Prüfbericht-Nr.: *Test Report No.:*	60239283-001	**Auftrags-Nr.:** *Order No.:*	23870079	Seite 1 von 79 *Page 1 of 79*
Kunden Referenz-Nr.: Client Reference No.:	-	**Auftragsdatum** *Order date:*	2018-10-03	
Auftraggeber: *Client:*	Schneider Electric Buildings AB Mobilvägen 10, 223 62 Lund	Thomas Nordwall thomas.nordwall@schneider-electric.com 010-478 2588		
Prüfgegenstand: *Test item:*	SmartX IP Controller RP-C-12C-24V			
Bezeichnung / Typ-Nr.: *Identification / Type No.:*	FCC ID: DVE-RPC24			
Auftrags-Inhalt: *Order content:*	Partial FCC Certification testing – Bluetooth Low Energy and Zigbee radio			
Prüfgrundlage: *Test specification:*	FCC Part 15 Subpart C 15.205, 15.207 & 15.209 FCC Part 15 Subpart B 15.107 & 15.109 ANSI C63.10-2013			
Wareneingangsdatum: *Date of receipt:*	2018-10-03			
Prüfmuster-Nr.: *Test sample No.:*	A000211119-001, A000211119-003, A000211119-004 & A000219818-001			
Prüfzeitraum: *Testing period:*	2019-01-09 – 2019-04-08			
Ort der Prüfung: *Place of testing:*	Lund, Sweden			
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland Sweden			
Prüfergebnis: *Test results:*	Pass			

Geprüft von *Tested by:*	Stefan Olsson Test Engineer	**Kontrolliert von** *Reviewed by:*	Per Isacsson Lab Manager
Datum *Date*	2019-04-12	**Datum** *Date*	2019-04-12
Name / Stellung *Name / Position*		**Name / Stellung** *Name / Position*	
Unterschrift *Signature*		**Unterschrift** *Signature*	

Sontiges */Other:*

Only Conducted and Radiated Emissions, FCC Rule parts 15.107, 15.109, 15.205, 15.207, 15.209 is covered in this report

Revisions ***Revisions***			
Revision Revision	**Datum** Date	**Anmerkung** Remark	**Verfasser** Author
001	2019-04-12	First release	Stefan Olsson
Note: Latest revision report will replace all previous reports			

Summary of Test Results

FCC Rule Part	Test item	Result	Remarks
15.107 15.207	AC POWER CONDUCTED EMISSION	PASS	Meet the requirement of limit
15.205 15.109 15.209	RADIATED EMISSIONS	PASS	Meet the requirement of limit
15.247(a)(2)	6dB BANDWIDTH	n.p	
15.247(b)(3)	OUTPUT POWER	n.p	
15.247(d)	OUT OF BAND EMISSIONS	n.p	
15.247(d)	100 kHz Bandwidth of Frequency Band Edges	n.p	
15.247(e)	POWER SPECTRAL DENSITY	n.p	
15.203	ANTENNA REQUIREMENT	n.p	

Possible test case verdicts:

- test case does not apply to the test object ....: N/A
- test object does meet the requirement .....: PASS
- test object does not meet the requirement ....: FAIL
- test case not performed on the test object ....: n.p.

Table of contents

1 TEST SITES

Testing facility

TÜV Rheinland Sweden AB
Mobilvägen 10
223 62 Lund
Sweden

FCC Test Firm Registration Number: 517458

2 PRODUCT INFORMATION

2.1 General description

Model name:	SmartX IP Controller
Manufacturer:	Schneider Electric
Model number:	RP-C-12C-24V
FCC ID:	DVE-RPC24
Description:	IP-based field controller for StruxureWare
Supported Radio Technologies:	Bluetooth Low Energy – 2402 MHz – 2480 MHz Zigbee – 2405 MHz – 2480 MHz
Supply Voltage to Product:	24 VAC
Ancillary Equipment:	See section 2.4

2.2 Radio specific details

2.2.1 Bluetooth Low Energy radio

Operating Frequency Range	2402 MHz – 2480 MHz
Radio Protocol	Bluetooth Low Energy
Verified RF Power	9,77 dBm
Channel Spacing	2 MHz
Number of channels	39
Modulation	GFSK
Number of antennas	2
Antenna type	PCB trace Internal Antenna / External Antenna mod. ANT-2.4-WRT-MON
Antenna gain	Internal: Max. Gain +0,92dBi, External: Max. Gain +0,8dBi

2.2.2 Zigbee radio

Operating Frequency Range	2405 MHz – 2480 MHz
Radio Protocol	Zigbee
Verified RF Power	9 dBm
Channel Spacing	5 MHz
Number of channels	16
Modulation	QPSK
Number of antennas	2
Antenna type	PCB trace Internal Antenna / External Antenna mod. ANT-2.4-WRT-MON
Antenna gain	Internal: Max. Gain +0,92dBi, External: Max. Gain +0,8dBi

2.3 Equipment Under Test (EUT) identification

TÜV Rheinland ID	S/N	HW	SW	Remark
A000211119-001		EP3	Firmware: F.7A.D4.34658 Application SW: 1.00.01.02003	Used for BLE tests
A000211119-003	TD183520090	EP3	Firmware: F.7A.D4.34658 Application SW: 1.00.01.02003	Used for Zigbee tests
A000211119-004	TD183520089	EP3	Firmware: F.7A.D4.34658 Application SW: 1.00.01.02003	Used for Zigbee tests
A000219818-001		EP3	Firmware: F.7A.D4.34658 Application SW: 1.00.01.02003	Used for BLE tests

2.4 Ancillary equipment identification

Description	Type	Model	Manufacturer	S/N
Transformer 1	40VA	PFS40	Tufvassons	-
Transformer 2	96VA	YT96	Tufvassons	-
Room Sensor	Sensor Base, Temp, Humidity, CO2	SXWSBTHCXSXXE06	Schneider	BBHC180500H
Ethernet switch	10/100/1000 Mbit/s	GS105	Netgear	2N113C34551A5
Cabling and passive equipment according to Appendix A				
External Antenna		ANT-2.4-WRT-MON		
Equipment used outside the chamber				
Ethernet switch	10/100/1000 Mbit/s	GS105	Netgear	2N113C34551A5
Transformer 230V – 24V	20VA	PFS20S	Tufvassons	
SmartX PS-24		SXWPS24VX10001-00	Schneider	TD152618018
SmartX AS-P		SXWASPXXX10001	Schneider	3N170312021
Laptop		P50	Fujitsu	

3 TEST METHODS AND OPERATION MODES

3.1 Test Methods

The following standards/references has been considered for the testing

Reference Standards	
Standard	**Description**
FCC Part 15 (Subpart C)	§15.247 Operation within the bands 902-928 MHz, 2400-2483,5 MHz, and 5725-5850 MHz.
FCC Part 15 (Subpart B)	§15.107 Conducted Limits, unintentional radiators
FCC Part 15 (Subpart C)	§15.207 Conducted Limits, intentional radiators
FCC Part 15 (Subpart B)	§15.109 Radiated emission limits; general requirements, unintentional radiators
FCC Part 15 (Subpart C)	§15.209 Radiated emission limits; general requirements, intentional radiators
FCC Part 15 (Subpart C)	§15.203 Antenna Requirement
ANSI C63.4:2014	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
ANSI C63.10:2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
558074 D01 DTS Meas Guidance v05 - August 24,2018	Guidance for performing compliance measurements on digital transmission systems (dts) operating under §15.247

3.2 Operation modes

Testing was performed at the lowest operating frequency, at the operating frequency in the middle of the specified frequency band and at the highest operating frequency of each supported technology as per below.
A special test software was used to enable the continuous transmission of each channel.

3.2.1 Tested channels/Frequencies

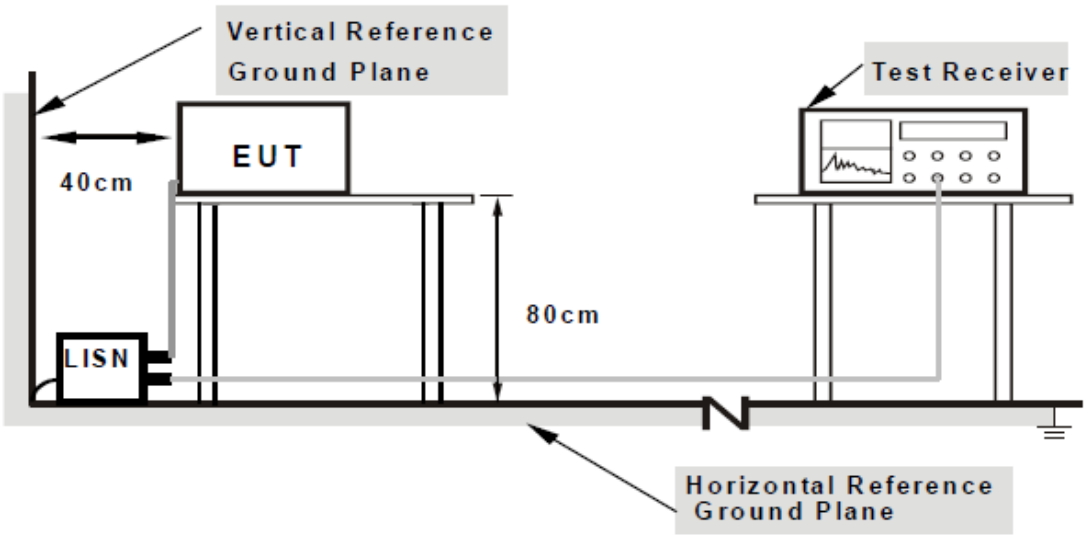
Frequency Band (MHz)	Channel No.	Channel Frequency (MHz)
Bluetooth Low Energy (2.4 GHz)	37	2402
	17	2440
	39	2480
Zigbee (2.4 GHz)	11	2405
	18	2440
	26	2480

4 TEST METHODOLOGY

4.1 Conducted Emission Test

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The LISNs provide 50Ω/ 50µH of coupling impedance for the measuring instrument.
b. The lines of the power mains connected to the EUT were checked for maximum conducted interference.
c. The frequency range from 150 kHz to 30 MHz was searched.

A NSG 1007 from Schaffner was used to support 60Hz power to the LISN.



4.2 Radiated Emission Test

The radiated emission measurement was performed according to the procedures in ANSI C63.10-2013. The equipment under test (EUT) was placed at the middle of the turntable on an 80cm high table for below 1 GHz & 1.5 m height for above 1 GHz measurement, for frequencies up to 18GHz the EUT is 3 meters far from the measuring antenna, above 18GHz the distance is 1 meter. The turntable was rotated 360˚ for obtaining the maximum emission. The height of the measuring antennas was scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations. Repeat the measurement steps until the maximum emissions were obtained. The measurements above 1000 MHz was performed by 3 different horn antennas, the measurement below 30 MHz was performed by loop antenna and measurement from 30 MHz to 1 GHz was performed by Log-Periodic Antenna.

