

Annex 1: Measurement diagrams to Test Report 20-1-0014002T01a



Deutsche
Akkreditierungsstelle
D-PL-12047-01-01
D-PL-12047-01-03
D-PL-12047-01-04

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Testing company:	CETECOM GmbH Im Teelbruch 116 45219 Essen Germany Tel. + 49 (0) 20 54 / 95 19-0 Fax: + 49 (0) 20 54 / 95 19-150	Applicant:	Husqvarna AB
Test Object / Tested Device(s):	Application Board Type 1, Bluetooth Low-Energy Module HQ-BLE-1		
Listing FCC ID:	ZASHQ-BLE-1C	ISED:	23307-HQBLE1C
Testing has been carried out in accordance with:	Title 47 CFR, Chapter I FCC Regulations, Subchapter A Subpart C: §15.247 (DTS) , RSS-247, Issue 2 (DTS) RSS-Gen., Issue 5		
Tested Technology:	Bluetooth Low Energy		



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1 Measurement diagrams

1.1 Conducted

Summary

Test	Frequency (MHz)	Nominal Power (dBm)	Nominal Bandwidth (MHz)	Result
Minimum Emission Bandwidth 6 dB	2402.000	5.0	1.000000	PASS
Peak output power (Sweep)	2402.000	5.0	1.000000	PASS
RF output power	2402.000	5.0	1.000000	PASS
Peak Power Spectral Density	2402.000	5.0	1.000000	PASS
Occupied Channel Bandwidth 99%	2402.000	5.0	1.000000	PASS
Tx Spurious Emission	2402.000	5.0	1.000000	PASS
Minimum Emission Bandwidth 6 dB	2442.000	5.0	1.000000	PASS
Peak output power (Sweep)	2442.000	5.0	1.000000	PASS
RF output power	2442.000	5.0	1.000000	PASS
Peak Power Spectral Density	2442.000	5.0	1.000000	PASS
Occupied Channel Bandwidth 99%	2442.000	5.0	1.000000	PASS
Tx Spurious Emission	2442.000	5.0	1.000000	PASS
Minimum Emission Bandwidth 6 dB	2480.000	5.0	1.000000	PASS
Peak output power (Sweep)	2480.000	5.0	1.000000	PASS
RF output power	2480.000	5.0	1.000000	PASS
Peak Power Spectral Density	2480.000	5.0	1.000000	PASS
Occupied Channel Bandwidth 99%	2480.000	5.0	1.000000	PASS
Tx Spurious Emission	2480.000	5.0	1.000000	PASS

Minimum Emission Bandwidth 6 dB

Mode	DUT Frequency	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left	Band Edge Right
BT-LE [GFSK] 1MHz	2402.000000	0.732674	0.500000	---	2401.623762	2402.356436
BT-LE [GFSK] 1MHz	2442.000000	0.752476	0.500000	---	2441.603960	2442.356436
BT-LE [GFSK] 1MHz	2480.000000	0.772278	0.500000	---	2479.603960	2480.376238

Peak output power (Sweep)

Mode	DUT Frequency (MHz)	Peak Power (dBm)	Limit Max (dBm)	Result
BT-LE [GFSK] 1MHz	2402.000000	5.1	30.0	PASS
BT-LE [GFSK] 1MHz	2442.000000	4.7	30.0	PASS
BT-LE [GFSK] 1MHz	2480.000000	4.7	30.0	PASS

Peak Power Spectral Density

Mode	DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
BT-LE [GFSK] 1MHz	2402.000000	2401.737500	0.681	8.0	PASS
BT-LE [GFSK] 1MHz	2442.000000	2441.732500	-0.136	8.0	PASS
BT-LE [GFSK] 1MHz	2480.000000	2479.732500	-0.085	8.0	PASS

Occupied Channel Bandwidth 99%

Mode	DUT Frequency	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left	Band Edge Right
BT-LE [GFSK] 1MHz	2402.000000	1.050000	---	---	2401.457500	2402.507500
BT-LE [GFSK] 1MHz	2442.000000	1.065000	---	---	2441.452500	2442.517500
BT-LE [GFSK] 1MHz	2480.000000	1.060000	---	---	2479.452500	2480.512500

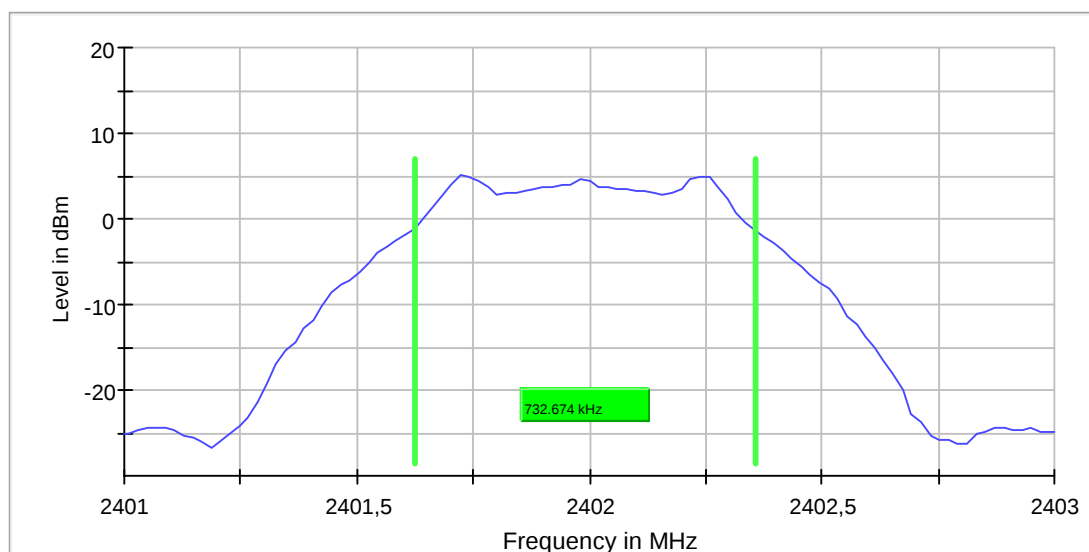
Minimum Emission Bandwidth 6 dB (2402 MHz; BT-LE [GFSK] (5 dBm); 1 MHz)

6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2402.000000	0.732674	0.500000	---	2401.623762	2402.356436

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2402.000000	5.0	PASS



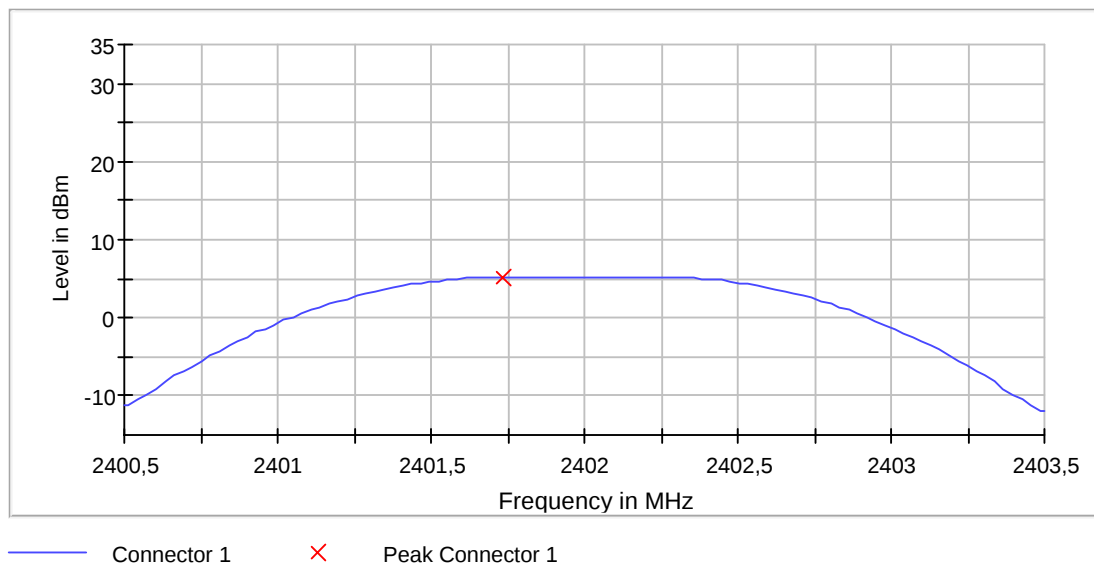
Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40100 GHz	2.40100 GHz
Stop Frequency	2.40300 GHz	2.40300 GHz
Span	2.000 MHz	2.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	101	~ 40
SweepTime	1.000 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	9 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.16 dB	0.50 dB

Peak output power (Sweep) (2402 MHz; BT-LE [GFSK] (5 dBm); 1 MHz)

Result

DUT Frequency (MHz)	Peak Power (dBm)	Limit Max (dBm)	Result
2402.000000	5.1	30.0	PASS



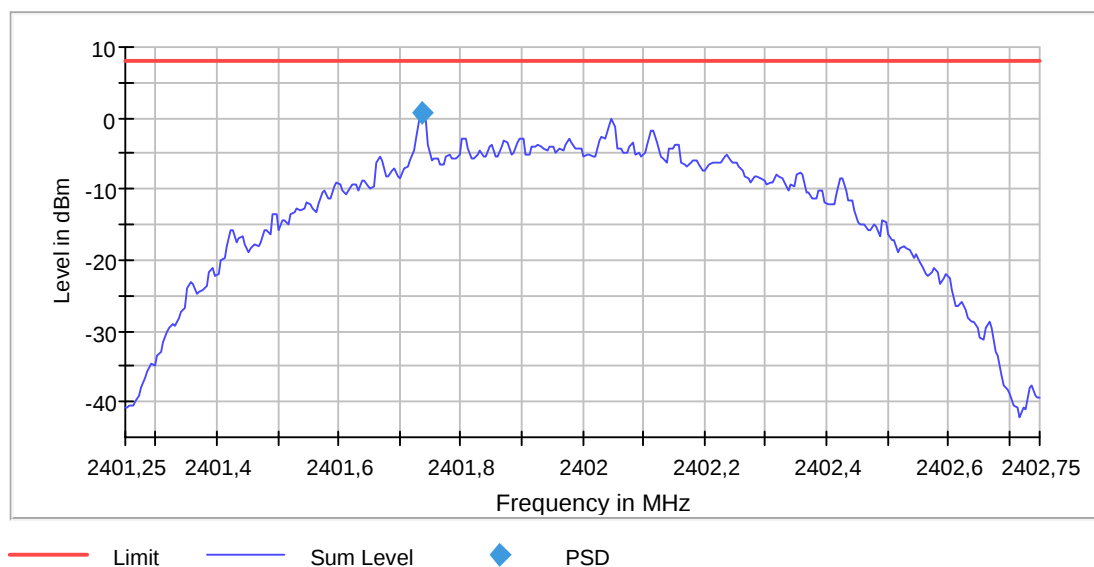
Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40050 GHz	2.40050 GHz
Stop Frequency	2.40350 GHz	2.40350 GHz
Span	3.000 MHz	3.000 MHz
RBW	1.000 MHz	≥ 732.675 kHz
VBW	3.000 MHz	≥ 3.000 MHz
SweepPoints	101	~ 101
Sweeptime	1.000 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.21 dB	0.50 dB

Peak Power Spectral Density (2402 MHz; BT-LE [GFSK] (5 dBm); 1 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2402.000000	2401.737500	0.681	8.0	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40125 GHz	2.40125 GHz
Stop Frequency	2.40275 GHz	2.40275 GHz
Span	1.500 MHz	1.500 MHz
RBW	10.000 kHz	<= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	300	~ 300
SweepTime	1.500 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	Sweep
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	19 / max. 150	max. 150
Stable	2 / 2	2
Max Stable Difference	0.36 dB	0.50 dB

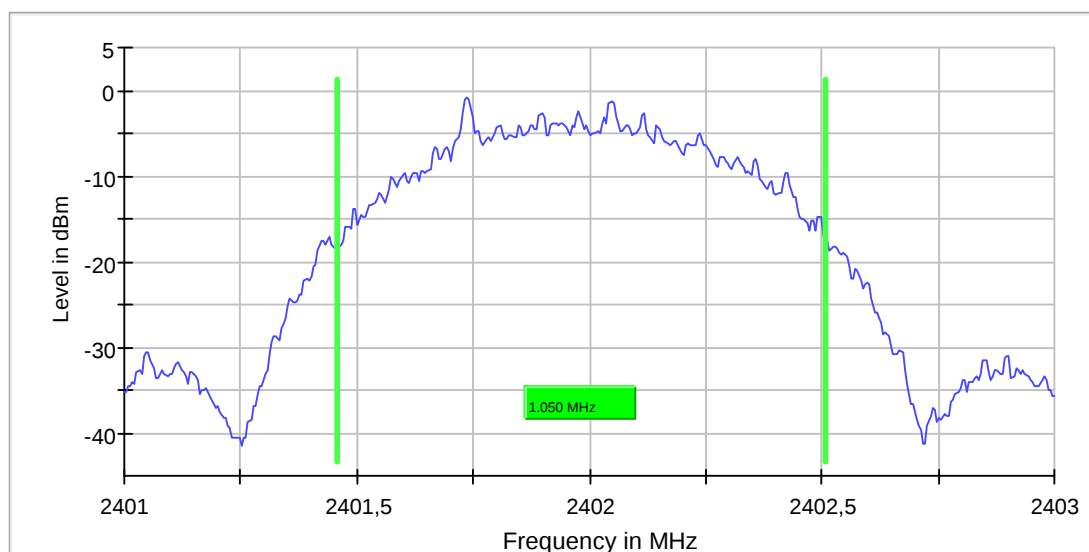
Occupied Channel Bandwidth 99% (2402 MHz; BT-LE [GFSK] (5 dBm); 1 MHz)

99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2402.000000	1.050000	---	---	2401.457500	2402.507500

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2402.000000	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40100 GHz	2.40100 GHz
Stop Frequency	2.40300 GHz	2.40300 GHz
Span	2.000 MHz	2.000 MHz
RBW	10.000 kHz	>= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	400	~ 400
Sweeptime	419.000 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	46 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.22 dB	0.30 dB

Tx Spurious Emission (2402 MHz; BT-LE [GFSK] (5 dBm); 1 MHz)

