

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	Datum Name / Stellung Date Name / Position	Unterschrift Signature	10.10.2015	Sam Lin/Technical Certifier	Datum Name / Stellung Date Name / Position	Unterschrift Signature
<b>Sonstiges / Other:</b>							
<b>Zustand des Prüfgegenstandes bei Anlieferung:</b> <i>Condition of the test item at delivery:</i>				Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>			
<p>* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft  P(ass) = entspricht o.g. Prüfgrundlage(n) F(all) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet</p> <p>Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor  P(ass) = passed a.m. test specification(s) F(all) = failed a.m. test specification(s) N/A = not applicable N/T = not tested</p>							
<p><b>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.</b>  <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></p>							

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## 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

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## 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
<b>Transmitter spurious emissions</b>				
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
<b>Radio Spectrum Test</b>				
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
<b>Conducted Emission</b>				
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.

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## 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, π/4DQPSK
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)						
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

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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)						
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
- PCB Layout
- Photo Document
- Circuit Diagram
- Instruction Manual
- Rating Label

## 4. Test Set-up and Operation Modes

### 4.1 Principle of Configuration Selection

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

### 4.2 Test Operation and Test Software

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

According to clause 3.1, all tests were applied on model 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

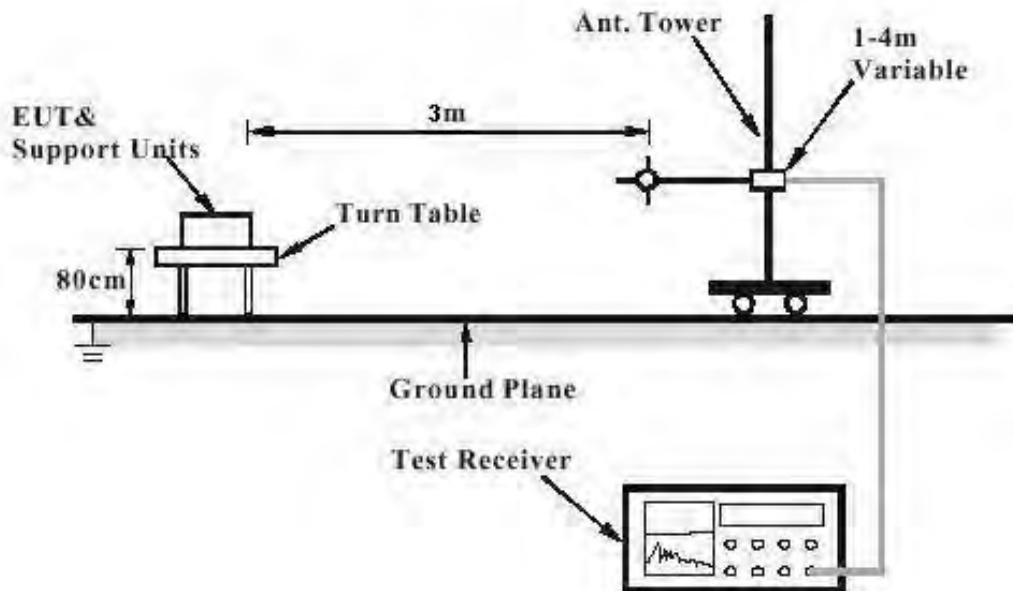
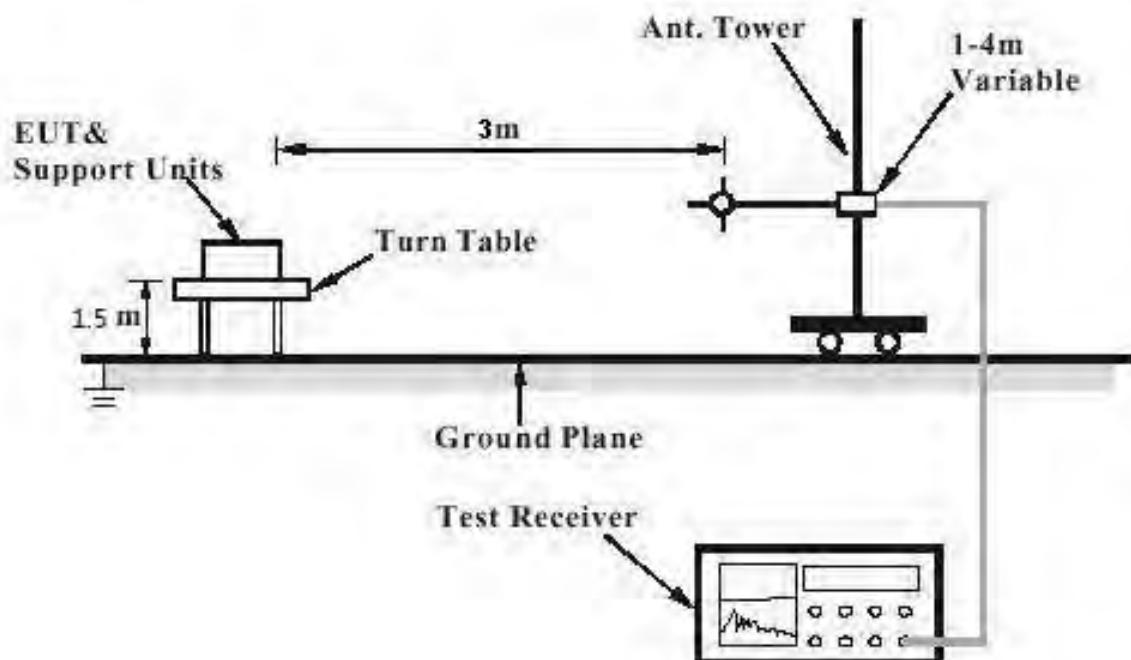


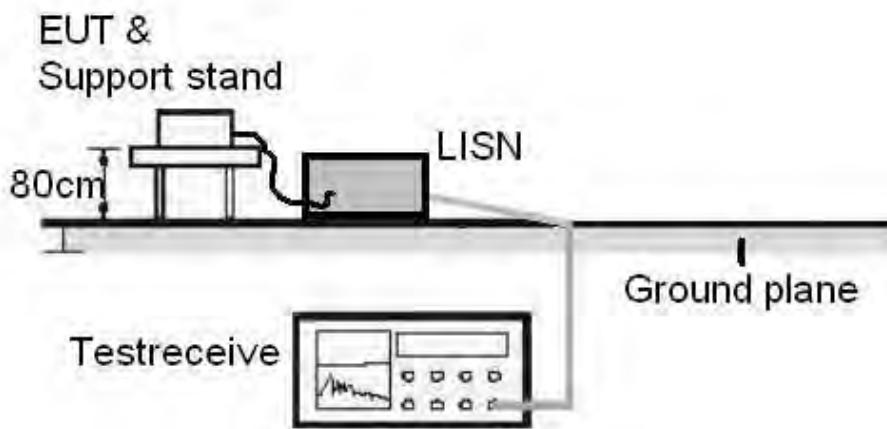
Diagram of Measurement Configuration for Radiation Test for above 1GHz



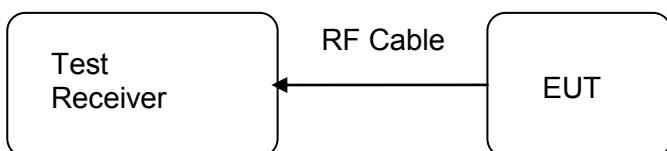
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**Diagram of Measurement Equipment Configuration for Conduction Measurement**



**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 Limit	: Part 15.203 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.

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### 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

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### 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
Kind of test site	:	Clause 8 of KDB 558074 v03r01 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

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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  
Kind of test site : Clause 8 of KDB 558074 v03r01  
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

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### 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.

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


**Produkte**
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**Middle Channel**


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


**Produkte**
*Products*
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**Middle Channel**


**Produkte**
*Products*
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**High Channel**


**Produkte**
*Products*
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**Band Edge**


**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  
Limit : Clause 10 of KDB 558074 v03r01  
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

### 5.1.7 Spurious Emission

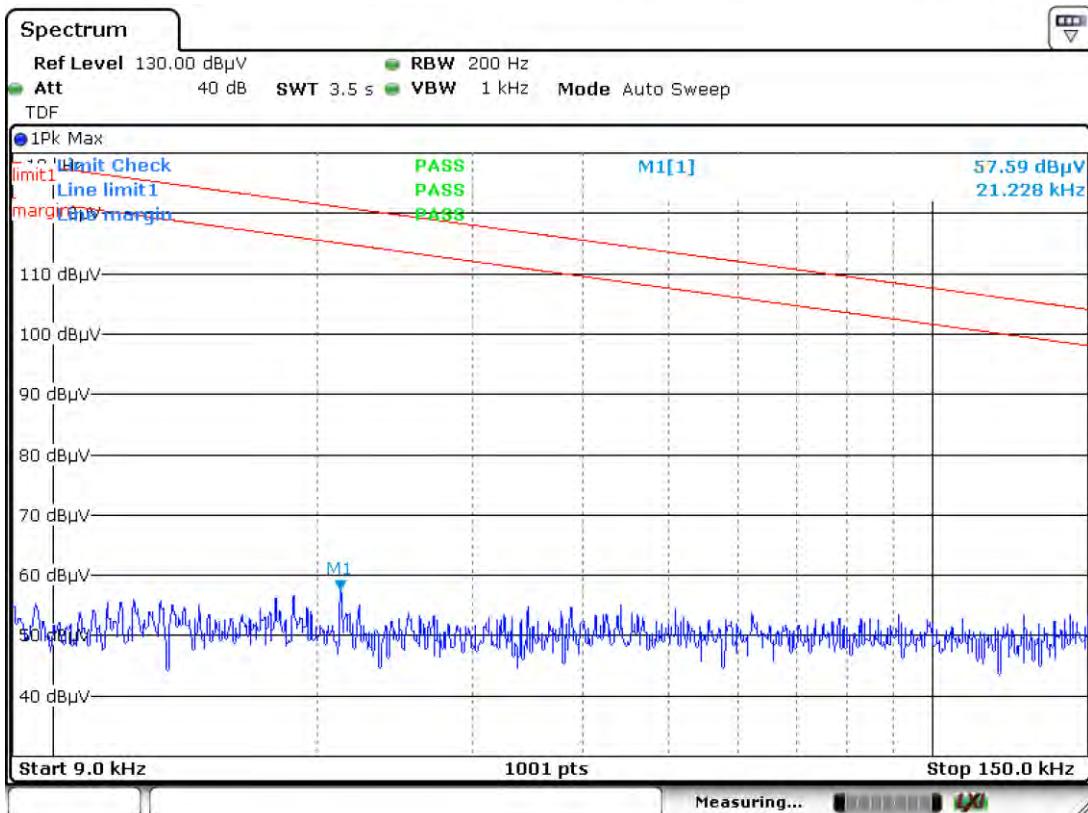
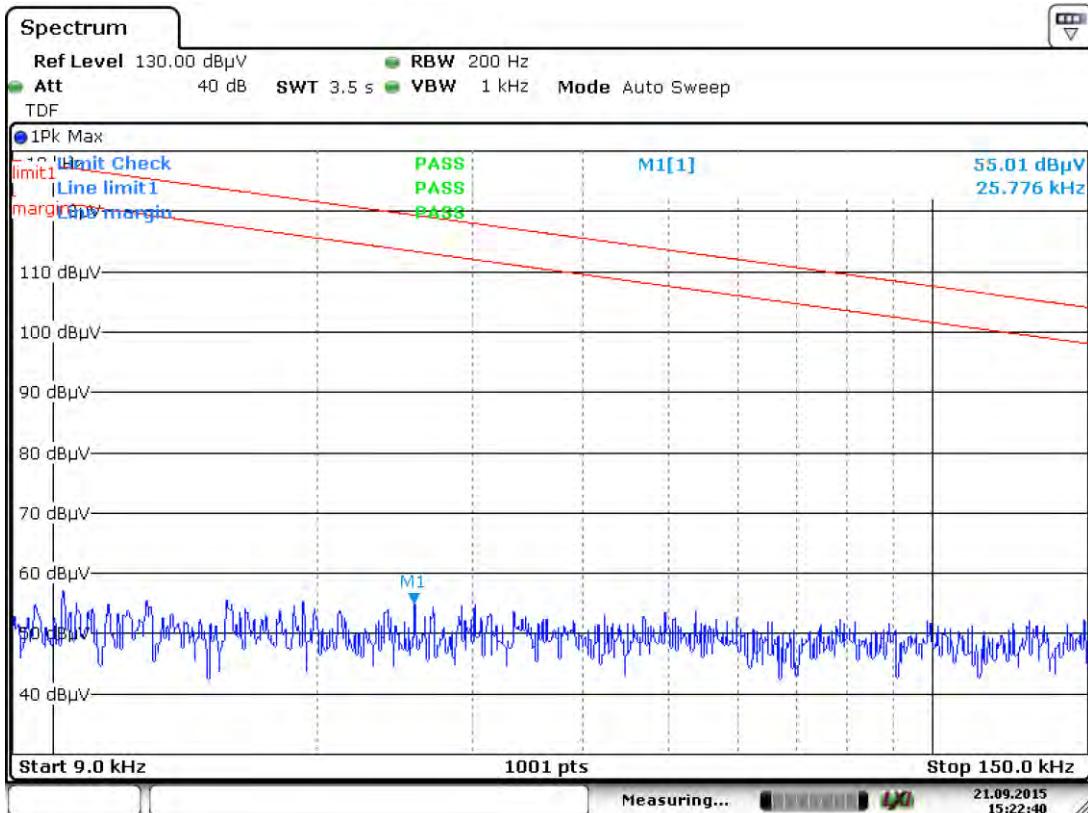
**RESULT:****Pass**

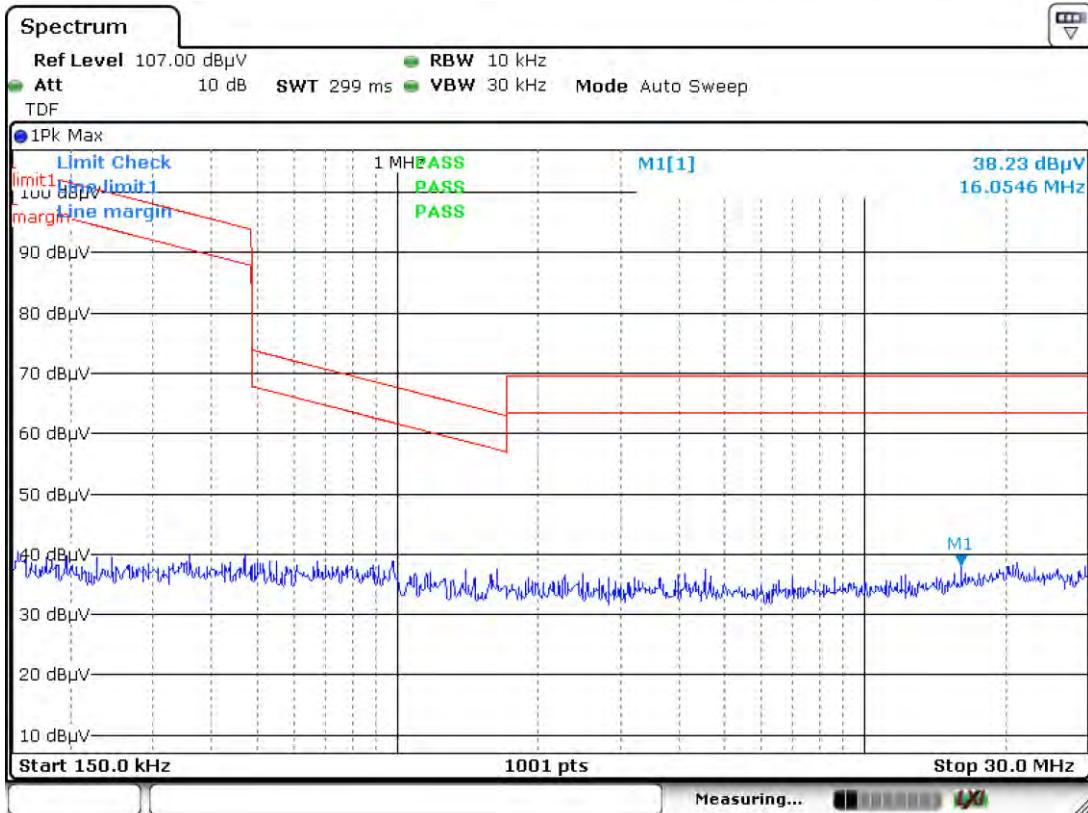
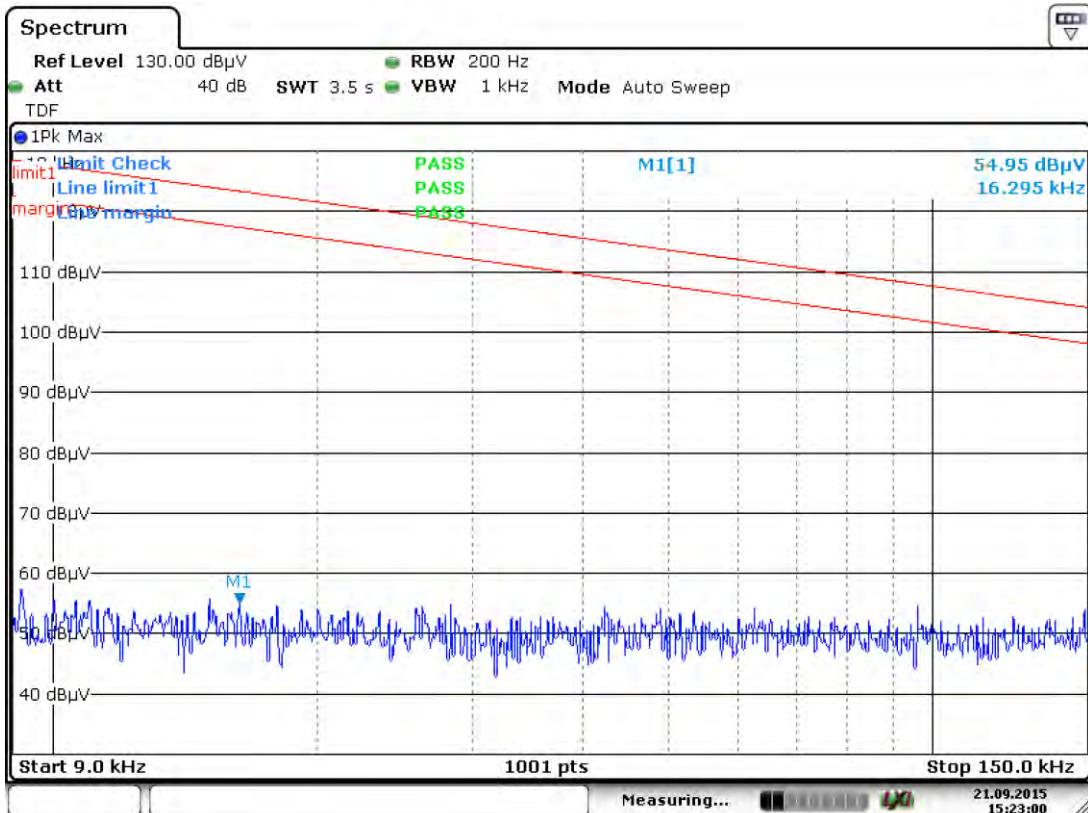
Date of testing	:	2015-09-22
Test standard	:	FCC part 15.247(d)
Basic standard	:	ANSI C63.10: 2013 Clause 11 of KDB 558074 v03r01
Limits	:	FCC part 15.209(a)
Kind of test site	:	3m Semi-Anechoic Chamber & Anechoic Chamber

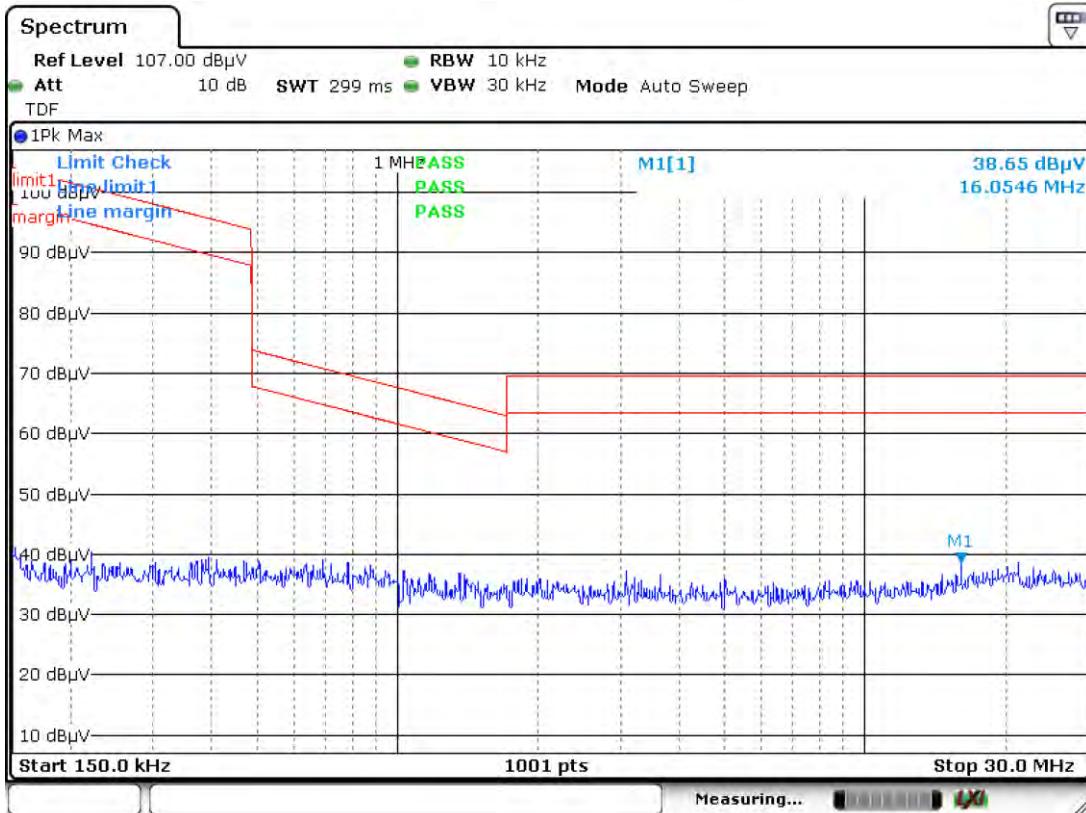
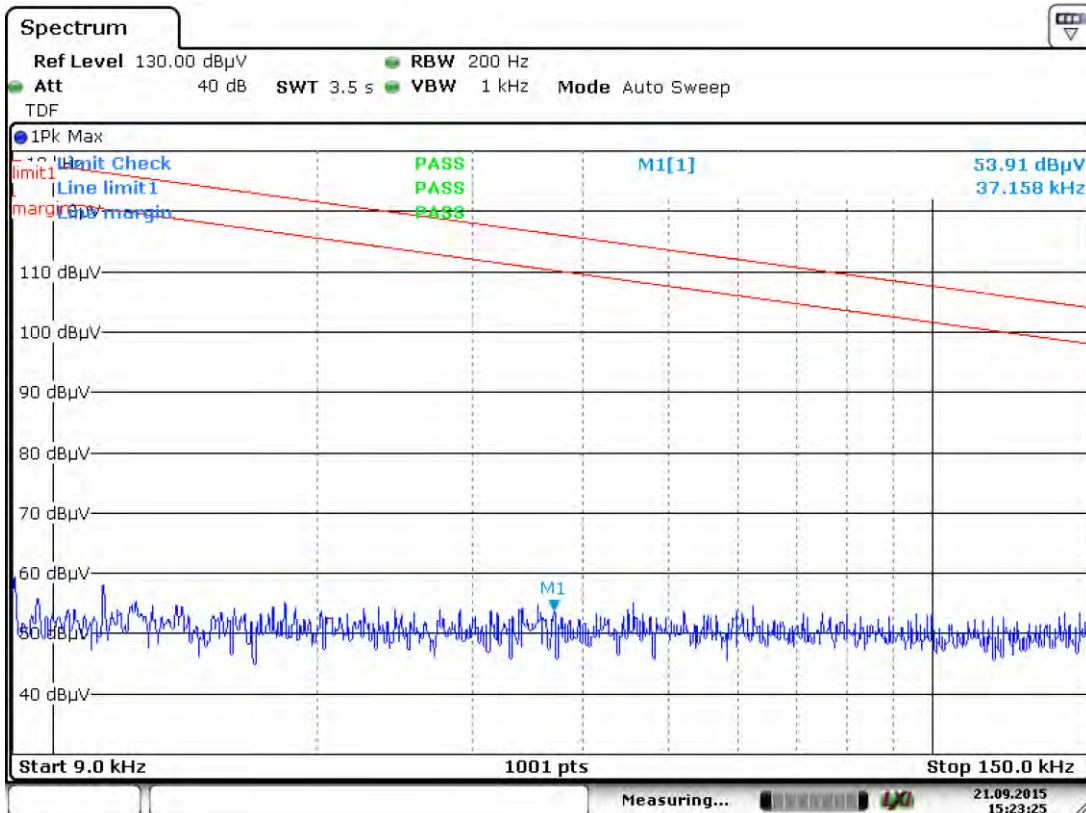
**Test setup**

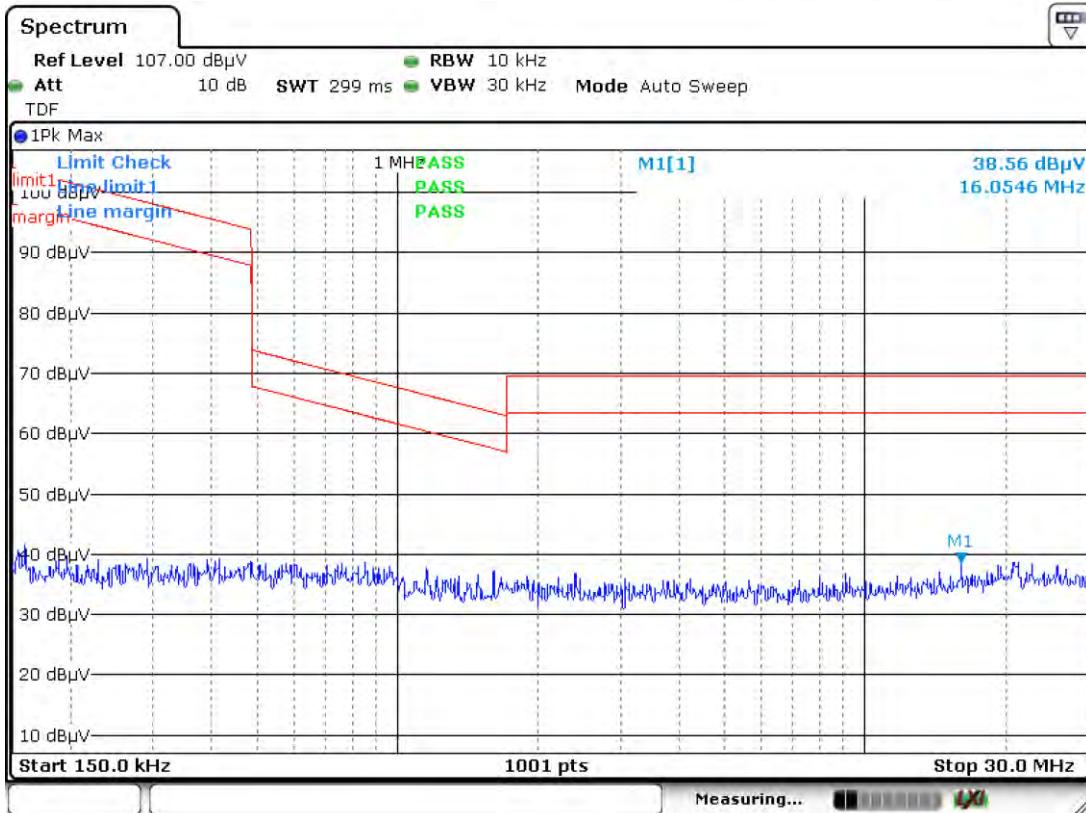
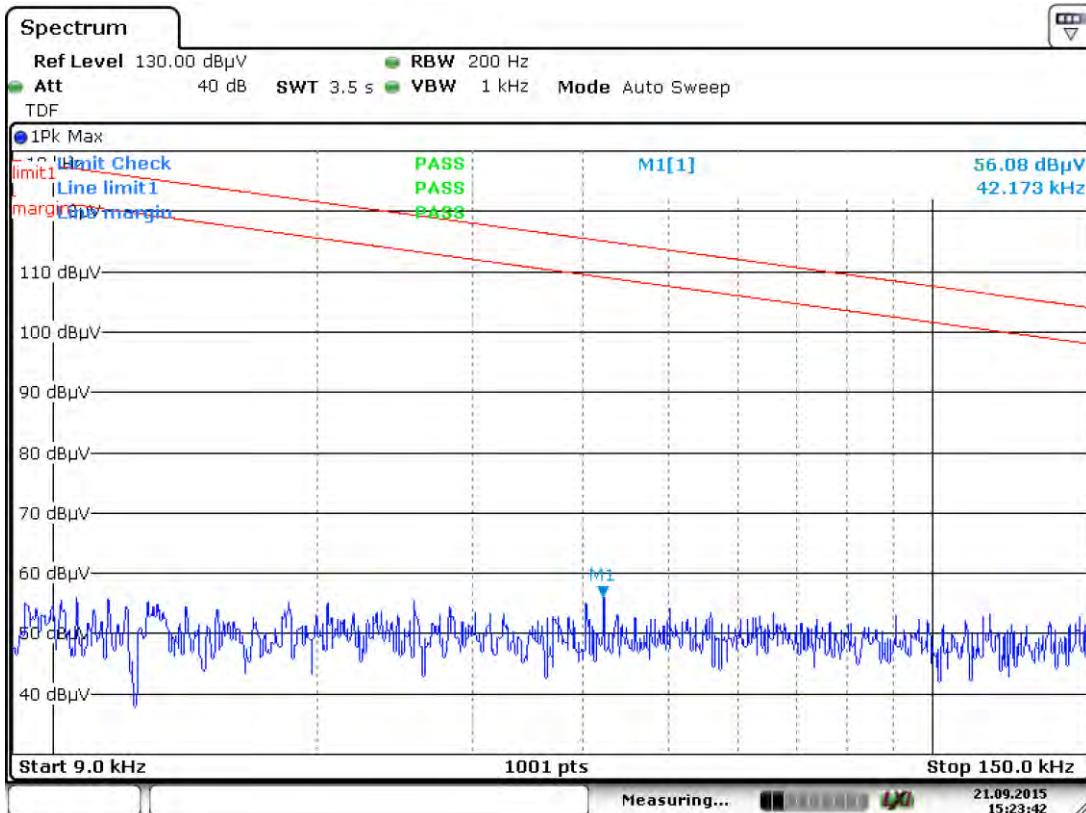
Test Channel	:	Low/ Middle/ High
Operation mode	:	A.1.a, A.2.a
Ambient temperature	:	24°C
Relative humidity	:	53%
Atmospheric pressure	:	101kPa

For details refer to following test plot.

