Gantner Electronic GmbH

TEST REPORT

SCOPE OF WORK
RADIO TESTING – RADIO MODULE BG BLEM-SL22

REPORT NUMBER
2240681KAU-001

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DOCUMENT CONTROL NUMBER
R_FCC15C Spot Check_20-10
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TYPE:	BG BLEM-SL22
DESCRIPTION:	Radio Module
SERIAL NO:	N/A

All measurement results refer to the equipment which was tested

MANUFACTURER:	Silicon Labs
CUSTOMER NAME:	Gantner Electronic GmbH
ADDRESS (CUSTOMER):	Bundesstr. 12 AT-6714 Nüziders Austria
REPORT NO:	2240681KAU-001
TEST RESULT:	A spot check to confirm the validity of the already existing FCC- /IC- certification of the radio module was applied. The radiated emissions (spurious) from 1 GHz to 26 GHz and the transmitting power complies with 47 CFR Part 15, Subpart C, Intentional radiators, section 15.247 and 15.205 / RSS-247, Issue 2 and RSS-GEN, Issue 5. **The reason is an antenna change to a PCB antenna and a thereof following application for a FCC / ISED permissive change 2.**
TEST LABORATORY:	Intertek Deutschland GmbH Innovapark 20, 87600 Kaufbeuren Germany
FCC DESIGNATION NUMBER:	DE0014
FCC TEST FIRM REGISTRATION NUMBER:	359260
ISED CAB IDENTIFIER:	DE0014
ISED #:	24854
TEST ENGINEER:	R. Dressler Technical Manager EMC/ Radio
REVIEWER:	U. Gronert Senior Project Engineer

Details about Accreditations/Acceptances

EMC / Radio National

DAkkS Deutsche Akkreditierungsstelle D-PL-12085-01-01	The Intertek Deutschland EMC-Lab is accredited by the Deutsche Akkreditierungsstelle GmbH (DAkkS) Registration Number (EMC general): **D-PL-12085-01-01** Registration Number (EMC Med): **D-PL-12085-01-03** Registration Number (EMC Canada): **D-PL-12085-01-04** Registration Number (EMC FCC): **D-PL-12085-01-05**

International

IECEE CB SCHEME	The Intertek Deutschland EMC-Lab is accepted to participate in the IECEE (IEC Conformity assessment for Electrotechnical Equipment and Components) CB-Scheme CB Test Laboratory: **TL118**
FCC Federal Communications Commission	The Intertek Deutschland EMC-Lab is listed at the Federal Communications Commission (FCC) Designation Number: **DE0014** Test Firm Registration Number: **359260**
Bundesnetzagentur BNetzA-CAB-16/21-10	The *Bundesnetzagentur* recognizes Intertek Deutschland GmbH as Conformity Assessment Body in the sector electromagnetic compatibility (EMC).
Innovation, Science and Economic Development Canada	The Intertek Deutschland EMC-Lab is accredited for Innovation, Science and Economic Development Canada (ISED) ISED CAB IDENTIFIER: **DE0014** ISED #: **24854**

Automotive

KBA Anerkennungsstelle Anerkannt unter KBA-P 00046-03	The Intertek Deutschland EMC-Lab is recognized as technical service of the Kraftfahrt-Bundesamt (KBA) Registration Number: **KBA-P 00046-03**

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SECTION 2
MEASUREMENT AND TEST SPECIFICATION

47 CFR Part 15, Subpart C, Intentional radiators, section 15.247 (d) and section 15.205 (a) / RSS-247, Issue 2, 5.5 and RSS-GEN, Issue 5, 6.13

Test methods in:

ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices

No additions, deviations or exclusions have been made from standards and accreditation.

The test results detailed in this report apply only to the radio module BG BLEM-SL22 with the test setup described. Any modification such as a change, will require an additional evaluation.
The support equipment listed as part of the emission tests is required to properly exercise and test the device under test.

SECTION 3
GENERAL INFORMATION

Possible test case verdicts:		
Test case does not apply to the test object:	N/A (Not Applicable)	
Test object does meet the requirement:	P (Pass)	
Test object does not meet the requirements:	F (Fail)	
Samples arrived:	2020-11-05	
Testing:	2020-11-05 to 2020-11-06	
Decimal separator:	☒ Point	☐ Comma
Environmental conditions during testing:	Temperature:	15 °C - 35 °C
	Humidity:	20 % - 60 %
	Atmospheric pressure:	900 mbar - 1000 mbar
	If explicitly required by a basic standard the measured climatic conditions are documented in the corresponding test section.	

SECTION 4
SUMMARY OF TESTING

4.1 General annotation

The tests were performed in the order of the right column in the “Test Results – Overview” table.