Result

DUT Frequency (MHz)	Result
2402.000000	PASS

Final measurements

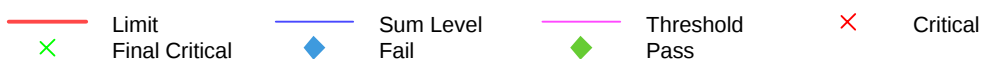
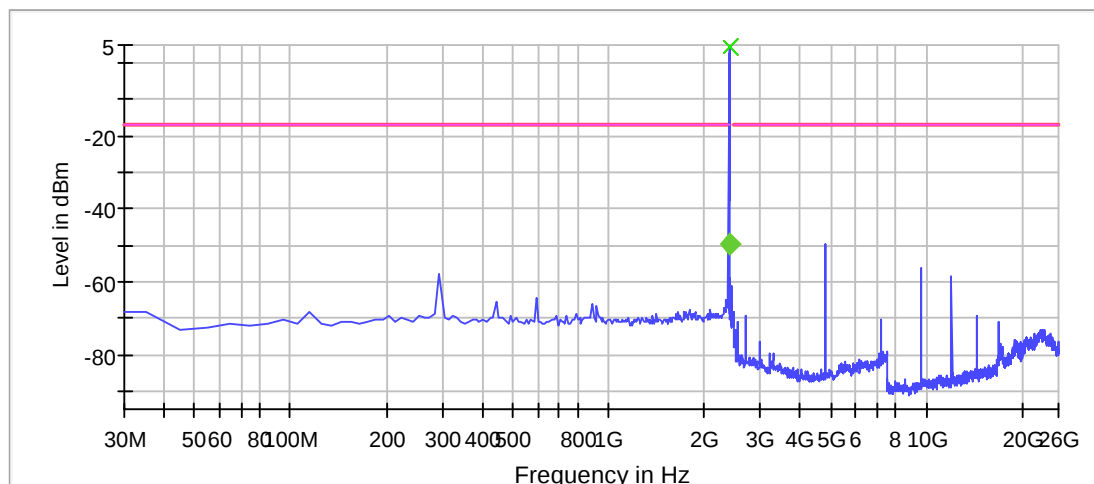
Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
2399.958664	2.7	-49.6	-17.0	32.6	PASS

Pre Measurements

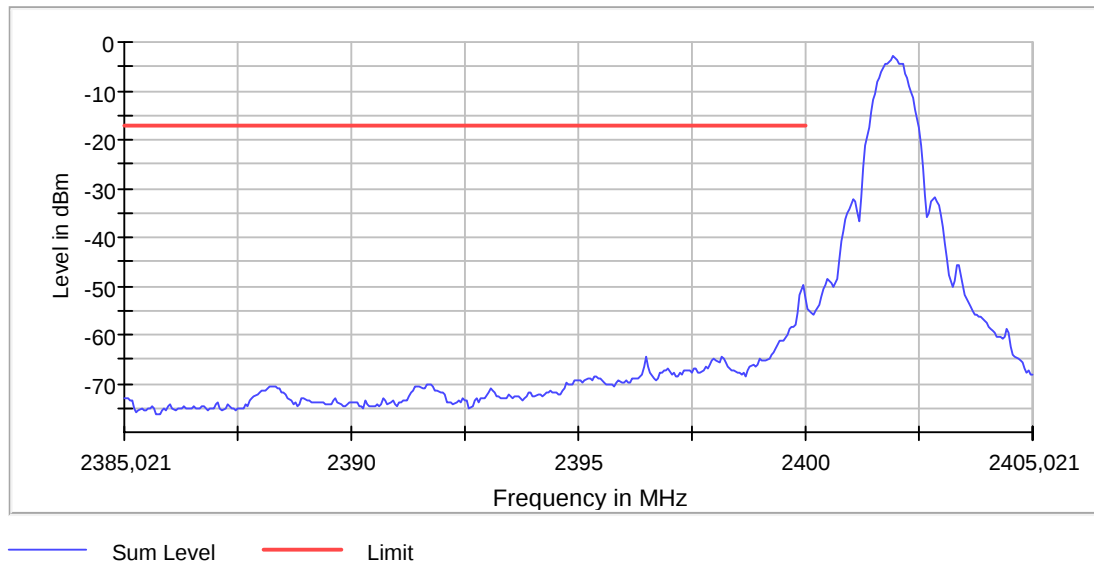
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
2395.021008	4.7	-21.7	-17.0
4807.166065	-49.7	32.7	-17.0
9604.412133	-56.0	39.0	-17.0
293.886555	-58.0	41.0	-17.0
12013.029431	-58.3	41.3	-17.0
2385.063025	-61.6	44.6	-17.0
592.626050	-64.4	47.4	-17.0
2345.231092	-64.8	47.7	-17.0
443.256303	-65.5	48.5	-17.0
2375.105042	-65.5	48.5	-17.0
891.365546	-66.1	49.0	-17.0
921.239496	-66.5	49.5	-17.0
2365.147059	-66.9	49.9	-17.0
2315.357143	-67.2	50.2	-17.0
2355.189076	-67.3	50.3	-17.0

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	2400.000000	1	1
2400.000000	2483.500000	1	1
2483.500000	26000.000000	1	1



Remark: The peak at 2402 MHz is Wanted Carrier and is allowed to transmit over the limit.



Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	238	~ 238
SweepTime	23.700 ms	AUTO
Reference Level	-10.000 dBm	-30.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	3	3
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 40	max. 40
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Final Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	401	~ 401
SweepTime	1.010 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	20.000 dB	AUTO
Detector	Sample	Sample
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Average Linear	Average Linear
SweepType	Sweep	AUTO
Preamp	off	off

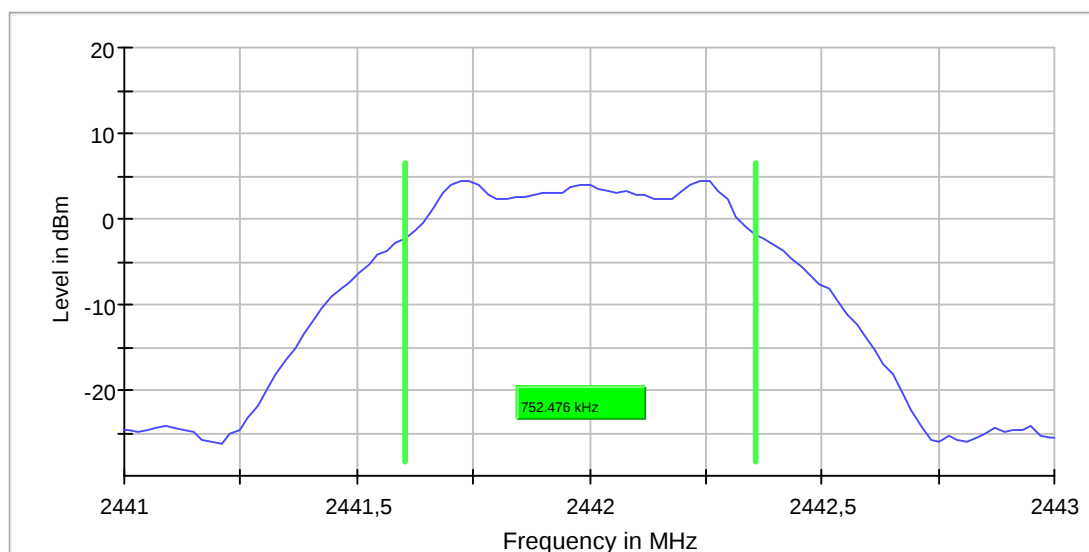
Minimum Emission Bandwidth 6 dB (2442 MHz; BT-LE [GFSK] (5 dBm); 1 MHz)

6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2442.000000	0.752476	0.500000	---	2441.603960	2442.356436

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2442.000000	4.5	PASS



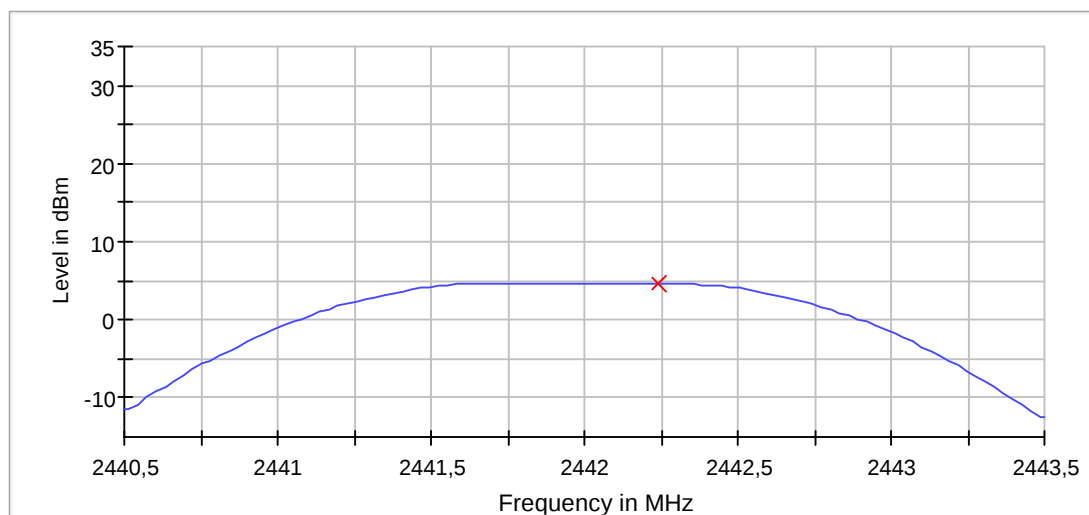
Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.44100 GHz	2.44100 GHz
Stop Frequency	2.44300 GHz	2.44300 GHz
Span	2.000 MHz	2.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	101	~ 40
SweepTime	1.000 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	10 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.26 dB	0.50 dB

Peak output power (Sweep) (2442 MHz; BT-LE [GFSK] (5 dBm); 1 MHz)

Result

DUT Frequency (MHz)	Peak Power (dBm)	Limit Max (dBm)	Result
2442.000000	4.7	30.0	PASS



— Connector 1 × Peak Connector 1

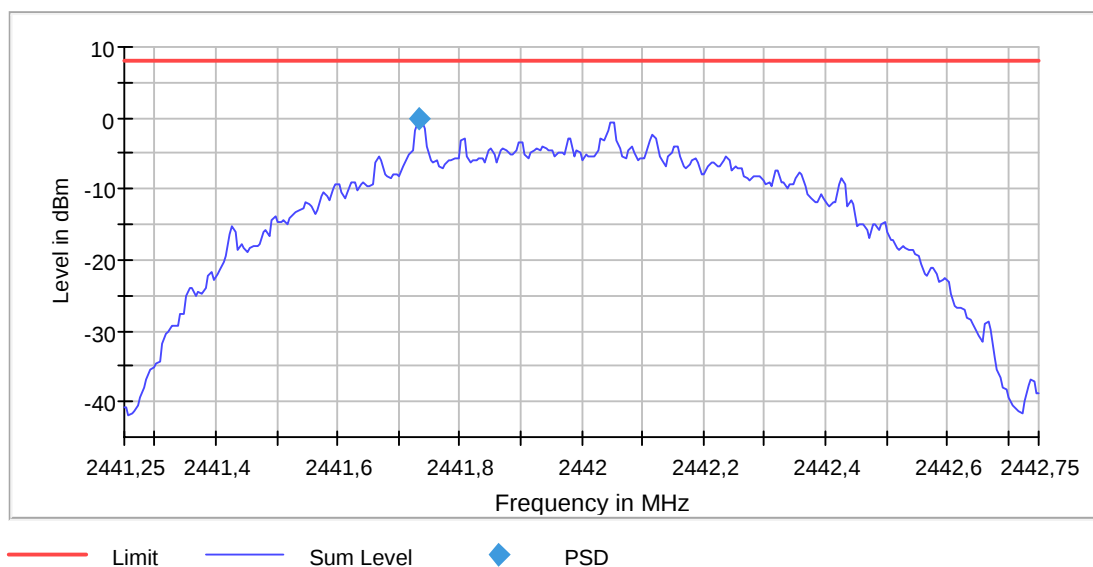
Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.44050 GHz	2.44050 GHz
Stop Frequency	2.44350 GHz	2.44350 GHz
Span	3.000 MHz	3.000 MHz
RBW	1.000 MHz	>= 752.477 kHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	101	~ 101
SweepTime	1.000 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.08 dB	0.50 dB

Peak Power Spectral Density (2442 MHz; BT-LE [GFSK] (5 dBm); 1 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2442.000000	2441.732500	-0.136	8.0	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.44125 GHz	2.44125 GHz
Stop Frequency	2.44275 GHz	2.44275 GHz
Span	1.500 MHz	1.500 MHz
RBW	10.000 kHz	<= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	300	~ 300
SweepTime	1.500 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	25 / max. 150	max. 150
Stable	2 / 2	2
Max Stable Difference	0.00 dB	0.50 dB

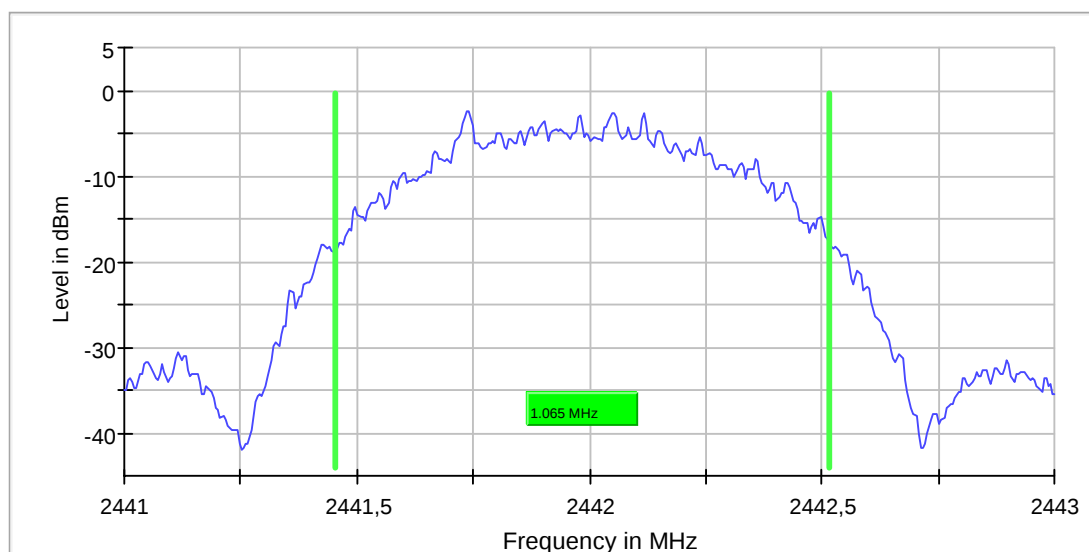
Occupied Channel Bandwidth 99% (2442 MHz; BT-LE [GFSK] (5 dBm); 1 MHz)

