

Prüfbericht-Nr.: <i>Test report no.:</i>	ULR-TC568821300000017F	Auftrags-Nr.: <i>Order no.:</i>	166506461 0010	Seite 1 von 57 Page 1 of 57
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	NA	Auftragsdatum: <i>Order date:</i>	2020-11-18	
Auftraggeber: <i>Client:</i>	Analog Devices Incorporated 9106, Norwood, Massachusetts, United States, 02062-9106			
Prüfgegenstand: <i>Test item:</i>	Cardio Pulmonary Management system			
Bezeichnung .: <i>Identification .:</i>	ADCP1100-BS	Serien -Nr.: <i>Serial no.:</i>	12345678901234567993	
Auftrags-Inhalt: <i>Order content:</i>	FCC Testing & Issue of Grant			
Prüfgrundlage: <i>Test specification:</i>	FCC Part 2, Part 22H, Part 24E, Part 27 & Part 90			
Wareneingangsdatum: <i>Date of sample receipt:</i>	2020.12.21			
Prüfmuster-Nr.: <i>Test sample no:</i>	A002973700-003			
Prüfzeitraum: <i>Testing period:</i>	2020-12-21 - 2021-01-08			
Ort der Prüfung: <i>Place of testing:</i>	Wireless Test Laboratory			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (India) Pvt. Ltd, #27/B, 2nd Cross Road, Electronic City Phase-1, Bengaluru-560100, India. FCC Test site registration number: 496599 ISED Test site registration number: 3466E-1			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von: <i>tested by:</i>	genehmigt von: <i>authorized by:</i>			
Datum: <i>Date:</i> 2021-01-06	Ausstellatum: <i>Issue date:</i> 2021-04-01			
Stellung / Position: Rajesh M Gowda Engineer	Stellung / Position: Mahammadgouse Kaladagi Assistant Manager			
Sonstiges / Other:	FCC ID: 2AZELADCP1P0BS			
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>	Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>			
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet * Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested				
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

V05

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 2 von 57
Page 1 of 57

TEST SUMMARY

Test Item	FCC Clause	Results
Conducted Output Power	§ 2.1046 § 24.232 § 27.50	Pass
Field strength of spurious radiation	§ 2.1053 § 22.917 § 24.238 § 27.53 § 90.691	Pass
Frequency Stability	§ 2.1055 § 22.355 § 24.235 § 27.54 § 90.213	N/T
Emission Bandwidth and Occupied Bandwidth	§ 2.1049 § 90.209	N/T
Band Edge	§ 22.917 § 24.238 § 27.53 § 90.691	N/T
Conducted Spurious Emissions	§ 2.1051 § 22.917 § 24.238 § 27.53 § 90.691	N/T
Conducted Emission	§ 15.207	N/A

Note:

1. N/T: Not Tested
2. N/A: Not Applicable
3. **CPM Base Station** product uses certified RF modules with FCC ID: N7NWP77B hence the above mentioned test cases are excluded.
4. This device is operated with CPM wearable model number (ADCP1100-WB), with FCC ID : 2AZELADCP1P0WB. However testing is performed as stand-alone configuration without using CPM wearable device.

Product Category: Electronics Testing
Test Discipline: EMC Test Facility

Table of Contents

1	GENERAL REMARKS	4
1.1	Attachments.....	4
2	TEST SITES.....	5
2.1	Testing Facilities.....	5
2.2	List of Test and Measurement Instruments.....	5
3	GENERAL PRODUCT INFORMATION	6
3.1	Product Function and Intended Use.....	6
3.2	Ratings and System Details of Equipment under Test.....	6
3.3	Measurement Uncertainty:	7
4	TEST SET-UP AND OPERATION MODE	8
4.1	Principle of Configuration Selection	8
4.2	Operation and Software of the EUT	8
4.3	Test modes – data rates and modulations	8
4.4	Special Accessories and Auxiliary Equipment	8
4.5	Countermeasures to achieve EMC Compliance	8
5	Operational Description of the product	11
6	Block Diagram of the product.....	11
7	TEST METHODOLOGY.....	12
7.1	Radiated Emission Test.....	12
7.1.1	Test Setup Configuration.....	12
8	TEST RESULTS.....	15
8.1	Conducted Output Power	15
8.2	Field Strength of Spurious Radiation.....	32
9	LIST OF TABLES	57

1 GENERAL REMARKS

1.1 Attachments

All attachments are part of this test report and are issued in separate document

1: TEST SETUP PHOTOS

2: EUT EXTERNAL PHOTOS

3: EUT INTERNAL PHOTOS

4: FCC LABEL AND LABEL LOCATION

5: BLOCK DIAGRAM

6: SPECIFICATION OF EUT

7: SCHEMATIC DIAGRAM

8: BILL OF MATERIAL

9: USER MANUAL

10: MAXIMUM PERMISSIBLE EXPOSURE INFORMATION

2 TEST SITES

2.1 Testing Facilities

1. TÜV Rheinland (India) Pvt.Ltd.,
27/B, 2nd Cross,
ElectronicCityPhase1
Bangalore – 560 100,
India
2. TUV Rheinland (India) Pvt.Ltd.,
108 , Beside ISBR Business School,
Electronic city Phase I
Bangalore - 560 100.
India

2.2 List of Test and Measurement Instruments

Table 1: List of test and measurement instruments

Equipment	Manufacturer	Model Name	Serial Number	Firmware Versions	Calibration Due Date	Periodicity	Test Facility
EMI Receiver	Rohde & Schwarz	ESU 40	100288	4.43 SP3	09.06.2021	Yearly	Radiated Spurious Emission
Active loop antenna	Schwarzbeck	FMZB 1519 B	1519B-00111	-	28.03.2021	Yearly	
Baloon and Biconical Antenna	Schwarzbeck	VHBB-9124 / BBA-9106	01028	-	02.09.2021	Yearly	
Log Periodic Antenna	Schwarzbeck	VUSLP-9111B	9111B-111	-	31.08.2021	Yearly	
Horn Antenna	Schwarzbeck	BBHA 9120 D	9120D-1944	-	28.02.2021	Yearly	
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA 9170-0904	-	29.02.2021	Yearly	
Semi Anechoic Chamber	Frankonia	-	-	-	-	-	
Fully Anechoic Chamber	Albatross	-	-	-	-	-	
Power Splitter	Mini Circuits	ZN4PD1-63HP-S+	SF0153 01638	-	01.10.2021	Yearly	Antenna - Port Measurements
USB Wideband Power Sensor	Boonton	55006	10231	-	09.01.2021	Yearly	

Table 2: Instrument application Software versions

SL. No.	Test Type	Application software	Version
1	Radiated spurious emission measurement in SAC	EMC 32	10.60.00
2	Radiated spurious emission measurement in FAC	EMC 32	10.60.00

3 GENERAL PRODUCT INFORMATION

3.1 Product Function and Intended Use

The ADI At-Home CPM (Cardiopulmonary Management) System is intended for adults undergoing monitoring for cardiopulmonary conditions under the direction of a licensed medical professional to measure, record, and periodically transmit physiological data.

3.2 Ratings and System Details of Equipment under Test

Table 3: Ratings and System Details as declared by Client*

EUT operating radio protocols	LTE CAT M1 ,GSM	
	LTE CAT M1	GSM
Operating Frequency Bands	Band 2: UL 1850MHz to 1910MHz	Band 850: UL 824.2MHz to 848.8MHz
	Band 4: UL 1710MHz to 1755MHz	
	Band 13: UL 777MHz to 787MHz	Band 1900: UL 1850.2MHz to 1909.8MHz
	Band 12: UL 699MHz to 716MHz	
	Band 26: UL 814MHz to 849MHz	
Modulation	QPSK & 16 QAM	GPRS & EGPRS
Power class	LTE-M 3 UE (23 dBm)	
Number of antennas	1 (Taoglas FXUB66)	
Antenna gain & antenna type	Peak gain of 0.2dBi (600-960MHz) & 2dBi (1710-1990MHz) Taoglas FXUB66 flexible wideband antenna	
Operating voltage range	5VDC(AC to DC Adapter)	
Environmental conditions	Temperature 0-40 Degree C, RH 30-95% Pressure 700-1060hpa, IP42	
Dimensions (LxWxH)	5.08x36.83x28.57	

****Note:** The transmitter used in this product support LTE NB IoT bands, but are disabled with software And not used by the product, hence testing for LTE NB IoT bands are excluded.

***Disclaimer:**

The information/data is supplied by the client and the same is considered to arrive at the final value. Any changes made apart from the specified specification, can directly impact on the tests results. Refer the products user manual for more details.

3.3 Measurement Uncertainty:

Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k = 2$

Table 4: Measurement Uncertainty

Parameter	Uncertainty
RF output power, conducted	± 0.51 dB
Power Spectral Density, conducted	± 0.85 dB
Unwanted Emissions, conducted	± 2.58 dB
SAC, radiated measurement	± 3.67 dB
FAC, radiated measurement	± 4.95 dB
Temperature	± 3 °C
Supply Voltages	± 3 %
Time	± 5 %

Note: The Listed Measurement Uncertainties are the worst-case uncertainty, for the respective test cases. Above Table is for reporting purpose only and not used in determining Final Pass/Fail verdict.

4 TEST SET-UP AND OPERATION MODE

4.1 Principle of Configuration Selection

Transmission was enabled with the help of CMW 500 on low, middle & high channels for LTE and GSM as mentioned in below table

4.2 Operation and Software of the EUT

EUT Firmware name (FVIN) : adi_base_station_v1_80_15_win
EUT Firmware version : Ver 15
Hardware Name(HVIN): ADCP1100-BS
Hardware Version: 057886 D

4.3 Test modes – data rates and modulations

Radiated spurious emissions tests were performed and reported only for EUT worst case operating modes

4.4 Special Accessories and Auxiliary Equipment

- Adaptor

4.5 Countermeasures to achieve EMC Compliance

- None

Table 5: TUV Sample identification details

Samples used for Testing	S/N Number
Antenna port measurement	A002973700-003
Radiated mode test	A002973700-003

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 9 von 57
Page 1 of 57

Table 6: Mode of Operation

LTE CAT M1 Band 2						
Channel Bandwidth	1.4MHz		3MHz		5MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low Channel	18607	1850.7	18615	1851.5	18625	1852.5
Mid Channel	18900	1880.0	18900	1880.0	18900	1880.0
High Channel	19913	1909.3	19185	1908.5	19175	1907.5
Channel Bandwidth	10MHz		15MHz		20MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low Channel	18650	1855.0	18675	1857.51	18700	1860.0
Mid Channel	18900	1880.0	18900	1880.0	18900	1880.0
High Channel	19150	1905.0	19125	1902.5	19100	1900.0

LTE CAT M1Band 4						
Channel Bandwidth	1.4MHz		3MHz		5MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low Channel	19957	1710.7	19965	1711.5	19975	1712.5
Mid Channel	20175	1732.5	20175	1732.5	20175	1732.5
High Channel	20393	1754.3	20385	1753.5	20375	1752.5
Channel Bandwidth	10MHz		15MHz		20MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low Channel	20000	1715.0	20025	1717.5	20050	1720.0
Mid Channel	20175	1732.5	20175	1732.5	20175	1732.5
High Channel	20350	1750.0	20325	1747.5	20300	1745.0

LTE CAT M1 Band 12				
Channel Bandwidth	1.4MHz		3MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low Channel	23017	699.7	23025	700.5
Mid Channel	23095	707.5	23095	707.5
High Channel	23173	715.3	23165	714.5
Channel Bandwidth	5MHz		10MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low Channel	23035	701.5	23060	704.0
Mid Channel	23095	707.5	23095	707.0
High Channel	23155	713.5	23130	711.0

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 10 von 57
Page 1 of 57

LTE CAT M1 Band 13				
Channel Bandwidth	5MHz		10MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low Channel	23205	779.5	-	-
Mid Channel	23230	782.0	23230	782.0
High Channel	23255	784.5	-	-

LTE CAT M1 Band 26 sub band 1						
Channel Bandwidth	1.4MHz		3MHz		5MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low Channel	26797	814.1	26797	814.1	26797	814.1
Mid Channel	26915	819	26915	819	26915	819
High Channel	27033	823.9	27033	823.9	27033	823.9
Channel Bandwidth	10MHz		15MHz		20MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low Channel	26797	814.1	26797	814.1	-	-
Mid Channel	26915	819	26915	819	-	-
High Channel	27033	823.9	27033	823.9	-	-

LTE CAT M1 Band 26 sub band 2						
Channel Bandwidth	1.4MHz		3MHz		5MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low Channel	26797	824.7	26805	825.5	26815	826.5
Mid Channel	20175	836.5	26915	836.5	26915	836.5
High Channel	20393	848.3	27025	847.5	27015	846.5
Channel Bandwidth	10MHz		15MHz		20MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low Channel	26840	829	26865	831.5	-	-
Mid Channel	26915	836.5	26915	836.5	-	-
High Channel	26990	844	26965	841.5	-	-

Channel Bandwidth	GSM-850		GSM-1900	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low Channel	128	824.2	512	1850.2
Mid Channel	189	836.4	661	1880
High Channel	251	848.8	810	1909.8

PCB Layout

7 TEST METHODOLOGY

7.1 Radiated Emission Test

Frequency Range 9 kHz - 30 MHz

Test performed as per ANSI C63.4-2014 section 8.3

The loop Antenna was placed at 1m above the ground plane & EUT is 3 meters far from the measuring antenna. With 3m measurement distance, correction data were applied to the measured results. The test arrangement, measuring antenna guidelines and operational configurations in 8.2.1 and 8.2.2, shall be followed. The measurement antenna shall be positioned with its plane perpendicular to the ground at the Specified distance, when perpendicular to the ground plane, the lowest height of the magnetic antenna shall be 1 m above the ground and shall be positioned at the specified distance from the EUT. EUT & its associates are placed on non-conducting table of 0.8m height which is placed on the turn table, For each measurement antenna alignment, the EUT shall be rotated through 0° to 360° on a turntable. The report shall list worst case emission results, for each of the parallel & perpendicular orientations.

7.1.1 Test Setup Configuration

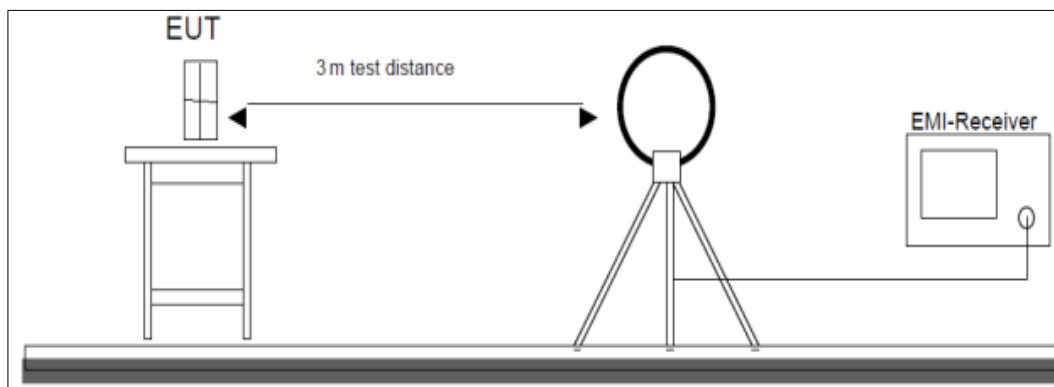


Figure 1: Frequency Range 9 kHz- 30 MHz

Frequency Range 30MHz to 10th harmonics of the highest fundamental frequency

Test performed as per ANSI C63.26-2015

ERP/EIRP Radiated Power & Radiated spurious emission test are performed as below.

All the radiated emission measurements are performed in accordance with common requirement specified in 5.5.2 and Pre-test site path loss correction factors are used to adjust the EUT emission data in place of two step substitution method (as defined in Annex B of ANSI C63.26-2015).

The equipment under test is placed on non-conductive table at 3m away from the receive antenna in accordance with above mentioned standard. Turn table is rotated through 360 degree, and receiver antenna height is varied in order to determine the level of maximum emission. The maximum emission level and position of the maximized emission is recorded with use of spectrum analyzer.

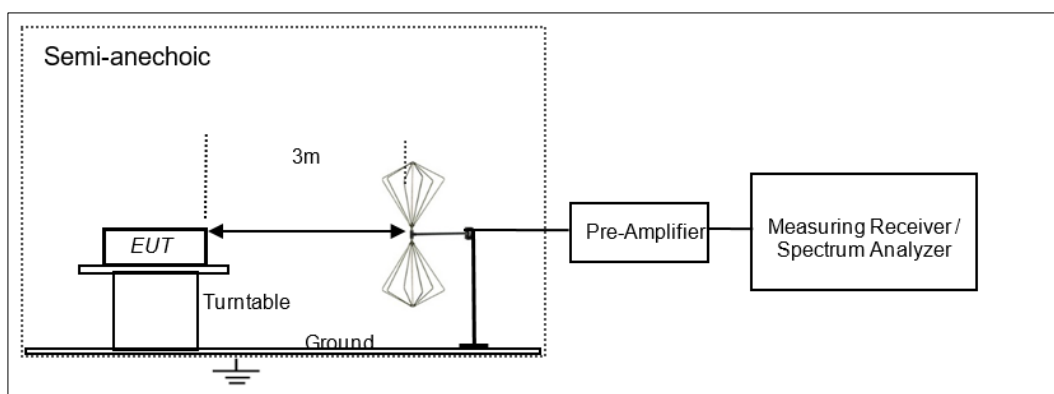


Figure 2: Frequency Range 30 MHz – 200 MHz

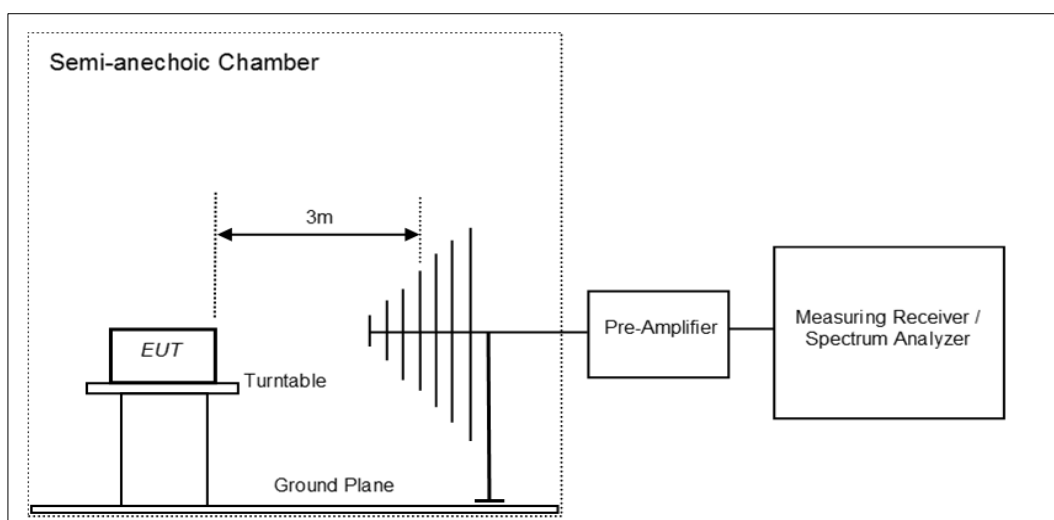


Figure 3: Frequency Range 200 MHz - 1GHz

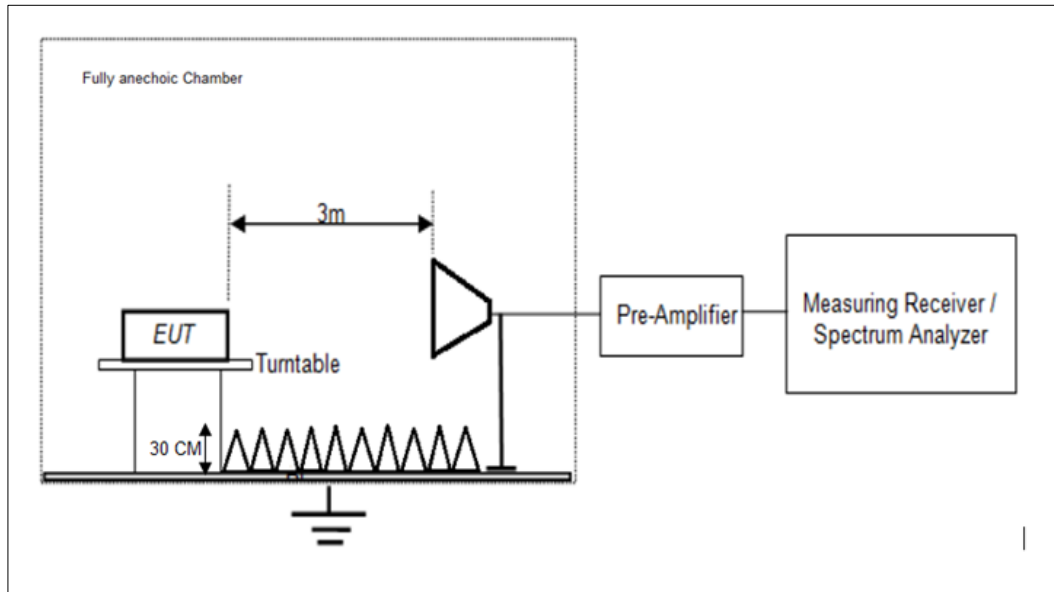


Figure 4: Frequency Range above 1 GHz

Using pre-test site path loss to determine EUT emission power:

- 1) EUT emission powers are calculated using the following equation:

$$\text{Emission Power} = \text{EUT}_{\text{Prec}} [\text{dBm EIRP}] + \text{P}_L [\text{dB}]$$

where

EUT_{Prec} = power of the emission measured at the test receiver during EUT measurements.

