

Prüfbericht-Nr.: <i>Test Report No.:</i>	17052720 001	Auftrags-Nr.: <i>Order No.:</i>	164045796	Seite 1 von 140 <i>Page 1 of 140</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:		
10.10.2015 Owen Tian/Senior Project Manager		10.10.2015 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:				
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>		Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>		
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested				
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

V04

TEST SUMMARY

5.1.1 ANTENNA REQUIREMENT*RESULT: Pass***5.1.2 PEAK OUTPUT POWER***RESULT: Pass***5.1.3 20dB BANDWIDTH***RESULT: Pass***5.1.4 6dB BANDWIDTH***RESULT: Pass***5.1.5 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100KHz BANDWIDTH***RESULT: Pass***5.1.6 POWER SPECTRAL DENSITY***RESULT: Pass***5.1.7 SPURIOUS EMISSION***RESULT: Pass***5.1.8 FREQUENCY SEPARATION***RESULT: Pass***5.1.9 NUMBER OF HOPPING FREQUENCY***RESULT: Pass***5.1.10 TIME OF OCCUPANCY***RESULT: Pass***5.1.11 CONDUCTED EMISSIONS***RESULT: Pass*

Contents

1.	GENERAL REMARKS	4
1.1	COMPLEMENTARY MATERIALS	4
2.	TEST SITES	4
2.1	TEST FACILITIES	4
2.2	LIST OF TEST AND MEASUREMENT INSTRUMENTS.....	5
2.3	TRACEABILITY	6
2.4	CALIBRATION	6
2.5	MEASUREMENT UNCERTAINTY.....	6
2.6	LOCATION OF ORIGINAL DATA.....	6
2.7	STATUS OF FACILITY USED FOR TESTING.....	7
3.	GENERAL PRODUCT INFORMATION	8
3.1	PRODUCT FUNCTION AND INTENDED USE.....	8
3.2	RATINGS AND SYSTEM DETAILS	8
3.3	INDEPENDENT OPERATION MODES	10
3.4	NOISE GENERATING AND NOISE SUPPRESSING PARTS	10
3.5	SUBMITTED DOCUMENTS	10
4.	TEST SET-UP AND OPERATION MODES	11
4.1	PRINCIPLE OF CONFIGURATION SELECTION.....	11
4.2	TEST OPERATION AND TEST SOFTWARE	11
4.3	SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT	11
4.4	COUNTERMEASURES TO ACHIEVE EMC COMPLIANCE.....	11
4.5	TEST SETUP DIAGRAM	12
5.	TEST RESULTS	14
5.1	TRANSMITTER REQUIREMENT & TEST SUITES	14
5.1.1	<i>Antenna Requirement</i>	<i>14</i>
5.1.2	<i>Peak Output Power</i>	<i>15</i>
5.1.3	<i>20dB Bandwidth</i>	<i>16</i>
5.1.4	<i>6dB Bandwidth</i>	<i>17</i>
5.1.5	<i>Conducted Spurious Emissions measured in 100kHz Bandwidth</i>	<i>18</i>
5.1.6	<i>Power spectral density</i>	<i>31</i>
5.1.7	<i>Spurious Emission</i>	<i>32</i>
5.1.8	<i>Frequency Separation.....</i>	<i>129</i>
5.1.9	<i>Number of hopping frequency.....</i>	<i>130</i>
5.1.10	<i>Time of Occupancy.....</i>	<i>131</i>
5.1.11	<i>Conducted emissions</i>	<i>132</i>
6.	PHOTOGRAPHS OF THE TEST SET-UP	137
7.	LIST OF TABLES	140
8.	LIST OF PHOTOGRAPHS	140

Prüfbericht - Nr.: 17052720 001
*Test Report No.***Seite 4 von 140**
Page 4 of 140

1. General Remarks

1.1 Complementary Materials

None.

2. Test Sites

2.1 Test Facilities

Shenzhen EMTEK Co., Ltd.

(FCC Registration No.: 709623)

Bldg 69, Majialong Industry Zone, Nanshan District,
Shenzhen, Guangdong, P.R. China

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

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Kind of Equipment	Manufacturer	Type	S/N	Calibrated until
Transmitter spurious emissions				
EMI Test Receiver	Rohde & Schwarz	ESU	1302.6005.26	2016-05-16
Loop Antenna	Schwarzbeck	FMZB 1519	1519-012	2016-05-16
Cable	H+B	3M SF104-26.5	295838/4	2016-05-28
Cable	H+B	6M SF104-26.5	295840/4	2016-05-28
Pre-Amplifier	HP	8447F	2944A07999	2016-05-16
Bilog Antenna	Schwarzbeck	VULB9163	142	2016-05-28
Cable	Schwarzbeck	AK9513	ACRX1	2016-05-16
Cable	Rosenberger	N/A	FP2RX2	2016-05-16
Cable	Schwarzbeck	AK9513	CRPX1	2016-05-28
Cable	Schwarzbeck	AK9513	CRRX2	2016-05-28
Pre-Amplifier	A.H.	PAM-0126	1415261	2016-05-16
Horn Antenna	Schwarzbeck	BBHA 9120	707	2016-05-28
Pre-Amplifier	A.H.	PAM-0126	1415261	2016-05-16
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA91703 99	2016-05-16
EMI Test Receiver	Rohde & Schwarz	FSV40	132.1- 3008K39- 100967-AP	2016-05-16
Pre-Amplifier	Lunar EM	LNA26G40-40	J101313102 8001	2016-05-16
Horn Antenna	AHS/USA	SAS-573	184	2016-05-16
Cable	H+B	0.5M SF104-26.5	289147/4	2016-05-16
Cable	H+B	3M SF104-26.5	295838/4	2016-05-16
Cable	H+B	6M SF104-26.5	295840/4	2016-05-16
Radio Spectrum Test				
EMI Test Receiver	Rohde & Schwarz	ESCI	101045	2016-05-16
Vector Signal Generater	Agilent	N5182B	My53050553	2016-05-28
Analog Signal Generator	Agilent	N5171B	My53050878	2016-05-28
Signal Analyzer	Agilent	N9010A	My53470879	2016-05-28
Power Meter	Agilent	PS-X10-100	N/A	2016-05-28
Temp. / Humidity Chamber	Kingson	THS-M1	242	2016-05-28
Conducted Emission				
Test Receiver	Rohde & Schwarz	ESCS30	828985/018	2016-05-16
L.I.S.N.	Schwarzbeck	NNLK8129	8129203	2016-05-16
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100006	2016-05-16
Voltage Probe	Rohde & Schwarz	TK9416	N/A	2016-05-16
I.S.N	Rohde & Schwarz	ENY22	1109.9508.02	2016-05-16
50Ω Coaxial Switch	Anritsu	MP59B	M20531	2016-05-16

2.3 Traceability

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

2.4 Calibration

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

2.5 Measurement Uncertainty

Table 2: Measurement Uncertainty

Parameter	Uncertainty
Radio Frequency	$\pm 1 \times 10^{-5}$
Maximum Peak Output Power Test	$\pm 1.0\text{dB}$
Conducted Emissions Test	$\pm 2.0\text{dB}$
Radiated Emission Test	$\pm 2.0\text{dB}$
Power Density	$\pm 2.0\text{dB}$
Occupied Bandwidth Test	$\pm 1.0\text{dB}$
Band Edge Test	$\pm 3\text{dB}$
All emission, radiated	$\pm 3\text{dB}$
Antenna Port Emission	$\pm 3\text{dB}$
Temperature	$\pm 0.5^\circ\text{C}$
Humidity	$\pm 3\%$

2.6 Location of Original Data

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

Prüfbericht - Nr.: 17052720 001*Test Report No.***Seite 7 von 140***Page 7 of 140*

2.7 Status of Facility Used for Testing

Shenzhen EMTEK Co., Ltd. test facility located at Bldg 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, P.R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3. General Product Information

3.1 Product Function and Intended Use

The EUTs are 11.6" quad code tablet with Wi-Fi, Bluetooth function.
 These models are identical except the model name.
 For details refer to the User Manual and Circuit Diagram.

3.2 Ratings and System Details

Table 3: Technical Specification of Bluetooth (BDR & EDR mode)

Technical Specification	Value
Kind of Equipment	MID
Type Designation	DL1168A, MID1102-MA
FCC ID	XMF-MID1102
Operating Frequency band	2402 – 2480MHz
Channel separation	1MHz
Extreme Temperature Range	-30~+75°C
Operation Voltage	DC 3.7V (via built in battery)
	DC 5V (via AC/DC adapter)
Modulation	FHSS, GFSK, 8DPSK, $\pi/4$ DQPSK
Bluetooth version	4.0, Dual Mode
Antenna Gain	1.56dBi

Table 4: RF channel and frequency of Bluetooth (BDR & EDR mode)

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
0	2402.00	21	2423.00	42	2444.00	63	2465.00
1	2403.00	22	2424.00	43	2445.00	64	2466.00
2	2404.00	23	2425.00	44	2446.00	65	2467.00
3	2405.00	24	2426.00	45	2447.00	66	2468.00
4	2406.00	25	2427.00	46	2448.00	67	2469.00
5	2407.00	26	2428.00	47	2449.00	68	2470.00
6	2408.00	27	2429.00	48	2450.00	69	2471.00
7	2409.00	28	2430.00	49	2451.00	70	2472.00
8	2410.00	29	2431.00	50	2452.00	71	2473.00
9	2411.00	30	2432.00	51	2453.00	72	2474.00
10	2412.00	31	2433.00	52	2454.00	73	2475.00
11	2413.00	32	2434.00	53	2455.00	74	2476.00

Prüfbericht - Nr.: 17052720 001

Test Report No.

Seite 9 von 140

Page 9 of 140

12	2414.00	33	2435.00	54	2456.00	75	2477.00
13	2415.00	34	2436.00	55	2457.00	76	2478.00
14	2416.00	35	2437.00	56	2458.00	77	2479.00
15	2417.00	36	2438.00	57	2459.00	78	2480.00
16	2418.00	37	2439.00	58	2460.00		
17	2419.00	38	2440.00	59	2461.00		
18	2420.00	39	2441.00	60	2462.00		
19	2421.00	40	2442.00	61	2463.00		
20	2422.00	41	2443.00	62	2464.00		

Table 5: Technical Specification of Bluetooth (Low Energy mode)

Technical Specification	Value
Kind of Equipment	MID
Type Designation	DL1168A, MID1102-MA
FCC ID	XMF-MID1102
Operating Frequency band	2402 – 2480MHz
Channel separation	2MHz
Extreme Temperature Range	-30~+75°C
Operation Voltage	DC 3.7V (via built in battery)
	DC 5V (via AC/DC adapter)
Modulation	GFSK
Bluetooth version	4.0, Dual Mode
Antenna Gain	1.56dBi

Table 6: RF channel and frequency of Bluetooth (Low Energy mode)

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
0	2402.00	11	2424.00	22	2446.00	33	2468.00
1	2404.00	12	2426.00	23	2448.00	34	2470.00
2	2406.00	13	2428.00	24	2450.00	35	2472.00
3	2408.00	14	2430.00	25	2452.00	36	2474.00
4	2410.00	15	2432.00	26	2454.00	37	2476.00
5	2412.00	16	2434.00	27	2456.00	38	2478.00
6	2414.00	17	2436.00	28	2458.00	39	2480.00
7	2416.00	18	2438.00	29	2460.00		
8	2418.00	19	2440.00	30	2462.00		
9	2420.00	20	2442.00	31	2464.00		
10	2422.00	21	2444.00	32	2466.00		

3.3 Independent Operation Modes

The basic operation modes are:

- A. On
 - 1. Bluetooth mode (BDR & EDR mode)
 - a. Transmitting
 - i. Low Channel
 - ii. Middle Channel
 - iii. High Channel
 - b. Receiving
 - 2. Bluetooth mode (Low Energy mode)
 - a. Transmitting
 - i. Low Channel
 - ii. Middle Channel
 - iii. High Channel
 - b. Receiving
- B. Standby
- C. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

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

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum power level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.10: 2013.

According to clause 3.1, all tests were applied on model MID1102-MA only.

4.3 Special Accessories and Auxiliary Equipment

The EUT was tested together with the following accessories:

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

The EUT was tested with following cables:

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

4.4 Countermeasures to achieve EMC Compliance

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

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test for below 1GHz

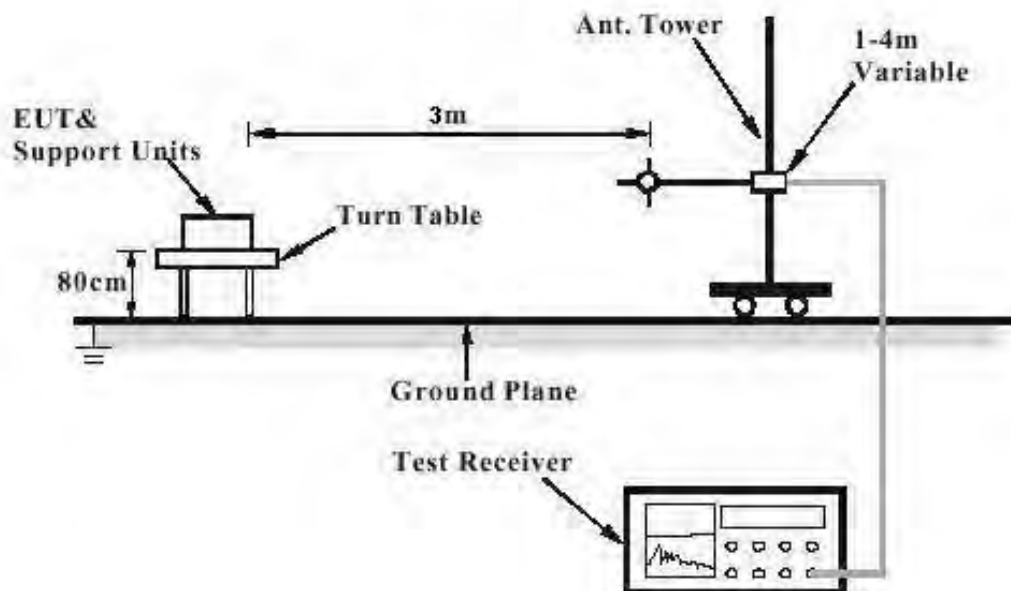


Diagram of Measurement Configuration for Radiation Test for above 1GHz

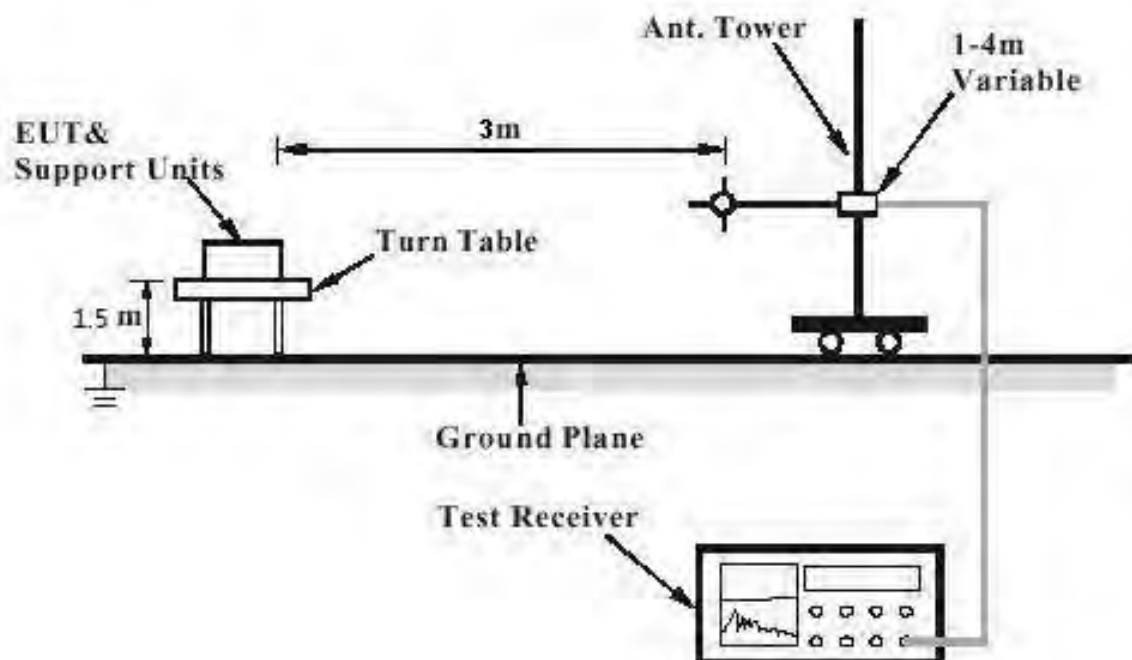


Diagram of Measurement Equipment Configuration for Conduction Measurement

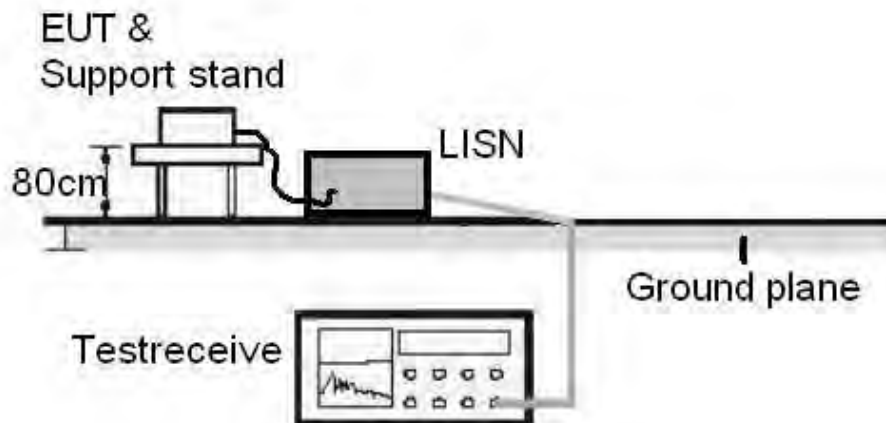
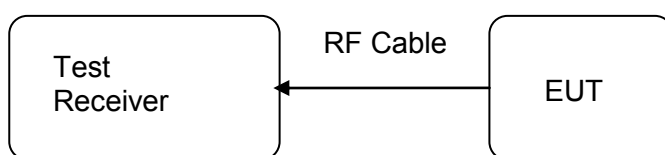


Diagram of Measurement Equipment Configuration for Transmitter Measurement



5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Pass**

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

According to the manufacturer declared, the EUT has an internal antenna, the directional gain of antenna is 1.56dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

5.1.2 Peak Output Power

RESULT:
Pass

Test date : 2015-09-19
 Test standard : FCC Part 15.247(b)(1)
 FCC Part 15.247(b)(3)
 Basic standard : ANSI C63.10: 2013
 Clause 9.1 of KDB 558074 v03r01
 Limit : 125mW, 1W
 Kind of test site : Shielded room

Test setup

Test Channel : Low/ Middle/ High
 Operation Mode : A.1.a, A.2.a
 Ambient temperature : 25°C
 Relative humidity : 50%
 Atmospheric pressure : 101kPa

Table 7: Test result of Peak Output Power of Bluetooth (BDR mode)

Channel	Channel Frequency (MHz)	Peak Output Power	Limit
		(dBm)	(dBm)
Low Channel	2402	6.225	21
Middle Channel	2441	6.588	21
High Channel	2480	6.778	21

Table 8: Test result of Peak Output Power of Bluetooth (EDR mode)

Channel	Channel Frequency (MHz)	Peak Output Power	Limit
		(dBm)	(dBm)
Low Channel	2402	5.645	21
Middle Channel	2441	5.748	21
High Channel	2480	5.564	21

Table 9: Test result of Peak Output Power of Bluetooth (Low Energy mode)

Channel	Channel Frequency (MHz)	Peak Output Power	Limit
		(dBm)	(dBm)
Low Channel	2402	-1.080	30
Middle Channel	2440	-0.961	30
High Channel	2480	-1.441	30

5.1.3 20dB Bandwidth

RESULT:
Pass

Date of testing : 2015-09-19
 Test standard : FCC Part 15.247(a)(1)
 Basic standard : ANSI C63.10: 2013
 Clause 8 of KDB 558074 v03r01
 Kind of test site : Shielded room

Test setup

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

Table 10: Test result of 20dB of BDR mode

Channel	Channel Frequency (MHz)	20dB Bandwidth (MHz)
Low Channel	2402	0.898
Mid Channel	2441	0.899
High Channel	2480	0.900

Table 11: Test result of 20dB of EDR mode

Channel	Channel Frequency (MHz)	20dB Bandwidth (MHz)
Low Channel	2402	1.156
Mid Channel	2441	1.156
High Channel	2480	1.157

Prüfbericht - Nr.: 17052720 001

Test Report No.

Seite 17 von 140

Page 17 of 140

5.1.4 6dB Bandwidth**RESULT:****Pass**

Date of testing : 2015-09-19
Test standard : FCC Part 15.247(a)(2)
Basic standard : ANSI C63.10: 2013
Clause 8 of KDB 558074 v03r01
Kind of test site : Shielded room

Test setup

Test Channel : Low/ Middle/ High
Operation Mode : A.2.a
Ambient temperature : 25°C
Relative humidity : 50%
Atmospheric pressure : 101kPa

Table 12: Test result of 6dB Bandwidth of Bluetooth, Low Energy mode

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
Low Channel	2402	0.698	≥0.5
Mid Channel	2440	0.700	≥0.5
High Channel	2480	0.701	≥0.5

Prüfbericht - Nr.: 17052720 001

Test Report No.

Seite 18 von 140

Page 18 of 140

5.1.5 Conducted Spurious Emissions measured in 100kHz Bandwidth**RESULT:****Pass**

Date of testing : 2015-09-19
Test standard : FCC part 15.247(d)
Basic standard : ANSI C63.10: 2013
Limit : 20dB (below that in the 100kHz bandwidth within
the band that contains the highest level of the
desired power);
Kind of test site : Shield room

Test setup

Test Channel : Low/ Middle/ High
Operation mode : A.1.a, A.2.a
Ambient temperature : 25°C
Relative humidity : 50%
Atmospheric pressure : 101kPa

For details refer to following test plot.

Test Plot of Conducted spurious emissions measured in 100kHz Bandwidth of BDR mode

Low Channel



Middle Channel


High Channel



Band Edge


Test Plot of Conducted spurious emissions measured in 100kHz Bandwidth of EDR mode

Low Channel



Middle Channel


High Channel


Band Edge


Test Plot of Conducted spurious emissions measured in 100kHz Bandwidth of Low Energy mode

Low Channel



Middle Channel


High Channel





Prüfbericht - Nr.: 17052720 001

Test Report No.

Seite 31 von 140

Page 31 of 140

5.1.6 Power spectral density**RESULT:****Pass**

Date of testing : 2015-09-19
Test standard : FCC part 15.247(e)
Basic standard : ANSI C63.10: 2013
Clause 10 of KDB 558074 v03r01
Limit : 8dBm/3kHz
Kind of test site : Shield room

Test setup

Test Channel : Low/ Middle/ High
Operation mode : A.2.a
Ambient temperature : 25°C
Relative humidity : 50%
Atmospheric pressure : 101kPa

Table 13: Test result of power spectral density

Mode	Channel (MHz)	Result (dBm/3kHz)	Limit (dBm/3kHz)	Conclusion
Bluetooth LE mode	2402	-16.430	8	Pass
	2440	-16.287	8	Pass
	2480	-16.794	8	Pass

Prüfbericht - Nr.: 17052720 001

Test Report No.

Seite 32 von 140

Page 32 of 140

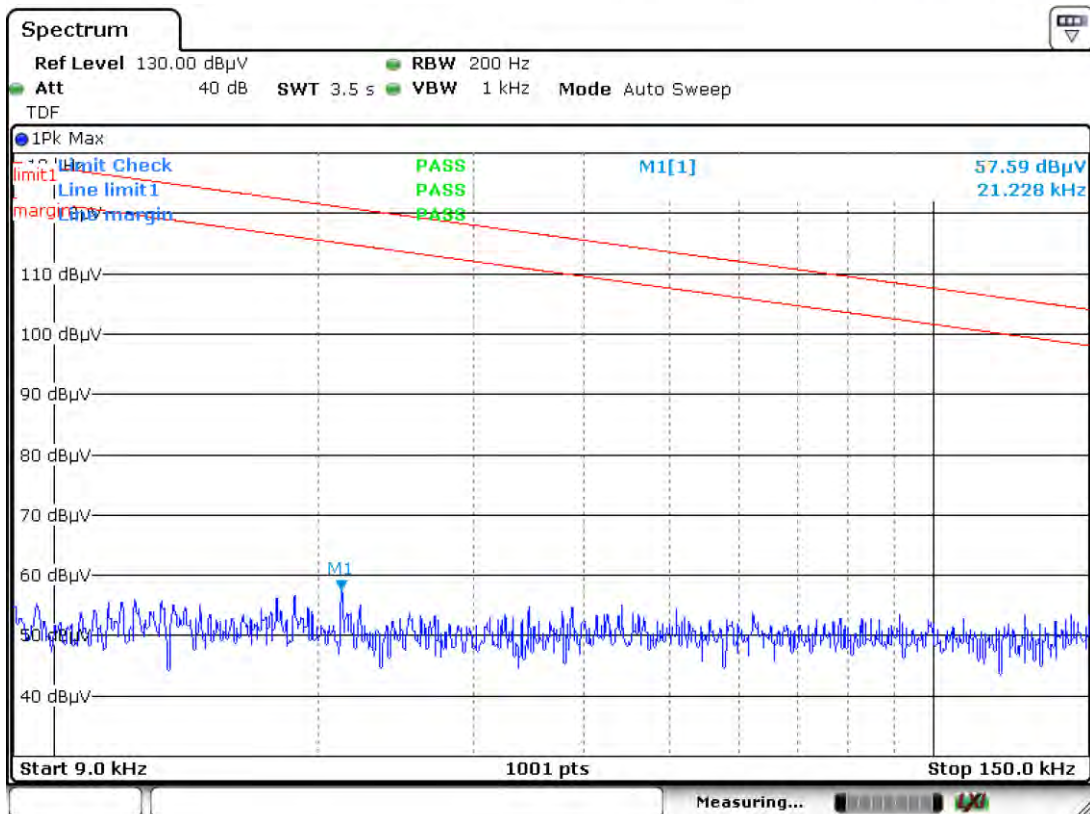
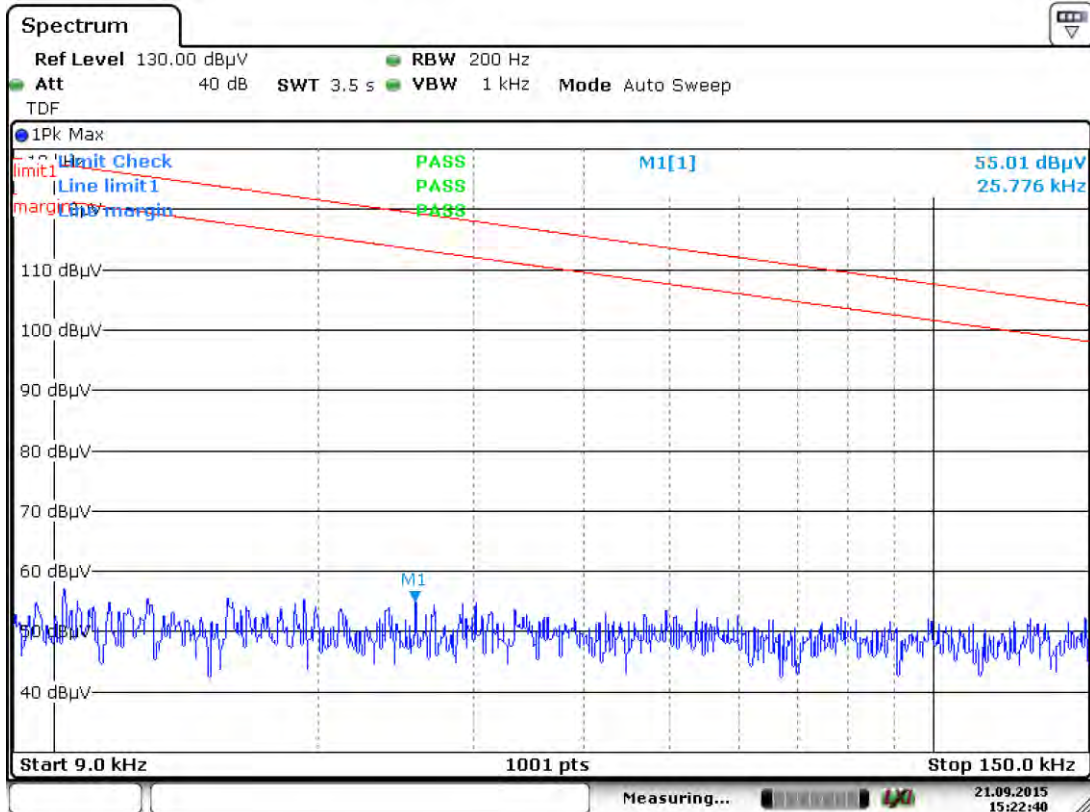
5.1.7 Spurious Emission**RESULT:****Pass**

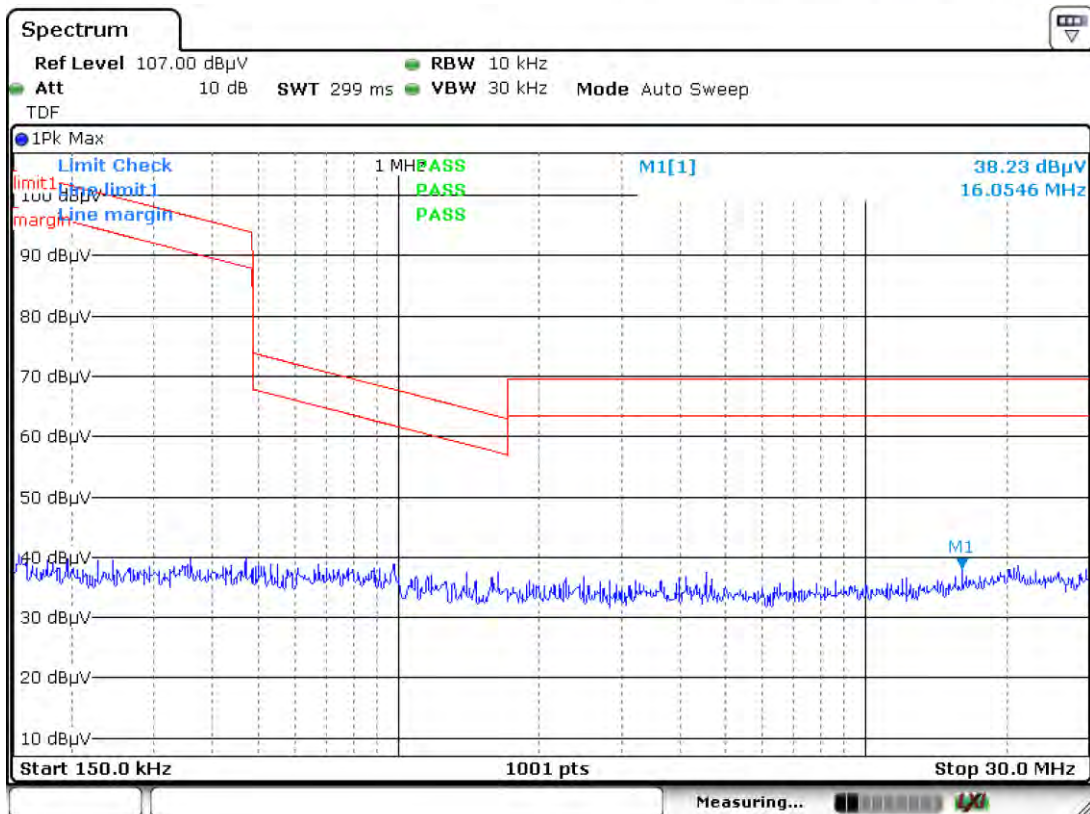
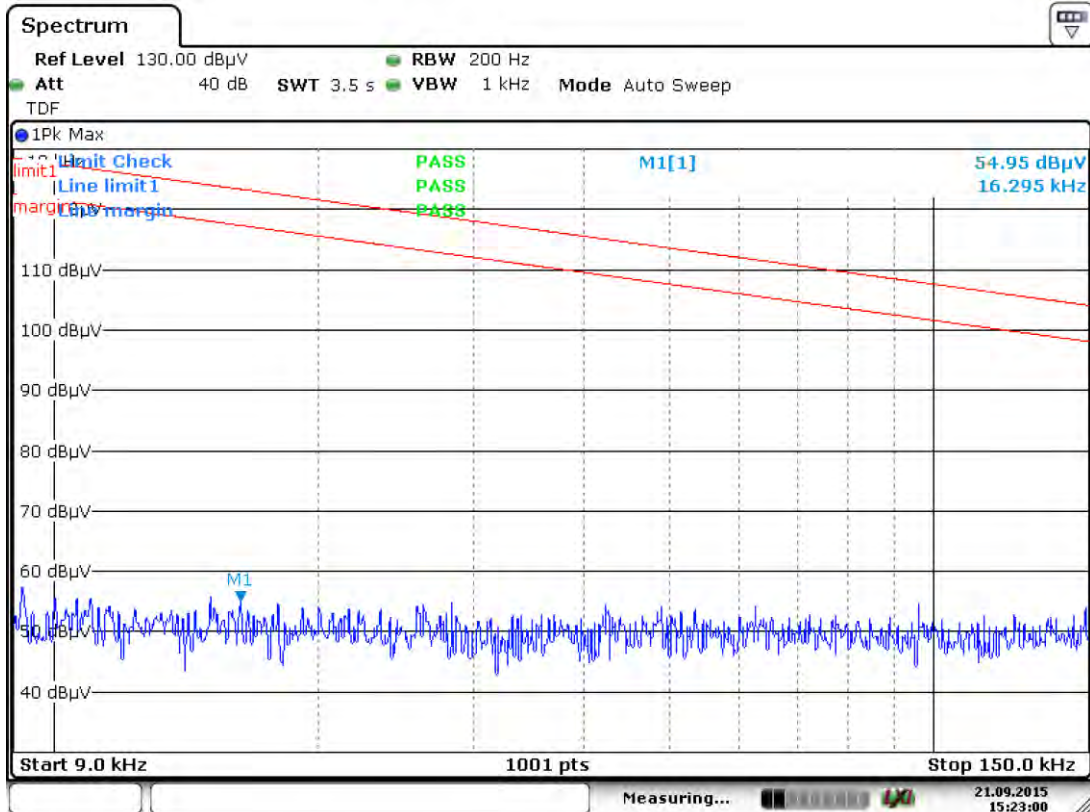
Date of testing : 2015-09-22
Test standard : FCC part 15.247(d)
Basic standard : ANSI C63.10: 2013
Clause 11 of KDB 558074 v03r01
Limits : FCC part 15.209(a)
Kind of test site : 3m Semi-Anechoic Chamber & Anechoic Chamber

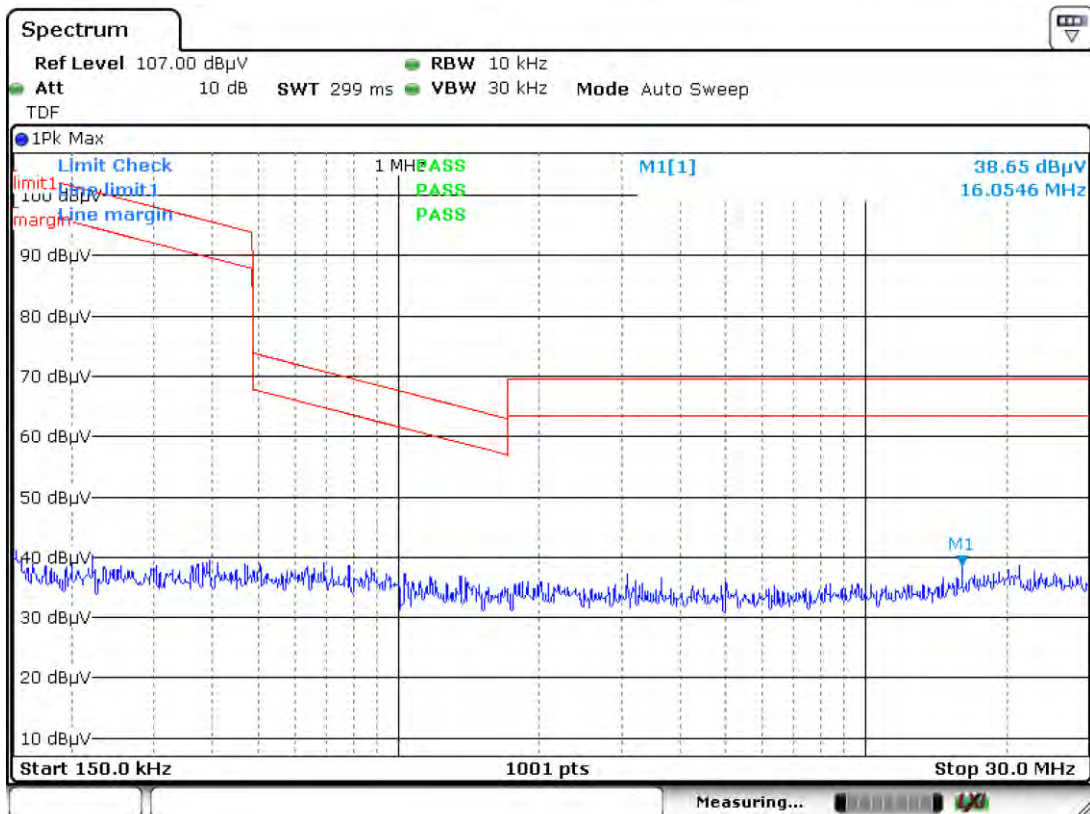
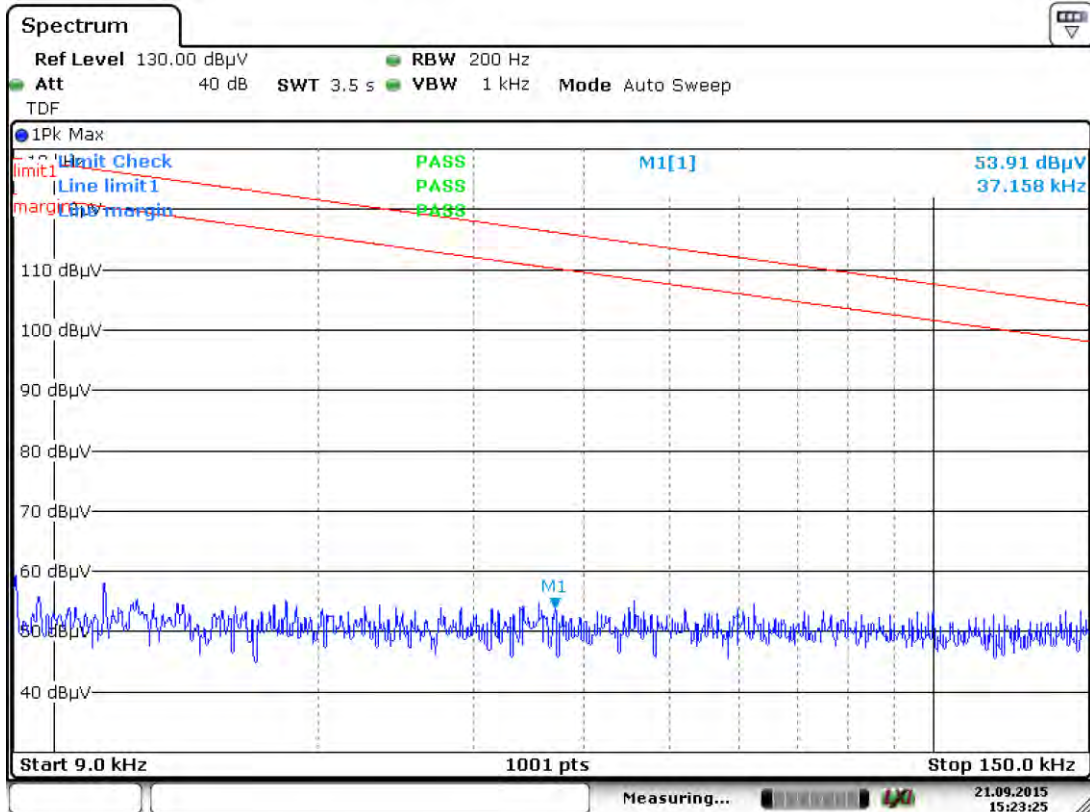
Test setup

