

RADIO REPORT FCC 47 CFR Part 15E Unlicensed National Information Infrastructure Devices in the 5 GHz Bands	
Report Reference No	G0M-2105-9817-TFC407WF-V01
Testing Laboratory	Eurofins Product Service GmbH
Address	Storkower Str. 38c 15526 Reichenwalde Germany
Accreditation	 DAkkS - Registration number : D-PL-12092-01-04 FCC Filed Test Laboratory, Reg.-No.: 96970
Applicant	Leica Geosystems AG
Address	Heinrich-Wild-Strasse 9435 Heerbrugg SWITZERLAND
Test Specification	47 CFR Part 15E
Non-Standard Test Method	None
Equipment under Test (EUT):	
Product Description	KIWI Module
Model(s)	BLK ARC
Additional Model(s)	None
Brand Name(s)	Leica
Hardware Version(s)	3.0
Software Version(s)	2.01
FCC ID	RFD-BLKARC
Test Result	PASSED

Possible test case verdicts:		
Required by standard but not tested	N/T	
Not required by standard	N/R	
Not applicable to EUT	N/A	
Test object does meet the requirement	P(PASS)	
Test object does not meet the requirement	F(FAIL)	
Testing:		
Test Lab Temperature	20 - 23 °C	
Test Lab Humidity	32 – 38 %	
Date of receipt of test item	2021-10-04	
Report:		
Compiled by	Florian Voigt	
Tested by (+ signature)	Jens Degenhardt	
Supervised by (+ signature) (Responsible for Test)	Florian Voigt	
Approved by (+ signature) (Test Lab Engineer)	Wilfried Treffke	
Date of Issue	2021-12-16	
Total number of pages	67	
General Remarks:		
The test results presented in this report relate only to the object tested. The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.		
Additional Comments:		

VERSION HISTORY

Version History			
Version	Issue Date	Remarks	Revised By
01	2021-12-16	Initial Release	

ABBREVIATIONS AND ACRONYMS

Acronyms	
Acronym	Description
BPSK	Binary Phase Shift Keying
EIRP	Equivalent Isotropic Radiated Power
EUT	Equipment Under Test
FCC	Federal Communications Commission
HT	High Throughput
IEEE 802.11	MAC and PHY Layer for WiFi
OFDM	Orthogonal Frequency Division Multiplexing
QAM	Quadrature Amplitude Modulation
QPSK	Quadrature Phase Shift Keying
RBW	Resolution bandwidth
RMS	Root mean square
TPC	Transmit Power Control
VBW	Video bandwidth
VHT	Very High Throughput

REPORT INDEX

1	Equipment (Test Item) Under Test.....	6
1.1	Photos – Equipment External	7
1.2	Photos – Equipment Internal	11
1.3	Support Equipment.....	23
1.4	Test Modes	24
1.5	Test Frequencies.....	25
1.6	Sample emission level calculation.....	26
1.7	Normative References.....	27
2	Result Summary.....	28
3	Test Conditions and Results.....	29
3.1	Test Conditions and Results - AC power line conducted emissions.....	29
3.2	Test Conditions and Results - Transmitter radiated emissions	33
ANNEX A	Transmitter spurious emissions	42

1 Equipment (Test Item) Under Test

Description	KIWI Module	
Model	BLK ARC	
Additional Model(s)	None	
Brand Name(s)	Leica	
Serial Number(s)	2050051	
Test Sample Id(s)	37456	
Hardware Version(s)	3.0	
Software Version(s)	2.01	
FCC-ID	RFD-BLKARC	
Equipment type	End Product	
Device type	Client	
Radio type	Transceiver	
Assigned frequency bands	5150 - 5250 MHz 5250 - 5350 MHz 5470 - 5725 MHz 5725 - 5850 MHz	
Radio technology	IEEE 802.11a IEEE 802.11n (HT20) IEEE 802.11n (HT40) IEEE 802.11ac (VHT20) IEEE 802.11ac (VHT40) IEEE 802.11ac (VHT80)	
Modulation	BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM	
Number of antenna ports	2	
Transmit power control	No	
Radio Module	Type	WiFi + Bluetooth Module
	Model	QCNFA324
	Manufacturer	Qualcomm Atheros, Inc.
	HW Version	V02
	SW Version	BSP 3.1
	FCC ID	PPD-QCNFA324
	IC	4104A-QCNFA324
Antenna 1, Antenna 2	Type	Integrated antenna
	Model	850201
	Manufacturer	Leica Geosystems AG
	Gain	3.0 dBi (manufacturer declaration)
Supply Voltage	V _{NOM}	12 V
Operating Temperature	T _{NOM}	25 °C
Battery supply	No	
AC/DC-Adaptor	Model	GEV276
	Vendor	Leica Geosystems AG
	Input	90-264 VAC
	Output	15 VDC
Manufacturer	Leica Geosystems AG Heinrich-Wild-Strasse 9435 Heerbrugg SWITZERLAND	

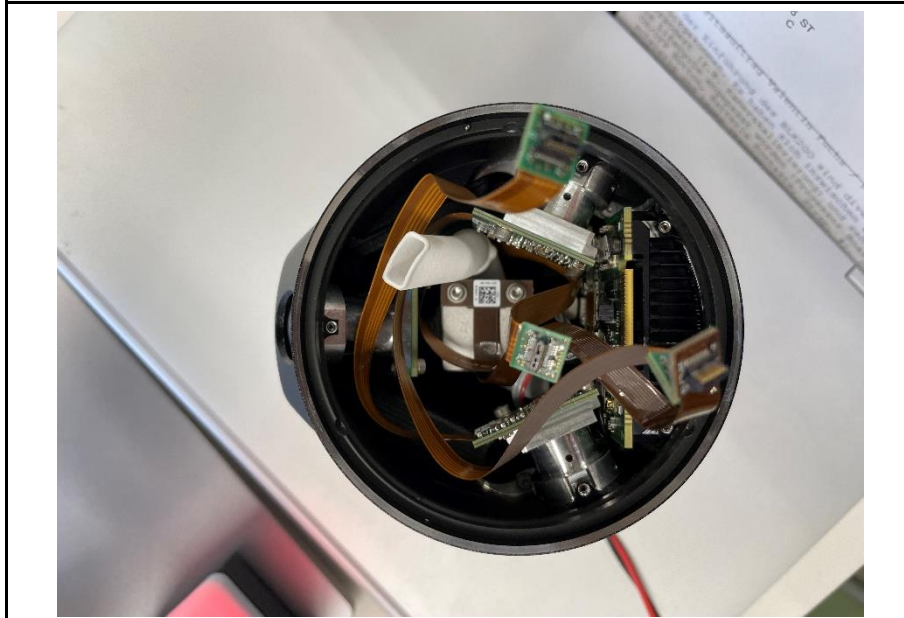
1.1 Photos – Equipment External



EUT Side View



EUT Top view without lid



EUT BOTTOM SIDE



EUT IN PERSPECTIVE I



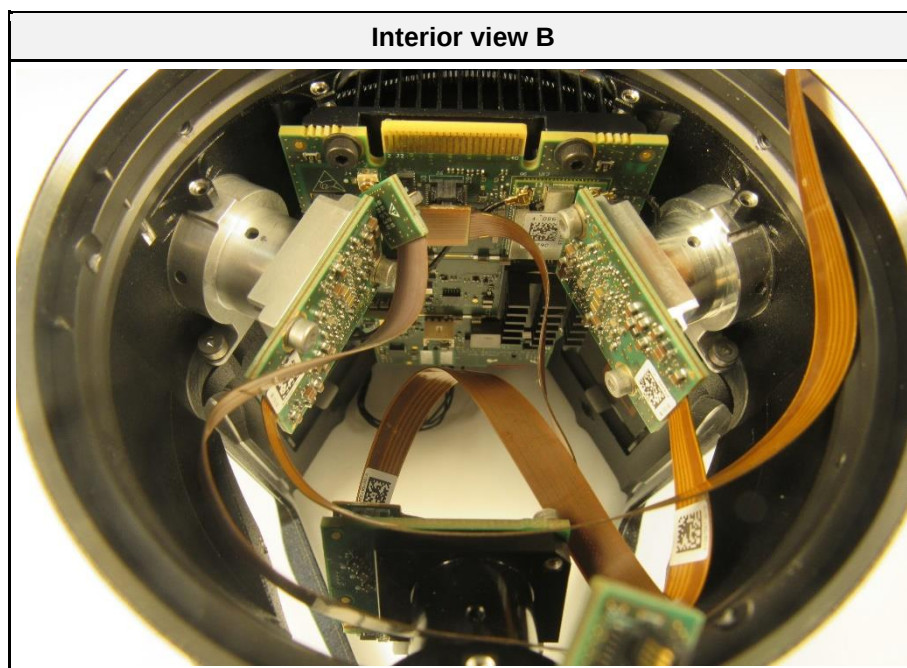
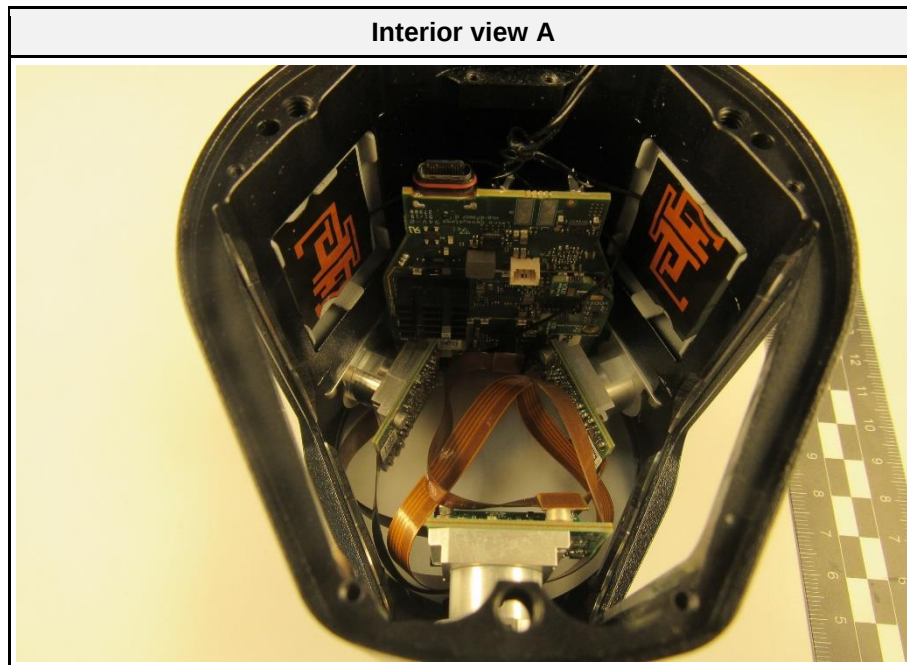
EUT IN PERSPECTIVE II



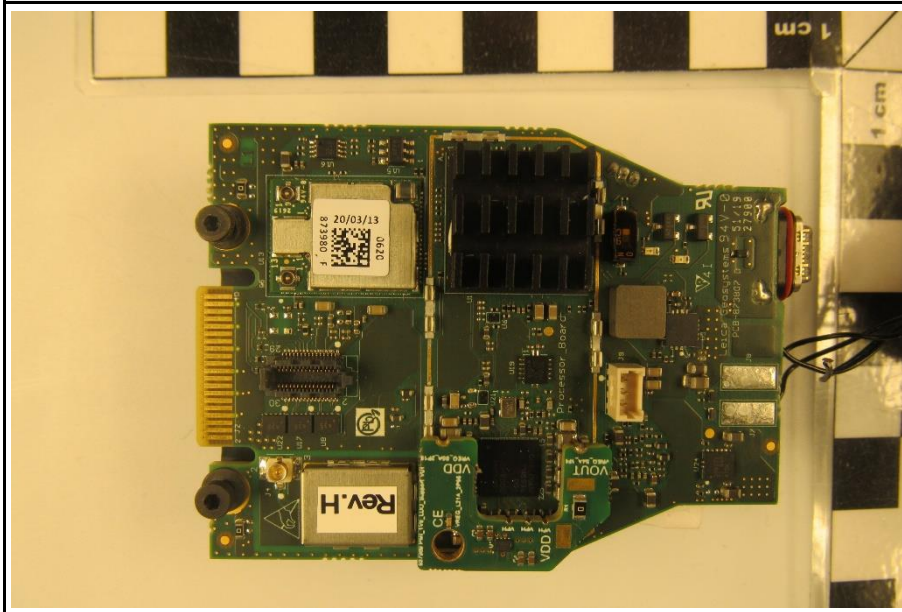
Dedicated AC/DC Adapter



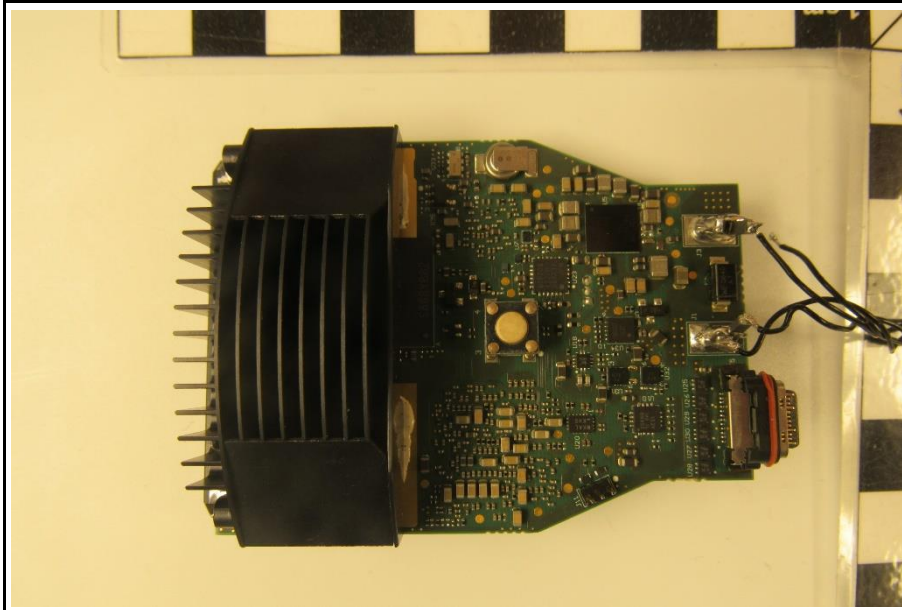
1.2 Photos – Equipment Internal



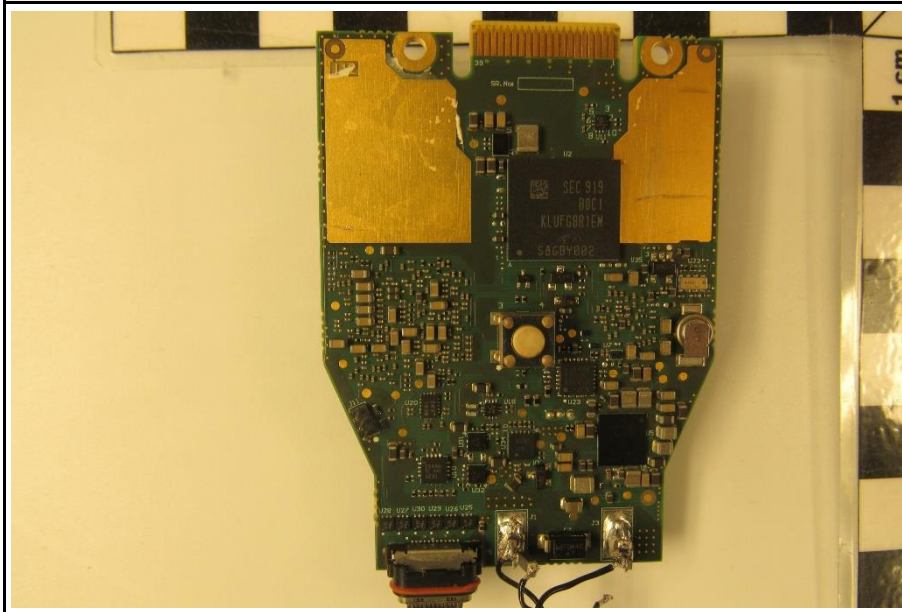
Processor PCB bottom



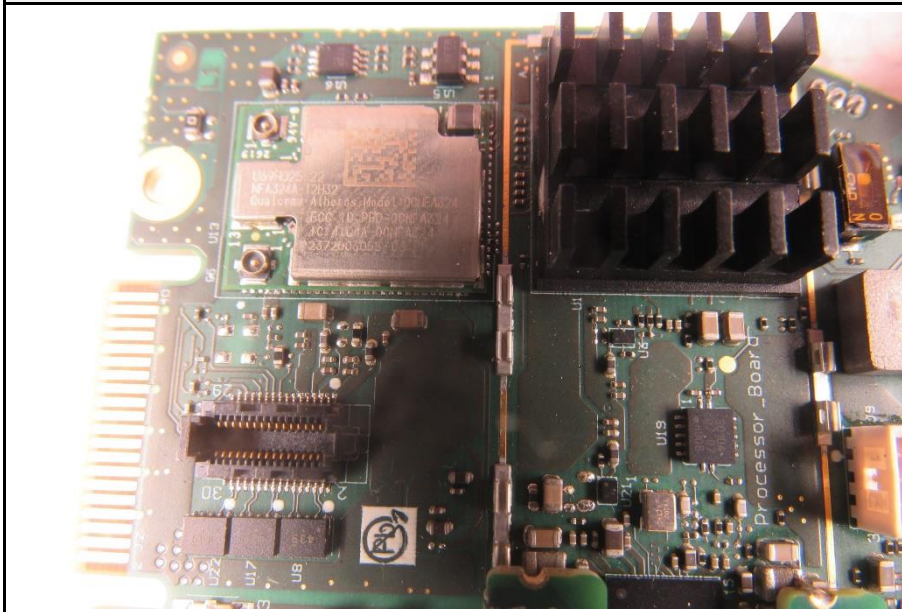
Processor PCB top



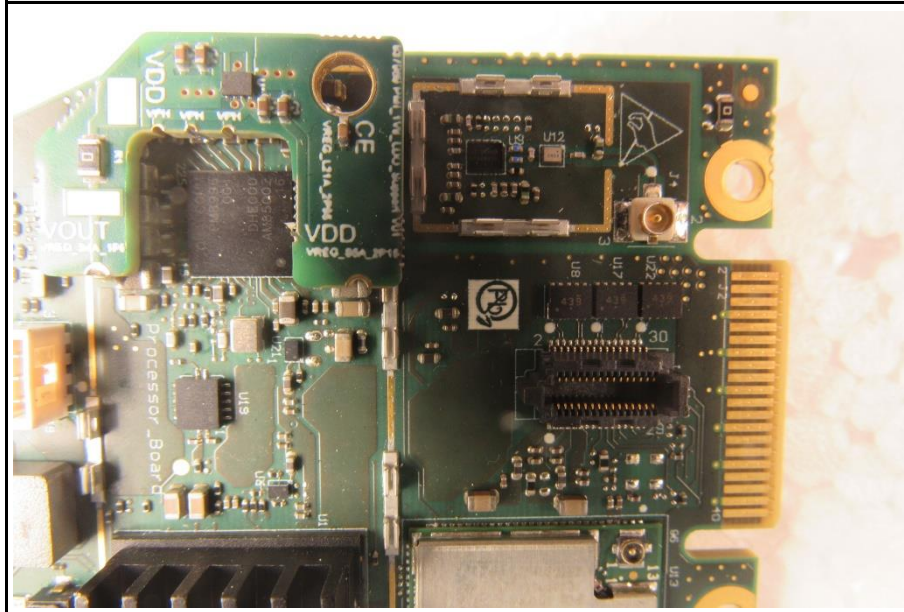
Processor PCB top without heatsink block