P_L = path loss determined on the frequency of the EUT emission or calculated using linear interpolation between site characterization frequencies.

- 2) This is the level to be compared against the regulatory limit as it is the emission power referenced back to the EUT on the test site.

8 TEST RESULTS

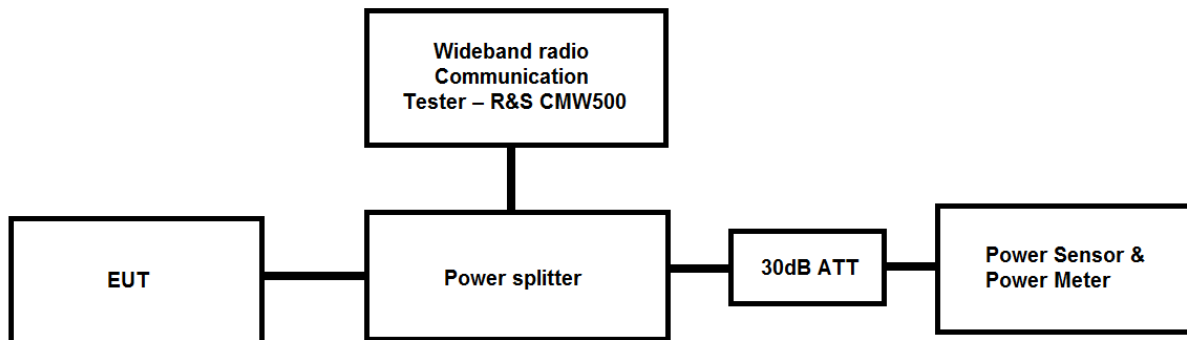
8.1 Conducted Output Power

Result

Pass

Test Specification	FCC Part §2.1046 , §24.232, §27.50
Test Method / Procedure	ANSI C63.26-2015 971168 D01 Power Meas License Digital Systems v03r01
Measurement Bandwidth(RBW)	≥ OBW
Detector function	Peak / Average
Requirement	NA

Test Setup:



Environmental conditions:

Temperature (Norm) = + 22.3 °C Voltage = 5VDC(AC to DC Adapter) Relative humidity = 62 %

KDB Guidelines applied:

Measurements were made as per section 5.1.3 in KDB 971168 D01 Power Meas License Digital Systems v03r01.

Prüfbericht - Nr.:

ULR-TC568821300000017F

Seite 16 von 57

Test Report No.:

Page 1 of 57

Test results:

Note:

1. All the losses are included during measurement and final values are mentioned in the test report.
2. Total Average Output power (dBm) = Measured Average power (dBm) + Attenuator factor (30dB) + Power Splitter (6 dB) + Cable loss (1dB)
3. ERP, EIRP = P_T (Total Average Output power in dBm) + G_T (Gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP))
4. G_T (dBd) = G_T (dBi) - 2.15 dB

Conducted Power Results:

LTE CAT M1 Band-2

Channel Bandwidth (MHz)	Modulation	Channel	Frequency (MHz)	RB Configuration		Measured Average Power (dBm)	Antenna Gain (dBi)	Average EIRP (dBm)
				Size	Offset			
1.4	QPSK	18607	1850.7	1	0	21.32	2.00	23.32
				1	5	21.33	2.00	23.33
				6	0	20.92	2.00	22.92
		18900	1880	1	0	20.96	2.00	22.96
				1	5	20.91	2.00	22.91
				6	0	21.71	2.00	23.71
		19193	1909.3	1	0	20.40	2.00	22.40
				1	5	20.36	2.00	22.36
				6	0	20.48	2.00	22.48
	16QAM	18607	1850.7	1	0	21.02	2.00	23.02
				1	5	20.85	2.00	22.85
				6	0	21.69	2.00	23.69
		18900	1880	1	0	20.37	2.00	22.37
				1	5	20.36	2.00	22.36
				6	0	21.35	2.00	23.35
		19193	1909.3	1	0	20.10	2.00	22.10
				1	5	20.13	2.00	22.13
				6	0	21.37	2.00	23.37
3	QPSK	18615	1851.5	1	0	20.27	2.00	22.27
				1	5	20.71	2.00	22.71
				6	0	20.28	2.00	22.28
		18900	1880	1	0	21.13	2.00	23.13
				1	5	21.08	2.00	23.08
				6	0	19.74	2.00	21.74
		19185	1908.5	1	0	20.52	2.00	22.52
				1	5	20.50	2.00	22.50
				6	0	21.00	2.00	23.00
	16QAM	18615	1851.5	1	0	21.21	2.00	23.21
				1	5	21.98	2.00	23.98
				6	0	21.77	2.00	23.77
		18900	1880	1	0	20.98	2.00	22.98
				1	5	20.99	2.00	22.99
				6	0	21.01	2.00	23.01
		19185	1908.5	1	0	20.43	2.00	22.43
				1	5	20.75	2.00	22.75
				6	0	22.28	2.00	24.28

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 17 von 57
Page1 of 57

Channel Bandwidth (MHz)	Modulation	Channel	Frequency (MHz)	RB Configuration		Measured Average Power (dBm)	Antenna Gain (dBi)	Average EIRP (dBm)
				Size	Offset			
5	QPSK	18625	1852.5	1	0	20.73	2.00	22.73
				1	5	20.85	2.00	22.85
				6	0	20.55	2.00	22.55
		18900	1880	1	0	21.15	2.00	23.15
				1	5	21.34	2.00	23.34
				6	0	20.83	2.00	22.83
		19175	1907.5	1	0	21.63	2.00	23.63
				1	5	21.09	2.00	23.09
				6	0	22.79	2.00	24.79
	16QAM	18625	1852.5	1	0	21.56	2.00	23.56
				1	5	21.47	2.00	23.47
				6	0	21.83	2.00	23.83
		18900	1880	1	0	21.82	2.00	23.82
				1	5	21.80	2.00	23.80
				6	0	21.60	2.00	23.60
		19175	1907.5	1	0	21.98	2.00	23.98
				1	5	21.93	2.00	23.93
				6	0	22.17	2.00	24.17
10	QPSK	18650	1855	1	0	21.31	2.00	23.31
				1	5	21.03	2.00	23.03
				6	0	21.35	2.00	23.35
		18900	1880	1	0	21.28	2.00	23.28
				1	5	21.03	2.00	23.03
				6	0	21.18	2.00	23.18
		19150	1905	1	0	21.37	2.00	23.37
				1	5	21.51	2.00	23.51
				6	0	21.13	2.00	23.13
	16QAM	18650	1855	1	0	22.39	2.00	24.39
				1	5	23.21	2.00	25.21
				6	0	22.69	2.00	24.69
		18900	1880	1	0	21.92	2.00	23.92
				1	5	21.88	2.00	23.88
				6	0	22.28	2.00	24.28
		19150	1905	1	0	22.12	2.00	24.12
				1	5	21.81	2.00	23.81
				6	0	22.56	2.00	24.56

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 18 von 57
Page 1 of 57

Channel Bandwidth (MHz)	Modulation	Channel	Frequency (MHz)	RB Configuration		Measured Average Power (dBm)	Antenna Gain (dBi)	Average EIRP (dBm)
				Size	Offset			
15	QPSK	18675	1857.5	1	0	22.03	2.00	24.03
				1	5	21.95	2.00	23.95
				6	0	21.75	2.00	23.75
		18900	1880	1	0	21.38	2.00	23.38
				1	5	21.19	2.00	23.19
				6	0	21.24	2.00	23.24
		19125	1902.5	1	0	22.20	2.00	24.20
				1	5	21.46	2.00	23.46
				6	0	21.49	2.00	23.49
	16QAM	18675	1857.5	1	0	22.07	2.00	24.07
				1	5	22.07	2.00	24.07
				6	0	22.17	2.00	24.17
		18900	1880	1	0	22.02	2.00	24.02
				1	5	21.82	2.00	23.82
				6	0	21.90	2.00	23.90
		19125	1902.5	1	0	21.70	2.00	23.70
				1	5	22.05	2.00	24.05
				6	0	22.33	2.00	24.33
20	QPSK	18700	1860	1	0	21.76	2.00	23.76
				1	5	22.13	2.00	24.13
				6	0	22.18	2.00	24.18
		18900	1880	1	0	21.67	2.00	23.67
				1	5	21.47	2.00	23.47
				6	0	21.63	2.00	23.63
		19100	1900	1	0	21.52	2.00	23.52
				1	5	21.38	2.00	23.38
				6	0	21.80	2.00	23.80
	16QAM	18700	1860	1	0	22.12	2.00	24.12
				1	5	22.05	2.00	24.05
				6	0	21.95	2.00	23.95
		18900	1880	1	0	21.99	2.00	23.99
				1	5	21.79	2.00	23.79
				6	0	22.36	2.00	24.36
		19100	1900	1	0	21.70	2.00	23.70
				1	5	21.67	2.00	23.67
				6	0	22.14	2.00	24.14

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 19 von 57
Page 1 of 57

LTE CAT M1Band-4

Channel Bandwidth (MHz)	Modulation	Channel	Frequency (MHz)	RB Configuration		Measured Average Power (dBm)	Antenna Gain (dBi)	Average EIRP (dBm)
				Size	Offset			
1.4	QPSK	19957	1710.7	1	0	19.91	2.00	21.91
				1	5	19.96	2.00	21.96
				6	0	20.25	2.00	22.25
		20175	1732.5	1	0	20.31	2.00	22.31
				1	5	20.14	2.00	22.14
				6	0	21.26	2.00	23.26
		20393	1754.3	1	0	20.13	2.00	22.13
				1	5	20.31	2.00	22.31
				6	0	21.21	2.00	23.21
	16QAM	19957	1710.7	1	0	20.27	2.00	22.27
				1	5	20.19	2.00	22.19
				6	0	20.96	2.00	22.96
		20175	1732.5	1	0	19.97	2.00	21.97
				1	5	19.96	2.00	21.96
				6	0	20.99	2.00	22.99
		20393	1754.3	1	0	20.24	2.00	22.24
				1	5	20.15	2.00	22.15
				6	0	20.98	2.00	22.98
3	QPSK	19965	1711.5	1	0	20.59	2.00	22.59
				1	5	21.15	2.00	23.15
				6	0	20.47	2.00	22.47
		20175	1732.5	1	0	20.97	2.00	22.97
				1	5	21.17	2.00	23.17
				6	0	20.63	2.00	22.63
		20385	1753.5	1	0	22.42	2.00	24.42
				1	5	21.14	2.00	23.14
				6	0	20.82	2.00	22.82
	16QAM	19965	1711.5	1	0	21.34	2.00	23.34
				1	5	21.92	2.00	23.92
				6	0	21.89	2.00	23.89
		20175	1732.5	1	0	21.12	2.00	23.12
				1	5	20.96	2.00	22.96
				6	0	21.89	2.00	23.89
		20385	1753.5	1	0	22.00	2.00	24.00
				1	5	22.47	2.00	24.47
				6	0	22.78	2.00	24.78

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 20 von 57
Page 1 of 57

Channel Bandwidth (MHz)	Modulation	Channel	Frequency (MHz)	RB Configuration		Measured Average Power (dBm)	Antenna Gain (dBi)	Average EIRP (dBm)
				Size	Offset			
5	QPSK	19975	1712.5	1	0	20.59	2.00	22.59
				1	5	20.29	2.00	22.29
				6	0	21.11	2.00	23.11
		20175	1732.5	1	0	20.79	2.00	22.79
				1	5	20.92	2.00	22.92
				6	0	20.90	2.00	22.90
		20375	1752.5	1	0	20.70	2.00	22.70
				1	5	20.94	2.00	22.94
				6	0	20.96	2.00	22.96
	16QAM	19975	1712.5	1	0	22.17	2.00	24.17
				1	5	21.91	2.00	23.91
				6	0	21.83	2.00	23.83
		20175	1732.5	1	0	21.54	2.00	23.54
				1	5	21.47	2.00	23.47
				6	0	21.96	2.00	23.96
		20375	1752.5	1	0	21.34	2.00	23.34
				1	5	21.54	2.00	23.54
				6	0	22.12	2.00	24.12
10	QPSK	20000	1715	1	0	21.18	2.00	23.18
				1	5	21.06	2.00	23.06
				6	0	21.05	2.00	23.05
		20175	1732.5	1	0	21.80	2.00	23.80
				1	5	21.77	2.00	23.77
				6	0	21.67	2.00	23.67
		20350	1750	1	0	21.50	2.00	23.50
				1	5	21.44	2.00	23.44
				6	0	21.75	2.00	23.75
	16QAM	20000	1715	1	0	21.61	2.00	23.61
				1	5	21.04	2.00	23.04
				6	0	20.97	2.00	22.97
		20175	1732.5	1	0	21.52	2.00	23.52
				1	5	21.88	2.00	23.88
				6	0	22.31	2.00	24.31
		20350	1750	1	0	22.27	2.00	24.27
				1	5	22.92	2.00	24.92
				6	0	22.13	2.00	24.13

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 21 von 57
Page1 of 57

Channel Bandwidth (MHz)	Modulation	Channel	Frequency (MHz)	RB Configuration		Measured Average Power (dBm)	Antenna Gain (dBi)	Average EIRP (dBm)
				Size	Offset			
15	QPSK	20025	1717.5	1	0	21.73	2.00	23.73
				1	5	21.53	2.00	23.53
				6	0	21.58	2.00	23.58
		20175	1732.5	1	0	21.99	2.00	23.99
				1	5	21.89	2.00	23.89
				6	0	21.86	2.00	23.86
		20325	1747.5	1	0	21.87	2.00	23.87
				1	5	21.62	2.00	23.62
				6	0	21.83	2.00	23.83
	16QAM	20025	1717.5	1	0	21.02	2.00	23.02
				1	5	21.32	2.00	23.32
				6	0	21.77	2.00	23.77
		20175	1732.5	1	0	21.93	2.00	23.93
				1	5	21.78	2.00	23.78
				6	0	21.82	2.00	23.82
		20325	1747.5	1	0	22.47	2.00	24.47
				1	5	22.57	2.00	24.57
				6	0	22.36	2.00	24.36
20	QPSK	20050	1720	1	0	21.60	2.00	23.60
				1	5	21.20	2.00	23.20
				6	0	21.49	2.00	23.49
		20175	1732.5	1	0	20.95	2.00	22.95
				1	5	21.11	2.00	23.11
				6	0	21.99	2.00	23.99
		20300	1745	1	0	21.70	2.00	23.70
				1	5	21.40	2.00	23.40
				6	0	22.91	2.00	24.91
	16QAM	20050	1720	1	0	21.39	2.00	23.39
				1	5	21.50	2.00	23.50
				6	0	21.57	2.00	23.57
		20175	1732.5	1	0	21.64	2.00	23.64
				1	5	21.35	2.00	23.35
				6	0	21.70	2.00	23.70
		20300	1745	1	0	22.56	2.00	24.56
				1	5	22.09	2.00	24.09
				6	0	21.81	2.00	23.81

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 22 von 57
Page 1 of 57

LTE CAT M1Band-12

Channel Bandwidth (MHz)	Modulation	Channel	Frequency (MHz)	RB Configuration		Measured Average Power (dBm)	Antenna Gain (dBd)	Average ERP (dBm)
				Size	Offset			
1.4	QPSK	23017	699.7	1	0	20.57	-1.95	18.62
				1	5	20.49	-1.95	18.54
				6	0	22.65	-1.95	20.70
		23095	707.5	1	0	21.25	-1.95	19.30
				1	5	21.20	-1.95	19.25
				6	0	20.99	-1.95	19.04
		23173	715.3	1	0	20.30	-1.95	18.35
				1	5	20.18	-1.95	18.23
				6	0	21.33	-1.95	19.38
	16QAM	23017	699.7	1	0	21.41	-1.95	19.46
				1	5	21.24	-1.95	19.29
				6	0	22.84	-1.95	20.89
		23095	707.5	1	0	20.98	-1.95	19.03
				1	5	21.48	-1.95	19.53
				6	0	21.66	-1.95	19.71
		23173	715.3	1	0	21.27	-1.95	19.32
				1	5	21.17	-1.95	19.22
				6	0	21.04	-1.95	19.09
3	QPSK	23025	700.5	1	0	22.06	-1.95	20.11
				1	5	22.86	-1.95	20.91
				6	0	22.67	-1.95	20.72
		23095	707.5	1	0	22.71	-1.95	20.76
				1	5	22.85	-1.95	20.90
				6	0	22.09	-1.95	20.14
		23165	714.5	1	0	21.76	-1.95	19.81
				1	5	22.94	-1.95	20.99
				6	0	22.55	-1.95	20.60
	16QAM	23025	700.5	1	0	22.76	-1.95	20.81
				1	5	23.40	-1.95	21.45
				6	0	23.86	-1.95	21.91
		23095	707.5	1	0	22.91	-1.95	20.96
				1	5	23.02	-1.95	21.07
				6	0	23.05	-1.95	21.10
		23165	714.5	1	0	22.54	-1.95	20.59
				1	5	23.08	-1.95	21.13
				6	0	23.82	-1.95	21.87

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 23 von 57
Page 1 of 57

Channel Bandwidth (MHz)	Modulation	Channel	Frequency (MHz)	RB Configuration		Measured Average Power (dBm)	Antenna Gain (dBd)	Average ERP (dBm)
				Size	Offset			
5	QPSK	23035	701.5	1	0	22.80	-1.95	20.85
				1	5	22.63	-1.95	20.68
				6	0	22.99	-1.95	21.04
		23095	707.5	1	0	22.51	-1.95	20.56
				1	5	22.40	-1.95	20.45
				6	0	22.10	-1.95	20.15
		23155	713.5	1	0	22.39	-1.95	20.44
				1	5	21.65	-1.95	19.70
				6	0	22.52	-1.95	20.57
	16QAM	23035	701.5	1	0	22.85	-1.95	20.90
				1	5	22.87	-1.95	20.92
				6	0	23.84	-1.95	21.89
		23095	707.5	1	0	23.23	-1.95	21.28
				1	5	22.97	-1.95	21.02
				6	0	23.44	-1.95	21.49
		23155	713.5	1	0	23.34	-1.95	21.39
				1	5	23.67	-1.95	21.72
				6	0	23.54	-1.95	21.59
10	QPSK	23060	704	1	0	22.85	-1.95	20.90
				1	5	22.83	-1.95	20.88
				6	0	22.82	-1.95	20.87
		23095	707.5	1	0	22.83	-1.95	20.88
				1	5	22.54	-1.95	20.59
				6	0	22.43	-1.95	20.48
		23130	711	1	0	22.62	-1.95	20.67
				1	5	22.23	-1.95	20.28
				6	0	22.31	-1.95	20.36
	16QAM	23060	704	1	0	22.85	-1.95	20.90
				1	5	23.85	-1.95	21.90
				6	0	23.62	-1.95	21.67
		23095	707.5	1	0	23.29	-1.95	21.34
				1	5	23.46	-1.95	21.51
				6	0	23.70	-1.95	21.75
		23130	711	1	0	23.88	-1.95	21.93
				1	5	23.82	-1.95	21.87
				6	0	23.68	-1.95	21.73