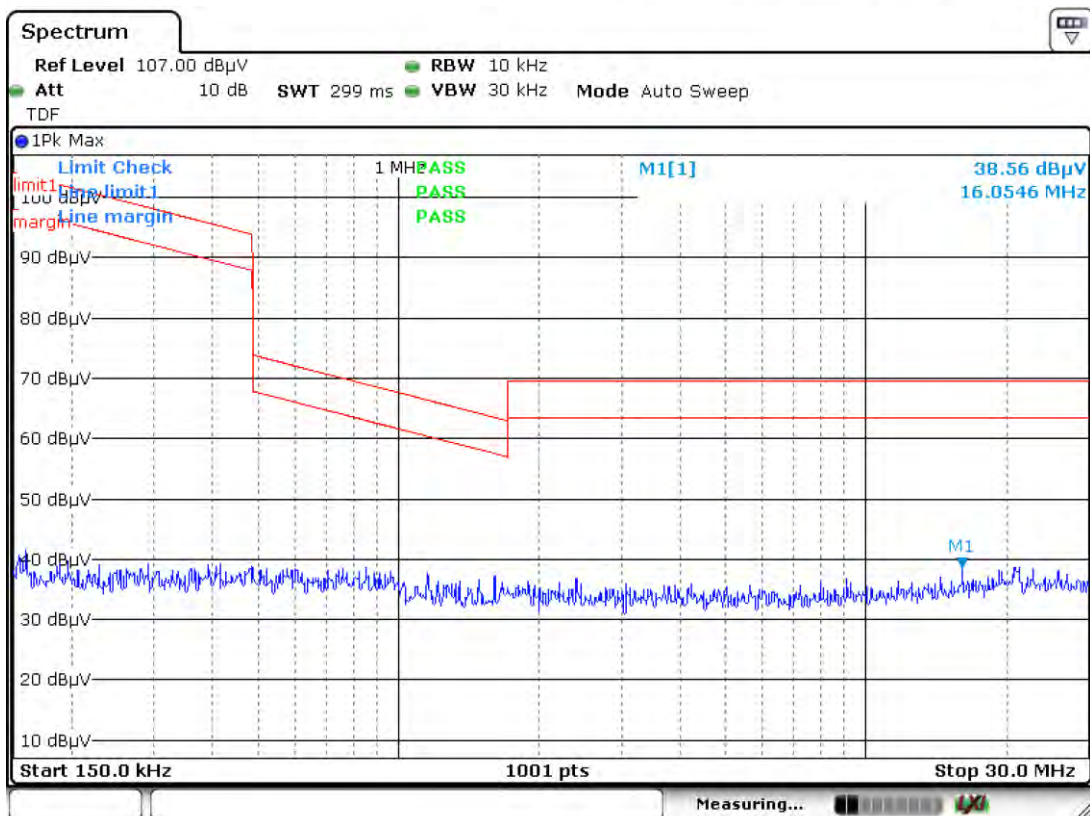
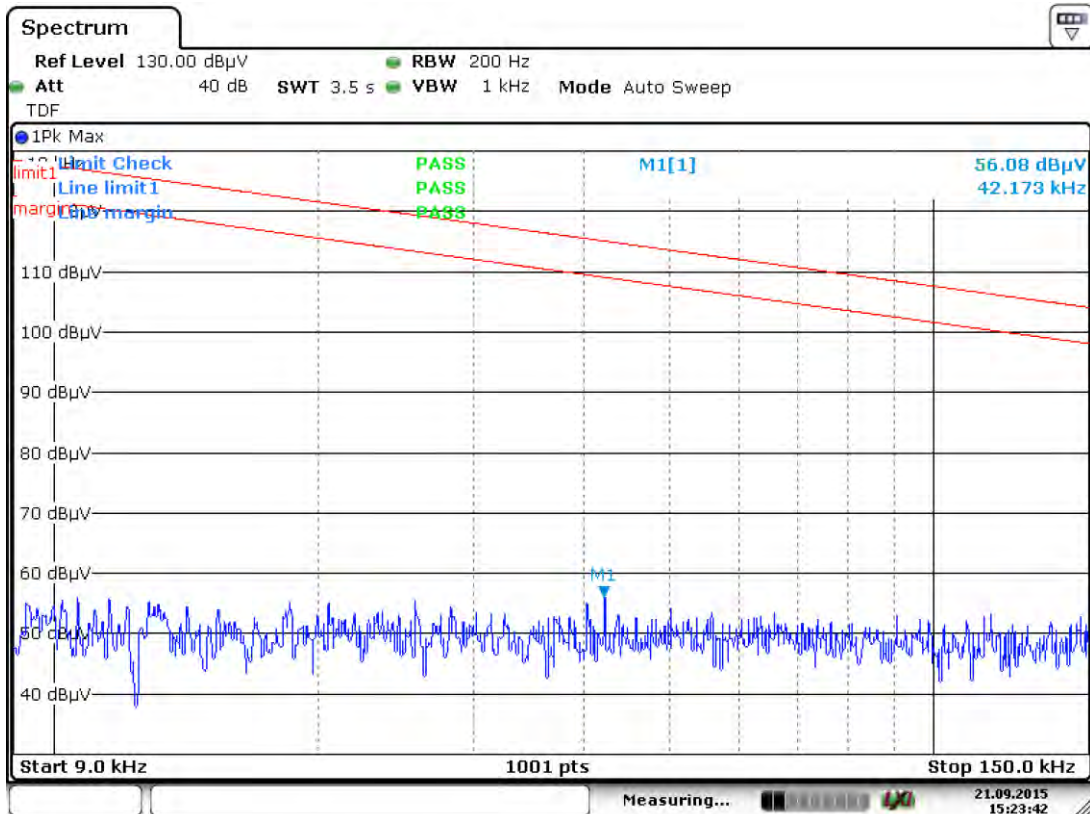
Test Channel : Low/ Middle/ High
Operation mode : A.1.a, A.2.a
Ambient temperature : 24°C
Relative humidity : 53%
Atmospheric pressure : 101kPa

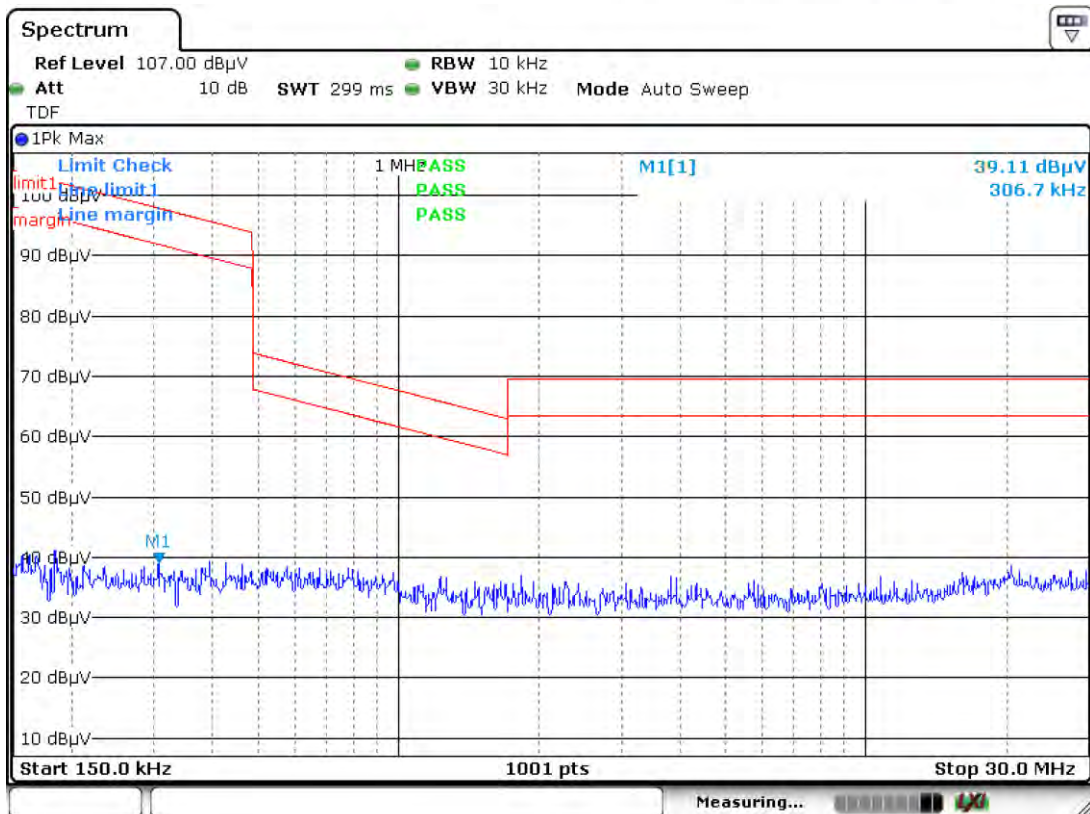
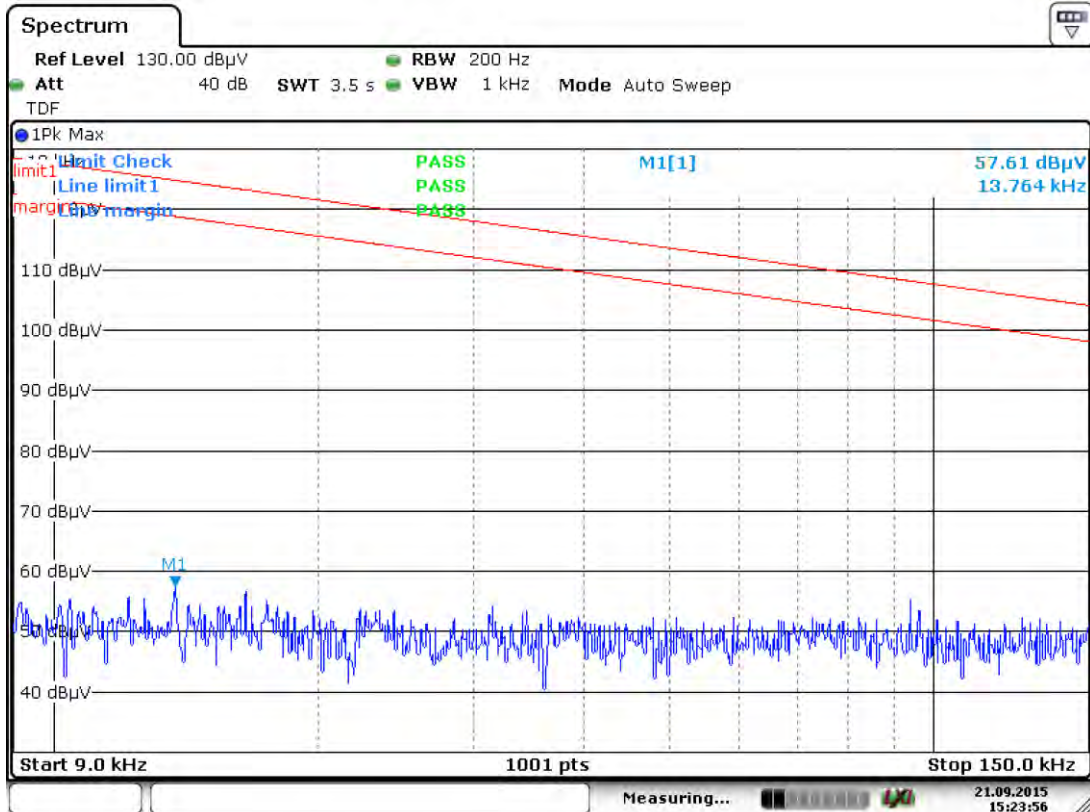
For details refer to following test plot.

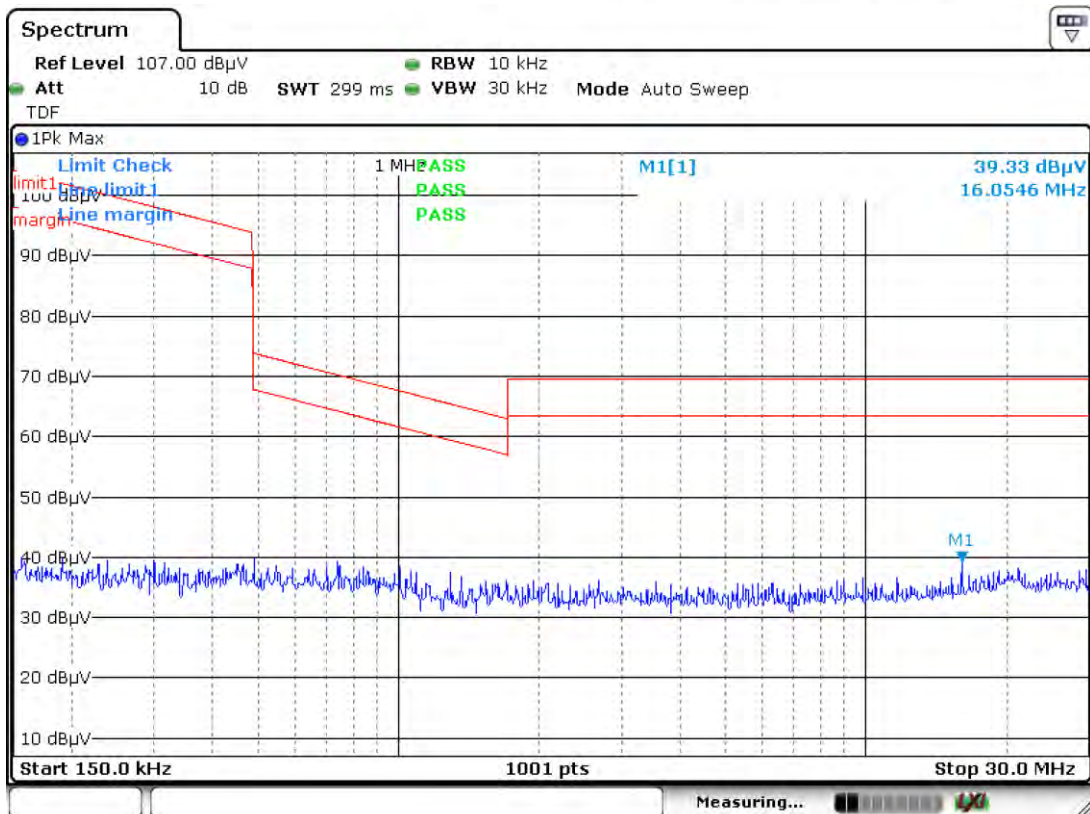
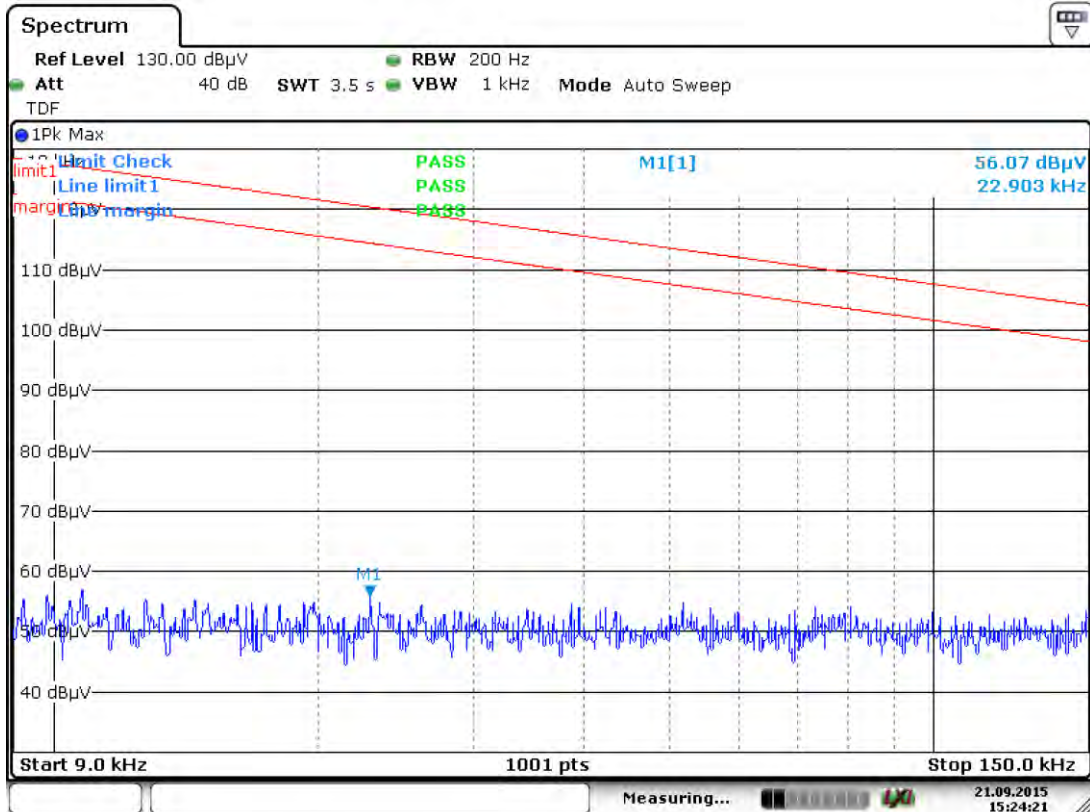
Test Plot of 2402MHz-X of BDR mode


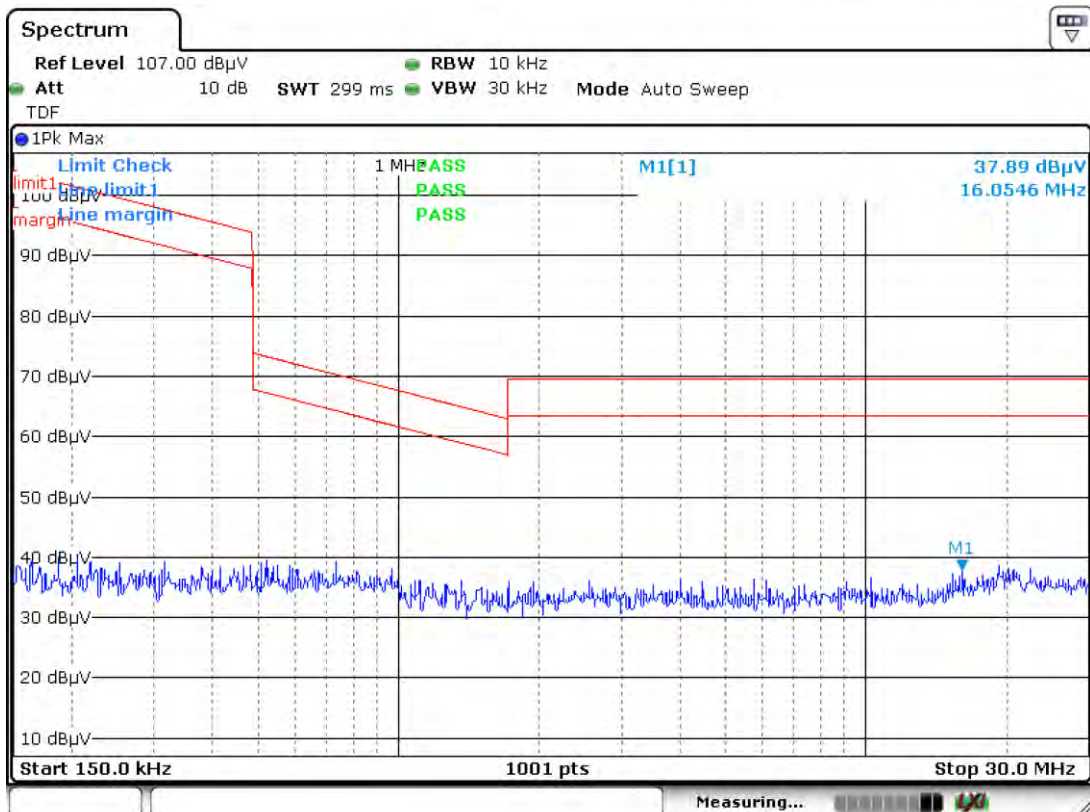
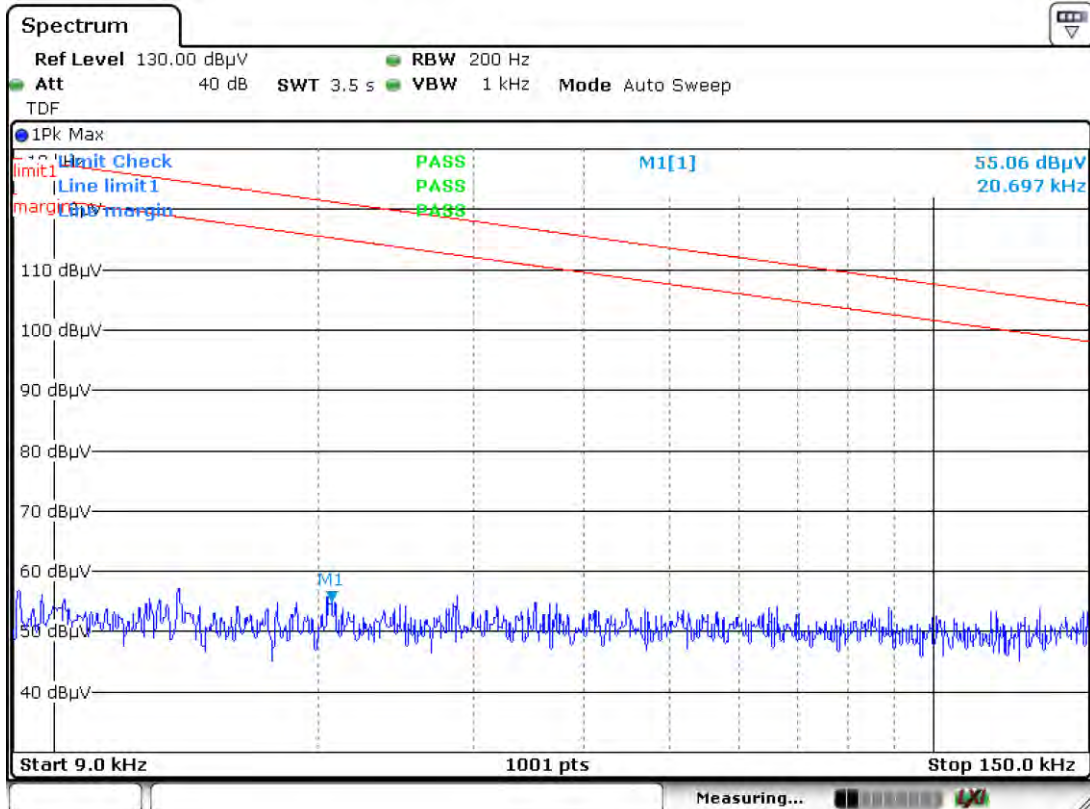
Test Plot of 2402MHz-Y of BDR mode


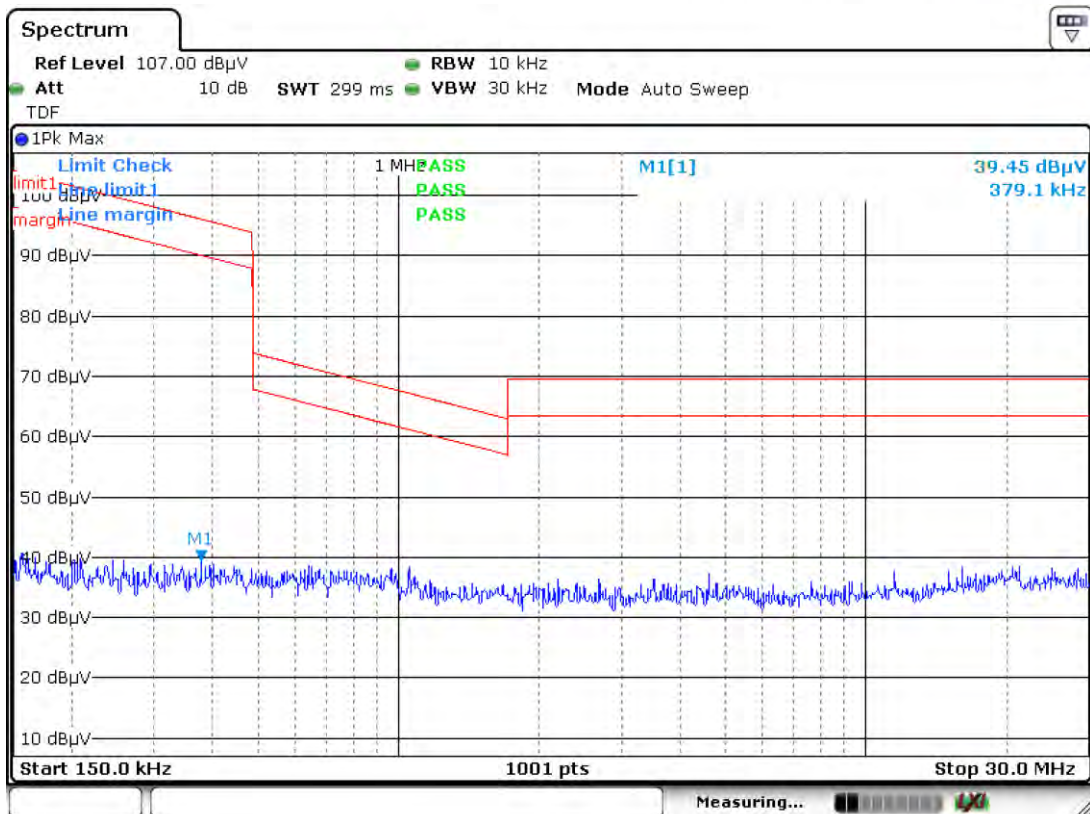
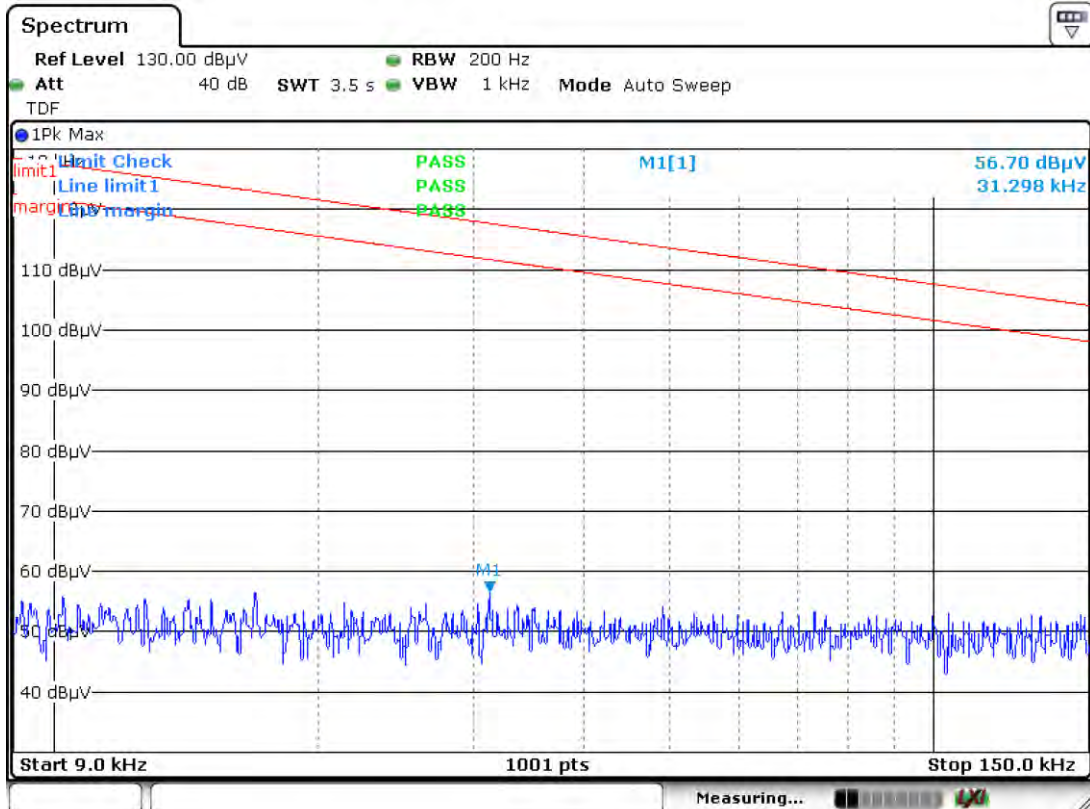
Test Plot of 2402MHz-Z of BDR mode


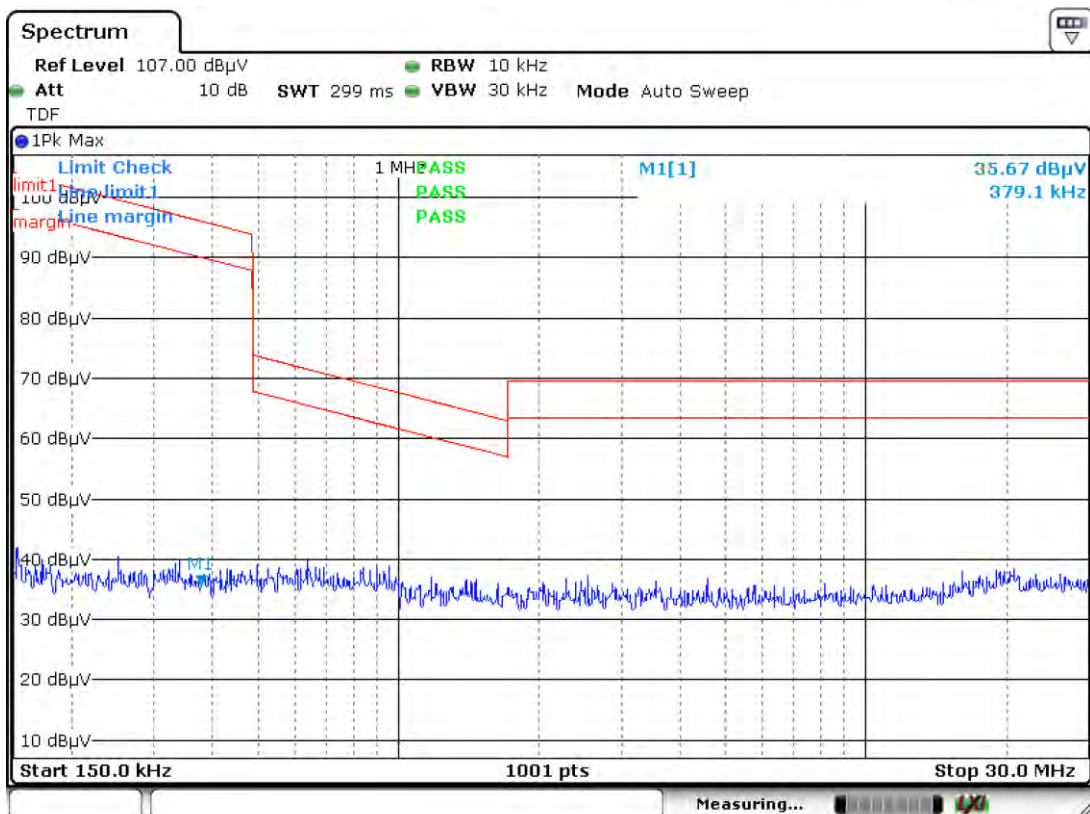
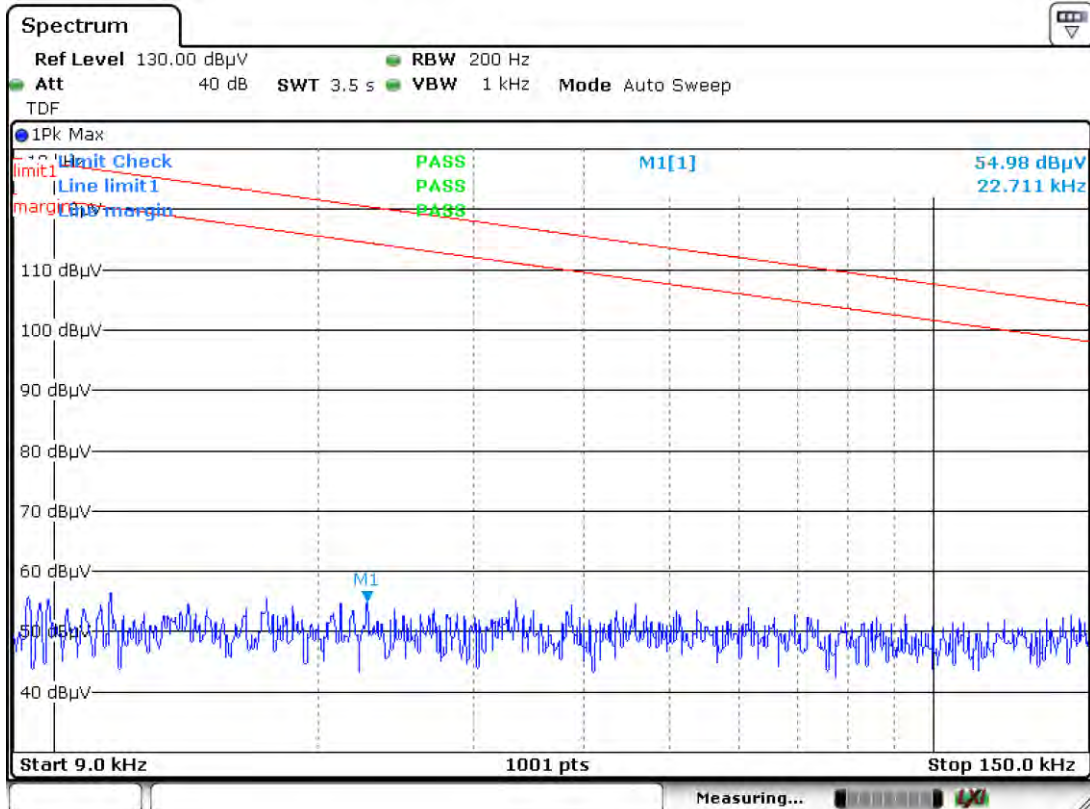
Test Plot of 2441MHz-X of BDR mode


Test Plot of 2441MHz-Y of BDR mode


Test Plot of 2441MHz-Z of BDR mode


Test Plot of 2480MHz-X of BDR mode


Test Plot of 2480MHz-Y of BDR mode


Test Plot of 2480MHz-Z of BDR mode


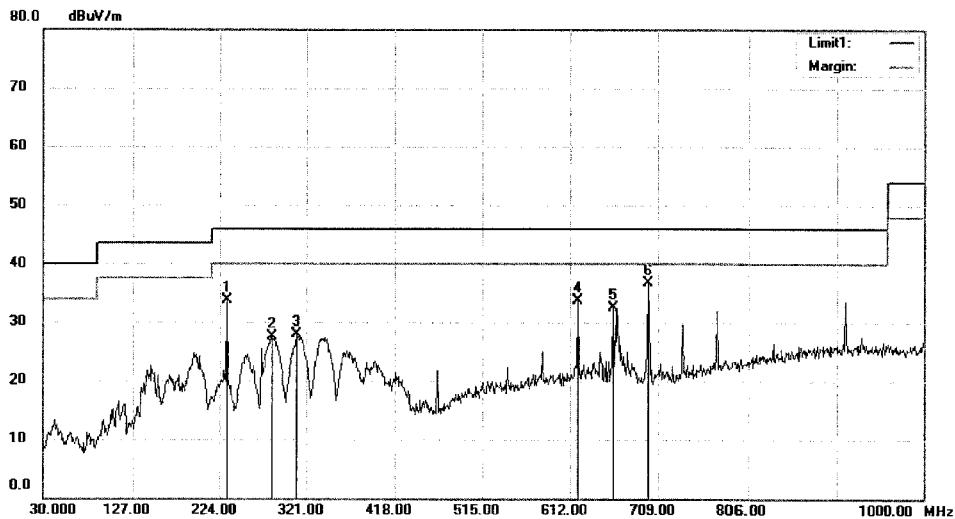
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Radiated Emission Measurement