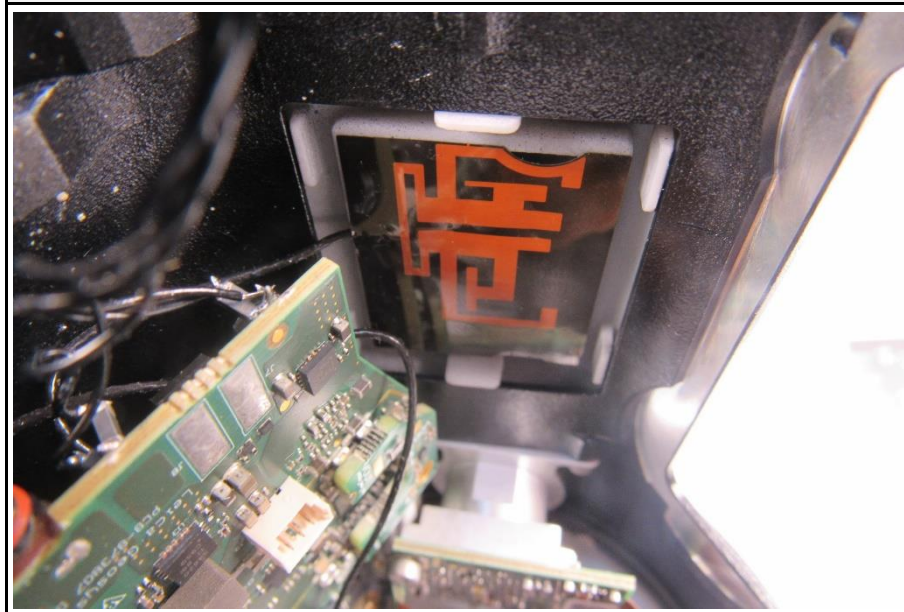
Radio module WLAN and Bluetooth



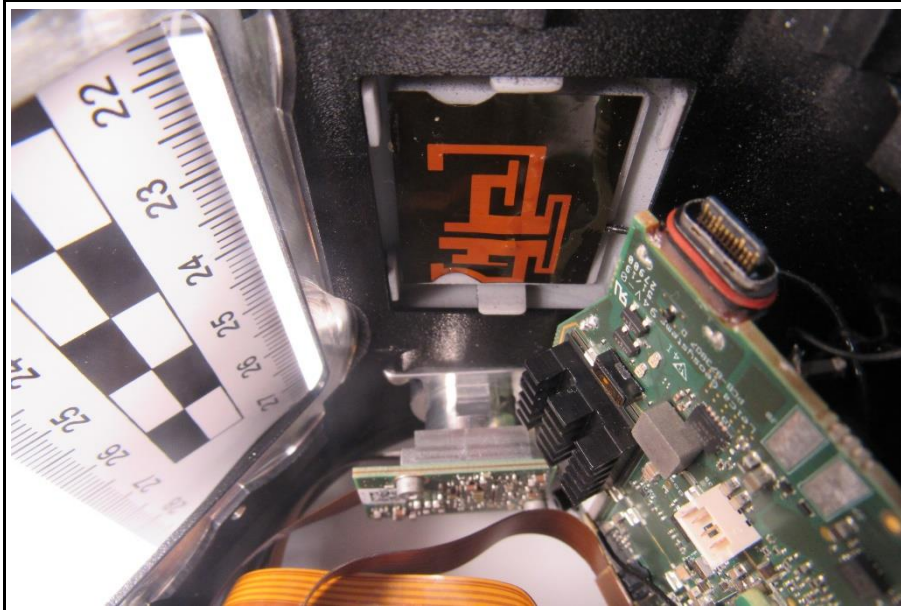
Unknown Radio



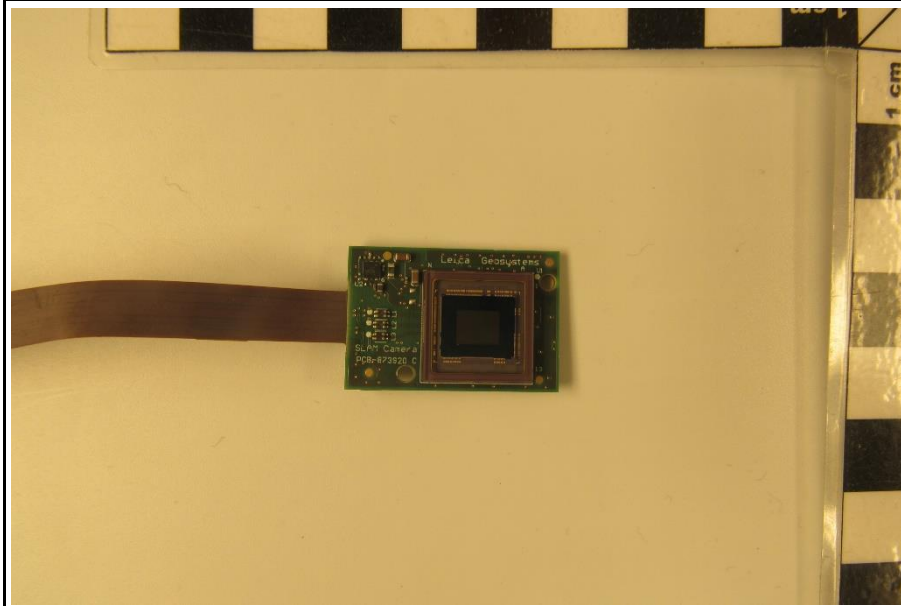
WLAN/BT Antenna 1



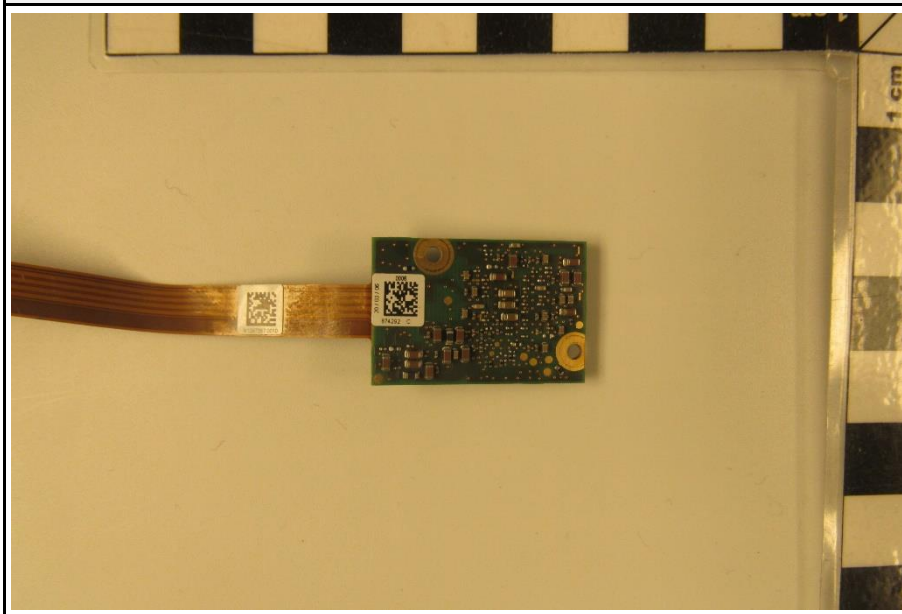
WLAN/BT Antenna 2



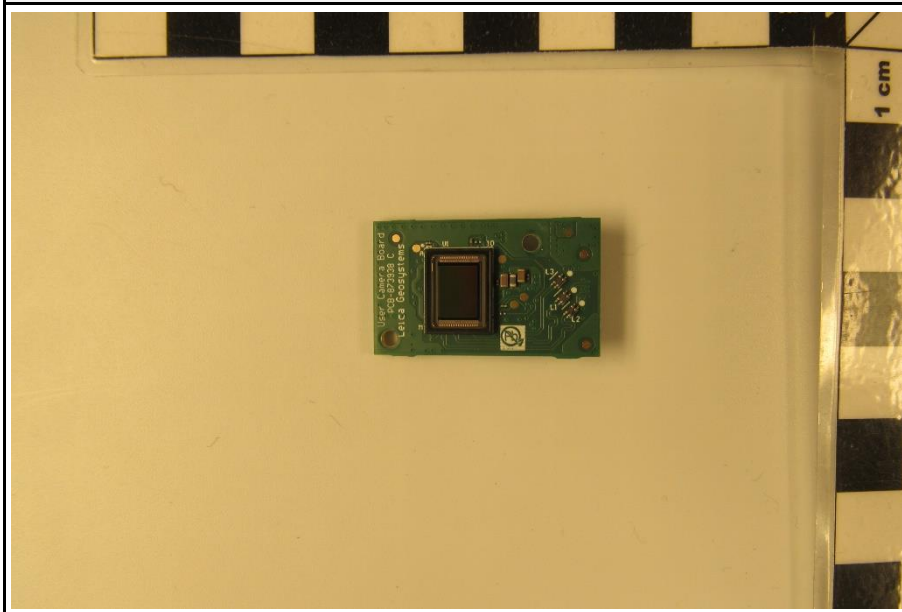
SLAM Camera PCB top



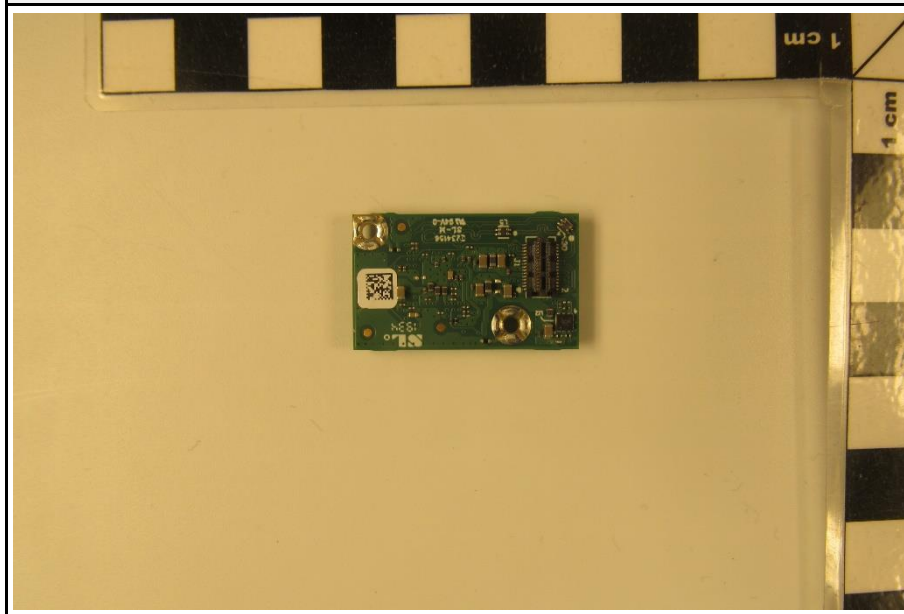
SLAM Camera PCB bottom



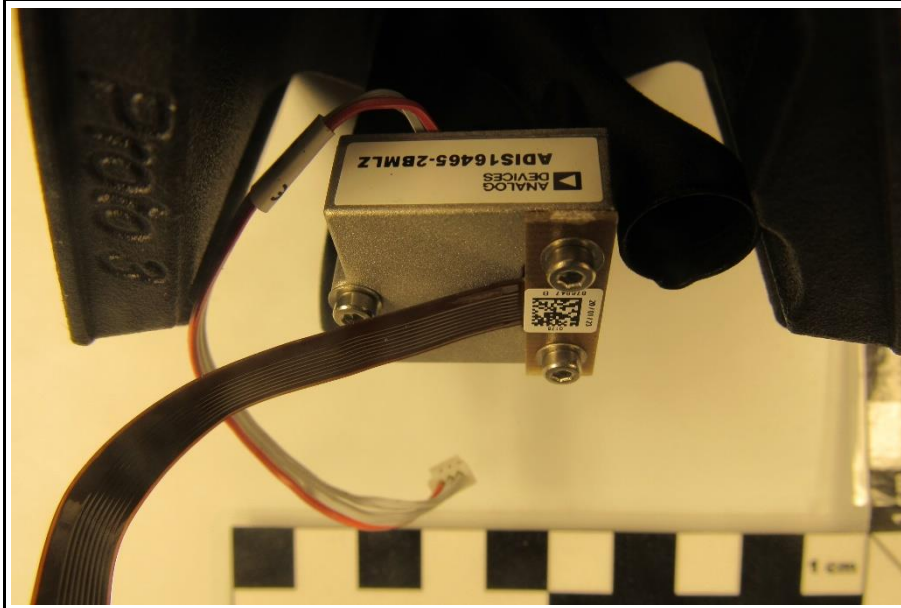
User Camera PCB top



User Camera PCB bottom



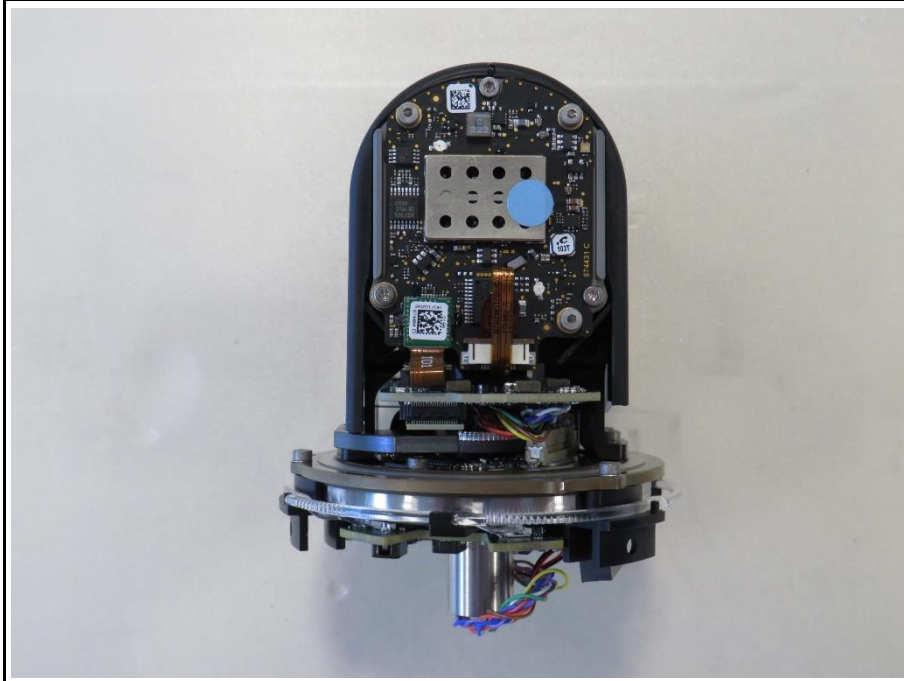
FAN motor



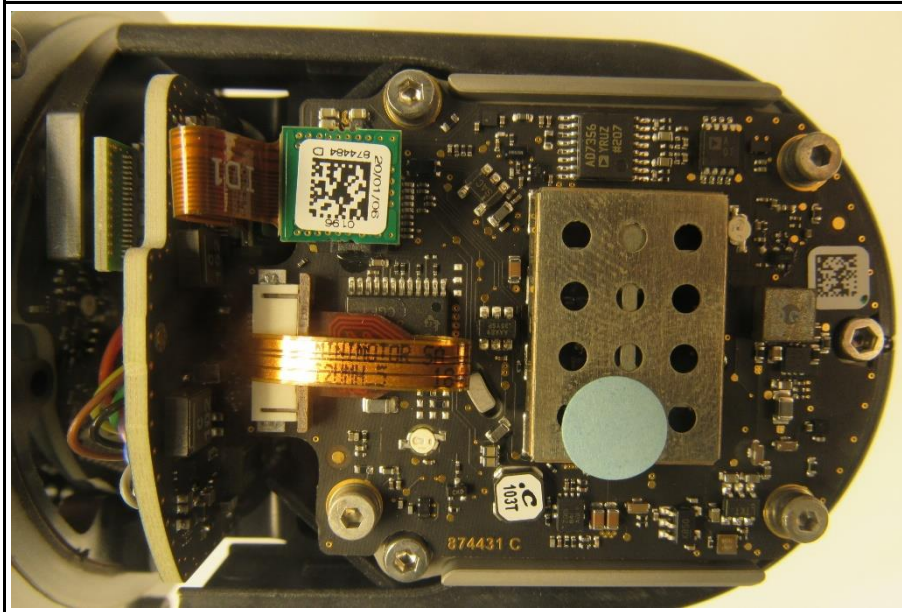
LASER SCANNER TOP SIDE



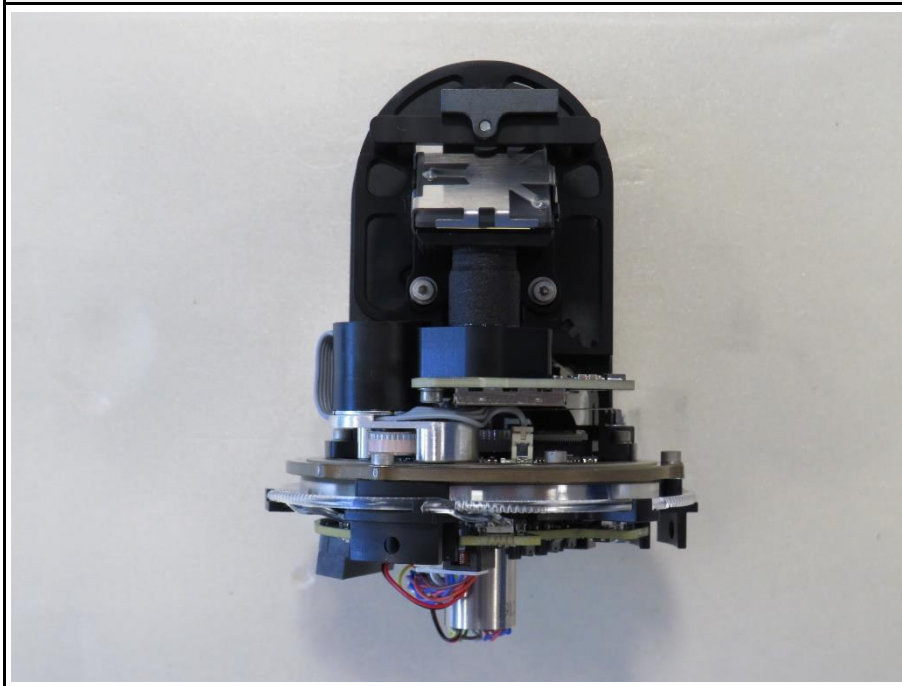
LASER SCANNER FRONT SIDE



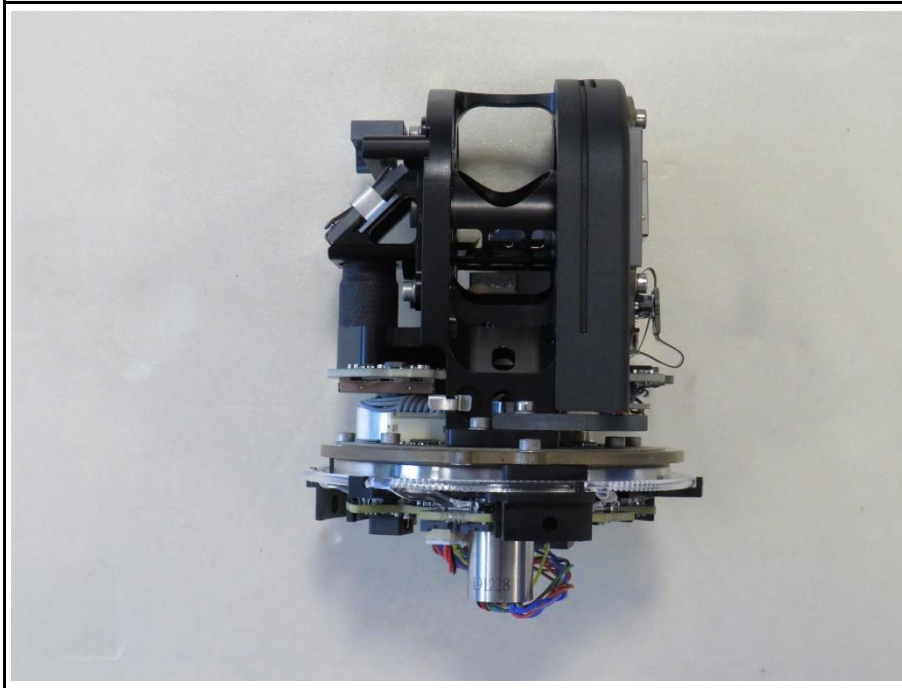
LASER SCANNER FRONT SIDE PCB



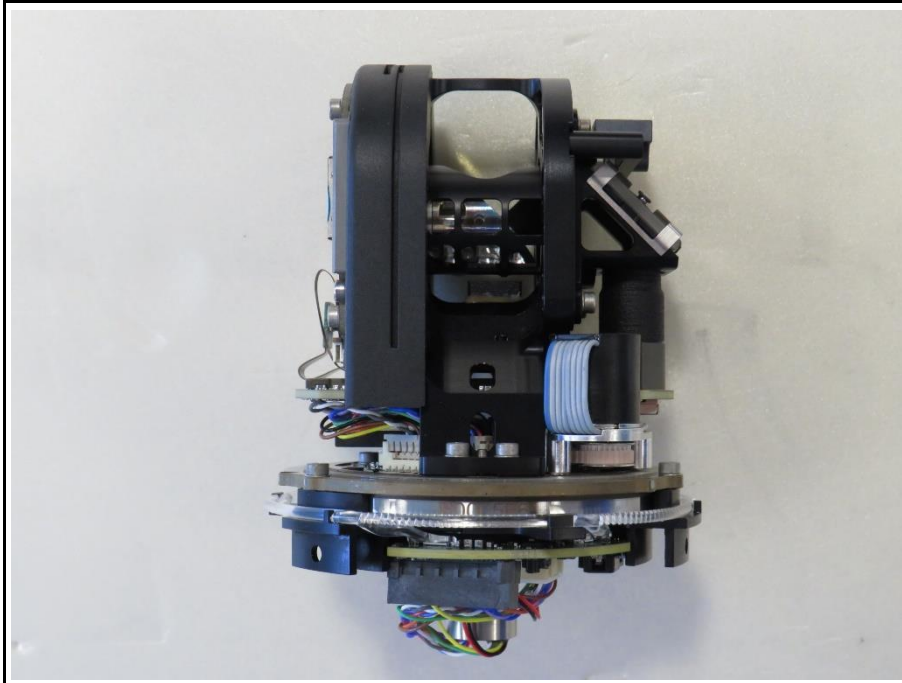
LASER SCANNER REAR SIDE



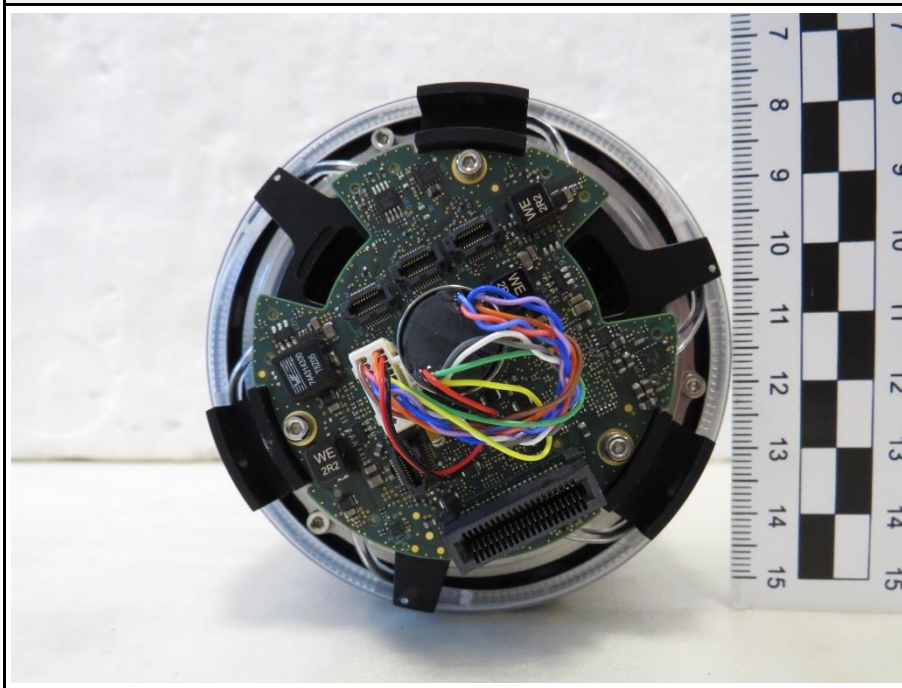
LASER SCANNER LEFT SIDE



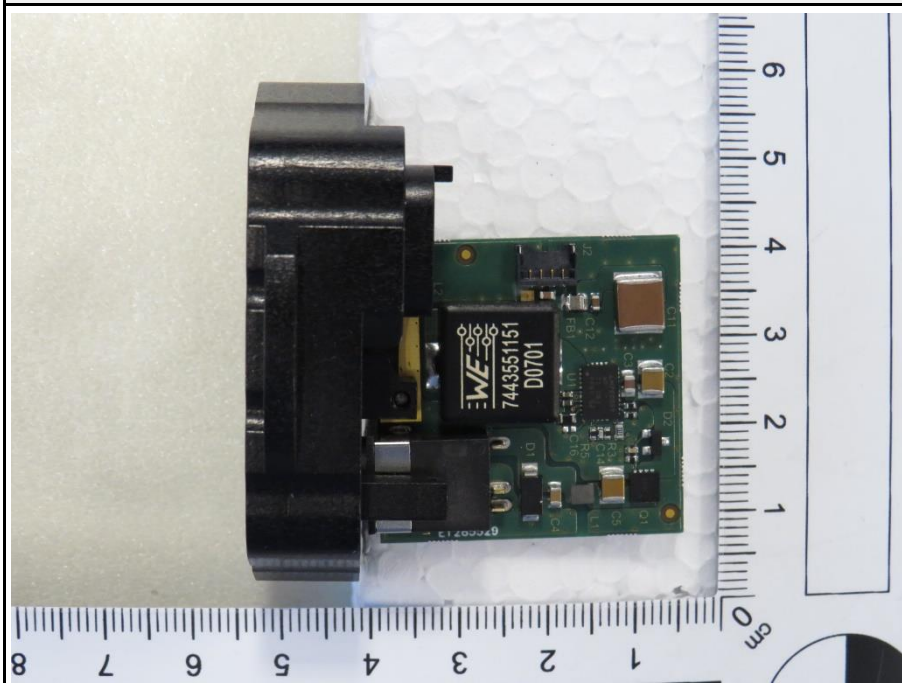
LASER SCANNER RIGHT SIDE

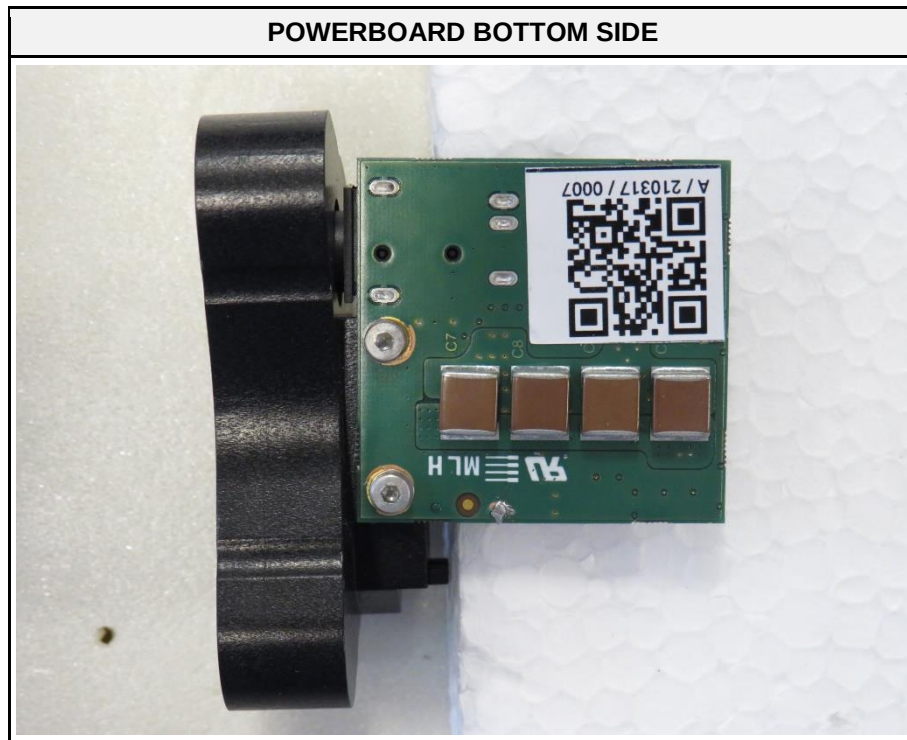


LASER SCANNER BOTTOM SIDE



POWERBOARD TOP SIDE





1.3 Support Equipment

Product Type	Device	Manufacturer	Model	Comment
SFT	QRCT Tool	Qualcomm	QRCT	Test mode tool
AE	Laptop	ASUS	L210M	-
Description:				
AE	Auxiliary Equipment			
SIM	Simulator			
CBL	Connecting Cable			
SFT	Software			
Comment:				