99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2442.000000	1.065000	---	---	2441.452500	2442.517500

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2442.000000	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.44100 GHz	2.44100 GHz
Stop Frequency	2.44300 GHz	2.44300 GHz
Span	2.000 MHz	2.000 MHz
RBW	10.000 kHz	>= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	400	~ 400
Sweptime	419.000 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	24 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.30 dB

Tx Spurious Emission (2442 MHz; BT-LE [GFSK] (5 dBm); 1 MHz)

Result

DUT Frequency (MHz)	Result
2442.000000	PASS

Final measurements

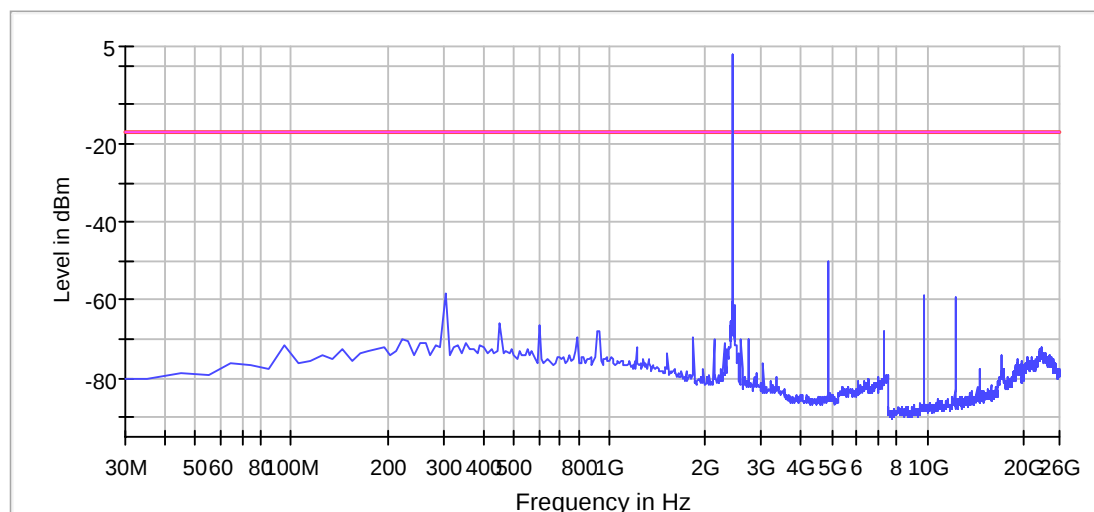
Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
---	---	---	---	---	---

Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
4887.120166	-50.2	33.2	-17.0
303.844538	-58.0	41.1	-17.0
9764.320336	-58.8	41.8	-17.0
12212.914683	-59.2	42.2	-17.0
453.214286	-66.1	49.2	-17.0
602.584034	-66.4	49.5	-17.0
7325.720251	-67.9	50.9	-17.0
921.239496	-67.9	50.9	-17.0
931.197479	-68.1	51.2	-17.0
911.281513	-68.3	51.3	-17.0
1837.373950	-69.3	52.3	-17.0
791.785714	-69.3	52.4	-17.0
2136.113445	-69.8	52.8	-17.0
2598.434020	-69.8	52.8	-17.0
224.180672	-69.9	53.0	-17.0

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	2400.000000	1	1
2400.000000	2483.500000	1	1
2483.500000	26000.000000	1	1



— Limit
 — Sum Level
 — Threshold
 × Critical
 × Final Critical

Remark: The peak at 2442 MHz is Wanted Carrier and is allowed to transmit over the limit.

Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	238	~ 238
SweepTime	23.700 ms	AUTO
Reference Level	-30.000 dBm	-30.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	3	3
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 40	max. 40
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

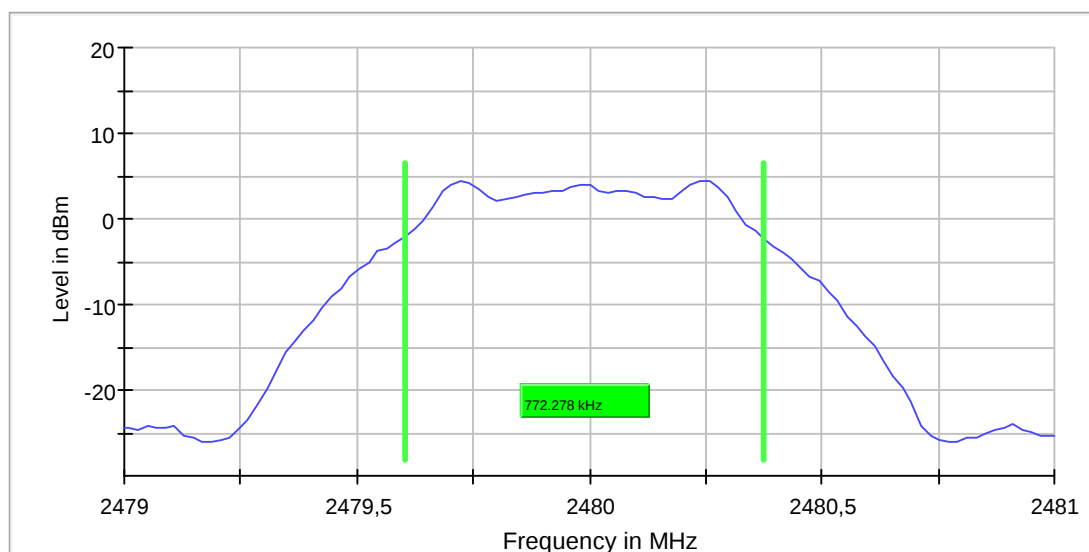
Minimum Emission Bandwidth 6 dB (2480 MHz; BT-LE [GFSK] (5 dBm); 1 MHz)

6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2480.000000	0.772278	0.500000	---	2479.603960	2480.376238

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2480.000000	4.5	PASS



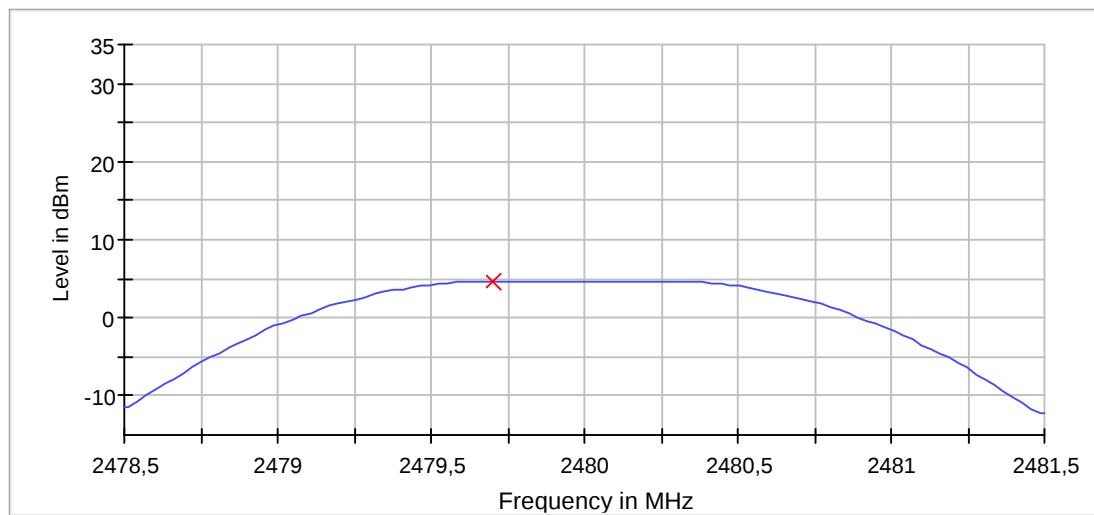
Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.47900 GHz	2.47900 GHz
Stop Frequency	2.48100 GHz	2.48100 GHz
Span	2.000 MHz	2.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	101	~ 40
SweepTime	1.000 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	11 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.24 dB	0.50 dB

Peak output power (Sweep) (2480 MHz; BT-LE [GFSK] (5 dBm); 1 MHz)

Result

DUT Frequency (MHz)	Peak Power (dBm)	Limit Max (dBm)	Result
2480.000000	4.7	30.0	PASS



— Connector 1 × Peak Connector 1

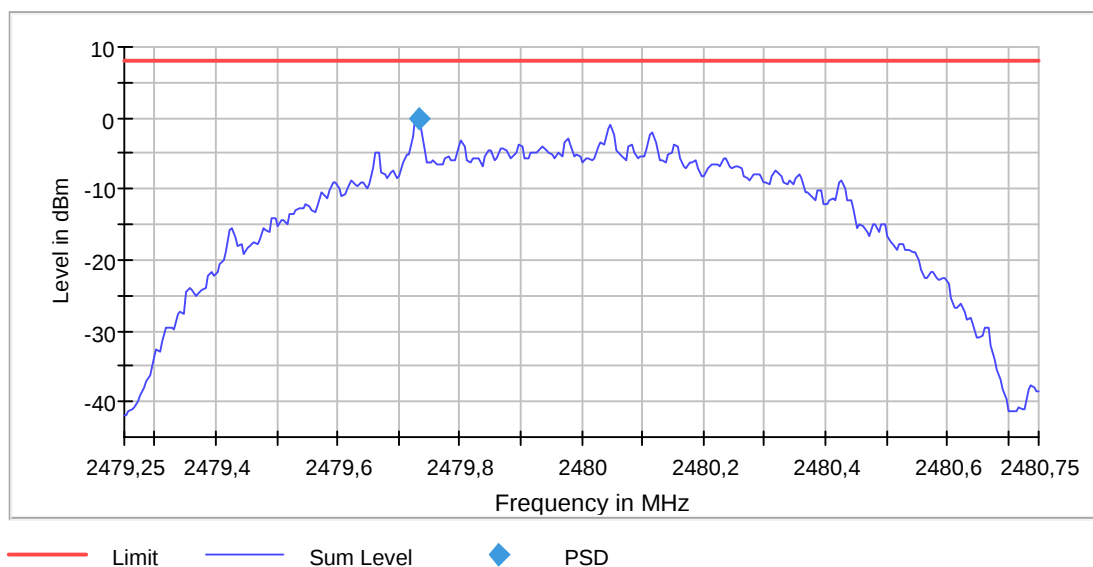
Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.47850 GHz	2.47850 GHz
Stop Frequency	2.48150 GHz	2.48150 GHz
Span	3.000 MHz	3.000 MHz
RBW	1.000 MHz	>= 772.279 kHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	101	~ 101
Sweeptime	1.000 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.05 dB	0.50 dB

Peak Power Spectral Density (2480 MHz; BT-LE [GFSK] (5 dBm); 1 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2480.000000	2479.732500	-0.085	8.0	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.47925 GHz	2.47925 GHz
Stop Frequency	2.48075 GHz	2.48075 GHz
Span	1.500 MHz	1.500 MHz
RBW	10.000 kHz	<= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	300	~ 300
SweepTime	1.500 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	24 / max. 150	max. 150
Stable	2 / 2	2
Max Stable Difference	0.12 dB	0.50 dB

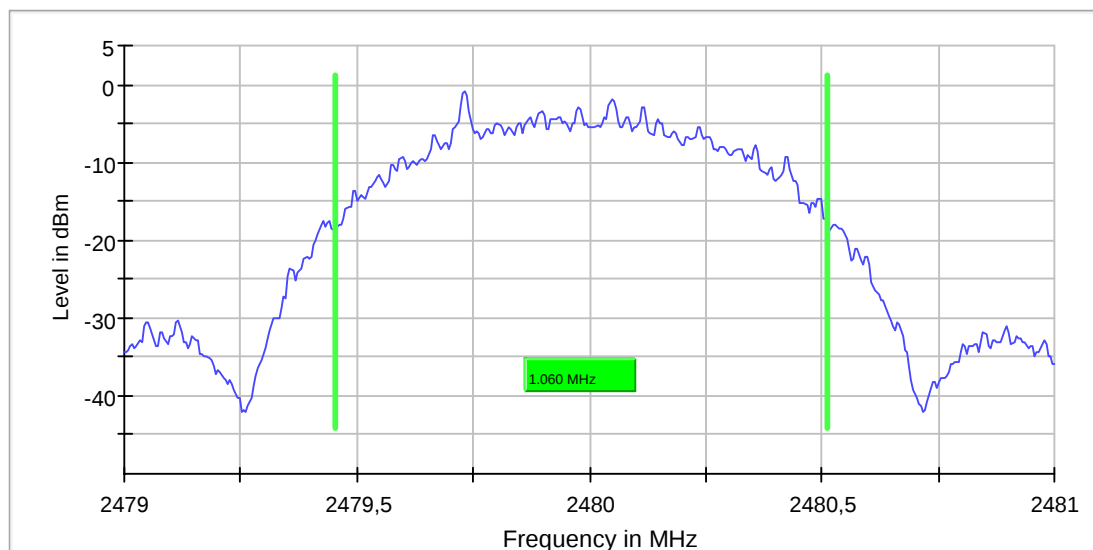
Occupied Channel Bandwidth 99% (2480 MHz; BT-LE [GFSK] (5 dBm); 1 MHz)

99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2480.000000	1.060000	---	---	2479.452500	2480.512500

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2480.000000	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.47900 GHz	2.47900 GHz
Stop Frequency	2.48100 GHz	2.48100 GHz
Span	2.000 MHz	2.000 MHz
RBW	10.000 kHz	>= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	400	~ 400
Sweeptime	419.000 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	43 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.25 dB	0.30 dB

Tx Spurious Emission (2480 MHz; BT-LE [GFSK] (5 dBm); 1 MHz)