Test Setup Configuration

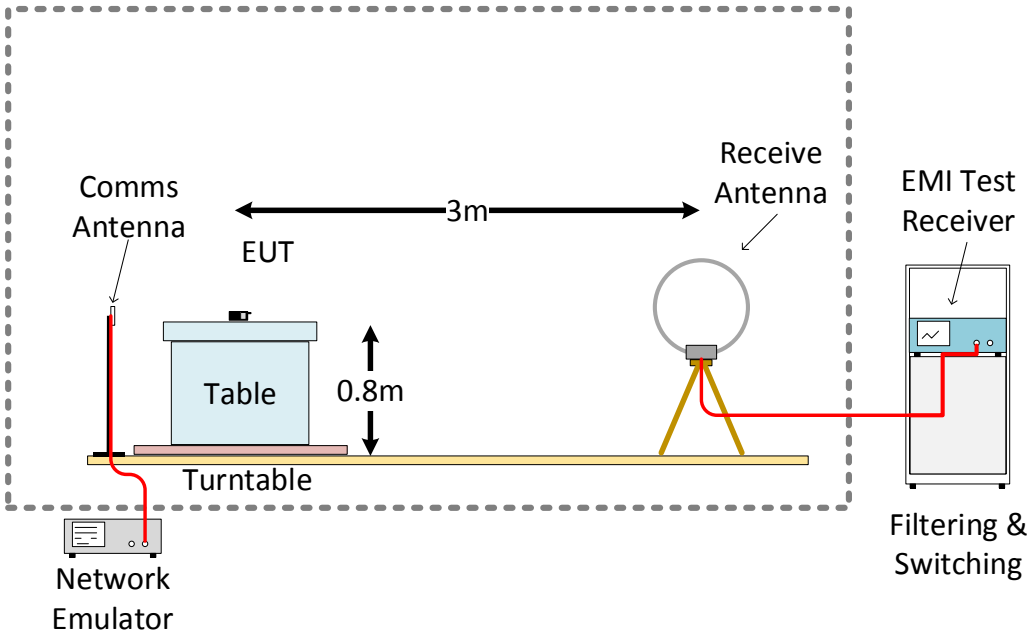


Figure 1: Frequency range 9 KHz – 30 MHz

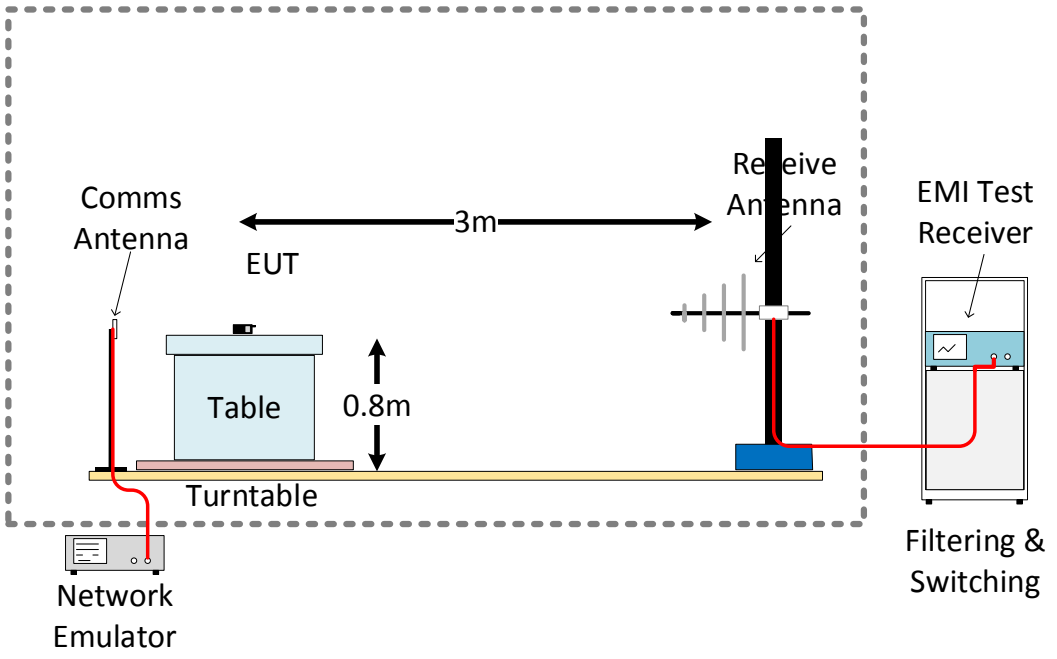


Figure 2: Frequency range 30 MHz – 1 GHz

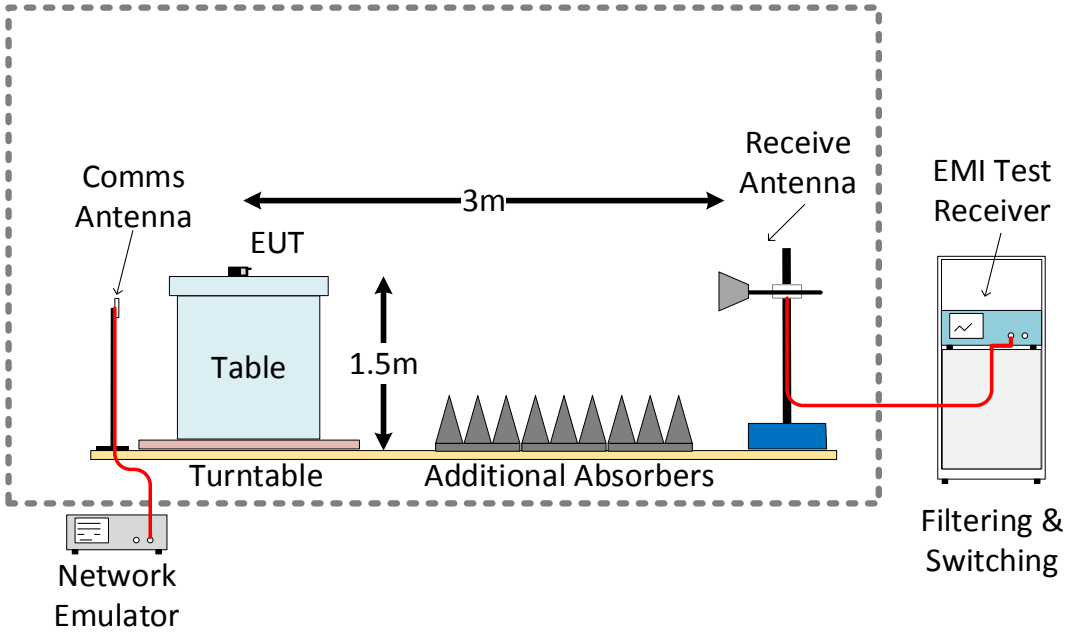


Figure 3: Frequency range 1 GHz – 18 GHz

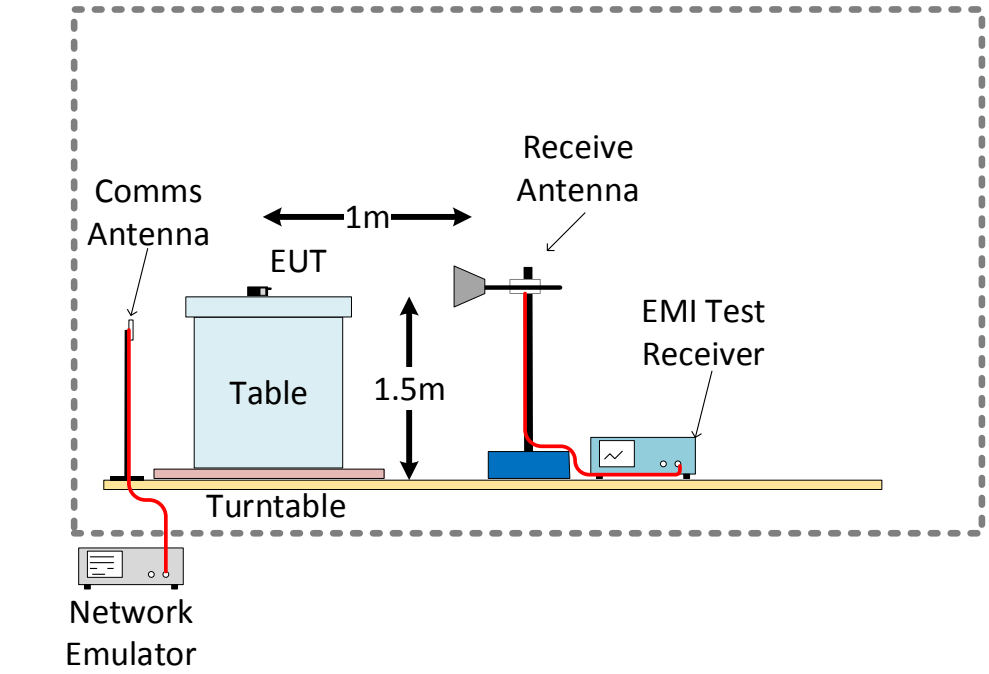


Figure 4: Frequency range 18 GHz – 40 GHz

5 TEST RESULTS

5.1 Conducted emissions

Result	Pass
Test period	2019-04-08
Test Engineer	Ardeshir Nazari
Test Specification	FCC part 15 Subpart C Section 15.207 FCC Part 15 Subpart B Section 15.107
Test Method	ANSI C 63.10 - 2013
Measurement Location	Conducted Emissions laboratory
Detector	QP and Average
Requirement	As per the limits mentioned in the below table
Test conditions	24 VAC 60Hz from power supply
Environmental conditions	Temperature: + 18 - 25 °C Relative Humidity: 20 - 40 %

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

*Decreases with the logarithm of the frequency.

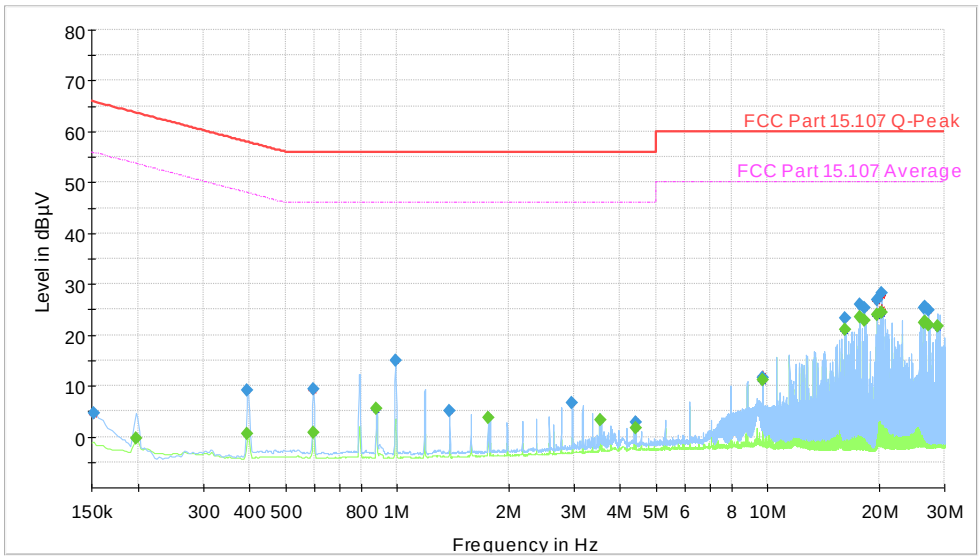
5.2 Test setups

Test	Constellation (see also notes below)	Radio Technology	Channel	EUT Antenna used	Result
1	Full connections according to Appendix 2	Idle	-	Internal	Pass
2	Full connections according to Appendix 2	Idle	-	External	Pass
3	Full connections according to Appendix 2	Zigbee	18	Internal	Pass
4	Full connections according to Appendix 2	Zigbee	18	External	Pass
5	Full connections according to Appendix 2	BLE	17	Internal	Pass
6	Full connections according to Appendix 2	BLE	17	External	Pass

5.3 Test results

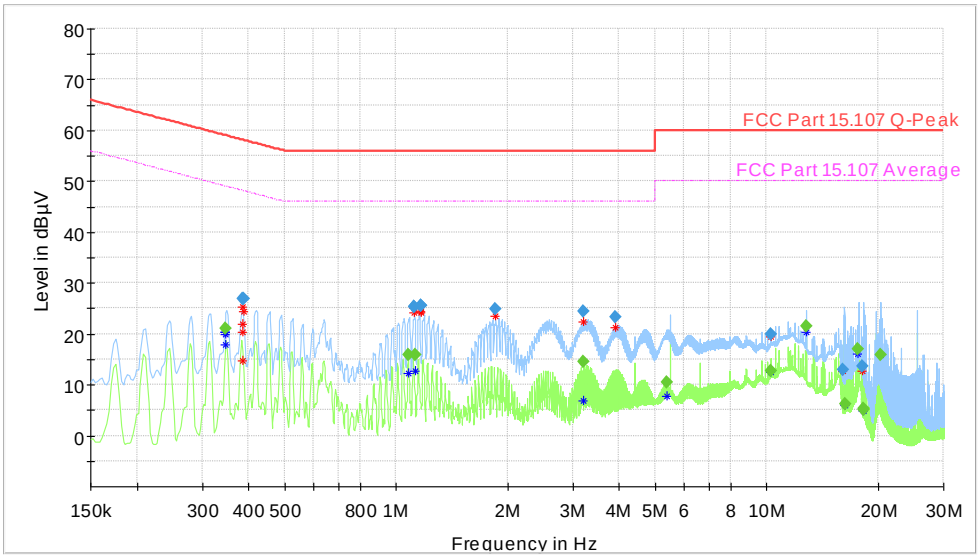
For all tests results between 150 kHz and 30 MHz the 6 measurement points closest to the limit is listed in the table below the graph.

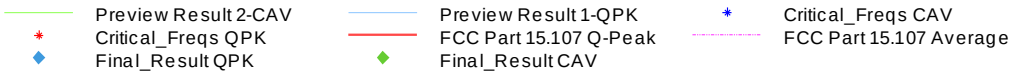
5.3.1 Test 1, Idle with internal antenna



Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line
17.693250	---	23.50	50.00	26,5	1000.0	9.000	L1
18.242250	---	22.80	50.00	27,2	1000.0	9.000	L1
19.709250	---	23.91	50.00	26,09	1000.0	9.000	N
20.258250	---	24.35	50.00	25,65	1000.0	9.000	N
26.486250	---	22.50	50.00	27,5	1000.0	9.000	N
26.610000	---	22.70	50.00	27,3	1000.0	9.000	N

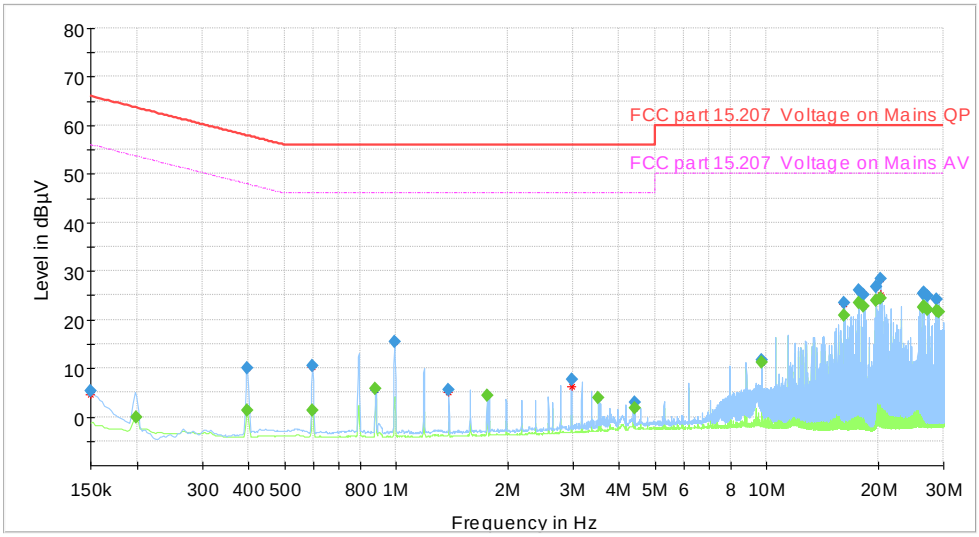
5.3.2 Test 2, Idle with external antenna





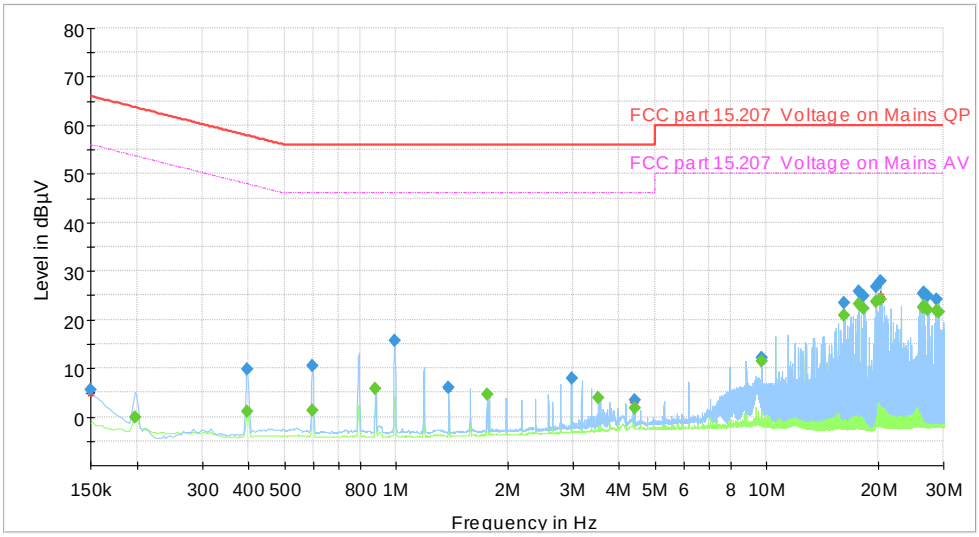
Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line
0.345750	---	21.13	49.06	27,93	1000.0	9.000	L1
1.079250	---	15.82	46.00	30,18	1000.0	9.000	N
1.124250	---	15.81	46.00	30,19	1000.0	9.000	N
1.164750	25.62	---	56.00	30,38	1000.0	9.000	L1
1.167000	25.48	---	56.00	30,52	1000.0	9.000	L1
12.799500	---	21.44	50.00	28,56	1000.0	9.000	L1

5.3.3 Test 3, Zigbee channel 18 internal antenna



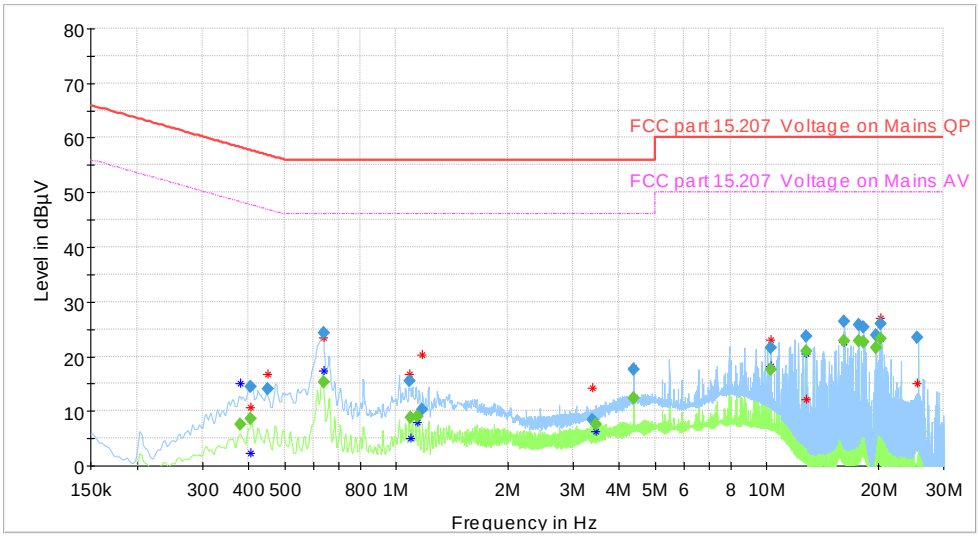
Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line
17.693250	---	23.41	50.00	26,59	1000.0	9.000	L1
18.242250	---	22.64	50.00	27,36	1000.0	9.000	L1
19.709250	---	23.92	50.00	26,08	1000.0	9.000	N
20.258250	---	24.47	50.00	25,53	1000.0	9.000	N
26.486250	---	22.53	50.00	27,47	1000.0	9.000	N
26.610000	---	22.70	50.00	27,3	1000.0	9.000	N

5.3.4 Test 4, Zigbee channel 18 external antenna



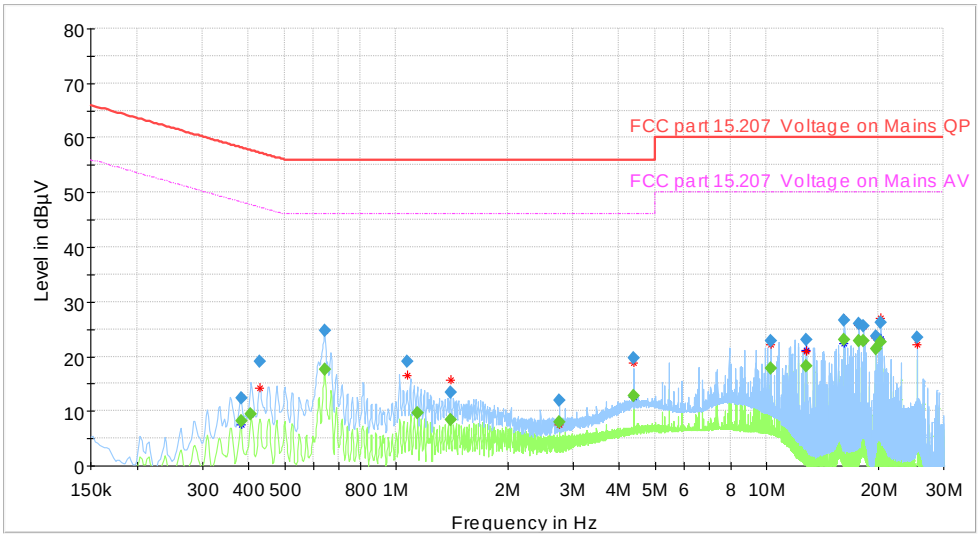
Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line
17.693250	---	23.29	50.00	26,71	1000.0	9.000	L1
18.242250	---	22.38	50.00	27,62	1000.0	9.000	L1
19.709250	---	23.75	50.00	26,25	1000.0	9.000	N
20.258250	---	24.10	50.00	25,9	1000.0	9.000	N
26.486250	---	22.50	50.00	27,5	1000.0	9.000	N
26.610000	---	22.67	50.00	27,33	1000.0	9.000	N

5.3.5 Test 5, BLE channel 17 internal antenna



Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line
12.777000	---	20.87	50.00	29,13	1000.0	9.000	N
16.228500	---	22.91	50.00	27,09	1000.0	9.000	L1
17.693250	---	22.84	50.00	27,16	1000.0	9.000	L1
18.242250	---	22.70	50.00	27,3	1000.0	9.000	L1
19.709250	---	21.68	50.00	28,33	1000.0	9.000	N
20.258250	---	23.15	50.00	26,85	1000.0	9.000	N

5.3.6 Test 6, BLE channel 17 external antenna



Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line
0.642750	---	17.64	46.00	28,36	1000.0	9.000	L1
16.228500	---	23.11	50.00	26,89	1000.0	9.000	L1
17.693250	---	22.79	50.00	27,21	1000.0	9.000	L1
18.242250	---	22.89	50.00	27,11	1000.0	9.000	L1
19.709250	---	21.36	50.00	28,64	1000.0	9.000	N
20.258250	---	22.63	50.00	27,37	1000.0	9.000	N

5.4 Radiated emissions

Result	Pass
Test period	2019-01-09 – 2019-03-19
Test Engineer	Stefan Olsson
Test Specification	FCC part 15 Subpart C Section 15.247 (d), 15.209 & 15.205 FCC Part 15 Subpart B Section 15.109
Test Method	ANSI C 63.10 - 2013
Measurement Location	Semi Anechoic Chamber
Measuring Distance	3 m for 9 KHz to 18 GHz 1 m for 18 GHz to 40 GHz
Detector	Quasi-peak, except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz where an Average detector is used.
Requirement	As per the limits mentioned in the below table
Test conditions	24 VAC from power supply
Environmental conditions	Temperature: + 18 - 20 °C Relative Humidity: 20 - 40 %

Frequency (MHz)	Field strength (µV/m)	Field strength (dBµV/m)	Distance of Measurement (m)
0.009 – 0.490	2400/F(kHz)	48.50 – 13.80	300*
0.490 – 1.705	24000/F(kHz)	33.80 – 23.00	30*
1.705 -30	30	29.54	30*
30-88	100	40.0	3
88-216	150	43.5	3
216-960	200	46.0	3
Above 960	500	54.0	3

Remark: * The limit shows in the table above of frequency range 0.009 – 0.490, 0.490 – 1.705 MHz and 1.705-30MHz is at 300 meter, 30 meter and 30 meter range respectively, which corresponds to 128.51 – 93.80, 73.80 – 62.96 and 69.54 dBµV/m at 3m range by extrapolation calculation and the measurement of loop antenna.