1.4 Test Modes

Mode	Description
OFDM (IEEE 802.11a)	Mode = Transmit Modulation = OFDM/BPSK Bandwidth = 20 MHz Duty cycle = 95% Power setting = 15 Data rate = 6 Mbps Tx-Chains = 2
Comment: The above settings were found as worst case by evaluation of the original radio module test report. Report No. RF140808E04-1 issued by Bureau Veritas Consumer Products Services (H.K.) Ltd. on 2014-10-24	

1.5 Test Frequencies

Designator	Mode	Channel	Frequency [MHz]
F1	Tx / Rx	48	5240
F2	Tx / Rx	120	5600
F3	Tx / Rx	157	5785
Comment: The above test frequencies were found as worst case out of each frequency range by evaluation of the original radio module test report. Report No. RF140808E04-1 issued by Bureau Veritas Consumer Products Services (H.K.) Ltd. on 2014-10-24			

1.6 Sample emission level calculation

The following is a description of terms and a sample calculation, as appears in the radiated emissions data table. The numbers used in the calculation are for example only. There is no direct correlation to the specific data taken for the product described in this document:

Reading:

This is the reading obtained on the spectrum analyzer in dBμV. Any external preamplifiers used are taken into account through internal analyzer settings.

A.F.:

This is the antenna factor for the receiving antenna. It is a conversion factor, which converts electric fields strengths to voltages, which can be measured directly on the spectrum analyzer. It is treated as a loss in dB. Cable losses have been included with the A.F. to simplify the calculations. The antenna factor is used in calculations as follows:

$$\text{Reading on Analyzer (dB}\mu\text{V)} + \text{A.F. (dB/m)} = \text{Net field strength (dB}\mu\text{V/m)}$$

Net:

This is the net field strength measurement (as shown above).

Limit:

This is the FCC Class B radiated emission limit (in units of dBμV/m). The FCC limits are given in units of μV/m. The following formula is used to convert the units of μV/m to dBμV/m:

$$\text{Limit (dB}\mu\text{V/m)} = 20 \cdot \log(\mu\text{V/m})$$

Margin:

This is the margin of compliance below the FCC limit. The units are given in dB. A negative margin indicates the emission was below the limit. A positive margin indicates that the emission exceeds the limit.

Example only:

Reading + AF	= Net Reading	:	Net reading - FCC limit	= Margin
+21.5 dBμV + 26 dB/m	= 47.5 dBμV/m	:	47.5 dBμV/m - 57.0 dBμV/m	= -9.5 dB

1.7 Normative References

References	
Designator	Reference
KDB 789033	KDB 789033 D02 v02r01
ANSI C63.10	ANSI C63.10:2013

2 Result Summary

FCC 47 CFR Part 15E				
Product Standard Reference	Requirement	Reference Method	Result	Remarks
FCC 15.407(e)	6 dB bandwidth	KDB 789033 C.2	N/T	Only required in 5725-5850 MHz band.
FCC 15.407(a)(2),(a)(5),(h)(2)	26 dB bandwidth	KDB 789033 C.1	N/T	No limit. Basis for other measurements.
FCC 15.407(a)	Maximum output power	KDB 789033 E	N/T	
FCC 15.407(a)	Transmit power control	KDB 789033 E	N/T	Required in 5250-5350 and 5470-5725 MHz bands. Not required for EIRP < 500 mW.
FCC 15.407(a)	Power spectral density	KDB 789033 F	N/T	
FCC 15.407(g)	Frequency stability	ANSI C63.10 6.8	N/T	
FCC 15.207	AC power line conducted emissions	ANSI C63.10 6.2	PASS	
FCC 15.407(b)	Transmitter radiated emissions	KDB 789033 G	PASS	
FCC 15.407(a)	Radiation pattern	KDB 789033 H	N/T	5150-5250 MHz band only with EIRP > 21 dBm
Comment:				

Possible Test Case Verdicts	
PASS	Test object does meet the requirements
FAIL	Test object does not meet the requirements
N/T	Required by standard but not tested
N/R	Not required by standard for the test object

3 Test Conditions and Results

3.1 Test Conditions and Results - AC power line conducted emissions

3.1.1 Information

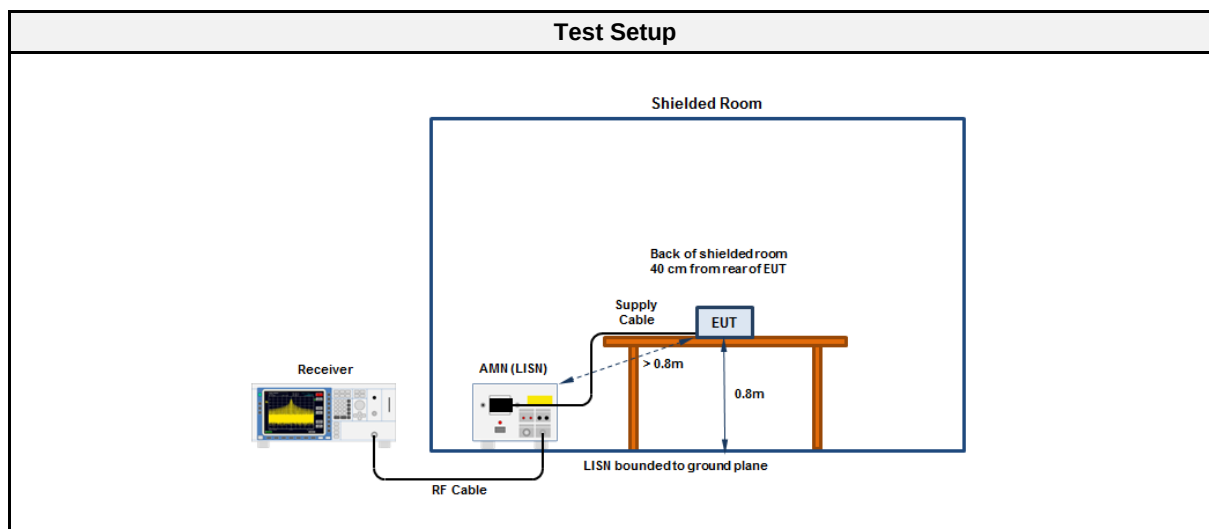
Test Information	
Reference	FCC 15.207
Measurement Method	ANSI C63.10 6.2
Operator	Florian Voigt
Date	2021-12-09
Measurement uncertainty	±3.82 %

3.1.2 Limits

Limits		
Frequency [MHz]	Quasi-Peak [dBμV]	Average [dBμV]
0.15 - 0.5	66 - 56*	56 - 46*
0.5 - 5	56	46
5 - 30	60	50

* Limit decreases linearly with the logarithm of the frequency

3.1.3 Setup



3.1.4 Equipment

Test Software			
Description	Manufacturer	Name	Version
EMC Software	DARE Instruments	RadiMation	2016.1.10

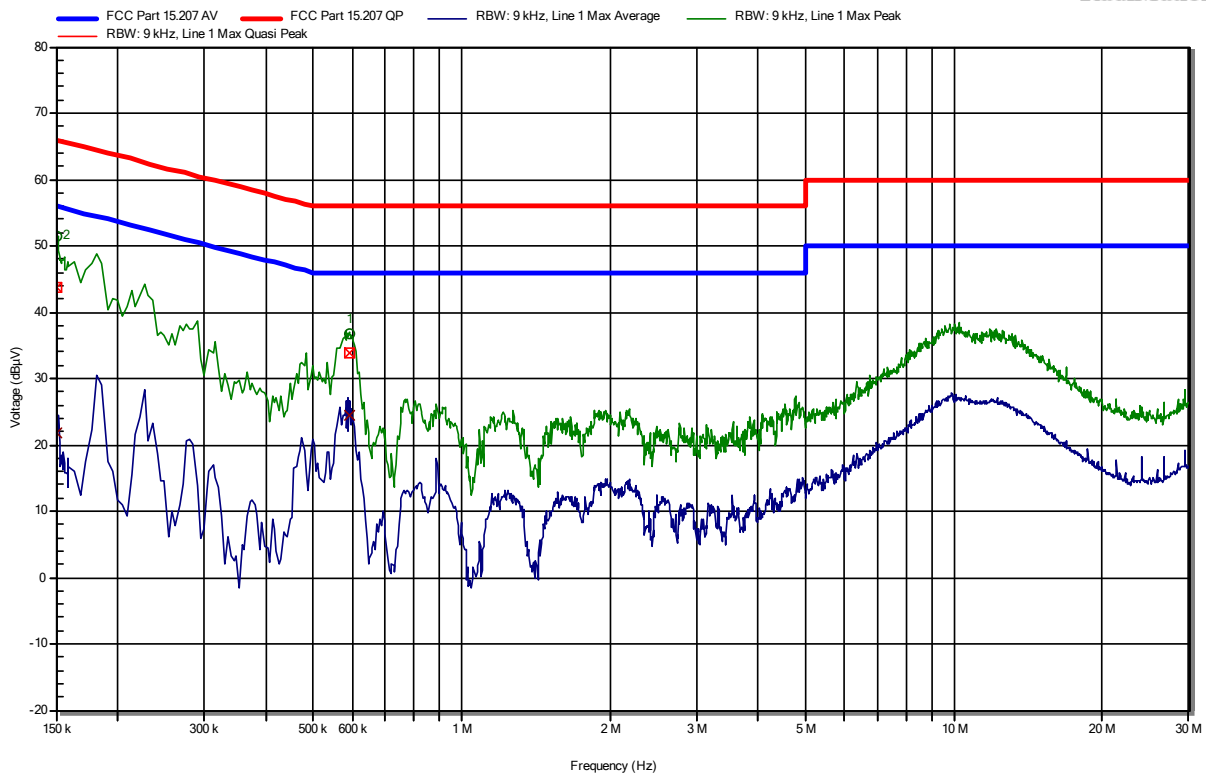
Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
EMI Receiver	R&S	ESU 26	EF00241	2021-07	2023-07
LISN	R&S	ESH2-Z5	EF00182	2021-07	2023-07
LISN	R&S	ESH3-Z5	EF00036	2021-08	2023-08

**Conducted emissions at the mains power port
according to FCC 15.407, RSS-247**

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Voigt
 Test Date: 2021-12-09
 Operating Conditions: ambient temperature: 21 °Celsius
 power input: AC/DC Adapter Leica GEV276
 LISN: Schwarzbeck NSLK 8127 RC L
 Operational Mode & EUT Configuration: CH48, f=5240MHz, OFDM, 6Mbps, TxChain01
 Applied to Port: Mains

Index 61

RadiMation



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	LISN
1	591.9 kHz	33.78 dBµV	56 dBµV	-22.22 dB	Pass	Line 1
2	150.9 kHz	43.7 dBµV	65.95 dBµV	-22.25 dB	Pass	Line 1

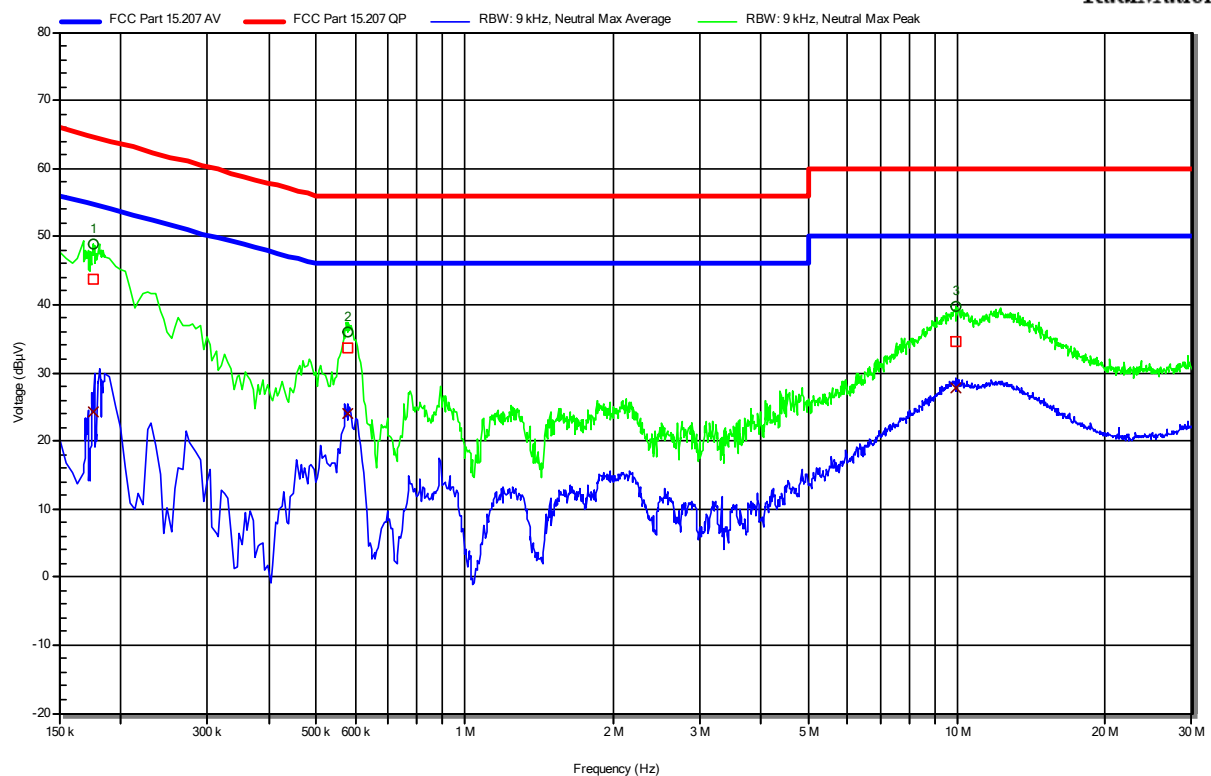
Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	LISN
1	591.9 kHz	24.38 dBµV	46 dBµV	-21.62 dB	Pass	Line 1
2	150.9 kHz	21.79 dBµV	55.95 dBµV	-34.16 dB	Pass	Line 1

Conducted emissions at the mains power port according to FCC 15.407, RSS-247

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Voigt
 Test Date: 2021-12-09
 Operating Conditions: ambient temperature: 21 °Celsius
 power input: AC/DC Adapter Leica GEV276
 LISN: Schwarzbeck NSLK 8127 RC N
 Operational Mode & EUT Configuration: CH48, f=5240MHz, OFDM, 6Mbps, TxChain01
 Applied to Port: Mains

Index 62

RadiMation



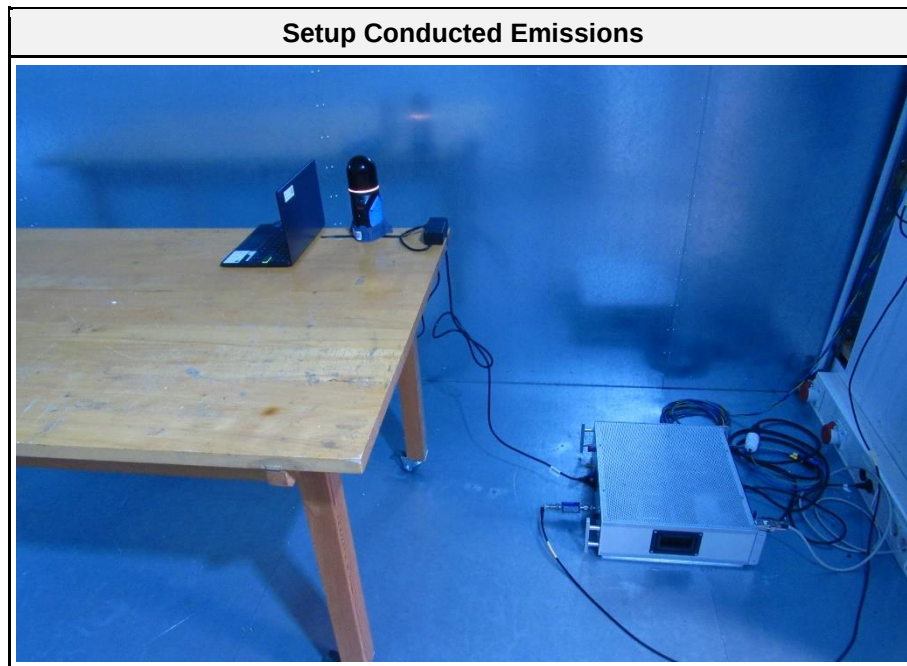
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	LISN
1	175.65 kHz	43.83 dBµV	64.69 dBµV	-20.85 dB	Pass	Neutral
2	577.5 kHz	33.62 dBµV	56 dBµV	-22.38 dB	Pass	Neutral
3	9.942 MHz	34.61 dBµV	60 dBµV	-25.39 dB	Pass	Neutral

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	LISN
1	175.65 kHz	24.27 dBµV	54.69 dBµV	-30.42 dB	Pass	Neutral
2	577.5 kHz	24.03 dBµV	46 dBµV	-21.97 dB	Pass	Neutral
3	9.942 MHz	27.85 dBµV	50 dBµV	-22.15 dB	Pass	Neutral

Test Report No.: G0M-2105-9817-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

3.1.5 Setup photos



3.2 Test Conditions and Results - Transmitter radiated emissions

3.2.1 Information

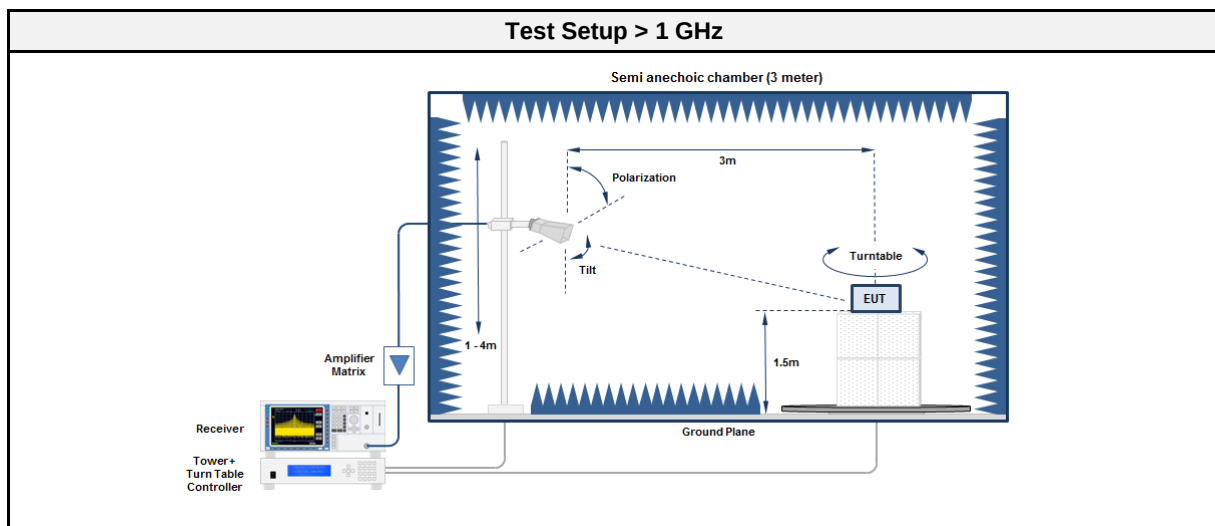
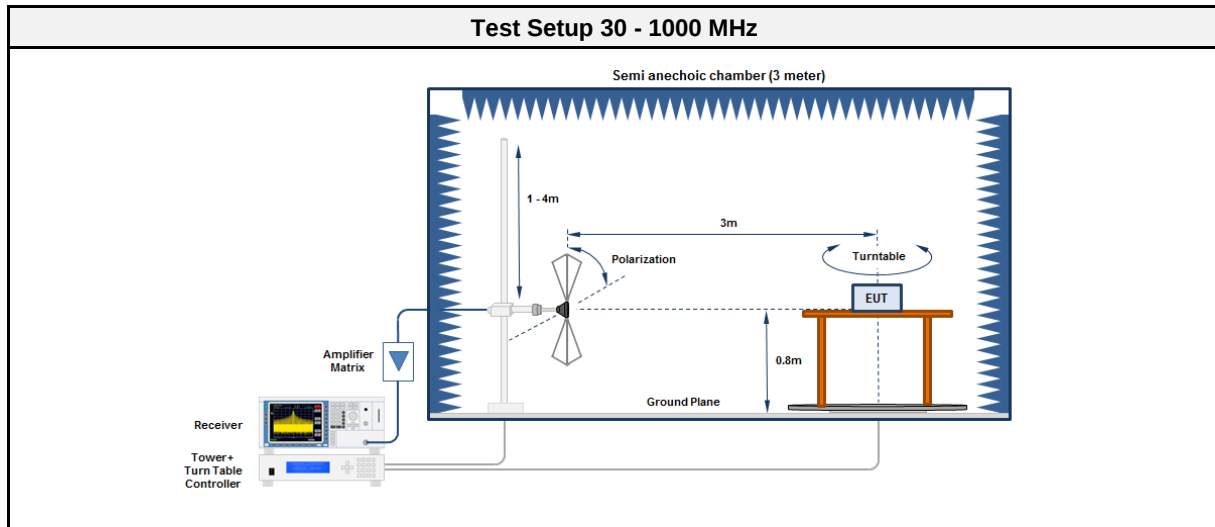
Test Information	
Reference	FCC 15.407(b)
Measurement Method	KDB 789033 G
Operator	Jens Degenhardt
Date	2021-12-02 + 2021-12-03
Measurement uncertainty	±5.1 %