Result

DUT Frequency (MHz)	Result
2480.000000	PASS

Final measurements

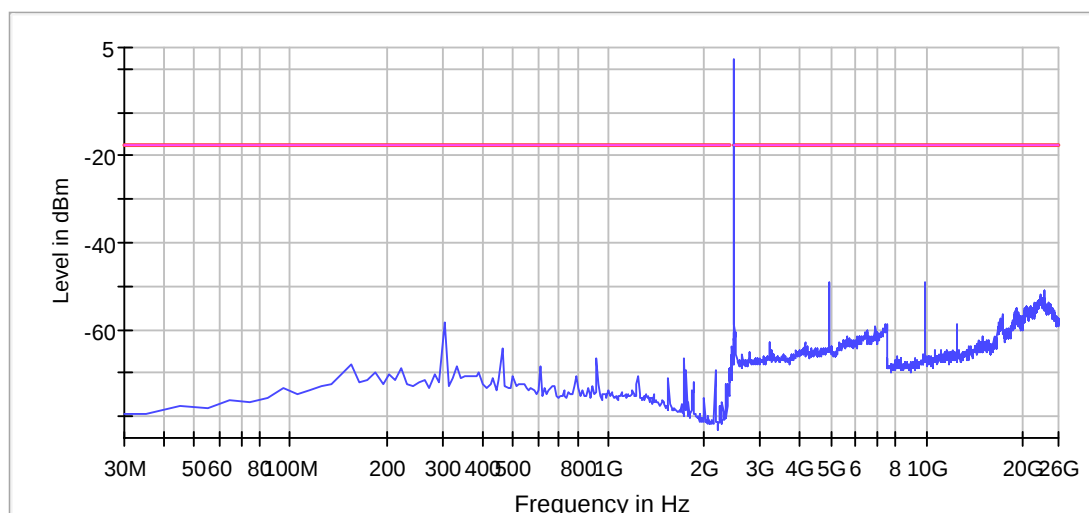
Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
---	---	---	---	---	---

Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
4957.080004	-49.0	31.5	-17.6
9924.228538	-49.3	31.7	-17.6
9914.234275	-51.0	33.4	-17.6
23456.460157	-51.2	33.7	-17.6
22726.878984	-51.7	34.2	-17.6
22936.758500	-52.6	35.0	-17.6
22996.724076	-52.7	35.1	-17.6
23586.385572	-52.7	35.2	-17.6
23036.701126	-52.8	35.2	-17.6
22926.764237	-52.8	35.2	-17.6
22736.873247	-52.8	35.2	-17.6
23046.695389	-52.8	35.3	-17.6
23026.706864	-52.8	35.3	-17.6
22836.815873	-52.9	35.3	-17.6
22946.752762	-52.9	35.3	-17.6

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	2400.000000	1	1
2400.000000	2483.500000	1	1
2483.500000	26000.000000	1	1



— Limit
 — Sum Level
 — Threshold
 × Critical
 × Final Critical

Remark: The peak at 2480 MHz is Wanted Carrier and is allowed to transmit over the limit.

Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	238	~ 238
SweepTime	23.700 ms	AUTO
Reference Level	-30.000 dBm	-30.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	3	3
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 40	max. 40
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

1.2 Radiated

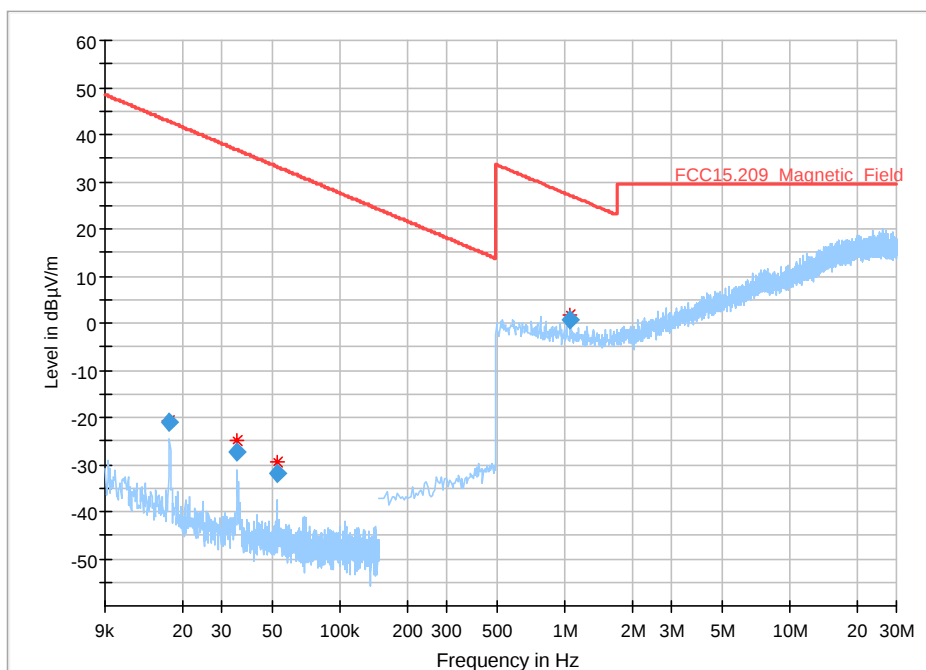
2.01a_BT_LE_low_standing

Common Information

Test Description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test Site Location:	Ref.-Nr. 441 Semi Anechoic Chamber (SAC1) with 3 m measurement distance
Version of Testsoftware:	EMC32 V10.50.0
Distance correction:	used accord. table, pls. see test report
Technical Data:	Please see page 2 for detailed data of measurement setup
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Used Filter:	bypass
Test Standard:	FCC 15.205 § 15.209; RSS-Gen: Issue 5
Operator:	HEI
Operating Mode:	BT_LE_low_standing
Environmental Conditions:	Humidity : 40%rH; Temperature: 20°C
Verdict:	Passed

EUT Information

PMT number:	20-1-00140S02
Manufacturer:	Husqvarna AB
Product:	Application Board Type 1
Model:	Bluetooth Low-Energy Module HQ-BLE-1
HW version:	591 10 05
SW version:	596 24 44
Serial number:	19372547050030
Power Supply:	18 V DC
	Full Spectrum



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin	Meas. Time (ms)	Bandwidth (h)	Pol	Azimuth (h)	Corr. (dB/m)	Comment
0.017480	-20.56	42.75	67.24	---	---	V	342.0	-59.5	19:35:28 - 17.03.2020
0.035000	-24.89	36.72	68.08	---	---	V	25.0	-60.3	19:27:20 - 17.03.2020
0.052440	-29.33	33.21	71.83	---	---	V	123.0	-60.5	19:31:50 - 17.03.2020
1.066000	1.81	27.07	25.60	---	---	H	151.0	-20.7	19:22:53 - 17.03.2020

2.01b_BT_LE_low_Laying

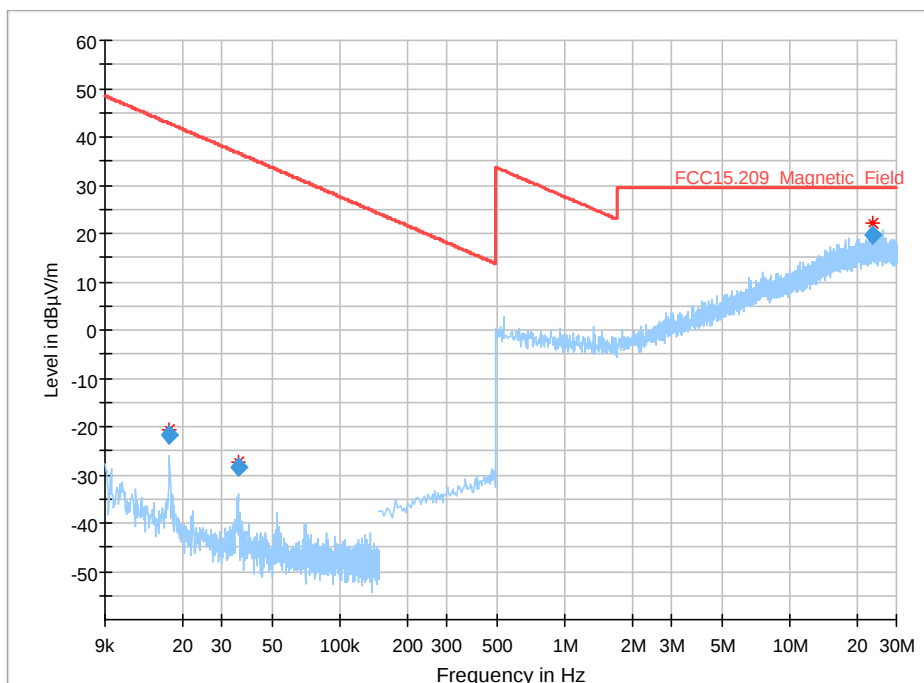
Common Information

Test Description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test Site Location:	Ref.-Nr. 441 Semi Anechoic Chamber (SAC1) with 3 m measurement distance
Version of Testsoftware:	EMC32 V10.50.0
Distance correction:	used accord. table, pls. see test report
Technical Data:	Please see page 2 for detailed data of measurement setup
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Used Filter:	bypass
Test Standard:	FCC 15.205 § 15.209; RSS-Gen: Issue 5
Operator:	HEI
Operating Mode:	BT-LE low_Laying
Environmental Conditions:	Humidity : 40%rH; Temperature: 22°C
Verdict:	Passed

EUT Information

PMT number:	20-1-00140S02
Manufacturer:	Husqvarna AB
Product:	Application Board Type 1
Model:	Bluetooth Low-Energy Module HQ-BLE-1
HW version:	591 10 05
SW version:	596 24 44
Serial number:	19372547050030
Power Supply:	18 V DC

Full Spectrum



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margi n	Meas. Time (ms)	Bandwidt h	Pol	Azimut h	Corr. (dB/m)	Comment
0.017400	-20.76	42.79	68.66	---	---	V	215.0	-59.5	18:38:38 - 17.03.2020
0.035160	-27.47	36.68	72.28	---	---	V	344.0	-60.3	18:43:20 - 17.03.2020
23.674000	22.01	29.54	9.30	---	---	V	55.0	1.7	18:34:09 - 17.03.2020

2.02a_BT_LE_mid_standing

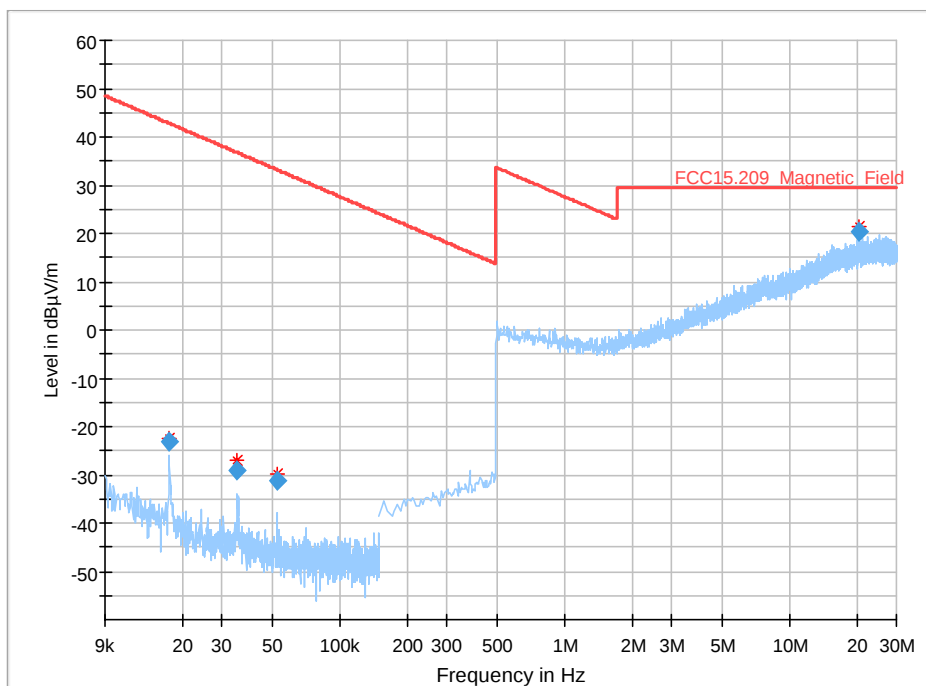
Common Information

Test Description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test Site Location:	Ref.-Nr. 441 Semi Anechoic Chamber (SAC1) with 3 m measurement distance
Version of Testsoftware:	EMC32 V10.50.0
Distance correction:	used accord. table, pls. see test report
Technical Data:	Please see page 2 for detailed data of measurement setup
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Used Filter:	bypass
Test Standard:	FCC 15.205 § 15.209; RSS-Gen: Issue 5
Operator:	HEI
Operating Mode:	BT_LE_mid_standing
Environmental Conditions:	Humidity : 40%rH; Temperature: 20°C
Verdict:	Passed

EUT Information

PMT number:	20-1-00140S02
Manufacturer:	Husqvarna AB
Product:	Application Board Type 1
Model:	Bluetooth Low-Energy Module HQ-BLE-1
HW version:	591 10 05
SW version:	596 24 44
Serial number:	19372547050030
Power Supply:	18 V DC

Full Spectrum



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margi n	Meas. Time (ms)	Bandwidt h	Pol	Azimut h	Corr. (dB/m)	Comment
0.017320	-22.40	42.83	68.98	---	---	V	281.0	-59.5	20:28:02 - 17.03.2020
0.035000	-26.99	36.72	70.84	---	---	V	30.0	-60.3	20:31:44 - 17.03.2020
0.052600	-29.77	33.18	71.10	---	---	V	95.0	-60.5	20:20:00 - 17.03.2020
20.434000	21.46	29.54	10.40	---	---	V	32.0	1.0	20:24:04 - 17.03.2020

