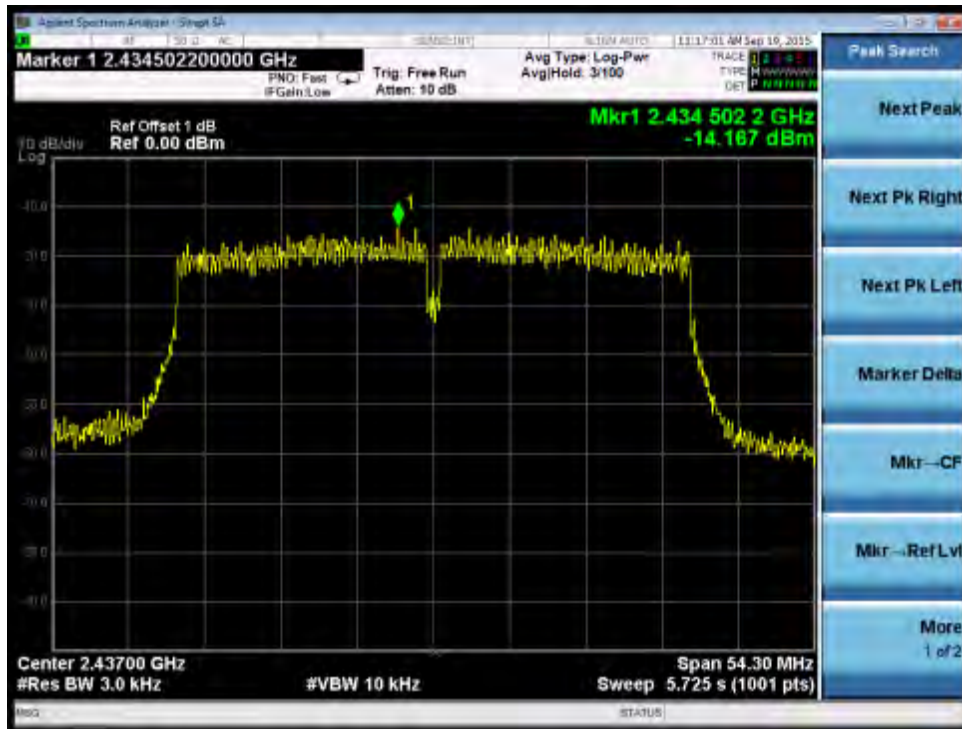


Test Plot of Power Spectral Density, 802.11n(HT40)

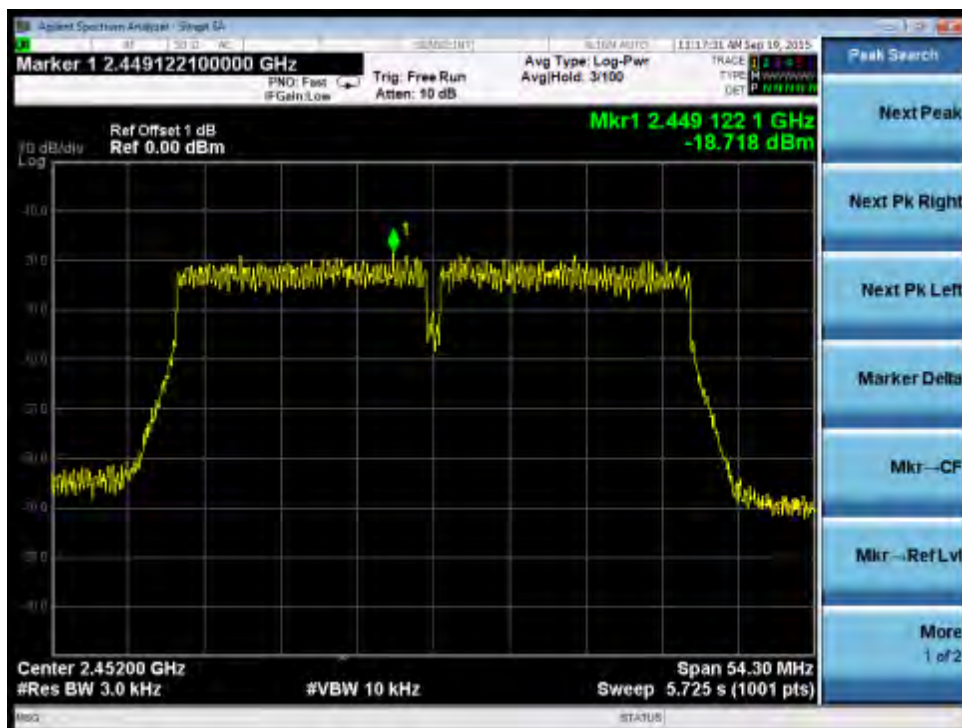
Low channel:



Middle channel:



High channel:



5.1.4 6dB Bandwidth

RESULT:
Pass
Test Specification

Test standard : FCC Part 15.247(a)(2)
 Basic standard : ANSI C63.10: 2013
 Limits : > 500 KHz
 Kind of test site : Shielded Room

Test Setup

Date of testing : 19.09.2015
 Input voltage : DC 3.7V via Internal rechargeable lithium battery
 Operation mode : A.1
 Test channel : Low / Middle / High
 Ambient temperature : 25 °C
 Relative humidity : 56 %
 Atmospheric pressure : 101 kPa

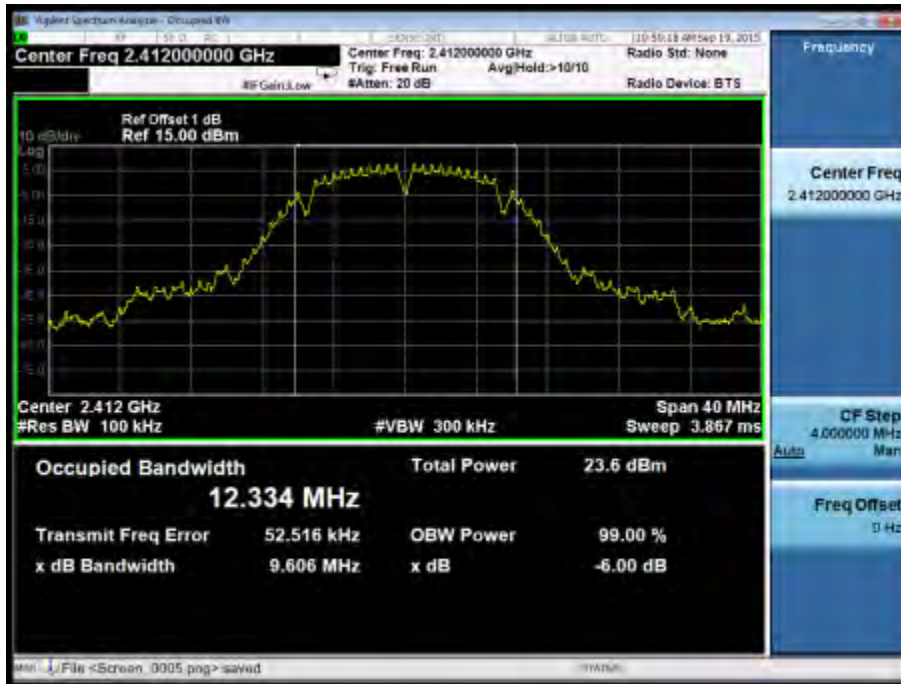
Table 8: Test Result of 6dB Bandwidth

Test Mode	Data Rate	Frequency (MHz)	-6dB Bandwidth (MHz)	Limit (kHz)
802.11b	11 Mbps	2412	12.334	> 500
		2437	12.336	
		2462	12.400	
802.11g	54 Mbps	2412	16.396	
		2437	16.402	
		2462	16.391	
802.11n (HT20)	MCS7 Mbps	2412	17.541	
		2437	17.552	
		2462	17.557	
802.11n (HT40)	MCS7 Mbps	2422	36.004	
		2437	35.772	
		2452	36.027	
Minimum Measured Value			12.33	

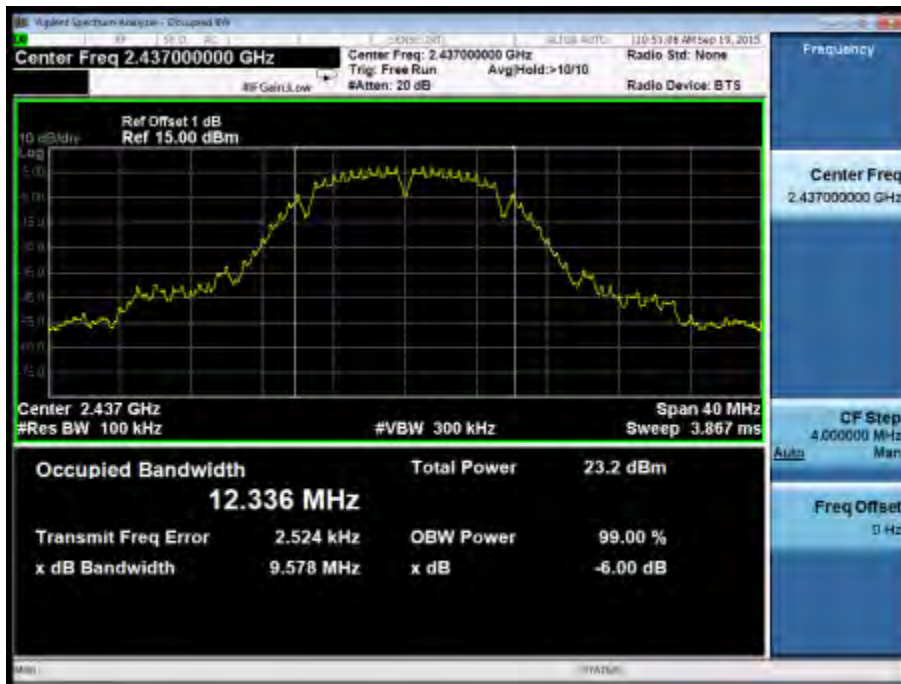
For the measurement records, refer to following test plot:

Test Plot of 6dB Bandwidth, 802.11b

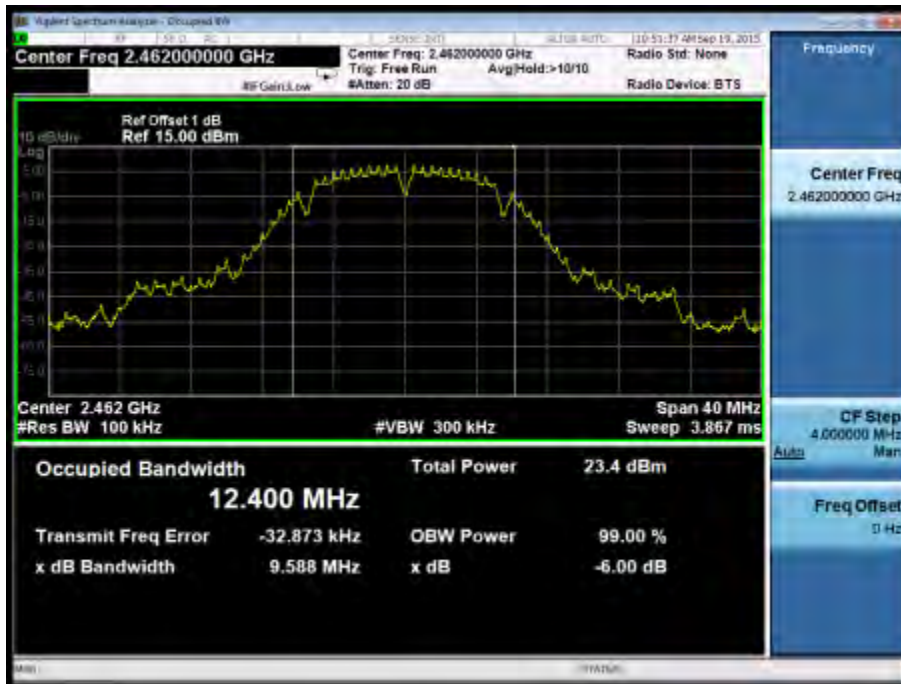
Low channel:



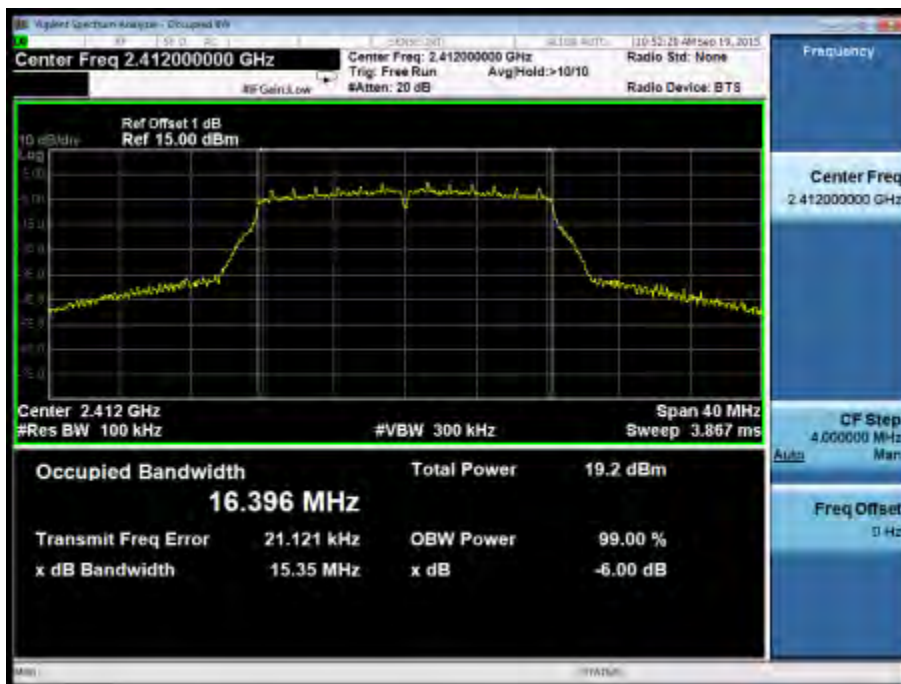
Middle channel:



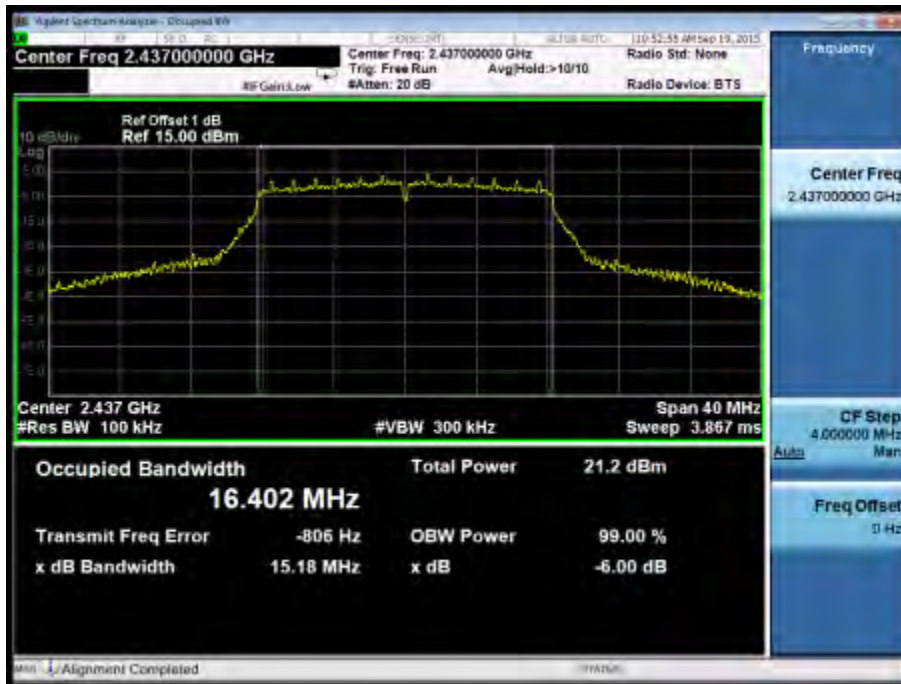
High channel:


Test Plot of 6dB Bandwidth, 802.11g

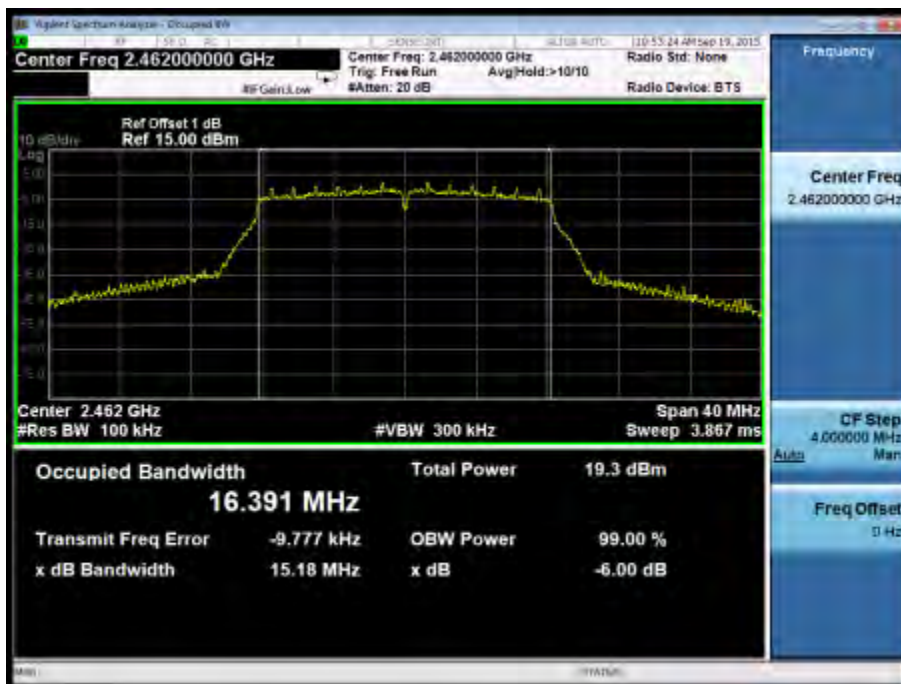
Low channel:



Middle channel:

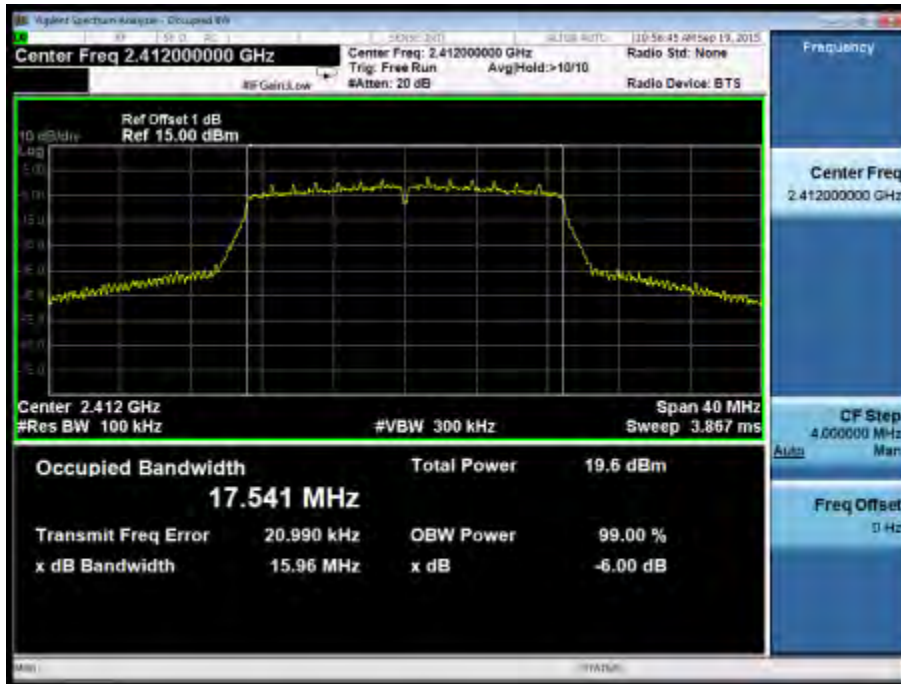


High channel:

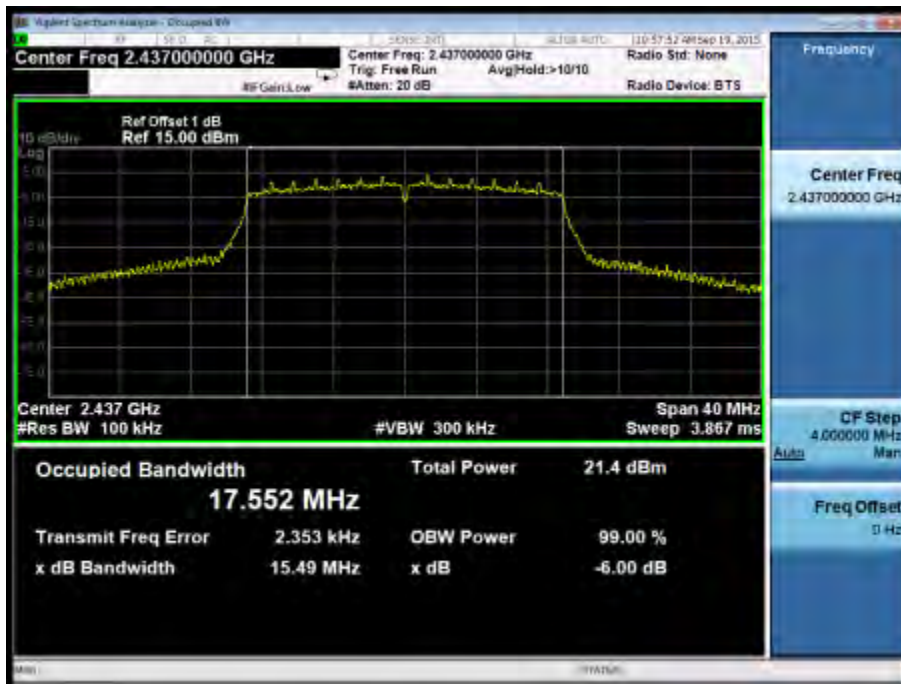


Test Plot of 6dB Bandwidth, 802.11n(HT20)

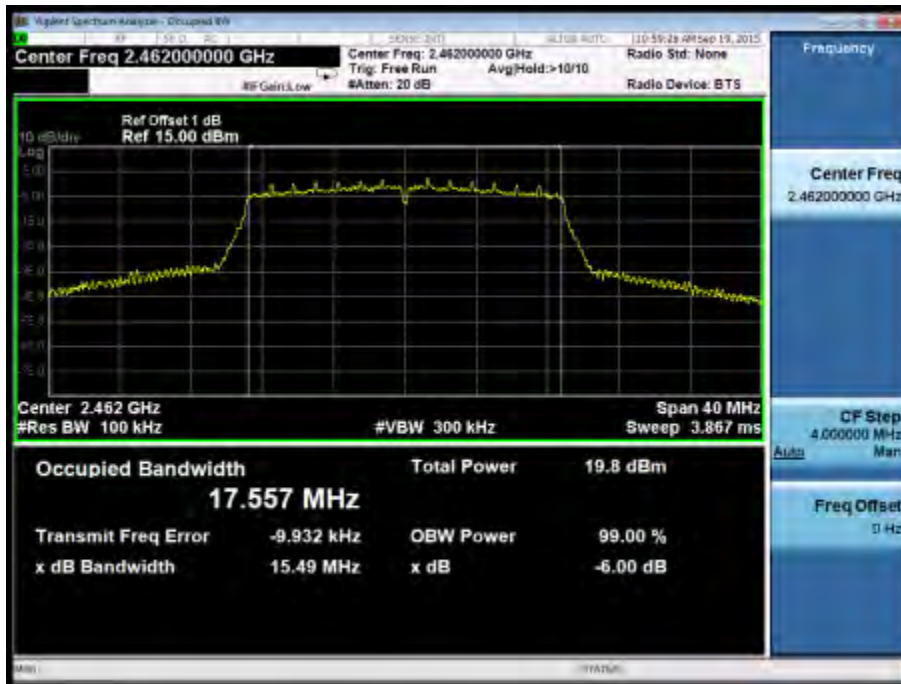
Low channel:



Middle channel:



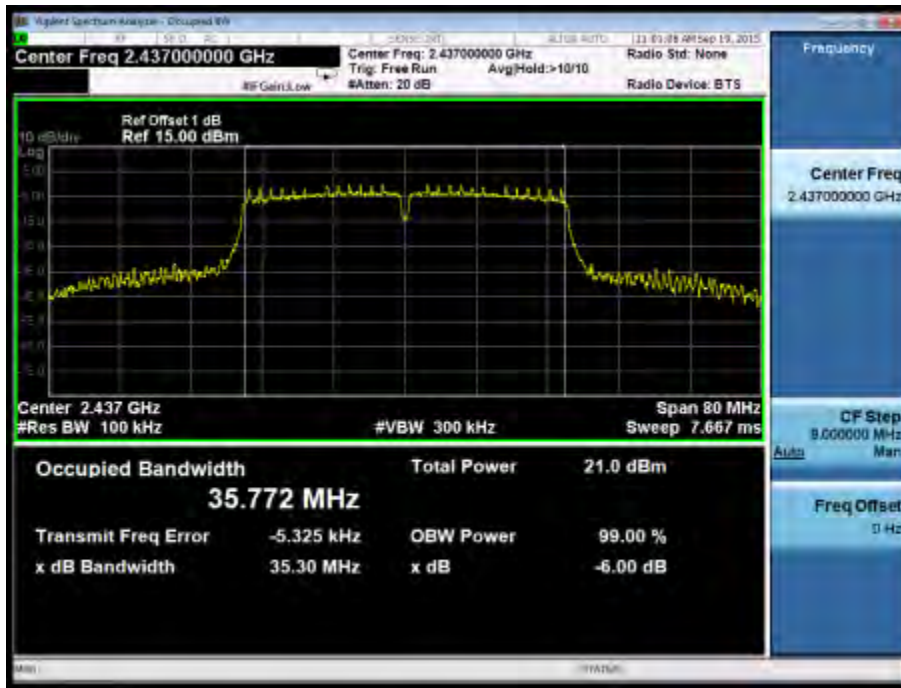
High channel:


Test Plot of 6dB Bandwidth, 802.11n(HT40)

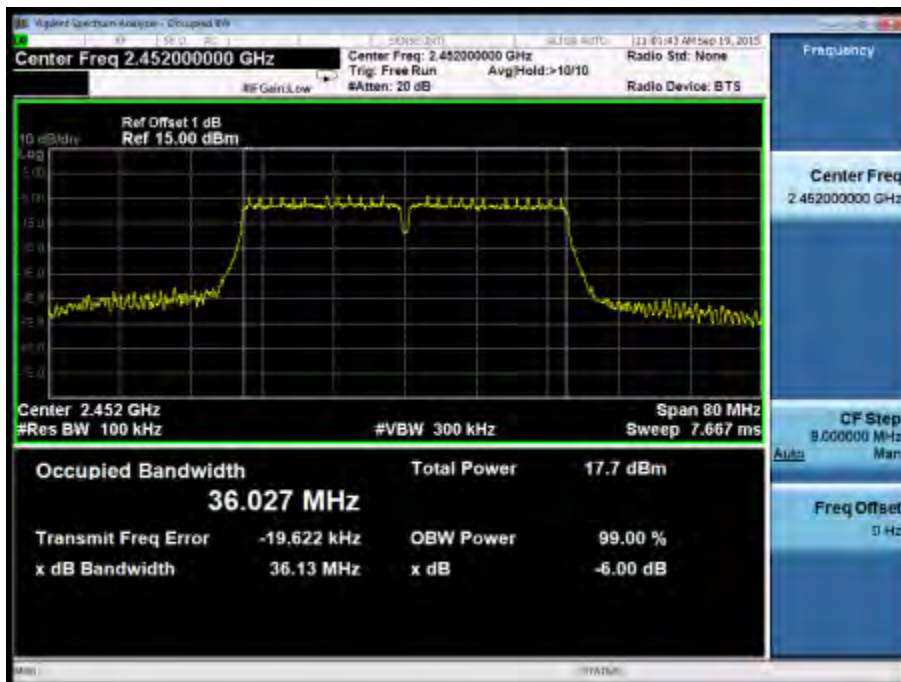
Low channel:



Middle channel:



High channel:



5.1.5 Conducted Spurious Emissions Measured in 100 kHz Bandwidth

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.247(d)
Basic standard	: ANSI C63.10: 2013 Error! Reference source not found.
Limits	: 20dB (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	: Shielded Room

Test Setup

Date of testing	: 02.10.2015
Input voltage	: DC 3.7V via Internal rechargeable lithium battery
Operation mode	: A.1
Test channel	: Low / Middle / High
Ambient temperature	: 25 °C
Relative humidity	: 56 %
Atmospheric pressure	: 101 kPa

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

For the measurement records, refer to following test plot:

Test Plot of Conducted Spurious Emissions Measured in 100kHz Bandwidth, 802.11b

Low channel:



Middle channel:



High channel:


Test Plot of 100 kHz Bandwidth of Frequency Band Edge

Low channel:



High channel:


Test Plot of Conducted Spurious Emissions Measured in 100kHz Bandwidth, 802.11g

Low channel:



Middle channel:



High channel:



Test Plot of 100 kHz Bandwidth of Frequency Band Edge

Low channel:



High channel:



Test Plot of Conducted Spurious Emissions Measured in 100kHz Bandwidth, 802.11n(HT20)

Low channel:



Middle channel:



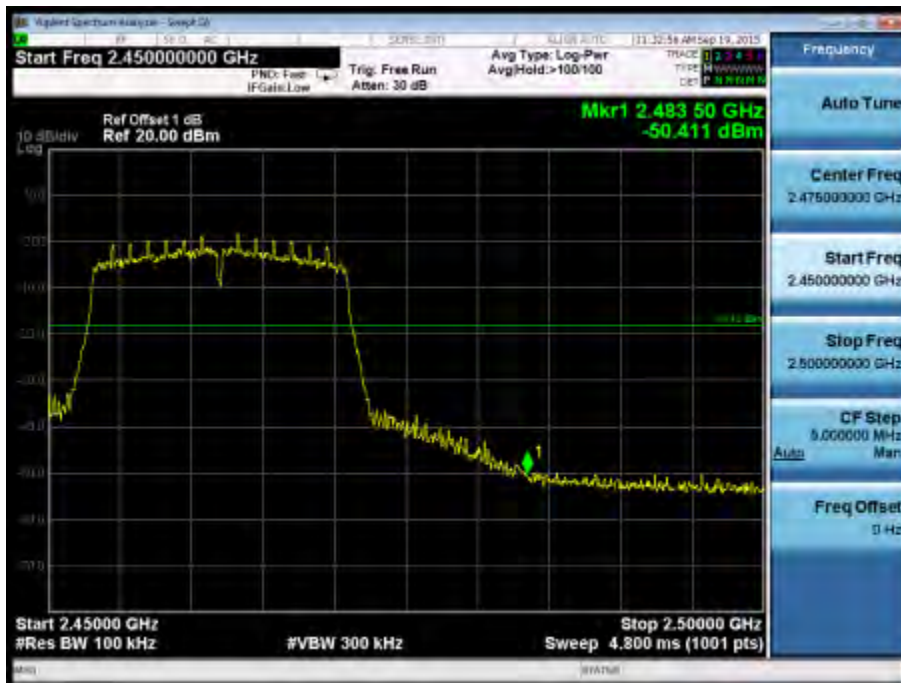
High channel:


Test Plot of 100 kHz Bandwidth of Frequency Band Edge

Low channel:



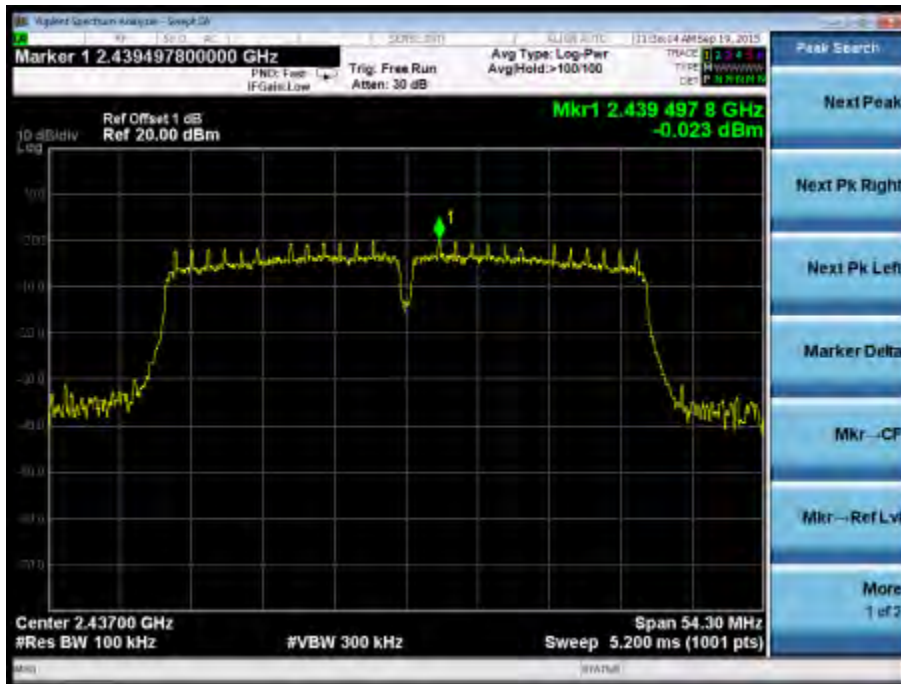
High channel:


Test Plot of Conducted Spurious Emissions Measured in 100kHz Bandwidth, 802.11n(HT40)

Low channel:



Middle channel:

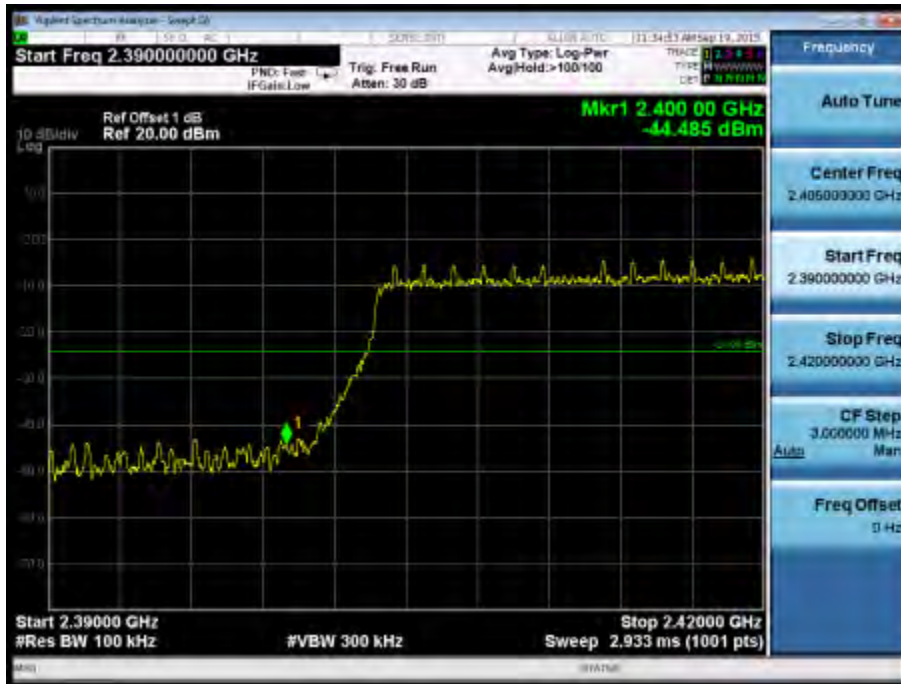


High channel:

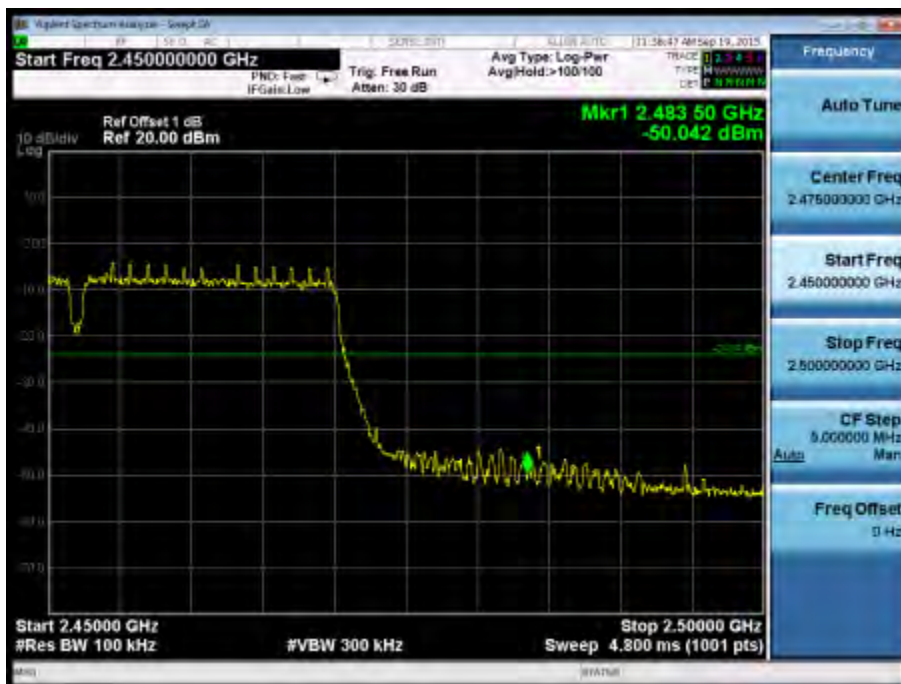


Test Plot of 100 kHz Bandwidth of Frequency Band Edge

Low channel:



High channel:



5.1.6 Radiated Spurious Emission

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.247(d) & FCC Part 15.205
Basic standard	: ANSI C63.10: 2013
Limits	: Refer to 15.209(a) of FCC part 15.247(d)
Kind of test site	: 3m Semi-anechoic Chamber

Test Setup

Date of testing	: 21.09.2015
Input voltage	: DC 3.7V via Internal rechargeable lithium battery
Operation mode	: A.1
Test channel	: Low / Middle / High
Ambient temperature	: 25 °C
Relative humidity	: 56 %
Atmospheric pressure	: 101 kPa

Remark:

During the pretest the EUT was rotated through three orthogonal axes to determine the attitude that maximizes the emissions. After that the EUT was manually handled to find the orientation that has the maximum emission, which is the orientation shown in the test set-up photos.

