

Prüfbericht - Nr.: <i>Test Report No.:</i>	60393691 001	Auftrags-Nr.: <i>Order No.:</i>	180184239	Seite 1 von 35 Page 1 of 35	
Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	2020.04.26		
Auftraggeber: <i>Client:</i>	Ningbo Agsun Products Inc #135, East Road, Third North City Line, Cixi city, Ningbo, CN				
Prüfgegenstand: <i>Test item:</i>	Pellet Grill (EXPERT GRILL)				
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	XG1136224169002, XG1136224169003, XG1136224169004				
Auftrags-Inhalt: <i>Order content:</i>	TÜV Rheinland – FCC Service				
Prüfgrundlage: <i>Test specification:</i>	CFR47 FCC Part 15: Subpart C Section 15.247 CFR47 FCC Part 15: Subpart C Section 15.207 CFR47 FCC Part 15: Subpart C Section 15.209				
Wareneingangsdatum: <i>Date of receipt:</i>	2020.04.26				
Prüfmuster-Nr.: <i>Test sample No.:</i>	A002837617-001				
Prüfzeitraum: <i>Testing period:</i>	2020.06.01-2020.06.16				
Ort der Prüfung: <i>Place of testing:</i>	Refer to section 1.1.				
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland / CCIC (Ningbo) Co., Ltd.				
Prüfergebnis*: <i>Test result*:</i>	Pass				
geprüft von / tested by:		kontrolliert von / reviewed by:			
2020.07.13 Season Yang/PE		2020.07.13 Feng Liang/TC			
Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>
Sonstiges/ Other					
FCC ID: 2AWT4S2281801M Radiated Spurious Emission above 18GHz and Radiated band edge of this product are evaluated in report 60394654 001. This report is valid with report 60394654 001. Refer to page 5 for further information.					
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>			Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>		
*Legende: 1= Sehr gut 2= gut 3= befriedigend 4= ausreichend 5= mangelhaft P(ass)=entspricht o.g. Prüfgrundlage(n) F(ail)= entspricht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T =nicht getestet Legend: 1= very good 2= good 3= satisfactory 4= sufficient 5= poor P(ass)= passed a.m. test specification(s) F(ail)= failed a.m. test specification(s) N/A = not applicable N/T = not tested					
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.</i>					

TEST SUMMARY

4.1.1 ANTENNA REQUIREMENT

Result:

Pass

4.1.2 6DB BANDWIDTH MEASUREMENT

Result:

Pass

4.1.3 MAXIMUM CONDUCTED OUTPUT POWER

Result:

Pass

4.1.4 POWER SPECTRAL DENSITY

Result:

Pass

4.1.5 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100 KHz BANDWIDTH

Result:

Pass

4.1.6 RADIATED SPURIOUS EMISSION

Result:

Pass

4.1.7 CONDUCTED EMISSION ON AC MAINS

Result:

Pass

Contents

1	TEST SITES	4
1.1	TEST FACILITIES	4
1.2	LIST OF TEST AND MEASUREMENT INSTRUMENTS.....	4
1.3	MEASUREMENT UNCERTAINTY	4
2	GENERAL PRODUCT INFORMATION	5
2.1	PRODUCT FUNCTION AND INTENDED USE	5
2.2	RATINGS AND SYSTEM DETAILS.....	5
2.3	INDEPENDENT OPERATION MODES	6
2.4	NOISE GENERATING AND NOISE SUPPRESSING PARTS	6
2.5	SUBMITTED DOCUMENTS	6
3	TEST SET-UP AND OPERATION MODES	7
3.1	PRINCIPLE OF CONFIGURATION SELECTION.....	7
3.2	TEST OPERATION AND TEST SOFTWARE.....	7
3.3	SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT	7
3.4	COUNTERMEASURES TO ACHIEVE EMC COMPLIANCE.....	7
3.5	TEST SET-UP	8
4	TEST RESULTS.....	9
4.1	TRANSMITTER REQUIREMENT & TEST SUITES.....	9
4.1.1	<i>Antenna Requirement.....</i>	<i>9</i>
4.1.2	<i>6dB Bandwidth Measurement</i>	<i>10</i>
4.1.3	<i>Maximum Conducted Output Power.....</i>	<i>12</i>
4.1.4	<i>Power Spectral Density</i>	<i>15</i>
4.1.5	<i>Conducted Spurious Emissions Measured in 100 kHz Bandwidth.....</i>	<i>18</i>
4.1.6	<i>Radiated Spurious Emission</i>	<i>22</i>
4.1.7	<i>Conducted Emission on AC Mains.....</i>	<i>32</i>
5	LIST OF TABLES.....	35
6	LIST OF FIGURES.....	35

1 Test Sites

1.1 Test Facilities

Laboratory: TÜV Rheinland /CCIC(Ningbo) Co., Ltd.

**1st Floor, Building 11, Scholar Innovation Park, No.1188 Zhongguan Road,
Zhenhai District, Ningbo 315200 P.R. China.**

The used test equipment is in accordance with CISPR 16-1 series standards for measurement of radio interference.

1.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

No.	Equipment	Model	Inventory no.	Last cal. date	Cal. due date
1.	EMI test receiver	ESR7	101929	2019.11.25	2020.11.24
2.	Spectrum analyzer	FSV40	101412	2019.11.25	2020.11.24
3.	Bilog Antenna	CBL6112D	49033	2018.04.13	2021.04.12
4.	Horn antenna	HF907	102653	2017.08.03	2020.08.02
5.	EMI test receiver	ESR3	102331	2019.11.25	2020.11.24
6.	LISN	ENV216	102250	2019.11.25	2020.11.24

1.3 Measurement Uncertainty

Test Item	Expanded Measurement Uncertainty (k=2)
Conducted Emission (9-150kHz)	3.70dB
Conducted Emission (150k-30MHz)	3.30dB
Radiated Emission (30-1000MHz)	4.52dB
Radiated Emission (1-18GHz)	4.37dB

2 General Product Information

2.1 Product Function and Intended Use

The EUT(equipment under test) is a Pellet Grill (EXPERT GRILL) which support Bluetooth operated at 2.4GHz. For the further information, refer to the user's manual.

2.2 Ratings and System Details

Operating Voltage : AC 120V/60Hz
Rated power : 0.246kW
Protection Class : Class I

In electrical characteristics, models XG1136224169002, XG1136224169003 and XG1136224169004 are the same, the main differences among them are in the mechanical aspects. Therefore all tests were performed on the model XG1136224169002.

Refer to the user's manual for further information.

Technical Specification of Bluetooth (BLE)

Technical Specification	Value
Operating Frequency band	2402 – 2480 MHz
Bluetooth Core Version	Bluetooth Low Energy 4.2
Channel separation	2MHz
Modulation	GFSK
Antenna Type	Internal Antenna
Antenna Gain	2dBi
Channel	0~39

2.3 Independent Operation Modes

The basic operation modes are:

On, BLE

1. Transmitting on low channel
2. Transmitting on middle channel
3. Transmitting on high channel

2.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit diagram for further information.

2.5 Submitted Documents

Circuit diagram, PCB layout, Labels, user's manual, etc.

3 Test Set-up and Operation Modes

3.1 Principle of Configuration Selection

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

3.2 Test Operation and Test Software

During testing, Channel & Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power was selected according to the instruction given by the manufacturer. The setting of the RF output power expected by the customer shall be fixed on the firmware of the final end product.

All testing were performed according to the procedures in ANSI C63.10: 2013.

Test Software EMC32 V10.30 was used in the radiated emission test.

3.3 Special Accessories and Auxiliary Equipment

Description	Manufacturer	Model No.
notebook	Lenovo	X250

3.4 Countermeasures to achieve EMC Compliance

The tested sample contained noise suppression components as specified in the circuit diagram. No special measure is employed to achieve the requirement.

3.5 Test set-up

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

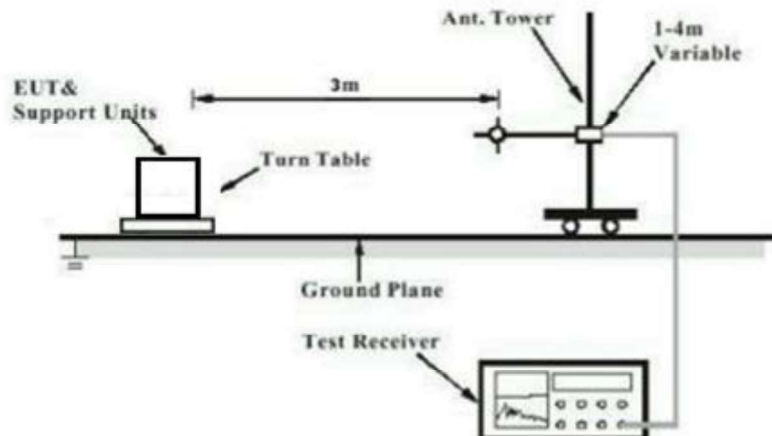


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

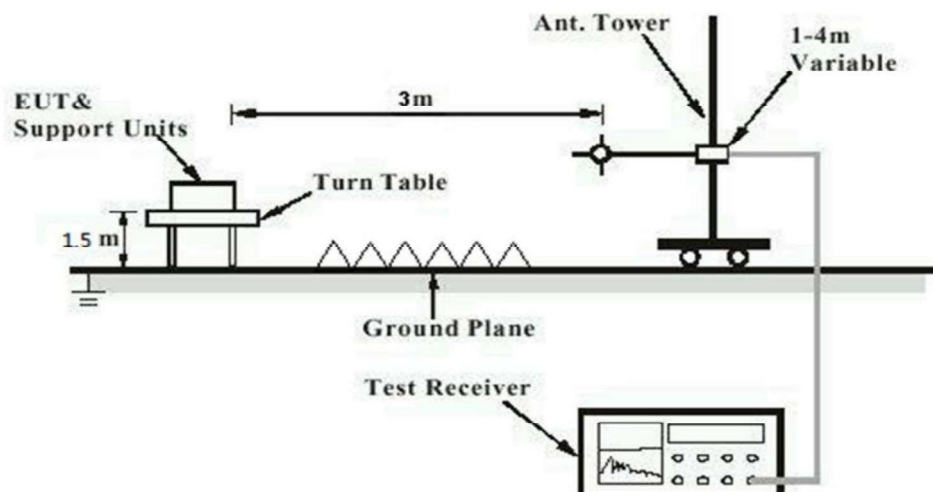
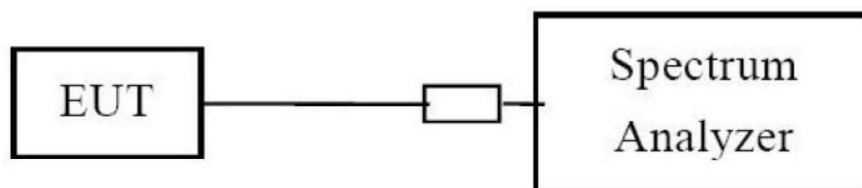


Diagram of Measurement Configuration for Conducted Transmitter Measurement



Prüfbericht - Nr.: 60393691 001

Test Report No.:

Seite 9 von 35

Page 9 of 35

4 Test Results

4.1 Transmitter Requirement & Test Suites

4.1.1 Antenna Requirement

Result:

Pass

Test Specification

Test standard

: FCC Part 15.247(b)(4) and Part 15.203

According to the manufacturer declared, the EUT has an internal antenna, the directional gain of antenna is 2dBi, and the antenna is a PCB antenna and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision. For more details, refer to EUT photo.

