

Prüfbericht-Nr.: Test report no.:	IN25R2HW 001	Auftrags-Nr.: Order no.:	146973395 010	Seite 1 von 74 Page 1 of 74
Kunden-Referenz-Nr.: Client reference no.:	2053360	Auftragsdatum: Order date:	2024-10-14	
Auftraggeber: Client:	Fisher Controls International LLC 205 South Center Street, Marshalltown IA 50158, USA			
Prüfgegenstand: Test item:	FISHER™ ARMOR™			
Bezeichnung / Typ-Nr.: Identification / Type no.:	ARMOR 8000			
Auftrags-Inhalt: Order content:	Testing and issue of Test Report with Grant Certificate			
Prüfgrundlage: Test specification:	47 CFR Part2, 47 CFR Part 27, FCC Part15 Subpart C 15.207 RSS Gen Issue 5, RSS 139 Issue 4, RSS 199 Issue 4, RSS 130 Issue 2			
Wareneingangsdatum: Date of sample receipt:	2025-02-03			
Prüfmuster-Nr.: Test sample no:	A003919647-002			
Prüfzeitraum: Testing period:	2025-02-17 - 2025-03-07			
Ort der Prüfung: Place of testing:	Wireless laboratory, Bangalore			
Prüflaboratorium: Testing laboratory:	TÜV Rheinland (India) Pvt.Ltd., 27/B, 2nd Cross, Electronic City Phase1 Bangalore -560 100, India FCC Test site registration number: 496599 ISED Test site registration number: 27711			
Prüfergebnis*: Test result*:	Pass			
geprüft von: tested by:			genehmigt von: authorized by:	
Datum: Date: 2025-05-30	Signed by: Naveen Kumar Muthyalapati Venkata		Ausstellungsdatum: Issue date: 2025-05-30	Signed by: Madhu Nagaraju
Stellung / Position:	M.V.Naveen Kumar Senior Engineer		Stellung / Position:	Madhu K.N Assistant Manager
Sonstiges / Other:	FCC ID: W68ARMOR-8000 IC: 8247A-ARMOR8000 HVIN: ARMOR8000			
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:	Prüfmuster vollständig und unbeschädigt Test item complete and undamaged			
* Legende:	P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet			
* Legend:	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 above mentioned 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>				

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- | | |
|---|--|
| 1 | <p>Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben.</p> <p>Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden.</p> <p><i>The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.</i></p> |
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| 3 | <p>Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben.</p> <p>Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt.</p> <p><i>Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report.</i></p> <p><i>Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.</i></p> |
| 4 | <p>Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnissen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2023, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezüglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019.</p> <p><i>The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the "Zero Guard Band Rule" and "Simple Acceptance" in accordance with ILAC G8:2019 and IEC Guide 115:2023, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019.</i></p> |

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TEST SUMMARY

Test Item	FCC Clause	ISED Clause	Results
Conducted Output Average Power and Peak to Average Power ratio	§27.50	RSS-139, §6.4 RSS-199, §4.4 RSS-130, §4.4	Pass
Equivalent Isotropic Radiated Power (EIRP) / Effective Radiated Power (ERP)	§2.1046 §27.50	RSS-Gen, §6.12; RSS-139, §6.4	Pass
Field strength of spurious radiation	§2.1053 §27.53(c)(f)	RSS-Gen, §6.13; RSS-139, §6.5 RSS-199, §4.5; RSS-130, §4.6	Pass
Frequency Stability	§2.1055 §27.54	RSS-Gen, §6.11; RSS-139, §6.3	N/T
Emission Bandwidth and Occupied Bandwidth	§2.1049	RSS-Gen, §6.6	N/T
Band Edge	§2.1051 §27.53(c)	RSS-Gen, §6.13; RSS-139, §6.5	N/T
Spurious emissions at antenna terminals	§2.1051 §27.53(c)	RSS-Gen, §6.13; RSS-139, §6.5	N/T
A.C Power Lines Conducted emission	FCC 15.207	RSS Gen Issue 5, Section 8.8	Pass

Note:

N/T: Not Tested – These test cases have not been executed, as the product incorporates the certified RF module: **LTE Cat M1 & Cat NB2 Module** from **Quectel Wireless Solutions Co. Ltd.** This module has been tested at **TA Technology (Shanghai) Co., Ltd**, under **FCC ID: XMR2020BG95M2** and **IC: 10224A-2020BG95M2**. Therefore, the mentioned test cases are excluded, and relevant details can be found in the module's test reports of FCC: R1907A0448-R1V2 & IC: R1907A0448-R9V1, corresponding to the respective FCC ID and IC.

Product	Applicant	FCC ID	IC	Report No	IC Report No	Issued By	FCC Grant Date	IC Grant Date
LTE Cat M1 & Cat NB2 Module	Quectel Wireless Solutions Co. Ltd	XMR2020BG95M2	10224A-2020BG95M2	R1907A0448-R3V2	R1907A0448-R11V1	TA Technology (Shanghai) Co., Ltd	14 th Feb 2022	17 th June 2020

Product Category: Electronics Testing
Test Discipline: EMC Test Facility

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REVISION HISTORY OF THIS REPORT

Report Number	Version	Description	Issue date
IN25R2HW 001	01	Initial issue of report	2025-05-30

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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 Diagrams
8. Bill of Material
9. User Manual
10. Maximum Permissible Exposure Information

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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	ESW 44	101732	4.73 SP5	17.09.2025	Yearly	Radiated Spurious Emission
Active loop antenna	Frankonia	LAX-10	LAX-10-800	-	23.03.2025	Yearly	
Balun & Biconical Antenna	Schwarzbeck mess-elektronik	BBA 9106+VH BB 9124	9124-1117	-	03.06.2025	Yearly	
Log-Periodic Antenna	Schwarzbeck mess-elektronik	VUSLP 9111B	9111B-324	-	31.05.2025	Yearly	
Horn Antenna	Schwarzbeck	BBHA 9120 D	9120D-01944	-	12.11.2025	Yearly	
Broadband Antenna	Frankonia	ALX-4000	ALX-4000-806	-	30.05.2025	Yearly	
EMI Test Receiver	Rohde & Schwarz	ESW44	101773	1.72.SP1	26.01.2026	Yearly	
Semi Anechoic Chamber	Frankonia	-	-	-	-	-	
Fully Anechoic Chamber	Albatross	-	-	-	-	-	Conducted Test Parameters
Spectrum Analyzer	Agilent	E4407B	US411927 72	A.14.07	16.01.2026	Yearly	
10 dB RF Attenuator (DUT-1)	Rohde & Schwarz	-	-	-	15.10.2025	Yearly	Conducted AC Power line Test
EMI Receiver	Rohde & Schwarz	ESR7	101133	3.48 SP3	16.09.2025	Yearly	
Two Line LISN	Scientific	SMLIN6 3-2	161101	-	06.03.2026	Yearly	
Pulse limiter [0 - 30 MHz]	Rohde & Schwarz	ESH3-Z2	100811	-	08.07.2025	Yearly	

Table 2: Instrument application Software versions

SL. No.	Test Type	Application software	Version
1	Radiated spurious emission measurement in FAC	EMC 32	10.60.20
2	Radiated spurious emission measurement in 10mtr SAC	BAT EMC	3.20.0.17

3 GENERAL PRODUCT INFORMATION

3.1 Product Function and Intended Use

Designed to monitor/collect the telemetry data (Inlet, Outlet, Pilot pressure & Displacement) of the Gas Regulator. This telemetry data will be logged into the local Memory and either transfer to the Cloud via 4G LTE CAT M1 wireless communication or to the SCADA system through the Ethernet Communication.

3.2 Ratings and System Details of Equipment under Test

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

Radio Technology		LTE				
LTE E-UTRA operating bands		Band	Bandwidth (MHz)	UL Frequency (MHz)	DL Frequency (MHz)	Modulation
		4	1.4,3,5,10,15,20	1710 - 1755	2110 - 2155	QPSK, 16QAM
		12	1.4, 3, 5, 10	699 - 716	729 - 746	QPSK, 16QAM
		13	5, 10	777 - 787	746 - 756	QPSK, 16QAM
Transmitted Power for LTE (dBm)		Band	Power Class	Max. Conducted Average. Output Power		
		4	Power Class 5: 21dBm	21.21dBm_QPSK_1745.00MHz_CB20MHz_RB6#0		
		12	Power Class 5: 21dBm	21.39dBm_16QAM_711MHz_CB10MHz_RB4#2		
		13	Power Class 5: 21dBm	20.69dBm_QPSK_784.5MHz_CB5MHz_RB6#0		
Modulation		LTE system, QPSK modulation LTE system, 16QAM modulation				
Antenna Type		PCB Antenna				
Number of Antenna		Main – 1				
Antenna Gain		Refer Table 4				
Supply Voltage to Product		24VDC (powered through AC-DC Adapter)				
Environmental conditions	Storage condition	-40°C to +70°C				
	Operating condition	-40°C to +70°C				
EUT Dimension (L x W x H)		10.2"*5.7"*4" in inches				

***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.

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Antenna Type	Cellular Bands	Uplink Frequency Range (MHz)	Downlink Frequency Range (MHz)	Peak Antenna Gain (dBi)
Primary Antenna (External)	Band 2	1850 – 1910	1930 – 1990	3.3
	Band 4	1710 – 1755	2110 – 2155	3.3
	Band 5	824 – 849	869 – 894	-1.4
	Band 12	699 – 716	729 – 746	-1.4
	Band 13	777 – 787	746 – 756	-1.4

Table 4: Antenna Gain

***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 5: Measurement Uncertainty

Parameter	Uncertainty
RF output power, conducted	±0.67 dB
Power Spectral Density, conducted	±0.85 dB
Unwanted Emissions, conducted	±2.58 dB
All emissions, radiated	±3.67 dB

4 TEST SET-UP AND OPERATION MODE

4.1 Principle of Configuration Selection

Transmission was enabled with highest possible duty cycle transmission on low, mid and high channel.

4.2 Test Operation and Test Software

Hardware Name: ARMOR8000

Software Version: 2.0

BLE Test Firmware: Rev_143

4.3 Special Accessories and Auxiliary Equipment

- None

4.4 Countermeasures to achieve EMC Compliance

- None

4.5 Report Reference

Note: Fisher ARMOR has multiple protocols. All the supported wireless protocols and their respective test results are issued in separate test reports, following table lists the report numbers.

Radio Protocol	Report Number
RF test report for FCC Part22 Subpart H & RSS Gen Issue 5, RSS 132 Issue 4	IN25DYSZ 001
RF test report for FCC Part24 Subpart E & RSS Gen Issue 5, RSS-133 Issue 7	IN25AC4W 001
RF test report for FCC Part27 Subpart C & RSS Gen Issue 5, RSS 139 Issue 4, RSS 199 Issue 4, RSS 130 Issue 2	IN25R2HW 001
RF test report for FCC Part15 Subpart C & RSS Gen Issue 5; RSS 247 Issue 3	IN25JD8U 001

4.6 TUV Sample Identification

1. TUV Sample Identification number: A003919647-002 – Radiated & Conducted test Sample.

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5 Operational Description

The Fisher™ ARMOR 8000 Series is a remote monitoring device that is configurable to serve as a regulator monitoring solution or a station monitoring solution. The ARMOR device offers flexible measurement options, including 1, 2 or 3 pressure points, remote travel monitoring and discrete monitoring. It communicates through various channels, such as MQTT/Sparkplug B, cellular connectivity with DeltaV SaaS, Ethernet connectivity and low-energy Bluetooth® Technology with a dedicated application.

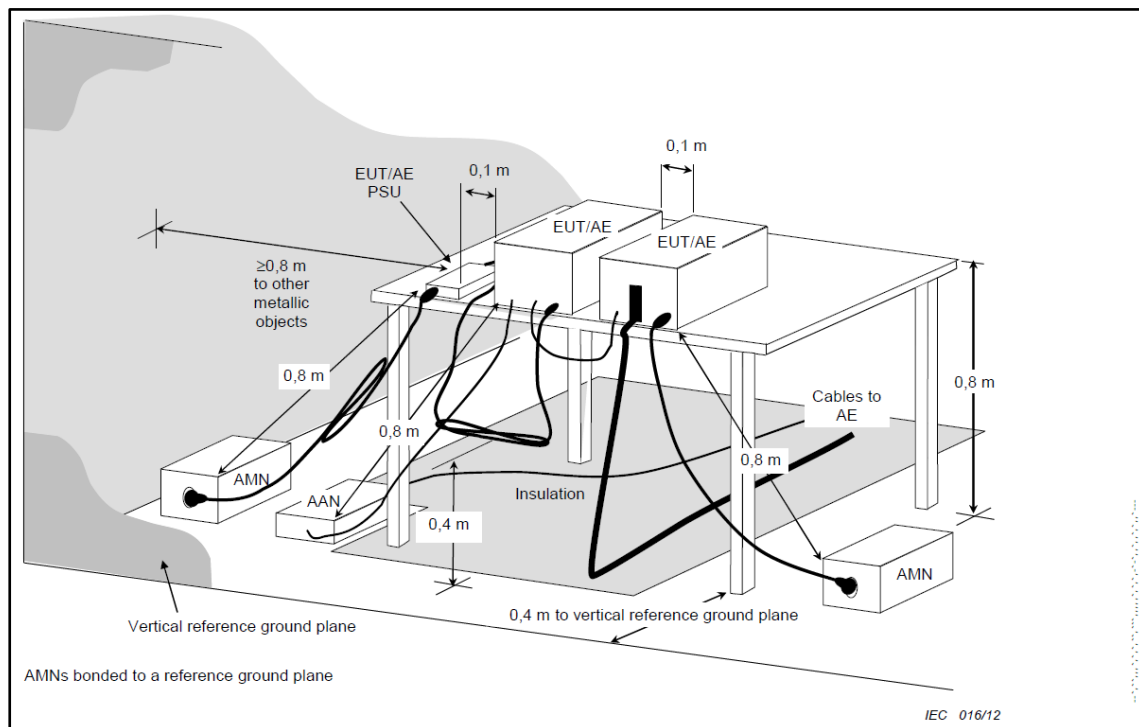
6 TEST METHODOLOGY

6.1 AC Power lines Conducted emission

Measured levels of ac powerline conducted emission across the 50Ω LISN port (to which the EUT is connected). All emission voltage and current measurements shall be made on each current-carrying conductor at the plug end of the EUT power cord by the use of mating plugs and receptacles on the LISN, if used. Equipment shall be tested with power cords that are normally supplied or recommended by the manufacturer and that have electrical and shielding characteristics that are the same as those cords normally supplied or recommended by the manufacturer.

The device is placed on the test table, raised 80cm above the reference ground plane. The vertical conducting plane is located 40cm to the rear of the device. AC Conducted emission measurement is made over frequency range from 150 kHz to 30MHz, this measurement was performed an AC adaptor 110V AC 60Hz supply

6.1.1 Test Setup Configuration



6.2 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.

6.2.1 Test Setup Configuration

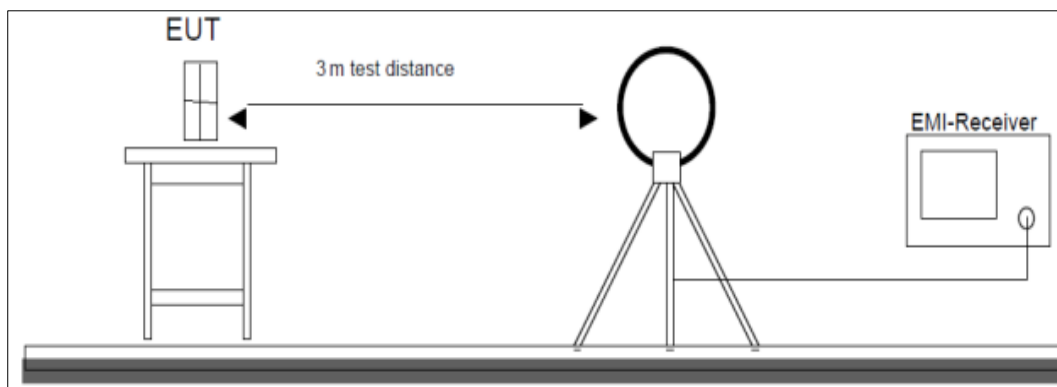


Figure 1: Frequency Range 9 kHz- 30 MHz

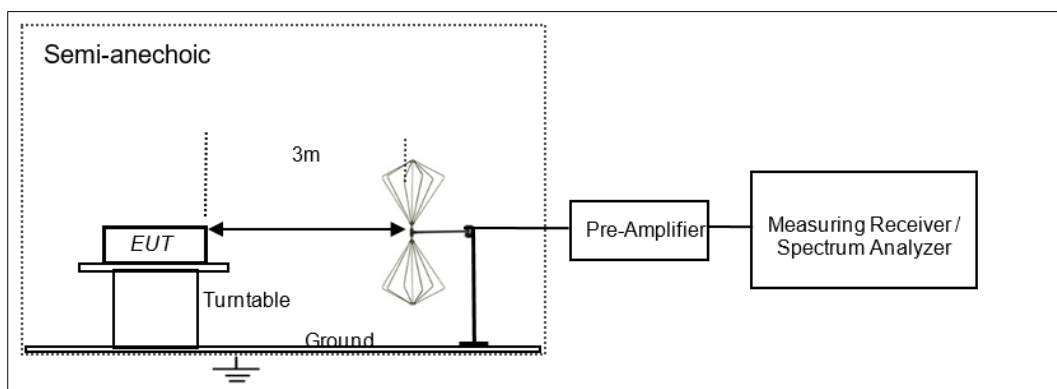


Figure 2: Frequency Range 30 MHz – 200 MHz

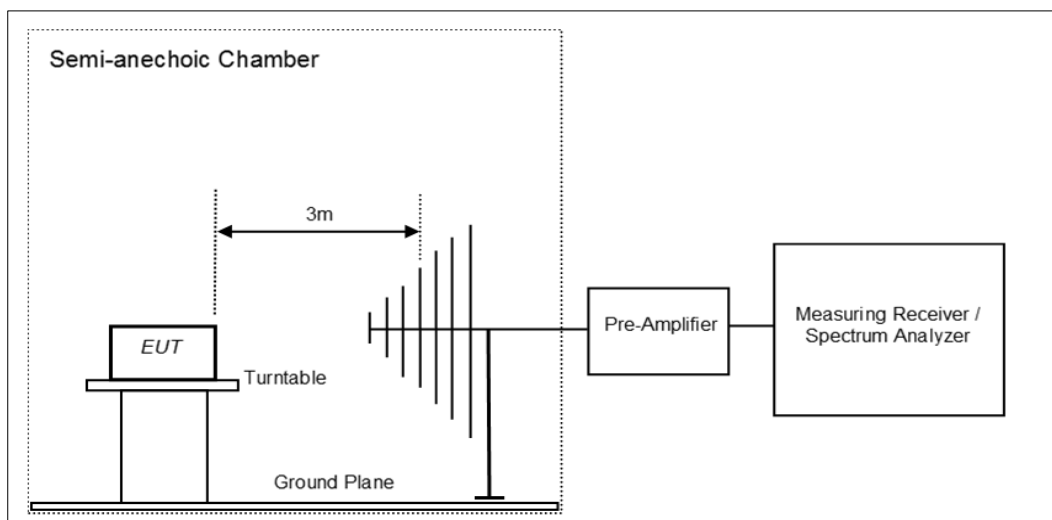


Figure 3: Frequency Range 200 MHz - 1GHz

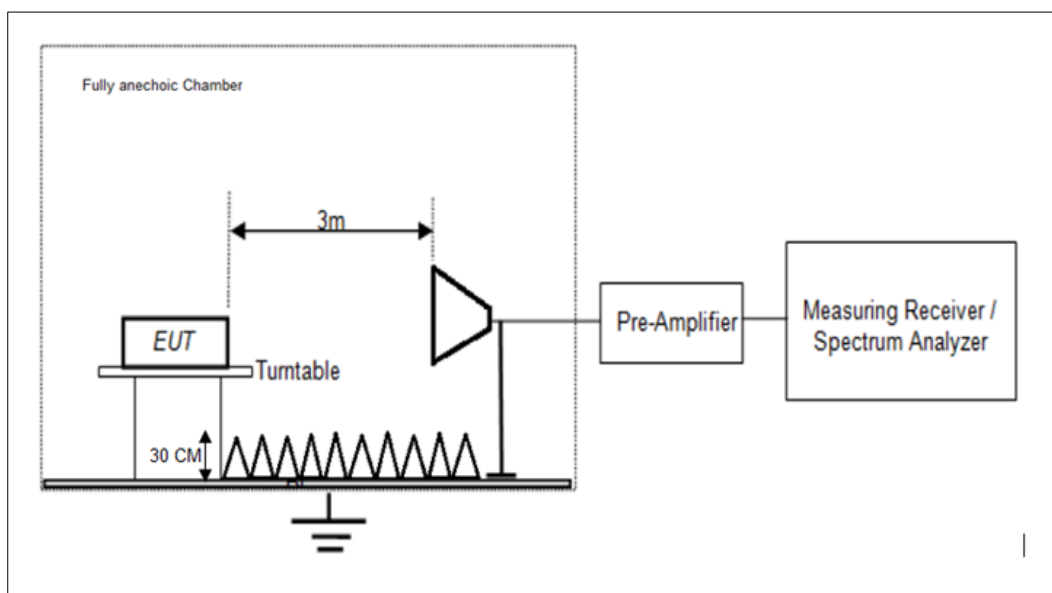


Figure 4: Frequency Range above 1 GHz

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

Test performed as per ANSI C63.26-2015

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.

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

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

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

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.

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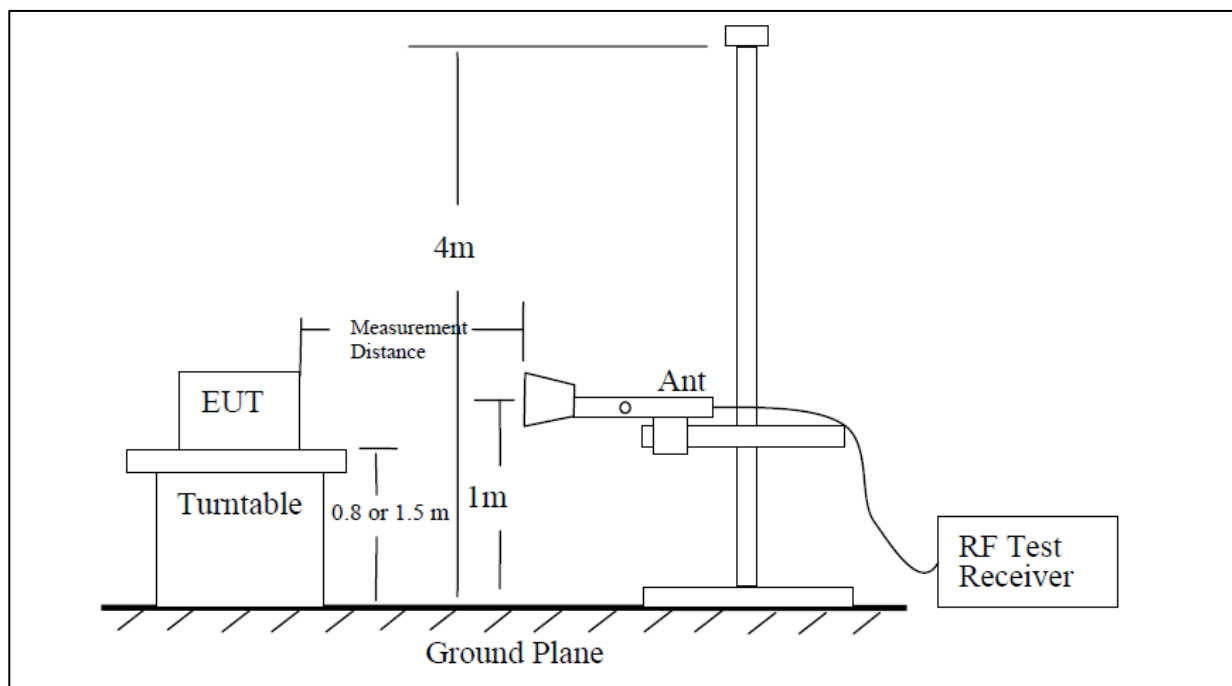
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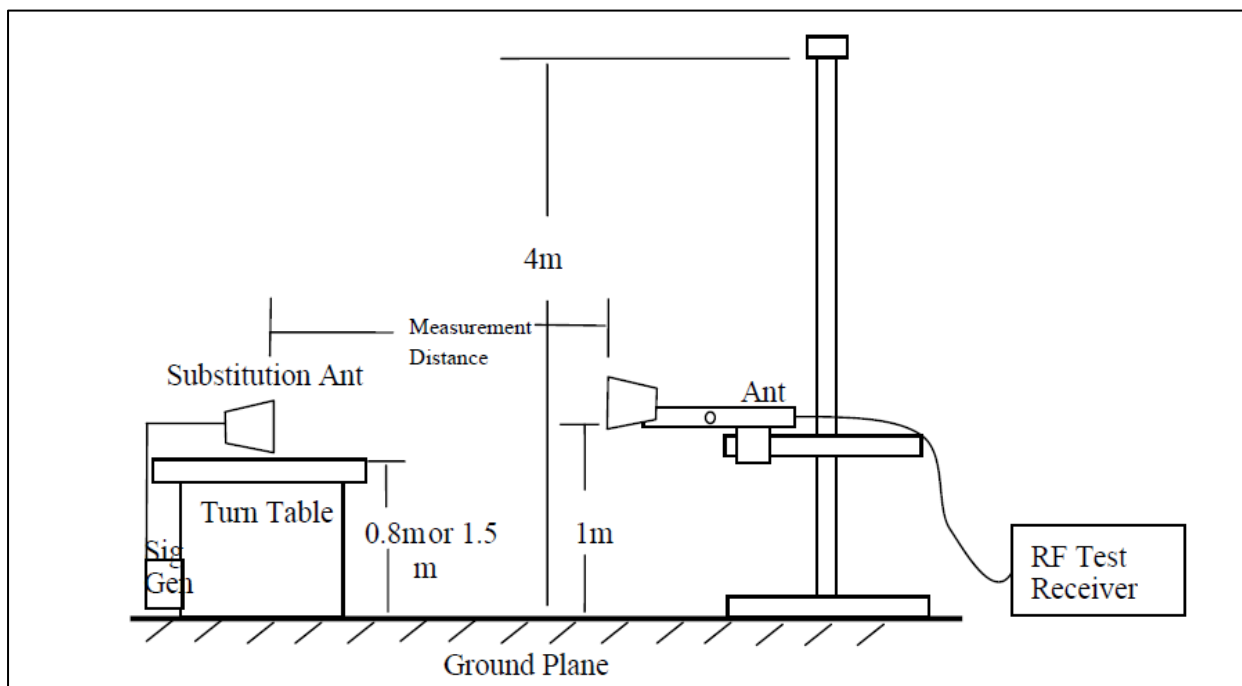
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Test site-up for radiated measurements



Substitution method set-up for radiated emission



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7 TEST RESULTS

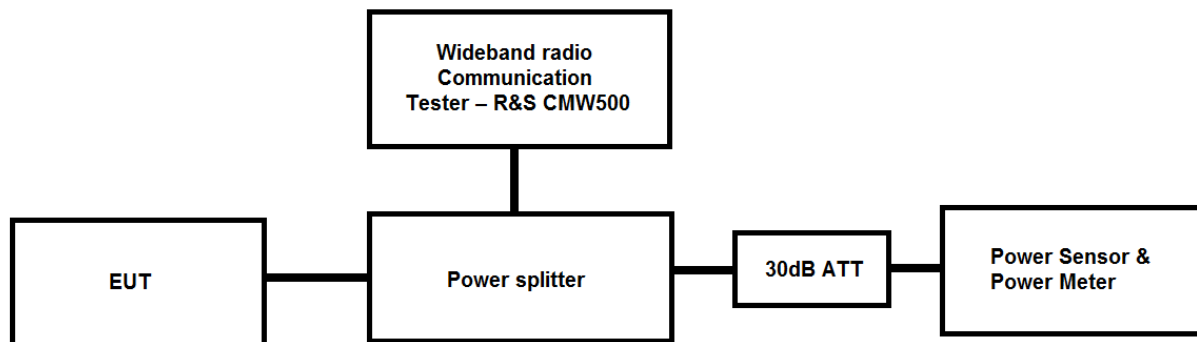
7.1 Peak-Average Ratio

Result

Pass

Specification	FCC Part §2.1046; § 27.50(d); §27.50(a); §27.50(c); §27.50 RSS-139, §6.4; RSS-199, §4.4; RSS-130, §4.4; RSS-130, §4.4 ANSI C63.26-2015
Test Method / Procedure	As per subclause 5 in 971168 D01 Power Meas License Digital Systems v03r01
Detector Function	Peak/Average
Requirement	PAPR ≤ 13dB