Testing was carried out within frequency range 9kHz to the tenth harmonics.

For the measurement records, refer to the appendix D.

5.1.7 Conducted Emission

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.207(a)
Basic standard	: ANSI C63.10: 2013
Frequency range	: 0.15 – 30MHz
Limits	: FCC Part 15.207(a)
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 22.09.2015
Input voltage	: DC 3.7V via Internal rechargeable lithium battery
Operation mode	: A.1
Earthing	: Low / Middle / High
Ambient temperature	: 25 °C
Relative humidity	: 56 %
Atmospheric pressure	: 101 kPa

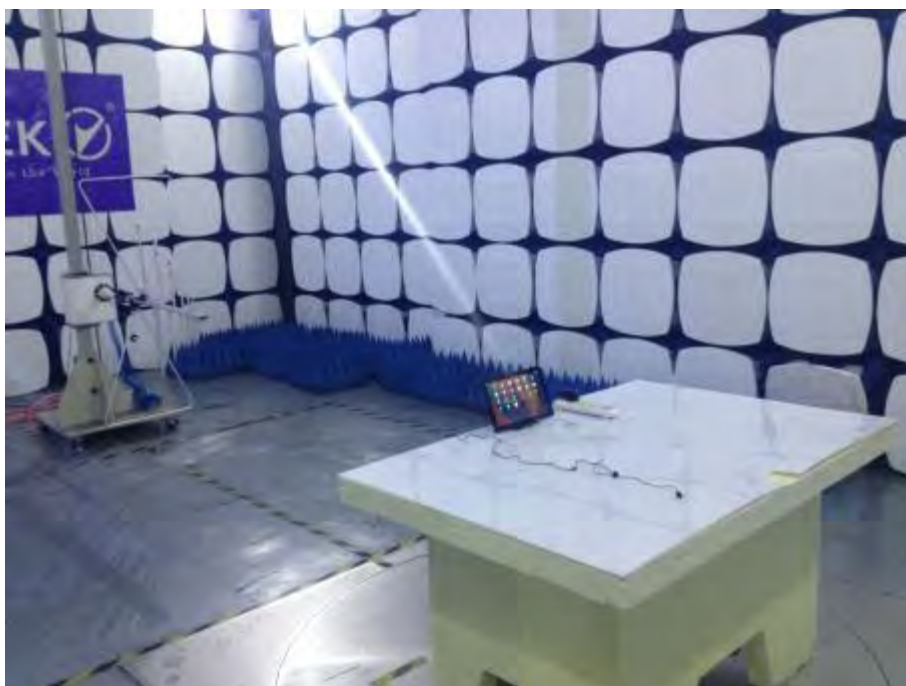
For the measurement records, refer to the appendix D.

6 Photographs of the Test Set-Up

Photograph 1: Set-up for Radiated Spurious Emission (9kHz ~ 30MHz)



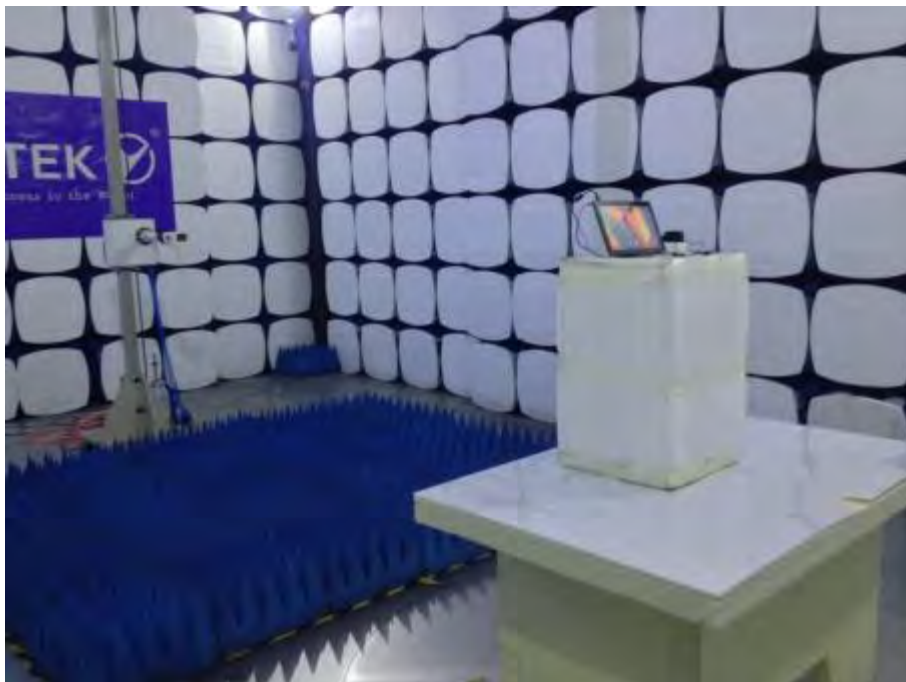
Photograph 2: Set-up for Radiated Spurious Emission (30MHz ~ 1GHz)



Photograph 3: Set-up for Radiated Spurious Emission (1GHz ~ 18GHz)



Photograph 4: Set-up for Radiated Spurious Emission (18GHz ~ 26GHz)



Photograph 5: Set-up for Conducted Emission



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Note: The measurements with active loop antenna were greater than 20dB below the limit, so Radiated Spurious Emissions (9kHz – 30MHz) tests were applied on 802.11b mode only.

Figure 1: Test figure of Radiated Spurious Emissions (9kHz – 30M Hz), 802.11b, (Low)

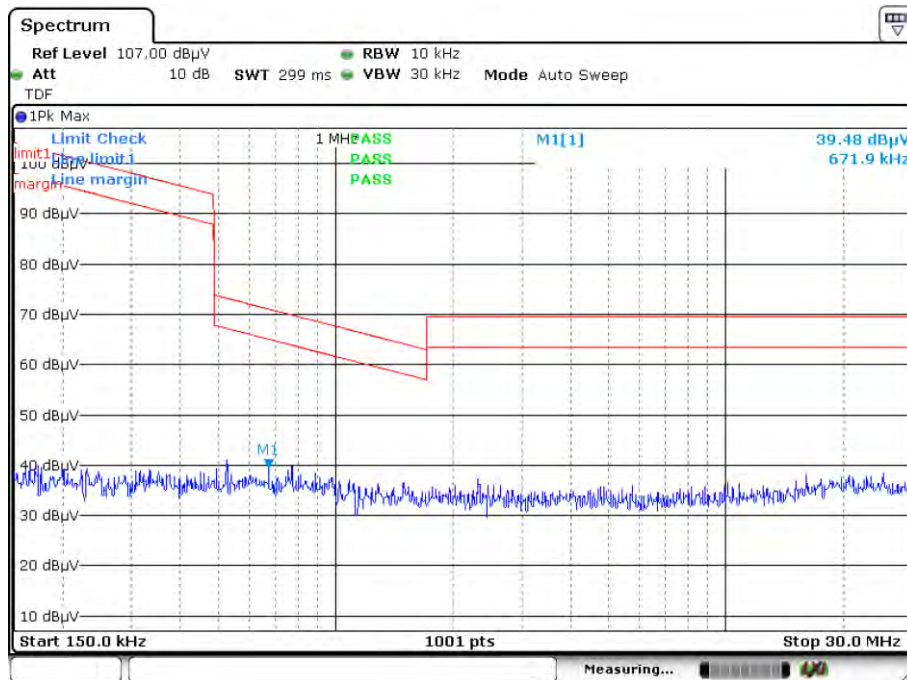
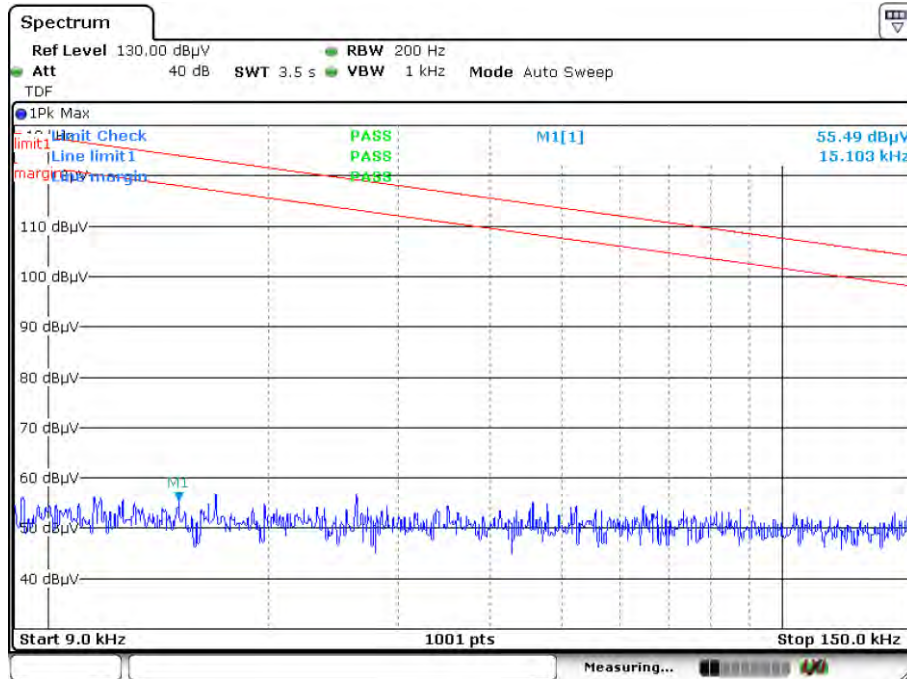
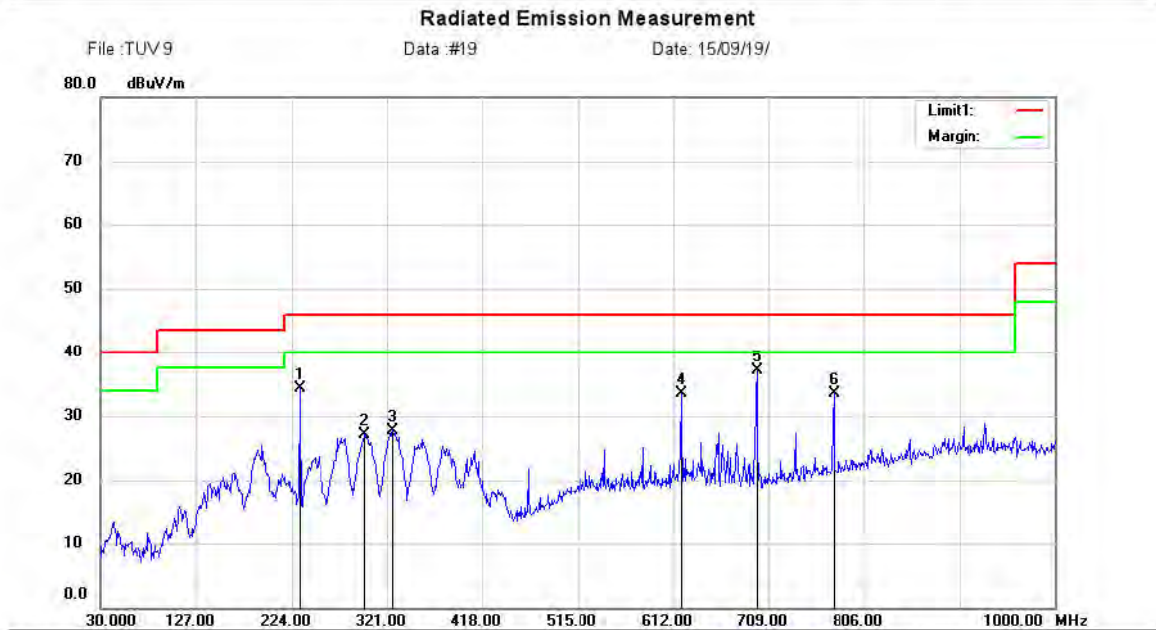


Figure 2: Test figure of Radiated Spurious Emissions (30MHz – 1GHz), 802.11b, (Low)

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Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
EUT: MID
M/N: MID1102-MA; DL1168A
Mode: 11B 2412
Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1		231.7600	49.11	-14.88	34.23	46.00	-11.77	QP			
2		297.7200	40.83	-13.69	27.14	46.00	-18.86	QP			
3		326.8200	40.93	-13.15	27.78	46.00	-18.22	QP			
4		619.7600	40.24	-6.79	33.45	46.00	-12.55	QP			
5	*	697.3600	43.15	-6.00	37.15	46.00	-8.85	QP			
6		774.9600	37.23	-3.64	33.59	46.00	-12.41	QP			

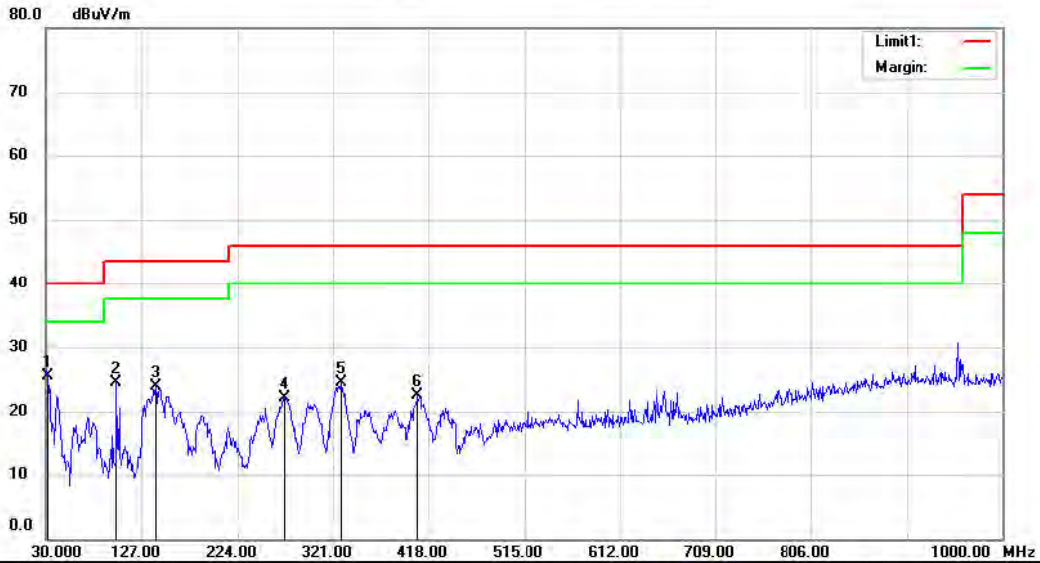
*: Maximum data x: Over limit !: over margin

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Radiated Emission Measurement

File : TUV9 Data : #20 Date : 15/09/19/



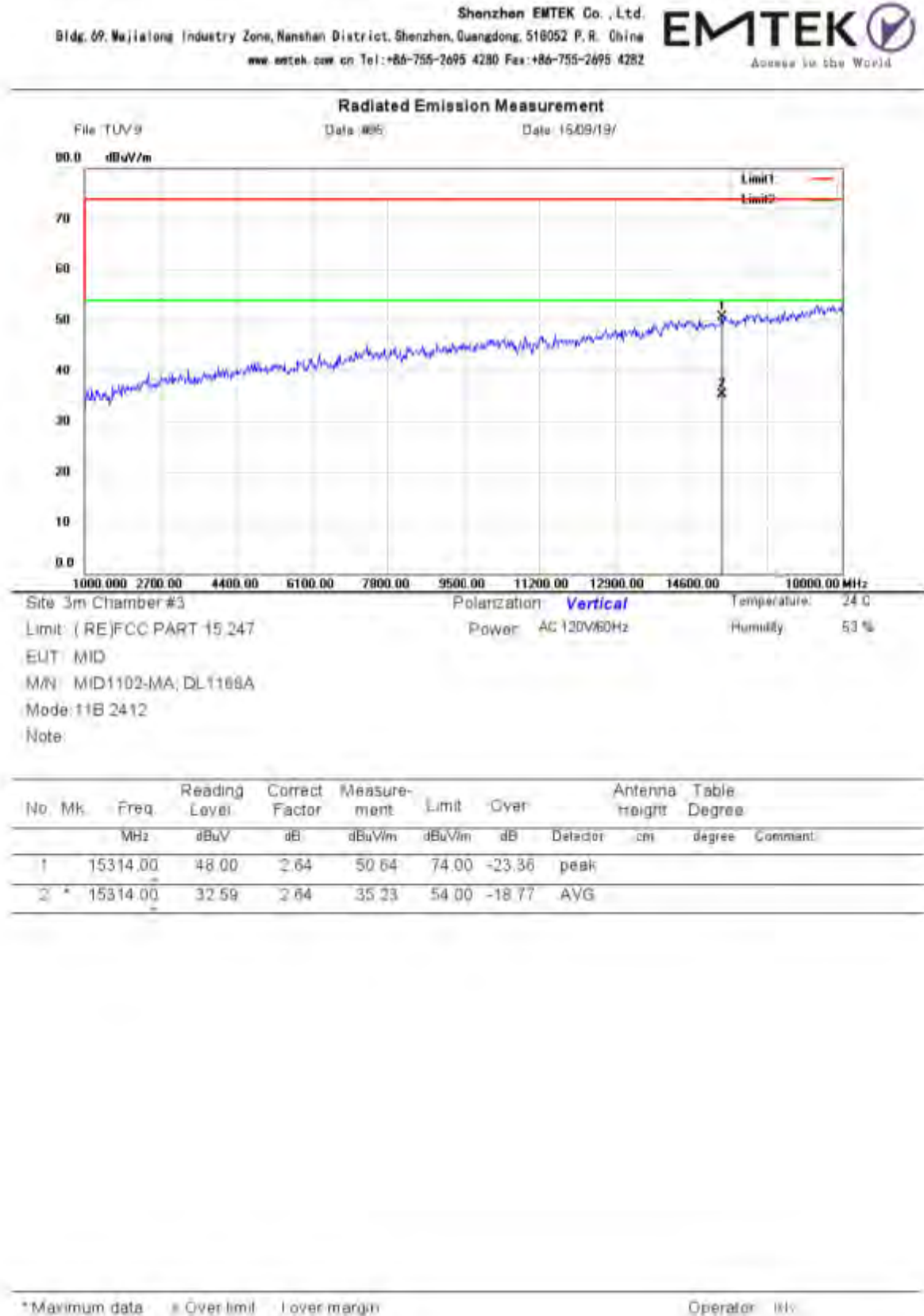
Site : 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
EUT: MID
M/N: MID1102-MA; DL1168A
Mode: 11B 2412
Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1	*	31.9400	41.25	-15.81	25.44	40.00	-14.56	QP			
2		100.8100	38.62	-14.02	24.60	43.50	-18.90	QP			
3		141.5500	41.79	-17.84	23.95	43.50	-19.55	QP			
4		272.5000	34.85	-12.65	22.20	46.00	-23.80	QP			
5		328.7600	37.49	-13.04	24.45	46.00	-21.55	QP			
6		407.3300	31.51	-9.07	22.44	46.00	-23.56	QP			

*:Maximum data x:Over limit | :over margin

Operator: kk

Figure 3: Test figure of Radiated Spurious Emissions (1GHz –25GHz), 802.11b, (Low)



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Radiated Emission Measurement

File: TUV9 Data #96 Date: 15/09/19



Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24.0
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 MN: MID1102-MA, DL1168A
 Mode: 11B 2412
 Note:

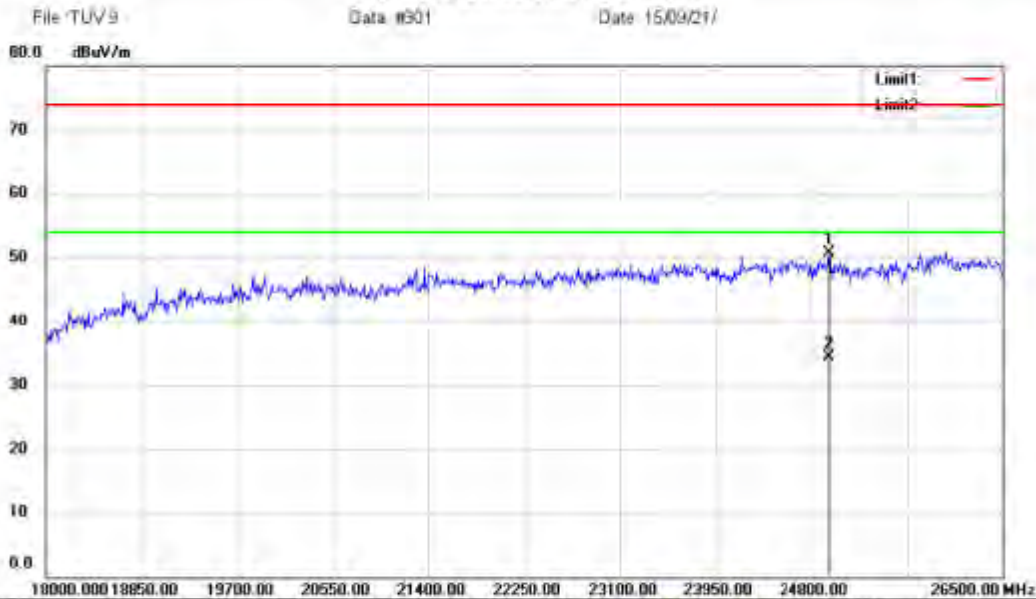
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		15059.00	47.30	3.57	50.87	74.00	-23.13	peak		
2	*	15059.00	30.66	3.57	34.23	54.00	-19.77	AVG		

* Maximum data x Over limit | over margin

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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 M/N: MID1102-MA, DL1168A
 Mode: 11B 2412
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Detector	Comment:
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree		
1		24961.50	87.66	-37.01	50.65	74.00	-23.35			peak	
2	*	24961.50	71.27	-37.01	34.26	54.00	-19.74			AVG	

* Maximum data x Over limit | over margin

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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15 247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 MN: MID1102-MA, DL 1168A
 Mode: 11B 2412
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		24885.00	86.60	-37.02	49.58	74.00	-24.42	peak		
2	*	24885.00	70.61	-37.02	33.59	54.00	-20.41	AVG		

* Maximum data x Over limit | over margin

Figure 4: Test figure of Radiated Spurious Emissions (9kHz – 30MHz), 802.11b, (Mid)

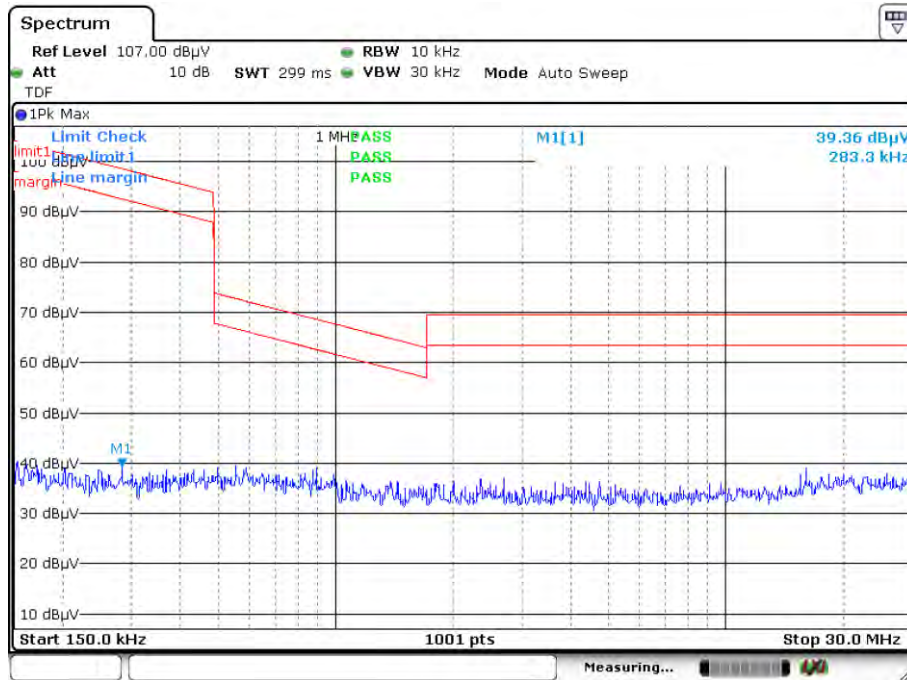
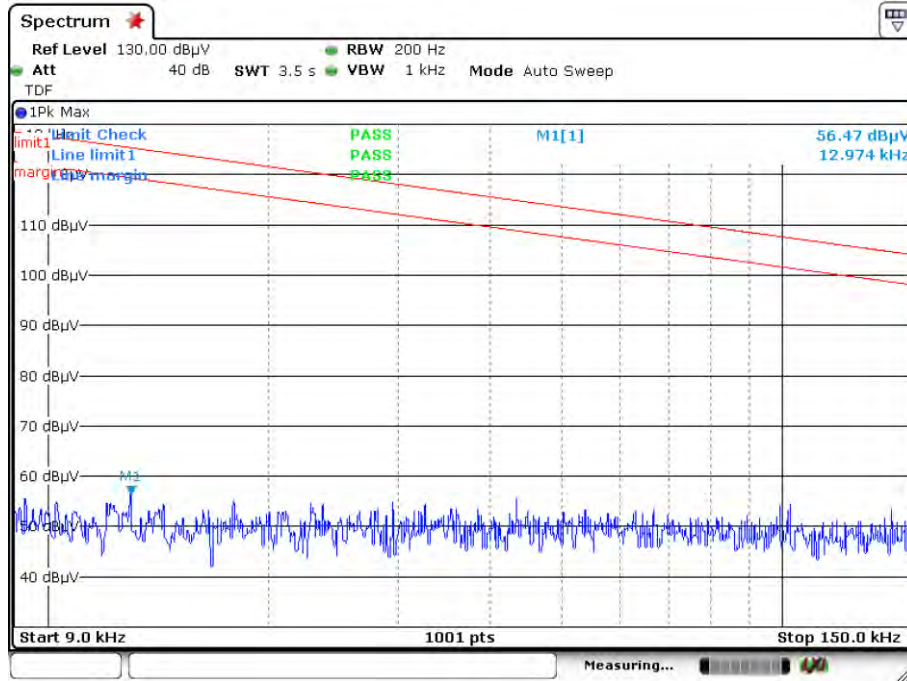
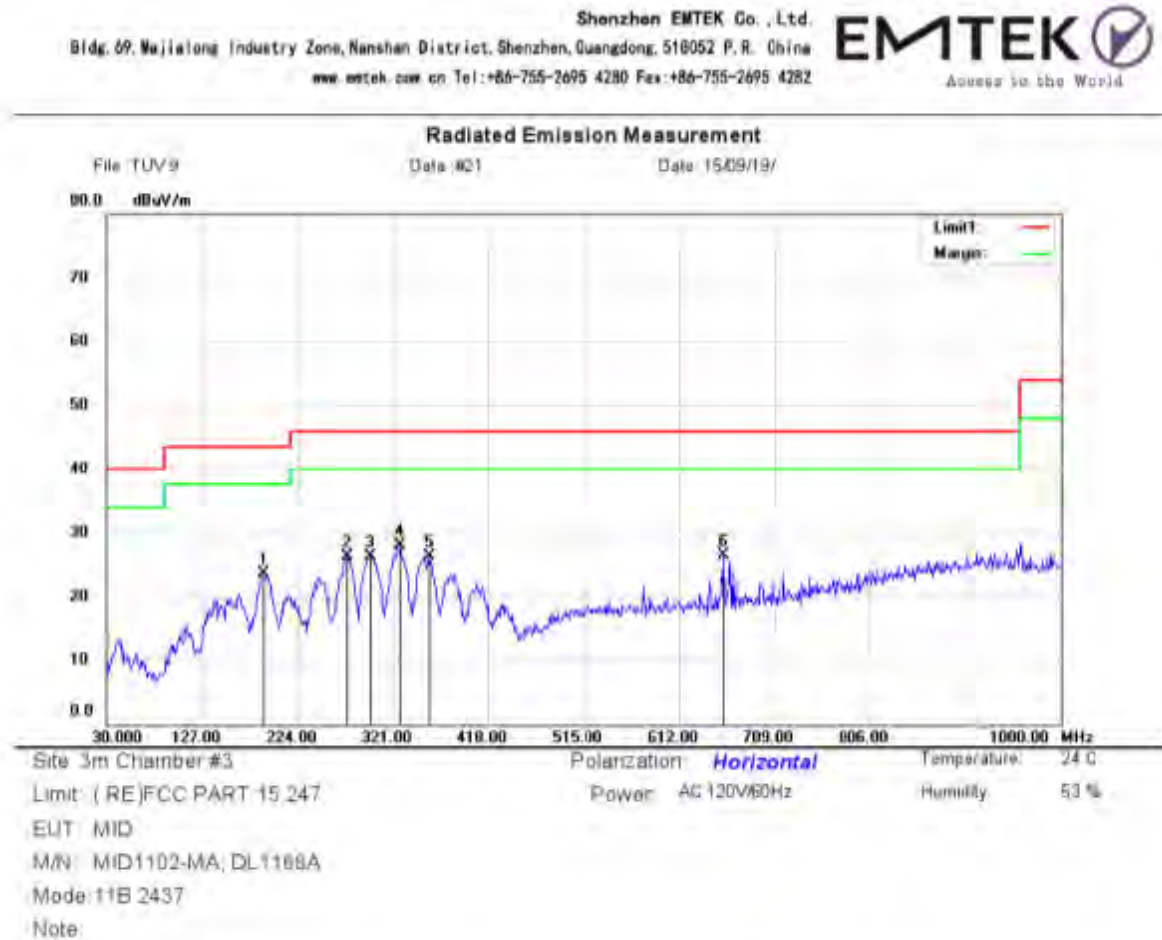


Figure 5: Test figure of Radiated Spurious Emissions (30MHz – 1GHz), 802.11b, (Mid)



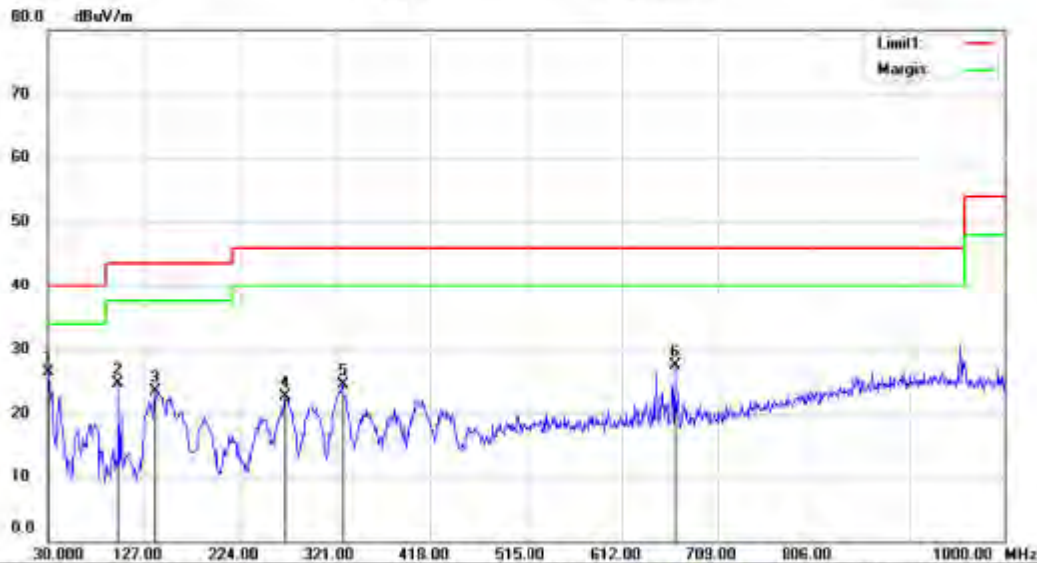
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna height cm	Table Degree degree	Comment:
1		189.0800	41.15	-17.44	23.71	43.50	-19.79	QP			
2		275.4100	38.86	-13.62	26.24	46.00	-19.76	QP			
3		298.6900	39.99	-13.74	26.25	46.00	-19.75	QP			
4	*	327.7900	41.19	-13.09	28.10	46.00	-17.90	QP			
5		357.8600	37.19	-10.92	26.27	46.00	-19.73	QP			
6		657.5900	32.81	-6.40	26.41	46.00	-19.59	QP			

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Radiated Emission Measurement

File: TUV9 Data: #02 Date: 15/09/19/



Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
EUT: MID
MN: MID1102-MA, DL1168A
Mode: 11B 2437
Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment:
1	*	30.0000	42.92	-16.46	26.46	40.00	-13.54	QP			
2		100.8100	38.68	-14.02	24.66	43.50	-18.84	QP			
3		139.8100	41.22	-17.76	23.46	43.50	-20.04	QP			
4		270.5600	35.34	-12.68	22.66	46.00	-23.34	QP			
5		328.7600	37.47	-13.04	24.43	46.00	-21.57	QP			
6		666.3200	33.90	-6.33	27.57	46.00	-18.43	QP			

* Maximum data x Over limit | over margin

Operator: IKV

Figure 6: Test figure of Radiated Spurious Emissions (1GHz –25GHz), 802.11b, (Mid)



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Radiated Emission Measurement



Site: 3m Chamber #3
Limit: (RE)FCC PART 15.247
EUT: MID
MN: MID1102-MA, DL1168A
Mode: 11B 2437
Note:

Polarization: **Vertical**
Power: AC 120V/60Hz
Temperature: 24.0 C
Humidity: 53 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree		
1		15314.00	57.41	-7.14	50.27	74.00	-23.73			peak	
2	*	15314.00	41.97	-7.14	34.83	54.00	-19.17			AVG	

* Maximum data x Over limit | over margin

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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24.0
 Limit: (RE) FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 M/N: MID1102-MA; DL1168A
 Mode: 11B 2437
 Note:

No.	Mk	Freq	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		24264.50	87.95	-37.10	50.85	74.00	-23.15	peak		
2	*	24264.50	71.72	-37.10	34.62	54.00	-19.38	AVG		

* Maximum data x Over limit | over margin

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Radiated Emission Measurement



Site: 3m Chamber #3
Limit: (RE)FCC PART 15.247
EUT: MID
MN: MID1102-MA, DL1168A
Mode: 11B 2437
Note:

Polarization: **Vertical**
Power: AC 120V/60Hz
Temperature: 24 C
Humidity: 53 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		24281.50	86.82	-37.10	49.72	74.00	-24.28	peak		
2	*	24281.50	71.22	-37.10	34.12	54.00	-19.88	AVG		

* Maximum data x Over limit l over margin

Figure 7: Test figure of Radiated Spurious Emissions (9kHz – 30MHz), 802.11b, (High)