For measurements above 18GHz the measurement was performed at 1m distance, the limit line has been adjusted for this using the following formula: Extrapolation (dB) = 40log (3meter / 1meter) = +19,08db

The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz Radiated emission limits in these three bands are based on measurements employing an average detector.

5.5 Test setups

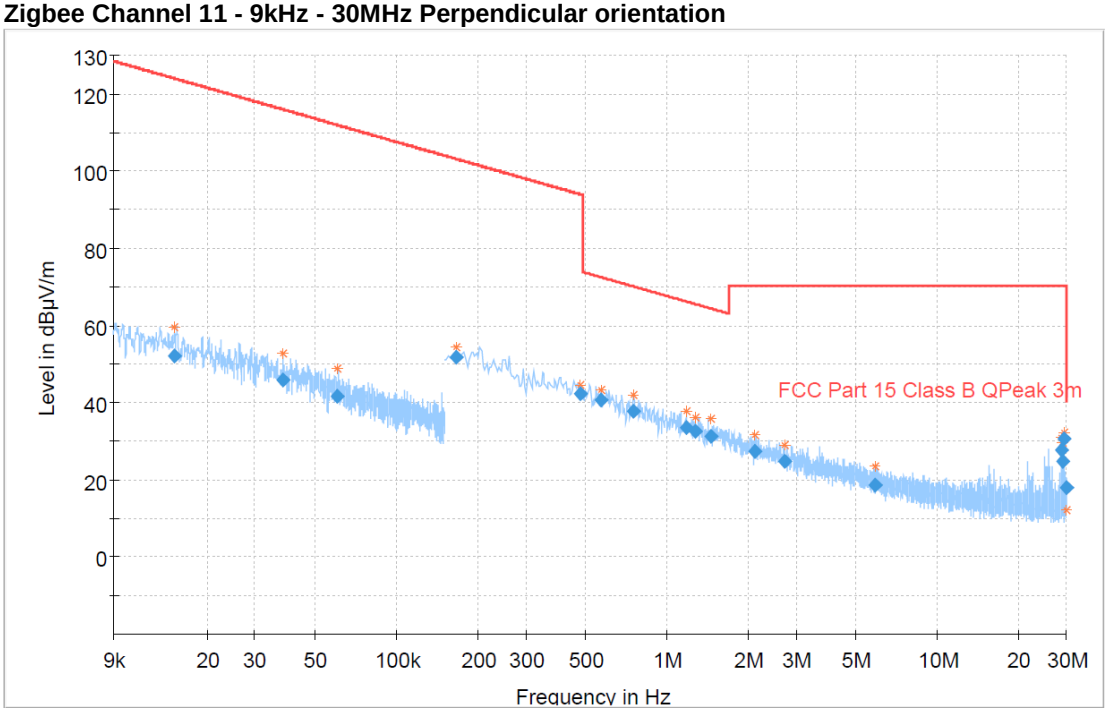
Test	Constellation (see also notes below)	EUT Antenna used	Result
1	Full connections according to Appendix 2	Internal	Pass
2	Full connections according to Appendix 2	External	Pass

5.6 Test 1, Internal Antenna – Test results

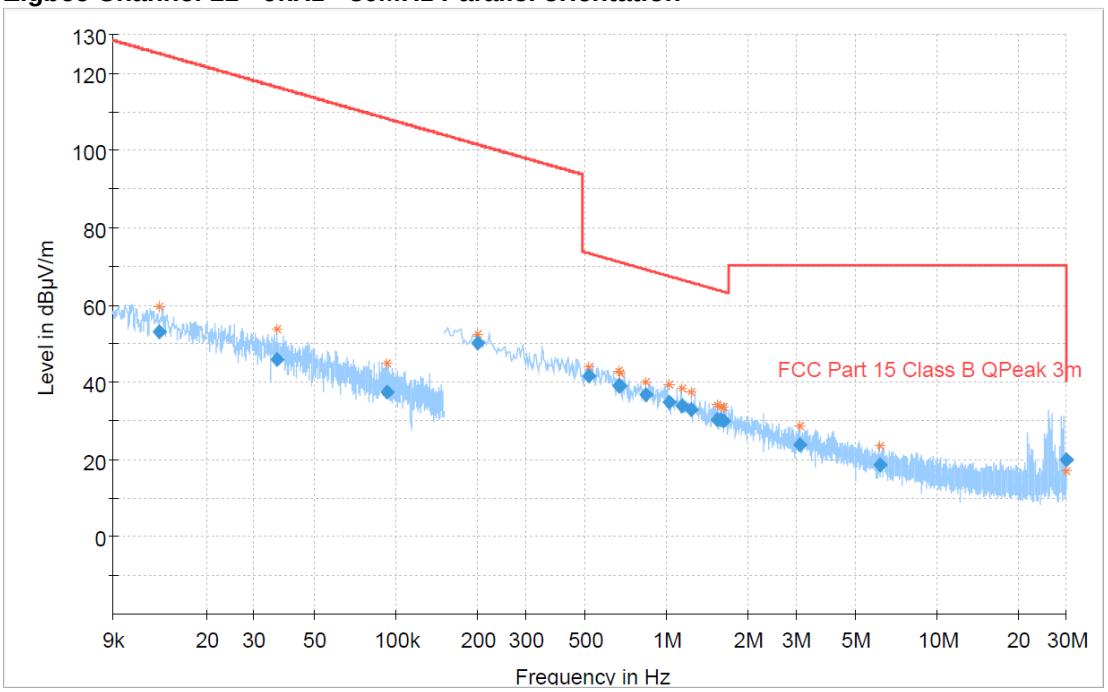
5.6.1 Radiated Emissions - Test results for frequencies in the range 9 kHz - 30 MHz

All emissions were greater than 20dB below the limit for all 9kHz to 30MHz tests.

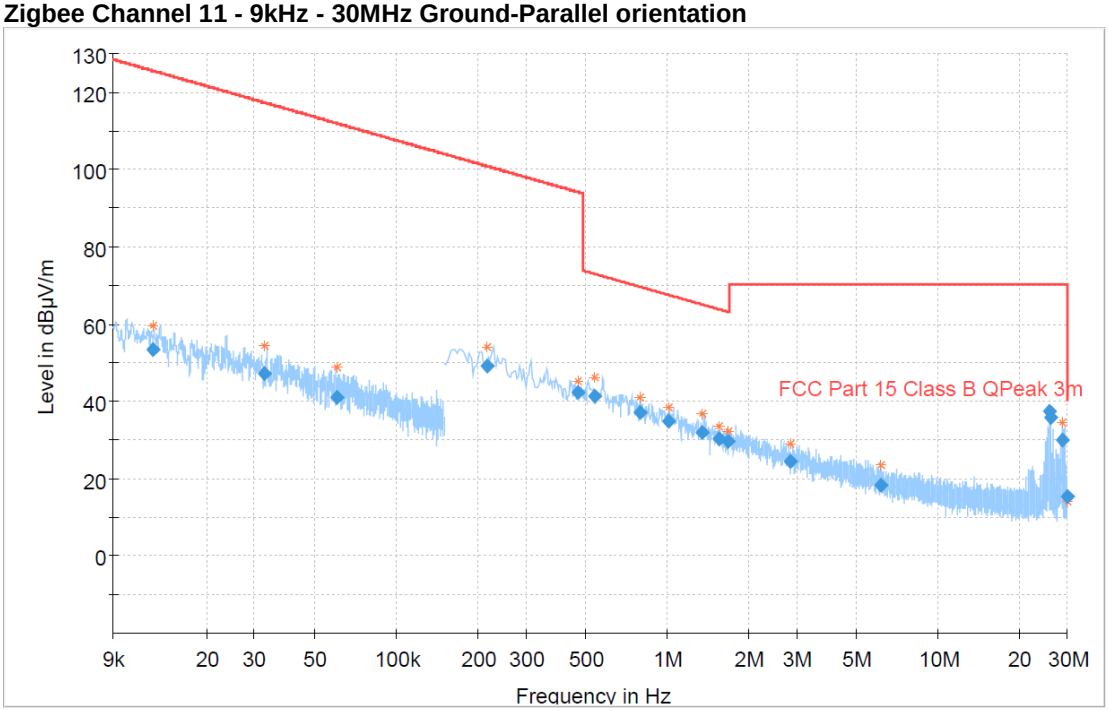
Zigbee Channel 11 - 9kHz - 30MHz Perpendicular orientation



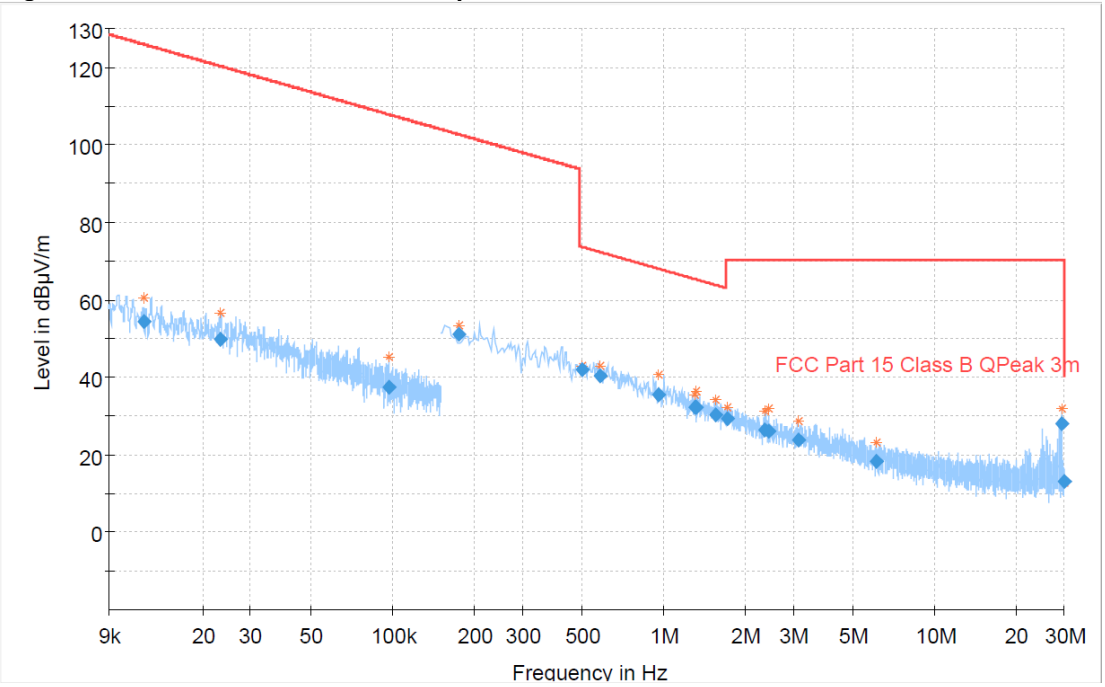
Zigbee Channel 11 - 9kHz - 30MHz Parallel orientation



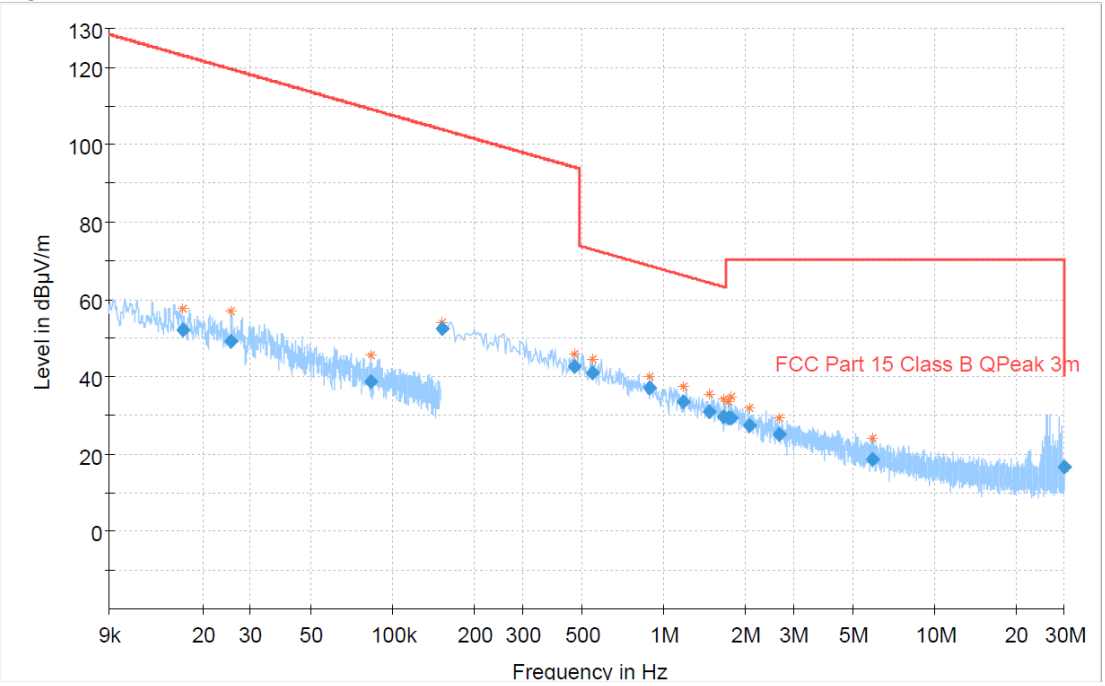
Zigbee Channel 11 - 9kHz - 30MHz Ground-Parallel orientation



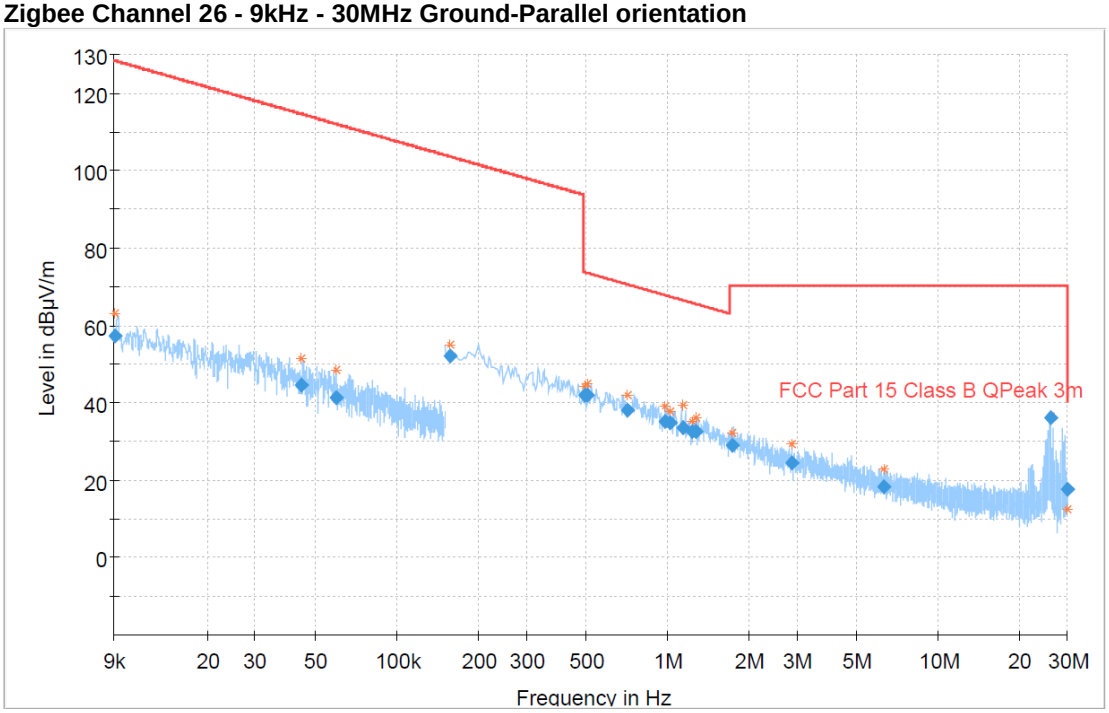
Zigbee Channel 26 - 9kHz - 30MHz Perpendicular orientation