2.02b_BT_LE_mid_Laying

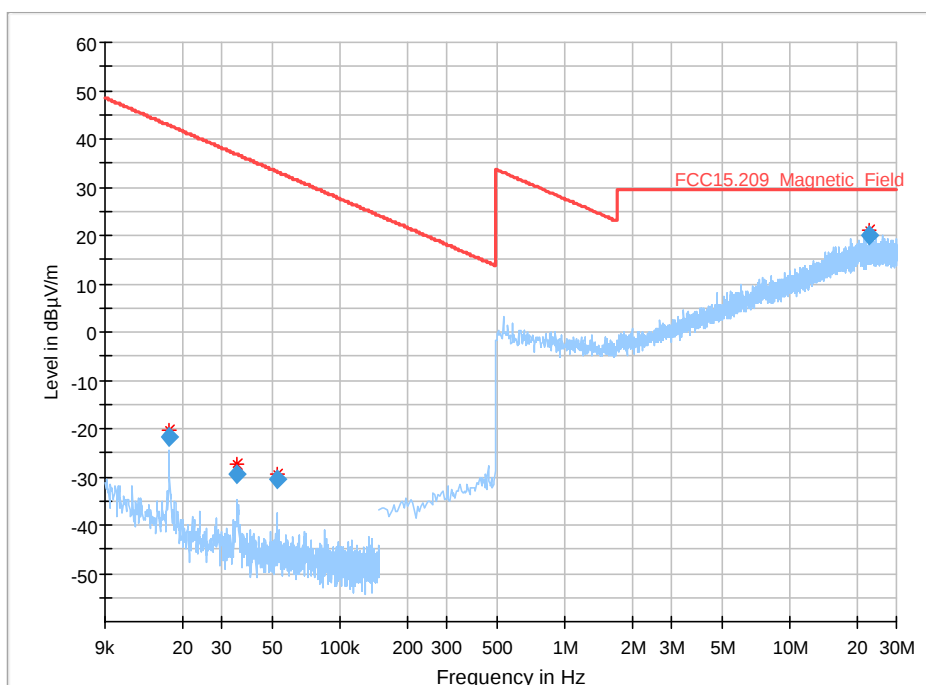
Common Information

Test Description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test Site Location:	Ref.-Nr. 441 Semi Anechoic Chamber (SAC1) with 3 m measurement distance
Version of Testsoftware:	EMC32 V10.50.0
Distance correction:	used accord. table, pls. see test report
Technical Data:	Please see page 2 for detailed data of measurement setup
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Used Filter:	bypass
Test Standard:	FCC 15.205 § 15.209; RSS-Gen: Issue 5
Operator:	HEI
Operating Mode:	BT_LE_mid_Laying
Environmental Conditions:	Humidity : 40%rH; Temperature: 19°C
Verdict:	Passed

EUT Information

PMT number:	20-1-00140S02
Manufacturer:	Husqvarna AB
Product:	Application Board Type 1
Model:	Bluetooth Low-Energy Module HQ-BLE-1
HW version:	591 10 05
SW version:	596 24 44
Serial number:	19372547050030
Power Supply:	18 V DC

Full Spectrum



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margi n	Meas. Time (ms)	Bandwidt h	Pol	Azimut h	Corr. (dB/m)	Comment
0.017400	-20.46	42.79	67.46	---	---	V	1.0	-59.5	21:01:51 - 17.03.2020
0.034840	-27.27	36.76	71.36	---	---	V	68.0	-60.3	20:53:38 - 17.03.2020
0.052520	-29.50	33.19	70.63	---	---	V	230.0	-60.5	21:06:17 - 17.03.2020
22.670000	21.17	29.54	9.95	---	---	V	67.0	1.5	20:57:50 - 17.03.2020

2.03a_BT_LE_high_standing

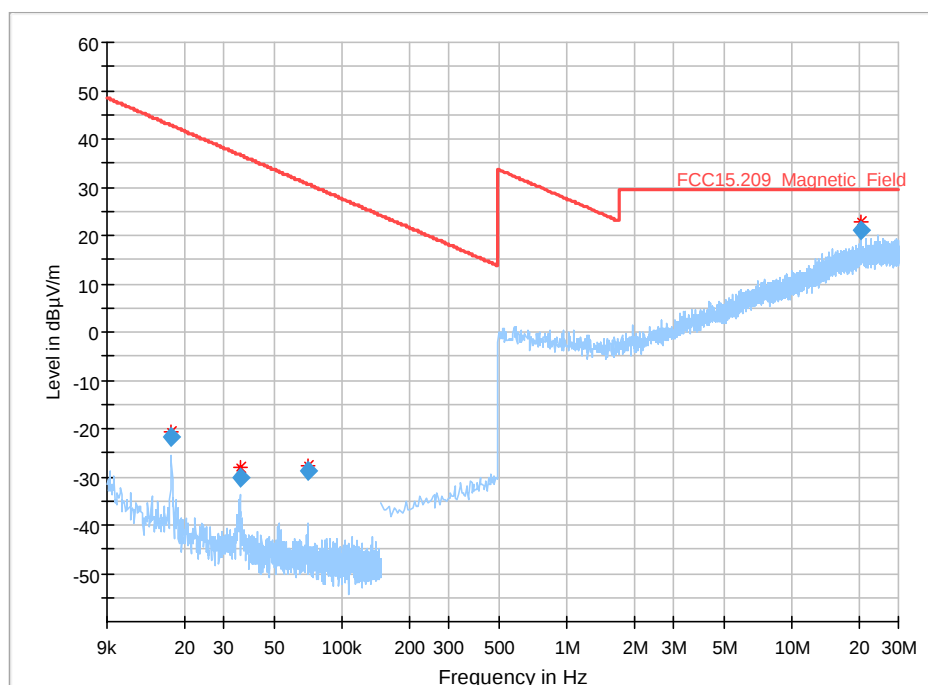
Common Information

Test Description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test Site Location:	Ref.-Nr. 441 Semi Anechoic Chamber (SAC1) with 3 m measurement distance
Version of Testsoftware:	EMC32 V10.50.0
Distance correction:	used accord. table, pls. see test report
Technical Data:	Please see page 2 for detailed data of measurement setup
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Used Filter:	bypass
Test Standard:	FCC 15.205 § 15.209; RSS-Gen: Issue 5
Operator:	HEI
Operating Mode:	BT_LE_high_standing
Environmental Conditions:	Humidity : 40%rH; Temperature: 19°C
Verdict:	Passed

EUT Information

PMT number:	20-1-00140S02
Manufacturer:	Husqvarna AB
Product:	Application Board Type 1
Model:	Bluetooth Low-Energy Module HQ-BLE-1
HW version:	591 10 05
SW version:	596 24 44
Serial number:	19372547050030
Power Supply:	18 V DC

Full Spectrum



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin	Meas. Time (ms)	Bandwidth h	Pol	Azimuth h	Corr. (dB/m)	Comment
0.017400	-20.72	42.79	68.31	---	---	V	59.0	-59.5	22:45:40 - 17.03.2020
0.035160	-27.95	36.68	70.41	---	---	V	84.0	-60.3	22:41:53 - 17.03.2020
0.070680	-27.72	30.61	71.73	---	---	V	272.0	-60.5	22:49:28 - 17.03.2020
20.474000	22.79	29.54	9.65	---	---	H	314.0	1.0	22:36:58 - 17.03.2020

2.03b_BT_LE_high_Laying

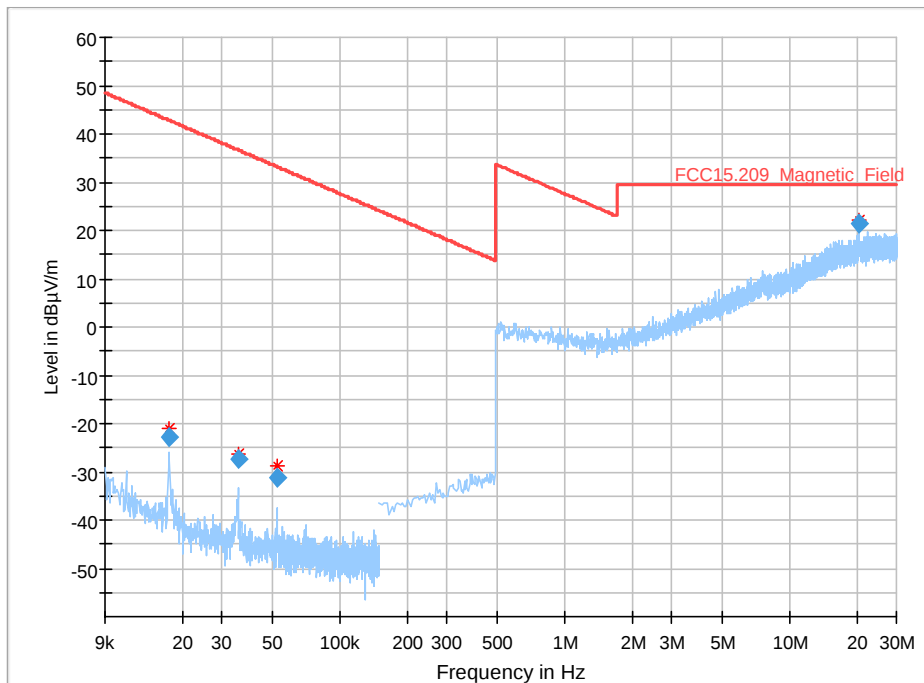
Common Information

Test Description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test Site Location:	Ref.-Nr. 441 Semi Anechoic Chamber (SAC1) with 3 m measurement distance
Version of Testsoftware:	EMC32 V10.50.0
Distance correction:	used accord. table, pls. see test report
Technical Data:	Please see page 2 for detailed data of measurement setup
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Used Filter:	bypass
Test Standard:	FCC 15.205 § 15.209; RSS-Gen: Issue 5
Operator:	HEI
Operating Mode:	BT_LE_high_Laying
Environmental Conditions:	Humidity : 40%rH; Temperature: 19°C
Verdict:	Passed

EUT Information

PMT number:	20-1-00140S02
Manufacturer:	Husqvarna AB
Product:	Application Board Type 1
Model:	Bluetooth Low-Energy Module HQ-BLE-1
HW version:	591 10 05
SW version:	596 24 44
Serial number:	19372547050030
Power Supply:	18 V DC

Full Spectrum



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin	Meas. Time (ms)	Bandwidth h	Pol	Azimuth h	Corr. (dB/m)	Comment
0.017320	-21.15	42.83	68.95	---	---	V	44.0	-59.5	21:43:56 - 17.03.2020
0.035320	-26.39	36.64	69.81	---	---	V	203.0	-60.3	21:55:54 - 17.03.2020
0.052600	-28.78	33.18	70.64	---	---	V	144.0	-60.5	21:47:44 - 17.03.2020
20.446000	22.15	29.54	9.78	---	---	V	264.0	1.0	21:52:12 - 17.03.2020

3.01a_BT_LE_low_standing

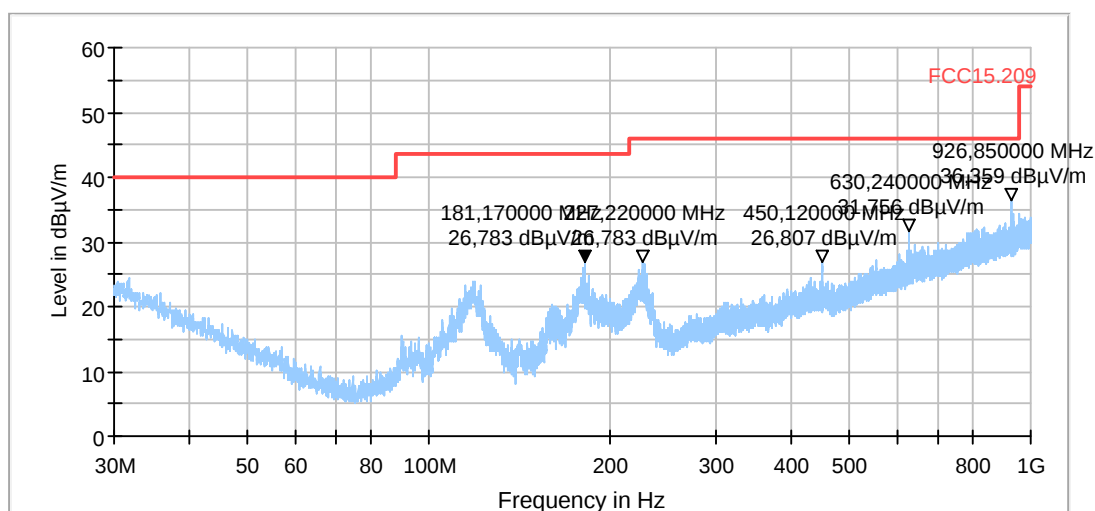
Common Information

Test Description:	Electric Fieldstrength Measurement
Test Spec.:	FCC 15.205 § 15.209; RSS-Gen: Issue 5
Antenna:	receiving antenna is directed to all sides, h=1.55m height
Operating Mode:	BLE ch00
Environmental Conditions:	Humidity : 41%rH; Temperature: 21°C
Operator:	npe
Verdict:	Passed

EUT Information

PMT number:	20-1-00140S02
Product:	Application Board Type 1
Model:	Bluetooth Low-Energy Module HQ-BLE-1
HW version:	591 10 05
SW version:	596 24 44
Serial number:	19372547050030
Power Supply:	18 V DC
Product:	Application Board Type 1

Full Spectrum



3.01b_BT_LE_low_laying

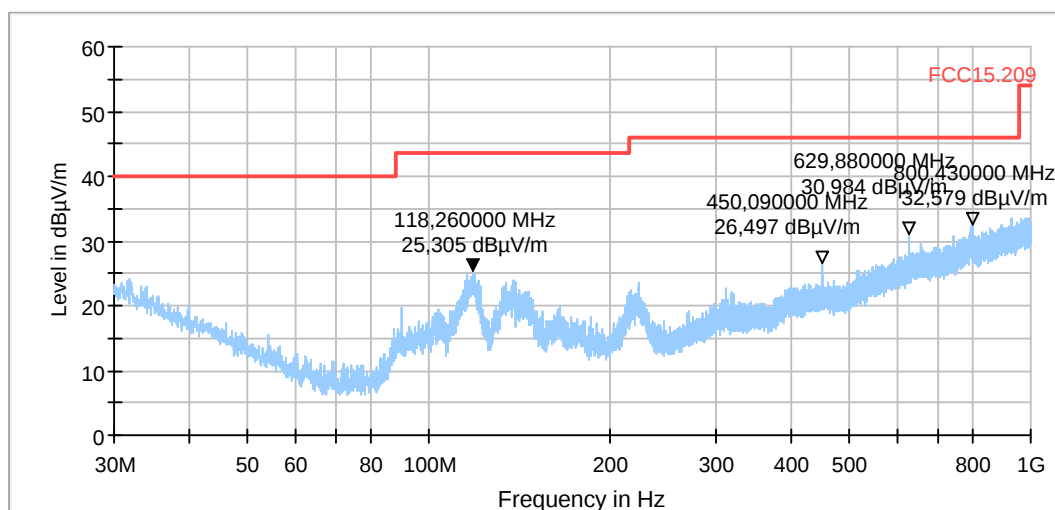
Common Information

Test Description:	Electric Fieldstrength Measurement
Test Spec.:	FCC 15.205 § 15.209; RSS-Gen: Issue 5
Antenna:	receiving antenna is directed to all sides, h=1.55m height
Operating Mode:	BLE ch00
Environmental Conditions:	Humidity : 40%rH; Temperature: 21°C
Operator:	npe
Verdict:	Passed