Test Setup:



Environmental Conditions:

Temperature: +22.5°C

Voltage: 24V DC through DC supply

Relative Humidity: 62%

KDB Guidelines applied:

Measurements were made as per section 5.2.4 in KDB 971168 D01 Power Meas License Digital Systems v03r01

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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. PAPR (dB) = Total Peak Power(dBm) – Total Average Power(dBm)

PAPR Test Results:

Band: 4

Modulation: QPSK

Cell Bandwidth (MHz)	Channel Frequency (MHz)	Index	RB Position	RB Allocation	Total Peak Power (dBm)	Total Average power (dBm)	Calculated PAPR (dB)	Limit PAPR (dB)
1.4	1710.70	0	1	0	22.98	19.20	3.78	13.00
	1710.70	0	6	0	23.88	18.89	4.99	13.00
	1732.50	0	1	0	24.24	20.20	4.04	13.00
	1732.50	0	6	0	23.83	19.00	4.83	13.00
	1754.30	0	1	5	24.28	20.23	4.05	13.00
	1754.30	0	6	0	24.02	19.11	4.91	13.00
3	1711.50	0	1	0	24.76	20.93	3.83	13.00
	1711.50	0	6	0	23.90	18.94	4.96	13.00
	1732.50	0	1	0	24.24	20.21	4.03	13.00
	1732.50	0	6	0	23.79	19.00	4.79	13.00
	1753.50	1	1	5	24.22	20.20	4.02	13.00
	1753.50	1	6	0	24.10	19.20	4.90	13.00
5	1712.50	0	1	0	24.03	19.90	4.13	13.00
	1712.50	0	6	0	24.70	19.93	4.77	13.00
	1732.50	0	1	0	24.20	20.17	4.03	13.00
	1732.50	0	6	0	24.72	20.16	4.56	13.00
	1752.50	0	1	5	24.40	20.43	3.97	13.00
	1752.50	3	6	0	24.80	20.18	4.62	13.00
10	1715.00	3	1	0	24.02	19.99	4.03	13.00
	1715.00	0	4	0	25.10	21.06	4.04	13.00
	1732.50	0	1	0	24.19	20.15	4.04	13.00
	1732.50	0	4	0	25.21	21.18	4.03	13.00
	1750.00	7	1	5	24.16	19.99	4.17	13.00
	1750.00	7	4	2	25.16	21.10	4.06	13.00
15	1717.50	3	1	0	24.01	19.97	4.04	13.00
	1717.50	0	6	0	25.28	20.97	4.31	13.00
	1732.50	0	1	0	24.20	20.11	4.09	13.00
	1732.50	0	6	0	25.32	21.11	4.21	13.00
	1747.50	10	1	5	24.15	20.03	4.12	13.00
	1747.50	10	6	0	25.55	21.14	4.41	13.00
20	1720.00	0	1	0	24.19	20.23	3.96	13.00
	1720.00	0	6	0	25.26	21.00	4.26	13.00
	1732.50	0	1	0	24.40	20.24	4.16	13.00
	1732.50	0	6	0	25.39	20.95	4.44	13.00
	1745.00	10	1	5	24.01	20.23	3.78	13.00
	1745.00	10	6	0	25.56	21.21	4.35	13.00

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Modulation: 16QAM

Cell Bandwidth (MHz)	Channel Frequency (MHz)	Index	RB Position	RB Allocation	Total Peak Power (dBm)	Total Average power (dBm)	Calculated PAPR (dB)	Limit PAPR (dBm)
1.4	1710.70	0	1	0	24.83	19.75	5.08	13.00
	1710.70	0	6	0	24.53	18.21	6.32	13.00
	1732.50	0	1	0	24.61	19.16	5.45	13.00
	1732.50	0	6	0	24.86	18.54	6.32	13.00
	1754.30	0	1	5	24.80	19.16	5.64	13.00
	1754.30	0	6	0	24.83	18.55	6.28	13.00
3	1711.50	0	1	0	24.63	19.27	5.36	13.00
	1711.50	0	6	0	24.58	18.34	6.24	13.00
	1732.50	0	1	0	24.74	19.22	5.52	13.00
	1732.50	0	6	0	24.69	18.59	6.10	13.00
	1753.50	1	1	5	24.88	19.65	5.23	13.00
	1753.50	1	6	0	24.70	18.50	6.20	13.00
5	1712.50	0	1	0	24.84	19.89	4.95	13.00
	1712.50	0	6	0	24.45	18.07	6.38	13.00
	1732.50	0	1	0	24.97	19.70	5.27	13.00
	1732.50	0	6	0	24.67	18.44	6.23	13.00
	1752.50	0	1	5	24.90	19.69	5.21	13.00
	1752.50	3	6	0	24.78	18.50	6.28	13.00
10	1715.00	3	1	0	25.00	20.12	4.88	13.00
	1715.00	0	4	0	25.66	20.48	5.18	13.00
	1732.50	0	1	0	25.14	19.93	5.21	13.00
	1732.50	0	4	0	25.67	20.53	5.14	13.00
	1750.00	7	1	5	25.10	19.94	5.16	13.00
	1750.00	7	4	2	25.57	20.44	5.13	13.00
15	1717.50	3	1	0	24.92	19.99	4.93	13.00
	1717.50	0	6	0	25.74	20.29	5.45	13.00
	1732.50	0	1	0	25.07	19.85	5.22	13.00
	1732.50	0	6	0	25.71	20.40	5.31	13.00
	1747.50	11	1	5	25.05	19.85	5.20	13.00
	1747.50	11	6	0	25.84	20.38	5.46	13.00
20	1720.00	0	1	0	24.95	19.65	5.30	13.00
	1720.00	0	6	0	25.71	20.37	5.34	13.00
	1732.50	0	1	0	25.23	20.44	4.79	13.00
	1732.50	0	6	0	25.83	20.33	5.50	13.00
	1745.00	15	1	5	25.09	20.17	4.92	13.00
	1745.00	15	6	0	25.88	20.51	5.37	13.00

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Band12:

Modulation: QPSK

Cell Bandwidth (MHz)	Channel Frequency (MHz)	Index	RB Position	RB Allocation	Total Average power (dBm)	Total Peak Power (dBm)	Calculated PAPR (dB)	Limit PAPR (dB)
1.4	699.7	0	1	0	20.07	24.13	4.06	13.00
	699.7	0	6	0	19.41	24.27	4.86	13.00
	707.5	0	1	0	20.29	24.32	4.03	13.00
	707.5	0	6	0	19.85	24.67	4.82	13.00
	715.3	0	1	5	20.29	24.39	4.10	13.00
	715.3	0	6	0	19.44	24.32	4.88	13.00
3	700.5	0	1	0	19.39	23.38	3.99	13.00
	700.5	0	6	0	17.36	22.35	4.99	13.00
	707.5	0	1	0	20.14	24.26	4.12	13.00
	707.5	0	6	0	20.09	24.65	4.56	13.00
	714.5	1	1	5	20.22	24.33	4.11	13.00
	714.5	1	6	0	19.59	24.57	4.98	13.00
5	701.5	3	1	0	20.17	24.15	3.98	13.00
	701.5	0	6	0	20.58	25.43	4.85	13.00
	707.5	0	1	0	20.14	24.20	4.06	13.00
	707.5	0	6	0	20.79	25.40	4.61	13.00
	713.5	0	1	5	20.71	24.70	3.99	13.00
	713.5	3	6	0	20.36	25.15	4.79	13.00
10	704	3	1	0	20.12	24.11	3.99	13.00
	704	0	4	0	20.96	25.28	4.32	13.00
	707.5	0	1	0	19.77	24.10	4.33	13.00
	707.5	0	4	0	20.86	25.26	4.40	13.00
	711	4	1	5	20.47	24.48	4.01	13.00
	711	7	4	2	21.39	25.59	4.20	13.00

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Modulation: 16QAM

Cell Bandwidth (MHz)	Channel Frequency (MHz)	Index	RB Position	RB Allocation	Total Average power (dBm)	Total Peak Power (dBm)	Calculated PAPR (dB)	Limit PAPR (dB)
1.4	699.7	0	1	0	20.23	25.02	4.79	13.00
	699.7	0	6	0	19.48	25.03	5.55	13.00
	707.5	0	1	0	20.80	25.16	4.36	13.00
	707.5	0	6	0	19.86	25.41	5.55	13.00
	715.3	0	1	5	20.15	24.90	4.75	13.00
	715.3	0	6	0	19.75	25.21	5.46	13.00
3	700.5	0	1	0	20.48	25.08	4.60	13.00
	700.5	0	6	0	19.32	25.05	5.73	13.00
	707.5	0	1	0	20.12	25.01	4.89	13.00
	707.5	0	6	0	20.00	25.42	5.42	13.00
	714.5	1	1	5	20.14	24.93	4.79	13.00
	714.5	1	6	0	19.36	25.04	5.68	13.00
5	701.5	3	1	0	20.20	25.07	4.87	13.00
	701.5	0	6	0	19.70	25.23	5.53	13.00
	707.5	0	1	0	19.29	23.75	4.46	13.00
	707.5	0	6	0	19.88	25.45	5.57	13.00
	713.5	0	1	5	20.65	25.21	4.56	13.00
	713.5	3	6	0	19.24	24.93	5.69	13.00
10	704	3	1	0	20.32	24.99	4.67	13.00
	704	0	4	0	21.22	25.90	4.68	13.00
	707.5	0	1	0	20.29	24.90	4.61	13.00
	707.5	0	4	0	20.75	25.85	5.10	13.00
	711	4	1	5	20.77	25.26	4.49	13.00
	711	7	4	2	21.33	26.09	4.76	13.00

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Band: 13

Modulation: QPSK

Cell Bandwidth (MHz)	Channel Frequency (MHz)	Index	RB Position	RB Allocation	Total Average power (dBm)	Total Peak Power (dBm)	Calculated PAPR (dB)	Limit PAPR (dB)
5	779.50	0	1	0	24.29	20.33	3.96	13.00
	779.50	0	6	0	24.84	20.38	4.46	13.00
	782.00	0	1	0	24.36	20.34	4.02	13.00
	782.00	0	6	0	25.24	20.62	4.62	13.00
	784.50	3	1	5	23.19	19.02	4.17	13.00
	784.50	3	6	0	25.11	20.69	4.42	13.00
10	782.00	0	1	0	25.05	20.59	4.46	13.00
	782.00	0	4	0	23.86	19.29	4.57	13.00

Modulation: 16QAM

Cell Bandwidth (MHz)	Channel Frequency (MHz)	Index	RB Position	RB Allocation	Total Average power (dBm)	Total Peak Power (dBm)	Calculated PAPR (dB)	Limit PAPR (dB)
5	779.50	0	1	0	24.60	19.09	5.51	13.00
	779.50	0	6	0	25.03	19.13	5.90	13.00
	782.00	0	1	0	24.66	19.59	5.07	13.00
	782.00	0	6	0	25.07	19.41	5.66	13.00
	784.50	3	1	5	25.16	19.98	5.18	13.00
	784.50	3	6	0	25.40	19.57	5.83	13.00
10	782.00	0	1	0	24.63	19.23	5.40	13.00
	782.00	0	4	0	25.59	20.18	5.41	13.00

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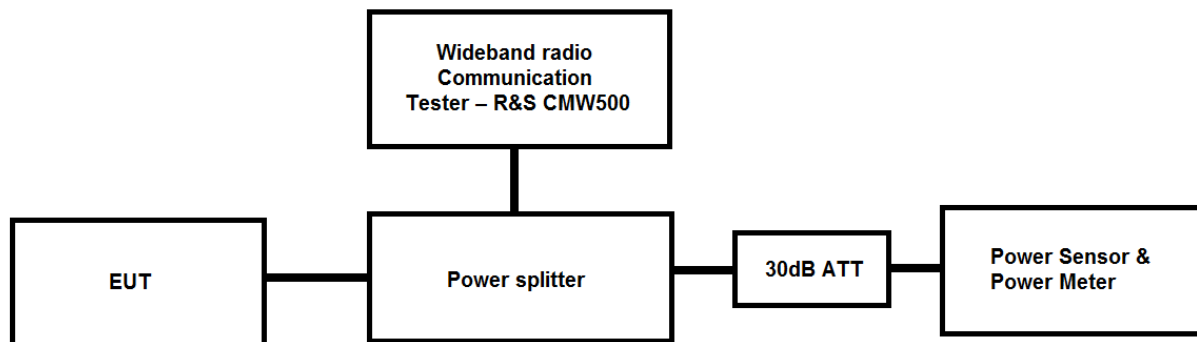
7.2 Effective (Isotropic) Radiated Power

Result

Pass

Specification	FCC Part §2.1046, §27.50(h), §27.50(c), §27.50(b) RSS-Gen, §6.12; RSS-130, §4.4 ANSI C63.26-2015
Test Method / Procedure	As per subclause 5 in 971168 D01 Power Meas License Digital Systems v03r01
Detector Function	Average
Requirement	specifies that "Portable stations (hand-held devices) transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts ERP" 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP" Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1-watt EIRP

Test Setup:



Environmental Conditions:

Temperature: +22.5°C

Voltage: 24VDC through AC/DC Adapter

Relative Humidity: 62%

KDB Guidelines applied:

Measurements were made as per section 5.2.4 in KDB 971168 D01 Power Meas License Digital Systems v03r01

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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 (3.3 dB) + Cable loss (1dB)
3. For getting the EIRP(Equivalent Isotropic Radiated Power), the following formula should be taken to calculate it,

ERP (dBm) = Conducted power (dBm) + Antenna gain (dBd)

EIRP (dBm) = Conducted power (dBm) + Antenna gain (dBi)

Band: 4

Modulation: QPSK

Cell Bandwidth (MHz)	Channel Frequency (MHz)	Index	RB Position	RB Allocation	Total Average power (dBm)	Calculated e.i.r.p (dBm)	Limit (dBm)
1.4	1710.70	0	1	0	19.20	22.50	36.00
	1710.70	0	6	0	18.89	22.19	36.00
	1732.50	0	1	0	20.20	23.50	36.00
	1732.50	0	6	0	19.00	22.30	36.00
	1754.30	0	1	5	20.23	23.53	36.00
	1754.30	0	6	0	19.11	22.41	36.00
3	1711.50	0	1	0	20.93	24.23	36.00
	1711.50	0	6	0	18.94	22.24	36.00
	1732.50	0	1	0	20.21	23.51	36.00
	1732.50	0	6	0	19.00	22.30	36.00
	1753.50	1	1	5	20.20	23.50	36.00
	1753.50	1	6	0	19.20	22.50	36.00
5	1712.50	0	1	0	19.90	23.20	36.00
	1712.50	0	6	0	19.93	23.23	36.00
	1732.50	0	1	0	20.17	23.47	36.00
	1732.50	0	6	0	20.16	23.46	36.00
	1752.50	0	1	5	20.43	23.73	36.00
	1752.50	3	6	0	20.18	23.48	36.00
10	1715.00	3	1	0	19.99	23.29	36.00
	1715.00	0	4	0	21.06	24.36	36.00
	1732.50	0	1	0	20.15	23.45	36.00
	1732.50	0	4	0	21.18	24.48	36.00
	1750.00	7	1	5	19.99	23.29	36.00
	1750.00	7	4	2	21.10	24.40	36.00
15	1717.50	3	1	0	19.97	23.27	36.00
	1717.50	0	6	0	20.97	24.27	36.00
	1732.50	0	1	0	20.11	23.41	36.00
	1732.50	0	6	0	21.11	24.41	36.00
	1747.50	10	1	5	20.03	23.33	36.00
	1747.50	10	6	0	21.14	24.44	36.00
20	1720.00	0	1	0	20.23	23.53	36.00
	1720.00	0	6	0	21.00	24.30	36.00
	1732.50	0	1	0	20.24	23.54	36.00
	1732.50	0	6	0	20.95	24.25	36.00
	1745.00	10	1	5	20.23	23.53	36.00
	1745.00	10	6	0	21.21	24.51	36.00

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Modulation: 16QAM

Cell Bandwidth (MHz)	Channel Frequency (MHz)	Index	RB Position	RB Allocation	Total Average power (dBm)	Calculated e.i.r.p (dBm)	Limit (dBm)
1.4	1710.70	0	1	0	19.75	23.05	36.00
	1710.70	0	6	0	18.21	21.51	36.00
	1732.50	0	1	0	19.16	22.46	36.00
	1732.50	0	6	0	18.54	21.84	36.00
	1754.30	0	1	5	19.16	22.46	36.00
	1754.30	0	6	0	18.55	21.85	36.00
3	1711.50	0	1	0	19.27	22.57	36.00
	1711.50	0	6	0	18.34	21.64	36.00
	1732.50	0	1	0	19.22	22.52	36.00
	1732.50	0	6	0	18.59	21.89	36.00
	1753.50	1	1	5	19.65	22.95	36.00
	1753.50	1	6	0	18.50	21.80	36.00
5	1712.50	0	1	0	19.89	23.19	36.00
	1712.50	0	6	0	18.07	21.37	36.00
	1732.50	0	1	0	19.70	23.00	36.00
	1732.50	0	6	0	18.44	21.74	36.00
	1752.50	0	1	5	19.69	22.99	36.00
	1752.50	3	6	0	18.50	21.80	36.00
10	1715.00	3	1	0	20.12	23.42	36.00
	1715.00	0	4	0	20.48	23.78	36.00
	1732.50	0	1	0	19.93	23.23	36.00
	1732.50	0	4	0	20.53	23.83	36.00
	1750.00	7	1	5	19.94	23.24	36.00
	1750.00	7	4	2	20.44	23.74	36.00
15	1717.50	3	1	0	19.99	23.29	36.00
	1717.50	0	6	0	20.29	23.59	36.00
	1732.50	0	1	0	19.85	23.15	36.00
	1732.50	0	6	0	20.40	23.70	36.00
	1747.50	11	1	5	19.85	23.15	36.00
	1747.50	11	6	0	20.38	23.68	36.00
20	1720.00	0	1	0	19.65	22.95	36.00
	1720.00	0	6	0	20.37	23.67	36.00
	1732.50	0	1	0	20.44	23.74	36.00
	1732.50	0	6	0	20.33	23.63	36.00
	1745.00	15	1	5	20.17	23.47	36.00
	1745.00	15	6	0	20.51	23.81	36.00

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Band: 12

Modulation: QPSK

Cell Bandwidth (MHz)	Channel Frequency (MHz)	Index	RB Position	RB Allocation	Total Average power (dBm)	Calculated e.r.p (dBm)	Limit (dBm)
1.4	699.7	0	1	0	20.07	16.52	34.77
	699.7	0	6	0	19.41	15.86	34.77
	707.5	0	1	0	20.29	16.74	34.77
	707.5	0	6	0	19.85	16.30	34.77
	715.3	0	1	5	20.29	16.74	34.77
	715.3	0	6	0	19.44	15.89	34.77
3	700.5	0	1	0	19.39	15.84	34.77
	700.5	0	6	0	17.36	13.81	34.77
	707.5	0	1	0	20.14	16.59	34.77
	707.5	0	6	0	20.09	16.54	34.77
	714.5	1	1	5	20.22	16.67	34.77
	714.5	1	6	0	19.59	16.04	34.77
5	701.5	3	1	0	20.17	16.62	34.77
	701.5	0	6	0	20.58	17.03	34.77
	707.5	0	1	0	20.14	16.59	34.77
	707.5	0	6	0	20.79	17.24	34.77
	713.5	0	1	5	20.71	17.16	34.77
	713.5	3	6	0	20.36	16.81	34.77
10	704	3	1	0	20.12	16.57	34.77
	704	0	4	0	20.96	17.41	34.77
	707.5	0	1	0	19.77	16.22	34.77
	707.5	0	4	0	20.86	17.31	34.77
	711	4	1	5	20.47	16.92	34.77
	711	7	4	2	21.39	17.84	34.77

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Modulation: 16QAM

Cell Bandwidth (MHz)	Channel Frequency (MHz)	Index	RB Position	RB Allocation	Total Average power (dBm)	Calculated e.r.p (dBm)	Limit (dBm)
1.4	699.7	0	1	0	20.23	16.68	34.77
	699.7	0	6	0	19.48	15.93	34.77
	707.5	0	1	0	20.80	17.25	34.77
	707.5	0	6	0	19.86	16.31	34.77
	715.3	0	1	5	20.15	16.60	34.77
	715.3	0	6	0	19.75	16.20	34.77
3	700.5	0	1	0	20.48	16.93	34.77
	700.5	0	6	0	19.32	15.77	34.77
	707.5	0	1	0	20.12	16.57	34.77
	707.5	0	6	0	20.00	16.45	34.77
	714.5	1	1	5	20.14	16.59	34.77
	714.5	1	6	0	19.36	15.81	34.77
5	701.5	3	1	0	20.20	16.65	34.77
	701.5	0	6	0	19.70	16.15	34.77
	707.5	0	1	0	19.29	15.74	34.77
	707.5	0	6	0	19.88	16.33	34.77
	713.5	0	1	5	20.65	17.10	34.77
	713.5	3	6	0	19.24	15.69	34.77
10	704	3	1	0	20.32	16.77	34.77
	704	0	4	0	21.22	17.67	34.77
	707.5	0	1	0	20.29	16.74	34.77
	707.5	0	4	0	20.75	17.20	34.77
	711	4	1	5	20.77	17.22	34.77
	711	7	4	2	21.33	17.78	34.77

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Band: 13

Modulation: QPSK

Cell Bandwidth (MHz)	Channel Frequency (MHz)	Index	RB Position	RB Allocation	Total Average power (dBm)	Calculated e.r.p (dBm)	Limit (dBm)
5	779.50	0	1	0	20.33	16.78	34.77
	779.50	0	6	0	20.38	16.83	34.77
	782.00	0	1	0	20.34	16.79	34.77
	782.00	0	6	0	20.62	17.07	34.77
	784.50	3	1	5	19.02	15.47	34.77
	784.50	3	6	0	20.69	17.14	34.77
10	782.00	0	1	0	20.59	17.04	34.77
	782.00	0	4	0	19.29	15.74	34.77

Modulation: 16QAM

Cell Bandwidth (MHz)	Channel Frequency (MHz)	Index	RB Position	RB Allocation	Total Average power (dBm)	Calculated e.r.p (dBm)	Limit (dBm)
5	779.50	0	1	0	19.09	15.54	34.77
	779.50	0	6	0	19.13	15.58	34.77
	782.00	0	1	0	19.59	16.04	34.77
	782.00	0	6	0	19.41	15.86	34.77
	784.50	3	1	5	19.98	16.43	34.77
	784.50	3	6	0	19.57	16.02	34.77
10	782.00	0	1	0	19.23	15.68	34.77
	782.00	0	4	0	20.18	16.63	34.77

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7.3 FIELD STRENGTH OF SPURIOUS RADIATION

Result

Pass

Specification	FCC Part §2.1053, §22.917 (a) RSS-Gen, §6.13; RSS-132, §5.5
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 $43+10\log(P)$ dB
Test setup	Refer TEST METHODOLOGY

Environmental Conditions:

Temperature: +22.5°C

Voltage: 24VDC through AC/DC Adapter

Relative Humidity: 62%

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)

Note: All the losses are included during measurement and final values are mentioned in the test report.

Test results for frequency range 9kHz – 30MHz

No emissions found in frequency range 9 kHz to 30 MHz, and measured levels are below 20dB from the limit line, hence not reported

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Test results for frequency range 30MHz – 200MHz

Mode	Polarization	Measured Frequency (MHz)	Measured emission (dBm)	Limit (dBm)	Margin (dB)
Power supply	Vertical	32.28	-62.54	-13.00	-49.54
		38.22	-66.56	-13.00	-53.56
		52.98	-61.18	-13.00	-48.18
		56.73	-63.02	-13.00	-50.02
		175.29	-70.72	-13.00	-57.72
	Horizontal	32.28	-61.24	-13.00	-48.24
		46.02	-75.44	-13.00	-62.44
		61.20	-74.47	-13.00	-61.47
		120.00	-75.50	-13.00	-62.50
		144.00	-77.77	-13.00	-64.77
Battery	Vertical	168.00	-70.95	-13.00	-57.95
	Horizontal	45.60	-68.98	-13.00	-55.98
		64.92	-69.36	-13.00	-56.36
		99.99	-73.49	-13.00	-60.49
		144.00	-74.37	-13.00	-61.37
	Horizontal	162.39	-72.82	-13.00	-59.82
		35.64	-58.71	-13.00	-45.71
		51.24	-69.42	-13.00	-56.42
		83.01	-63.66	-13.00	-50.66
		97.41	-70.95	-13.00	-57.95
		168.00	-70.52	-13.00	-57.52

Test results for frequency range 200MHz – 1GHz

Mode	Polarization	Measured Frequency (MHz)	Measured emission (dBm)	Limit (dBm)	Margin (dB)
Power supply	Vertical	215.99	-71.00	-13.00	-58.00
		311.99	-74.15	-13.00	-61.15
		432.02	-73.09	-13.00	-60.09
		833.72	-7.90	*	-
		879.59	-33.93	-13.00	-20.93
	Horizontal	215.99	-70.27	-13.00	-57.27
		311.99	-70.80	-13.00	-57.80
		407.99	-73.15	-13.00	-60.15
		833.72	-6.00	*	-
		879.59	-34.66	-13.00	-21.66
Battery	Vertical	215.99	-72.54	-13.00	-59.54
		311.99	-73.44	-13.00	-60.44
		407.99	-74.73	-13.00	-61.73
		833.72	-6.91	*	-
		879.59	-33.28	-13.00	-20.28
	Horizontal	215.99	-70.11	-13.00	-57.11
		311.99	-69.56	-13.00	-56.56
		407.99	-72.49	-13.00	-59.49
		833.75	-5.12	*	-
		875.39	-38.06	-13.00	-25.06

Note: * Fundamental Frequency

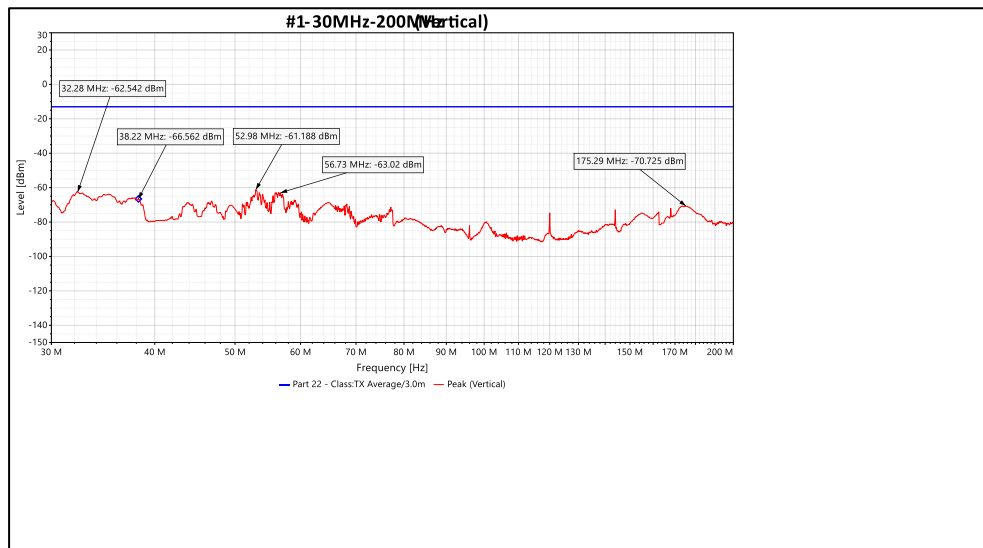
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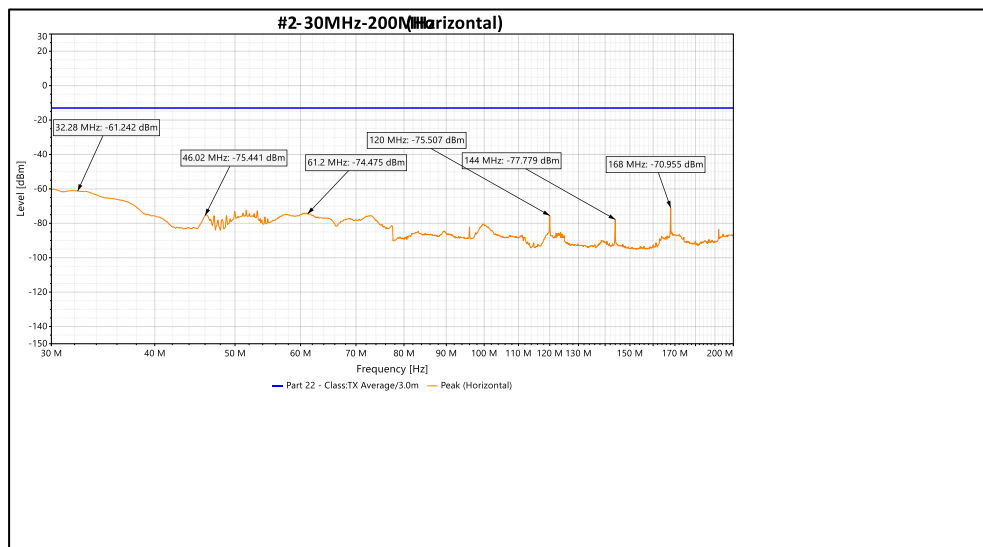
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Plots for frequency range 30MHz to 200MHz