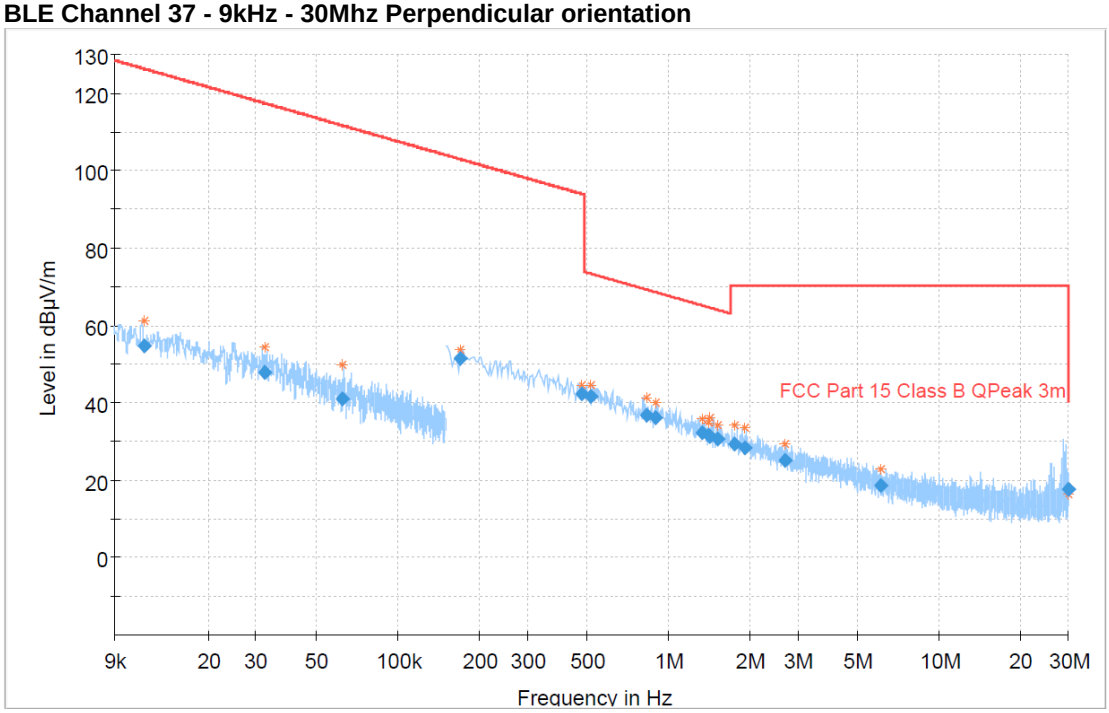
Zigbee Channel 26 - 9kHz - 30MHz Parallel orientation



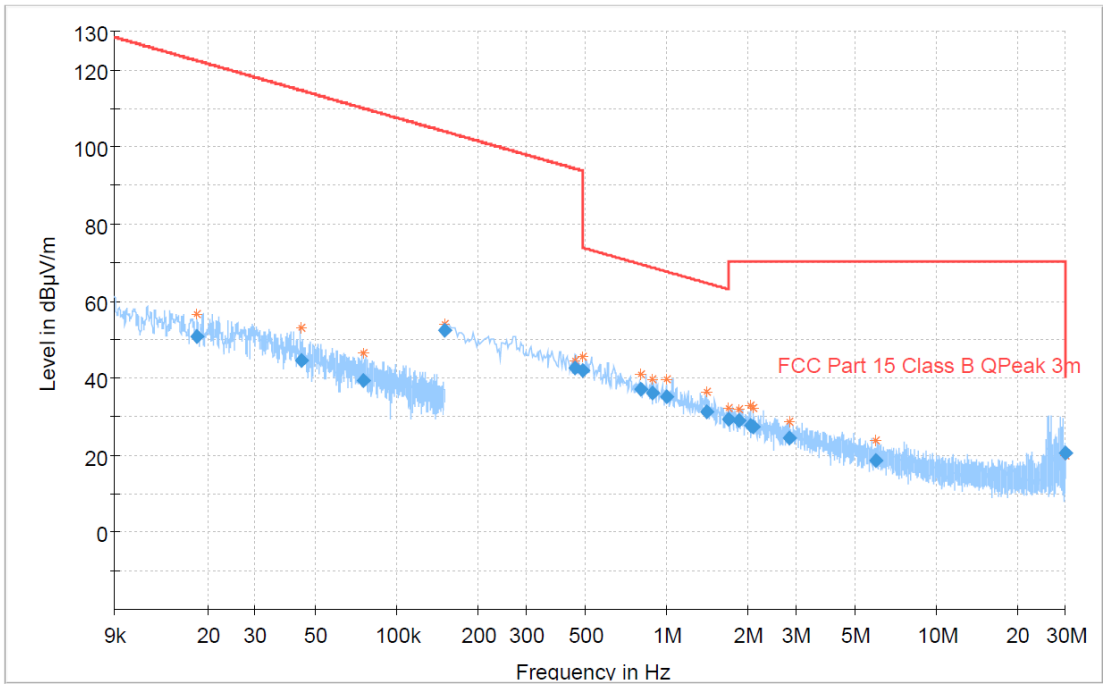
Zigbee Channel 26 - 9kHz - 30MHz Ground-Parallel orientation



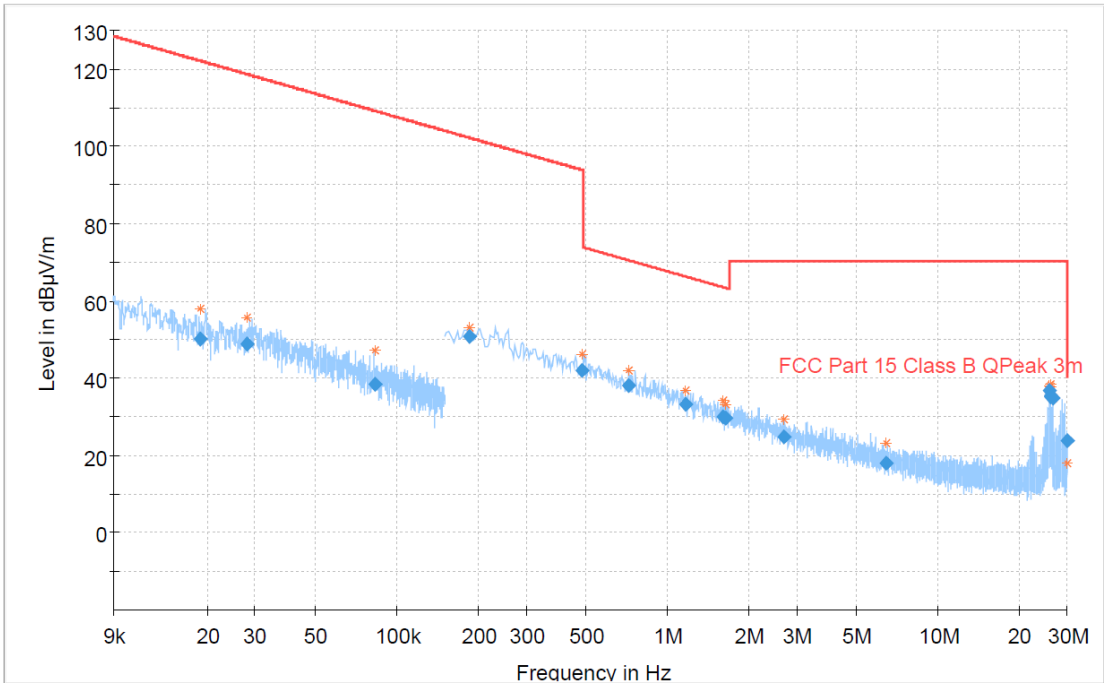
BLE Channel 37 - 9kHz - 30Mhz Perpendicular orientation



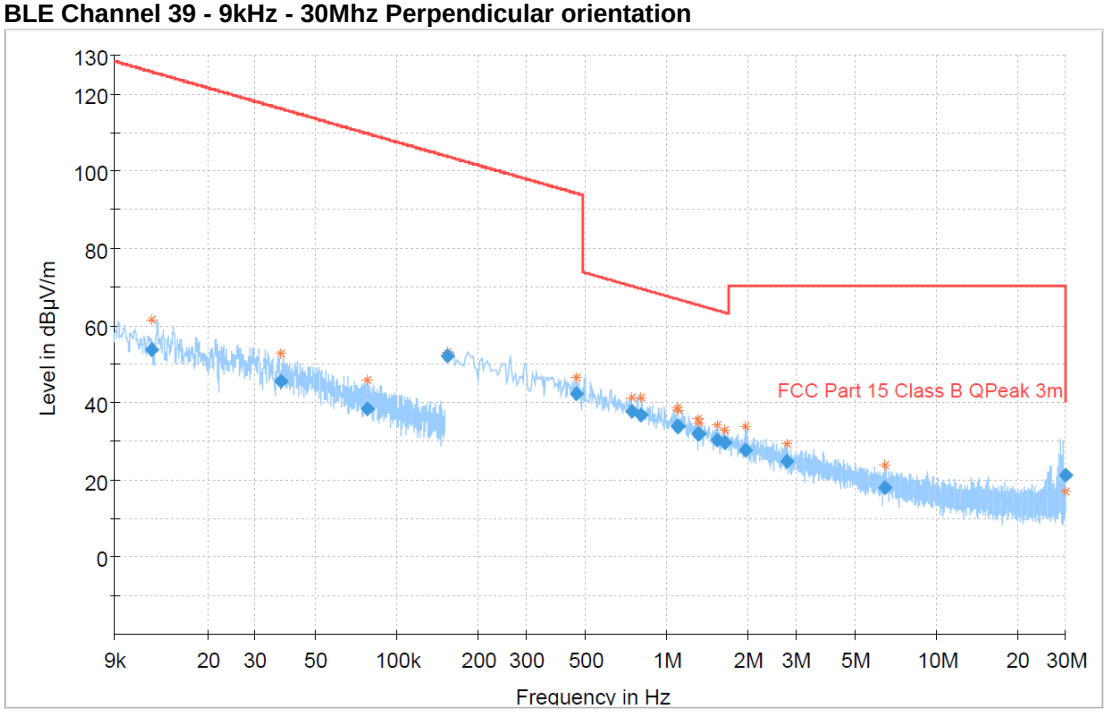
BLE Channel 37 - 9kHz - 30Mhz Parallel orientation



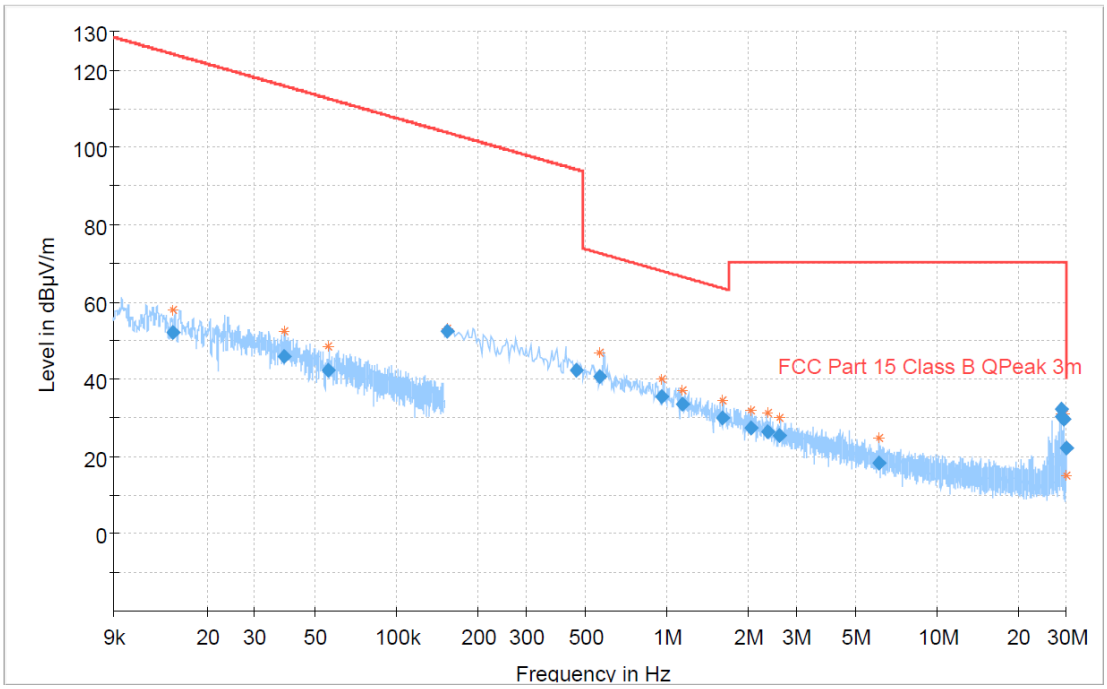
BLE Channel 37 - 9kHz - 30Mhz Ground-Parallel orientation



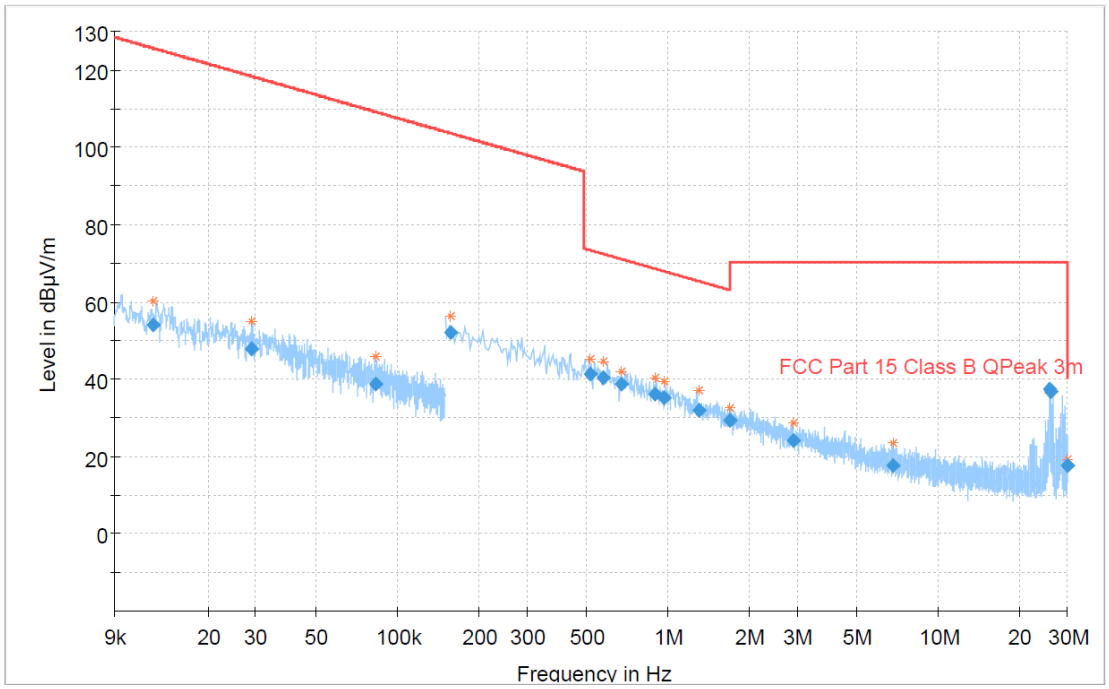
BLE Channel 39 - 9kHz - 30Mhz Perpendicular orientation



BLE Channel 39 - 9kHz - 30Mhz Parallel orientation



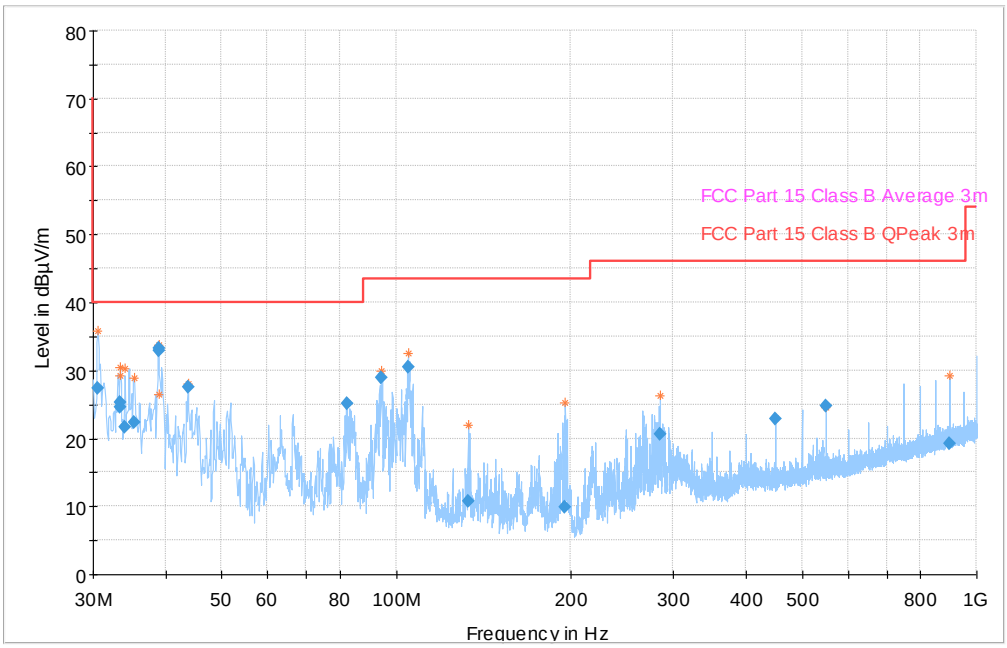
BLE Channel 39 - 9kHz - 30Mhz Ground-Parallel orientation



5.6.2 Radiated Emissions - Test results for frequencies in the range 30 MHz - 1 GHz

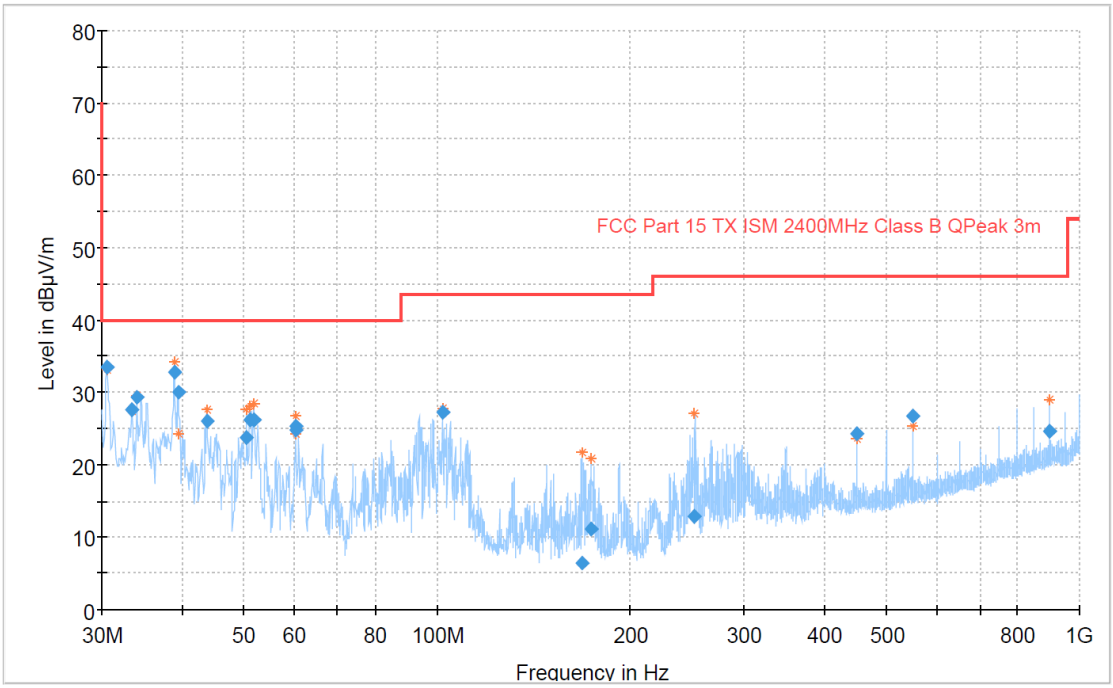
For all tests between 30MHz and 1GHz the 6 measurement points closest to the limit is listed in the table below the graph.