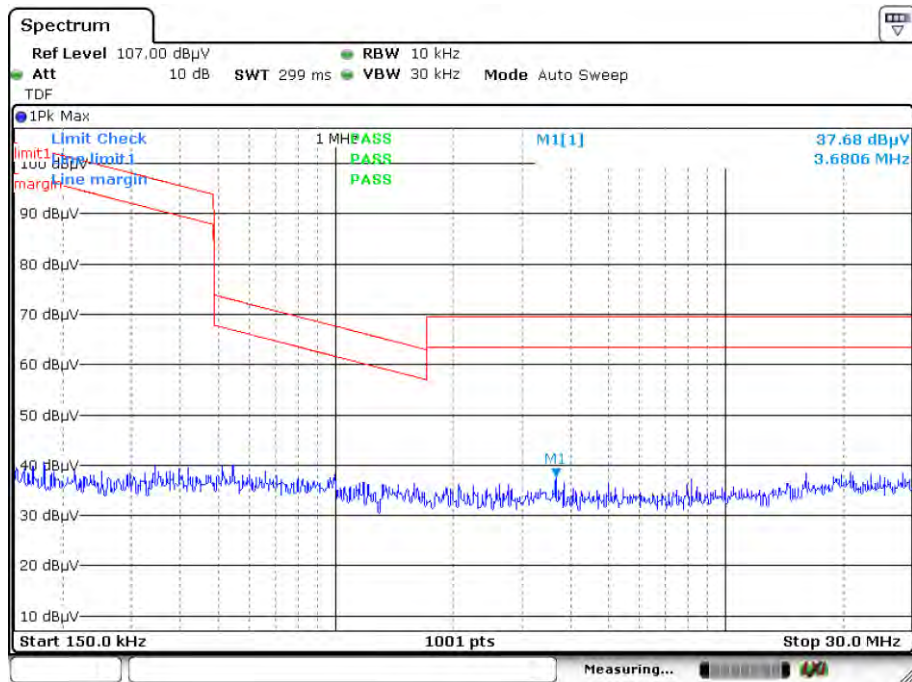
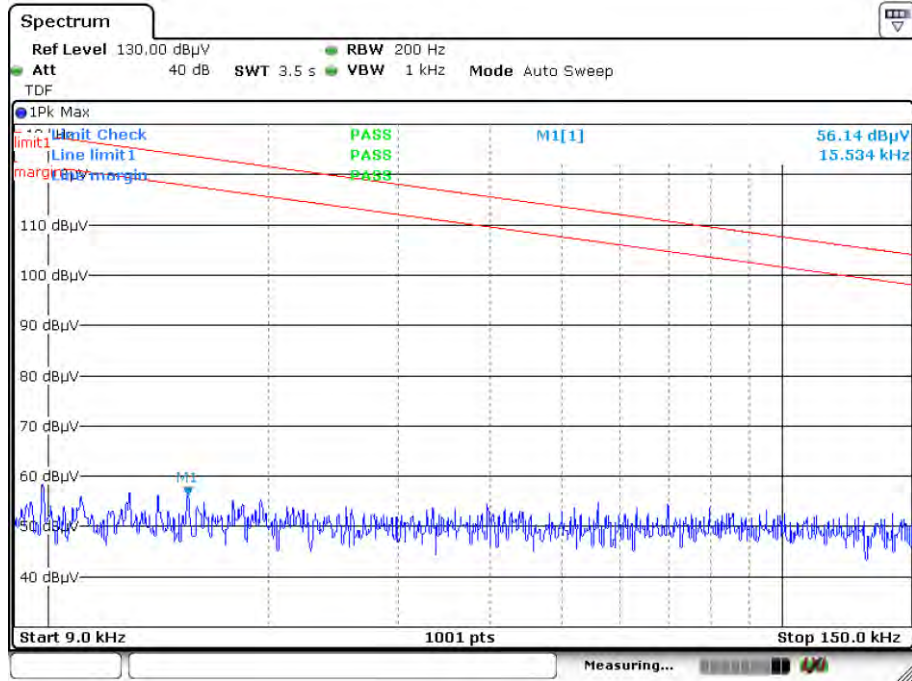
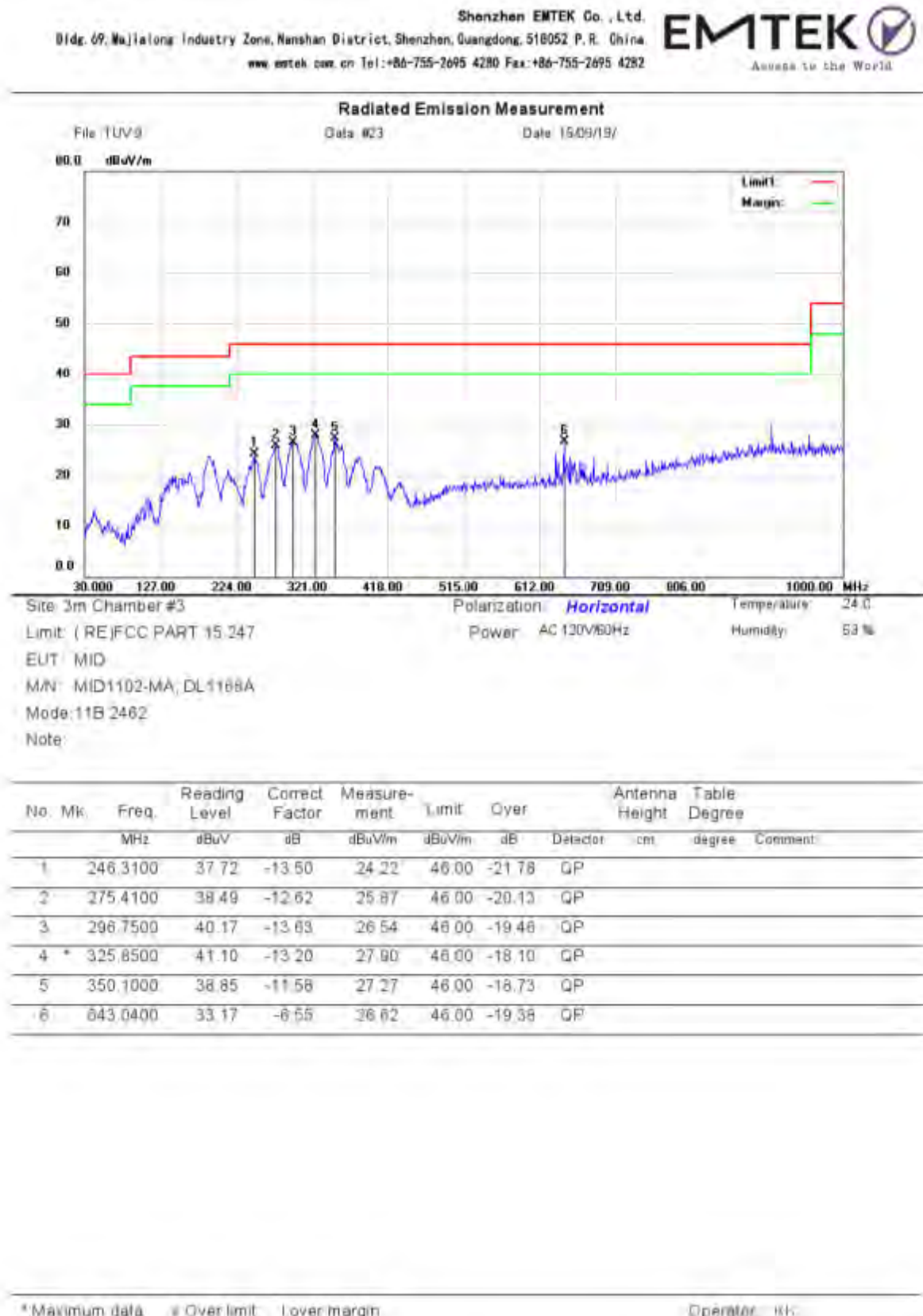


Figure 8: Test figure of Radiated Spurious Emissions (30MHz – 1GHz), 802.11b, (High)

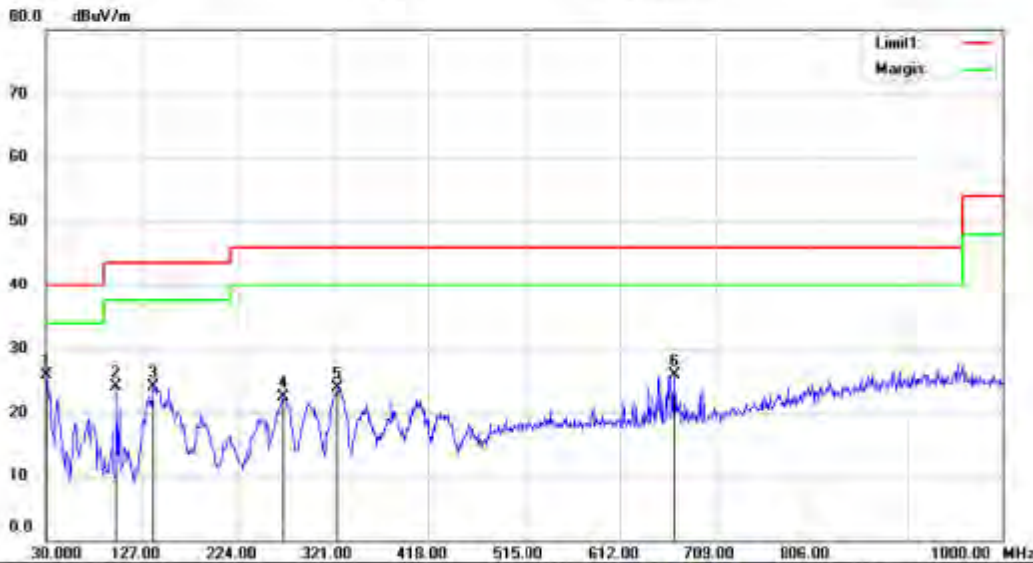


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Radiated Emission Measurement

File: TUV9 Data #24 Date: 15/09/19

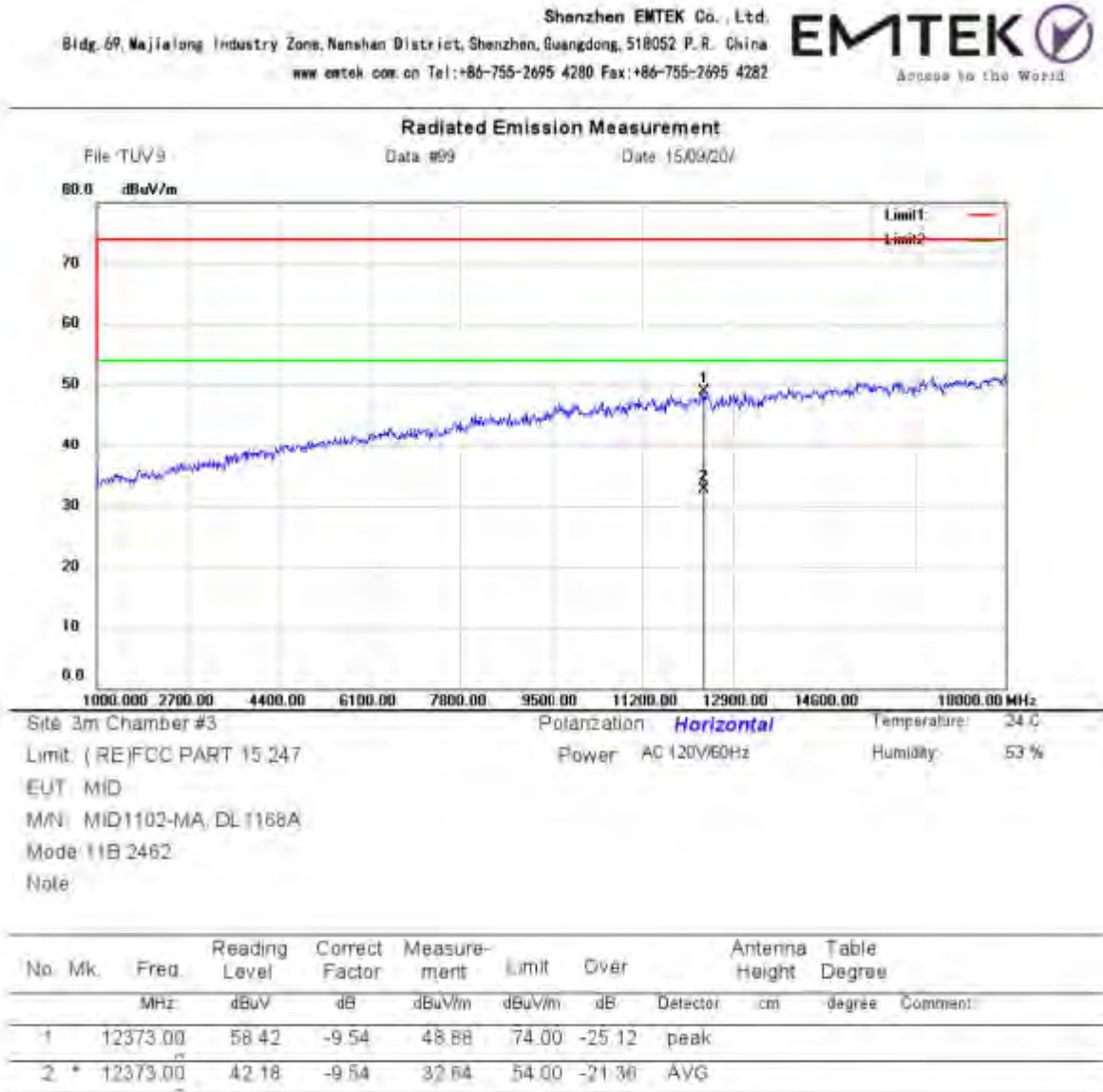


Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
EUT: MID
MN: MID1102-MA, DL1168A
Mode: 11B 2462
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Detector	Comment:
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree		
1	*	30.0000	42.32	-16.46	25.86	40.00	-14.14			QP	
2		100.8100	38.20	-14.02	24.18	43.50	-19.32			QP	
3		139.6100	41.80	-17.76	24.04	43.50	-19.46			QP	
4		271.5300	35.25	-12.67	22.58	46.00	-23.42			QP	
5		325.8500	37.16	-13.20	23.96	46.00	-22.04			QP	
6		668.2600	32.17	-6.30	25.87	46.00	-20.13			QP	

* Maximum data x Over limit l over margin

Figure 9: Test figure of Radiated Spurious Emissions (1GHz –25GHz), 802.11b, (High)

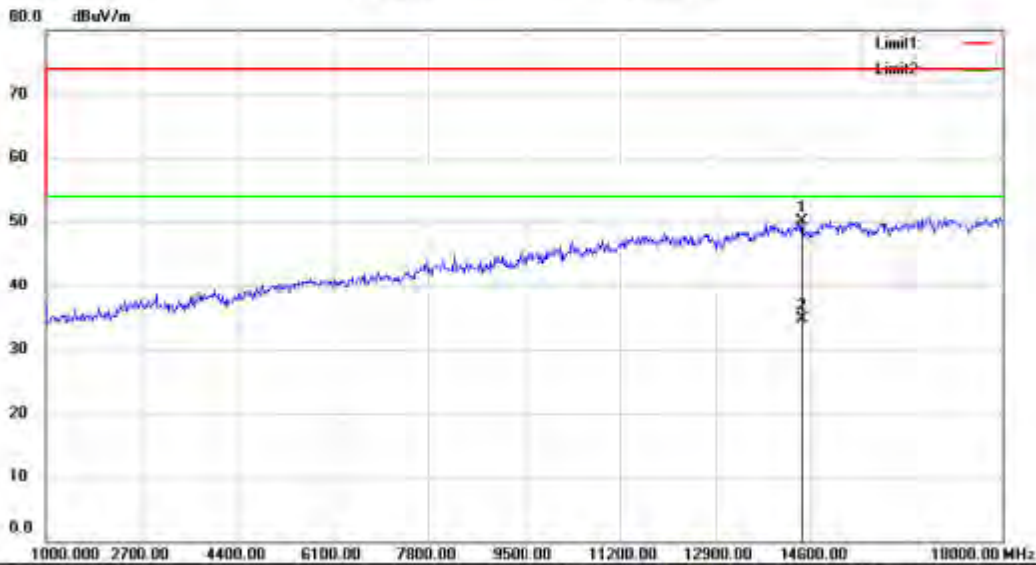


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Radiated Emission Measurement

File: TUV9 Data #100 Date: 15/09/2017



Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24.0
Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
EUT: MID
MN: MID1102-MA, DL1168A
Mode: 11B 2462
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		14447.00	56.11	-6.00	50.11	74.00	-23.89			peak
2	*	14447.00	40.62	-6.00	34.62	54.00	-19.38			AVG

* Maximum data x Over limit | over margin

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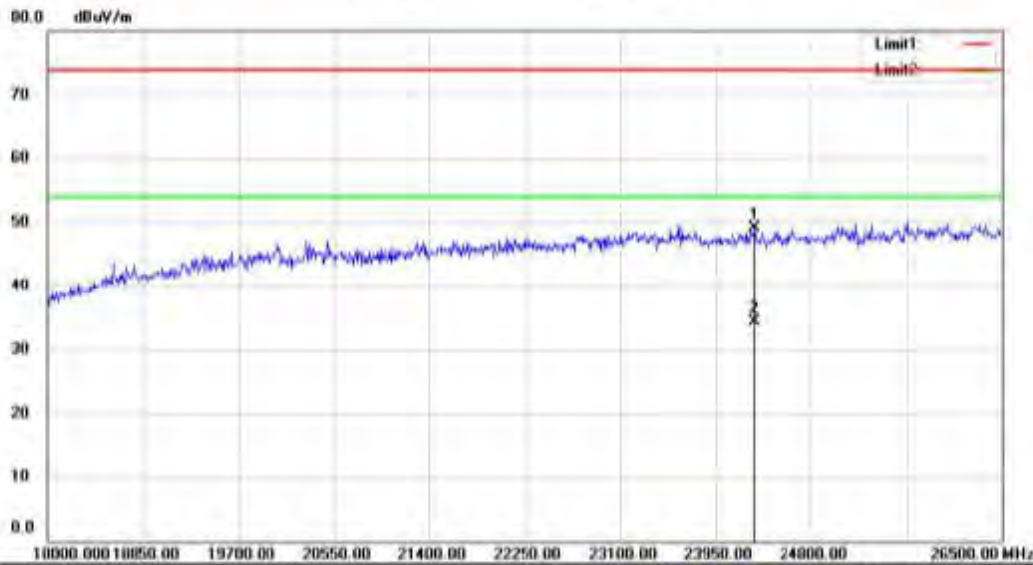


Radiated Emission Measurement

File: TUV9

Date: #0211

Date: 15/09/21/



Site: 3m Chamber #3

Polarization: **Horizontal**

Temperature: 24 C

Limit: (RE/FCC PART 15.247

Power: AC 120V/60Hz

Humidity: 53 %

EUT: MID

M/N: MID1102-MA, DL1168A

Mode: 11B 2462

Note:

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	Comment
			dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		24298.50	86.28	-37.09	49.19	74.00	-24.81	peak		
2	*	24298.50	71.32	-37.09	34.23	54.00	-19.77	AVG		

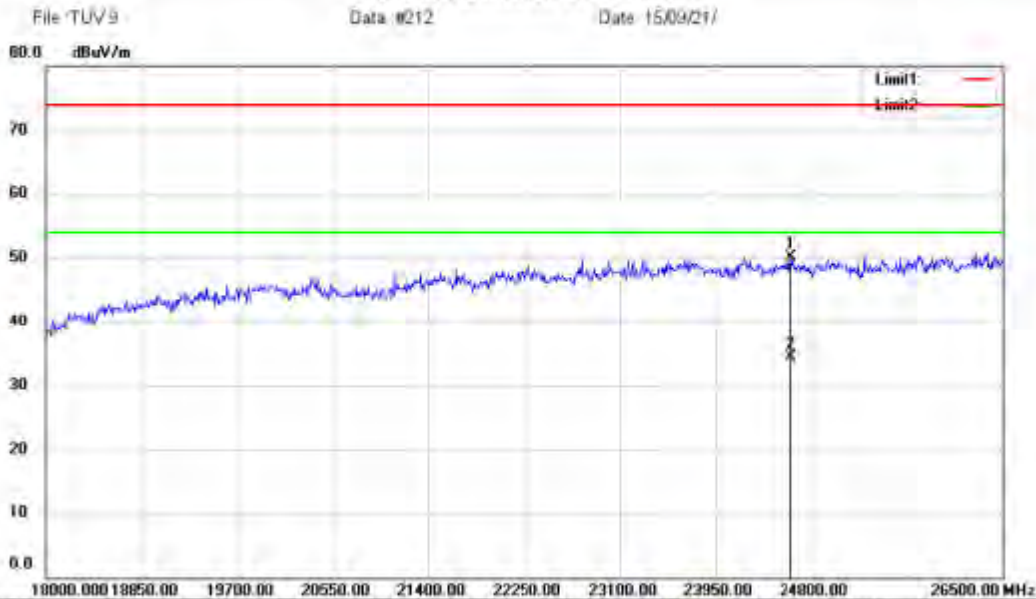
* Maximum data x Over limit | over margin

Operator: KK

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Radiated Emission Measurement

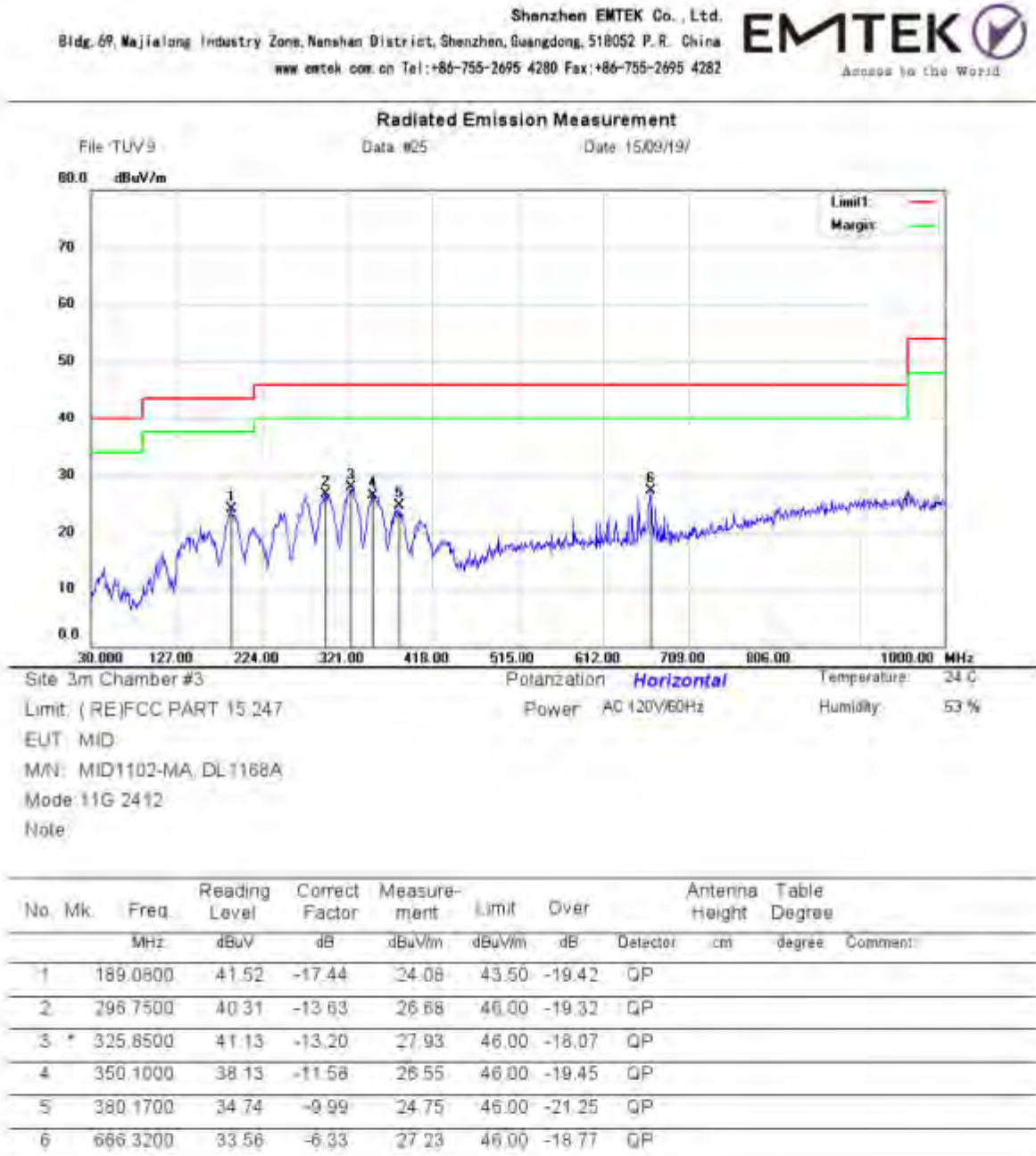


Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 MN: MID1102-MA, DL 1168A
 Mode: 11B 2462
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Detector	Comment:
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree		
1		24621.50	87.19	-37.08	50.13	74.00	-23.87			peak	
2	*	24621.50	71.32	-37.08	34.26	54.00	-19.74			AVG	

* Maximum data x Over limit | over margin

Figure 10: Test figure of Radiated Spurious Emissions (30MHz – 1GHz), 802.11g, (Low)

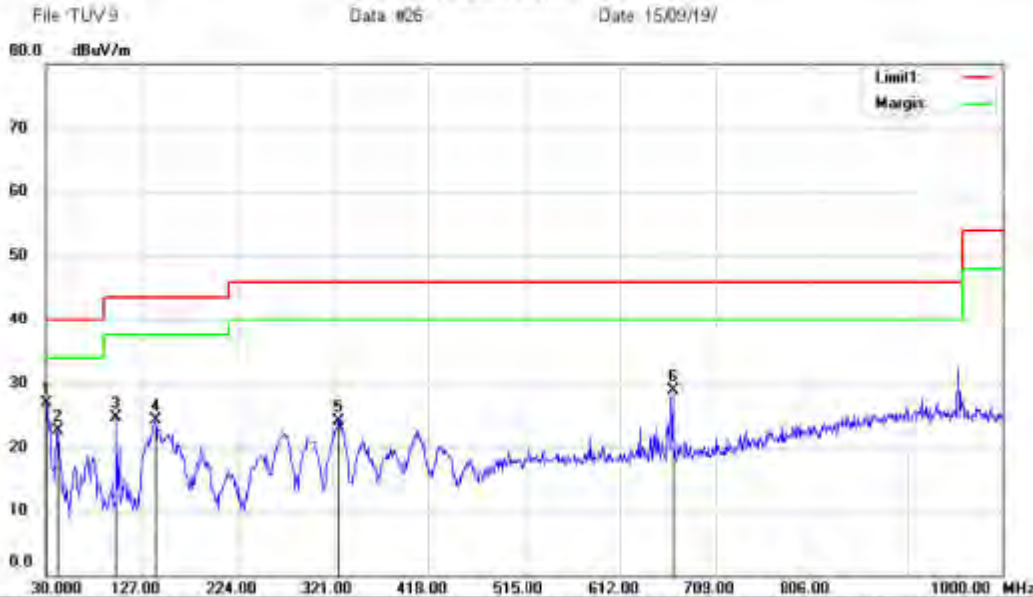


* Maximum data x Over limit | over margin

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Radiated Emission Measurement

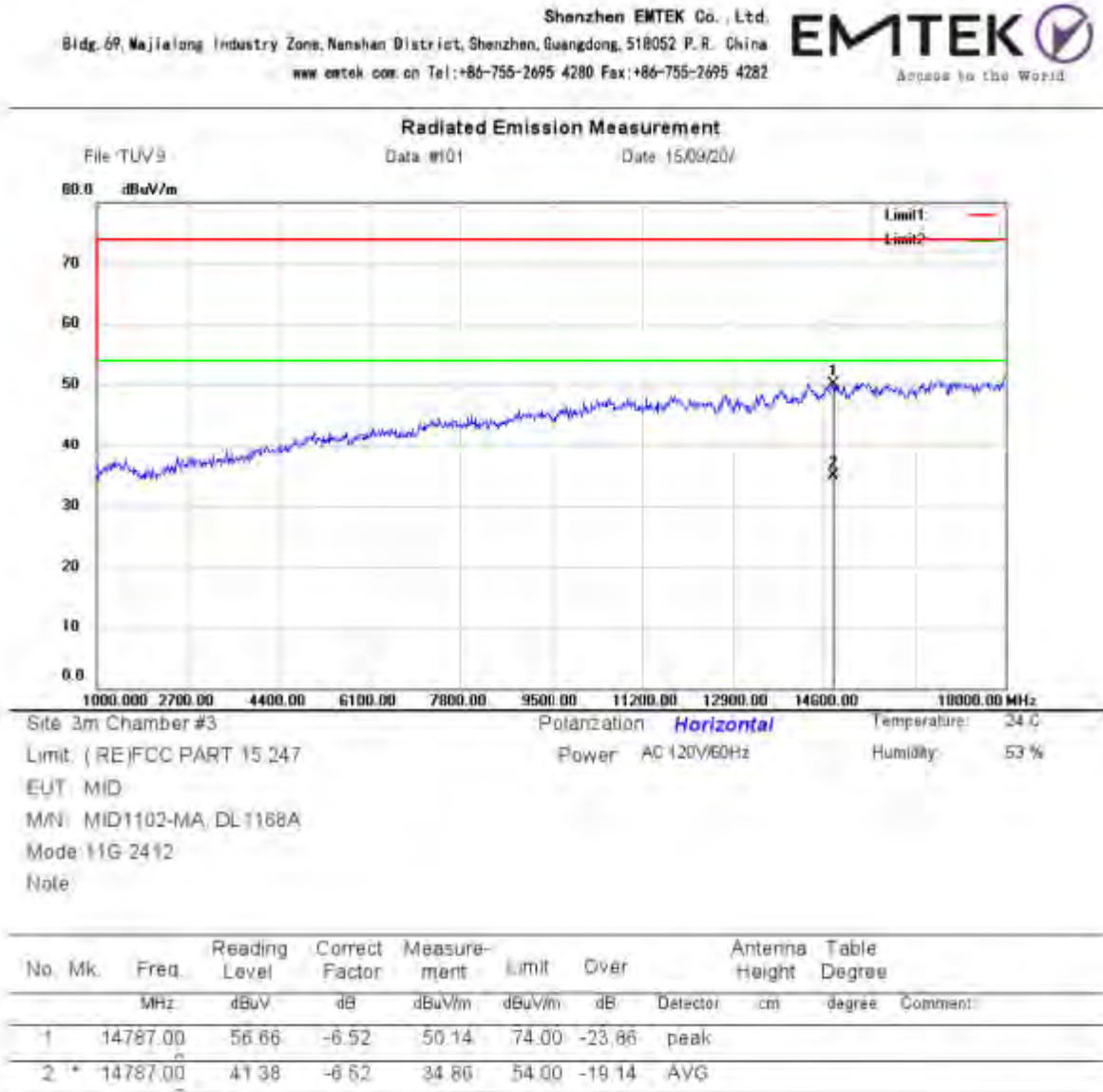


Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 M/N: MID1102-MA, DL1168A
 Mode: 11G 2412
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Detector	Comment:
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree		
1	*	30.9700	43.06	-16.13	26.93	40.00	-13.07			QP	
2		41.6400	35.72	-12.93	22.79	40.00	-17.21			QP	
3		100.8100	38.70	-14.02	24.68	43.50	-18.82			QP	
4		141.5500	42.20	-17.84	24.36	43.50	-19.14			QP	
5		326.8200	37.21	-13.15	24.06	46.00	-21.94			QP	
6		666.3200	35.29	-6.33	28.96	46.00	-17.04			QP	

* Maximum data x Over limit | over margin

Figure 11: Test figure of Radiated Spurious Emissions (1GHz –25GHz), 802.11g, (Low)



* Maximum data x Over limit | over margin

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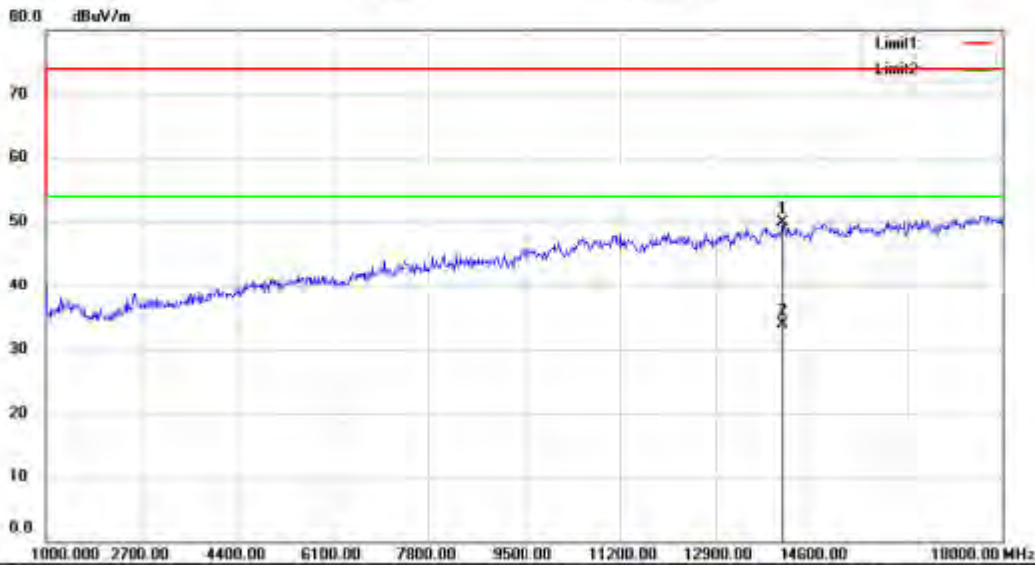


Radiated Emission Measurement

File: TUV9

Data #102

Date: 15/09/2017



Site: 3m Chamber #3
Limit: (RE)FCC PART 15.247
EUT: MID
MN: MID1102-MA, DL1168A
Mode: 11G-2412
Note:

Polarization: **Vertical**
Power: AC 120V/60Hz
Temperature: 24.0 C
Humidity: 53 %

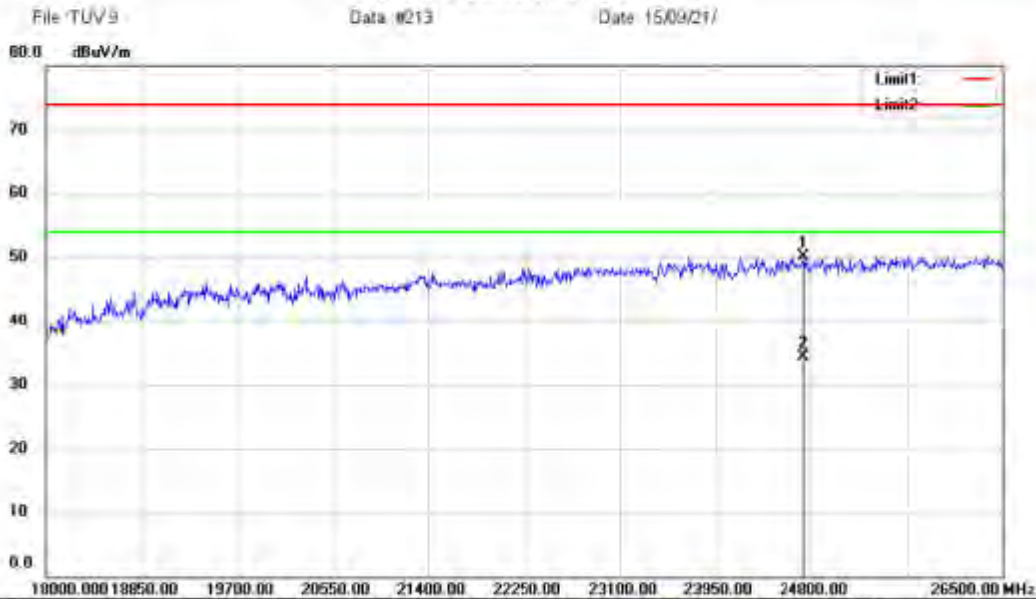
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree		
1		14090.00	55.26	-5.44	49.82	74.00	-24.18			peak	
2	*	14090.00	39.30	-5.44	33.86	54.00	-20.14			AVG	

* Maximum data x Over limit | over margin

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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24.0
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 M/N: MID1102-MA, DL1168A
 Mode: 11G 2412
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Detector	Comment:
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree		
1		24740.50	87.13	-37.04	50.09	74.00	-23.91			peak	
2	*	24740.50	71.30	-37.04	34.26	54.00	-19.74			AVG	

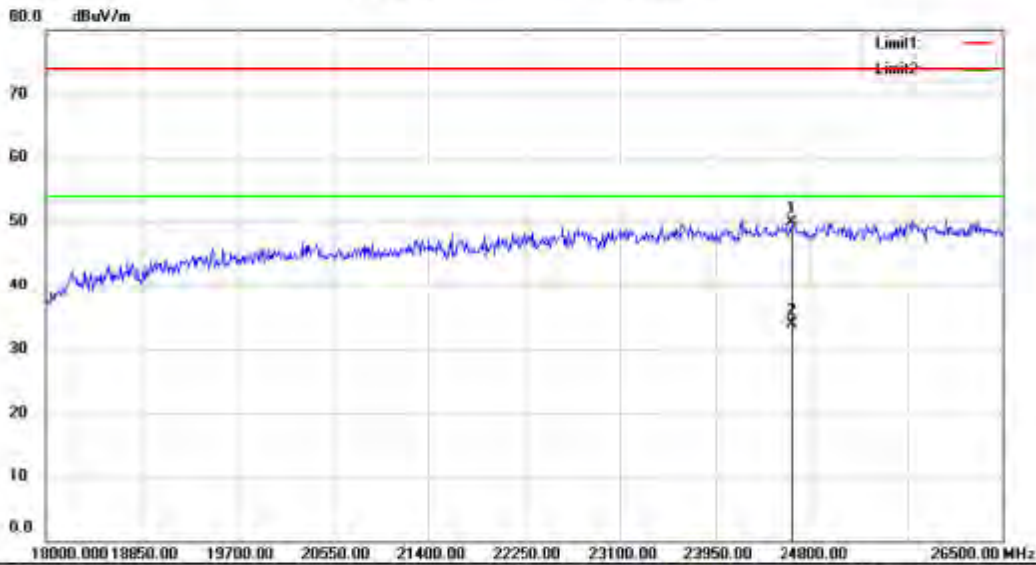
* Maximum data x Over limit | over margin

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Radiated Emission Measurement