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 24 von 57
Page 1 of 57

LTE CAT M1Band13

Channel Bandwidth (MHz)	Modulation	Channel	Frequency (MHz)	RB Configuration		Measured Average Power (dBm)	Antenna Gain (dBd)	Average ERP (dBm)
				Size	Offset			
5	QPSK	23205	779.5	1	0	21.67	-1.95	19.72
				1	5	21.47	-1.95	19.52
				6	0	21.67	-1.95	19.72
		23230	782	1	0	21.69	-1.95	19.74
				1	5	21.48	-1.95	19.53
				6	0	21.98	-1.95	20.03
		23255	784.5	1	0	20.34	-1.95	18.39
				1	5	20.81	-1.95	18.86
				6	0	21.72	-1.95	19.77
	16QAM	23205	779.5	1	0	21.71	-1.95	19.76
				1	5	21.50	-1.95	19.55
				6	0	22.96	-1.95	21.01
		23230	782	1	0	21.71	-1.95	19.76
				1	5	21.65	-1.95	19.70
				6	0	22.87	-1.95	20.92
		23255	784.5	1	0	21.66	-1.95	19.71
				1	5	21.82	-1.95	19.87
				6	0	22.79	-1.95	20.84
10	QPSK	23230	782	1	0	21.75	-1.95	19.80
				1	5	21.78	-1.95	19.83
				6	0	21.49	-1.95	19.54
	16QAM	23230	782	1	0	21.92	-1.95	19.97
				1	5	21.49	-1.95	19.54
				6	0	22.00	-1.95	20.05

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 25 von 57
Page 1 of 57

LTE CAT M1Band26 subband 1

Channel Bandwidth (MHz)	Modulation	Channel	Frequency (MHz)	RB Configuration		Measured Average Power (dBm)	Antenna Gain (dBd)	Average ERP (dBm)
				Size	Offset			
1.4	QPSK	26797	814.1	1	0	22.45	-1.95	20.50
				1	5	23.09	-1.95	21.14
				6	0	20.89	-1.95	18.94
		26915	819	1	0	23.38	-1.95	21.43
				1	5	22.96	-1.95	21.01
				6	0	21.22	-1.95	19.27
		27033	823.9	1	0	22.47	-1.95	20.52
				1	5	22.55	-1.95	20.60
				6	0	20.67	-1.95	18.72
	16QAM	26797	814.1	1	0	21.47	-1.95	19.52
				1	5	21.00	-1.95	19.05
				6	0	18.42	-1.95	16.47
		26915	819	1	0	20.35	-1.95	18.40
				1	5	21.55	-1.95	19.60
				6	0	19.91	-1.95	17.96
		27033	823.9	1	0	21.65	-1.95	19.70
				1	5	20.23	-1.95	18.28
				6	0	19.44	-1.95	17.49
3	QPSK	26797	814.1	1	0	22.45	-1.95	20.50
				1	5	22.76	-1.95	20.81
				6	0	20.21	-1.95	18.26
		26915	819	1	0	22.79	-1.95	20.84
				1	5	23.34	-1.95	21.39
				6	0	20.56	-1.95	18.61
		27033	823.9	1	0	22.77	-1.95	20.82
				1	5	23.11	-1.95	21.16
				6	0	20.45	-1.95	18.50
	16QAM	26797	814.1	1	0	21.76	-1.95	19.81
				1	5	21.87	-1.95	19.92
				6	0	19.65	-1.95	17.70
		26915	819	1	0	20.88	-1.95	18.93
				1	5	21.69	-1.95	19.74
				6	0	18.67	-1.95	16.72
		27033	823.9	1	0	20.69	-1.95	18.74
				1	5	21.45	-1.95	19.50
				6	0	19.45	-1.95	17.50

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 26 von 57
Page 1 of 57

Channel Bandwidth (MHz)	Modulation	Channel	Frequency (MHz)	RB Configuration		Measured Average Power (dBm)	Antenna Gain (dBd)	Average ERP (dBm)
				Size	Offset			
5	QPSK	26797	814.1	1	0	22.76	-1.95	20.81
				1	5	23.18	-1.95	21.23
				6	0	21.87	-1.95	19.92
		26915	819	1	0	22.47	-1.95	20.52
				1	5	23.34	-1.95	21.39
				6	0	21.78	-1.95	19.83
		27033	823.9	1	0	22.54	-1.95	20.59
				1	5	22.69	-1.95	20.74
				6	0	23.07	-1.95	21.12
	16QAM	26797	814.1	1	0	22.67	-1.95	20.72
				1	5	21.76	-1.95	19.81
				6	0	20.78	-1.95	18.83
		26915	819	1	0	21.78	-1.95	19.83
				1	5	22.63	-1.95	20.68
				6	0	21.88	-1.95	19.93
		27033	823.9	1	0	22.45	-1.95	20.50
				1	5	22.79	-1.95	20.84
				6	0	20.89	-1.95	18.94
10	QPSK	26797	814.1	1	0	-	-	-
				1	5	-	-	-
				6	0	-	-	-
		26915	819	1	0	22.76	-1.95	20.81
				1	5	23.27	-1.95	21.32
				6	0	21.89	-1.95	19.94
		27033	823.9	1	0	-	-	-
				1	5	-	-	-
				6	0	-	-	-
	16QAM	26797	814.1	1	0	-	-	-
				1	5	-	-	-
				6	0	-	-	-
		26915	819	1	0	22.87	-1.95	20.92
				1	5	22.76	-1.95	20.81
				6	0	20.79	-1.95	18.84
		27033	823.9	1	0	-	-	-
				1	5	-	-	-
				6	0	-	-	-

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 27 von 57
Page 1 of 57

Channel Bandwidth (MHz)	Modulation	Channel	Frequency (MHz)	RB Configuration		Measured Average Power (dBm)	Antenna Gain (dBd)	Average ERP (dBm)
				Size	Offset			
15	QPSK	26797	814.1	1	0	21.89	-1.95	19.94
				1	5	22.42	-1.95	20.47
				6	0	21.9	-1.95	19.95
		26915	819	1	0	-	-	-
				1	5	-	-	-
				6	0	-	-	-
		27033	823.9	1	0	-	-	-
				1	5	-	-	-
				6	0	-	-	-
	16QAM	26797	814.1	1	0	23.55	-1.95	21.60
				1	5	22.17	-1.95	20.22
				6	0	22.853	-1.95	20.90
		26915	819	1	0	-	-	-
				1	5	-	-	-
				6	0	-	-	-
		27033	823.9	1	0	-	-	-
				1	5	-	-	-
				6	0	-	-	-

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 28 von 57
Page1 of 57

LTE CAT M1Band26 subband 2

Channel Bandwidth (MHz)	Modulation	Channel	Frequency (MHz)	RB Configuration		Measured Average Power (dBm)	Antenna Gain (dBd)	Average ERP (dBm)
				Size	Offset			
1.4	QPSK	26797	824.7	1	0	22.68	-1.95	20.73
				1	5	22.75	-1.95	20.80
				6	0	23.24	-1.95	21.29
		26915	836.5	1	0	22.16	-1.95	20.21
				1	5	22.02	-1.95	20.07
				6	0	23.13	-1.95	21.18
		27033	848.3	1	0	22.84	-1.95	20.89
				1	5	22.74	-1.95	20.79
				6	0	22.77	-1.95	20.82
	16QAM	26805	824.7	1	0	23.30	-1.95	21.35
				1	5	22.70	-1.95	20.75
				6	0	22.71	-1.95	20.76
		26915	836.5	1	0	23.13	-1.95	21.18
				1	5	22.48	-1.95	20.53
				6	0	23.45	-1.95	21.50
		27025	848.3	1	0	22.70	-1.95	20.75
				1	5	22.93	-1.95	20.98
				6	0	23.48	-1.95	21.53
3	QPSK	26805	825.5	1	0	23.69	-1.95	21.74
				1	5	23.08	-1.95	21.13
				6	0	23.35	-1.95	21.40
		26915	836.5	1	0	23.31	-1.95	21.36
				1	5	23.74	-1.95	21.79
				6	0	23.63	-1.95	21.68
		27025	847.5	1	0	22.15	-1.95	20.20
				1	5	23.34	-1.95	21.39
				6	0	22.31	-1.95	20.36
	16QAM	26805	825.5	1	0	22.03	-1.95	20.08
				1	5	22.38	-1.95	20.43
				6	0	23.46	-1.95	21.51
		26915	836.5	1	0	22.47	-1.95	20.52
				1	5	22.63	-1.95	20.68
				6	0	22.91	-1.95	20.96
		27025	847.5	1	0	22.66	-1.95	20.71
				1	5	23.51	-1.95	21.56
				6	0	23.46	-1.95	21.51

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 29 von 57
Page1 of 57

Channel Bandwidth (MHz)	Modulation	Channel	Frequency (MHz)	RB Configuration		Measured Average Power (dBm)	Antenna Gain (dBd)	Average ERP (dBm)
				Size	Offset			
5	QPSK	26815	826.5	1	0	21.73	-1.95	19.78
				1	5	21.91	-1.95	19.96
				6	0	23.33	-1.95	21.38
		26915	836.5	1	0	21.13	-1.95	19.18
				1	5	21.29	-1.95	19.34
				6	0	22.00	-1.95	20.05
		27015	846.5	1	0	21.62	-1.95	19.67
				1	5	21.52	-1.95	19.57
				6	0	22.72	-1.95	20.77
	16QAM	26815	826.5	1	0	22.35	-1.95	20.40
				1	5	22.01	-1.95	20.06
				6	0	23.69	-1.95	21.74
		26915	836.5	1	0	23.15	-1.95	21.20
				1	5	22.23	-1.95	20.28
				6	0	23.57	-1.95	21.62
		27015	846.5	1	0	23.03	-1.95	21.08
				1	5	23.08	-1.95	21.13
				6	0	23.72	-1.95	21.77
10	QPSK	26840	829	1	0	21.87	-1.95	19.92
				1	5	21.70	-1.95	19.75
				6	0	21.86	-1.95	19.91
		26915	836.5	1	0	22.56	-1.95	20.61
				1	5	22.45	-1.95	20.50
				6	0	22.49	-1.95	20.54
		26990	844	1	0	22.57	-1.95	20.62
				1	5	22.21	-1.95	20.26
				6	0	22.96	-1.95	21.01
	16QAM	26840	829	1	0	22.27	-1.95	20.32
				1	5	22.91	-1.95	20.96
				6	0	23.95	-1.95	22.00
		26915	836.5	1	0	22.53	-1.95	20.58
				1	5	23.26	-1.95	21.31
				6	0	23.81	-1.95	21.86
		26990	844	1	0	23.17	-1.95	21.22
				1	5	23.52	-1.95	21.57
				6	0	23.98	-1.95	22.03

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 30 von 57
Page 1 of 57

Channel Bandwidth (MHz)	Modulation	Channel	Frequency (MHz)	RB Configuration		Measured Average Power (dBm)	Antenna Gain (dBd)	Average ERP (dBm)
				Size	Offset			
15	QPSK	26865	831.5	1	0	21.78	-1.95	19.83
				1	5	21.92	-1.95	19.97
				6	0	21.64	-1.95	19.69
		26915	836.5	1	0	22.90	-1.95	20.95
				1	5	22.73	-1.95	20.78
				6	0	22.79	-1.95	20.84
		26965	841.5	1	0	22.48	-1.95	20.53
				1	5	22.57	-1.95	20.62
				6	0	22.70	-1.95	20.75
	16QAM	26865	831.5	1	0	21.05	-1.95	19.10
				1	5	21.26	-1.95	19.31
				6	0	21.78	-1.95	19.83
		26915	836.5	1	0	22.64	-1.95	20.69
				1	5	22.83	-1.95	20.88
				6	0	22.73	-1.95	20.78
		26965	841.5	1	0	22.24	-1.95	20.29
				1	5	22.61	-1.95	20.66
				6	0	22.95	-1.95	21.00

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 31 von 57
Page 1 of 57

Conducted Power result:GSM

Network Support	Band (MHz)	Frequency (MHz)	Measured Average Power (dBm)	Antenna Gain (dBd/dBi)	Average ERP/EIRP (dBm)
GPRS	850	824.2	32.46	-1.95	30.51
		836.4	30.22	-1.95	28.27
		848.8	29.28	-1.95	27.33
	1900	1850.2	30.31	2.00	32.31
		1880	29.23	2.00	31.23
		1909.8	28.22	2.00	30.22
EGPRS	850	824.2	24.35	-1.95	22.40
		836.4	26.22	-1.95	24.27
		848.8	27.00	-1.95	25.05
	1900	1850.2	25.33	2.00	27.33
		1880	26.32	2.00	28.32
		1909.8	24.22	2.00	26.22

8.2 Field Strength of Spurious Radiation

Result

Pass

Specification	FCC Part §2.1053, §22.917 (a), §24.238(a)(b), §27.53 (g), § 90.691
Test Method / Procedure	ANSI C63.26-2015
Measurement Bandwidth (RBW)	100 kHz for frequency range < 1GHz 1 MHz for Frequency range >1GHz
Detector Function	Peak
Measuring Distance	3 m
Requirement	The power of any emission outside the authorized frequency range must be attenuated below the transmitting power (P) by a factor of at least 43+10log(P) dB
Test setup	Reffer TEST METHODOLOGY

Environmental conditions:

Temperature (Norm) = + 24 °C Voltage = 5VDC(AC to DC Adapter) Relative humidity = 62 %

Note: For the above 1 GHz worst case test results observed in power mode 5VDC(AC to DC Adapter)

KDB Guidelines applied :

All the radiated emission measurements are performed in accordance with common requirement specified in 7 971168 D01 Power Meas License Digital Systems v03r01 and Pre-test site path loss correction factors are used to adjust the EUT emission data in place of two step substitution method (as defined in Annex B of ANSI C63.26-2015)

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 33 von 57
Page 1 of 57

Test results:

Note: All the losses are included during measurement and final values are mentioned in the test report. Refer TEST METHODOLOGY for more details

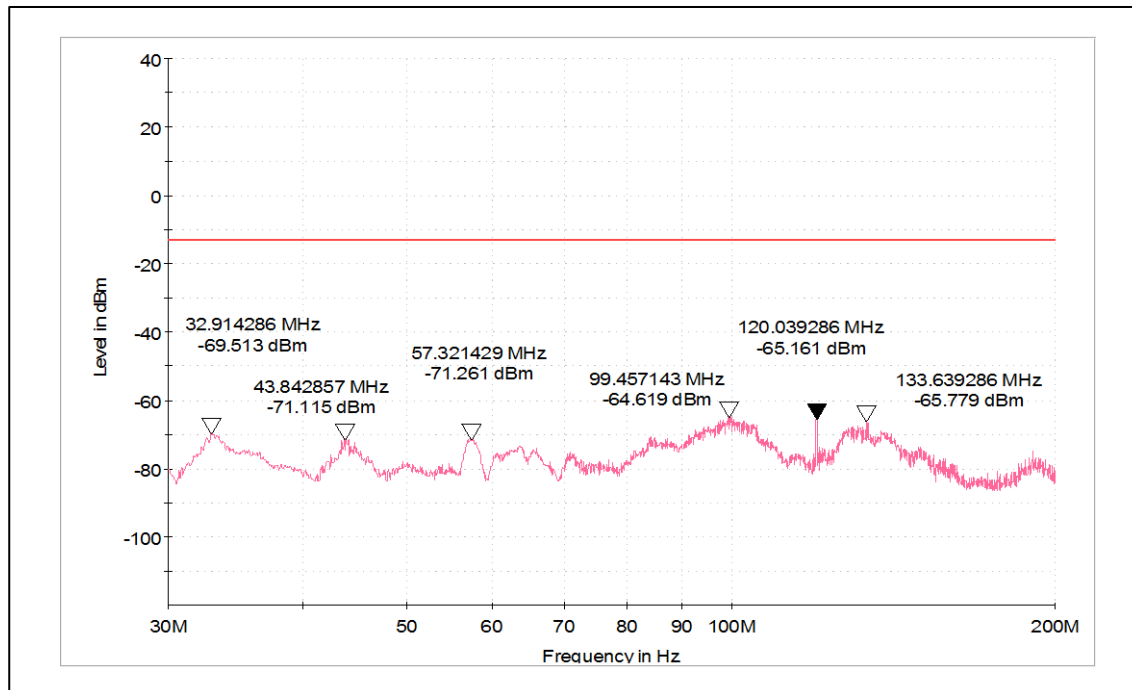
Test Result:

Frequency range 9KHz to 30MHz

No emissions found in this frequency range

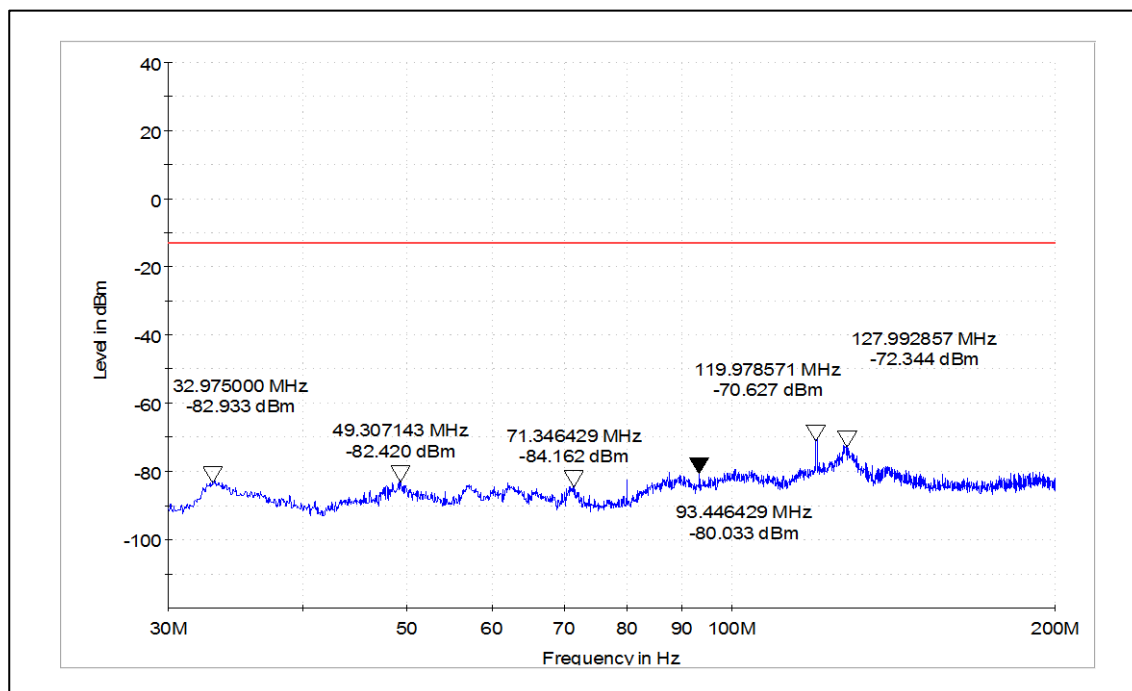
Frequency range 30MHz to 1GHz

Antenna Polarization	Measured Frequency (MHz)	Measured Emission (dBm)	Limit (dBm)	Margin (dB)
Vertical	32.91	-69.51	-13	-56.51
	43.84	-71.11	-13	-58.11
	57.32	-71.26	-13	-58.26
	99.45	-64.61	-13	-51.61
	120.03	-65.16	-13	-52.16
	133.63	-65.77	-13	-52.77
	225.34	-74.63	-13	-61.63
	368.64	-71.58	-13	-58.58
	502.91	-73.22	-13	-60.22
	685.13	-72.86	-13	-59.86
Horizontal	946.19	-67.39	-13	-54.39
	32.97	-82.93	-13	-69.93
	49.3	-82.42	-13	-69.42
	71.34	-84.16	-13	-71.16
	119.97	-70.62	-13	-57.62
	127.99	-72.34	-13	-59.34
	226.54	-75.95	-13	-62.95
	368.64	-72.89	-13	-59.89
	520.01	-73.64	-13	-60.64
	685.91	-72.57	-13	-59.57
	945.53	-63.28	-13	-50.28