Idle mode



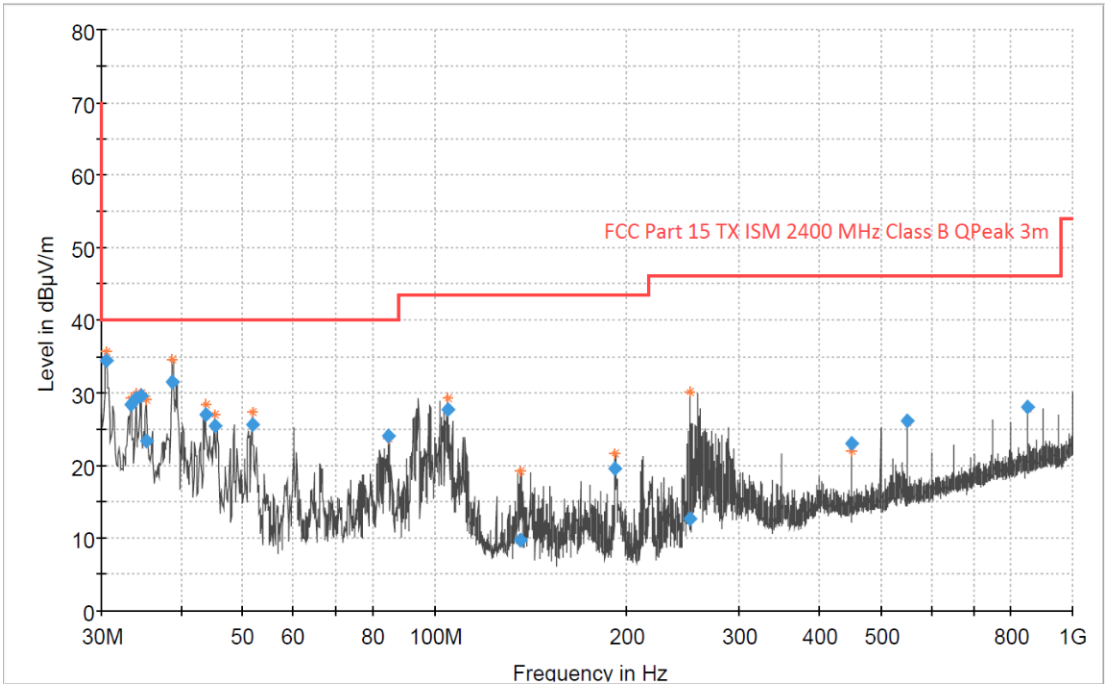
Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
30.598683	27.29	40.00	12,71	1000.0	120.000	275.0	V	224.0
33.442880	25.34	40.00	14,66	1000.0	120.000	275.0	V	292.0
33.476040	24.51	40.00	15,49	1000.0	120.000	275.0	V	295.0
34.084560	21.68	40.00	18,32	1000.0	120.000	308.0	V	295.0
35.320960	22.39	40.00	17,61	1000.0	120.000	175.0	V	157.0
38.934080	33.19	40.00	6,81	1000.0	120.000	100.0	V	113.0

Zigbee Channel 11



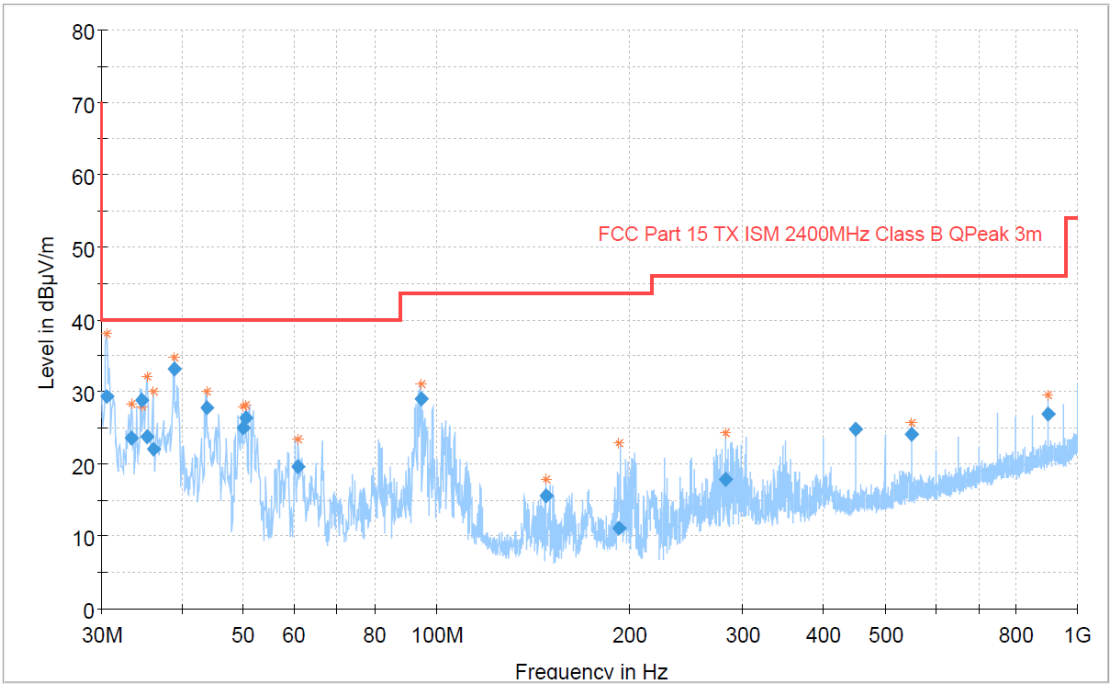
Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
30.594546	33.41	40.00	6.59	1000.0	120.000	100.0	V	-23.0
33.467600	27.53	40.00	12.47	1000.0	120.000	100.0	V	22.0
34.107800	29.28	40.00	10.72	1000.0	120.000	100.0	V	160.0
38.978360	32.76	40.00	7.24	1000.0	120.000	100.0	V	62.0
39.497120	30.02	40.00	9.98	1000.0	120.000	100.0	V	67.0
51.066160	26.12	40.00	13.88	1000.0	120.000	100.0	V	247.0

Zigbee Channel 18



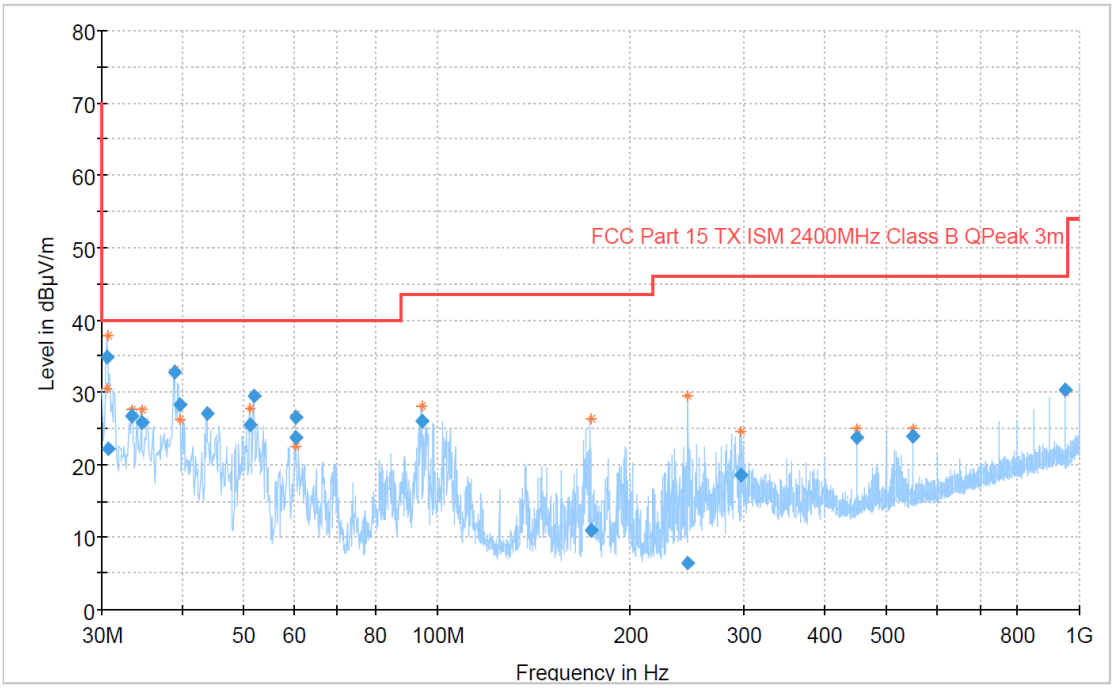
Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
30.609085	34.54	40.00	5.46	1000.0	120.000	100.0	V	293.0
33.446480	28.48	40.00	11.52	1000.0	120.000	100.0	V	112.0
34.090880	29.22	40.00	10.78	1000.0	120.000	100.0	V	116.0
34.624440	29.61	40.00	10.39	1000.0	120.000	100.0	V	202.0
38.870960	31.56	40.00	8.44	1000.0	120.000	100.0	V	202.0
43.834240	27.01	40.00	12.99	1000.0	120.000	100.0	V	247.0

Zigbee Channel 26



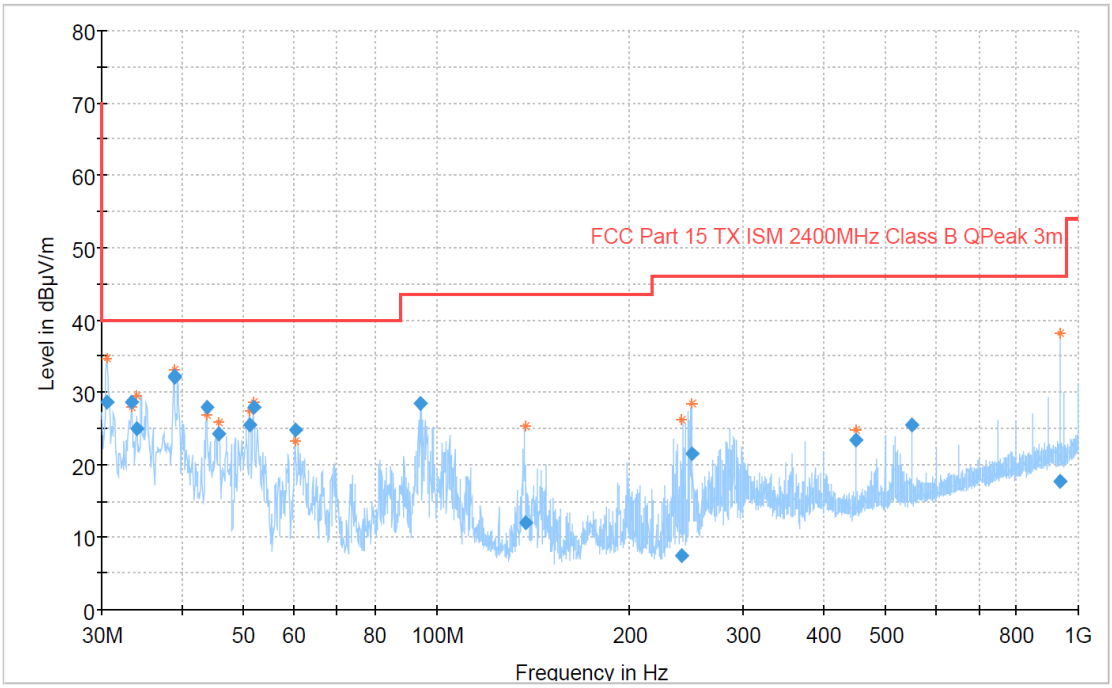
Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
30.635798	29.39	40.00	10.61	1000.0	120.000	279.0	V	25.0
34.600200	28.80	40.00	11.20	1000.0	120.000	100.0	V	-23.0
38.960360	33.08	40.00	6.92	1000.0	120.000	100.0	V	62.0
43.827520	27.74	40.00	12.26	1000.0	120.000	100.0	V	295.0
50.451760	26.42	40.00	16.58	1000.0	120.000	100.0	V	22.0
94.403040	29.03	43.50	14.47	1000.0	120.000	104.0	V	205.0

BLE Channel 37



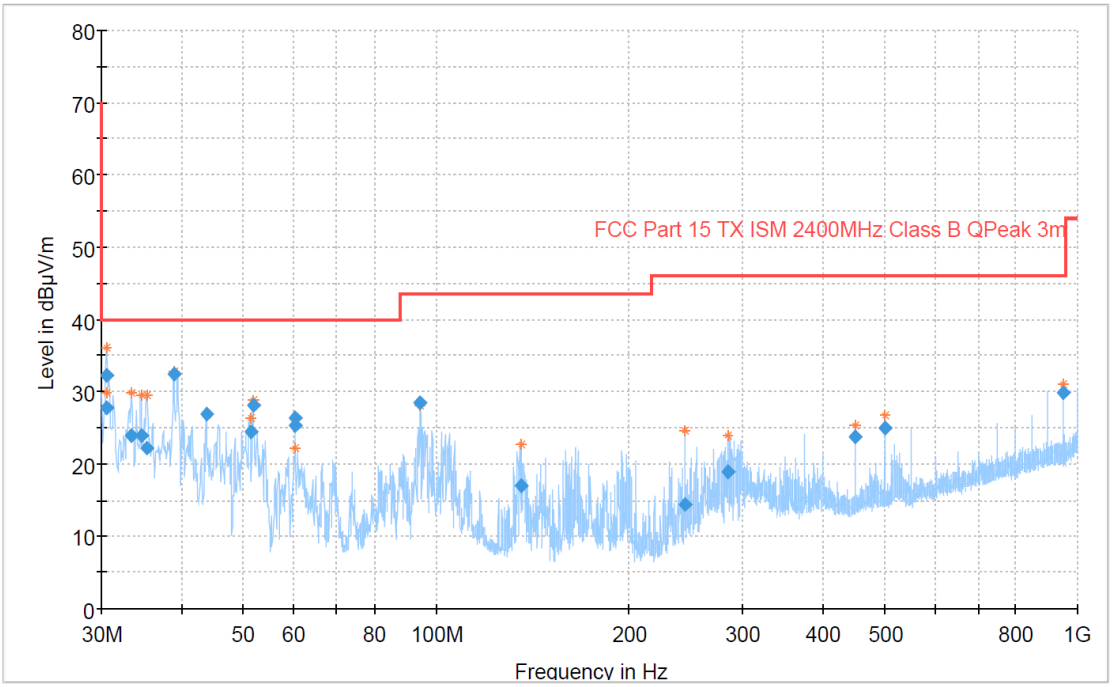
Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
30.599340	34.91	40.00	5.09	1000.0	120.000	100.0	V	338.0
33.457160	26.68	40.00	13.32	1000.0	120.000	100.0	V	23.0
38.980520	32.72	40.00	7.28	1000.0	120.000	100.0	V	19.0
39.687400	28.29	40.00	11.71	1000.0	120.000	100.0	V	1.0
43.795240	27.04	40.00	12.96	1000.0	120.000	100.0	V	293.0
51.827480	29.52	40.00	10.48	1000.0	120.000	175.0	V	338.0

BLE Channel 17



Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
30.630124	28.57	40.00	11.43	1000.0	120.000	325.0	V	293.0
33.441920	28.56	40.00	11.44	1000.0	120.000	100.0	V	157.0
38.956640	32.11	40.00	7.89	1000.0	120.000	100.0	V	67.0
38.960320	32.21	40.00	7.79	1000.0	120.000	100.0	V	289.0
43.798720	27.87	40.00	12.13	1000.0	120.000	100.0	V	292.0
51.841520	27.89	40.00	12.11	1000.0	120.000	175.0	V	247.0