4.1.2 6dB Bandwidth Measurement

Result:

Pass

Test Specification
Test standard : FCC Part 15.247(a)(2)
Basic standard : ANSI C63.10: 2013
Limits : At least 500kHz
Kind of test site : Shielded Room

Test Setup

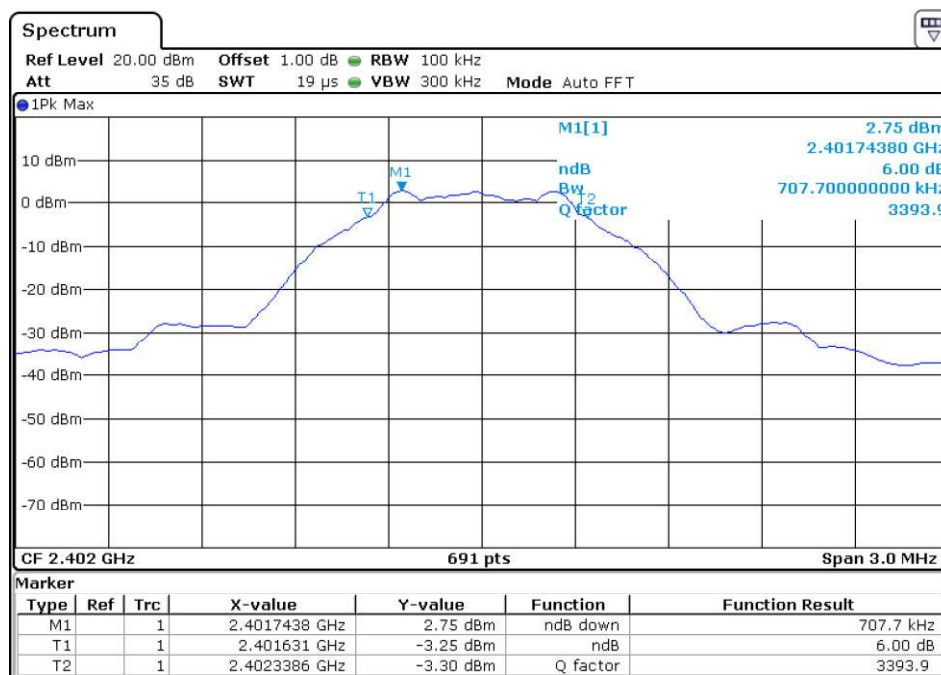
Date of testing : 2020.06.03
Input voltage : AC 120V, 60Hz
Operational mode : On, BLE
Test channel : Low, Mid, High
Temperature : 24.3°C
Relative humidity : 64.1%
Atmospheric pressure : 101 kPa

Table 2: Test result of 6dB Bandwidth, BLE

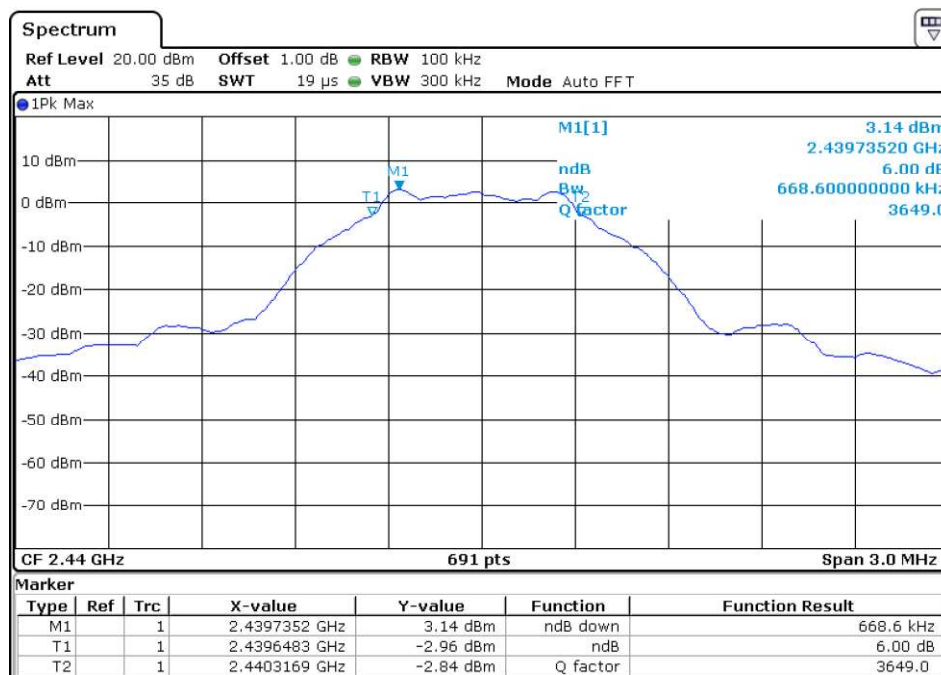
Channel	Channel Frequency (MHz)	6dB Bandwidth (kHz)	Limit (kHz)	Result
Low Channel	2402	707.7	500	Pass
Mid Channel	2440	668.6	500	Pass
High Channel	2480	677.3	500	Pass

Figure 1: 6dB Bandwidth Measurement

Low Channel: 2402MHz



Mid Channel: 2440MHz



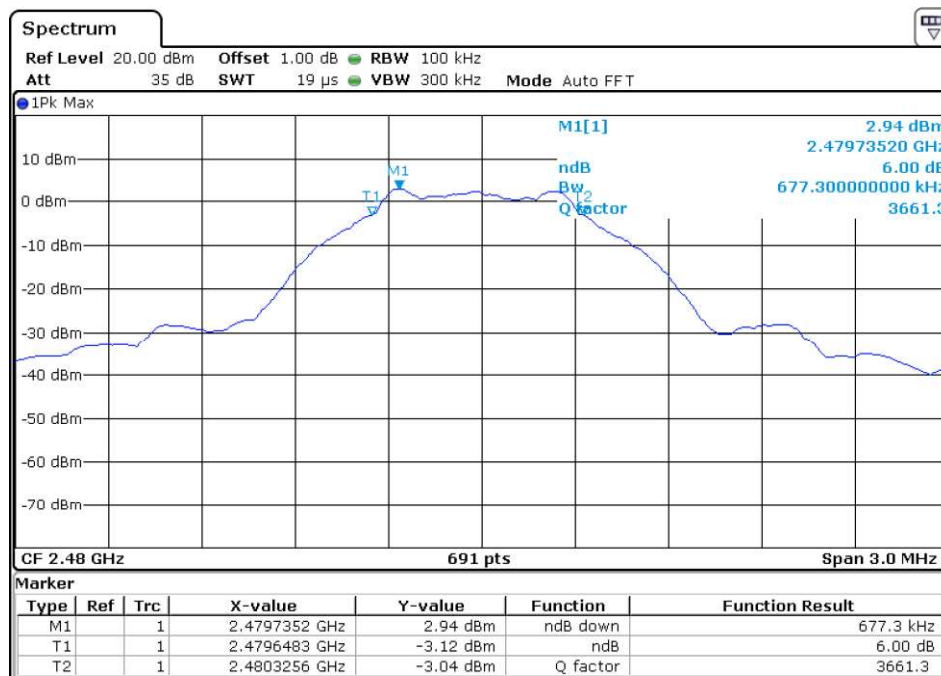
Prüfbericht - Nr.: 60393691 001

Test Report No.:

Seite 12 von 35

Page 12 of 35

High Channel: 2480MHz



4.1.3 Maximum Conducted Output Power

Result:

Pass

Test Specification

Test standard : FCC Part 15.247(b)(3)

Basic standard : ANSI C63.10: 2013

Limits : For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz: 1 Watt (30dBm)

Kind of test site : Shielded Room

Test Setup

Date of testing : 2020.06.03

Input voltage : AC 120V, 60Hz

Operational mode : On, BLE

Test channel : Low, Mid, High

Temperature : 24.3°C

Relative humidity : 64.1%

Atmospheric pressure : 101 kPa

Prüfbericht - Nr.: 60393691 001

Test Report No.:

Seite 13 von 35

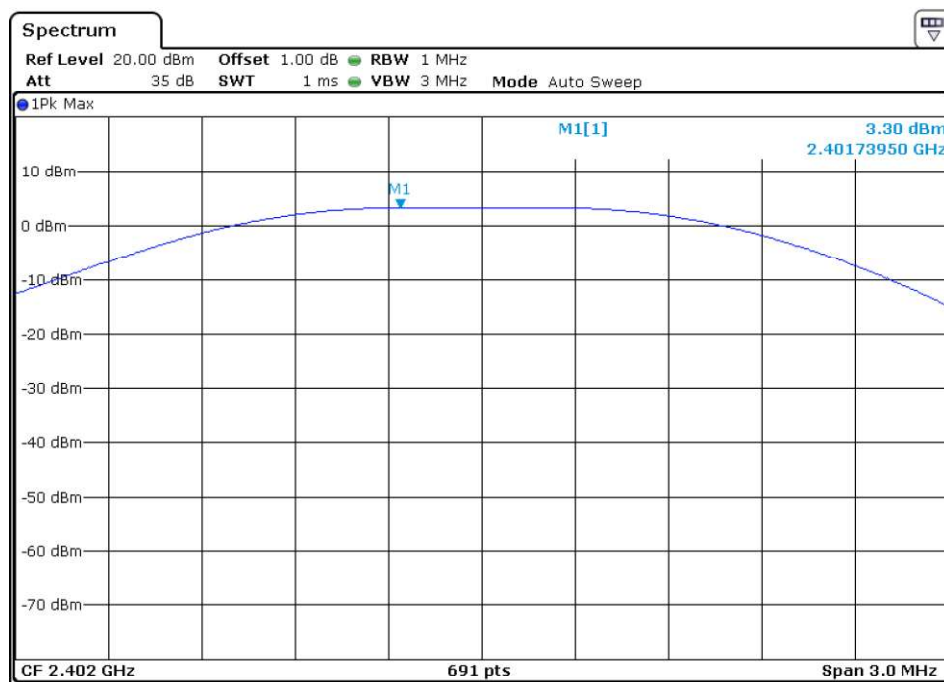
Page 13 of 35

Table 3: Test result of Peak Output Power, BLE

Channel	Channel Frequency (MHz)	Peak Output Power (dBm)	Limit (dBm)
Low Channel	2402	3.30	30
Mid Channel	2440	3.37	30
High Channel	2480	3.18	30