File :TUV 9

Data :#2

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:GFSK 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		231.7600	48.66	-14.88	33.78	46.00	-12.22	QP		
2		283.1700	40.33	-12.78	27.55	46.00	-18.45	QP		
3		310.3300	41.52	-13.67	27.85	46.00	-18.15	QP		
4		620.7300	40.50	-6.79	33.71	46.00	-12.29	QP		
5		658.5600	38.90	-6.40	32.50	46.00	-13.50	QP		
6	*	697.3600	42.62	-6.00	36.62	46.00	-9.38	QP		

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

Operator: KK

File :TUV 9\Data :#2

Page: 1

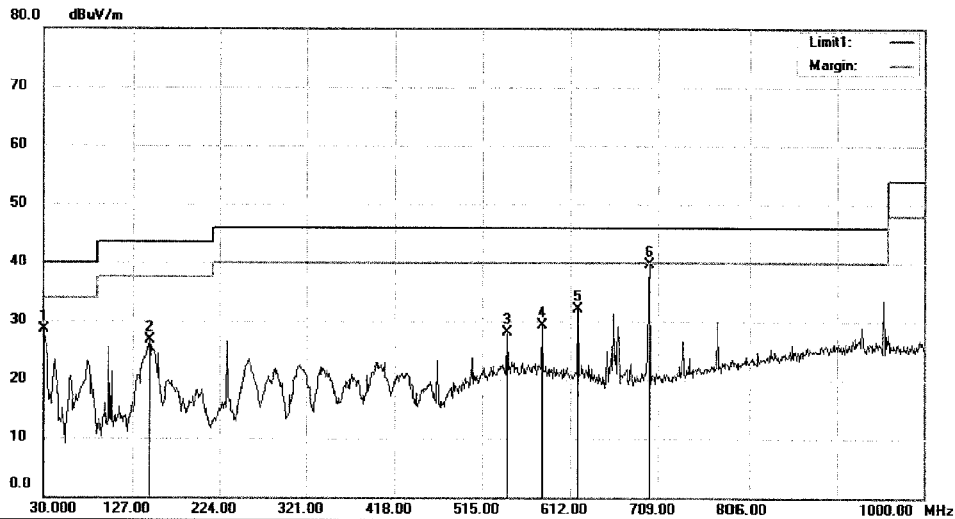
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Radiated Emission Measurement

File :TUV 9

Data :#1

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:GFSK 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		30.9700	44.65	-16.13	28.52	40.00	-11.48	QP		
2		145.4300	44.57	-17.95	26.62	43.50	-16.88	QP		
3		543.1300	35.61	-7.45	28.16	46.00	-17.84	QP		
4		580.9600	36.41	-7.15	29.26	46.00	-16.74	QP		
5		620.7300	38.97	-6.79	32.18	46.00	-13.82	QP		
6	*	699.3000	45.67	-5.99	39.68	46.00	-6.32	QP		

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

Operator: KK

File :TUV 9\Data :#1

Page: 1

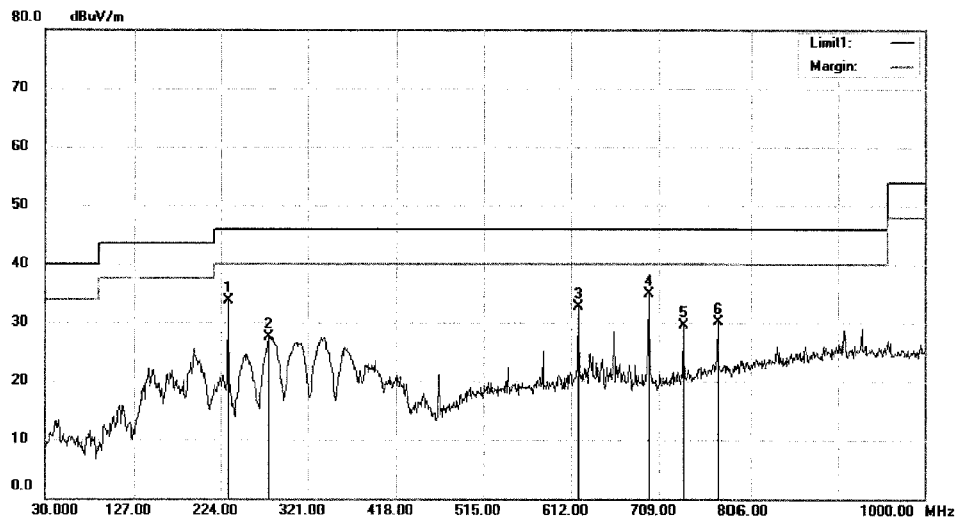
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Radiated Emission Measurement

File :TUV 9

Data :#3

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:GFSK 2441

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		231.7600	48.62	-14.88	33.74	46.00	-12.26	QP		
2		277.3500	40.08	-12.60	27.48	46.00	-18.52	QP		
3		619.7600	39.44	-6.79	32.65	46.00	-13.35	QP		
4	*	697.3600	40.81	-6.00	34.81	46.00	-11.19	QP		
5		736.1600	34.27	-4.85	29.42	46.00	-16.58	QP		
6		774.9600	33.74	-3.64	30.10	46.00	-15.90	QP		

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

Operator: KK

File :TUV 9\Data :#3

Page: 1

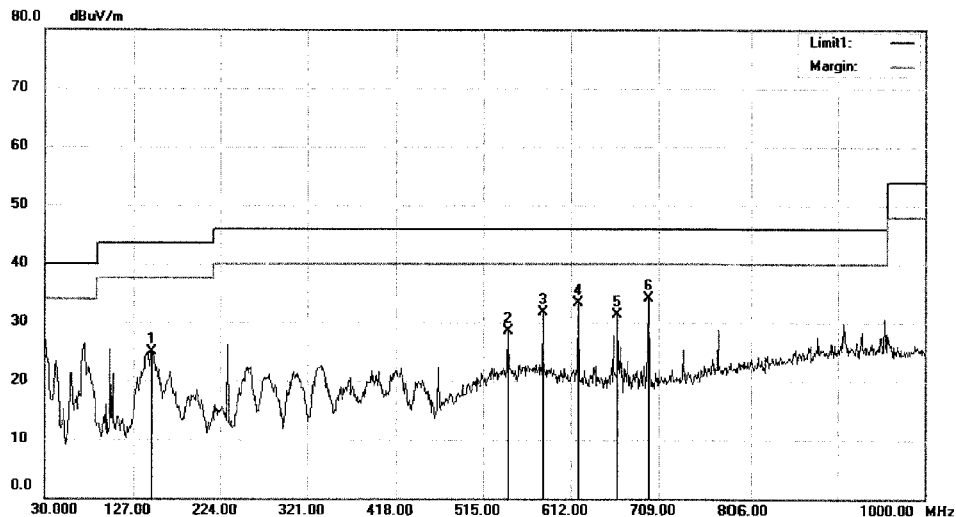
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Radiated Emission Measurement

File :TUV 9

Data :#4

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:GFSK 2441

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		146.4000	42.99	-17.99	25.00	43.50	-18.50	QP		
2		542.1600	36.04	-7.46	28.58	46.00	-17.42	QP		
3		580.9600	38.89	-7.15	31.74	46.00	-14.26	QP		
4		619.7600	40.02	-6.79	33.23	46.00	-12.77	QP		
5		663.4100	37.63	-6.35	31.28	46.00	-14.72	QP		
6	*	697.3600	40.02	-6.00	34.02	46.00	-11.98	QP		

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

Operator: KK

File :TUV 9\Data :#4

Page: 1

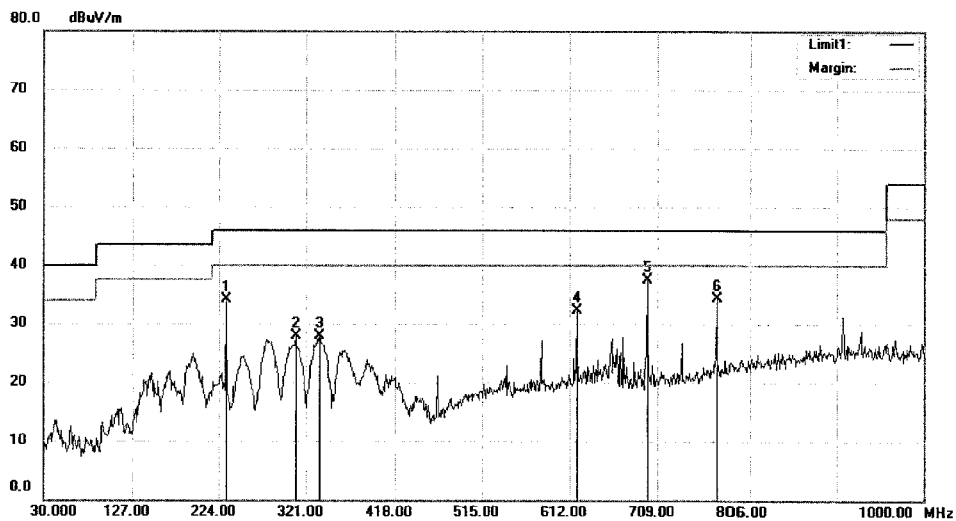
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Radiated Emission Measurement

File :TUV 9

Data :#5

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:GFSK 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		231.7600	48.95	-14.88	34.07	46.00	-11.93	QP		
2		309.3600	41.51	-13.68	27.83	46.00	-18.17	QP		
3		335.5500	40.56	-12.70	27.86	46.00	-18.14	QP		
4		619.7600	39.19	-6.79	32.40	46.00	-13.60	QP		
5	*	697.3600	43.55	-6.00	37.55	46.00	-8.45	QP		
6		774.9600	37.86	-3.64	34.22	46.00	-11.78	QP		

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

Operator: KK

File :TUV 9\Data :#5

Page: 1

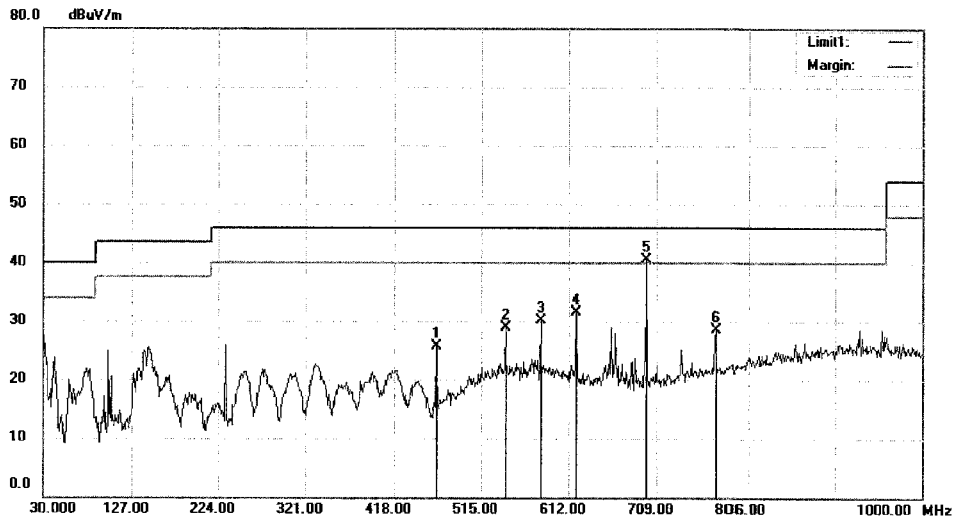
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Radiated Emission Measurement

File :TUV 9

Data :#6

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:GFSK 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		464.5600	36.71	-10.95	25.76	46.00	-20.24	QP		
2		542.1600	36.41	-7.46	28.95	46.00	-17.05	QP		
3		580.9600	37.16	-7.15	30.01	46.00	-15.99	QP		
4		619.7600	38.24	-6.79	31.45	46.00	-14.55	QP		
5	*	698.3300	46.47	-6.00	40.47	46.00	-5.53	QP		
6		774.9600	32.16	-3.64	28.52	46.00	-17.48	QP		

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

Operator: KK

File :TUV 9\Data :#6

Page: 1

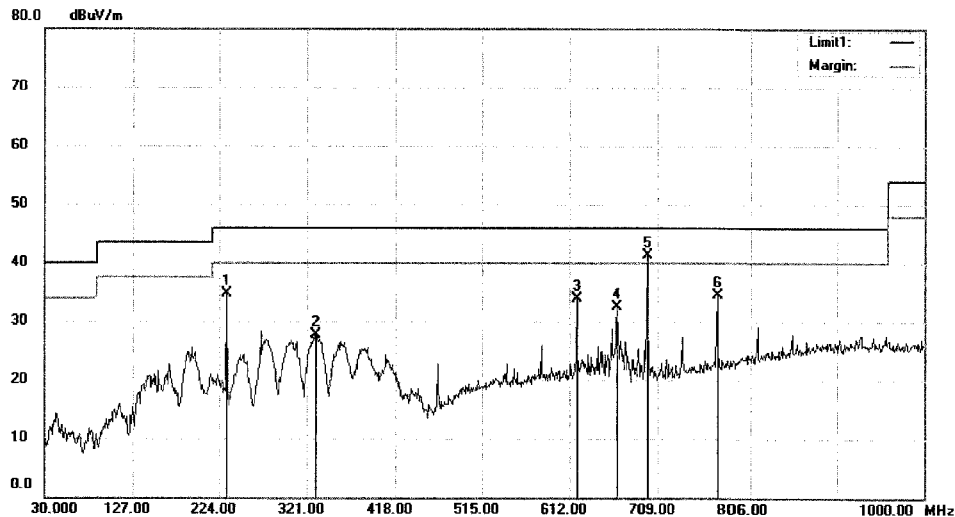
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Radiated Emission Measurement

File :TUV 9

Data :#7

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:8DPSK 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		231.7600	49.66	-14.88	34.78	46.00	-11.22	QP		
2		330.7000	40.74	-12.94	27.80	46.00	-18.20	QP		
3		619.7600	40.60	-6.79	33.81	46.00	-12.19	QP		
4		664.3800	38.81	-6.34	32.47	46.00	-13.53	QP		
5	*	697.3600	47.35	-6.00	41.35	46.00	-4.65	QP		
6		774.9600	38.21	-3.64	34.57	46.00	-11.43	QP		

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

Operator: KK

File :TUV 9\Data :#7

Page: 1

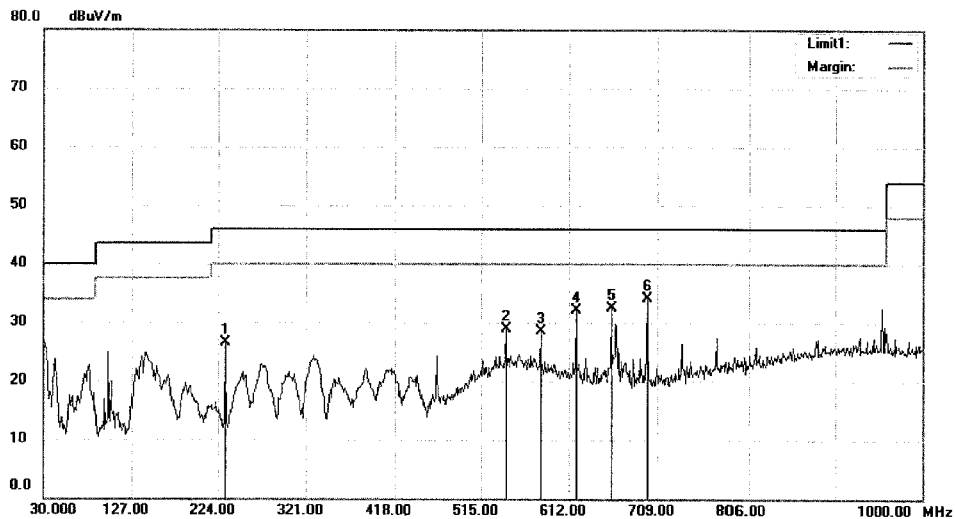
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Radiated Emission Measurement

File :TUV 9

Data :#8

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:8DPSK 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		231.7600	41.46	-14.88	26.58	46.00	-19.42	QP		
2		542.1600	36.37	-7.46	28.91	46.00	-17.09	QP		
3		580.9600	35.74	-7.15	28.59	46.00	-17.41	QP		
4		619.7600	38.88	-6.79	32.09	46.00	-13.91	QP		
5		658.5600	39.00	-6.40	32.60	46.00	-13.40	QP		
6	*	697.3600	40.20	-6.00	34.20	46.00	-11.80	QP		

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

Operator: KK

File :TUV 9\Data :#8

Page: 1

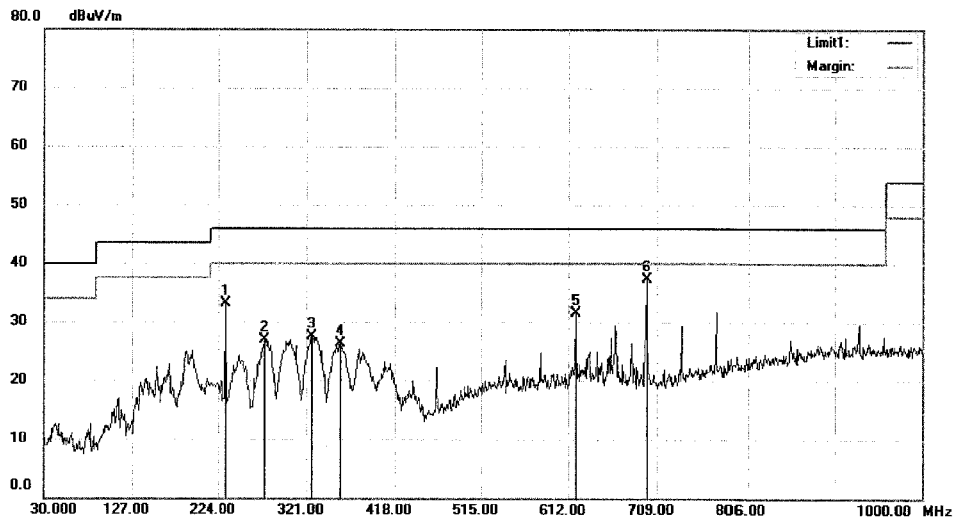
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Radiated Emission Measurement

File :TUV 9

Data :#9

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:8DPSK 2441

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		231.7600	48.07	-14.88	33.19	46.00	-12.81	QP		
2		275.4100	39.52	-12.62	26.90	46.00	-19.10	QP		
3		326.8200	40.68	-13.15	27.53	46.00	-18.47	QP		
4		357.8600	37.22	-10.92	26.30	46.00	-19.70	QP		
5		619.7600	38.33	-6.79	31.54	46.00	-14.46	QP		
6	*	697.3600	43.40	-6.00	37.40	46.00	-8.60	QP		

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

Operator: KK

File :TUV 9\Data :#9

Page: 1

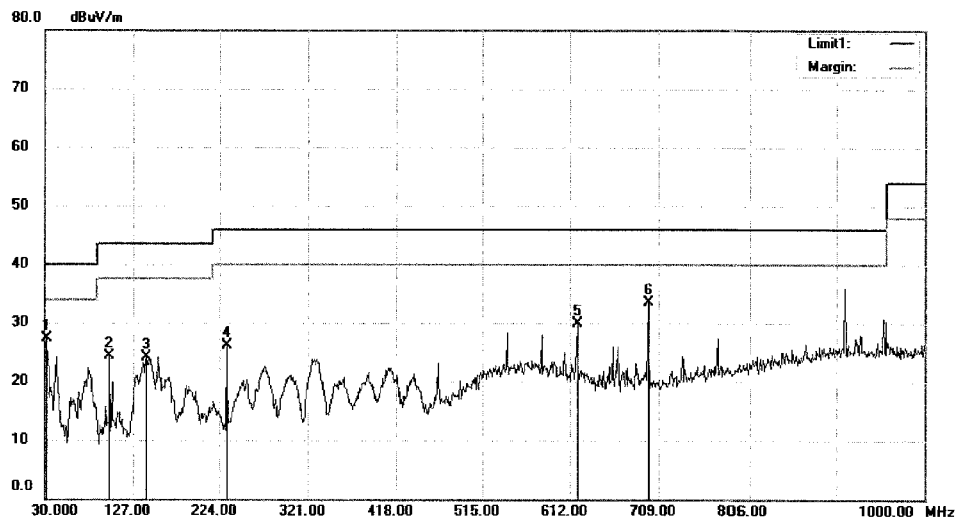
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Radiated Emission Measurement

File :TUV 9

Data :#10

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:8DPSK 2441

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		31.9400	43.09	-15.81	27.28	40.00	-12.72	QP		
2		100.8100	38.32	-14.02	24.30	43.50	-19.20	QP		
3		141.5500	41.98	-17.84	24.14	43.50	-19.36	QP		
4		231.7600	40.96	-14.88	26.08	46.00	-19.92	QP		
5		619.7600	36.64	-6.79	29.85	46.00	-16.15	QP		
6	*	697.3600	39.43	-6.00	33.43	46.00	-12.57	QP		

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

Operator: KK

File :TUV 9\Data :#10

Page: 1

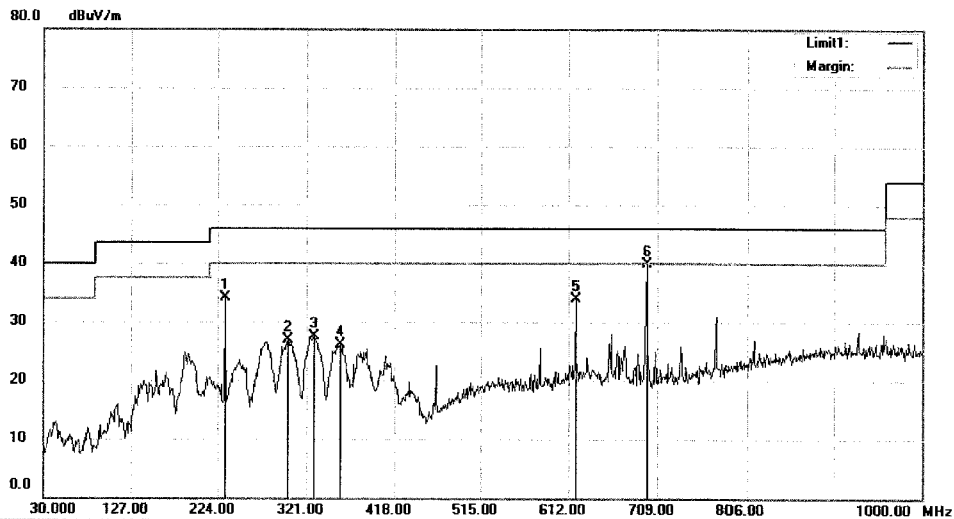
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Radiated Emission Measurement

File :TUV 9

Data :#11

Date: 15/09/19/



Site 3m Chamber #3

Limit: (RE)FCC PART 15.247

EUT: MID

M/N: MID1102-MA; DL1168A

Mode:8DPSK 2480

Note:

 Polarization: **Horizontal**

Power: AC 120V/60Hz

Temperature: 24 C

Humidity: 53 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		231.7600	49.05	-14.88	34.17	46.00	-11.83	QP		
2		300.6300	40.76	-13.82	26.94	46.00	-19.06	QP		
3		328.7600	40.60	-13.04	27.56	46.00	-18.44	QP		
4		357.8600	37.05	-10.92	26.13	46.00	-19.87	QP		
5		619.7600	40.66	-6.79	33.87	46.00	-12.13	QP		
6	*	697.3600	45.81	-6.00	39.81	46.00	-6.19	QP		

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

Operator: KK

File :TUV 9\Data :#11

Page: 1

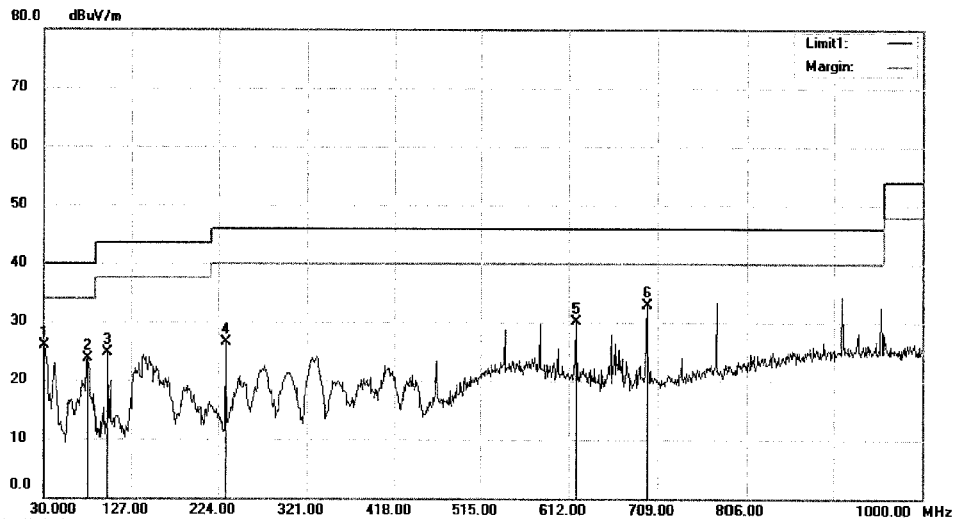
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Radiated Emission Measurement

File :TUV 9

Data :#12

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:8DPSK 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		30.0000	42.31	-16.46	25.85	40.00	-14.15	QP		
2		78.5000	43.18	-19.44	23.74	40.00	-16.26	QP		
3		100.8100	38.82	-14.02	24.80	43.50	-18.70	QP		
4		231.7600	41.31	-14.88	26.43	46.00	-19.57	QP		
5		619.7600	36.96	-6.79	30.17	46.00	-15.83	QP		
6	*	697.3600	38.89	-6.00	32.89	46.00	-13.11	QP		

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

Operator: KK

File :TUV 9\Data :#12

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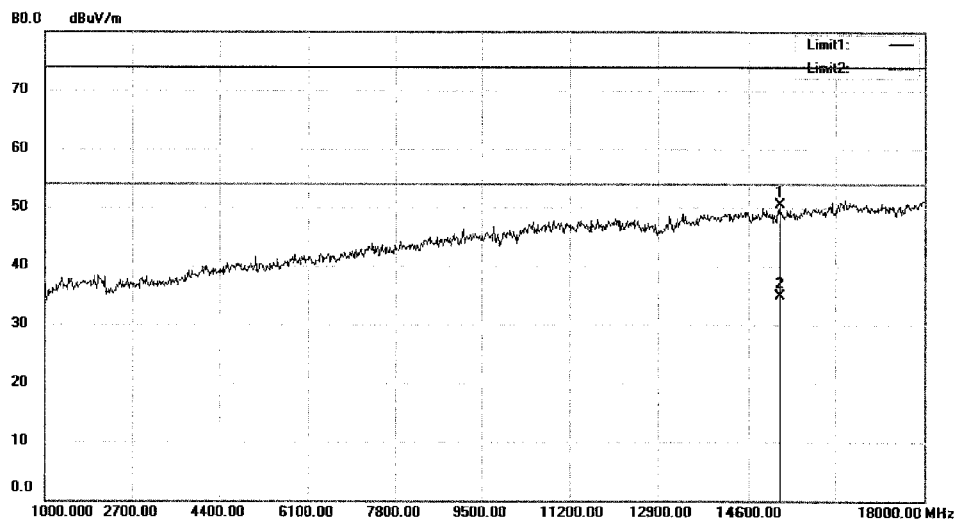
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 www.emtek.com.cn Tel: +86-755-2695 4280 Fax: +86-755-2695 4282


Radiated Emission Measurement

File :TUV 9

Data :#119

Date: 15/09/20/



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:GFSK 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		15212.00	57.58	-7.05	50.53	74.00	-23.47	peak		
2	*	15212.00	41.90	-7.05	34.85	54.00	-19.15	AVG		

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

Operator: KK

File :TUV 9\Data :#119

Page: 1

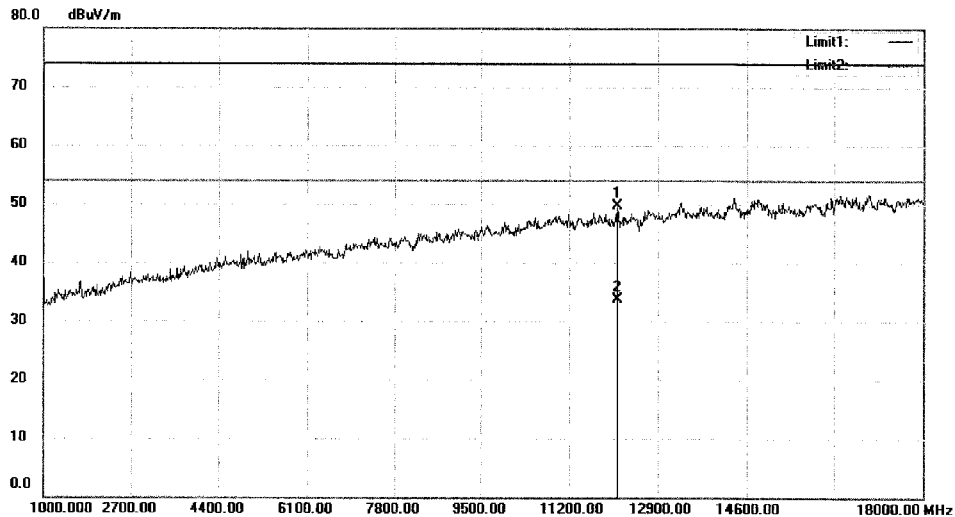
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Radiated Emission Measurement

File :TUV 9

Data :#120

Date: 15/09/20/



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:GFSK 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree Comment
1		12118.00	59.04	-9.31	49.73	74.00	-24.27	peak		
2	*	12118.00	43.05	-9.31	33.74	54.00	-20.26	AVG		

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

Operator: KK

File :TUV 9\Data :#120

Page: 1

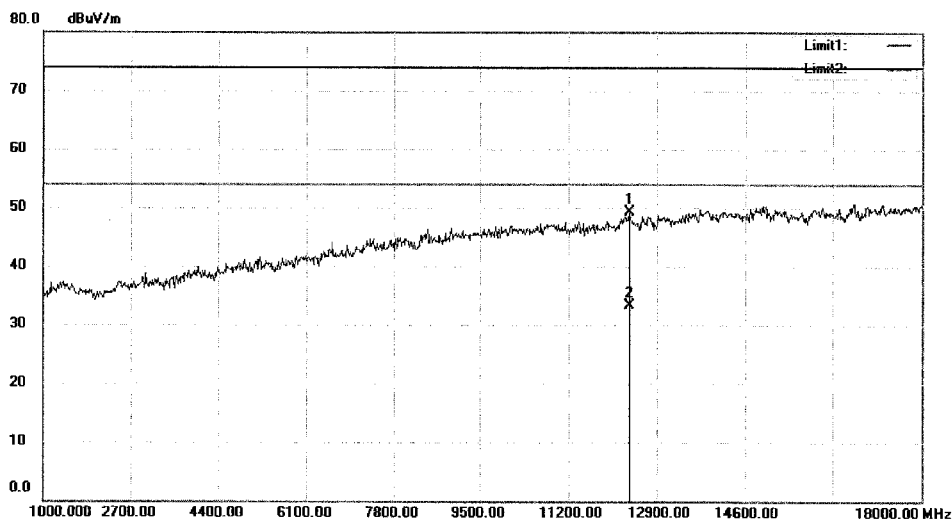
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Radiated Emission Measurement

File :TUV 9

Data :#121

Date: 15/09/20/



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:GFSK 2441

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		12356.00	58.90	-9.52	49.38	74.00	-24.62	peak		
2	*	12356.00	42.78	-9.52	33.26	54.00	-20.74	AVG		

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

Operator: KK

File :TUV 9\Data :#121

Page: 1

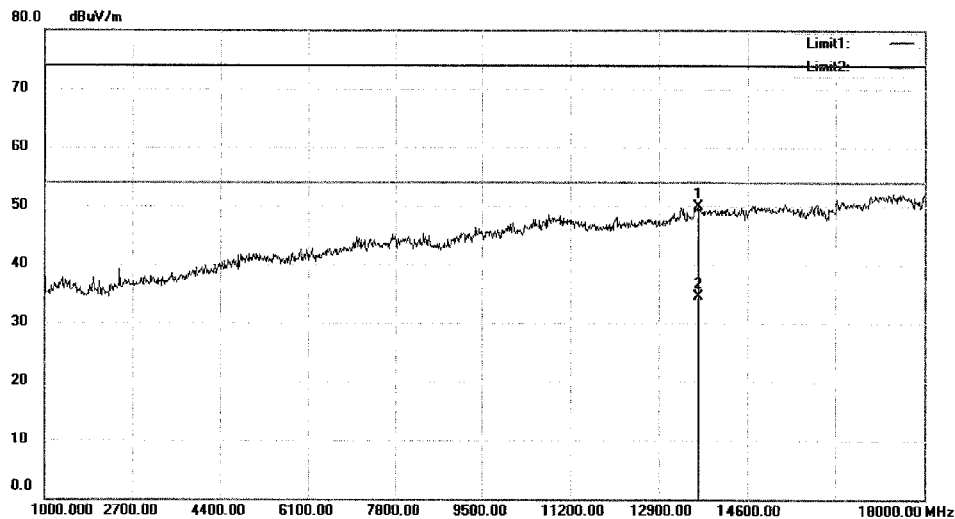
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Radiated Emission Measurement

File :TUV 9

Data :#122

Date: 15/09/20/



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:GFSK 2441

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		13682.00	56.64	-6.83	49.81	74.00	-24.19	peak		
2	*	13682.00	41.39	-6.83	34.56	54.00	-19.44	AVG		

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

Operator: KK

File :TUV 9\Data :#122

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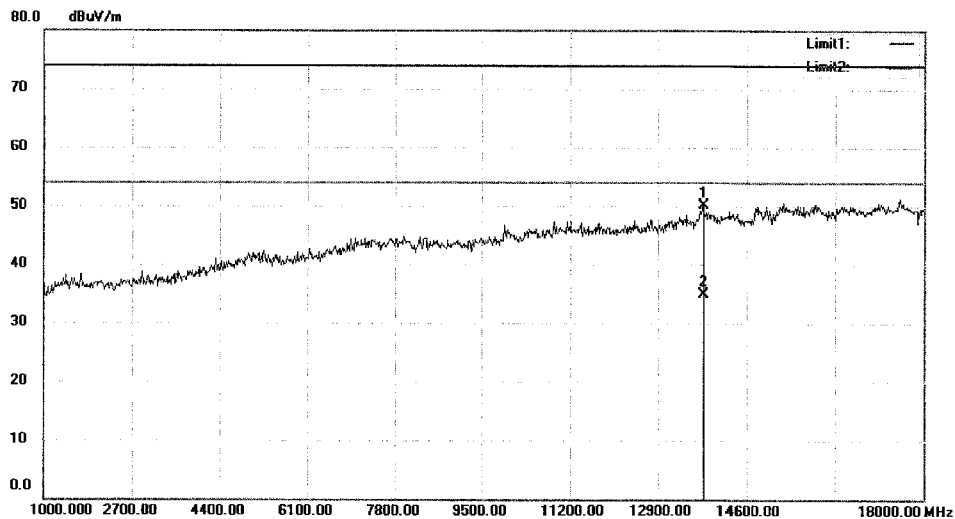
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Radiated Emission Measurement

File :TUV 9

Data :#123

Date: 15/09/20/



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:GFSK 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree Comment
1		13784.00	56.43	-6.34	50.09	74.00	-23.91	peak		
2	*	13784.00	41.19	-6.34	34.85	54.00	-19.15	AVG		

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

Operator: KK

File :TUV 9\Data :#123

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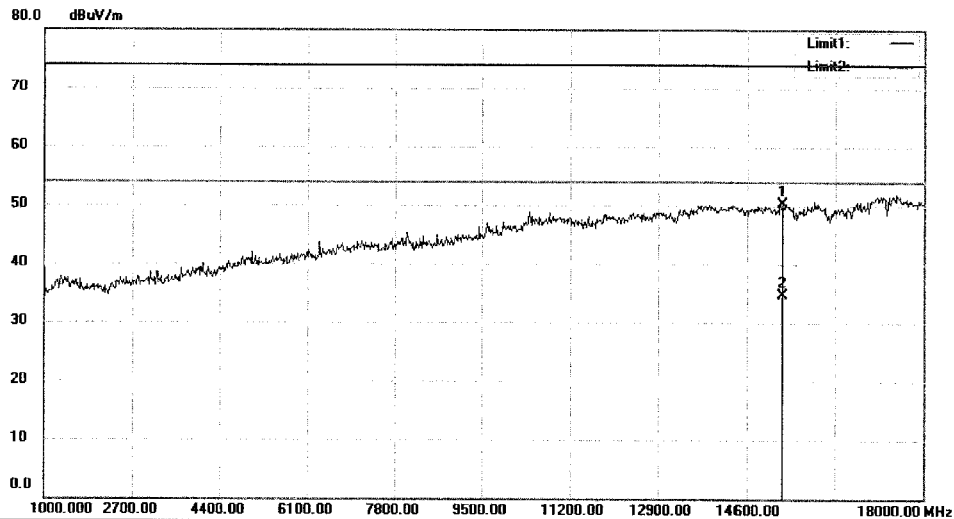
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Radiated Emission Measurement

File :TUV 9

Data :#124

Date: 15/09/20/



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:GFSK 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		15297.00	57.45	-7.13	50.32	74.00	-23.68	peak		
2	*	15297.00	41.88	-7.13	34.75	54.00	-19.25	AVG		