BLE Channel 39

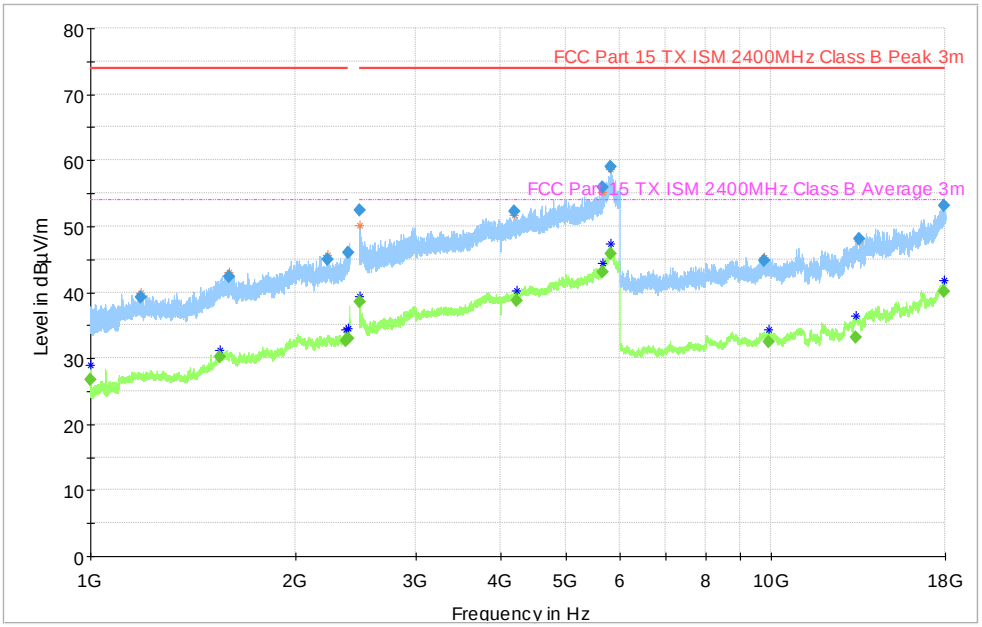


Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
30.556680	27.68	40.00	12.32	1000.0	120.000	275.0	H	288.0
30.621141	32.35	40.00	7.65	1000.0	120.000	280.0	H	-23.0
38.956280	32.46	40.00	7.54	1000.0	120.000	100.0	V	-23.0
43.792840	26.97	40.00	13.03	1000.0	120.000	100.0	V	295.0
51.853440	28.08	40.00	11.92	1000.0	120.000	175.0	V	295.0
60.220280	26.30	40.00	13.70	1000.0	120.000	225.0	V	289.0

5.6.3 Radiated Emissions - Test results for frequencies in the range 1 GHz - 18 GHz

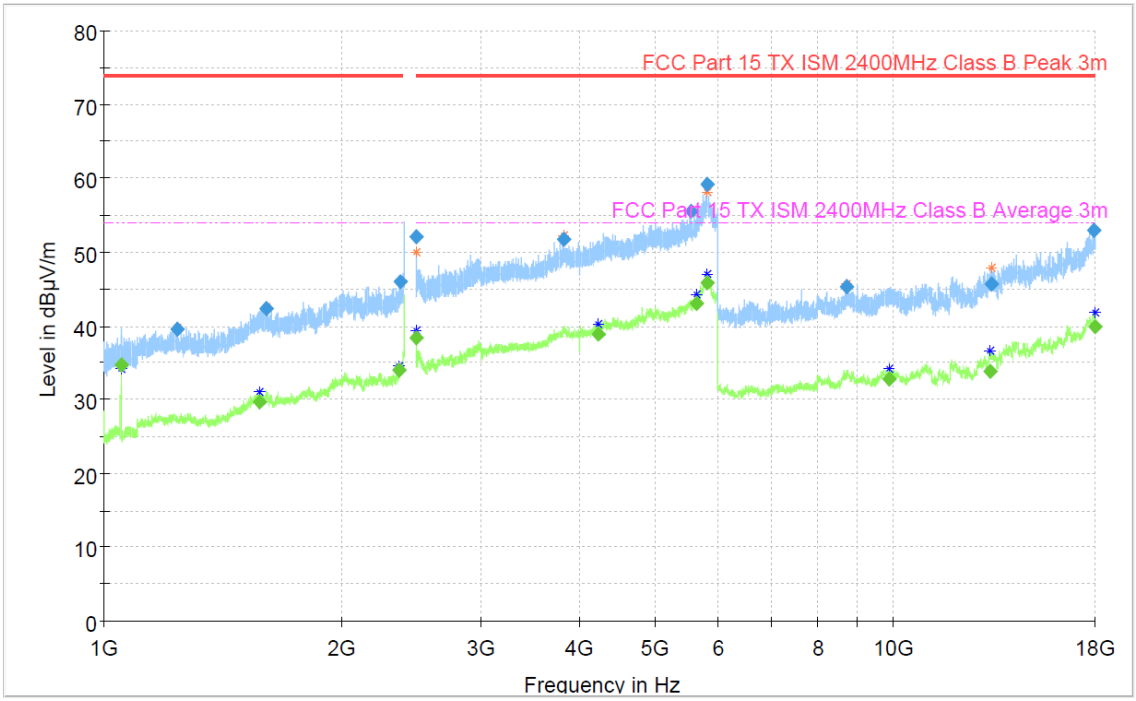
For all tests between 1GHz and 18GHz the 6 measurement points closest to the limit is listed in the table below the graph.

Idle mode



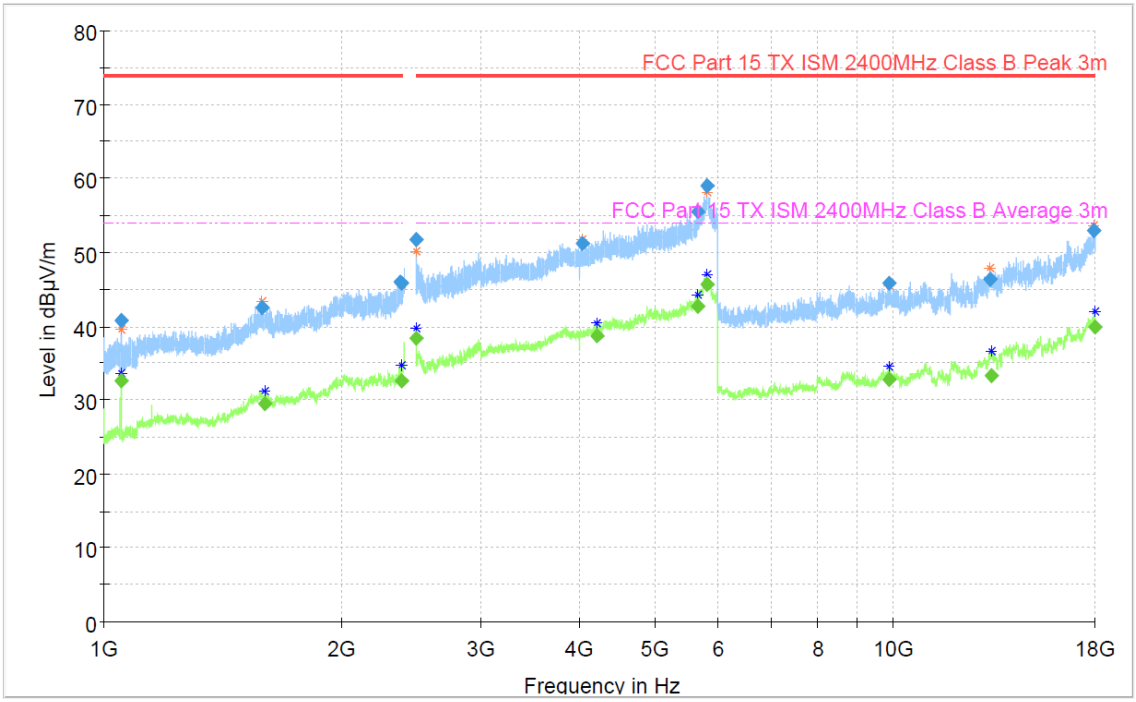
Frequency (MHz)	Average (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
2483.514289	38.56	---	54.00	15,44	1000.0	1000.000	115.0	V	217.0
2483.546273	---	52.44	74.00	21,56	1000.0	1000.000	150.0	H	311.0
4198.412000	---	52.22	74.00	21,78	1000.0	1000.000	150.0	H	173.0
4225.480000	38.69	---	54.00	15,31	1000.0	1000.000	165.0	V	322.0
5644.305000	42.98	---	54.00	11,02	1000.0	1000.000	185.0	V	225.0
5661.282000	---	55.84	74.00	18,16	1000.0	1000.000	150.0	H	41.0

Zigbee Channel 11



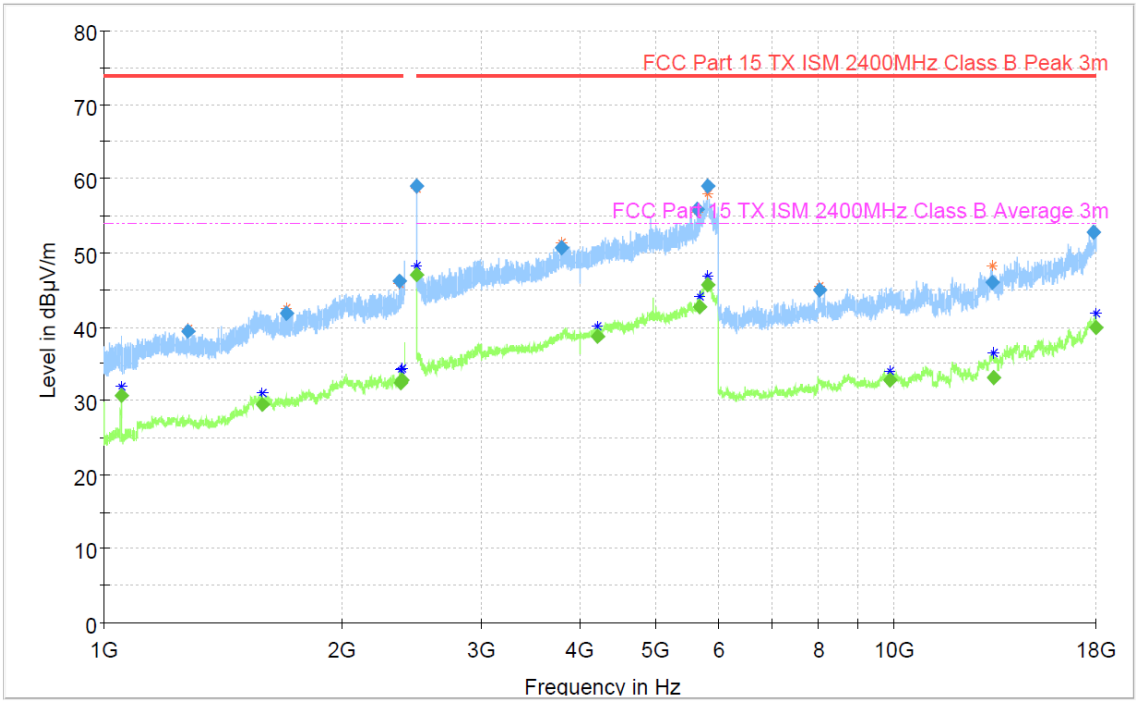
Frequency (MHz)	Average (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
2483.598500	38.39	---	54.00	15.61	1000.0	1000.000	148.0	H	321.0
4232.774000	38.79	---	54.00	15.21	1000.0	1000.000	157.0	V	82.0
5638.095000	43.04	---	54.00	10.96	1000.0	1000.000	138.0	H	307.0
5807.876000	45.82	---	54.00	8.18	1000.0	1000.000	185.0	V	172.0
5808.987000	---	59.13	74.00	14.87	1000.0	1000.000	200.0	H	0.0
17993.555000	39.91	---	54.00	14.09	1000.0	1000.000	195.0	V	265.0

Zigbee Channel 18



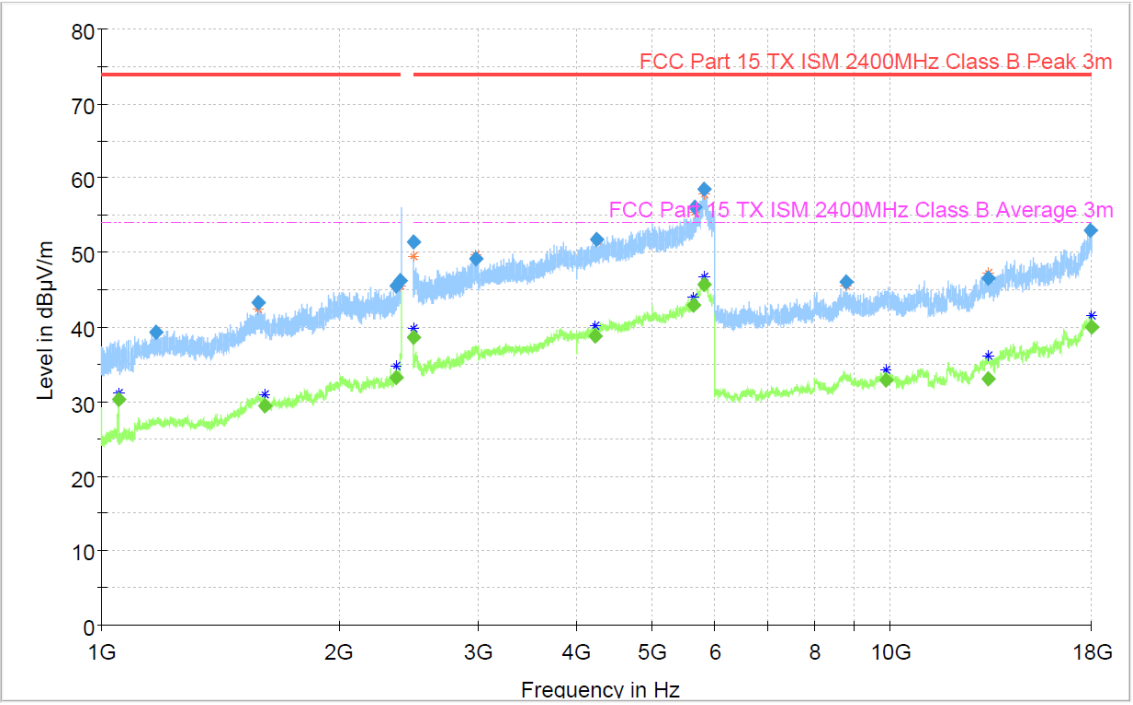
Frequency (MHz)	Average (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
2483.561000	38.37	---	54.00	15.63	1000.0	1000.000	165.0	V	277.0
4202.819000	38.72	---	54.00	15.28	1000.0	1000.000	100.0	V	262.0
5656.677000	42.69	---	54.00	11.31	1000.0	1000.000	100.0	V	127.0
5810.498000	45.70	---	54.00	8.30	1000.0	1000.000	135.0	H	323.0
5811.738000	---	59.04	74.00	14.96	1000.0	1000.000	200.0	V	0.0
17978.561000	39.91	---	54.00	14.09	1000.0	1000.000	185.0	H	232.0

Zigbee Channel 26



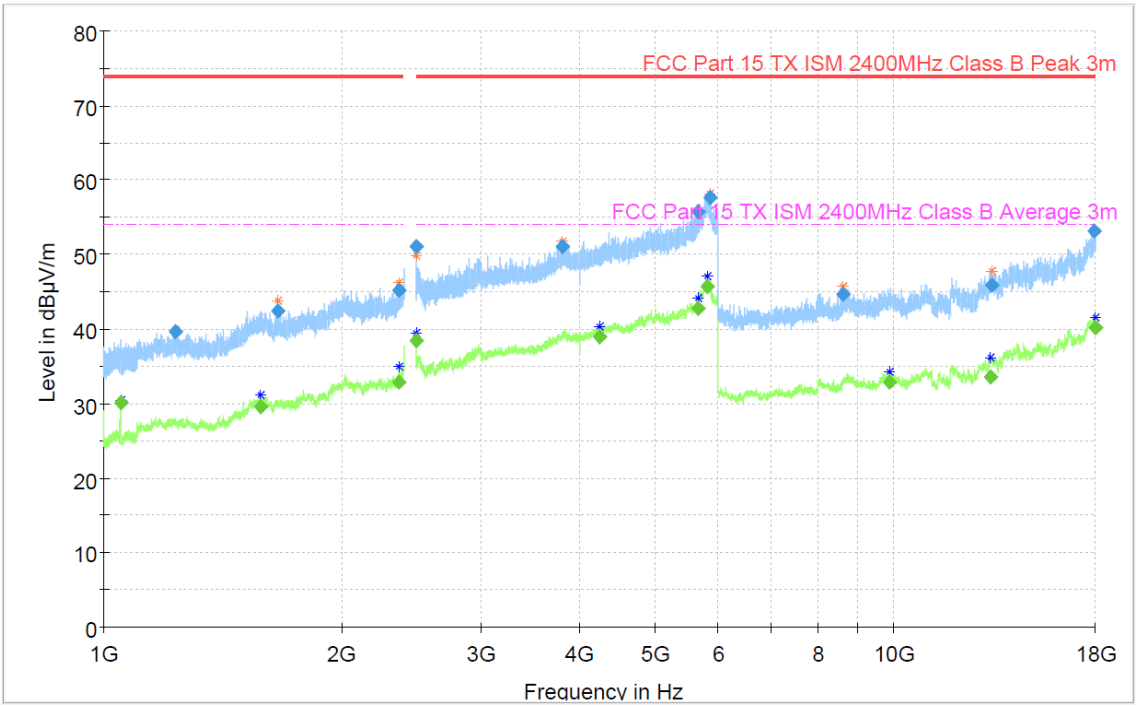
Frequency (MHz)	Average (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
2483.504083	47.03	---	54.00	6.97	1000.0	1000.000	137.0	H	307.0
2483.595281	---	58.99	74.00	15.01	1000.0	1000.000	200.0	V	270.0
5662.767000	42.72	---	54.00	11.28	1000.0	1000.000	135.0	H	175.0
5799.572000	---	58.93	74.00	15.07	1000.0	1000.000	150.0	V	225.0
5806.109000	45.66	---	54.00	8.34	1000.0	1000.000	185.0	H	187.0
17983.250000	39.98	---	54.00	14.02	1000.0	1000.000	137.0	V	307.0