EUT Information

PMT number:	20-1-00140S02
Manufacturer:	Husqvarna AB
Product:	Application Board Type 1
Model:	Bluetooth Low-Energy Module HQ-BLE-1
HW version:	591 10 05
SW version:	596 24 44
Serial number:	19372547050030
Power Supply:	18 V DC

Full Spectrum



3.02a_BT_LE_mid_Standing

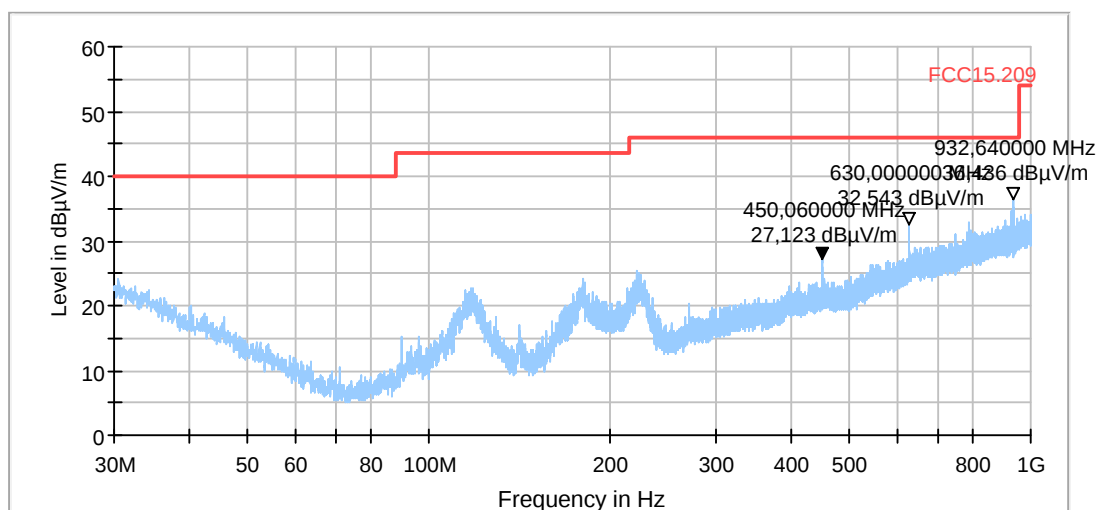
Common Information

Test Description:	Electric Fieldstrength Measurement
Test Spec.:	FCC 15.205 § 15.209; RSS-Gen: Issue 5
Antenna:	receiving antenna is directed to all sides, h=1.55m height
Operating Mode:	BLE ch20
Environmental Conditions:	Humidity : 40%rH; Temperature: 21°C
Operator:	npe
Verdict:	Passed

EUT Information

PMT number:	20-1-00140S02
Manufacturer:	Husqvarna AB
Product:	Application Board Type 1
Model:	Bluetooth Low-Energy Module HQ-BLE-1
HW version:	591 10 05
SW version:	596 24 44
Serial number:	19372547050030
Power Supply:	18 V DC

Full Spectrum



3.02b_BT_LE_mid_Laying

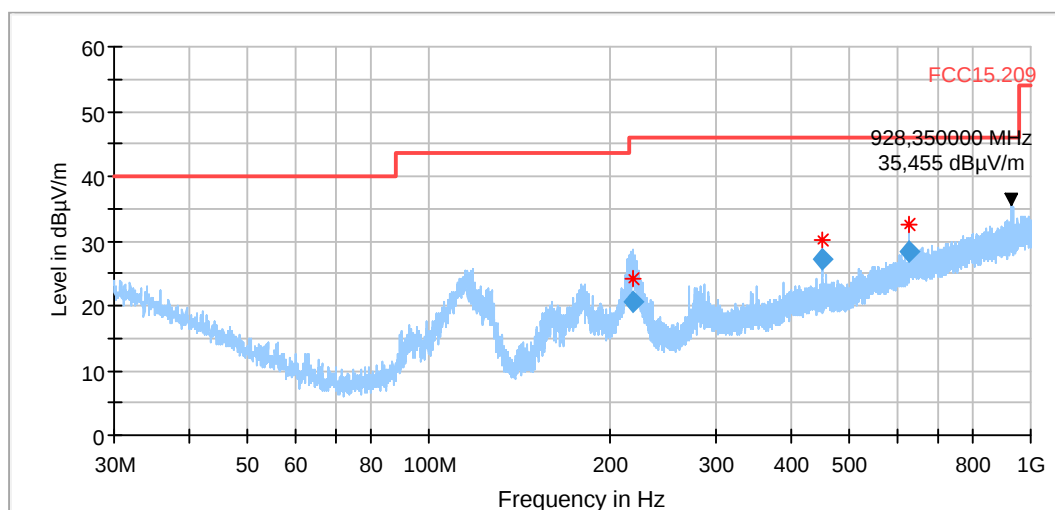
Common Information

Test Description:	Electric Fieldstrength Measurement
Test Spec.:	FCC 15.205 § 15.209; RSS-Gen: Issue 5
Antenna:	receiving antenna is directed to all sides, h=1.55m height
Operating Mode:	BLE ch20
Environmental Conditions:	Humidity : 40%rH; Temperature: 20°C
Operator:	LKu
Verdict:	Passed

EUT Information

PMT number:	20-1-00140S02
Manufacturer:	Husqvarna AB
Product:	Application Board Type 1
Model:	Bluetooth Low-Energy Module HQ-BLE-1
HW version:	591 10 05
SW version:	596 24 44
Serial number:	19372547050030
Power Supply:	18 V DC

Full Spectrum



3.03a_BT_LE_high_standing

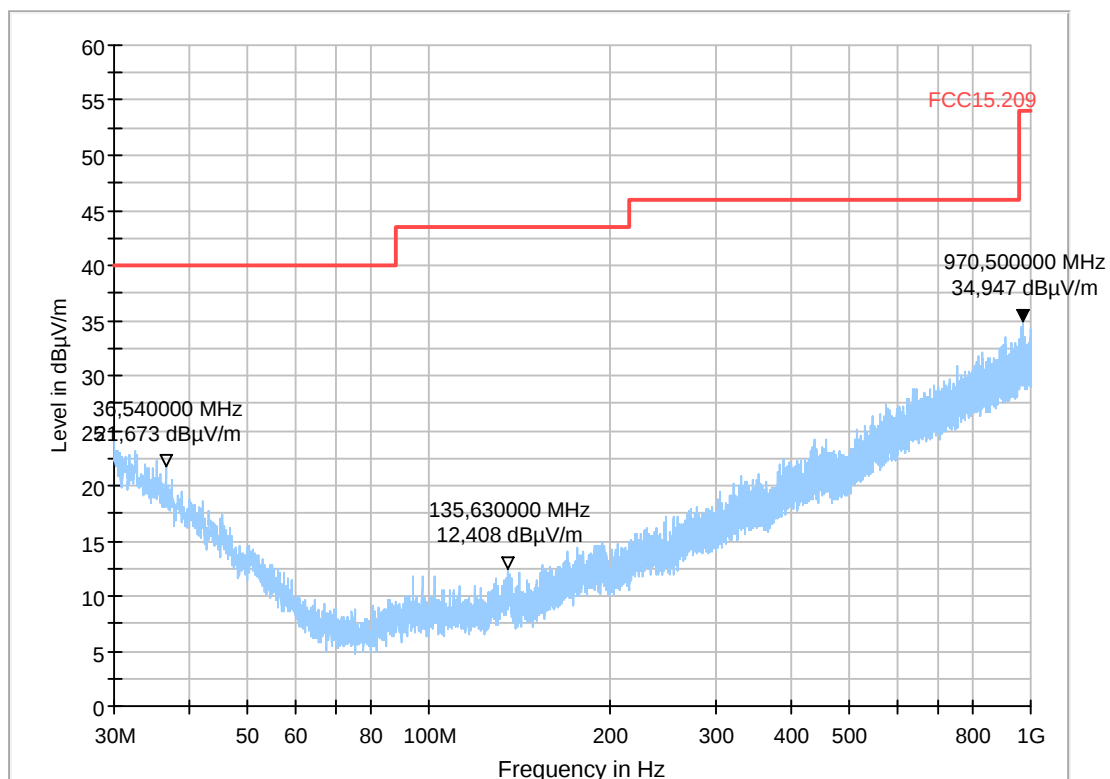
Common Information

Test Description:	Electric Fieldstrength Measurement
Test Spec.:	FCC 15.205 § 15.209; RSS-Gen: Issue 5
Antenna:	receiving antenna is directed to all sides, h=1.55m height
Operating Mode:	BLE_High Channel
Environmental Conditions:	Humidity : 40%rH; Temperature: 20°C
Operator:	HEI
Verdict:	Passed

EUT Information

PMT number:	20-1-00140S02
Manufacturer:	Husqvarna AB
Product:	Application Board Type 1
Model:	Bluetooth Low-Energy Module HQ-BLE-1
HW version:	591 10 05
SW version:	596 24 44
Serial number:	19372547050030
Power Supply:	18 V DC

Full Spectrum



3.03b_BT_LE_high_Laying

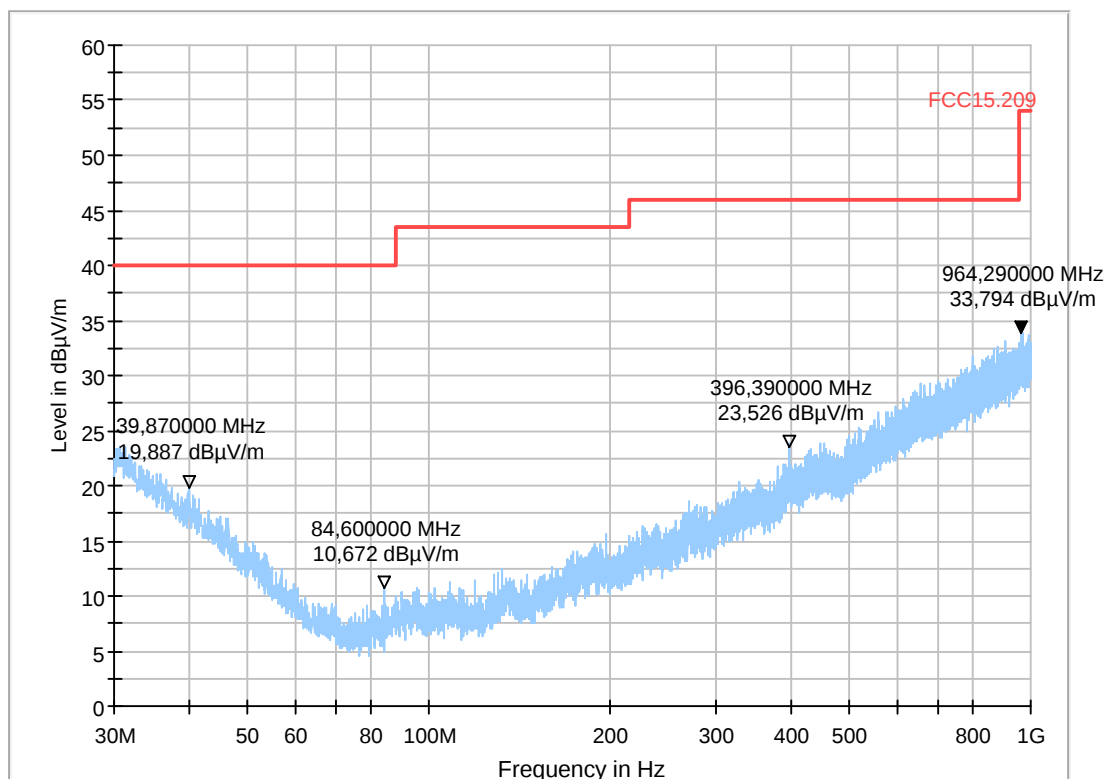
Common Information

Test Description:	Electric Fieldstrength Measurement
Test Spec.:	FCC 15.205 § 15.209; RSS-Gen: Issue 5
Antenna:	receiving antenna is directed to all sides, h=1.55m height
Operating Mode:	BLE_High Channel
Environmental Conditions:	Humidity : 40%rH; Temperature: 19°C
Operator:	HEI
Verdict:	Passed

EUT Information

PMT number:	20-1-00140S02
Manufacturer:	Husqvarna AB
Product:	Application Board Type 1
Model:	Bluetooth Low-Energy Module HQ-BLE-1
HW version:	591 10 05
SW version:	596 24 44
Serial number:	19372547050030
Power Supply:	18 V DC

Full Spectrum



4.01a_BT_LE_low_1_2.8GHz

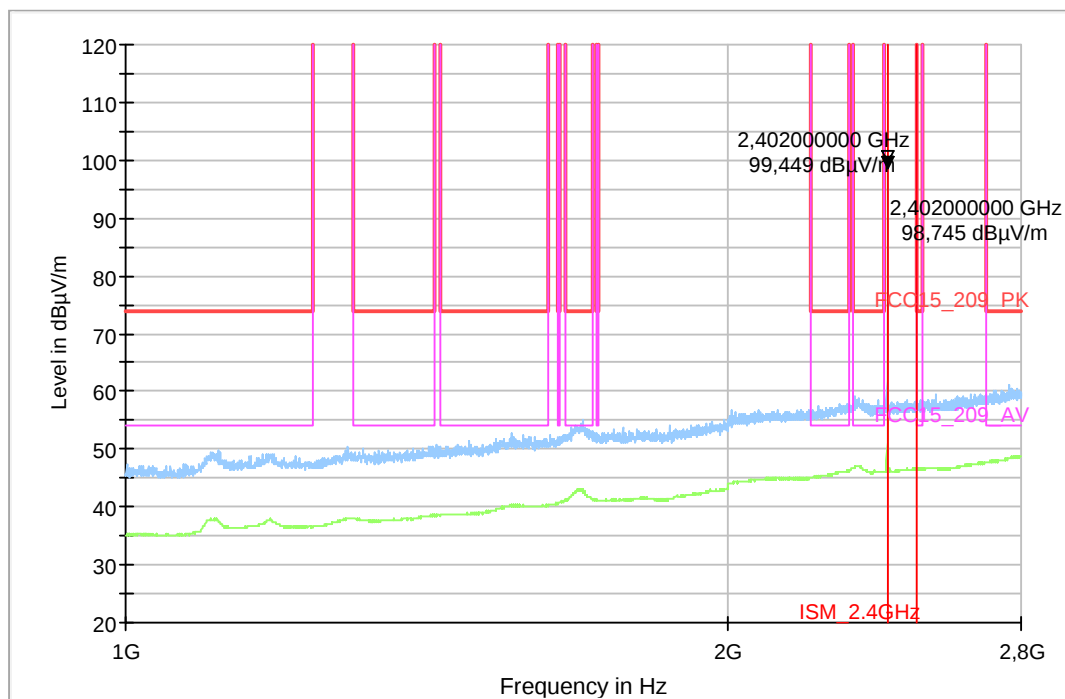
Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.50.0
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
Antenna polarisation:	horizontal/vertical
Operating Mode:	BT-LE CH 0
Operator:	HEI
Comment:	Humidity : 40%rH; Temperature: 20°C
Verdict:	Passed