**Produkte**
*Products*
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**Test Plot of 2402MHz-X of BDR mode**


**Produkte**
*Products*
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**Test Plot of 2402MHz-Y of BDR mode**


**Produkte**
*Products*
**Prüfbericht - Nr.: 17052720 001**
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*Page 35 of 140*
**Test Plot of 2402MHz-Z of BDR mode**


**Produkte**
*Products*
**Prüfbericht - Nr.: 17052720 001**
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**Test Plot of 2441MHz-X of BDR mode**


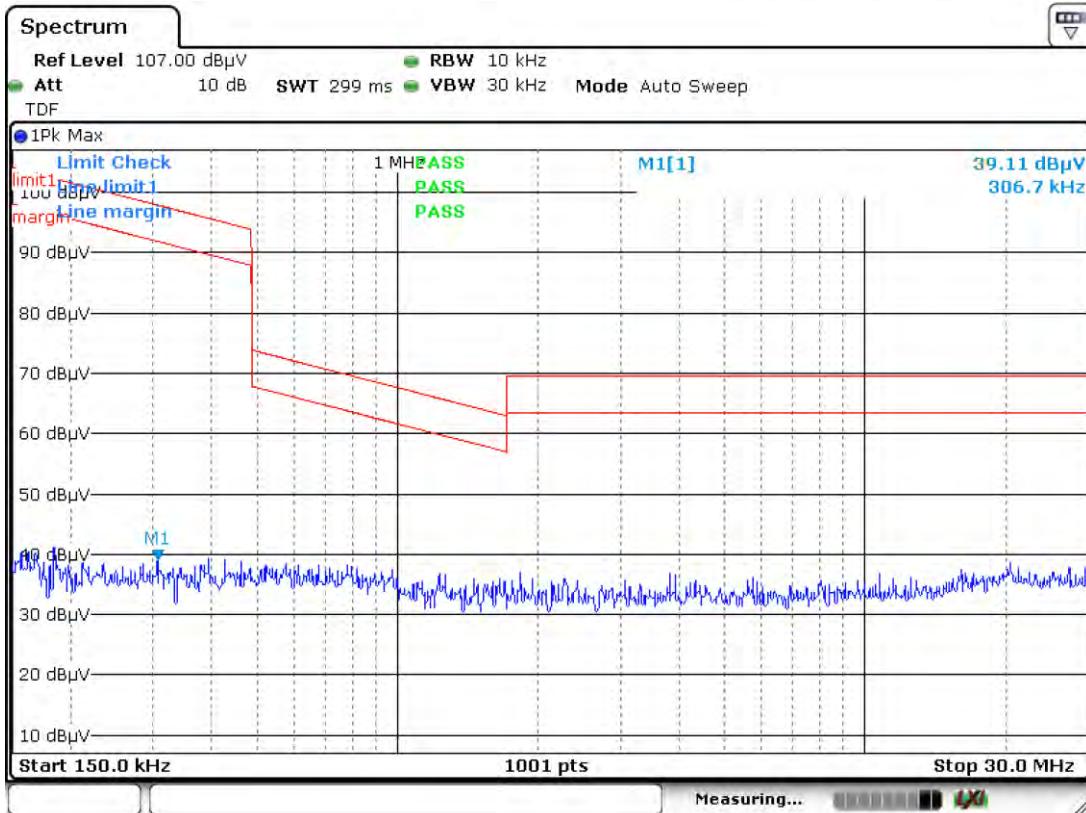
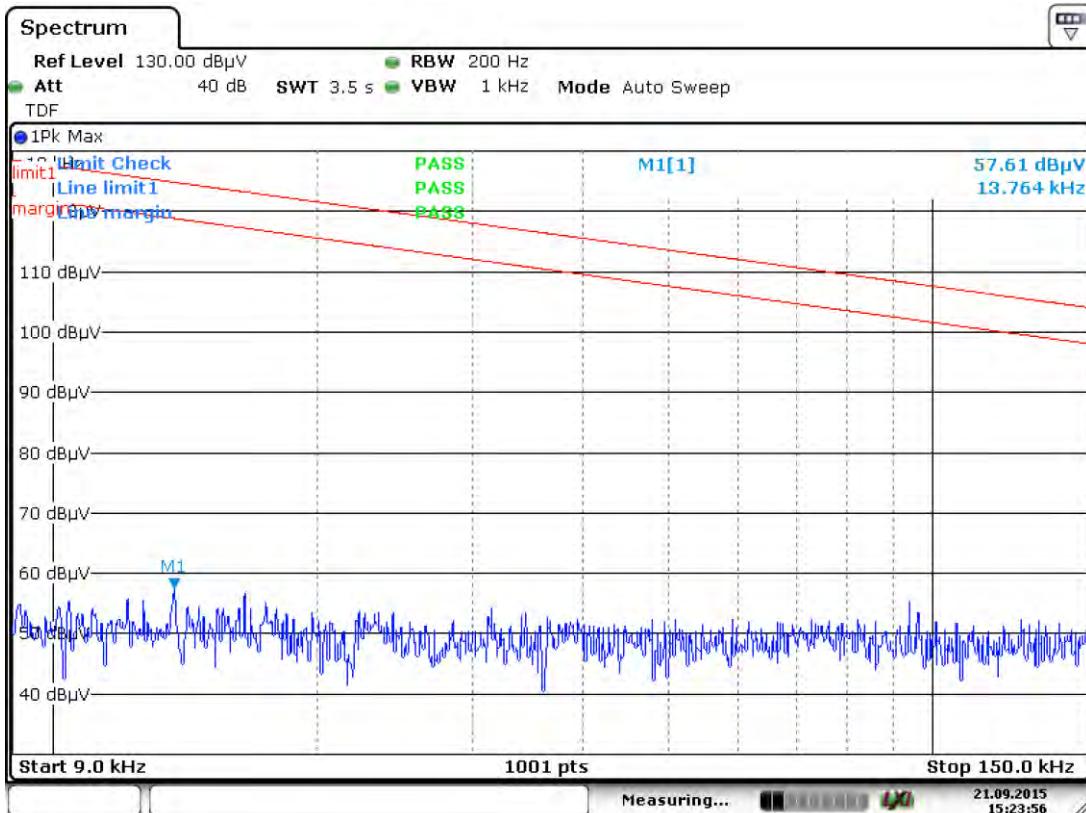
## Prüfbericht - Nr.: 17052720 001

Test Report No.

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## Test Plot of 2441MHz-Y of BDR mode



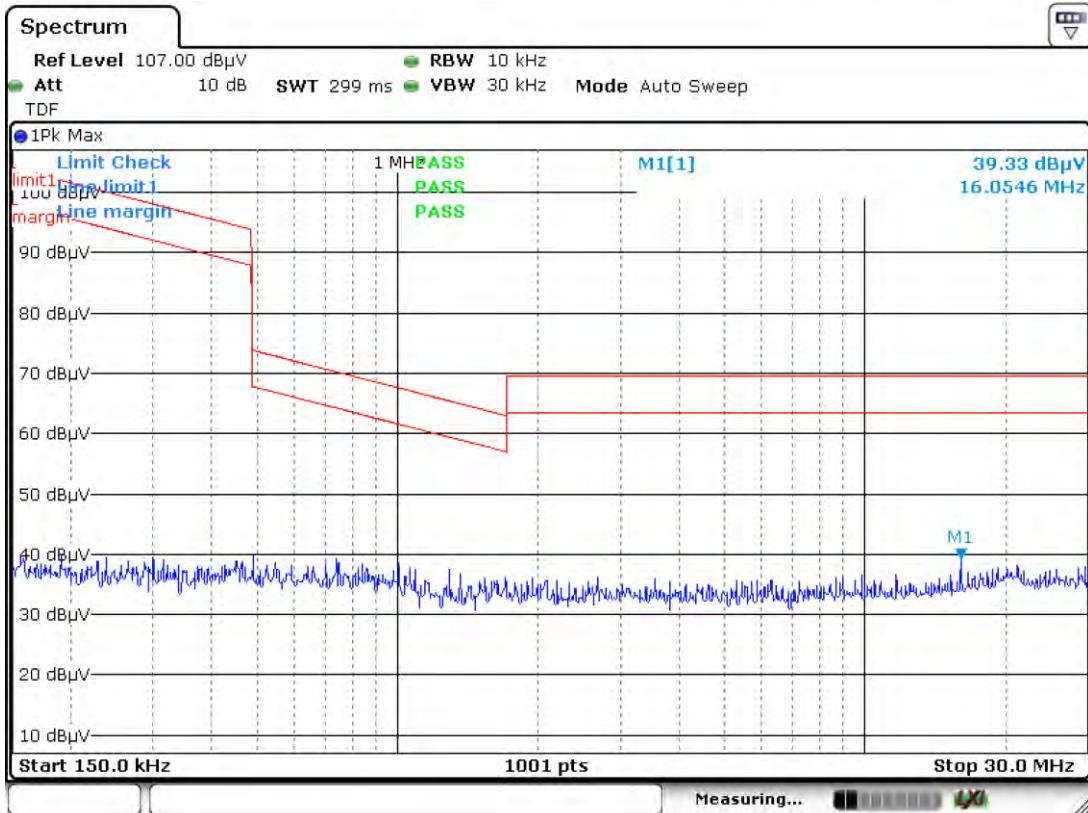
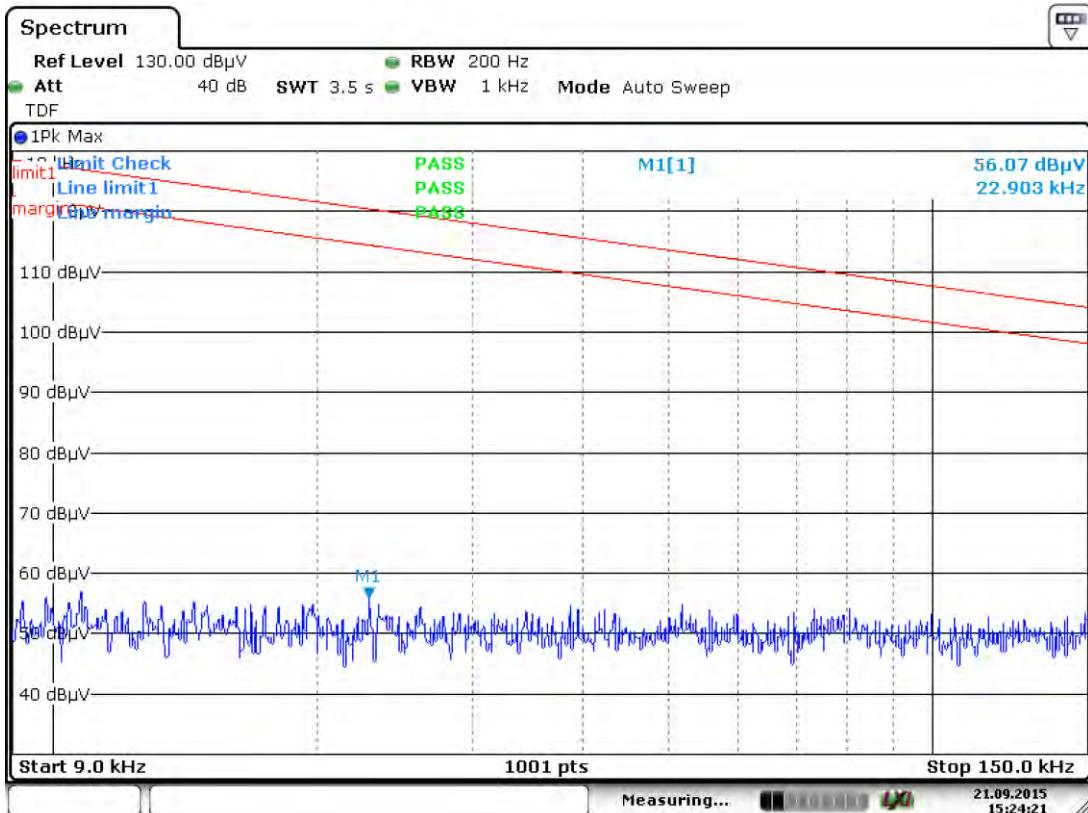
## Prüfbericht - Nr.: 17052720 001

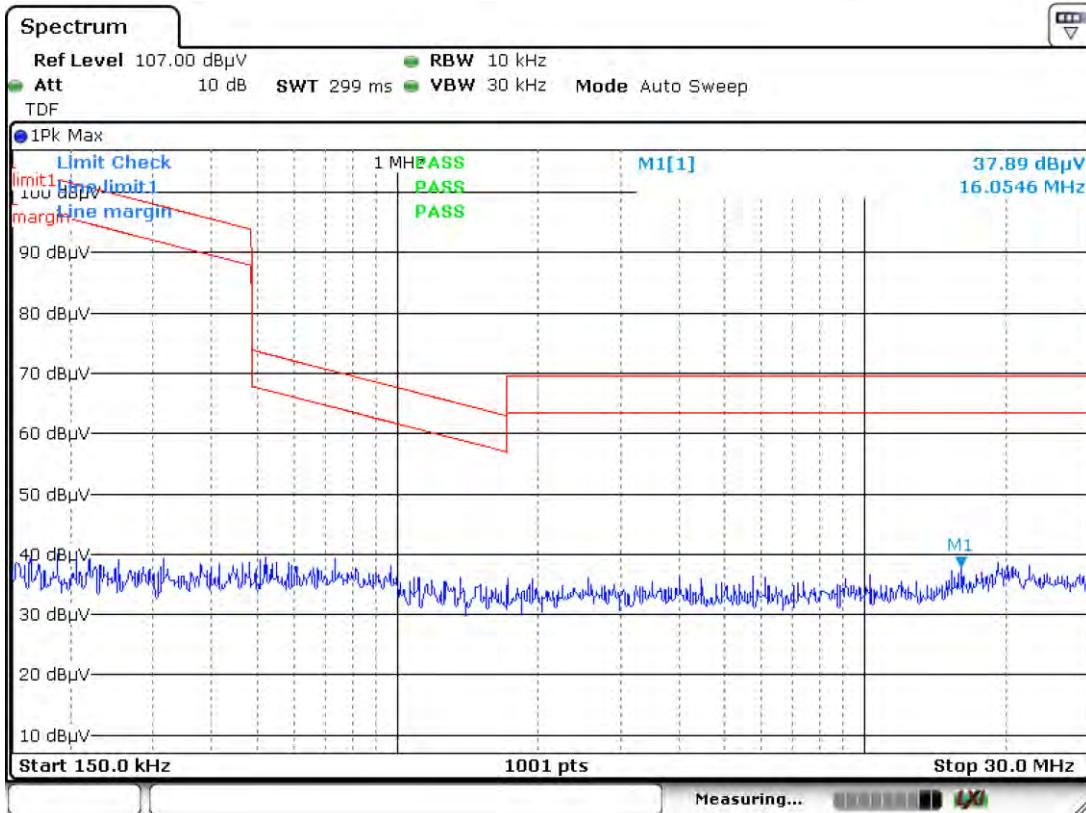
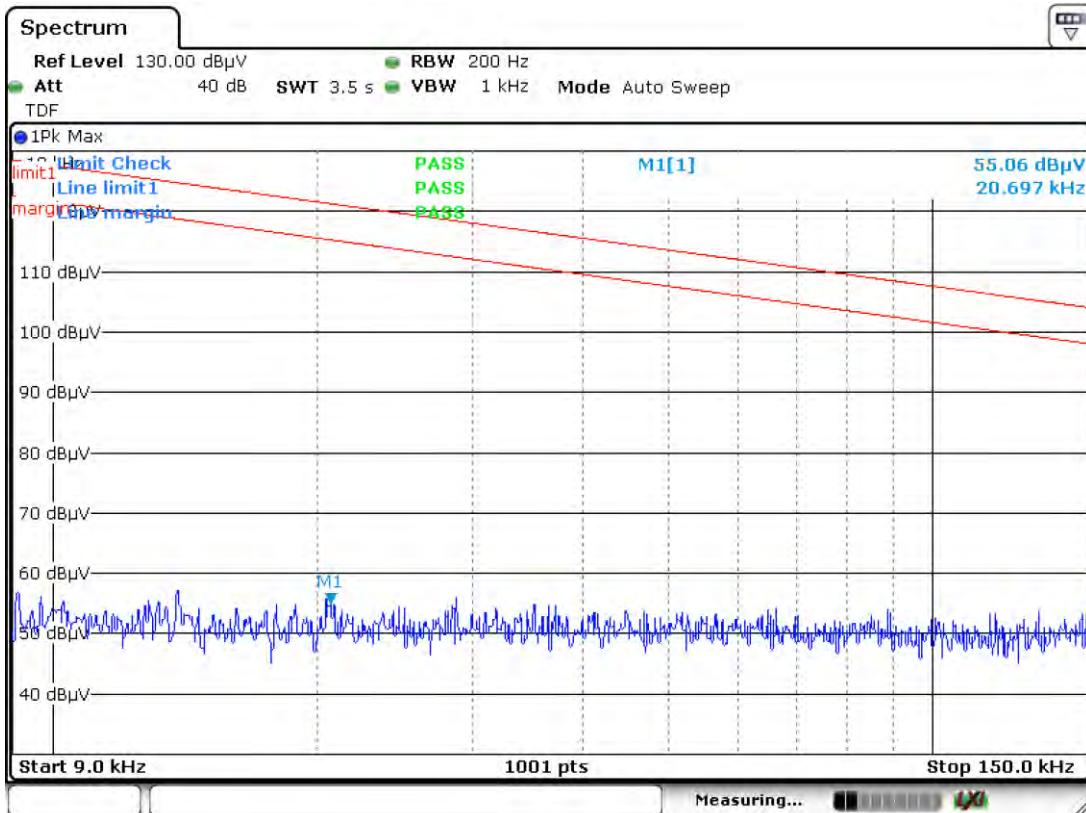
Test Report No.

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## Test Plot of 2441MHz-Z of BDR mode



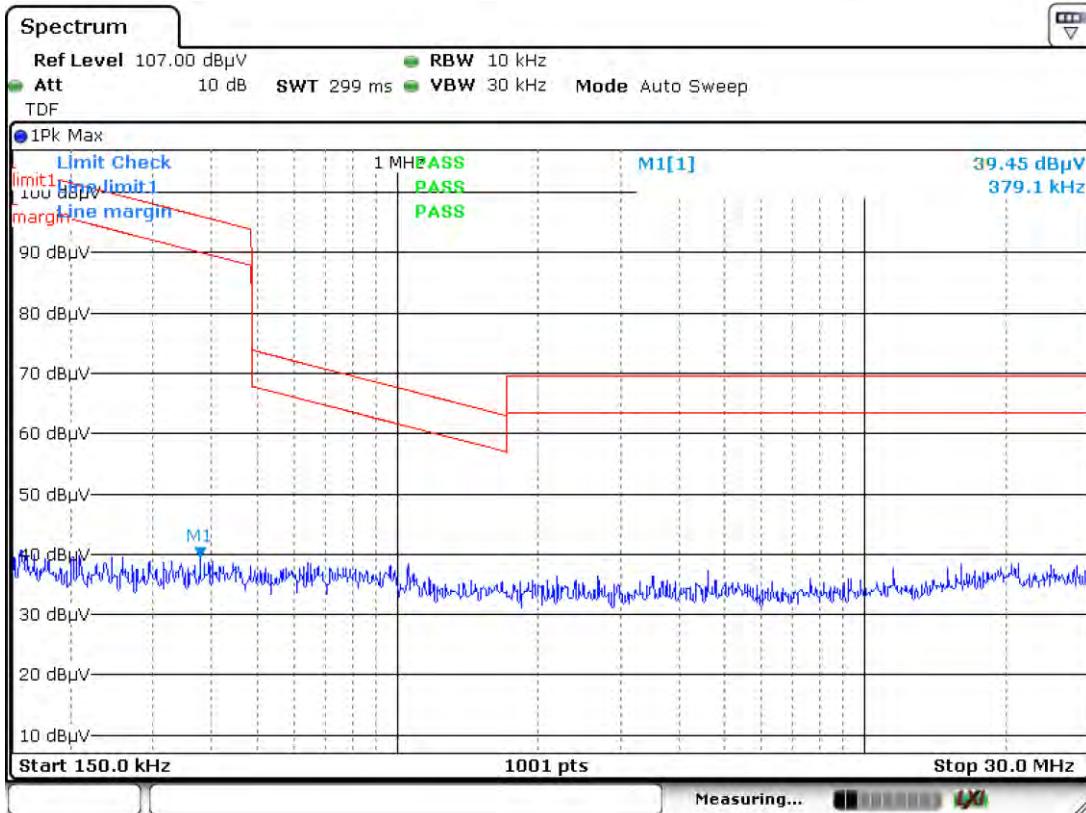
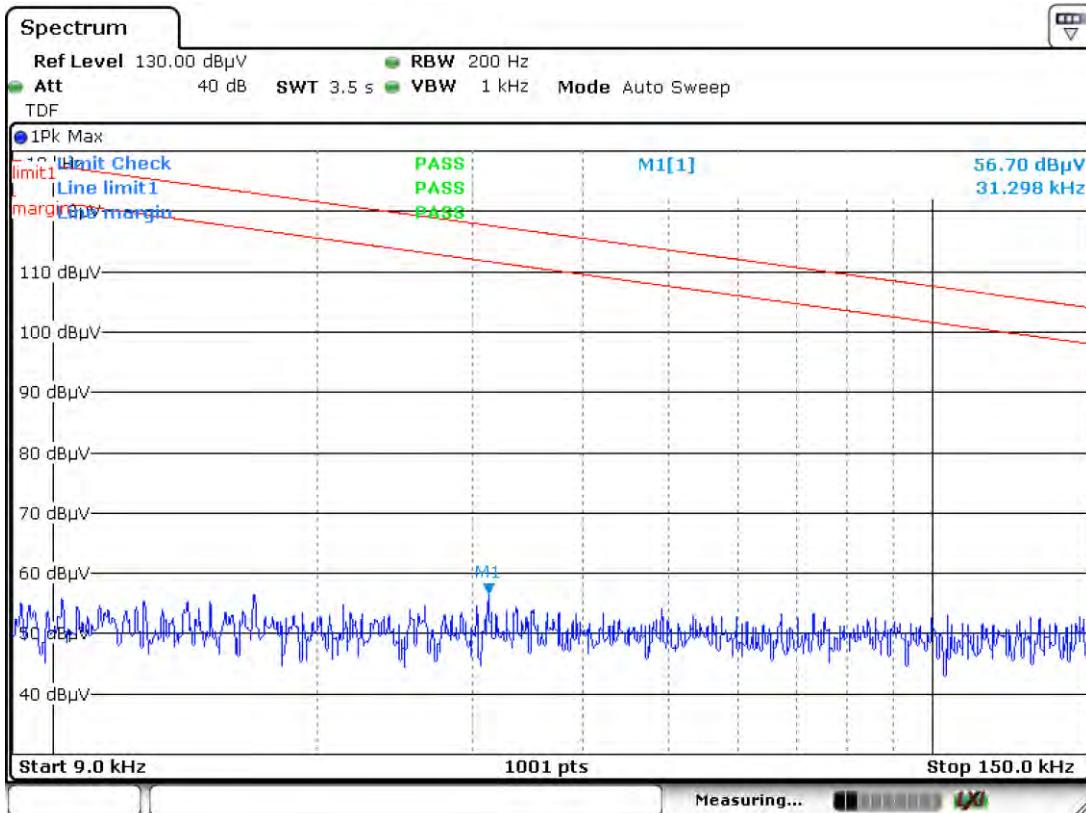
**Produkte**
*Products*
**Prüfbericht - Nr.: 17052720 001**
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**Test Plot of 2480MHz-X of BDR mode**


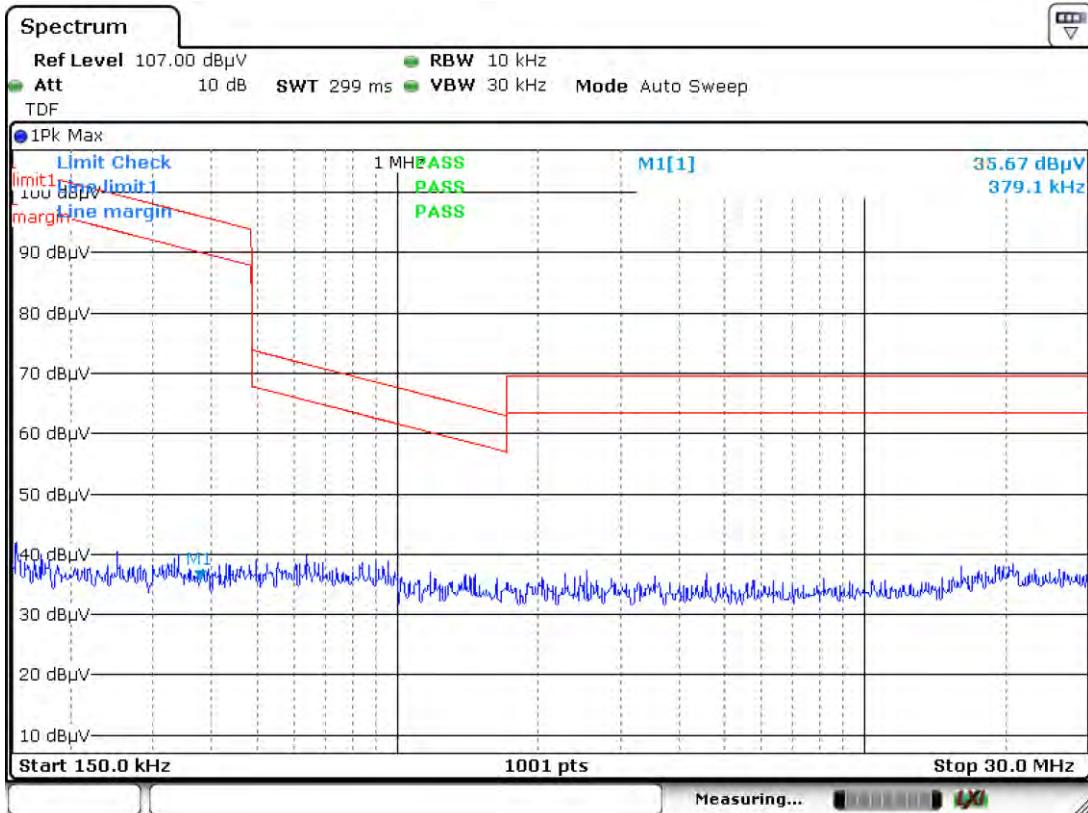
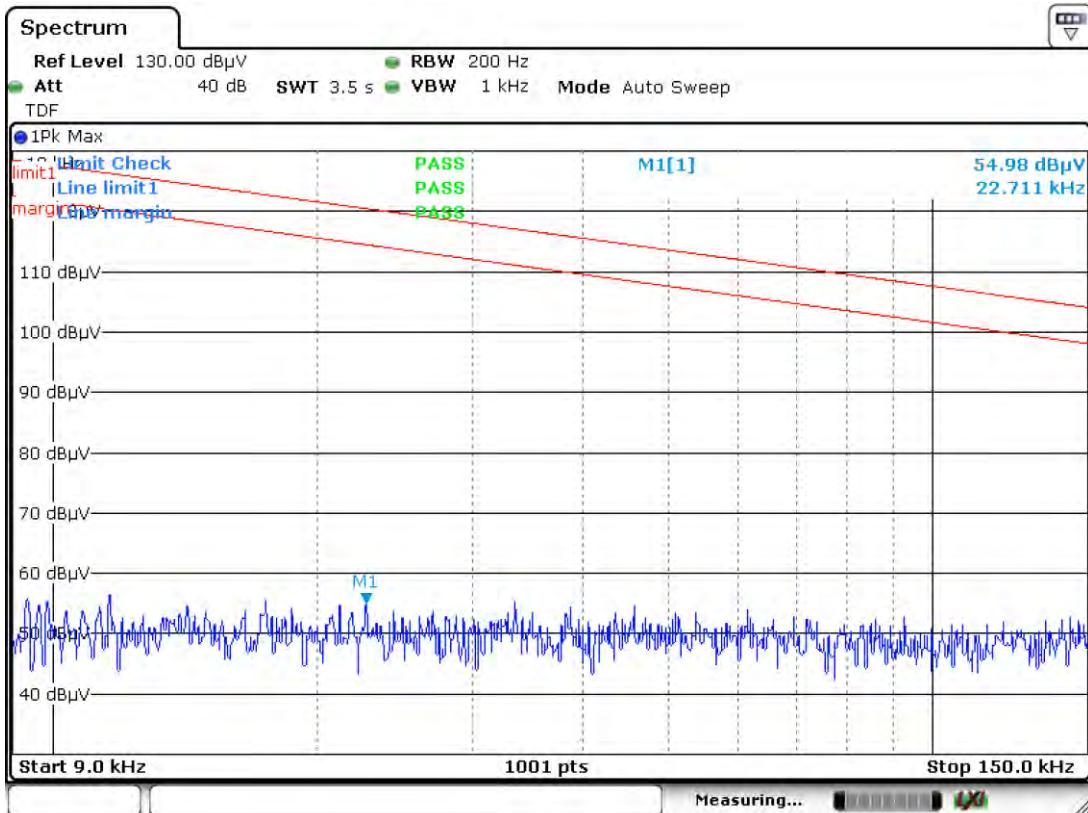
**Prüfbericht - Nr.:** 17052720 001

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**Test Plot of 2480MHz-Y of BDR mode**

**Produkte**
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**Test Plot of 2480MHz-Z of BDR mode**


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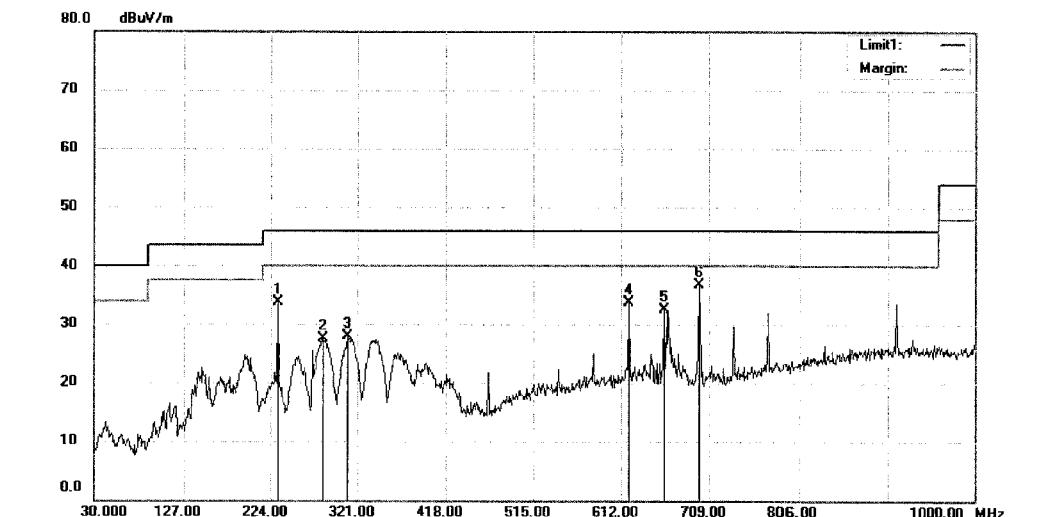
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*Access to the World*
**Radiated Emission Measurement**

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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm		Table Degree
								Detector	degree	
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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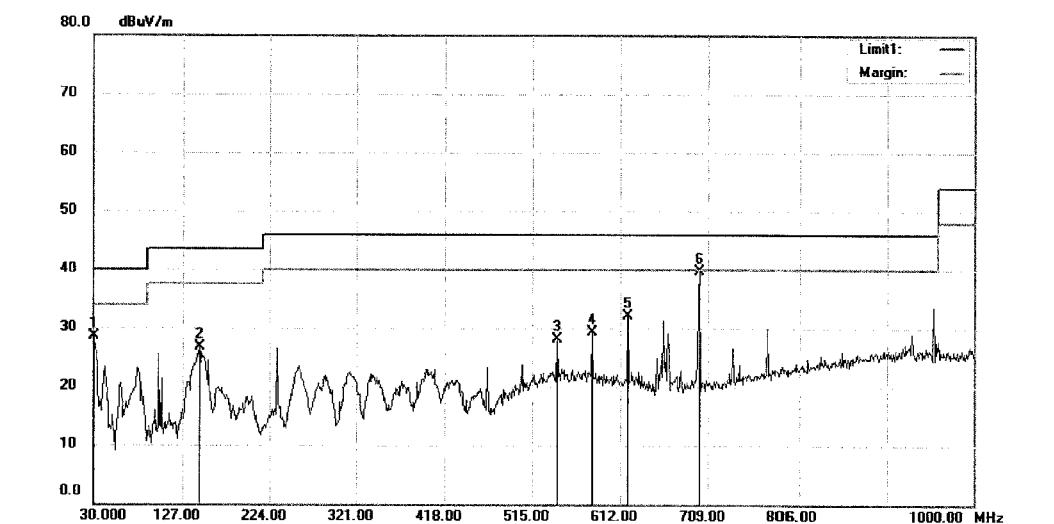
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**Radiated Emission Measurement**

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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table 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

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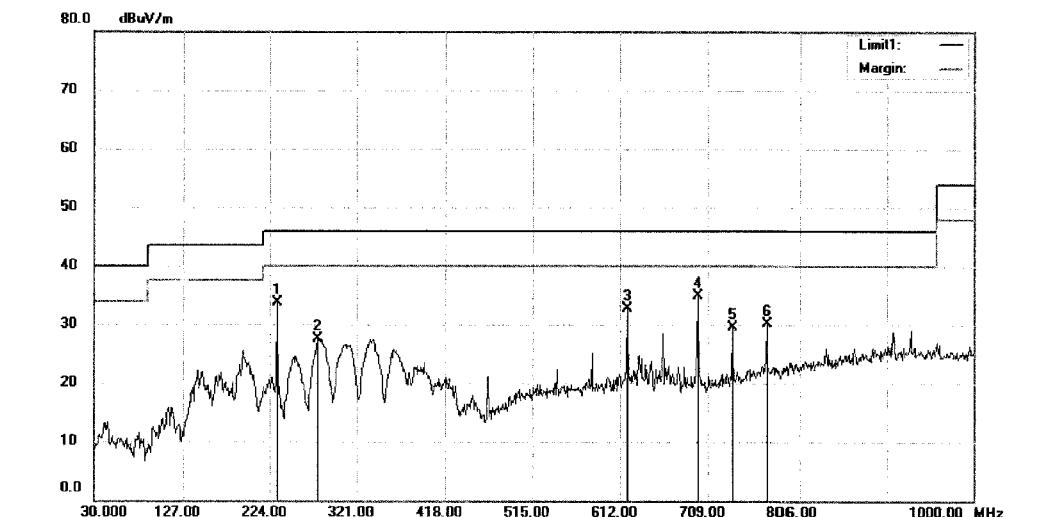
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*Access to the World*
**Radiated Emission Measurement**

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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Comment
								Detector	degree	
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

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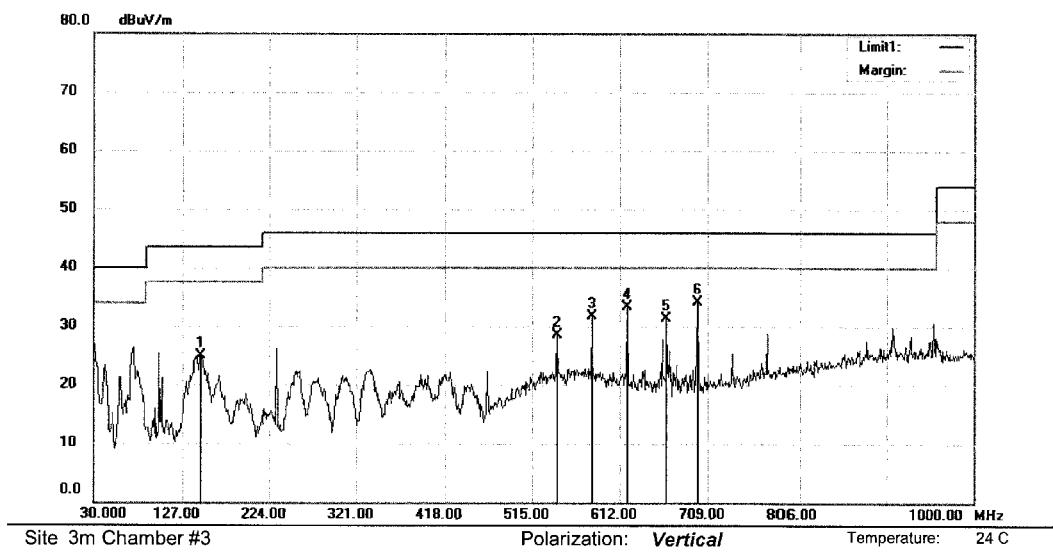
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*Access to the World*
**Radiated Emission Measurement**