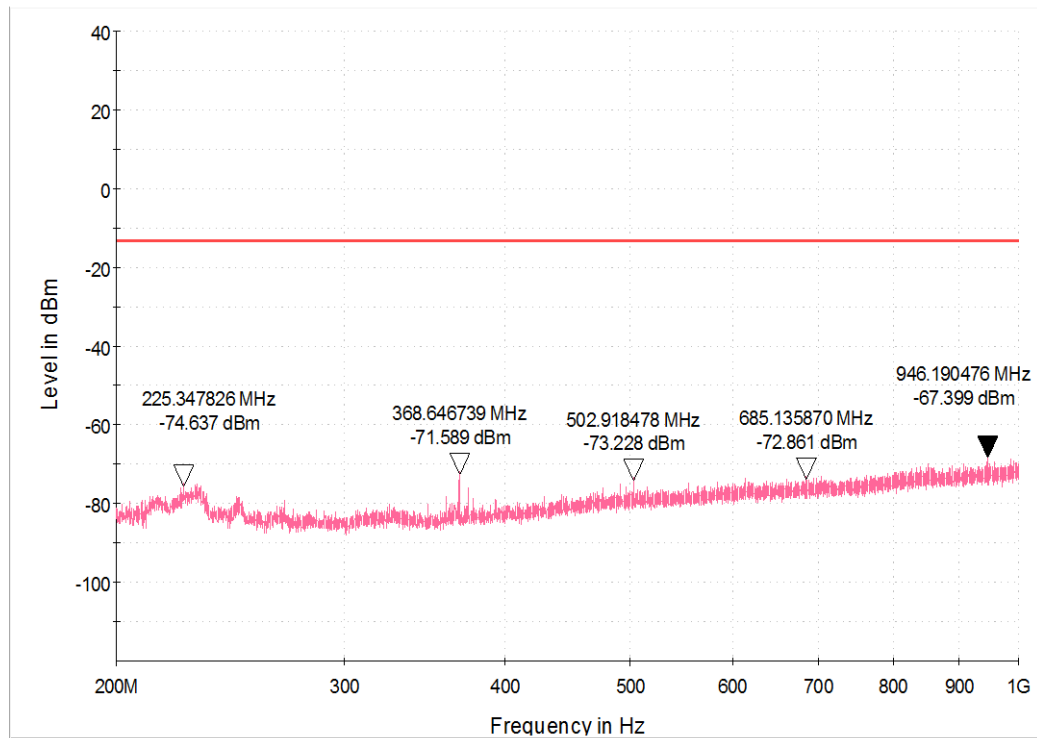
Vertical Polarization

Frequency range: 30MHz-200MHz



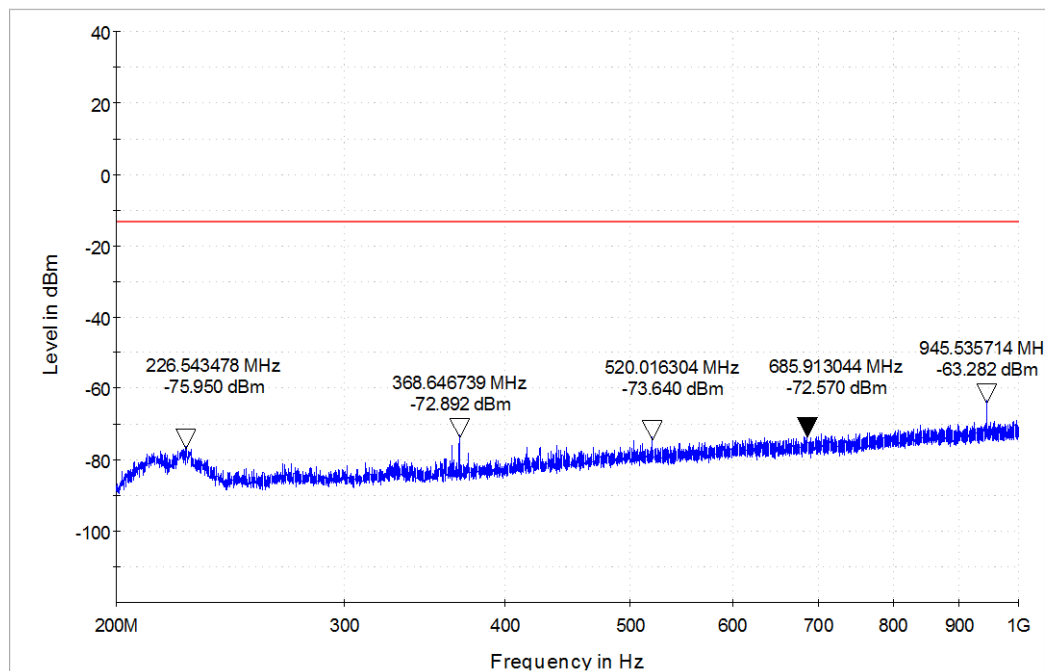
Horizontal Polarization

Frequency range: 30MHz-200MHz



Vertical Polarization

Frequency range: 200MHz-1GHz



Horizontal Polarization

Frequency range: 200MHz-1GHz

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 36 von 57
Page 1 of 57

Test Results: above 1GHz

LTE CAT M1 BAND 2							
Modulation	Bandwidth	Frequency (MHz)	Measured Frequency (MHz)	Polarization	EIRP (dBm)	Limit (dBm)	Margin (dB)
QPSK	5MHz	1852.5	3705	Vertical	-48.84	-13	-35.84
				Horizontal	-46.36	-13	-33.36
			5557.5	Vertical	-46.38	-13	-33.38
				Horizontal	-46.86	-13	-33.86
			7410	Vertical	-46.07	-13	-33.07
				Horizontal	No Harmonic found		
		1880	3760	Vertical	-54.45	-13	-41.45
				Horizontal	-42.37	-13	-29.37
			5640	Vertical	-46.26	-13	-33.26
				Horizontal	-44.98	-13	-31.98
		1907.5	3815	Vertical	-44.84	-13	-31.84
				Horizontal	-42.32	-13	-29.32
			5722.5	Vertical	-42.42	-13	-29.42
				Horizontal	-44.95	-13	-31.95
			7630	Vertical	-46.77	-13	-33.77
				Horizontal	-48.52	-13	-35.52

LTE CAT M1 BAND 4							
Modulation	Bandwidth	Frequency (MHz)	Measured Frequency (MHz)	Polarization	EIRP (dBm)	Limit (dBm)	Margin (dB)
QPSK	5MHz	1712.5	3425	Vertical	-49.66	-13	-36.66
				Horizontal	-52.32	-13	-39.32
			5137.5	Vertical	-48.23	-13	-35.23
				Horizontal	-48.31	-13	-35.31
		1732.5	3465	Vertical	-51.79	-13	-38.79
				Horizontal	-53.51	-13	-40.51
			5197.5	Vertical	-48.53	-13	-35.53
				Horizontal	No Harmonic found		
			6930	Vertical	-47.64	-13	-34.64
				Horizontal	-50.77	-13	-37.77
		1752.5	3505	Vertical	-51.36	-13	-38.36
				Horizontal	-50.3	-13	-37.3
			5257.5	Vertical	-47.44	-13	-34.44
				Horizontal	-48.59	-13	-35.59
			7010	Vertical	No Harmonic found		
				Horizontal	-47.51	-13	-34.51

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 37 von 57
Page1 of 57

LTE CAT M1BAND 12							
Modulation	Bandwidth	Frequency (MHz)	Measured Frequency (MHz)	Polarization	EIRP (dBm)	Limit (dBm)	Margin (dB)
QPSK	5MHz	701.5	3507.5	Vertical	-45.4	-13	-32.4
				Horizontal	-35.11	-13	-22.11
			4209	Vertical	No Harmonic found		
				Horizontal	-47.02	-13	-34.02
		707.5	3537.5	Vertical	-42.12	-13	-29.12
				Horizontal	-32.43	-13	-19.43
			4245	Vertical	No Harmonic found		
				Horizontal	-47.39	-13	-34.39
		713.5	3567.5	Vertical	-40.48	-13	-27.48
				Horizontal	-32.57	-13	-19.57
			4281	Vertical	No Harmonic found		
				Horizontal	-44.85	-13	-31.85

LTE CAT M1BAND 13							
Modulation	Bandwidth	Frequency (MHz)	Measured Frequency (MHz)	Polarization	EIRP (dBm)	Limit (dBm)	Margin (dB)
QPSK	5MHz	779.5	2338.5	Vertical	No Harmonic found		
				Horizontal	-53.21	-13	-40.21
			3118	Vertical	-38.06	-13	-25.06
				Horizontal	-44.04	-13	-31.04
			3897.5	Vertical	-36.37	-13	-23.37
				Horizontal	-39.29	-13	-26.29
		782	3128	Vertical	-44.2	-13	-31.2
				Horizontal	-38.08	-13	-25.08
			3910	Vertical	-39.99	-13	-26.99
				Horizontal	-37.37	-13	-24.37
		784.5	2353.5	Vertical	No Harmonic found		
				Horizontal	-52.98	-13	-39.98
			3138	Vertical	-43.06	-13	-30.06
				Horizontal	-40.3	-13	-27.3
			3922.5	Vertical	-39.67	-13	-26.67
				Horizontal	-37.87	-13	-24.87

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 38 von 57
Page1 of 57

LTE CAT M1 BAND 26 Sub band 2							
Modulation	Bandwidth	Frequency (MHz)	Measured Frequency (MHz)	Polarization	EIRP (dBm)	Limit (dBm)	Margin (dB)
QPSK	5MHz	826.5	2479.5	Vertical	-51.99	-13	-38.99
				Horizontal	-53.16	-13	-40.16
			3306	Vertical	-44.3	-13	-31.3
				Horizontal	-38.14	-13	-25.14
			4132.5	Vertical	-47.92	-13	-34.92
				Horizontal	-45.41	-13	-32.41
		836.5	3346	Vertical	-42.46	-13	-29.46
				Horizontal	-37.34	-13	-24.34
			4182.5	Vertical	-46.3	-13	-33.3
				Horizontal	-45.05	-13	-32.05
		846.5	3386	Vertical	-42.41	-13	-29.41
				Horizontal	-34.12	-13	-21.12
			4232.5	Vertical	-44.68	-13	-31.68
				Horizontal	-41.98	-13	-28.98

LTE CAT M1Band 26 Sub Band 1

Modulation	Bandwidth	Frequency (MHz)	Measured Frequency (MHz)	Polarization	EIRP (dBm)	Limit (dBm)	Margin (dB)
QPSK	5MHz	814.1	1628.2	Vertical	-34.33	-13	-21.33
				Horizontal	-48.72	-13	-35.72
			2442.3	Vertical	-39.45	-13	-26.45
				Horizontal	-48.68	-13	-35.68
			3256.4	Vertical	-47.67	-13	-34.67
				Horizontal	-54.33	-13	-41.33
		819	1638	Vertical	-33.8	-13	-20.8
				Horizontal	-34.98	-13	-21.98
			2457	Vertical	-40.67	-13	-27.67
				Horizontal	-41.29	-13	-28.29
			3276	Vertical	44.38	-13	57.38
				Horizontal	-46.87	-13	-33.87
		823.9	1647.8	Vertical	-32.98	-13	-19.98
				Horizontal	-44.88	-13	-31.88
			2471.7	Vertical	-41.54	-13	-28.54
				Horizontal	-46.58	-13	-33.58
			3295.6	Vertical	-45.33	-13	-32.33
				Horizontal	-53.06	-13	-40.06

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 39 von 57
Page 1 of 57

GSM

Network Support	Frequency (MHz)	Measured Frequency (MHz)	Polarization	Measured power (dBm)	Limit (dBm)	Margin (dB)
GPRS	824.2	1648.4	Vertical	No Harmonic found		
			Horizontal	-58.76	-13	-45.76
		2472.6	Vertical	-50.28	-13	-37.28
			Horizontal	No Harmonic found		
		4945.2	Vertical	-37.58	-13	-24.58
			Horizontal	-43.1	-13	-30.1
		5769.4	Vertical	-37.62	-13	-24.62
			Horizontal	No Harmonic found		
	836.4	2509.2	Vertical	No Harmonic found		
			Horizontal	-31.74	-13	-18.74
		3345.6	Vertical	-18.6	-13	-5.6
			Horizontal	-22.59	-13	-9.59
		4182	Vertical	-22.46	-13	-9.46
			Horizontal	-22.21	-13	-9.21
	848.8	1697.6	Vertical	-57.69	-13	
			Horizontal	No Harmonic found		
		2546.4	Vertical	-22.66	-13	-9.66
			Horizontal	-34.91	-13	-21.91
		3395.2	Vertical	-24.84	-13	-11.84
			Horizontal	-21.37	-13	-8.37
		4244	Vertical	-24.99	-13	-11.99
			Horizontal	-32.96	-13	-19.96
EGPRS	824.2	1648.4	Vertical	No Harmonic found		
			Horizontal	No Harmonic found		
		2472.6	Vertical	-48.77	-13	-35.77
			Horizontal	-42.52	-13	-29.52
		4945.2	Vertical	-35.7	-13	-22.7
			Horizontal	-18.82	-13	-5.82
		5769.4	Vertical	-37.2	-13	-24.2
			Horizontal	-40.28	-13	-27.28
	836.4	2509.2	Vertical	-45.42	-13	-32.42
			Horizontal	No Harmonic found		
		3345.6	Vertical	-19.73	-13	-6.73
			Horizontal	-18.72	-13	-5.72
		4182	Vertical	-24.13	-13	-11.13
			Horizontal	-29.82	-13	-16.82
	848.8	1697.6	Vertical	No Harmonic found		
			Horizontal	No Harmonic found		
		2546.4	Vertical	No Harmonic found		
			Horizontal	-29.94	-13	-16.94
		3395.2	Vertical	-19.74	-13	-6.74
			Horizontal	-44.04	-13	-31.04
		4244	Vertical	-18.07	-13	-5.07
			Horizontal	-31.88	-13	-18.88

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

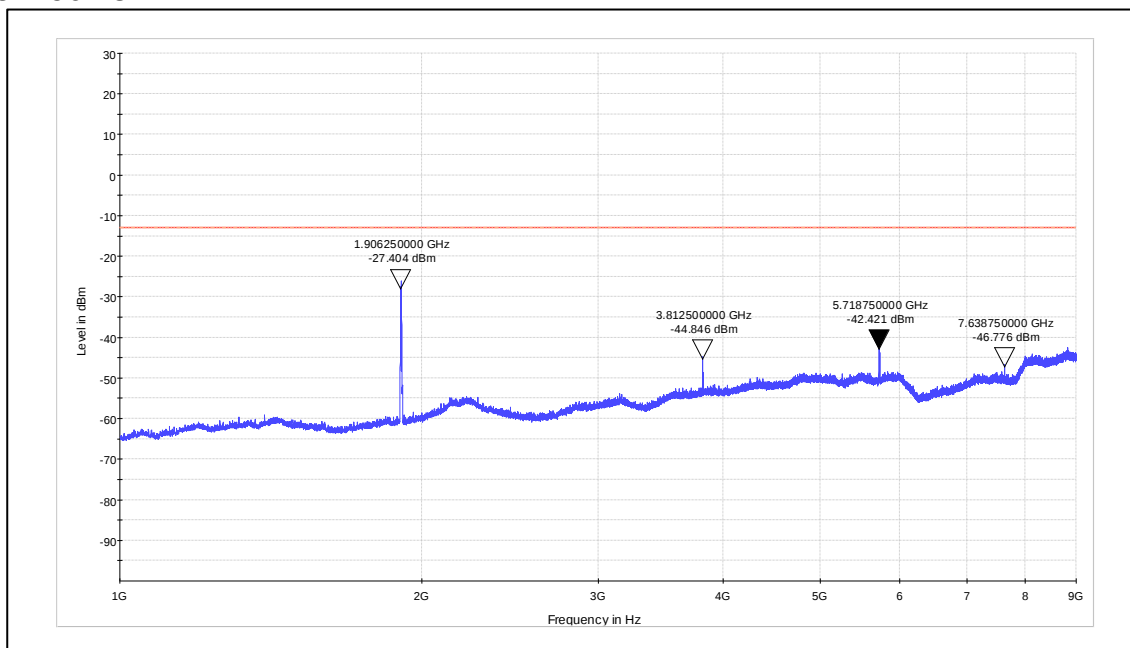
Seite 40 von 57
Page 1 of 57

Network Support	Frequency (MHz)	Measured Frequency (MHz)	Polarization	Measured power (dBm)	Limit (dBm)	Margin (dB)
GPRS	1850.2	3700.4	Vertical	-48.74	-13	-35.74
			Horizontal	-53.49	-13	-40.49
		5550.6	Vertical	No Harmonic found		
			Horizontal	-50.16	-13	-37.16
	1880	3760	Vertical	-52.22	-13	-39.22
			Horizontal	-51.58	-13	-38.58
	1909.8	3819.6	Vertical	-48.45	-13	-35.45
			Horizontal	-52.71	-13	-39.71
EGPRS	1850.2	3700.4	Vertical	No Harmonic found		
			Horizontal			
	1880	3760	Vertical	No Harmonic found		
			Horizontal			
	1909.8	3819.6	Vertical	No Harmonic found		
			Horizontal			