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

Operator: KK

File :TUV 9\Data :#124

Page: 1

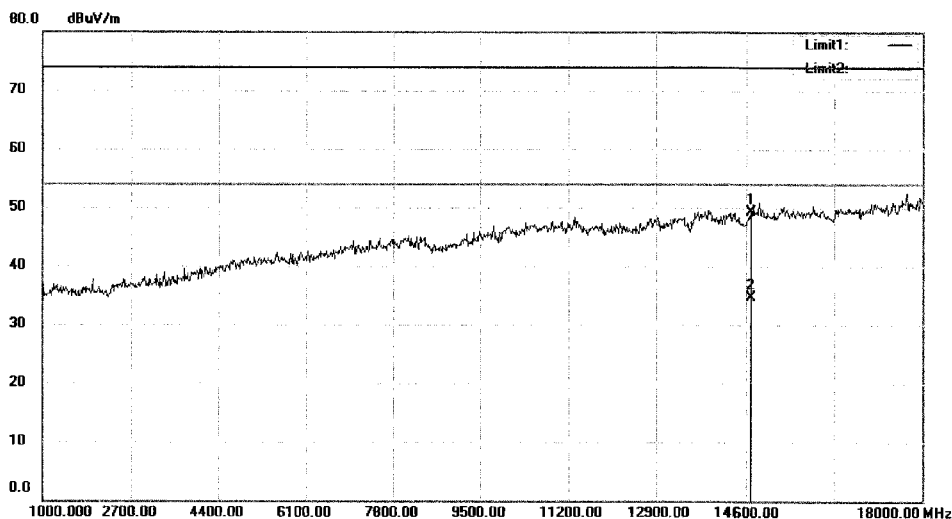
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Radiated Emission Measurement

File :TUV 9

Data #125

Date: 15/09/20/



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:8DPSK 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		14702.00	55.73	-6.39	49.34	74.00	-24.66	peak		
2	*	14702.00	41.01	-6.39	34.62	54.00	-19.38	AVG		

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

Operator: KK

File :TUV 9\Data :#125

Page: 1

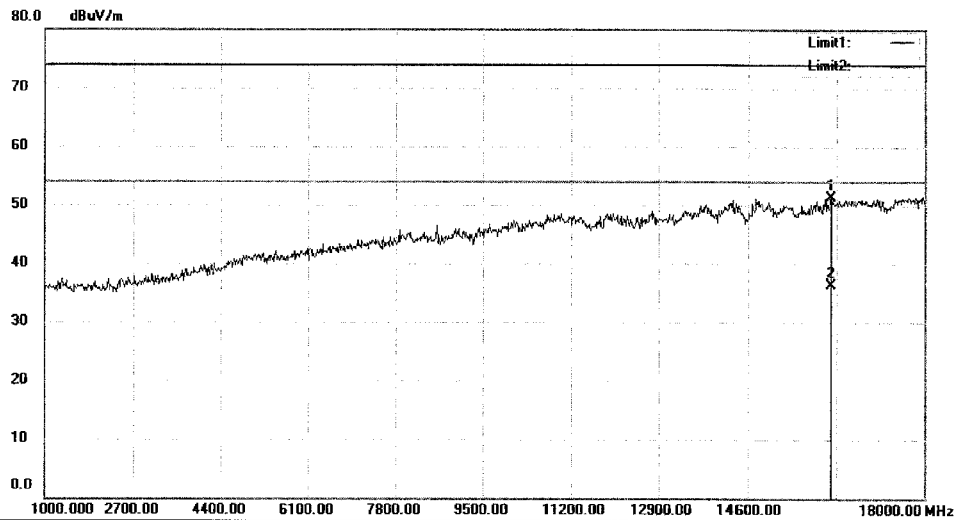
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Radiated Emission Measurement

File :TUV 9

Data :#126

Date: 15/09/20/



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:8DPSK 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		16198.00	58.47	-7.20	51.27	74.00	-22.73	peak		
2	*	16198.00	43.41	-7.20	36.21	54.00	-17.79	AVG		

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

Operator: KK

File :TUV 9\Data :#126

Page: 1

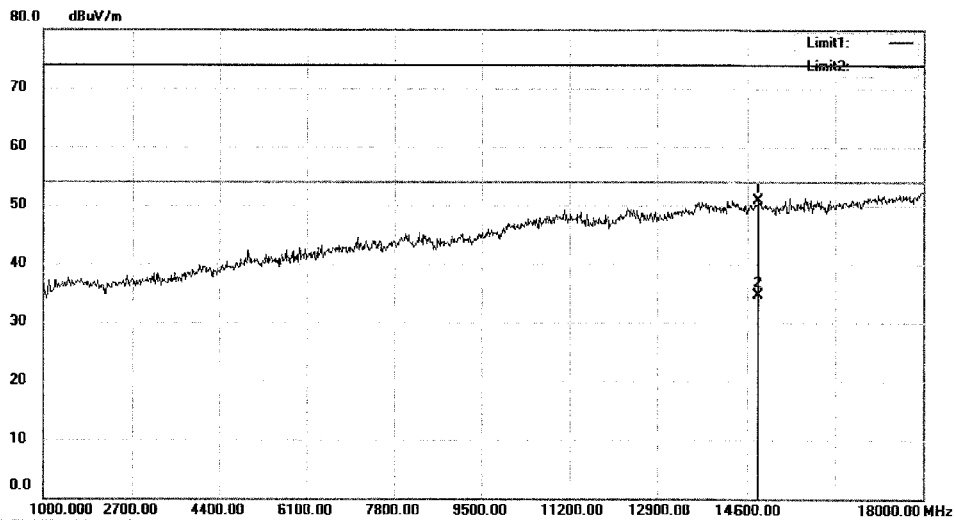
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Radiated Emission Measurement

File :TUV 9

Data :#127

Date: 15/09/20/



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:8DPSK 2441

Note:

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		14821.00	57.43	-6.59	50.84	74.00	-23.16	peak		
2	*	14821.00	41.21	-6.59	34.62	54.00	-19.38	AVG		

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

Operator: KK

File :TUV 9\Data :#127

Page: 1

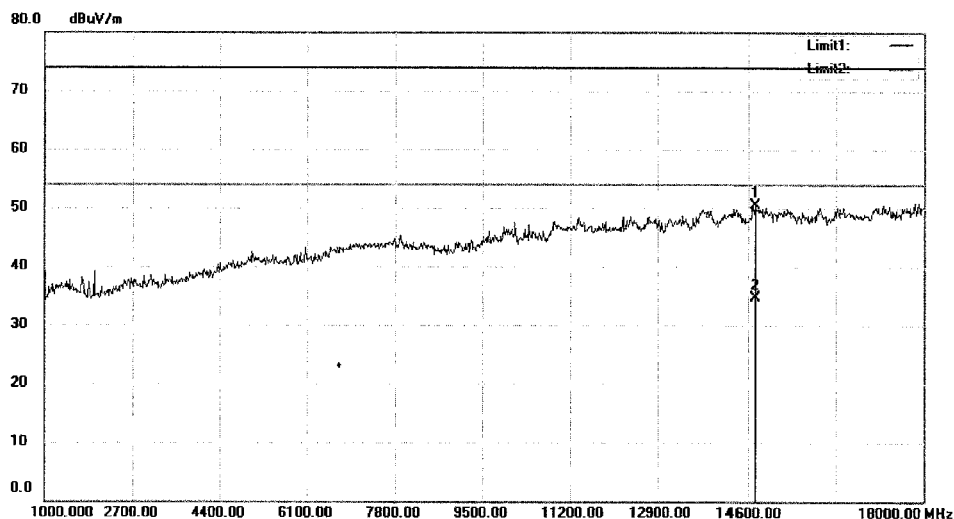
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Radiated Emission Measurement

File :TUV 9

Data :#128

Date: 15/09/20/



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:8DPSK 2441

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		14736.00	57.02	-6.46	50.56	74.00	-23.44	peak		
2	*	14736.00	41.08	-6.46	34.62	54.00	-19.38	AVG		

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

Operator: KK

File :TUV 9\Data :#128

Page: 1

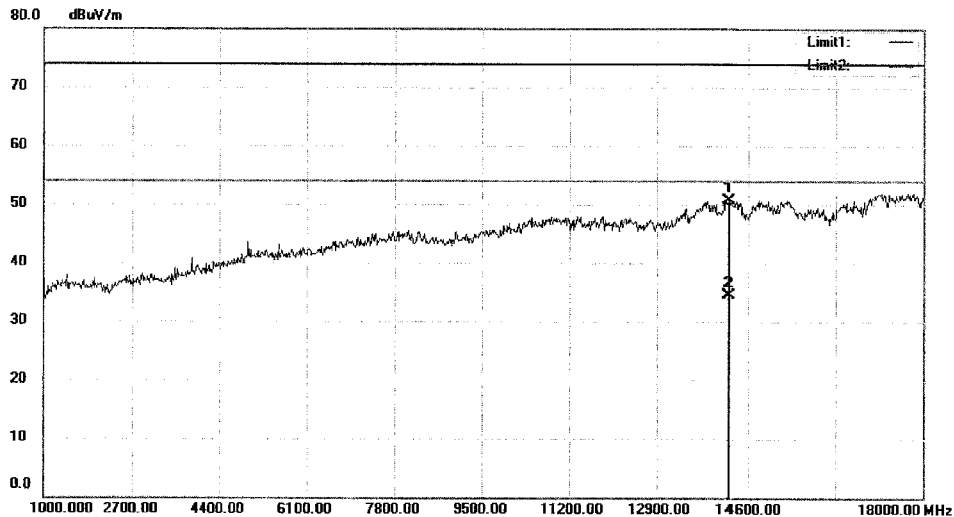
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Radiated Emission Measurement

File :TUV 9

Data #129

Date: 15/09/20/



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:8DPSK 2480

Note:

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		14260.00	56.38	-5.71	50.67	74.00	-23.33	peak		
2	*	14260.00	40.22	-5.71	34.51	54.00	-19.49	AVG		

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

Operator: KK

File :TUV 9\Data #129

Page: 1

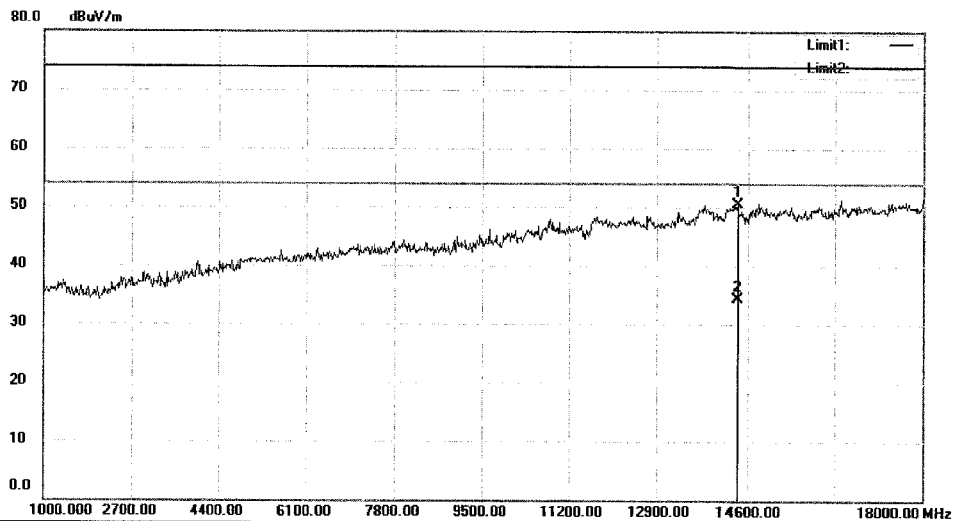
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Radiated Emission Measurement

File :TUV 9

Data :#130

Date: 15/09/20/



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:8DPSK 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree Comment
1		14396.00	56.49	-5.92	50.57	74.00	-23.43	peak		
2	*	14396.00	40.18	-5.92	34.26	54.00	-19.74	AVG		

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

Operator: KK

File :TUV 9\Data :#130

Page: 1

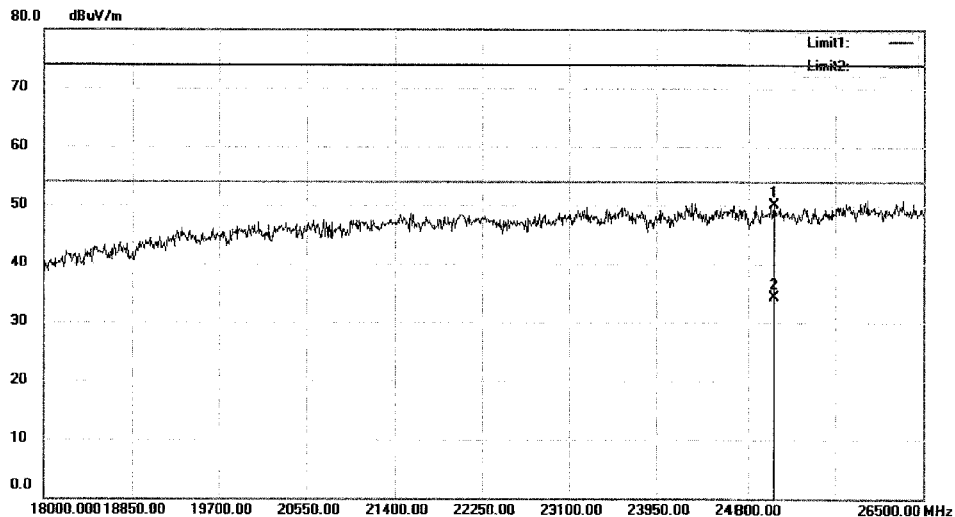
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Radiated Emission Measurement

File :TUV 9

Data :#283

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:GFSK 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		25055.00	87.13	-36.94	50.19	74.00	-23.81	peak		
2	*	25055.00	71.29	-36.94	34.35	54.00	-19.65	AVG		

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

Operator: KK

File :TUV 9\Data :#283

Page: 1

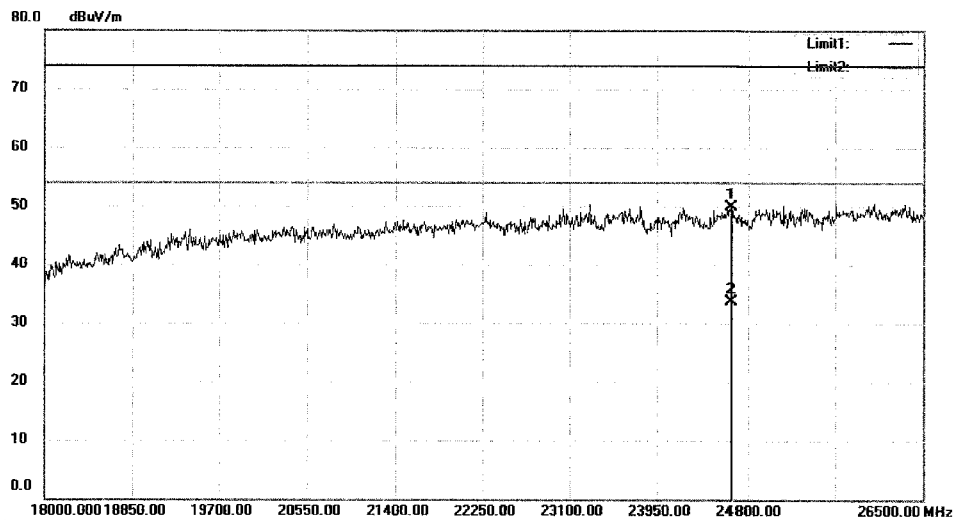
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Radiated Emission Measurement

File :TUV 9

Data :#284

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; DL1168A

Mode:GFSK 2402

Note:

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		24655.50	87.02	-37.05	49.97	74.00	-24.03	peak		
2	*	24655.50	70.66	-37.05	33.61	54.00	-20.39	AVG		

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

Operator: KK

File :TUV 9\Data :#284

Page: 1

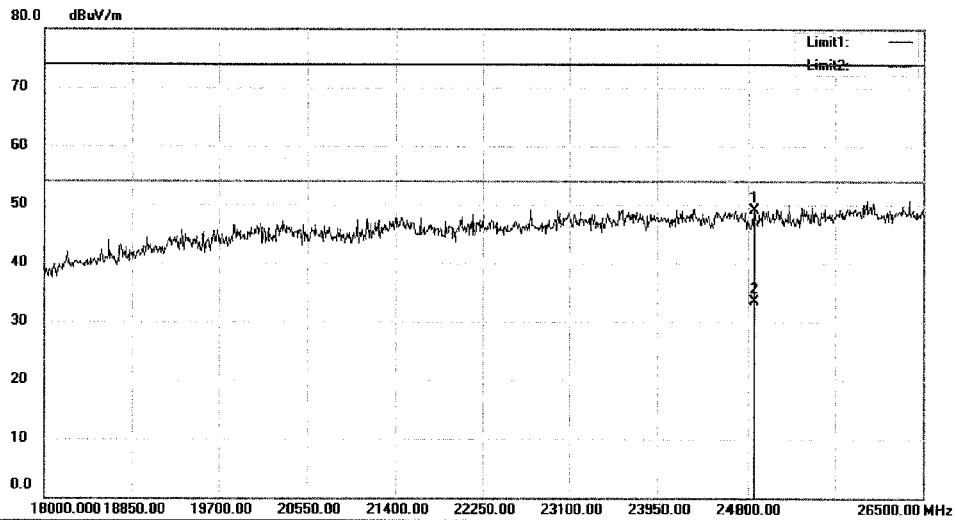
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Radiated Emission Measurement

File :TUV 9

Data :#285

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:GFSK 2441

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		24859.50	86.13	-37.03	49.10	74.00	-24.90	peak		
2	*	24859.50	70.56	-37.03	33.53	54.00	-20.47	AVG		

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

Operator: KK

File :TUV 9\Data :#285

Page: 1

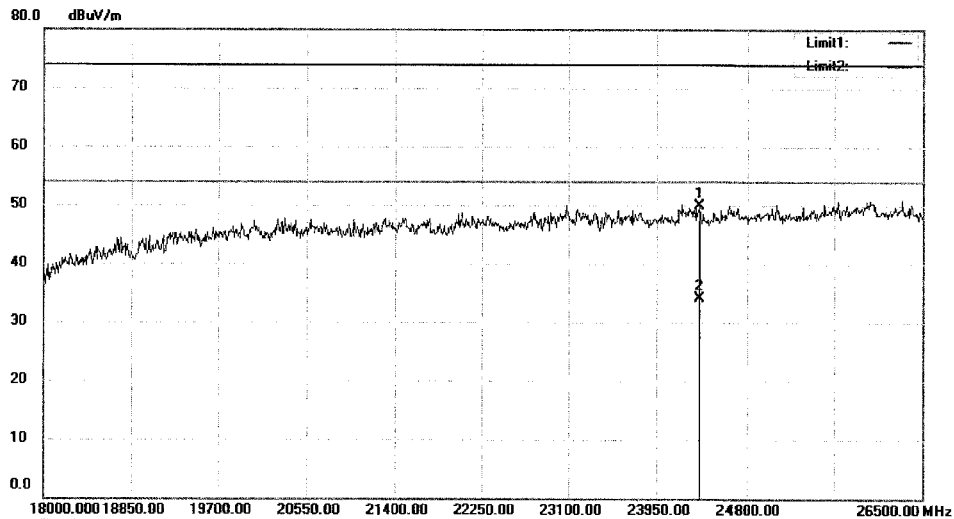
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Radiated Emission Measurement

File :TUV 9

Data :#286

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; DL1168A

Mode:GFSK 2441

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		24366.50	87.05	-37.09	49.96	74.00	-24.04	peak		
2	*	24366.50	71.25	-37.09	34.16	54.00	-19.84	AVG		

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

Operator: KK

File :TUV 9\Data :#286

Page: 1

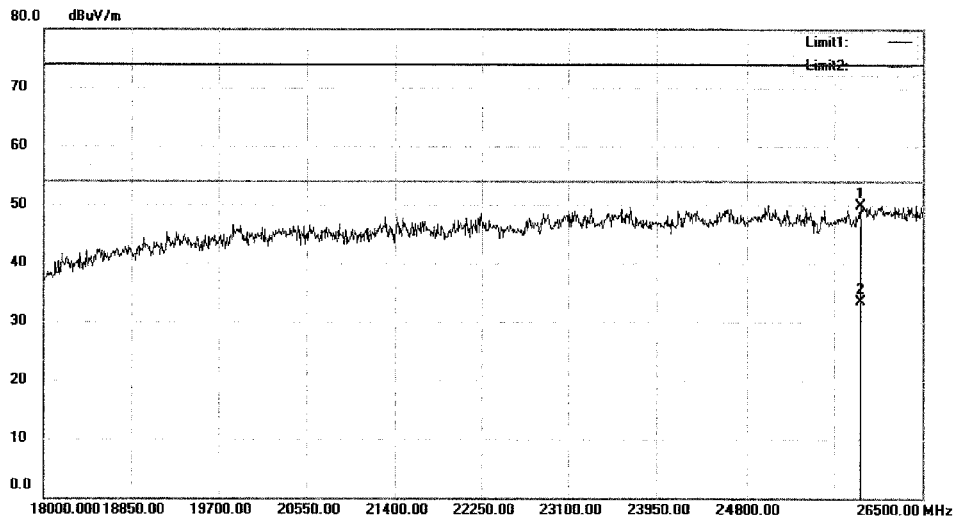
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Radiated Emission Measurement

File :TUV 9

Data :#287

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:GFSK 2480

Note:

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		25905.00	85.88	-35.91	49.97	74.00	-24.03	peak		
2	*	25905.00	69.44	-35.91	33.53	54.00	-20.47	AVG		

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

Operator: KK

File :TUV 9Data :#287

Page: 1

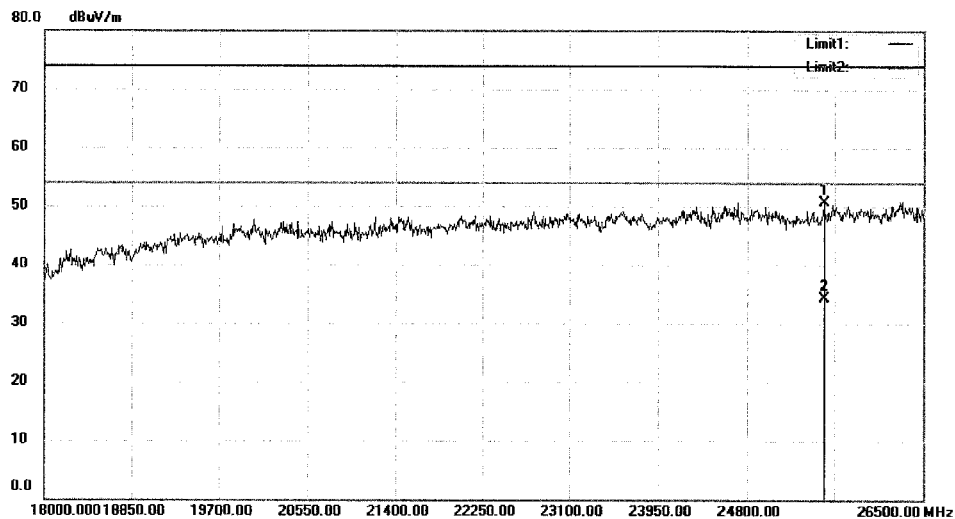
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Radiated Emission Measurement

File :TUV 9

Data :#288

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; DL1168A

Mode:GFSK 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		25548.00	87.02	-36.34	50.68	74.00	-23.32	peak		
2	*	25548.00	70.55	-36.34	34.21	54.00	-19.79	AVG		

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

Operator: KK

File :TUV 9\Data :#288

Page: 1

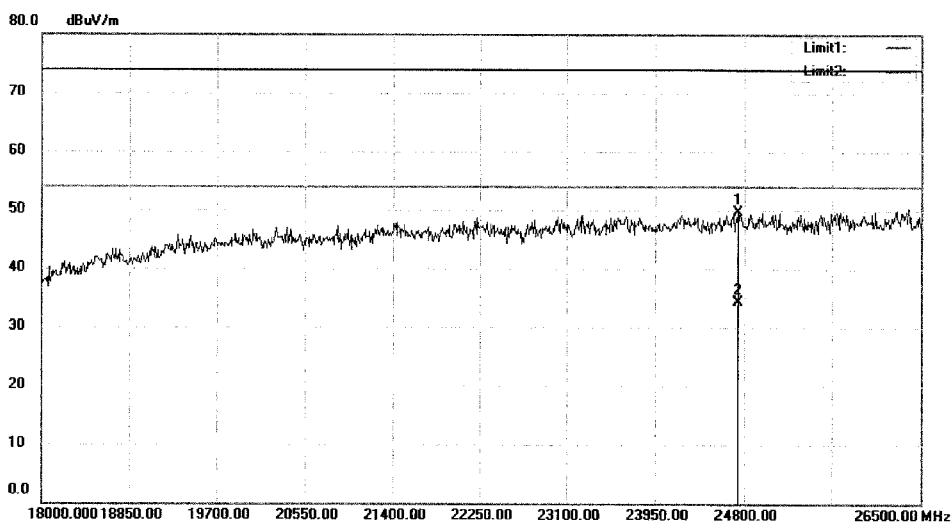
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Radiated Emission Measurement

File :TUV 9

Data :#289

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:8DPSK 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		24732.00	86.80	-37.04	49.76	74.00	-24.24	peak		
2	*	24732.00	71.27	-37.04	34.23	54.00	-19.77	AVG		

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

Operator: KK

File :TUV 9\Data :#289

Page: 1

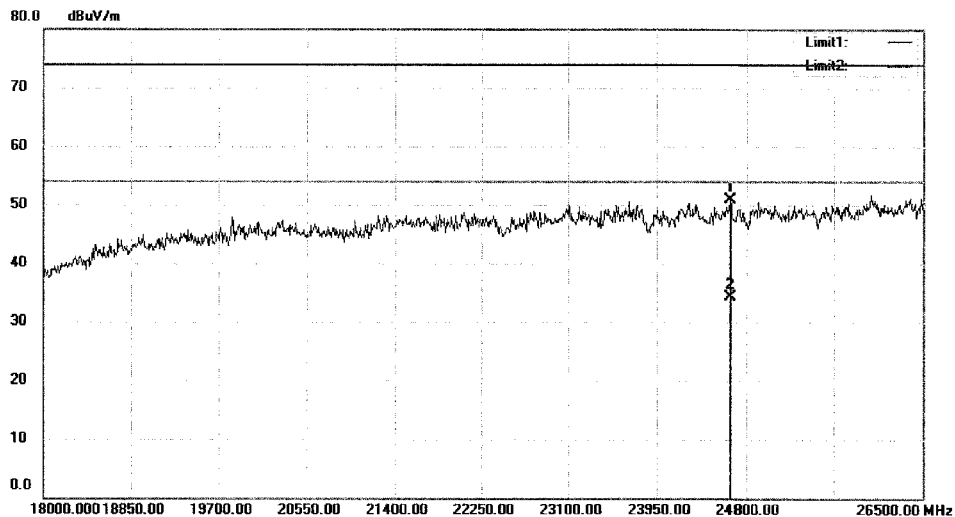
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Radiated Emission Measurement

File :TUV 9

Data :#290

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; DL1168A

Mode:8DPSK 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		24655.50	87.86	-37.05	50.81	74.00	-23.19	peak		
2	*	24655.50	71.30	-37.05	34.25	54.00	-19.75	AVG		

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

Operator: KK

File :TUV 9\Data :#290

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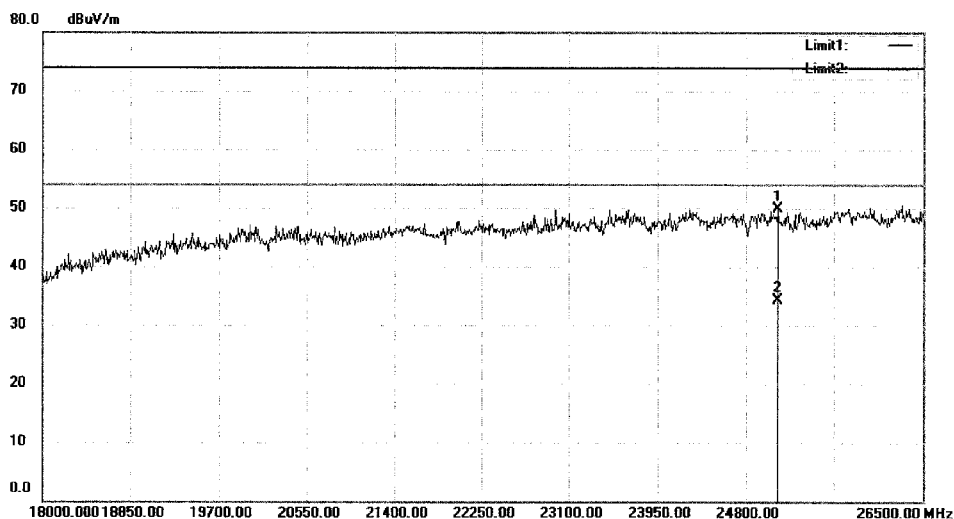
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Radiated Emission Measurement

File :TUV 9

Data #291

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:8DPSK 2441

Note:

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		25114.50	86.77	-36.87	49.90	74.00	-24.10	peak		
2	*	25114.50	71.13	-36.87	34.26	54.00	-19.74	AVG		

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

Operator: KK

File :TUV 9\Data :#291

Page: 1

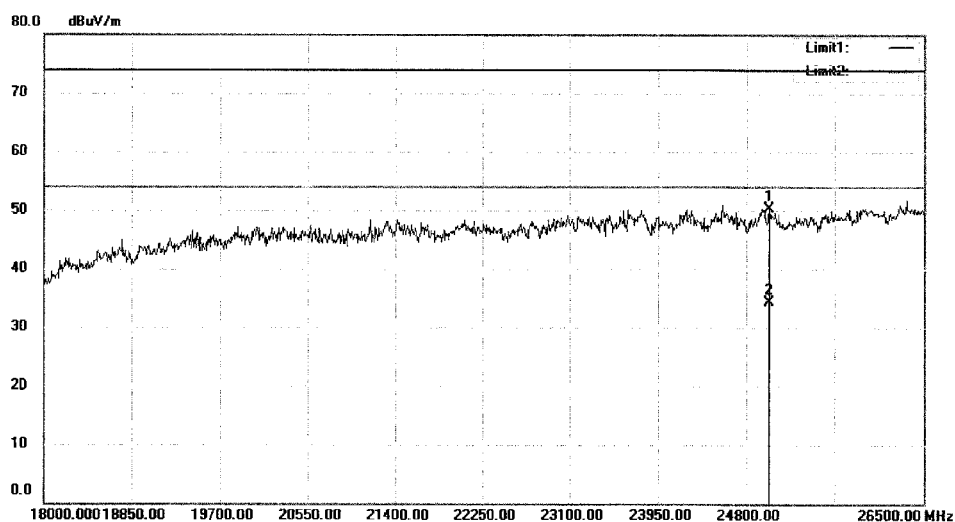
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Radiated Emission Measurement

File :TUV 9

Data :#292

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; DL1168A

Mode:8DPSK 2441

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		25021.00	87.36	-36.98	50.38	74.00	-23.62	peak		
2	*	25021.00	71.21	-36.98	34.23	54.00	-19.77	AVG		

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

Operator: KK

File :TUV 9\Data :#292

Page: 1

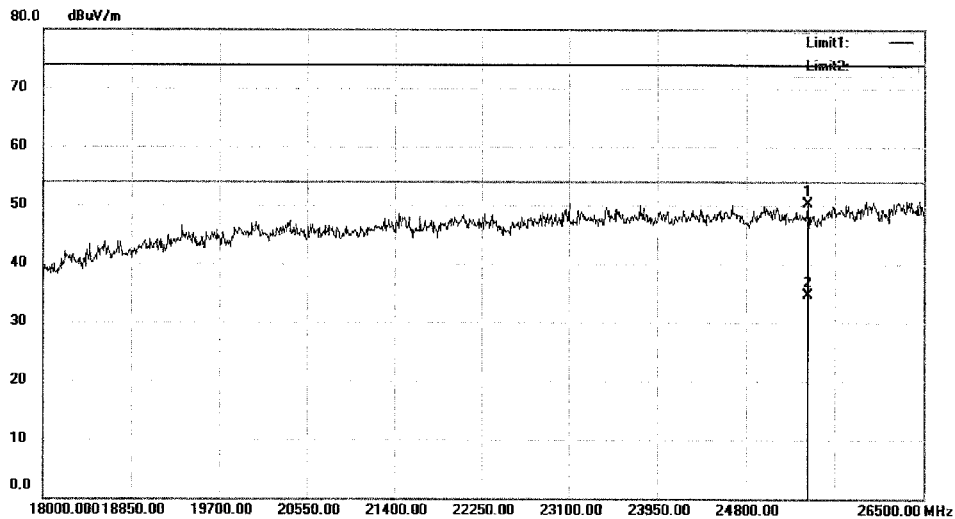
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Radiated Emission Measurement

File :TUV 9

Data :#293

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:8DPSK 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		25395.00	86.88	-36.53	50.35	74.00	-23.65	peak		
2	*	25395.00	71.15	-36.53	34.62	54.00	-19.38	AVG		

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

Operator: KK

File :TUV 9Data :#293

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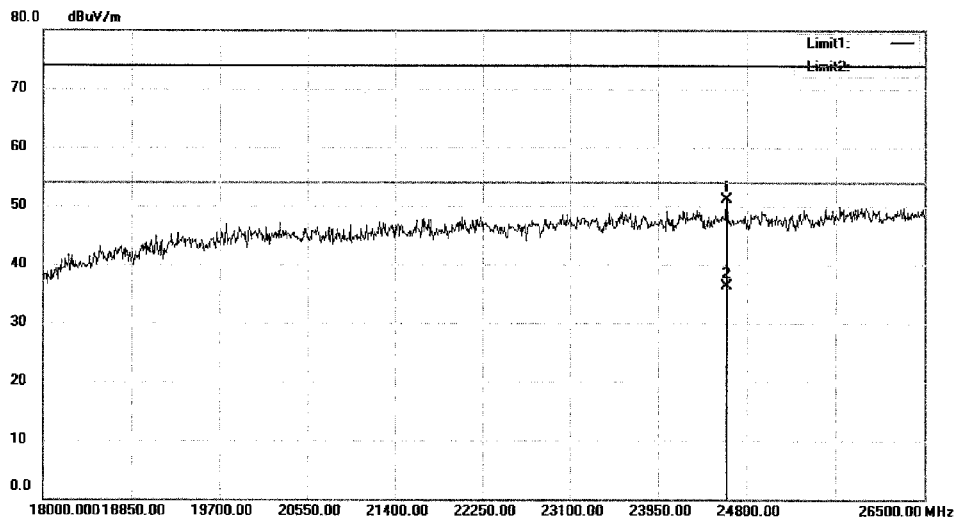
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Radiated Emission Measurement

File :TUV 9

Data :#294

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; DL1168A

Mode:8DPSK 2480

Note:

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		24613.00	88.11	-37.06	51.05	74.00	-22.95	peak		
2	*	24613.00	73.29	-37.06	36.23	54.00	-17.77	AVG		

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

Operator: KK

File :TUV 9\Data :#294

Page: 1

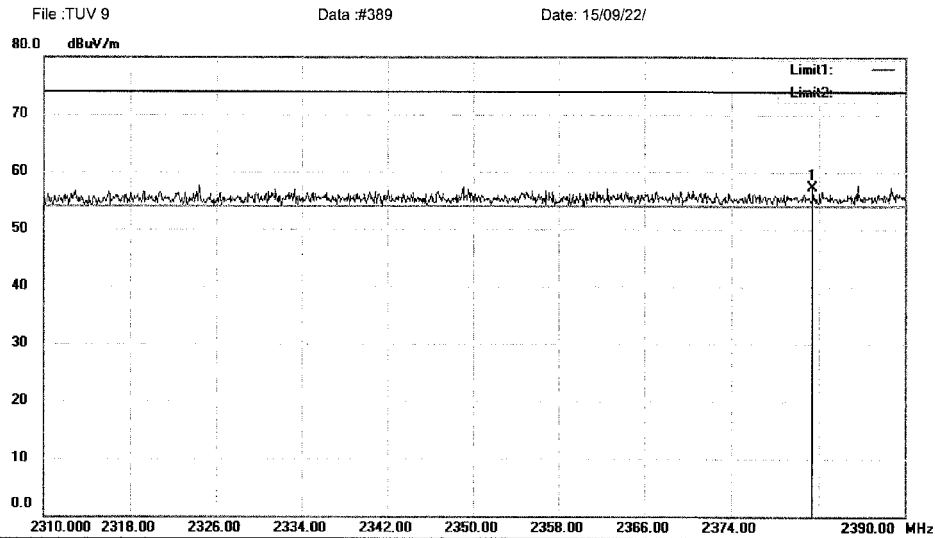
Prüfbericht - Nr.: 17052720 001
Test Report No.
Seite 78 von 140
Page 78 of 140

Test Plot of Band Edge of BDR & EDR

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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: GFSK 2402
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree Comment
1	*	2381.440	26.99	30.24	57.23	74.00	-16.77	peak		

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

Operator: KK

File: TUV 9\Data: #389

Page: 1

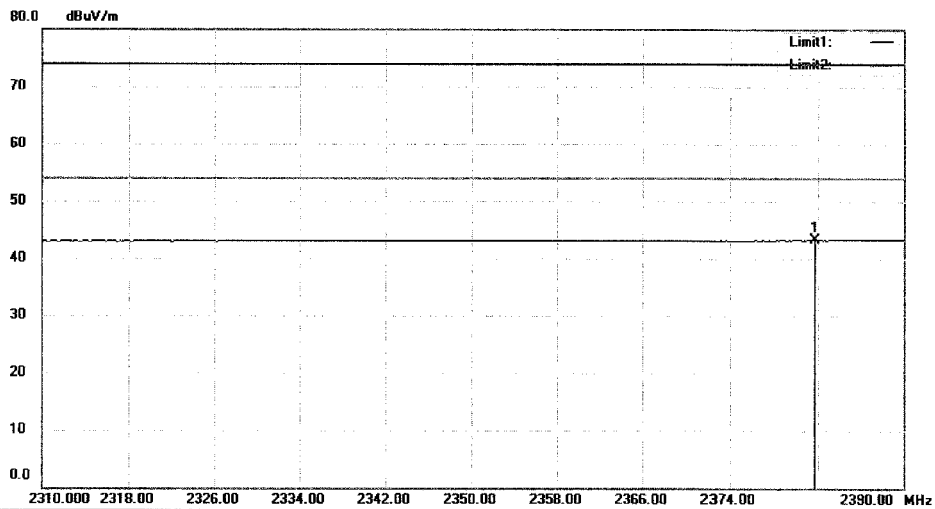
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Radiated Emission Measurement