File: TUV9 Data: #214 Date: 15/09/21/

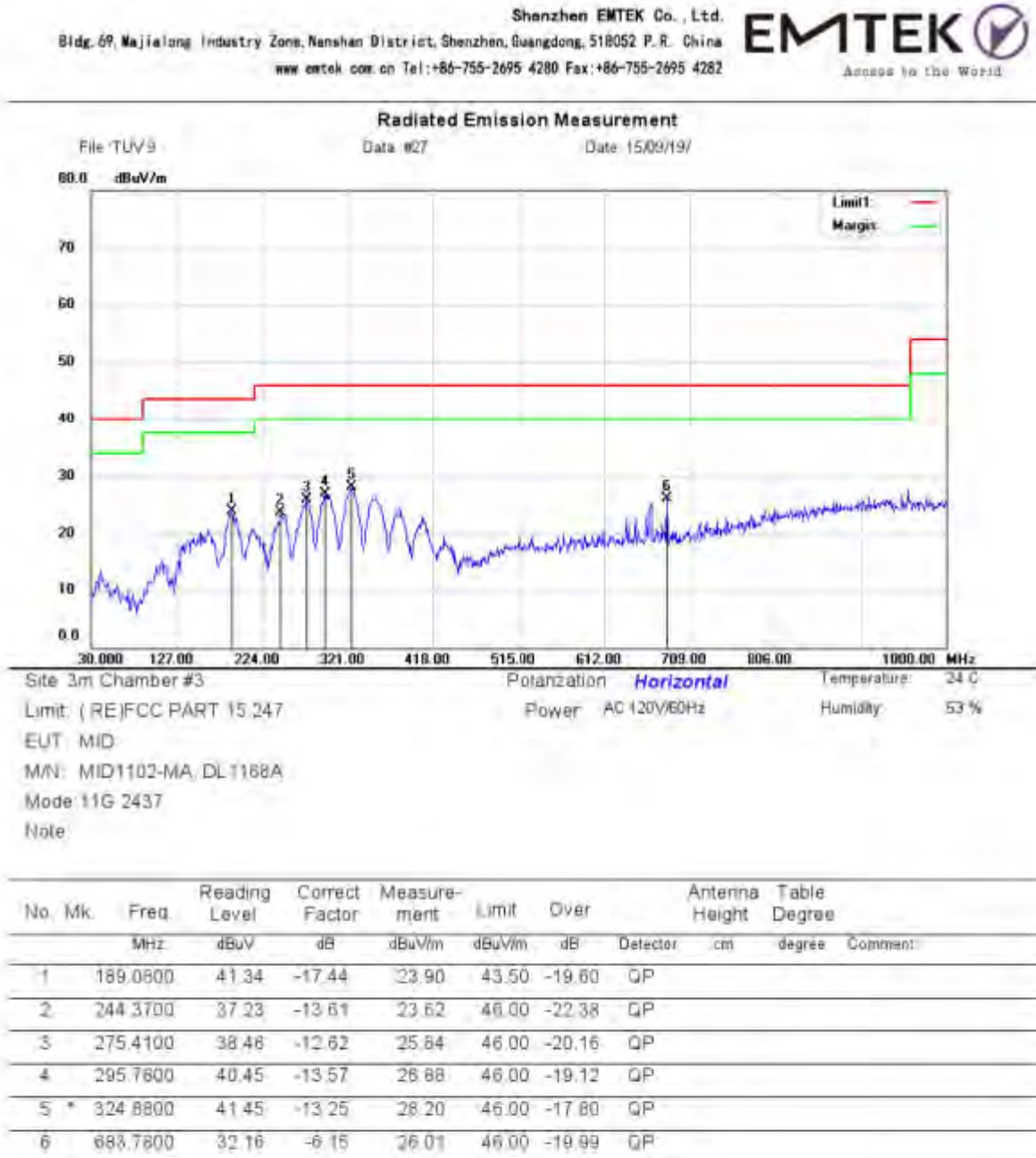


Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
Limit: (RE)FCC PART 15.247 Power: AC (20V/60Hz) Humidity: 53 %
EUT: MID
MN: MID1102-MA, DL1168A
Mode: 11G 2412
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Detector	Comment:
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree		
1		24630.00	86.92	-37.05	49.87	74.00	-24.13			peak	
2	*	24630.00	71.00	-37.05	33.95	54.00	-20.05			AVG	

* Maximum data x Over limit | over margin

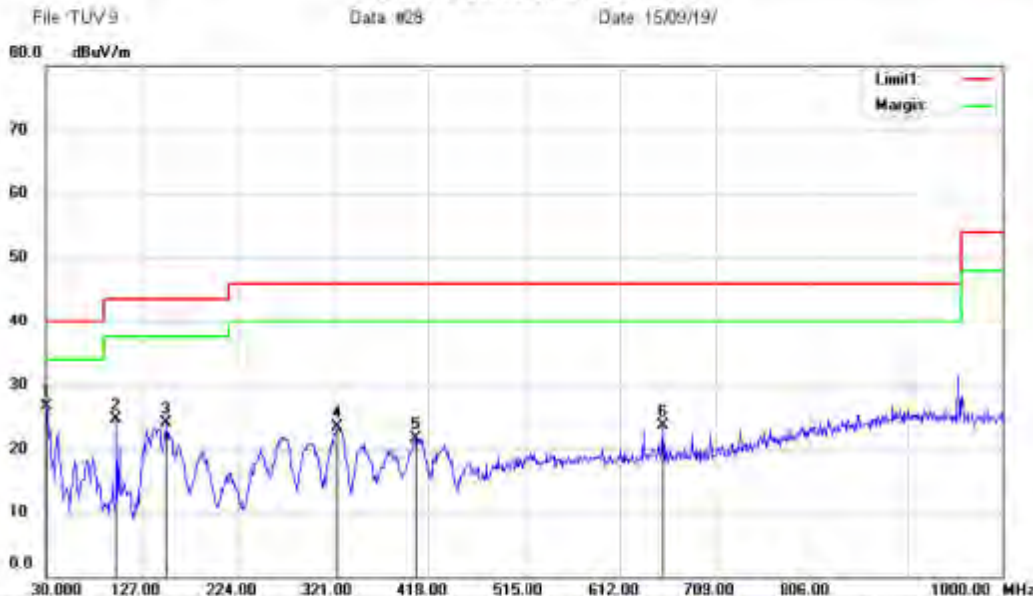
Figure 12: Test figure of Radiated Spurious Emissions (30MHz – 1GHz), 802.11g, (Mid)



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Radiated Emission Measurement

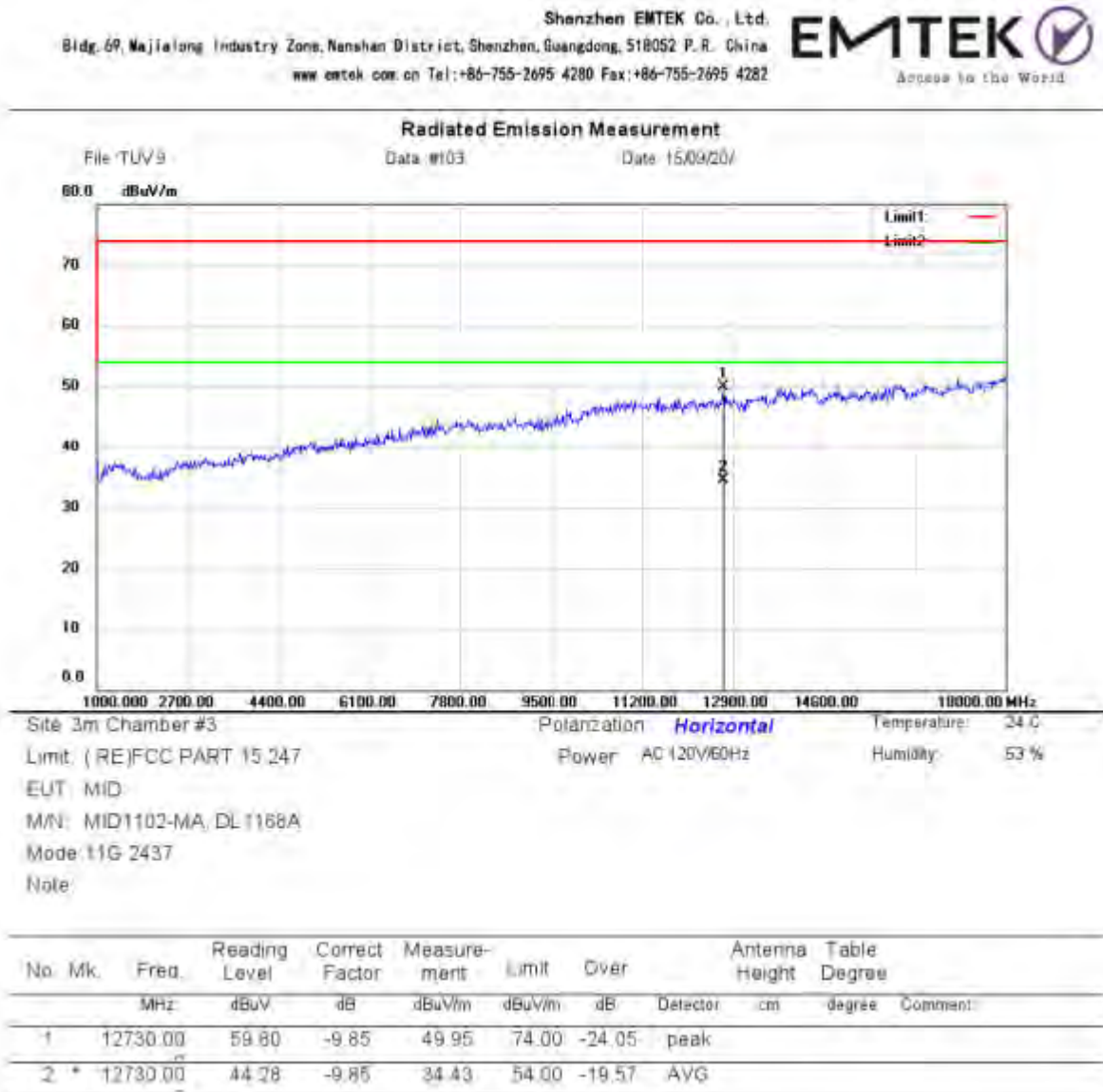


Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 M/N: MID1102-MA, DL1168A
 Mode: 11G 2437
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment:
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	30.9700	42.76	-16.13	26.63	40.00	-13.37	QP		
2		100.8100	38.70	-14.02	24.68	43.50	-18.82	QP		
3		152.2200	42.37	-16.24	26.13	43.50	-19.37	QP		
4		325.8500	36.66	-13.20	23.46	46.00	-22.54	QP		
5		405.3900	30.68	-9.02	21.66	46.00	-24.34	QP		
6		656.6200	30.13	-6.42	23.71	46.00	-22.29	QP		

* Maximum data x Over limit l over margin

Figure 13: Test figure of Radiated Spurious Emissions (1GHz –25GHz), 802.11g, (Mid)

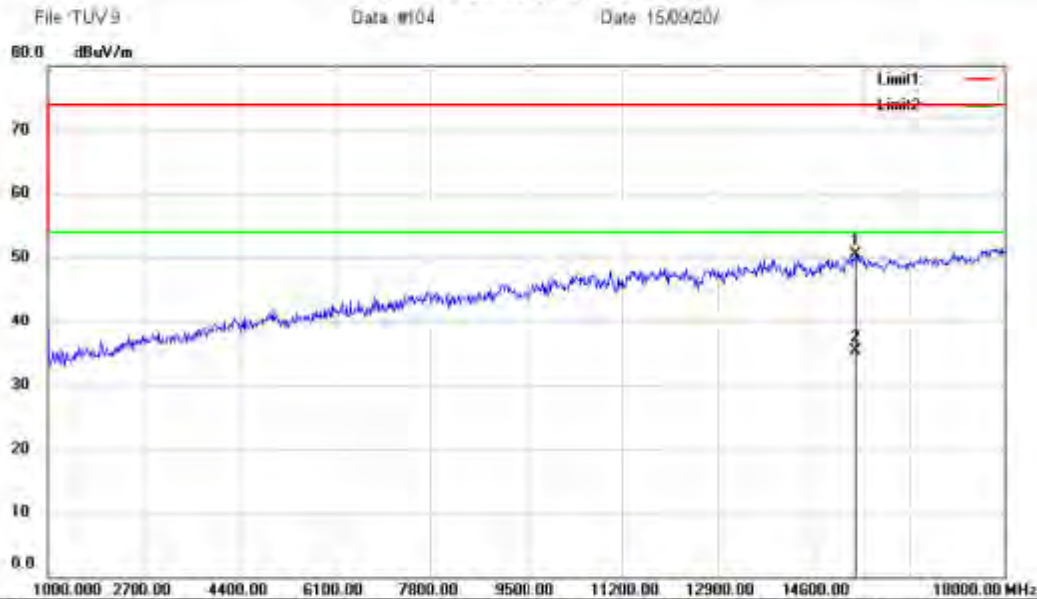


* Maximum data x Over limit | over margin

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Radiated Emission Measurement



Site: 3m Chamber #3
Limit: (RE)FCC PART 15.247
EUT: MID
M/N: MID1102-MA, DL1168A
Mode: 11G 2437
Note:

Polarization: **Vertical**
Power: AC 120V/60Hz
Temperature: 24.0
Humidity: 53%

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment:
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		15365.00	57.59	-7.18	50.41	74.00	-23.59	peak		
2	*	15365.00	42.41	-7.18	35.23	54.00	-18.77	AVG		

* Maximum data x Over limit | over margin

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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24.0
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 M/N: MID1102-MA, DL 1168A
 Mode: 11G 2437
 Note:

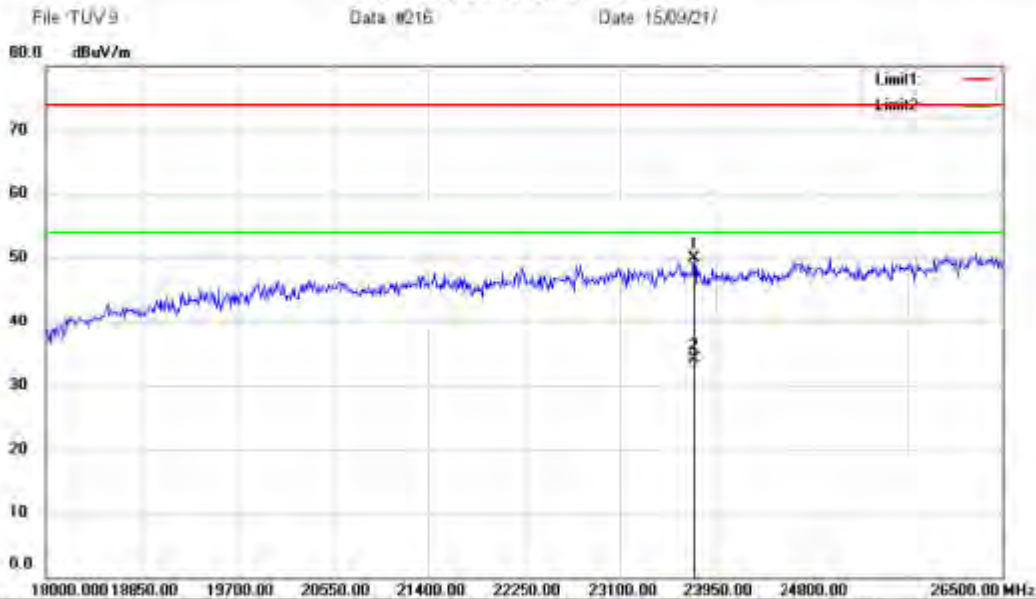
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree		
1		24171.00	85.78	-37.11	48.67	74.00	-25.33			peak	
2	*	24171.00	70.37	-37.11	33.26	54.00	-20.74			AVG	

* Maximum data x Over limit | over margin

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Radiated Emission Measurement

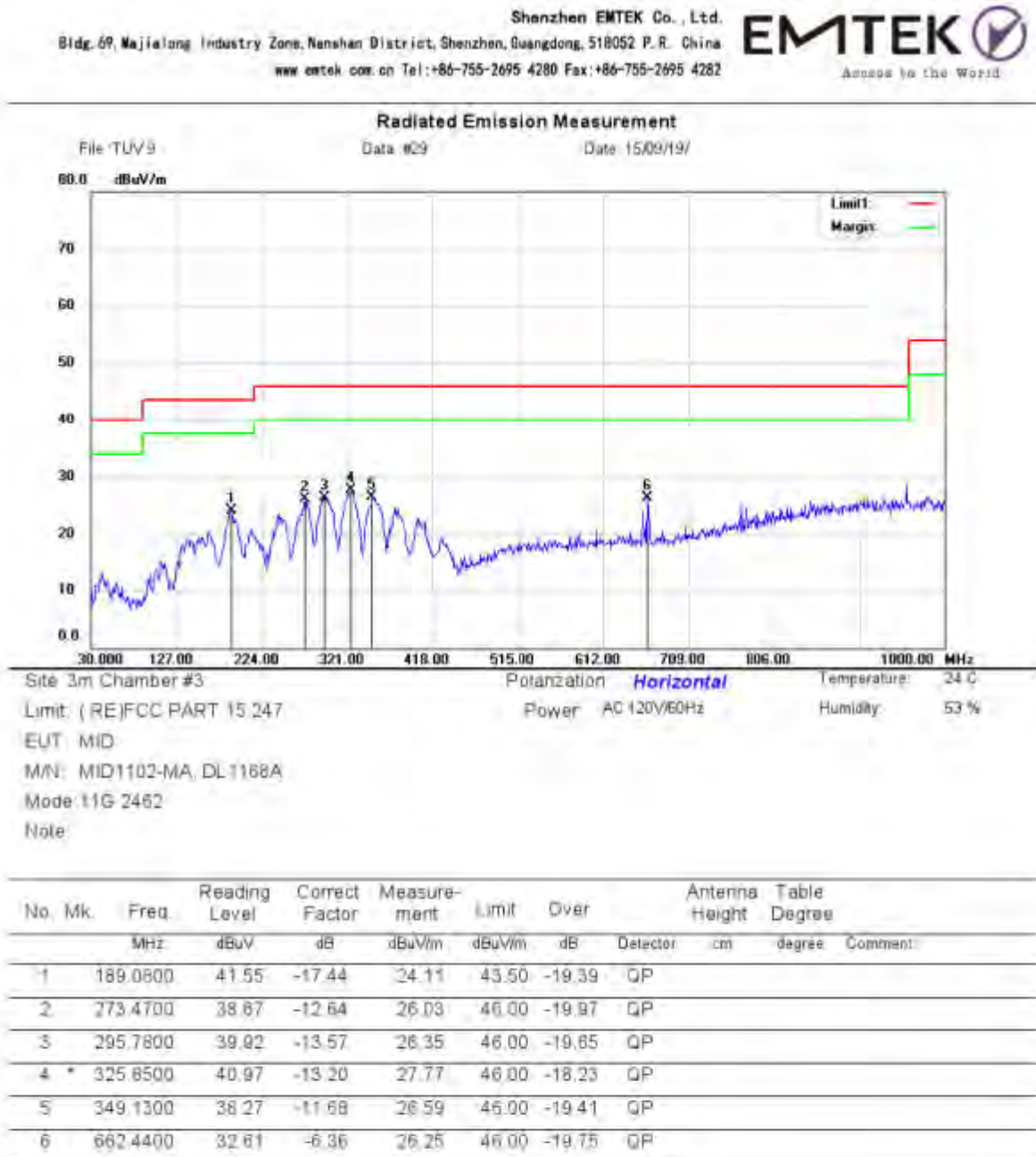


Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
EUT: MID
M/N: MID1102-MA, DL 1168A
Mode: 11G 2437
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree		
1		23763.00	87.29	-37.38	49.91	74.00	-24.09			peak	
2	*	23763.00	71.54	-37.38	34.16	54.00	-19.84			AVG	

* Maximum data x Over limit | over margin

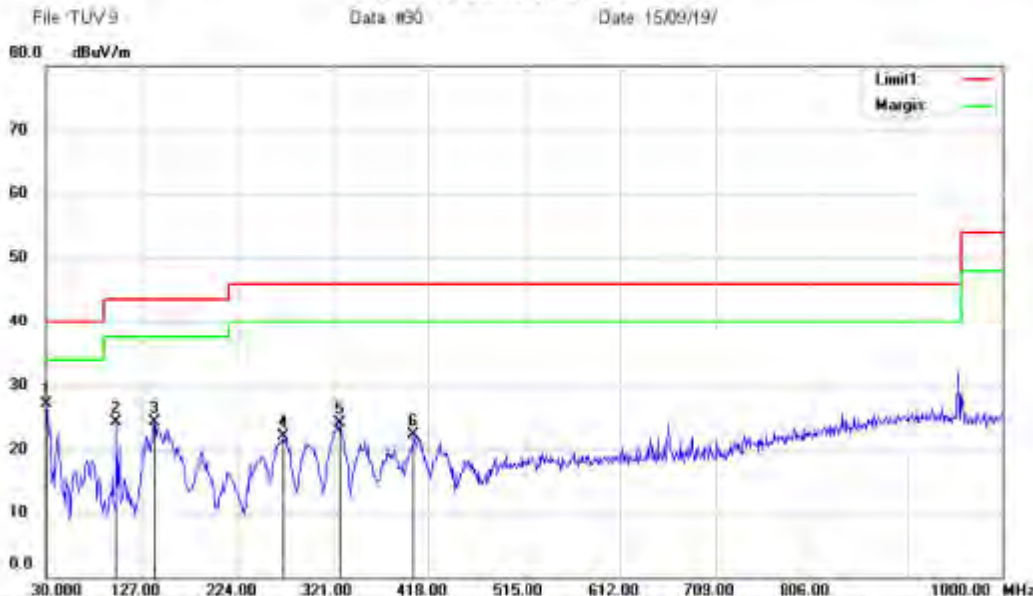
Figure 14: Test figure of Radiated Spurious Emissions (30MHz – 1GHz), 802.11g, (High)



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Radiated Emission Measurement

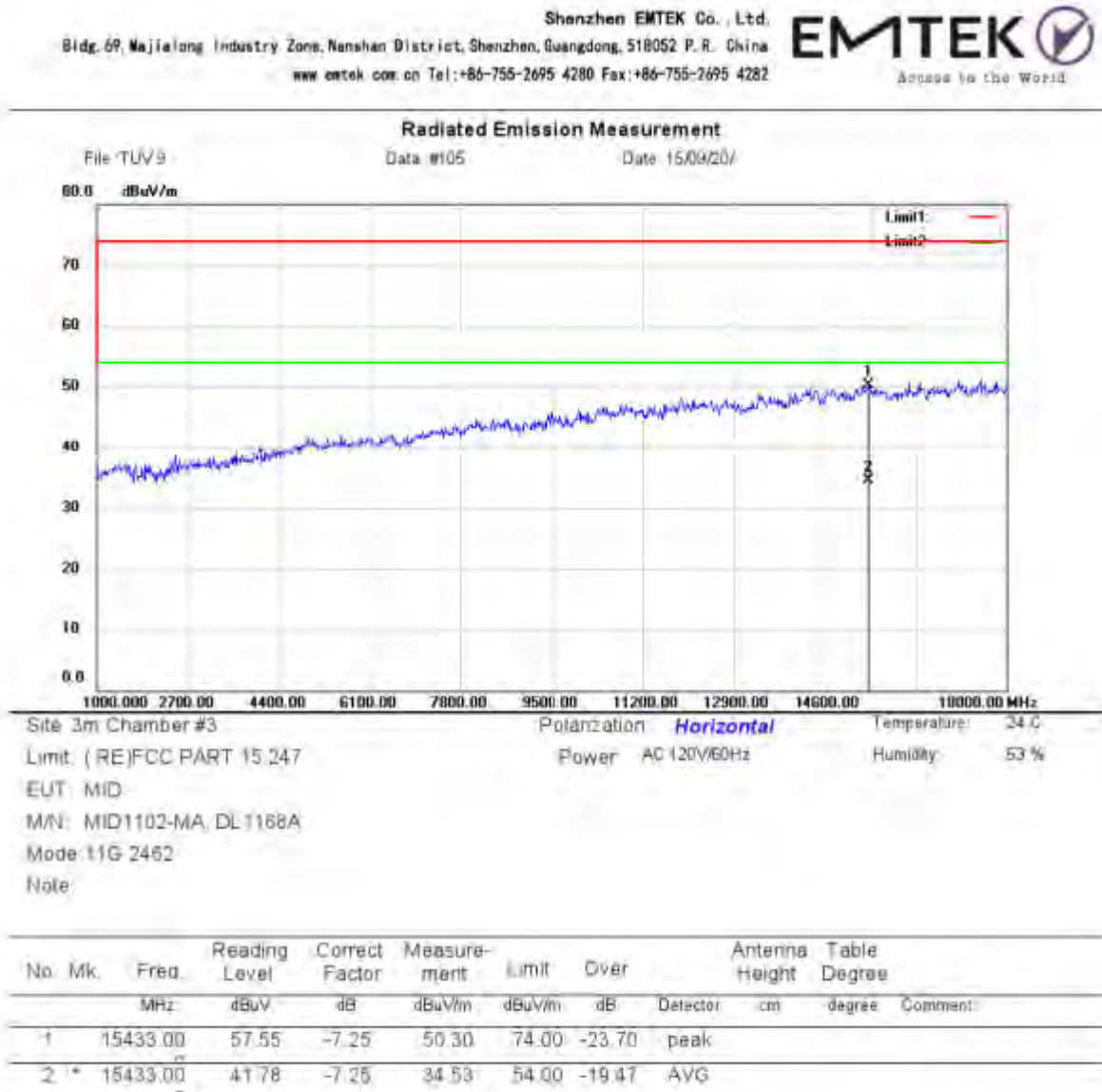


Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 M/N: MID1102-MA, DL1168A
 Mode: 11G 2462
 Note:

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Antenna	Table	
		MHz	Level	Factor	ment			Height	Table	Comment:
			dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	30.9700	43.25	-16.13	27.12	40.00	-12.88	QP		
2		100.8100	38.30	-14.02	24.28	43.50	-19.22	QP		
3		140.5800	42.05	-17.80	24.23	43.50	-19.27	QP		
4		271.5300	34.80	-12.67	22.13	46.00	-23.87	QP		
5		327.7900	37.22	-13.09	24.13	46.00	-21.87	QP		
6		403.4500	31.25	-8.96	22.29	46.00	-23.71	QP		

* Maximum data x Over limit | over margin

Figure 15: Test figure of Radiated Spurious Emissions (1GHz –25GHz), 802.11g, (High)

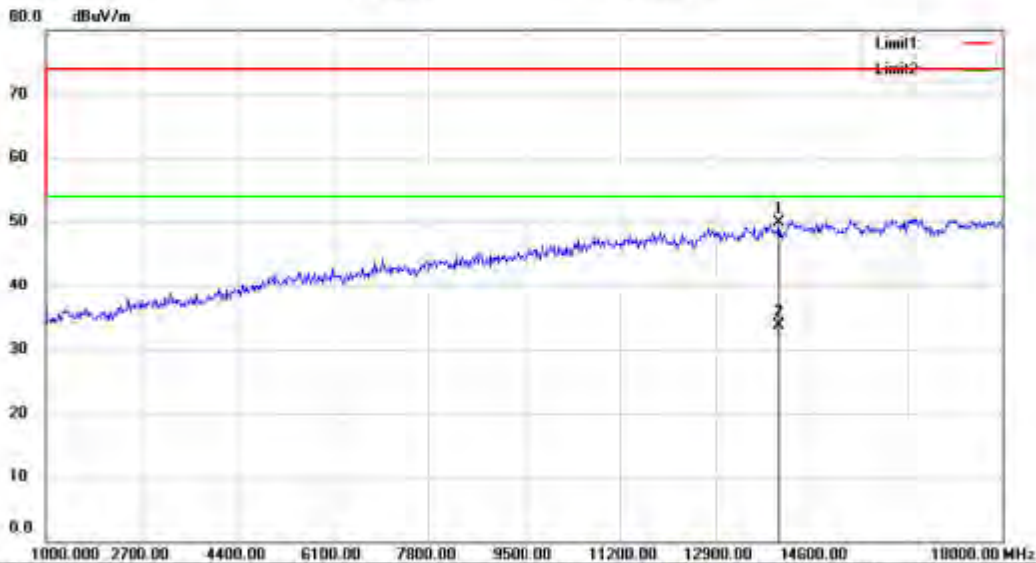


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Radiated Emission Measurement

File: TUV9 Data #105 Date: 15/09/2017



Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
EUT: MID
MN: MID1102-MA, DL 1168A
Mode: 11G-2462
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree		
1		14022.00	55.22	-5.34	49.88	74.00	-24.12			peak	
2	*	14022.00	39.10	-5.34	33.76	54.00	-20.24			AVG	

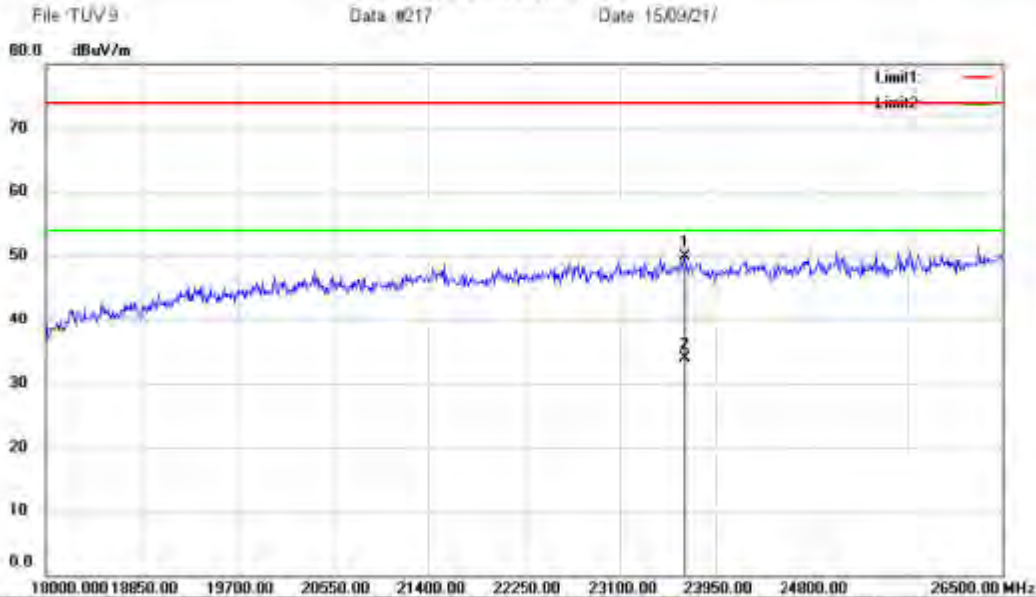
* Maximum data x Over limit | over margin

Operator: IKV

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Radiated Emission Measurement



Site: 3m Chamber #3
Limit: (RE)FCC PART 15.247
EUT: MID
MN: MID1102-MA, DL1168A
Mode: 11G-2462
Note:

Polarization: **Horizontal**
Power: AC 120V/60Hz
Temperature: 24 C
Humidity: 53 %

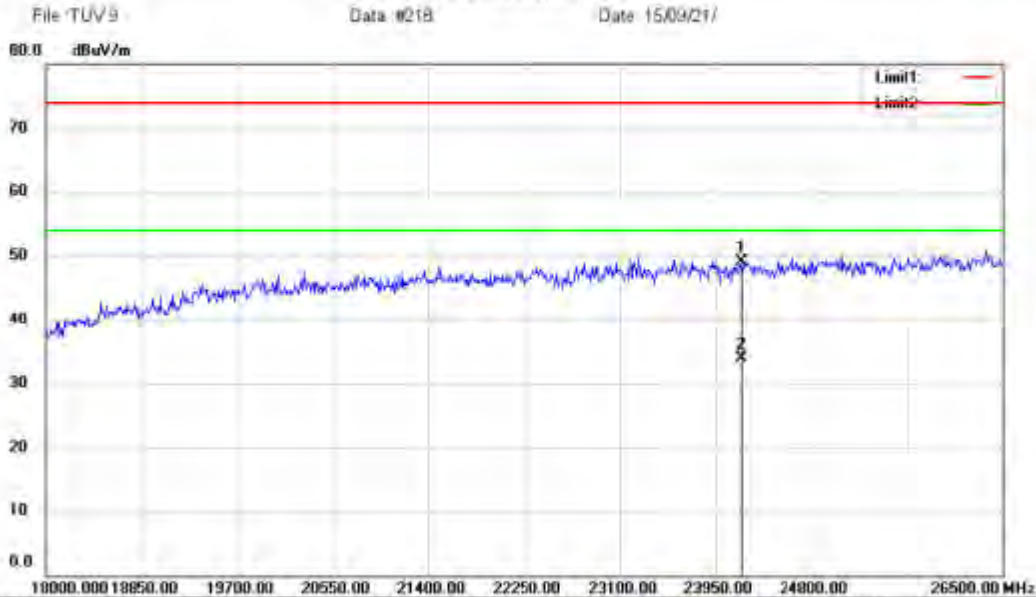
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree		
1		23686.50	87.38	-37.46	49.92	74.00	-24.08			peak	
2	*	23686.50	71.31	-37.46	33.85	54.00	-20.15			AVG	

* Maximum data x Over limit | over margin

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Radiated Emission Measurement

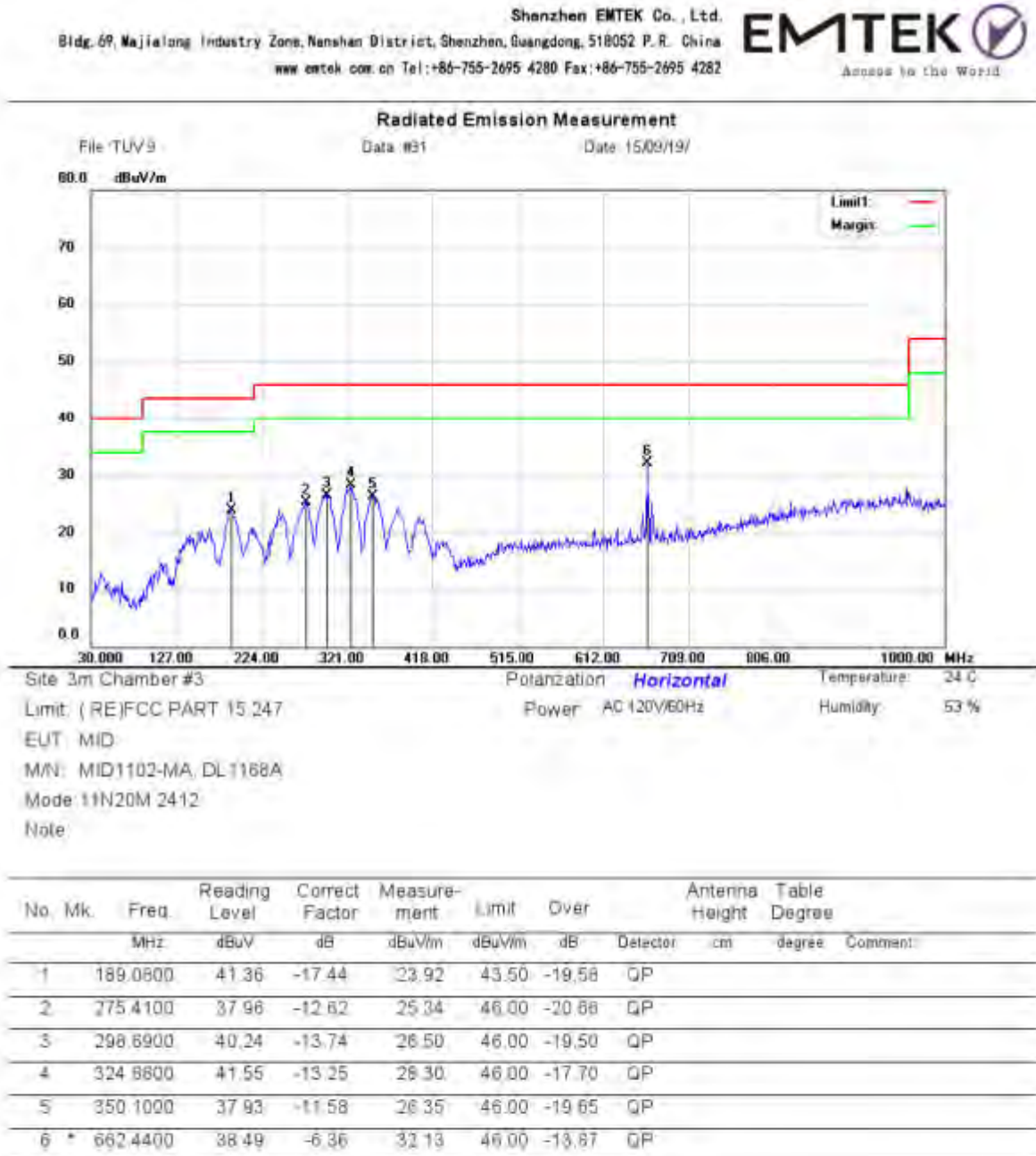


Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 MN: MID1102-MA, DL 1168A
 Mode: 11G-2462
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree		
1		24179.50	86.22	-37.11	49.11	74.00	-24.89			peak	
2	*	24179.50	71.06	-37.11	33.95	54.00	-20.05			AVG	