Test Plots

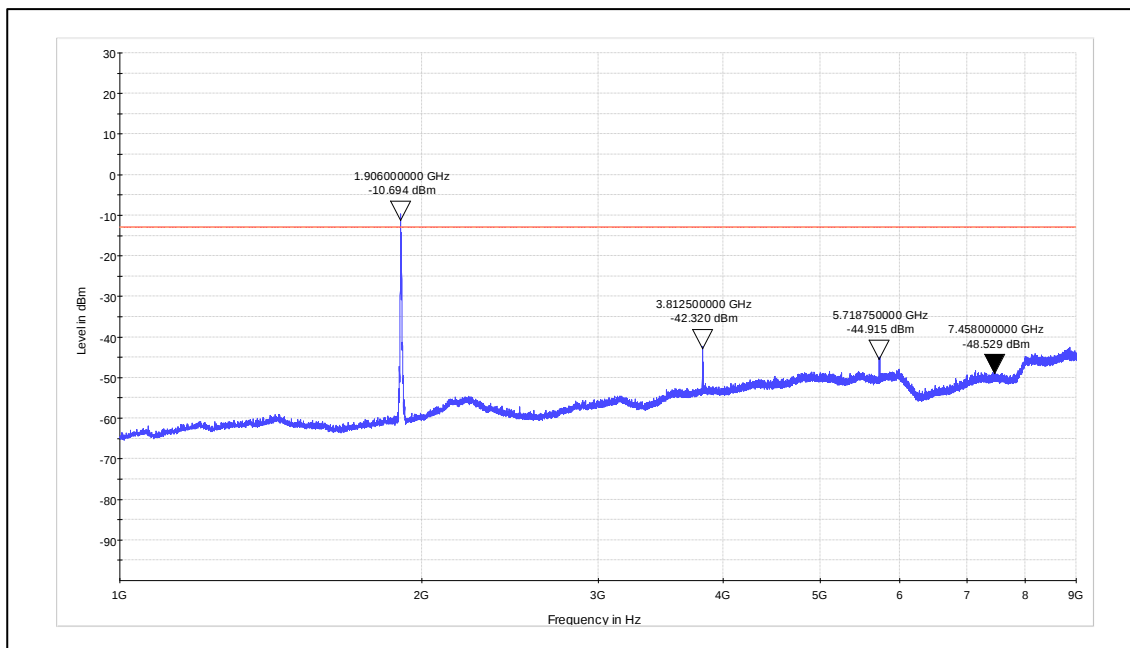
Band 2

Channel: 1907.5 MHz



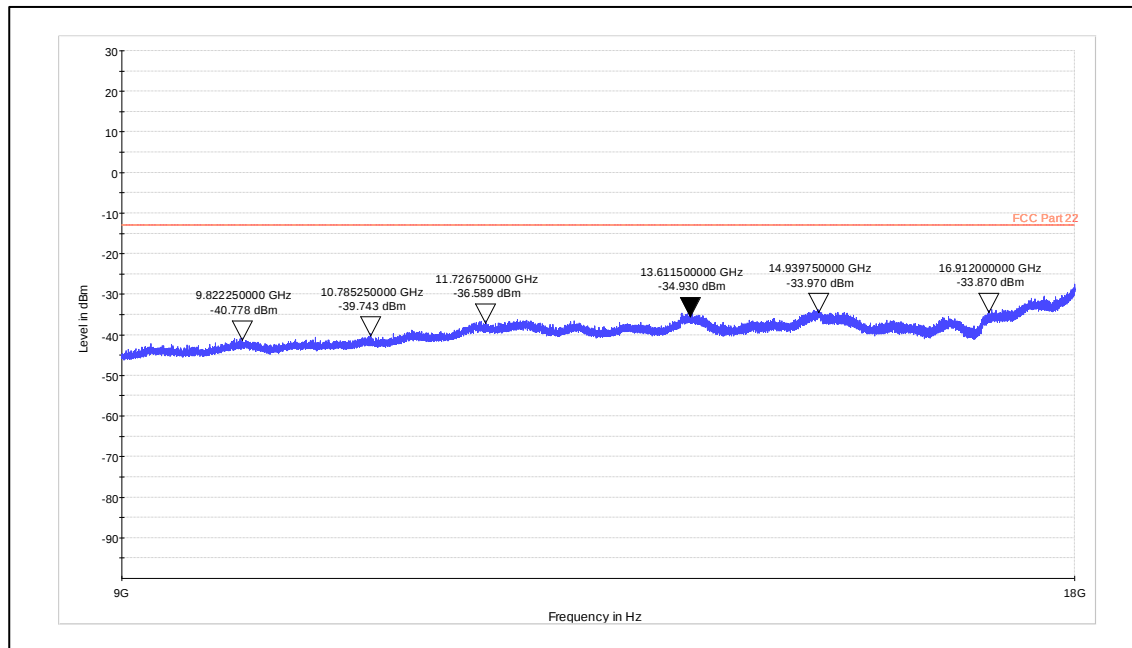
Frequency range: 1GHz-9GHz

Polarization: Vertical



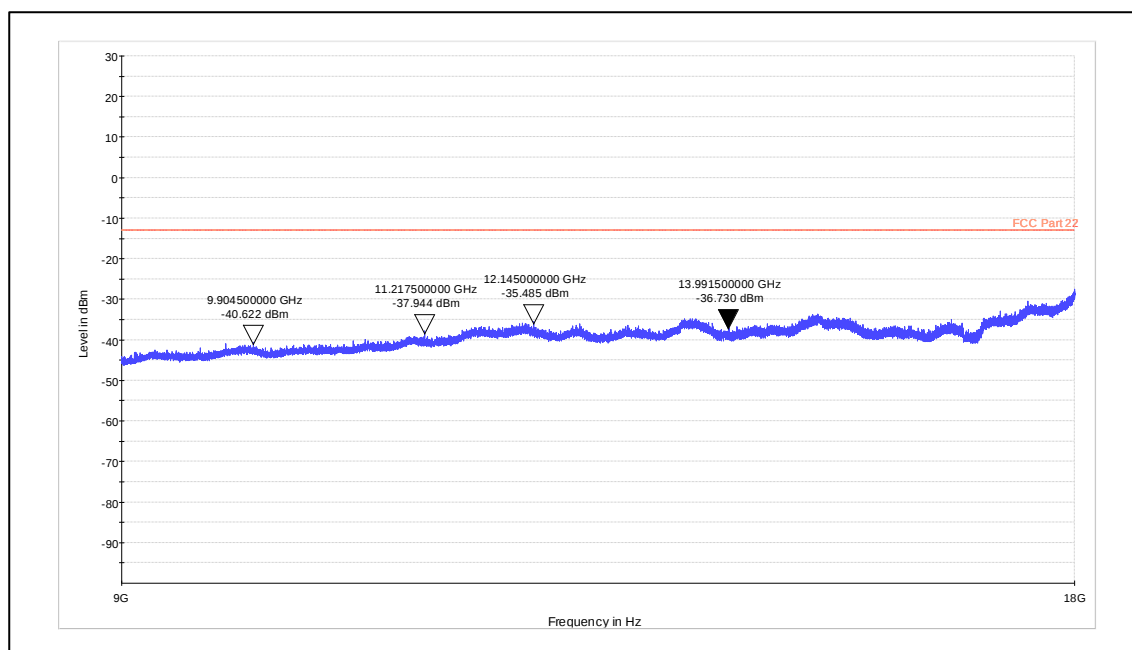
Frequency range: 1GHz-9GHz

Polarization: Horizontal



Frequency range: 9GHz-18GHz

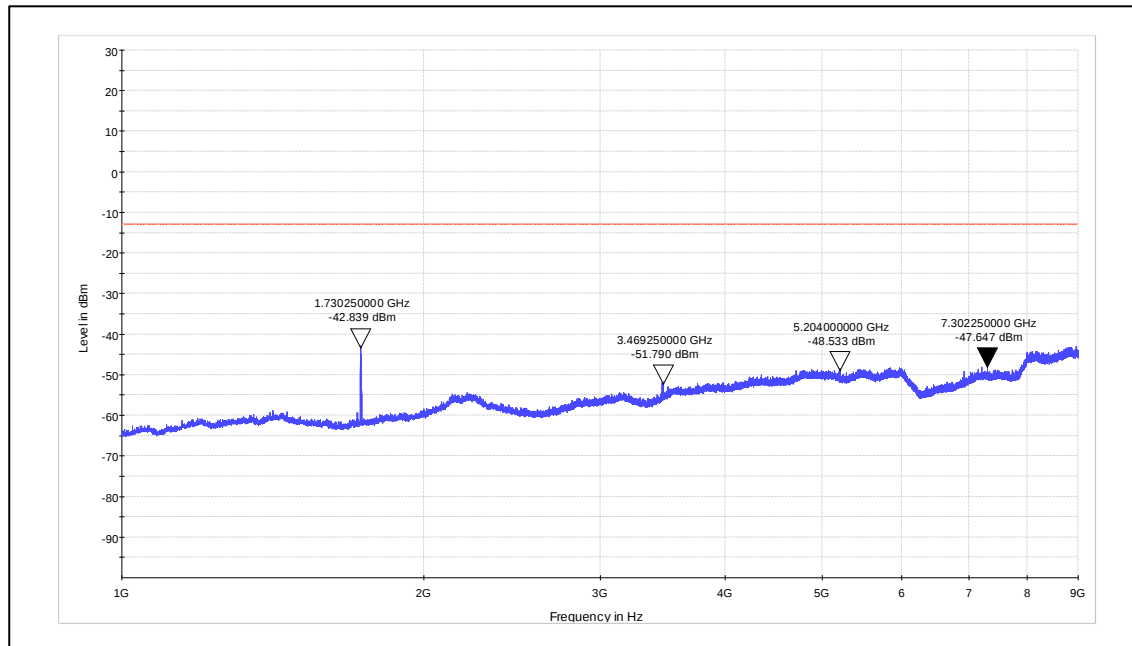
Polarization: Vertical



Frequency range: 9GHz-18GHz

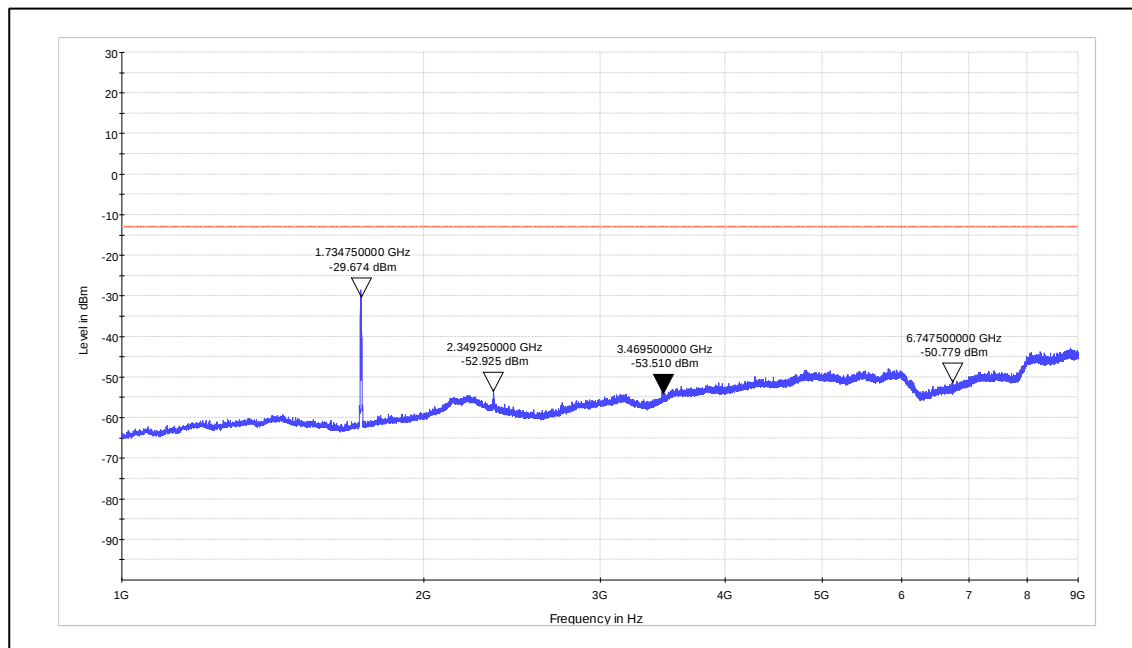
Polarization: Horizontal

Band 4
Channel: 1732.5 MHz



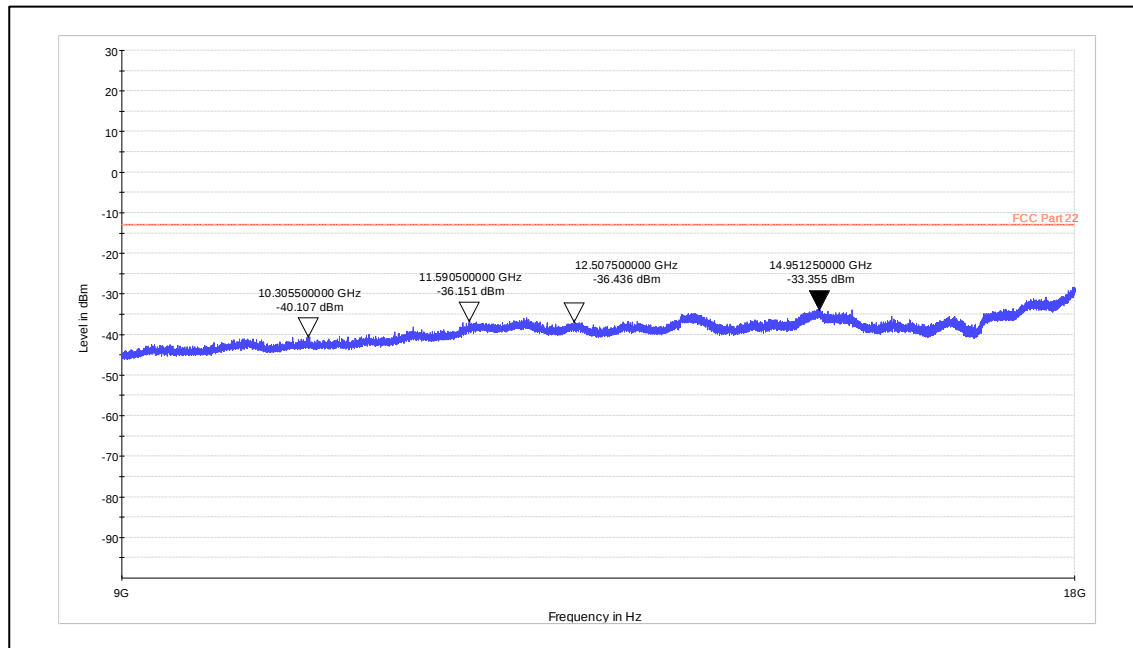
Frequency range: 1GHz-9GHz

Polarization: Vertical



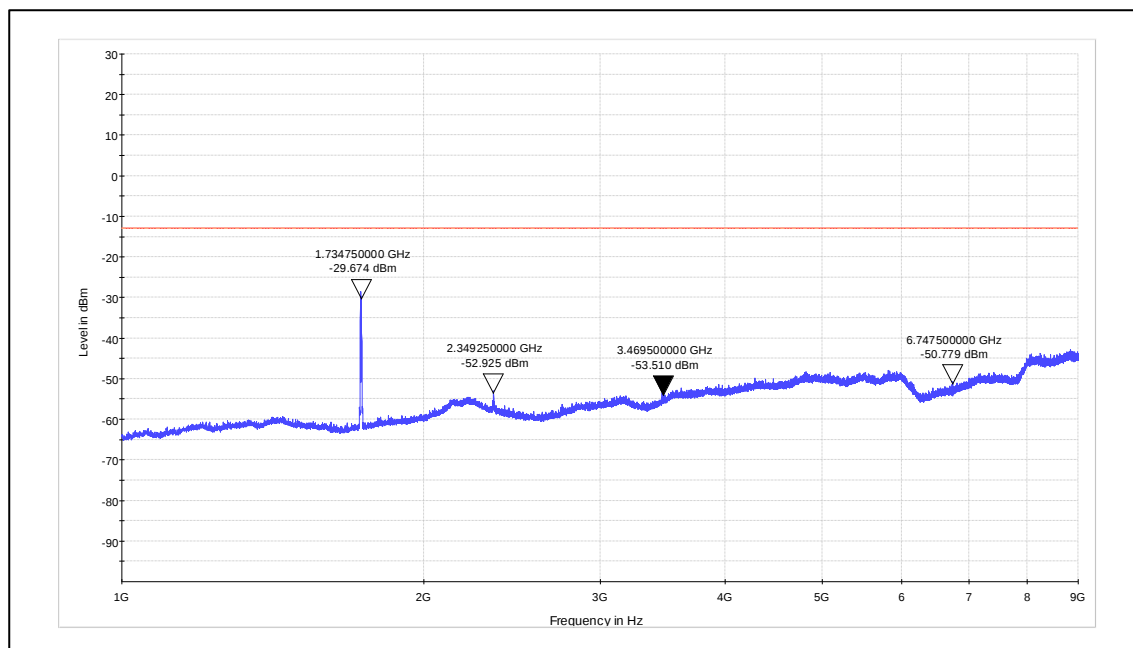
Frequency range: 1GHz-9GHz

Polarization: Horizontal



Frequency range: 9GHz-18GHz

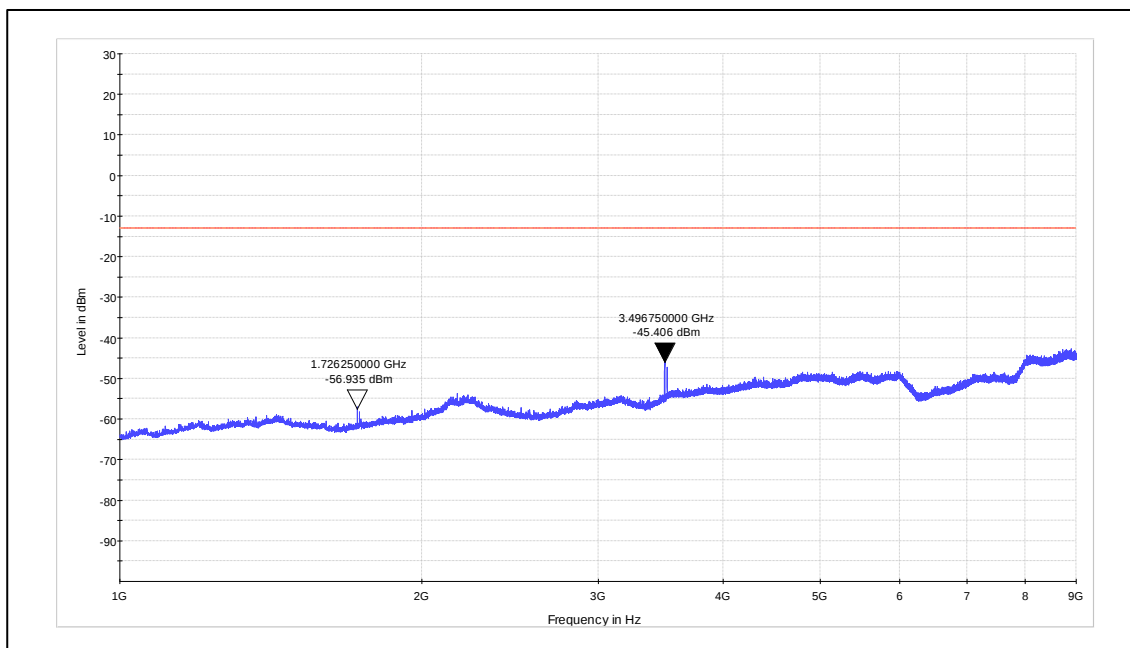
Polarization: Vertical



Frequency range: 9GHz-18GHz

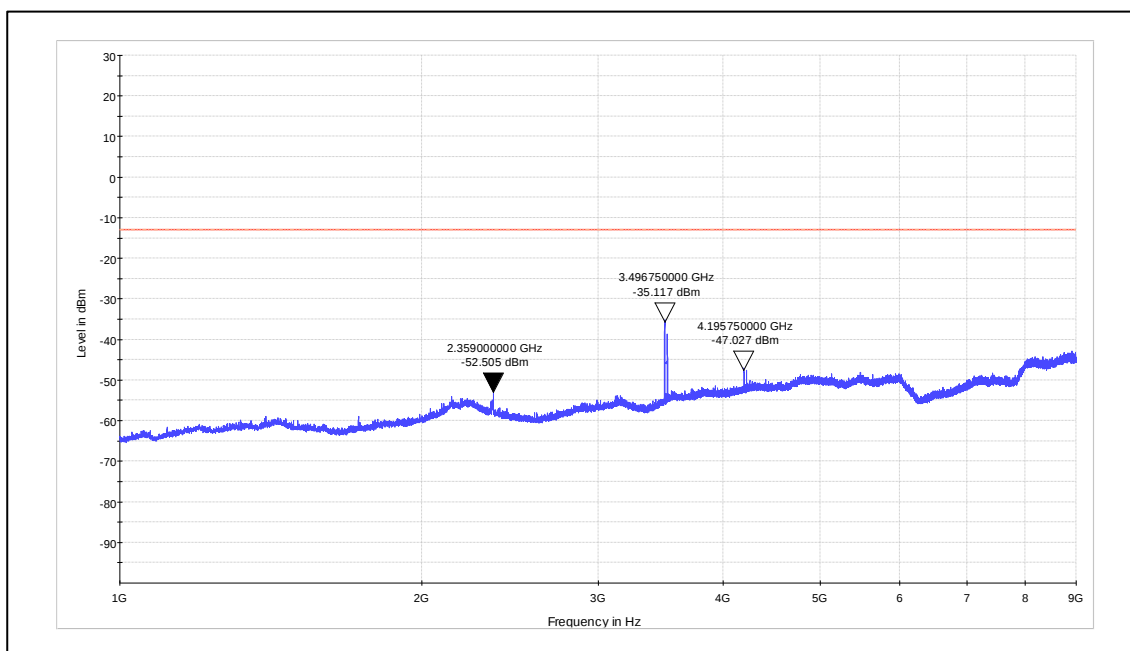
Polarization: Horizontal

Band 12
Channel: 701.5MHz



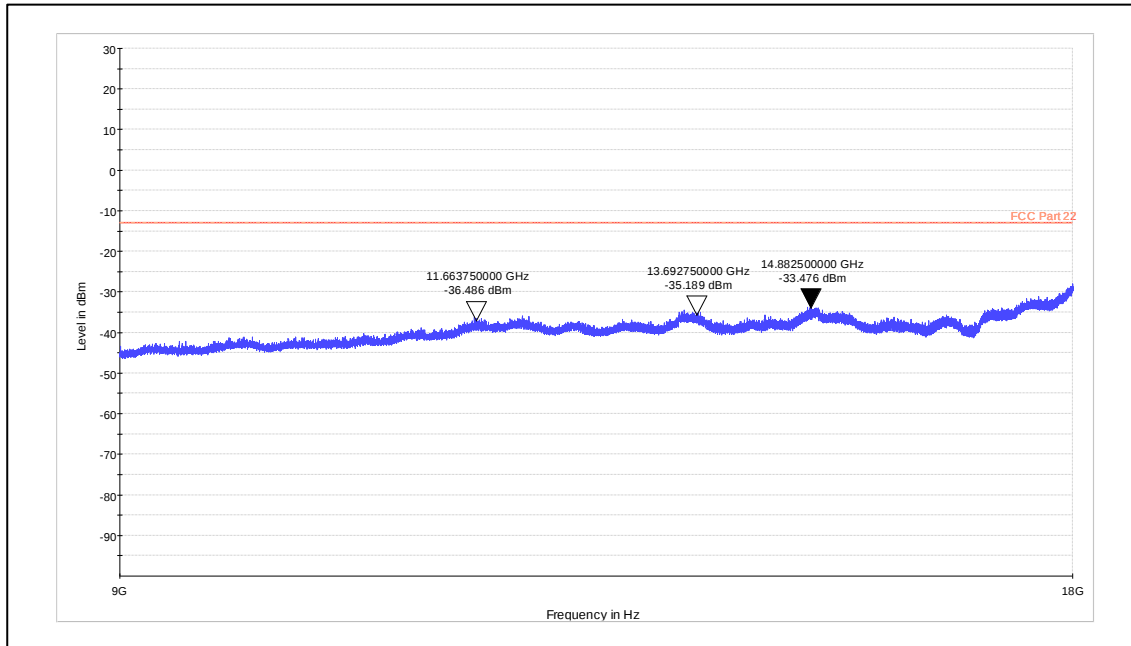