File :TUV 9

Data :#390

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:GFSK 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	2381.680	13.02	30.24	43.26	54.00	-10.74	AVG		

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

Operator: KK

File :TUV 9\Data :#390

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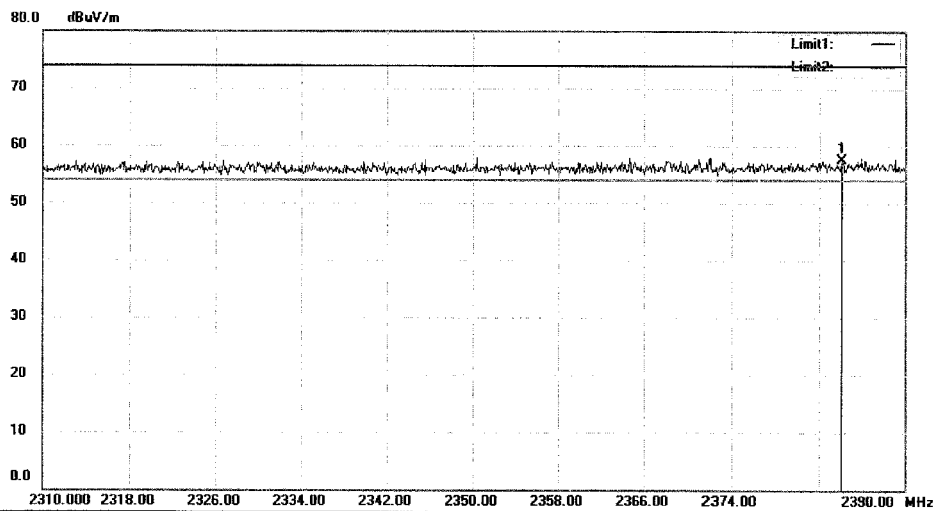
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Radiated Emission Measurement

File :TUV 9

Data :#387

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:GFSK 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	2384.080	27.23	30.25	57.48	74.00	-16.52	peak		

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

Operator: KK

File :TUV 9\Data :#387

Page: 1

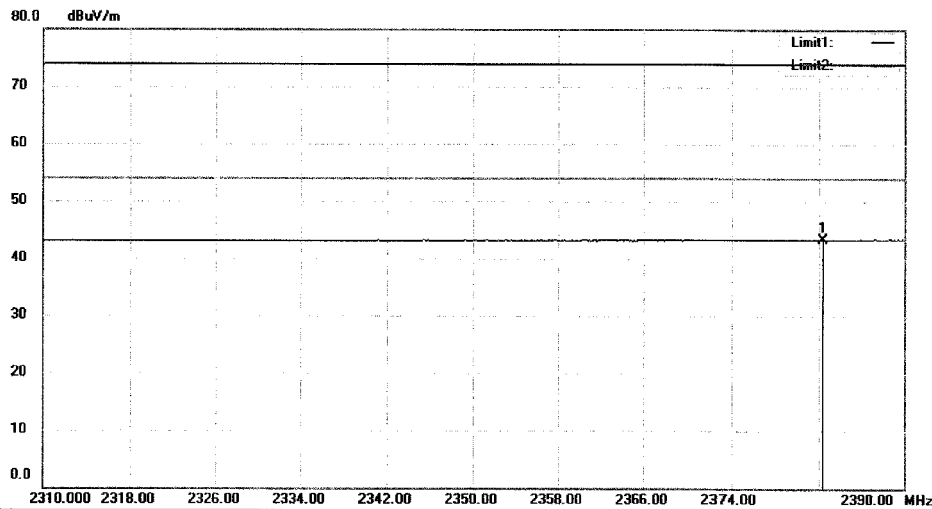
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Radiated Emission Measurement

File :TUV 9

Data :#388

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:GFSK 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	2382.400	13.12	30.24	43.36	54.00	-10.64	AVG		

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

Operator: KK

File :TUV 9\Data :#388

Page: 1

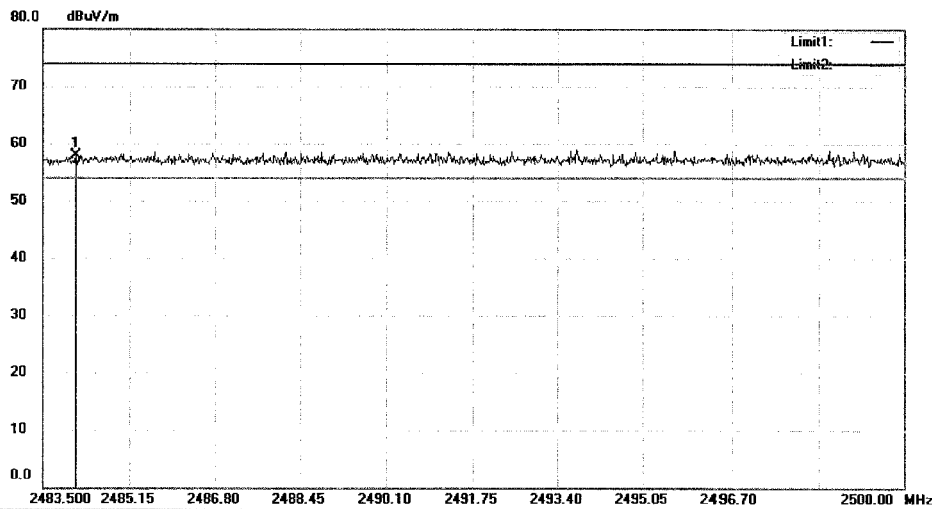
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Radiated Emission Measurement

File :TUV 9

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

M/N: MID1102-MA; DL1168A

Mode:GFSK 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree
		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

Operator: KK

File :TUV 9\Data :#391

Page: 1

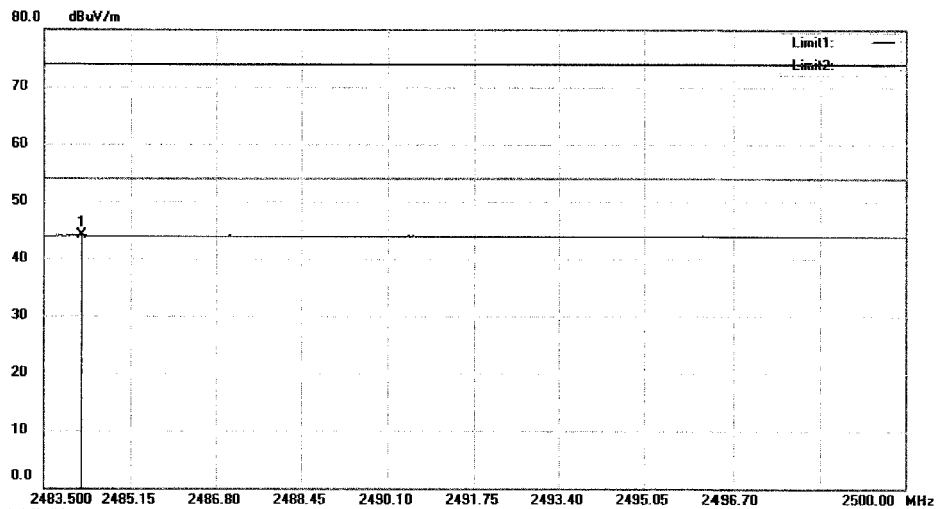
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Radiated Emission Measurement

File :TUV 9

Data :#392

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:GFSK 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	2484.209	13.37	30.71	44.08	54.00	-9.92	AVG		

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

Operator: KK

File :TUV 9\Data :#392

Page: 1

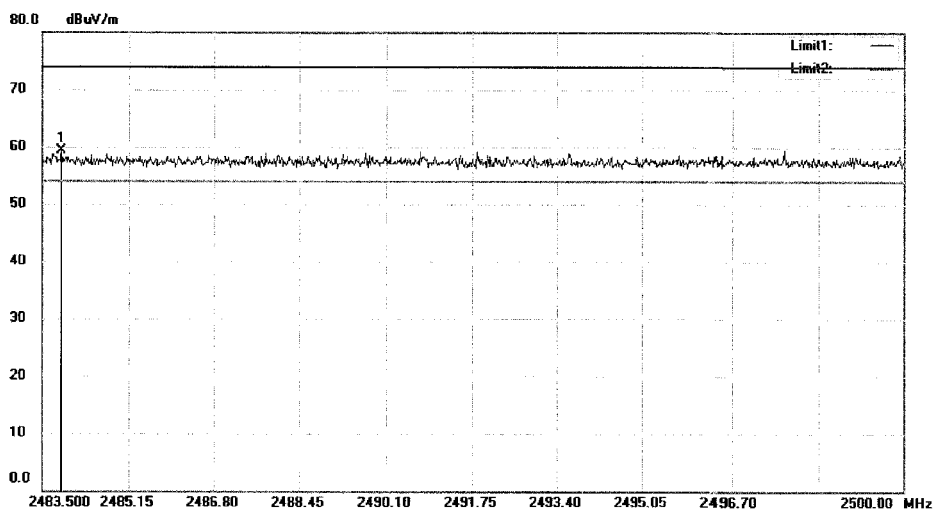
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Radiated Emission Measurement

File :TUV 9

Data :#393

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:GFSK 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	2483.863	28.57	30.71	59.28	74.00	-14.72	peak		

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

Operator: KK

File :TUV 9\Data :#393

Page: 1

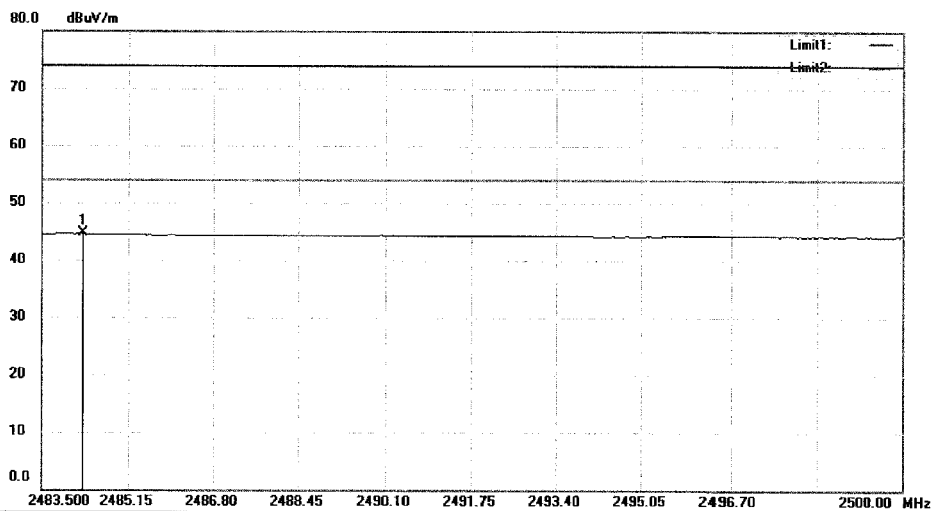
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Radiated Emission Measurement

File :TUV 9

Data :#394

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:GFSK 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	2484.276	13.94	30.71	44.65	54.00	-9.35	AVG		

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

Operator: KK

File :TUV 9\Data :#394

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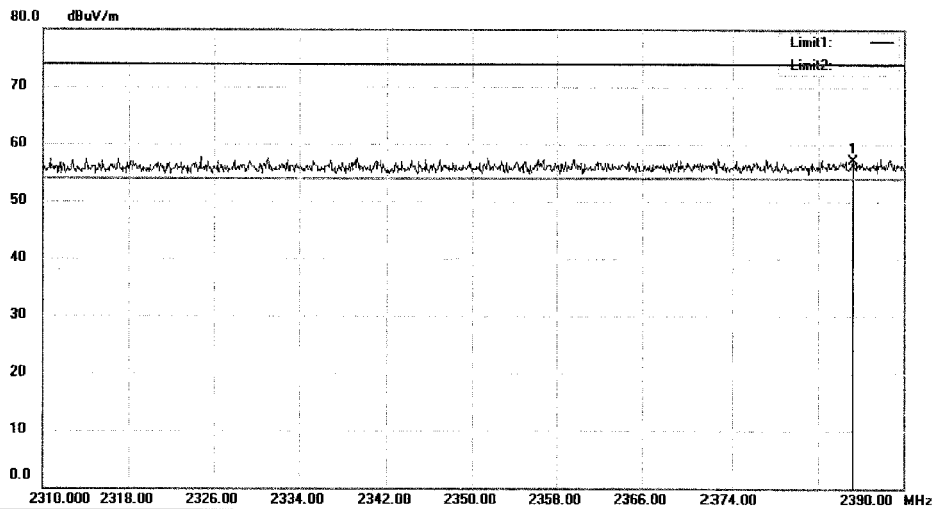
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Radiated Emission Measurement

File :TUV 9

Data :#397

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:8DPSK 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	2385.280	26.88	30.25	57.13	74.00	-16.87	peak		

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

Operator: KK

File :TUV 9\Data :#397

Page: 1

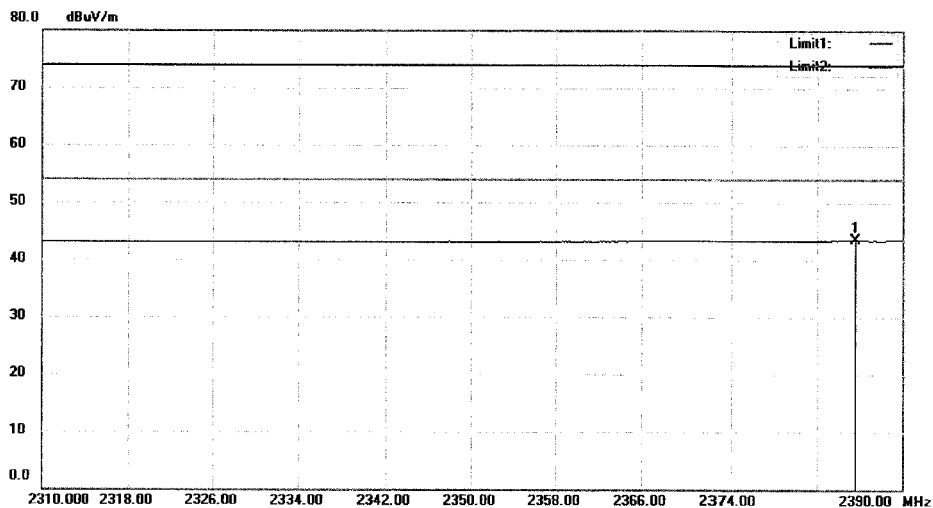
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Radiated Emission Measurement

File :TUV 9

Data :#398

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:8DPSK 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	2385.520	13.29	30.25	43.54	54.00	-10.46	AVG		

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

Operator: KK

File :TUV 9\Data :#398

Page: 1

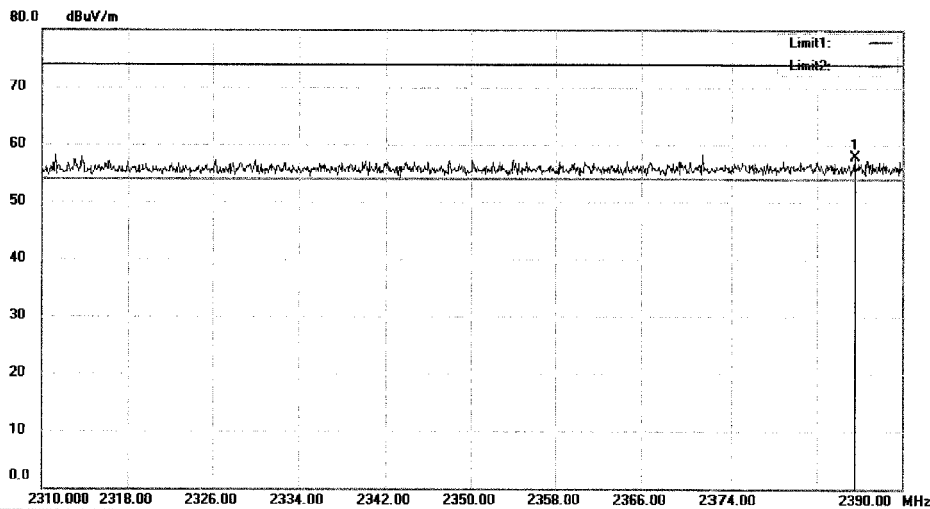
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Radiated Emission Measurement

File :TUV 9

Data :#395

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:8DPSK 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	2385.520	27.73	30.25	57.98	74.00	-16.02	peak		

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

Operator: KK

File :TUV 9\Data :#395

Page: 1

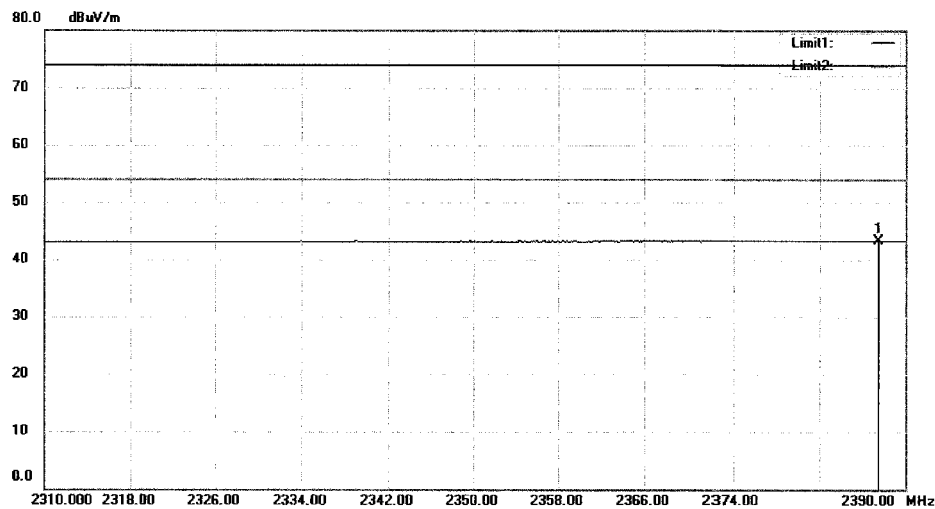
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Radiated Emission Measurement

File :TUV 9

Data :#396

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:8DPSK 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	2387.440	13.11	30.27	43.38	54.00	-10.62	AVG		

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

Operator: KK

File :TUV 9\Data :#396

Page: 1

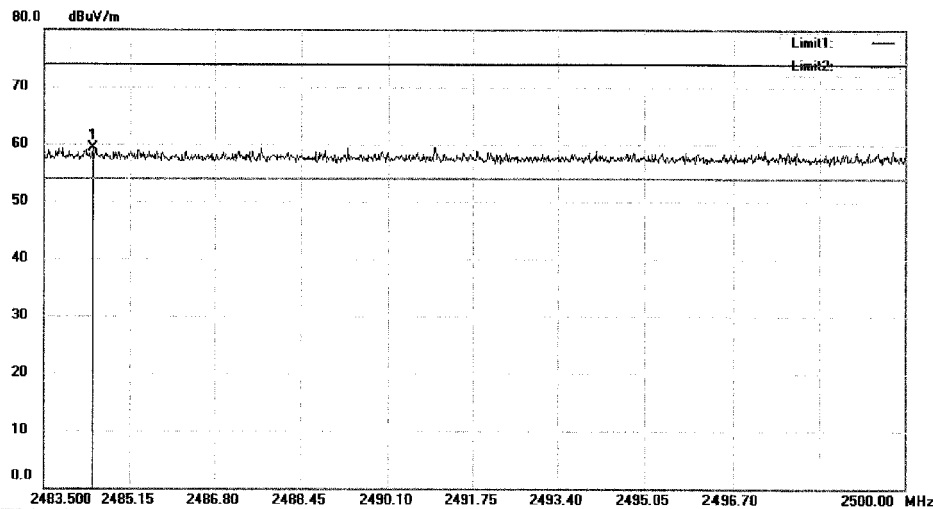
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Radiated Emission Measurement

File :TUV 9

Data :#399

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:8DPSK 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	2484.424	28.64	30.71	59.35	74.00	-14.65	peak		

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

Operator: KK

File :TUV 9\Data :#399

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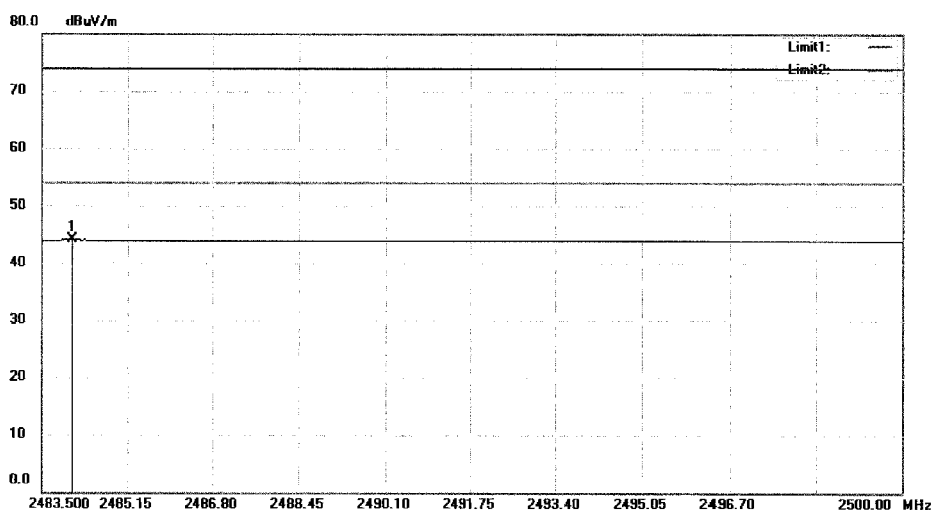
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Radiated Emission Measurement

File :TUV 9

Data :#400

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:8DPSK 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	2484.077	13.33	30.71	44.04	54.00	-9.96	AVG		

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

Operator: KK

File :TUV 9\Data :#400

Page: 1

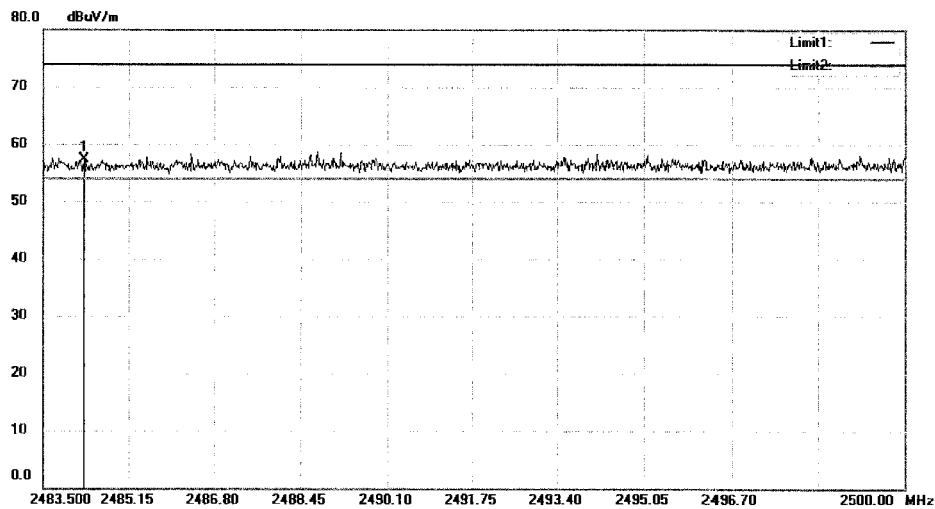
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Radiated Emission Measurement

File :TUV 9

Data :#401

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:8DPSK 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	2484.276	26.67	30.71	57.38	74.00	-16.62	peak		

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

Operator: KK

File :TUV 9\Data :#401

Page: 1

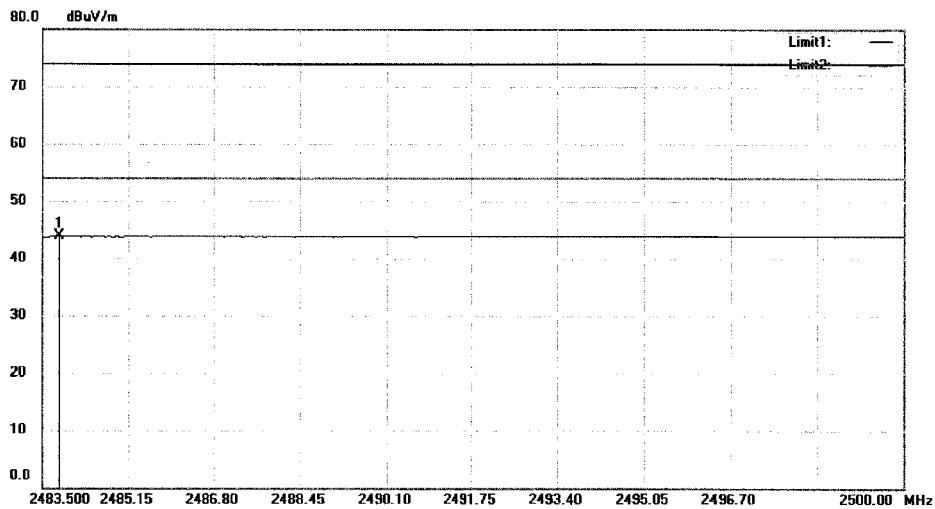
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Radiated Emission Measurement

File :TUV 9

Data :#402

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:8DPSK 2480

Note:

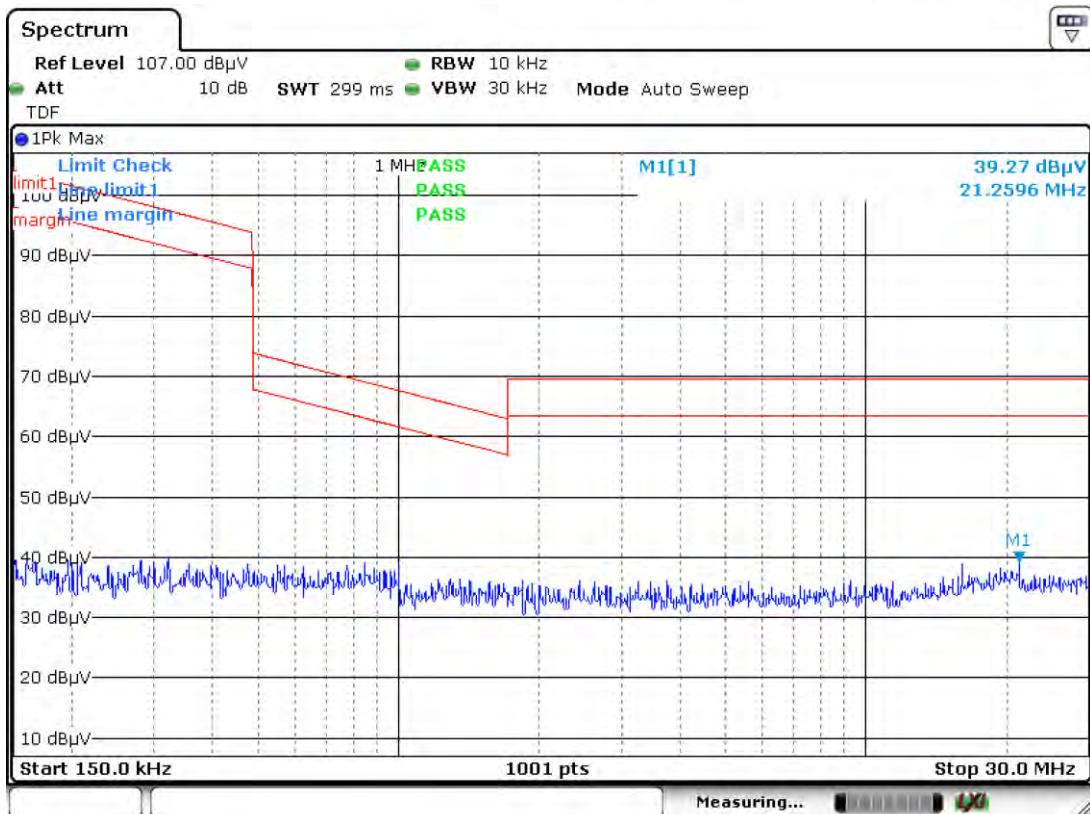
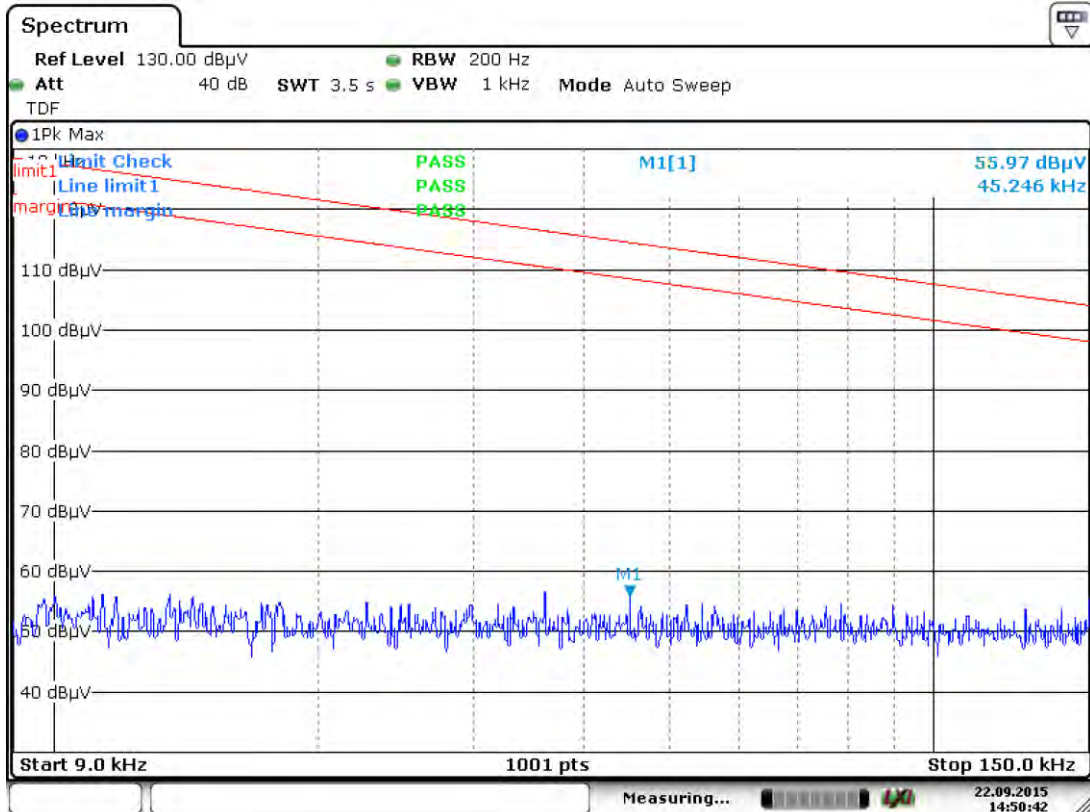
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1	*	2483.814	13.20	30.70	43.90	54.00	-10.10	AVG	

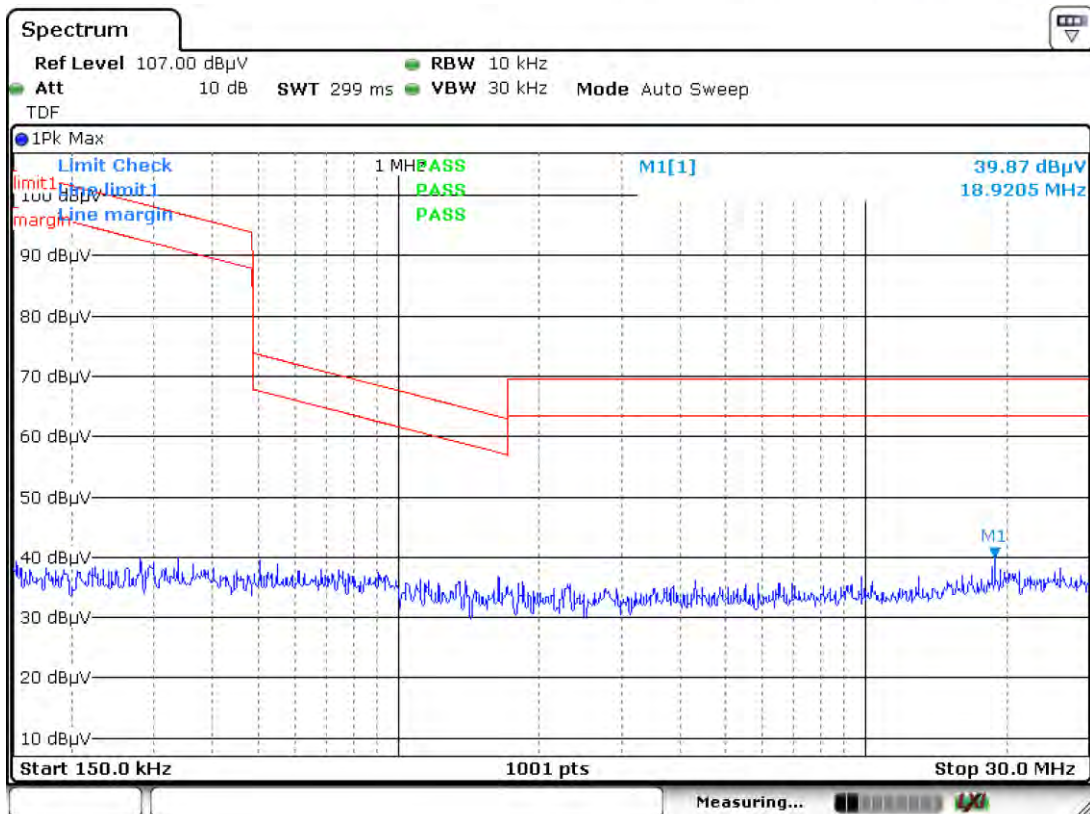
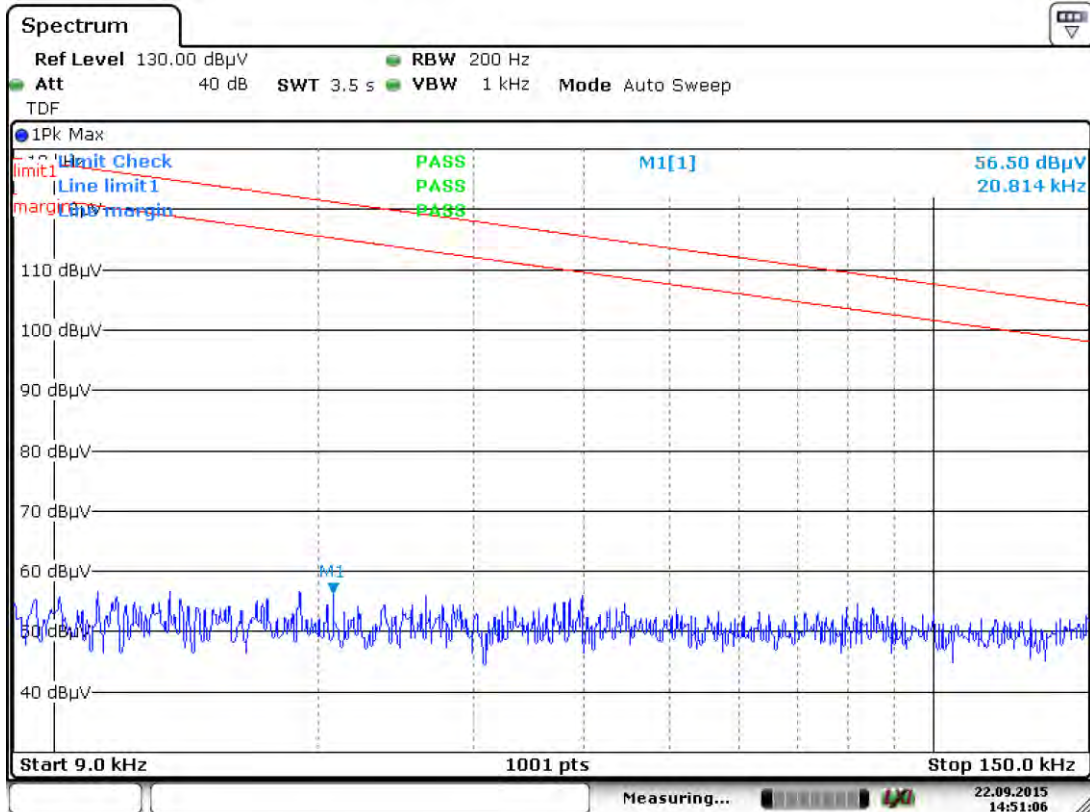
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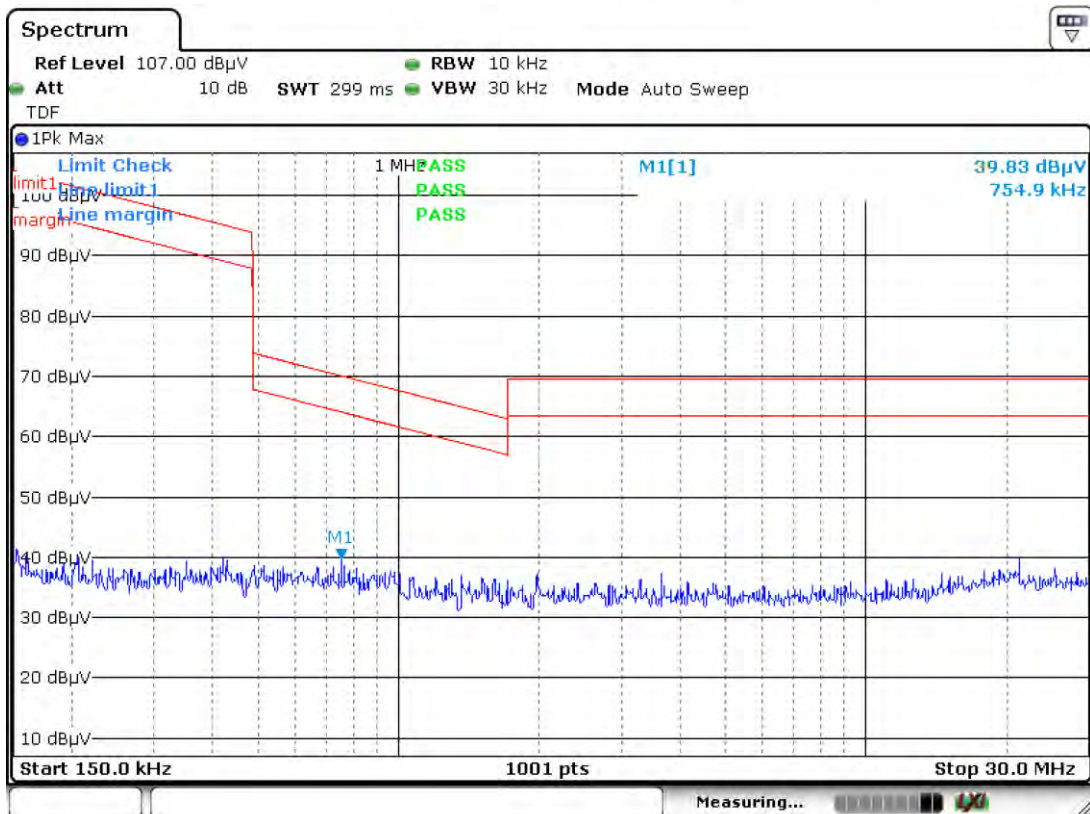
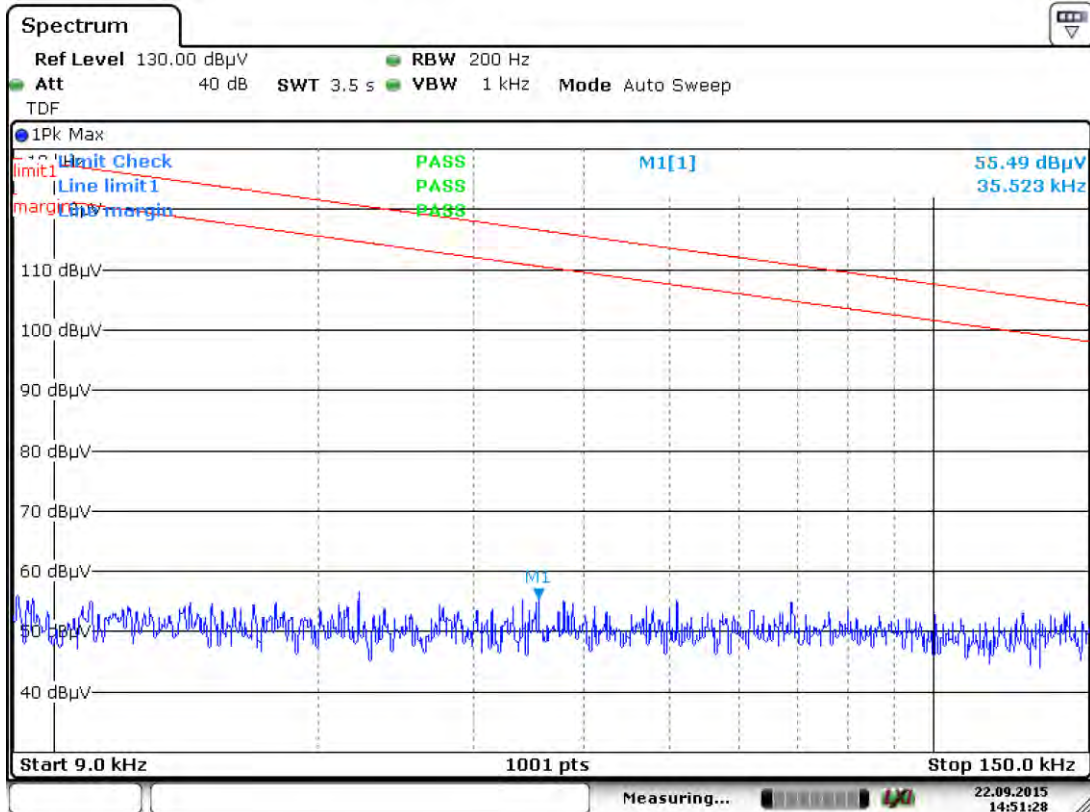
Operator: KK