4.2 Document History

REVISION	DATE	REPORT	CHANGES	AUTHOR
Initial release	2021-07-14	2240681KAU-001	Initial issue	RDR

SECTION 5
TEST RESULTS – OVERVIEW

EMISSION	ACCORDING TO	VERDICT	DATE	NO
Transmitting power of the 2.4 GHz transmitter	15.247 RSS-247	P	2020-11-05	4
Spot check of the 2.4 GHz transmitter (radiated spurious emission 1– 7 GHz)	15.247 (d)/ 15.205 (a) RSS-247, 5.5 RSS-GEN, 6.13	P	2020-11-05	2
Spot check of the 2.4 GHz transmitter (radiated spurious emission 7– 18 GHz)	15.247 (d)/ 15.205 (a) RSS-247, 5.5 RSS-GEN, 6.13	P	2020-11-06	3
Spot check of the 2.4 GHz transmitter (radiated spurious emission 18– 26 GHz)	15.247 (d)/ 15.205 (a) RSS-247, 5.5 RSS-GEN, 6.13	P	2020-11-05	1

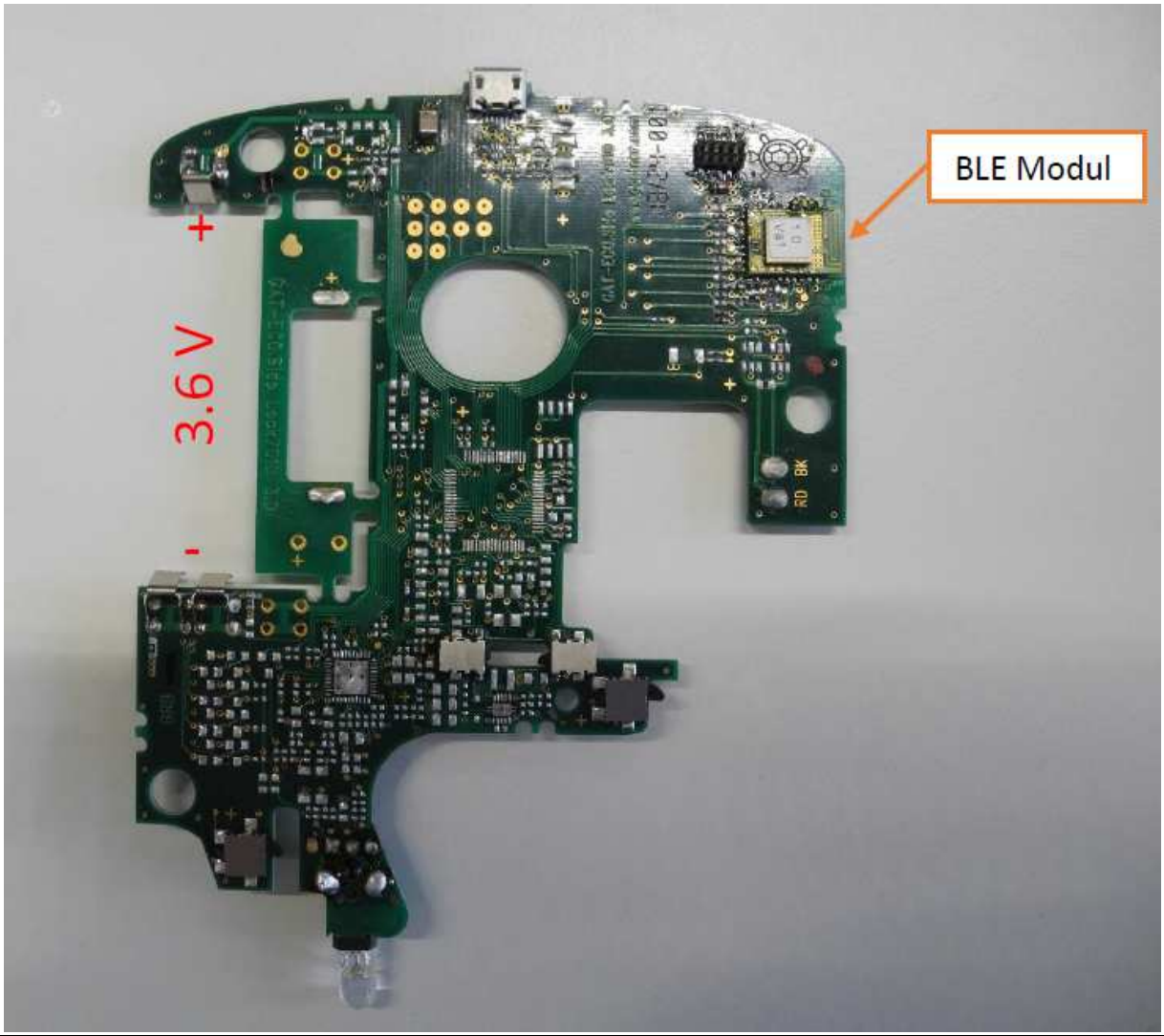
SECTION 6
INFORMATION ABOUT THE EUT

6.1 Description of the EUT

☒ table-top EUT		☐ floor-standing EUT	
Dimensions (without antenna):	Height:	Width:	Length:
	1.1 mm	6 mm	6 mm
Firmware version:	Special firmware version for testing with continuous sending		
Hardware version:	1.0		
EUT version:	☒ Production	☐ Prototype	☐ Used
Description: For the tests in this test report a PCB of the lock “GAT ECO.Side Lock 7010 NW F/ISO” was used. But just the parts were put on the PCB that are relevant for the voltage supply of the BLE module. All other parts were removed. So in principle it could be any PCB as a carrier for the BLE module.			
Transmitter frequency range:	In accordance with the Bluetooth specification, the module operates over the following frequency range: 2402 - 2480 MHz.		
Frequency agile or hopping:	☒ Yes	☐ No	
Antenna:	☒ Internal antenna (permanently attached antenna)	☐ External antenna	
Antenna connector:	☒ None, internal antenna	☐ Yes, type	
Antenna type:	PCB antenna		
Power rating:	3.6 V DC		

6.1.1 Photo of the EUT

EUT:



6.2 Power interface

MODE	VOLTAGE (V)	FREQUENCY (Hz)	COMMENT
1	3.6	DC	-

Power sources/associated test equipment

DEVICE	MANUFACTURER	TYPE	SN	ASSET NO.
Power supply	PeakTech	6225 A	511230	PM KF 3547

6.3 Configuration mode