* Maximum data x Over limit | over margin

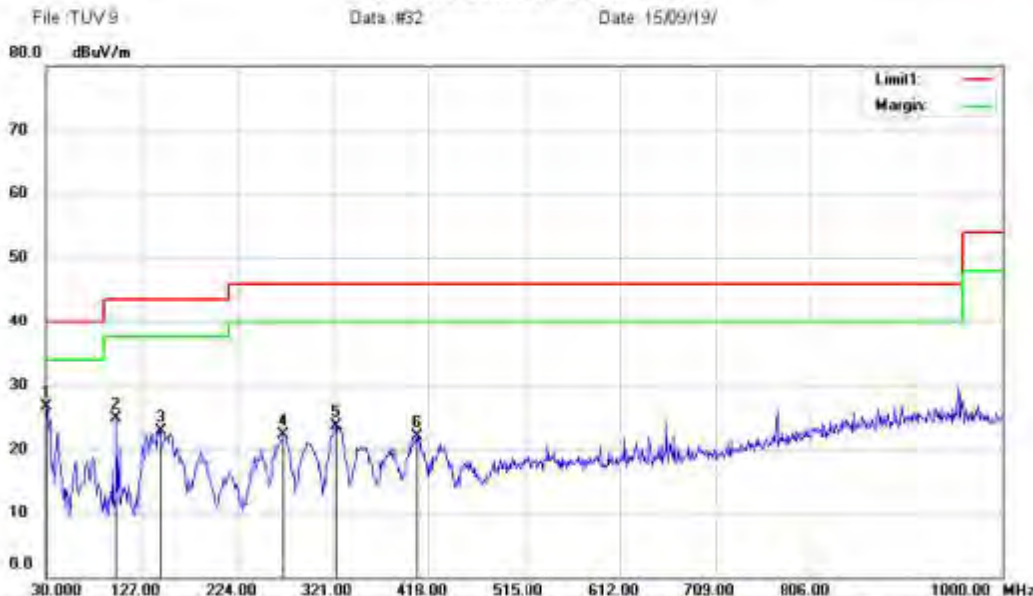
Figure 16: Test figure of Radiated Spurious Emissions (30MHz – 1GHz), 802.11n(HT20), (Low)



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Radiated Emission Measurement




Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
EUT: MID
M/N: MID1102-MA; DL1168A
Mode: 11N20M 2412
Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment:
1	*	30.9700	42.90	-16.13	26.77	40.00	-13.23	QP			
2		100.8100	38.90	-14.02	24.88	43.50	-18.62	QP			
3		146.4000	40.92	-17.99	22.93	43.50	-20.57	QP			
4		271.5300	35.01	-12.67	22.34	46.00	-23.66	QP			
5		323.9100	36.96	-13.30	23.66	46.00	-22.34	QP			
6		406.3600	31.21	-9.04	22.17	46.00	-23.83	QP			

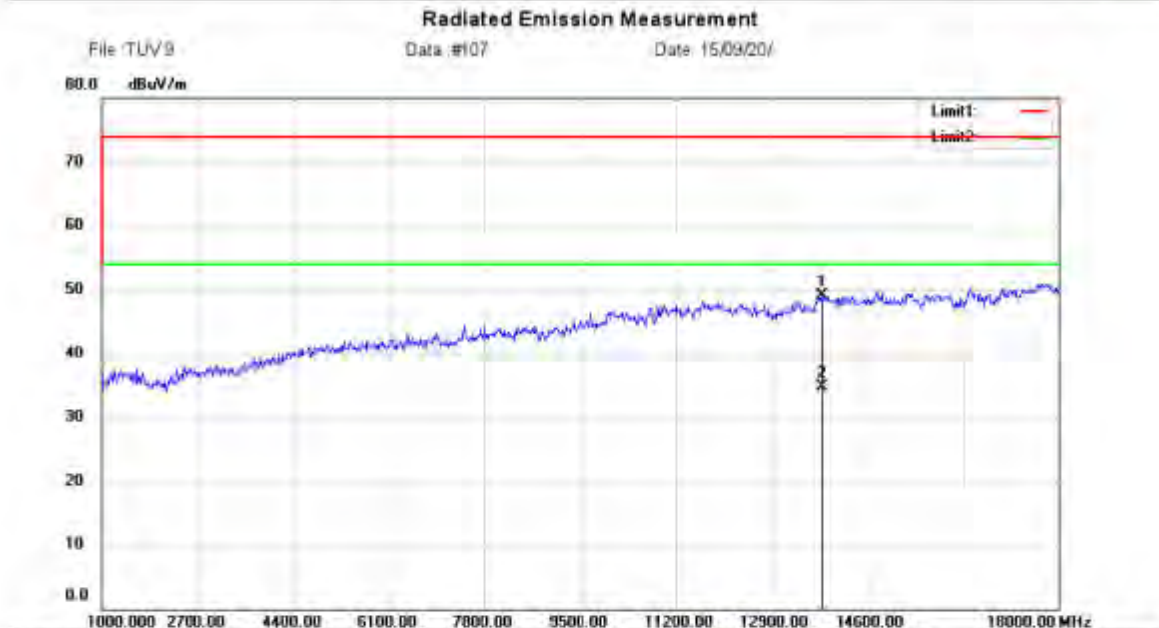
* Maximum data x Over limit | over margin

Figure 17: Test figure of Radiated Spurious Emissions (1GHz –25GHz), 802.11n(HT20), (Low)

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Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
EUT: MID
M/N: MID1102-MA, DL1168A
Mode: 11N20M 2413
Note:

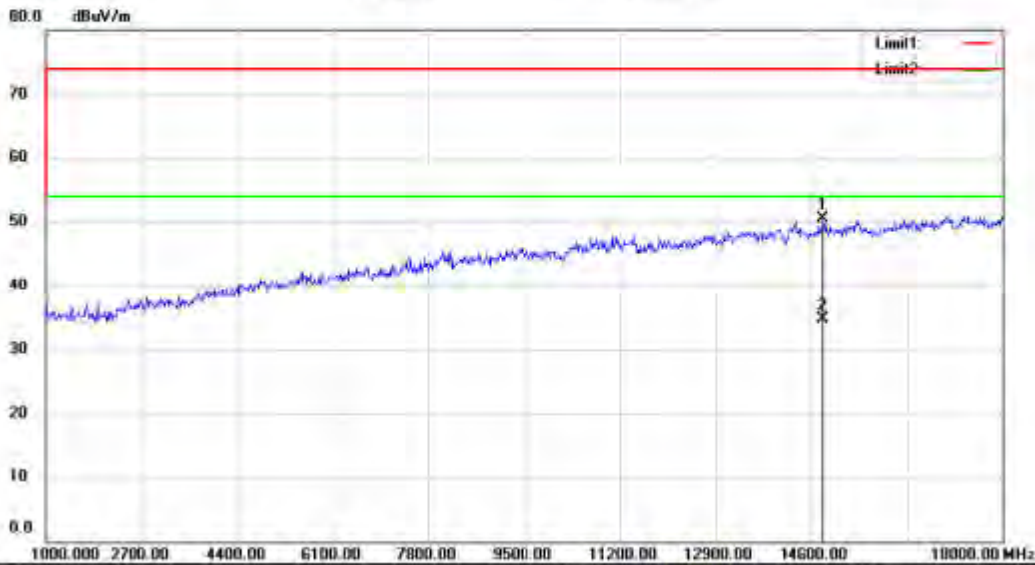
No.	Mk	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		13784.00	55.35	-8.34	49.01	74.00	-24.99	peak		
2	*	13784.00	41.06	-6.34	34.72	54.00	-19.28	AVG		

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Radiated Emission Measurement

File: TUV9 Data #108 Date: 15/09/2017



Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24.0
Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
EUT: MID
MN: MID1102-MA, DL1168A
Mode: 11N20M 2412
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		14821.00	57.13	-6.59	50.54	74.00	-23.46	peak		
2	*	14821.00	41.22	-6.59	34.63	54.00	-19.37	AVG		

* Maximum data x Over limit | over margin

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Radiated Emission Measurement

File: TUV9

Data: #219

Date: 15/09/21/



Site: 3m Chamber #3
Limit: (RE)FCC PART 15.247
EUT: MID
M/N: MID1102-MA, DL1168A
Mode: 11N20M 2412
Note:

Polarization: **Horizontal**
Power: AC 120V/60Hz
Temperature: 24 C
Humidity: 53 %

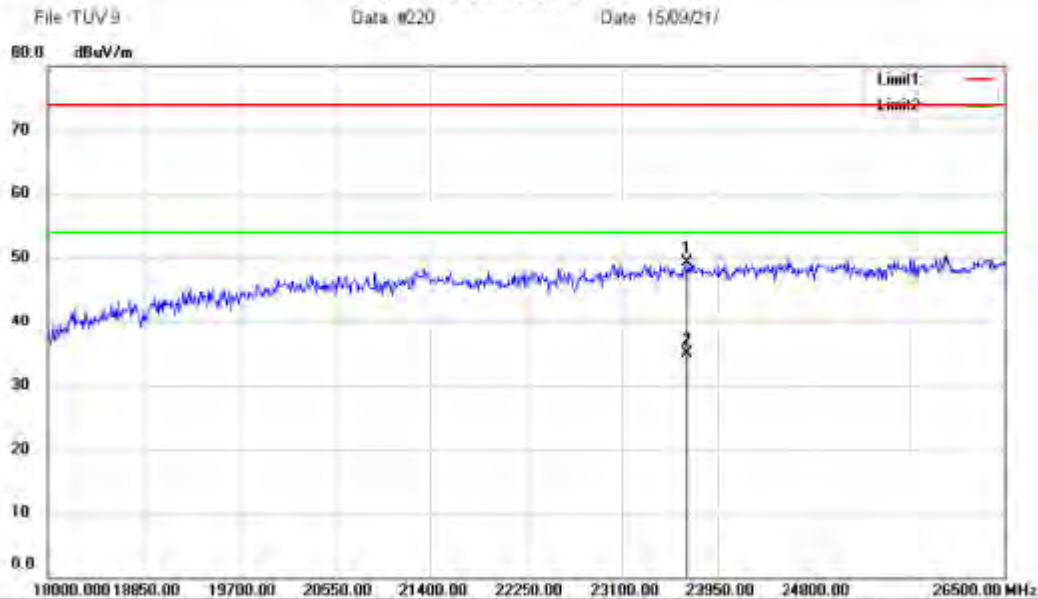
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		23627.00	87.89	-37.52	50.17	74.00	-23.83			peak
2	*	23627.00	72.25	-37.52	34.73	54.00	-19.27			AVG

* Maximum data x Over limit l over margin

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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 M/N: MID1102-MA, DL 1168A
 Mode: 11N20M 2412
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree		
1		23686.50	86.71	-37.46	49.25	74.00	-24.75			peak	
2	*	23686.50	72.34	-37.46	34.88	54.00	-19.12			AVG	

* Maximum data x Over limit | over margin

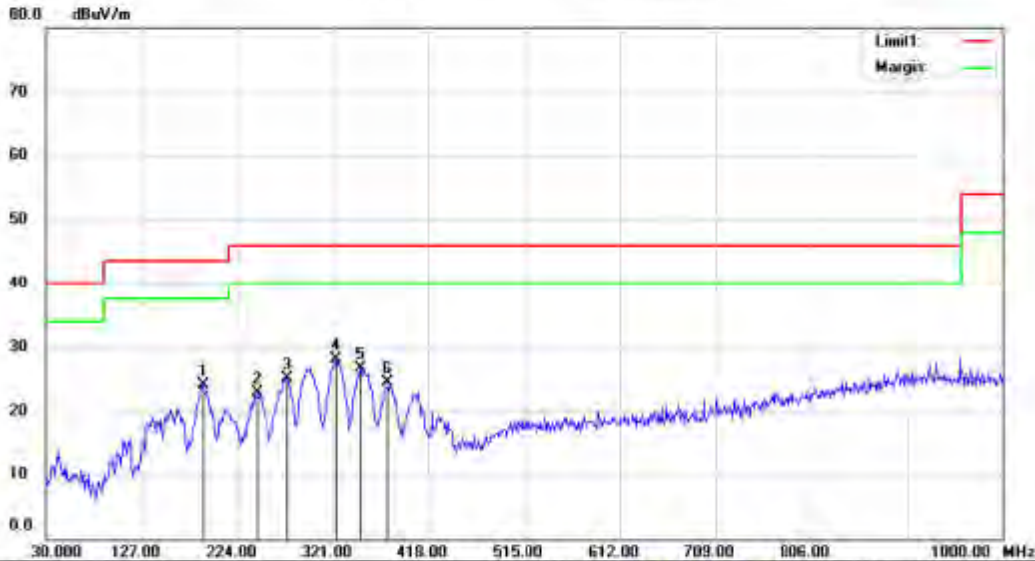
Figure 18: Test figure of Radiated Spurious Emissions (30MHz – 1GHz), 802.11n(HT20), (Mid)

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Radiated Emission Measurement

File: TUV9 Data: #33 Date: 15/09/19



Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
EUT: MID
M/N: MID1102-MA, DL1168A
Mode: 11N20M 2437
Note:

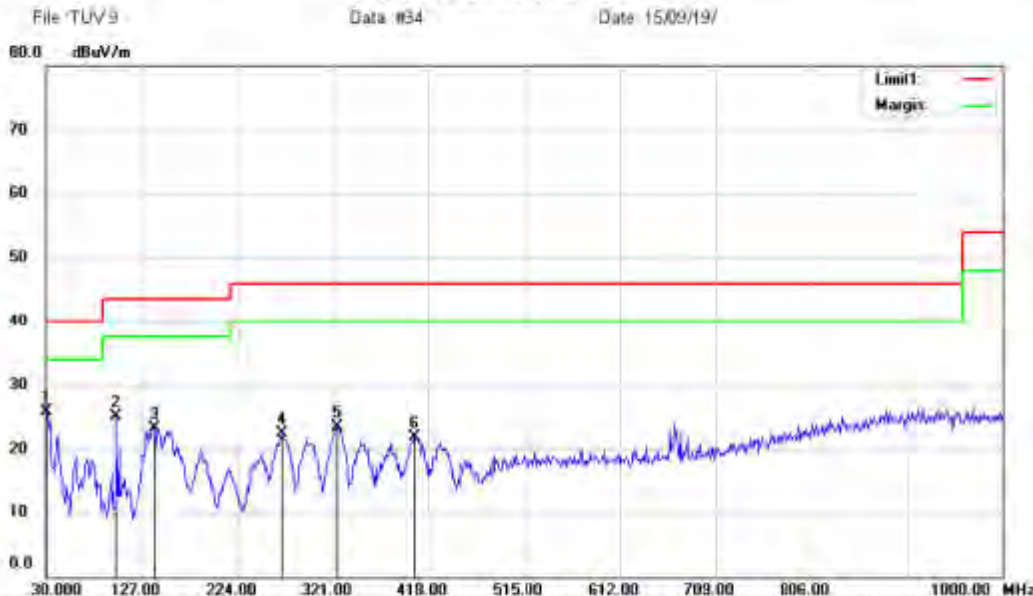
No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Antenna	Table	
		MHz	dBuV	Factor	ment	dBuV/m	dB	Height	Degree	Comment:
				dB	dBuV/m			cm	degree	
1		189.0800	41.53	-17.44	24.09	43.50	-19.41	QP		
2		244.3700	36.45	-13.61	22.84	46.00	-23.16	QP		
3		274.4400	37.79	-12.63	25.16	46.00	-20.84	QP		
4	*	323.9100	41.47	-13.30	28.17	46.00	-17.83	QP		
5		349.1300	38.36	-11.68	26.68	46.00	-19.32	QP		
6		376.2900	34.62	-10.13	24.49	46.00	-21.51	QP		

* Maximum data x Over limit l over margin

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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 M/N: MID1102-MA, DL1168A
 Mode: 11N20M 2437
 Note:

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Antenna	Table	
		MHz	dBuV	Factor	ment	dBuV/m	dB	Height	Degree	Comment:
				dB	dBuV/m			cm	degree	
1	*	30.9700	42.08	-16.13	25.95	40.00	-14.05	QP		
2		100.8100	39.15	-14.02	25.13	43.50	-18.37	QP		
3		140.5800	41.18	-17.80	23.38	43.50	-20.14	QP		
4		269.5900	35.10	-12.69	22.41	46.00	-23.59	QP		
5		325.8500	36.72	-13.20	23.52	46.00	-22.48	QP		
6		404.4200	30.97	-8.99	21.98	46.00	-24.02	QP		

* Maximum data x Over limit | over margin

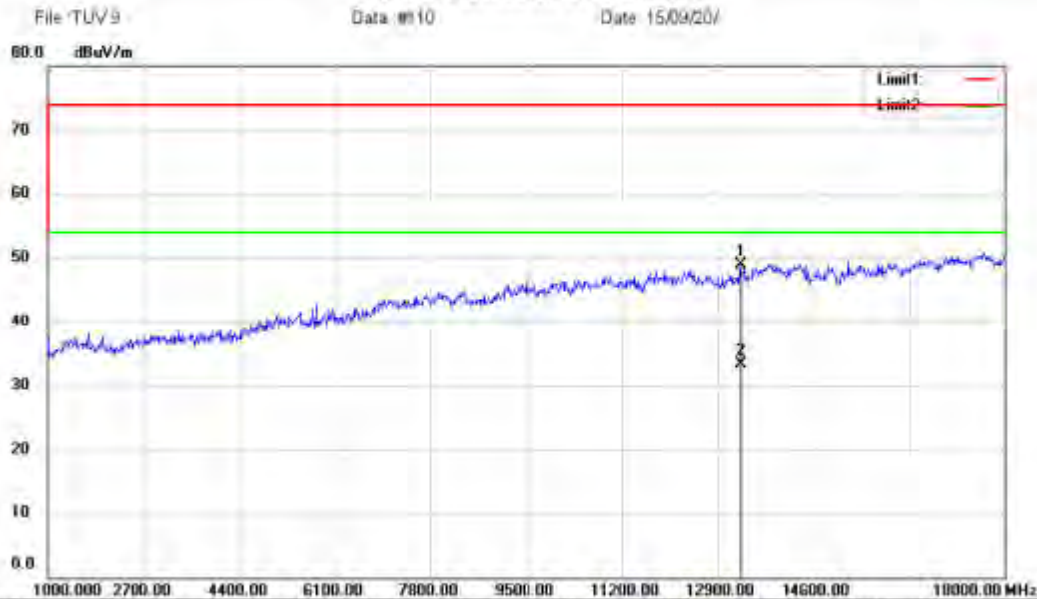
Figure 19: Test figure of Radiated Spurious Emissions (1GHz –25GHz), 802.11n(HT20), (Mid)



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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24.0 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 M/N: MID1102-MA, DL1168A
 Mode: 11N20M 2437
 Note:

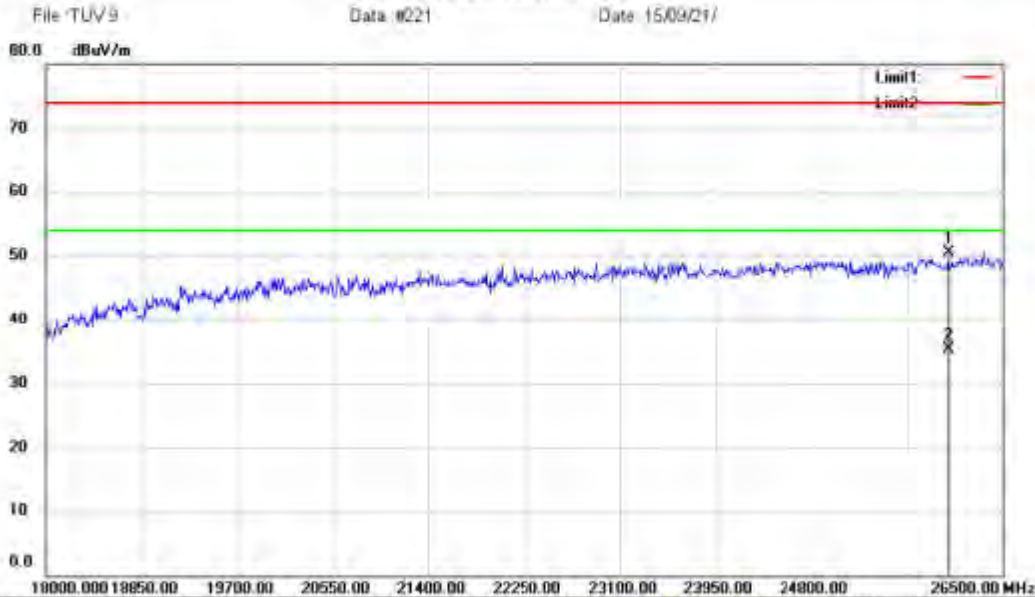
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		13308.00	57.59	-8.61	48.98	74.00	-25.02			peak
2	*	13308.00	41.89	-8.61	33.28	54.00	-20.72			AVG

* Maximum data x Over limit | over margin

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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 M/N: MID1102-MA, DL 1168A
 Mode: 11N20M 2437
 Note:

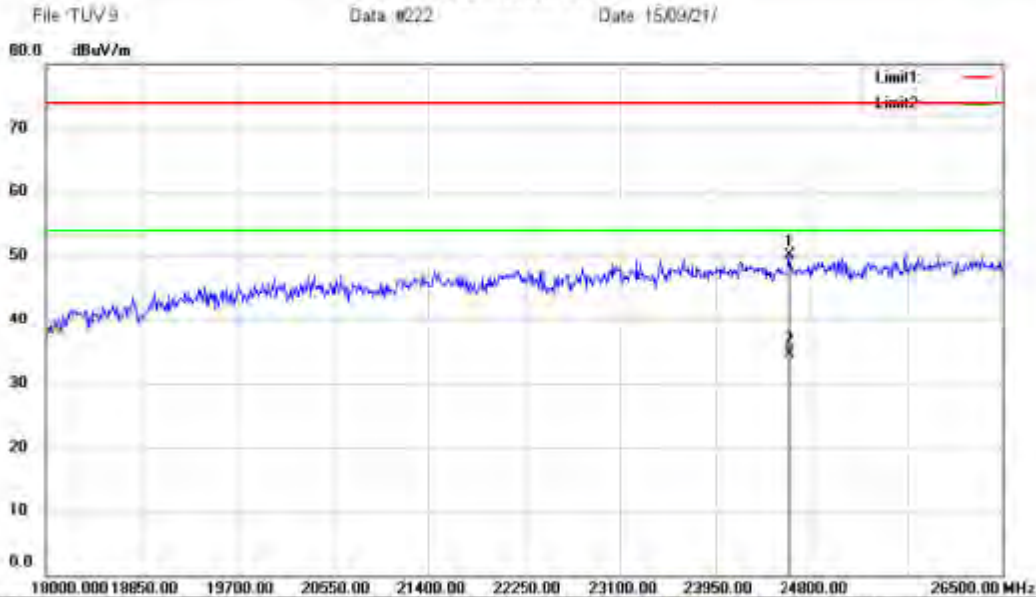
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment:
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		26024.00	86.23	-35.78	50.47	74.00	-23.53			peak
2	*	26024.00	70.97	-35.78	35.21	54.00	-18.79			AVG

* Maximum data x Over limit | over margin

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Radiated Emission Measurement



Site: 3m Chamber #3
Limit: (RE)FCC PART 15 247
EUT: MID
M/N: MID1102-MA, DL 1168A
Mode: 11N20M 2437
Note:


Polarization: **Vertical**
Power: AC 120V/60Hz
Temperature: 24 C
Humidity: 53 %

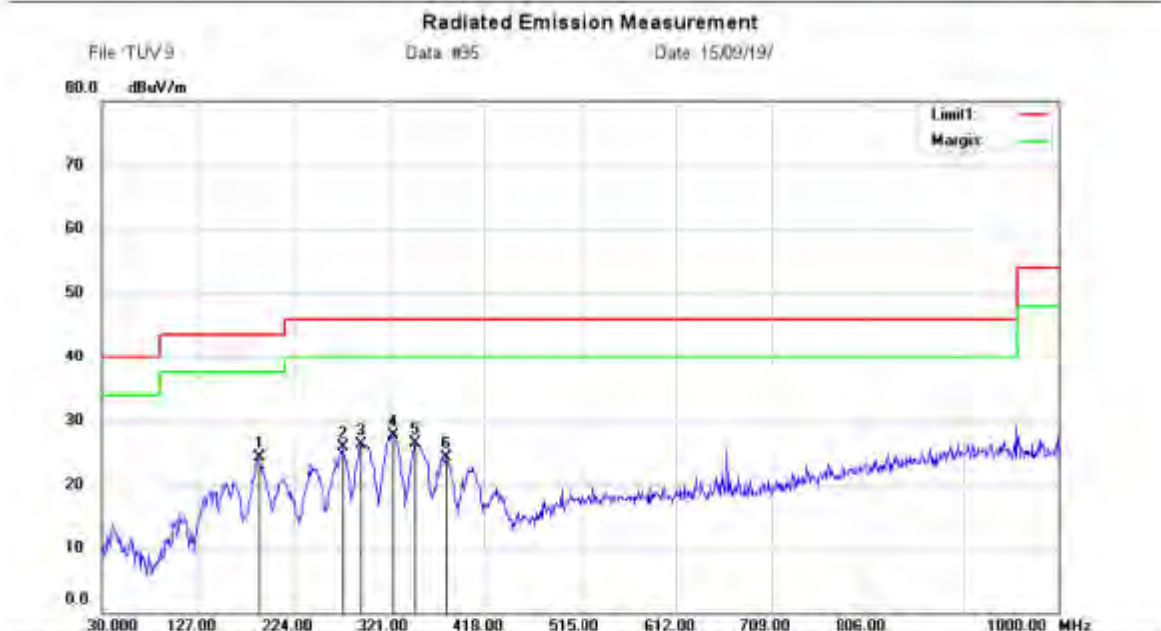
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree		
1		24613.00	87.10	-37.08	50.04	74.00	-23.96			peak	
2	*	24613.00	71.71	-37.08	34.65	54.00	-19.35			AVG	

* Maximum data x Over limit | over margin

Figure 20: Test figure of Radiated Spurious Emissions (30MHz – 1GHz), 802.11n(HT20), (High)

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Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 °C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 M/N: MID1102-MA, DL1168A
 Mode: 11N20M 2462
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment:
1		189.0800	41.80	-17.44	24.36	43.50	-19.14	QP			
2		274.4400	38.56	-12.63	25.93	46.00	-20.07	QP			
3		292.8700	39.72	-13.39	26.33	46.00	-19.67	QP			
4	*	324.8800	40.86	-13.25	27.61	46.00	-18.39	QP			
5		347.1900	38.36	-11.65	26.71	46.00	-19.29	QP			
6		378.2300	34.29	-10.06	24.23	46.00	-21.77	QP			

* Maximum data x Over limit | over margin

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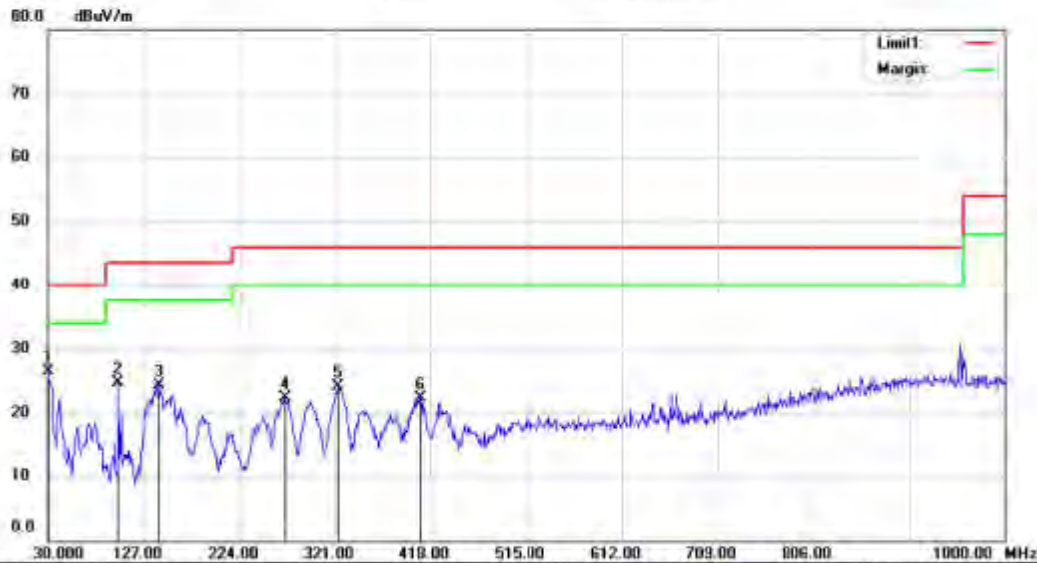


Radiated Emission Measurement

File: TUV9

Data: #36

Date: 15/09/19



Site: 3m Chamber #3

Polarization: **Vertical**

Temperature: 24 C

Limit: (RE)FCC PART 15.247

Power: AC 120V/60Hz

Humidity: 53 %

EUT: MID

M/N: MID1102-MA, DL1168A

Mode: 11N20M 2462

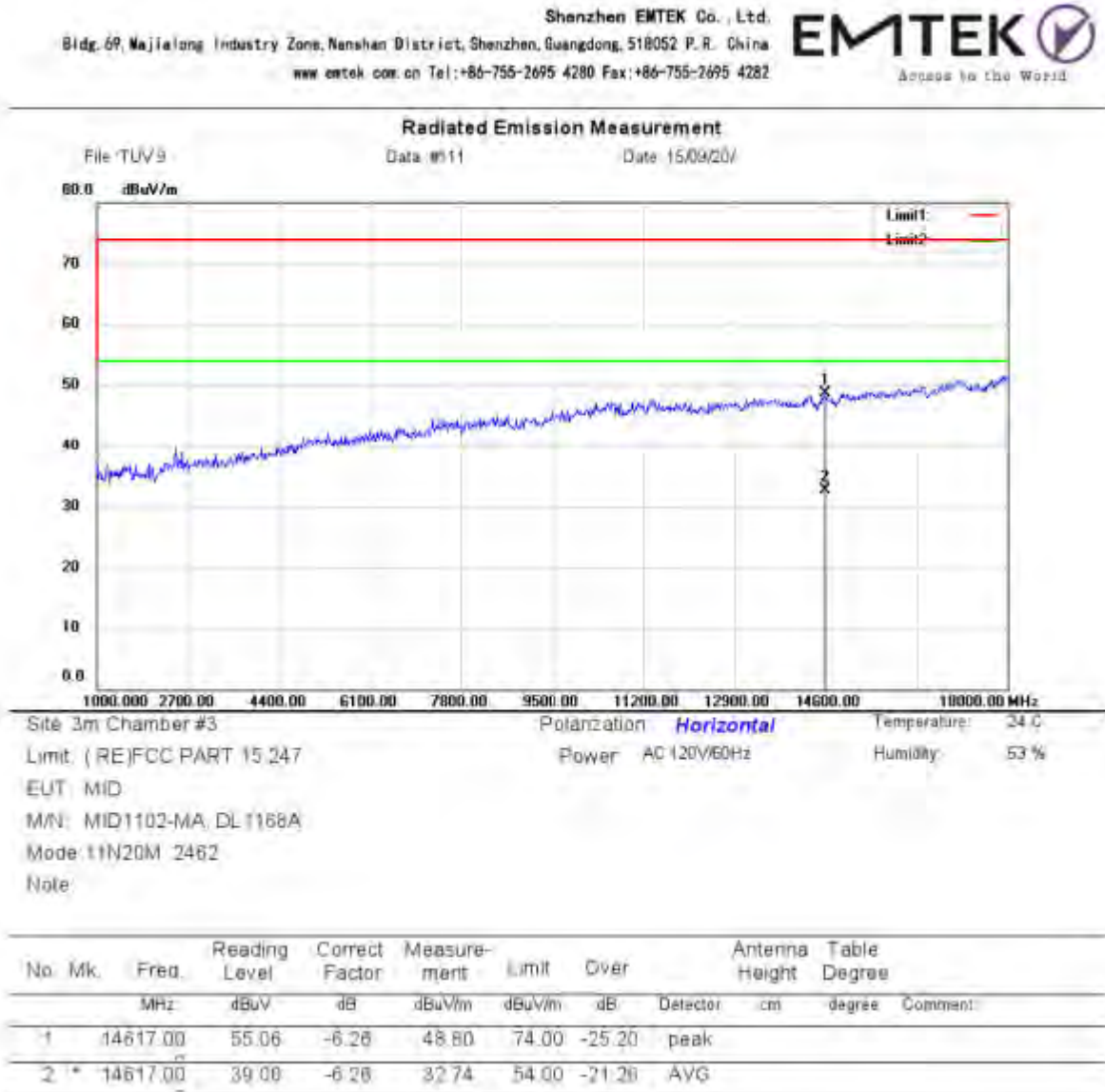
Note:

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Antenna	Table	
		MHz	dBuV	Factor	ment	dBuV/m	dB	Height	Degree	Comment:
				dB	dBuV/m			cm	degree	
1	*	30.0000	42.99	-16.46	26.53	40.00	-13.47	QP		
2		100.8100	38.70	-14.02	24.68	43.50	-18.82	QP		
3		143.4900	42.26	-17.88	24.38	43.50	-19.12	QP		
4		271.5300	34.96	-12.67	22.29	46.00	-23.71	QP		
5		323.9100	37.46	-13.30	24.16	46.00	-21.84	QP		
6		408.3000	31.45	-9.10	22.35	46.00	-23.65	QP		

* Maximum data x Over limit l over margin

Operator: IKV

Figure 21: Test figure of Radiated Spurious Emissions (1GHz –25GHz), 802.11n(HT20), (High)



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Radiated Emission Measurement

File: TUV9

Data #12

Date: 15/09/2017



Site: 3m Chamber #3
Limit: (RE)FCC PART 15.247
EUT: MID
M/N: MID1102-MA, DL1168A
Mode: 11N20M 2482
Note:

Polarization: **Vertical**
Power: AC 120V/60Hz
Temperature: 24 C
Humidity: 53 %

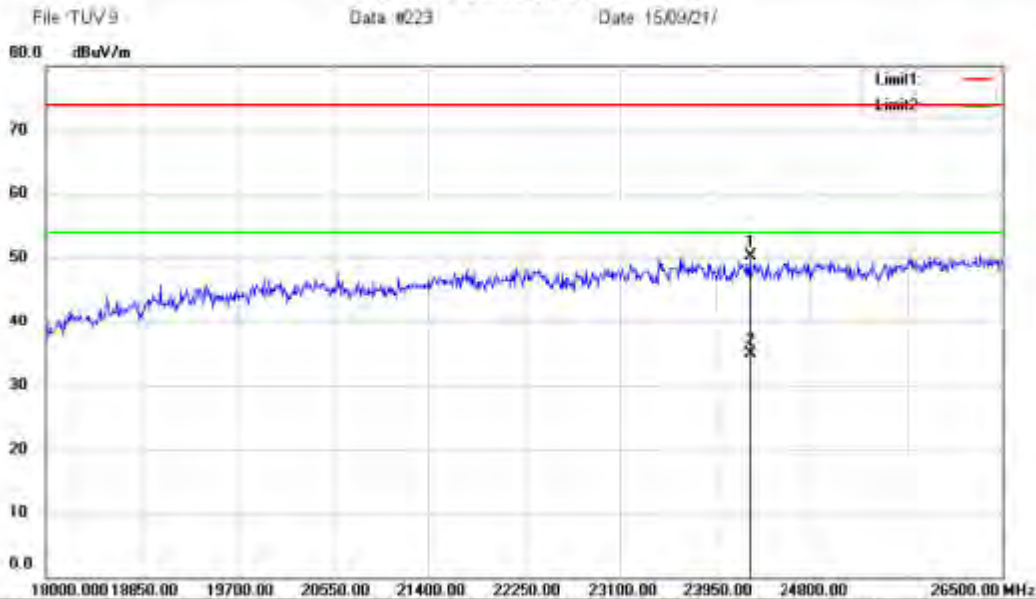
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		15110.00	56.19	-6.96	49.23	74.00	-24.77			peak
2	*	15110.00	40.38	-6.96	33.42	54.00	-20.58			AVG

* Maximum data x Over limit | over margin

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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 M/N: MID1102-MA, DL 1168A
 Mode: 11N20M 2462
 Note:

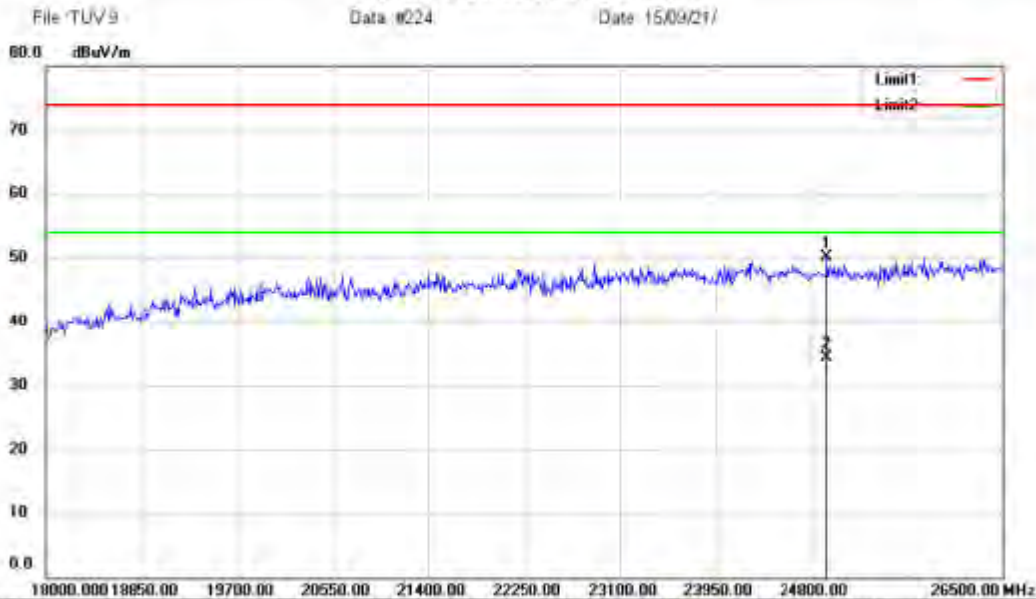
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree		
1		24256.00	87.37	-37.10	50.27	74.00	-23.73			peak	
2	*	24256.00	71.95	-37.10	34.85	54.00	-19.15			AVG	

* Maximum data x Over limit | over margin

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Radiated Emission Measurement



Site: 3m Chamber #3
Limit: (RE)FCC PART 15.247
EUT: MID
M/N: MID1102-MA, DL1168A
Mode: 11N20M 2462
Note:

Polarization: **Vertical**
Power: AC 120V/60Hz
Temperature: 24 C
Humidity: 53 %


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		24944.50	87.10	-37.02	50.08	74.00	-23.92	peak		
2	*	24944.50	71.28	-37.02	34.26	54.00	-19.74	AVG		

* Maximum data x Over limit | over margin

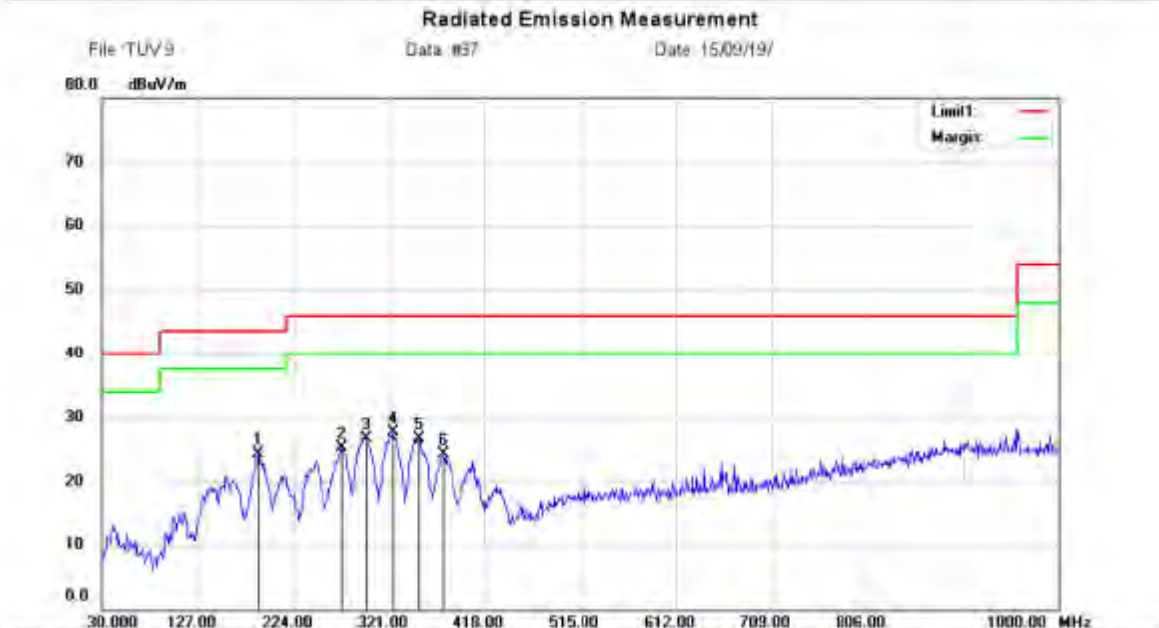
Operator: IKV

Figure 22: Test figure of Radiated Spurious Emissions (30MHz – 1GHz), 802.11n(HT40), (Low)

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Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 M/N: MID1102-MA, DL1168A
 Mode: 11N40M 2422
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment:
1		188.1100	41.80	-17.59	24.21	43.50	-19.29	QP			
2		273.4700	37.85	-12.64	25.21	46.00	-20.79	QP			
3		297.7200	40.38	-13.69	26.69	46.00	-19.31	QP			
4	*	324.8800	40.92	-13.25	27.67	46.00	-18.33	QP			
5		351.0700	38.11	-11.50	26.61	46.00	-19.39	QP			
6		375.3200	34.45	-10.17	24.28	46.00	-21.72	QP			

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Radiated Emission Measurement



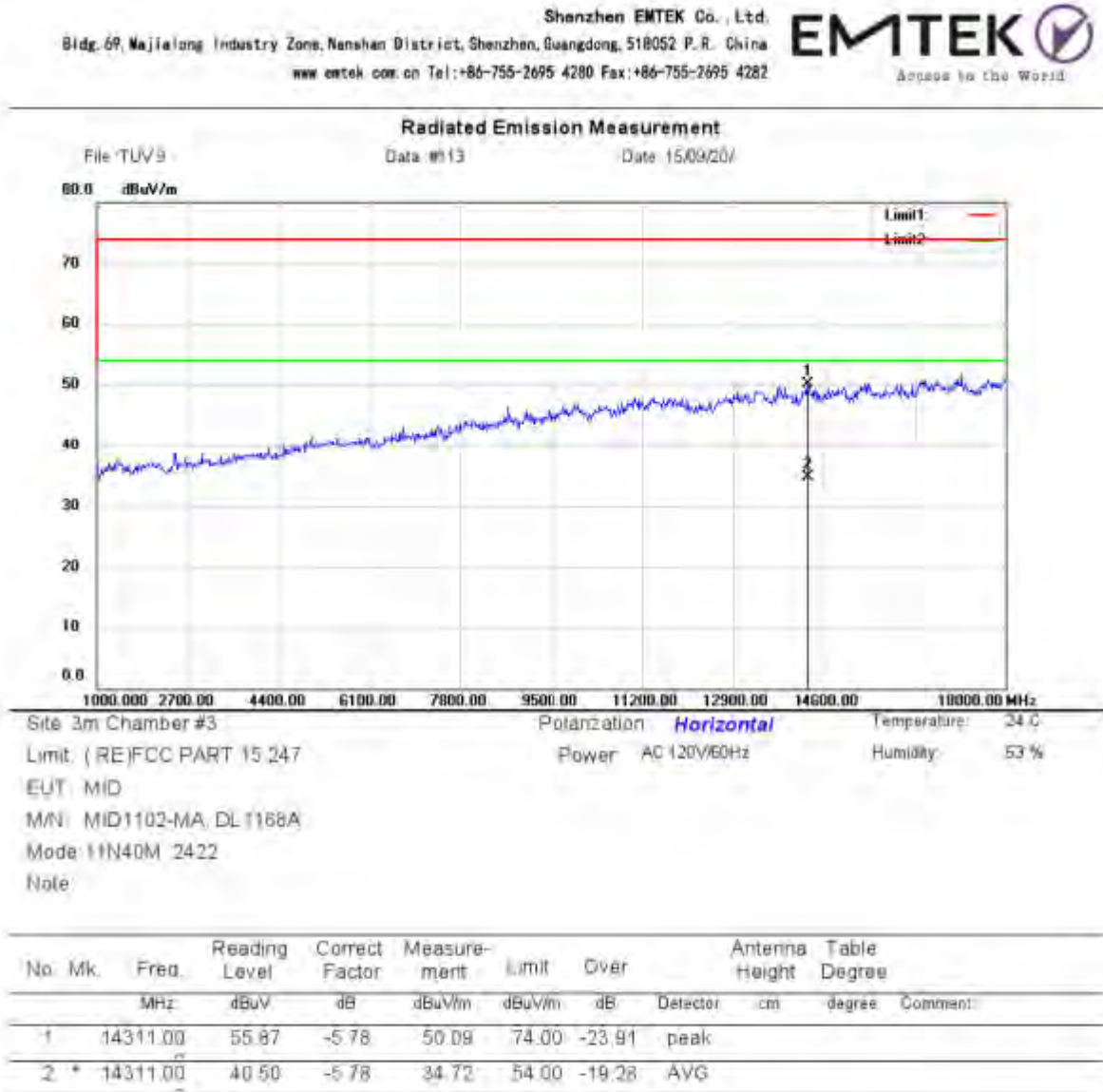
Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
EUT: MID
M/N: MID1102-MA; DL1168A
Mode: 11N40M 2422
Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment:
1	*	30.9700	42.66	-16.13	26.53	40.00	-13.47	QP			
2		100.8100	39.35	-14.02	25.33	43.50	-18.17	QP			
3		143.4900	41.55	-17.88	23.67	43.50	-19.83	QP			
4		269.5900	35.36	-12.69	22.67	46.00	-23.33	QP			
5		327.7900	36.42	-13.09	23.33	46.00	-22.67	QP			
6		408.3000	31.73	-9.10	22.63	46.00	-23.37	QP			

* Maximum data x Over limit | over margin

Operator: (K)

Figure 23: Test figure of Radiated Spurious Emissions (1GHz –25GHz), 802.11n(HT40), (Low)



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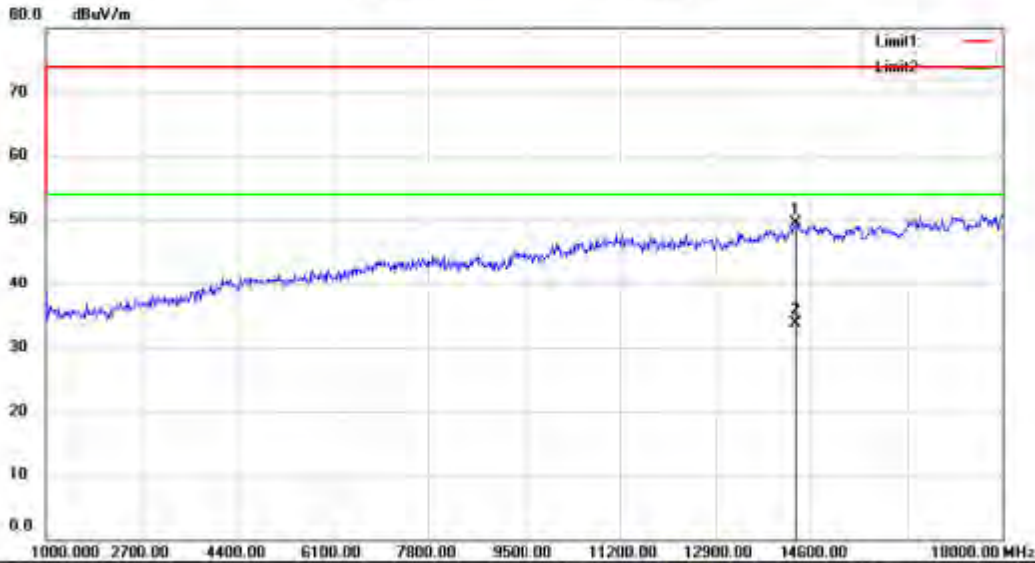


Radiated Emission Measurement

File: TUV9

Data #14

Date: 15/09/2017



Site: 3m Chamber #3

Polarization: **Vertical**

Temperature: 24.0

Limit: (RE)FCC PART 15.247

Power: AC 120V/60Hz

Humidity: 53%

EUT: MID

M/N: MID1102-MA, DL1168A

Mode: 11N40M 2422

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		14345.00	55.43	-5.84	49.59	74.00	-24.41			peak
2	*	14345.00	39.46	-5.84	33.62	54.00	-20.38			AVG

* Maximum data x Over limit | over margin

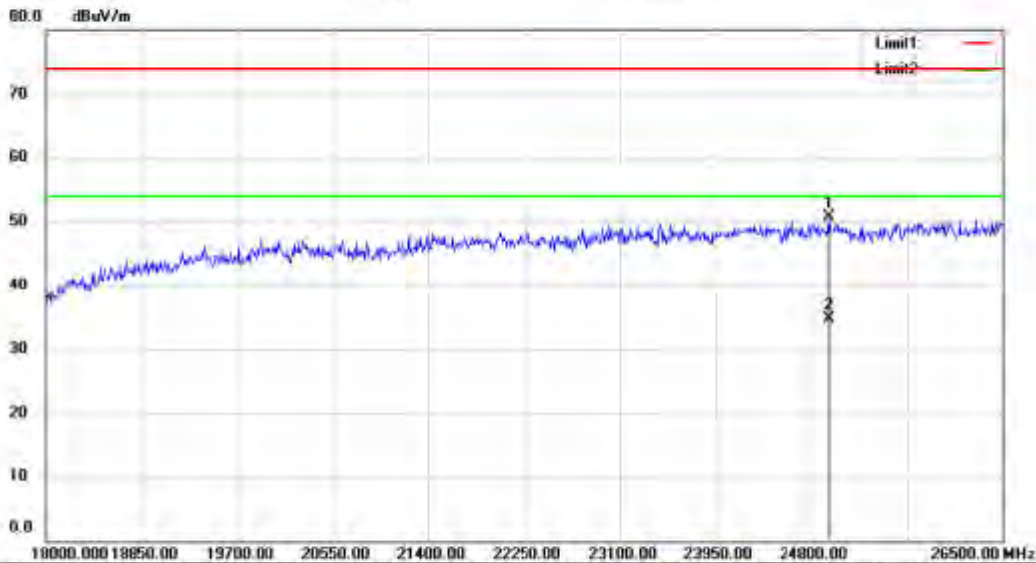
Operator: IKV

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Radiated Emission Measurement

File: TUV9 Data: #025 Date: 15/09/21/



Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
EUT: MID
M/N: MID1102-MA, DL1168A
Mode: 11N40M 24.22
Note:

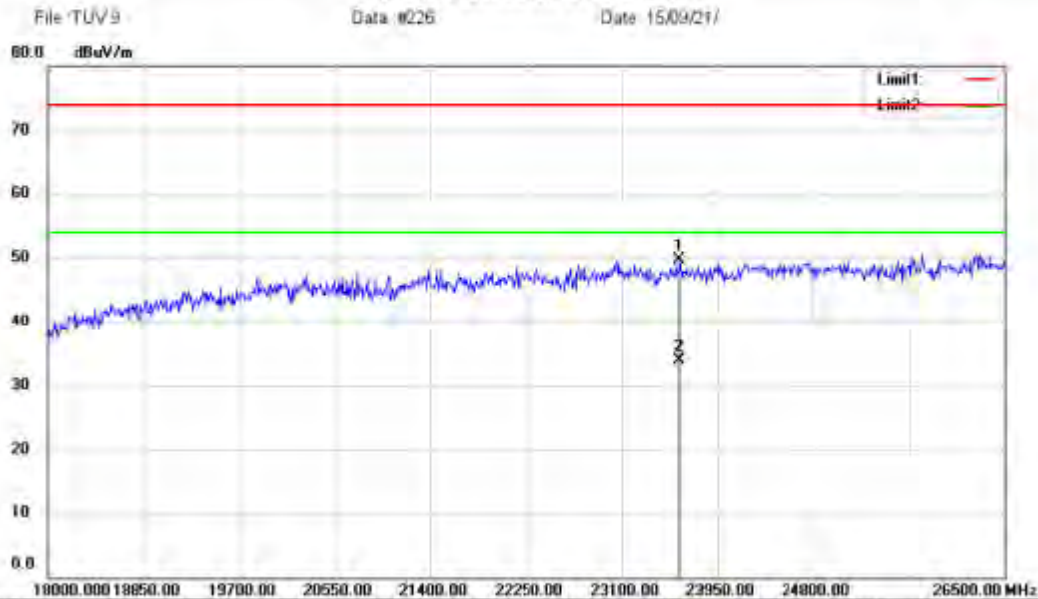
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree		
1		24961.50	87.74	-37.01	50.73	74.00	-23.27			peak	
2	*	24961.50	71.66	-37.01	34.65	54.00	-19.35			AVG	

* Maximum data x Over limit | over margin

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Radiated Emission Measurement



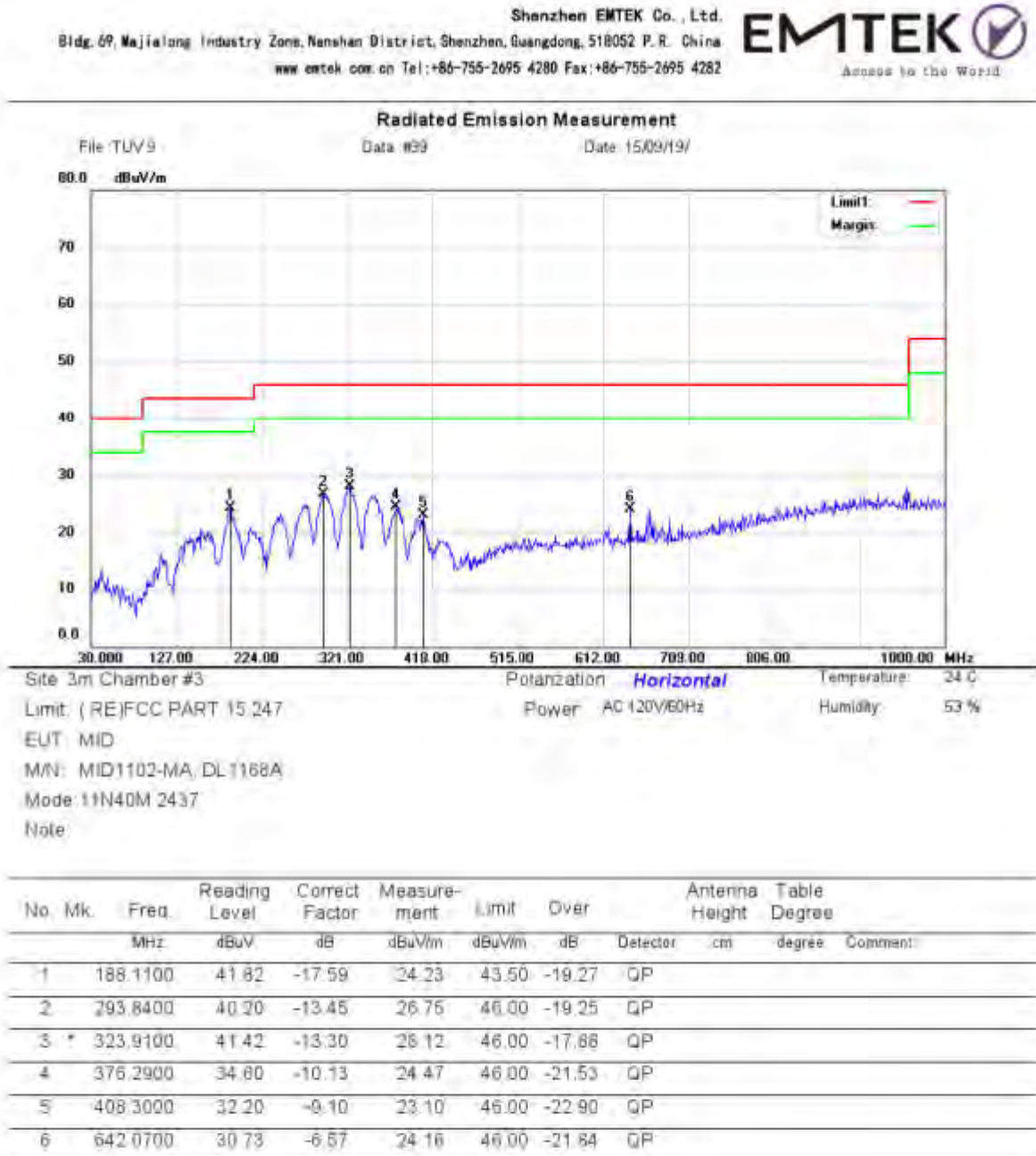
Site: 3m Chamber #3
Limit: (RE)FCC PART 15.247
EUT: MID
M/N: MID1102-MA, DL1168A
Mode: 11N40M 24.22
Note:

Polarization: **Vertical**
Power: AC 120V/60Hz
Temperature: 24 C
Humidity: 53 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		23618.50	87.21	-37.53	49.68	74.00	-24.32			peak
2	*	23618.50	71.51	-37.53	33.98	54.00	-20.02			AVG

* Maximum data x Over limit | over margin

Figure 24: Test figure of Radiated Spurious Emissions (30MHz – 1GHz), 802.11n(HT40), (Mid)



* Maximum data x Over limit | over margin

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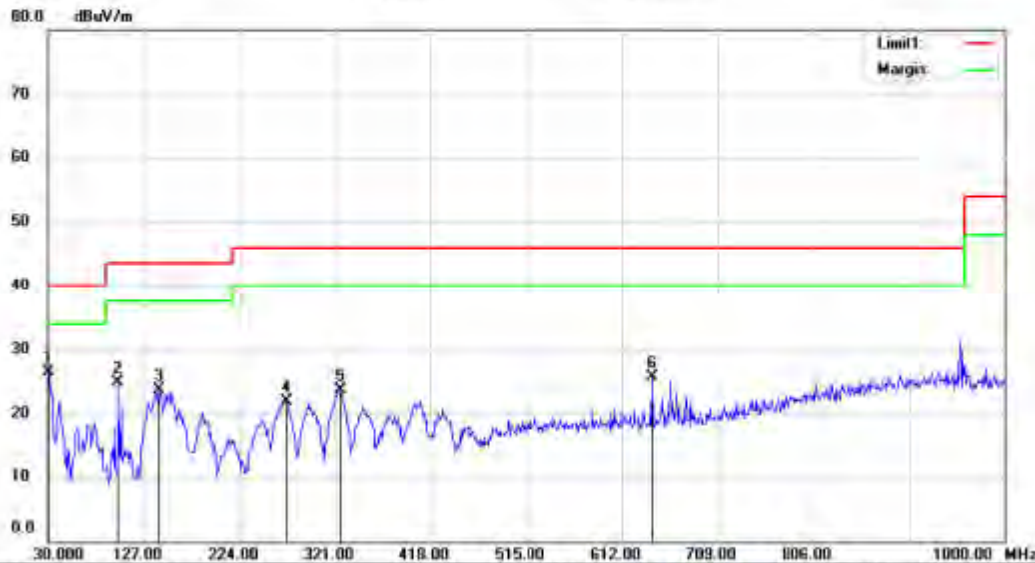


Radiated Emission Measurement

File: TUV9

Data #40

Date: 15/09/19



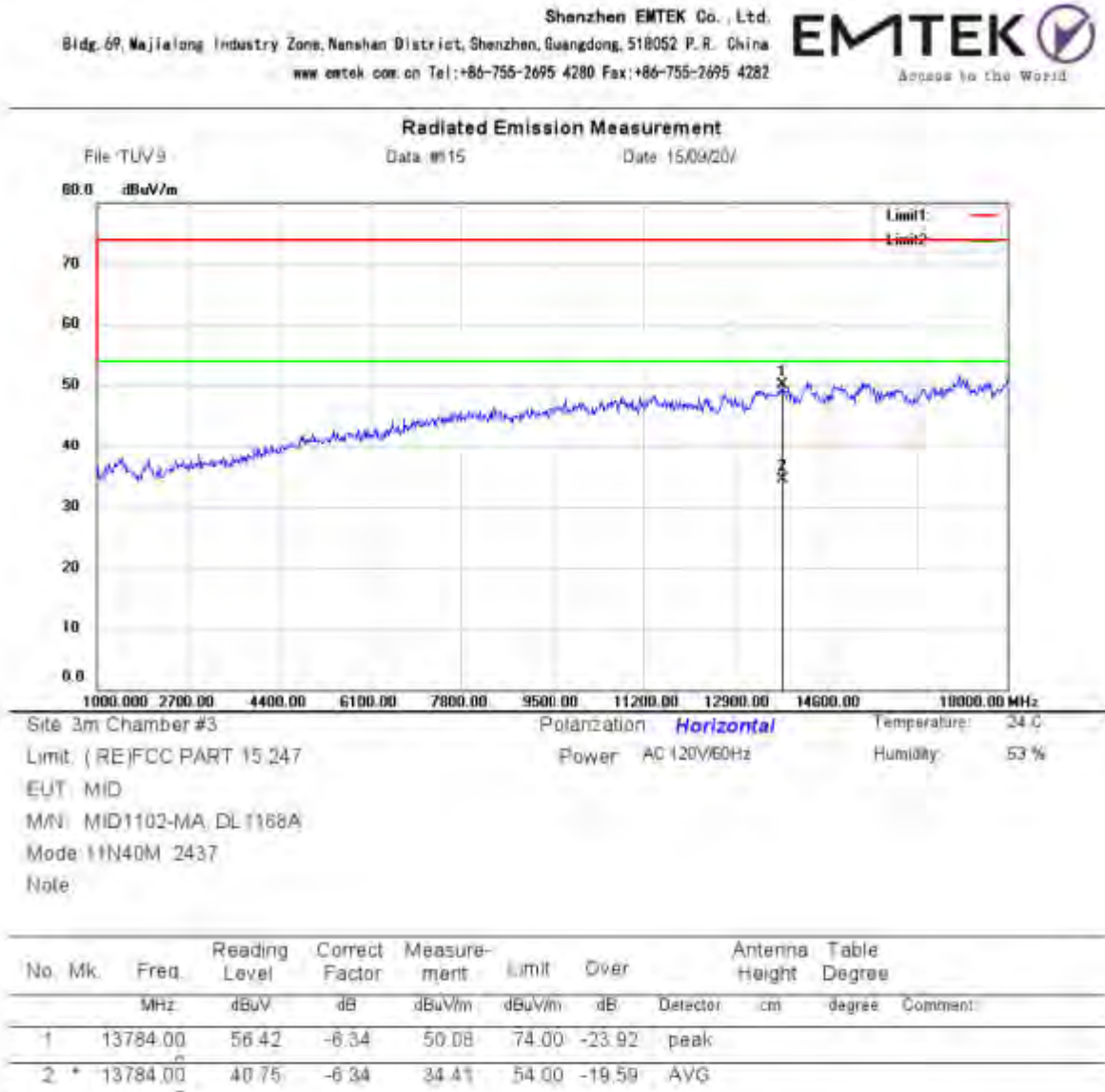
Site: 3m Chamber #3
Limit: (RE)FCC PART 15.247
EUT: MID
M/N: MID1102-MA, DL1168A
Mode: 11N40M 2437
Note:

Polarization: **Vertical**
Power: AC 120V/60Hz
Temperature: 24 C
Humidity: 53 %

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment:
1	*	30.9700	42.65	-16.13	26.52	40.00	-13.48	QP		
2		100.8100	38.83	-14.02	24.81	43.50	-18.69	QP		
3		143.4900	41.52	-17.88	23.64	43.50	-19.86	QP		
4		272.5000	34.63	-12.65	21.98	46.00	-24.02	QP		
5		326.8200	36.92	-13.15	23.77	46.00	-22.23	QP		
6		642.0700	32.22	-6.57	25.65	46.00	-20.35	QP		

* Maximum data x Over limit | over margin

Figure 25: Test figure of Radiated Spurious Emissions (1GHz –25GHz), 802.11n(HT40), (Mid)



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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24.0
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 MN: MID1102-MA, DL1168A
 Mode: 11N40M 2437
 Note:

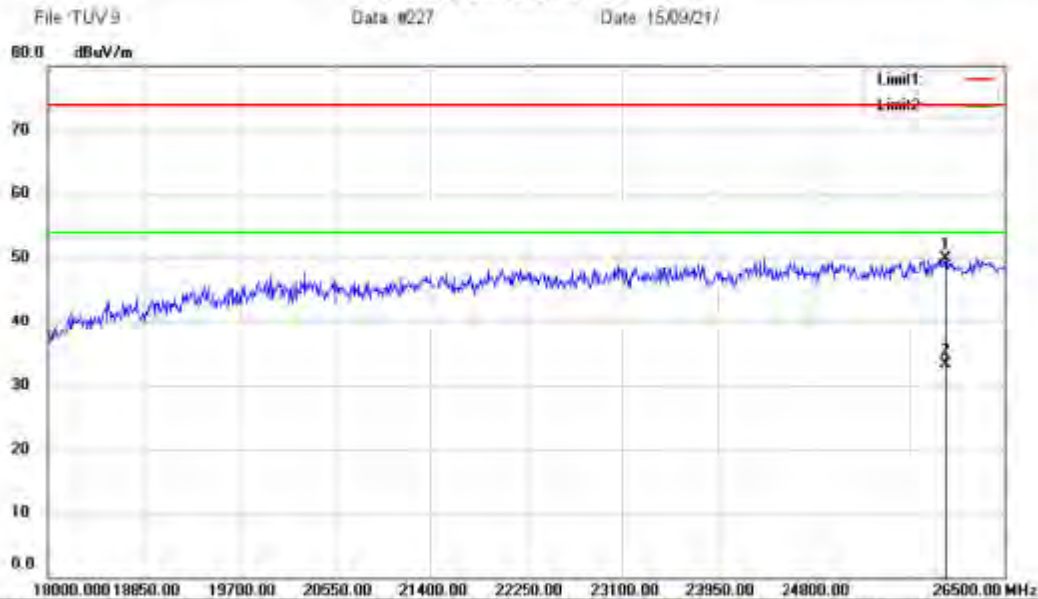
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		14855.00	56.93	-6.63	50.30	74.00	-23.70			peak
2	*	14855.00	41.86	-6.63	35.23	54.00	-18.77			AVG

* Maximum data x Over limit | over margin

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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 M/N: MID1102-MA, DL 1168A
 Mode: 11N40M 2437
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		25981.50	85.68	-35.81	49.87	74.00	-24.13	peak		
2	*	25981.50	69.07	-35.81	33.26	54.00	-20.74	AVG		

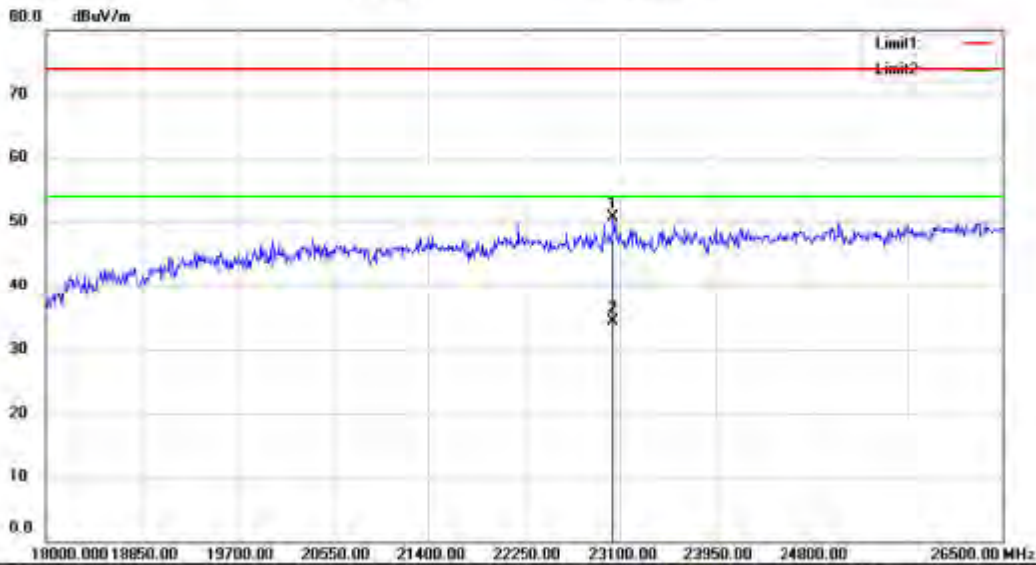
* Maximum data x Over limit | over margin

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Radiated Emission Measurement

File: TUV9 Data: #028 Date: 15/09/21/




Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
EUT: MID
M/N: MID1102-MA, DL 1168A
Mode: 11N40M 2437
Note:

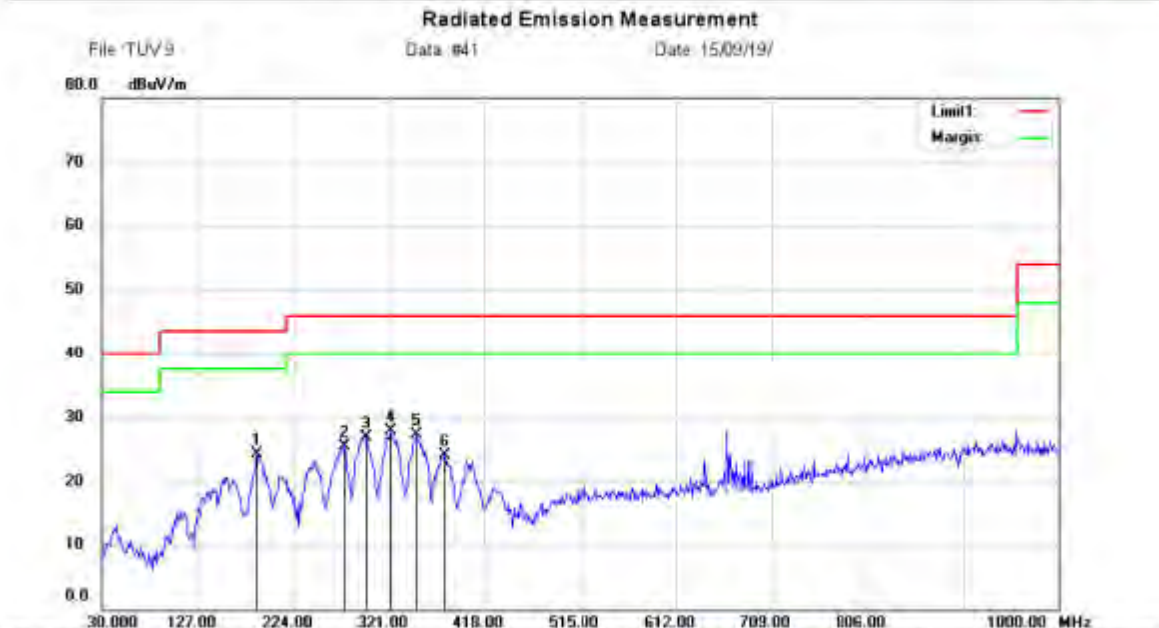
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		23040.50	88.75	-38.14	50.61	74.00	-23.39			peak
2	*	23040.50	72.40	-38.14	34.26	54.00	-19.74			AVG

* Maximum data x Over limit | over margin

Figure 26: Test figure of Radiated Spurious Emissions (30MHz – 1GHz), 802.11n(HT40), (High)

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 Access to the World



Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 °C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 M/N: MID1102-MA, DL1168A
 Mode: 11N40M 2452
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment:
1		187.1400	42.07	-17.77	24.30	43.50	-19.20	QP			
2		276.3800	38.21	-12.61	25.60	46.00	-20.40	QP			
3		298.6900	40.62	-13.74	26.88	46.00	-19.12	QP			
4	*	322.9400	41.26	-13.35	27.91	46.00	-18.09	QP			
5		348.1600	38.98	-11.77	27.21	46.00	-18.79	QP			
6		377.2600	34.30	-10.10	24.20	46.00	-21.80	QP			

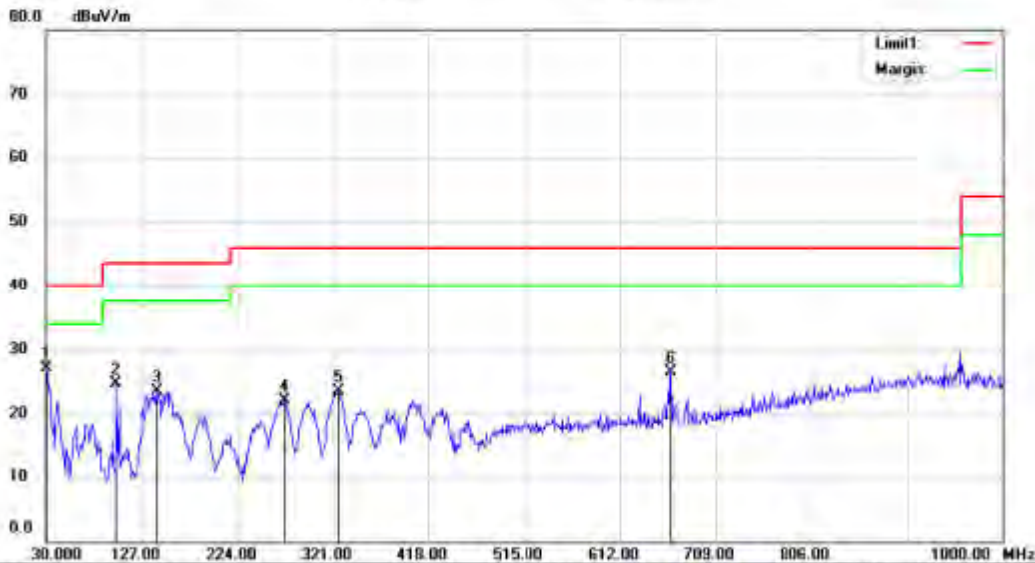
* Maximum data x Over limit | over margin

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Radiated Emission Measurement