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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree	Comment
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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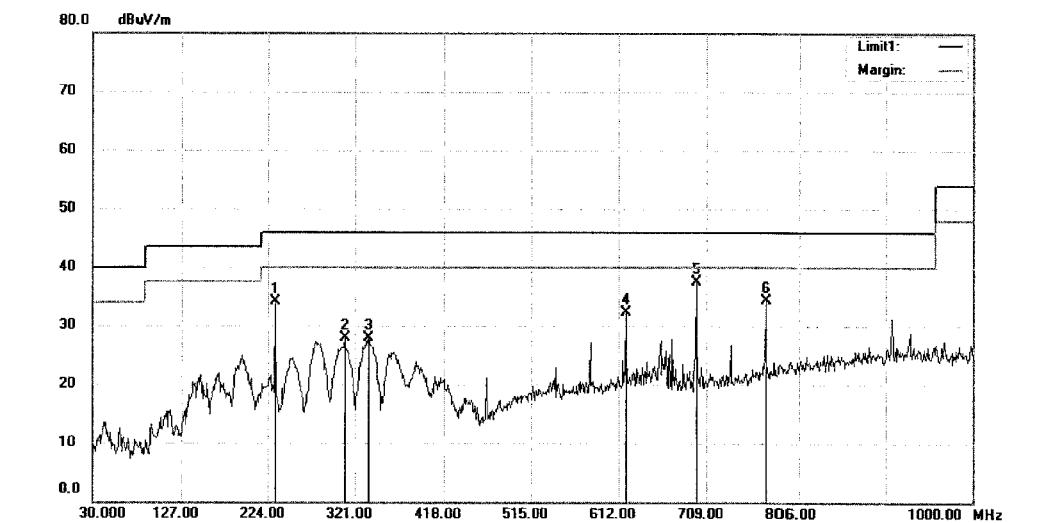
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*Access to the World*
**Radiated Emission Measurement**

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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Comment
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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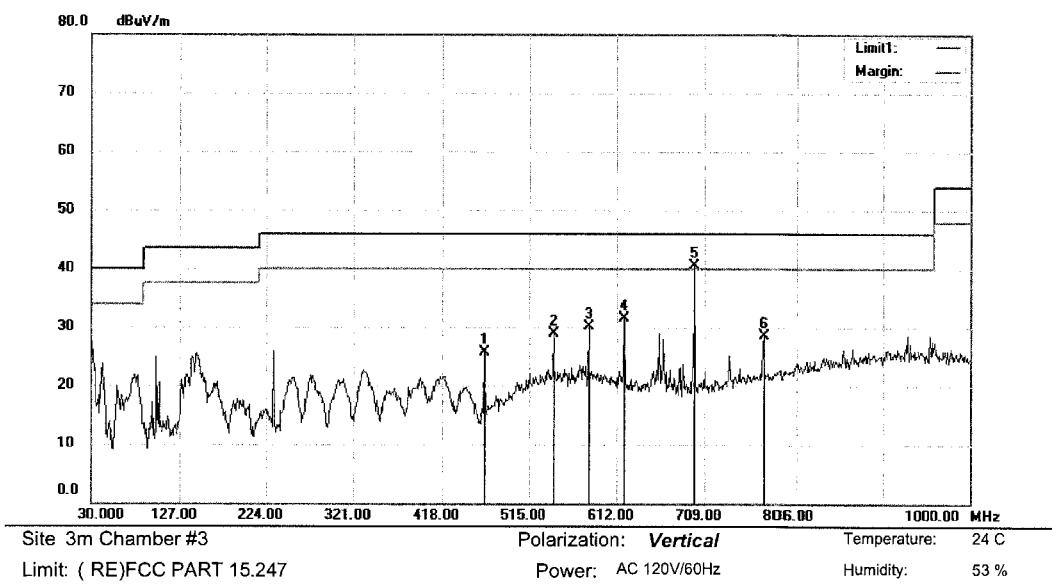
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**Radiated Emission Measurement**

File : TUV 9

Data #: 6

Date: 15/09/19



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm		Table Degree
								Detector	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

**Prüfbericht - Nr.: 17052720 001**  
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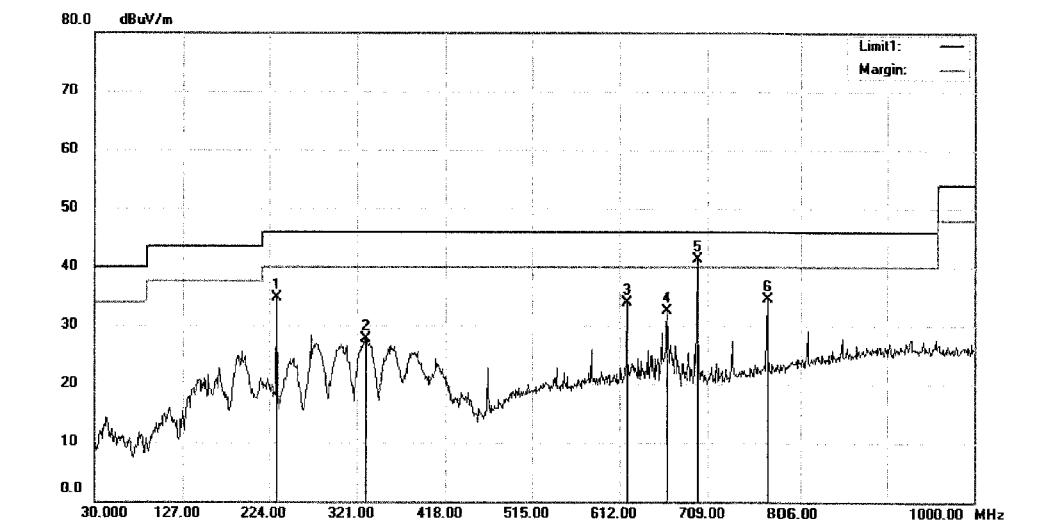
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*Access to the World*
**Radiated Emission Measurement**

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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree	Comment
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

**Prüfbericht - Nr.: 17052720 001**  
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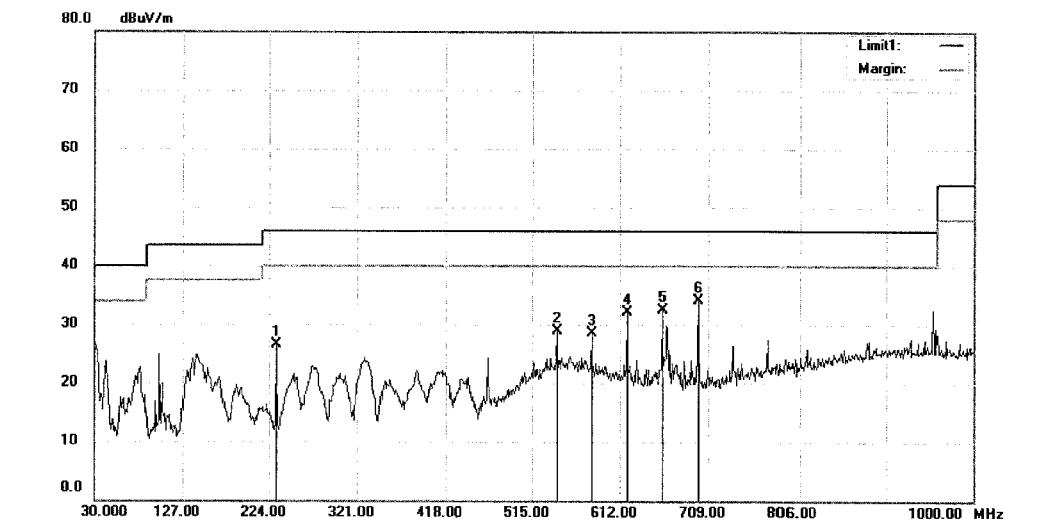
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*Access to the World*
**Radiated Emission Measurement**

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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm		Table Degree	
								Detector	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

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**Prüfbericht - Nr.: 17052720 001**  
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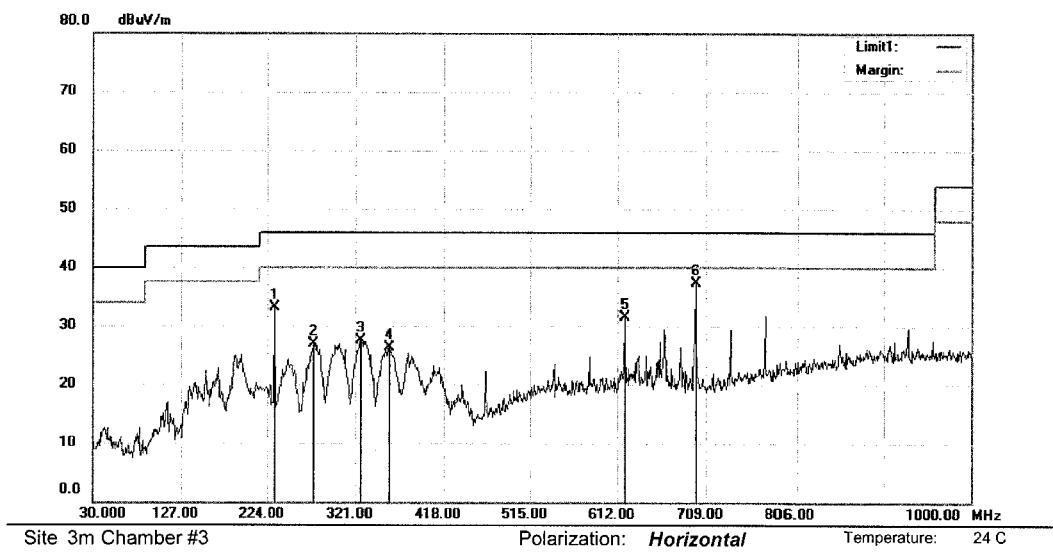
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*Access to the World*
**Radiated Emission Measurement**

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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm		Table Degree
								Detector	Comment	
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

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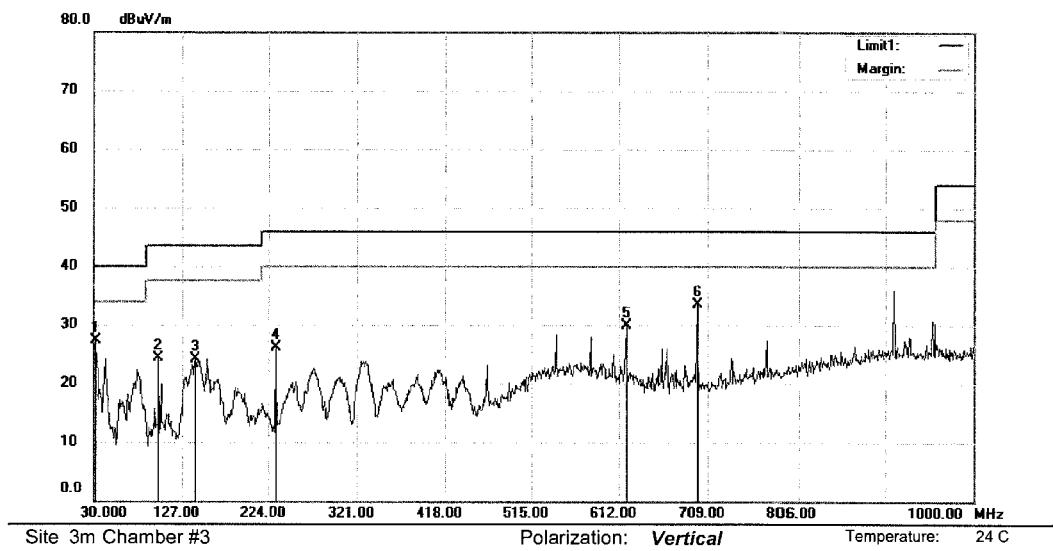
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*Access to the World*
**Radiated Emission Measurement**

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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Comment
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

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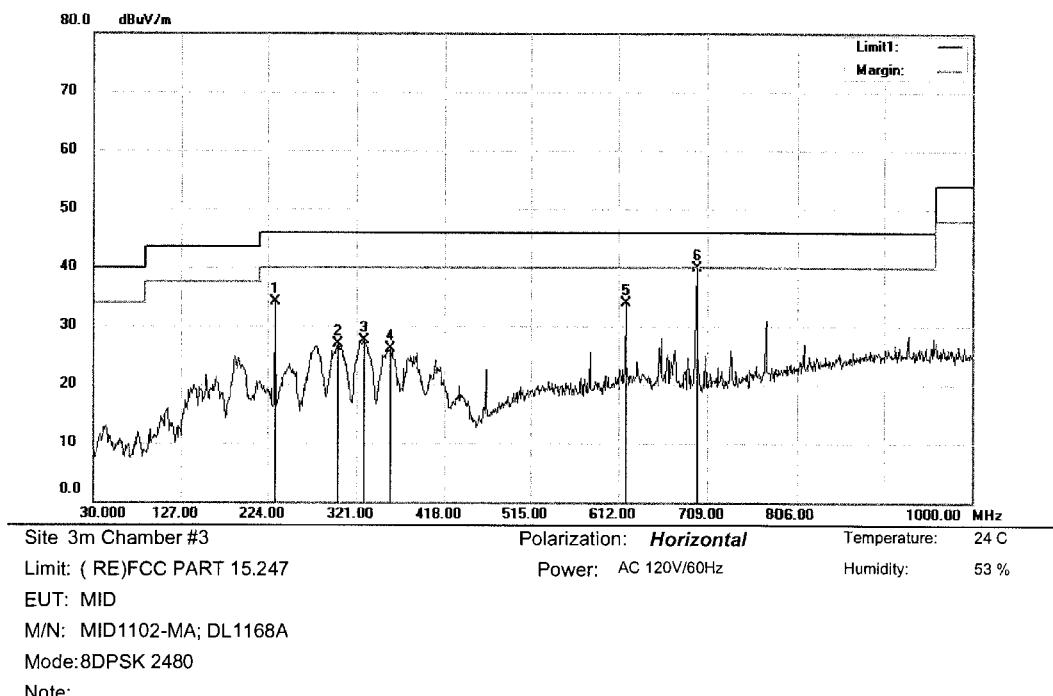
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*Access to the World*
**Radiated Emission Measurement**

File : TUV 9

Data #: 11

Date: 15/09/19



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Comment
								Detector	degree	
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

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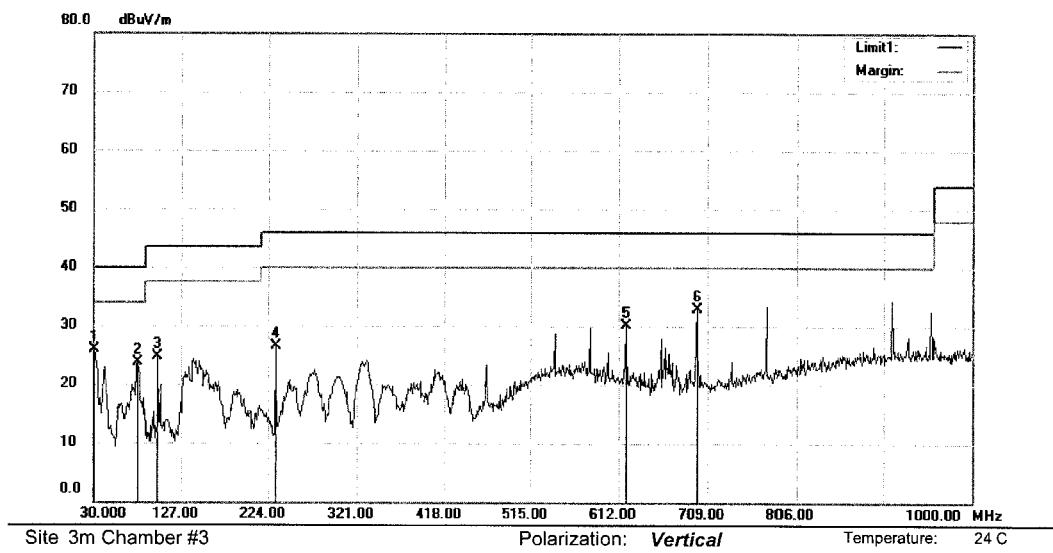
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**Radiated Emission Measurement**

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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table 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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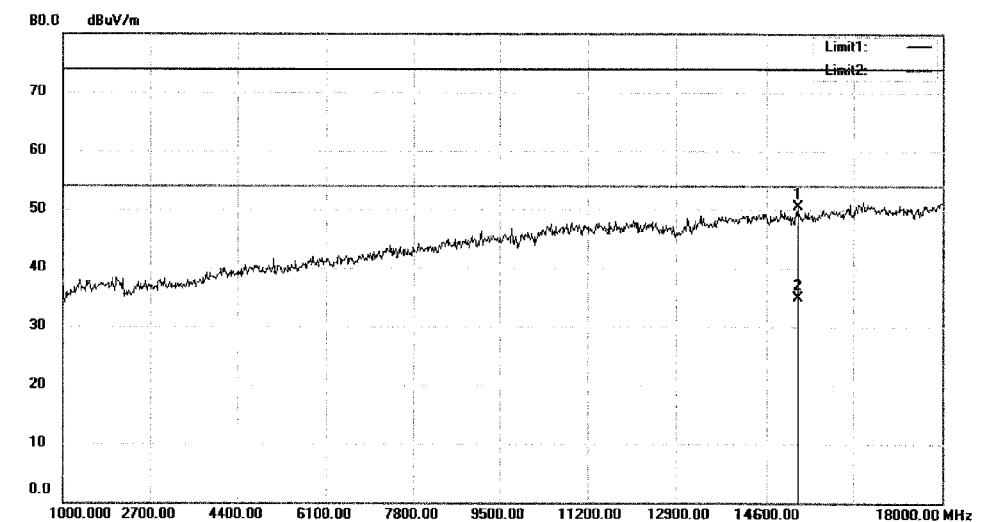
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*Access to the World*
**Radiated Emission Measurement**

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	Comment
		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

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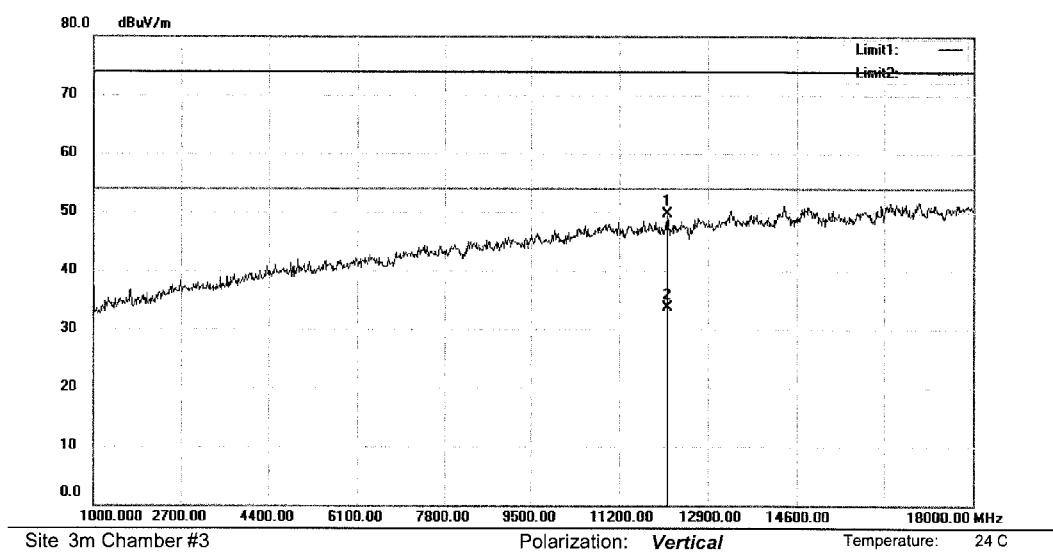
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*Access to the World*
**Radiated Emission Measurement**

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    l:over margin

Operator: KK

File : TUV 9\Data #120

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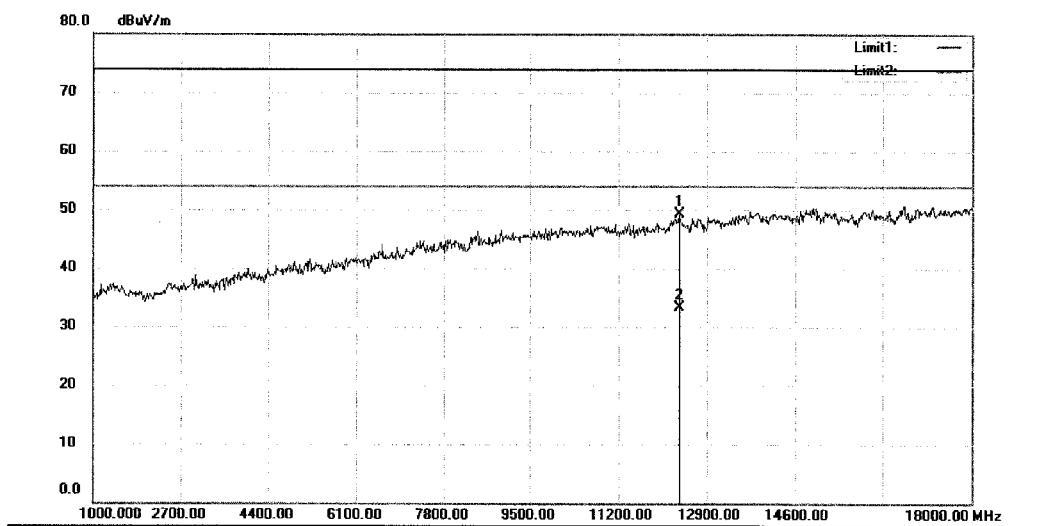
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*Access to the World*
**Radiated Emission Measurement**

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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	
								Detector	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

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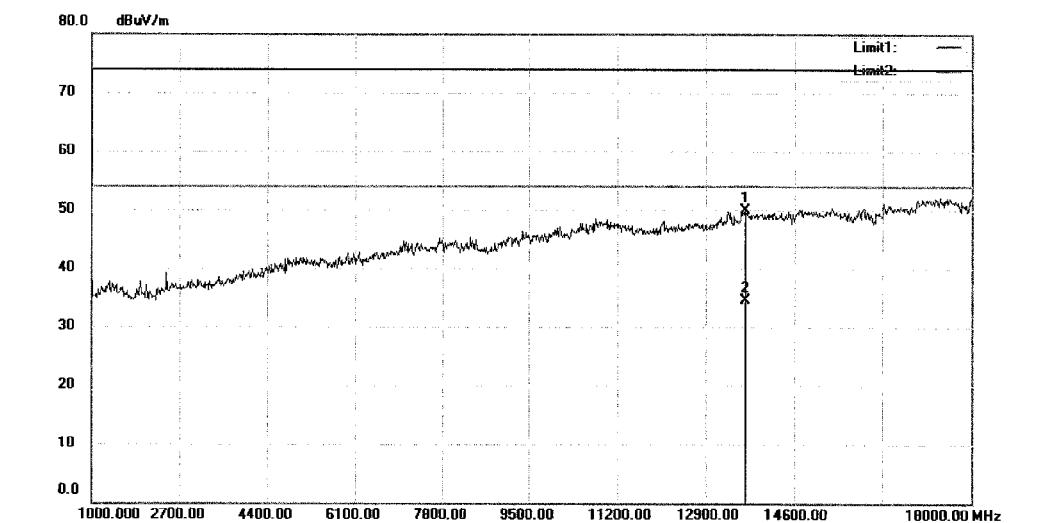
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*Access to the World*
**Radiated Emission Measurement**

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	dB	Detector	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 !:over margin

Operator: KK

File : TUV 9\Data #: 122

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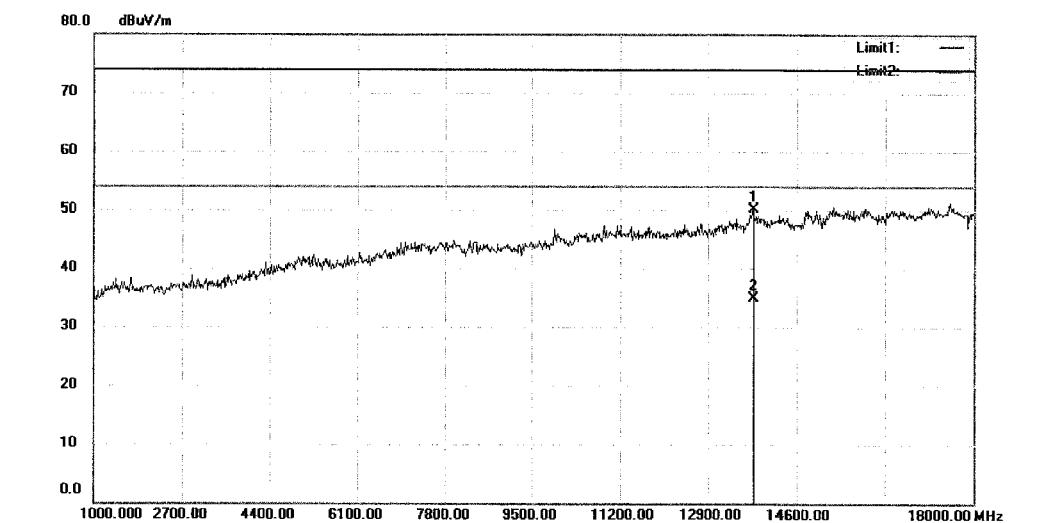
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*Access to the World*
**Radiated Emission Measurement**

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	Measure-ment	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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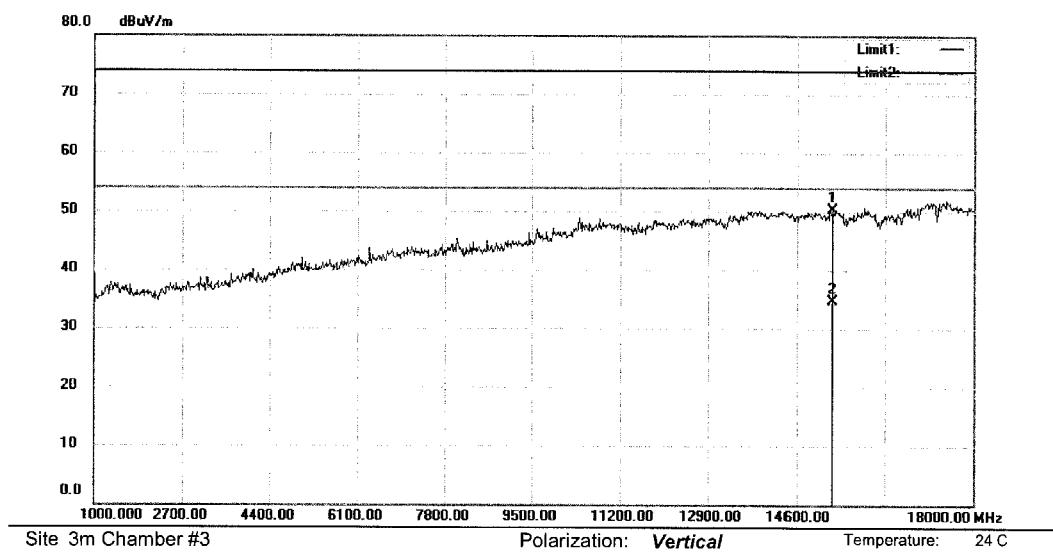
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*Access to the World*
**Radiated Emission Measurement**

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	Measure-ment	Limit	Over	Antenna Height	Table Degree		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	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

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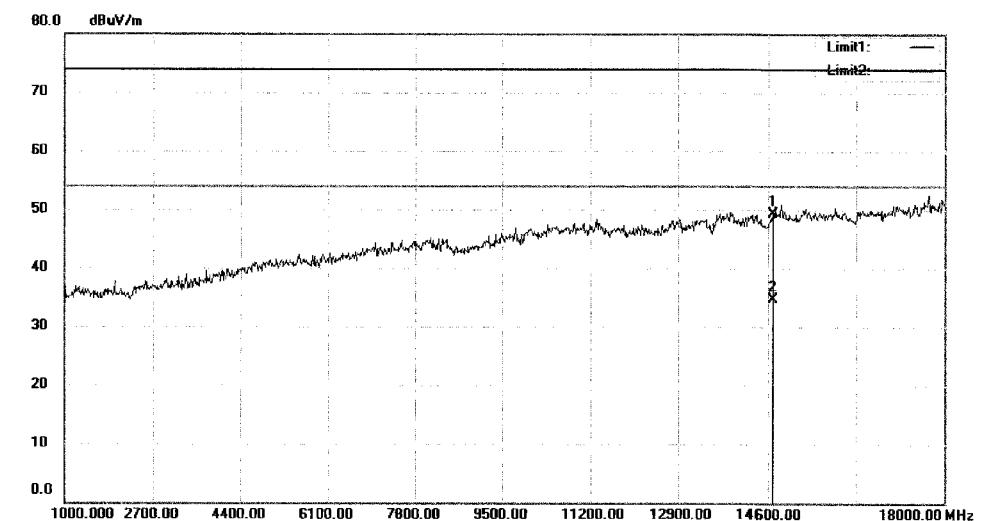
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**Radiated Emission Measurement**

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	Detector	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

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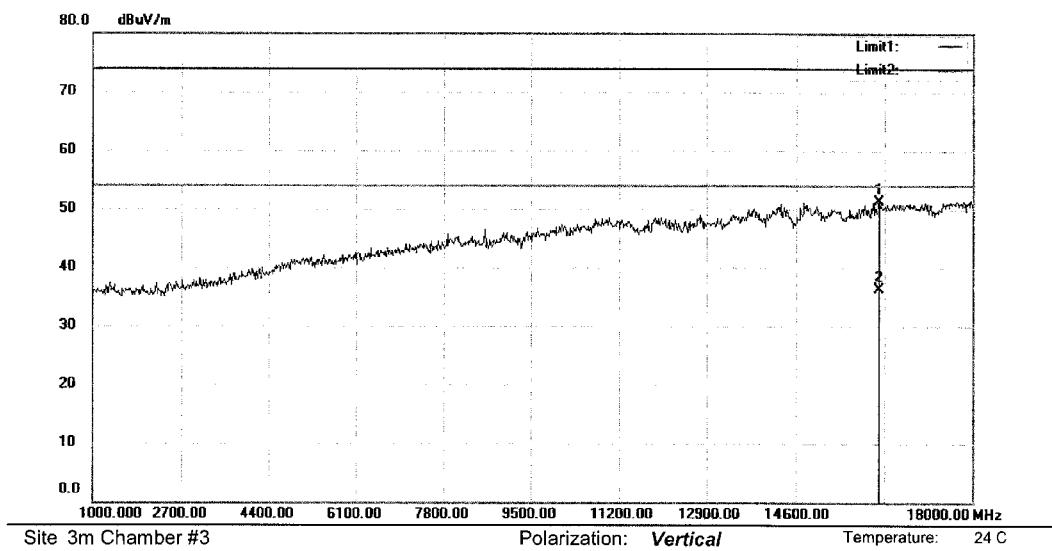
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**Radiated Emission Measurement**

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	Comment
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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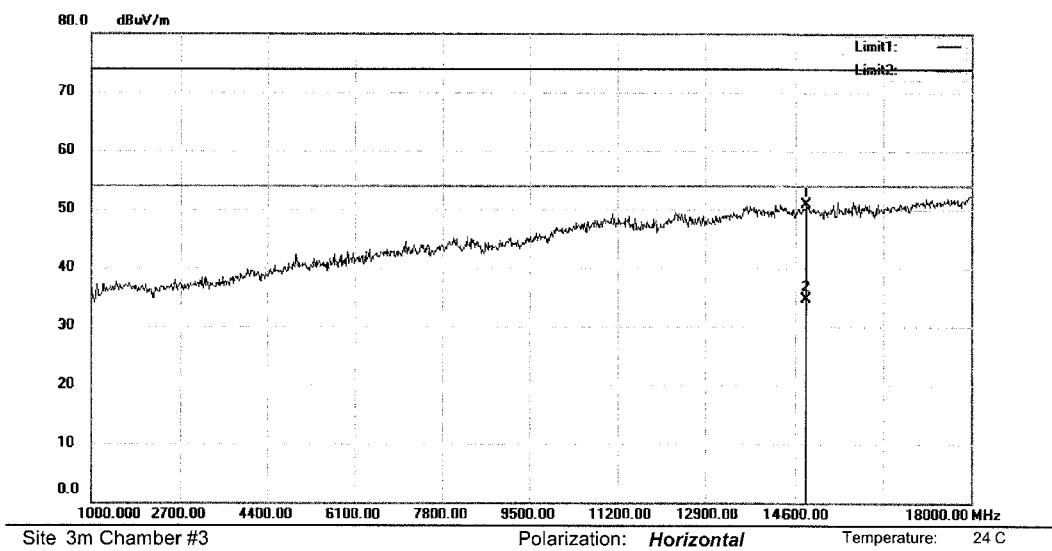
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**Radiated Emission Measurement**

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.	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		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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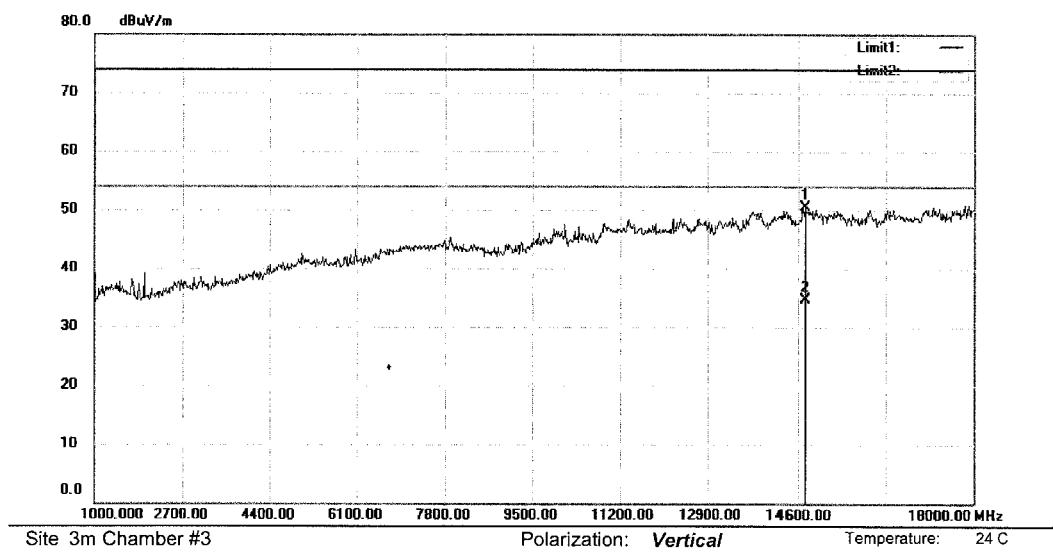
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*Access to the World*
**Radiated Emission Measurement**