MODE	DESCRIPTION
1	In order to supply the BLE module with voltage, it was soldered onto an existing circuit board of one of our battery locks. To have a constant supply voltage, an external power supply was used instead of the intended batteries.

6.4 Operation mode

MODE	DESCRIPTION
1	The module was set into a test mode and started to send continuously on one frequency as soon as it was supplied with voltage.

6.5 Major subassemblies or internal peripherals

DEVICE	MANUFACTURER	TYPE	SN	FCC ID
N/A				

6.6 Peripheral devices used for testing

DEVICE	MANUFACTURER	TYPE	SN	FCC ID
N/A				

6.7 Supply and interconnecting cables used for testing

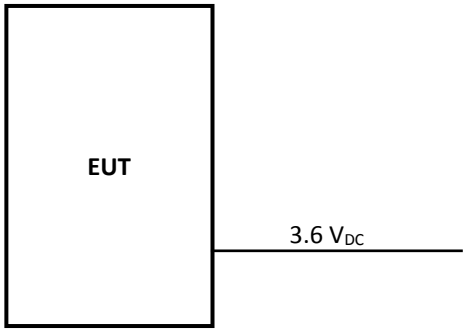
LINE	LENGTH (cm)	SHIELDING
DC supply cables to the battery sockets	200	N

6.8 Clock frequencies of the EUT

SOURCE	FREQUENCY (MHz)
BLE transmitter	2402 - 2480

6.9 Block diagram of the test setup

Test set up radiated measurement



SECTION 7
TRANSMITTER CONFORMANCE REQUIREMENTS

7.1 Transmitting power of the 2.4 GHz transmitter

NORMATIVE REFERENCES			RESULT
Limits according to:	**15.247 (b)(1)** **RSS-247**		**P**
Methods of measurement according to:	**ANSI C63.10** **RSS-Gen**		
Equipment mode	Power interface	1	
	EUT configuration mode	1	
	Operation mode	1	
	Limits	0.125 W (PK: 20.97 dBm/ AV: 0.97 dBm)	
Place of measurement	Anechoic chamber 1		

Test equipment

DESCRIPTION	MANUFACTURER	TYPE	SN	ASSET NO.	CALIBRATION
Semi-Anechoic chamber	Siepel	REF W460SLB	-	PM KF 1150-01	2019-12 (3 years)
Turntable	Inn-Co	-	-	PM KF 2949-04	-
Tower	Inn-Co	MA4484-XPET	-	PM KF 2949-03	-
Controller	Inn-Co	CO 3000	4970815	PM KF 2949	-
Receiver 9 kHz - 7 GHz	Rohde & Schwarz	ESR7	101757	PM KF 3371	2020-04 (1 year)
Horn antenna 1 - 18 GHz	Rohde & Schwarz	HF906	100331	PM KF 1047a	2019-05 (2 years)
Test software	Rohde & Schwarz	EMC 32 V.10.50.40	-	PM KF 2983-2	-

Comment

The test results on page 16 shows a transmitting power level of 87.53 dBµV/m (PK) at 2476.25 MHz and 83.57 dBµV/m (AV) at 2476.25 MHz.