3.2.2 Limits

Limits - Restricted frequency bands and below 1 GHz			
Frequency [MHz]	Detector	Field strength [μV/m]	Measurement distance [m]
30 - 88	Quasi-Peak	100	3
88 - 216	Quasi-Peak	150	3
216 - 960	Quasi-Peak	200	3
960 - 1000	Quasi-Peak	500	3
>1000	Average	500	3

Limits - Outside restricted frequency bands above 1 GHz			
Frequency band [MHz]	Power limit [dBm EIRP]	Field strength limit [dBμV/m]	Measurement distance [m]
5150 - 5250	-27 dBm/MHz	68.2	3
5250 - 5350	-27 dBm/MHz	68.2	3
5470 - 5725	-27 dBm/MHz	68.2	3
5725 - 5850	-27 dBm/MHz @ ±75 MHz from band edge	68.2	3
5725 - 5850	10 to -27 dBm/MHz @ ±25 to ±75 MHz from band edge	105.2 to 68.2	3
5725 - 5850	15.6 to 10 dBm/MHz @ ±5 to ±25 MHz from band edge	110.8 to 105.2	3
5725 - 5850	27 to 15.6 dBm/MHz @ ±0 to ±5 MHz from band edge	122.2 to 110.8	3

3.2.3 Setup



3.2.4 Equipment

Test Software			
Description	Manufacturer	Name	Version
EMC Software	DARE Instruments	RadiMation	2020.1.8

Test Equipment 30 - 1000 MHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC1	EF00062	2021-02	2024-02
Measurement Receiver	Agilent	N9038A-526/WXP	EF01070	2021-07	2022-07
Antenna	R&S	HK 116	EF00030	2021-05	2024-05
Antenna	R&S	HL 223	EF00212	2019-05	2022-05

Test Equipment > 1 GHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC1	EF00062	2021-02	2024-02
Measurement Receiver	Agilent	N9038A-526/WXP	EF01070	2021-07	2022-07
Antenna	Schwarzbeck	BBHA 9120D	EF00018	2019-10	2022-10
Antenna	Flann Microwave	22240-25	EF00301	2019-12	2022-12
Spectrum analyzer	R&S	FSW43	EF00896	2021-07	2022-07
Anechoic chamber	Frankonia	AC 2	EF01616	2021-09	2022-09
Spectrum analyzer	R&S	FSU43	EF01631	2021-07	2022-07
Horn antenna	Schwarzbeck	BBHA 9120B	EF01678	2021-03	2022-03
Horn Antenna	Schwarzbeck	HWRD 650	EF01679	2021-03	2022-03
Antenna	Amplifier Research	AT4560	EF00302	2021-06	2023-06

3.2.5 Procedure

Test Procedure 30 - 1000 MHz	
1. EUT is placed on a non conducting support at the center of a turn table 0.8 m above the ground 2. EUT set to test mode 3. The receiver is set to peak detection with max hold 4. The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m 5. All significant emissions are measured again using the corresponding final detector	

Test Procedure > 1 GHz	
1. EUT is placed on a non conducting support at the center of a turn table 1.5 m above the ground 2. EUT set to test mode 3. The receiver is set to peak detection with max hold 4. The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m 5. All significant emissions are measured again using the corresponding final detector	

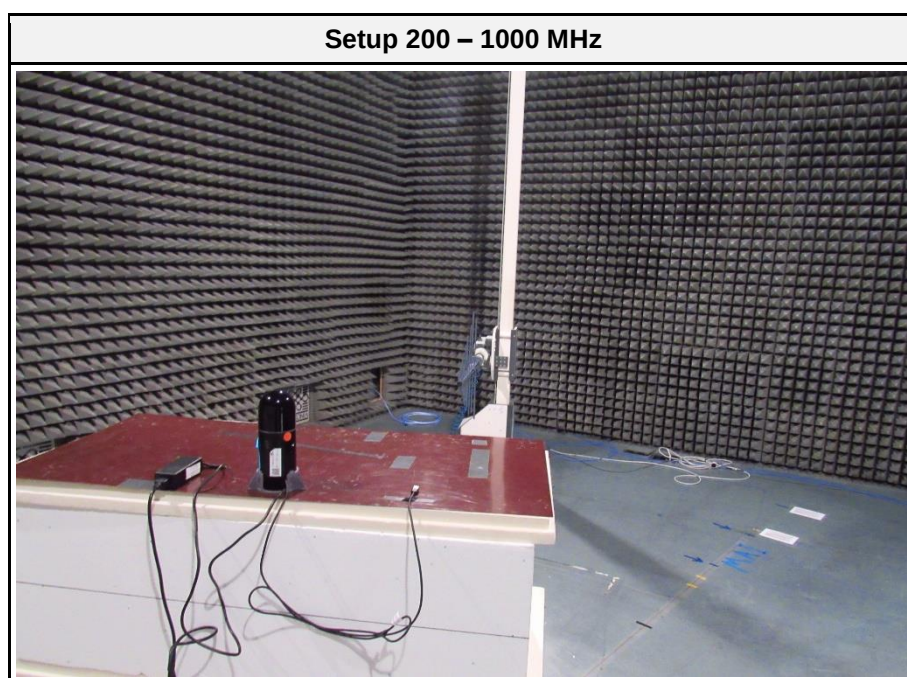
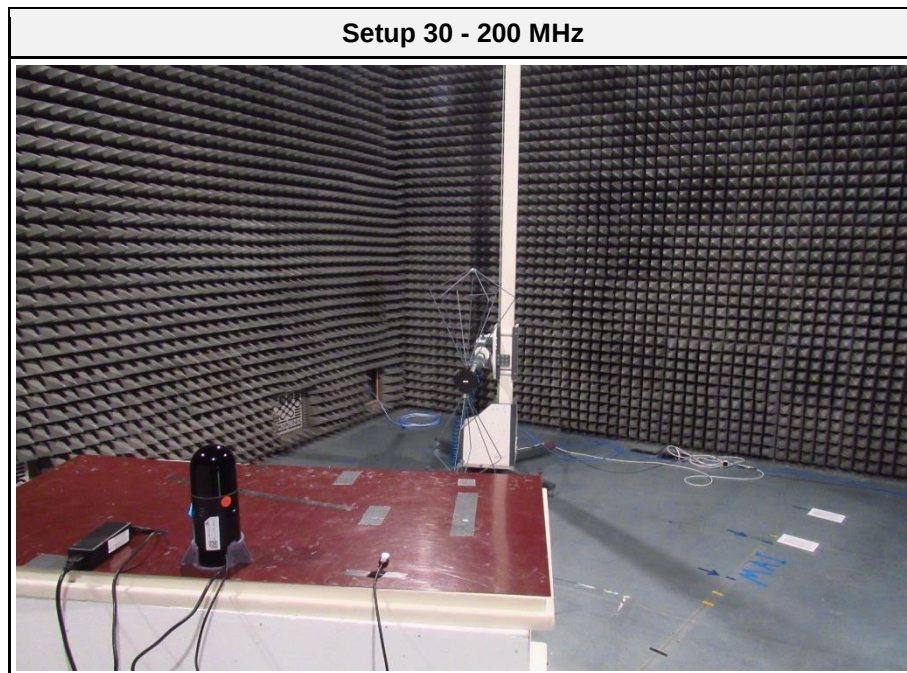
3.2.6 Results

Test Results - Channel 48 / 5240 MHz - OFDM					
Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
110.4015	31.60	qpk	ver	43.50	-11.93
330	38.70	qpk	hor	46.00	-07.27
406.24	38.90	qpk	ver	46.00	-07.08
1094	45.91	pk	ver	74.00	-28.09
1219	47.56	pk	ver	74.00	-26.44
2727	44.51	pk	hor	74.00	-29.49
10481	46.35	pk	hor	68.20	-21.85
10481	38.95	RMS	hor	68.20	-29.25
20960	50.50	pk	ver	74.00	-23.50
20960	44.75	RMS	ver	54.00	-09.25

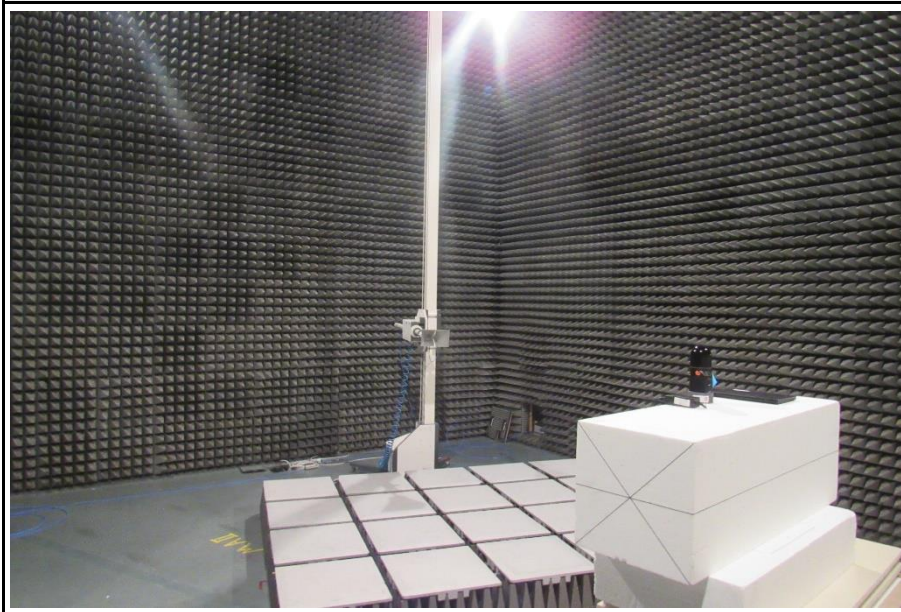
Test Results - Channel 120 / 5600 MHz - OFDM					
Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
108.0045	34.70	pk	ver	43.50	-08.78
108.0045	29.60	qpk	ver	43.50	-13.97
406.2527	42.70	qpk	ver	46.00	-03.29
2726	57.90	pk	hor	74.00	-16.10
2726	32.63	RMS	hor	54.00	-21.37
7467	43.13	pk	hor	74.00	-30.87
11202	47.53	pk	ver	74.00	-26.47
11202	40.63	RMS	ver	54.00	-13.37
25546	51.41	pk	hor	68.20	-16.79
32913	49.50	pk	ver	68.20	-18.70
32913	38.74	RMS	ver	68.20	-29.46

Test Results - Channel 157 / 5785 MHz - OFDM					
Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
108.0087	35.50	pk	ver	43.50	-08.06
108.0087	30.00	qpk	ver	43.50	-13.54
330	36.50	qpk	hor	46.00	-09.50
406.2499	42.70	qpk	ver	46.00	-03.28
3857	50.16	pk	ver	74.00	-23.84
3857	45.59	RMS	ver	54.00	-08.41
7713	42.11	pk	ver	74.00	-31.89
11567	48.87	pk	ver	74.00	-25.13
11567	40.43	RMS	ver	54.00	-13.57
17353	47.18	pk	ver	68.20	-21.02
17353	38.62	RMS	ver	68.20	-29.58
23144	48.67	pk	hor	68.20	-19.53
28920	50.12	pk	hor	68.20	-18.08
28920	40.97	RMS	hor	68.20	-27.23