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	dB	Detector	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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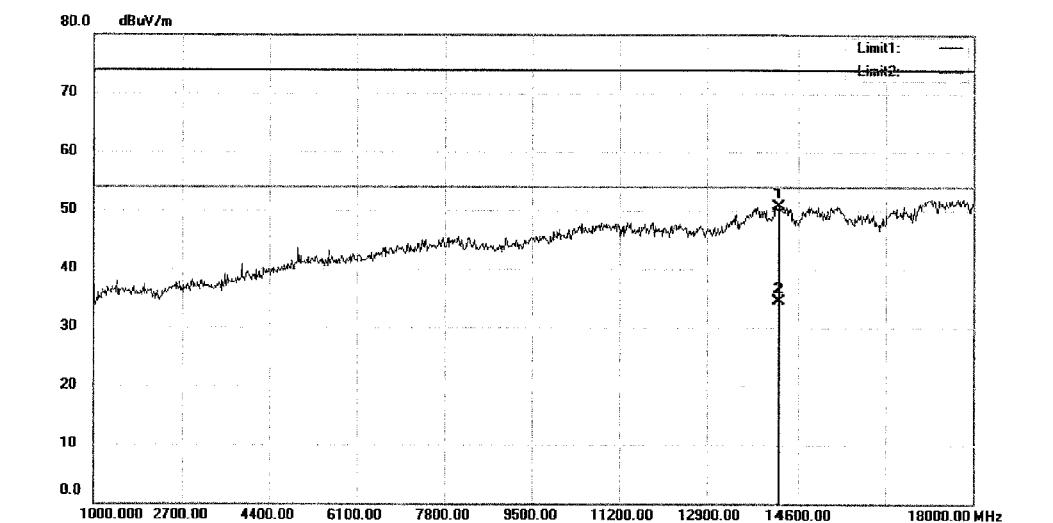
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**Radiated Emission Measurement**

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.	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		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

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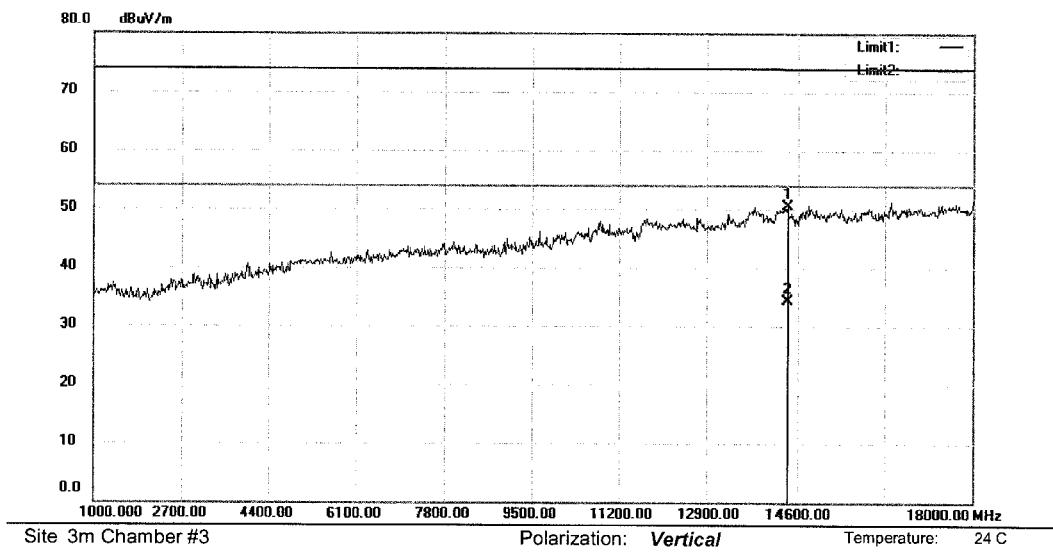
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**Radiated Emission Measurement**

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	Correct	Measure-	Limit	Over	Antenna	Table	
			Level	Factor	ment					Degree
		MHz	dBuV	dB	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

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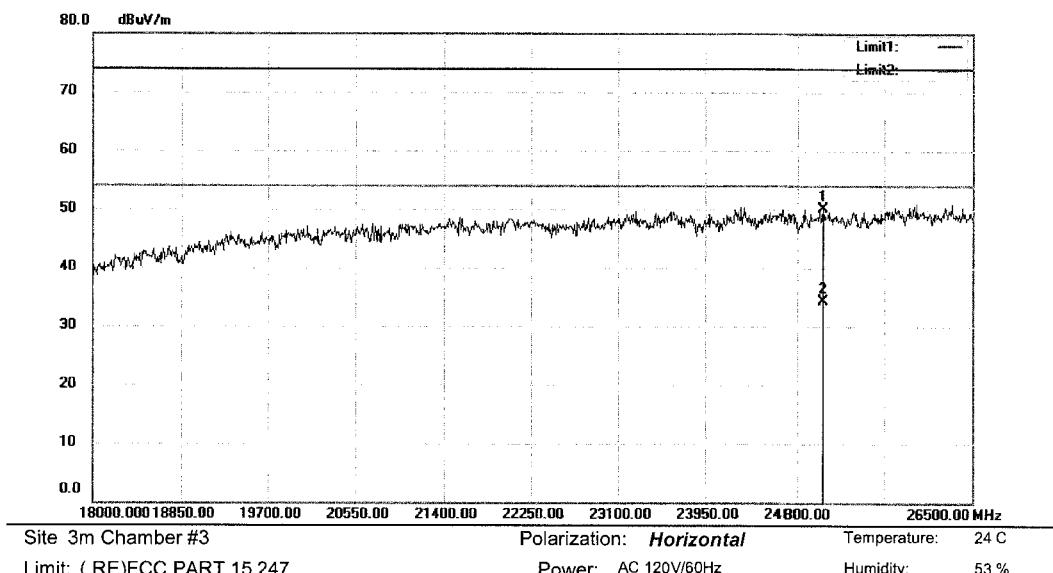
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**Radiated Emission Measurement**

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	Measure-ment	Limit	Over	Antenna Height	Table Degree		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
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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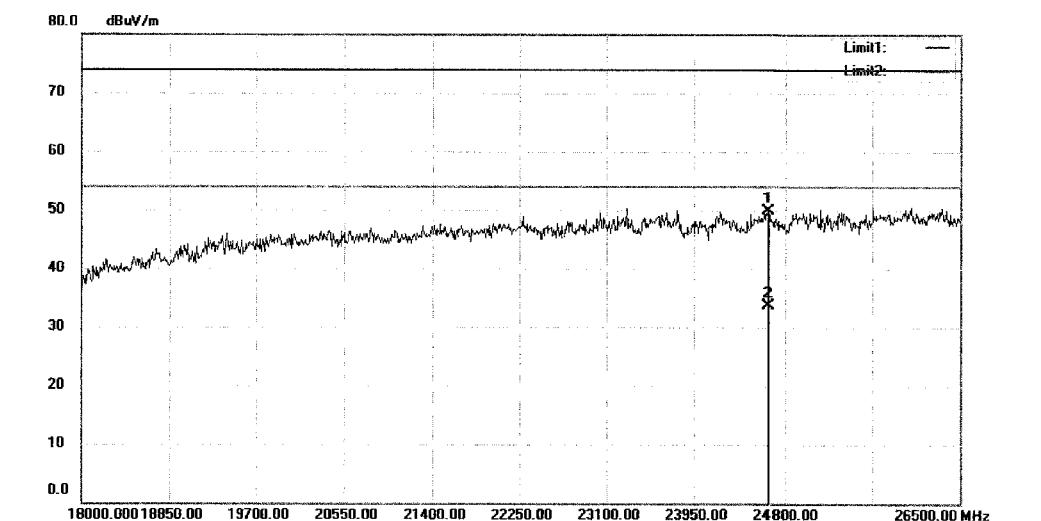
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**Radiated Emission Measurement**

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.	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		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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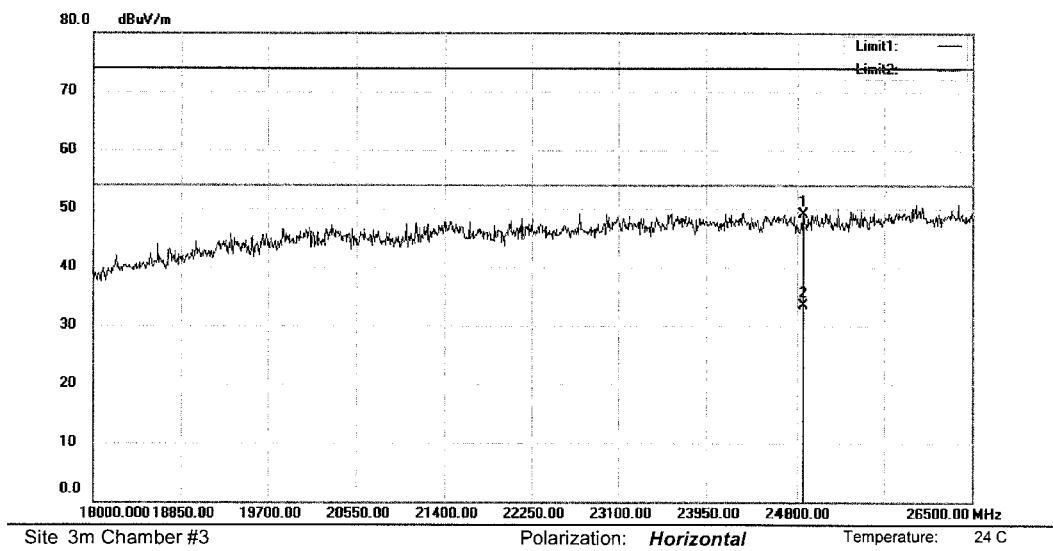
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**Radiated Emission Measurement**

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	
								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

**Prüfbericht - Nr.: 17052720 001**  
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**Seite 69 von 140**  
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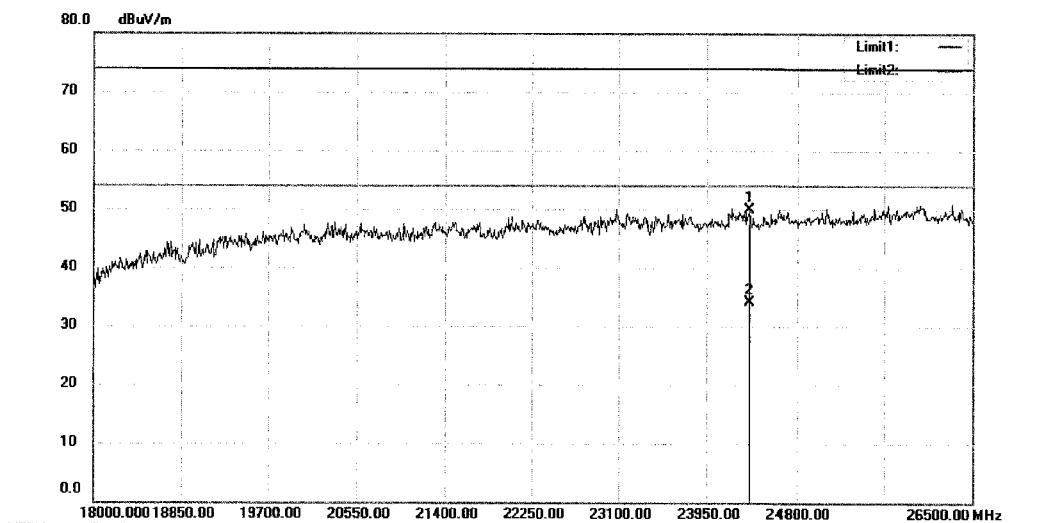
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*Access to the World*
**Radiated Emission Measurement**

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	Comment
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

**Prüfbericht - Nr.: 17052720 001**  
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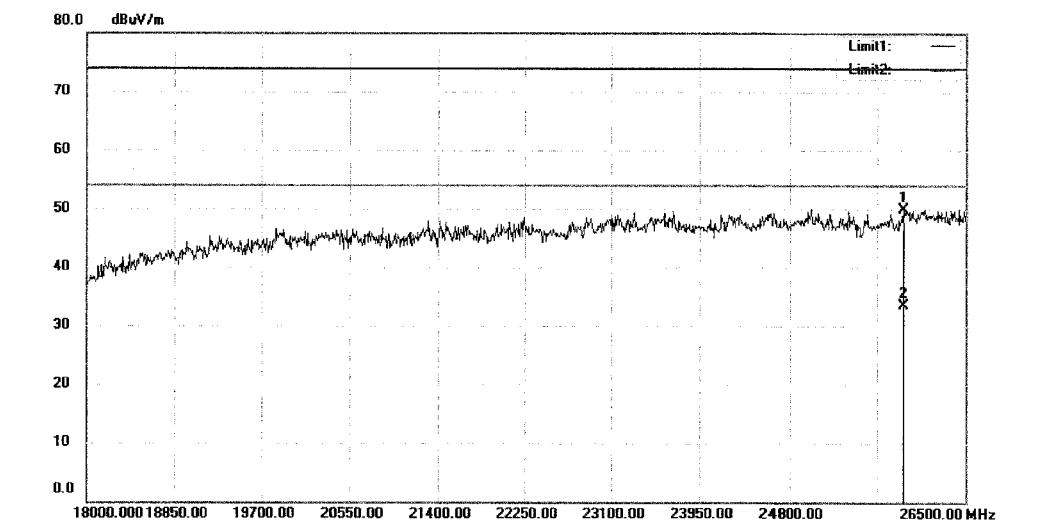
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**Radiated Emission Measurement**

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.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	Comment
								MHz	dBuV	
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 9\ Data #: 287

Page: 1

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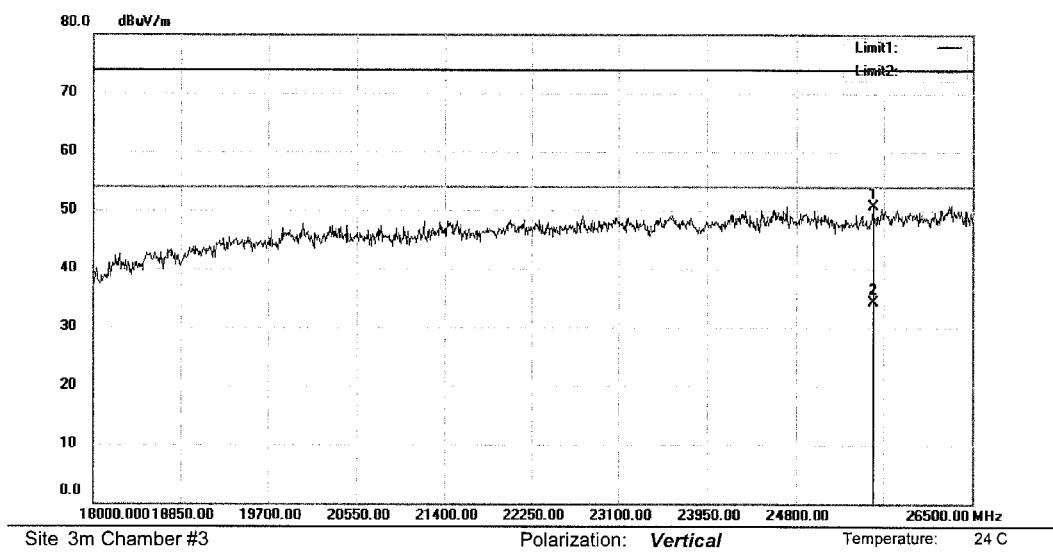
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*Access to the World*
**Radiated Emission Measurement**

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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm		Table Degree degree
								Detector	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

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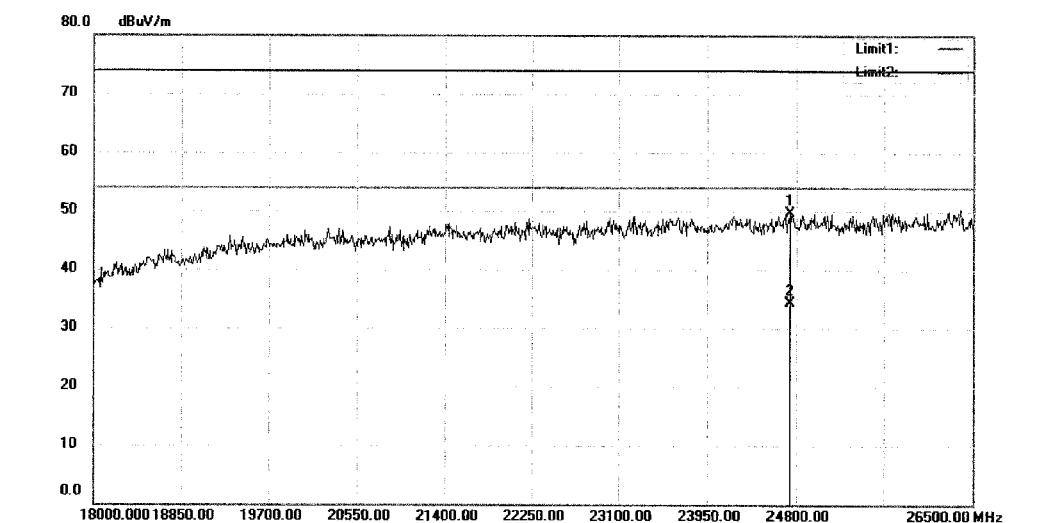
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*Access to the World*
**Radiated Emission Measurement**

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	Comment
		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

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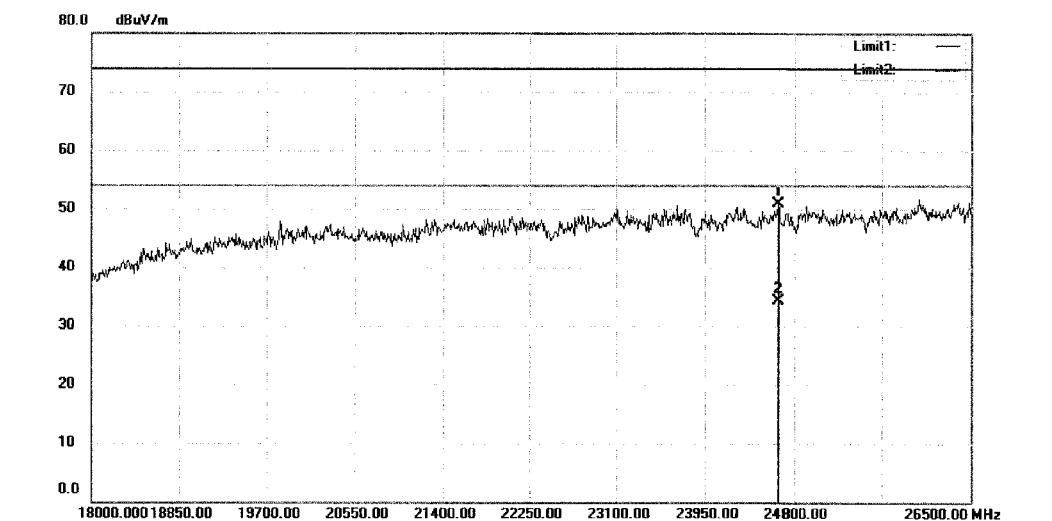
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**Radiated Emission Measurement**

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	Detector	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

Page: 1

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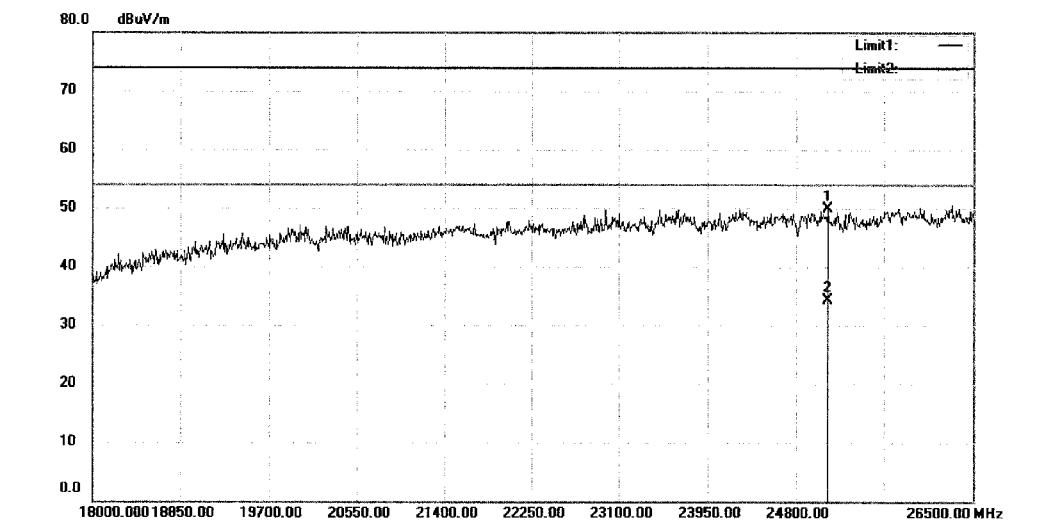
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*Access to the World*
**Radiated Emission Measurement**

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
								Detector	degree	
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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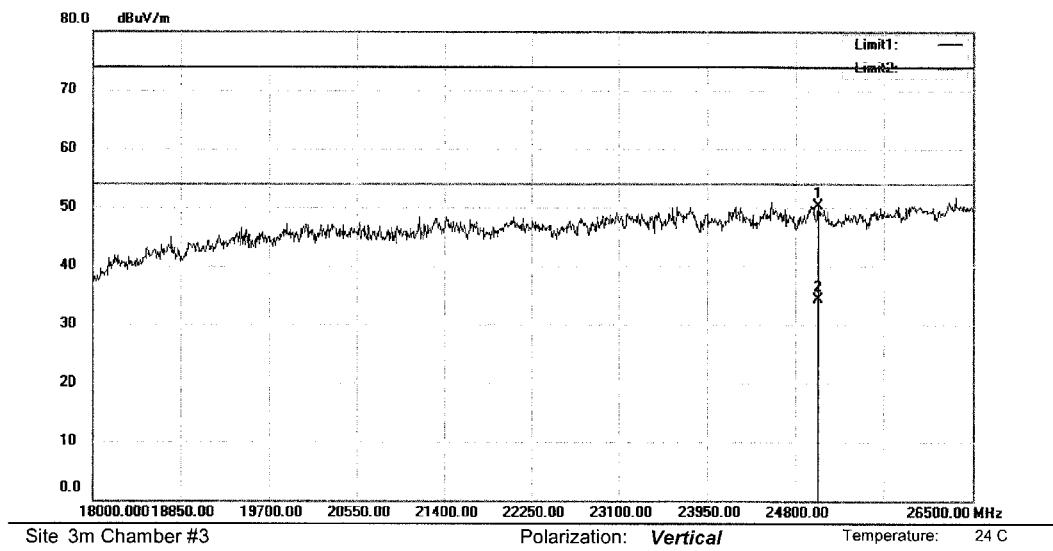
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**Radiated Emission Measurement**

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	Comment
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

**Prüfbericht - Nr.: 17052720 001**  
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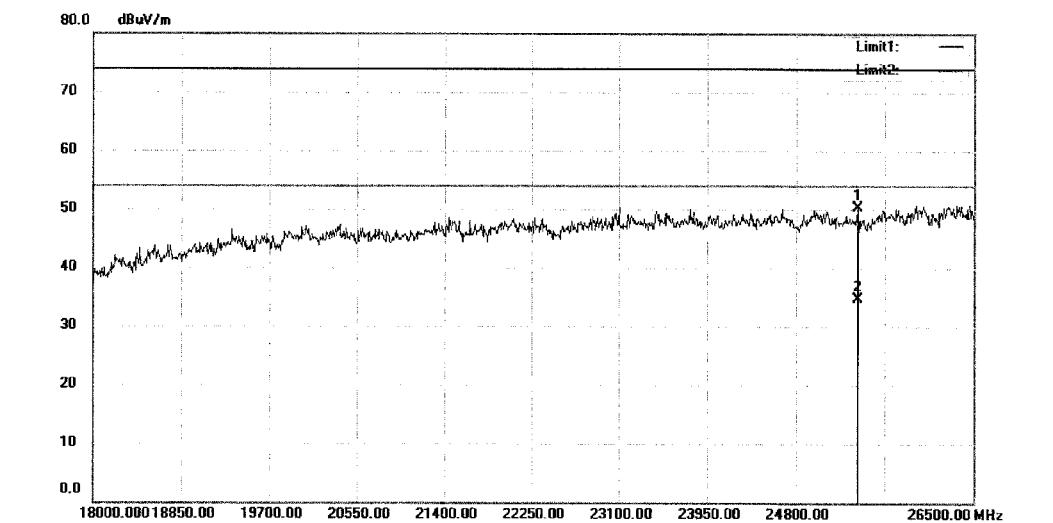
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*Access to the World*
**Radiated Emission Measurement**

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	Measure-ment	Limit	Over	Antenna Height	Table Degree	Comment
		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 9\Data #: 293

Page: 1

**Prüfbericht - Nr.: 17052720 001**  
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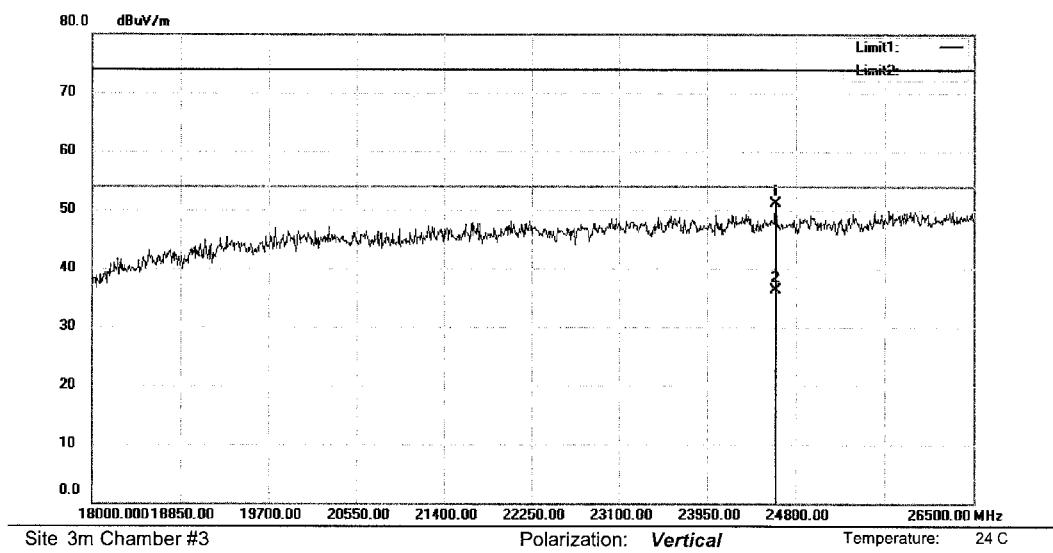
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*Access to the World*
**Radiated Emission Measurement**

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.	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		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**  
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**Test Plot of Band Edge of BDR & EDR**

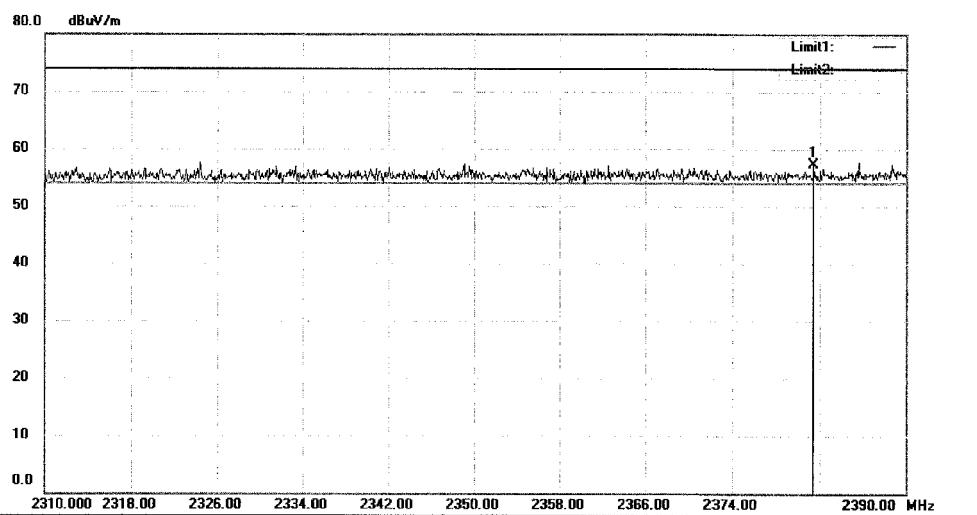
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**Radiated Emission Measurement**

File :TUV 9

Data #:389

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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB	Over	Antenna Height cm	Table Degree	Comment
								Detector	degree	
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

**Produkte**
*Products*
**Prüfbericht - Nr.:**
**17052720 001**
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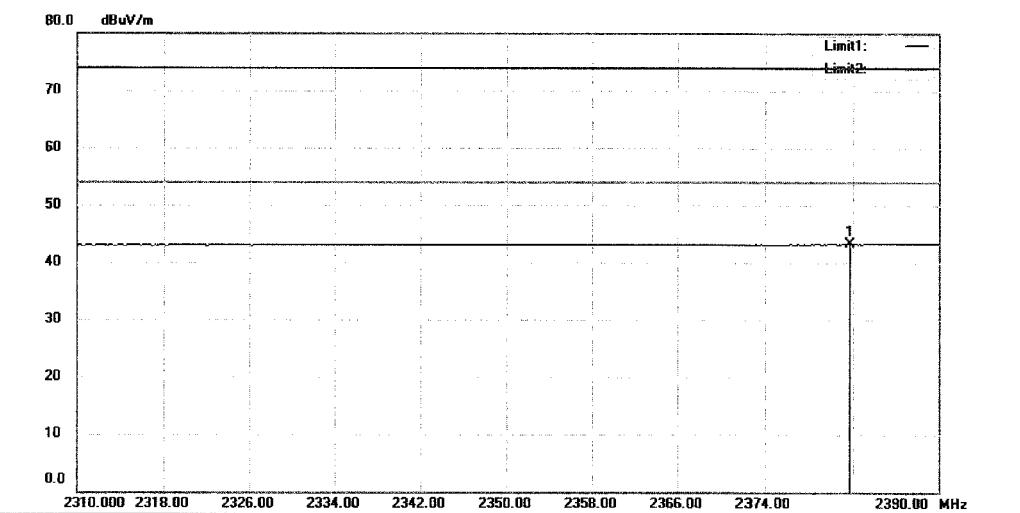
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*Access to the World*
**Radiated Emission Measurement**

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	Comment
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

Page: 1

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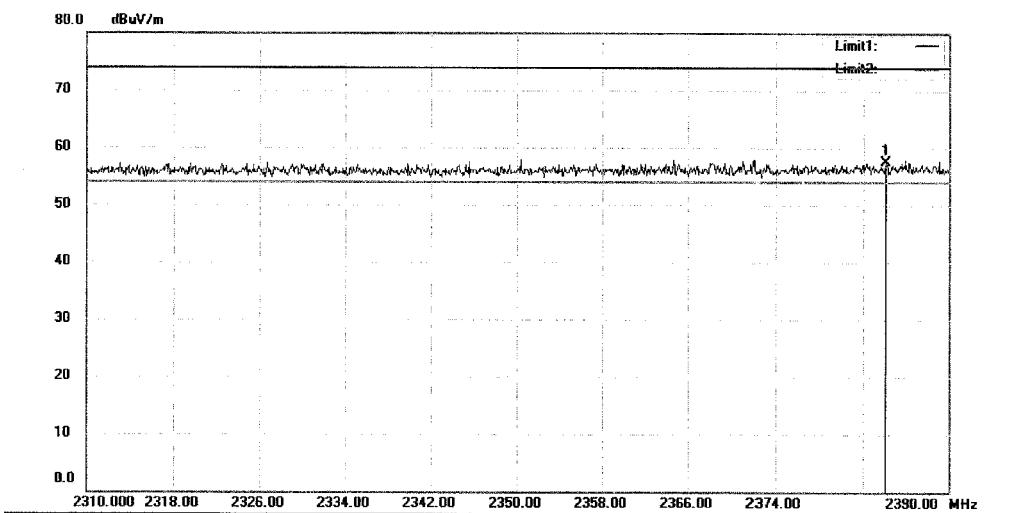
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*Access to the World*
**Radiated Emission Measurement**

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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree
								Detector	Comment
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

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**Produkte**
*Products*
**Prüfbericht - Nr.: 17052720 001**  
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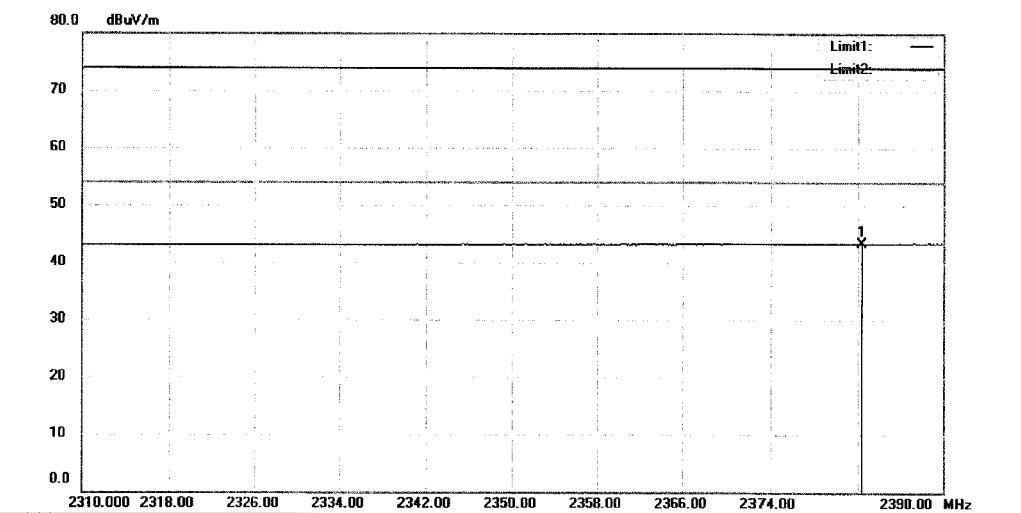
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 Bldg.69, Majiaolong Industry Zone, Nanshan District, Shenzhen, Guangdong, 518052 P.R. China  
[www.emtek.com.cn](http://www.emtek.com.cn) Tel:+86-755-2695 4280 Fax:+86-755-2695 4282