Figure 2: Maximum Conducted Output Power

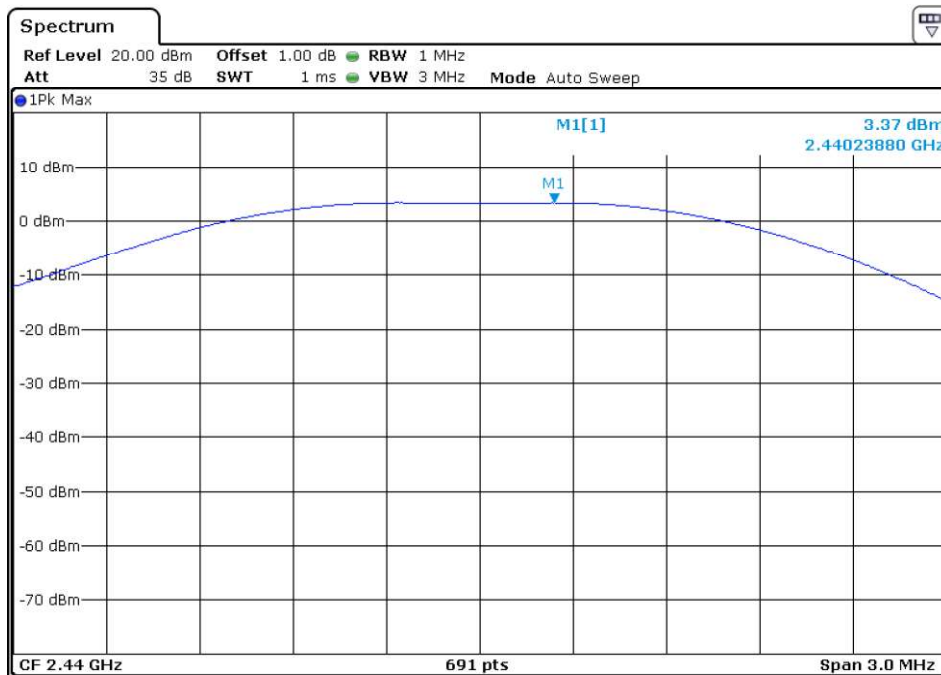
Low Channel: 2402MHz



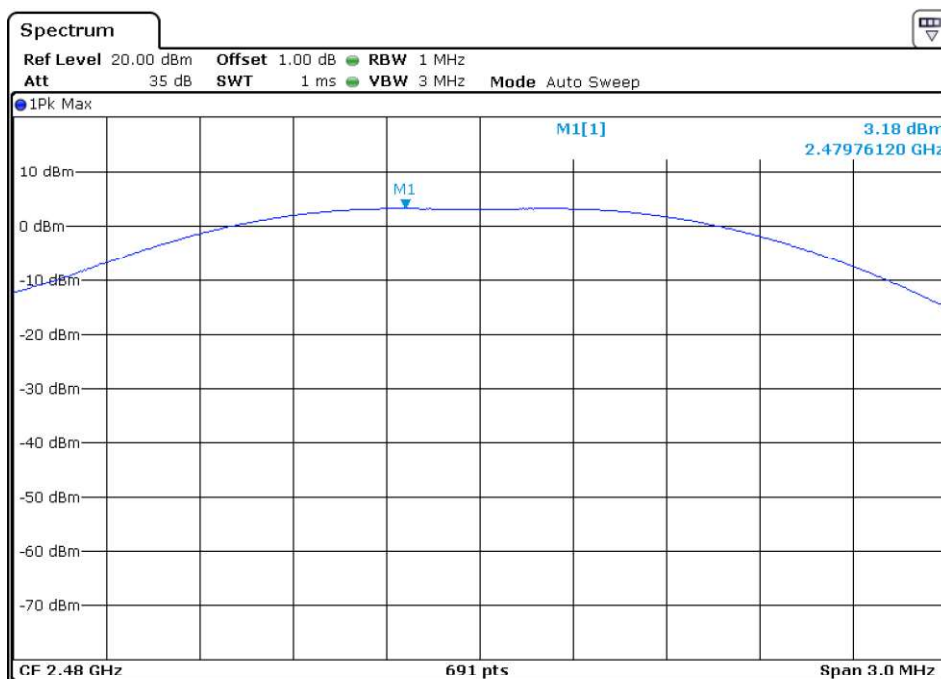
Prüfbericht - Nr.: 60393691 001
Test Report No.:

Seite 14 von 35
Page 14 of 35

Mid Channel: 2440MHz



High Channel: 2480MHz



Prüfbericht - Nr.: 60393691 001
Test Report No.:

Seite 15 von 35
Page 15 of 35

4.1.4 Power Spectral Density

Result:

Pass

Test Specification

Test standard : FCC Part 15.247(e)
Basic standard : ANSI C63.10: 2013
Limits : 8 dBm in any 3 kHz band
Kind of test site : Shielded Room

Test Setup

Date of testing : 2020.06.03
Input voltage : AC 120V, 60Hz
Operational mode : On, BLE
Test channel : Low, Mid, High
Temperature : 24.3°C
Relative humidity : 64.1%
Atmospheric pressure : 101 kPa

Table 4: Test result of Power Spectral Density, BLE

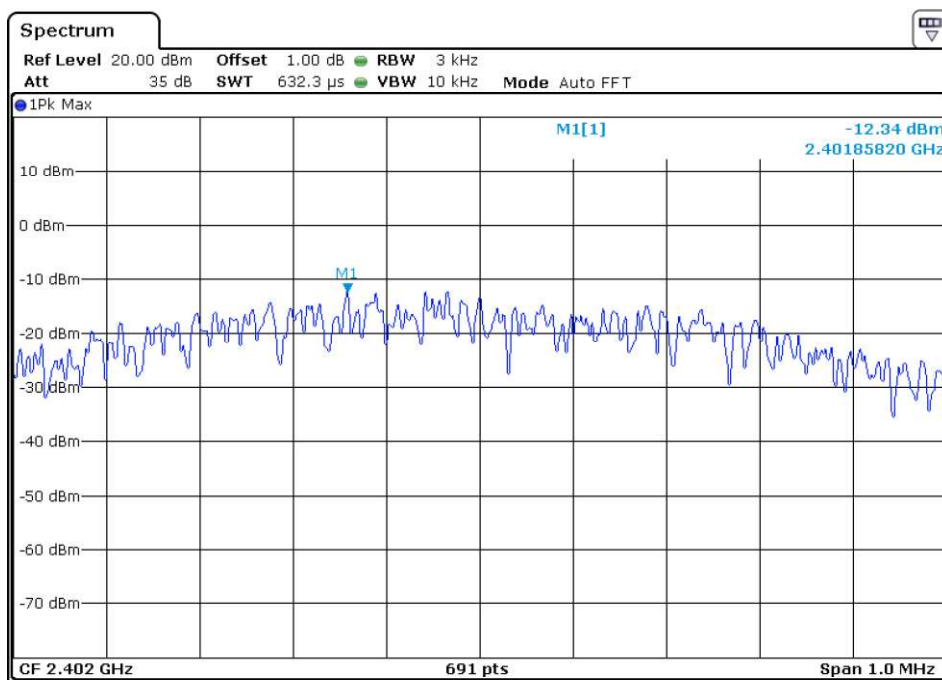
Channel	Channel Frequency (MHz)	Measured Power Density (dBm)	Limit (dBm)	Result
Low Channel	2402	-12.34	8.0	Pass
Mid Channel	2440	-12.27	8.0	Pass
High Channel	2480	-12.31	8.0	Pass

Prüfbericht - Nr.: 60393691 001
Test Report No.:

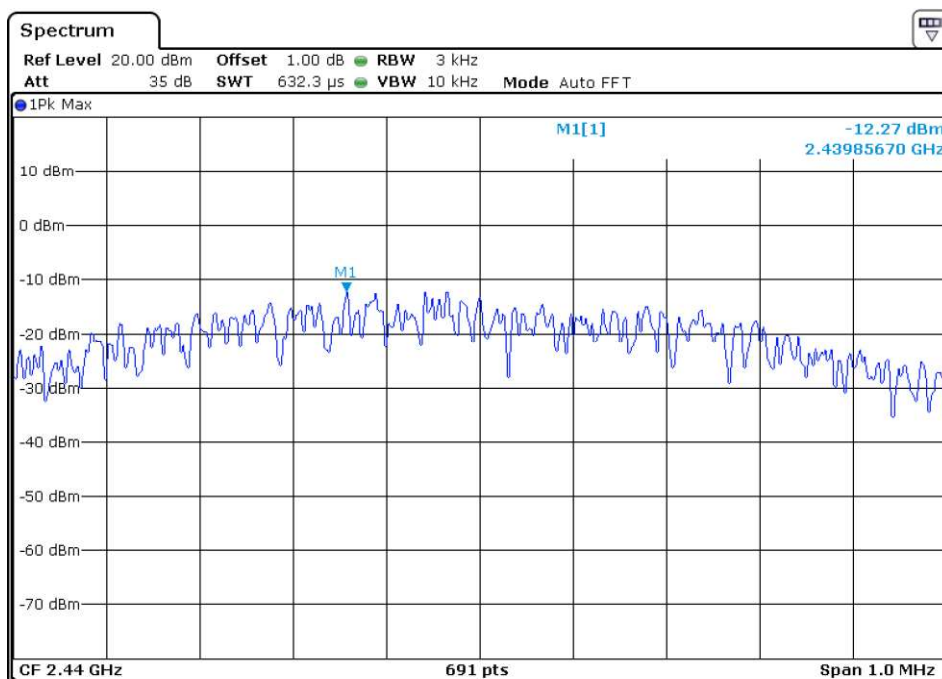
Seite 16 von 35
Page 16 of 35

Figure 3: Power Spectral Density

Low Channel: 2402MHz



Mid Channel: 2440MHz



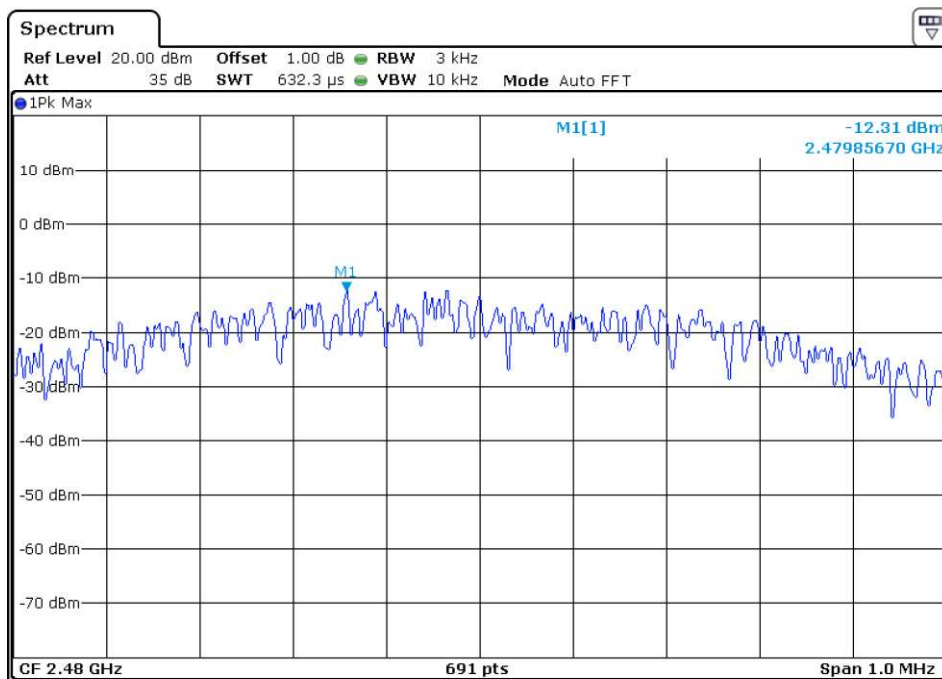
Prüfbericht - Nr.: 60393691 001

Test Report No.:

Seite 17 von 35

Page 17 of 35

High Channel: 2480MHz



Prüfbericht - Nr.: 60393691 001
Test Report No.:

Seite 18 von 35
Page 18 of 35

4.1.5 Conducted Spurious Emissions Measured in 100 kHz Bandwidth

Result:

Pass

Test Specification
Test standard : FCC Part 15.247(d)
Basic standard : ANSI C63.10: 2013
Limits : 20dB (below that in the 100kHz bandwidth within the band that contains the highest level of the desired power);
Kind of test site : Shielded Room

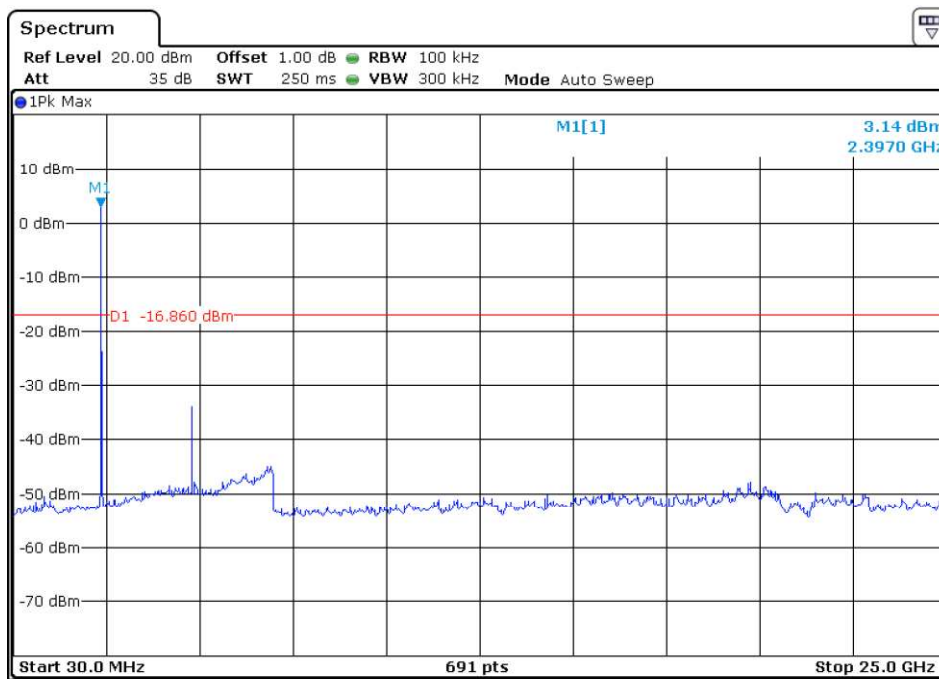
Test Setup

Date of testing : 2020.06.03
Input voltage : AC 120V, 60Hz
Operational mode : On, BLE
Test channel : Low, Mid, High
Temperature : 24.3°C
Relative humidity : 64.1%
Atmospheric pressure : 101 kPa

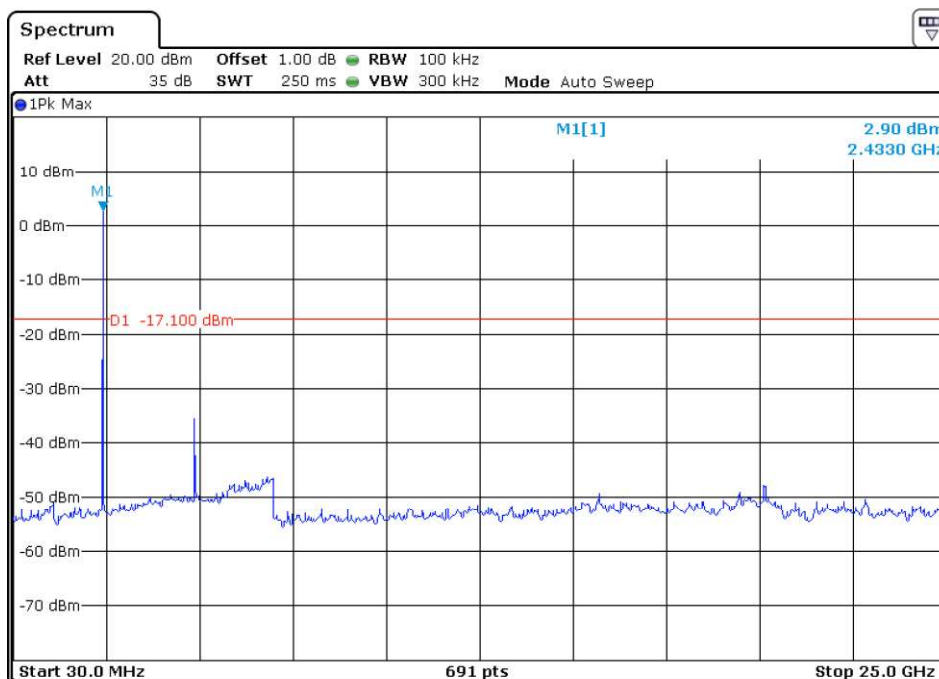
All emissions are more than 20dB below fundamental, compliance is achieved as well.

Figure 4: Conducted Spurious Emission

Low Channel: 2402MHz



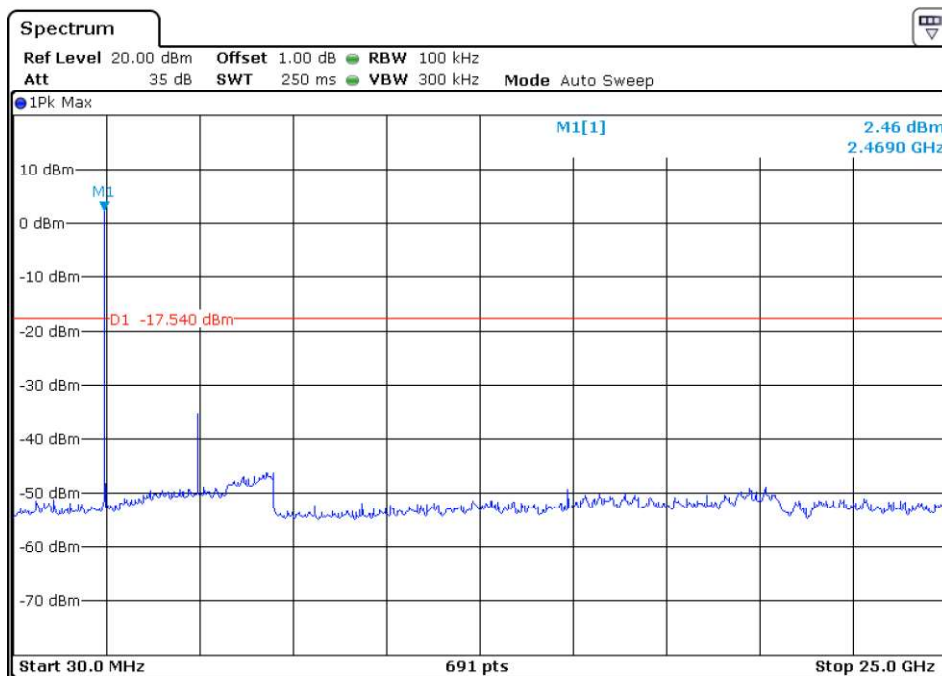
Mid Channel: 2440MHz



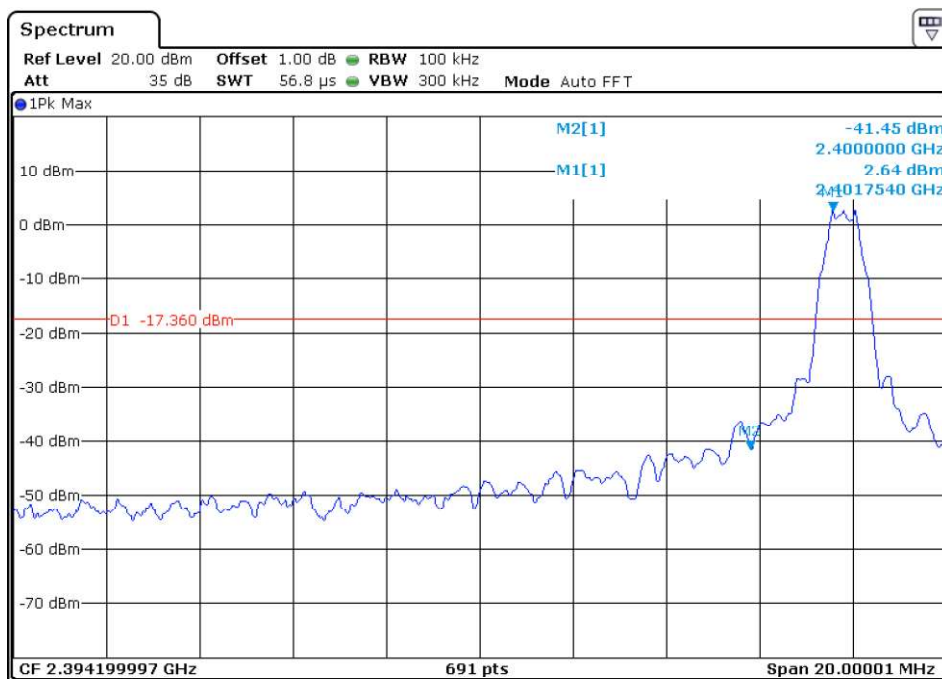
Prüfbericht - Nr.: 60393691 001
Test Report No.:

Seite 20 von 35
Page 20 of 35

High Channel: 2480MHz



Band edge BLE

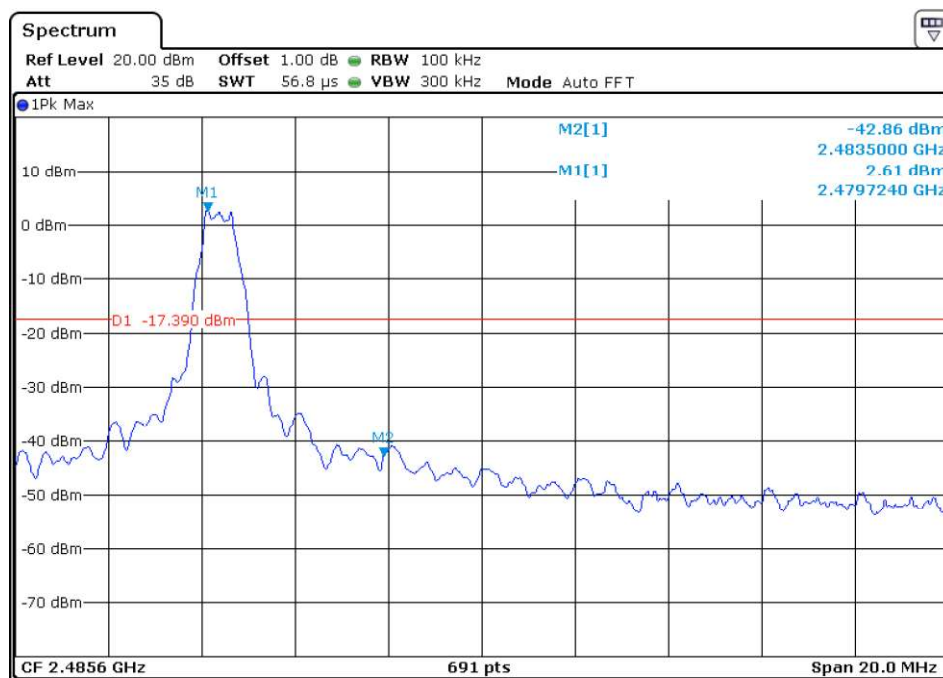


Prüfbericht - Nr.: 60393691 001

Test Report No.:

Seite 21 von 35

Page 21 of 35



Prüfbericht - Nr.: 60393691 001

Test Report No.:

Seite 22 von 35

Page 22 of 35

4.1.6 Radiated Spurious Emission

Result:

Pass

Test Specification

Test standard : FCC Part 15.247(d) & FCC Part 15.205

Basic standard : ANSI C63.10: 2013

Limits : Refer to 15.209(a) of FCC part 15.247(d)

Kind of test site : 3m Semi-anechoic Chamber

Test Setup

Date of testing : 2020.06.16

Input voltage : AC 120V, 60Hz

Operational mode : On, BLE

Test channel : Low, Mid, High

Temperature : 21.8°C

Relative humidity : 68.2%

Atmospheric pressure : 101 kPa

Remark:

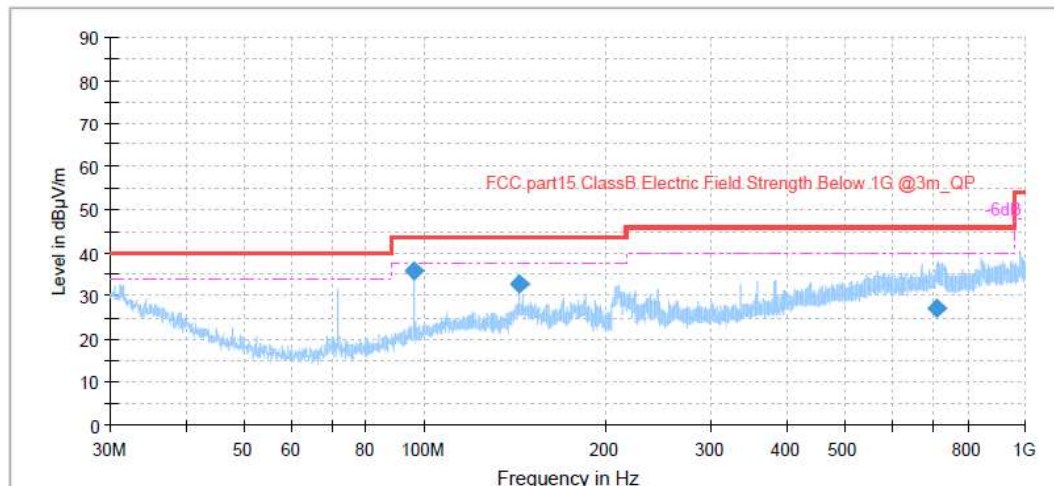
Only the worst case spurious emissions configuration of the each mode were reported.

The measurement result is calculated based on the following formula by the test software:

Emission Level = Reading level + Correction (Antenna factor + Cable loss – Preamplifier)

Figure 5: Test Results of Radiated Spurious Emissions

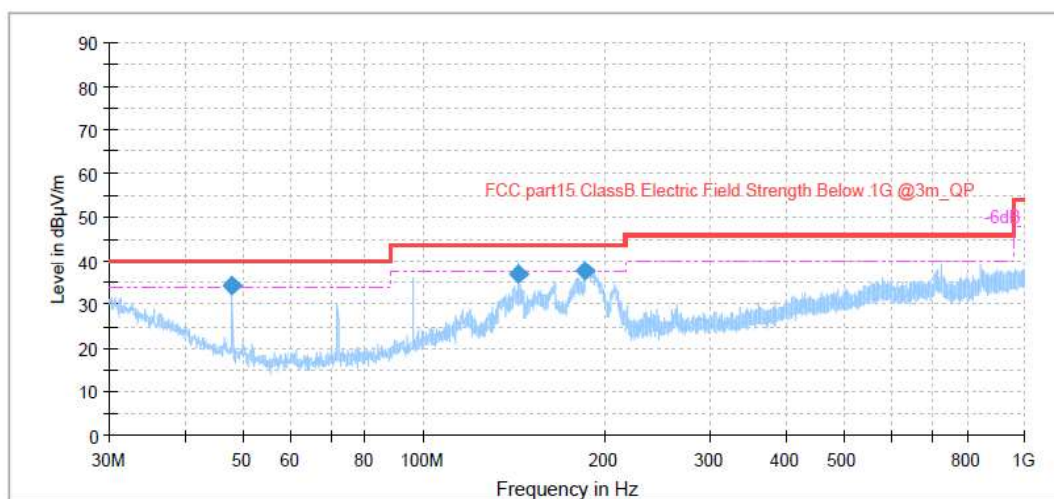
Below 1GHz_BLE_Test Mode
Low Channel: 2402MHz
Horizontal



Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
95.764444	35.94	43.50	7.56	1000.0	120.000	221.0	H	11.0	16.8
143.617778	32.92	43.50	10.58	1000.0	120.000	239.0	H	86.0	18.1
709.477222	27.17	46.00	18.83	1000.0	120.000	250.0	H	121.0	27.8

Vertical



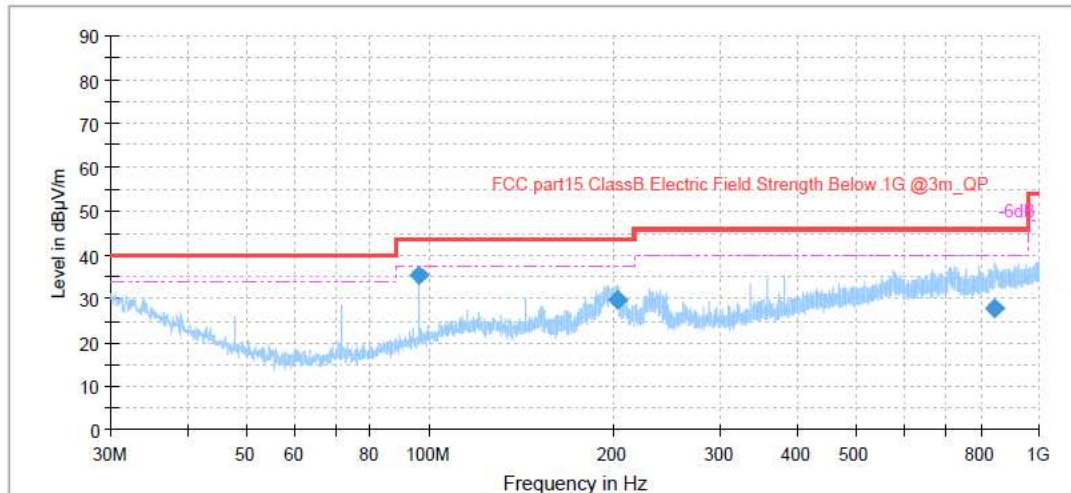
Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
47.951111	34.25	40.00	5.75	1000.0	120.000	104.0	V	213.0	15.7
143.833333	37.03	43.50	6.47	1000.0	120.000	104.0	V	25.0	18.1
185.598889	37.74	43.50	5.76	1000.0	120.000	100.0	V	22.0	16.3

Prüfbericht - Nr.: 60393691 001
Test Report No.:

Seite 24 von 35
Page 24 of 35

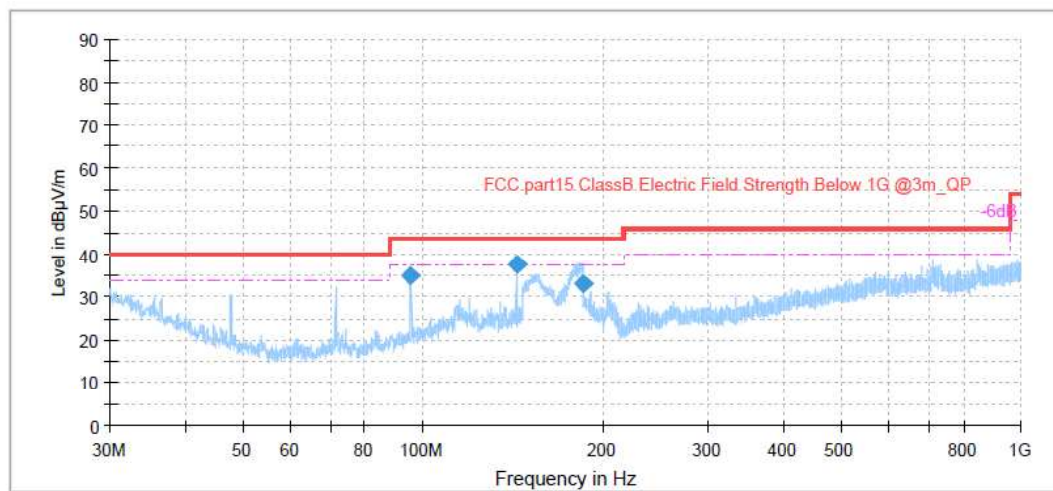
Mid Channel: 2440MHz
Horizontal



Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
95.696667	35.58	43.50	7.92	1000.0	120.000	197.0	H	5.0	16.8
203.674444	29.86	43.50	13.64	1000.0	120.000	170.0	H	324.0	16.8
845.021667	27.88	46.00	17.12	1000.0	120.000	254.0	H	69.0	29.5

Vertical



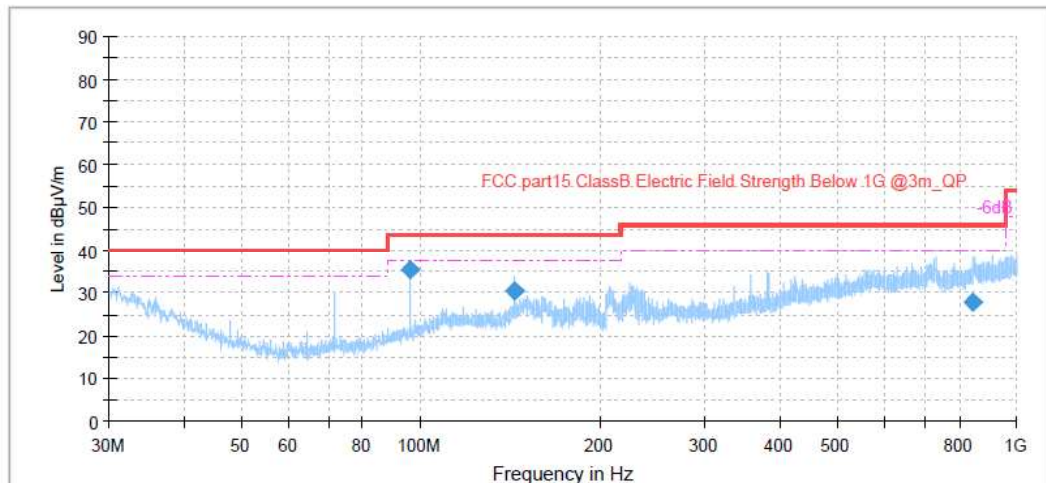
Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
95.467222	34.97	43.50	8.53	1000.0	120.000	100.0	V	150.0	16.7
143.186667	37.79	43.50	5.71	1000.0	120.000	104.0	V	4.0	18.2
185.178333	33.07	43.50	10.43	1000.0	120.000	104.0	V	276.0	16.3

Prüfbericht - Nr.: 60393691 001
Test Report No.:

Seite 25 von 35
Page 25 of 35

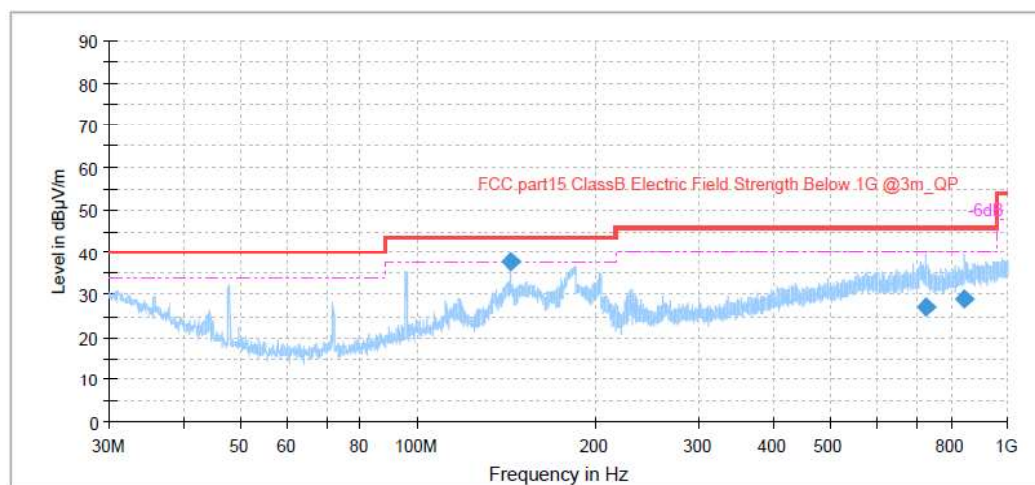
High Channel: 2480MHz
Horizontal



Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
95.764444	35.26	43.50	8.24	1000.0	120.000	323.0	H	9.0	16.8
143.617778	30.69	43.50	12.81	1000.0	120.000	250.0	H	321.0	18.1
845.411111	27.88	46.00	18.12	1000.0	120.000	213.0	H	255.0	29.5

Vertical



Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
143.563889	37.72	43.50	5.78	1000.0	120.000	104.0	V	25.0	18.1
728.701667	27.03	46.00	18.97	1000.0	120.000	186.0	V	87.0	28.1
845.800556	28.88	46.00	17.12	1000.0	120.000	120.0	V	31.0	29.5

Prüfbericht - Nr.: 60393691 001

Test Report No.:

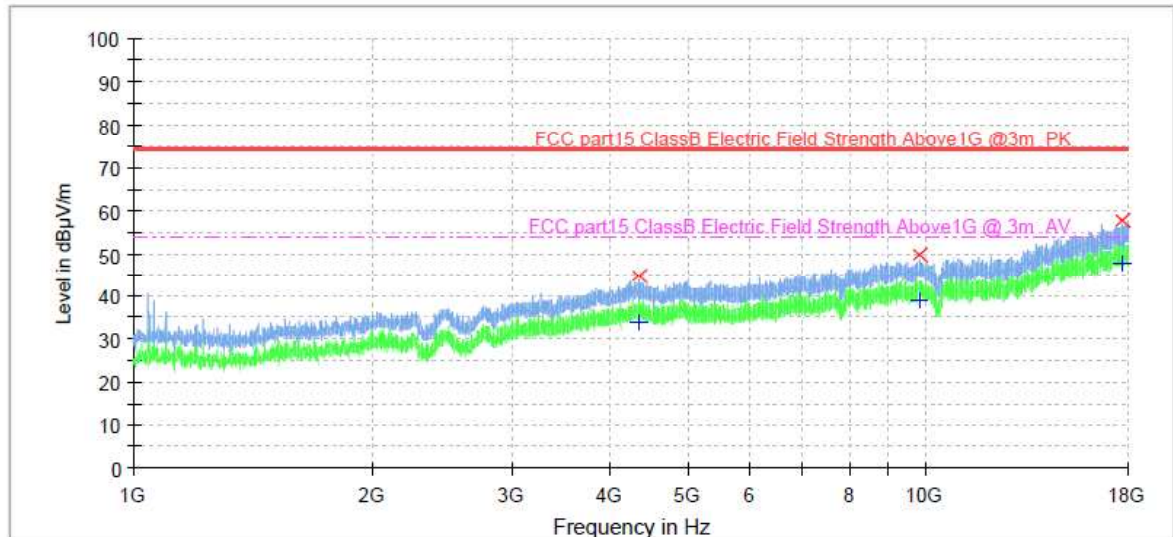
Seite 26 von 35

Page 26 of 35

Above 1GHz_BLE 1-18GHz Test Mode

Low Channel: 2402MHz

Horizontal



Limit and Margin-PK

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)
4346.875000	44.8	1000.0	1000.000	H	3.4	29.2	74.0
9799.625000	49.7	1000.0	1000.000	H	10.4	24.3	74.0
17701.435000	57.9	1000.0	1000.000	H	21.7	16.1	74.0

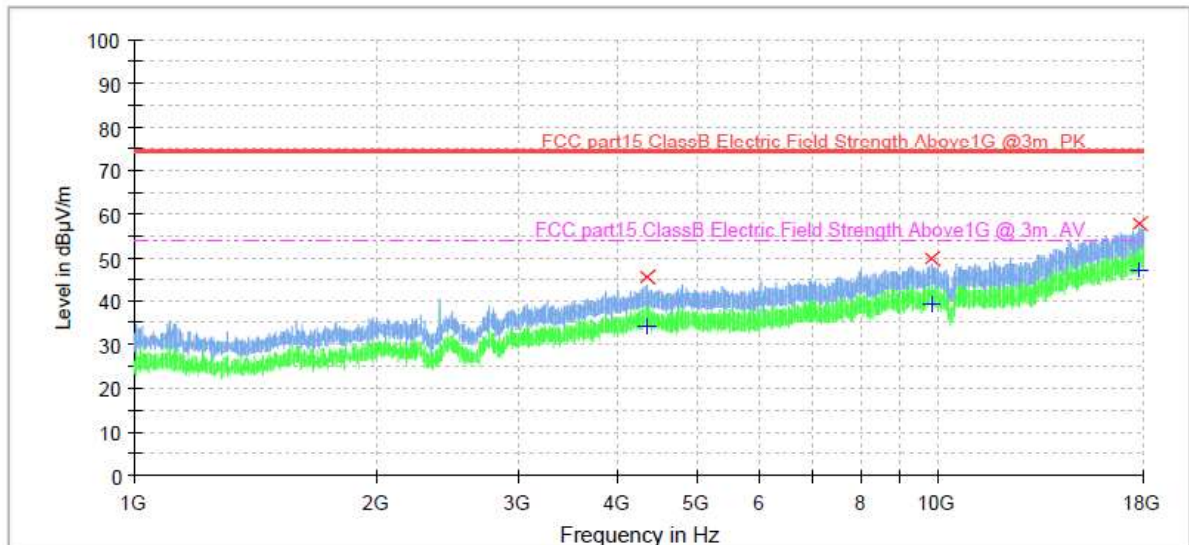
Limit and Margin-AV

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/m)
4346.875000	34.1	1000.0	1000.000	H	3.4	19.9	54.0
9799.625000	39.0	1000.0	1000.000	H	10.4	15.0	54.0
17701.435000	47.6	1000.0	1000.000	H	21.7	6.4	54.0