This is a transmitting power of -7.67 dBm (PK) and -11.63 dBm (AV).

The required limits are fulfilled.

A pretest was performed on the carrier frequency in three directions of the EUT to determine the maximum emission depending on the position of the radio module.

The photo on the next page shows the worst case position.

7.2 Radiated emissions 1 GHz to 7 GHz

NORMATIVE REFERENCES			**RESULT**
Limits according to:	**FCC §15.247 (d), §15.205 (a) , §15.209 (a)** **RSS-247, 5.5**		**P**
Methods of measurement according to:	**ANSI C63.10, section 6.3, 6.5** **RSS-Gen 6.13, 8.9**		
Equipment mode	Power interface	1	
	EUT configuration mode	1	
	Operation mode	1	
Test requirements	Frequency range	1 GHz - 7 GHz	

Limits

Frequency (MHz)	Field strength (µV/m)	Field strength (dBµV/m)	Measurement distance (m)
30 – 88	100	40.0	3
88 – 216	150	43.5	3
216 – 960	200	46.0	3
Above 960	500	54.0	3

Test setup details

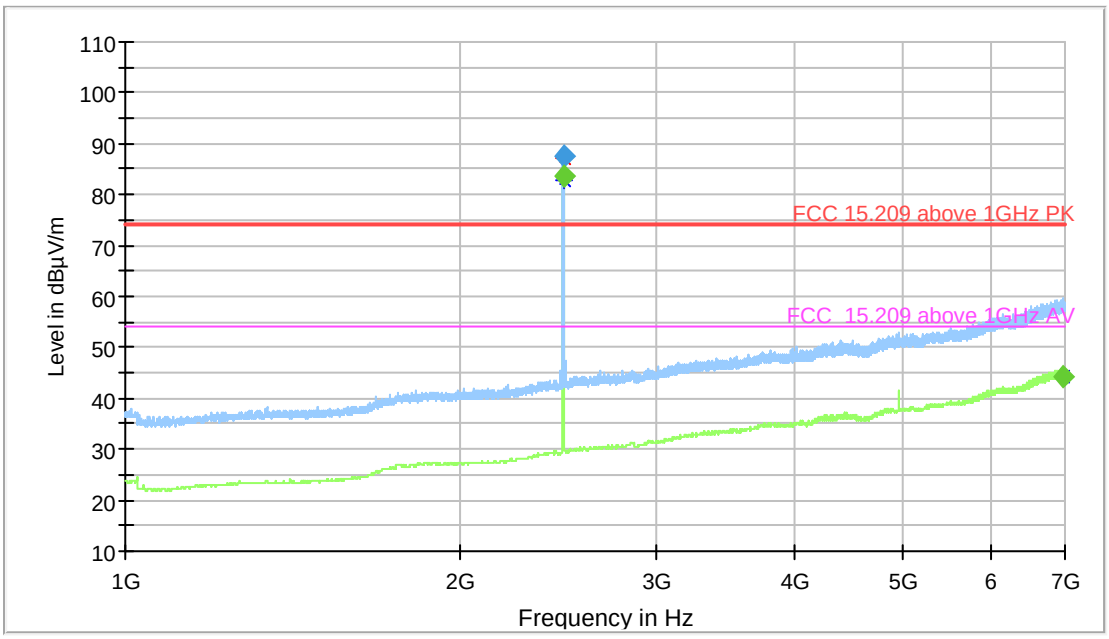
The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector in the frequency range below 1 GHz and average detector in the frequency range above 1 GHz. In this frequency range the peak detector limit is 20 dB above the average limit.

Test equipment

DESCRIPTION	MANUFACTURER	TYPE	SN	ASSET NO.	CALIBRATION
Semi-Anechoic chamber	Siepel	REF W460SLB	-	PM KF 1150-01	2019-12 (3 years)
Turntable	Inn-Co	-	-	PM KF 2949-04	-
Tower	Inn-Co	MA4484-XPET	-	PM KF 2949-03	-
Controller	Inn-Co	CO 3000	4970815	PM KF 2949	-
Receiver 9 kHz - 7 GHz	Rohde & Schwarz	ESR7	101757	PM KF 3371	2020-04 (1 year)
Horn antenna 1 - 18 GHz	Rohde & Schwarz	HF906	100331	PM KF 1047a	2019-05 (2 years)
Test software	Rohde & Schwarz	EMC 32 V.10.50.40	-	PM KF 2983-2	-