File: TUV9 Data #42 Date: 15/09/19/



Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
EUT: MID
M/N: MID1102-MA, DL1168A
Mode: 11N40M 2452
Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment:
1	*	30.0000	43.62	-16.46	27.16	40.00	-12.84	QP			
2		100.8100	38.77	-14.02	24.75	43.50	-18.75	QP			
3		143.4900	41.33	-17.88	23.45	43.50	-20.05	QP			
4		272.5000	34.76	-12.65	22.11	46.00	-23.89	QP			
5		326.8200	36.64	-13.15	23.49	46.00	-22.51	QP			
6		664.3800	32.92	-6.34	26.58	46.00	-19.42	QP			

* Maximum data x Over limit | over margin

Figure 27: Test figure of Radiated Spurious Emissions (1GHz –25GHz), 802.11n(HT40), (High)

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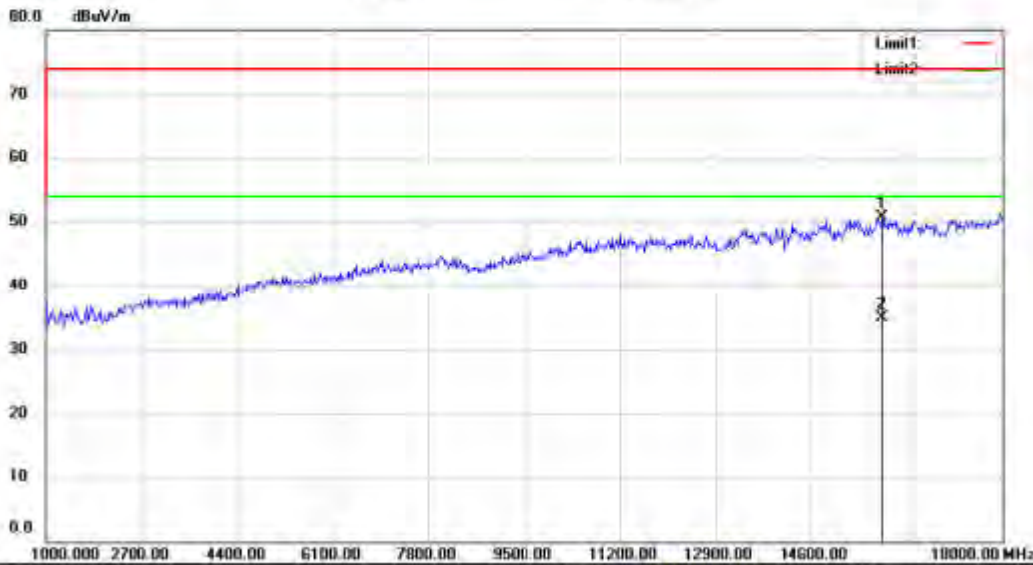


Radiated Emission Measurement

File: TUV9

Data #17

Date: 15/09/2017



Site: 3m Chamber #3
Limit: (RE)FCC PART 15.247
EUT: MID
MN: MID1102-MA, DL1168A
Mode: 11N40M 2452
Note:

Polarization: **Horizontal**
Power: AC 120V/60Hz
Temperature: 24.0 C
Humidity: 53 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree		
1		15858.00	58.29	-7.62	50.67	74.00	-23.33			peak	
2	*	15858.00	42.45	-7.62	34.83	54.00	-19.17			AVG	

* Maximum data x Over limit | over margin

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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24.0 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 M/N: MID1102-MA, DL1168A
 Mode: 11N40M 2452
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment:
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		14855.00	56.45	-6.63	49.82	74.00	-24.18			peak
2	*	14865.00	39.89	-6.63	33.26	54.00	-20.74			AVG

* Maximum data x Over limit | over margin

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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 M/N: MID1102-MA, DL 1168A
 Mode: 11N40M 2452
 Note:

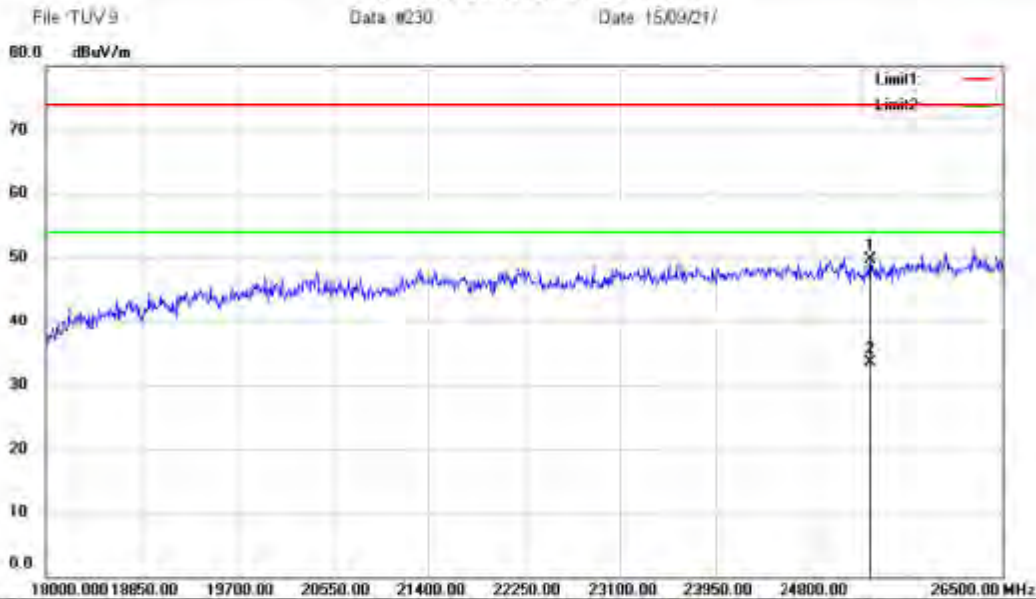
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree		
1		24281.50	86.69	-37.10	49.59	74.00	-24.41			peak	
2	*	24281.50	70.34	-37.10	33.24	54.00	-20.76			AVG	

* Maximum data x Over limit | over margin

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Radiated Emission Measurement

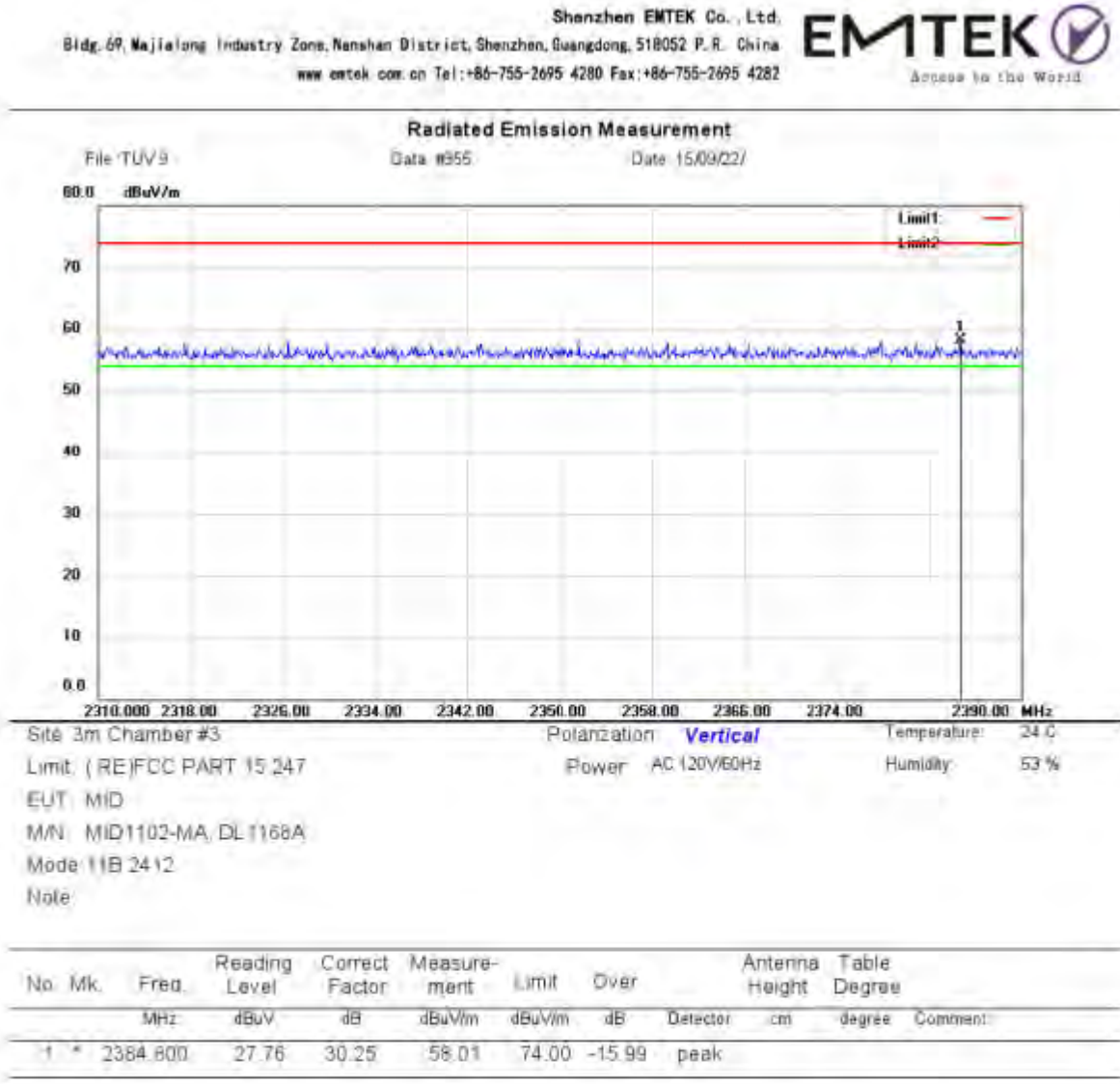


Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 M/N: MID1102-MA, DL1168A
 Mode: 11N40M 2452
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment:
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		25327.00	88.41	-36.61	49.80	74.00	-24.20			peak
2	*	25327.00	70.03	-36.61	33.42	54.00	-20.58			AVG

* Maximum data x Over limit | over margin

Figure 28: Test figure of Radiated Emissions in Restricted Bands, 802.11b, (Low)



* Maximum data x Over limit | over margin

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Radiated Emission Measurement

File: TUV9 Data: #355 Date: 15/09/22



Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 MN: MID1102-MA, DL 1168A
 Mode: 11B 2412
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	2387.520	13.29	30.27	43.58	54.00	-10.44	AVG		

* Maximum data x Over limit | over margin

Operator: IKV

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Radiated Emission Measurement

File: TUV9

Data: #957

Date: 15/09/22



Site: 3m Chamber #3
Limit: (RE)FCC PART 15.247
EUT: MID
MN: MID1102-MA, DL1168A
Mode: 11B 2412
Note:

Polarization: **Horizontal**
Power: AC 120V/60Hz
Temperature: 24 C
Humidity: 53 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree		
1	*	2385.120	27.13	30.25	57.38	74.00	-16.62			peak	

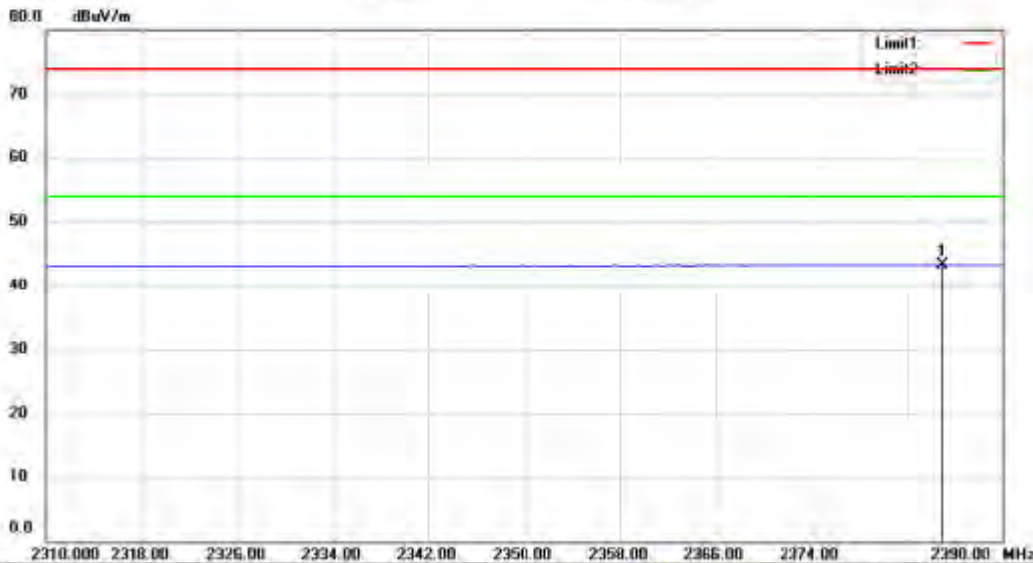
* Maximum data x Over limit | over margin

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Radiated Emission Measurement

File: TUV9 Data: #358 Date: 15/09/22

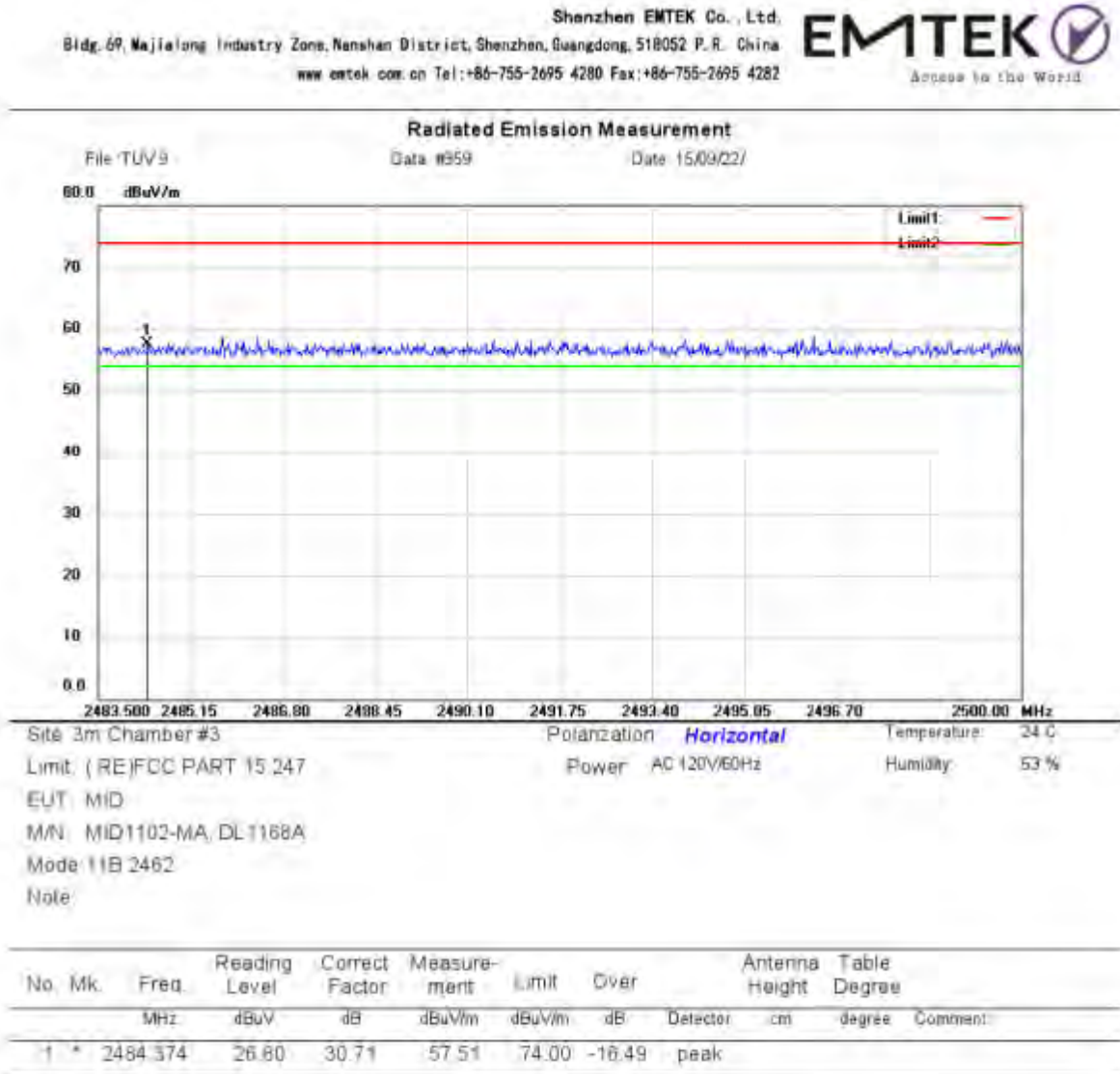


Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24.0
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 MN: MID1102-MA, DL 1168A
 Mode: 11B 2412
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment:
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	2385.040	13.10	30.25	43.35	54.00	-10.65	AVG		

* Maximum data x Over limit | over margin

Figure 29: Test figure of Radiated Emissions in Restricted Bands, 802.11b, (High)



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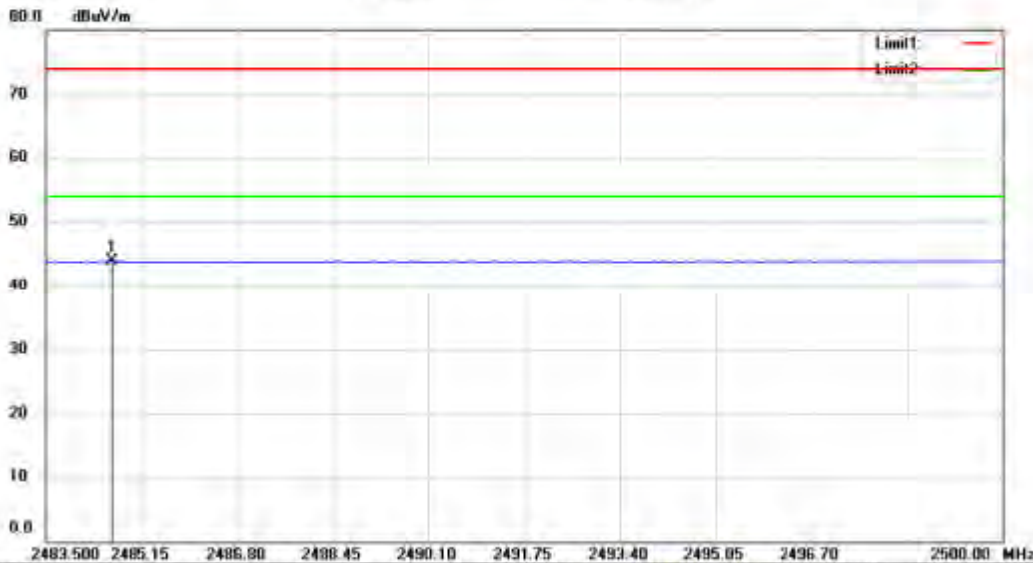


Radiated Emission Measurement

File: TUV9

Data: #360

Date: 15/09/22



Site: 3m Chamber #3
Limit: (RE)FCC PART 15.247
EUT: MID
MN: MID1102-MA, DL1168A
Mode: 11B 2462
Note:

Polarization: **Horizontal**
Power: AC 120V/60Hz
Temperature: 24.0
Humidity: 53 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	2484.622	13.14	30.71	43.85	54.00	-10.15	AVG		

* Maximum data x Over limit | over margin

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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 MN: MID1102-MA, DL1168A
 Mode: 11B 2462
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	2484.127	27.16	30.71	57.87	74.00	-16.13	peak		

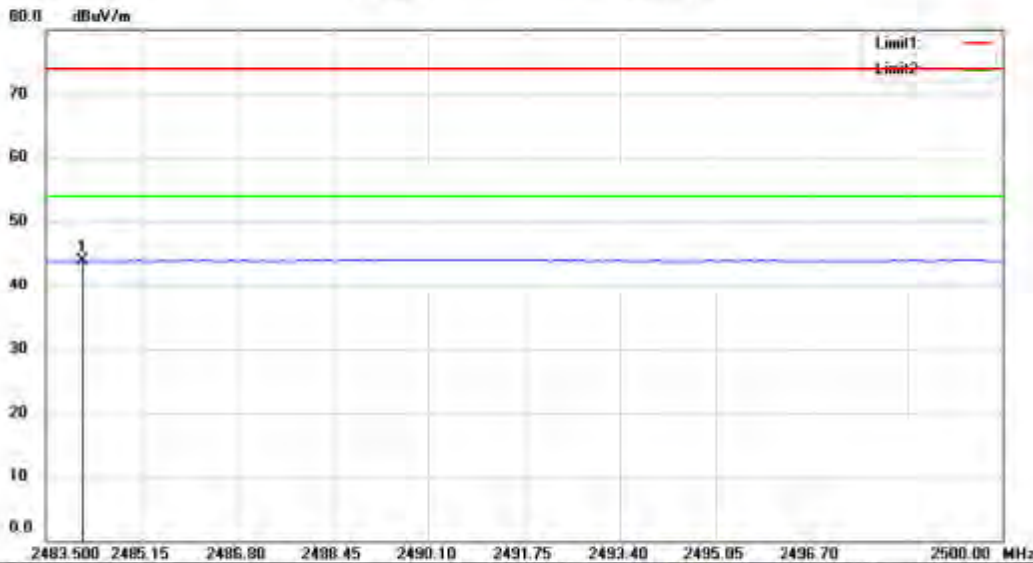
* Maximum data x Over limit | over margin

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Radiated Emission Measurement

File: TUV9 Data: #362 Date: 15/09/22/

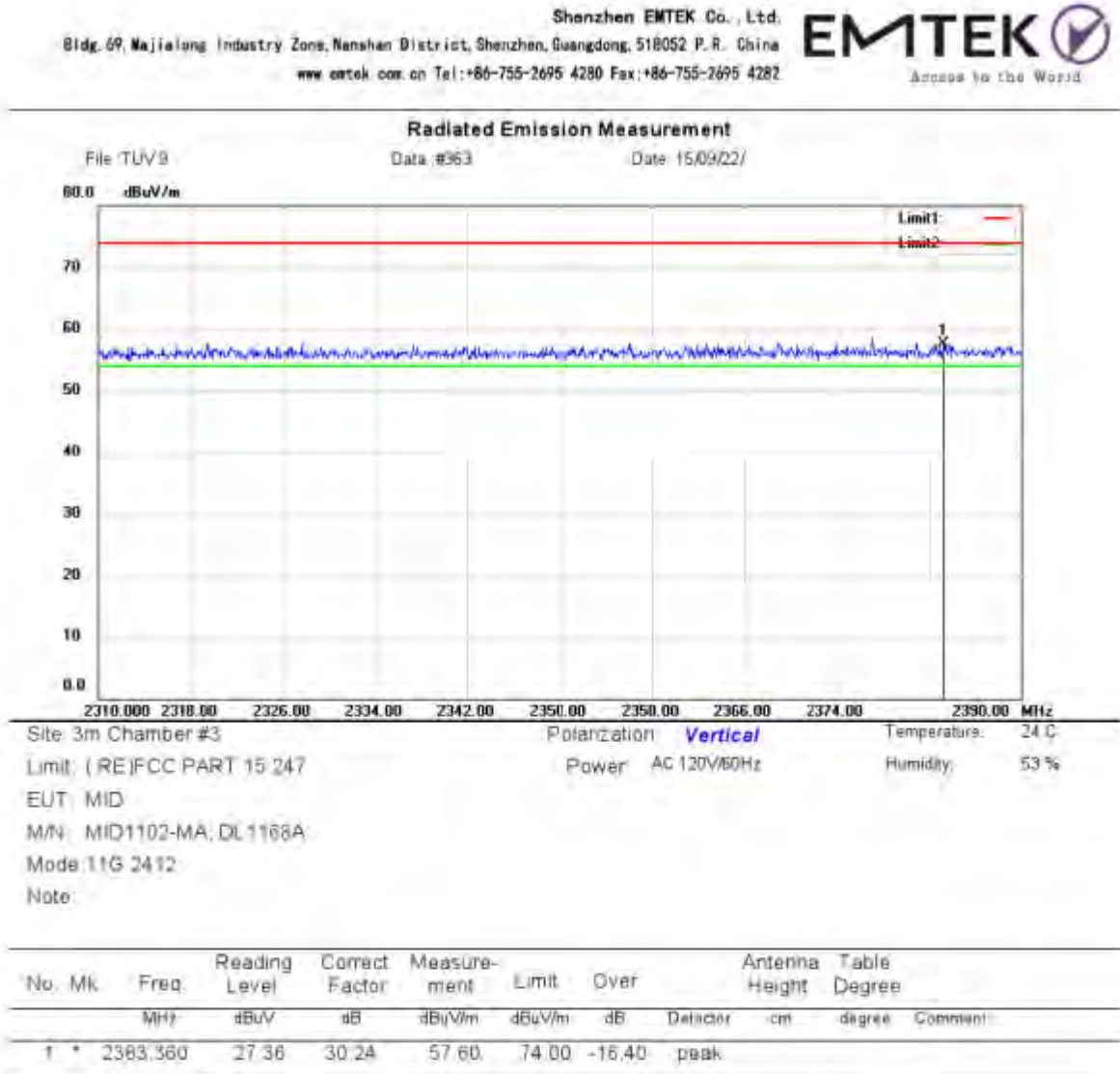


Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 MN: MID1102-MA, DL1168A
 Mode: 11B 2462
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	2484.127	13.28	30.71	43.98	54.00	-10.01	AVG		

* Maximum data x Over limit | over margin

Figure 30: Test figure of Radiated Emissions in Restricted Bands, 802.11g, (Low)



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Radiated Emission Measurement

File: TUV9

Data #364

Date: 15/09/22



Site: 3m Chamber #3
Limit: (RE)FCC PART 15.247
EUT: MID
MN: MID1102-MA, DL1168A
Mode: 11G-2412
Note:

Polarization: **Vertical**
Power: AC 120V/60Hz
Temperature: 24.0 C
Humidity: 53 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	2382.720	13.32	30.24	43.56	54.00	-10.44	AVG		

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Radiated Emission Measurement

File: TUV9 - Data: #365 Date: 15/09/22



Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24.0
Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
EUT: MID
MN: MID1102-MA, DL 1168A
Mode: 11G-2412
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	2385.760	27.73	30.26	57.99	74.00	-16.01	peak		

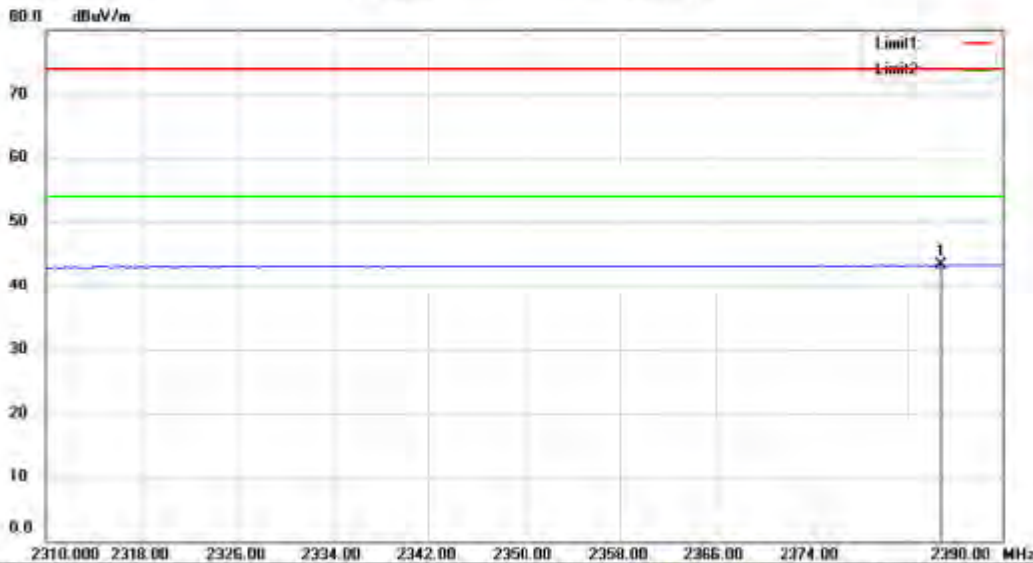
* Maximum data x Over limit | over margin

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Radiated Emission Measurement

File: TUV9 Data: #365 Date: 15/09/22

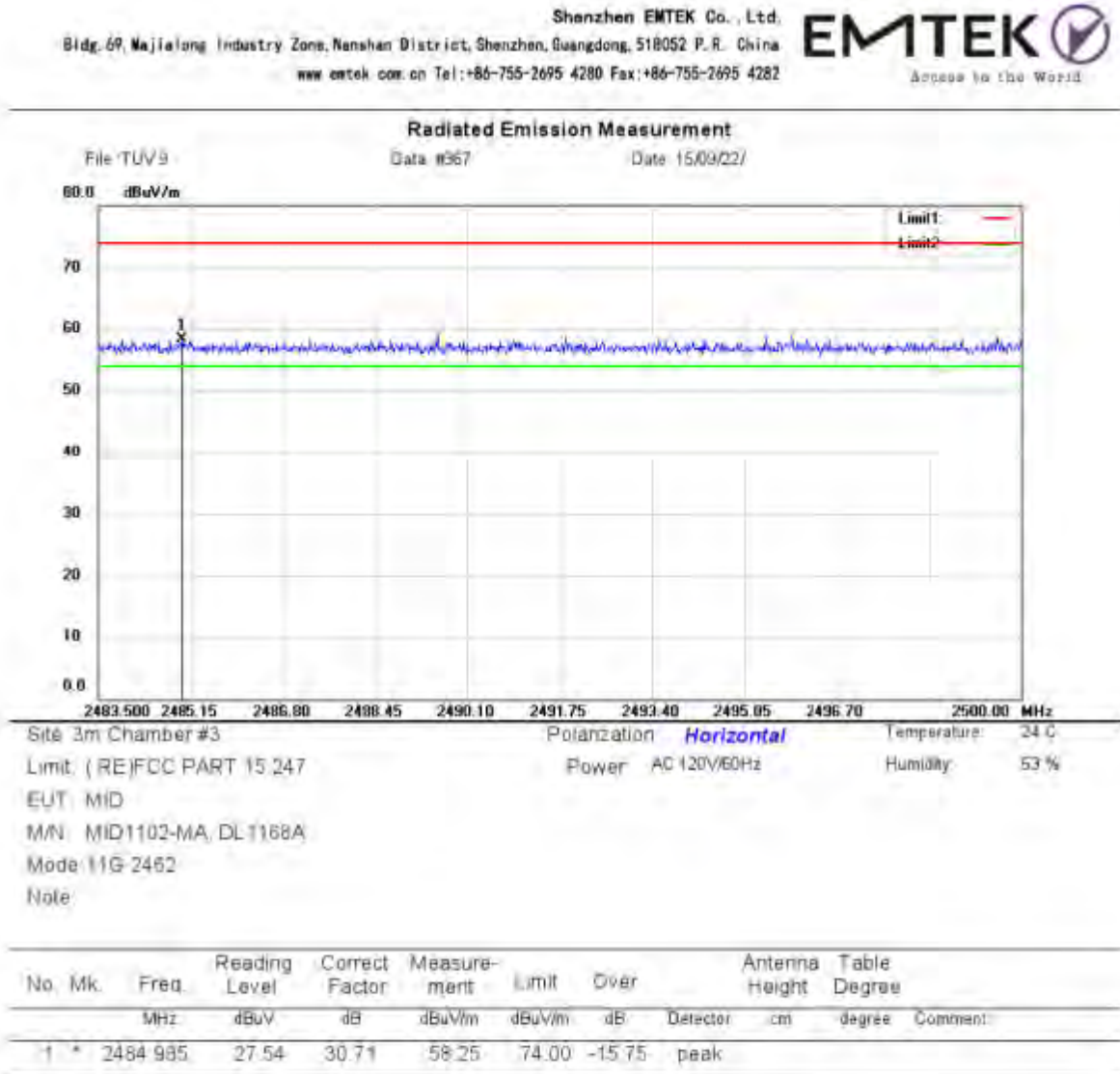


Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24.0
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 MN: MID1102-MA, DL1168A
 Mode: 11G-2412
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree		
1	*	2384.960	12.99	30.25	43.24	54.00	-10.76	AVG			

* Maximum data x Over limit | over margin

Figure 31: Test figure of Radiated Emissions in Restricted Bands, 802.11g, (High)



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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 MN: MID1102-MA, DL1168A
 Mode: 11G-2462
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	2484.044	13.40	30.71	44.11	54.00	-9.89	AVG		

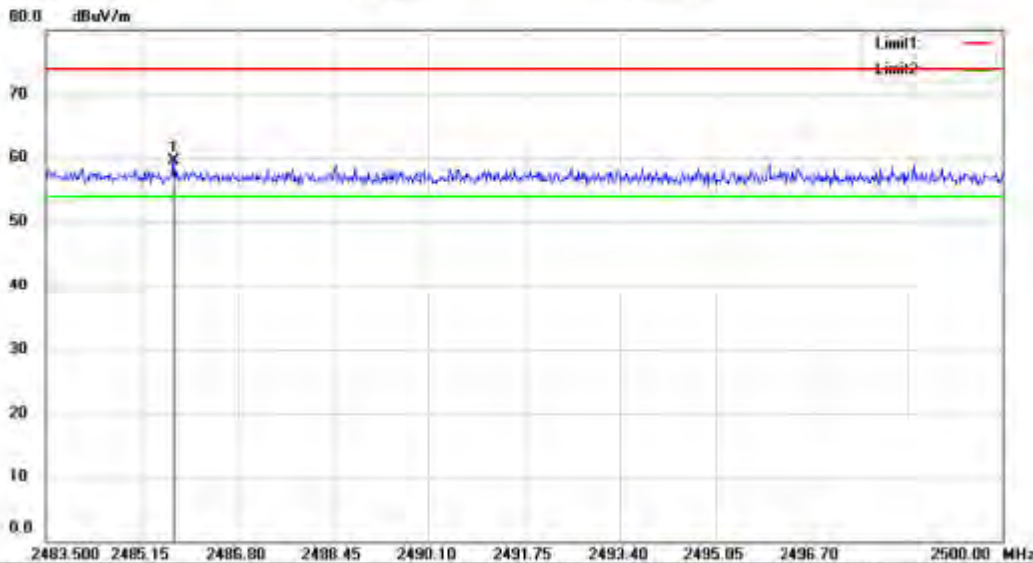
* Maximum data x Over limit | over margin

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Radiated Emission Measurement

File: TUV9 Data #369 Date: 15/09/22



Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 MN: MID1102-MA, DL1168A
 Mode: 11G-2462
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	2485.711	28.71	30.71	59.42	74.00	-14.58	peak		

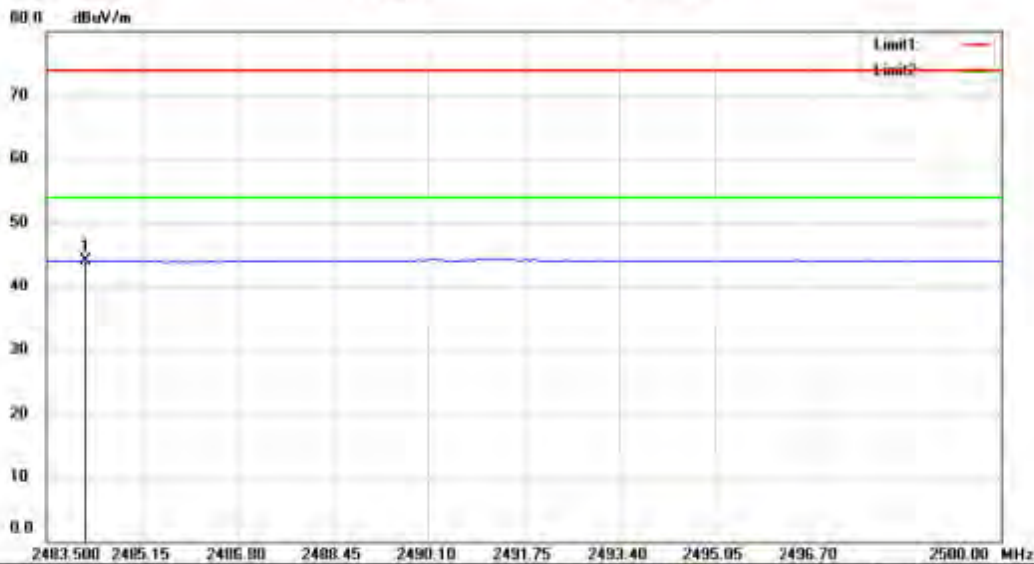
* Maximum data x Over limit | over margin

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Radiated Emission Measurement