Frequency range: 1GHz-9GHz

Polarization: Vertical



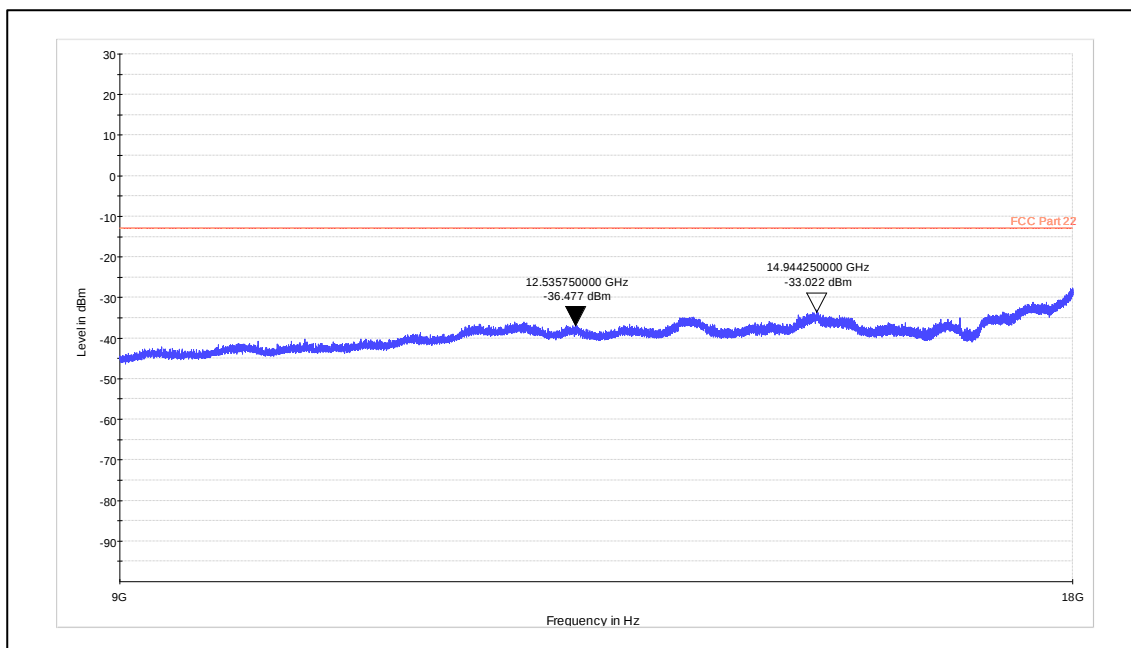
Frequency range: 1GHz-9GHz

Polarization: Horizontal



Frequency range: 9GHz-18GHz

Polarization: Vertical



Frequency range: 9GHz-18GHz

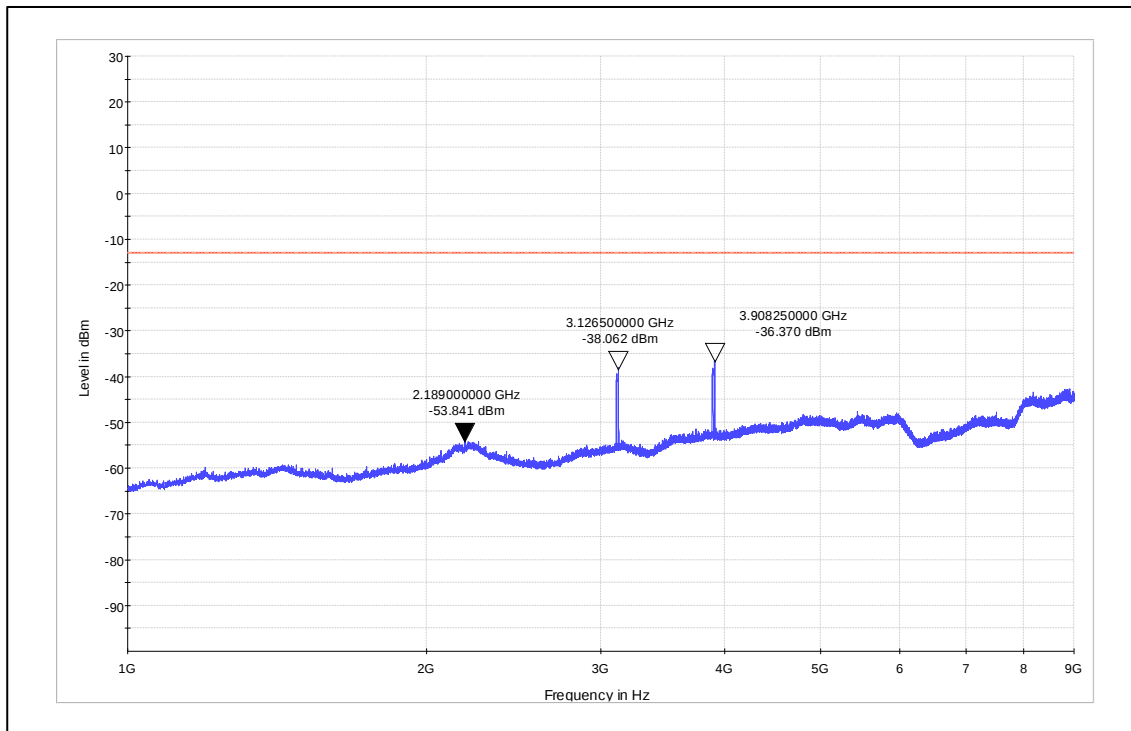
Polarization: Horizontal

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

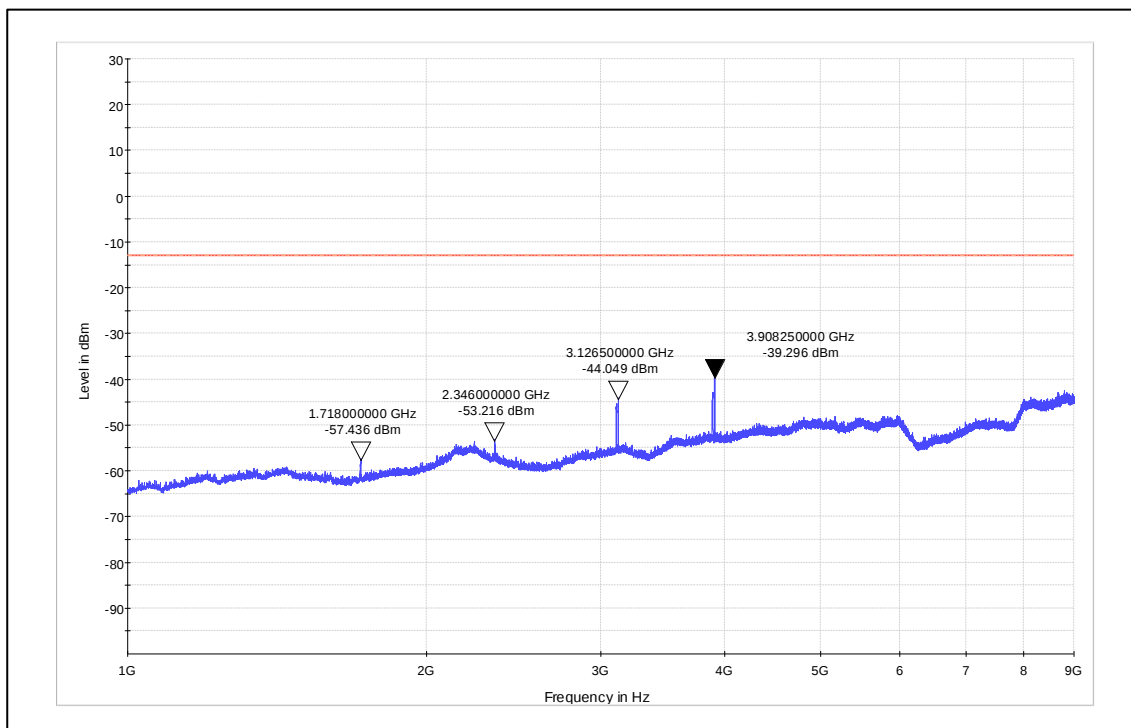
Seite 47 von 57
Page 1 of 57

Band 13
Channel: 779.5MHz



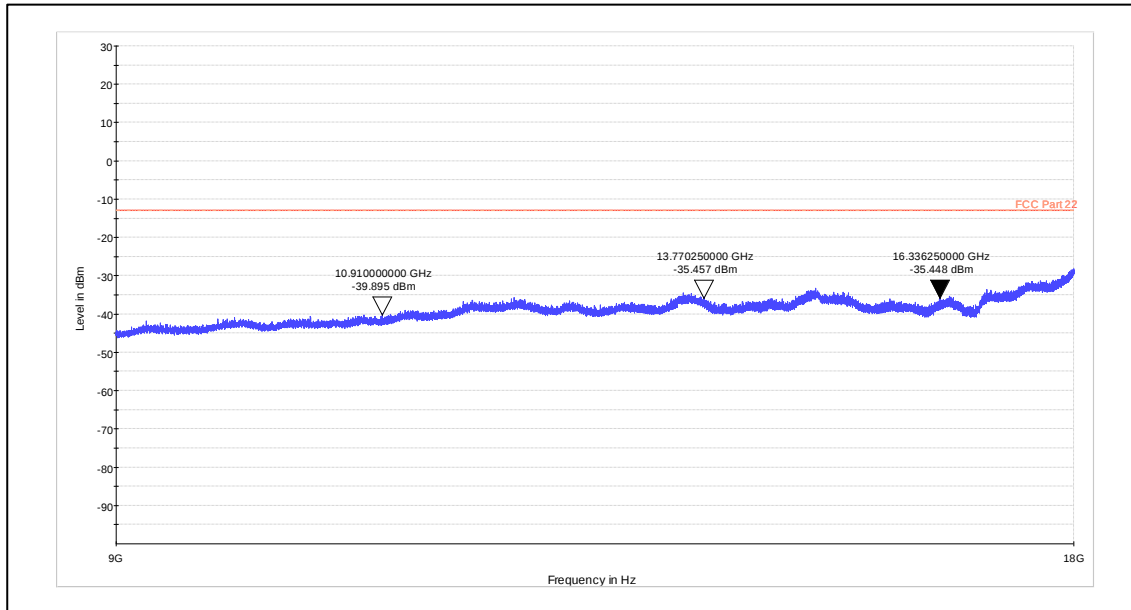
Frequency range: 1GHz-9GHz

Polarization: Vertical



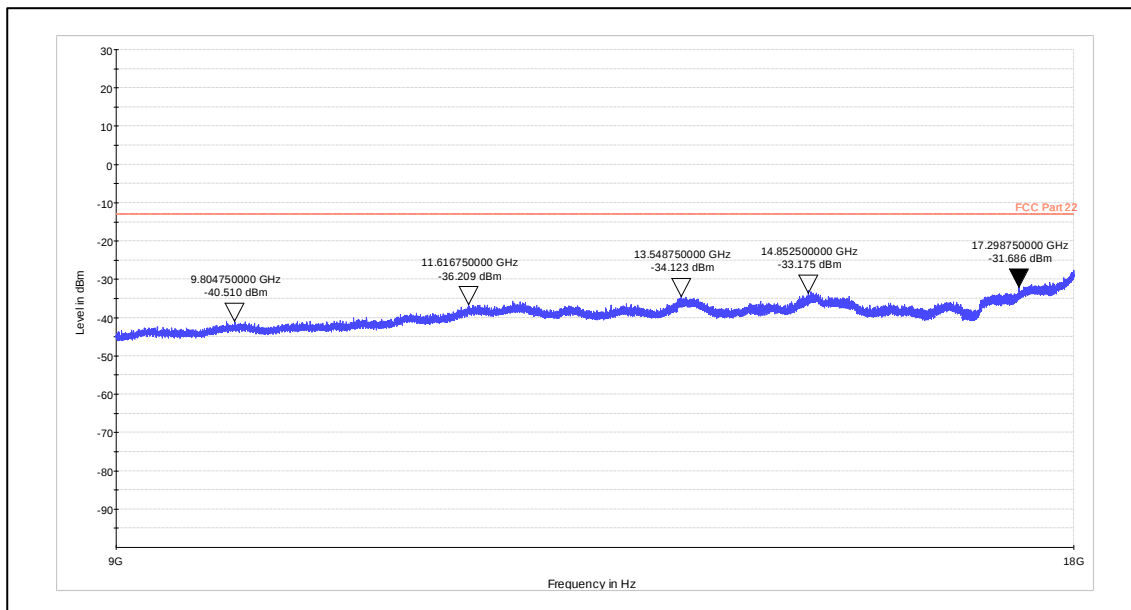
Frequency range: 1GHz-9GHz

Polarization: Horizontal



Frequency range: 9GHz-18GHz

Polarization: Vertical



Frequency range: 9GHz-18GHz

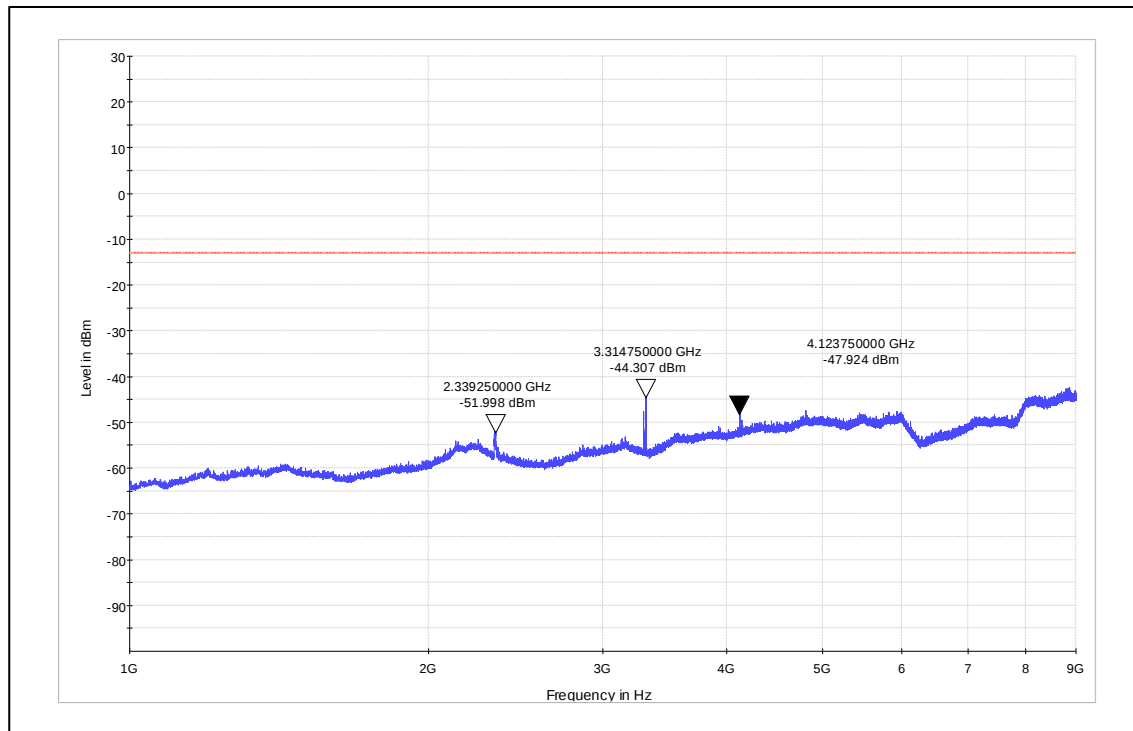
Polarization: Horizontal

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

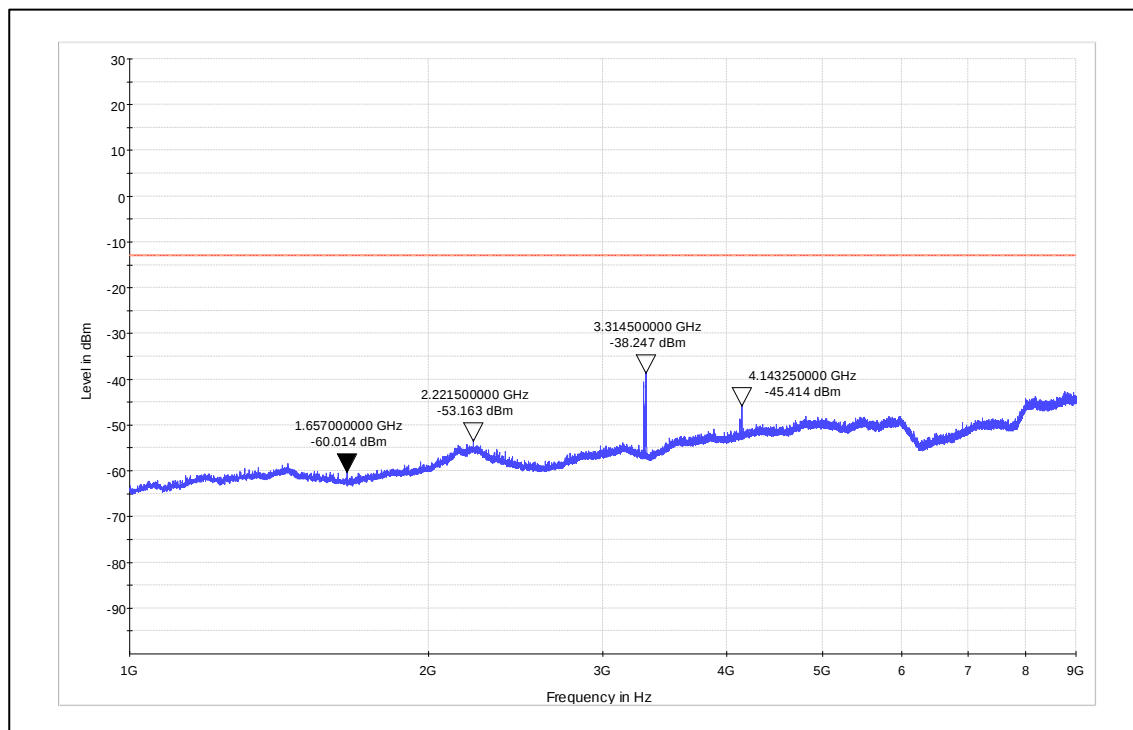
Seite 49 von 57
Page 1 of 57