**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	Comment
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

**Prüfbericht - Nr.: 17052720 001**  
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**Seite 82 von 140**  
*Page 82 of 140*

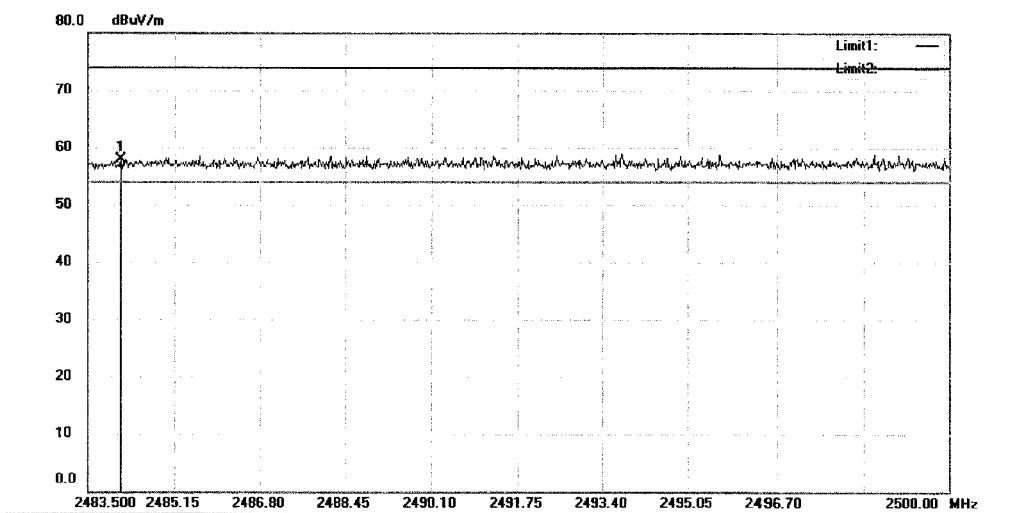
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**Radiated Emission Measurement**

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	Correct	Measure-	Limit	Over	Antenna	Table		
			Level	Factor	ment			Height	Degree		
			MHz	dBuV	dB	dBuV/m	dB	Detector	cm	degree	Comment
1	*	2484.127	27.16	30.71	57.87	74.00	-16.13	peak			

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

Operator: KK

File :TUV 9\Data :#391

Page: 1

**Prüfbericht - Nr.: 17052720 001**  
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*Page 83 of 140*

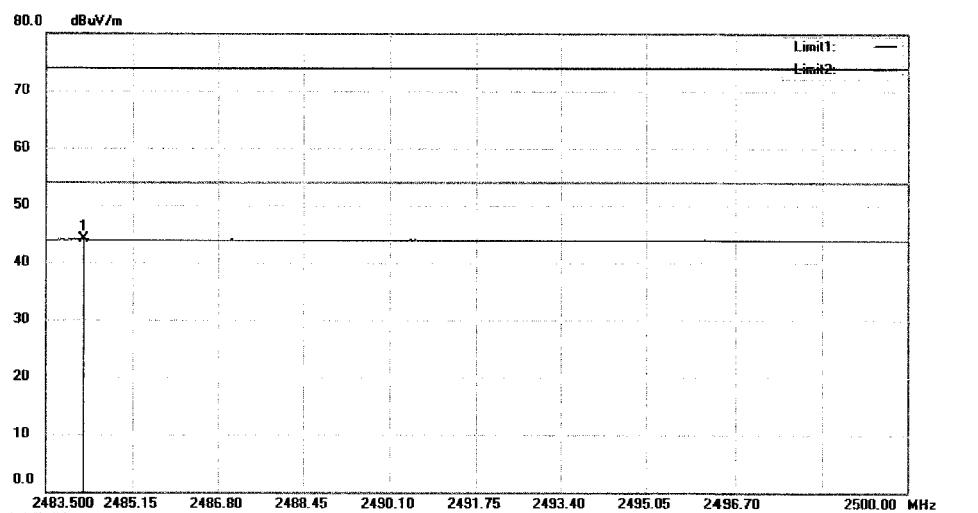
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 Bldg.69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, 518052 P.R. China  
[www.emtek.com.cn](http://www.emtek.com.cn) Tel:+86-755-2695 4280 Fax:+86-755-2695 4282


**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	dB	Detector	cm	degree	Comment
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

**Prüfbericht - Nr.: 17052720 001**  
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**Seite 84 von 140**  
*Page 84 of 140*

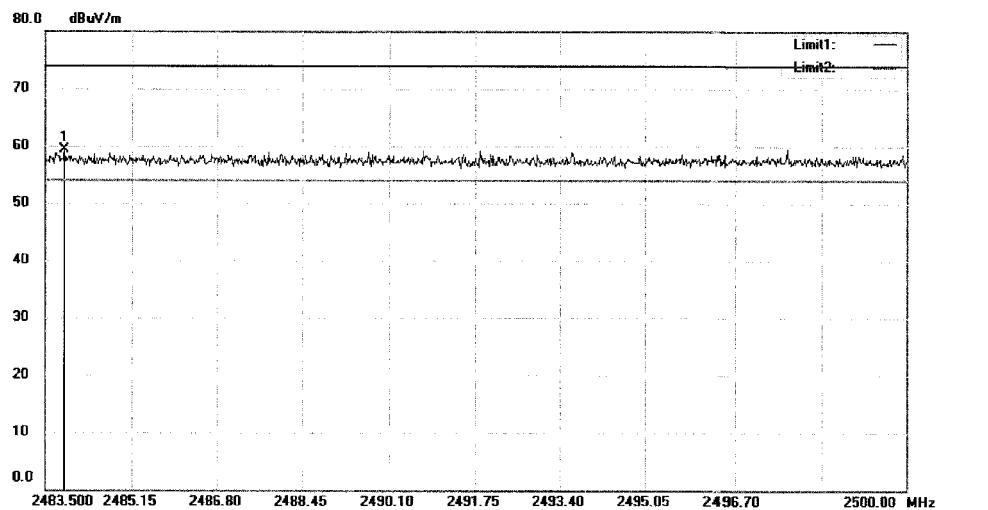
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*Access to the World*
**Radiated Emission Measurement**

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	dB	Detector	cm	degree	Comment
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

**Prüfbericht - Nr.:** **17052720 001**  
*Test Report No.*
**Seite 85 von 140**  
*Page 85 of 140*

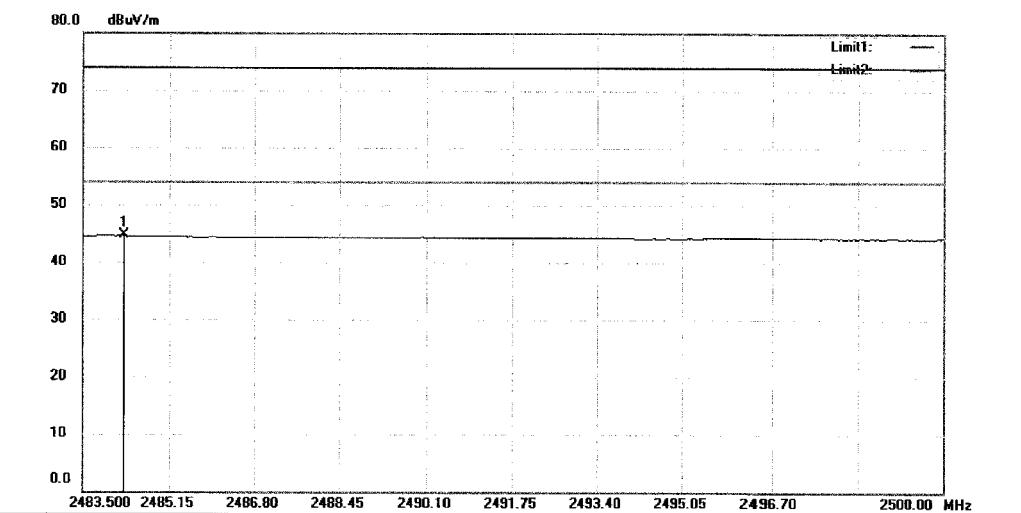
Shenzhen EMTEK Co., Ltd.  
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*Access to the World*
**Radiated Emission Measurement**

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	Comment
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

Page: 1

**Prüfbericht - Nr.: 17052720 001**  
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*Page 86 of 140*

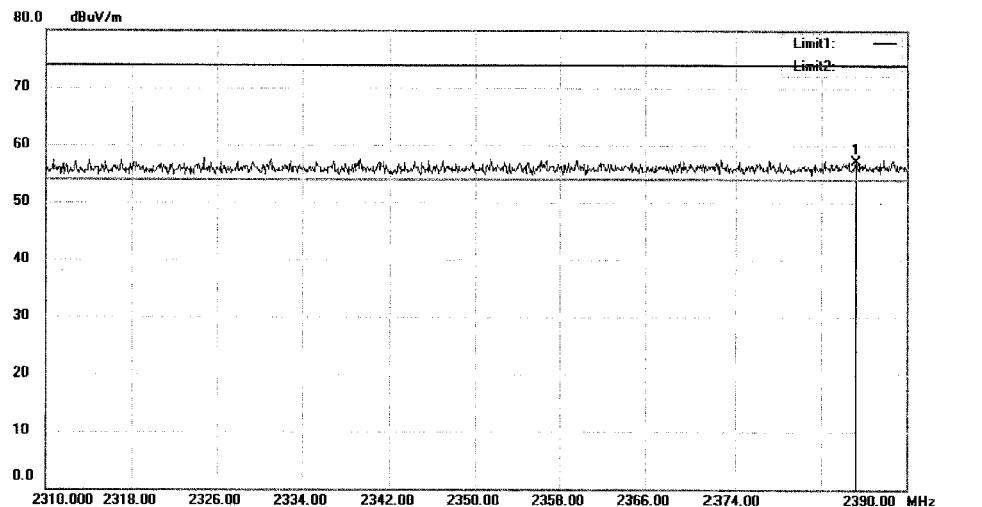
**Shenzhen EMTEK Co., Ltd.**  
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[www.emtek.com.cn](http://www.emtek.com.cn) Tel:+86-755-2695 4280 Fax:+86-755-2695 4282


**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	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	2385.280	26.88	30.25	57.13	74.00	-16.87	peak		

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

Operator: KK

File : TUV 9\Data \#397

Page: 1

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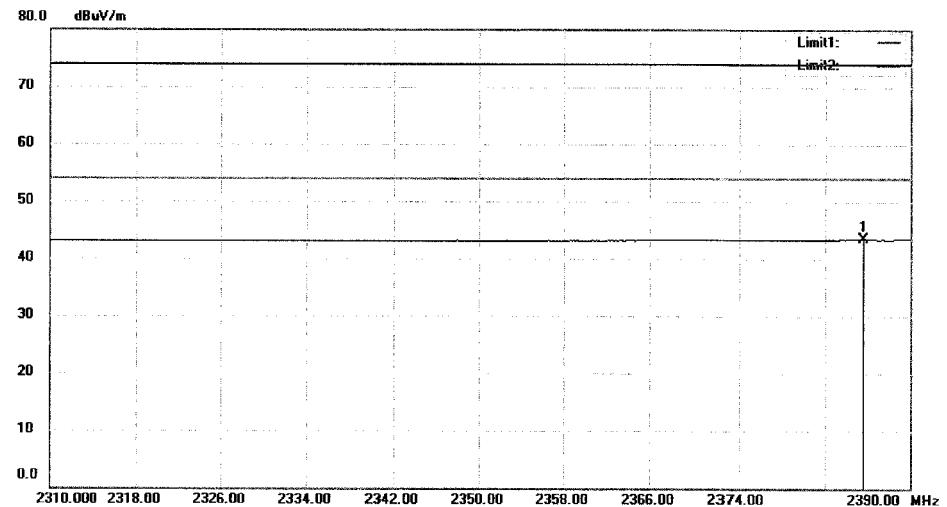
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*Access to the World*
**Radiated Emission Measurement**

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	Comment
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

**Prüfbericht - Nr.: 17052720 001**  
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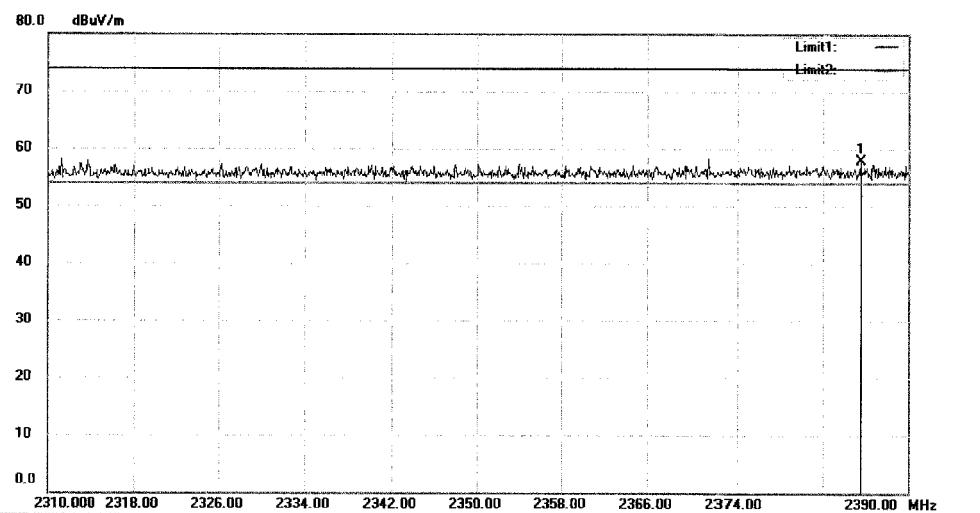
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*Access to the World*
**Radiated Emission Measurement**

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

**Prüfbericht - Nr.:** **17052720 001**  
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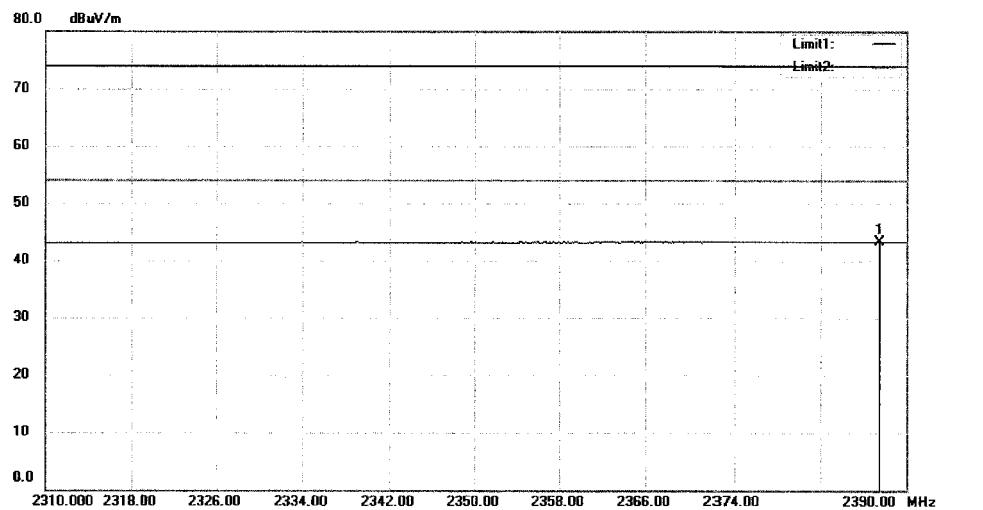
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[www.emtek.com.cn](http://www.emtek.com.cn) Tel:+86-755-2695 4280 Fax:+86-755-2695 4282


*Access to the World*
**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	dB	Detector	cm	degree	Comment
1	*	2387.440	13.11	30.27	43.38	54.00	-10.62	AVG		

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

Operator: KK

File : TUV 9\Data \#396

Page: 1

**Prüfbericht - Nr.: 17052720 001**  
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*Page 90 of 140*

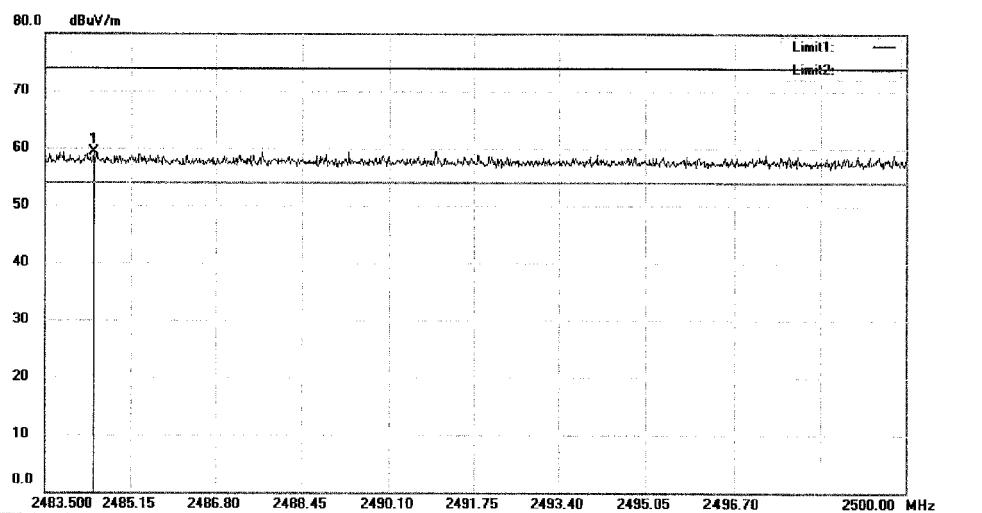
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*Access to the World*
**Radiated Emission Measurement**

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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height Detector	Table Degree cm
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

Page: 1

**Prüfbericht - Nr.: 17052720 001**  
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*Page 91 of 140*

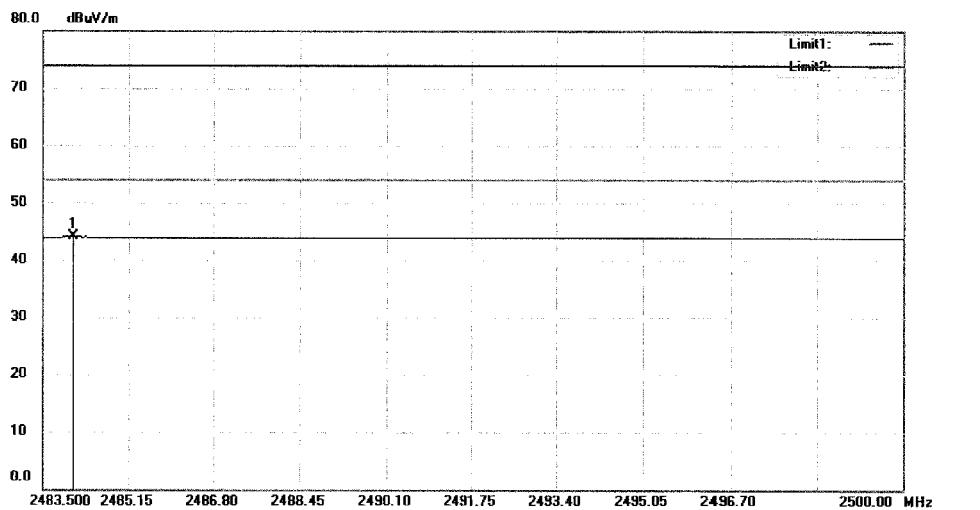
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**Radiated Emission Measurement**

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	dB	Detector	cm	degree	Comment
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

**Prüfbericht - Nr.: 17052720 001**  
*Test Report No.*
**Seite 92 von 140**  
*Page 92 of 140*

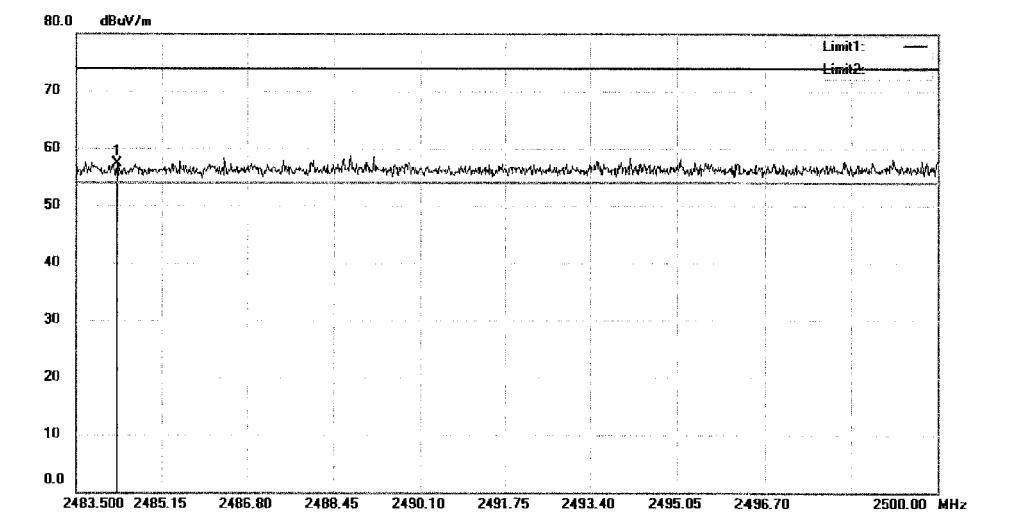
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*Access to the World*
**Radiated Emission Measurement**

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	Comment
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

**Prüfbericht - Nr.: 17052720 001**  
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**Seite 93 von 140**  
*Page 93 of 140*

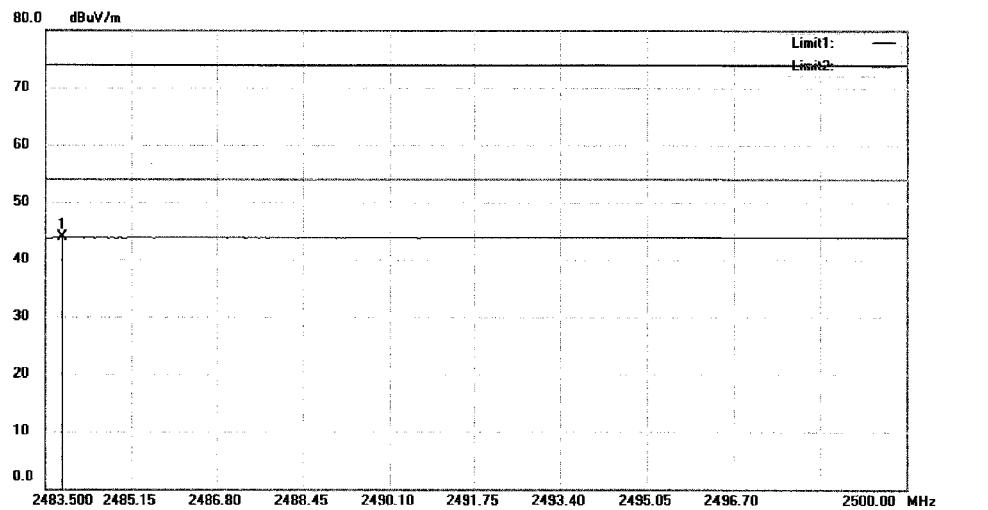
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*Access to the World*
**Radiated Emission Measurement**

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	dB	Detector	cm	degree	Comment
1	*	2483.814	13.20	30.70	43.90	54.00	-10.10	AVG		

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

Operator: KK

File : TUV 9\Data \#402

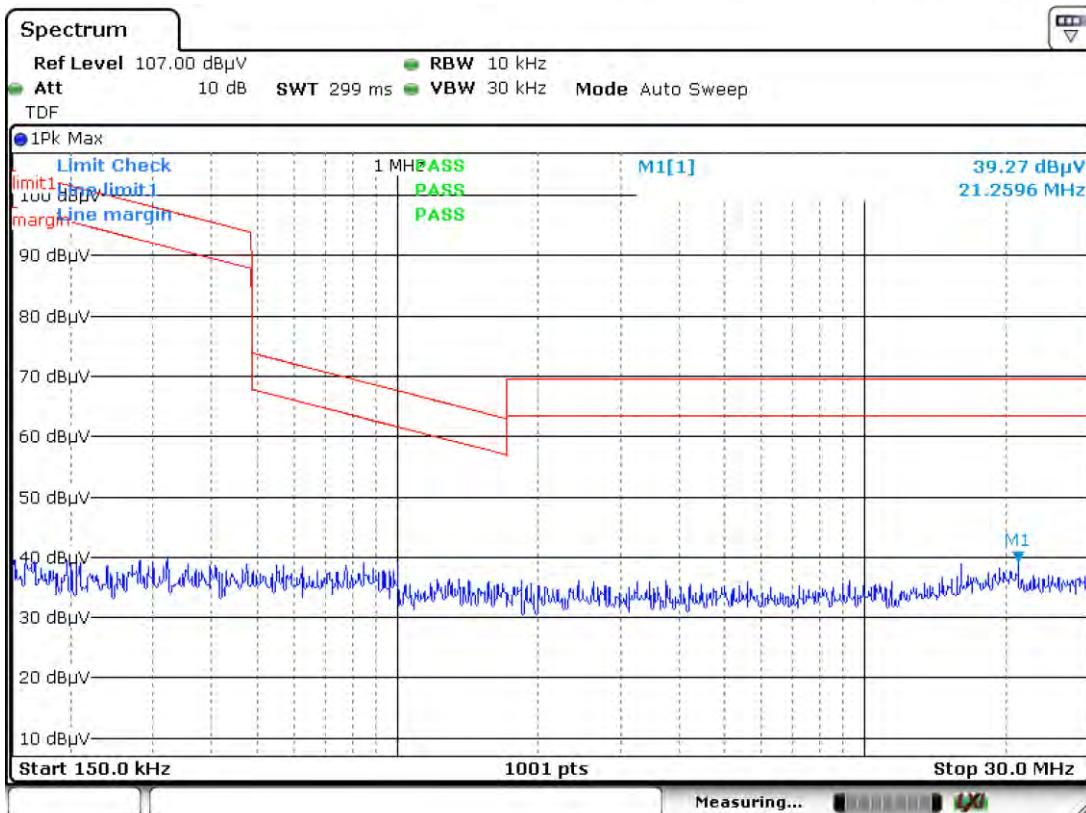
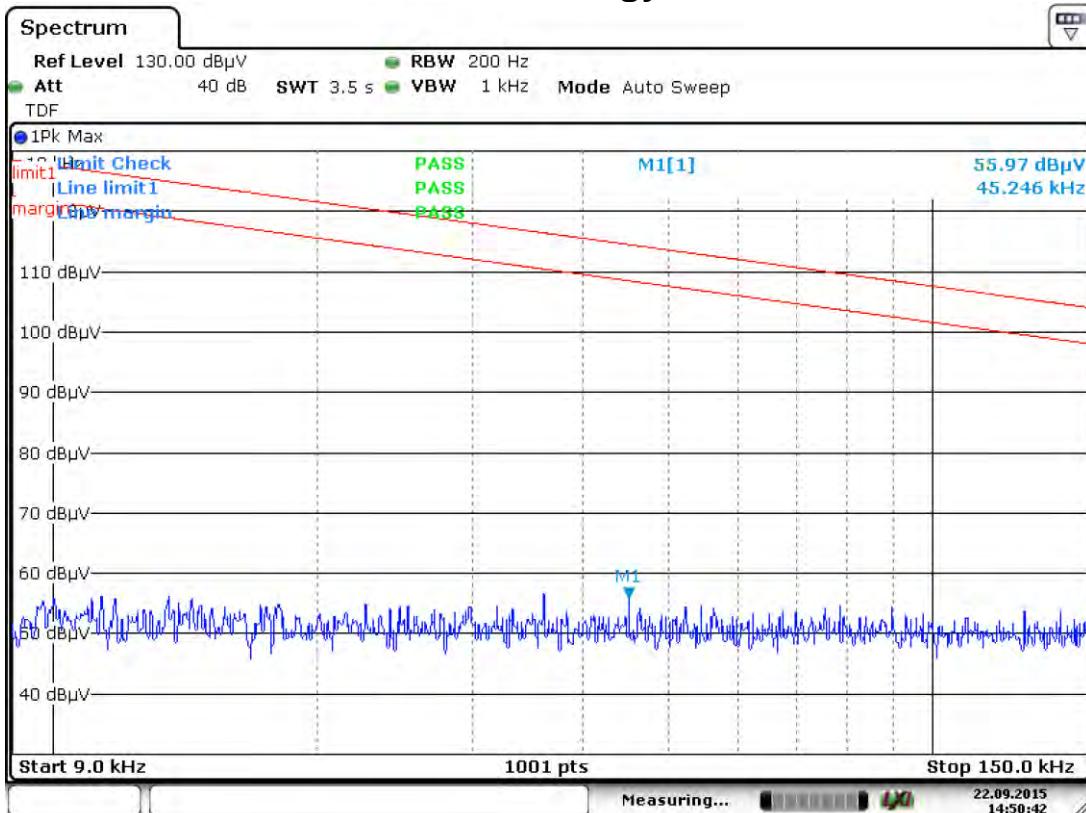
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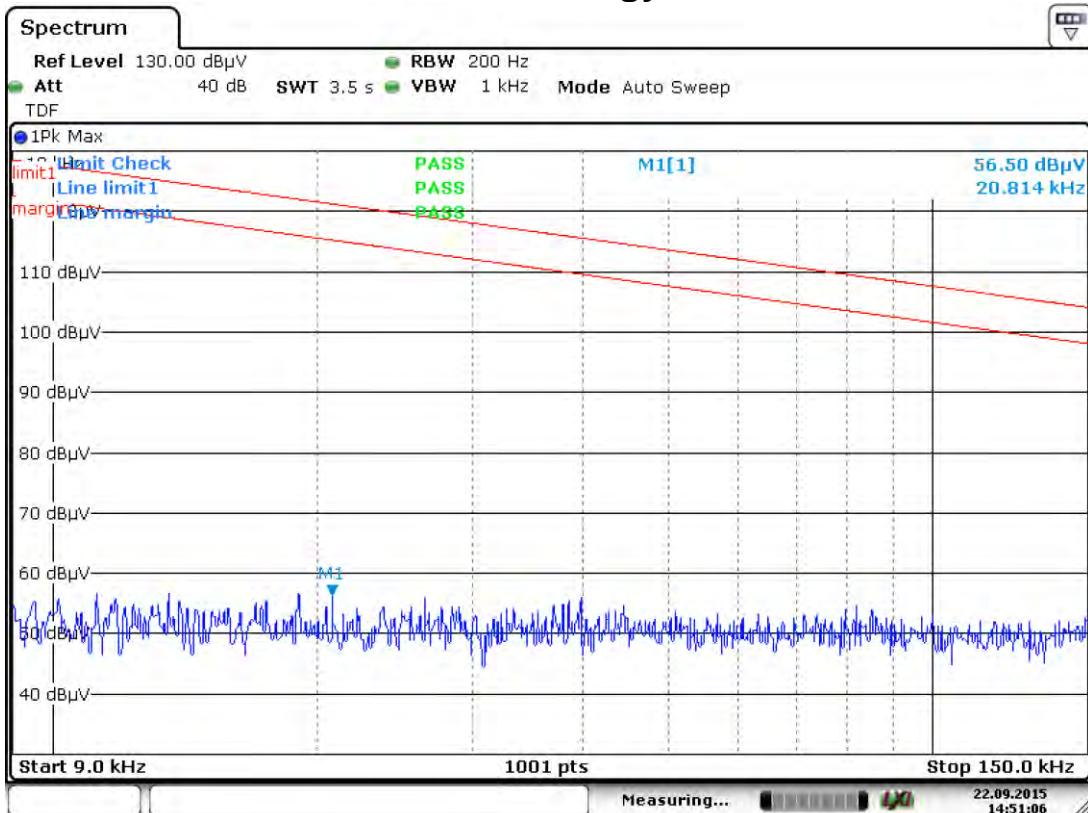
## Prüfbericht - Nr.: 17052720 001

Test Report No.