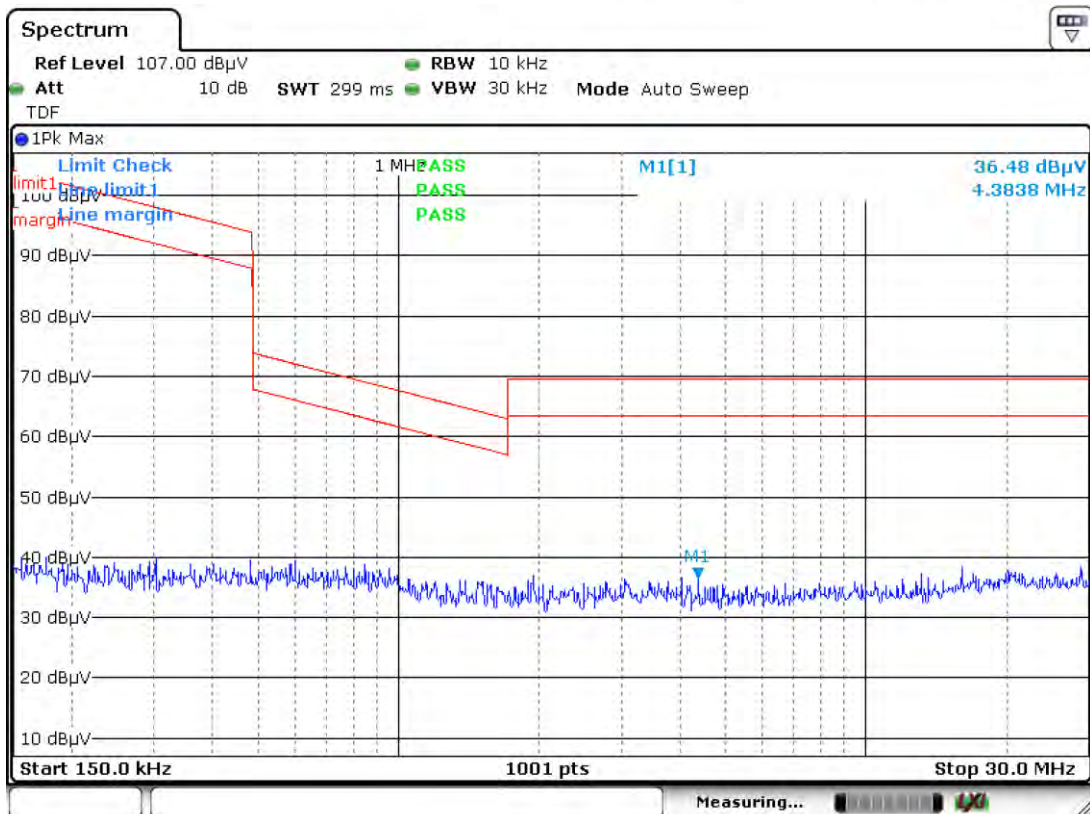
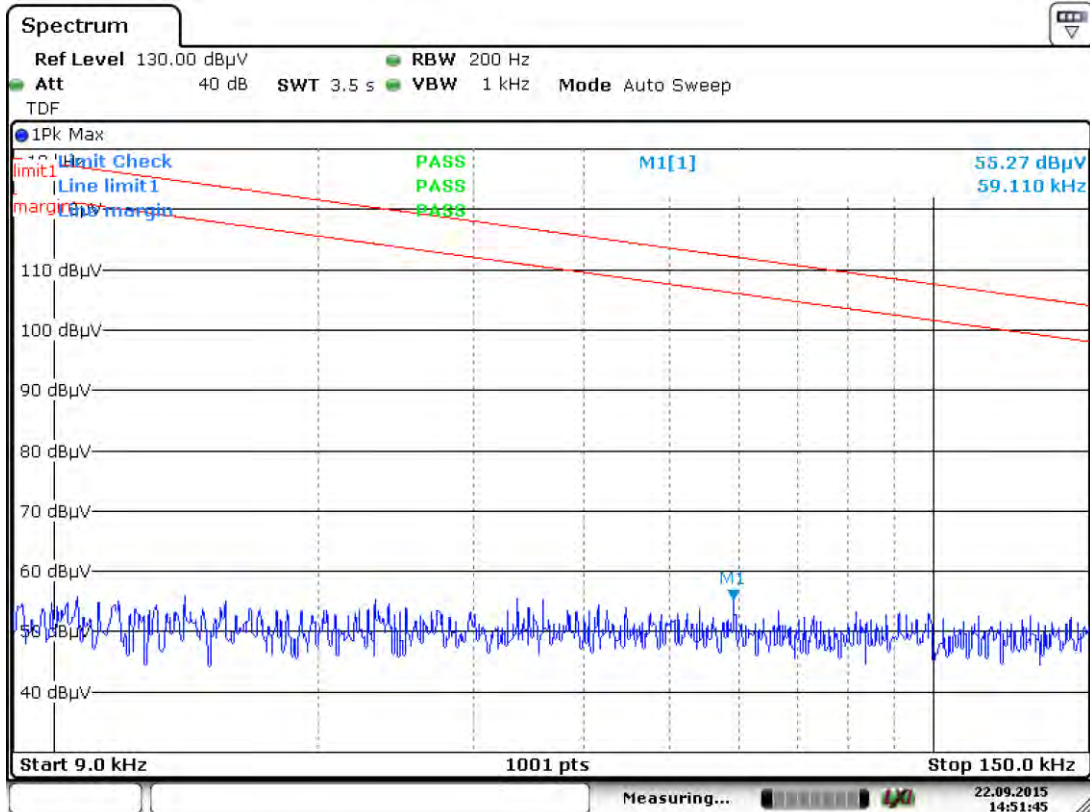
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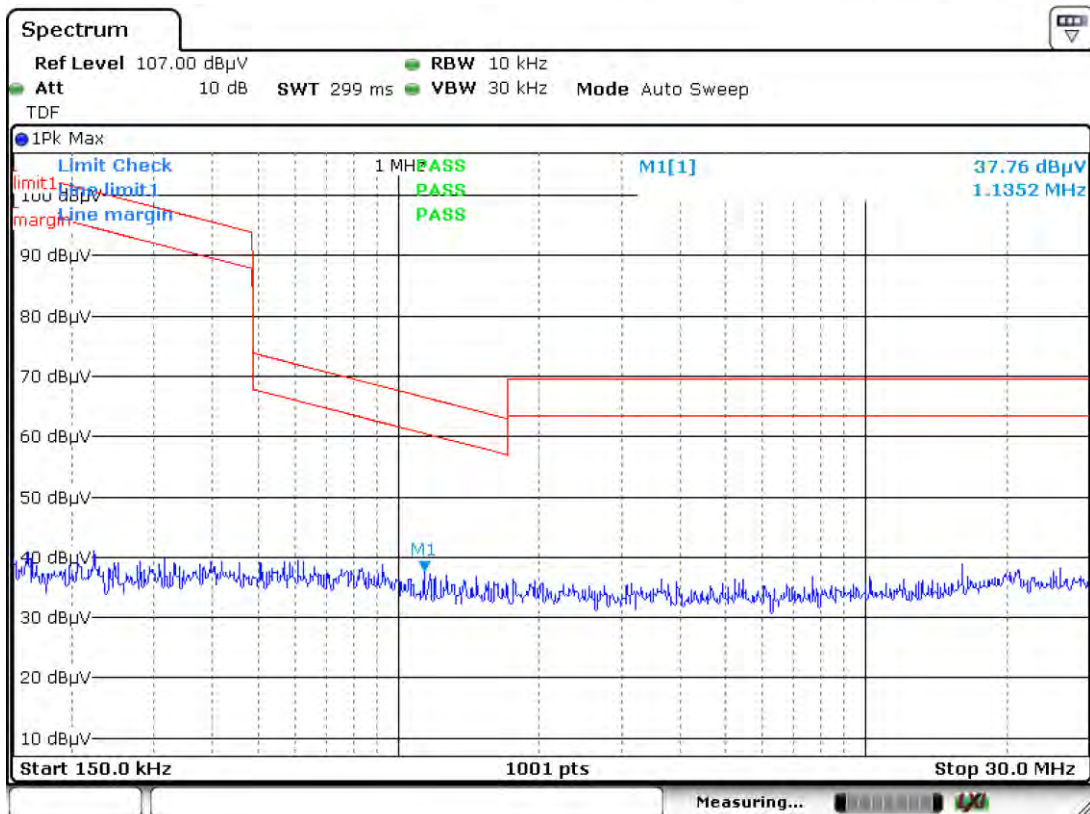
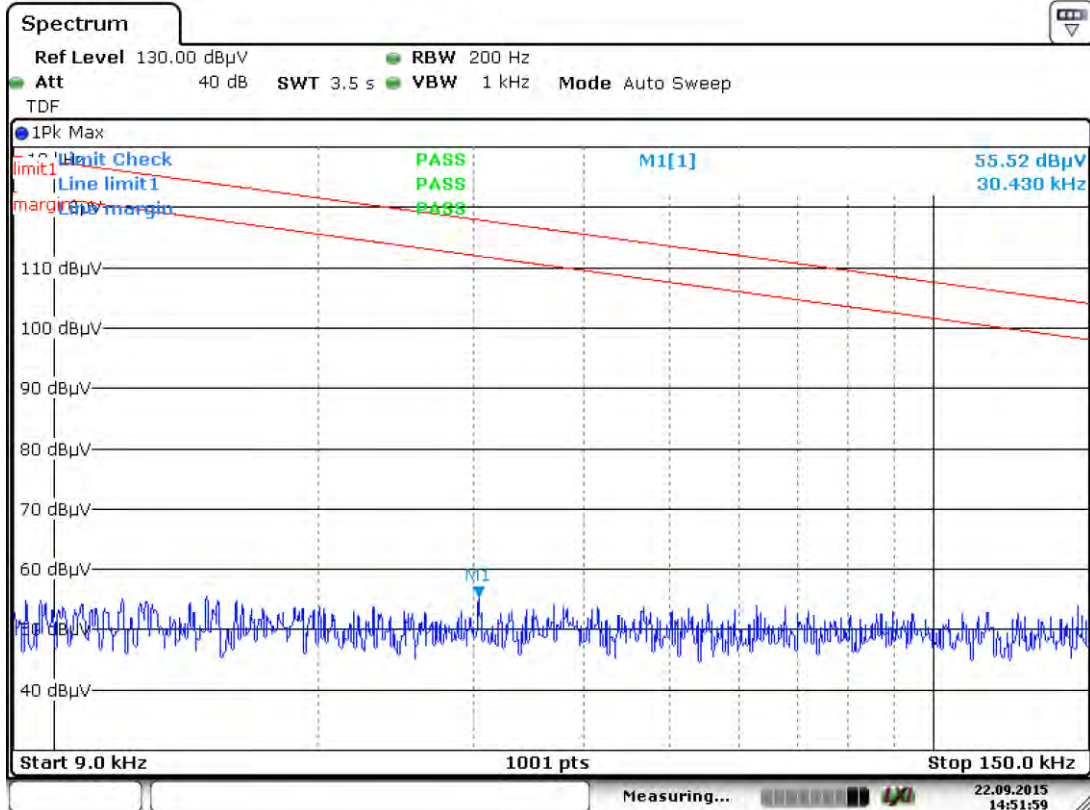
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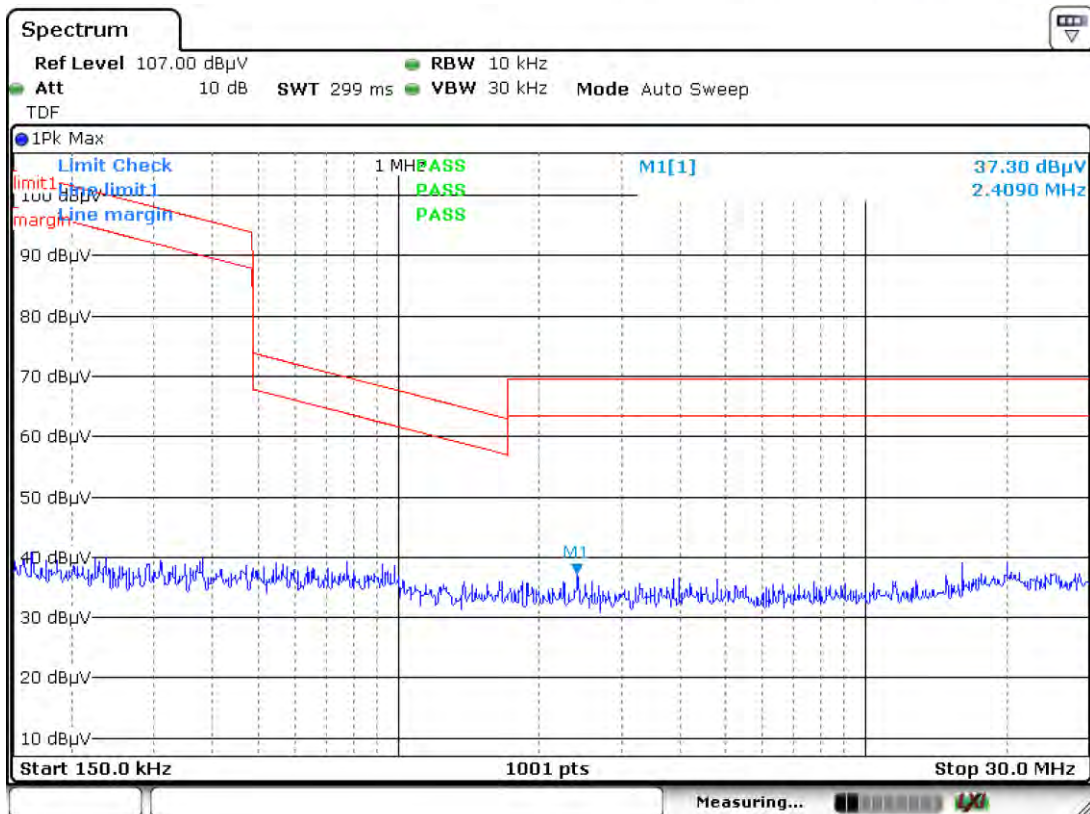
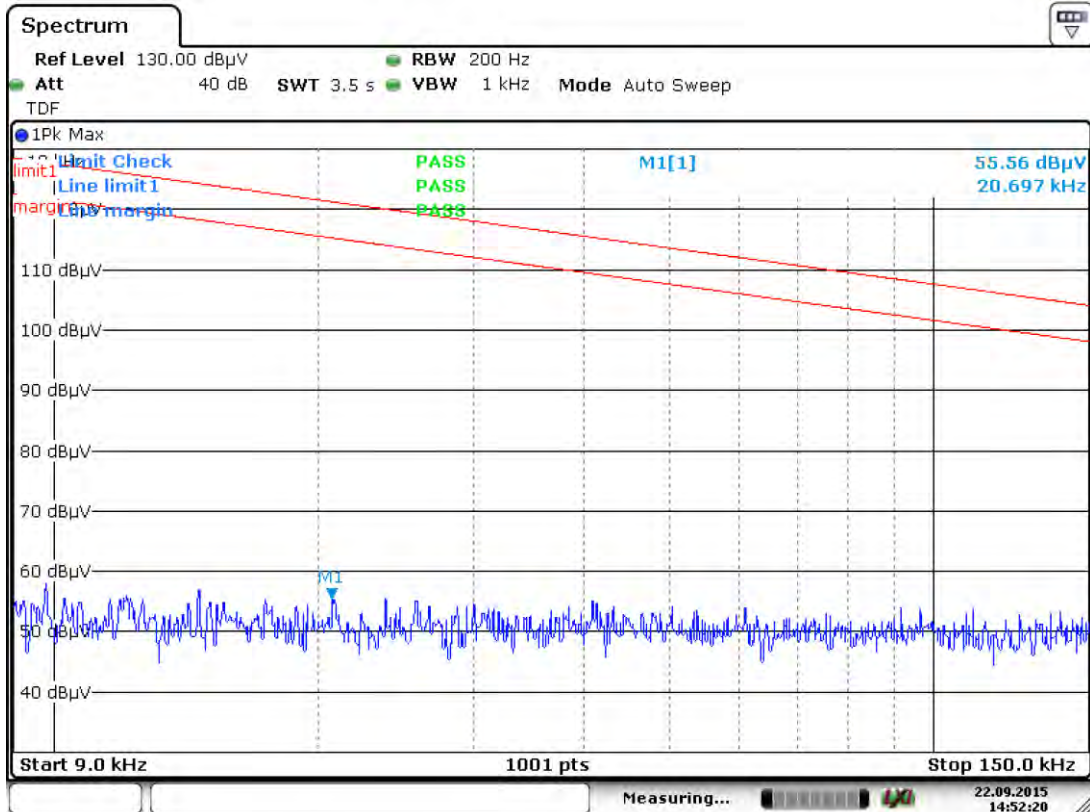
Test Plot of 2402MHz-X of Low Energy mode


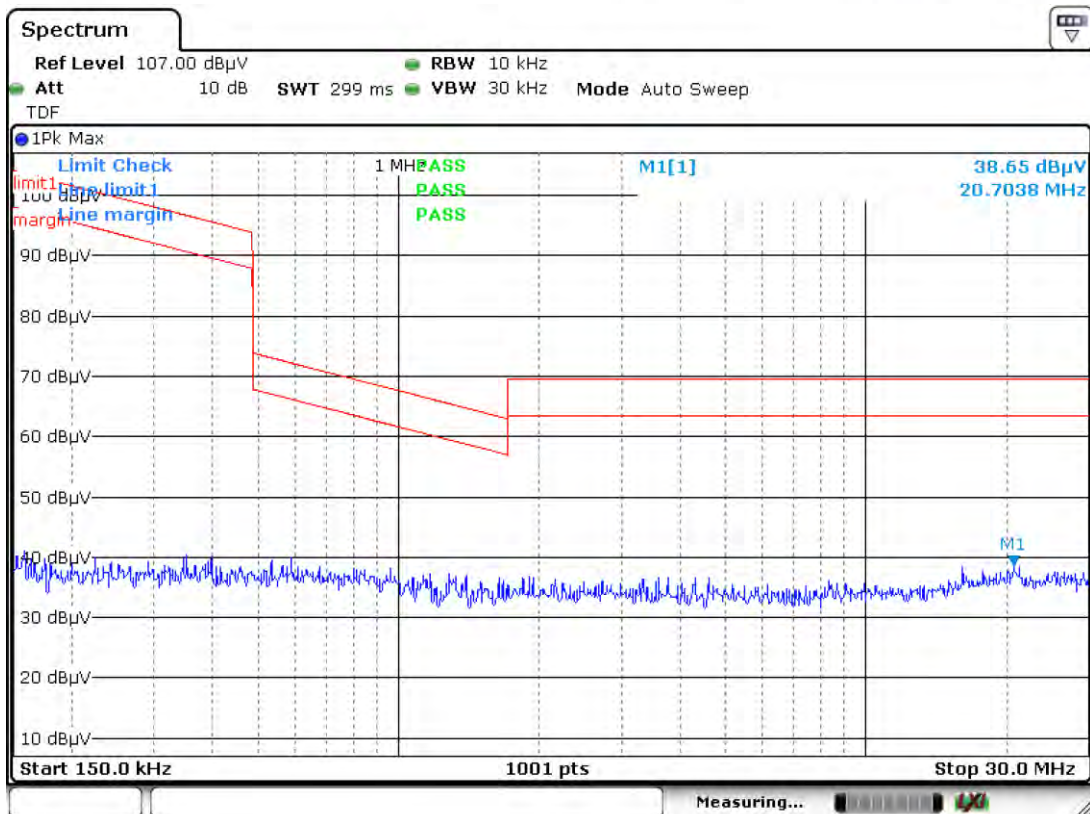
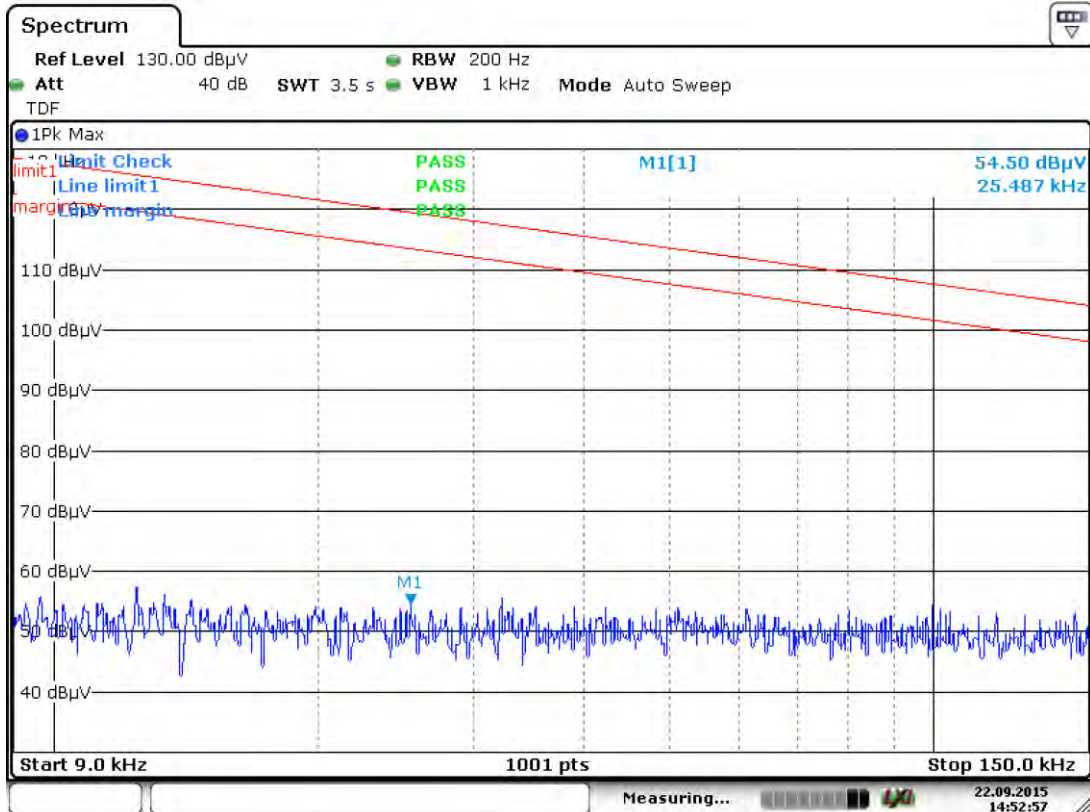
Test Plot of 2402MHz-Y of Low Energy mode


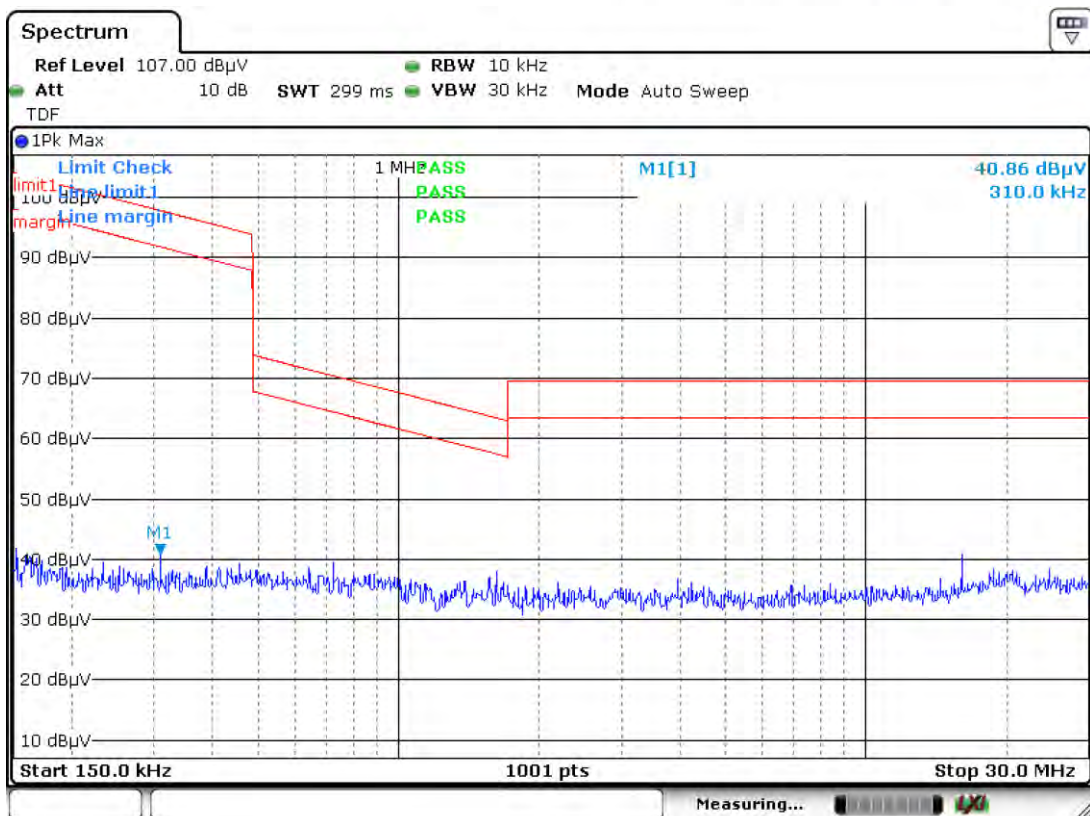
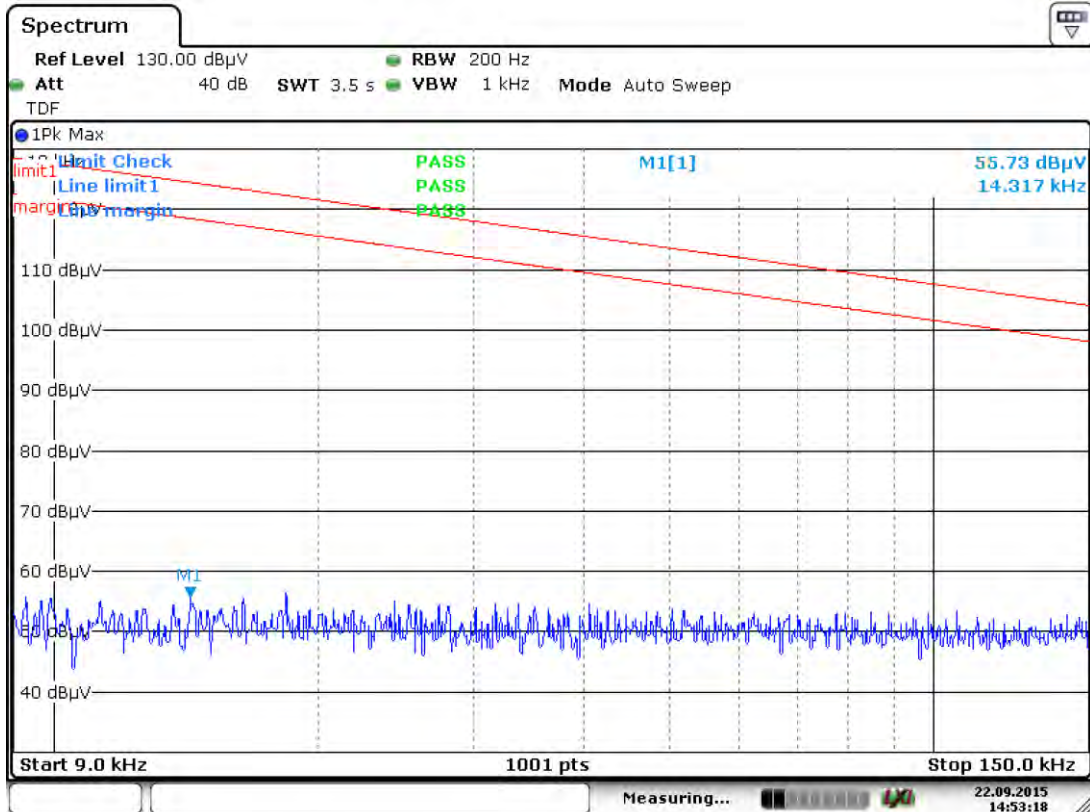
Test Plot of 2402MHz-Z of Low Energy mode


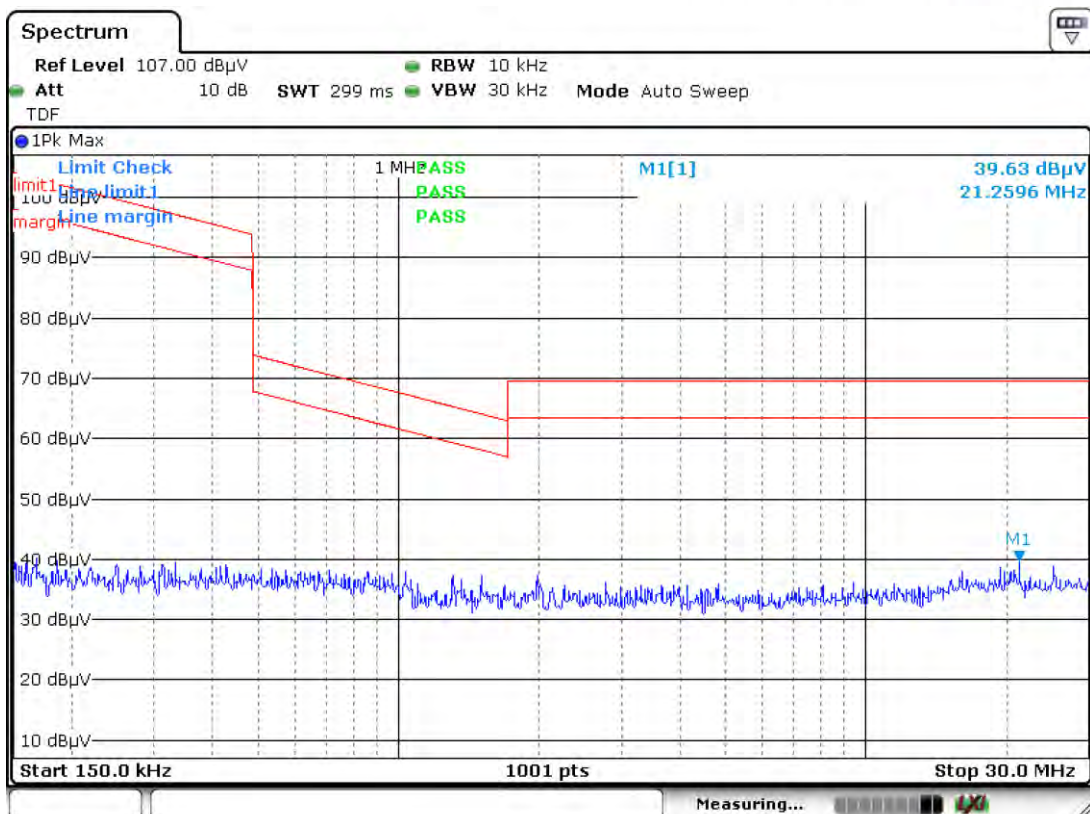
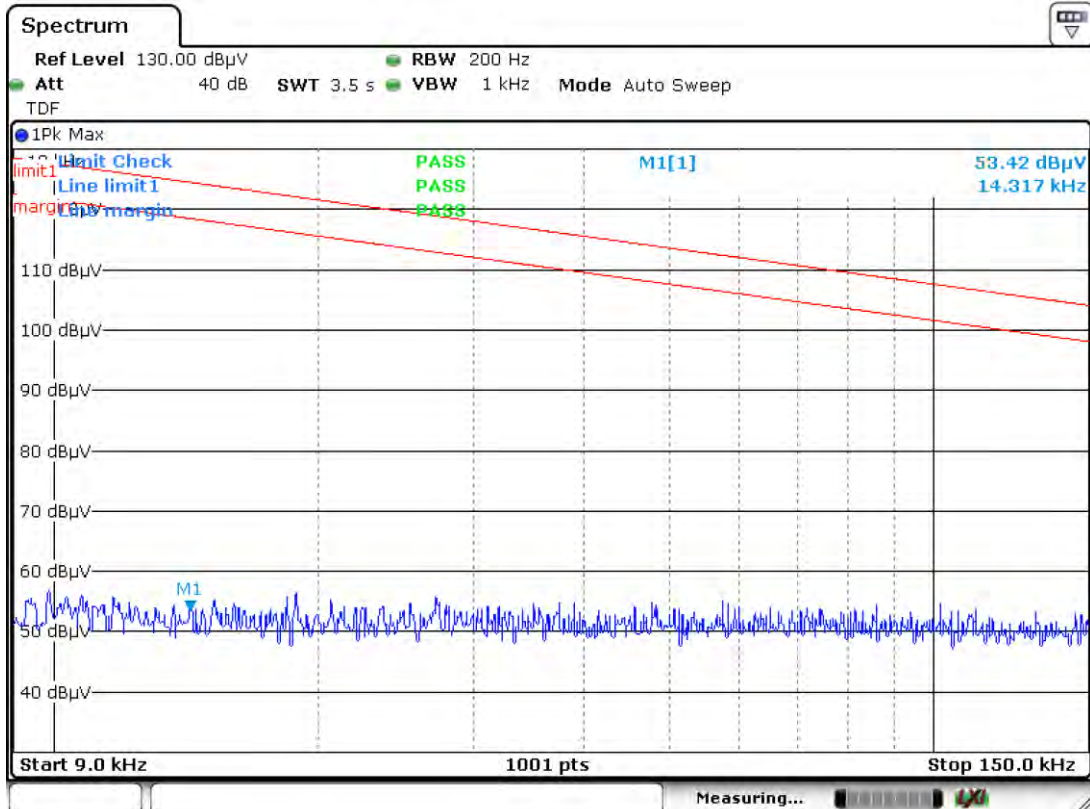
Test Plot of 2440MHz-X of Low Energy mode