Band 26
Channel: 826.5MHz



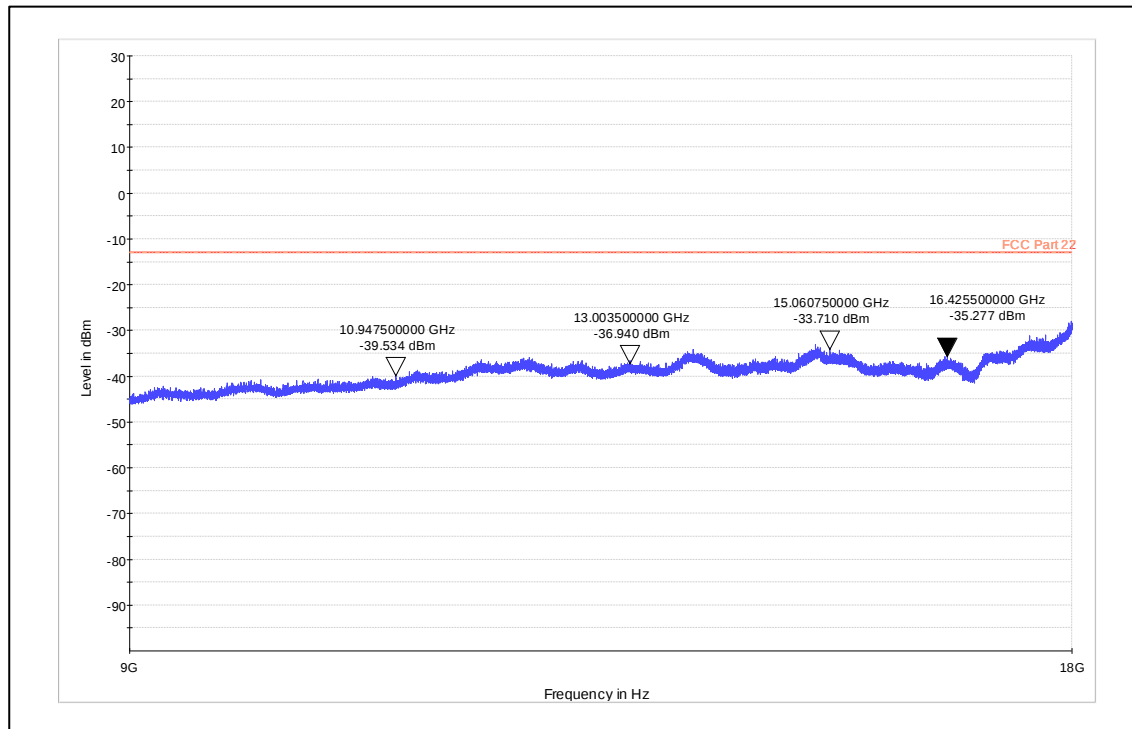
Frequency range: 1GHz-9GHz

Polarization: Vertical



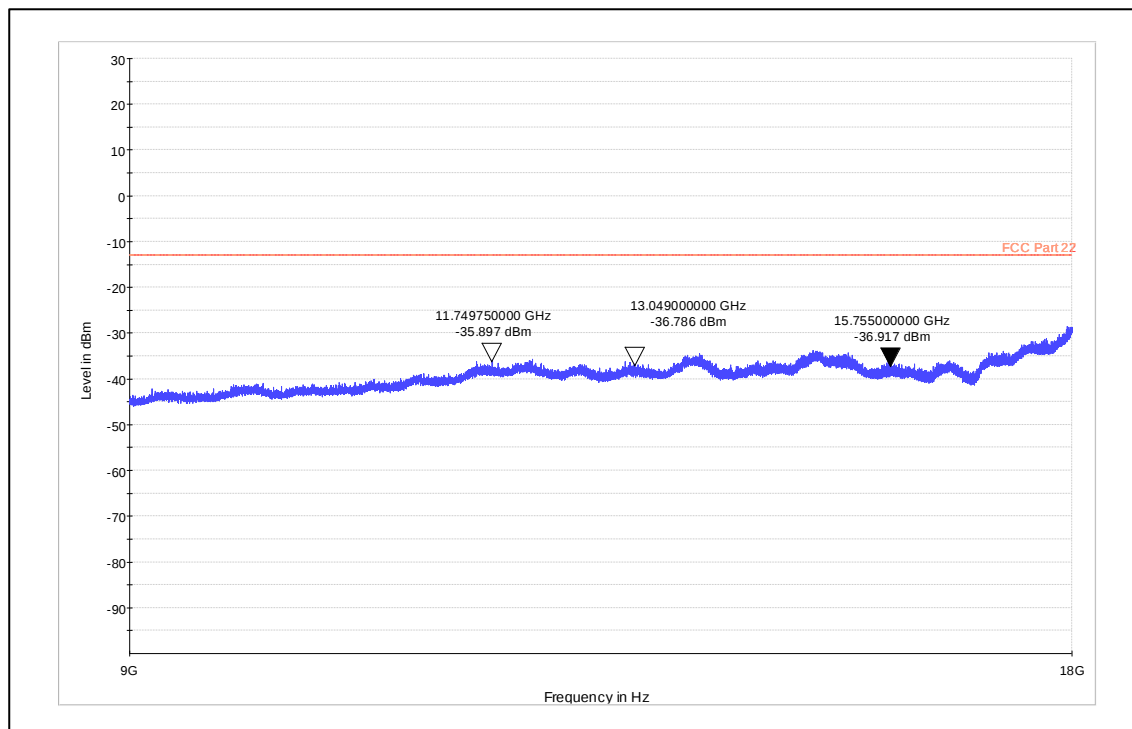
Frequency range: 1GHz-9GHz

Polarization: Horizontal



Frequency range: 9GHz-18GHz

Polarization: Vertical



Frequency range: 9GHz-18GHz

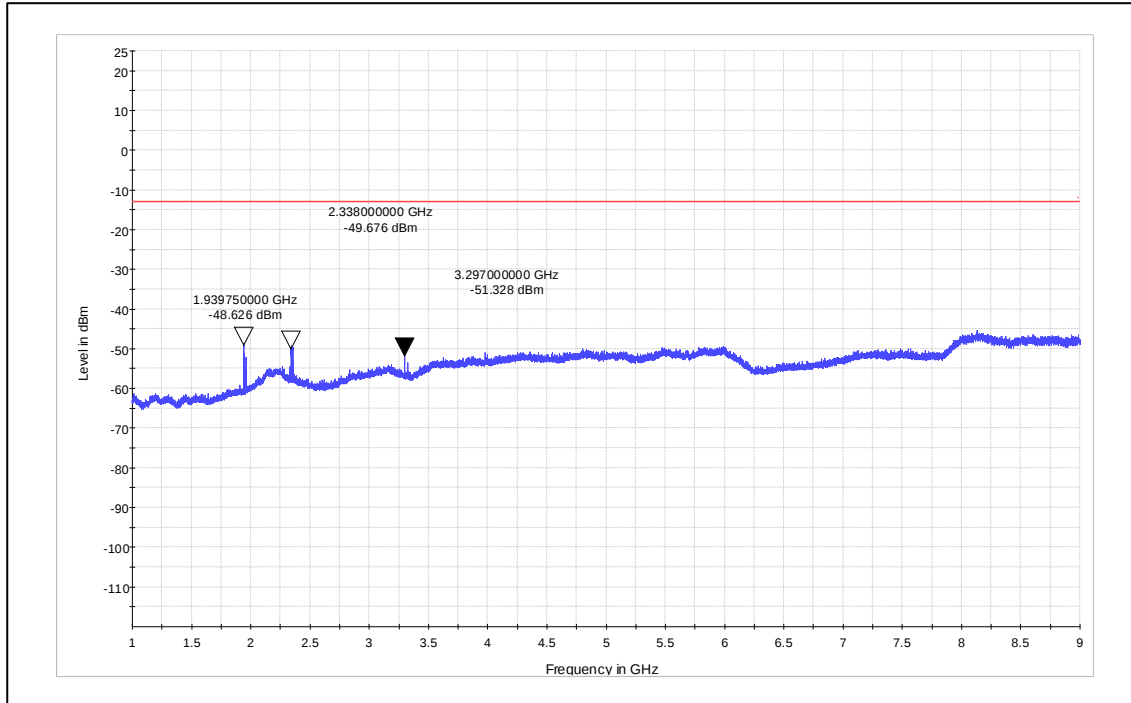
Polarization: Horizontal

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

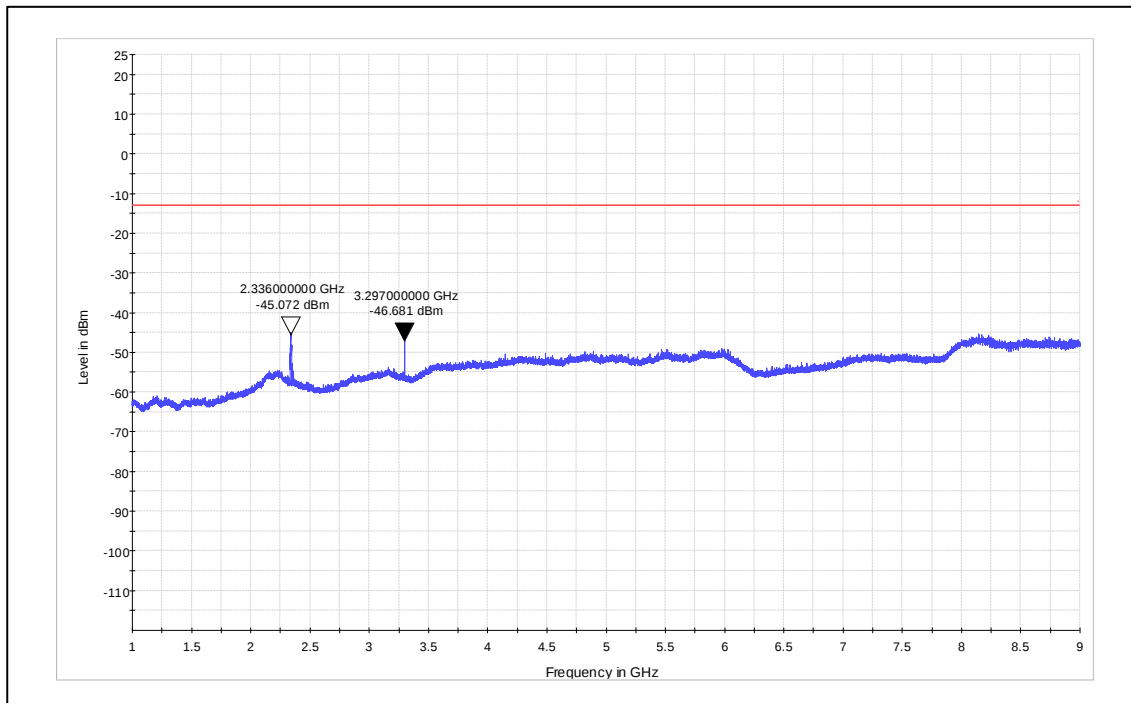
Seite 51 von 57
Page 1 of 57

GSM
Mode:GPRS
Channel: 824.2MHz



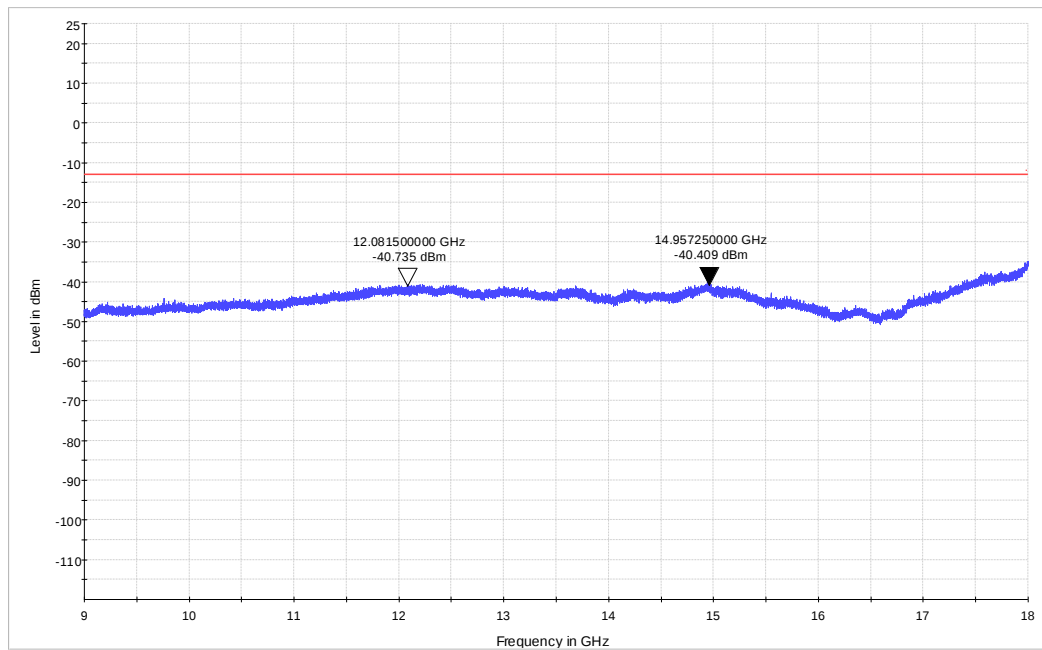
Frequency range: 1GHz-9GHz

Polarization:Vertical



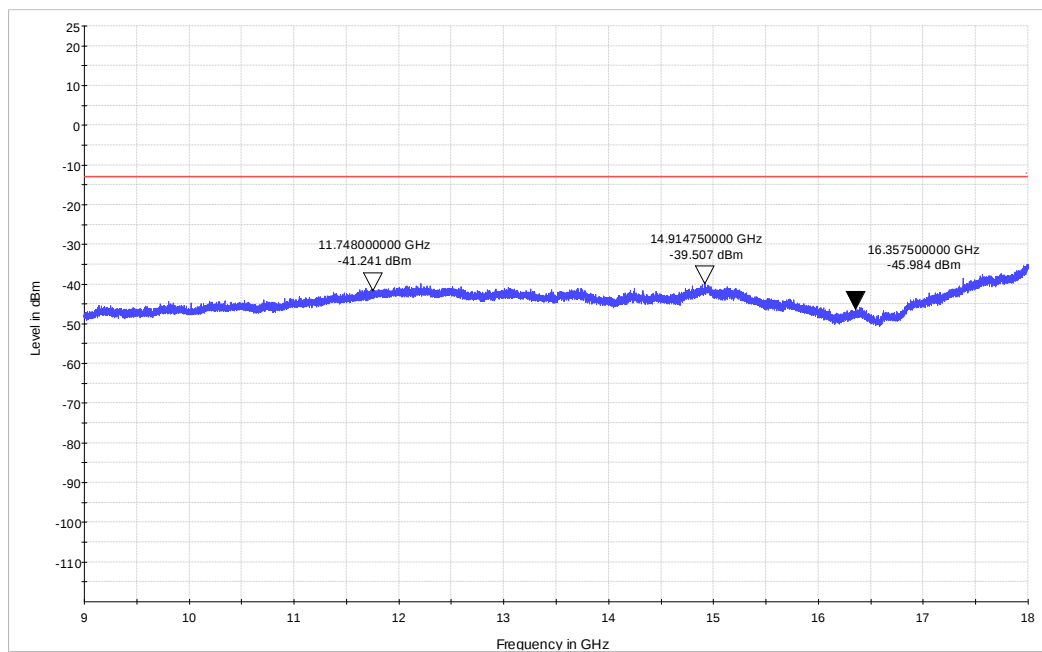
Frequency range: 1GHz-9GHz

Polarization:Horizontal



Frequency range: 9GHz-18GHz

Polarization: Vertical



Frequency range: 9GHz-18GHz

Polarization: Horizontal

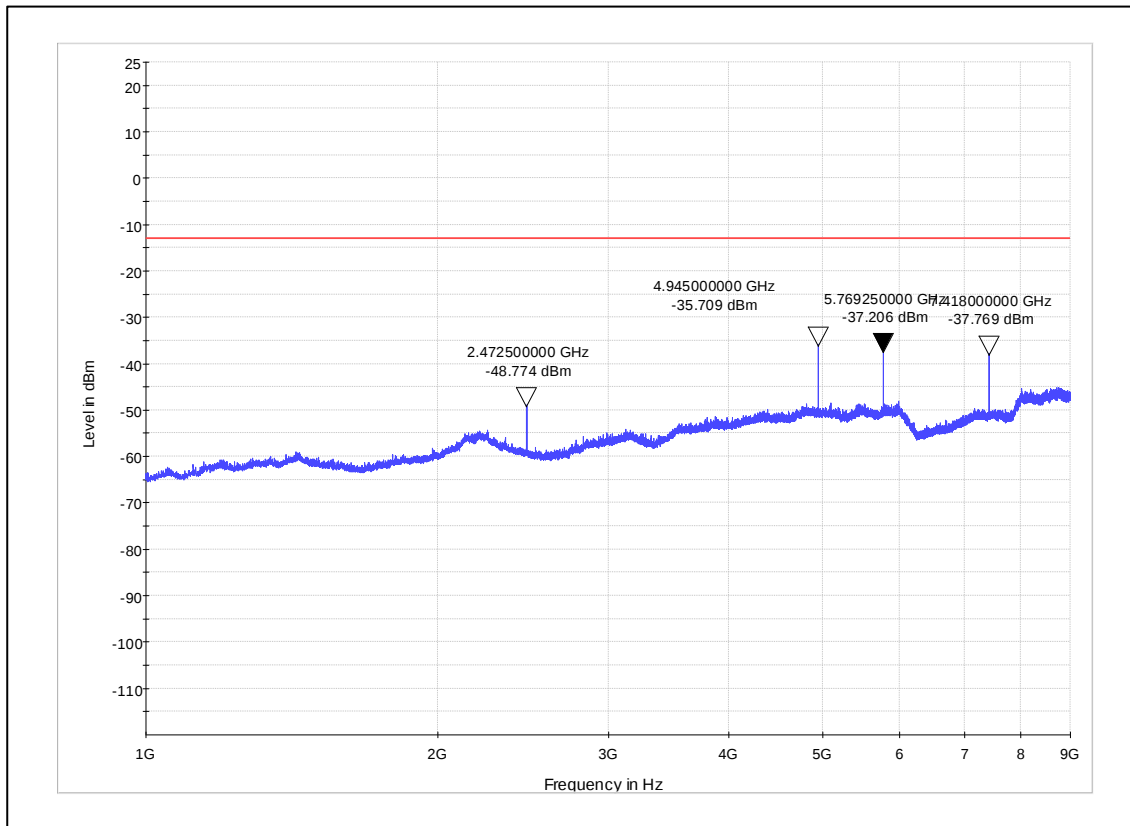
Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