Prüfbericht - Nr.: 60393691 001
Test Report No.:

Seite 27 von 35
Page 27 of 35

Vertical



Limit and Margin-PK

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)
4347.405000	45.6	1000.0	1000.000	V	3.4	28.4	74.0
9815.560000	49.7	1000.0	1000.000	V	10.4	24.3	74.0
17791.220000	57.8	1000.0	1000.000	V	21.8	16.2	74.0

Limit and Margin-AV

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/m)
4347.405000	34.3	1000.0	1000.000	V	3.4	19.7	54.0
9815.560000	39.5	1000.0	1000.000	V	10.4	14.5	54.0
17791.220000	47.2	1000.0	1000.000	V	21.8	6.9	54.0

Prüfbericht - Nr.: 60393691 001

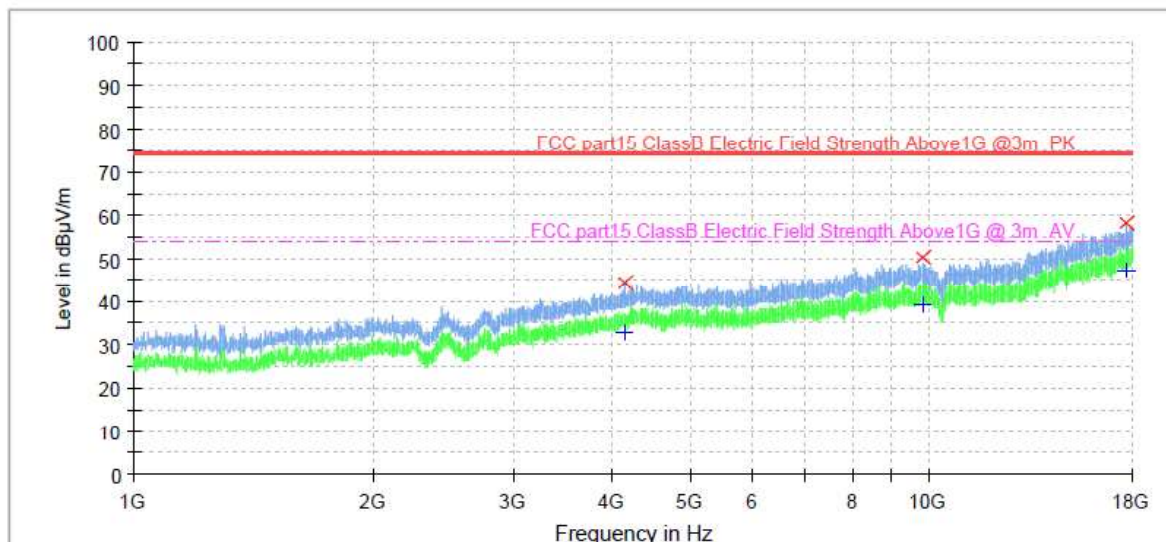
Test Report No.:

Seite 28 von 35

Page 28 of 35

Low Channel: 2440MHz

Horizontal



Limit and Margin-PK

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)
4131.720000	44.2	1000.0	1000.000	H	2.2	29.8	74.0
9815.560000	50.3	1000.0	1000.000	H	10.4	23.7	74.0
17691.345000	58.1	1000.0	1000.000	H	21.6	15.9	74.0

Limit and Margin-AV

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/m)
4131.720000	33.1	1000.0	1000.000	H	2.2	21.0	54.0
9815.560000	39.3	1000.0	1000.000	H	10.4	14.7	54.0
17691.345000	47.3	1000.0	1000.000	H	21.6	6.7	54.0

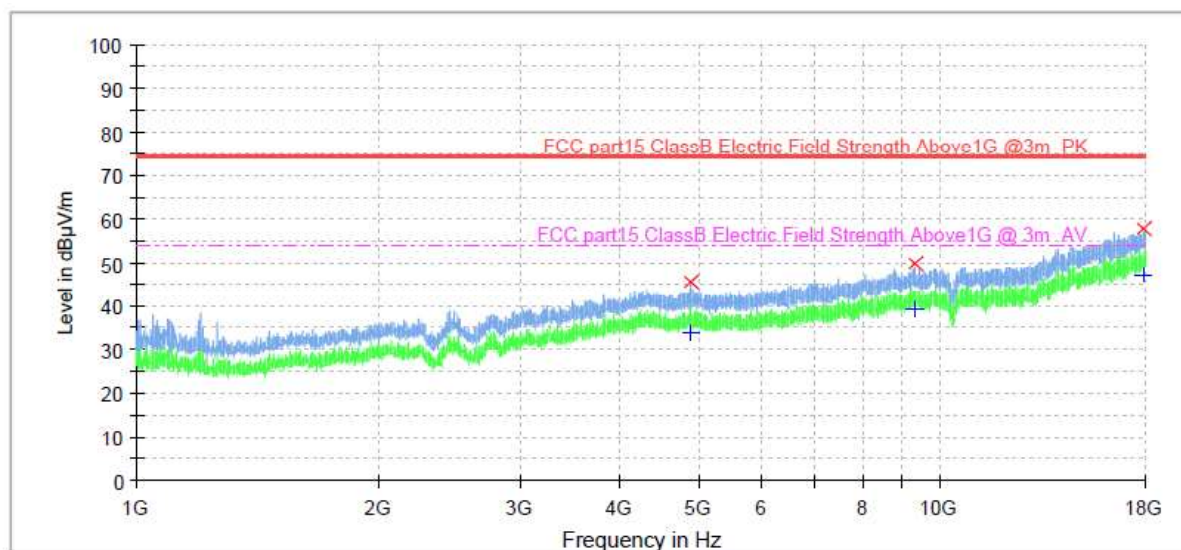
Prüfbericht - Nr.: 60393691 001

Test Report No.:

Seite 29 von 35

Page 29 of 35

Vertical



Limit and Margin-PK

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)
4880.250000	45.6	1000.0	1000.000	V	3.7	28.4	74.0
9287.500000	49.7	1000.0	1000.000	V	9.9	24.3	74.0
17896.935000	57.8	1000.0	1000.000	V	22.1	16.2	74.0

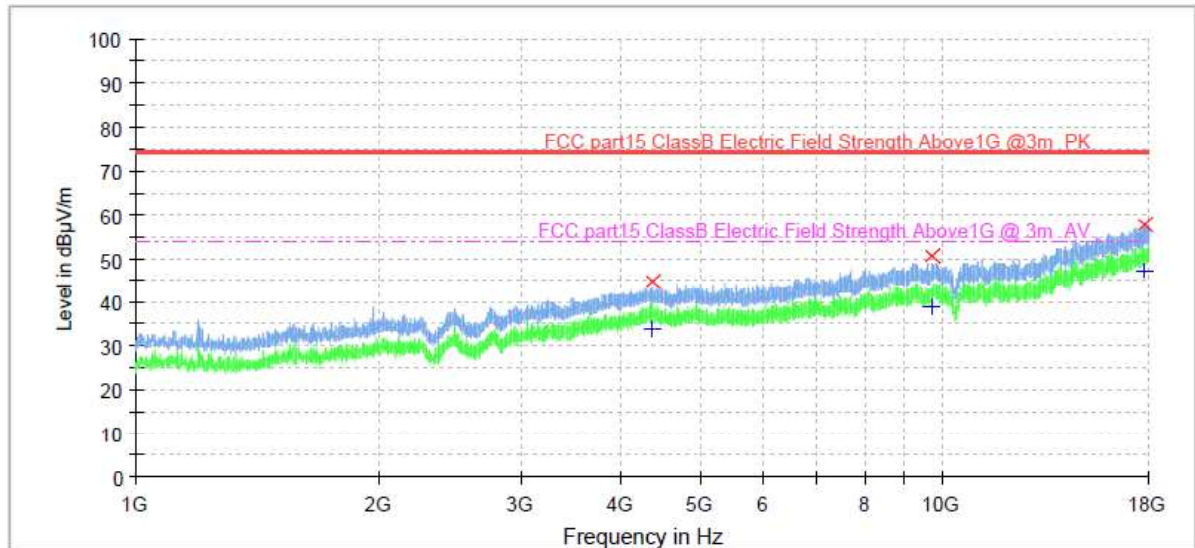
Limit and Margin-AV

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/m)
4880.250000	34.1	1000.0	1000.000	V	3.7	20.0	54.0
9287.500000	39.2	1000.0	1000.000	V	9.9	14.9	54.0
17896.935000	47.4	1000.0	1000.000	V	22.1	6.6	54.0

Prüfbericht - Nr.: 60393691 001
Test Report No.:

Seite 30 von 35
Page 30 of 35

Low Channel: 2480MHz
Horizontal



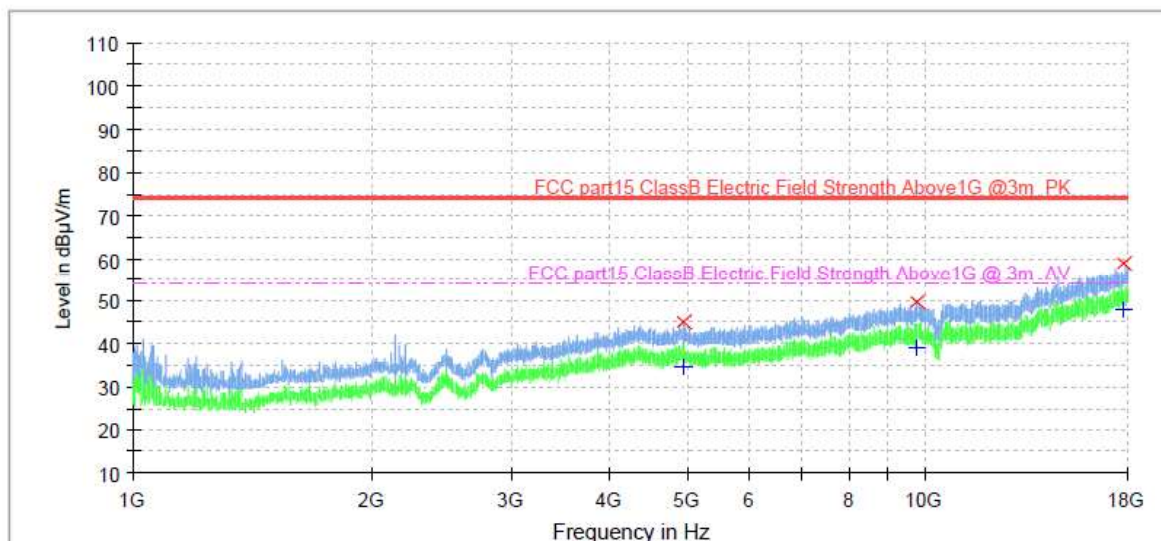
Limit and Margin-PK

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)
4361.750000	44.8	1000.0	1000.000	H	3.3	29.2	74.0
9723.125000	50.8	1000.0	1000.000	H	10.2	23.2	74.0
17808.220000	57.9	1000.0	1000.000	H	21.9	16.1	74.0