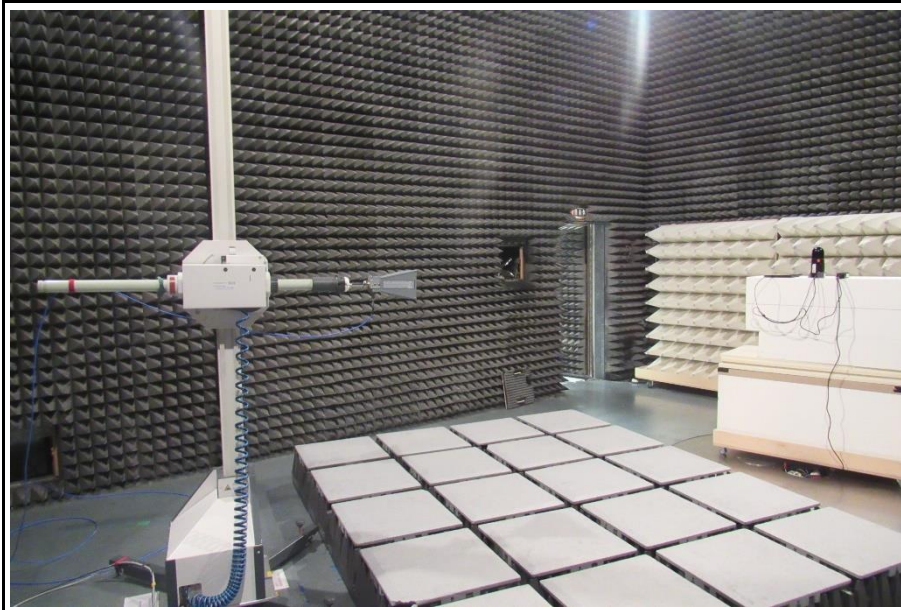
3.2.7 Setup photos



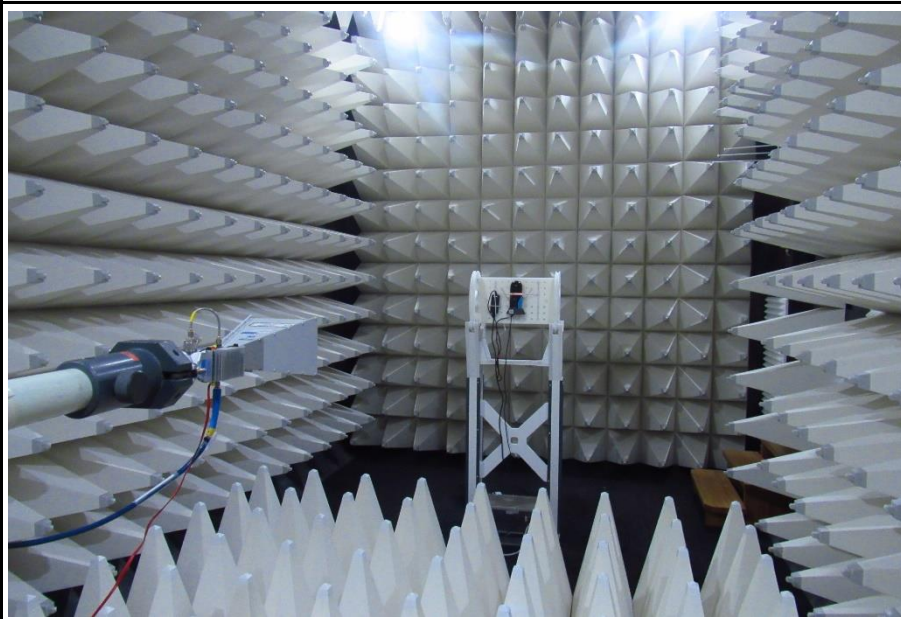
Setup 1-6.5 GHz A



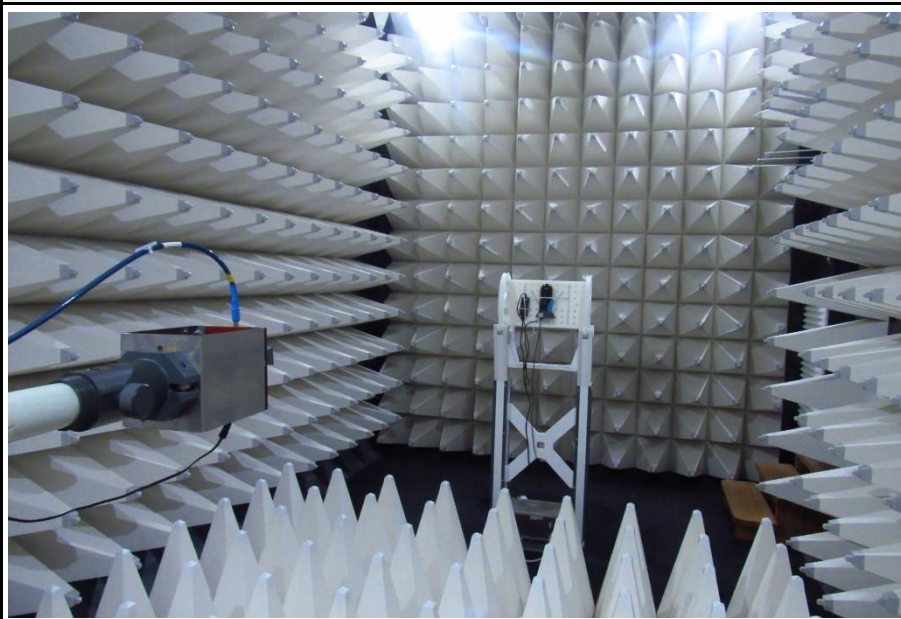
Setup 1-6.5 GHz B



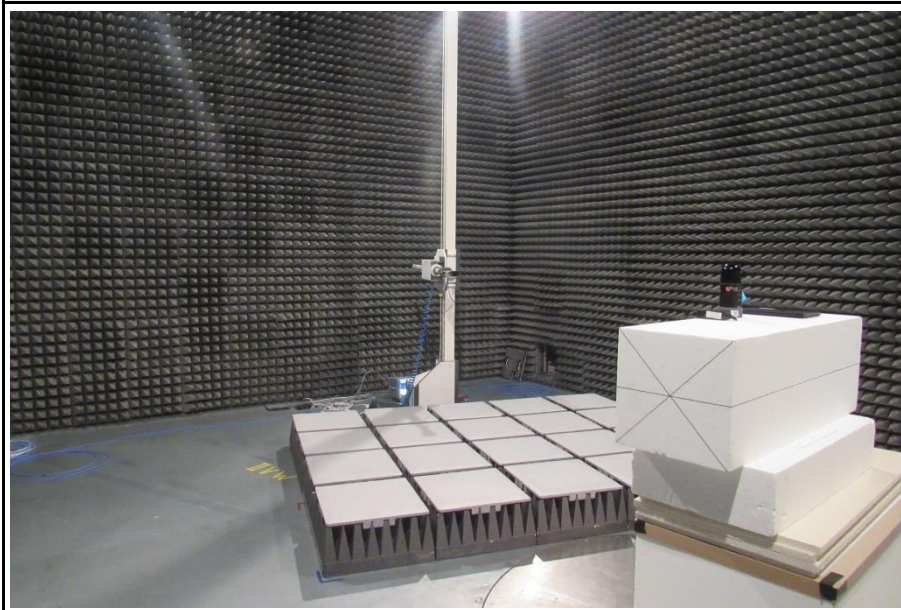
Setup 6.5-18 GHz



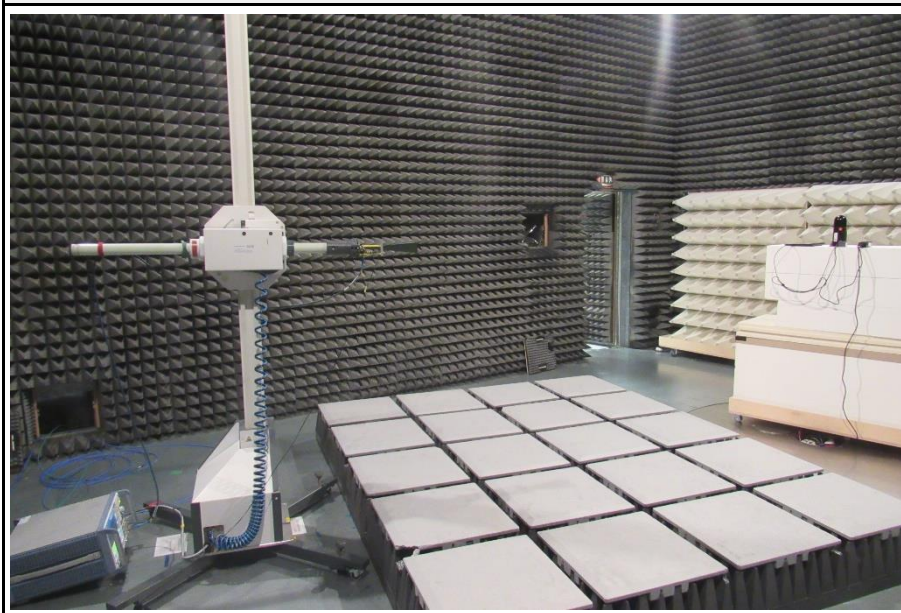
Setup 18-26 GHz



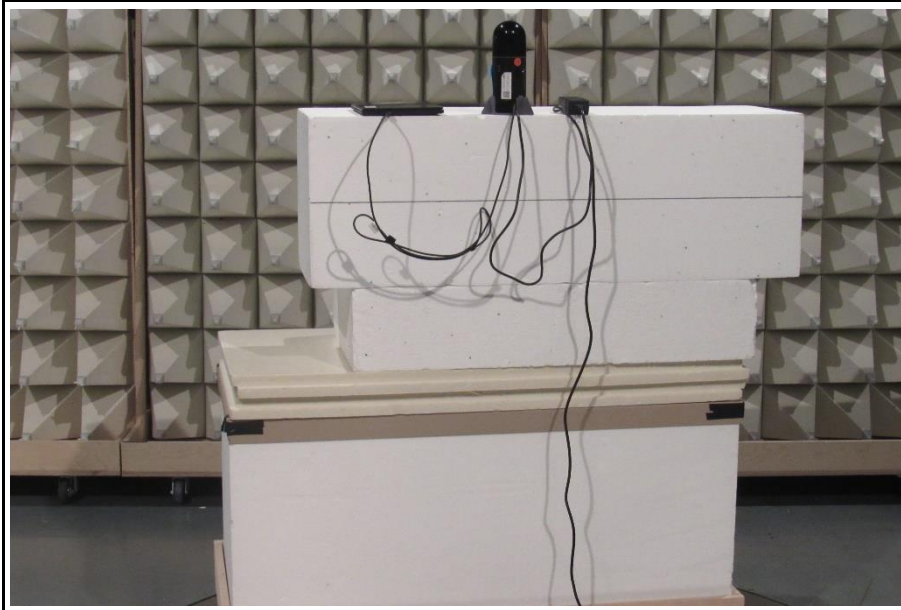
Setup 26.5-40 GHz A



Setup 26.5-40 GHz B



Setup EUT view



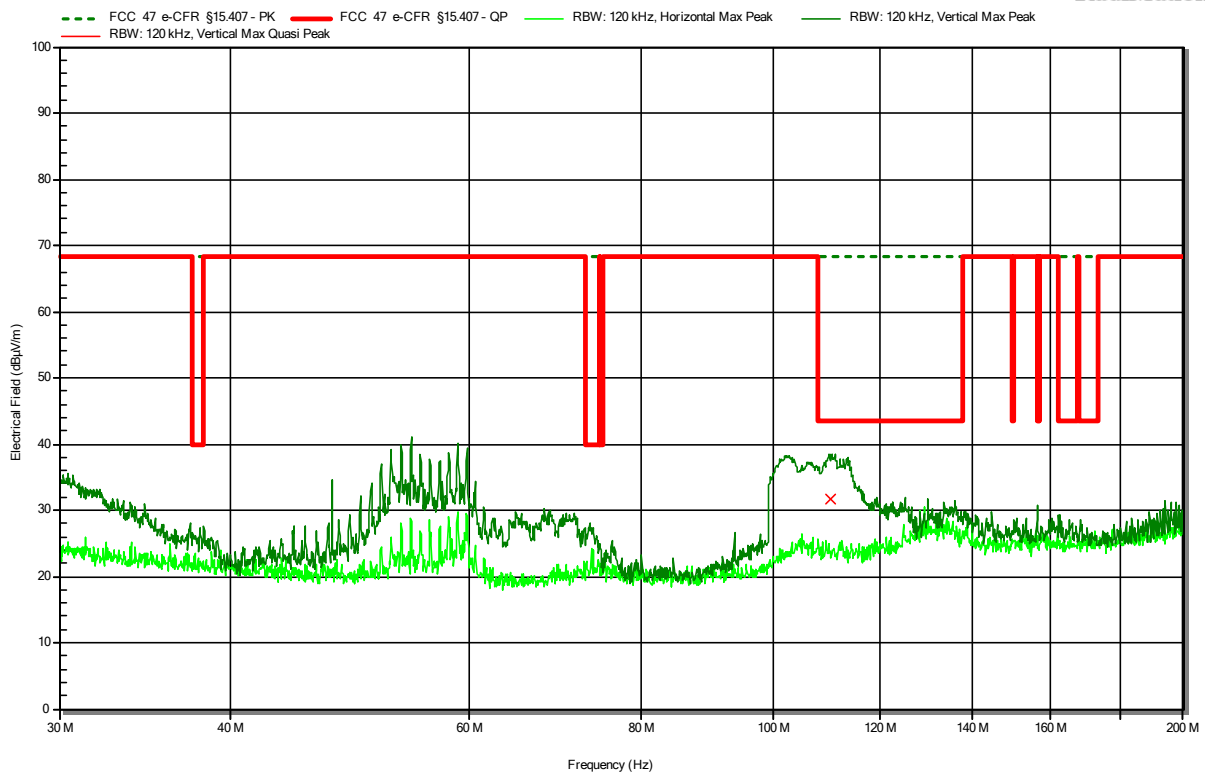
ANNEX A Transmitter spurious emissions

Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Rohde & Schwarz HK 116
 Measurement distance: 3 m
 Mode: Tx; CH48, f=5240MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-03
 Note:

Index 60

RadiMation



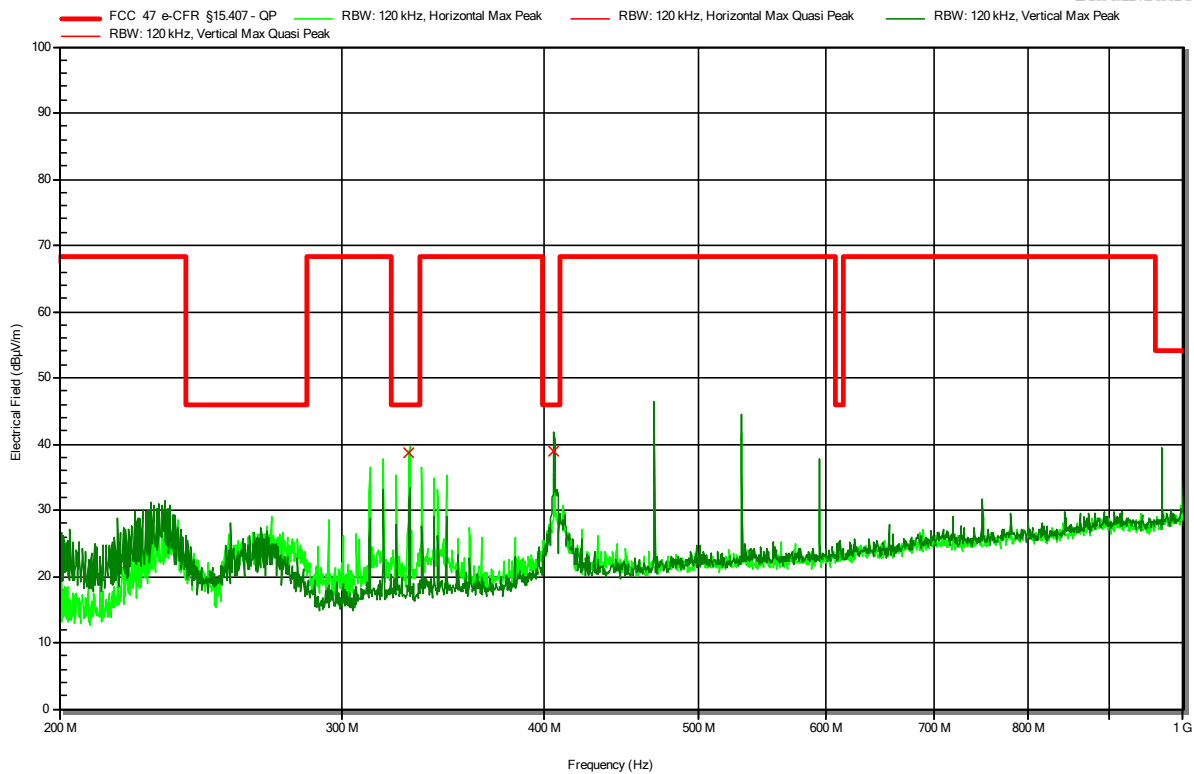
Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Polarization
110.4015 MHz	31.6 dBµV/m	43.5 dBµV/m	-11.93 dB	Pass	Vertical

Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Rohde & Schwarz HL 223
 Measurement distance: 3 m
 Mode: Tx; CH48, f=5240MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-03
 Note:

Index 59

RadiMation



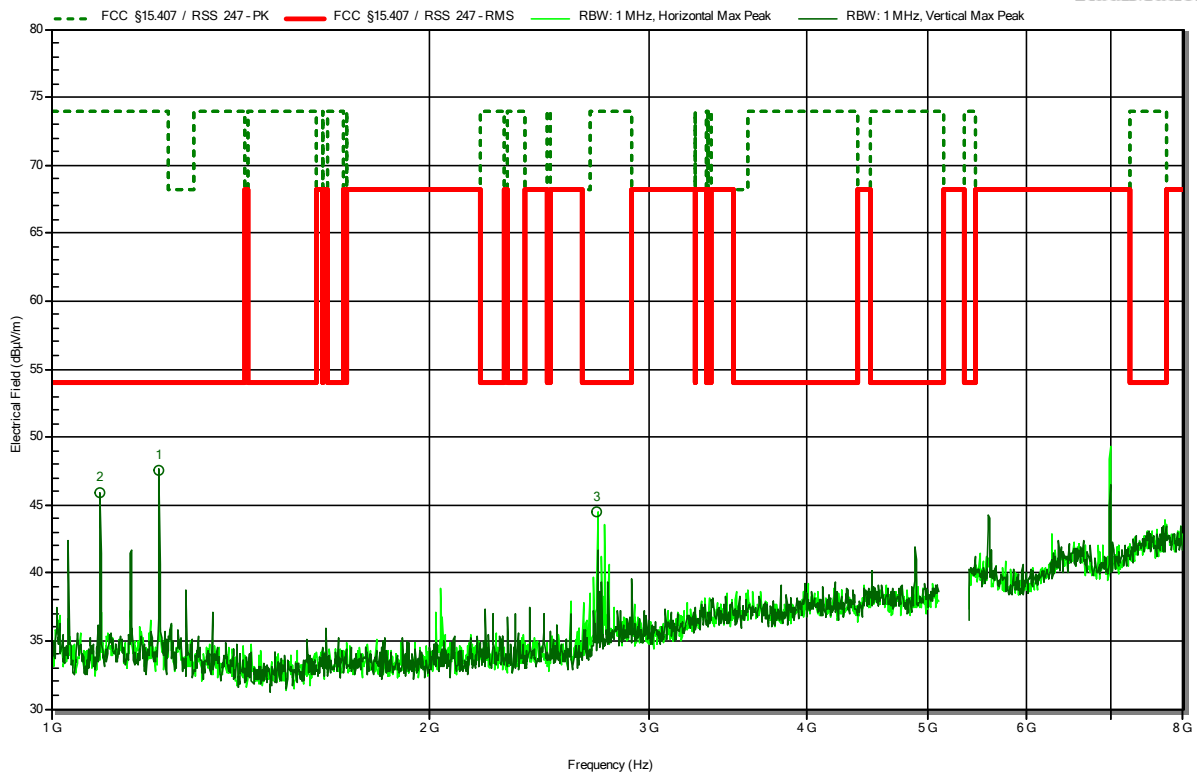
Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Polarization
330 MHz	38.7 dBµV/m	46 dBµV/m	-7.27 dB	Pass	Horizontal
406.24 MHz	38.9 dBµV/m	46 dBµV/m	-7.08 dB	Pass	Vertical

Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Schwarzbeck BBHA 9120B
 Measurement distance: 3 m
 Mode: Tx; CH48, f=5240MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-02
 Note:

Index 49

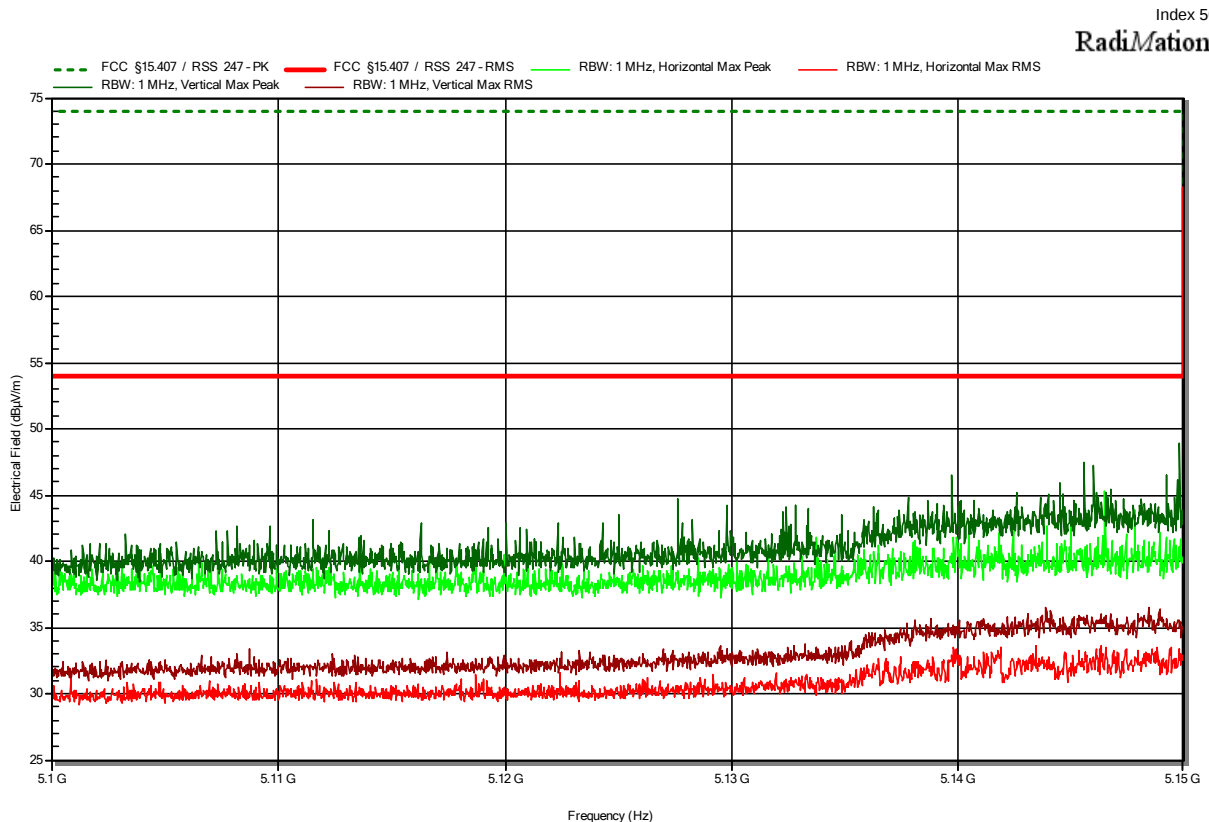
RadiMation



Frequency	Peak	Peak Limit	Peak Difference	Peak Status	Polarization
1.094 GHz	45.91 dBµV/m	74 dBµV/m	-28.09 dB	Pass	Vertical
1.219 GHz	47.56 dBµV/m	74 dBµV/m	-26.44 dB	Pass	Vertical
2.727 GHz	44.51 dBµV/m	74 dBµV/m	-29.49 dB	Pass	Horizontal

Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Schwarzbeck BBHA 9120B
 Measurement distance: 3 m
 Mode: Tx; CH48, f=5240MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-02
 Note: lower band area

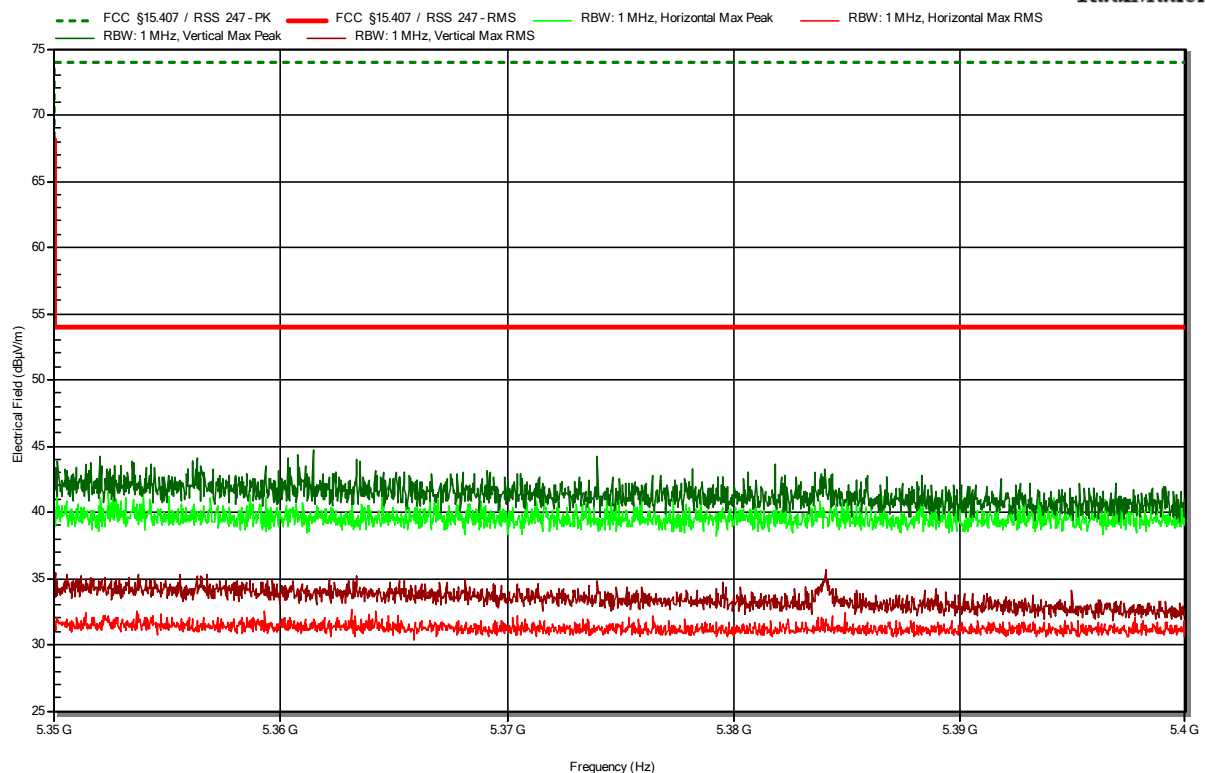


Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Schwarzbeck BBHA 9120B
 Measurement distance: 3 m
 Mode: Tx; CH48, f=5240MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-02
 Note: upper bandedge

Index 51

RadiMation

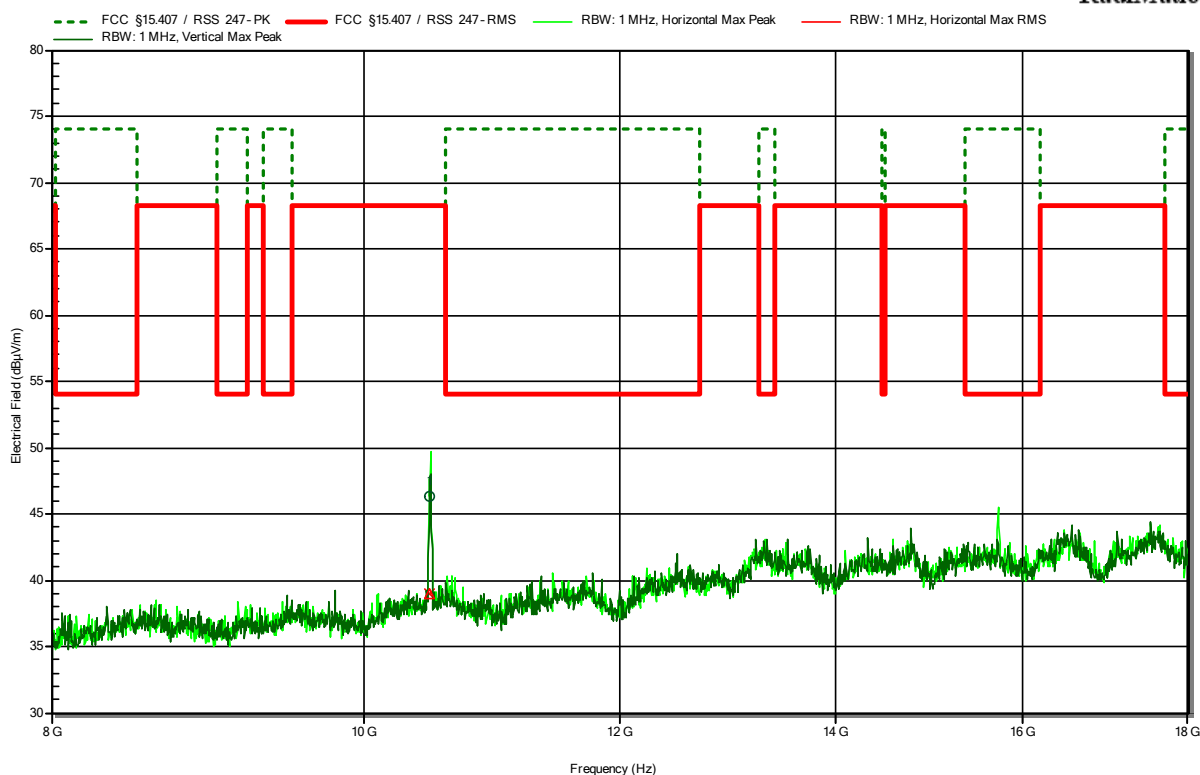


Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Schwarzbeck HWRD 650
 Measurement distance: 3 m
 Mode: Tx; CH48, f=5240MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-16
 Note:

Index 116

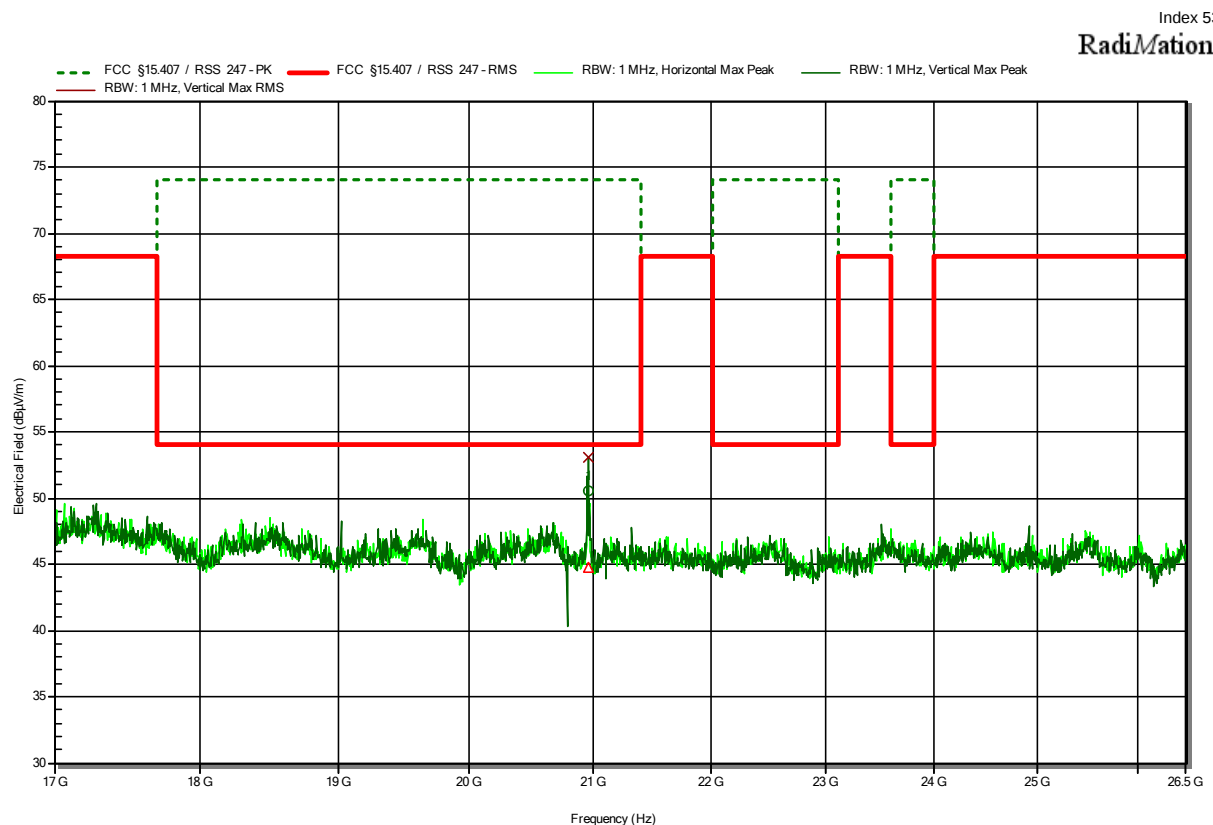
RadiMation



Frequency 10.481 GHz	Peak 46.35 dBµV/m	Peak Limit 68.2 dBµV/m	Peak Difference -21.85 dB	Peak Status Pass	Polarization Horizontal
Frequency 10.481 GHz	RMS 38.95 dBµV/m	RMS Limit 68.2 dBµV/m	RMS Difference -29.25 dB	RMS Status Pass	Polarization Horizontal

Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

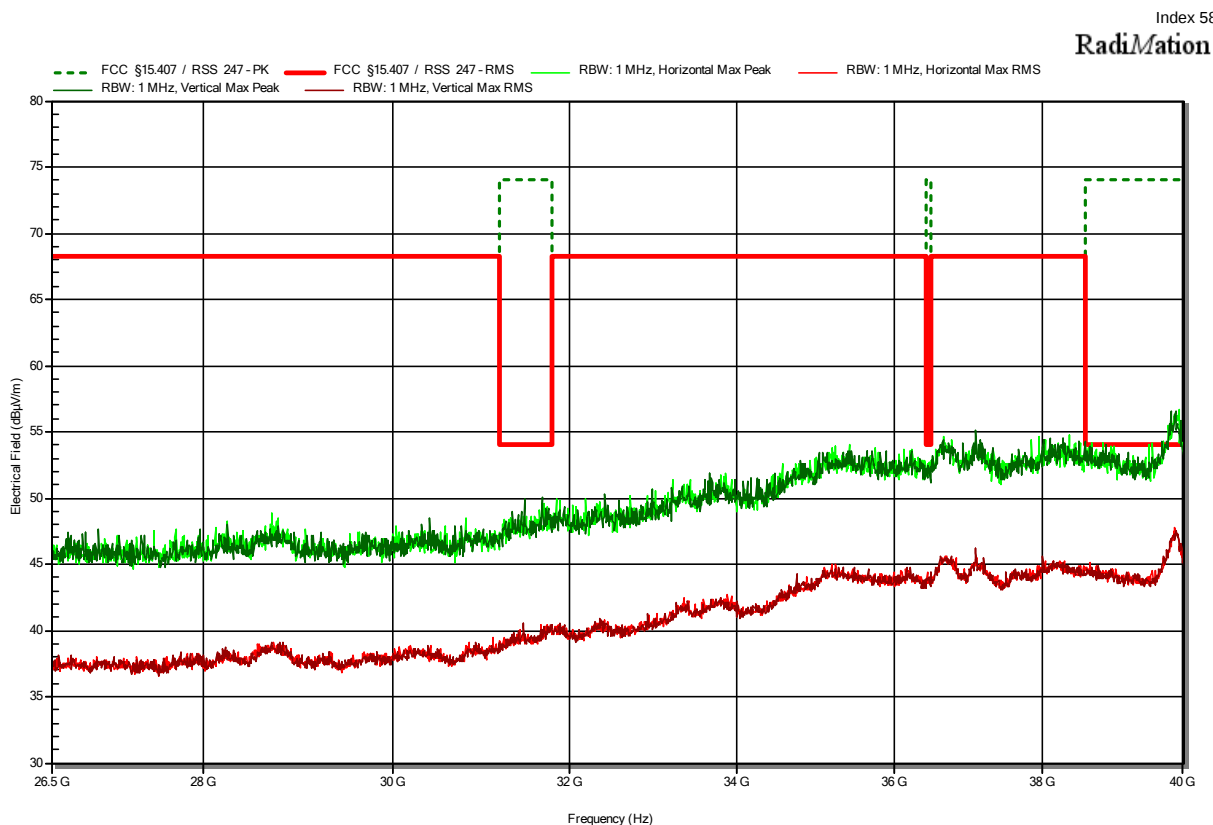
Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Amplifier Research AT4560
 Measurement distance: 3 m
 Mode: Tx; CH48, f=5240MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-02
 Note:



Frequency 20.96 GHz	Peak 50.5 dBµV/m	Peak Limit 74 dBµV/m	Peak Difference -23.5 dB	Peak Status Pass	Polarization Vertical
Frequency 20.96 GHz	RMS 44.75 dBµV/m	RMS Limit 54 dBµV/m	RMS Difference -9.25 dB	RMS Status Pass	Polarization Vertical

Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Flann 22240-25
 Measurement distance: 3 m
 Mode: Tx; CH48, f=5240MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-03
 Note:

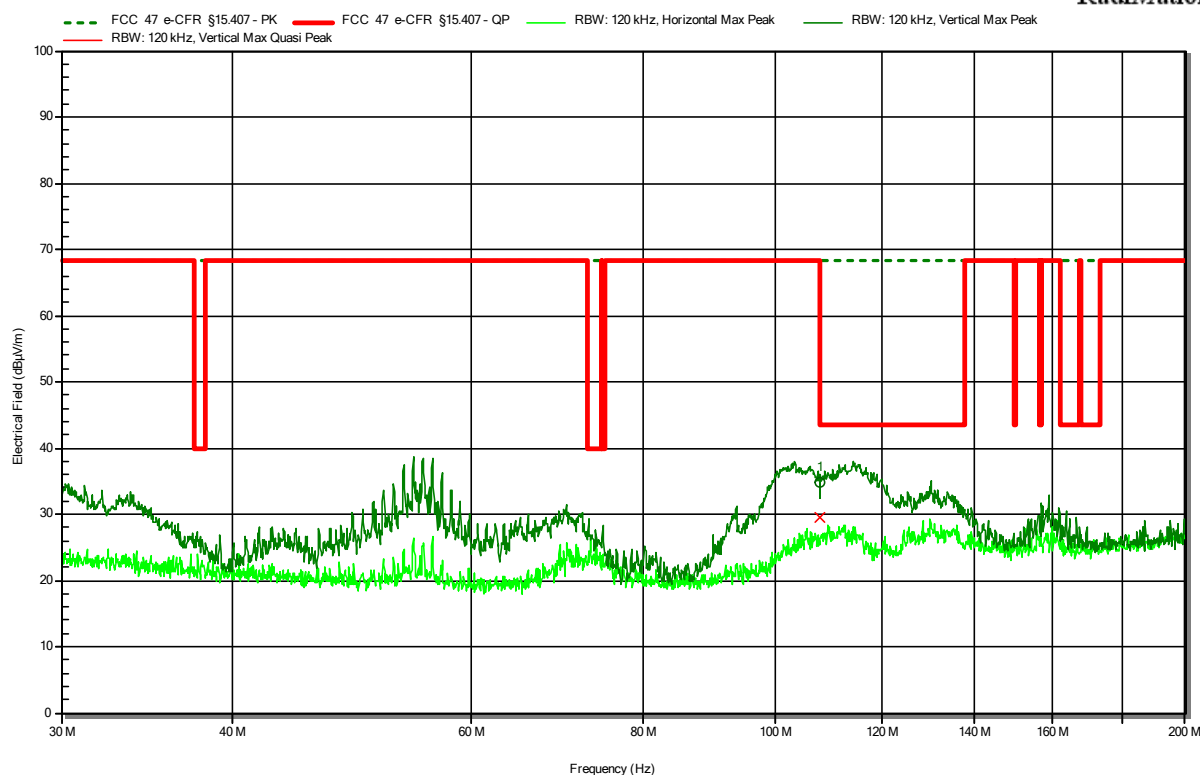


Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Rohde & Schwarz HK 116
 Measurement distance: 3 m
 Mode: Tx; CH120, f=5600MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-14
 Note:

Index 64

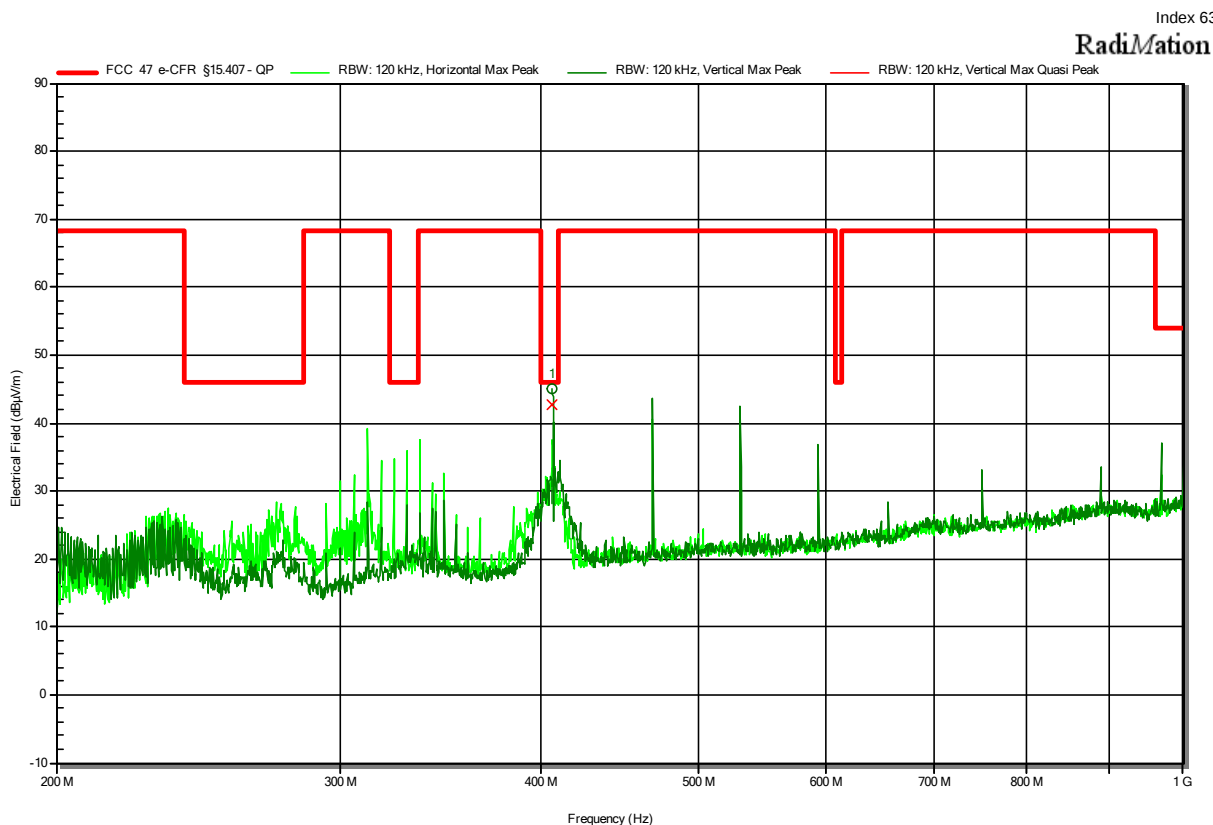
RadiMation



Frequency	Peak	Peak Limit	Peak Difference	Peak Status	Polarization
108.0045 MHz	34.7 dBμV/m	43.5 dBμV/m	-8.78 dB	Pass	Vertical
Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Polarization
108.0045 MHz	29.6 dBμV/m	43.5 dBμV/m	-13.97 dB	Pass	Vertical

Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Rohde & Schwarz HL 223
 Measurement distance: 3 m
 Mode: Tx; CH120, f=5600MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-14
 Note:



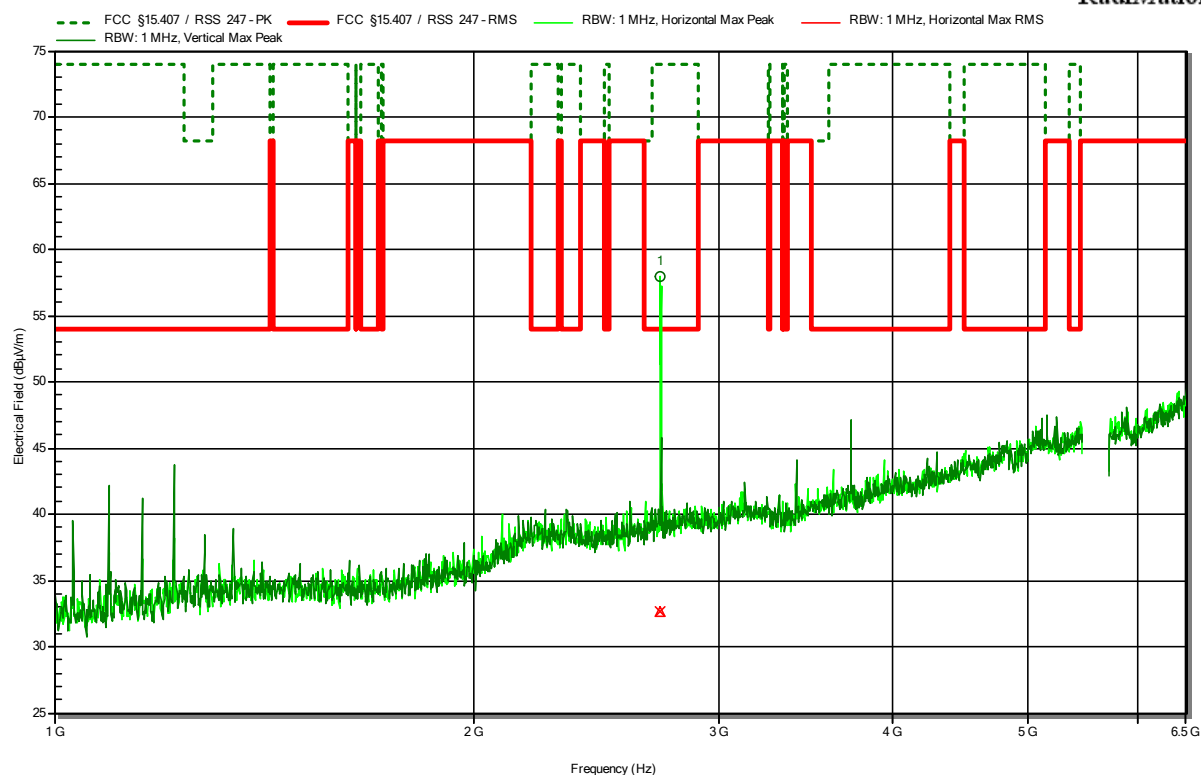
Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Polarization
406.2527 MHz	42.7 dBμV/m	46 dBμV/m	-3.29 dB	Pass	Vertical

Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Schwarzbeck BBHA 9120D
 Measurement distance: 3 m
 Mode: Tx; CH120, f=5600MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-14
 Note:

Index 95

RadiMation

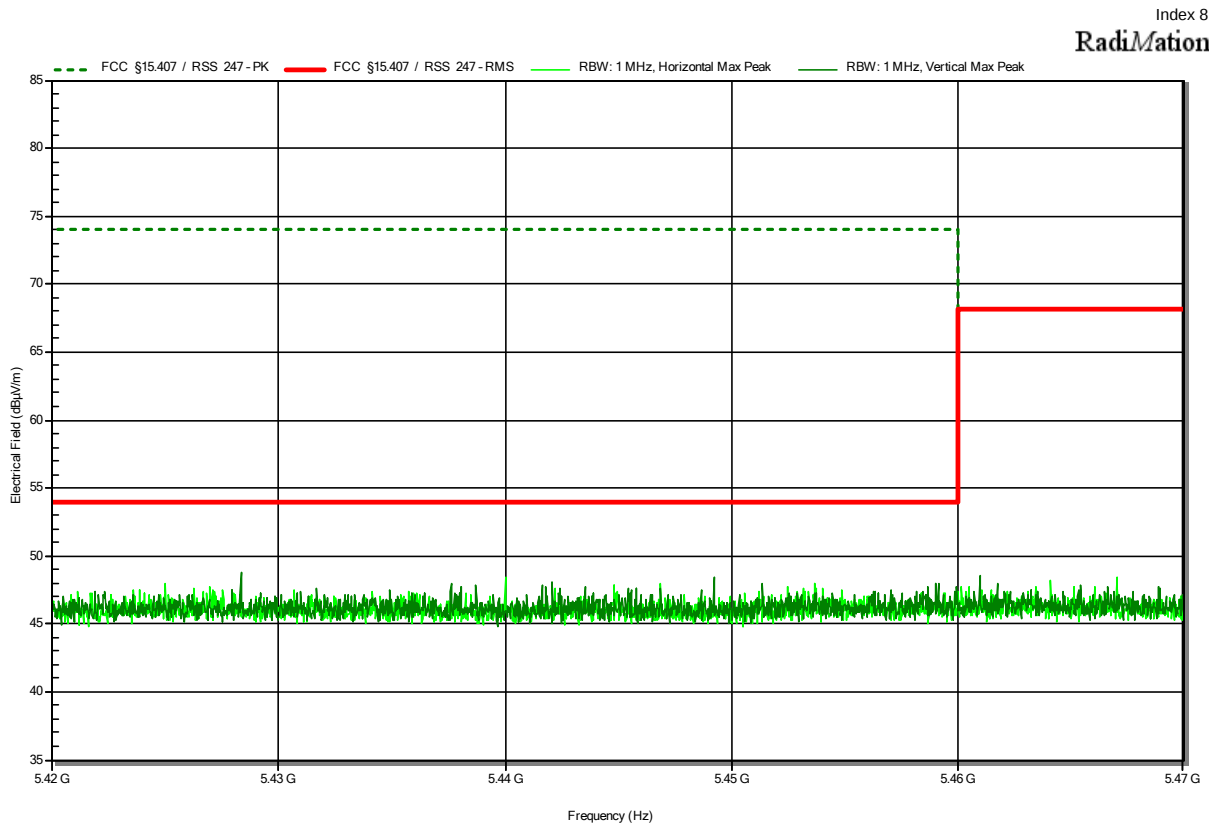


Test Report No.: G0M-2105-9817-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

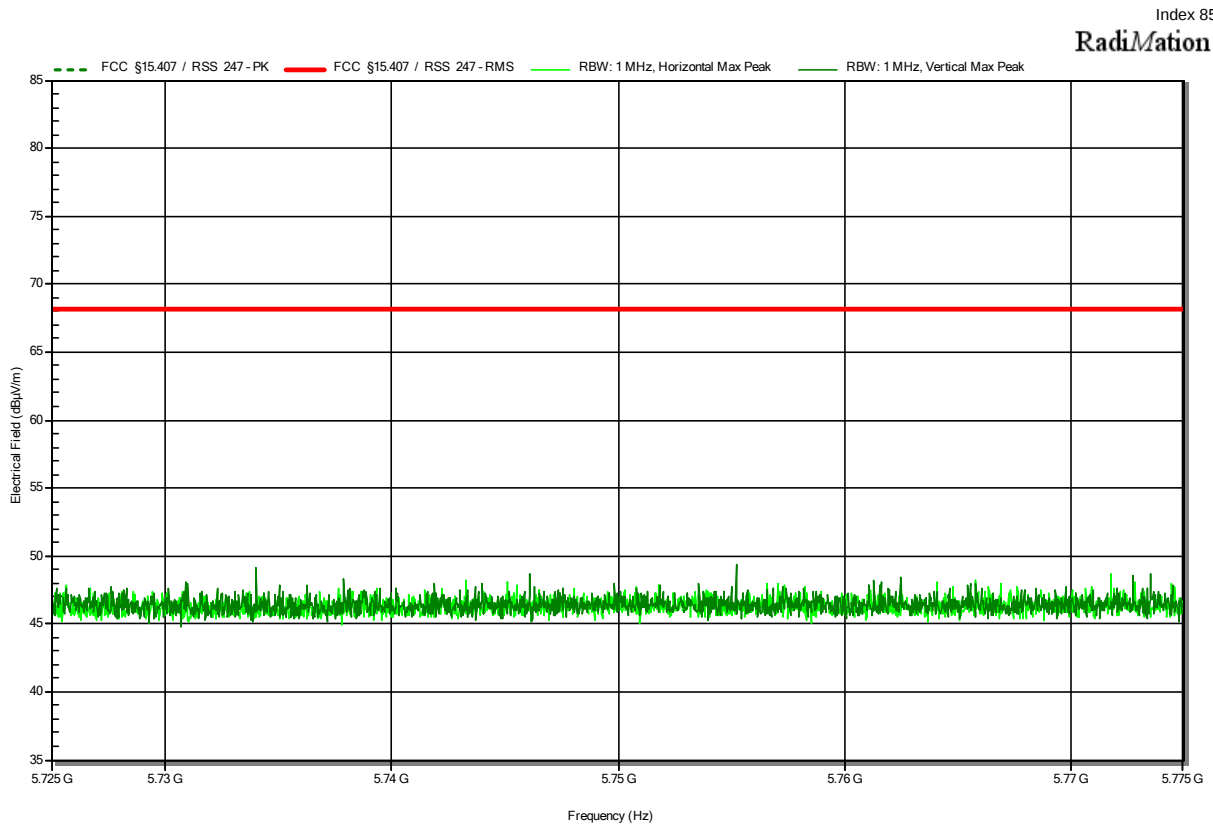
Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Schwarzbeck BBHA 9120D
 Measurement distance: 3 m
 Mode: Tx; CH120, f=5600MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-14
 Note: lower band area



Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Schwarzbeck BBHA 9120D
 Measurement distance: 3 m
 Mode: Tx; CH120, f=5600MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-14
 Note: upper band area