Seite 53 von 57
Page 1 of 57

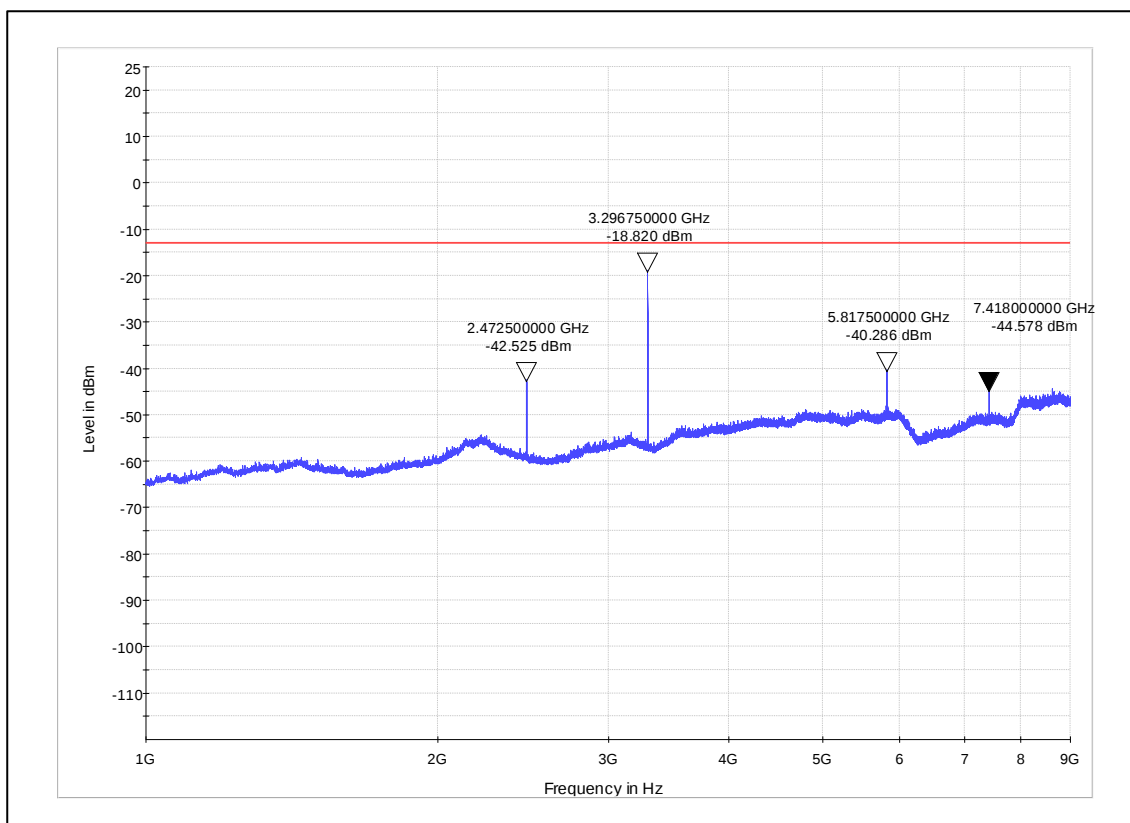
Mode:EGPRS

Channel: 824.2MHz



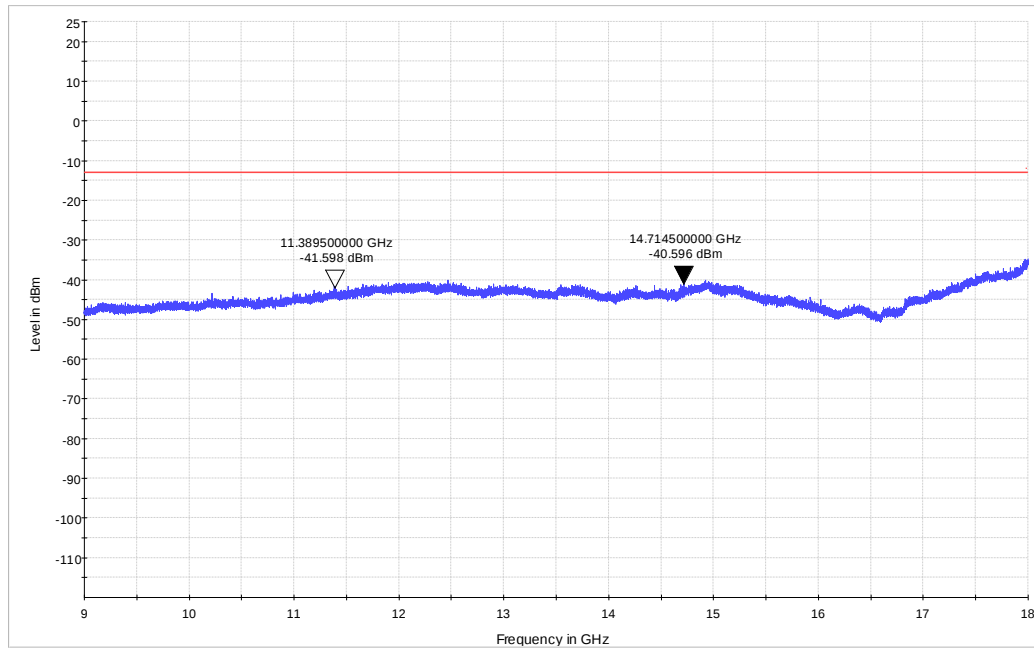
Frequency range: 1GHz-9GHz

Polarization:Vertical



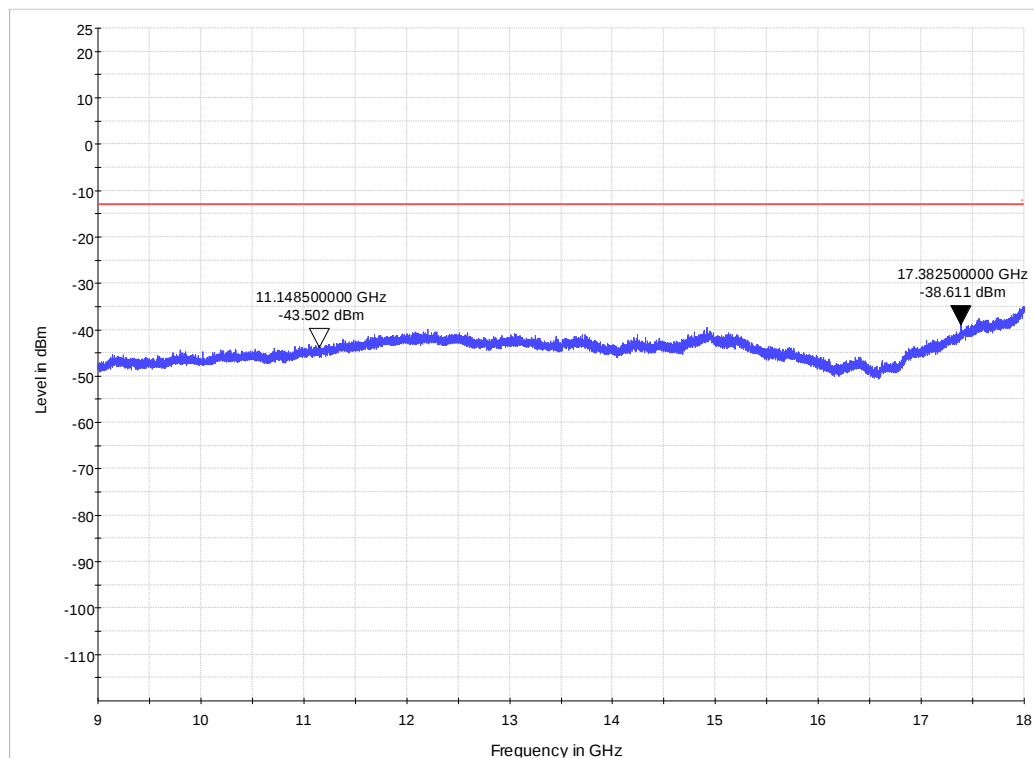
Frequency range: 1GHz-9GHz

Polarization:Horizontal



Frequency range: 9GHz-18GHz

Polarization: Vertical



Frequency range: 9GHz-18GHz

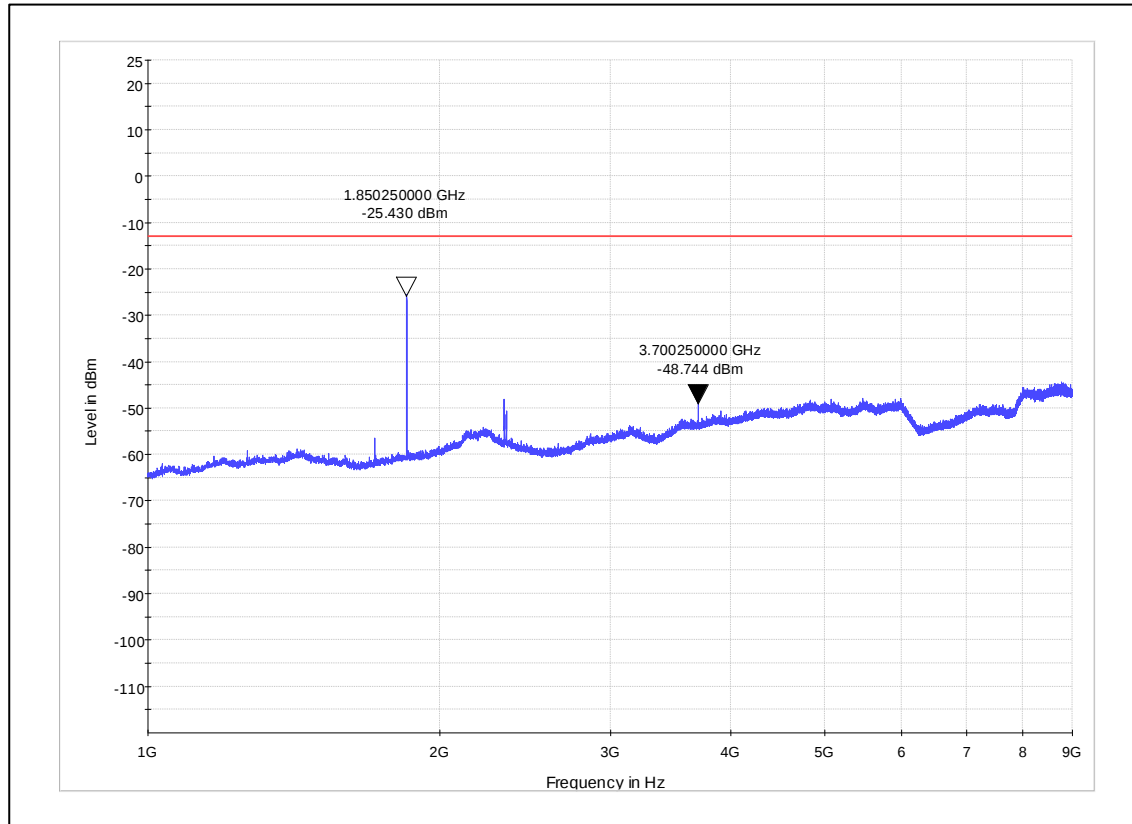
Polarization: Horizontal

Prüfbericht - Nr.:
Test Report No.:

ULR-TC568821300000017F

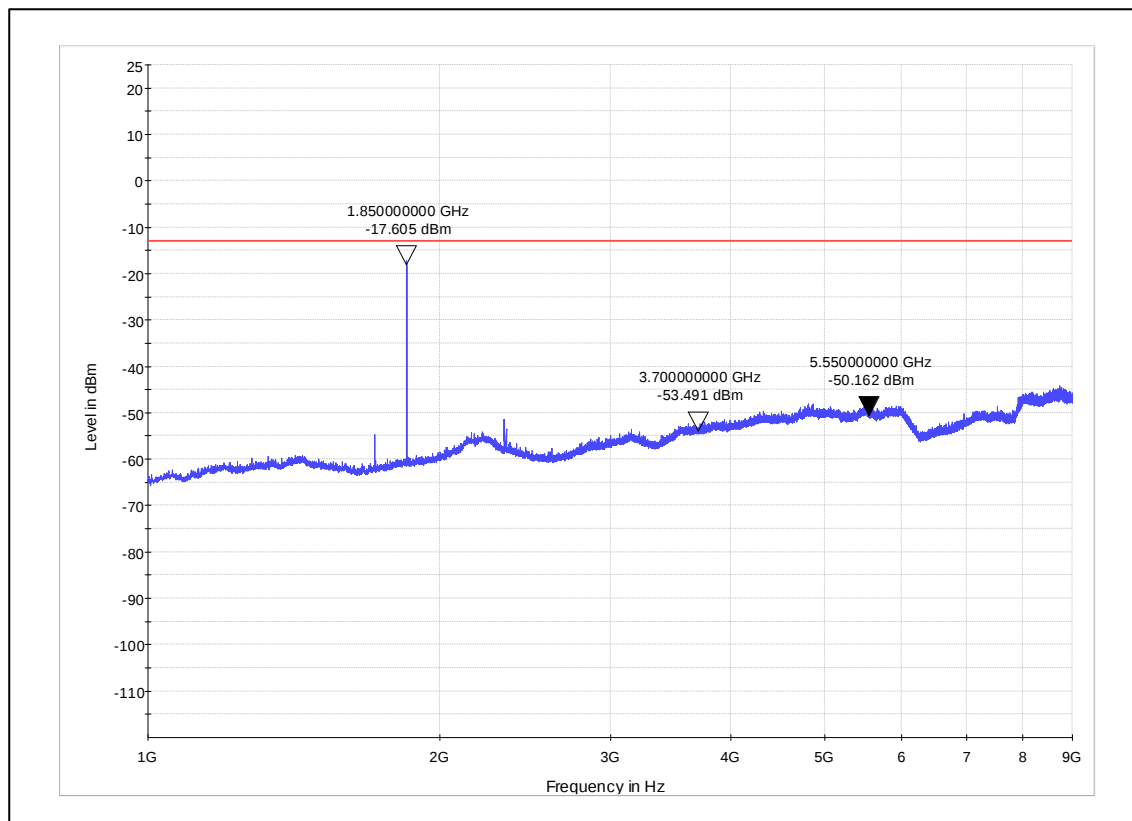
Seite 55 von 57
Page 1 of 57

Mode:GPRS
Channel: 1850.2MHz



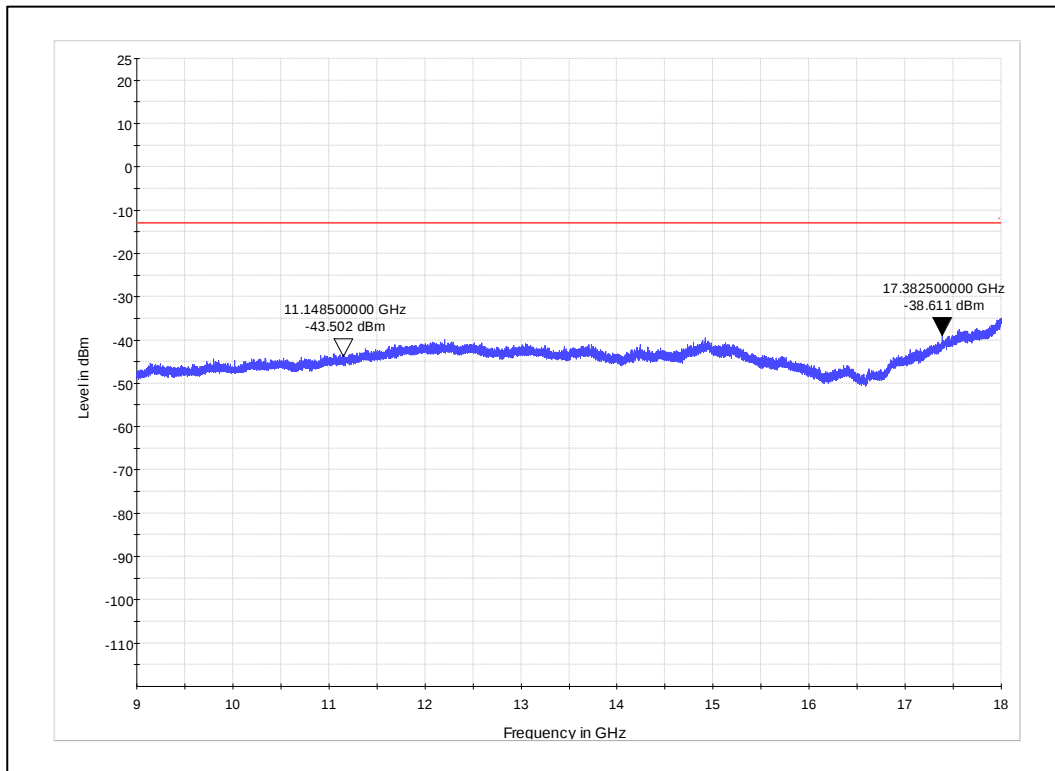
Frequency range: 1GHz-9GHz

Polarization:Vertical



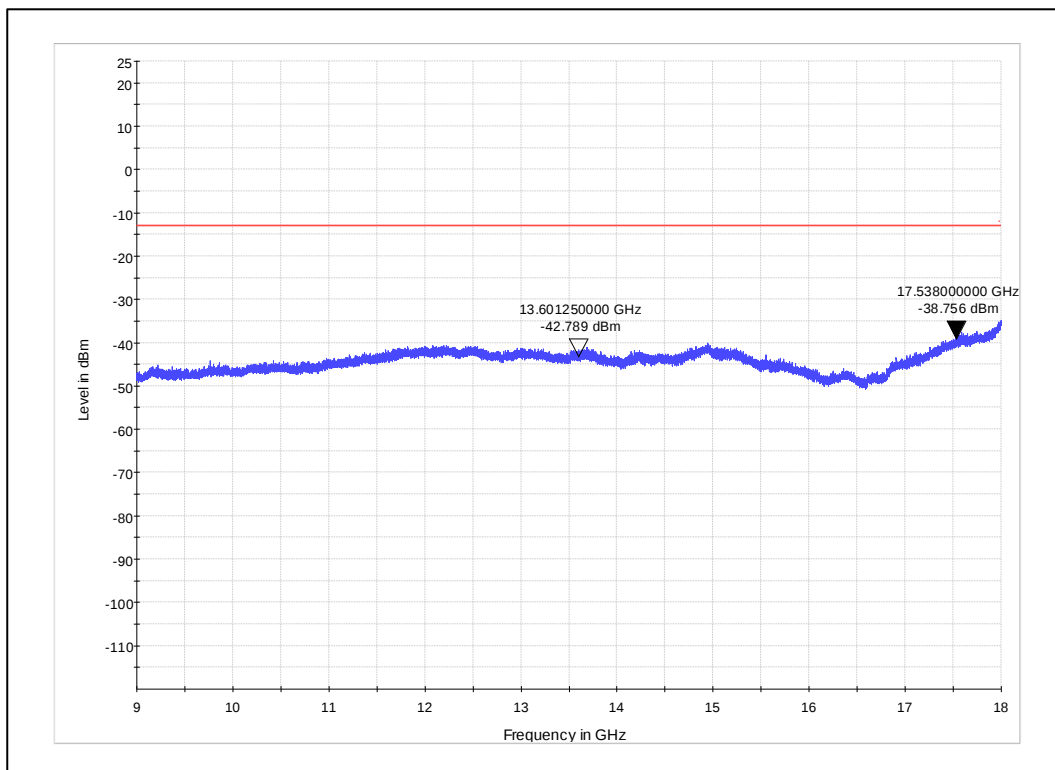
Frequency range1GHz-9GHz

Polarization:Horizontal



Frequency range: 9GHz-18GHz

Polarization: Vertical



Frequency range: 9GHz-18GHz

Polarization: Horizontal

9 LIST OF TABLES

Table 1: List of test and measurement instruments 5

Table 2: Instrument application Software versions 5

Table 3: Ratings and System Details as declared by Client* 6

Table 4: Measurement Uncertainty 7

Table 5: TUV Sample identification details..... 8

Table 6: Mode of Operation..... 9

*****END OF TEST REPORT*****