BLE Channel 37



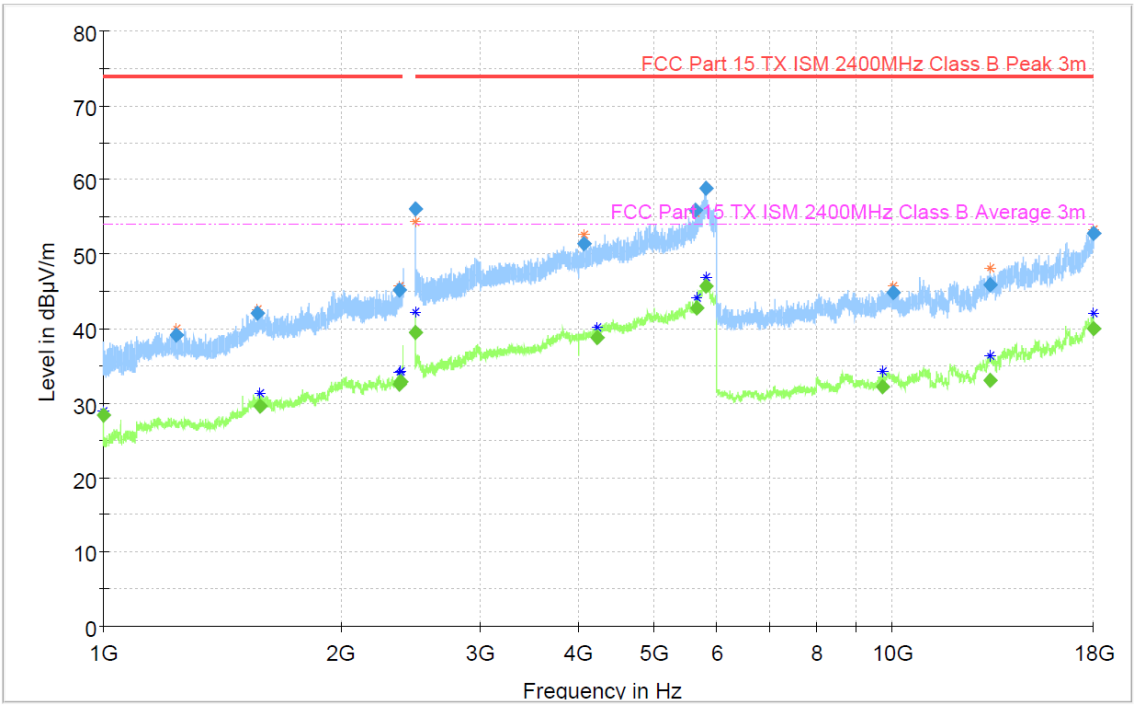
Frequency (MHz)	Average (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
2483.506500	38.56	---	54.00	15.44	1000.0	1000.000	207.0	H	-5.0
4227.283000	38.71	---	54.00	15.29	1000.0	1000.000	104.0	V	262.0
5636.450000	42.99	---	54.00	11.01	1000.0	1000.000	102.0	V	172.0
5807.262000	45.80	---	54.00	8.20	1000.0	1000.000	185.0	H	97.0
5815.816000	---	58.52	74.00	15.48	1000.0	1000.000	100.0	V	45.0
17981.60900	39.98	---	54.00	14.02	1000.0	1000.000	185.0	H	40.0

BLE Channel 17



Frequency (MHz)	Average (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
2483.554000	38.43	---	54.00	15.57	1000.0	1000.000	165.0	V	142.0
4246.468000	38.93	---	54.00	15.07	1000.0	1000.000	185.0	V	82.0
5652.804000	42.76	---	54.00	11.24	1000.0	1000.000	135.0	V	53.0
5807.039000	45.77	---	54.00	8.23	1000.0	1000.000	100.0	V	127.0
5847.686000	---	57.63	74.00	16.37	1000.0	1000.000	150.0	V	45.0
17987.38300	40.10	---	54.00	13.90	1000.0	1000.000	196.0	H	232.0

BLE Channel 39

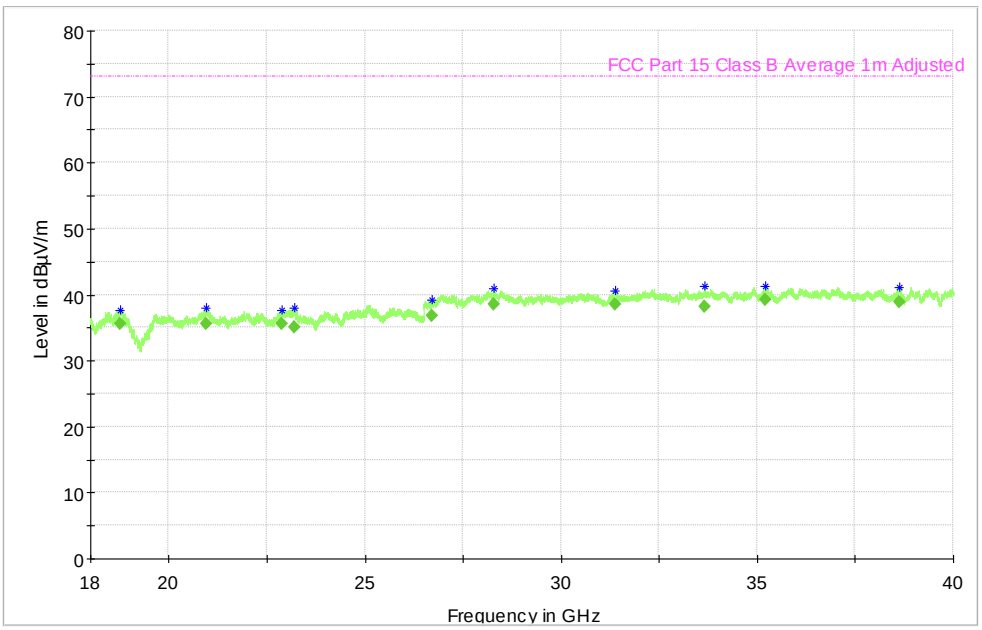


Frequency (MHz)	Average (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
2483.538275	39.52	---	54.00	14.48	1000.0	1000.000	102.0	H	221.0
4232.558000	38.75	---	54.00	15.25	1000.0	1000.000	135.0	V	96.0
5659.703000	42.77	---	54.00	11.23	1000.0	1000.000	100.0	V	142.0
5806.912000	45.78	---	54.00	8.22	1000.0	1000.000	187.0	V	41.0
5809.691000	---	58.92	74.00	15.08	1000.0	1000.000	100.0	V	270.0
17979.50500	40.01	---	54.00	13.99	1000.0	1000.000	135.0	H	307.0

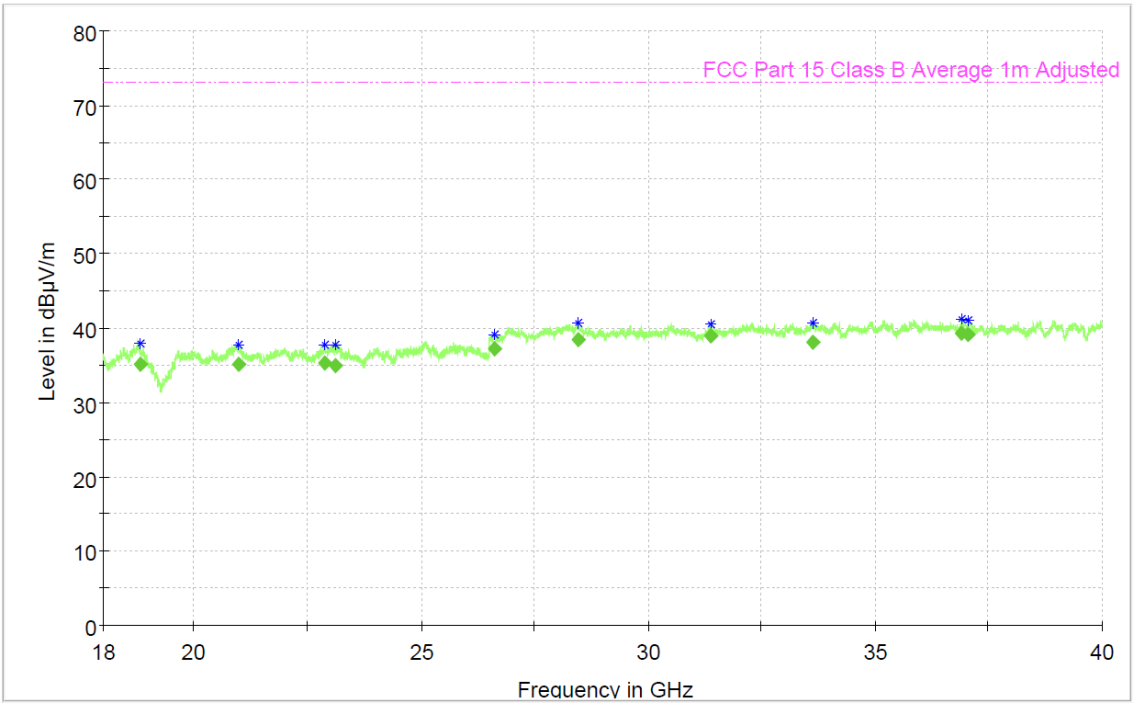
5.6.4 Radiated Emissions - Test results for frequencies in the range 18 GHz – 26 GHz (40)

No tables of measured emissions are present since all emissions are more than 20dB lower than the limit.