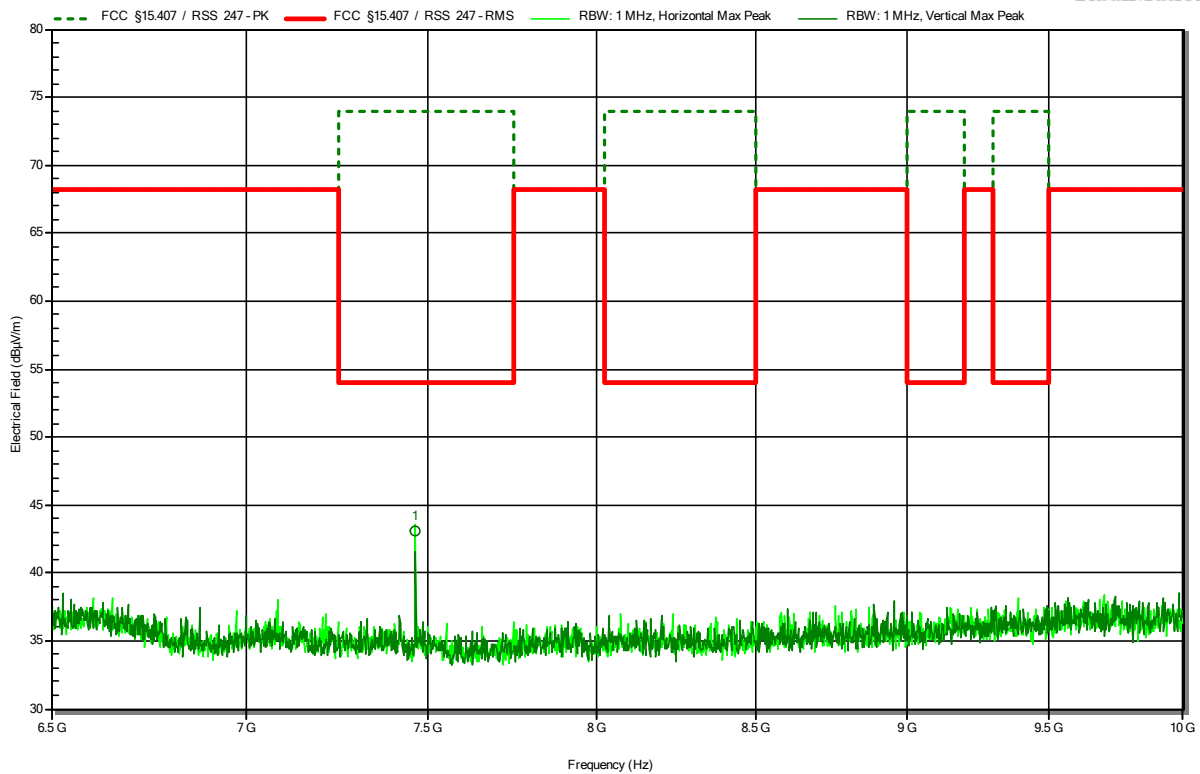


Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Schwarzbeck HWRD 650
 Measurement distance: 3 m
 Mode: Tx; CH120, f=5600MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-14
 Note:

Index 102

RadiMation



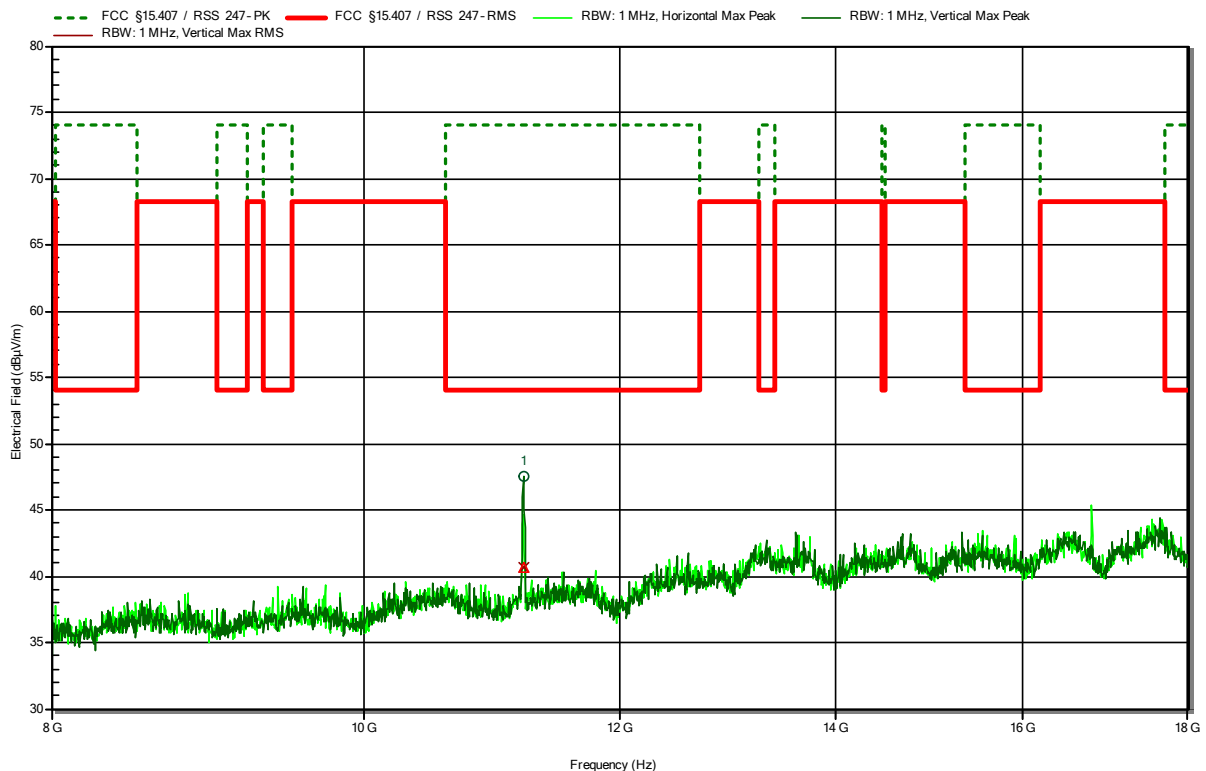
Frequency	Peak	Peak Limit	Peak Difference	Peak Status	Polarization
7.467 GHz	43.13 dBμV/m	74 dBμV/m	-30.87 dB	Pass	Horizontal

Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Schwarzbeck HWRD 650
 Measurement distance: 3 m
 Mode: Tx; CH120, f=5600MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-16
 Note:

Index 117

RadiMation



Frequency	Peak	Peak Limit	Peak Difference	Peak Status	Polarization
11.202 GHz	47.53 dBμV/m	74 dBμV/m	-26.47 dB	Pass	Vertical
Frequency	RMS	RMS Limit	RMS Difference	RMS Status	Polarization
11.202 GHz	40.63 dBμV/m	54 dBμV/m	-13.37 dB	Pass	Vertical

Test Report No.: G0M-2105-9817-TFC407WF-V01

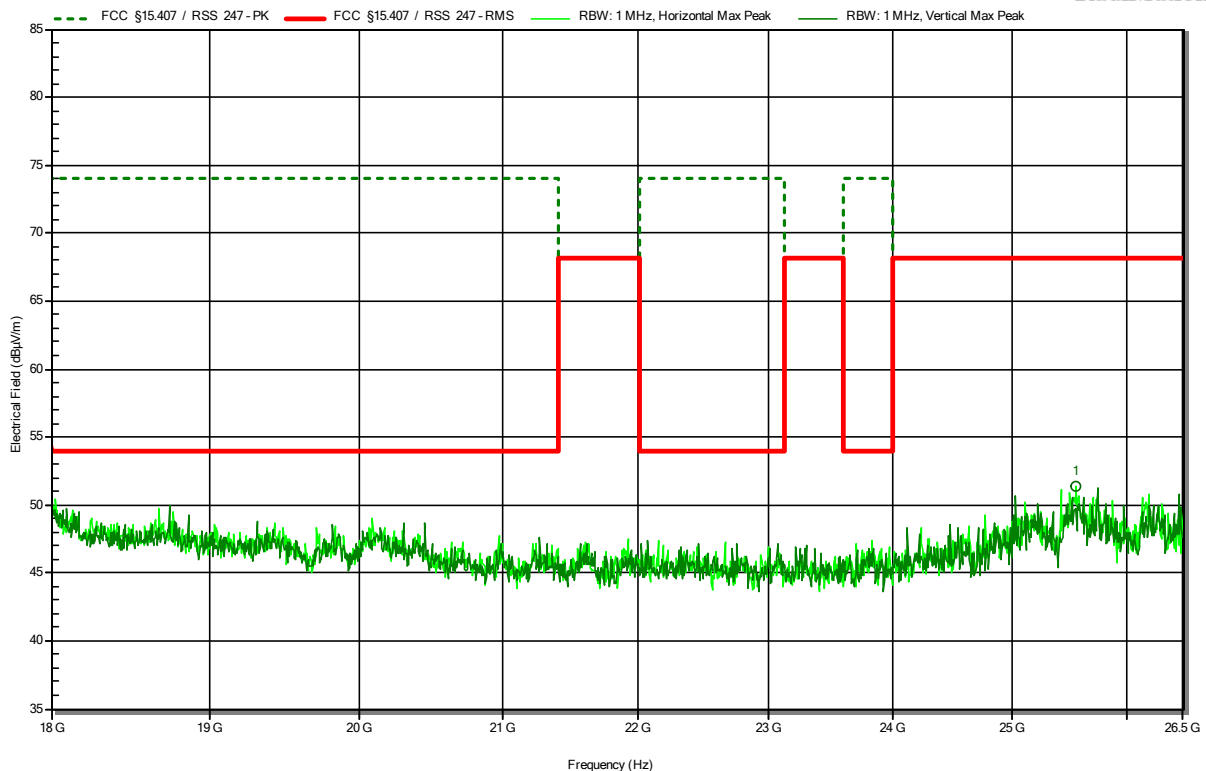
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Amplifier Research AT4560
 Measurement distance: 3 m
 Mode: Tx; CH120, f=5600MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-14
 Note:

Index 113

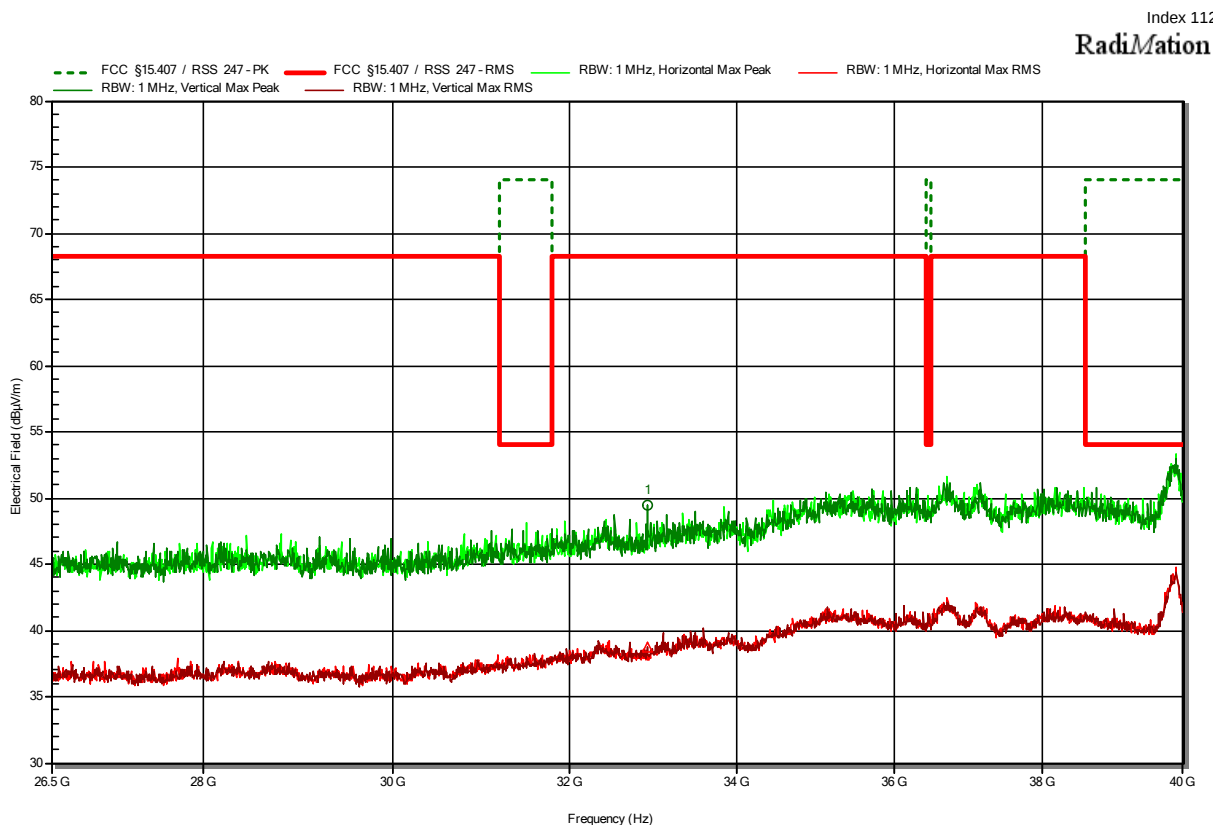
RadiMation



Frequency	Peak	Peak Limit	Peak Difference	Peak Status	Polarization
25.546 GHz	51.41 dBµV/m	68.2 dBµV/m	-16.79 dB	Pass	Horizontal

Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Flann 22240-25
 Measurement distance: 3 m
 Mode: Tx; CH120, f=5600MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-14
 Note:



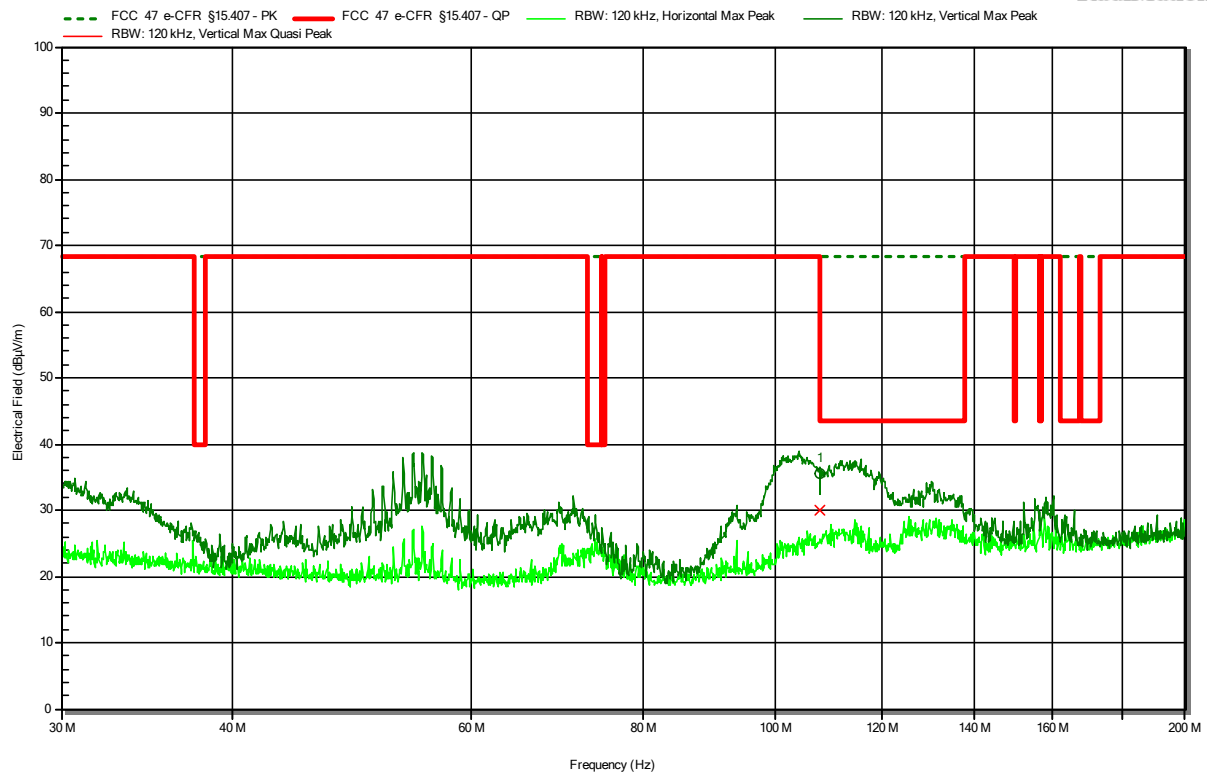
Frequency 32.913 GHz	Peak 49.5 dBµV/m	Peak Limit 68.2 dBµV/m	Peak Difference -18.7 dB	Peak Status Pass	Polarization Vertical
Frequency 32.913 GHz	RMS 38.74 dBµV/m	RMS Limit 68.2 dBµV/m	RMS Difference -29.46 dB	RMS Status Pass	Polarization Vertical

Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Rohde & Schwarz HK 116
 Measurement distance: 3 m
 Mode: Tx; CH157, f=5785MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-14
 Note:

Index 65

RadiMation



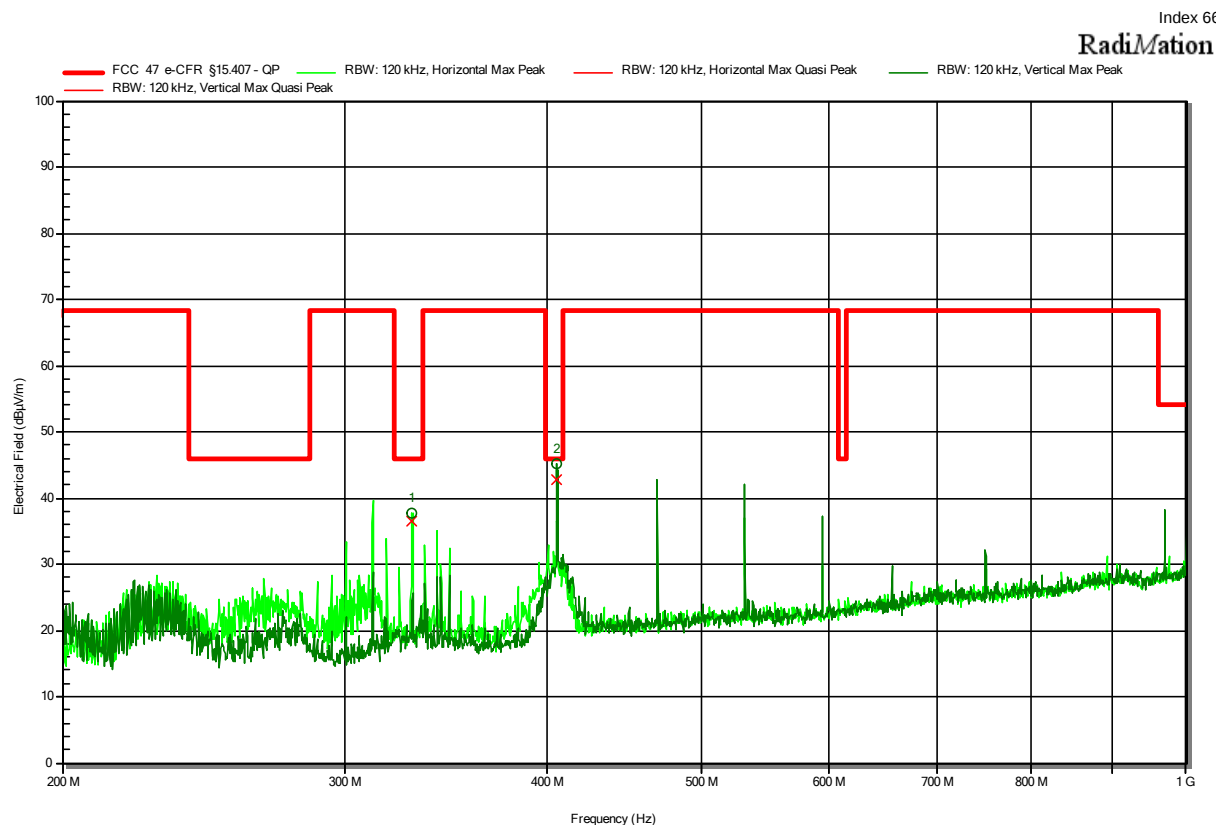
Frequency	Peak	Peak Limit	Peak Difference	Peak Status	Polarization
108.0087 MHz	35.5 dBμV/m	43.5 dBμV/m	-8.06 dB	Pass	Vertical
Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Polarization
108.0087 MHz	30 dBμV/m	43.5 dBμV/m	-13.54 dB	Pass	Vertical

Test Report No.: G0M-2105-9817-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

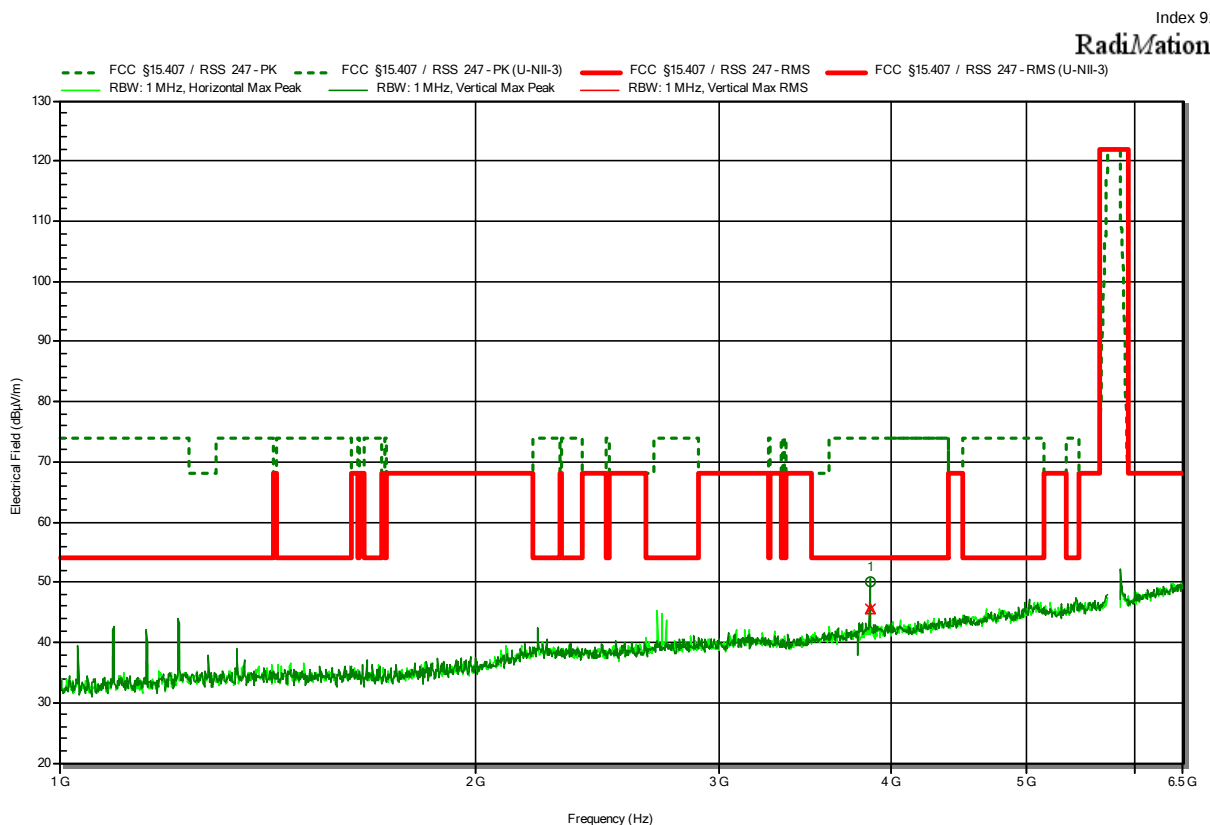
Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Rohde & Schwarz HL 223
 Measurement distance: 3 m
 Mode: Tx; CH157, f=5785MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-14
 Note:



Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Polarization
330 MHz	36.5 dBµV/m	46 dBµV/m	-9.5 dB	Pass	Horizontal
406.249 MHz	42.7 dBµV/m	46 dBµV/m	-3.28 dB	Pass	Vertical

Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

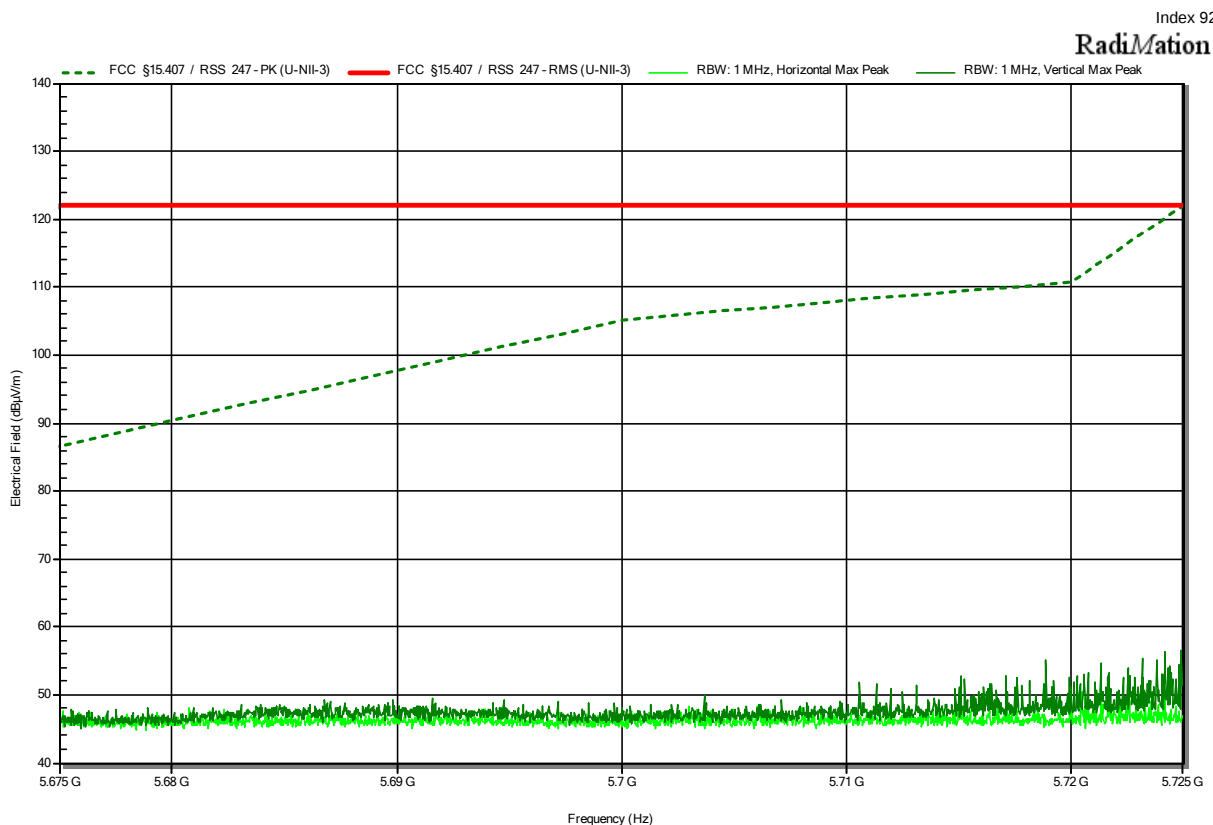
Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Schwarzbeck BBHA 9120D
 Measurement distance: 3 m
 Mode: Tx; CH157, f=5785MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-14
 Note:



Frequency 3.857 GHz	Peak 50.16 dBµV/m	Peak Limit 74 dBµV/m	Peak Difference -23.84 dB	Peak Status Pass	Polarization Vertical
Frequency 3.857 GHz	RMS 45.59 dBµV/m	RMS Limit 54 dBµV/m	RMS Difference -8.41 dB	RMS Status Pass	Polarization Vertical

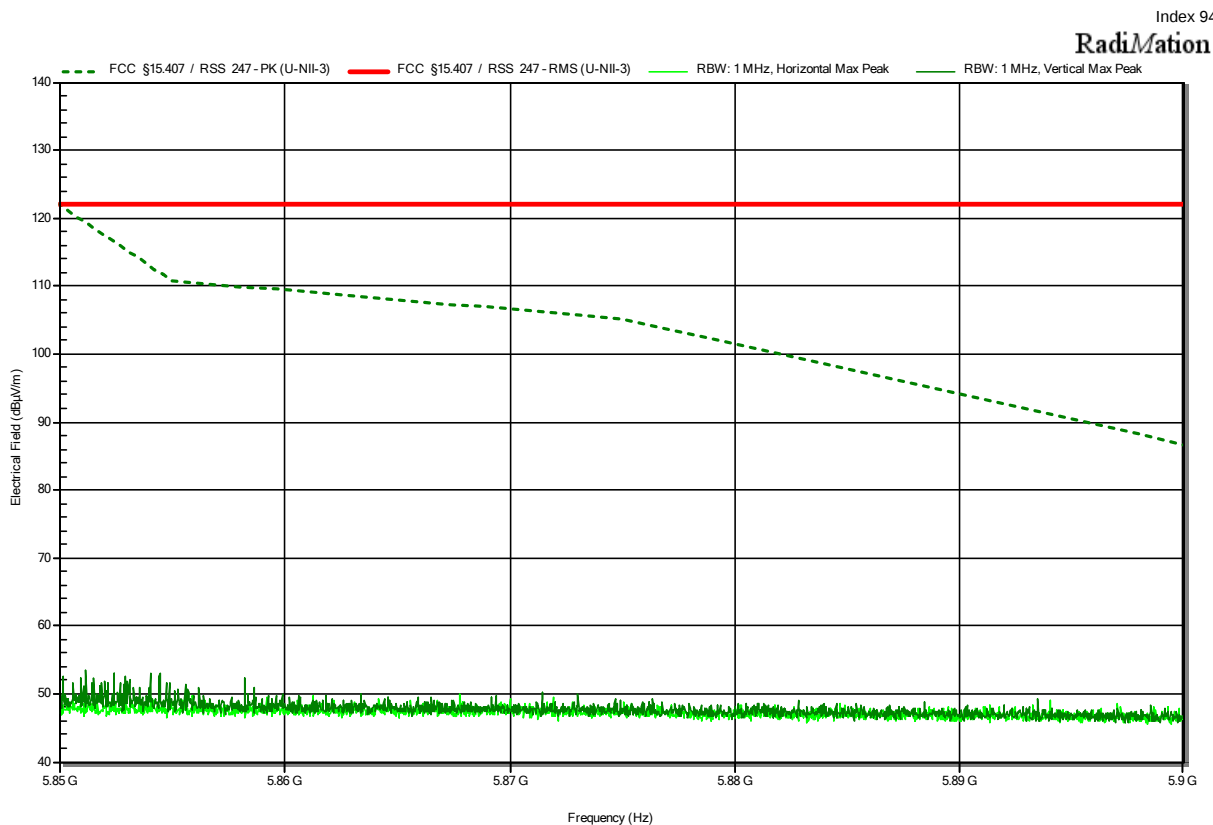
Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Schwarzbeck BBHA 9120D
 Measurement distance: 3 m
 Mode: Tx; CH157, f=5785MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-14
 Note: lower band area



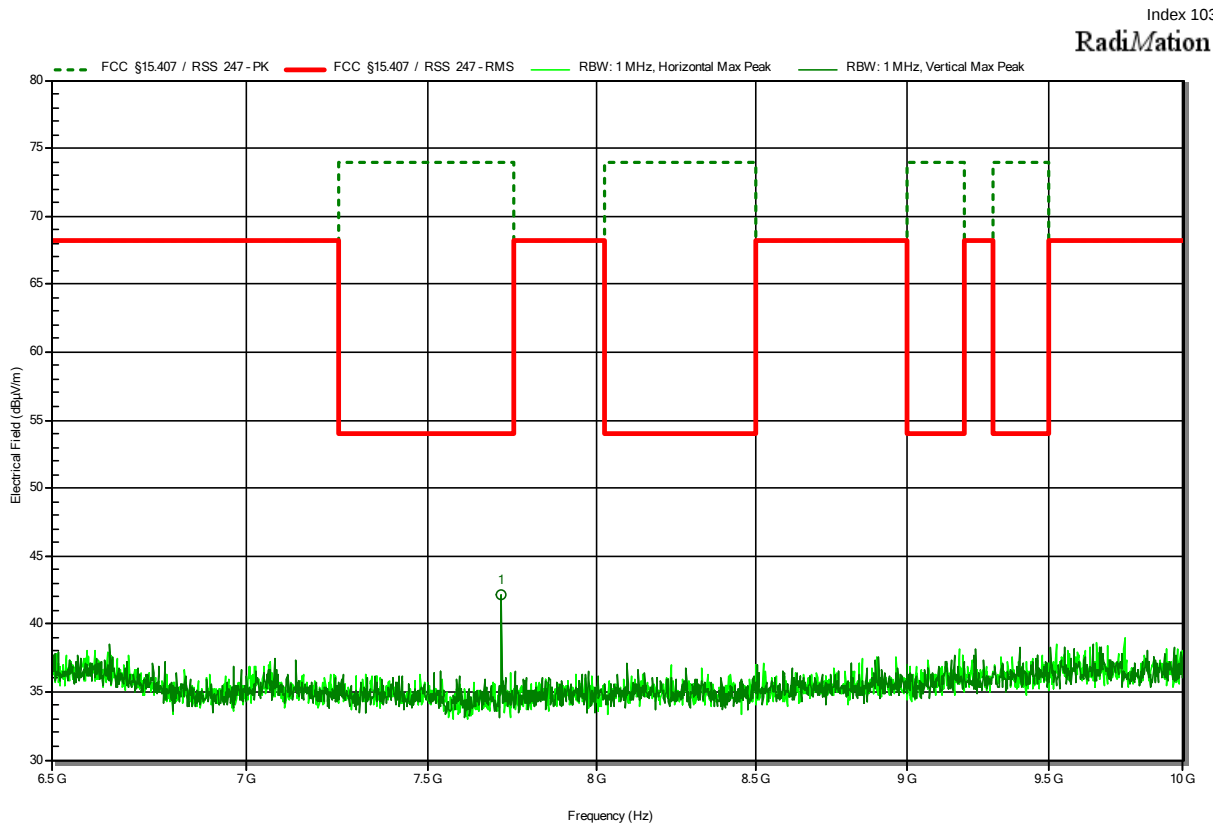
Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Schwarzbeck BBHA 9120D
 Measurement distance: 3 m
 Mode: Tx; CH157, f=5785MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-14
 Note: upper band area



Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Schwarzbeck HWRD 650
 Measurement distance: 3 m
 Mode: Tx; CH157, f=5785MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-14
 Note:



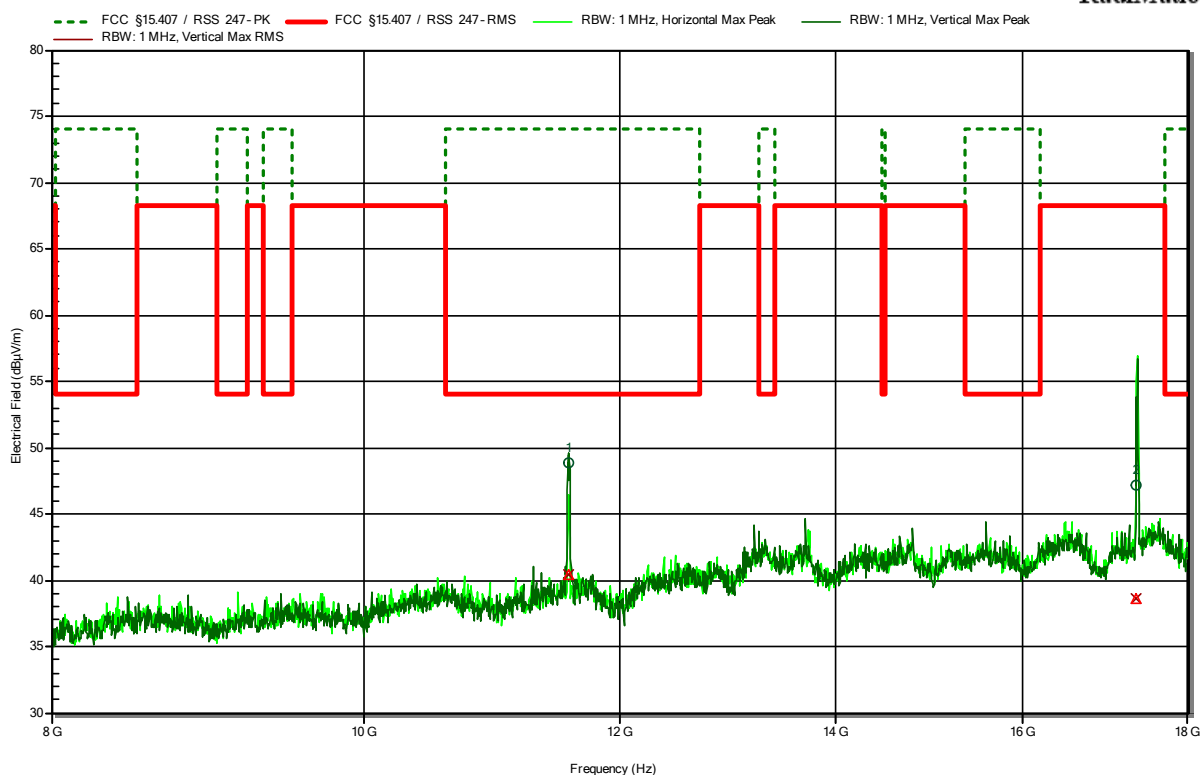
Frequency	Peak	Peak Limit	Peak Difference	Peak Status	Polarization
7.713 GHz	42.11 dBµV/m	74 dBµV/m	-31.89 dB	Pass	Vertical

Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Schwarzbeck HWRD 650
 Measurement distance: 3 m
 Mode: Tx; CH157, f=5785MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-16
 Note:

Index 115

RadiMation



Frequency	Peak	Peak Limit	Peak Difference	Peak Status	Polarization
11.567 GHz	48.87 dBµV/m	74 dBµV/m	-25.13 dB	Pass	Vertical
17.353 GHz	47.18 dBµV/m	68.2 dBµV/m	-21.02 dB	Pass	Vertical

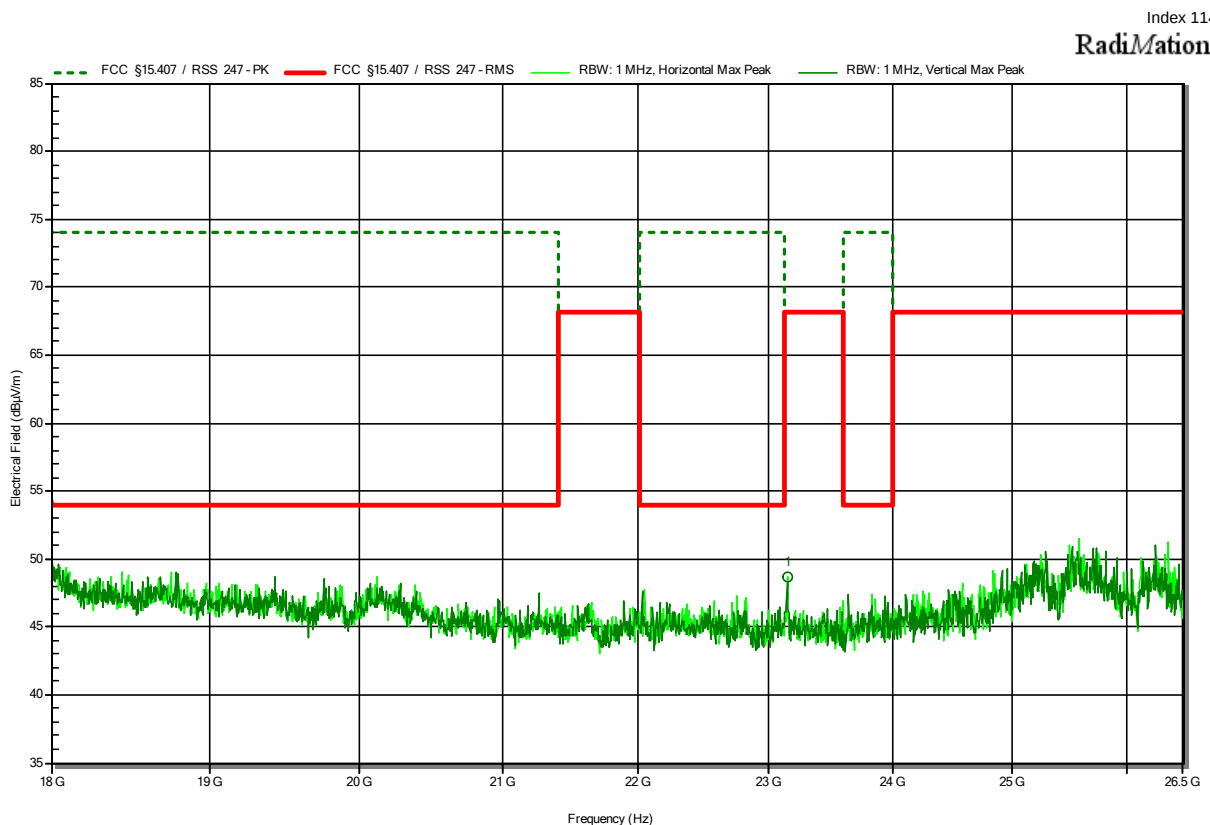
Frequency	RMS	RMS Limit	RMS Difference	RMS Status	Polarization
11.567 GHz	40.43 dBµV/m	54 dBµV/m	-13.57 dB	Pass	Vertical
17.353 GHz	38.62 dBµV/m	68.2 dBµV/m	-29.58 dB	Pass	Vertical

Test Report No.: G0M-2105-9817-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

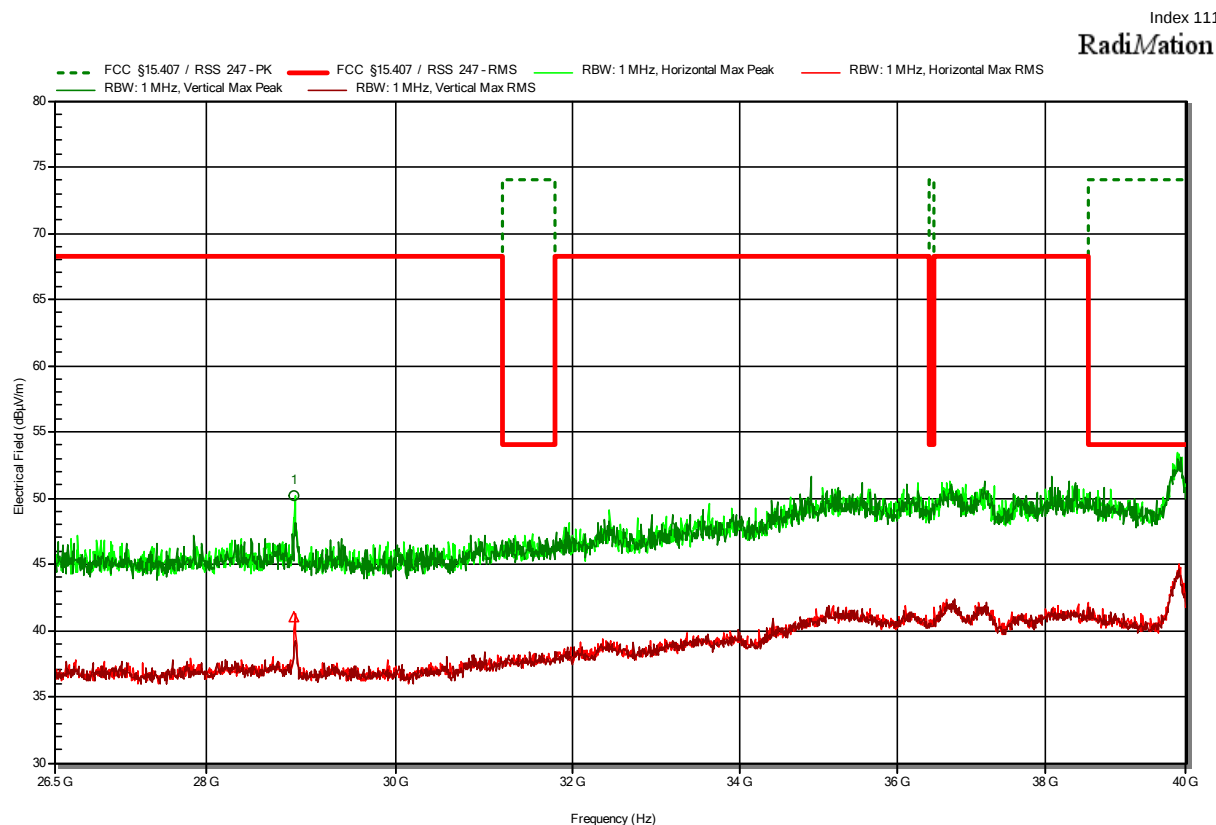
Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Amplifier Research AT4560
 Measurement distance: 3 m
 Mode: Tx; CH157, f=5785MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-14
 Note:



Frequency	Peak	Peak Limit	Peak Difference	Peak Status	Polarization
23.144 GHz	48.67 dBμV/m	68.2 dBμV/m	-19.53 dB	Pass	Horizontal

Radiated Spurious Emissions according to RSS-247, FCC 47 e-CFR § 15.407

Project Number: G0M-2105-9817
 Applicant: Leica Geosystems AG
 Model Description: KIWI Module
 Model: BLK ARC
 Test Sample ID: 35959
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Degenhardt
 Measurement software: RadiMation, version 2020.1.8
 Test Conditions: Tnom: 21 °Celsius, Vnom: AC/DC Adapter Leica GEV276
 Antenna: Flann 22240-25
 Measurement distance: 3 m
 Mode: Tx; CH157, f=5785MHz, No_HT, 6Mbps, TxChain01
 Test Date: 2021-12-14
 Note:



Frequency	Peak	Peak Limit	Peak Difference	Peak Status	Polarization
28.92 GHz	50.12 dBµV/m	68.2 dBµV/m	-18.08 dB	Pass	Horizontal
Frequency	RMS	RMS Limit	RMS Difference	RMS Status	Polarization
28.92 GHz	40.97 dBµV/m	68.2 dBµV/m	-27.23 dB	Pass	Horizontal

=== End of test report ===

Test Report No.: G0M-2105-9817-TFC407WF-V01

Eurofins Product Service GmbH
Storkower Str. 38c, D-15526 Reichenwalde, Germany