File: TUV3 Data: #370 Date: 15/09/22



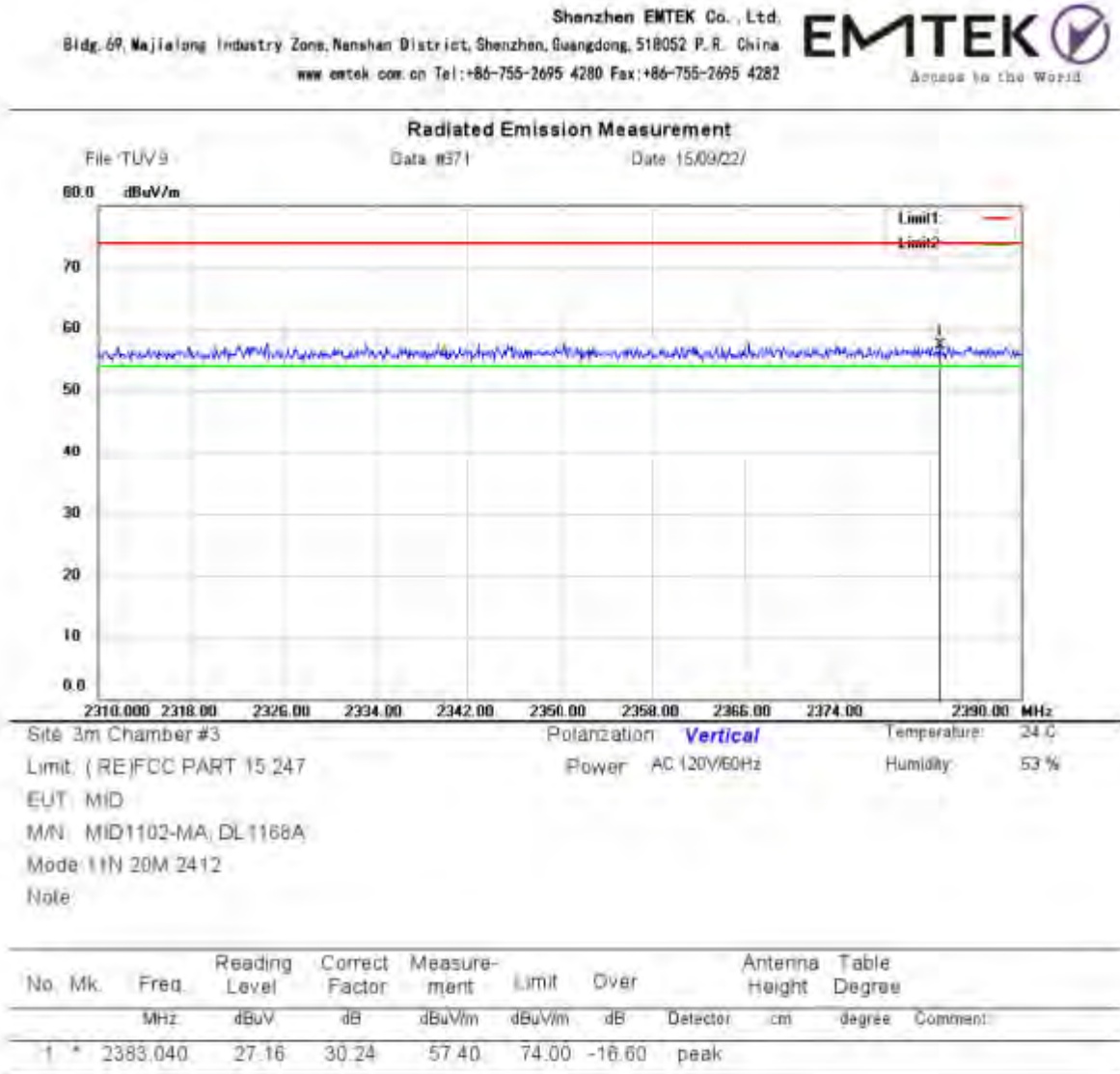
Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 M/N: MID1102-MA, DL1168A
 Mode: 11G-2462
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	2484.160	13.49	30.71	44.20	54.00	+9.80	AVG		

* Maximum data x Over limit l over margin

Operator: ikv

Figure 32: Test figure of Radiated Emissions in Restricted Bands, 802.11n(HT20), (Low)



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Radiated Emission Measurement

File: TUV9

Data: #372

Date: 15/09/22



Site: 3m Chamber #3
Limit: (RE)FCC PART 15.247
EUT: MID
MN: MID1102-MA; DL1168A
Mode: 11N 20M 2412
Note:

Polarization: **Vertical**
Power: AC 120V/60Hz
Temperature: 24 C
Humidity: 53 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	2383.360	13.24	30.24	43.48	54.00	-10.52	AVG		

* Maximum data x Over limit | over margin

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Radiated Emission Measurement

File: TUV9

Data #573

Date: 15/09/22



Site: 3m Chamber #3
Limit: (RE)FCC PART 15.247
EUT: MID
MN: MID1102-MA; DL1168A
Mode: 11N 20M 2412
Note:

Polarization: **Horizontal**
Power: AC 120V/60Hz
Temperature: 24 C
Humidity: 53 %

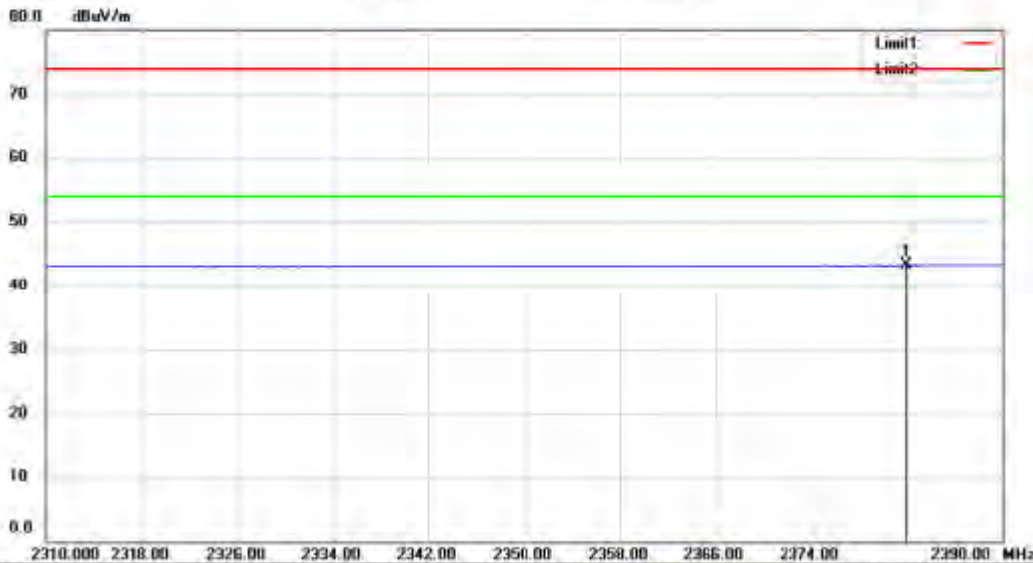
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment:
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	2382.320	27.66	30.24	57.90	74.00	-16.10	peak		

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Radiated Emission Measurement

File: TUV9 Data: #374 Date: 15/09/22/

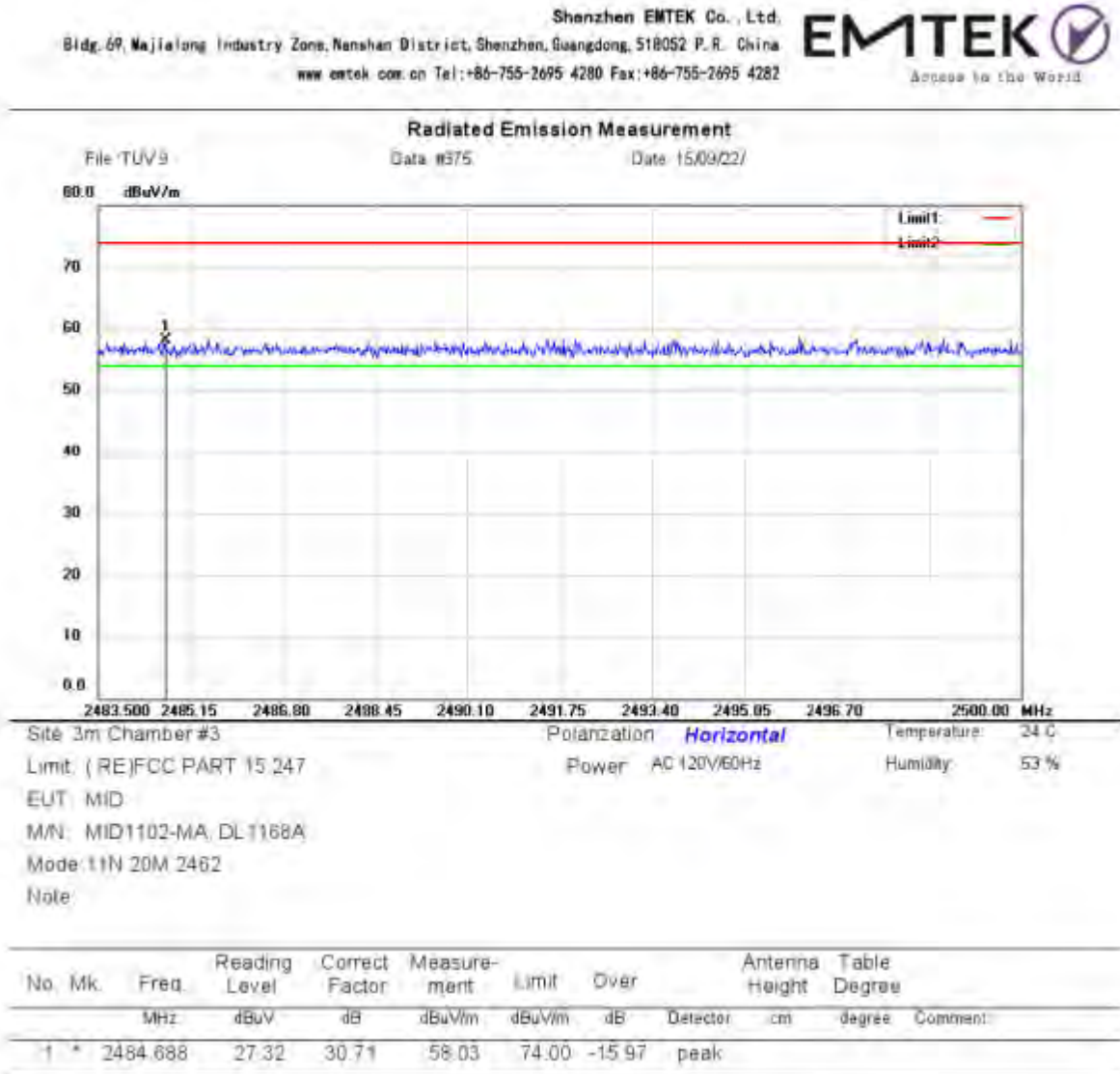


Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 MN: MID1102-MA; DL1168A
 Mode: 11N 20M 2412
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	2381.920	13.01	30.24	43.25	54.00	-10.75	AVG		

* Maximum data x Over limit | over margin

Figure 33: Test figure of Radiated Emissions in Restricted Bands, 802.11n(HT20), (High)

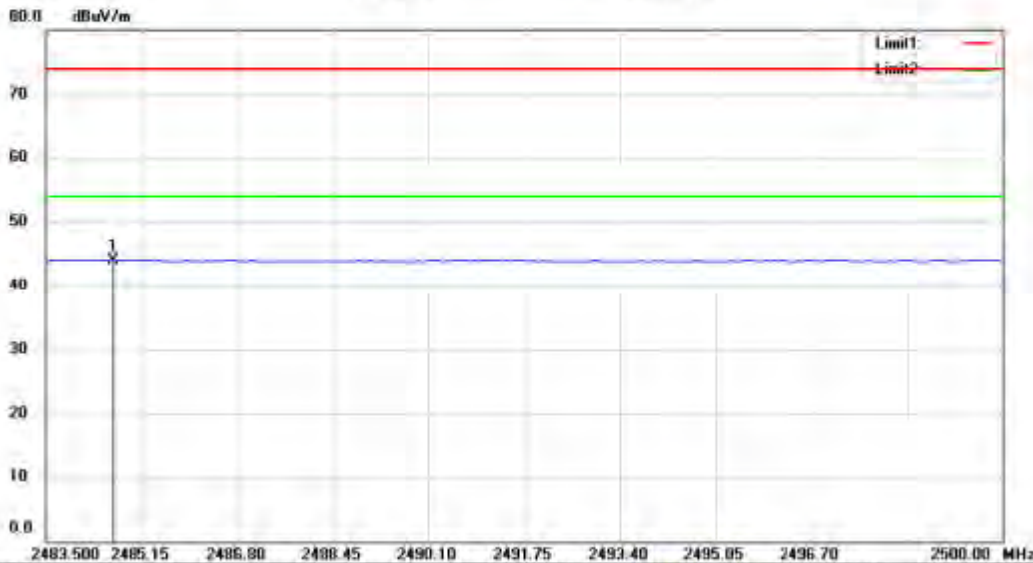


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Radiated Emission Measurement

File: TUV9 Data: #375 Date: 15/09/22/



Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 MN: MID1102-MA, DL 1168A
 Mode: 11N 20M 2482
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	2484.655	13.37	30.71	44.08	54.00	-9.92	AVG		

* Maximum data x Over limit | over margin

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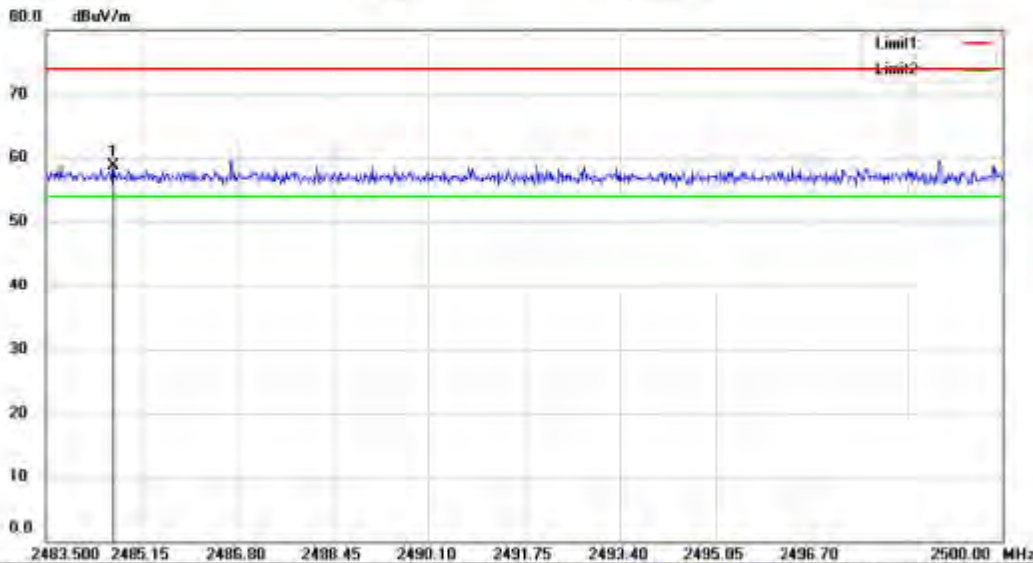


Radiated Emission Measurement

File: TUV9

Data #377

Date: 15/09/22



Site: 3m Chamber #3
Limit: (RE)FCC PART 15.247
EUT: MID
M/N: MID1102-MA, DL1168A
Mode: 11N 20M 2462
Note:

Polarization: **Vertical**
Power: AC 120V/60Hz
Temperature: 24 C
Humidity: 53 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	2484.655	27.94	30.71	58.65	74.00	-15.35	peak		

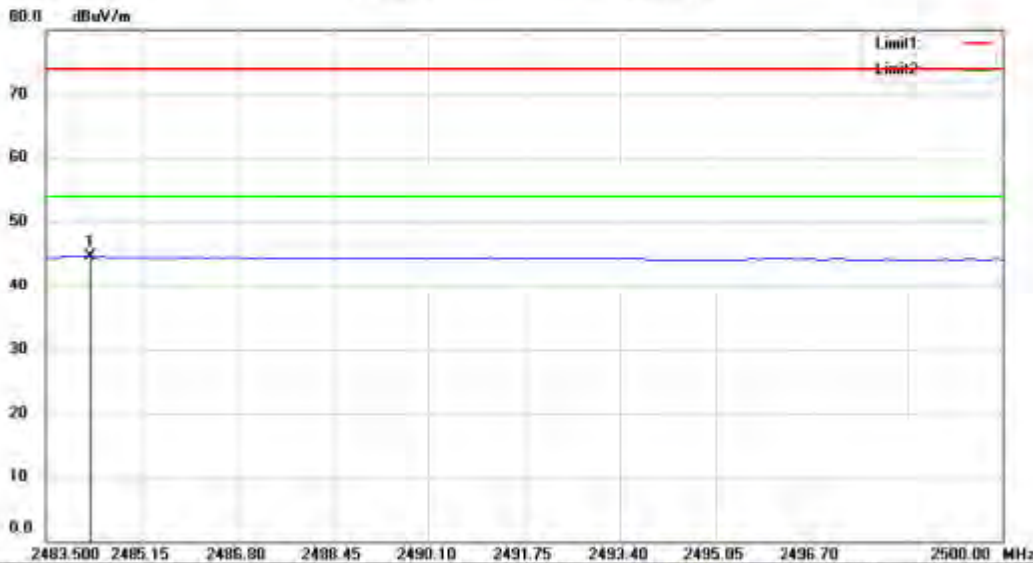
* Maximum data x Over limit | over margin

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Radiated Emission Measurement

File: TUV9 Data: #378 Date: 15/09/22/

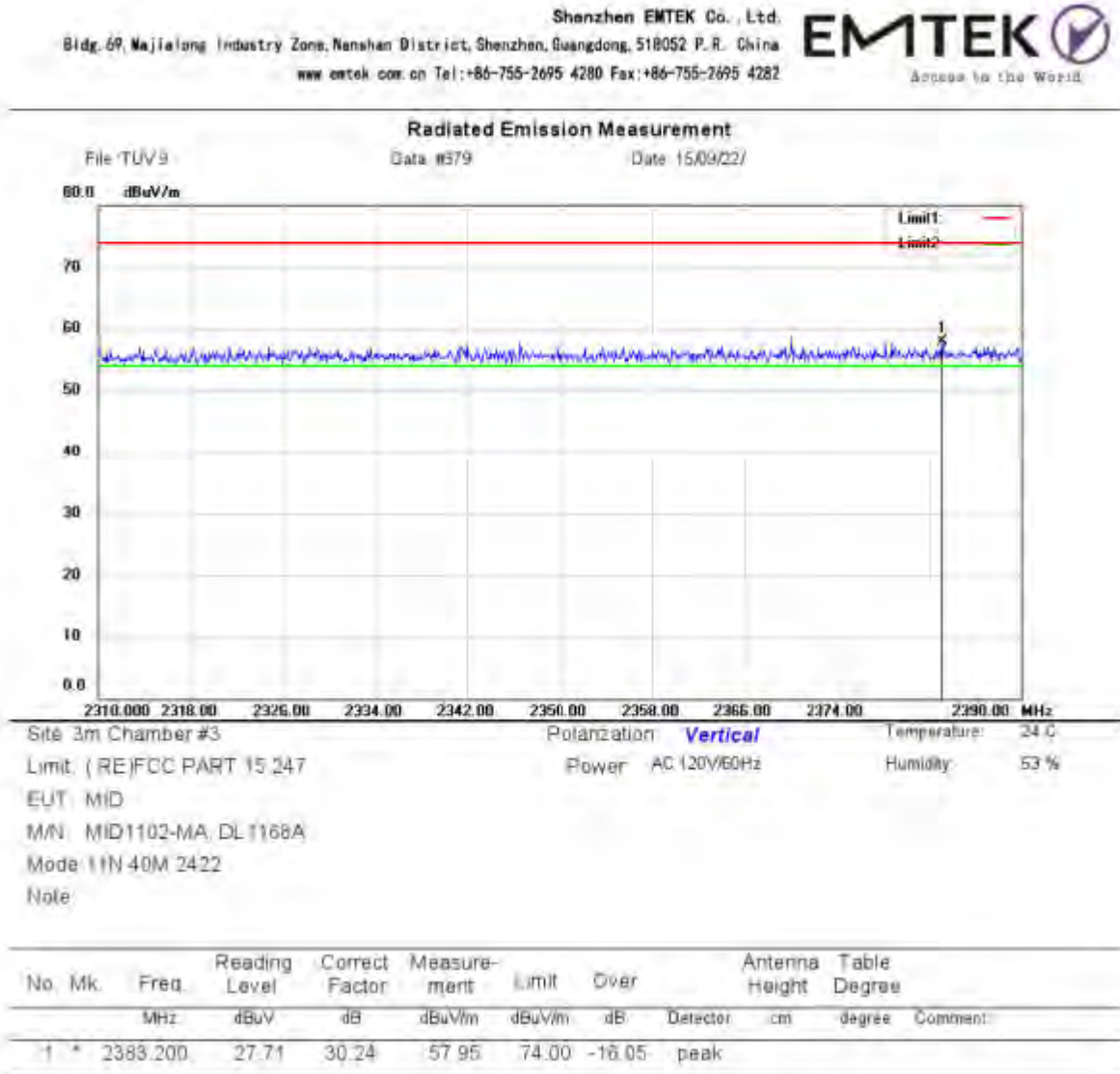


Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 MN: MID1102-MA, DL 1168A
 Mode: 11N 20M 2482
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	2484.259	13.96	30.71	44.67	54.00	-9.33	AVG		

* Maximum data x Over limit | over margin

Figure 34: Test figure of Radiated Emissions in Restricted Bands, 802.11n(HT40), (Low)

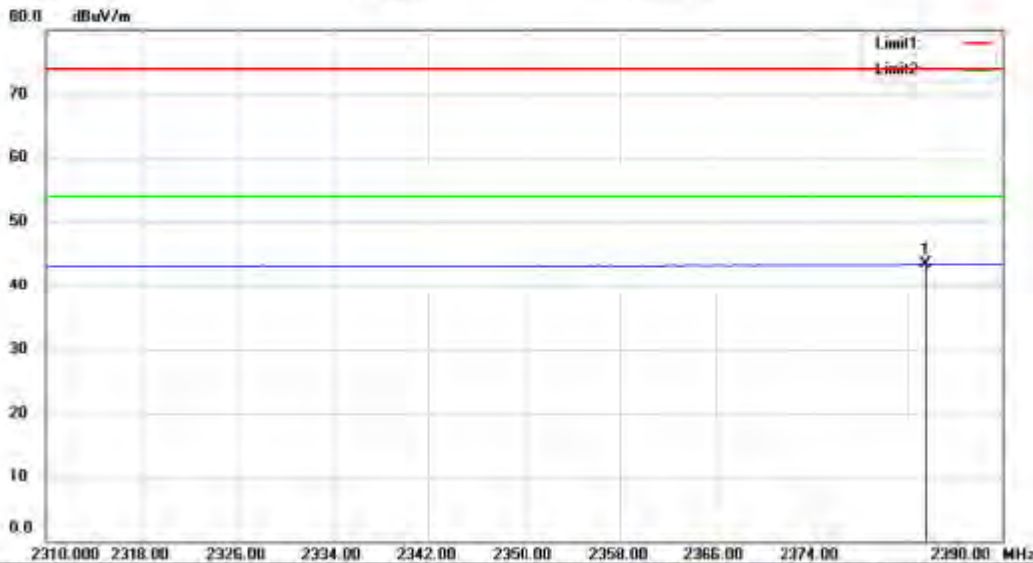


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Radiated Emission Measurement

File: TUV9 Data: #390 Date: 15/09/22



Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 MN: MID1102-MA, DL 1168A
 Mode: 1FN 40M 2422
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	2388.680	13.23	30.24	43.47	54.00	-10.53	AVG		

* Maximum data x Over limit | over margin

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Radiated Emission Measurement

File: TUV9 Data #391 Date: 15/09/22



Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 MN: MID1102-MA, DL1168A
 Mode: 1FN 40M 2422
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	2381.600	27.03	30.24	57.27	74.00	-16.73	peak		

* Maximum data x Over limit | over margin

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Radiated Emission Measurement

File: TUV9 Data #382 Date: 15/09/22

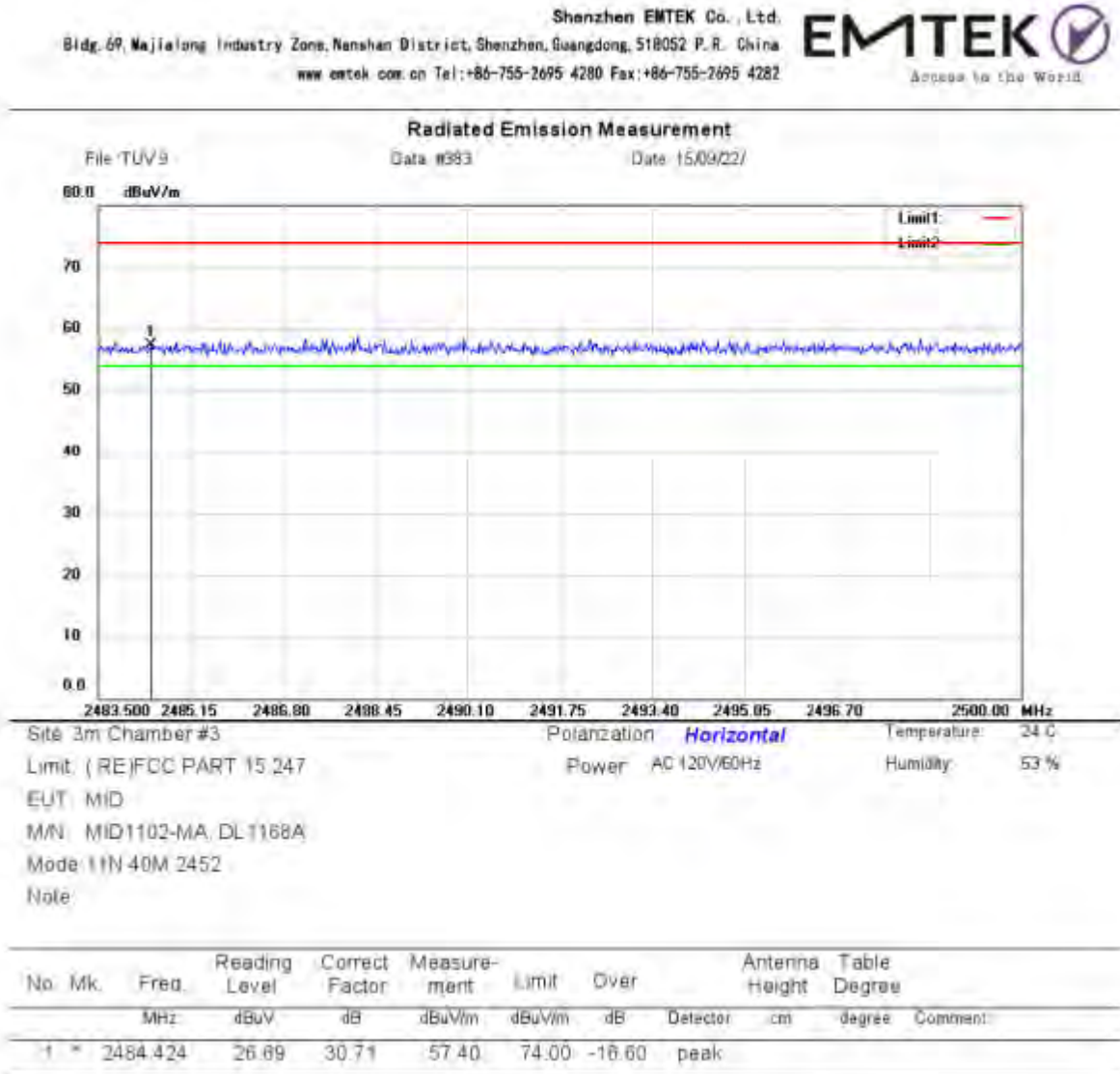


Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 M/N: MID1102-MA, DL1168A
 Mode: 11N 40M 2422
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	2384.240	13.04	30.25	43.29	54.00	-10.71	-AVG		

* Maximum data x Over limit | over margin

Figure 35: Test figure of Radiated Emissions in Restricted Bands, 802.11n(HT40), (High)

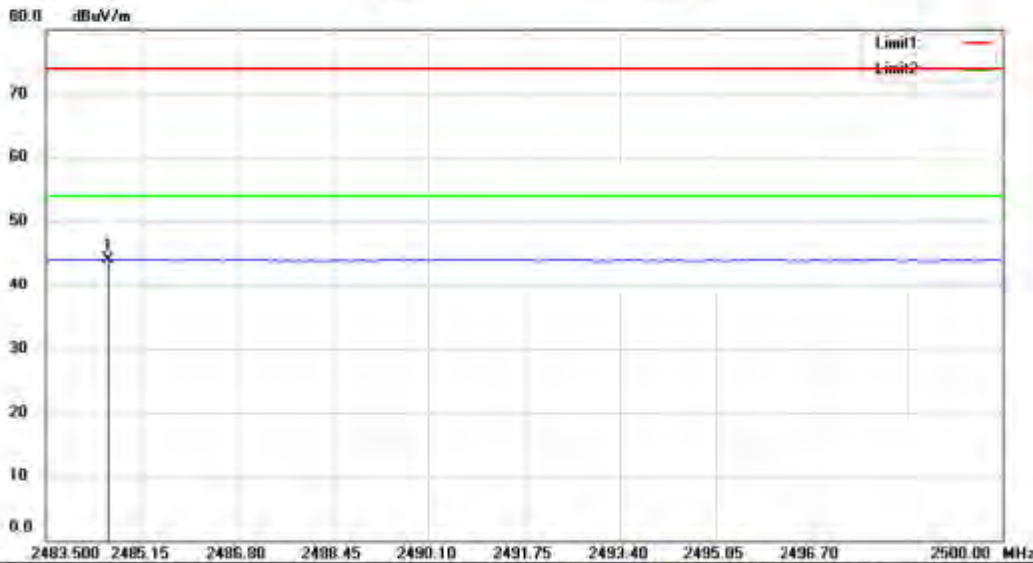


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Radiated Emission Measurement

File: TUV9 Data #384 Date: 15/09/22



Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 M/N: MID1102-MA, DL1168A
 Mode: 11N 40M 2452
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment:
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	2484.556	13.39	30.71	44.10	54.00	-9.90	AVG		

* Maximum data x Over limit | over margin

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Radiated Emission Measurement



Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 MN: MID1102-MA, DL1168A
 Mode: 11N 40M 2452
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	2484.721	27.67	30.71	58.38	74.00	-15.62	peak		

* Maximum data x Over limit | over margin

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Radiated Emission Measurement



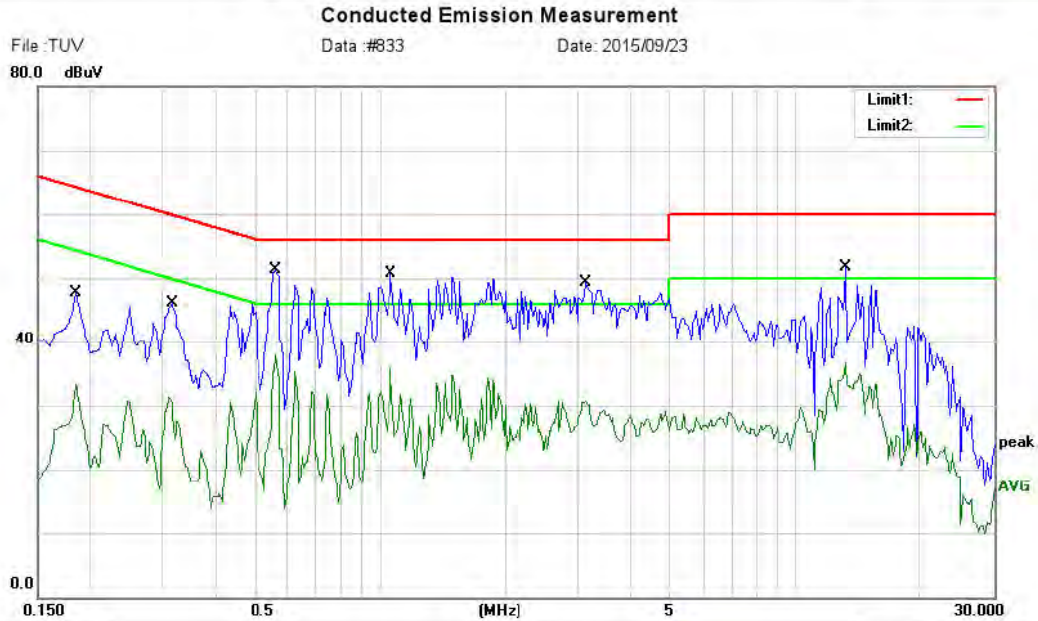
Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24.0
 Limit: (RE)FCC PART 15.247 Power: AC 120V/60Hz Humidity: 53 %
 EUT: MID
 MN: MID1102-MA, DL 1168A
 Mode: 11N 40M 2452
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	2484.177	13.91	30.71	44.62	54.00	-9.38	AVG		

* Maximum data x Over limit l over margin

Figure 36: Test figure of Conducted Emissions

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Site: Conduction #2 Phase: **L1** Temperature: 26
 Limit: (CE)FCC PART 15 class C_QP Power: AC 120V/60Hz Humidity: 55 %
 EUT: MID
 M/N: MID1102-MA; DL1168A
 Mode: WIFI 2.4G
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.1850	47.66	0.00	47.66	64.26	-16.60	QP	
2		0.1850	33.28	0.00	33.28	54.26	-20.98	AVG	
3		0.3150	46.16	0.00	46.16	59.84	-13.68	QP	
4		0.3150	31.36	0.00	31.36	49.84	-18.48	AVG	
5		0.5600	47.20	0.00	47.20	56.00	-8.80	QP	
6		0.5600	37.99	0.00	37.99	46.00	-8.01	AVG	
7	*	1.0600	48.10	0.00	48.10	56.00	-7.90	QP	
8		1.0600	35.91	0.00	35.91	46.00	-10.09	AVG	
9		3.1200	47.30	0.00	47.30	56.00	-8.70	QP	
10		3.1200	30.72	0.00	30.72	46.00	-15.28	AVG	
11		13.1750	49.80	0.00	49.80	60.00	-10.20	QP	
12		13.1750	36.74	0.00	36.74	50.00	-13.26	AVG	

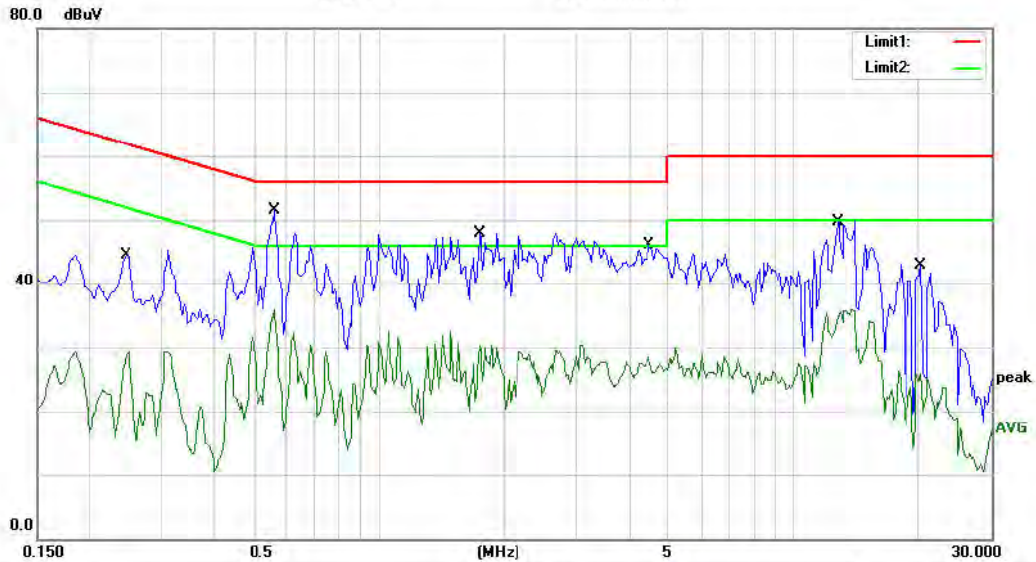
*:Maximum data x:Over limit l:over margin Comment: Factor build in receiver. Operator: CSL

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Conducted Emission Measurement

File : TUV Data : #834 Date : 2015/09/23



Site Conduction #2 Phase: **N** Temperature: 26
Limit: (CE)FCC PART 15 class C_QP Power: AC 120V/60Hz Humidity: 55 %
EUT: MID
M/N: MID1102-MA; DL1168A
Mode: WIFI 2.4G
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.2450	44.57	0.00	44.57	61.92	-17.35	QP	
2		0.2450	29.27	0.00	29.27	51.92	-22.65	AVG	
3	*	0.5600	47.90	0.00	47.90	56.00	-8.10	QP	
4		0.5600	35.99	0.00	35.99	46.00	-10.01	AVG	
5		1.7500	45.30	0.00	45.30	56.00	-10.70	QP	
6		1.7500	30.32	0.00	30.32	46.00	-15.68	AVG	
7		4.4600	44.60	0.00	44.60	56.00	-11.40	QP	
8		4.4600	28.46	0.00	28.46	46.00	-17.54	AVG	
9		12.8500	47.20	0.00	47.20	60.00	-12.80	QP	
10		12.8500	35.78	0.00	35.78	50.00	-14.22	AVG	
11		20.3000	42.91	0.00	42.91	60.00	-17.09	QP	
12		20.3000	25.93	0.00	25.93	50.00	-24.07	AVG	

*:Maximum data x:Over limit l:over margin Comment: Factor build in receiver. Operator: CSL

-Th End-