Limit and Margin-AV

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/m)
4361.750000	34.0	1000.0	1000.000	H	3.3	20.0	54.0
9723.125000	38.9	1000.0	1000.000	H	10.2	15.1	54.0
17808.220000	47.5	1000.0	1000.000	H	21.9	6.5	54.0

Vertical



Limit and Margin-PK

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)
4959.935000	45.2	1000.0	1000.000	V	3.9	28.8	74.0
9758.720000	49.8	1000.0	1000.000	V	10.3	24.2	74.0
17809.375000	58.9	1000.0	1000.000	V	21.9	15.1	74.0

Limit and Margin-AV

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/m)
4959.935000	34.7	1000.0	1000.000	V	3.9	19.3	54.0
9758.720000	39.2	1000.0	1000.000	V	10.3	14.8	54.0
17809.375000	48.1	1000.0	1000.000	V	21.9	15.1	74.0

Prüfbericht - Nr.: 60393691 001

Test Report No.:

Seite 32 von 35

Page 32 of 35

4.1.7 Conducted Emission on AC Mains

Result:

Pass

Test Specification	
Test standard	: FCC Part 15.207(a)
Basic standard	: ANSI C63.10: 2013
Frequency range	0.15 – 30MHz
Limits	: FCC Part 15.207(a)
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2020.06.12
Input voltage	: AC 120V, 60Hz
Operational mode	: On, BLE
Test channel	: Low, Mid, High
Temperature	: 20°C
Relative humidity	: 54%
Atmospheric pressure	: 101 kPa

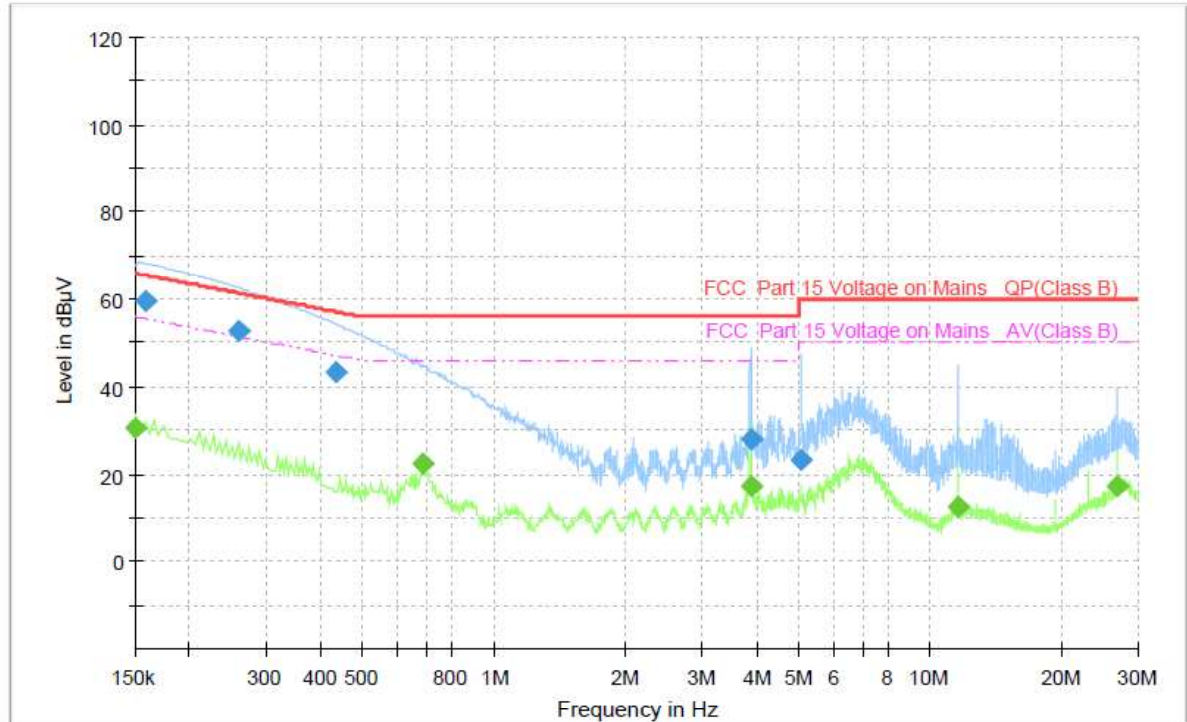
Remark:

The measurement result is calculated based on the following formula by the test software:
Conducted Emission Level = Reading level + Correction

Prüfbericht - Nr.: 60393691 001
Test Report No.:

Seite 33 von 35
Page 33 of 35

Figure 6: Test Results of Conducted Emission on AC Mains



Final Result

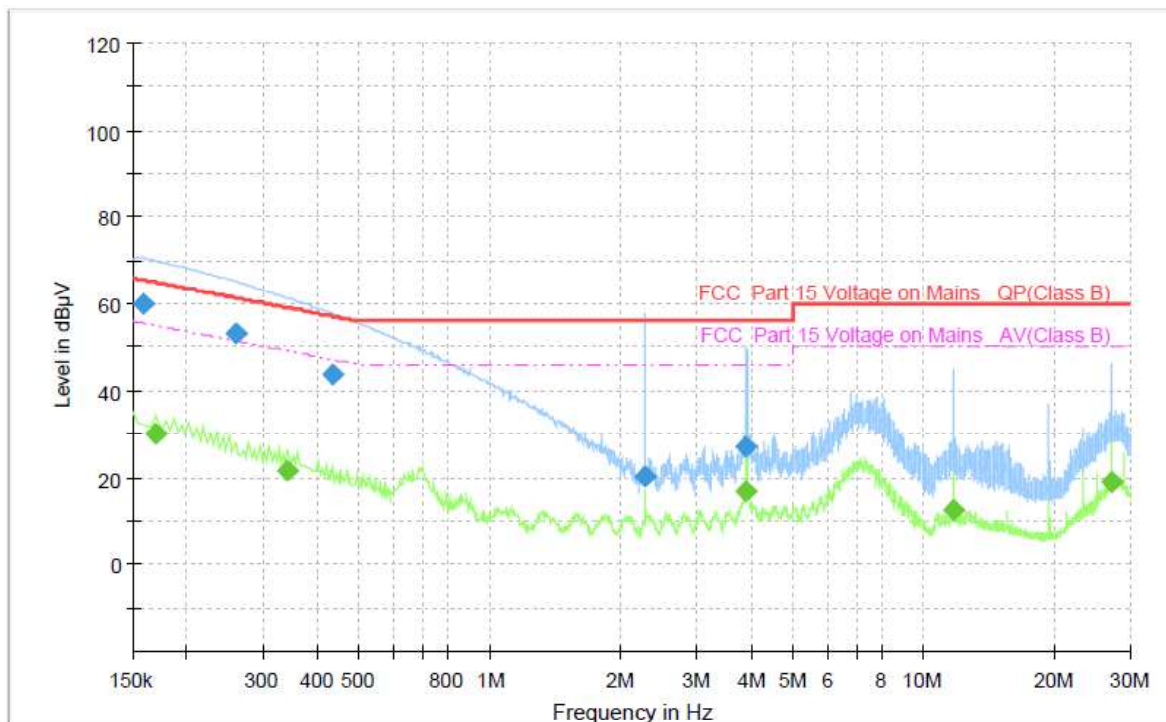
Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.150000	---	30.48	56.00	25.52	1000.0	9.000	L1	ON	9.6
0.158000	59.51	---	65.57	6.06	1000.0	9.000	L1	ON	9.6
0.258000	52.84	---	61.50	8.66	1000.0	9.000	L1	ON	9.5
0.434000	43.24	---	57.18	13.94	1000.0	9.000	L1	ON	9.5
0.682000	---	22.23	46.00	23.77	1000.0	9.000	L1	ON	9.5
3.874000	---	17.22	46.00	28.78	1000.0	9.000	L1	ON	9.6
3.874000	27.99	---	56.00	28.01	1000.0	9.000	L1	ON	9.6
5.062000	23.35	---	60.00	36.65	1000.0	9.000	L1	ON	9.7
11.602000	---	12.75	50.00	37.25	1000.0	9.000	L1	ON	9.9
26.950000	---	17.35	50.00	32.65	1000.0	9.000	L1	ON	10.1

Prüfbericht - Nr.: 60393691 001

Test Report No.:

Seite 34 von 35

Page 34 of 35



Final Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.158000	59.94	---	65.57	5.63	1000.0	9.000	N	ON	9.6
0.170000	---	29.96	54.96	25.00	1000.0	9.000	N	ON	9.6
0.258000	53.20	---	61.50	8.29	1000.0	9.000	N	ON	9.6
0.342000	---	21.45	49.16	27.71	1000.0	9.000	N	ON	9.5
0.434000	43.67	---	57.18	13.50	1000.0	9.000	N	ON	9.5
2.278000	20.40	---	56.00	35.60	1000.0	9.000	N	ON	9.6
3.910000	26.90	---	56.00	29.10	1000.0	9.000	N	ON	9.7
3.910000	---	16.98	46.00	29.02	1000.0	9.000	N	ON	9.7
11.702000	---	12.71	50.00	37.29	1000.0	9.000	N	ON	9.9
27.202000	---	18.97	50.00	31.03	1000.0	9.000	N	ON	10.2

5 List of Tables

Table 1: List of Test and Measurement Equipment	4
Table 2: Test result of 6dB Bandwidth, BLE	10
Table 3: Test result of Peak Output Power, BLE	13
Table 4: Test result of Power Spectral Density, BLE	15

6 List of Figures

Figure 1: 6dB Bandwidth Measurement	11
Figure 2: Maximum Conducted Output Power	13
Figure 3: Power Spectral Density	16
Figure 4: Conducted Spurious Emission	19
Figure 5: Test Results of Radiated Spurious Emissions.....	23
Figure 6: Test Results of Conducted Emission on AC Mains.....	33

--The END--