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Page 94 of 140

### Test Plot of 2402MHz-X of Low Energy mode



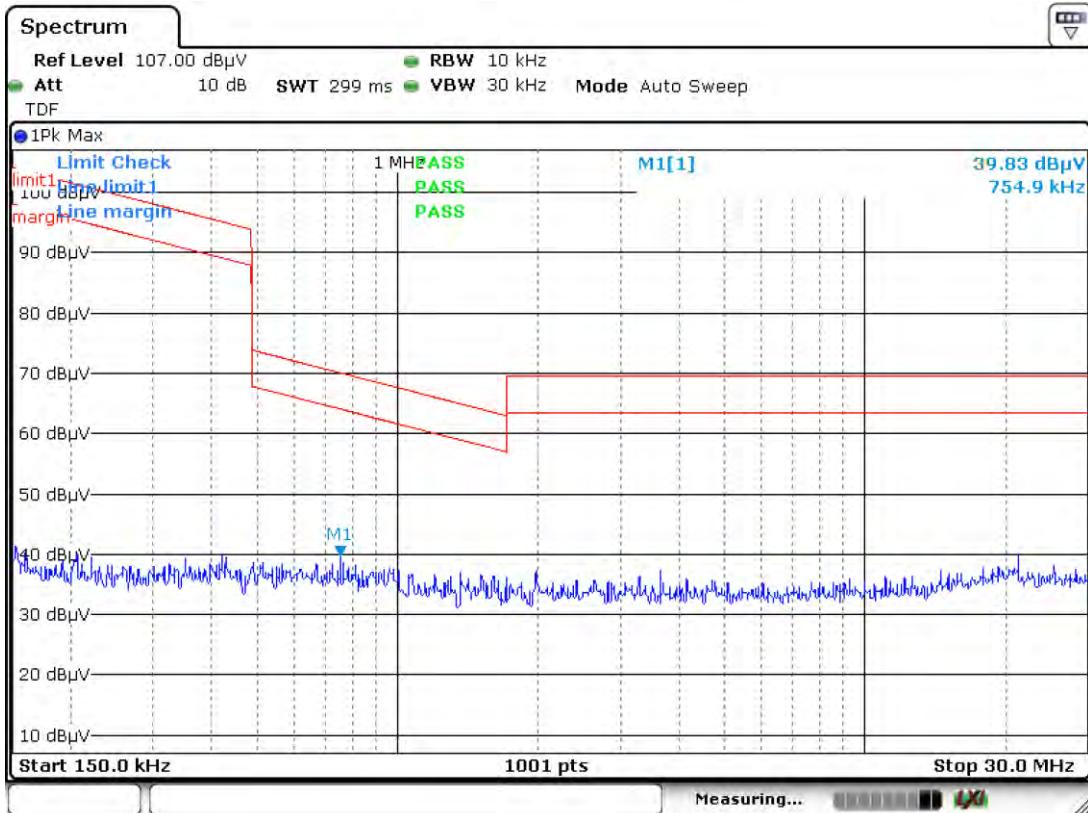
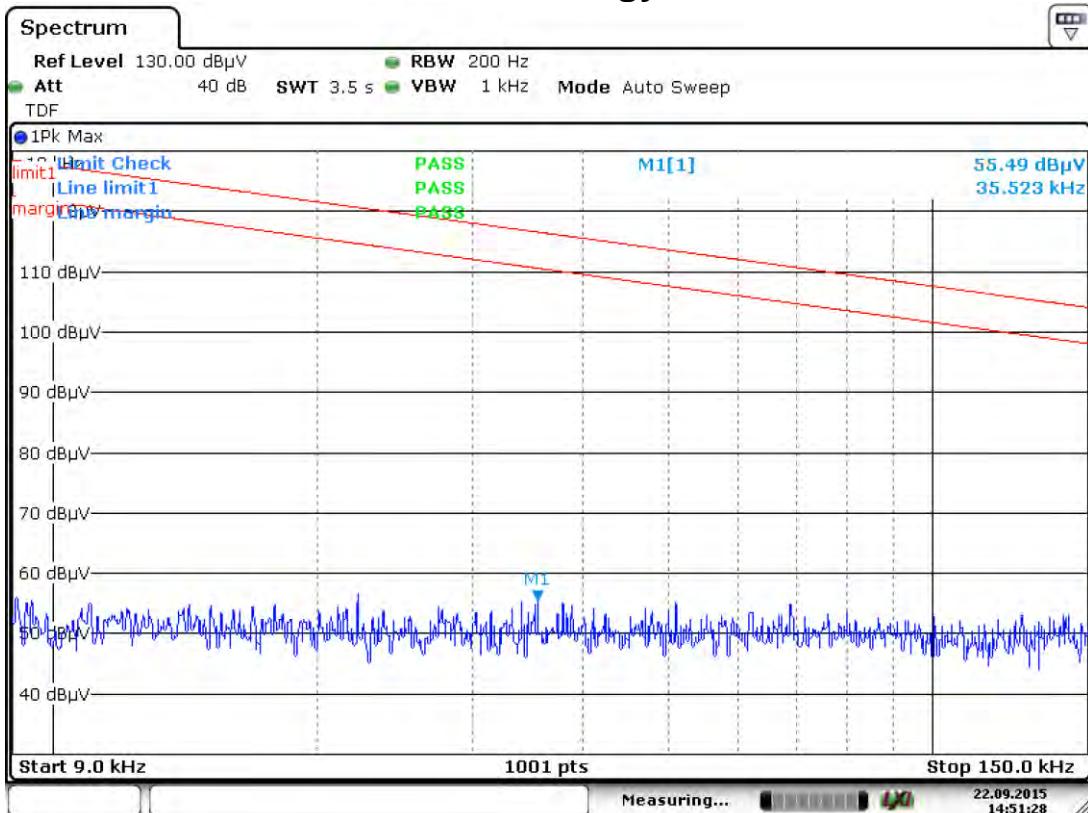
**Produkte**
*Products*
**Prüfbericht - Nr.: 17052720 001**
*Test Report No.*
**Seite 95 von 140**
*Page 95 of 140*
**Test Plot of 2402MHz-Y of Low Energy mode**


## Prüfbericht - Nr.: 17052720 001

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### Test Plot of 2402MHz-Z of Low Energy mode



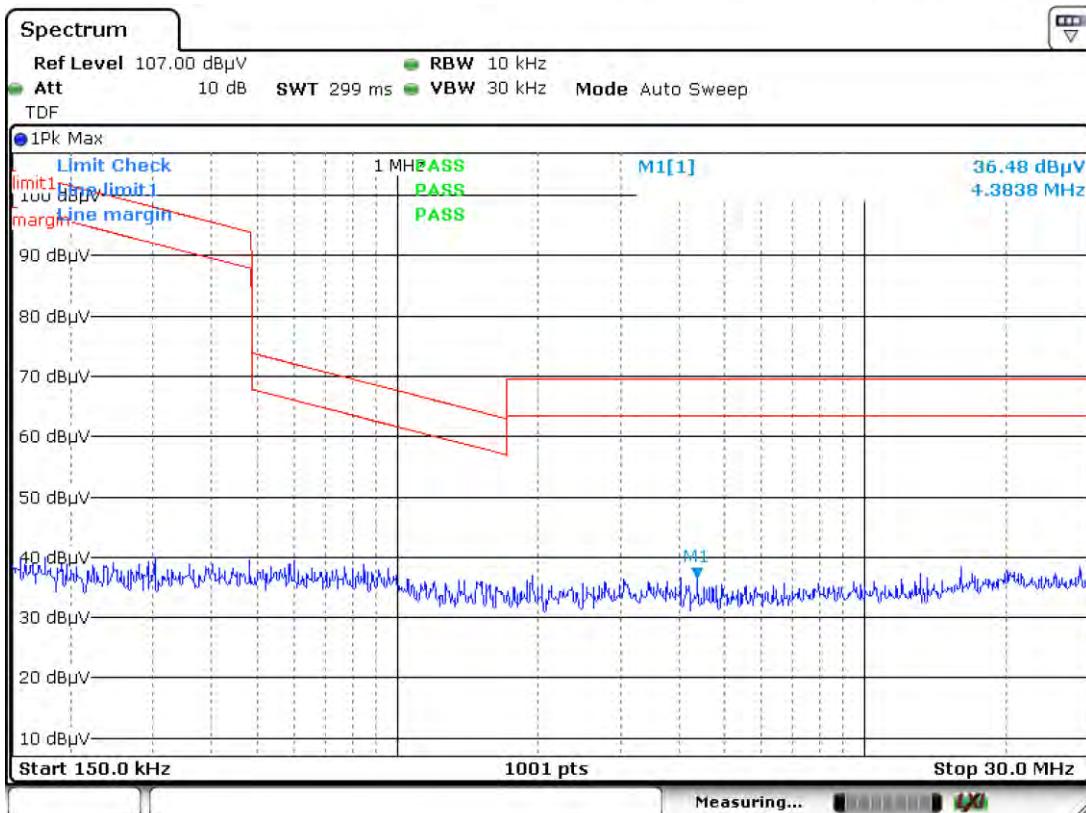
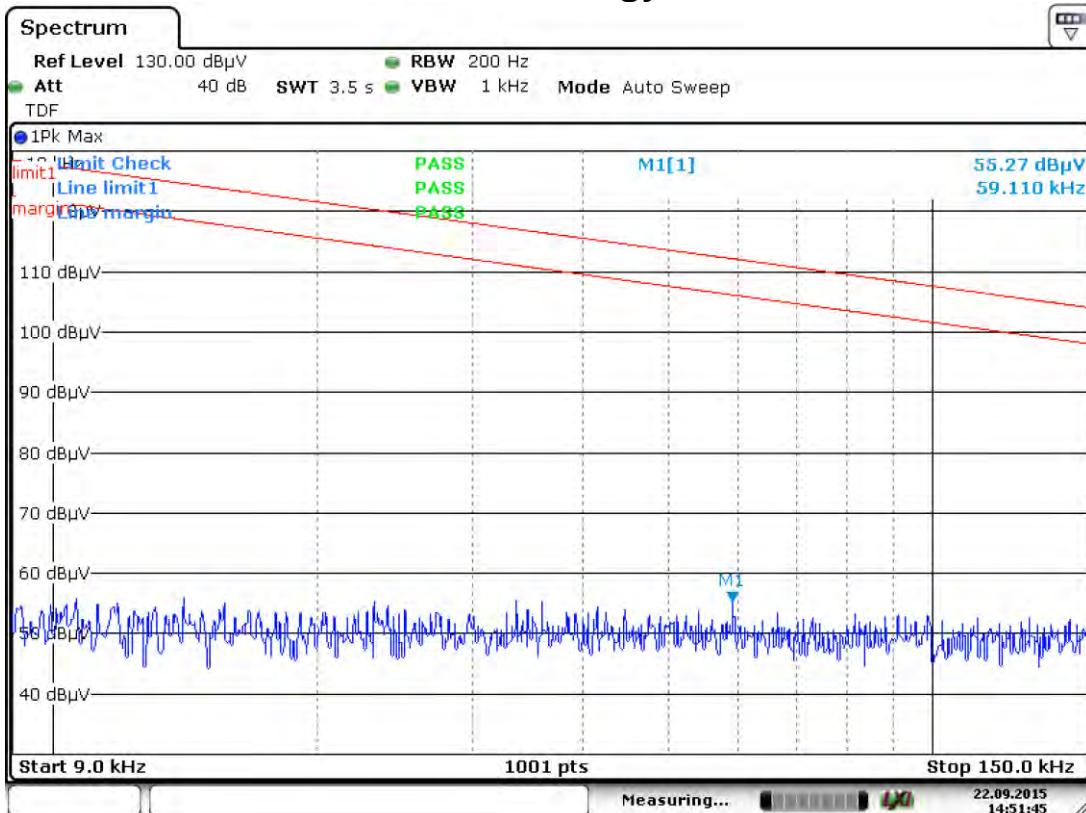
## Prüfbericht - Nr.: 17052720 001

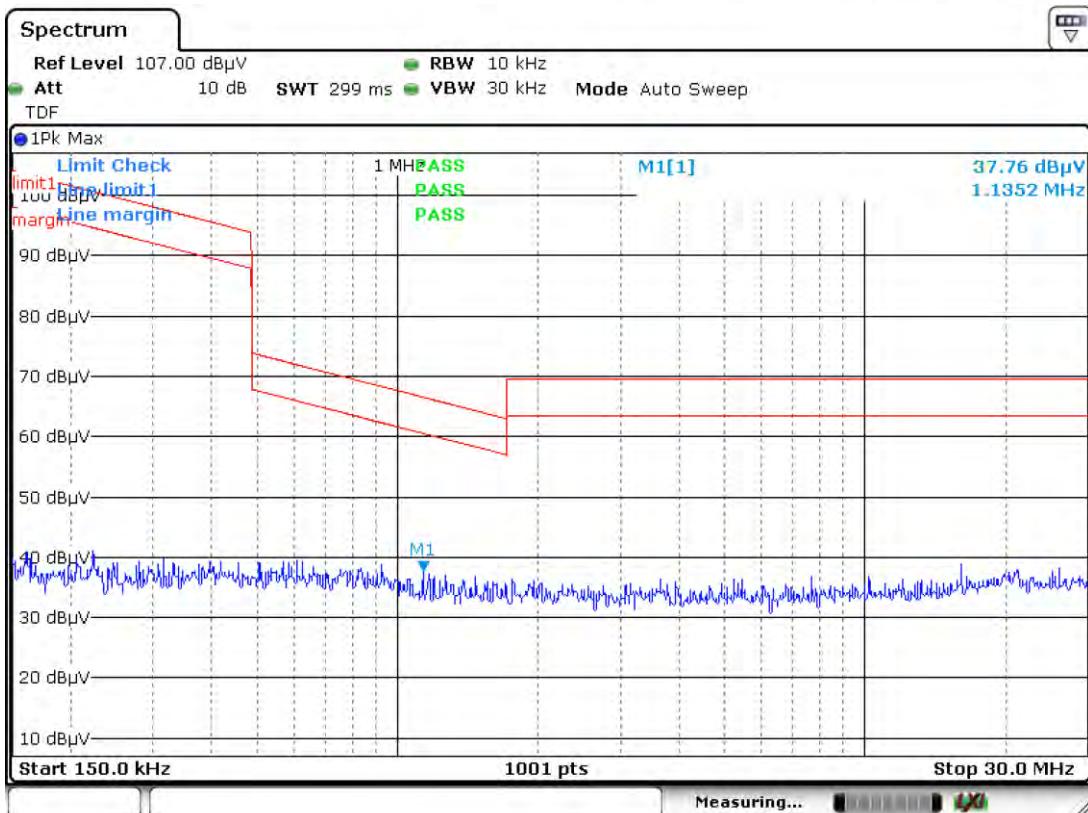
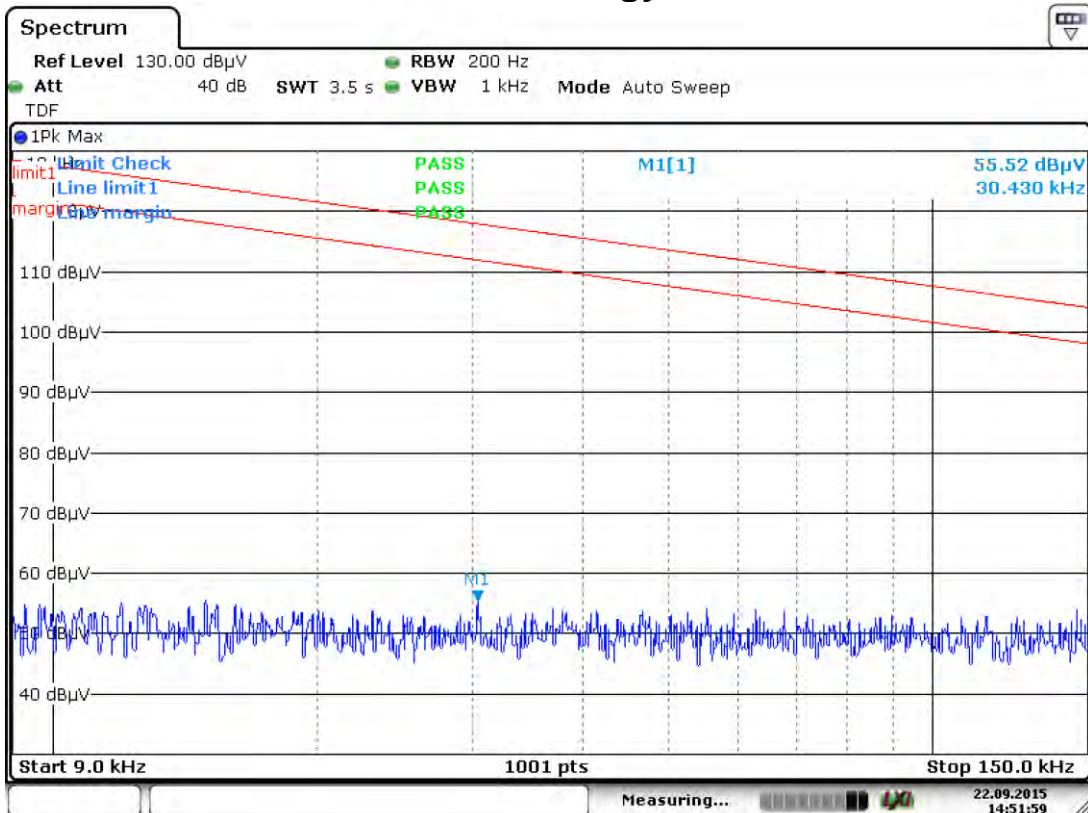
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## Test Plot of 2440MHz-X of Low Energy mode

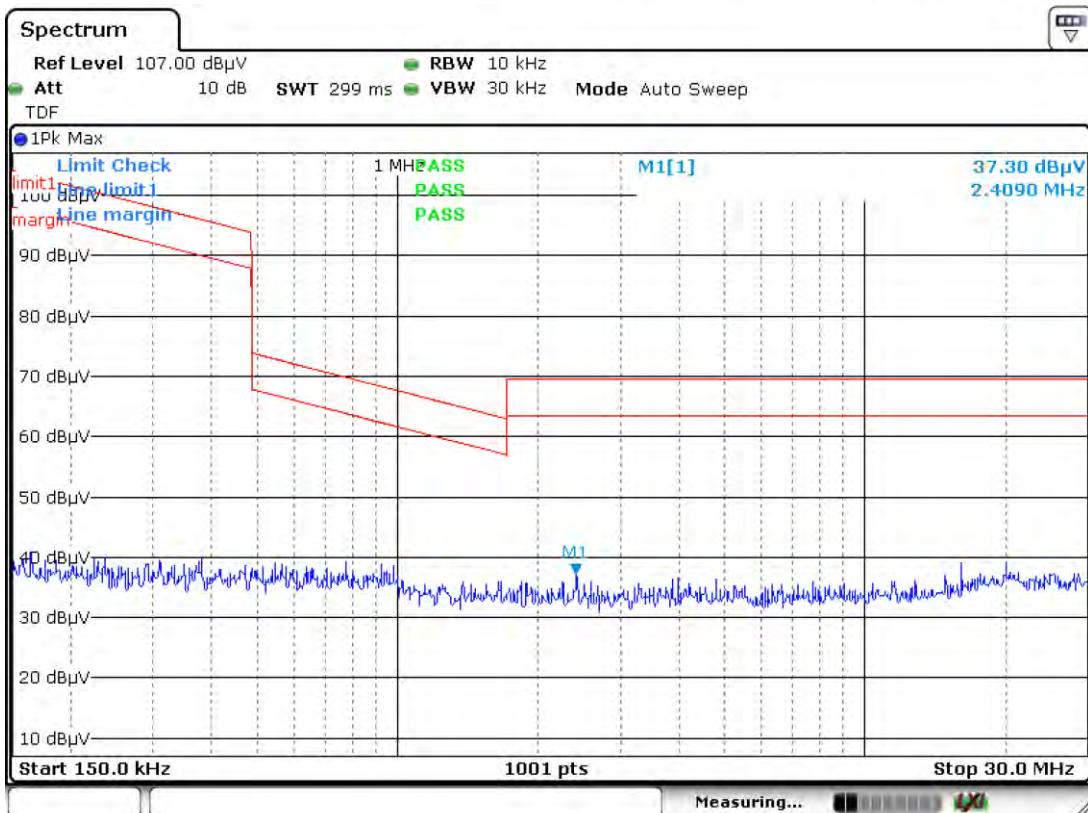
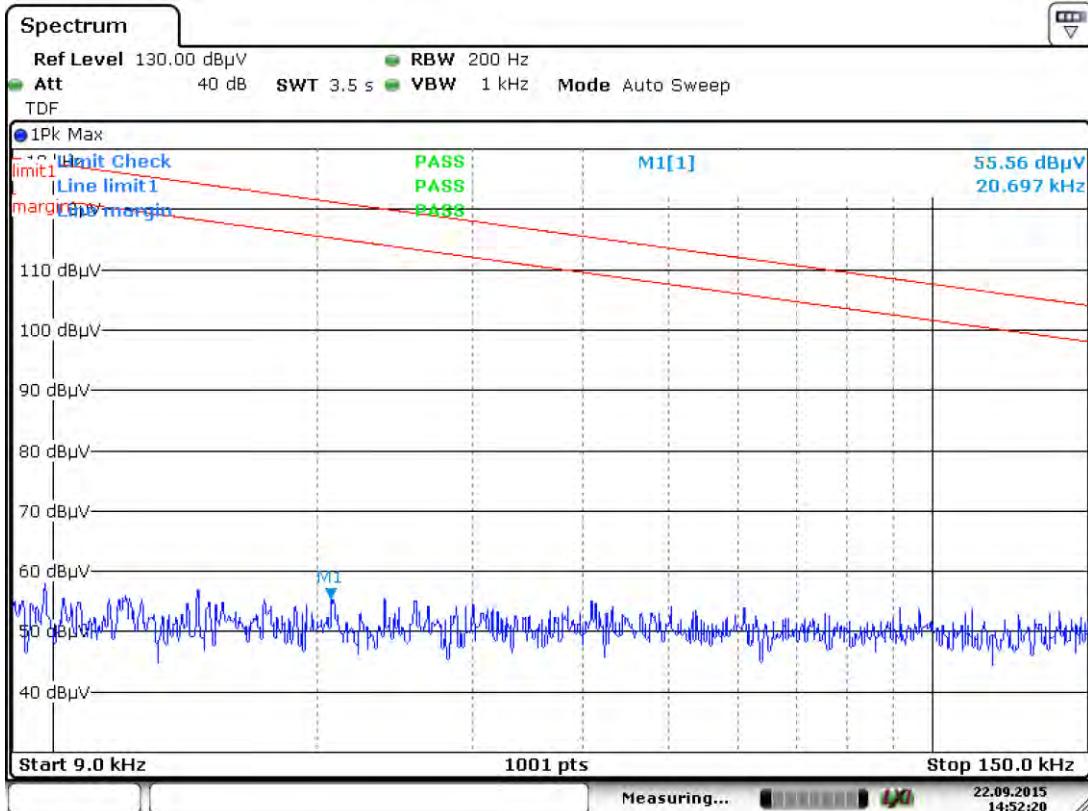


**Produkte**
*Products*
**Prüfbericht - Nr.: 17052720 001**
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*Page 98 of 140*
**Test Plot of 2440MHz-Y of Low Energy mode**


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Test Report No.

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**Test Plot of 2440MHz-Z of Low Energy mode**



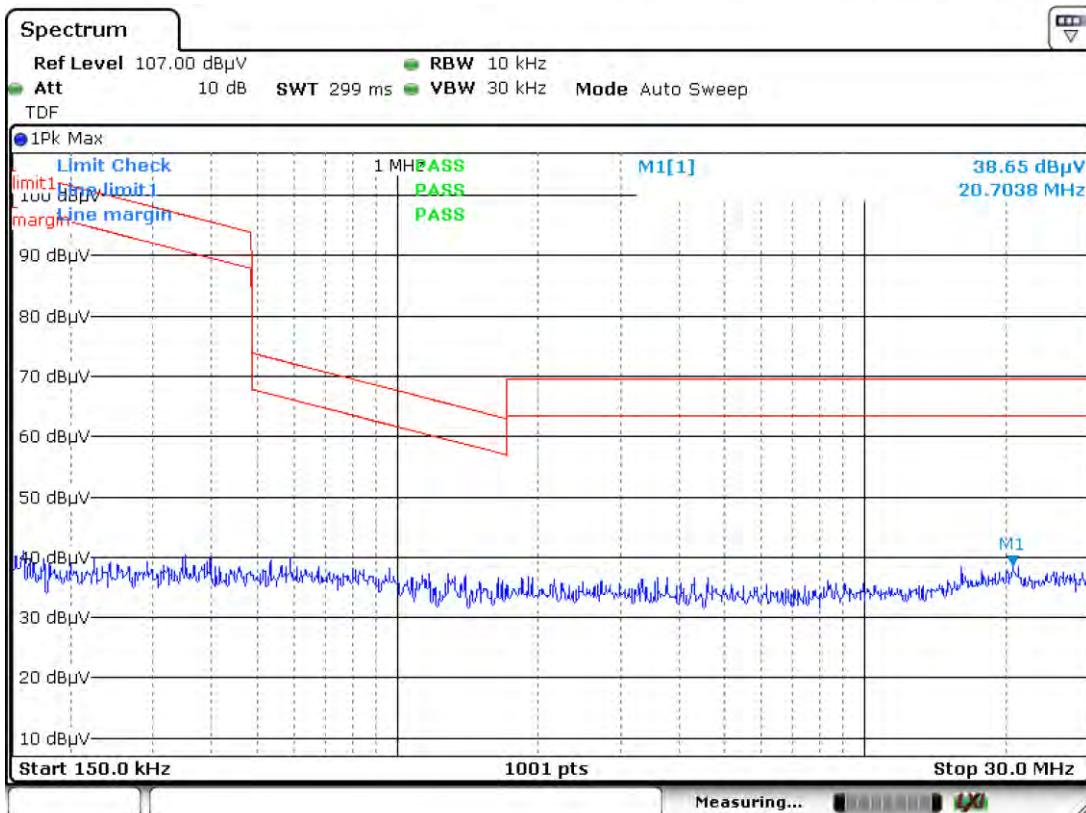
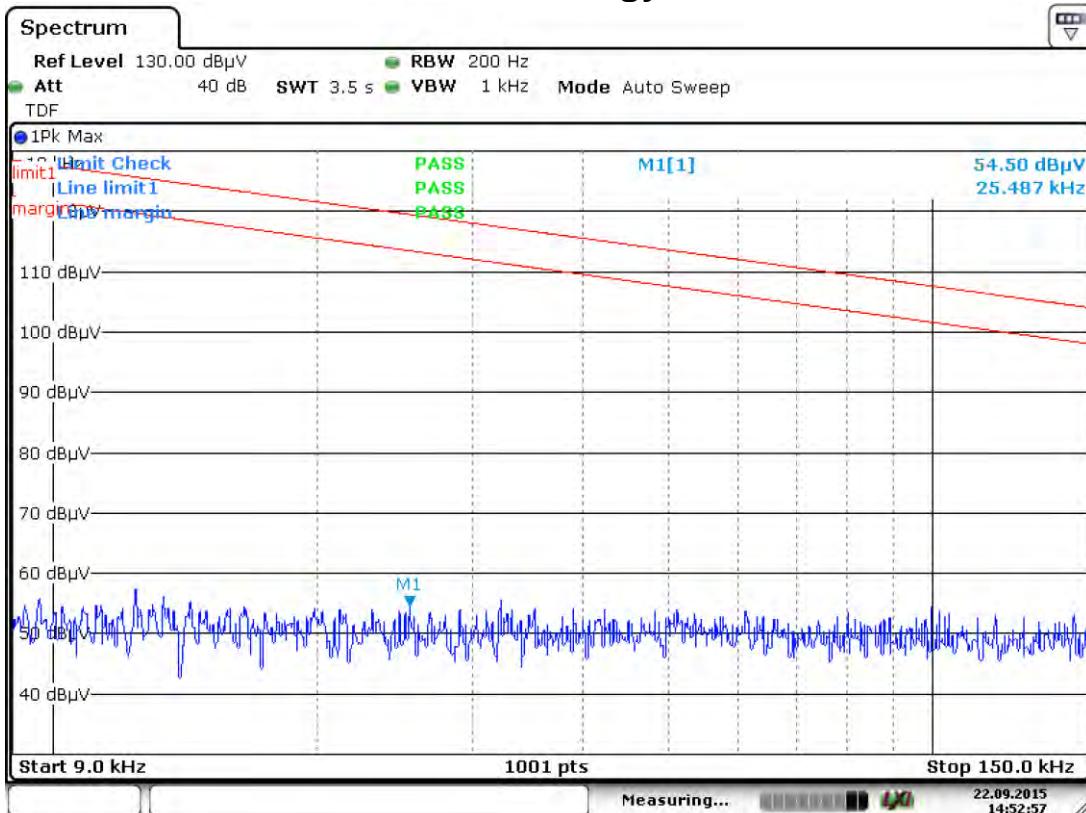
## Prüfbericht - Nr.: 17052720 001

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## Test Plot of 2480MHz-X of Low Energy mode

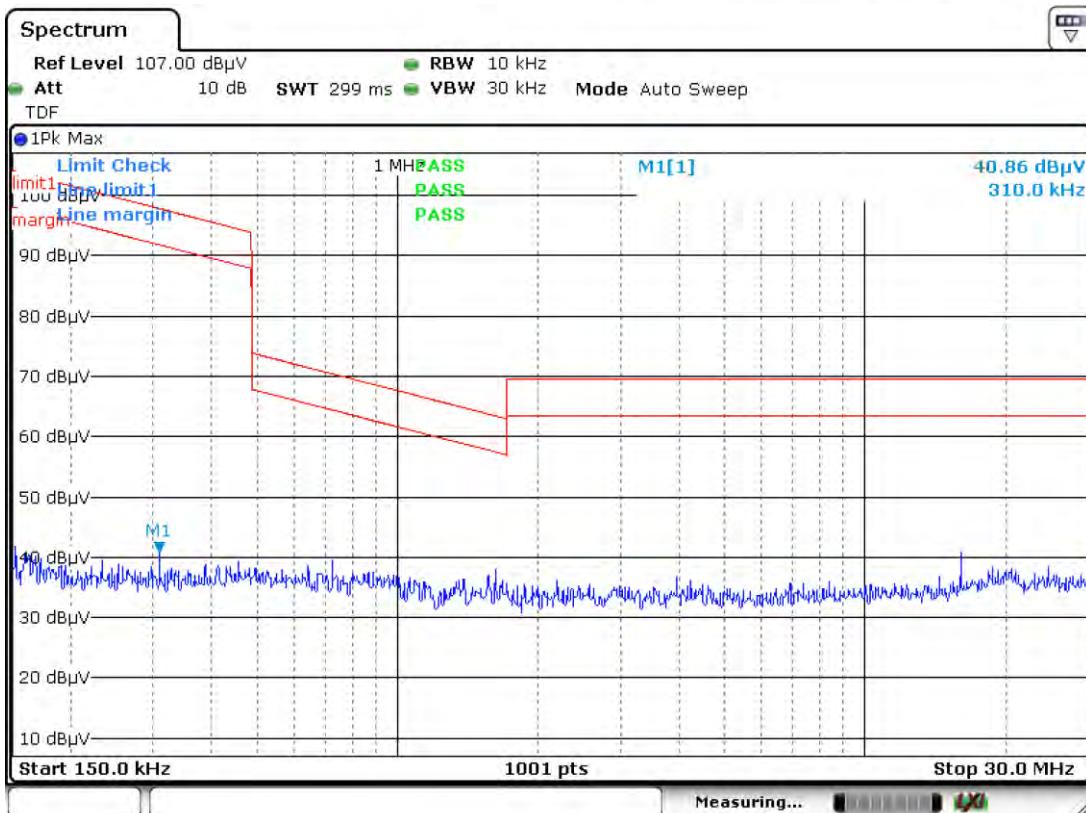
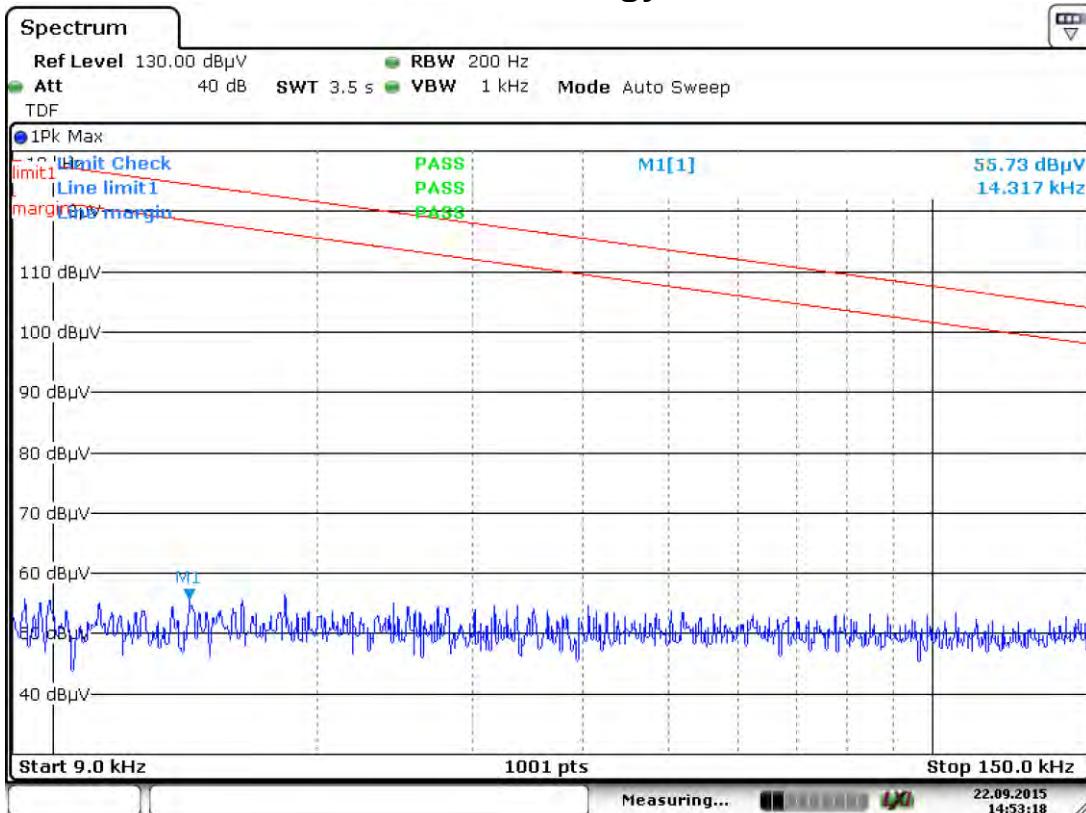