Measurement results – Radiated emissions 1 GHz to 7 GHz:

EUT:	BLE Modul, BG BLEM-SL22
Test Verdict:	Pass
Test Description:	FCC 15.247, 15.205, 15.209/ RSS-247, RSS-GEN
Operating Conditions:	Test mode; Continuous transmission on one frequency (2.476 GHz)
Operator Name:	RDR
Project Number:	40618
Date	05.11.2020
Comment:	The Bluetooth transmitting signal at 2.476 GHz is not relevant at this test



Preview Result 2-AVG [Preview Result 2.Result:2]
Preview Result 1-PK+ [Preview Result 1.Result:1]
Critical_Freqs AVG [Critical_Freqs.Result:5]
Critical_Freqs PK+ [Critical_Freqs.Result:4]
FCC 15.209 above 1GHz PK [..\EMI radiated\FCC Part 15C\]
FCC 15.209 above 1GHz AV [..\EMI radiated\FCC Part 15C\]
Final_Result PK+ [Final_Result.Result:4]
Final_Result AVG [Final_Result.Result:5]

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
2476.000000	---	83.57	54.00	-29.57	1000.0	1000.000	182.0	H
2476.250000	87.53	---	74.00	-13.53	1000.0	1000.000	183.0	H
6970.000000	---	44.35	54.00	9.65	1000.0	1000.000	275.0	H

(continuation of the "Final_Result" table from column 14 ...)

Frequency (MHz)	Azimuth (deg)	Corr. (dB/m)	Comment
2476.000000	264.0	32	18:22:20 - 05.11.2020
2476.250000	264.0	32	18:20:08 - 05.11.2020
6970.000000	336.0	42	18:24:26 - 05.11.2020

EMI Auto Test Template: xF-RE-R17-AN20

Hardware Setup: xF-RE-R17-AN20
Measurement Type: Open-Area-Test-Site (SAC/FAR)
Frequency Range: 1 GHz - 7 GHz
Graphics Level Range: 10 dBµV/m - 110 dBµV/m

Preview Measurements:
- Antenna height: 100 - 355 cm , Step Size = 85 cm , Positioning Speed = 8
- Polarization: H + V
- Turntable position: 0 - 352 deg , Step Size = 22 deg , Positioning Speed = 8
- Scan Test Template: xF-RE-R17-AN20_PRE

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
Receiver: [ESR 7]					
1 GHz - 7 GHz	250 kHz	PK+ ; AVG	1 MHz	0,02 s	20 dB

Frequency Zoom:
- Zoom Scan Template: xF-RE-R17-AN20_MAX

Adjustment:
- Antenna height: Range = 180 cm , Measuring Speed = 2
- Turntable position: Range = 60 deg , Measuring Speed = 2
- Template for Single Meas.: xF-RE-R17-AN20_MAX

Final Measurements:
- Template for Single Meas.: xF-RE-R17-AN20_FIN

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
Receiver: [ESR 7]					
1 GHz - 7 GHz	400 kHz	PK+ ; AVG	1 MHz	1 s	20 dB

7.3 Radiated emissions 7 GHz to 18 GHz

NORMATIVE REFERENCES			RESULT
Limits according to:	**FCC §15.247 (d), §15.205 (a) , §15.209 (a)** **RSS-247, 5.5**		**P**
Methods of measurement according to:	**ANSI C63.10, section 6.3, 6.5** **RSS-Gen 6.13, 8.9**		
Equipment mode	Power interface	1	
	EUT configuration mode	1	
	Operation mode	1	
Test requirements	Frequency range	7 GHz - 18 GHz	

Limits

Frequency (MHz)	Field strength (µV/m)	Field strength (dBµV/m)	Measurement distance (m)
Above 960	500	54.0	3