EUT Information

PMT number:	20-1-00140S02
Manufacturer:	Husqvarna AB
Product:	Application Board Type 1
Model:	Bluetooth Low-Energy Module HQ-BLE-1
HW version:	591 10 05
SW version:	596 24 44
Serial number:	19372547050030
Power Supply:	18 V DC

Full Spectrum



Preview Result 2-RMS	Preview Result 1-PK+	* Critical_Freqs RMS
* Critical_Freqs PK+	Final_Result PK+	* FCC15_209_AV
ISM_2.4GHz		* Final_Result AVG

4.01b_BT_LE_low_2.8_18GHz

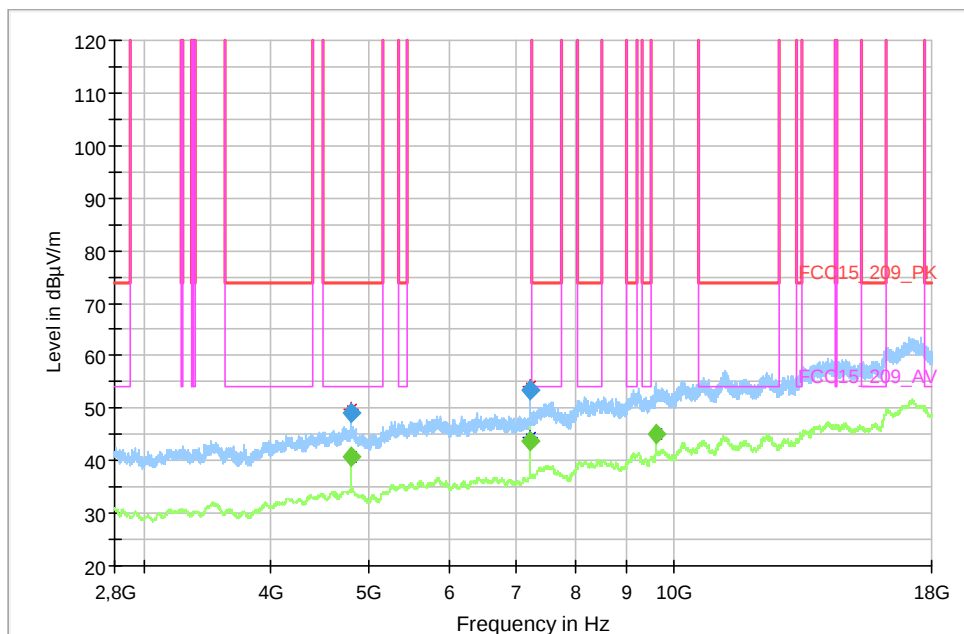
Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.50.0
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
Antenna polarisation:	horizontal/vertical
Operating Mode:	BT-LE CH 0
Operator:	HEI
Comment:	Humidity : 40%rH; Temperature: 20°C
Verdict:	Passed

EUT Information

PMT number:	20-1-00140S02
Manufacturer:	Husqvarna AB
Product:	Application Board Type 1
Model:	Bluetooth Low-Energy Module HQ-BLE-1
HW version:	591 10 05
SW version:	596 24 44
Serial number:	19372547050030
Power Supply:	18 V DC

Full Spectrum

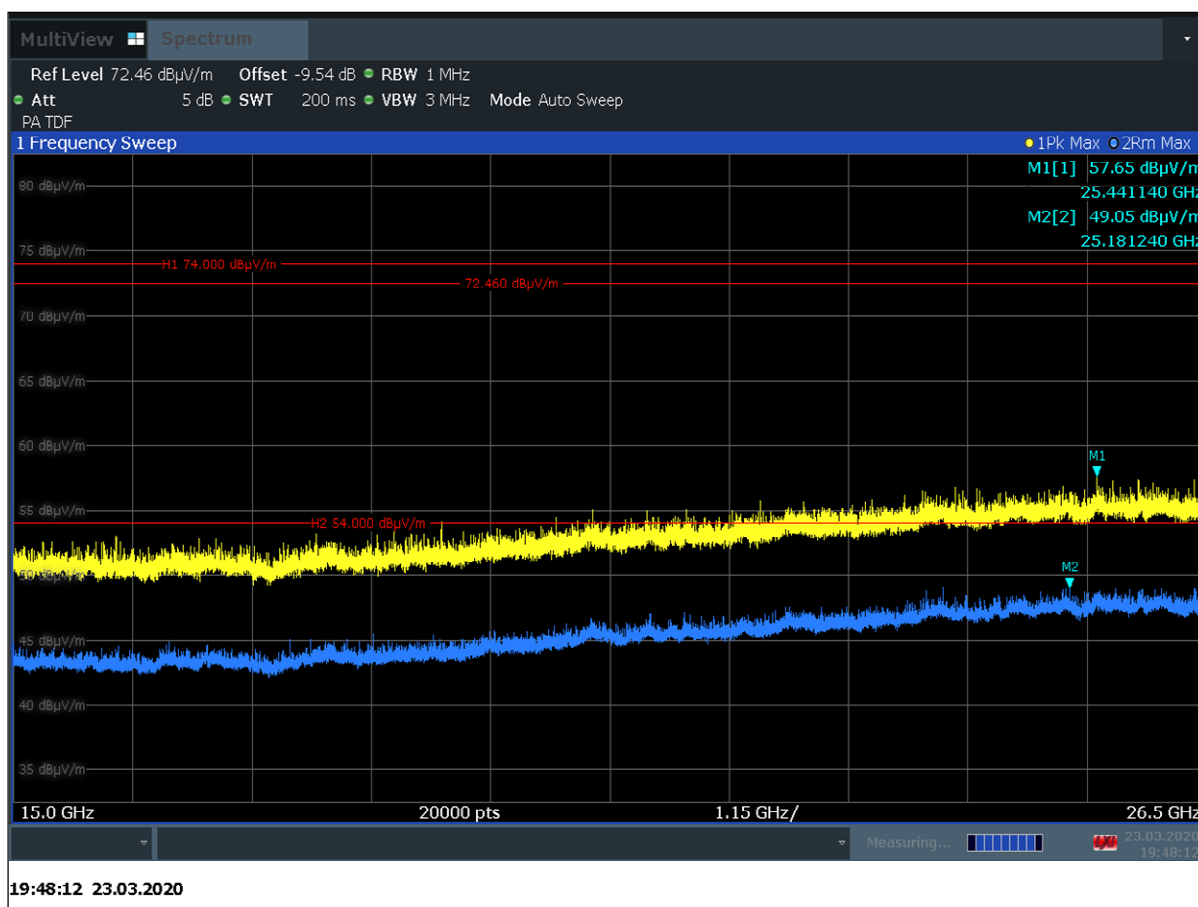


* Preview Result 2-RMS	Preview Result 1-PK+	* Critical_Freqs RMS
* Critical_Freqs PK+	--- FCC15_209_PK	* FCC15_209_AV
--- ISM_2.4GHz	◆ Final_Result PK+	◆ Final_Result AVG

Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin	Meas. Time (ms)	Bandwidth (h)	Height (t)	Pol	Azimuth (h)
4803.200000	49.23	---	74.00	24.77	100.0	1000.000	155.0	V	-5.0
4804.400000	---	40.65	54.00	13.35	100.0	1000.000	155.0	V	15.0
7205.200000	---	43.77	150.00	106.23	100.0	1000.000	155.0	H	-31.0
7205.200000	53.48	---	150.00	96.52	100.0	1000.000	155.0	H	-24.0
9608.800000	---	45.17	150.00	104.83	100.0	1000.000	155.0	H	136.0

4.01c_BT_LE_low



4.02a_BT_LE_mid

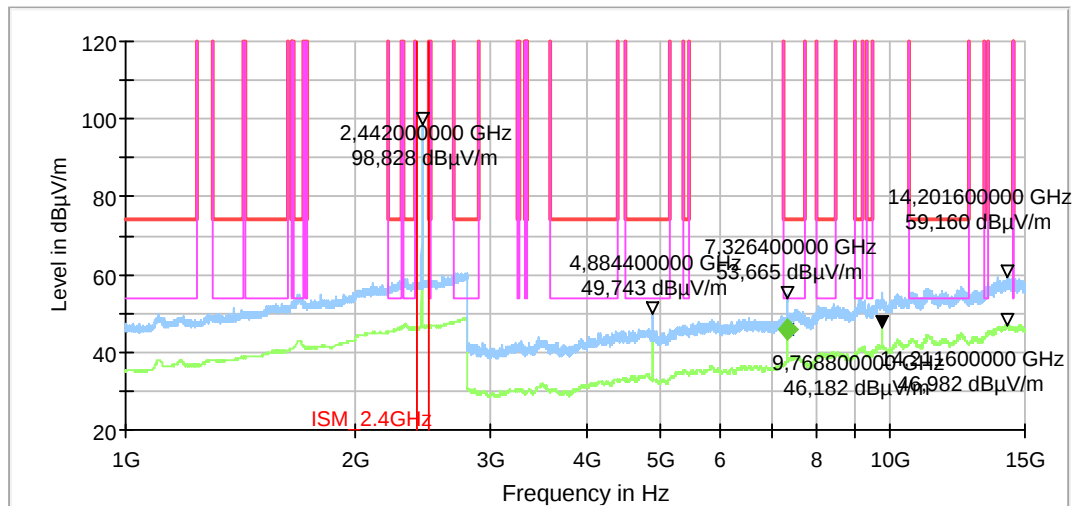
Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.50.0
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
Antenna polarisation:	horizontal/vertical
Operating Mode:	BT-LE CH 20
Operator:	mah
Comment:	Humidity : 40%rH; Temperature: 20°C
Verdict:	Passed

EUT Information

PMT number:	20-1-00140S02
Manufacturer:	Husqvarna AB
Product:	Application Board Type 1
Model:	Bluetooth Low-Energy Module HQ-BLE-1
HW version:	591 10 05
SW version:	596 24 44
Serial number:	19372547050030
Power Supply:	18 V DC

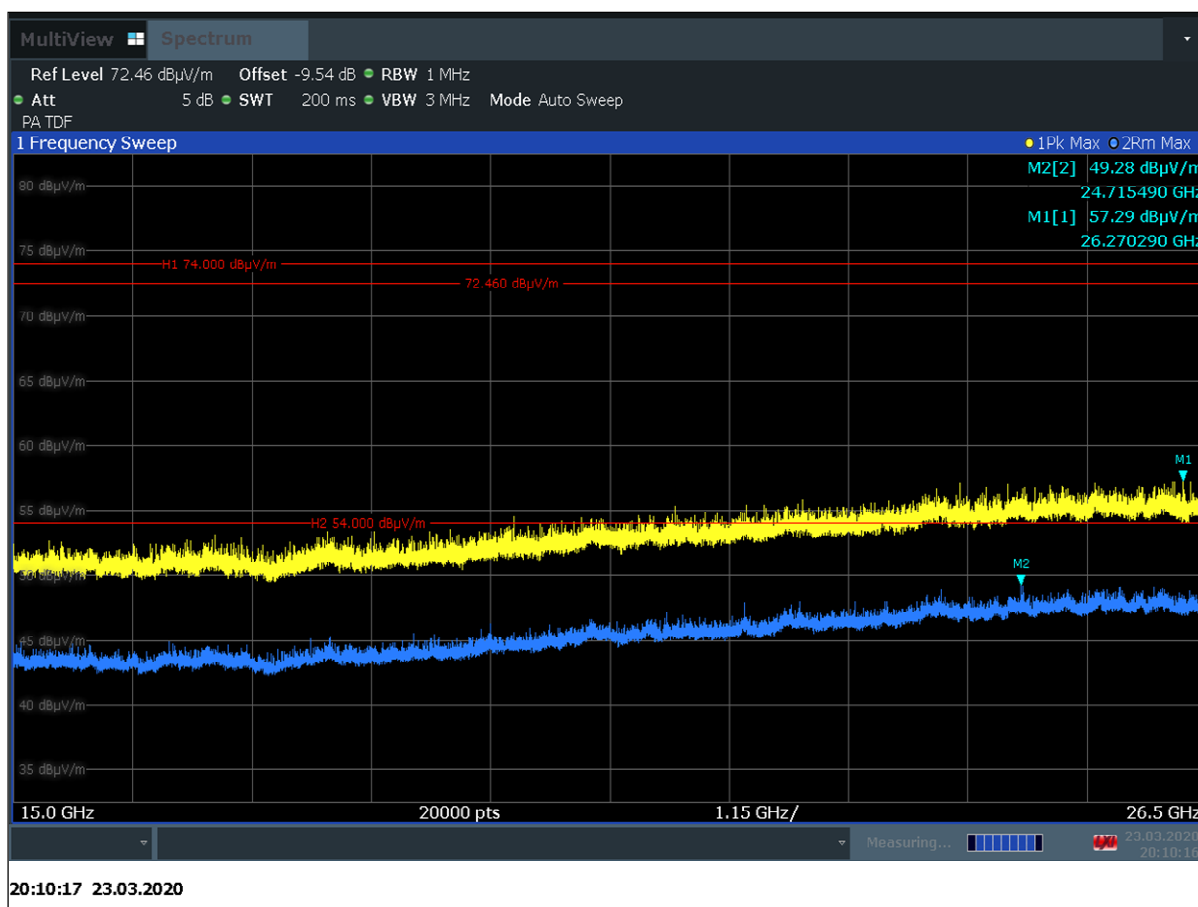
Full Spectrum



Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin	Meas. Time (ms)	Bandwidth h	Height	Pol	Azimuth h	Elevation n
7325.200000	---	45.88	54.00	8.12	100.0	1000.000	155.0	V	9.0	90.0