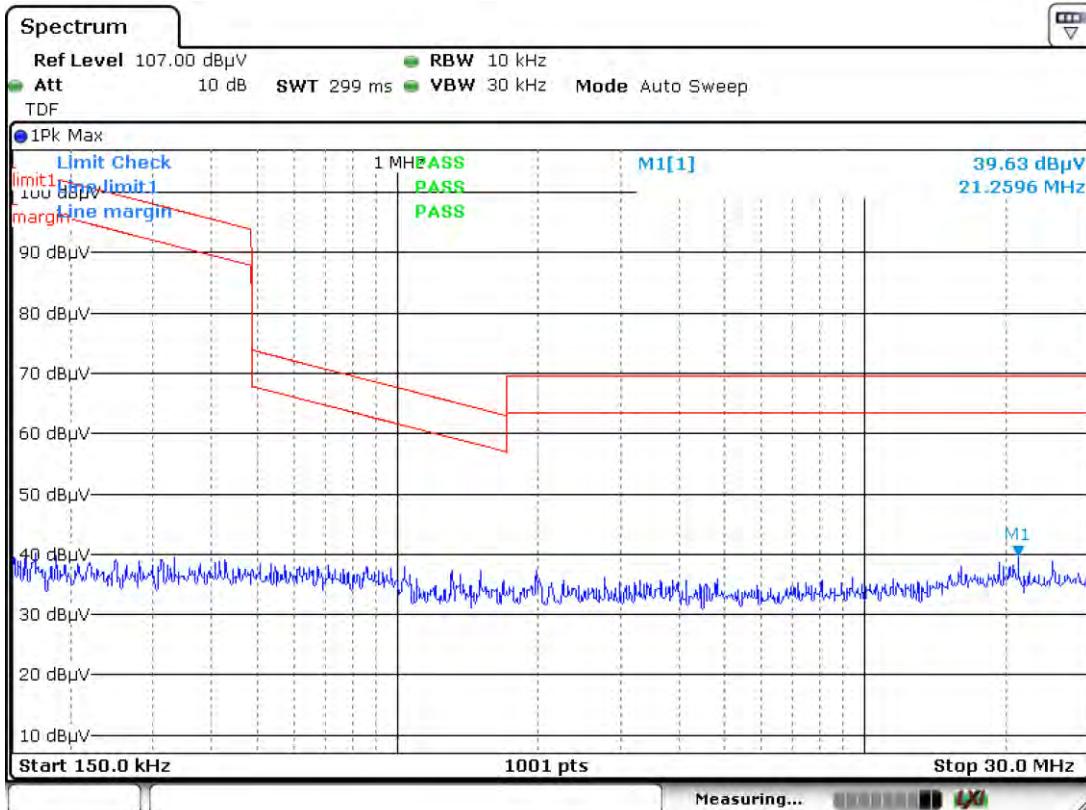
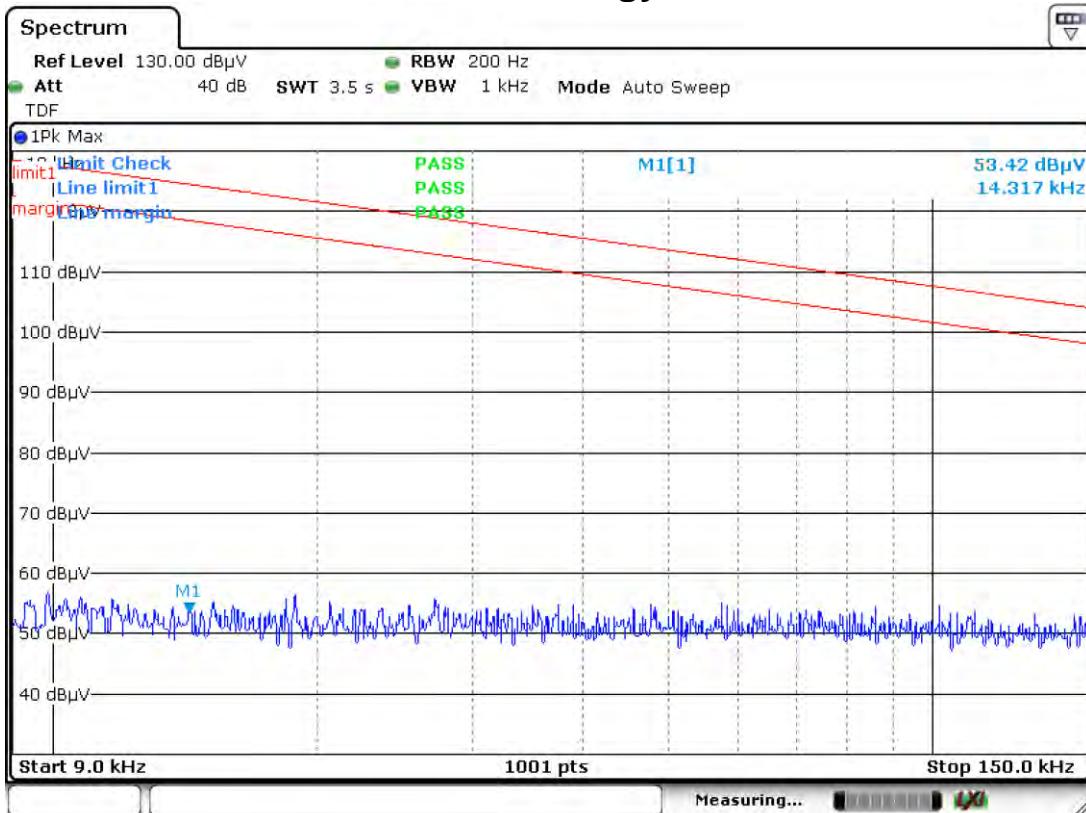
**Prüfbericht - Nr.:** 17052720 001

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**Test Plot of 2480MHz-Y of Low Energy mode**

**Produkte**
*Products*
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**Test Plot of 2480MHz-Z of Low Energy mode**


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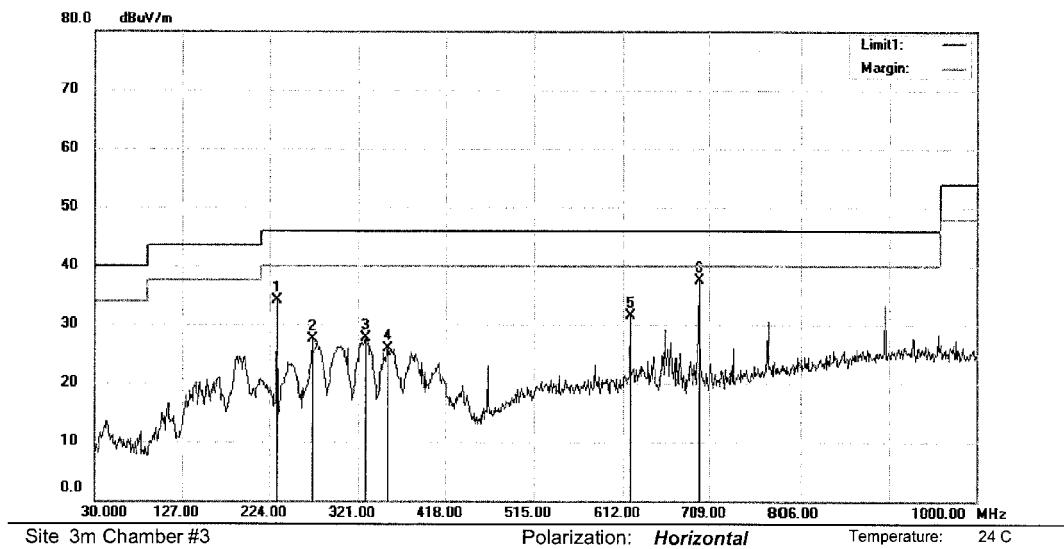
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 Bldg. 69, Majiaolong Industry Zone, Nanshan District, Shenzhen, Guangdong, 518052 P. R. China  
[www.emtek.com.cn](http://www.emtek.com.cn) Tel: +86-755-2695 4280 Fax: +86-755-2695 4282


**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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm		Table Degree
								Detector	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

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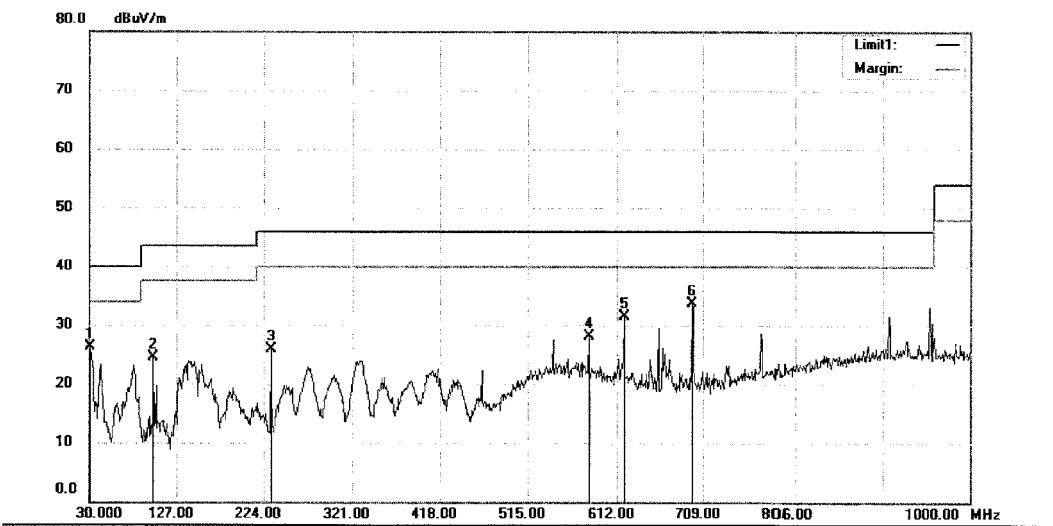
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*Access to the World*
**Radiated Emission Measurement**

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	Comment
		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

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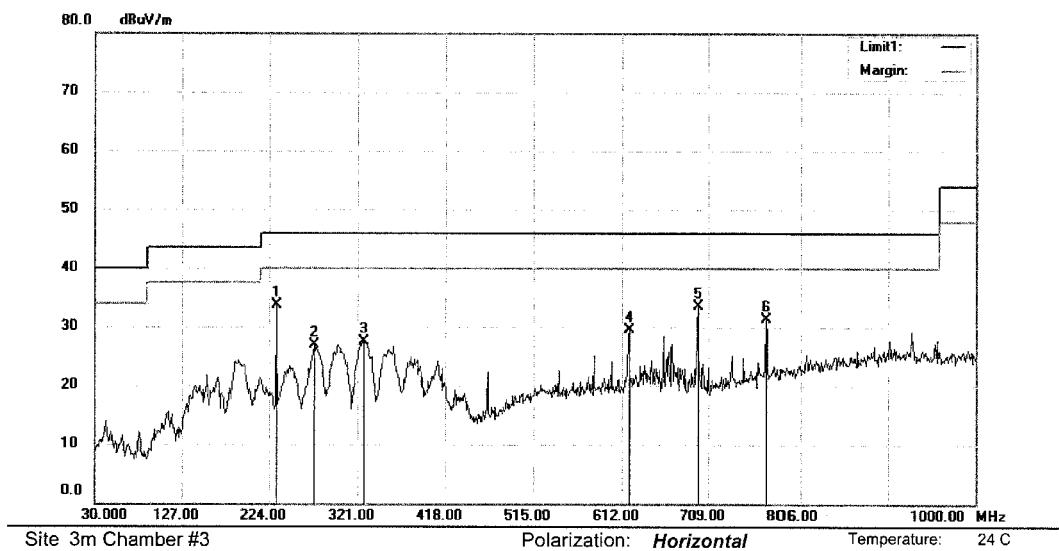
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**Radiated Emission Measurement**

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	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
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

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*Page 106 of 140*

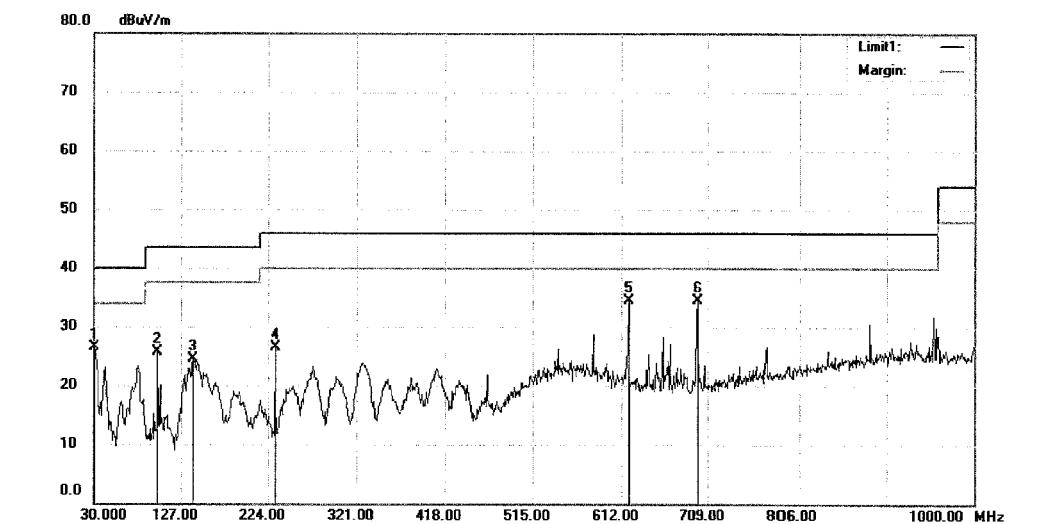
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**Radiated Emission Measurement**

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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1		30.0000	42.99	-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

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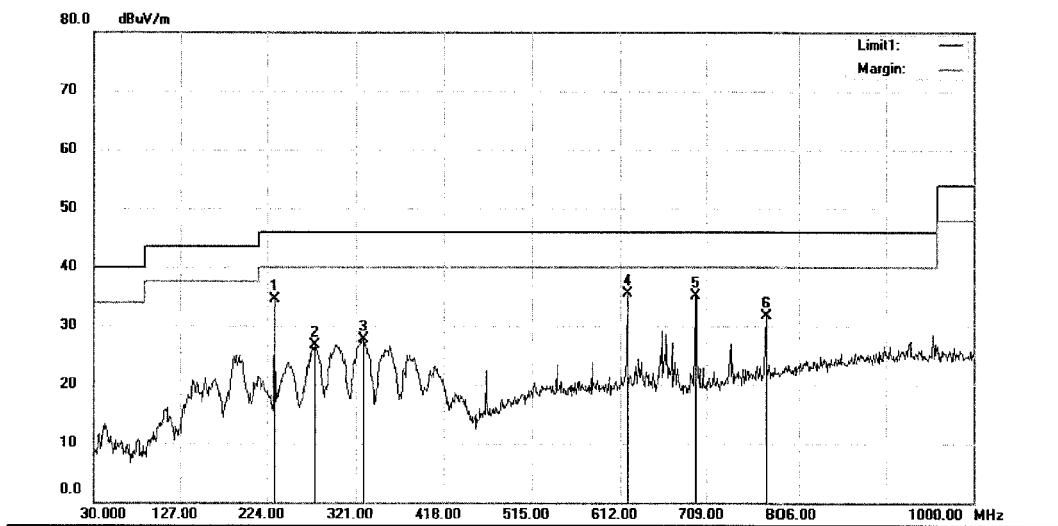
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**Radiated Emission Measurement**

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	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
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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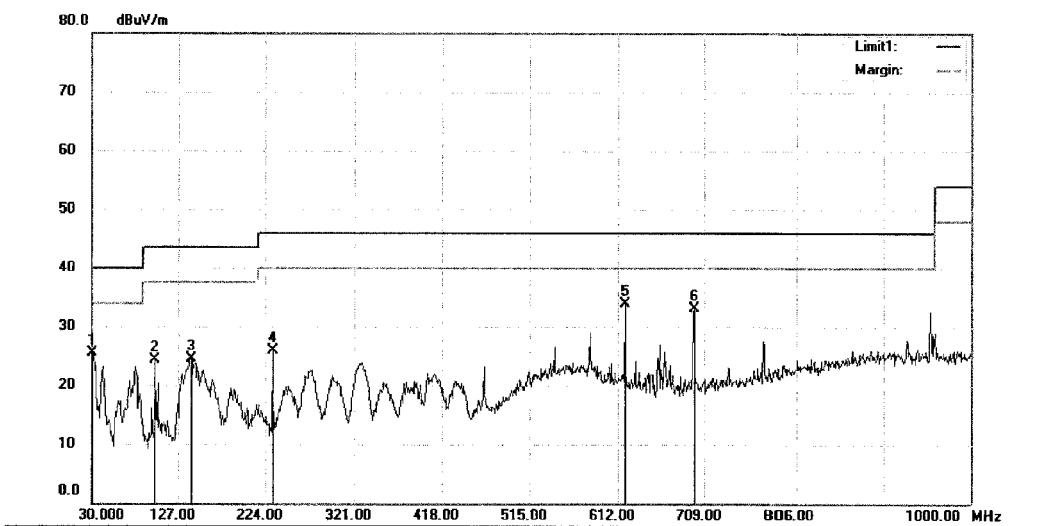
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*Access to the World*
**Radiated Emission Measurement**

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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
1		30.9700	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

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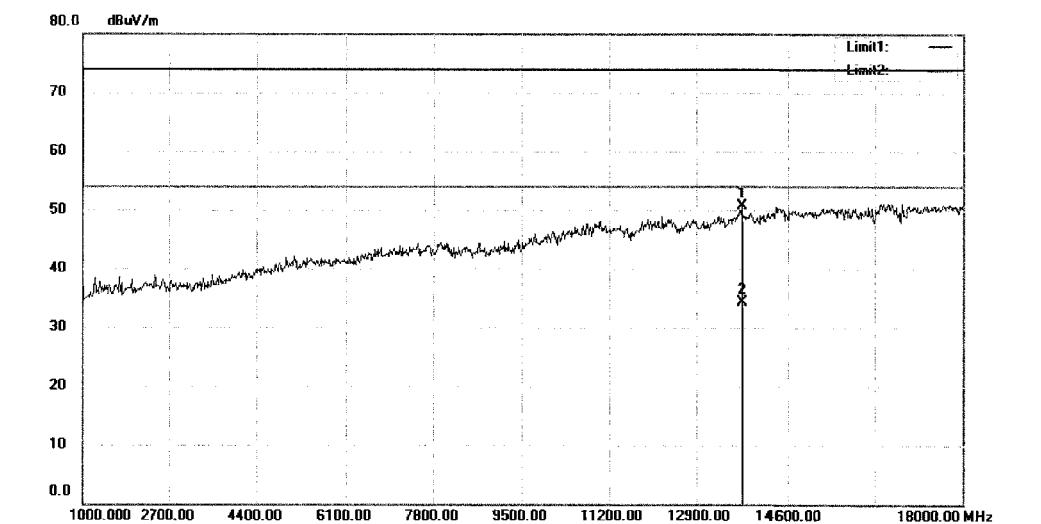
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**Radiated Emission Measurement**

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	Comment	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	
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

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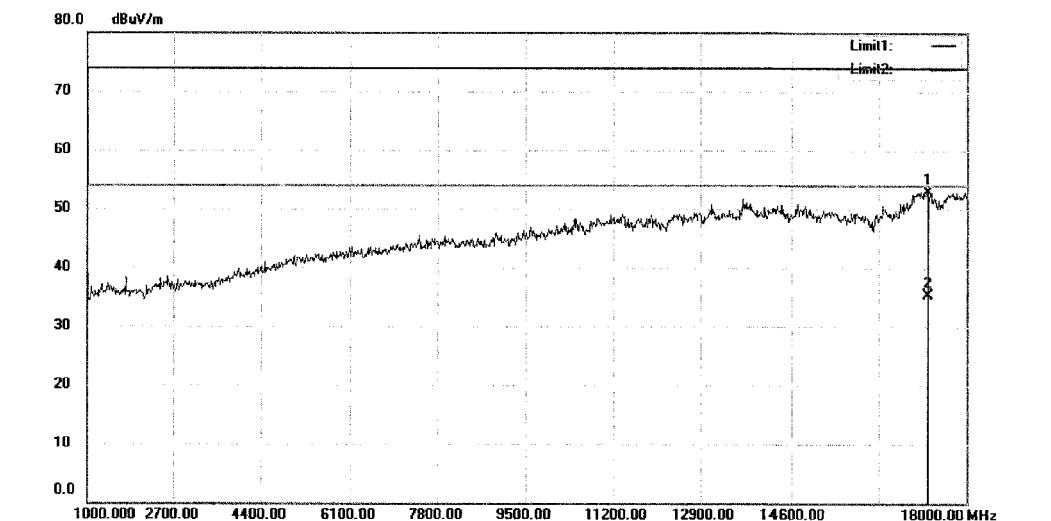
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*Access to the World*
**Radiated Emission Measurement**

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.	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		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

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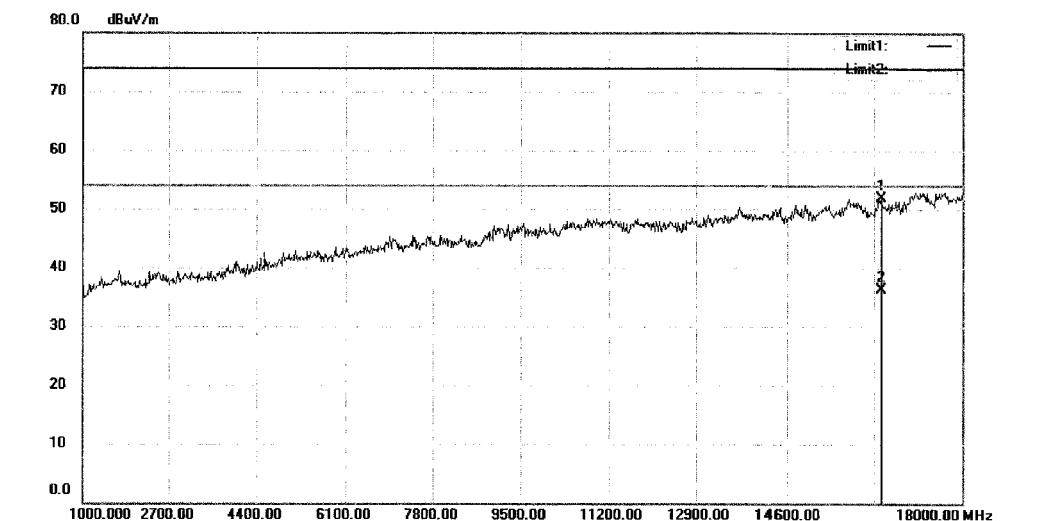
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**Radiated Emission Measurement**

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	Comment
		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

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**Prüfbericht - Nr.: 17052720 001**  
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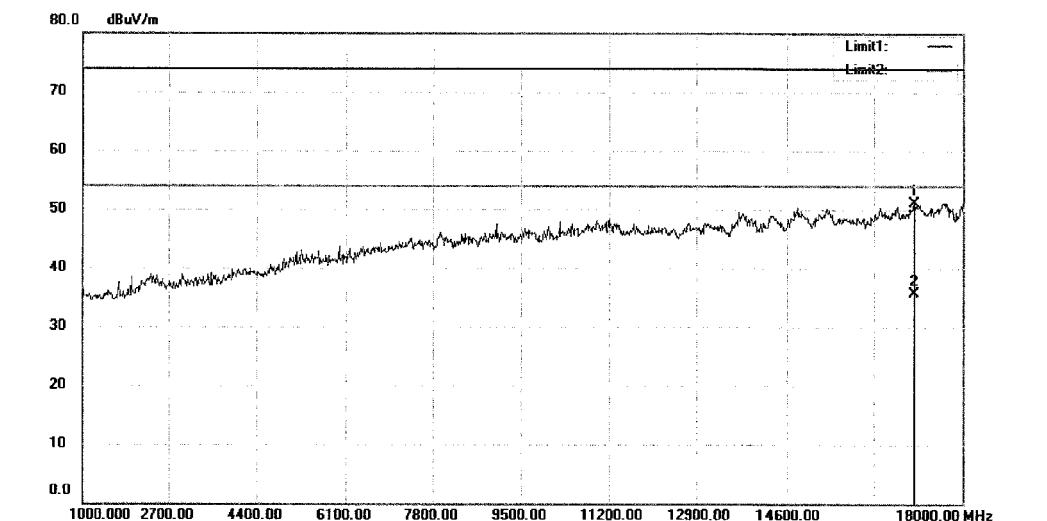
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**Radiated Emission Measurement**

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	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
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

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**Prüfbericht - Nr.: 17052720 001**  
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*Page 113 of 140*

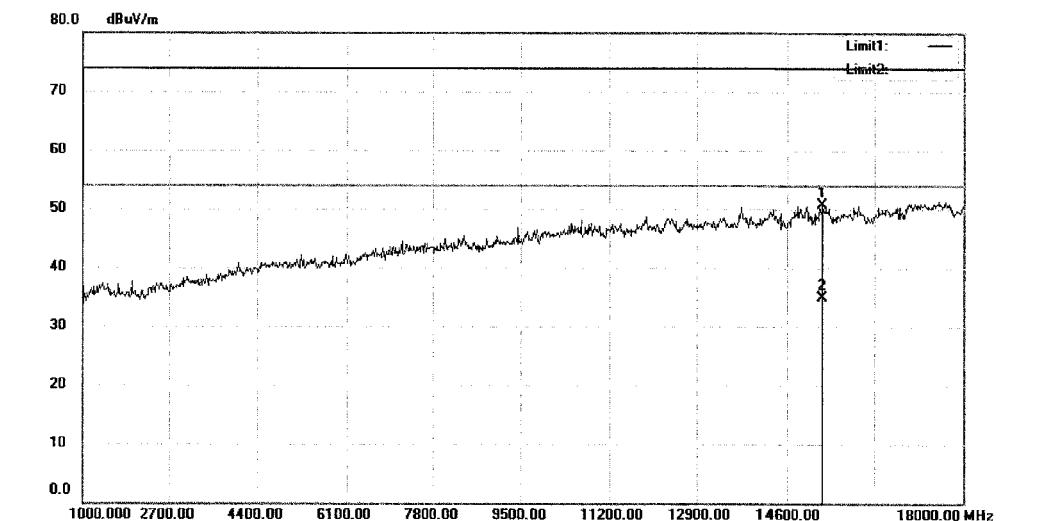
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*Access to the World*
**Radiated Emission Measurement**

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.	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		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

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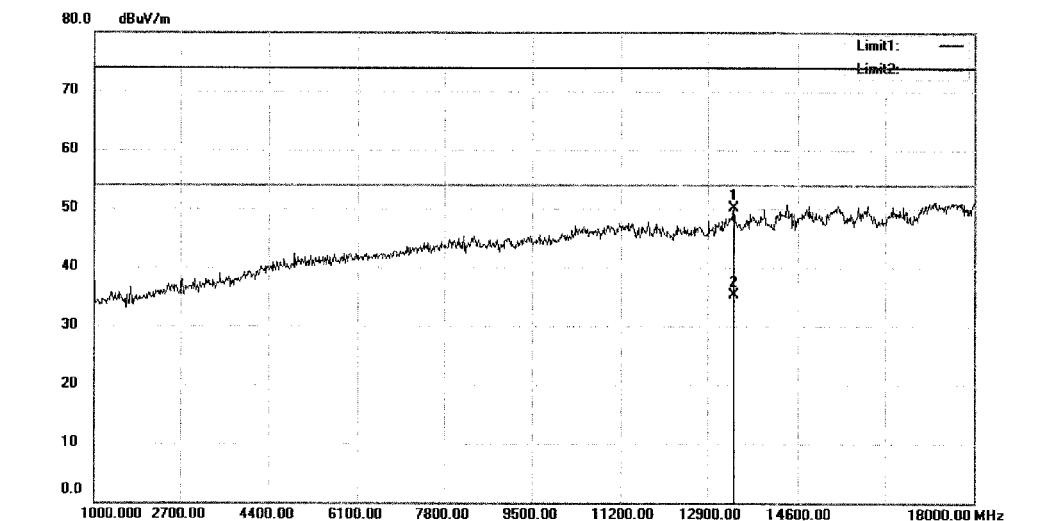
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*Access to the World*
**Radiated Emission Measurement**

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	Comment
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

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**Prüfbericht - Nr.: 17052720 001**  
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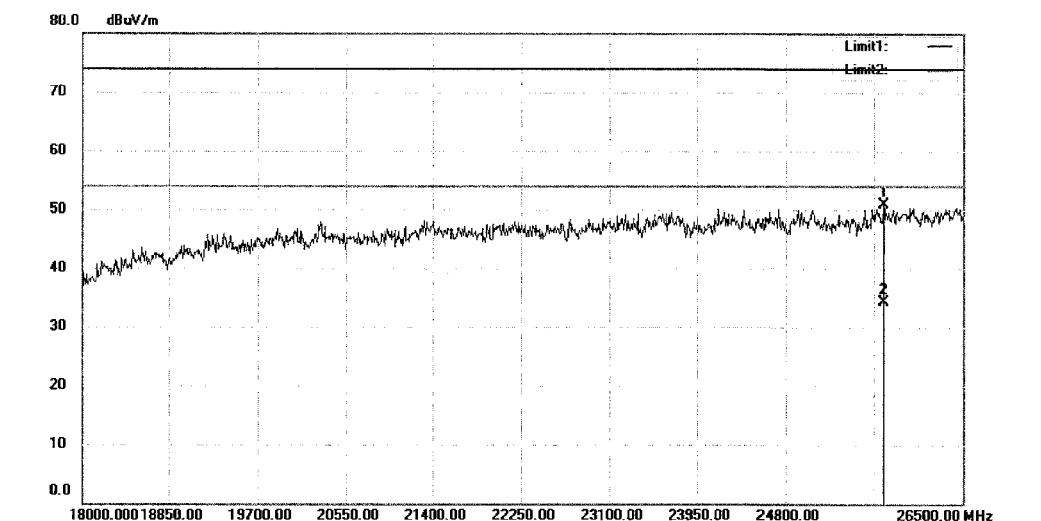
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**Radiated Emission Measurement**

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	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
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

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**Prüfbericht - Nr.: 17052720 001**  
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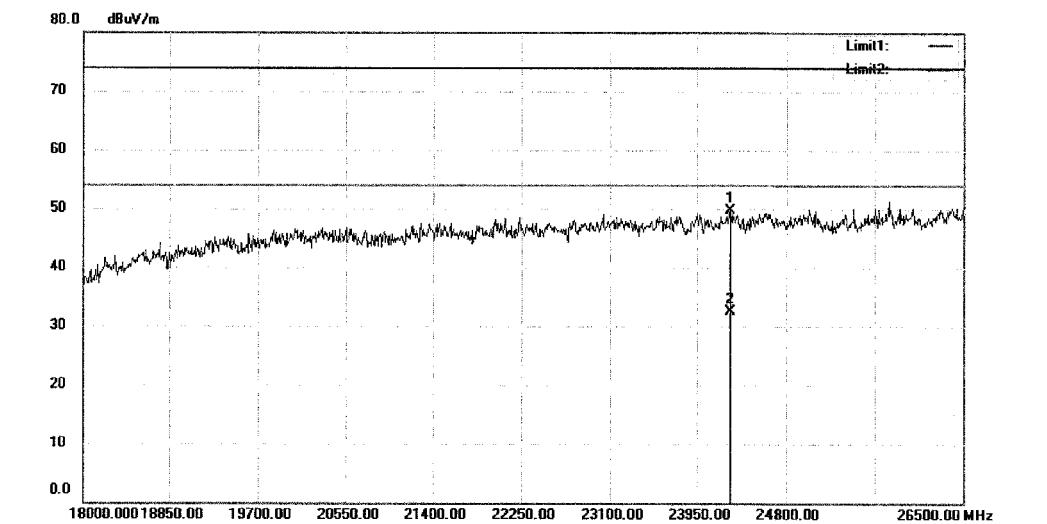
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*Access to the World*
**Radiated Emission Measurement**

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	Comment
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

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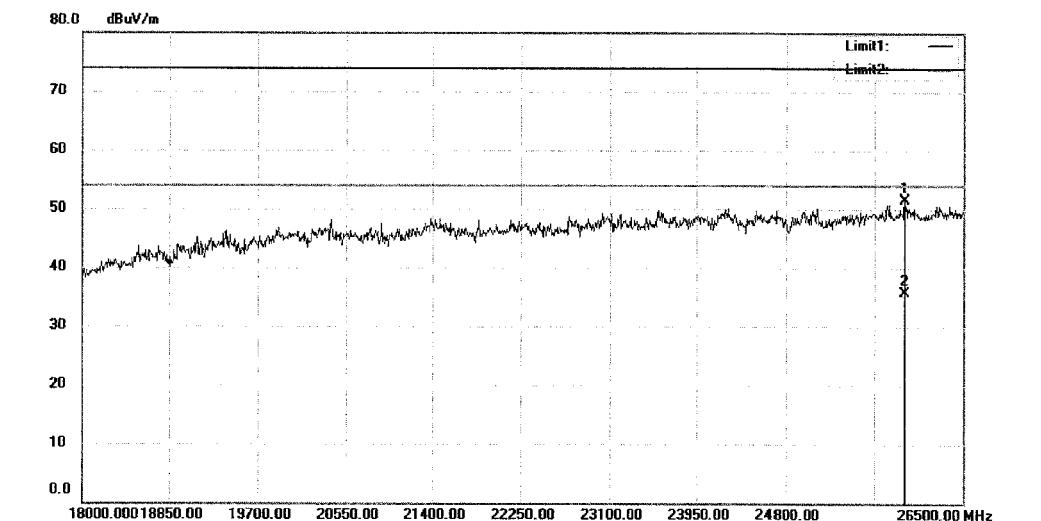
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**Radiated Emission Measurement**

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	Detector	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

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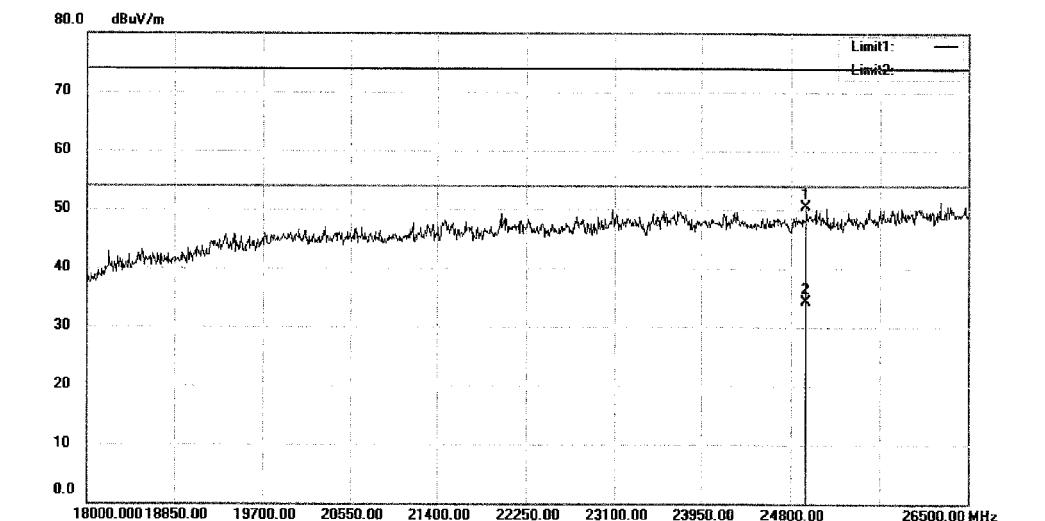
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**Radiated Emission Measurement**