Mode: Power Supply



Frequency Range: 30MHz-200MHz_Vertical Polarization



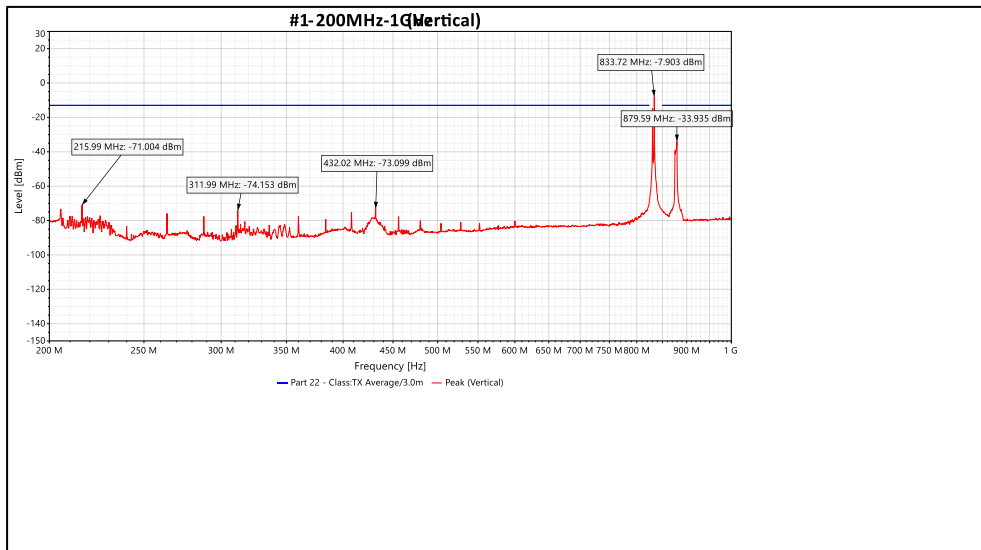
Frequency Range: 30MHz-200MHz_Horizontal Polarization

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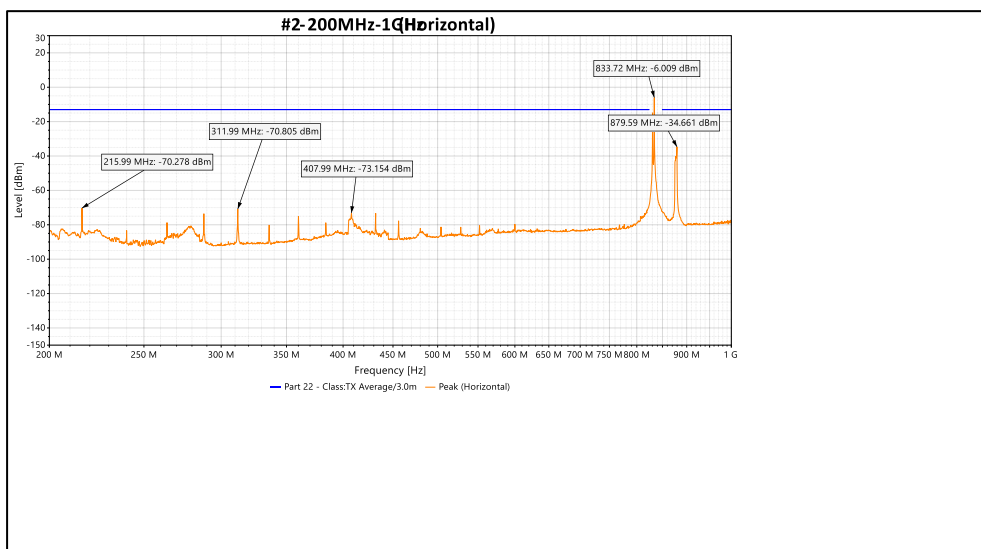
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Plots for frequency range 200MHz to 1GHz



Frequency Range: 200MHz-1GHz_Vertical Polarization



Frequency Range: 200MHz-1GHz_Horizontal Polarization

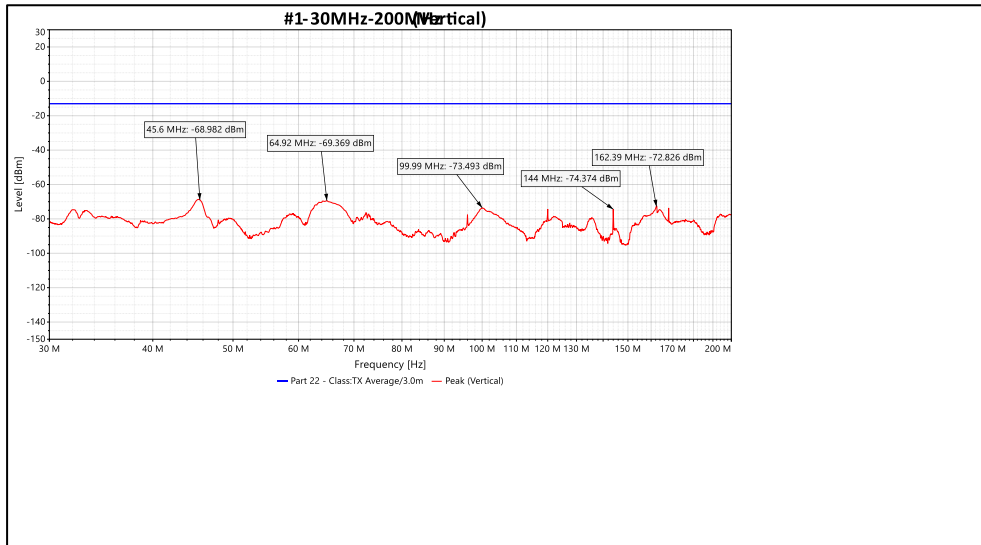
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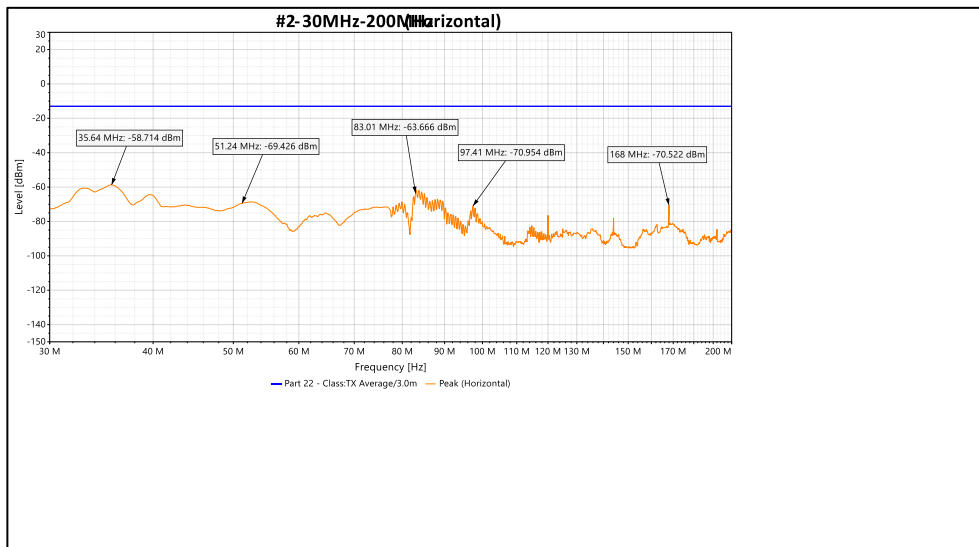
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Plots for frequency range 30MHz to 200MHz

Mode: Battery

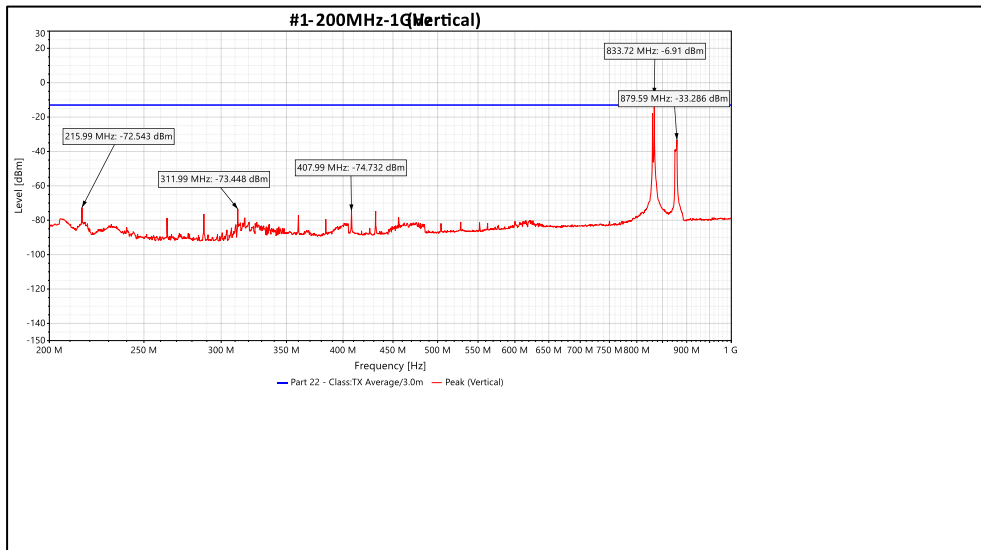


Frequency Range: 30MHz-200MHz_Vertical Polarization

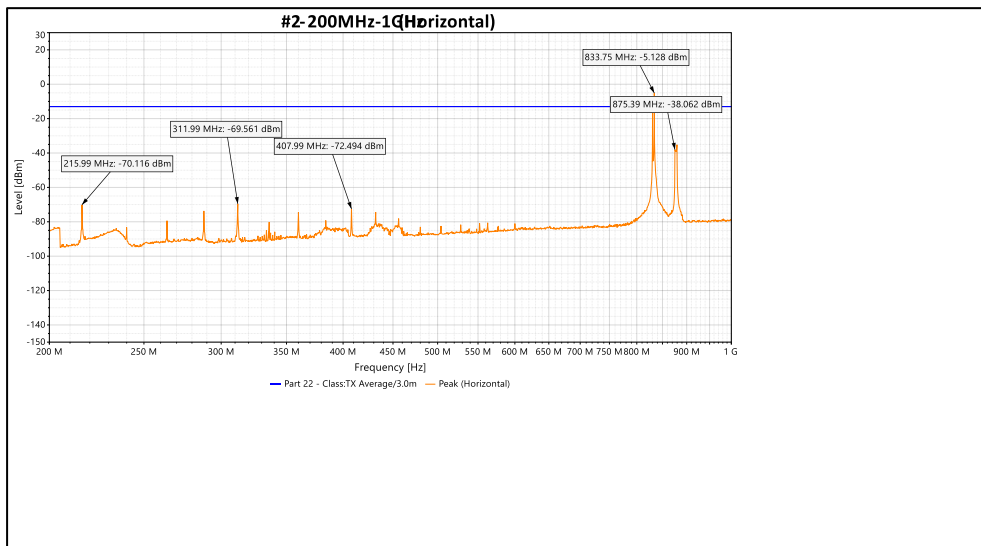


Frequency Range: 30MHz-200MHz_Horizontal Polarization

Plots for frequency range 200MHz to 1GHz



Frequency Range: 200MHz-1GHz_Vertical Polarization



Frequency Range: 200MHz-1GHz_Horizontal Polarization

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Above 1GHz Test results

Band 4: QPSK

Cell BW	Index	RB Position	RB Allocation	Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Emission Level (dBm)	Limit (dBm)	Margin (dB)
1.4	0	1	5	1754.30	3508.60	Vertical	-54.83	-13.00	-41.83
					5262.90		-50.20	-13.00	-37.20
					7017.20		-52.77	-13.00	-39.77
					3508.60	Horizontal	-54.85	-13.00	-41.85
					5262.90		-50.79	-13.00	-37.79
					7017.20		-52.54	-13.00	-39.54
3	0	1	0	1711.50	3423.00	Vertical	-55.72	-13.00	-42.72
					5134.50		-50.37	-13.00	-37.37
					6846.00		-52.01	-13.00	-39.01
					3423.00	Horizontal	-54.97	-13.00	-41.97
					5134.50		-50.00	-13.00	-37.00
					6846.00		-51.89	-13.00	-38.89
	0	1	0	1732.50	3465.00	Vertical	-54.54	-13.00	-41.54
					5197.50		-50.65	-13.00	-37.65
					6930.00		-51.09	-13.00	-38.09
					3465.00	Horizontal	-53.36	-13.00	-40.36
					5197.50		-50.98	-13.00	-37.98
					6930.00		-52.12	-13.00	-39.12
15	0	1	0	1717.50	3435.00	Vertical	-55.45	-13.00	-42.45
					5152.50		-50.00	-13.00	-37.00
					6870.00		-52.39	-13.00	-39.39
					3435.00	Horizontal	-55.17	-13.00	-42.17
					5152.50		-49.60	-13.00	-36.60
					6870.00		-52.38	-13.00	-39.38
	0	1	0	1732.50	3465.00	Vertical	-54.39	-13.00	-41.39
					5197.50		-50.76	-13.00	-37.76
					6930.00		-52.42	-13.00	-39.42
					3465.00	Horizontal	-55.06	-13.00	-42.06
					5197.50		-50.56	-13.00	-37.56
					6930.00		-52.52	-13.00	-39.52
	0	1	5	1747.50	3495.00	Vertical	-53.75	-13.00	-40.75
					5242.50		-50.35	-13.00	-37.35
					6990.00		-51.32	-13.00	-38.32
					3495.00	Horizontal	-54.22	-13.00	-41.22
					5242.50		-50.99	-13.00	-37.99
					6990.00		-51.95	-13.00	-38.95

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Modulation: 16QAM

Cell BW	Index	RB Position	RB Allocation	Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Emission Level (dBm)	Limit (dBm)	Margin (dB)
1.4	0	1	0	1710.70	3421.40	Vertical	-55.83	-13.00	-42.83
					5132.10		-49.21	-13.00	-36.21
					6842.80		-53.23	-13.00	-40.23
					3421.40	Horizontal	-55.50	-13.00	-42.50
					5132.10		-49.86	-13.00	-36.86
					6842.80		-52.51	-13.00	-39.51
	0	1	0	1732.50	3465.00	Vertical	-54.94	-13.00	-41.94
					5197.50		-50.33	-13.00	-37.33
					6930.00		-53.03	-13.00	-40.03
					3465.00	Horizontal	-54.83	-13.00	-41.83
					5197.50		-50.59	-13.00	-37.59
					6930.00		-52.50	-13.00	-39.50
3	0	1	0	1753.50	3507.00	Vertical	-52.87	-13.00	-39.87
					5260.50		-51.01	-13.00	-38.01
					7014.00		-51.48	-13.00	-38.48
					3507.00	Horizontal	-53.80	-13.00	-40.80
					5260.50		-51.16	-13.00	-38.16
					7014.00		-51.67	-13.00	-38.67
5	0	1	0	1712.50	3425.00	Vertical	-56.04	-13.00	-43.04
					5137.50		-50.46	-13.00	-37.46
					6850.00		-52.85	-13.00	-39.85
					3425.00	Horizontal	-55.43	-13.00	-42.43
					5137.50		-49.88	-13.00	-36.88
					6850.00		-52.29	-13.00	-39.29
	0	1	0	1732.50	3465.00	Vertical	-54.67	-13.00	-41.67
					5197.50		-50.88	-13.00	-37.88
					6930.00		-52.35	-13.00	-39.35
					3465.00	Horizontal	-55.68	-13.00	-42.68
					5197.50		-51.68	-13.00	-38.68
					6930.00		-52.97	-13.00	-39.97
	0	1	5	1752.50	3505.00	Vertical	-53.75	-13.00	-40.75
					5257.50		-50.84	-13.00	-37.84
					7010.00		-51.85	-13.00	-38.85
					3505.00	Horizontal	-53.97	-13.00	-40.97
					5257.50		-50.85	-13.00	-37.85
					7010.00		-50.80	-13.00	-37.80

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Cell BW	Index	RB Position	RB Allocation	Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Emission Level (dBm)	Limit (dBm)	Margin (dB)
10	0	1	0	1715.00	3430.00	Vertical	-55.68	-13.00	-42.68
					5145.00		-50.01	-13.00	-37.01
					6860.00		-52.59	-13.00	-39.59
					3430.00	Horizontal	-55.92	-13.00	-42.92
					5145.00		-48.25	-13.00	-35.25
					6860.00		-52.16	-13.00	-39.16
	0	1	0	1732.50	3465.00	Vertical	-54.35	-13.00	-41.35
					5197.50		-49.13	-13.00	-36.13
					6930.00		-52.28	-13.00	-39.28
					3465.00	Horizontal	-54.20	-13.00	-41.20
					5197.50		-50.18	-13.00	-37.18
					6930.00		-52.17	-13.00	-39.17
	0	1	5	1750.00	3500.00	Vertical	-54.23	-13.00	-41.23
					5250.00		-50.78	-13.00	-37.78
					7000.00		-50.60	-13.00	-37.60
					3500.00	Horizontal	-54.77	-13.00	-41.77
					5250.00		-51.24	-13.00	-38.24
					7000.00		-50.88	-13.00	-37.88
20	0	1	0	1720.00	3440.00	Vertical	-55.32	-13.00	-42.32
					5160.00		-50.62	-13.00	-37.62
					6880.00		-52.41	-13.00	-39.41
					3440.00	Horizontal	-54.92	-13.00	-41.92
					5160.00		-50.73	-13.00	-37.73
					6880.00		-51.51	-13.00	-38.51
	0	1	0	1732.50	3465.00	Vertical	-54.93	-13.00	-41.93
					5197.50		-50.52	-13.00	-37.52
					6930.00		-51.84	-13.00	-38.84
					3465.00	Horizontal	-54.42	-13.00	-41.42
					5197.50		-50.15	-13.00	-37.15
					6930.00		-52.51	-13.00	-39.51
	0	1	5	1745.00	3490.00	Vertical	-53.49	-13.00	-40.49
					5235.00		-50.02	-13.00	-37.02
					6980.00		-49.71	-13.00	-36.71
					3490.00	Horizontal	-54.33	-13.00	-41.33
					5235.00		-50.06	-13.00	-37.06
					6980.00		-50.89	-13.00	-37.89

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Band12:

Modulation: QPSK

Cell BW	Index	RB Position	RB Allocation	Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Emission Level (dBm)	Limit (dBm)	Margin (dB)
1.4	0	1	5	715.30	1430.60	Vertical	-46.10	-13.00	-33.10
					2145.90		-49.23	-13.00	-36.23
					2861.20		-54.06	-13.00	-41.06
					1430.60	Horizontal	-45.89	-13.00	-32.89
					2145.90		-54.78	-13.00	-41.78
					2861.20		-54.03	-13.00	-41.03
3	1	1	5	714.50	1429.00	Vertical	-46.11	-13.00	-33.11
					2143.50		-54.63	-13.00	-41.63
					2858.00		-53.59	-13.00	-40.59
					1429.00	Horizontal	-46.42	-13.00	-33.42
					2143.50		-54.36	-13.00	-41.36
					2858.00		-53.84	-13.00	-40.84
5	0	6	0	701.50	1403.00	Vertical	-49.30	-13.00	-36.30
					2104.50		-50.11	-13.00	-37.11
					2806.00		-54.11	-13.00	-41.11
					1403.00	Horizontal	-50.13	-13.00	-37.13
					2104.50		-56.12	-13.00	-43.12
					2806.00		-53.52	-13.00	-40.52
	0	6	0	707.50	1415.00	Vertical	-47.21	-13.00	-34.21
					2122.50		-50.16	-13.00	-37.16
					2830.00		-54.30	-13.00	-41.30
					1415.00	Horizontal	-49.70	-13.00	-36.70
					2122.50		-54.79	-13.00	-41.79
					2830.00		-54.50	-13.00	-41.50
10	0	4	0	707.50	1415.00	Vertical	-58.23	-13.00	-45.23
					2122.50		-55.09	-13.00	-42.09
					2830.00		-53.85	-13.00	-40.85
					1415.00	Horizontal	-58.30	-13.00	-45.30
					2122.50		-54.60	-13.00	-41.60
					2830.00		-53.78	-13.00	-40.78

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Modulation: 16QAM

Cell BW	Index	RB Position	RB Allocation	Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Emission Level (dBm)	Limit (dBm)	Margin (dB)
1.4	0	1	0	699.70	1399.40	Vertical	-49.92	-13.00	-36.92
					2099.10		-51.05	-13.00	-38.05
					2798.80		-54.46	-13.00	-41.46
					1399.40	Horizontal	-51.70	-13.00	-38.70
					2099.10		-53.88	-13.00	-40.88
					2798.80		-54.70	-13.00	-41.70
	0	1	0	707.50	1415.00	Vertical	-47.86	-13.00	-34.86
					2122.50		-50.71	-13.00	-37.71
					2830.00		-54.15	-13.00	-41.15
					1415.00	Horizontal	-49.86	-13.00	-36.86
					2122.50		-55.13	-13.00	-42.13
					2830.00		-54.04	-13.00	-41.04
3	0	1	0	700.50	1401.00	Vertical	-49.53	-13.00	-36.53
					2101.50		-56.00	-13.00	-43.00
					2802.00		-54.21	-13.00	-41.21
					1401.00	Horizontal	-51.62	-13.00	-38.62
					2101.50		-56.11	-13.00	-43.11
					2802.00		-54.26	-13.00	-41.26
	0	1	0	707.50	1415.00	Vertical	-46.71	-13.00	-33.71
					2122.50		-55.33	-13.00	-42.33
					2830.00		-54.08	-13.00	-41.08
					1415.00	Horizontal	-46.51	-13.00	-33.51
					2122.50		-55.42	-13.00	-42.42
					2830.00		-54.03	-13.00	-41.03
5	0	1	5	713.50	1427.00	Vertical	-45.76	-13.00	-32.76
					2140.50		-49.02	-13.00	-36.02
					2854.00		-53.82	-13.00	-40.82
					1427.00	Horizontal	-48.57	-13.00	-35.57
					2140.50		-54.63	-13.00	-41.63
					2854.00		-53.95	-13.00	-40.95
10	0	4	0	704.00	1408.00	Vertical	-58.71	-13.00	-45.71
					2112.00		-55.60	-13.00	-42.60
					2816.00		-54.60	-13.00	-41.60
					1408.00	Horizontal	-58.90	-13.00	-45.90
					2112.00		-55.86	-13.00	-42.86
					2816.00		-52.94	-13.00	-39.94
	7	4	2	711.00	1422.00	Vertical	-58.56	-13.00	-45.56
					2133.00		-54.40	-13.00	-41.40
					2844.00		-53.84	-13.00	-40.84
					1422.00	Horizontal	-58.84	-13.00	-45.84
					2133.00		-54.49	-13.00	-41.49
					2844.00		-53.88	-13.00	-40.88

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Band: 13

Modulation: QPSK

Cell BW	Index	RB Position	RB Allocation	Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Emission Level (dBm)	Limit (dBm)	Margin (dB)
5	0	6	0	779.50	1559.00	Vertical	-48.91	-13.00	-35.91
					2338.50		-55.70	-13.00	-42.70
					3118.00		-55.23	-13.00	-42.23
					1559.00	Horizontal	-47.47	-13.00	-34.47
					2338.50		-55.08	-13.00	-42.08
					3118.00		-54.86	-13.00	-41.86
	0	6	0	782.00	1564.00	Vertical	-48.49	-13.00	-35.49
					2346.00		-55.49	-13.00	-42.49
					3128.00		-54.84	-13.00	-41.84
					1564.00	Horizontal	-48.02	-13.00	-35.02
					2346.00		-54.10	-13.00	-41.10
					3128.00		-54.98	-13.00	-41.98
	3	6	0	784.50	1569.00	Vertical	-48.29	-13.00	-35.29
					2353.50		-54.98	-13.00	-41.98
					3138.00		-55.26	-13.00	-42.26
					1569.00	Horizontal	-48.00	-13.00	-35.00
					2353.50		-55.40	-13.00	-42.40
					3138.00		-54.43	-13.00	-41.43
10	0	1	0	782.00	1564.00	Vertical	-53.19	-13.00	-40.19
					2346.00		-55.41	-13.00	-42.41
					3128.00		-54.41	-13.00	-41.41
					1564.00	Horizontal	-57.07	-13.00	-44.07
					2346.00		-55.28	-13.00	-42.28
					3128.00		-54.41	-13.00	-41.41

Prüfbericht - Nr.:
Test Report No.:

IN25R2HW 001

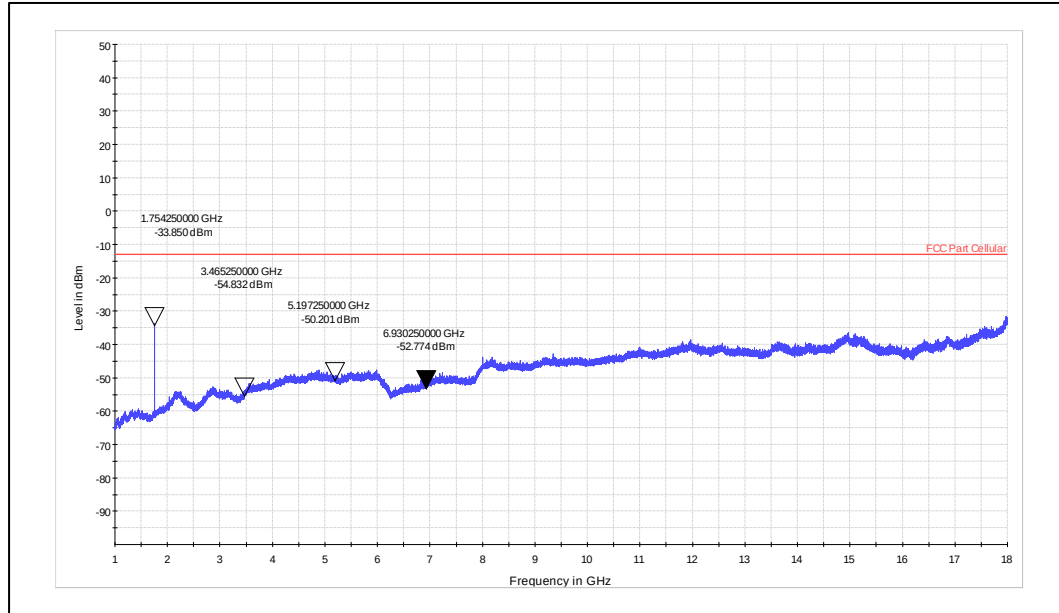
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Test Plots:

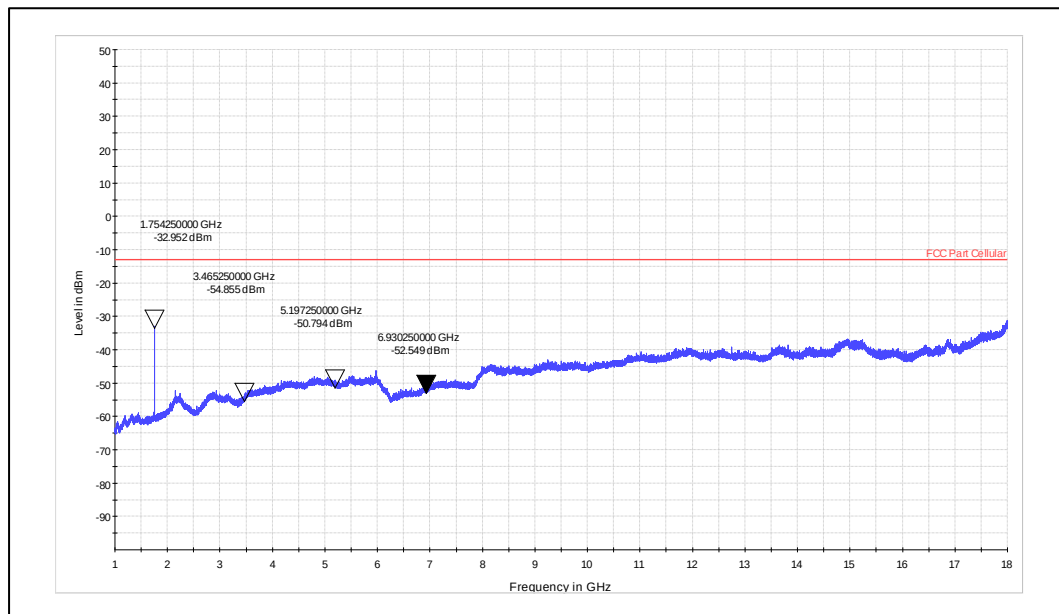
Band: 4

Modulation: QPSK

Ch-1754.3MHz-CB1.4MHz-1RB5#0_1-18GHz_Vertical Polarization



Ch-1754.3MHz-CB1.4MHz-1RB5#0_1-18GHz_Horizontal Polarization



Prüfbericht - Nr.:

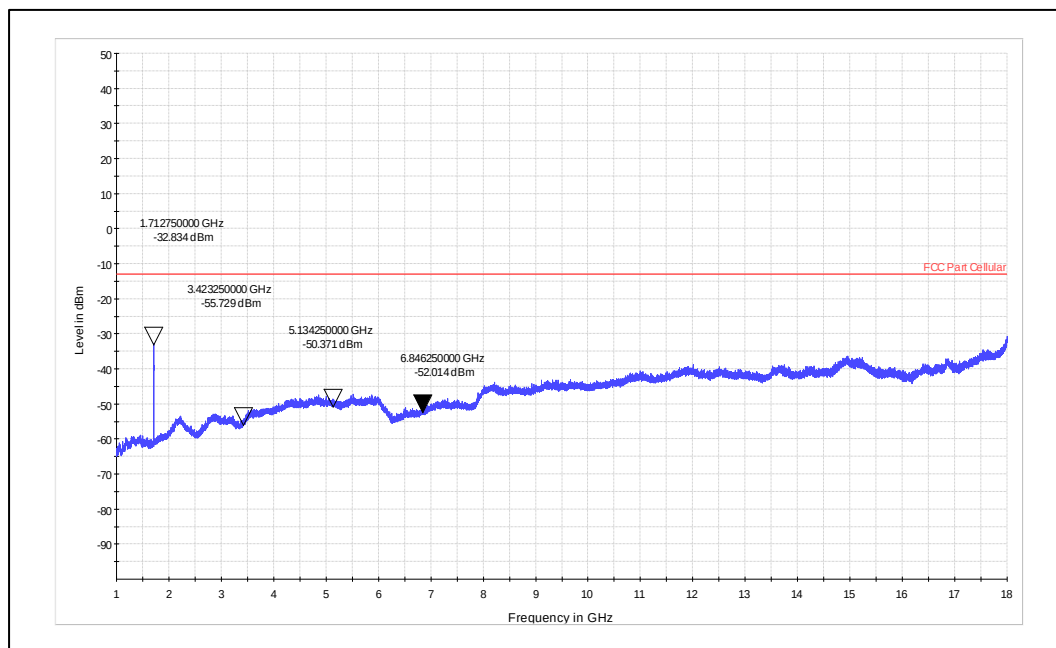
Test Report No.:

IN25R2HW 001

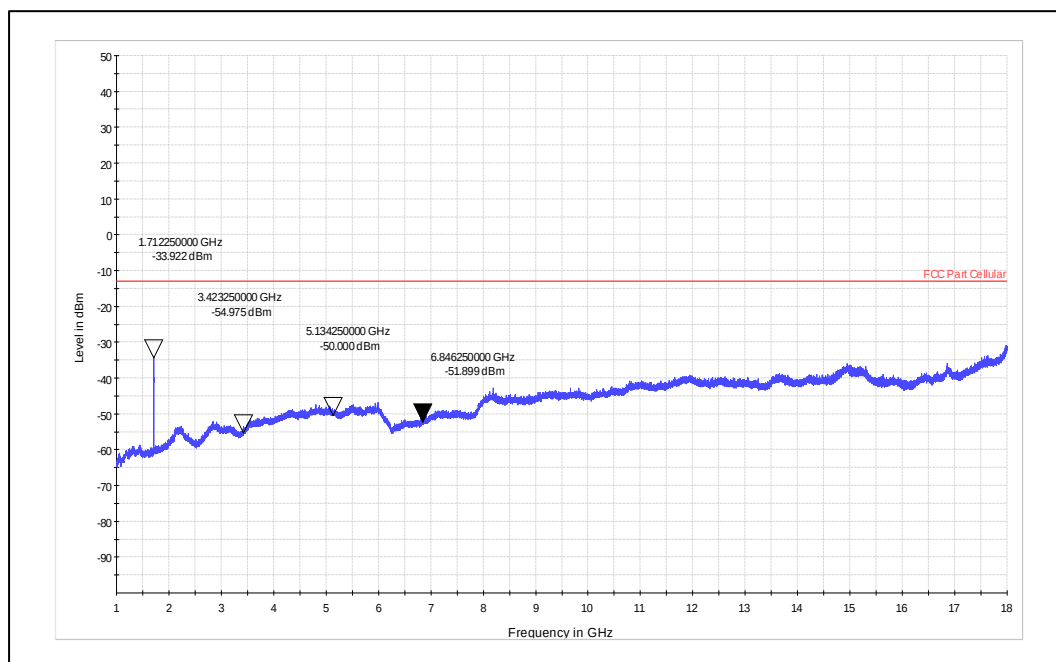
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Ch-1711.5MHz-CB-3MHz-1RB0#0_1-18GHz_Vertical Polarization



Ch-1711.5MHz-CB-3MHz-1RB0#0_1-18GHz_Horizontal Polarization



Prüfbericht - Nr.:

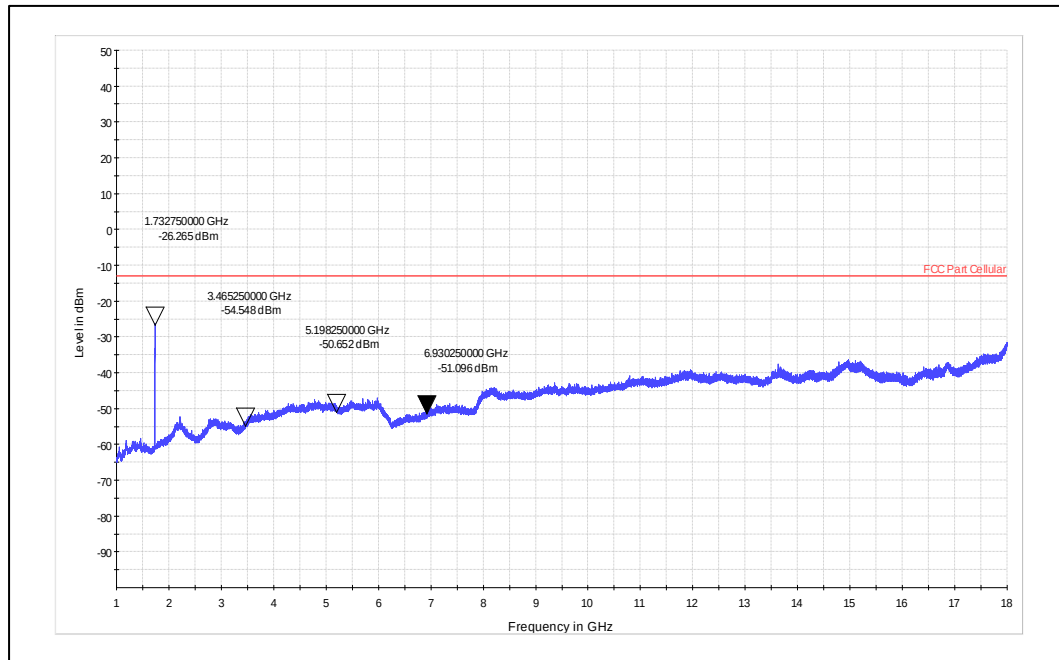
Test Report No.:

IN25R2HW 001

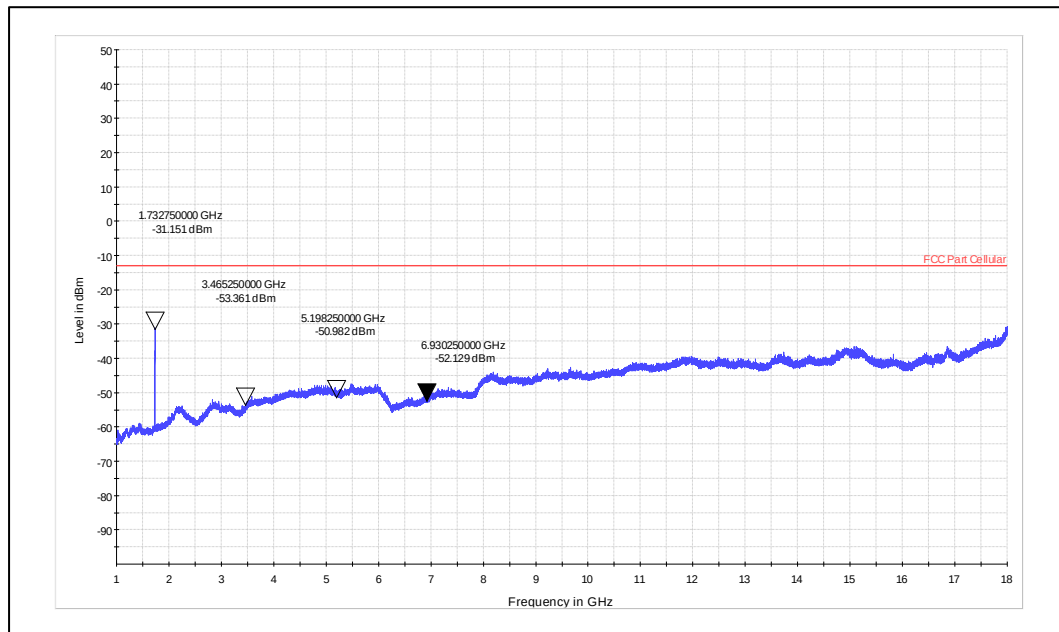
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Ch-1732.5MHz-CB-3MHz-1RB0#0_1-18GHz_Vertical Polarization



Ch-1732.5MHz-CB-3MHz-1RB0#0_1-18GHz_Horizontal Polarization



Prüfbericht - Nr.:

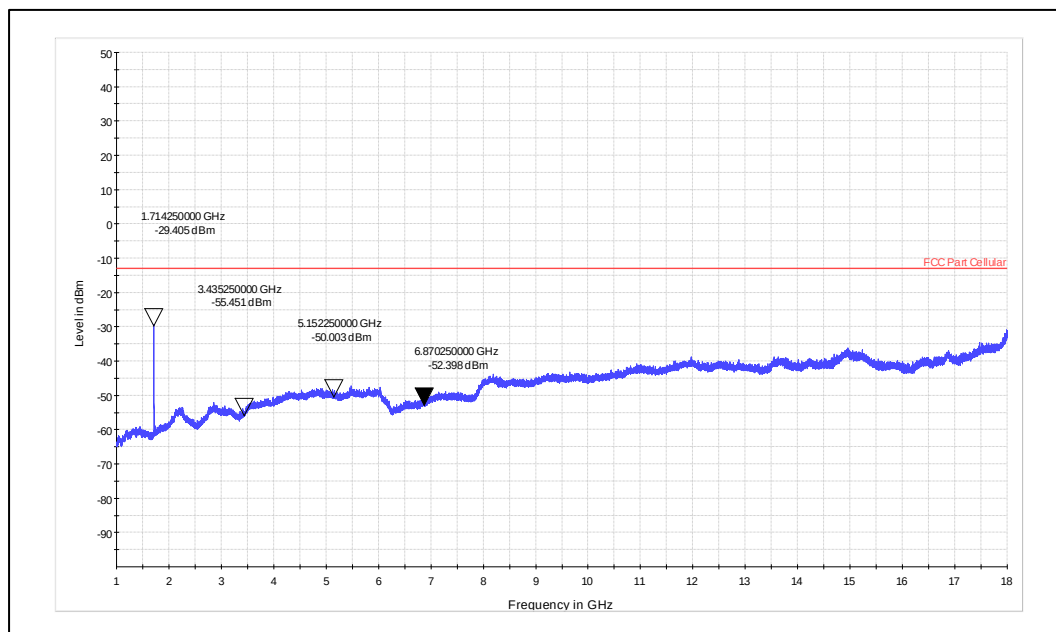
Test Report No.:

IN25R2HW 001

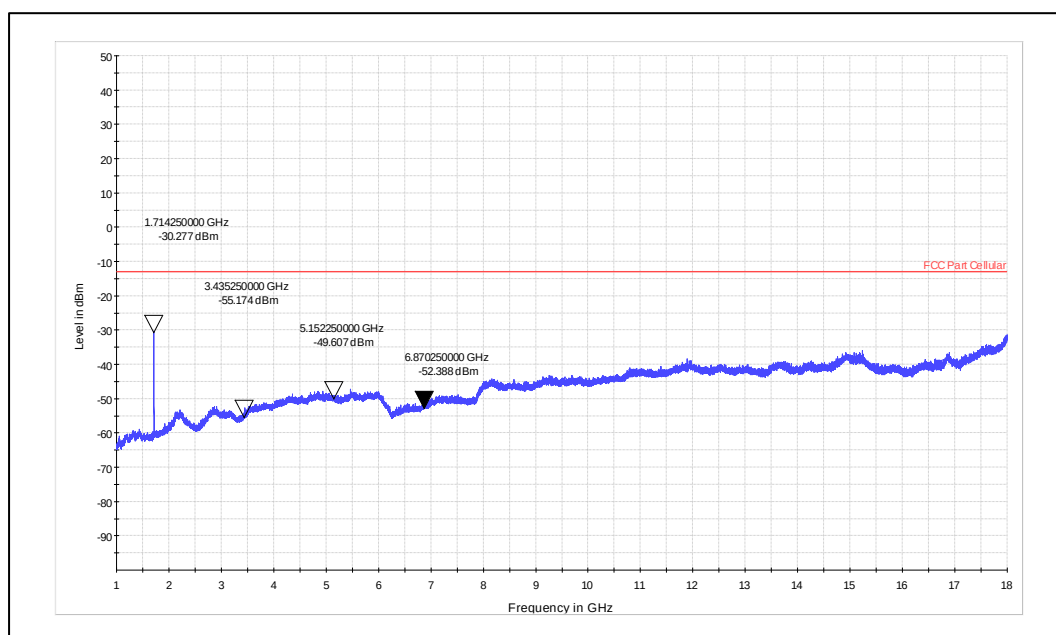
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Ch-1717.5MHz-CB-15MHz-1RB0#0_1-18GHz_Vertical Polarization



Ch-1717.5MHz-CB-15MHz-1RB0#0_1-18GHz_Horizontal Polarization

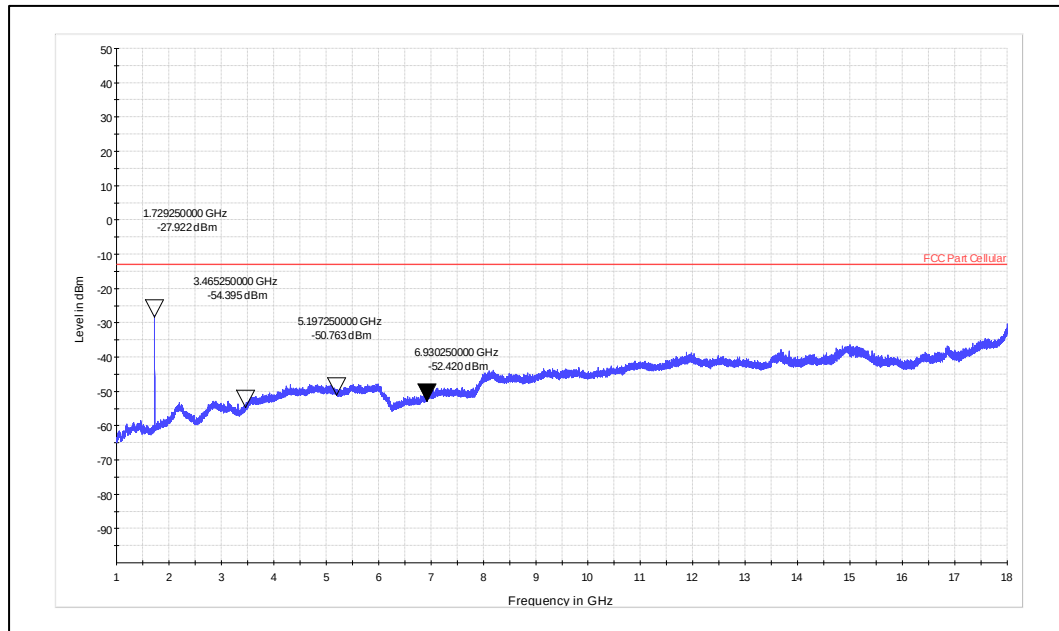


Prüfbericht - Nr.:
Test Report No.:

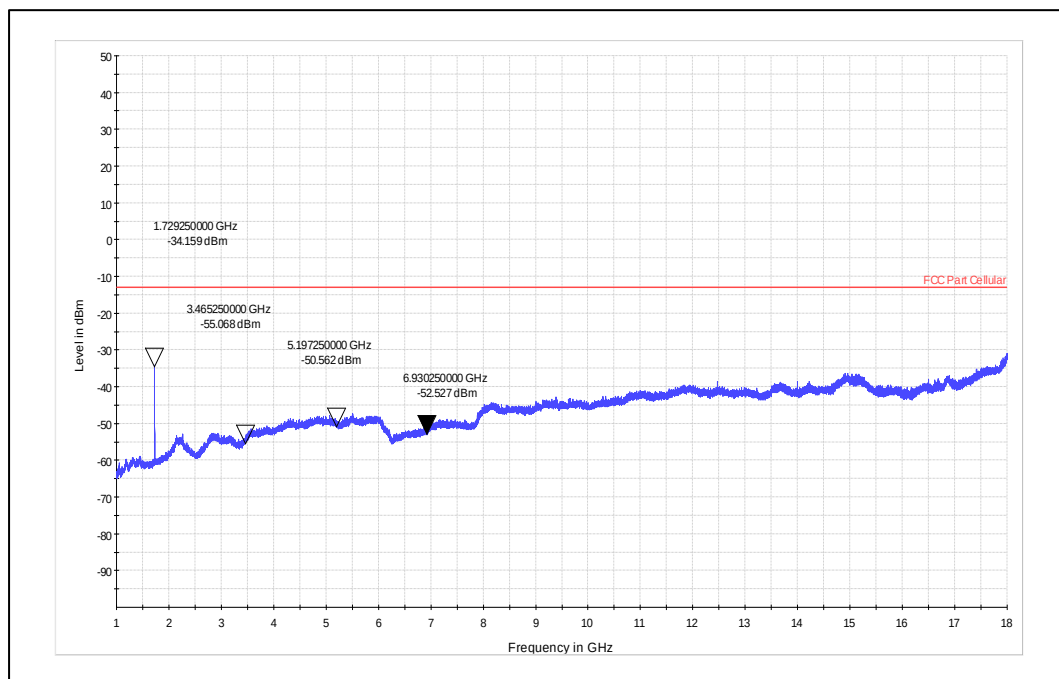
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Ch-1732.5MHz-CB-15MHz-1RB0#0_1-18GHz_Vertical Polarization



Ch-1732.5MHz-CB-15MHz-1RB0#0_1-18GHz_Horizontal Polarization



Prüfbericht - Nr.:

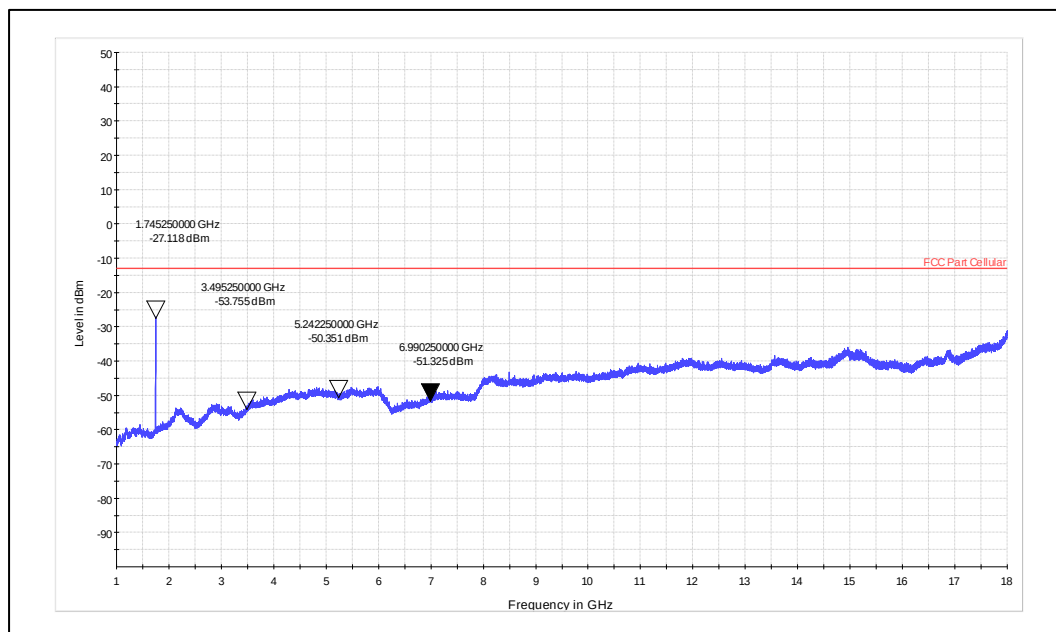
Test Report No.:

IN25R2HW 001

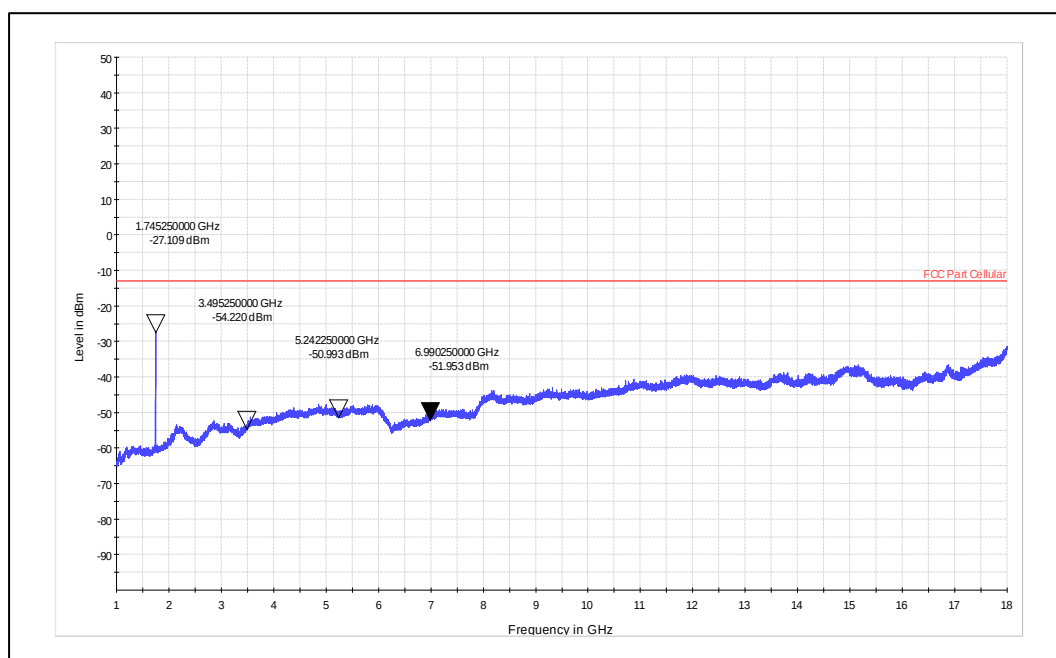
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Ch-1747.5MHz-CB-15MHz-1RB5#0_1-18GHz_Vertical Polarization



Ch-1747.5MHz-CB-15MHz-1RB5#0_1-18GHz_Horizontal Polarization

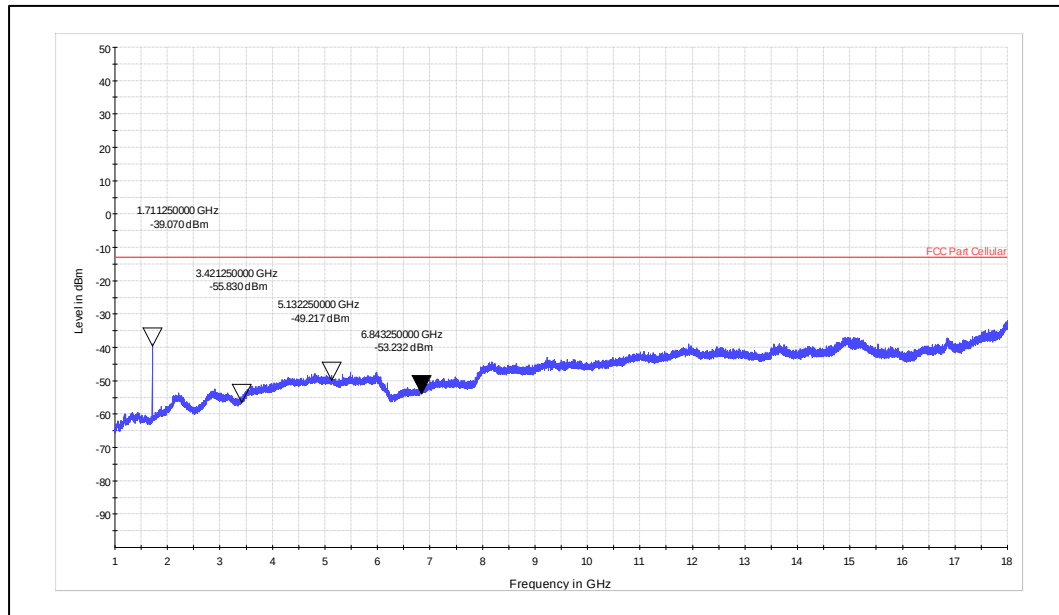


Prüfbericht - Nr.:
Test Report No.:

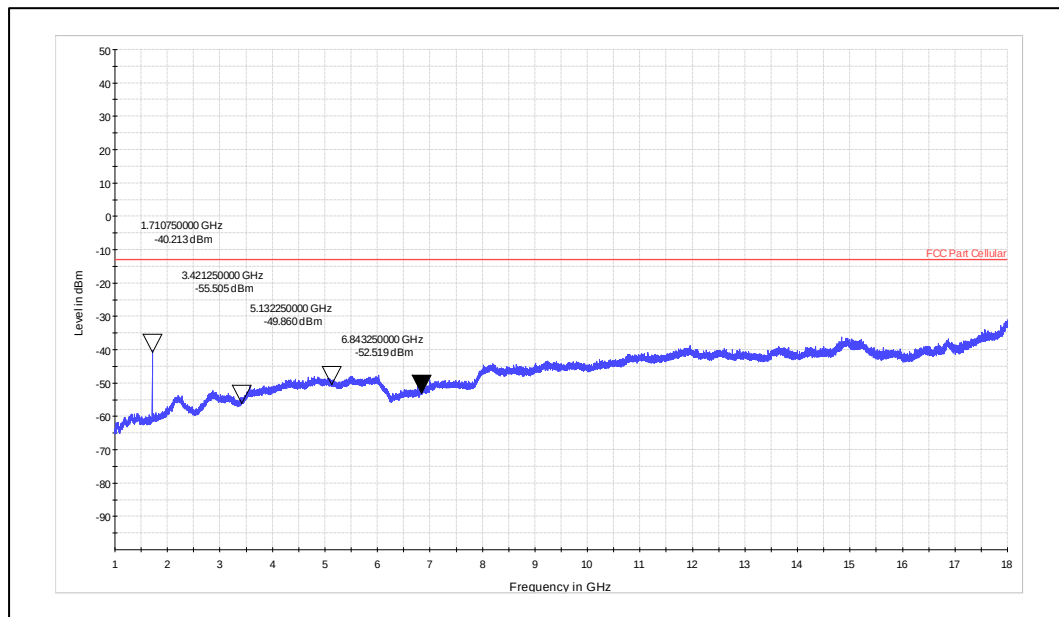
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Ch-1710.7MHz-CB1.4MHz-1RB0#0_1-18GHz_Vertical Polarization



Ch-1710.7MHz-CB1.4MHz-1RB0#0_1-18GHz_Horizontal Polarization

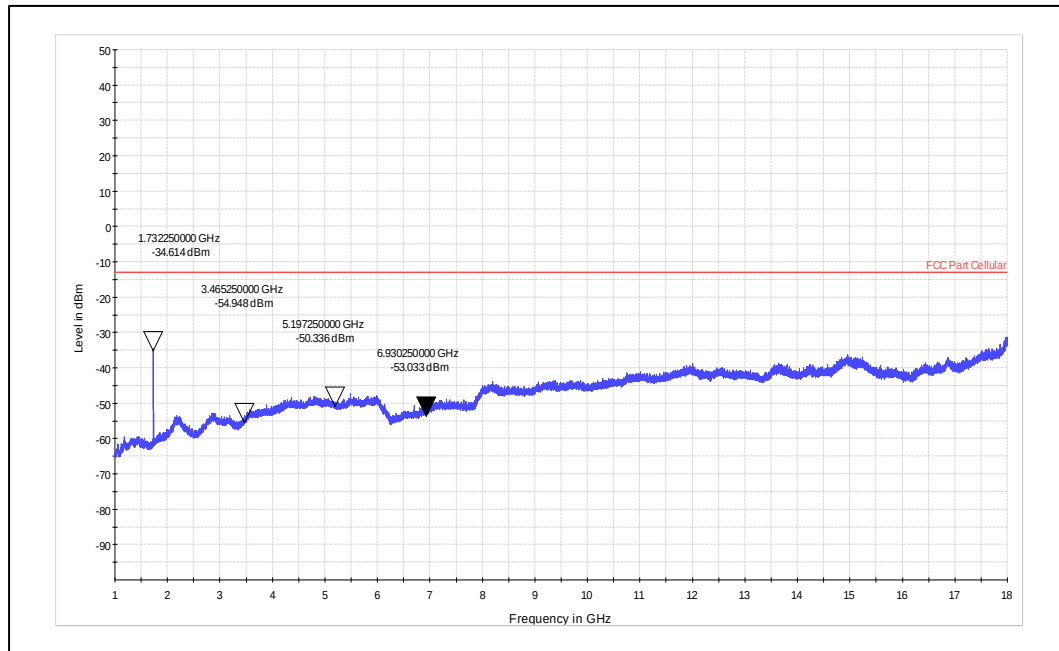


Prüfbericht - Nr.:
Test Report No.:

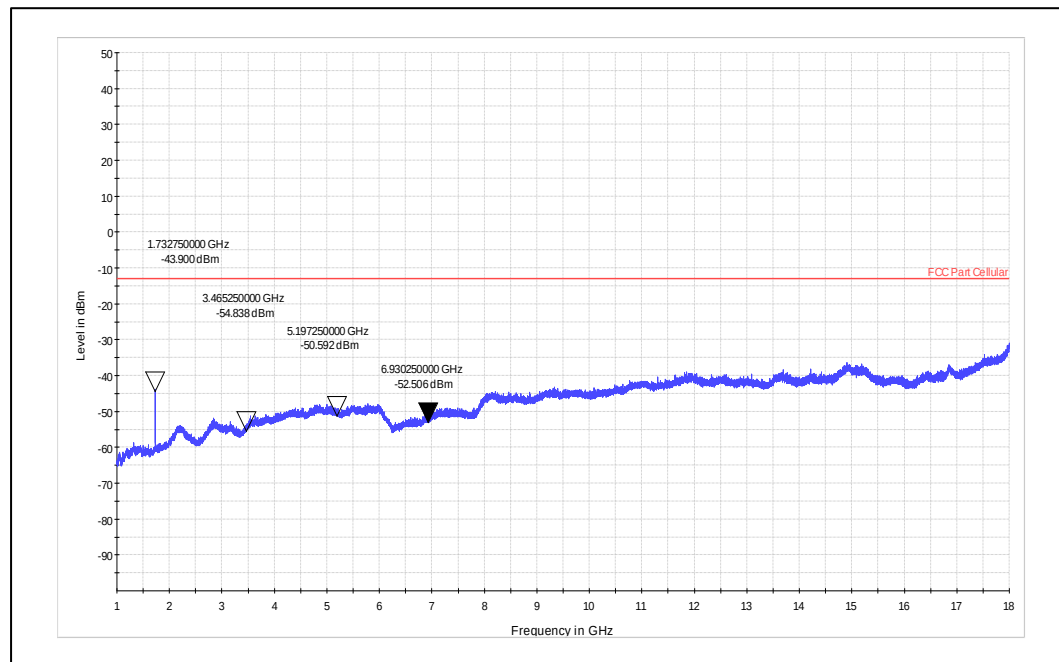
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Ch-1732.5MHz-CB1.4MHz-1RB0#0_1-18GHz_Vertical Polarization



Ch-1732.5MHz-CB1.4MHz-1RB0#0_1-18GHz_Horizontal Polarization



Prüfbericht - Nr.:

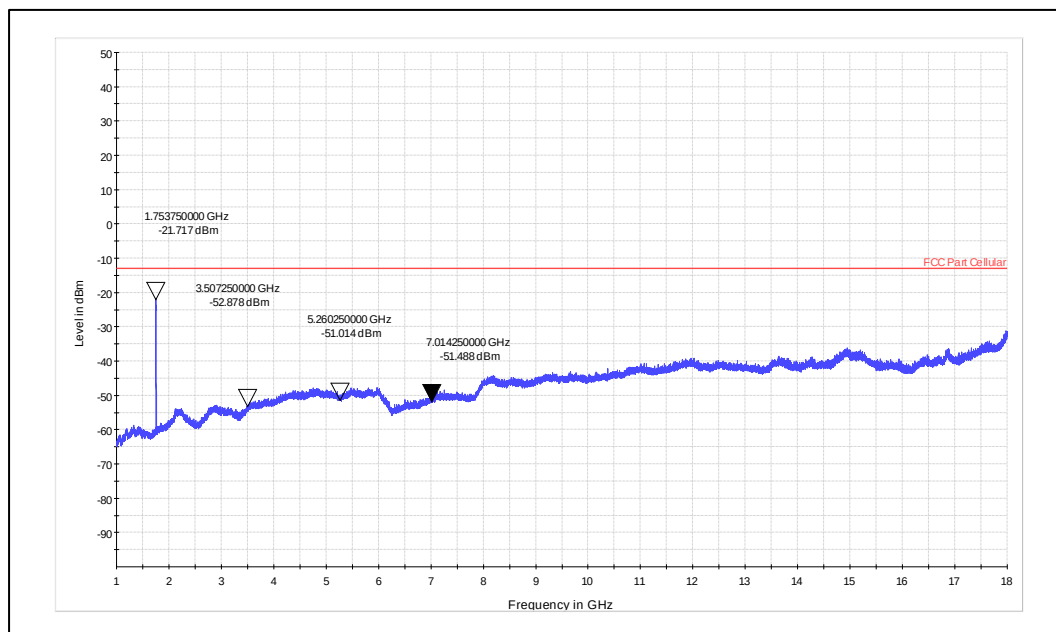
Test Report No.:

IN25R2HW 001

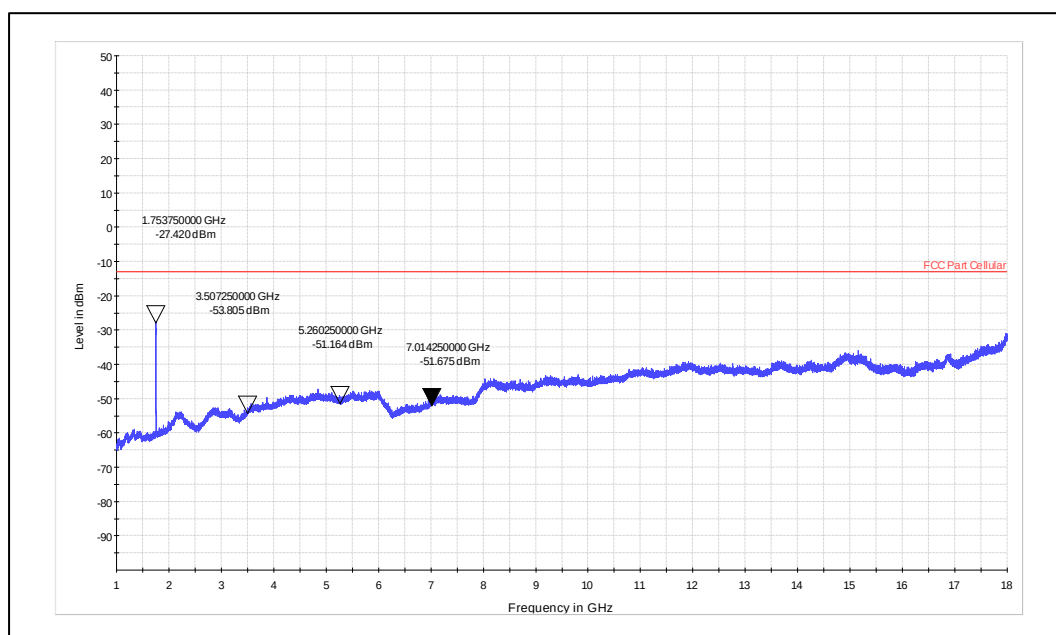
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Ch-1753.5MHz-CB-3MHz-1RB0#0_1-18GHz_Vertical Polarization



Ch-1753.5MHz-CB-3MHz-1RB0#0_1-18GHz_Horizontal Polarization



Prüfbericht - Nr.:

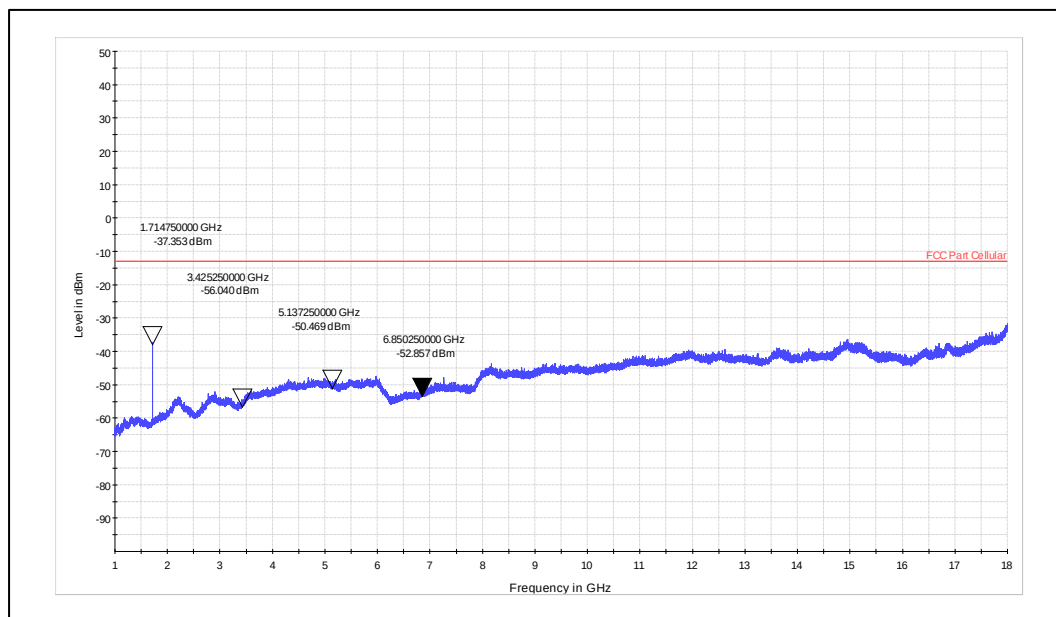
Test Report No.:

IN25R2HW 001

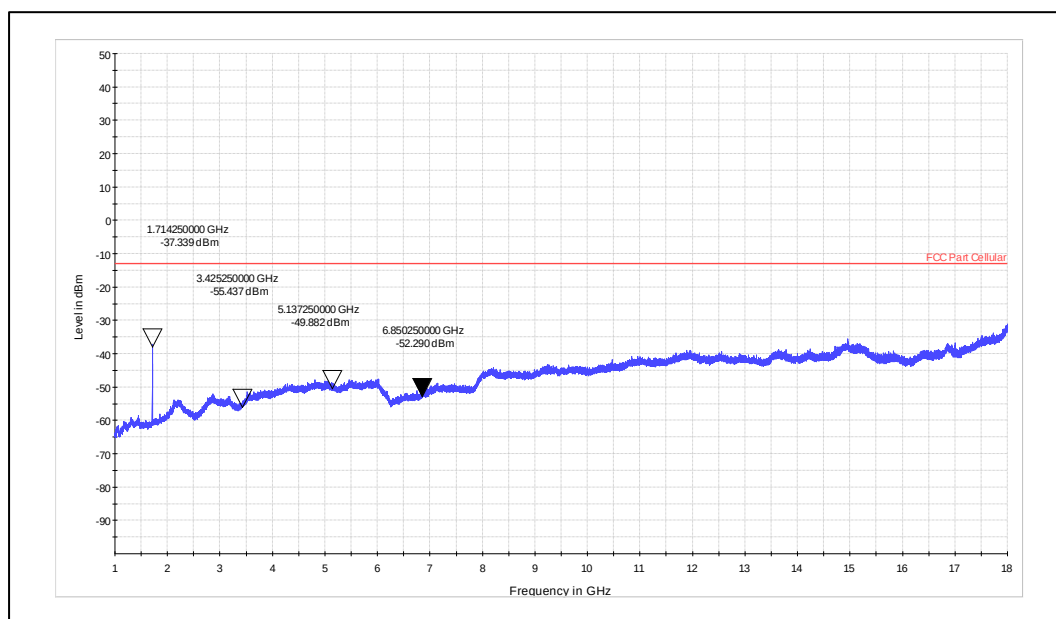
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Ch-1712.5MHz-CB-5MHz-1RB0#0_1-18GHz_Vertical Polarization



Ch-1712.5MHz-CB-5MHz-1RB0#0_1-18GHz_Horizontal Polarization

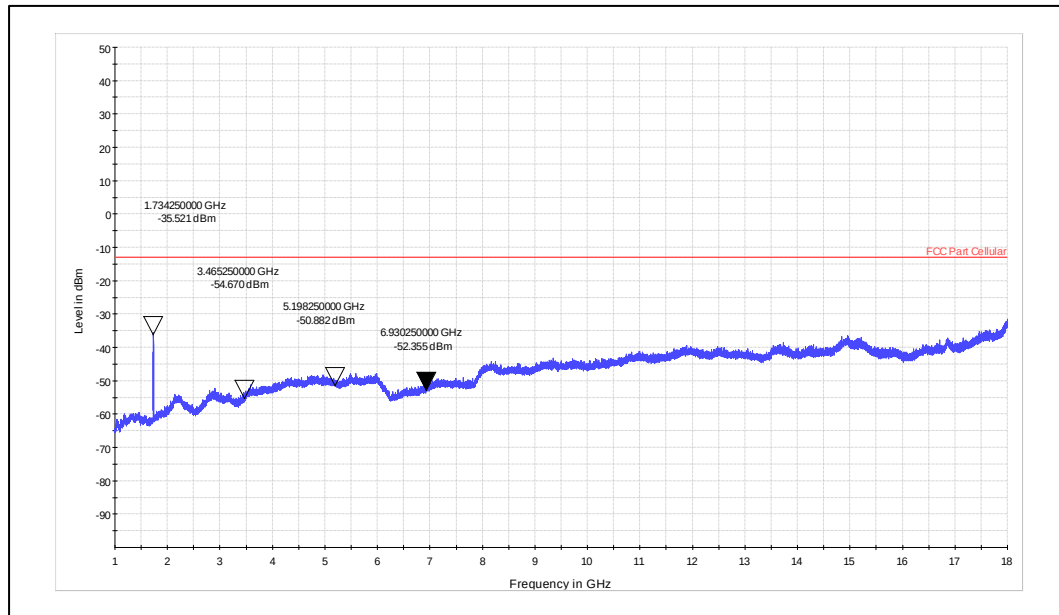


Prüfbericht - Nr.:
Test Report No.:

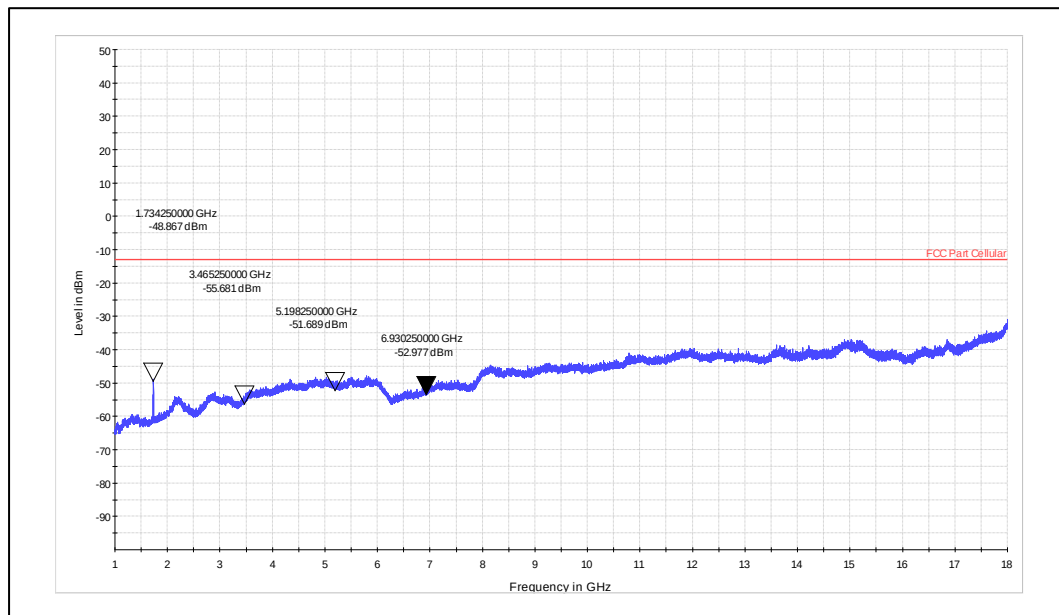
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Ch-1732.5MHz-CB-5MHz-1RB0#0_1-18GHz_Vertical Polarization



Ch-1732.5MHz-CB-5MHz-1RB0#0_1-18GHz_Horizontal Polarization



Prüfbericht - Nr.:

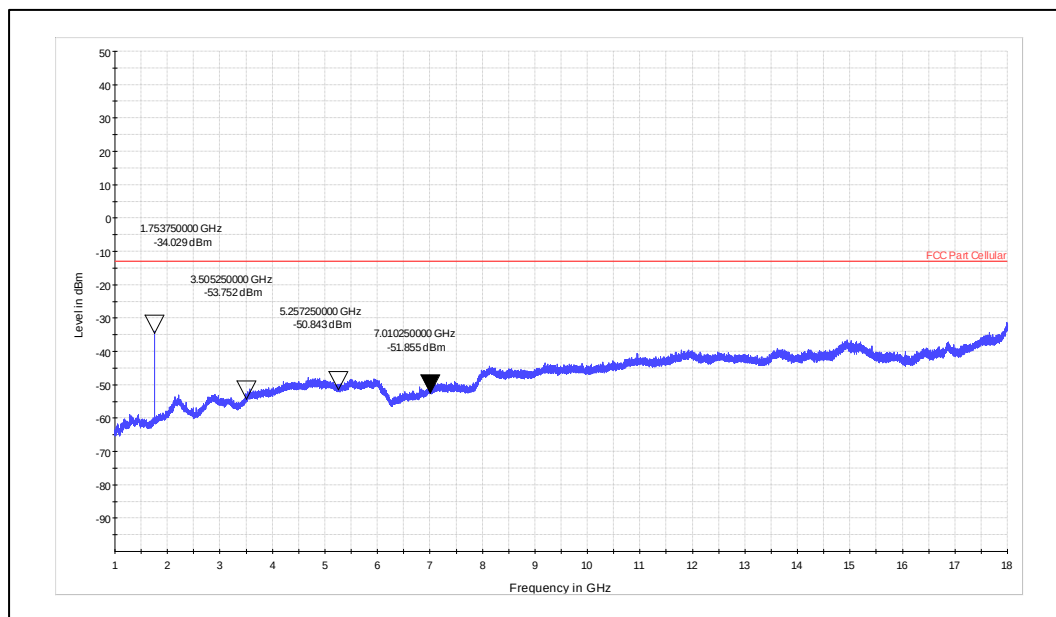
Test Report No.:

IN25R2HW 001

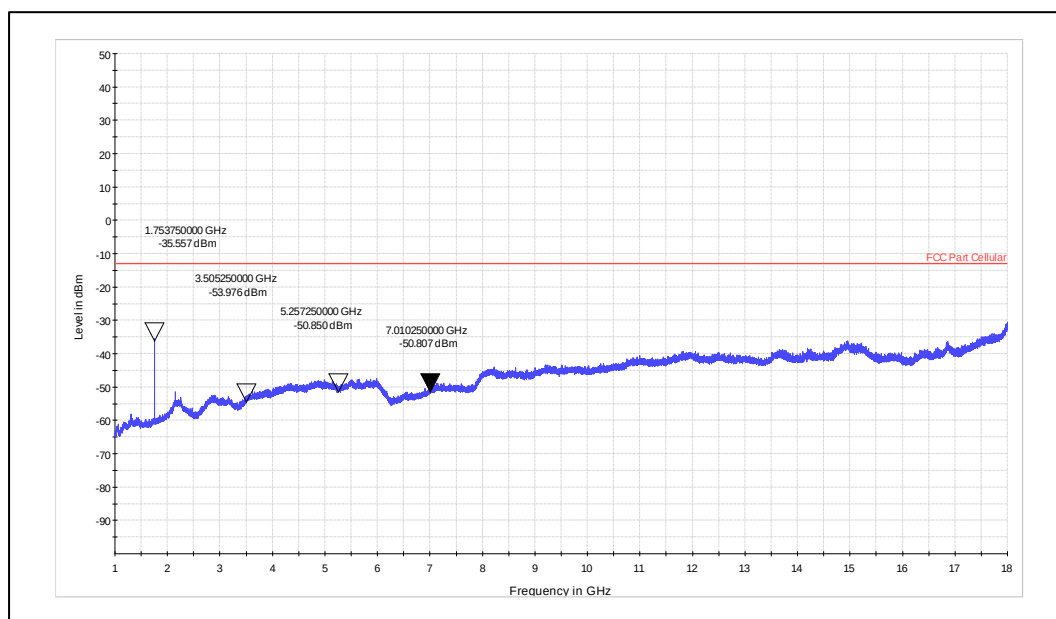
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Ch-1752.5MHz-CB-5MHz-1RB5#0_1-18GHz_Vertical Polarization



Ch-1752.5MHz-CB-5MHz-1RB5#0_1-18GHz_Horizontal Polarization



Prüfbericht - Nr.:

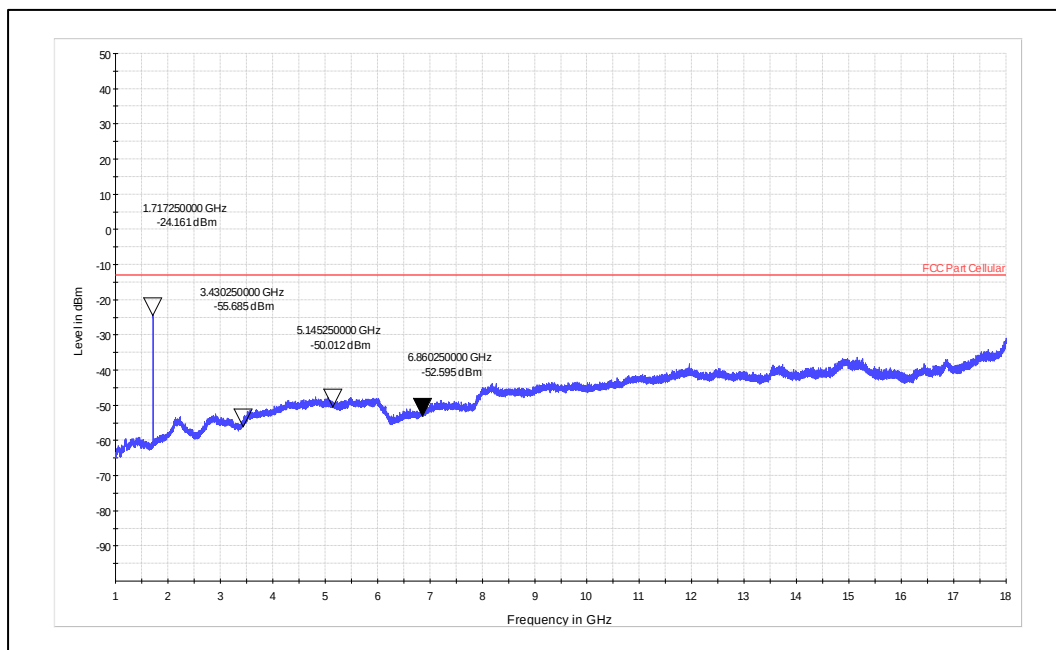
Test Report No.:

IN25R2HW 001

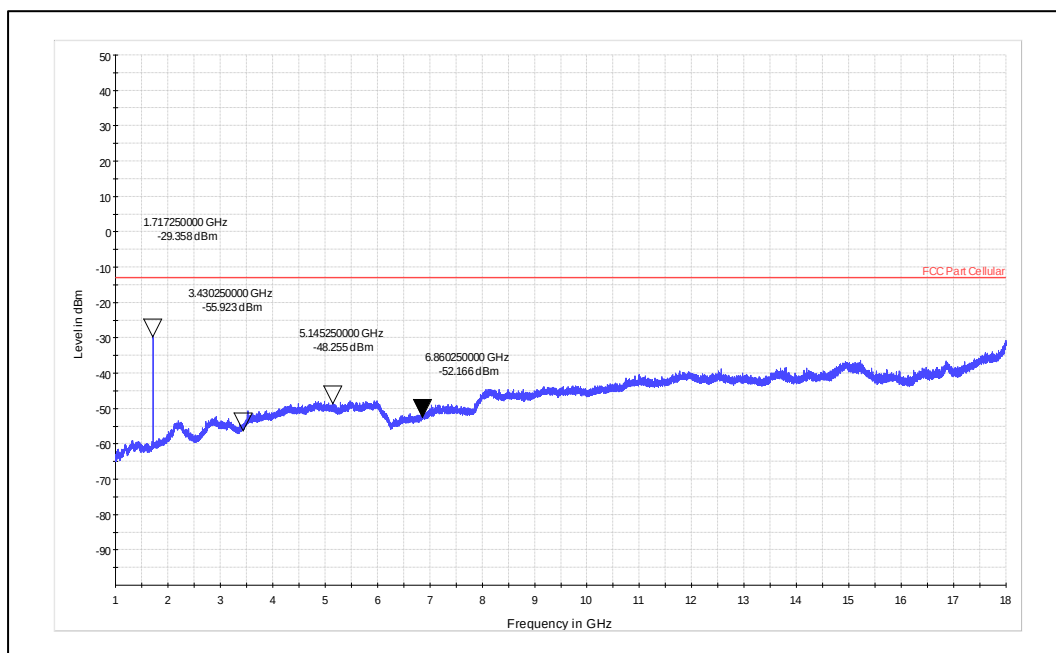
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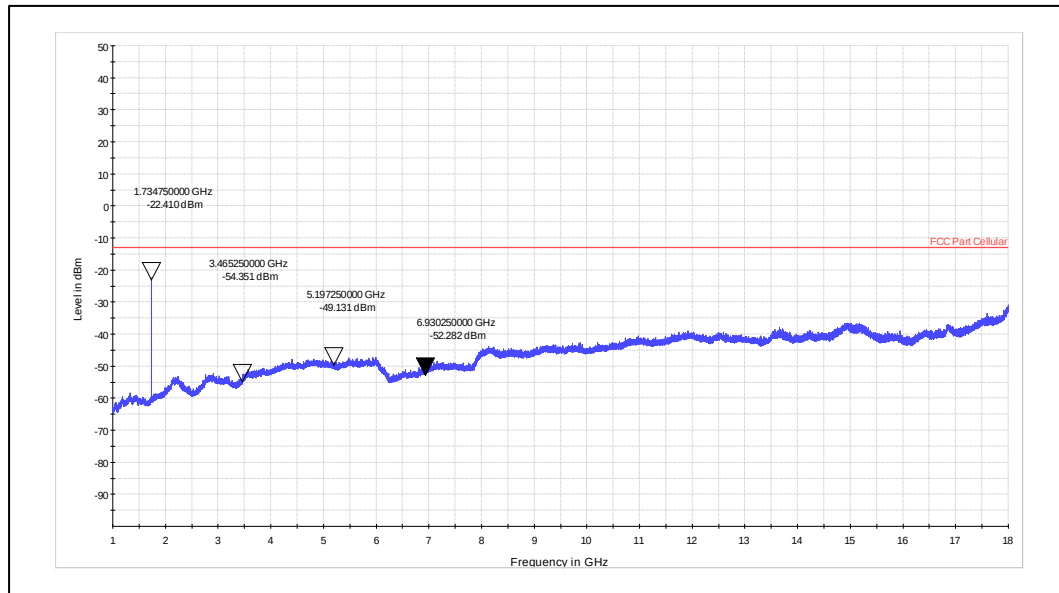
Ch-1715MHz-CB-10MHz-1RB0#0_1-18GHz_Vertical Polarization



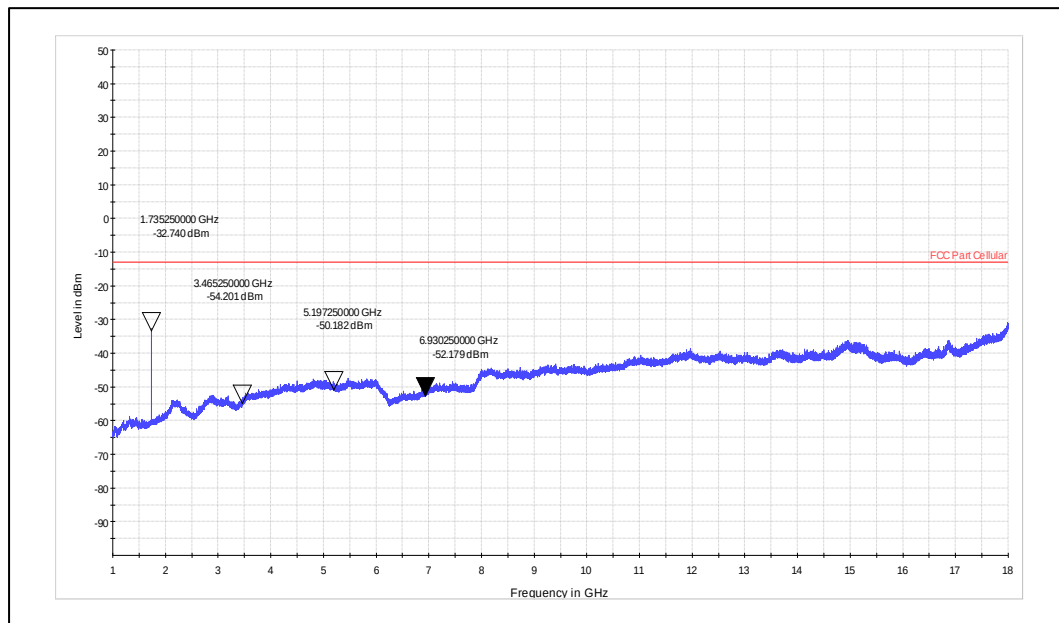
Ch-1715MHz-CB-10MHz-1RB0#0_1-18GHz_Horizontal Polarization



Ch-1732.5MHz-CB-10MHz-1RB0#0_1-18GHz_Vertical Polarization



Ch-1732.5MHz-CB-10MHz-1RB0#0_1-18GHz_Horizontal Polarization



Prüfbericht - Nr.:

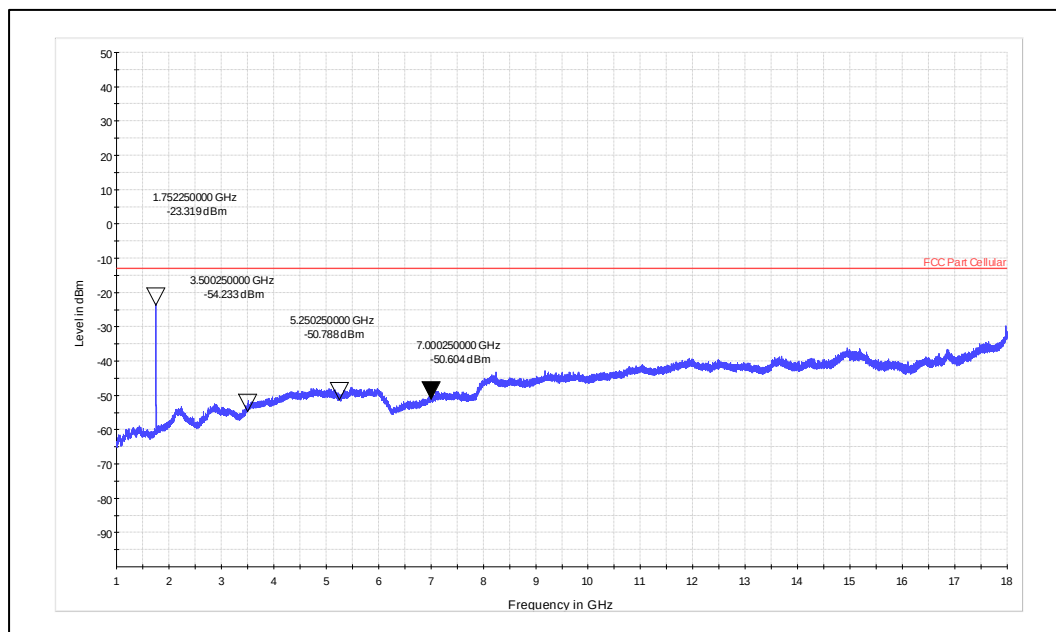
Test Report No.:

IN25R2HW 001

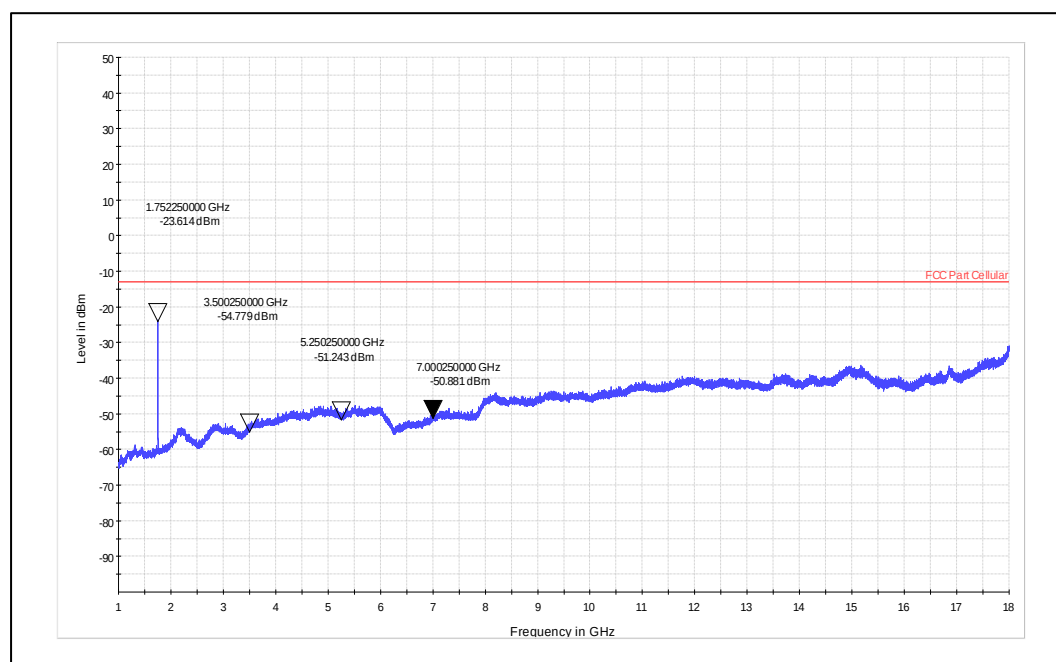
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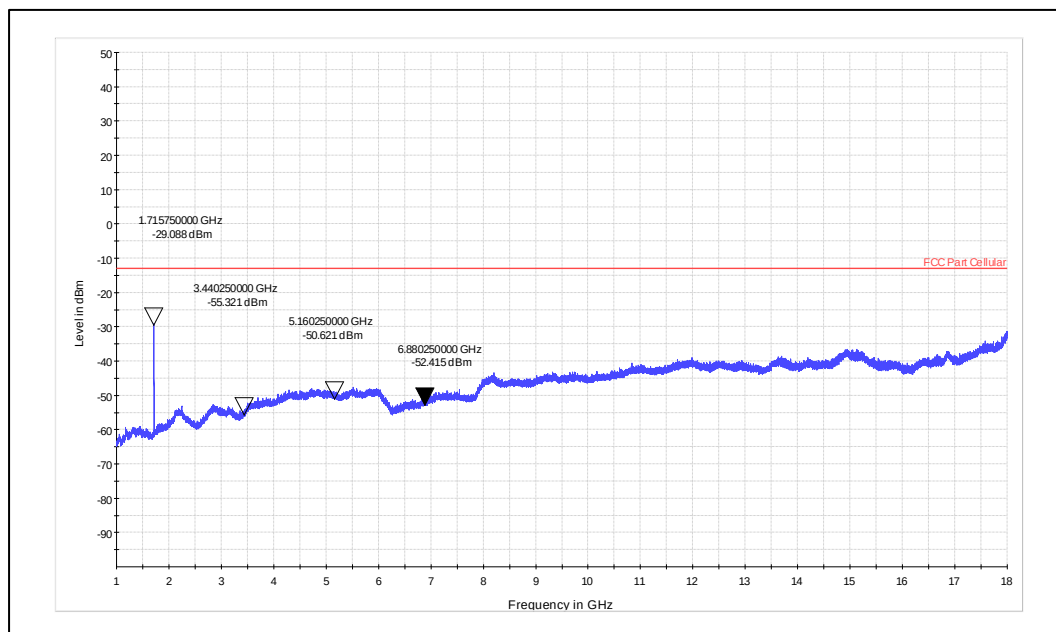
Ch-1750MHz-CB-10MHz-1RB5#0_1-18GHz_Vertical Polarization



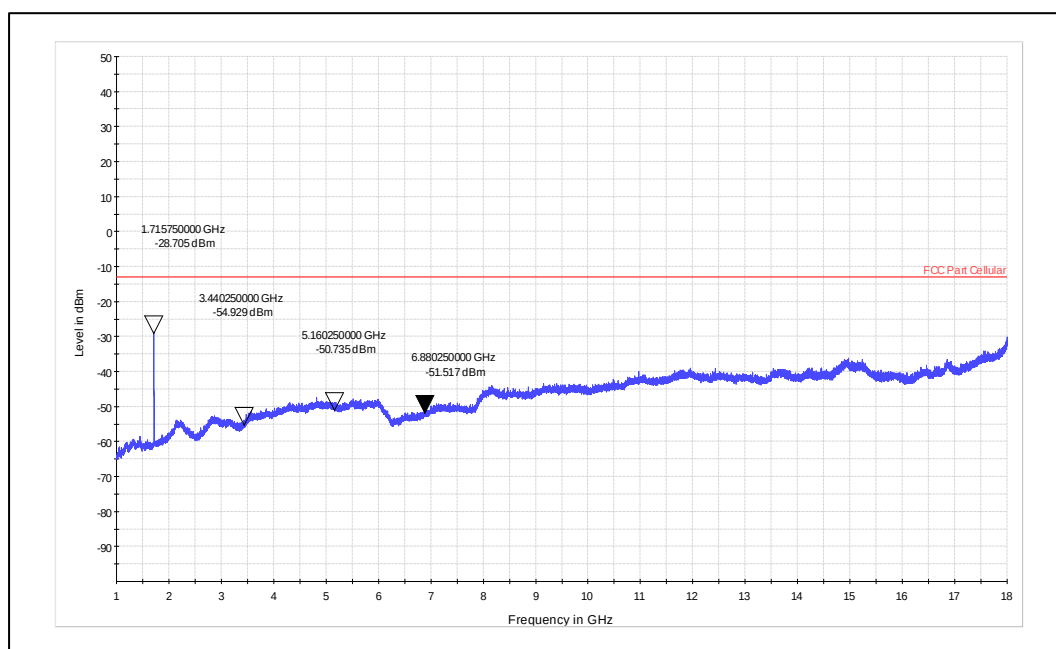
Ch-1750MHz-CB-10MHz-1RB5#0_1-18GHz_Horizontal Polarization



Ch-1720MHz-CB-20MHz-1RB0#0_1-18GHz_Vertical Polarization



Ch-1720MHz-CB-20MHz-1RB0#0_1-18GHz_Horizontal Polarization

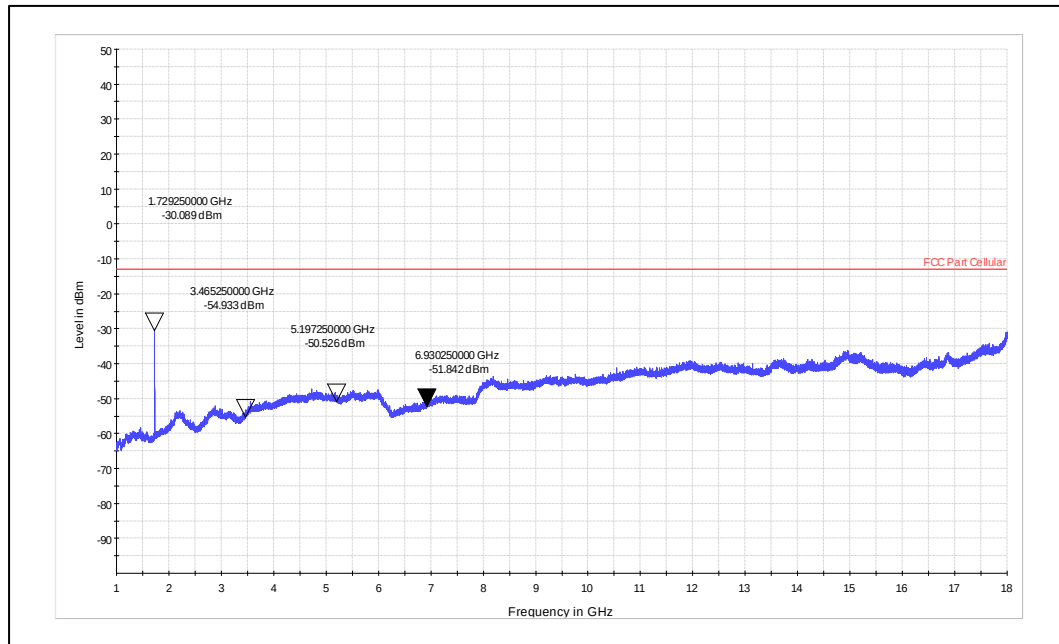


Prüfbericht - Nr.:
Test Report No.:

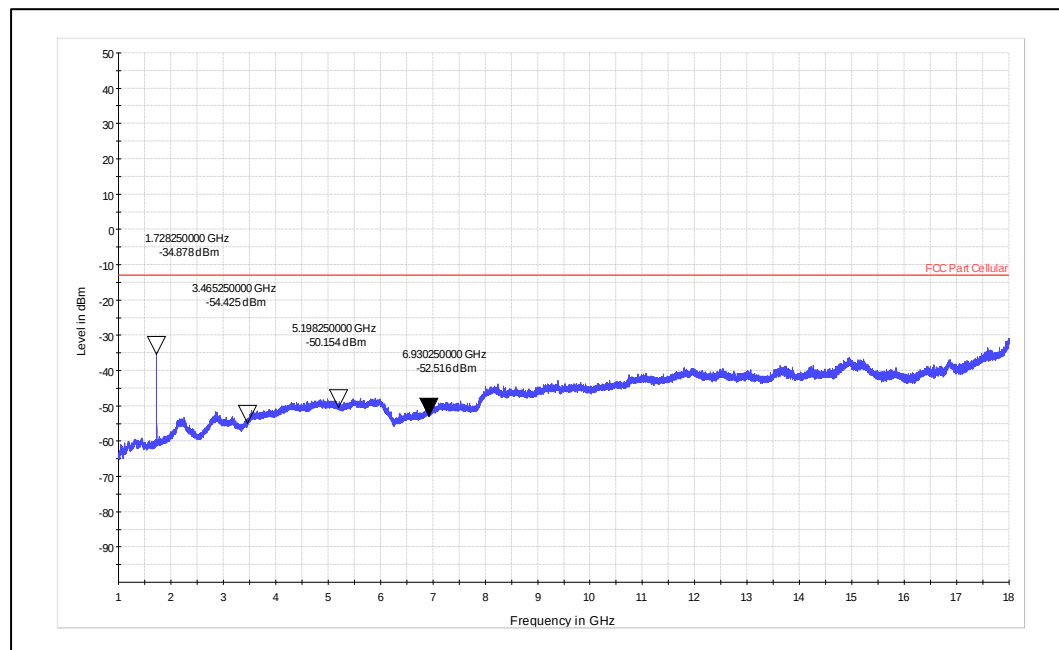
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Ch-1732.5MHz-CB-20MHz-1RB0#0_1-18GHz_Vertical Polarization



Ch-1732.5MHz-CB-20MHz-1RB0#0_1-18GHz_Horizontal Polarization

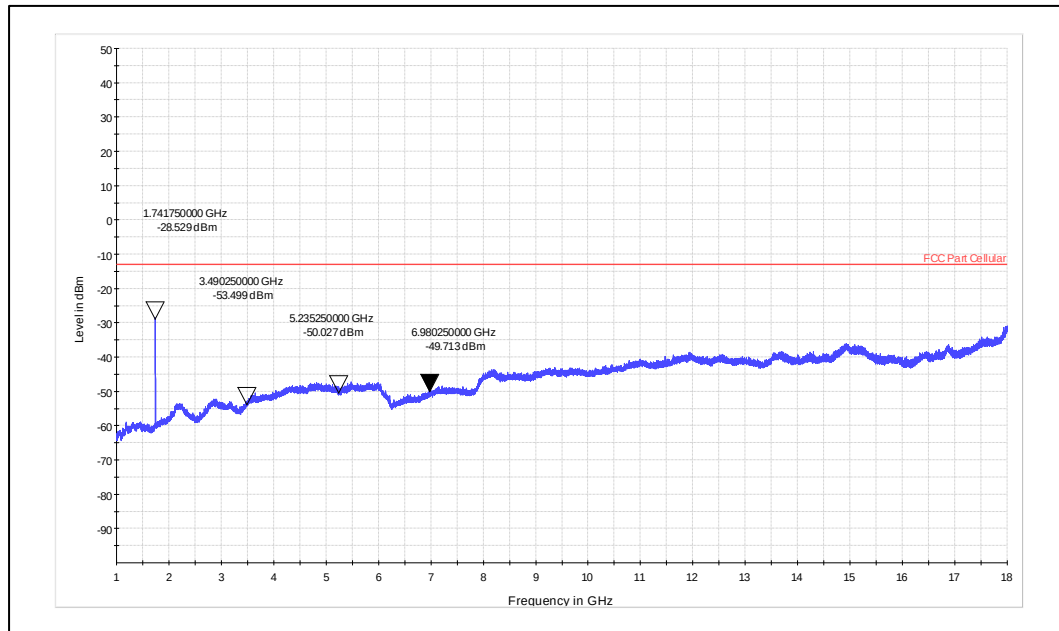


Prüfbericht - Nr.:
Test Report No.:

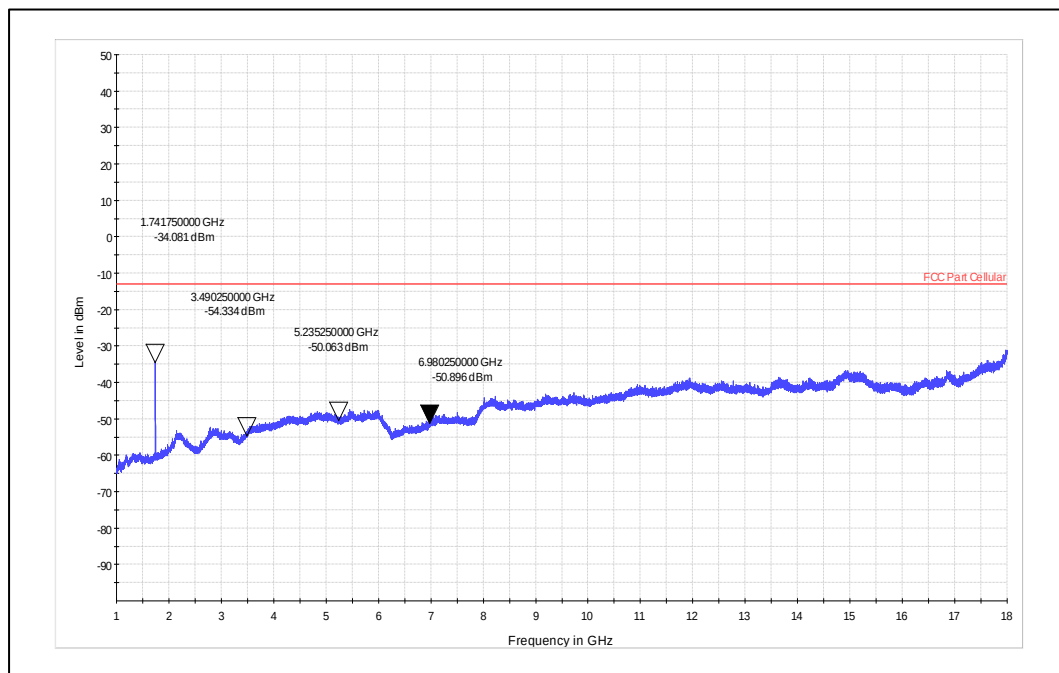
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Ch-1745MHz-CB-20MHz-1RB5#0_1-18GHz_Vertical Polarization



Ch-1745MHz-CB-20MHz-1RB5#0_1-18GHz_Horizontal Polarization



Prüfbericht - Nr.:

Test Report No.:

IN25R2HW 001

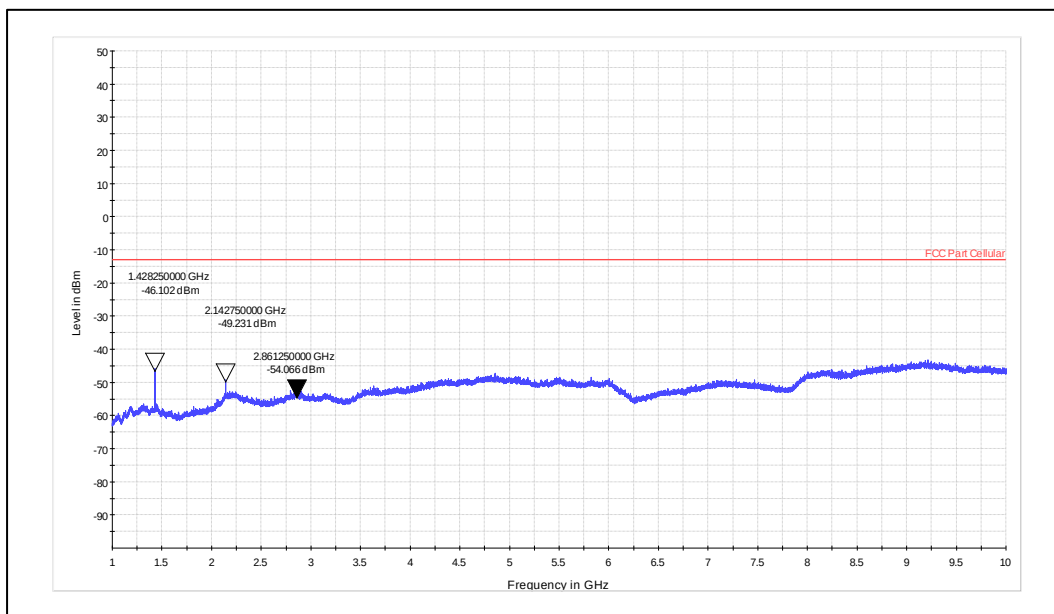
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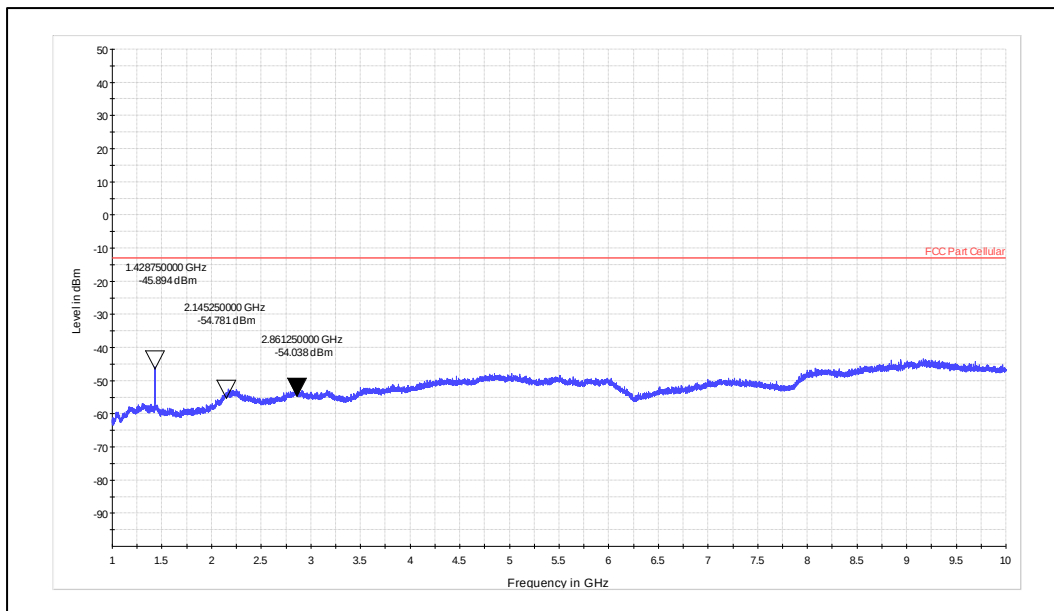
Band 12:

Modulation: QPSK

Ch-715.3MHz-CB-1.4MHz-1RB5#0_1-10GHz_Vertical Polarization



Ch-715.3MHz-CB-1.4MHz-1RB5#0_1-10GHz_Horizontal Polarization



Prüfbericht - Nr.:

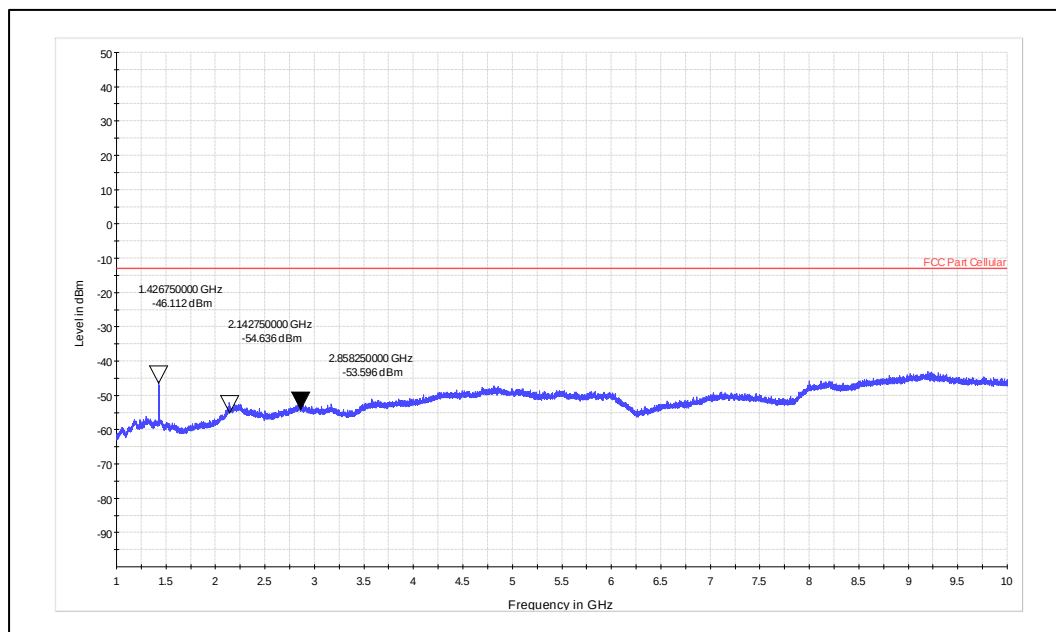
Test Report No.:

IN25R2HW 001

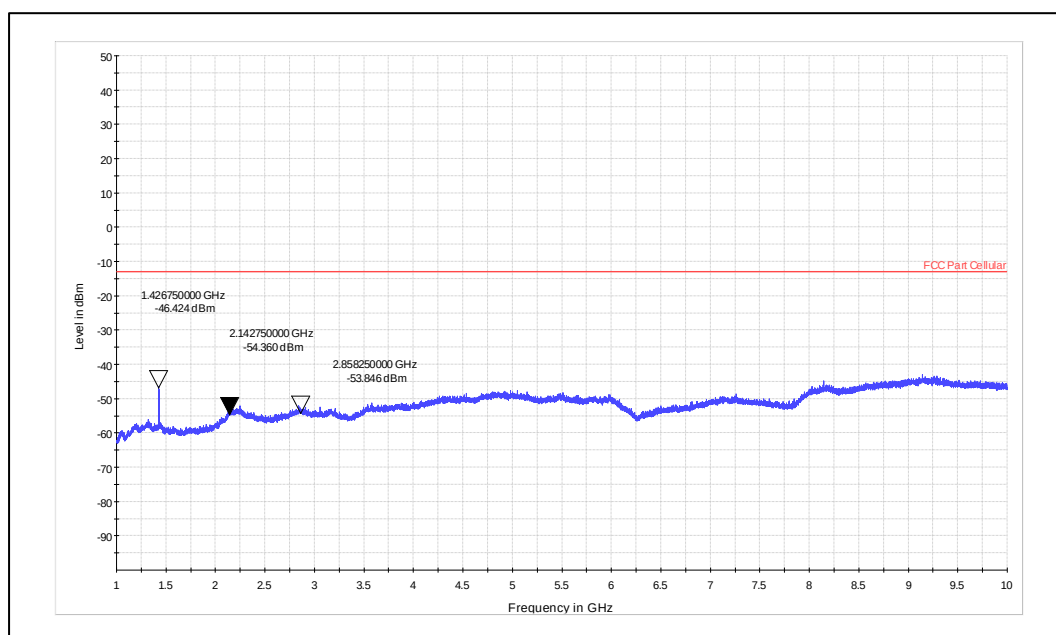
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Ch-714.5MHz-CB-3MHz-1RB1#5_1-10GHz_Vertical Polarization



Ch-714.5MHz-CB-3MHz-1RB1#5_1-10GHz_Horizontal Polarization



Prüfbericht - Nr.:

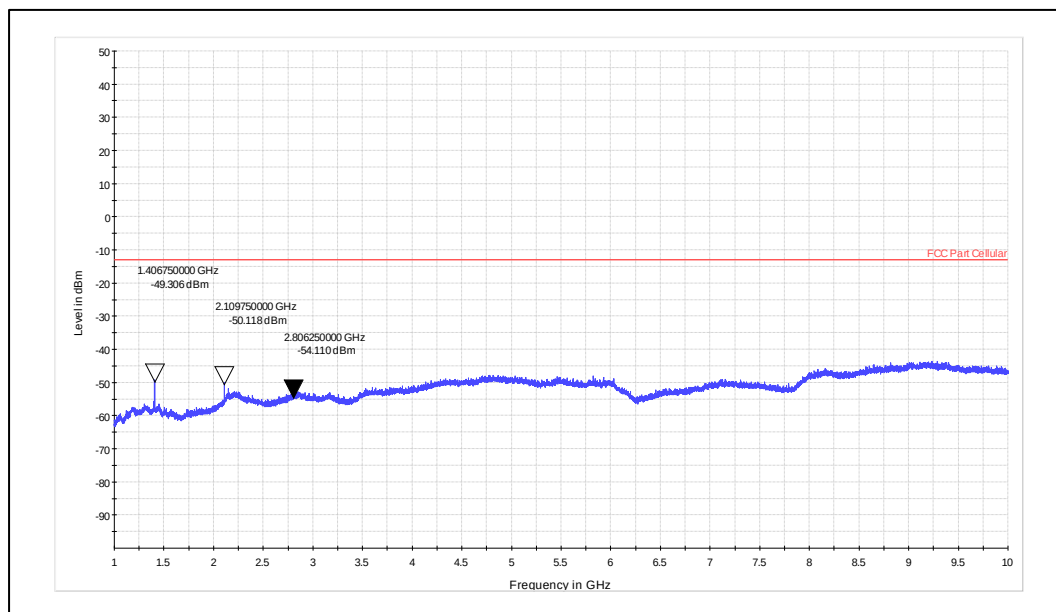
Test Report No.:

IN25R2HW 001

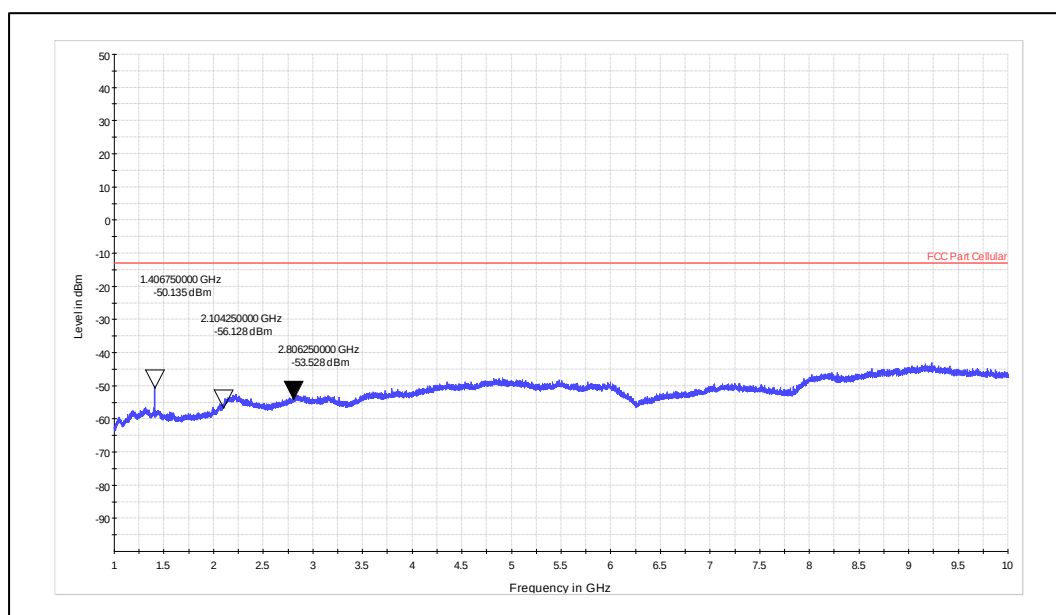
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Ch-701.5MHz-CB-5MHz-6RB0#0_1-10GHz_Vertical Polarization



Ch-701.5MHz-CB-5MHz-6RB0#0_1-10GHz_Horizontal Polarization



Prüfbericht - Nr.:

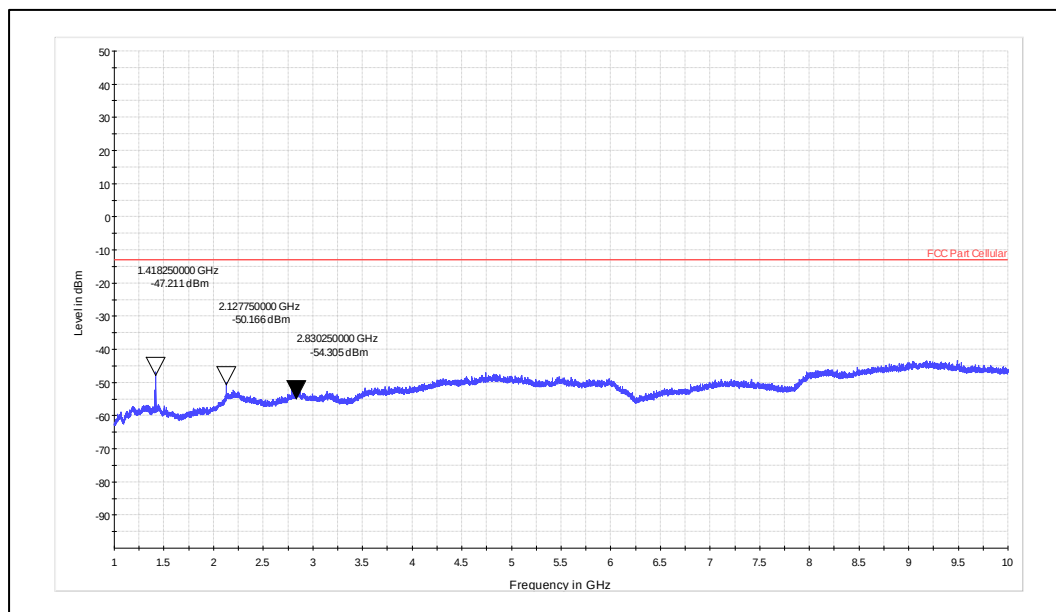
Test Report No.:

IN25R2HW 001

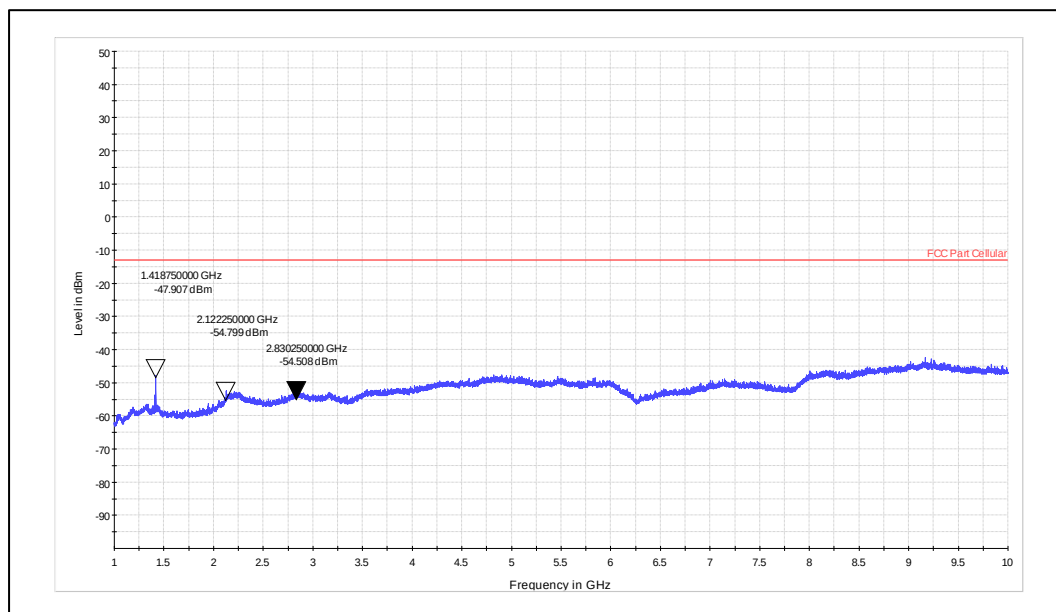
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Ch-707.5MHz-CB-5MHz-6RB0#0_1-10GHz_Vertical Polarization



Ch-707.5MHz-CB-5MHz-6RB0#0_1-10GHz_Horizontal Polarization

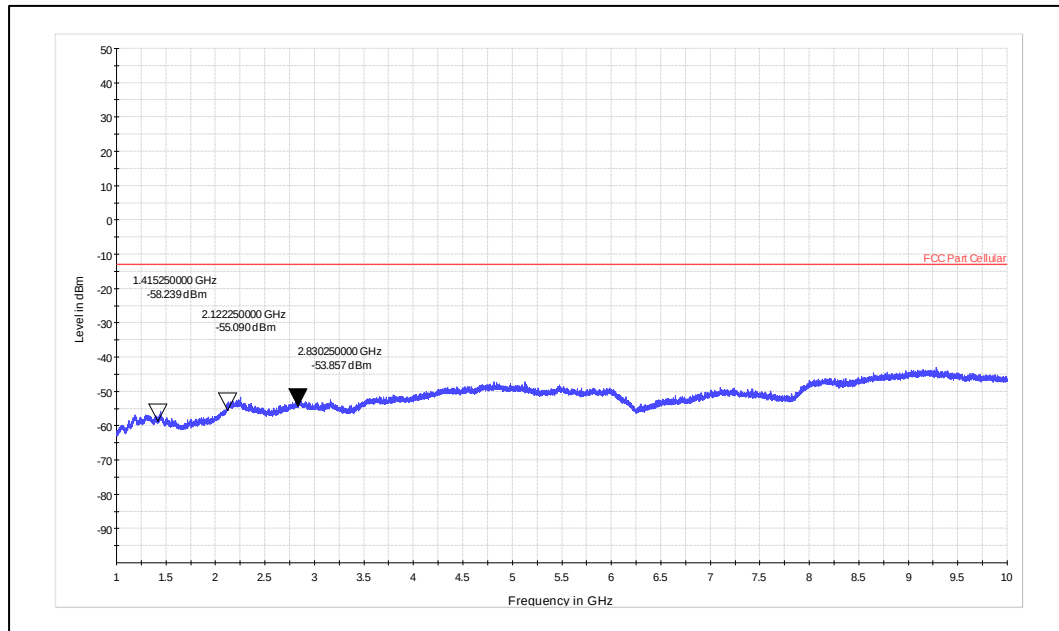


Prüfbericht - Nr.:
Test Report No.:

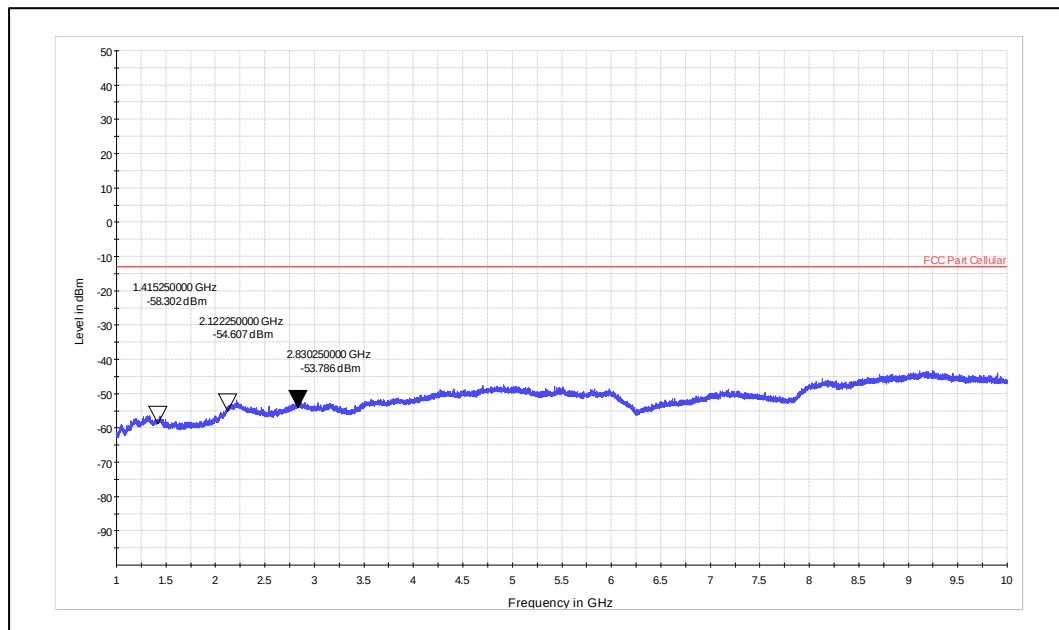
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Ch-707.5MHz-CB-10MHz-4RB0#0_1-10GHz_Vertical Polarization



Ch-707.5MHz-CB-10MHz-4RB0#0_1-10GHz_Horizontal Polarization



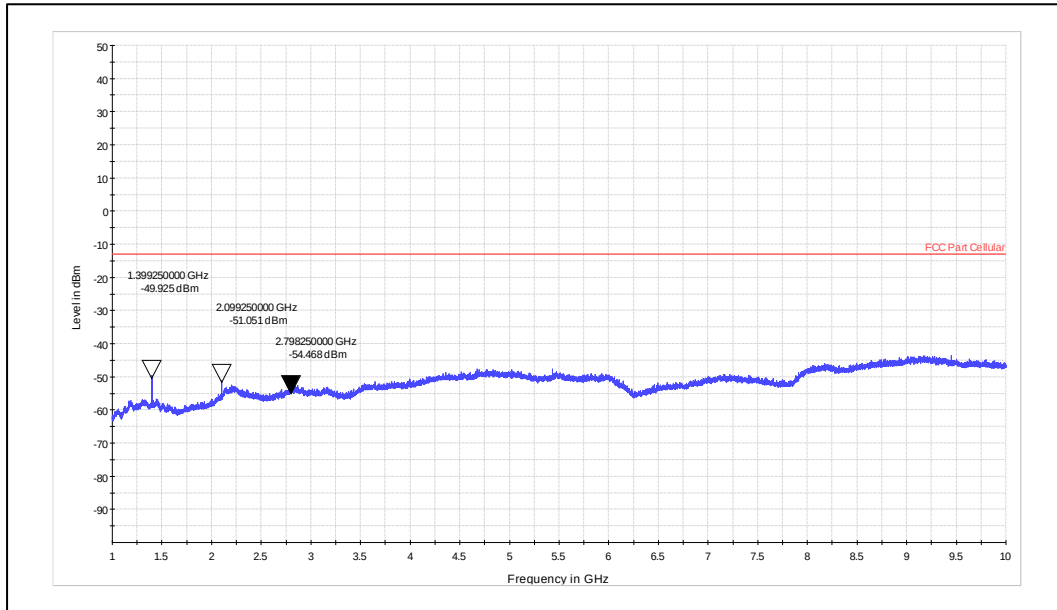
Prüfbericht - Nr.:
Test Report No.:

IN25R2HW 001

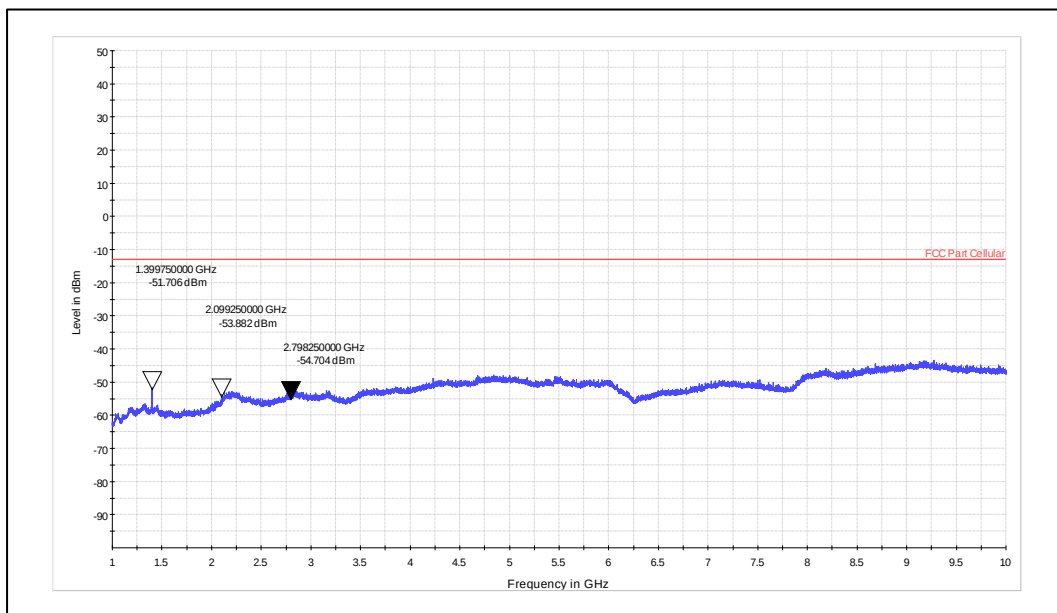
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Modulation: 16QAM

Ch-699.7MHz-CB-1.4MHz-1RB0#0_1-10GHz_Vertical Polarization



Ch-699.7MHz-CB-1.4MHz-1RB0#0_1-10GHz_Horizontal Polarization



Prüfbericht - Nr.:

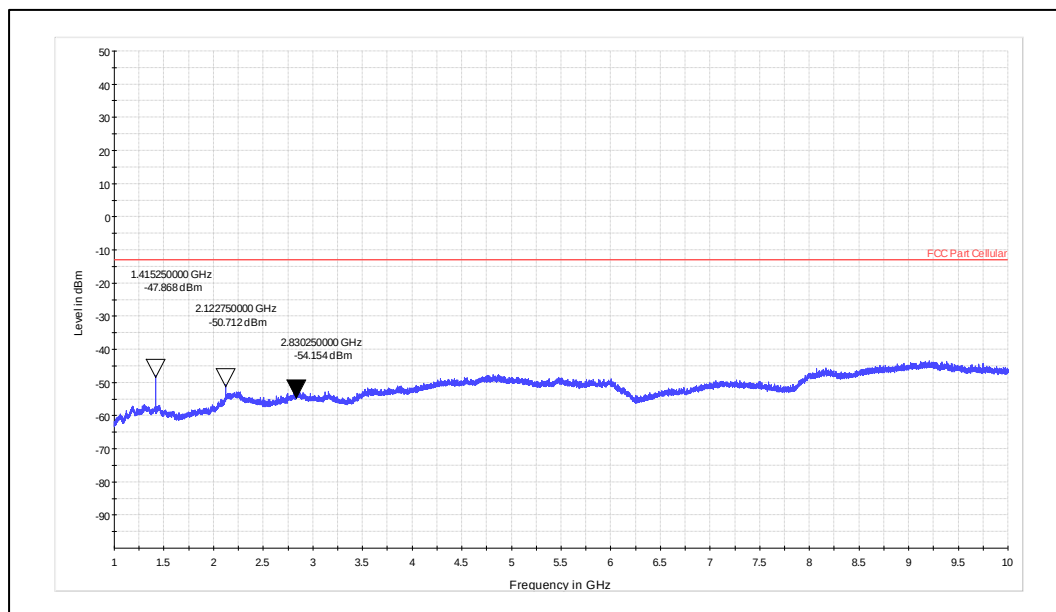
Test Report No.:

IN25R2HW 001

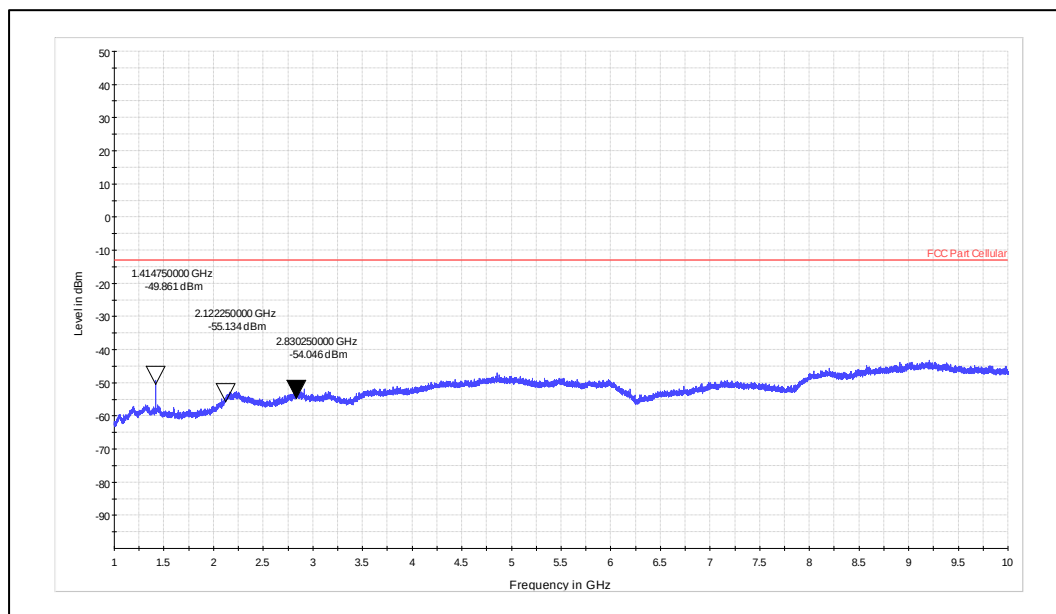
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Ch-707.5MHz-CB-1.4MHz-1RB0#0_1-10GHz_Vertical Polarization



Ch-707.5MHz-CB-1.4MHz-1RB0#0_1-10GHz_Horizontal Polarization



Prüfbericht - Nr.:

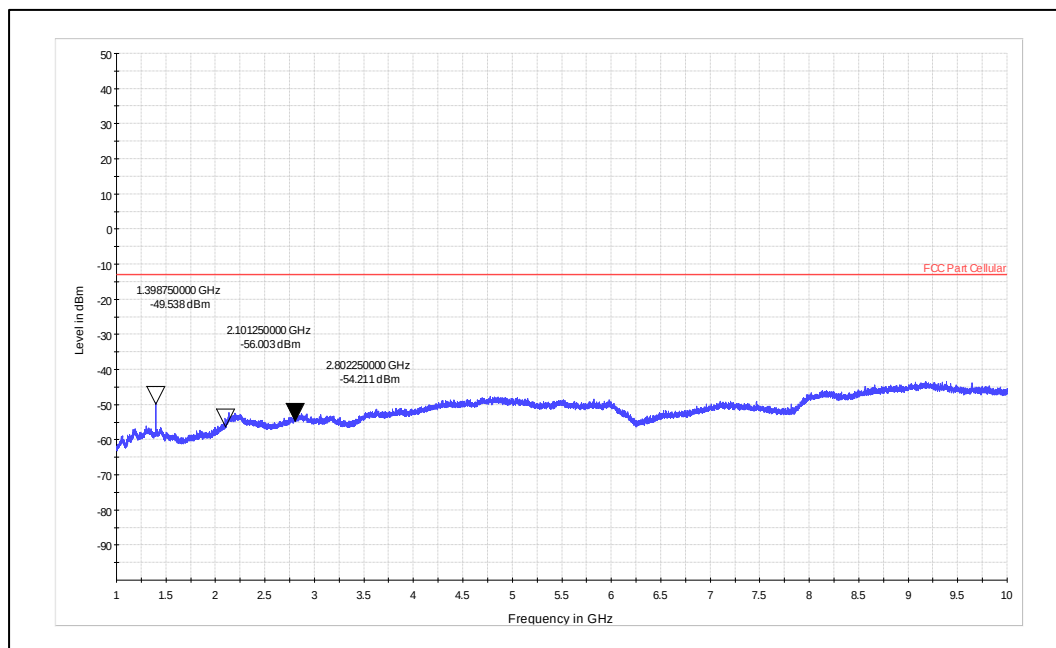
Test Report No.:

IN25R2HW 001

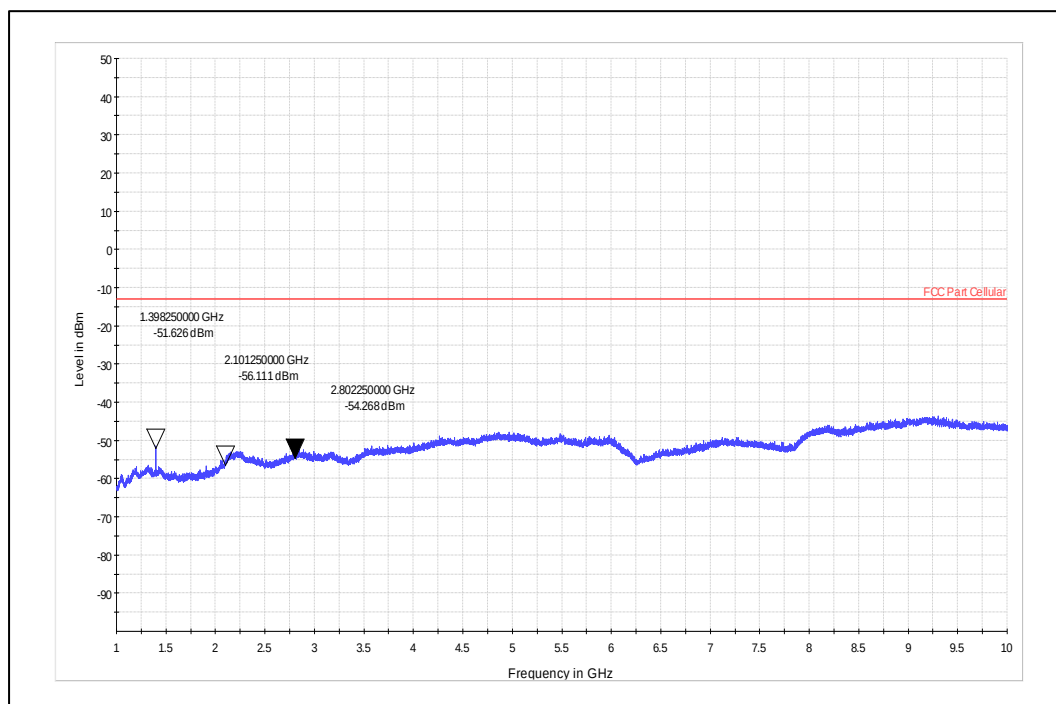
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Ch-700.5MHz-CB-3MHz-1RB0#0_1-10GHz_Vertical Polarization



Ch-700.5MHz-CB-3MHz-1RB0#0_1-10GHz_Horizontal Polarization

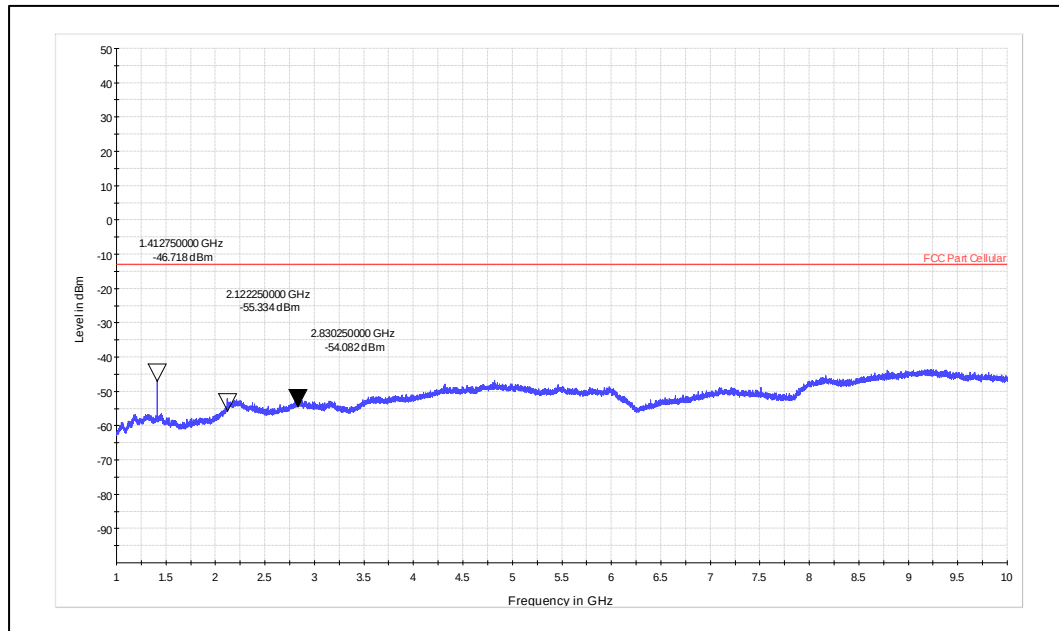


Prüfbericht - Nr.:
Test Report No.:

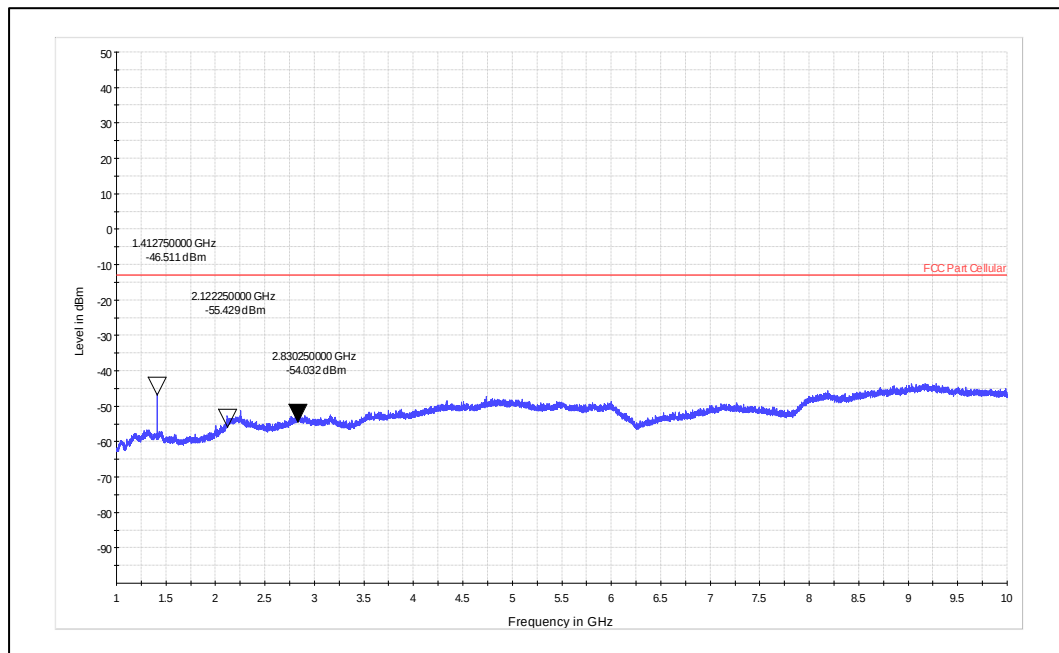
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Ch-707.5MHz-CB-3MHz-1RB0#0_1-10GHz_Vertical Polarization



Ch-707.5MHz-CB-3MHz-1RB0#0_1-10GHz_Horizontal Polarization

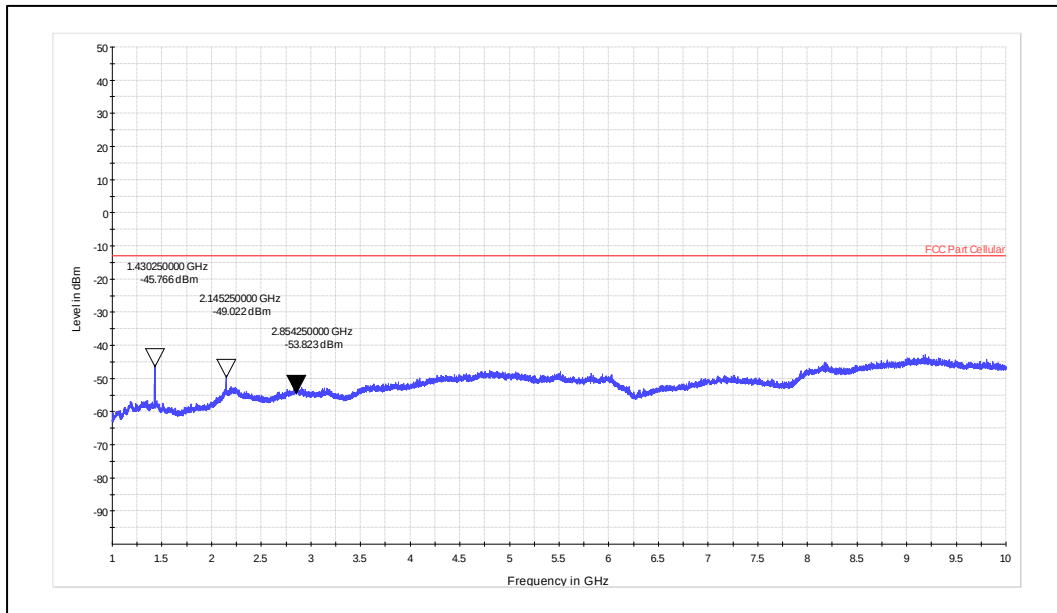


Prüfbericht - Nr.:
Test Report No.:

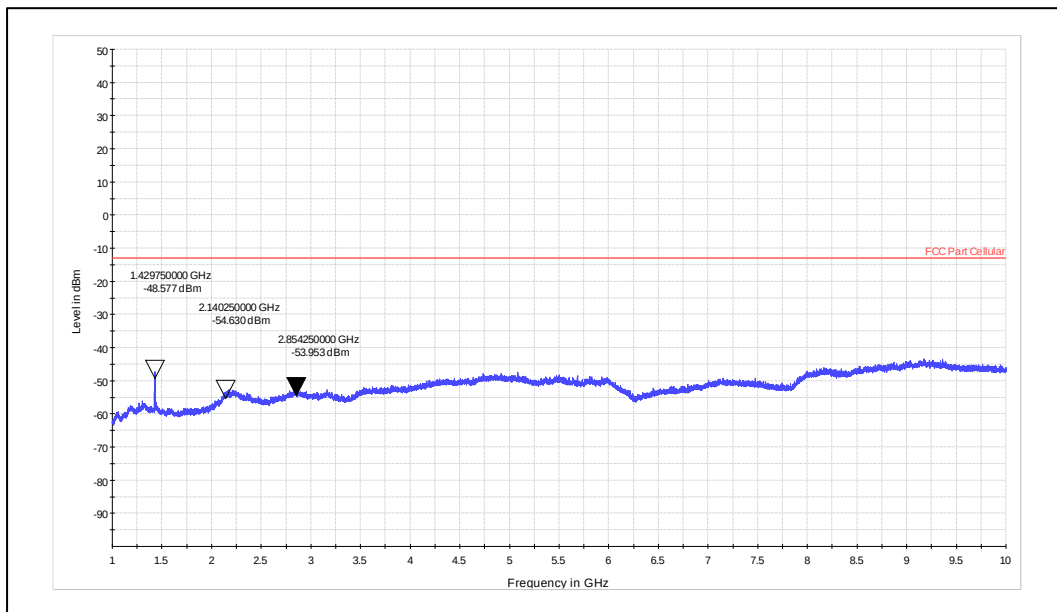
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Ch-713.5MHz-CB-5MHz-1RB5#0_1-10GHz_Vertical Polarization



Ch-713.5MHz-CB-5MHz-1RB5#0_1-10GHz_Horizontal Polarization



Prüfbericht - Nr.:

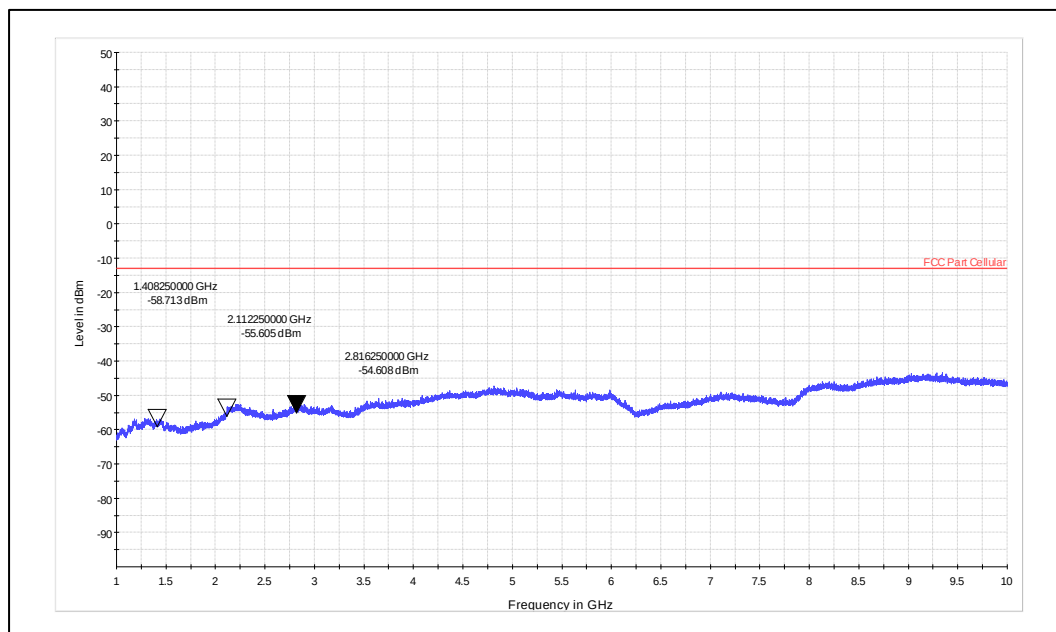
Test Report No.:

IN25R2HW 001

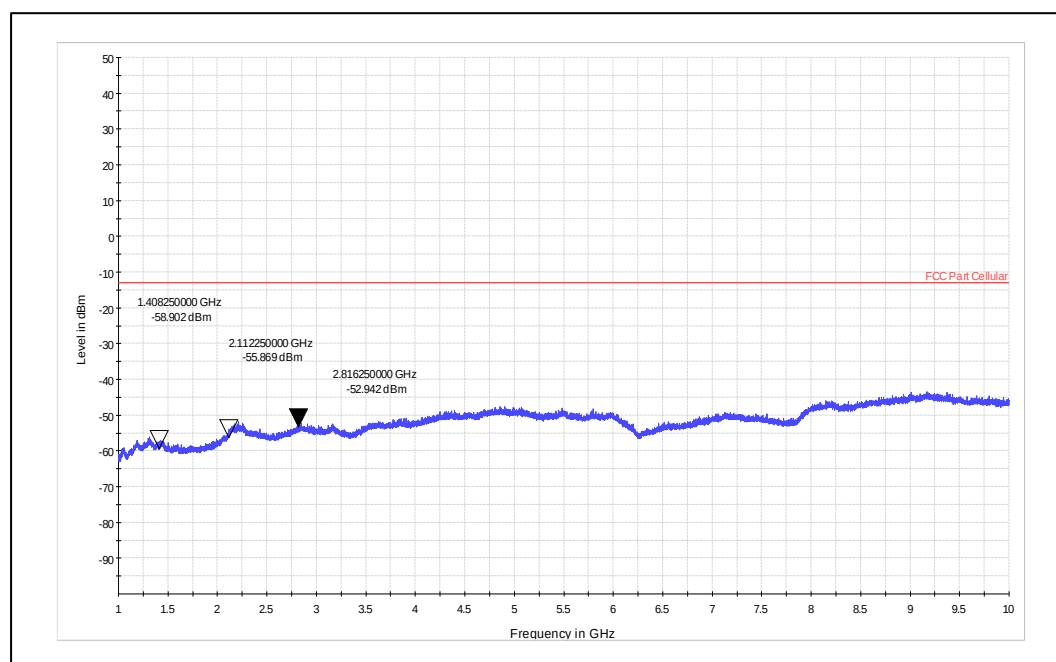
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Ch-704MHz-CB-10MHz-4RB0#0_1-10GHz_Vertical Polarization



Ch-704MHz-CB-10MHz-4RB0#0_1-10GHz_Horizontal Polarization



Prüfbericht - Nr.:

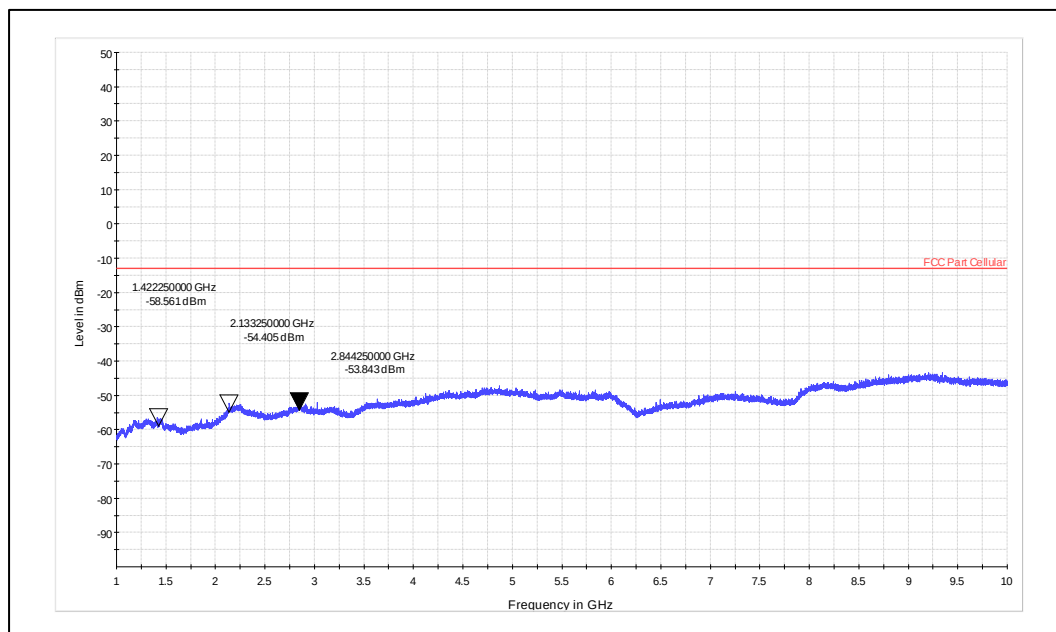
Test Report No.:

IN25R2HW 001

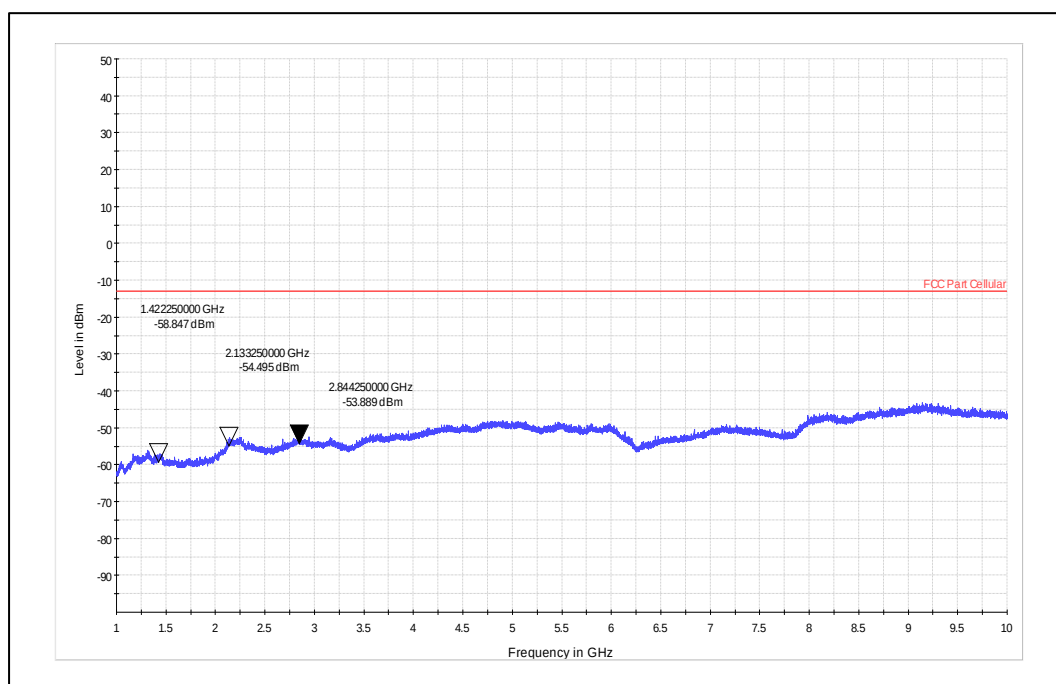
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Ch-711MHz-CB-10MHz-4RB2#7_1-10GHz_Vertical Polarization



Ch-711MHz-CB-10MHz-4RB2#7_1-10GHz_Horizontal Polarization



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8 AC Power lines Conducted Emission

Result

Pass

Test Specification: FCC Part 15 Section 15.207
RSS Gen Issue 5, Section 8.8

Test Method: ANSI C 63.10-2013

Testing Location: Screened room

Measurement Bandwidth: 9kHz

Frequency Range: 150kHz – 30MHz

Supply Voltage: 110VAC,60Hz

Test Method: Refer TEST METHODOLOGY

Limits of section 15.207

Frequency of emission (MHz)	Conducted limit (dBµV)	
	Quasi-peak (dBµV)	Average (dBµV)
0.15-0.5	66-56*	56-46*
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency

Test Conditions:

Normal Temperature = +24°C Voltage (V norm) = 110V AC through AC to DC Adapter Relative Humidity = 64%

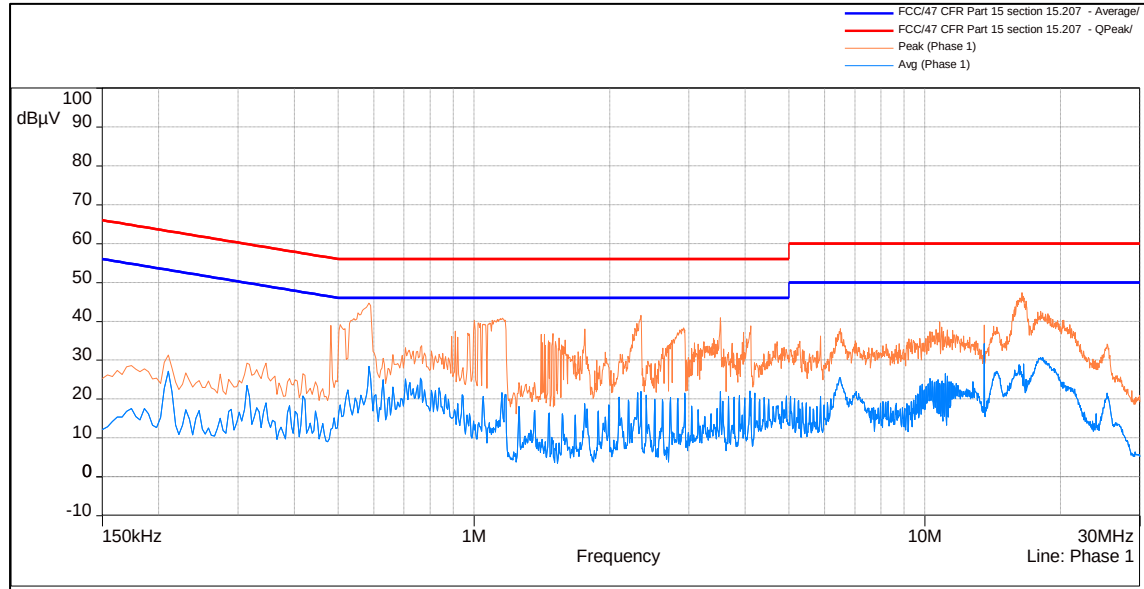
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Test Result:

Power: 110V 60Hz_LINE



Quasi-peak

Frequency (MHz)	Correction (dB)	Level (dBμV)	Limit (dBμV)	Margin (dB)
0.58645	10.02	43.74	56	-12.26
2.34505	10.02	40.39	56	-15.61
3.5188	9.96	39.68	56	-16.32
16.40485	10.13	40.74	60	-19.26
1.76105	10.04	36.08	56	-19.92
1.1427	10.04	35.56	56	-20.44
6.49165	9.85	29.1	60	-30.9

Average

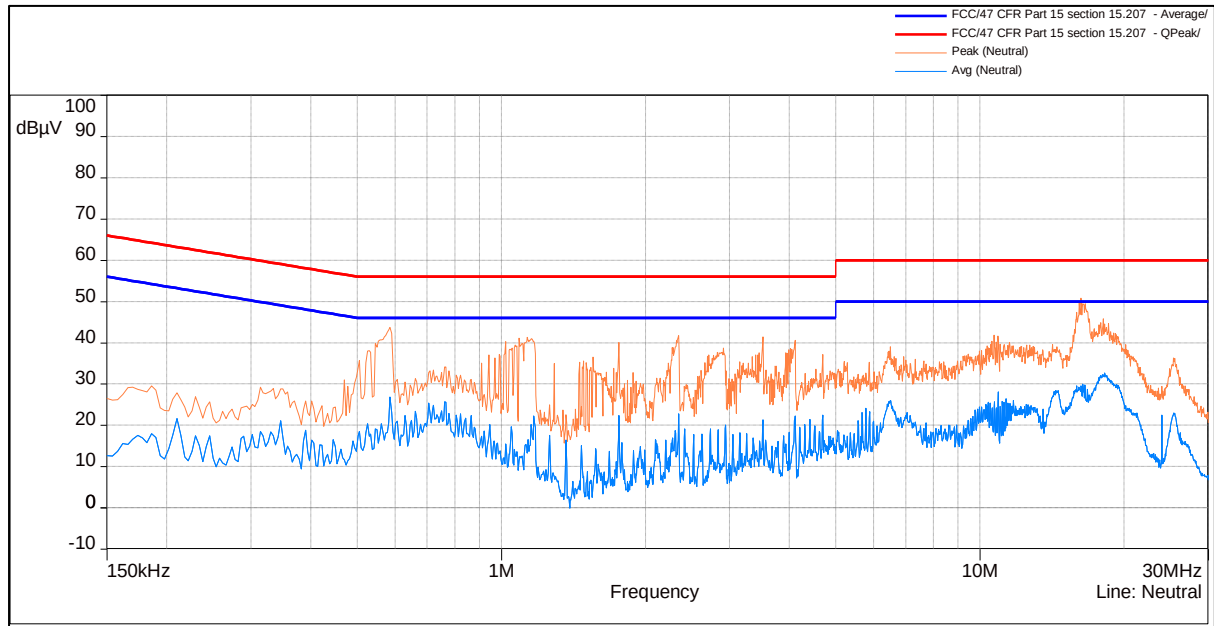
Frequency (MHz)	Correction (dB)	Level (dBμV)	Limit (dBμV)	Margin (dB)
0.58645	10.02	27.75	46	-18.25
16.40485	10.13	27.34	50	-22.66
2.34505	10.02	23.23	46	-22.77
3.5188	9.96	21.92	46	-24.08
1.76105	10.04	19.67	46	-26.33
6.49165	9.85	22.23	50	-27.77
1.1427	10.04	13.99	46	-32.01

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Neutral:



Quasi-peak

Frequency (MHz)	Correction (dB)	Level (dBμV)	Limit (dBμV)	Margin (dB)
0.58645	10.3	42.65	56	-13.35
2.34505	10.36	40.94	56	-15.06
3.51615	10.34	40.37	56	-15.63
16.28705	11.14	41.59	60	-18.41
1.75885	10.35	37.22	56	-18.78
4.0974	10.33	35.21	56	-20.79
1.10845	10.32	34.15	56	-21.85

Average

Frequency (MHz)	Correction (dB)	Level (dBμV)	Limit (dBμV)	Margin (dB)
0.58645	10.3	24.94	46	-21.06
2.34505	10.36	23.68	46	-22.32
16.28705	11.14	27.28	50	-22.72
3.51615	10.34	23.11	46	-22.89
1.75885	10.35	20.5	46	-25.5
4.0974	10.33	18.74	46	-27.26
1.10845	10.32	12.79	46	-33.21

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*****End of test report*****