4.02b_BT_mid



4.03a_BT_LE_high

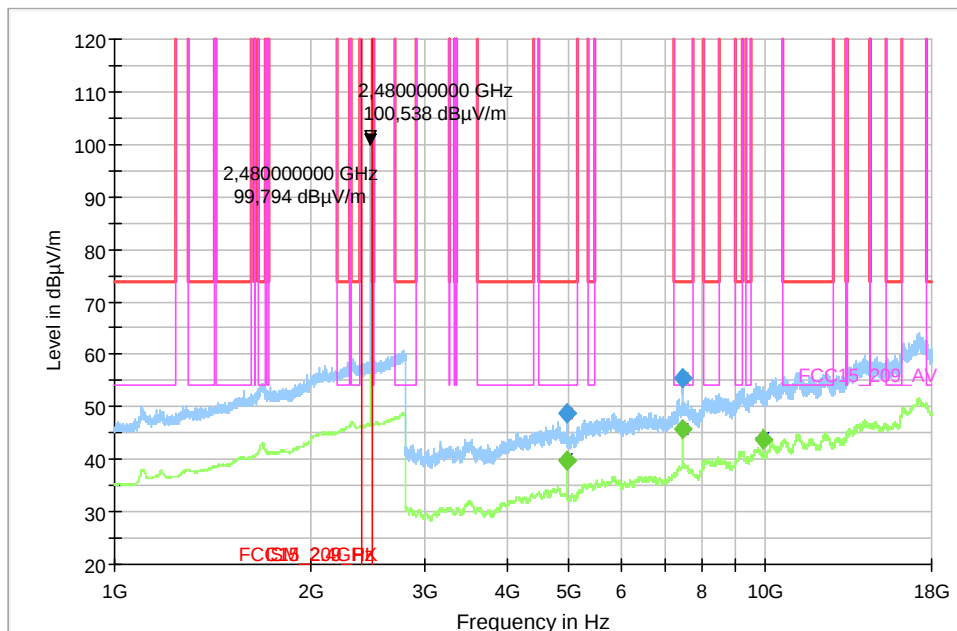
Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.50.0
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
Antenna polarisation:	horizontal/vertical
Operating Mode:	BT-LE CH 39
Operator:	HEI
Comment:	Channel no. high
Comment2:	Humidity : 40%RH; Temperature: 19°C
Verdict:	Passed

EUT Information

PMT number:	20-1-00140S02
Manufacturer:	Husqvarna AB
Product:	Application Board Type 1
Model:	Bluetooth Low-Energy Module HQ-BLE-1
HW version:	591 10 05
SW version:	596 24 44
Serial number:	19372547050030
Power Supply:	18 V DC

Full Spectrum

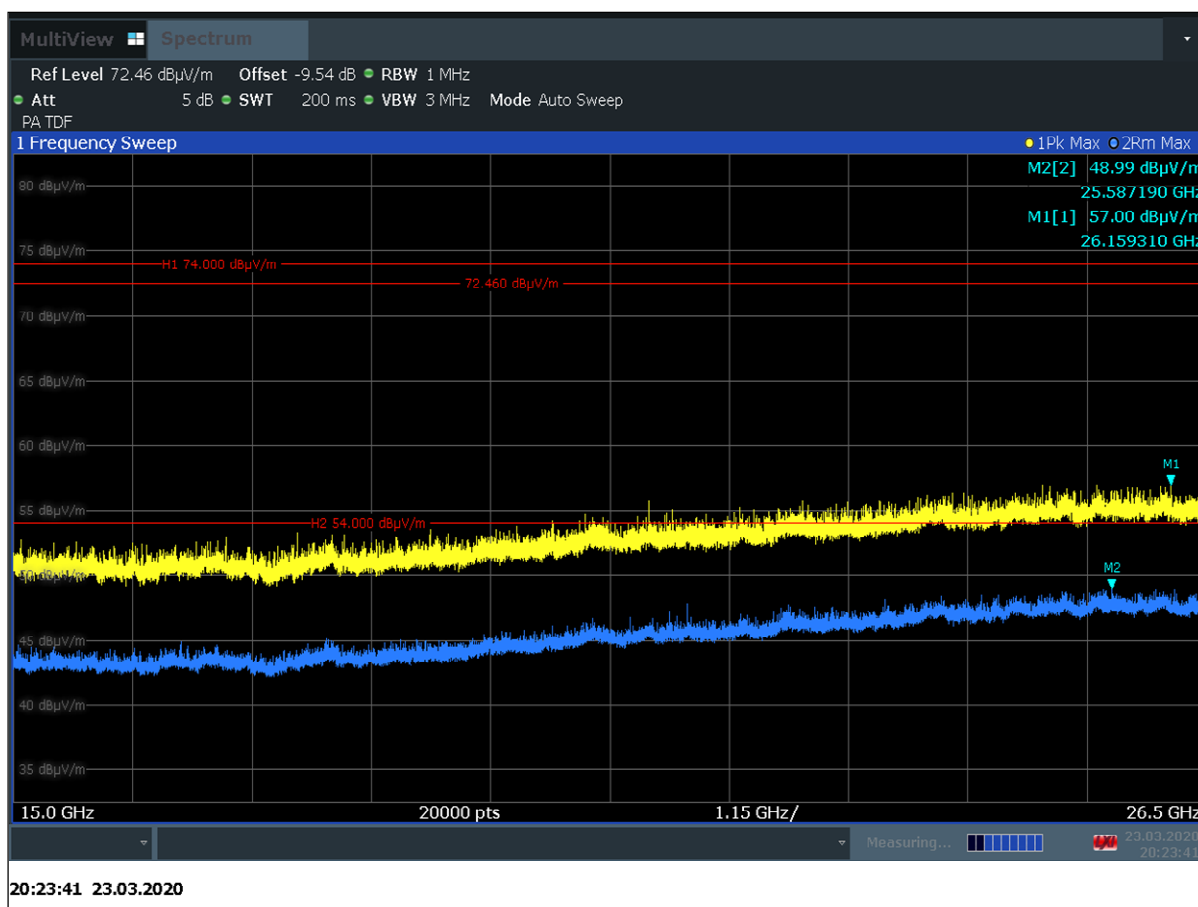


—	Preview Result 2-RMS	—	Preview Result 1-PK+	*	Critical_Freqs RMS
*	Critical_Freqs PK+	—	FCC15_209_PK	—	FCC15_209_AV
—	ISM_2.4GHz	◆	Final_Result PK+	◆	Final_Result AVG

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin	Meas. Time (ms)	Bandwidth (Hz)	Height	Pol	Azimuth
4959.600000	---	39.73	54.00	14.27	100.0	1000.000	155.0	V	3.0
4960.400000	48.69	---	74.00	25.31	100.0	1000.000	155.0	H	274.0
7439.200000	---	45.71	54.00	8.29	100.0	1000.000	155.0	V	304.0
7440.800000	55.31	---	74.00	18.69	100.0	1000.000	155.0	V	315.0
9919.200000	---	43.86	150.00	106.14	100.0	1000.000	155.0	V	7.0

4.03b_BT_high



9.01_BE_BT_LE_low

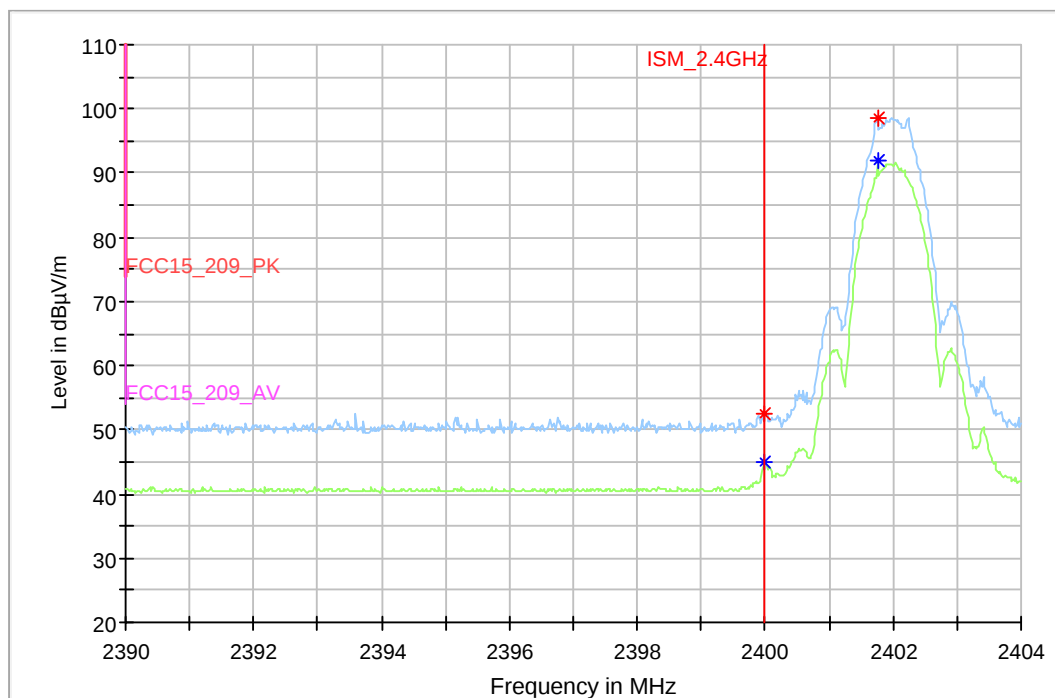
Common Information

Test Description:	Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.50.0
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
Antenna polarisation:	horizontal/vertical
Operating Mode:	BT-LE CH 0
Operator:	mah
Comment2:	Humidity : 40%rH; Temperature: 19°C
Verdict:	Passed

EUT Information

PMT number:	20-1-00140S02
Manufacturer:	Husqvarna AB
Product:	Application Board Type 1
Model:	Bluetooth Low-Energy Module HQ-BLE-1
HW version:	591 10 05
SW version:	596 24 44
Serial number:	19372547050030
Power Supply:	18 V DC

Full Spectrum



* Preview Result 2-RMS	* Preview Result 1-PK+	* Critical_Freqs RMS
* Critical_Freqs PK+	* FCC15_209_PK	* FCC15_209_AV
* ISM_2.4GHz	♦ Final_Result PK+	♦ Final_Result AVG

Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	RMS (dBµV/m)	Limit (dBµV/m)	Margin	Meas. Time (ms)	Bandwidth	Height	Pol	Azimuth	Elevation
2400.000000	---	44.89	150.00	105.11	---	---	155.0	H	126.0	0.0
2400.000000	52.57	---	150.00	97.43	---	---	155.0	H	126.0	0.0
2401.760000	---	92.03	150.00	57.97	---	---	155.0	H	146.0	0.0
2401.760000	98.63	---	150.00	51.37	---	---	155.0	H	146.0	0.0

9.02_BE_BT_LE_high

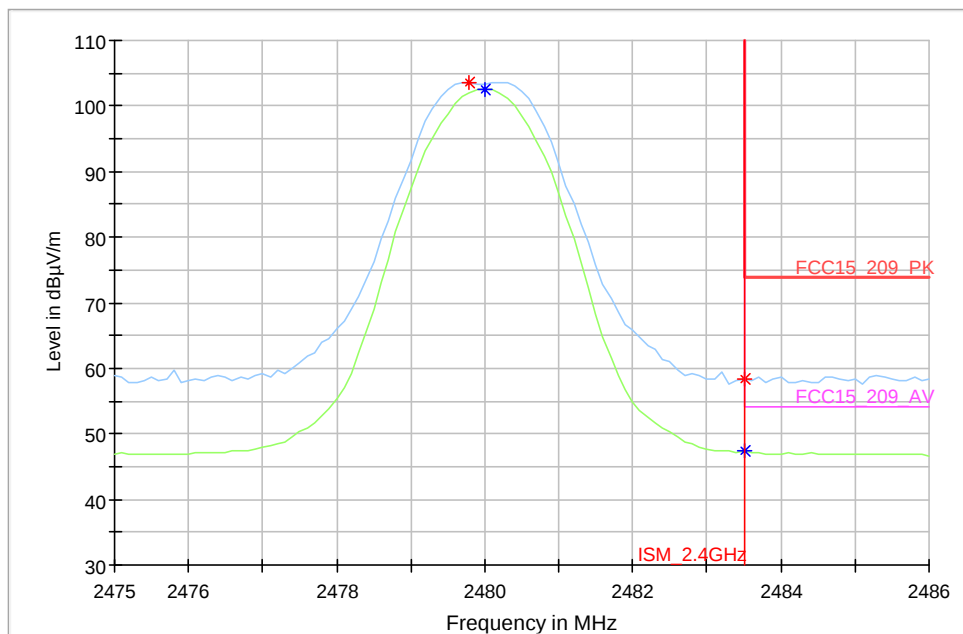
Common Information

Test Description:	Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.50.0
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
Antenna polarisation:	horizontal/vertical
Operating Mode:	BT-LE CH 39
Operator:	mah
Comment2:	Humidity : 40%rH; Temperature: 19°C
Verdict:	Passed

EUT Information

PMT number:	20-1-00140S02
Manufacturer:	Husqvarna AB
Product:	Application Board Type 1
Model:	Bluetooth Low-Energy Module HQ-BLE-1
HW version:	591 10 05
SW version:	596 24 44
Serial number:	19372547050030
Power Supply:	18 V DC

Full Spectrum



Preview Result 2-RMS	Preview Result 1-PK+	Critical_Freqs RMS
Critical_Freqs PK+	FCC15_209_PK	FCC15_209_AV
ISM_2.4GHz	Final_Result PK+	Final_Result AVG

Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	RMS (dBµV/m)	Limit (dBµV/m)	Margin	Meas. Time (ms)	Bandwidth (h)	Height	Pol	Azimuth	Elevation
2479.800000	103.53	---	150.00	46.47	---	---	155.0	H	148.0	0.0
2480.000000	---	102.58	150.00	47.42	---	---	155.0	H	148.0	0.0
2483.500000	58.43	---	74.00	15.57	---	---	155.0	V	267.0	90.0
2483.500000	---	47.27	54.00	6.73	---	---	155.0	H	145.0	0.0

End Of Annex 1