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	Comment
		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

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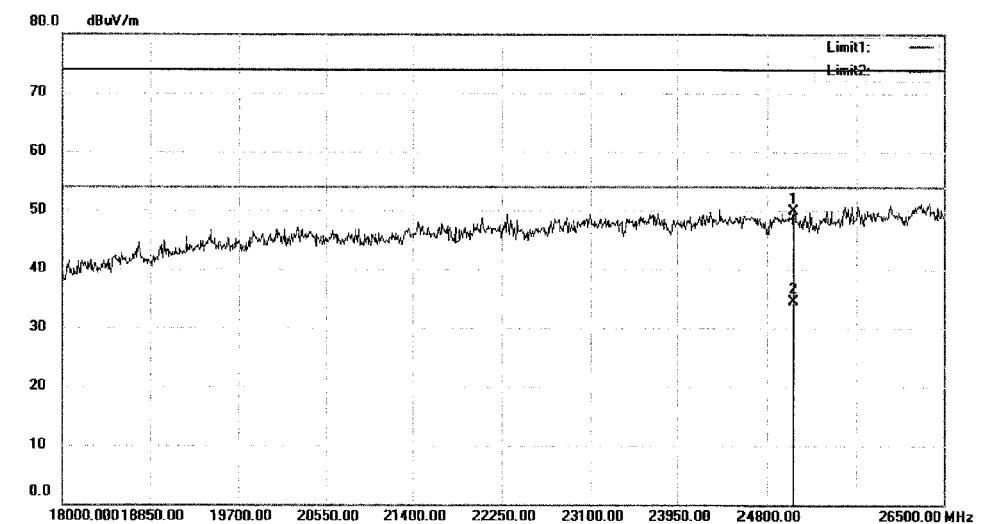
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*Access to the World*
**Radiated Emission Measurement**

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	Detector	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

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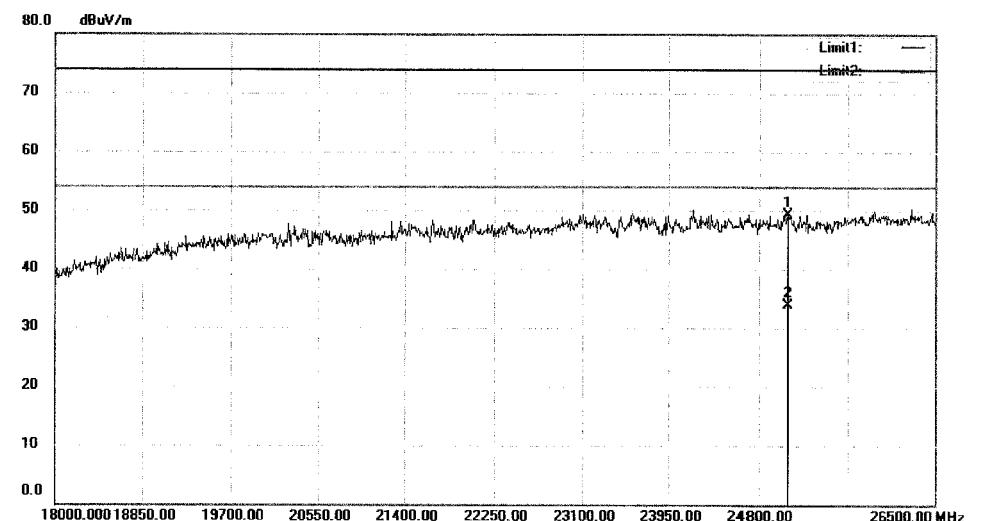
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**Radiated Emission Measurement**

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.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
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**  
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**Test Plot of Band Edge of Bluetooth Low Energy mode**

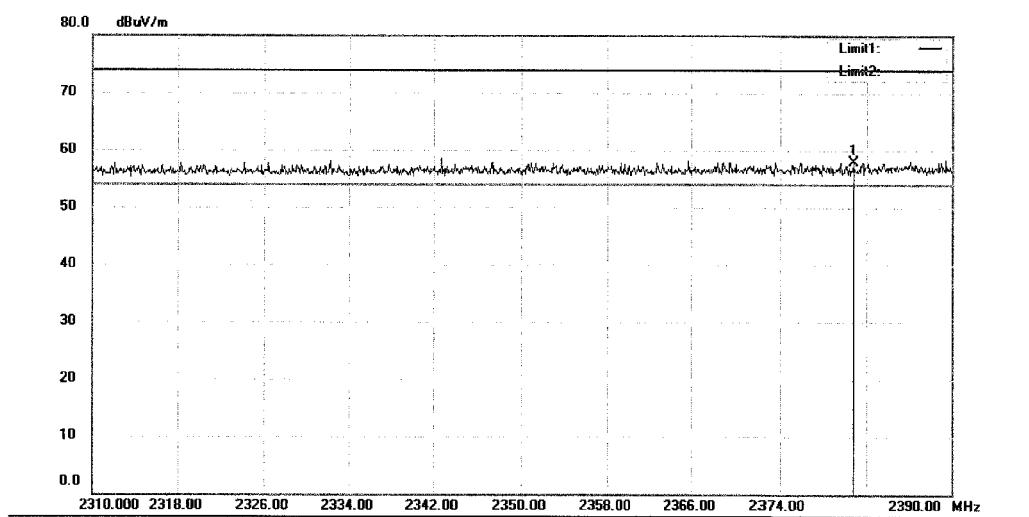
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**Radiated Emission Measurement**

File :TUV 9

Data :#405

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	dB	Detector	cm	degree	Comment
1	*	2380.720	27.63	30.23	57.86	74.00	-16.14	peak		

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

Operator: KK

File :TUV 9\Data :#405

Page: 1

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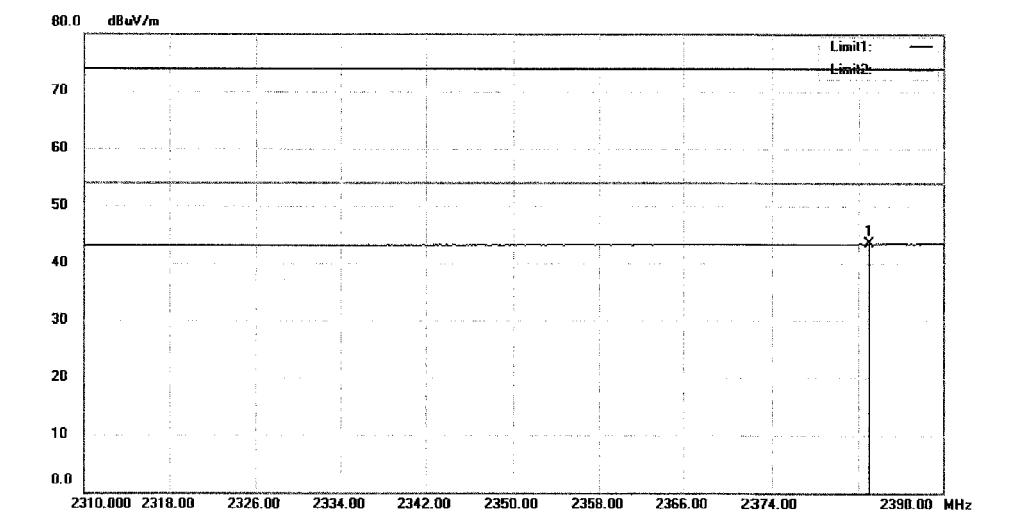
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*Access to the World*
**Radiated Emission Measurement**

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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
								Detector		
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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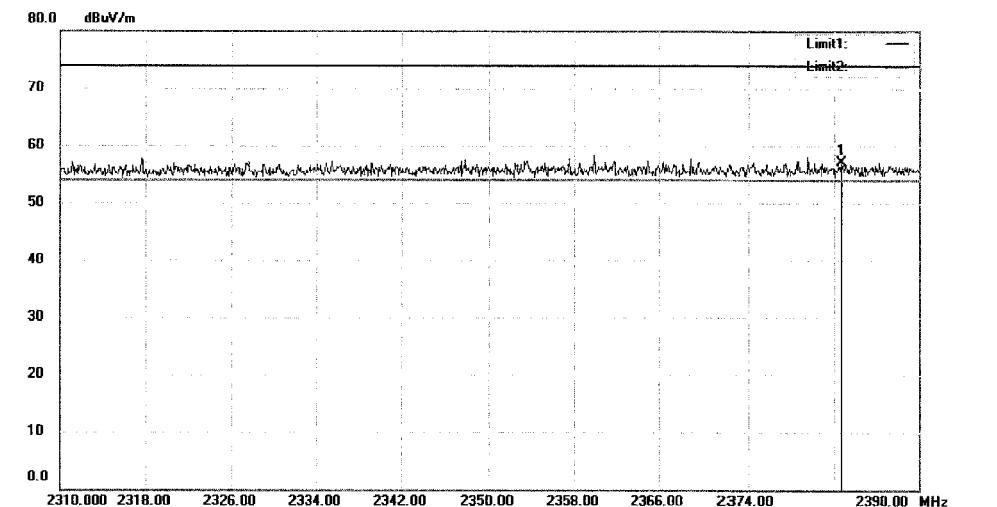
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*Access to the World*
**Radiated Emission Measurement**

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	Detector	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

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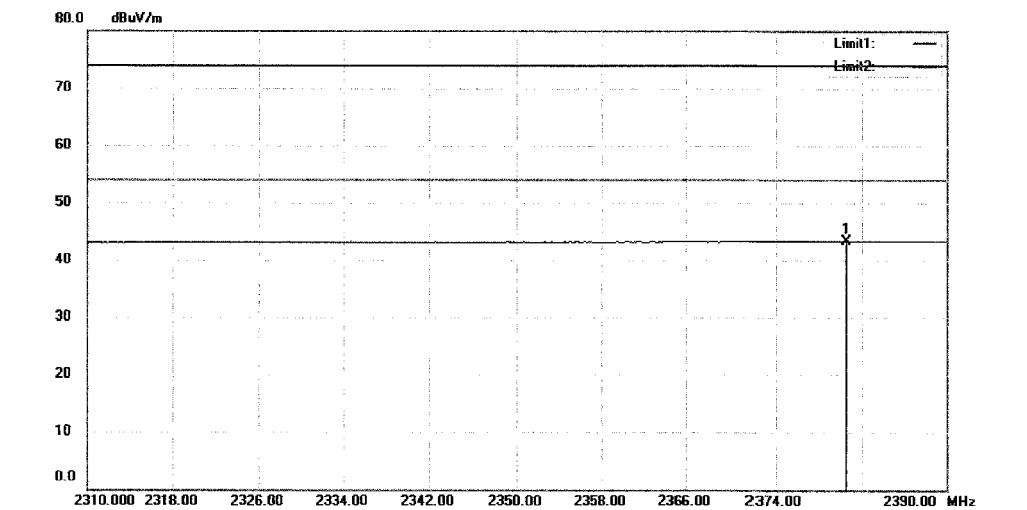
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*Access to the World*
**Radiated Emission Measurement**

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	dB	Detector	cm	degree	Comment
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

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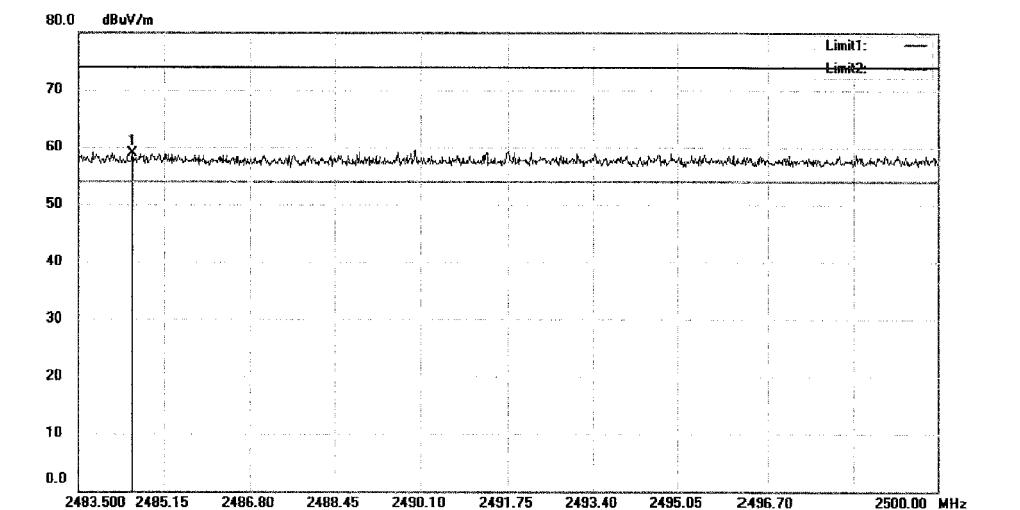
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*Access to the World*
**Radiated Emission Measurement**

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	Correct	Measure-	Limit	Over	Antenna	Table	
			Level	Factor	ment					
		MHz	dBuV	dB	dBuV/m	dB	Detector	cm	degree	Comment
1	*	2484.539	28.24	30.71	58.95	74.00	-15.05	peak		

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

Operator: KK

File :TUV 9!Data .#407

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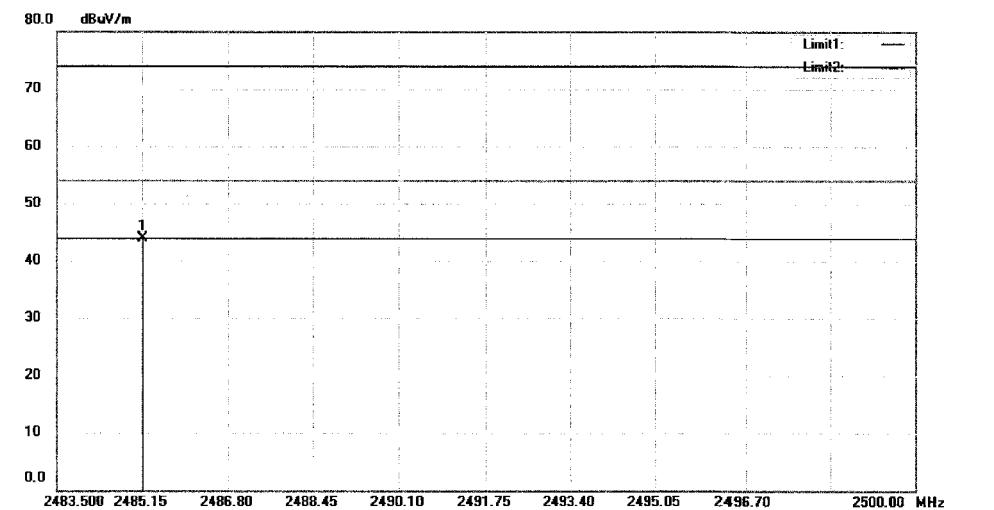
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**Radiated Emission Measurement**

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	Detector	cm	degree	Comment
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

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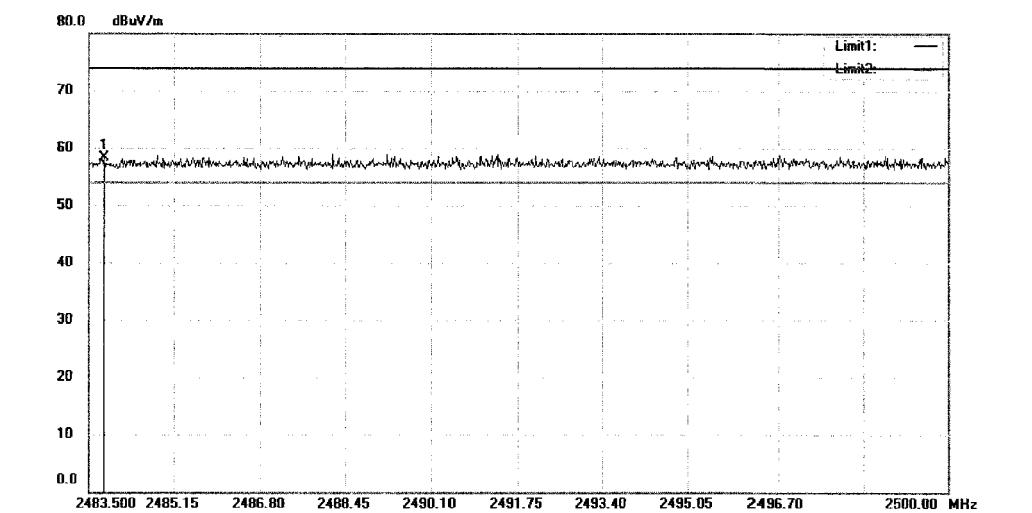
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**Radiated Emission Measurement**

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	Detector	cm degree	Comment
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

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**Prüfbericht - Nr.: 17052720 001**  
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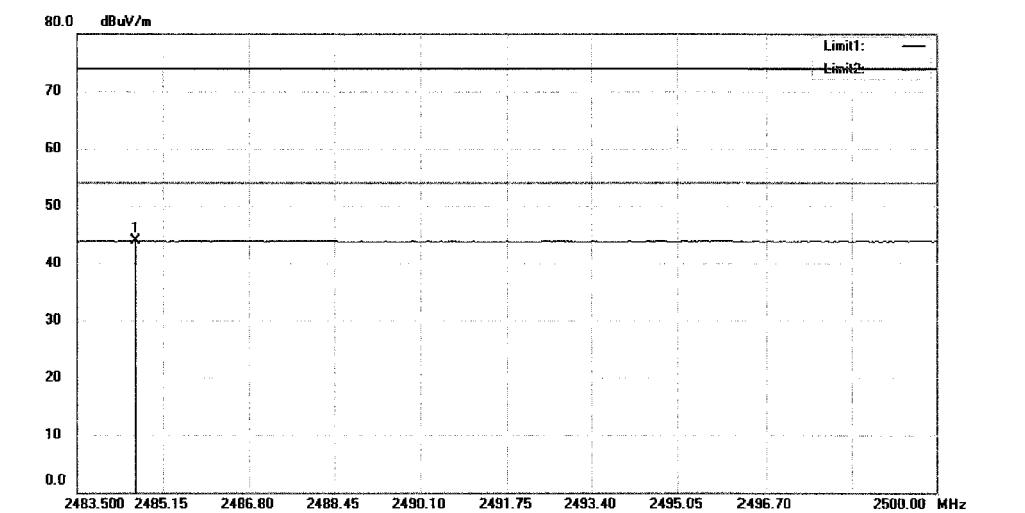
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**Radiated Emission Measurement**

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	dB	Detector	cm	degree	Comment
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

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**Prüfbericht - Nr.: 17052720 001**  
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### 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	:	≥ 25kHz 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	≥ 25kHz or two-thirds of 20dB bandwidth	Pass
Adjacency Channel	2403		≥ 25kHz or two-thirds of 20dB bandwidth	
Mid Channel	2441	1.000	≥ 25kHz or two-thirds of 20dB bandwidth	Pass
Adjacency Channel	2442		≥ 25kHz or two-thirds of 20dB bandwidth	
High Channel	2479	1.000	≥ 25kHz or two-thirds of 20dB bandwidth	Pass
Adjacency Channel	2480		≥ 25kHz or two-thirds of 20dB bandwidth	

**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 :  $\geq 15$  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	$\geq 15$	Pass

**Prüfbericht - Nr.: 17052720 001**  
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### 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  
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### 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  
Kind of test site : Table 3 of RSS-Gen  
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.

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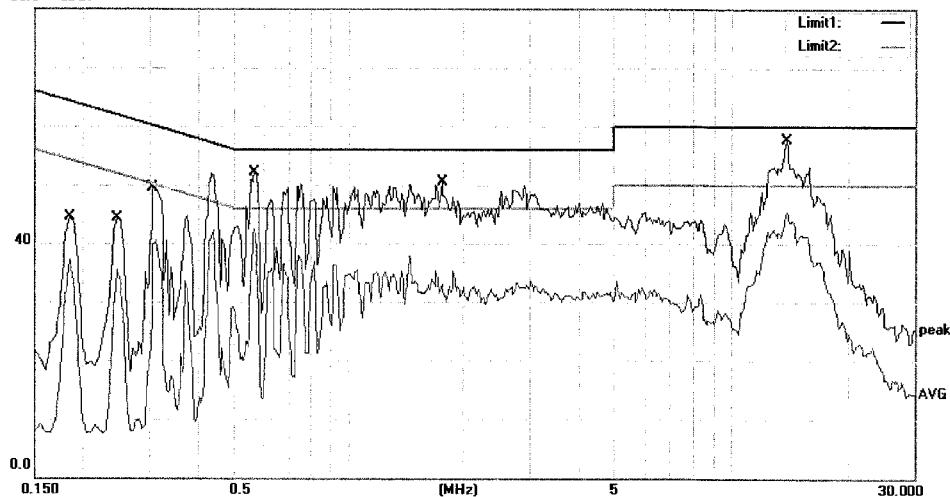

*Access to the World*
**Conducted Emission Measurement**

File :TUV

Data :#848

Date: 2015/09/23

B0.0 dBuV



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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dB	Over Detector	Over	
								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 :TUV\Data :#848

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*Test Report No.*

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Shenzhen EMTEK Co., Ltd.  
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[www.emtek.com](http://www.emtek.com) Tel: +86-755-2695 4280 Fax: +86-755-2695 4282



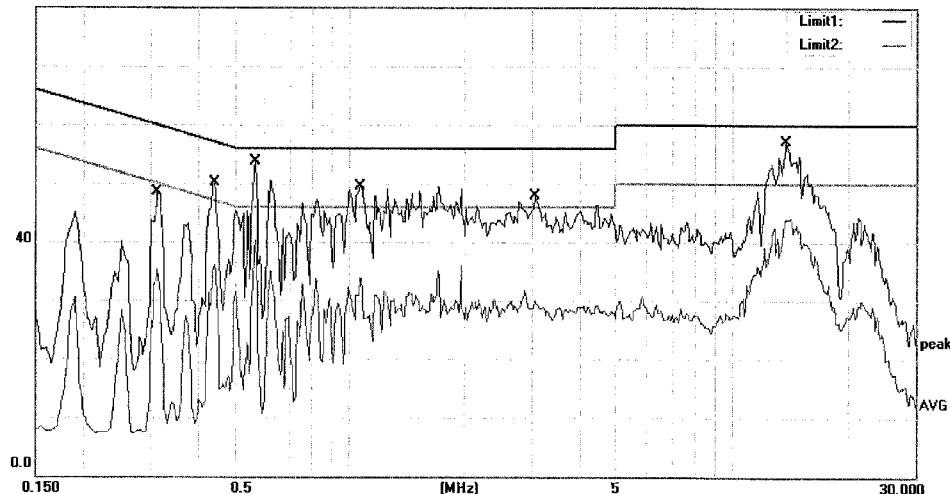
### Conducted Emission Measurement

File :TUV

Data #:847

Date: 2015/09/23

80.0 dBuV



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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over 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 :TUV\Data #:847

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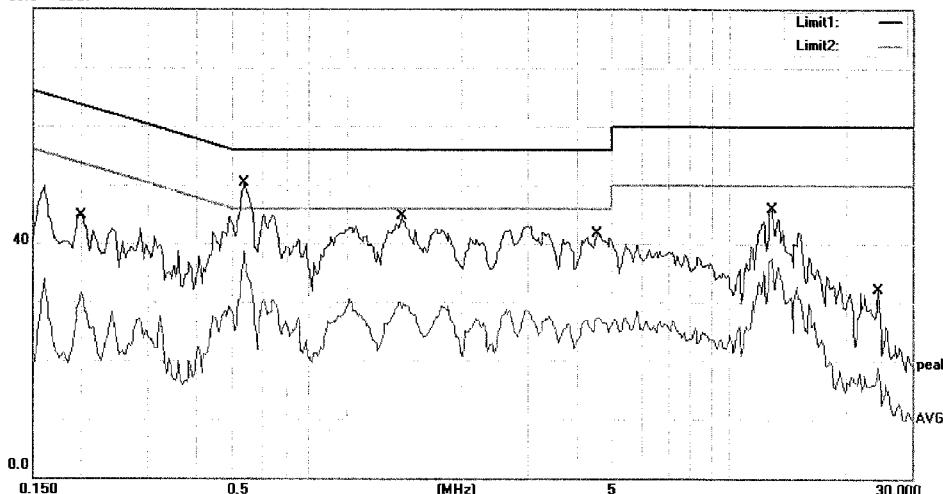

**Conducted Emission Measurement**

File :TUV

Data :#828

Date: 2015/09/23

80.0 dBuV



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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Over	
								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 :TUV\Data :#828

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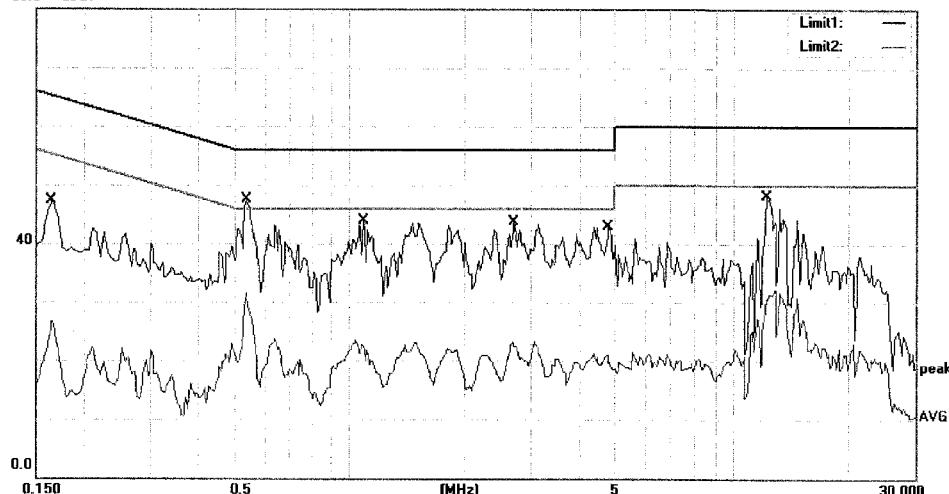
### Conducted Emission Measurement

File :TUV

Data :#829

Date: 2015/09/23

80.0 dBuV



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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Over	
								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		

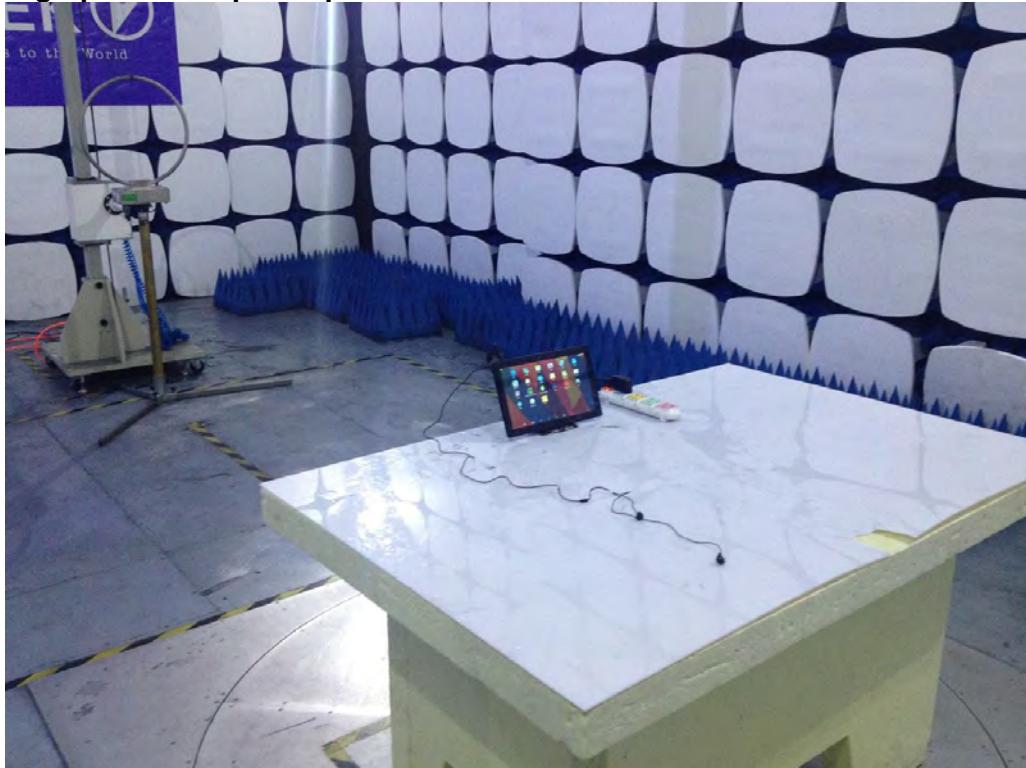
\*:Maximum data    x:Over limit    !:over margin      Comment: Factor build in receiver.      Operator: CSL

File :TUV\Data .#829

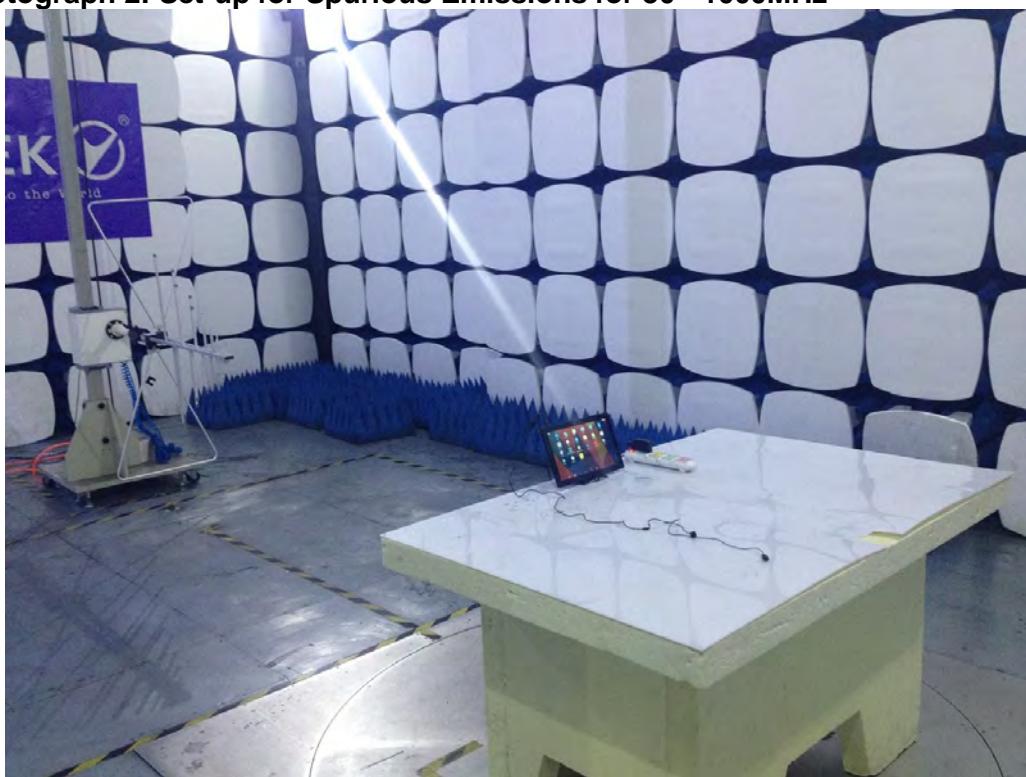
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## 6. Photographs of the Test Set-Up

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



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



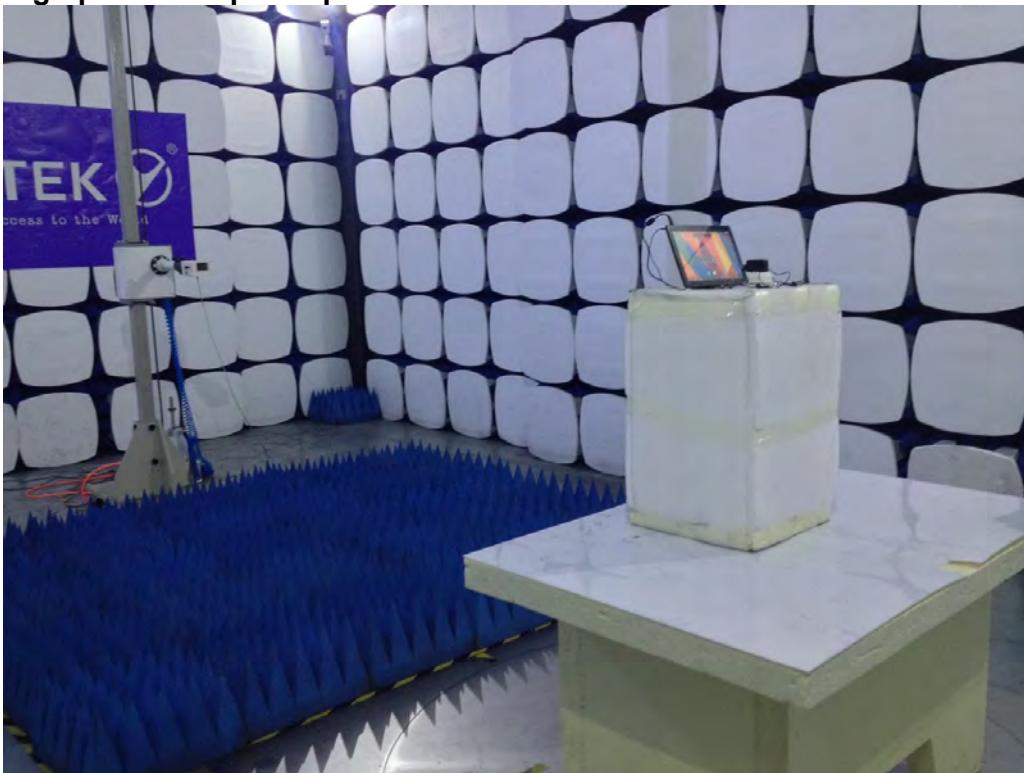
**Prüfbericht - Nr.: 17052720 001**  
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**Photograph 3: Set-up for Spurious Emissions for 1 - 18GHz**



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



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**Photograph 5: Set-up for Conducted Emission**



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