Test Plot of 2440MHz-Y of Low Energy mode


Test Plot of 2440MHz-Z of Low Energy mode


Test Plot of 2480MHz-X of Low Energy mode


Test Plot of 2480MHz-Y of Low Energy mode


Test Plot of 2480MHz-Z of Low Energy mode


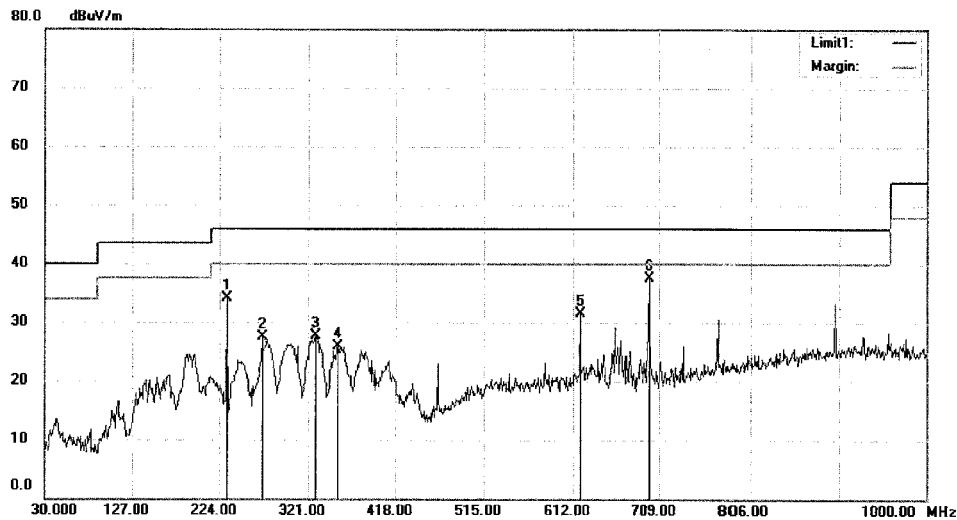
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Radiated Emission Measurement

File :TUV 9

Data :#13

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: BLE 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		231.7600	48.97	-14.88	34.09	46.00	-11.91	QP		
2		270.5600	40.12	-12.68	27.44	46.00	-18.56	QP		
3		329.7300	40.67	-12.99	27.68	46.00	-18.32	QP		
4		353.9800	37.06	-11.25	25.81	46.00	-20.19	QP		
5		619.7600	38.33	-6.79	31.54	46.00	-14.46	QP		
6	*	697.3600	43.44	-6.00	37.44	46.00	-8.56	QP		

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

Operator: KK

File :TUV 9\Data :#13

Page: 1

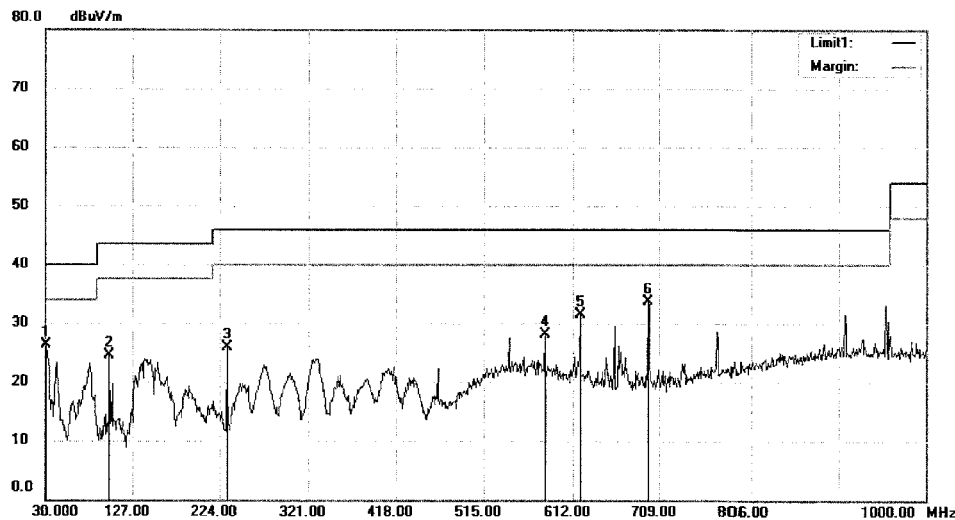
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Radiated Emission Measurement

File :TUV 9

Data :#14

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: BLE 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		30.0000	42.70	-16.46	26.24	40.00	-13.76	QP		
2		100.8100	38.45	-14.02	24.43	43.50	-19.07	QP		
3		231.7600	40.72	-14.88	25.84	46.00	-20.16	QP		
4		580.9600	35.33	-7.15	28.18	46.00	-17.82	QP		
5		619.7600	38.31	-6.79	31.52	46.00	-14.48	QP		
6	*	696.3900	39.77	-6.02	33.75	46.00	-12.25	QP		

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

Operator: KK

File :TUV 9\Data :#14

Page: 1

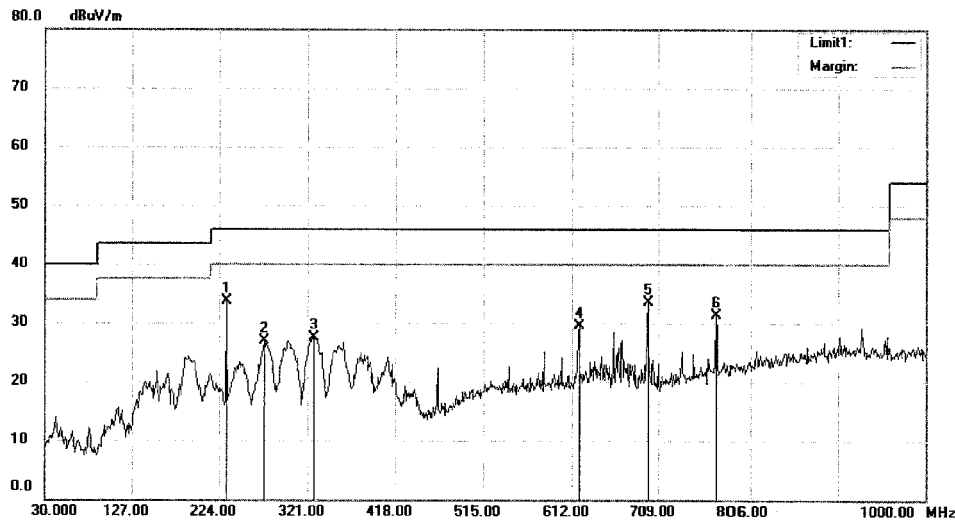
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Radiated Emission Measurement

File :TUV 9

Data :#15

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: BLE 2440

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	231.7600	48.65	-14.88	33.77	46.00	-12.23	QP		
2		273.4700	39.60	-12.64	26.96	46.00	-19.04	QP		
3		327.7900	40.67	-13.09	27.58	46.00	-18.42	QP		
4		619.7600	36.20	-6.79	29.41	46.00	-16.59	QP		
5		697.3600	39.49	-6.00	33.49	46.00	-12.51	QP		
6		773.9900	34.95	-3.69	31.26	46.00	-14.74	QP		

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

Operator: KK

File :TUV 9\Data :#15

Page: 1

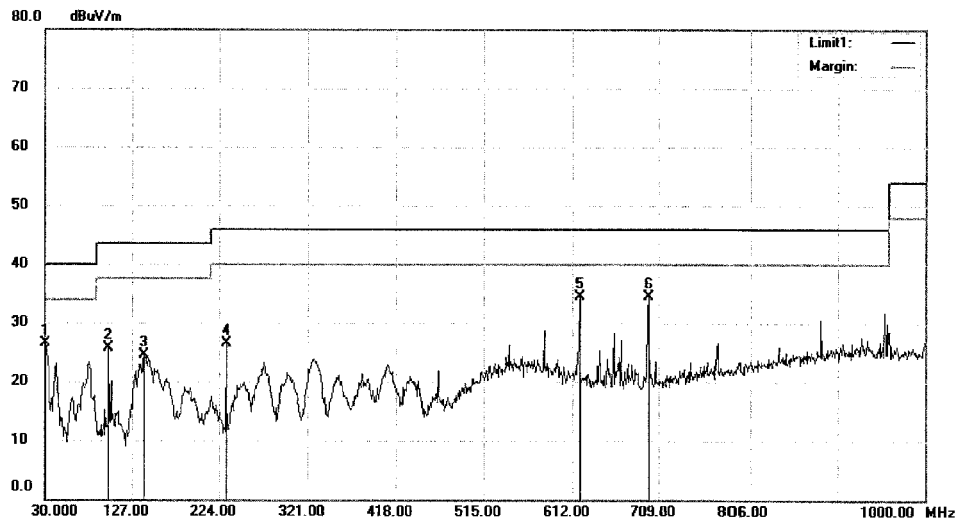
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Radiated Emission Measurement

File :TUV 9

Data :#16

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: BLE 2440

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		30.0000	42.99	-16.46	26.53	40.00	-13.47	QP		
2		100.8100	39.75	-14.02	25.73	43.50	-17.77	QP		
3		140.5800	42.35	-17.80	24.55	43.50	-18.95	QP		
4		231.7600	41.44	-14.88	26.56	46.00	-19.44	QP		
5	*	619.7600	41.37	-6.79	34.58	46.00	-11.42	QP		
6		697.3600	40.45	-6.00	34.45	46.00	-11.55	QP		

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

Operator: KK

File :TUV 9\Data :#16

Page: 1

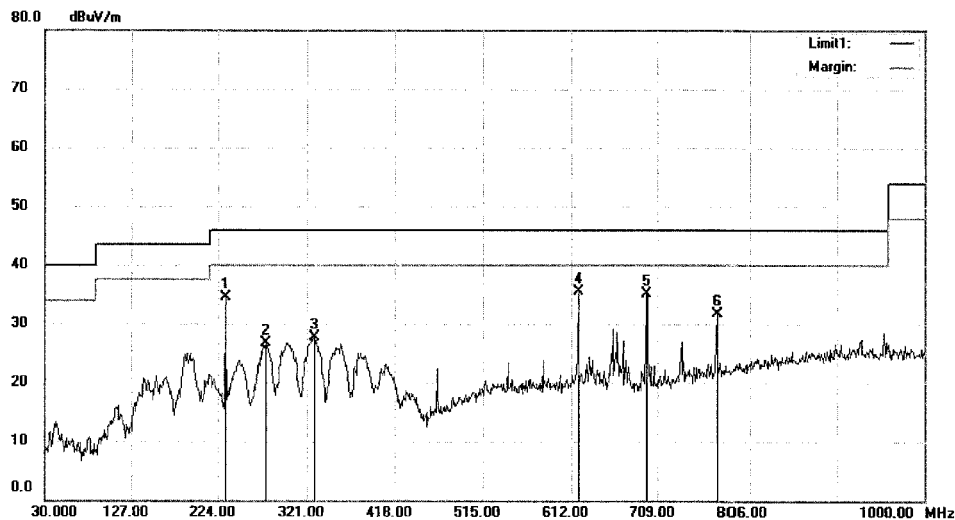
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Radiated Emission Measurement

File :TUV 9

Data :#17

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: BLE 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		231.7600	49.32	-14.88	34.44	46.00	-11.56	QP		
2		276.3800	39.37	-12.61	26.76	46.00	-19.24	QP		
3		328.7600	40.70	-13.04	27.66	46.00	-18.34	QP		
4	*	619.7600	42.31	-6.79	35.52	46.00	-10.48	QP		
5		696.3900	41.17	-6.02	35.15	46.00	-10.85	QP		
6		774.9600	35.41	-3.64	31.77	46.00	-14.23	QP		

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

Operator: KK

File :TUV 9\Data :#17

Page: 1

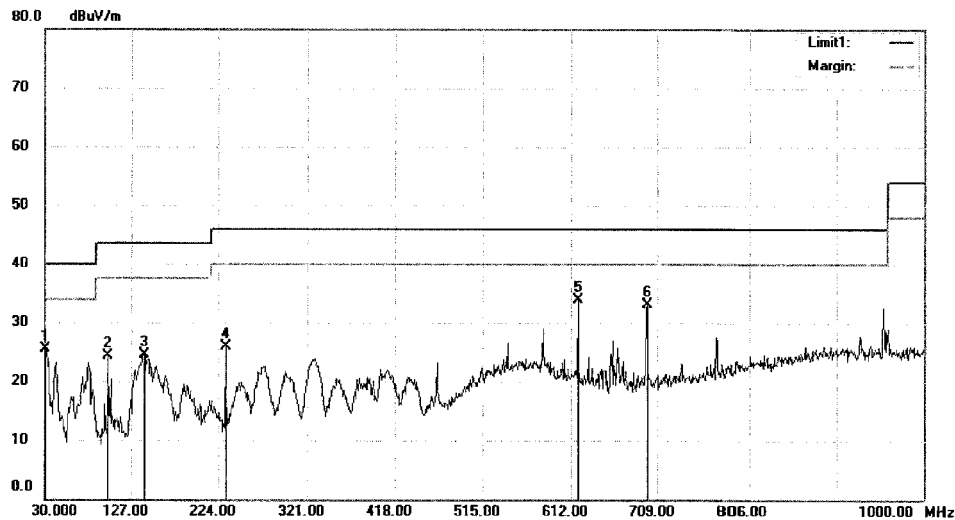
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Radiated Emission Measurement

File :TUV 9

Data :#18

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: BLE 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		30.9700	41.72	-16.13	25.59	40.00	-14.41	QP		
2		100.8100	38.24	-14.02	24.22	43.50	-19.28	QP		
3		141.5500	42.38	-17.84	24.54	43.50	-18.96	QP		
4		231.7600	40.84	-14.88	25.96	46.00	-20.04	QP		
5	*	619.7600	40.60	-6.79	33.81	46.00	-12.19	QP		
6		697.3600	39.13	-6.00	33.13	46.00	-12.87	QP		

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

Operator: KK

File :TUV 9\Data :#18

Page: 1

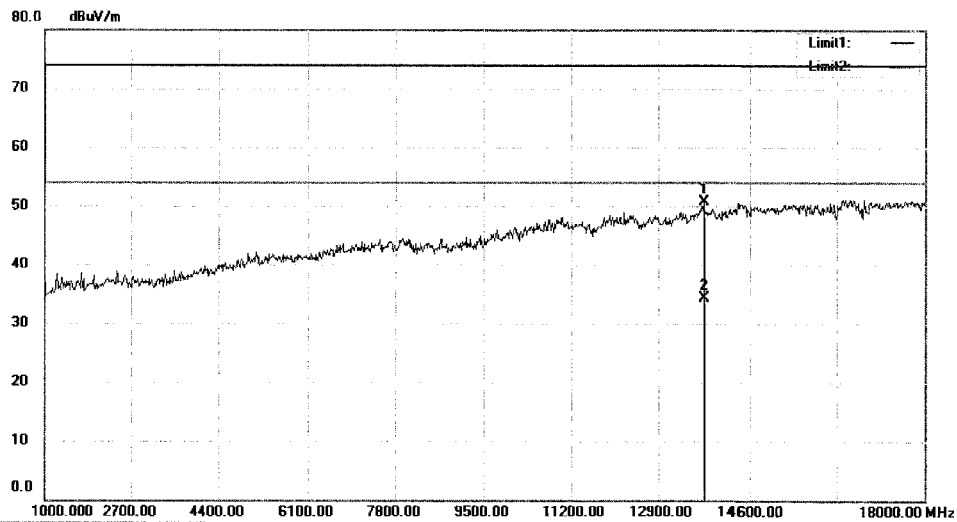
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Radiated Emission Measurement

File :TUV 9

Data :#131

Date: 15/09/20/



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: BLE 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		13784.00	57.11	-6.34	50.77	74.00	-23.23	peak		
2	*	13784.00	40.60	-6.34	34.26	54.00	-19.74	AVG		

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

Operator: KK

File :TUV 9\Data :#131

Page: 1

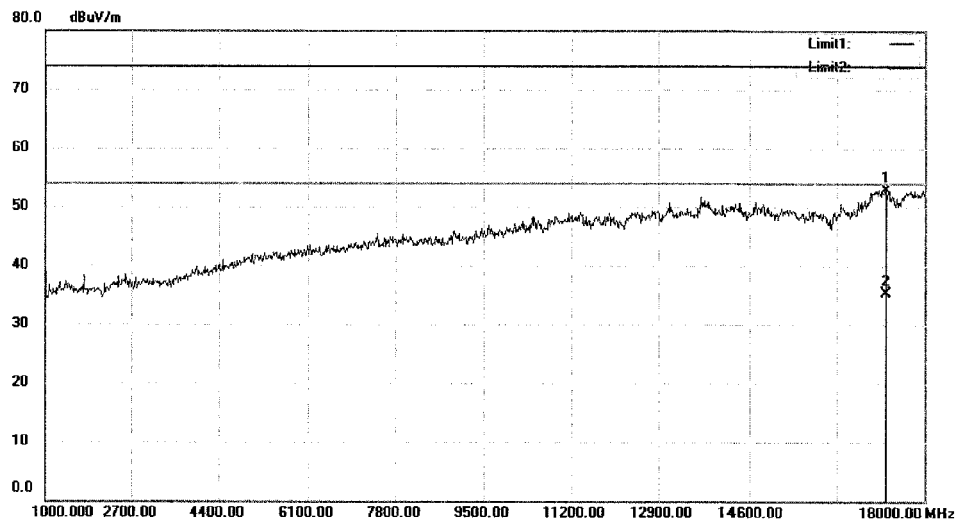
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Radiated Emission Measurement

File :TUV 9

Data :#132

Date: 15/09/20/



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: BLE 2402

Note:

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		17252.00	55.84	-2.97	52.87	74.00	-21.13	peak		
2	*	17252.00	38.23	-2.97	35.26	54.00	-18.74	AVG		

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

Operator: KK

File :TUV 9\Data :#132

Page: 1

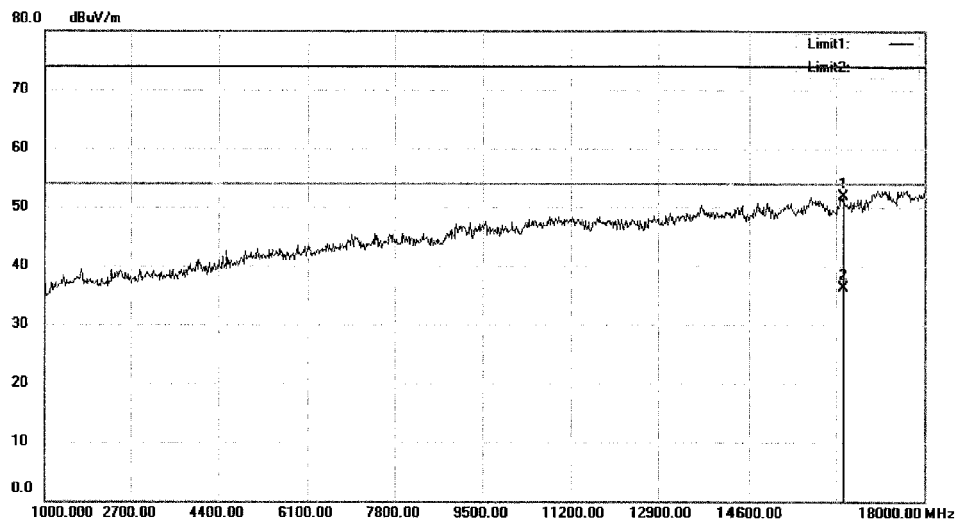
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Radiated Emission Measurement

File :TUV 9

Data :#133

Date: 15/09/20/



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: BLE 2440

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		16436.00	58.36	-6.54	51.82	74.00	-22.18	peak		
2	*	16436.00	42.78	-6.54	36.24	54.00	-17.76	AVG		

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

Operator: KK

File :TUV 9\Data :#133

Page: 1

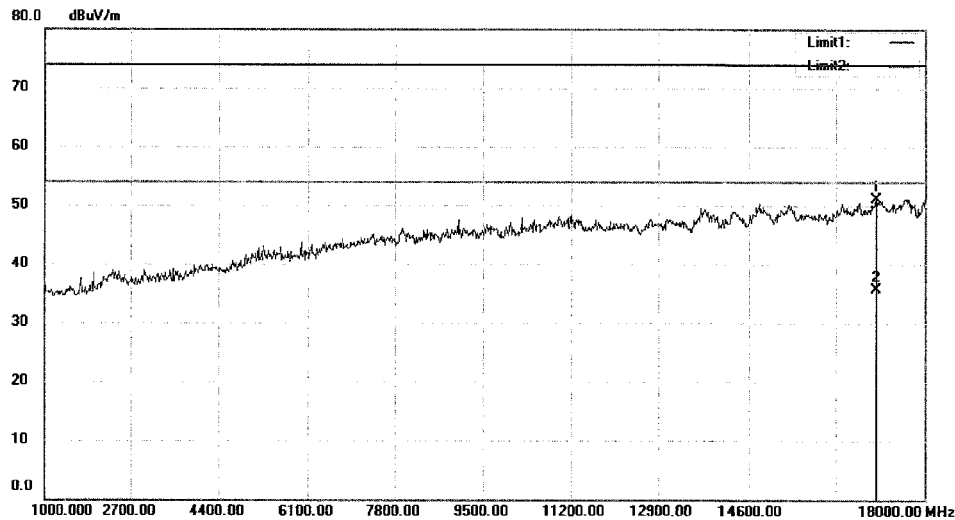
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Radiated Emission Measurement

File :TUV 9

Data :#134

Date: 15/09/20/



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: BLE 2440

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		17082.00	55.32	-4.31	51.01	74.00	-22.99	peak		
2	*	17082.00	39.93	-4.31	35.62	54.00	-18.38	AVG		

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

Operator: KK

File :TUV 9\Data :#134

Page: 1

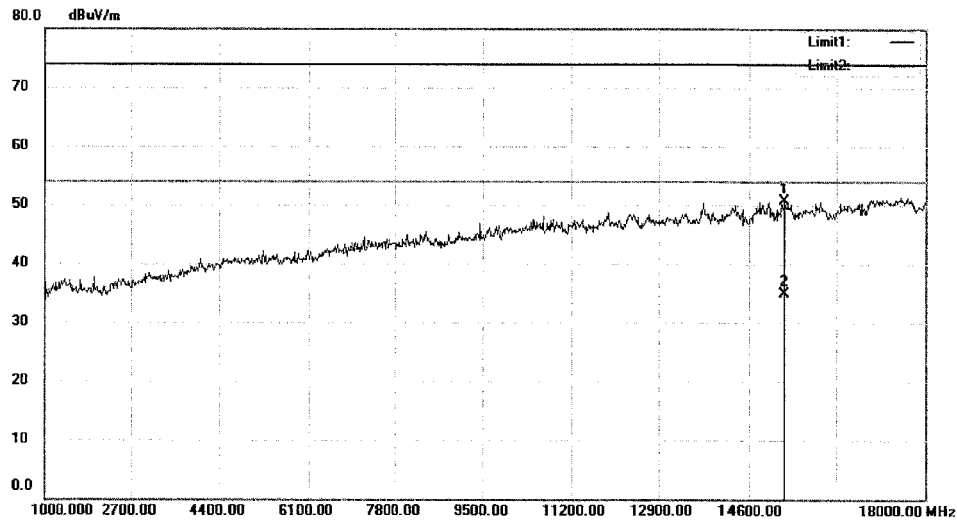
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Radiated Emission Measurement

File :TUV 9

Data :#135

Date: 15/09/20/



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: BLE 2480

Note:

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		15297.00	57.76	-7.13	50.63	74.00	-23.37	peak		
2	*	15297.00	41.96	-7.13	34.83	54.00	-19.17	AVG		

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

Operator: KK

File :TUV 9\Data :#135

Page: 1

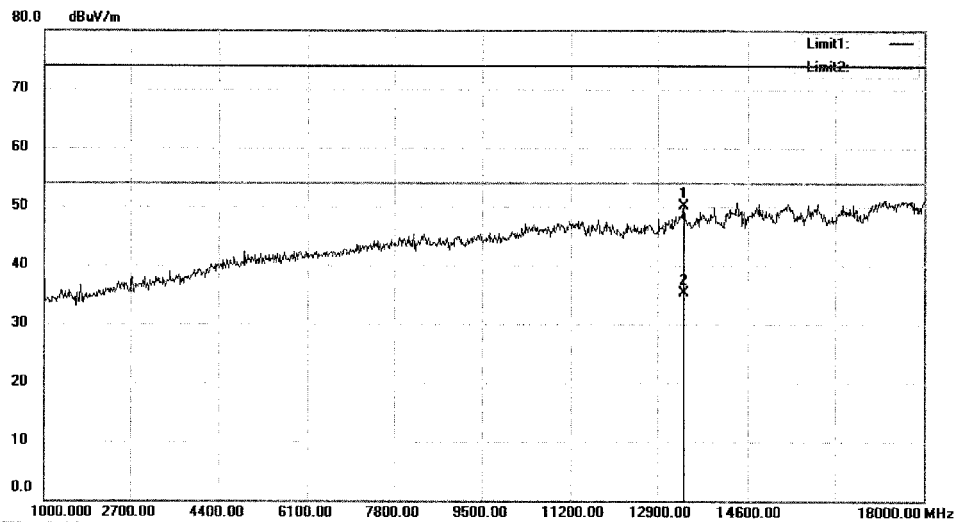
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Radiated Emission Measurement

File :TUV 9

Data :#136

Date: 15/09/20/



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:BLE 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		13410.00	58.19	-8.13	50.06	74.00	-23.94	peak		
2	*	13410.00	43.39	-8.13	35.26	54.00	-18.74	AVG		

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

Operator: KK

File :TUV 9\Data :#136

Page: 1

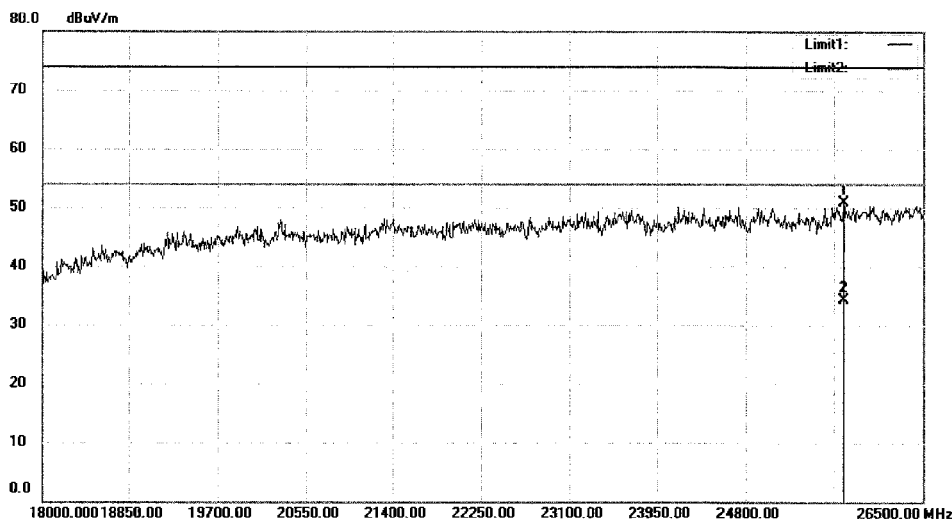
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Radiated Emission Measurement

File :TUV 9

Data :#295

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: BLE 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		25743.50	86.93	-36.10	50.83	74.00	-23.17	peak		
2	*	25743.50	70.36	-36.10	34.26	54.00	-19.74	AVG		

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

Operator: KK

File :TUV 9\Data :#295

Page: 1

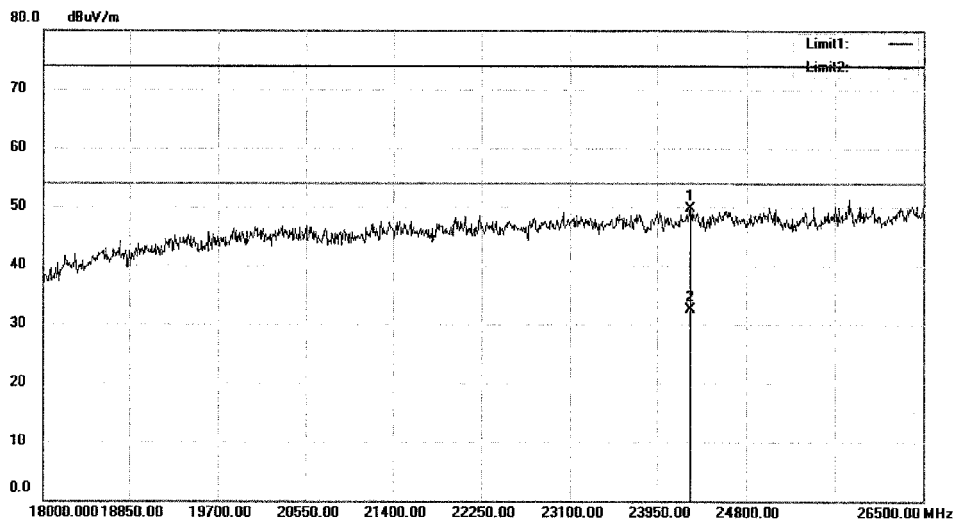
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Radiated Emission Measurement

File :TUV 9

Data :#296

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; DL1168A

Mode: BLE 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		24273.00	86.79	-37.10	49.69	74.00	-24.31	peak		
2	*	24273.00	69.66	-37.10	32.56	54.00	-21.44	AVG		

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

Operator: KK

File :TUV 9\Data :#296

Page: 1

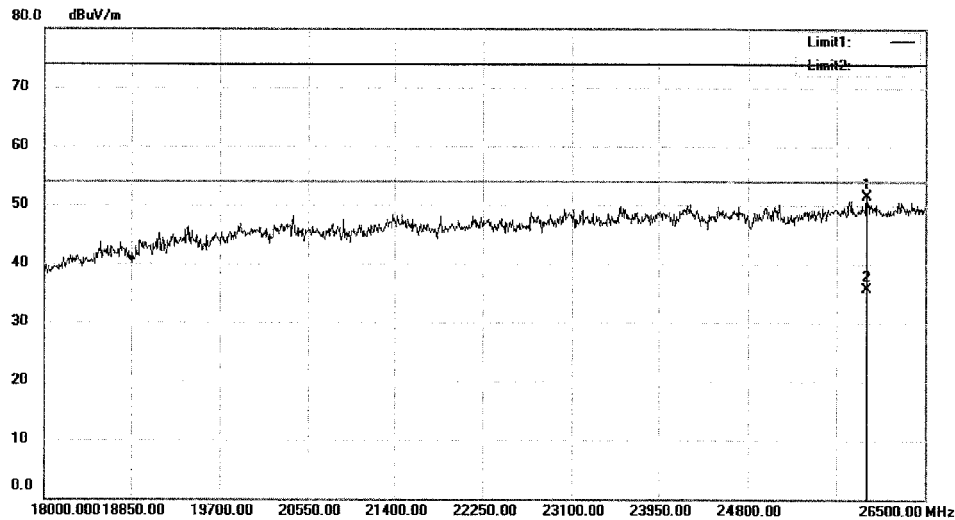
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Radiated Emission Measurement

File :TUV 9

Data :#297

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:BLE 2440

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		25939.00	87.43	-35.86	51.57	74.00	-22.43	peak		
2	*	25939.00	71.48	-35.86	35.62	54.00	-18.38	AVG		

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

Operator: KK

File :TUV 9\Data :#297

Page: 1

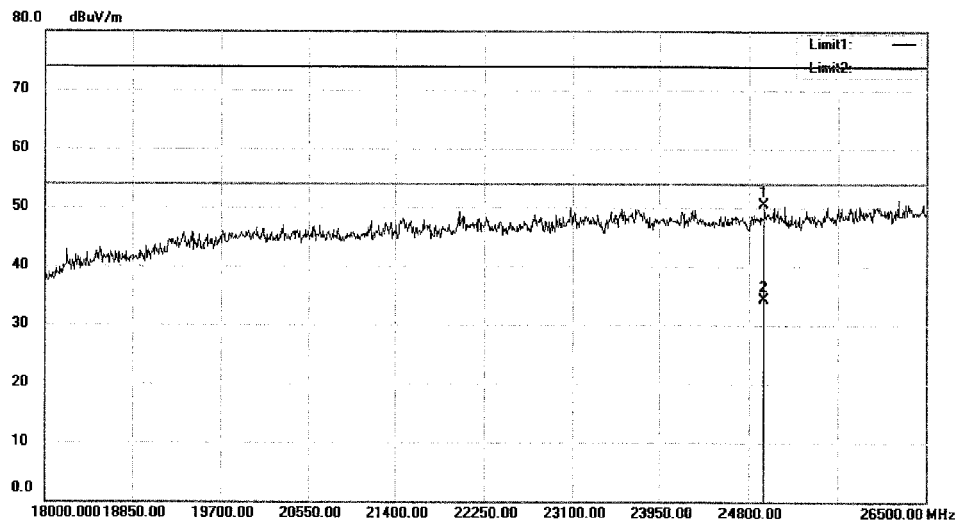
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Radiated Emission Measurement

File :TUV 9

Data :#298

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; DL1168A

Mode: BLE 2440

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		24944.50	87.53	-37.02	50.51	74.00	-23.49	peak		
2	*	24944.50	71.28	-37.02	34.26	54.00	-19.74	AVG		

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

Operator: KK

File :TUV 9\Data :#298

Page: 1

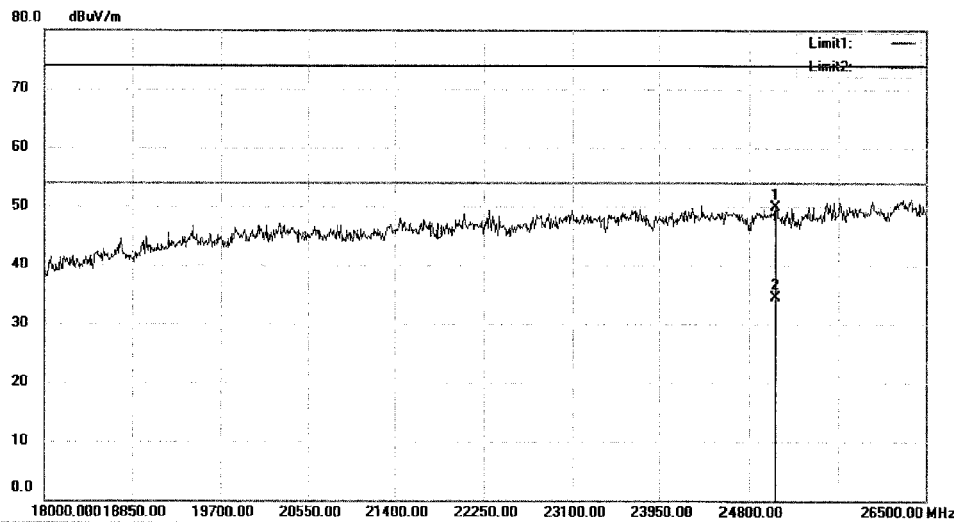
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Radiated Emission Measurement

File :TUV 9

Data :#299

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: BLE 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		25055.00	86.88	-36.94	49.94	74.00	-24.06	peak		
2	*	25055.00	71.45	-36.94	34.51	54.00	-19.49	AVG		

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

Operator: KK

File :TUV 9\Data :#299

Page: 1

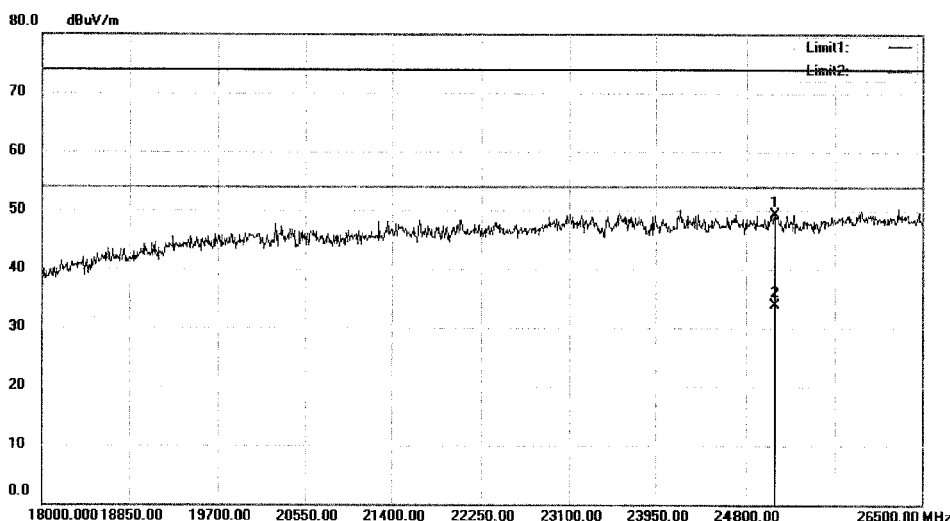
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Radiated Emission Measurement

File :TUV 9

Data :#300

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; DL1168A

Mode:BLE 2480

Note:

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		25072.00	86.32	-36.92	49.40	74.00	-24.60	peak		
2	*	25072.00	70.87	-36.92	33.95	54.00	-20.05	AVG		