Test setup details

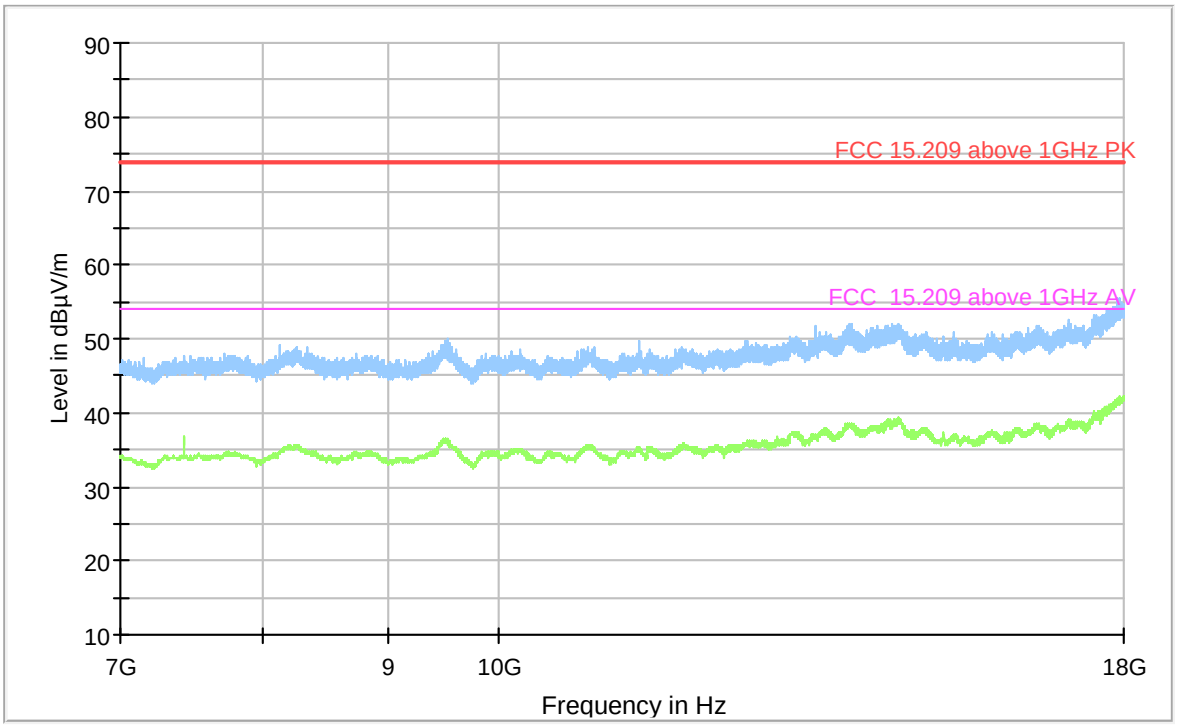
The emission limits shown in the above table are based on measurements employing an average detector in the frequency range above 1 GHz. In this frequency range the peak detector limit is 20 dB above the average limit.

Test equipment

DESCRIPTION	MANUFACTURER	TYPE	SN	ASSET NO.	CALIBRATION
Semi-Anechoic chamber	Siepel	REF W460SLB	-	PM KF 1150-01	2019-12 (3 years)
Turntable	Inn-Co	-	-	PM KF 2949-04	-
Tower	Inn-Co	MA4484-XPET	-	PM KF 2949-03	-
Controller	Inn-Co	CO 3000	4970815	PM KF 2949	-
Receiver 10 Hz - 40 GHz	Rohde & Schwarz	FSV40	101400	PM KF 2783	2020-08 (1 year)
Horn antenna 1 - 18 GHz	Rohde & Schwarz	HF906	100331	PM KF 1047a	2019-05 (2 years)
Horn antenna preamp. 3 - 18 GHz	Bonn	BLMA 0118-BT	76609	PM KF 1047	2020-01 (2 years)
Test software	Rohde & Schwarz	EMC 32 V.10.50.40	-	PM KF 2983-2	-

Measurement results – Radiated emissions 7 GHz to 18 GHz:

EUT:	BLE Modul, BG BLEM-SL22
Test Verdict:	Passed
Test Description:	FCC 15.247, 15.205, 15.209/ RSS-247, RSS-GEN
Operating Conditions:	Test mode; Continuous transmission on one frequency (2.476 GHz)
Operator Name:	RDR
Project Number:	40618
Date	06.11.2020



Preview Result 2-AVG [Preview Result 2.Result:2]
Preview Result 1-PK+ [Preview Result 1.Result:1]
FCC 15.209 above 1GHz PK [..\EMI radiated\FCC Part 15C\]
FCC 15.209 above 1GHz AV [..\EMI radiated\FCC Part 15C\]
Final_Result PK+ [Final_Result.Result:4]
Final_Result AVG [Final_Result.Result:5]

EMI Auto Test Template: xF-RE-R15-PAM03-AN20

Hardware Setup: xF-RE-R15-PAM03-AN20
Measurement Type: Open-Area-Test-Site (SAC/FAR)
Frequency Range: 7 GHz - 18 GHz
Graphics Level Range: 10 dBµV/m - 90 dBµV/m

Preview Measurements:
- Antenna height: 100 - 355 cm , Step Size = 85 cm , Positioning Speed = 8
- Polarization: H + V
- Turntable position: 0 - 352 deg , Step Size = 22 deg , Positioning Speed = 8
- Sweep Test Template: xF-RE-R15-PAM03_AN20_PRE

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
Receiver: [FSV 40]					
1 GHz - 18 GHz	531,25 kHz	PK+ ; AVG	1 MHz	50 s	0 dB

Frequency Zoom:
- Zoom Sweep Template: xF-RE-R15-PAM03_AN20_MAX

Adjustment:
- Antenna height: Range = 180 cm , Measuring Speed = 2
- Turntable position: Range = 60 deg , Measuring Speed = 2
- Template for Single Meas.: xF-RE-R15-PAM03-AN20_ADJ

Final Measurements:
- Template for Single Meas.: xF-RE-R15-PAM03-AN20_FIN

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
Receiver: [FSV 40]					
1 GHz - 18 GHz	100 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

7.4 Radiated emissions 18 GHz to 26 GHz

NORMATIVE REFERENCES			RESULT
Limits according to:	**FCC §15.247 (d), §15.205 (a), §15.209 (a)** **RSS-247, 5.5**		**P**
Methods of measurement according to:	**ANSI C63.10, section 6.3, 6.5** **RSS-Gen 6.13, 8.9**		
Equipment mode	Power interface	1	
	EUT configuration mode	1	
	Operation mode	1	
Test requirements	Frequency range	18 GHz - 26 GHz	

Limits

Frequency (MHz)	Field strength (µV/m)	Field strength (dBµV/m)	Measurement distance (m)
30 – 88	100	40.0	3
88 – 216	150	43.5	3
216 – 960	200	46.0	3
Above 960	500	54.0	3

Test setup details

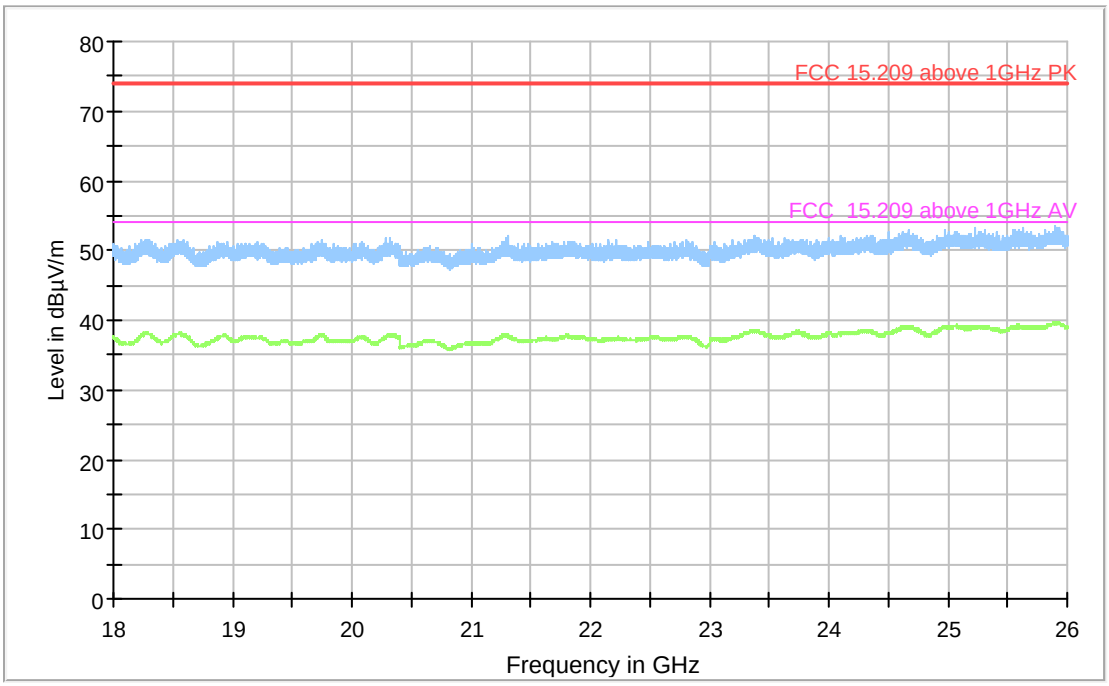
The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector in the frequency range below 1 GHz and average detector in the frequency range above 1 GHz. In this frequency range the peak detector limit is 20 dB above the average limit.