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

Operator: KK

File :TUV 9\Data :#300

Page: 1

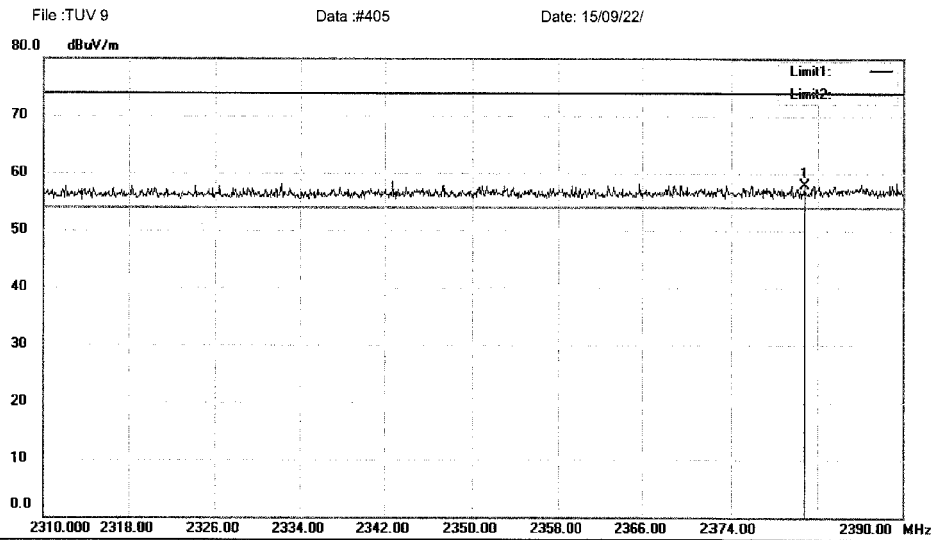
Prüfbericht - Nr.: 17052720 001
Test Report No.
Seite 121 von 140
Page 121 of 140

Test Plot of Band Edge of Bluetooth Low Energy mode

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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: BLE 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	2380.720	27.63	30.23	57.86	74.00	-16.14	peak		Comment

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

Operator: KK

File: TUV 9Data: #405

Page: 1

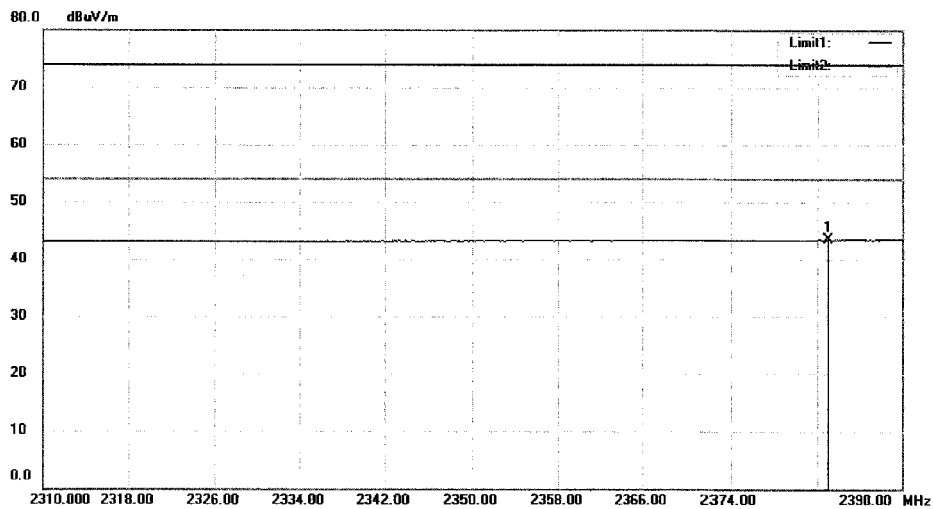
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Radiated Emission Measurement

File :TUV 9

Data :#406

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:BLE 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	2383.040	13.19	30.24	43.43	54.00	-10.57	AVG		

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

Operator: KK

File :TUV 9\Data :#406

Page: 1

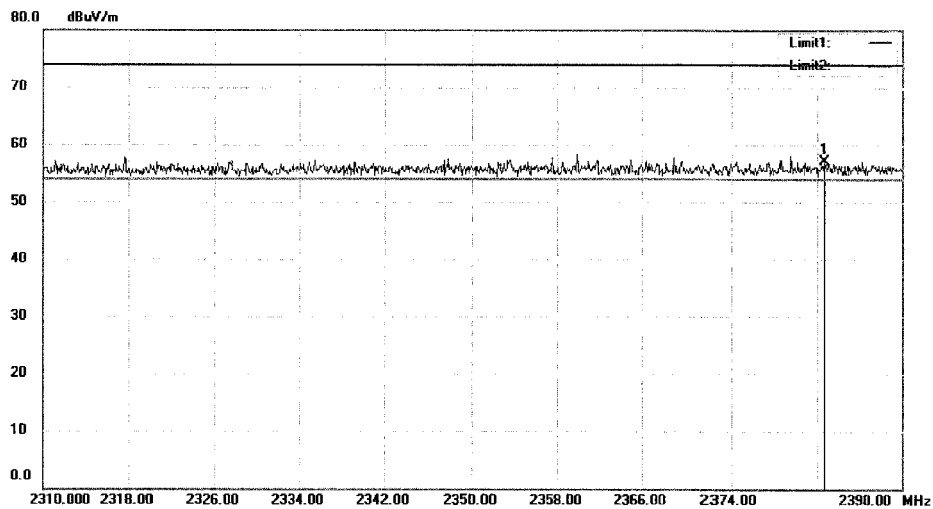
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Radiated Emission Measurement

File :TUV 9

Data :#403

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:BLE 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	2382.640	26.91	30.24	57.15	74.00	-16.85	peak		

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

Operator: KK

File :TUV 9\Data :#403

Page: 1

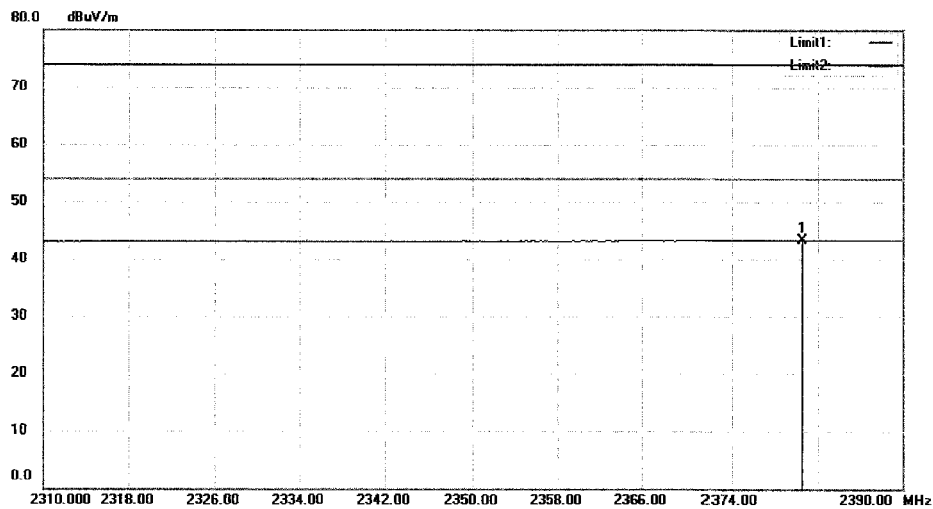
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Radiated Emission Measurement

File :TUV 9

Data :#404

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: BLE 2402

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	2380.560	13.11	30.23	43.34	54.00	-10.66	AVG		

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

Operator: KK

File :TUV 9\Data :#404

Page: 1

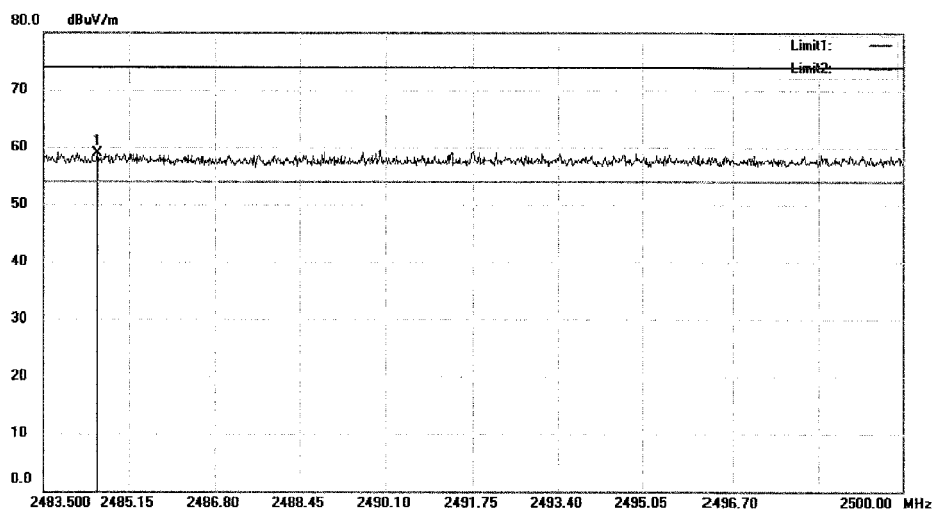
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Radiated Emission Measurement

File :TUV 9

Data :#407

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: BLE 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	2484.539	28.24	30.71	58.95	74.00	-15.05	peak		

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

Operator: KK

File :TUV 9\Data :#407

Page: 1

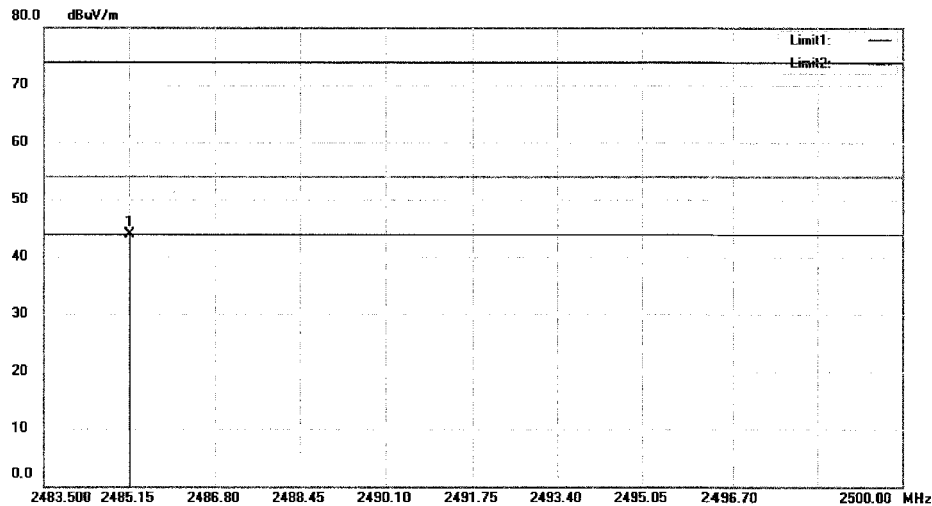
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Radiated Emission Measurement

File :TUV 9

Data :#408

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:BLE 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1	*	2485.166	13.25	30.71	43.96	54.00	-10.04	AVG	

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

Operator: KK

File :TUV 9\Data :#408

Page: 1

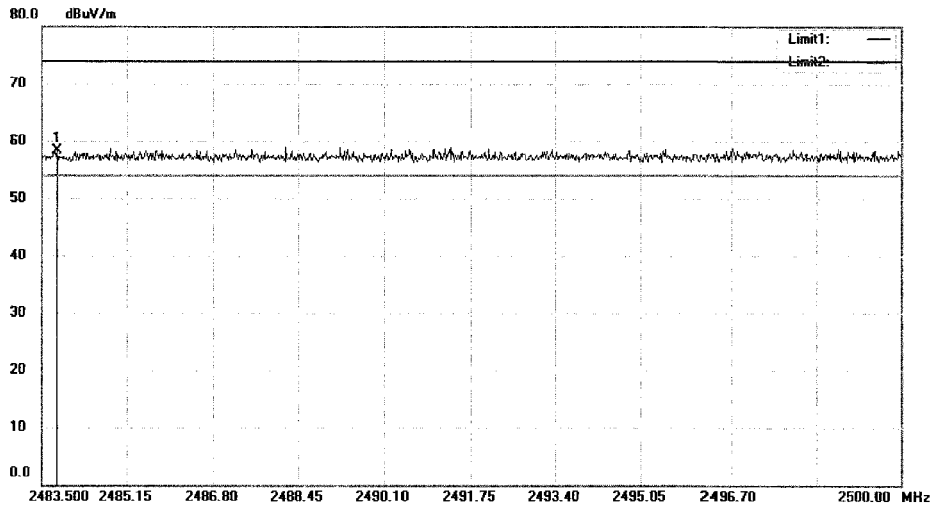
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Radiated Emission Measurement

File :TUV 9

Data :#409

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:BLE 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1	*	2483.797	27.64	30.70	58.34	74.00	-15.66 peak		

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

Operator: KK

File :TUV 9\Data :#409

Page: 1

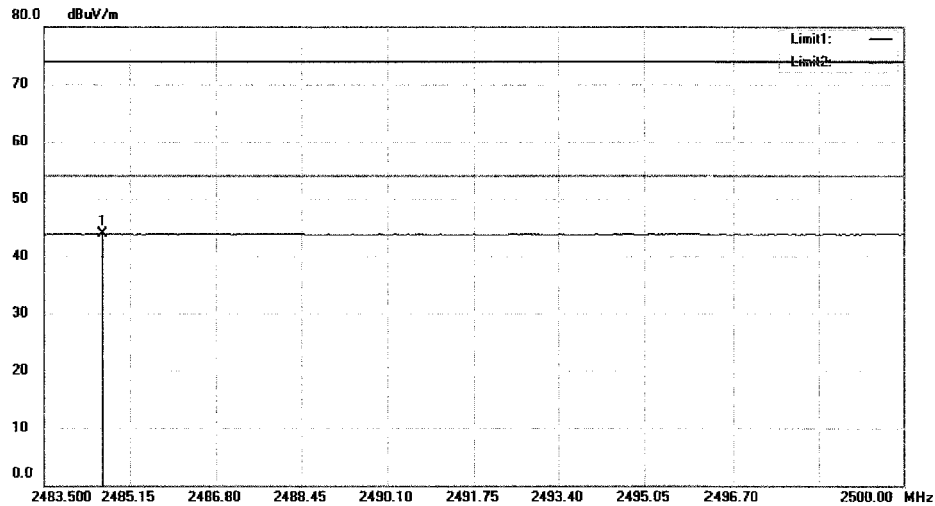
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Radiated Emission Measurement

File :TUV 9

Data :#410

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:BLE 2480

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	2484.622	13.17	30.71	43.88	54.00	-10.12	AVG		

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

Operator: KK

File :TUV 9\Data :#410

Page: 1

5.1.8 Frequency Separation

RESULT:
Pass

Date of testing : 2015-09-19
 Test standard : FCC part 15.247(a)(1)
 Basic standard : ANSI C63.10: 2013
 Limit : $\geq 25\text{kHz}$ or two-thirds of 20dB bandwidth,
 whichever is greater
 Kind of test site : Shield room

Test setup

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

Table 14: Test result of Frequency Separation

Channel	Channel Frequency (MHz)	Measured Channel Separation (MHz)	Limit (kHz)	Result
Low Channel	2402	1.000	$\geq 25\text{kHz}$ or two-thirds of 20dB bandwidth	Pass
Adjacency Channel	2403			
Mid Channel	2441	1.000	$\geq 25\text{kHz}$ or two-thirds of 20dB bandwidth	Pass
Adjacency Channel	2442			
High Channel	2479	1.000	$\geq 25\text{kHz}$ or two-thirds of 20dB bandwidth	Pass
Adjacency Channel	2480			

Prüfbericht - Nr.: 17052720 001

Test Report No.

Seite 130 von 140

Page 130 of 140

5.1.9 Number of hopping frequency**RESULT:****Pass**

Date of testing : 2015-09-19
Test standard : FCC part 15.247(a)(1)(iii)
Basic standard : ANSI C63.10: 2013
Limits : ≥ 15 non-overlapping channels
Kind of test site : Shield room

Test setup

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

Table 15: Test result of Number of hopping frequency

Frequency Range	Measured Quantity of Hopping Channel	Limit	Result
2402 to 2480MHz	79	≥ 15	Pass

5.1.10 Time of Occupancy

RESULT:
Pass

Date of testing : 2015-09-19
 Test standard : FCC part 15.247(a)(1)(iii)
 Basic standard : ANSI C63.10: 2013
 Limits : 0.4s
 Kind of test site : Shield room

Test setup

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

Table 16: Test result of Time of Occupancy

Mode	Packet Type	Channel Frequency (MHz)	Packet Duration [ms]	Number of Hops per Channel	Dwell Time (ms)	Limit [ms]
BDR	DH1	2402	0.380	316	120.08	400
		2441	0.380	316	120.08	400
		2480	0.380	316	120.08	400
	DH3	2402	1.645	158	259.91	400
		2441	1.645	158	259.91	400
		2480	1.645	158	259.91	400
	DH5	2402	2.900	120	348.00	400
		2441	2.900	120	348.00	400
		2480	2.900	120	348.00	400
EDR	DH1	2402	0.392	316	123.872	400
		2441	0.392	316	123.872	400
		2480	0.392	316	123.872	400
	DH3	2402	1.645	158	259.91	400
		2441	1.638	158	258.804	400
		2480	1.638	158	258.804	400
	DH5	2402	2.890	120	346.80	400
		2441	2.890	120	346.80	400
		2480	2.890	120	346.80	400

Prüfbericht - Nr.: 17052720 001

Test Report No.

Seite 132 von 140

Page 132 of 140

5.1.11 Conducted emissions**RESULT:****Pass**

Date of testing	:	2015-09-23
Test standard	:	FCC Part 15.207
Basic standard	:	ANSI C63.10: 2013
Frequency range	:	0.15 – 30MHz
Limits	:	FCC Part 15.207 Table 3 of RSS-Gen
Kind of test site	:	Shield room

Test setup

Input Voltage	:	AC 120V, 60Hz
Operation Mode	:	A
Earthing	:	Not Connected
Ambient temperature	:	26°C
Relative humidity	:	55%
Atmospheric pressure	:	101kPa

For details refer to following test plot.

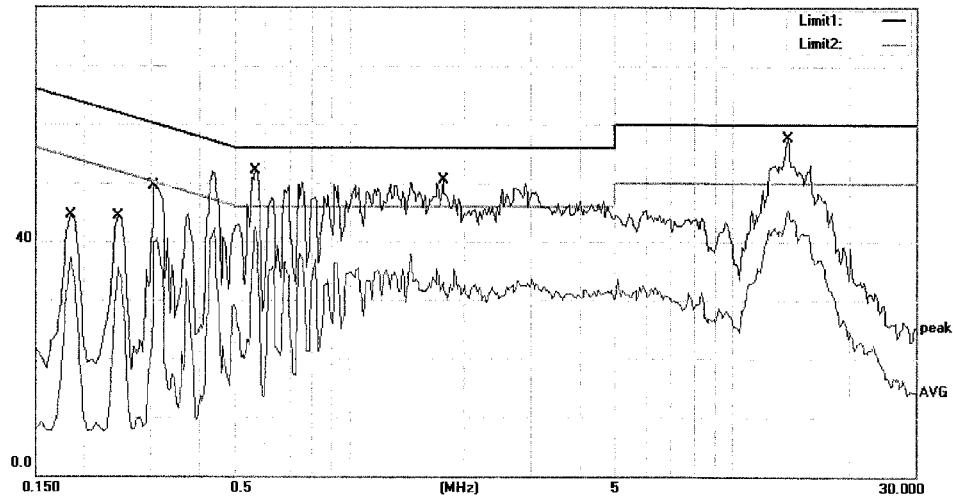
Shenzhen EMTEK Co., Ltd.
 Bldg. 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, 518052 P. R. China
 www.emtek.com.cn Tel: +86-755-2695 4280 Fax: +86-755-2695 4282

Conducted Emission Measurement

 File: TUV
 80.0 dBuV

Data: #848

Date: 2015/09/23



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: BT4.0 - Classic Mode

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1850	44.52	0.00	44.52	64.26	-19.74	QP	
2		0.1850	37.22	0.00	37.22	54.26	-17.04	AVG	
3		0.2450	44.40	0.00	44.40	61.92	-17.52	QP	
4		0.2450	35.49	0.00	35.49	51.92	-16.43	AVG	
5		0.3050	47.20	0.00	47.20	60.11	-12.91	QP	
6		0.3050	40.46	0.00	40.46	50.11	-9.65	AVG	
7		0.5650	48.90	0.00	48.90	56.00	-7.10	QP	
8	*	0.5650	42.49	0.00	42.49	46.00	-3.51	AVG	
9		1.7600	48.60	0.00	48.60	56.00	-7.40	QP	
10		1.7600	35.40	0.00	35.40	46.00	-10.60	AVG	
11		13.9250	54.70	0.00	54.70	60.00	-5.30	QP	
12		13.9250	45.54	0.00	45.54	50.00	-4.46	AVG	

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

Comment: Factor build in receiver.

Operator: CSL

File: TUVData: #848

Page: 1

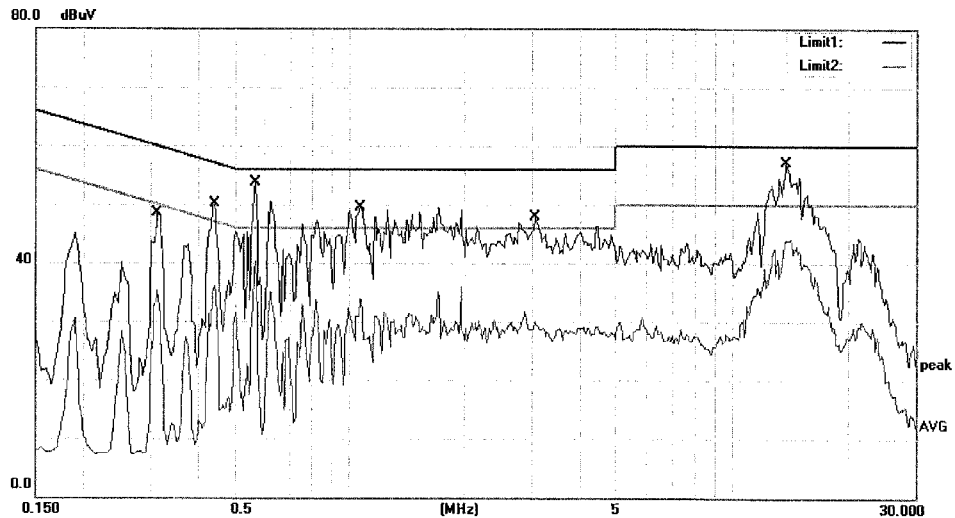
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Conducted Emission Measurement

File :TUV

Data :#847

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: BT4.0 - Classic Mode

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3100	46.50	0.00	46.50	59.97	-13.47	QP	
2		0.3100	35.34	0.00	35.34	49.97	-14.63	AVG	
3		0.4400	48.20	0.00	48.20	57.06	-8.86	QP	
4		0.4400	36.13	0.00	36.13	47.06	-10.93	AVG	
5		0.5650	48.90	0.00	48.90	56.00	-7.10	QP	
6		0.5650	40.31	0.00	40.31	46.00	-5.69	AVG	
7		1.0700	47.30	0.00	47.30	56.00	-8.70	QP	
8		1.0700	33.95	0.00	33.95	46.00	-12.05	AVG	
9		3.0500	43.80	0.00	43.80	56.00	-12.20	QP	
10		3.0500	31.60	0.00	31.60	46.00	-14.40	AVG	
11	*	13.8000	54.60	0.00	54.60	60.00	-5.40	QP	
12		13.8000	44.05	0.00	44.05	50.00	-5.95	AVG	

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

File :TUVData :#847

Page: 1

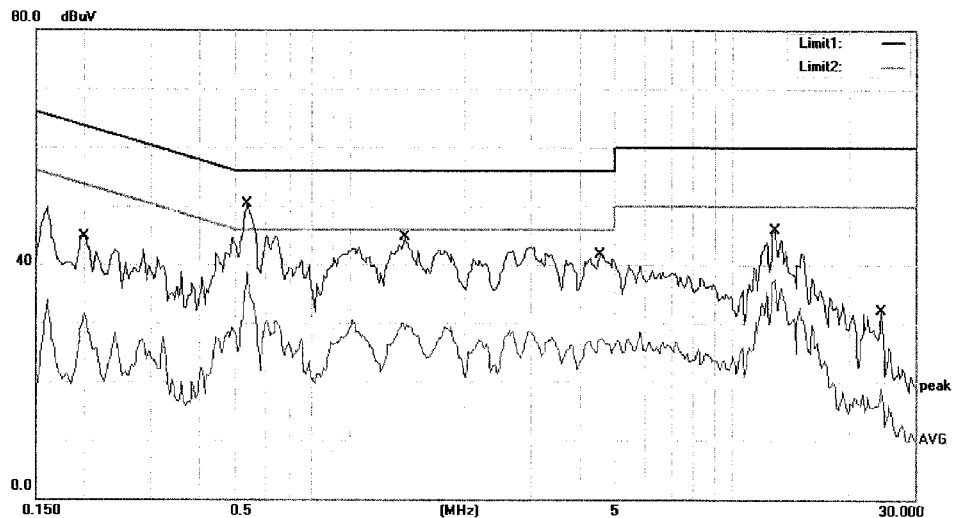
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Conducted Emission Measurement

File : TUV

Data : #828

Date: 2015/09/23



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: BT 4.0 - BLE Mode

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.2000	44.80	0.00	44.80	63.61	-18.81	QP	
2		0.2000	31.58	0.00	31.58	53.61	-22.03	AVG	
3	*	0.5400	49.10	0.00	49.10	56.00	-6.90	QP	
4		0.5400	38.79	0.00	38.79	46.00	-7.21	AVG	
5		1.3900	44.61	0.00	44.61	56.00	-11.39	QP	
6		1.3900	29.93	0.00	29.93	46.00	-16.07	AVG	
7		4.5450	41.77	0.00	41.77	56.00	-14.23	QP	
8		4.5450	27.39	0.00	27.39	46.00	-18.61	AVG	
9		12.8750	45.94	0.00	45.94	60.00	-14.06	QP	
10		12.8750	37.45	0.00	37.45	50.00	-12.55	AVG	
11		24.3750	32.12	0.00	32.12	60.00	-27.88	QP	
12		24.3750	18.91	0.00	18.91	50.00	-31.09	AVG	

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

Comment: Factor build in receiver.

Operator: CSL

File : TUVData : #828

Page: 1

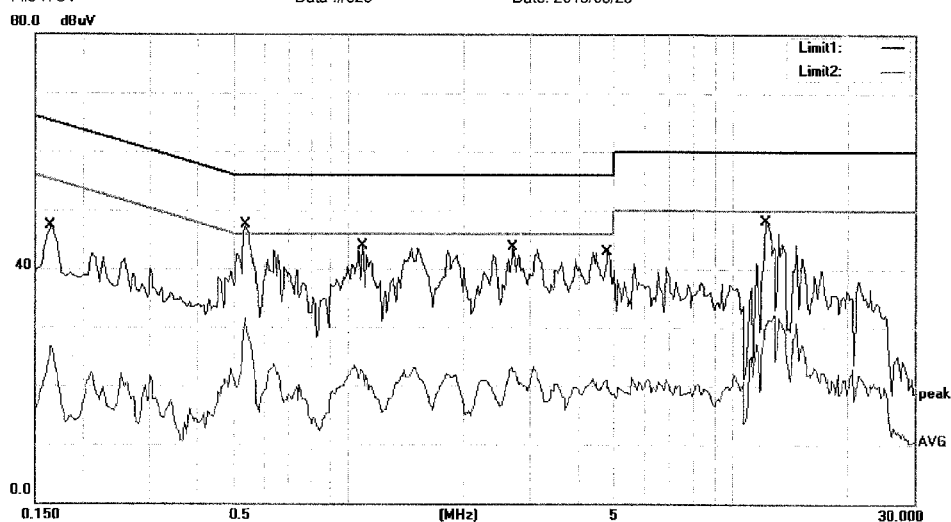
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Conducted Emission Measurement

File: TUV

Data: #829

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: BT 4.0 - BLE Mode

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1650	47.38	0.00	47.38	65.21	-17.83	QP	
2		0.1650	26.79	0.00	26.79	55.21	-28.42	AVG	
3	*	0.5350	47.55	0.00	47.55	56.00	-8.45	QP	
4		0.5350	31.52	0.00	31.52	46.00	-14.48	AVG	
5		1.0900	43.85	0.00	43.85	56.00	-12.15	QP	
6		1.0900	23.49	0.00	23.49	46.00	-22.51	AVG	
7		2.7000	43.78	0.00	43.78	56.00	-12.22	QP	
8		2.7000	23.21	0.00	23.21	46.00	-22.79	AVG	
9		4.7950	42.82	0.00	42.82	56.00	-13.18	QP	
10		4.7950	20.97	0.00	20.97	46.00	-25.03	AVG	
11		12.2500	48.03	0.00	48.03	60.00	-11.97	QP	
12		12.2500	32.18	0.00	32.18	50.00	-17.82	AVG	

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

Comment: Factor build in receiver.

Operator: CSL

File: TUVData: #829

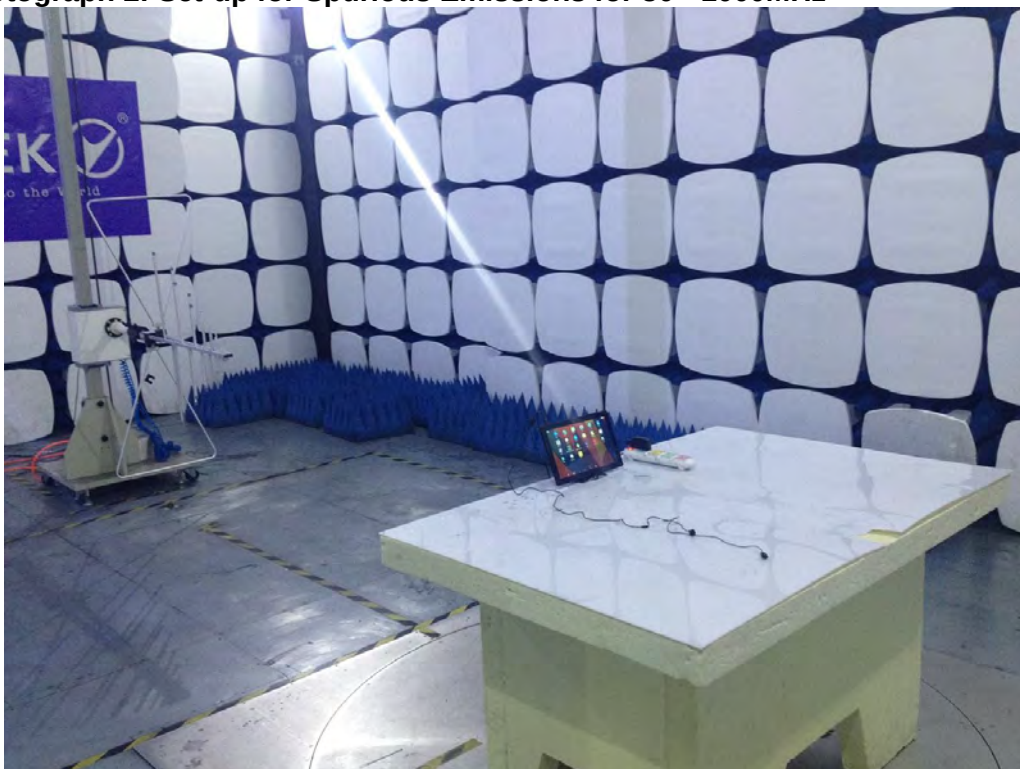
Page: 1

6. Photographs of the Test Set-Up

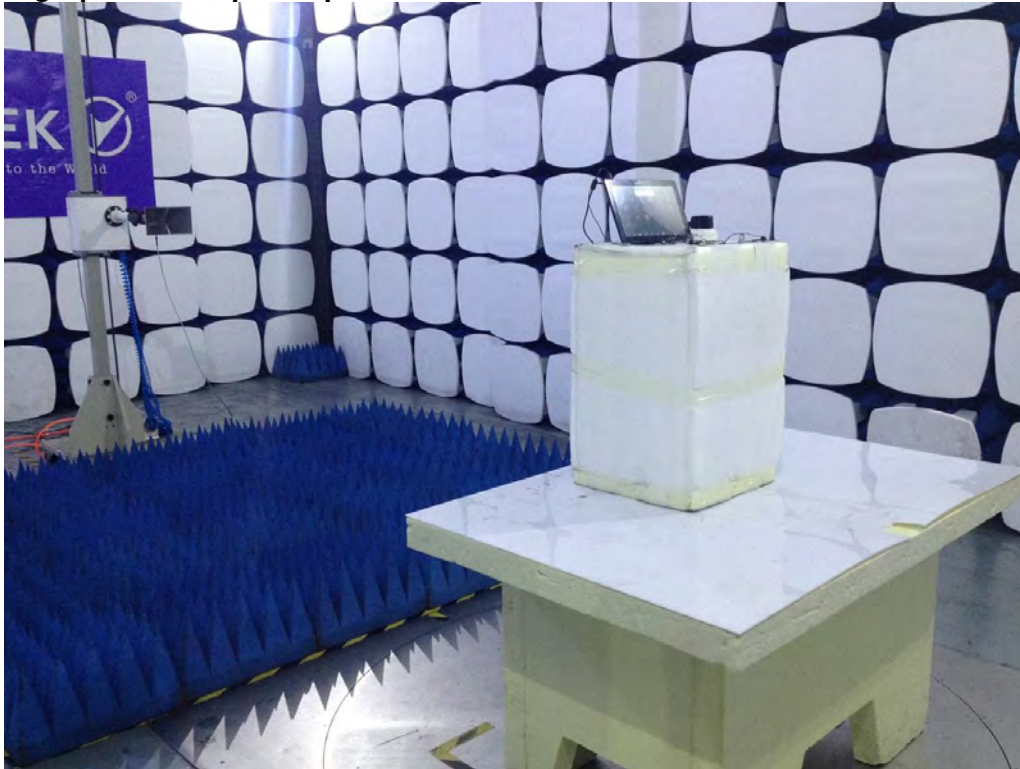
Photograph 1: Set-up for Spurious Emissions for below 30MHz



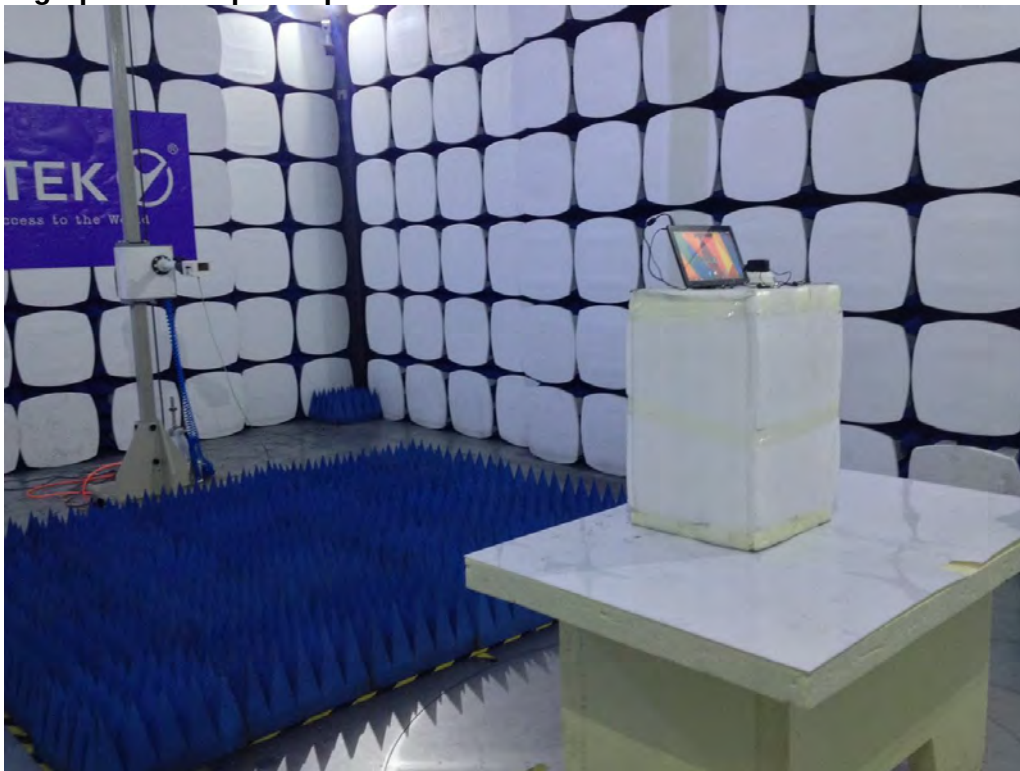
Photograph 2: Set-up for Spurious Emissions for 30 - 1000MHz



Photograph 3: Set-up for Spurious Emissions for 1 - 18GHz



Photograph 4: Set-up for Spurious Emissions for 18 - 26.5GHz



Photograph 5: Set-up for Conducted Emission



7. List of Tables

Table 1: List of Test and Measurement Equipment	5
Table 2: Measurement Uncertainty	6
Table 3: Technical Specification of Bluetooth (BDR & EDR mode)	8
Table 4: RF channel and frequency of Bluetooth (BDR & EDR mode).....	8
Table 5: Technical Specification of Bluetooth (Low Energy mode).....	9
Table 6: RF channel and frequency of Bluetooth (Low Energy mode)	9
Table 7: Test result of Peak Output Power of Bluetooth (BDR mode)	15
Table 8: Test result of Peak Output Power of Bluetooth (EDR mode).....	15
Table 9: Test result of Peak Output Power of Bluetooth (Low Energy mode)	15
Table 10: Test result of 20dB of BDR mode.....	16
Table 11: Test result of 20dB of EDR mode.....	16
Table 12: Test result of 6dB Bandwidth of Bluetooth, Low Energy mode	17
Table 13: Test result of power spectral density	31
Table 14: Test result of Frequency Separation	129
Table 15: Test result of Number of hopping frequency	130
Table 16: Test result of Time of Occupancy.....	131

8. List of Photographs

Photograph 1: Set-up for Spurious Emissions for below 30MHz	137
Photograph 2: Set-up for Spurious Emissions for 30 - 1000MHz	137
Photograph 3: Set-up for Spurious Emissions for 1 - 18GHz.....	138
Photograph 4: Set-up for Spurious Emissions for 18 - 26.5GHz.....	138
Photograph 5: Set-up for Conducted Emission	139