Test equipment

DESCRIPTION	MANUFACTURER	TYPE	SN	ASSET NO.	CALIBRATION
Semi-Anechoic chamber	Siepel	REF W460SLB	-	PM KF 1150-01	2019-12 (3 years)
Turntable	Inn-Co	-	-	PM KF 2949-04	-
Tower	Inn-Co	MA4484-XPET	-	PM KF 2949-03	-
Controller	Inn-Co	CO 3000	4970815	PM KF 2949	-
Receiver 10 Hz - 40 GHz	Rohde & Schwarz	FSV40	101400	PM KF 2783	2020-08 (1 year)
Horn antenna 12 GHz – 40 GHz	Schwarzbeck	BBHA 9170	BBHA9170361	PM KF 1204	2020-09 (2 years)
Antenna preamp. 18 GHz – 40 GHz	Schwarzbreck	BBV 9721	9721-010	PM KF 2896	2019-08 (2 years)
RF-cable	Rosenberger	LU1-001-5000	010-2169251	PM-KF 3559	2019-10 (2 years)
Test software	Rohde & Schwarz	EMC 32 V.10.50.40	-	PM KF 2983-2	-

Measurement results – Radiated emissions 18 GHz to 26 GHz:

EUT:	BLE Modul, BG BLEM-SL22
Test Verdict:	Passed
Test Description:	FCC 15.247, 15.205, 15.209/ RSS-247, RSS-GEN
Operating Conditions:	Test mode; Continuous transmission on one frequency (2.476 GHz)
Operator Name:	RDR
Project Number:	40618
Date	05.11.2020



Preview Result 2-AVG [Preview Result 2.Result:2]
Preview Result 1-PK+ [Preview Result 1.Result:1]
FCC 15.209 above 1GHz PK [..\EMI radiated\FCC Part 15C\]
FCC 15.209 above 1GHz AV [..\EMI radiated\FCC Part 15C\]
Final_Result PK+ [Final_Result.Result:4]
Final_Result AVG [Final_Result.Result:5]

EMI Auto Test Template: xF-RE-R15-AN06

Hardware Setup: xF-RE-R15-AN06
Measurement Type: Open-Area-Test-Site (SAC/FAR)
Frequency Range: 18 GHz - 26 GHz
Graphics Level Range: 0 dBµV/m - 80 dBµV/m

Preview Measurements:
- Antenna height: 100 - 355 cm , Step Size = 85 cm , Positioning Speed = 8
- Polarization: H + V
- Turntable position: 0 - 352 deg , Step Size = 22 deg , Positioning Speed = 8
- Sweep Test Template: xF-RE-R15-AN06_PRE

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
Receiver: [FSV 40]					
18 GHz - 40 GHz	687,5 kHz	PK+ ; AVG	1 MHz	30 s	0 dB

Frequency Zoom:
- Zoom Sweep Template: xF-RE-R15-AN06_MAX

Adjustment:
- Antenna height: Range = 180 cm , Measuring Speed = 2
- Turntable position: Range = 60 deg , Measuring Speed = 2
- Template for Single Meas.: xF-RE-R15-AN06_ADJ

Final Measurements:
- Template for Single Meas.: xF-RE-R15-AN06_FIN

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
Receiver: [FSV 40]					
18 GHz - 40 GHz	100 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

Anechoic chamber

Test procedure

The test site is an anechoic chamber suitable for radiated emission measurements in the frequency range of 30 MHz – 18 GHz (40 GHz). It includes automatic antenna mast of height 4 m and turntable of radius 2 m. It enables both manual and fully automatic measurements. To find the highest level of radiation

- the height of the antenna is scanned in range 1m to 4 m with antenna in horizontal and vertical polarization;
- the turntable is rotated in range from 0° to 360°.

The system was configured for testing in a typical worst case fashion (as a customer may use it). All interface cables were moved to determine the position which resulted in the highest emission levels.

Correction factors

The field strength is calculated by adding the antenna factor and cable attenuation.
The calculations are performed automatically by the measurement software EMC 32.
As example consider the following input values and result:

FREQUENCY (MHZ)	RECEIVER READING U (dBµV)	ANTENNA FACTOR AF (dB/m)	CABLE ATTENUATION A (dB)	CORRECTION ANTENNA + CABLE (dB)	RADIATED FIELD STRENGTH E (dBµV/m)
30.0	20	20.6	0.8	21.4	41.4

E = U + AF + A

SECTION 8
ANNEX

8.1 Measurement uncertainty evaluation

Measurement uncertainty for radiated emission, 30 MHz - 1000 MHz	
Uncertainty for the frequency range 30 to 300 MHz using a biconical or a combination antenna at 3 m	± 4.9 dB
Uncertainty for the frequency range 300 to 1000 MHz using a logperiodic or a combination antenna at 3 m	± 4.7 dB
Measurement uncertainty for radiated emission 1 to 26 GHz	
Uncertainty for the frequency range 1 to 18 GHz	± 6.1 dB
Uncertainty for the frequency range 18 to 26,5 GHz	± 6.5 dB

End of test report