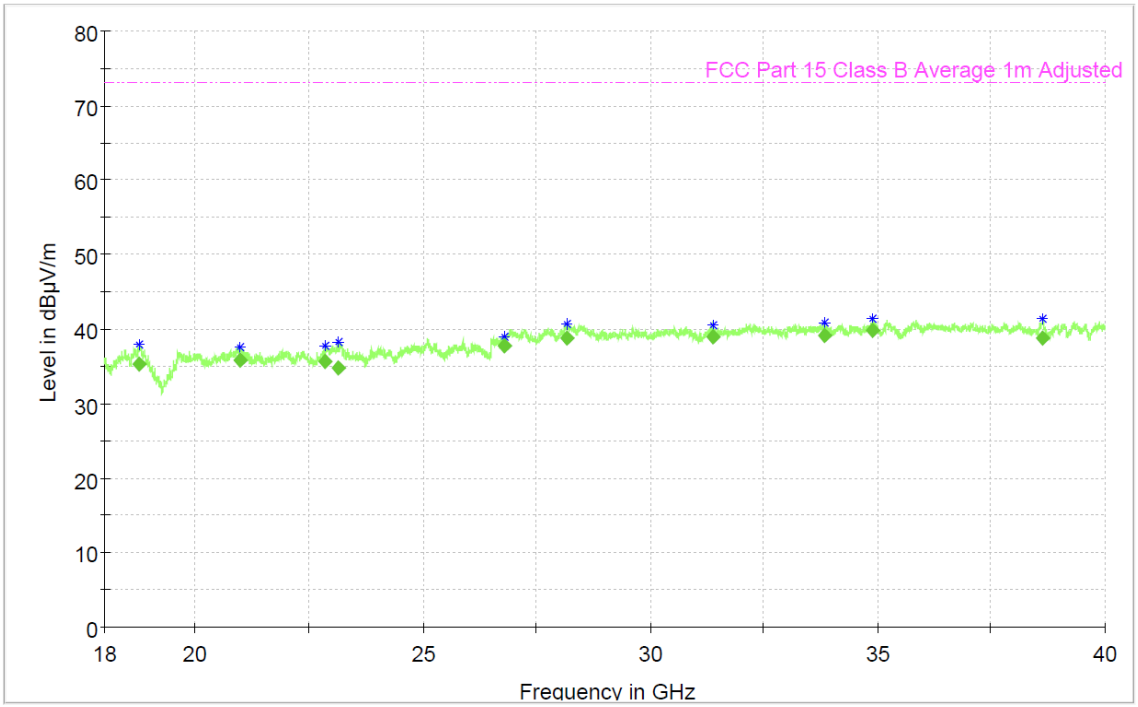
Idle mode



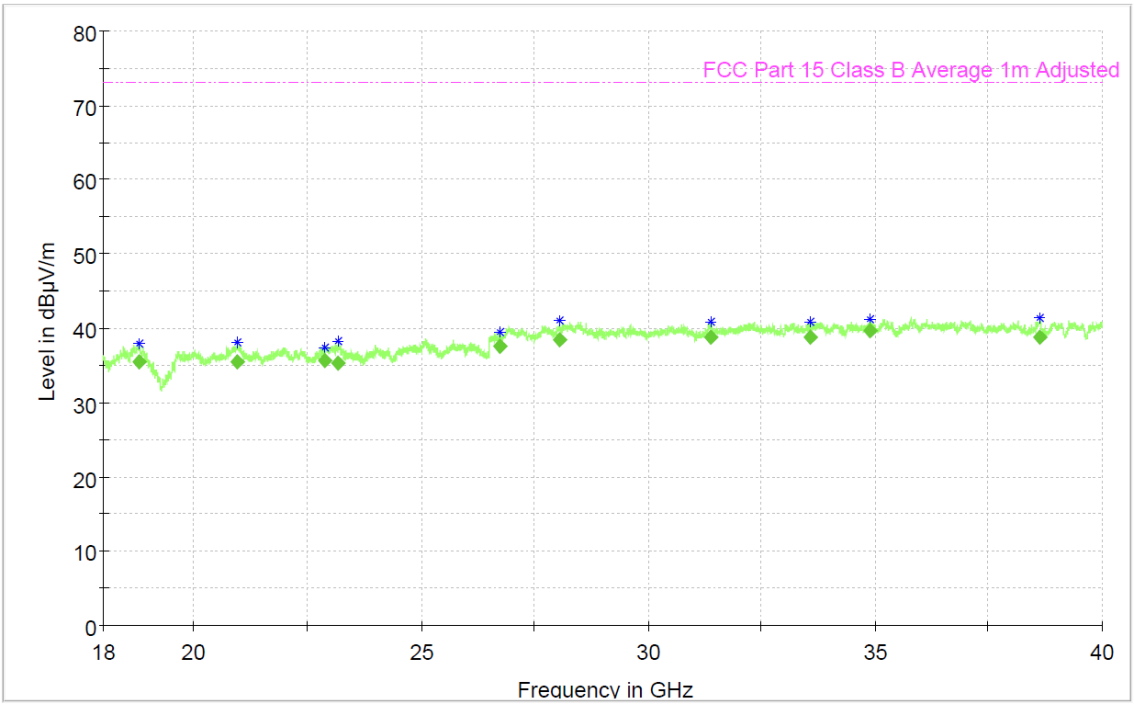
Zigbee Channel 11



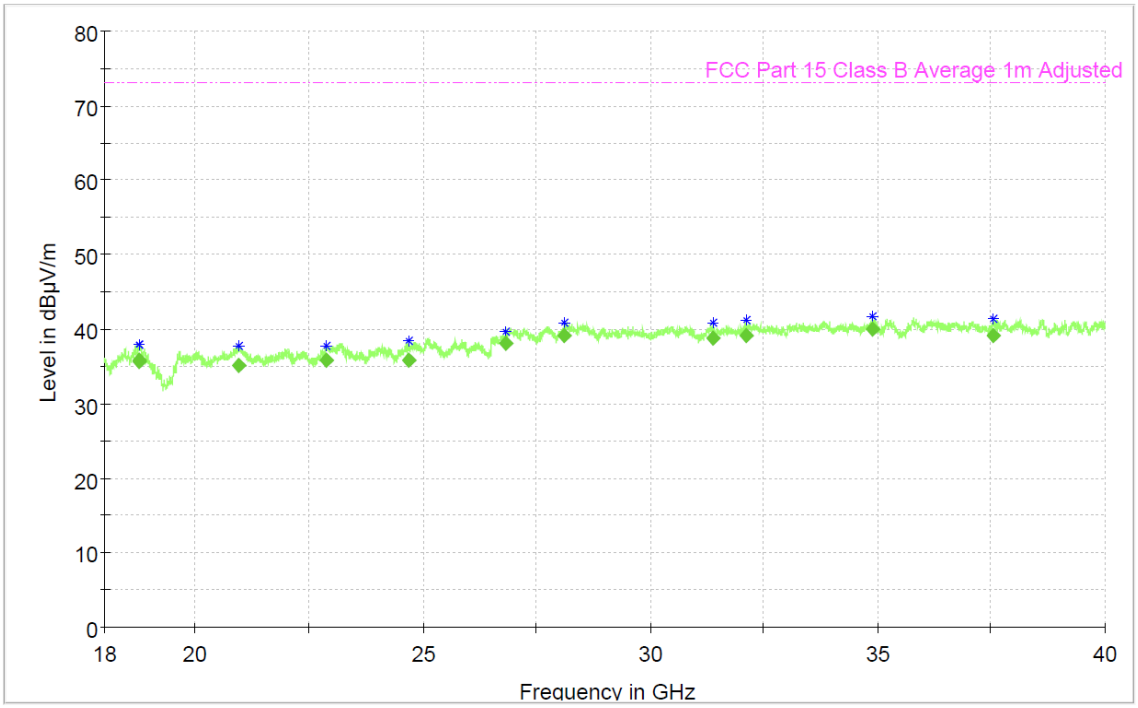
Zigbee Channel 26



BLE Channel 37



BLE Channel 39

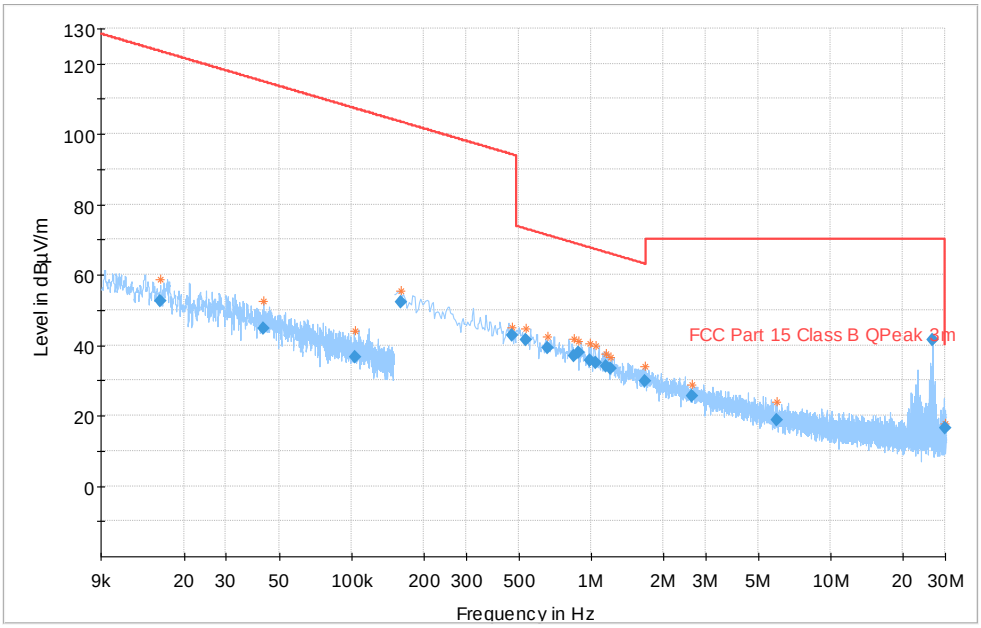


5.7 Test 2, External Antenna – Test results

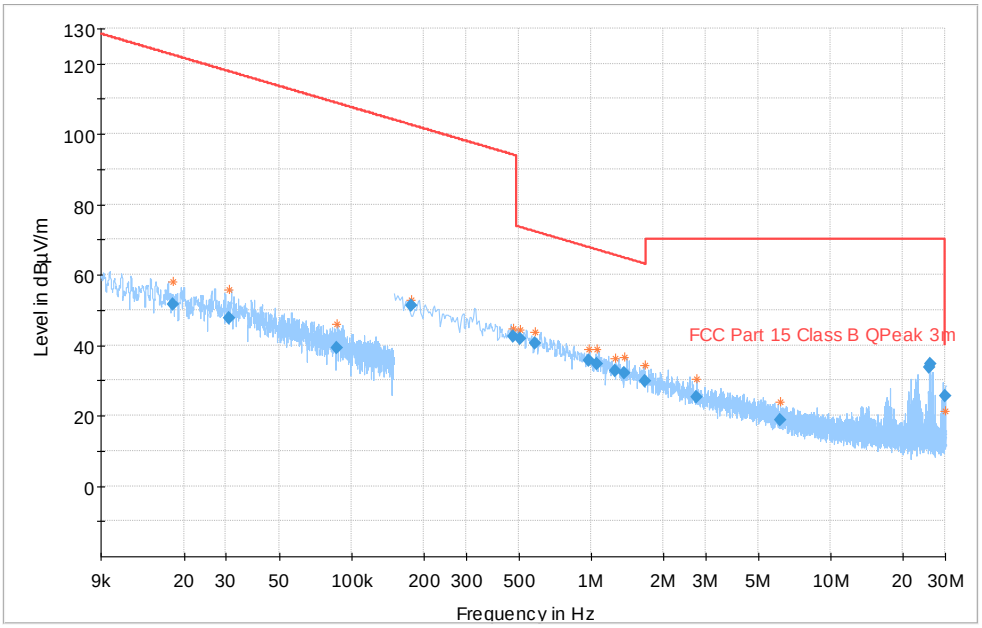
5.7.1 Radiated Emissions - Test results for frequencies in the range 9 kHz - 30 MHz

All emissions were greater than 20dB below the limit for all 9kHz to 30MHz tests.

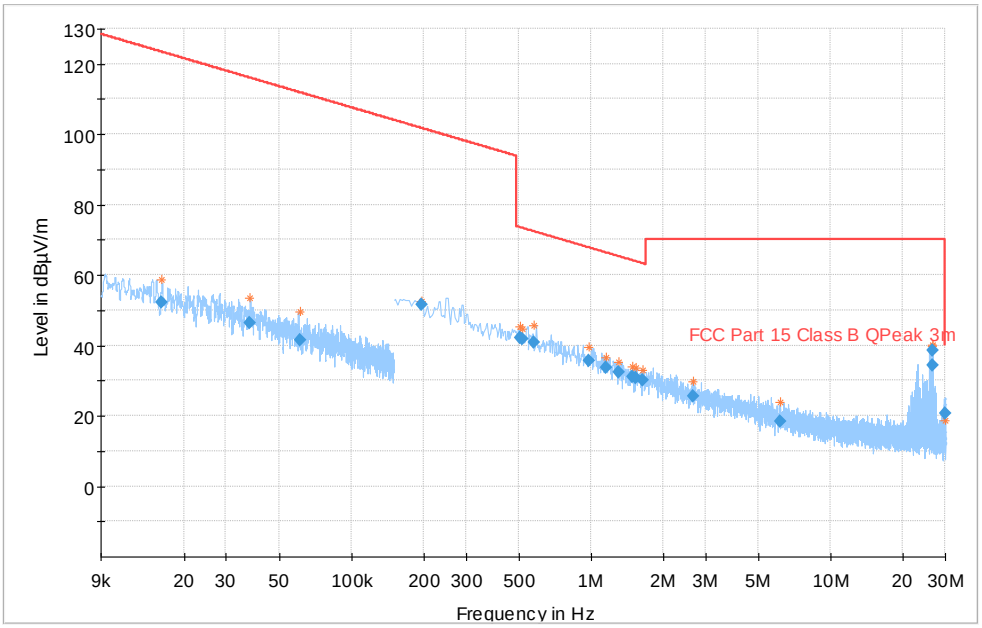
Zigbee Channel 11 - 9kHz - 30Mhz Perpendicular orientation



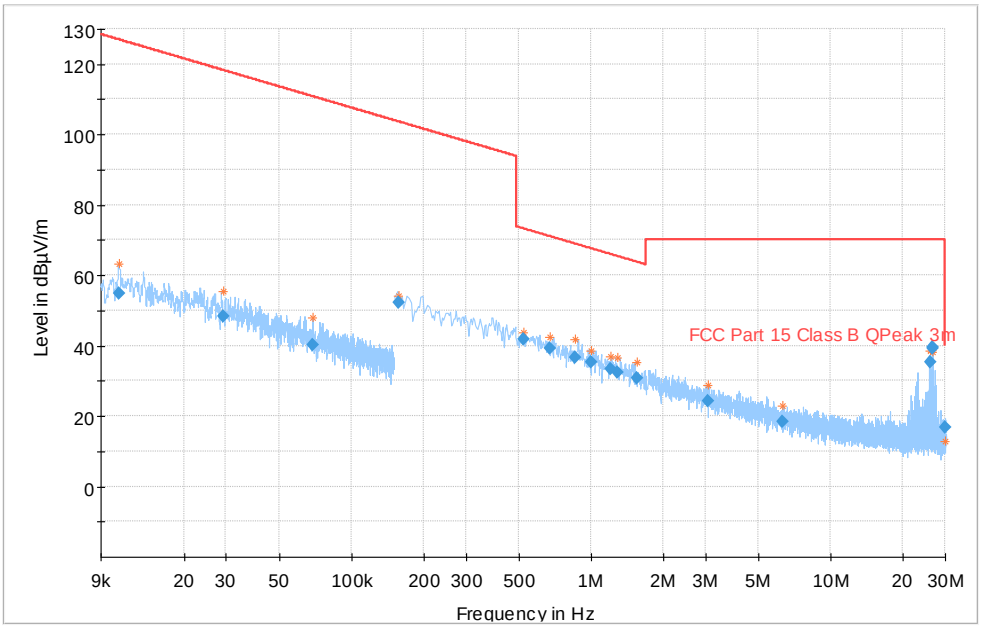
Zigbee Channel 11 - 9kHz - 30Mhz Parallel orientation



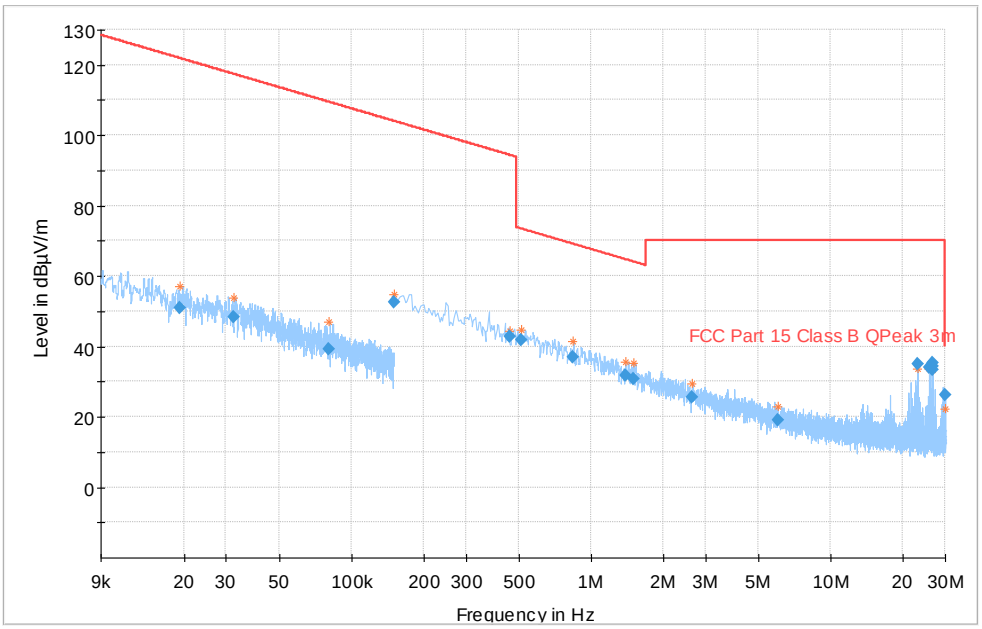
Zigbee Channel 11 - 9kHz - 30Mhz Ground-Parallel orientation



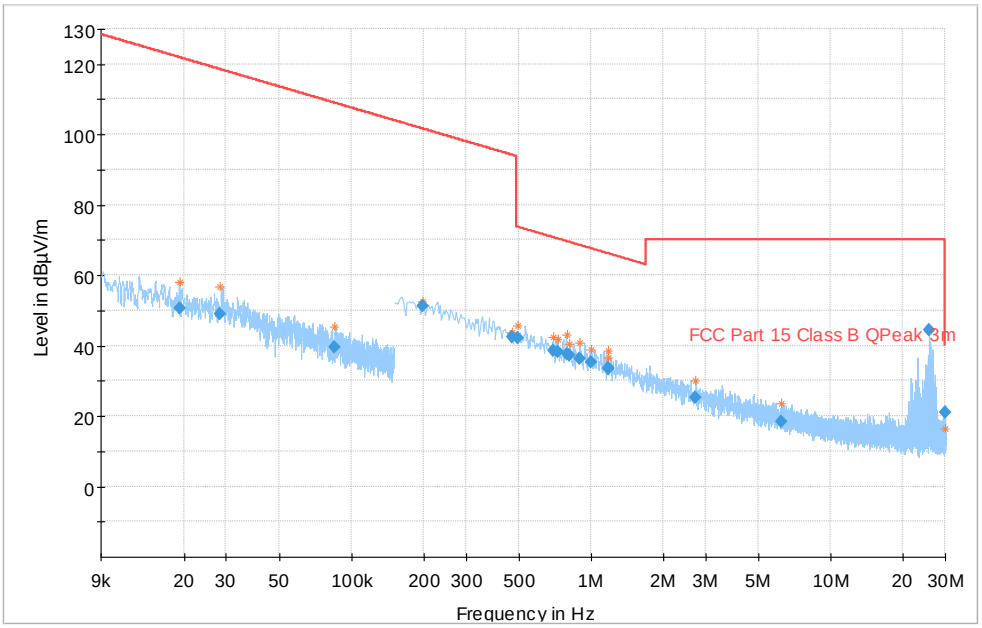
Zigbee Channel 26 - 9kHz - 30Mhz Perpendicular orientation



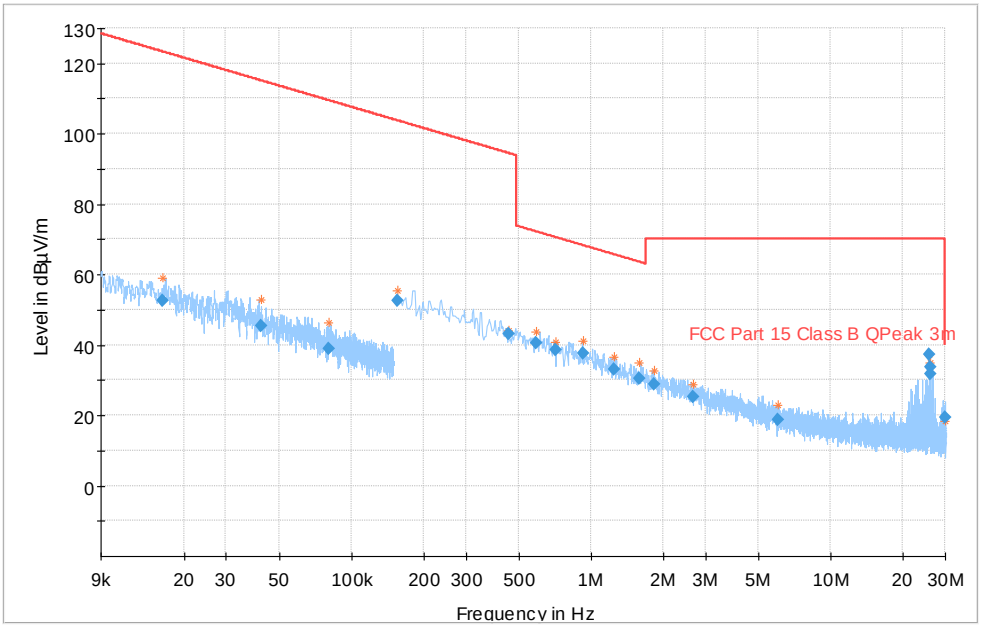
Zigbee Channel 26 - 9kHz - 30Mhz Parallel orientation



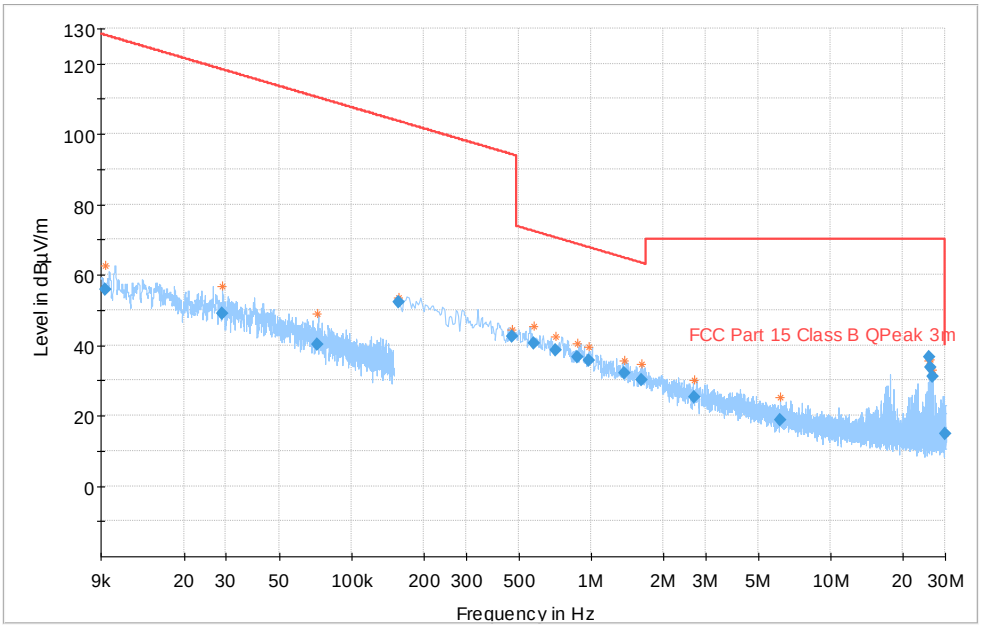
Zigbee Channel 26 - 9kHz - 30Mhz Ground-Parallel orientation



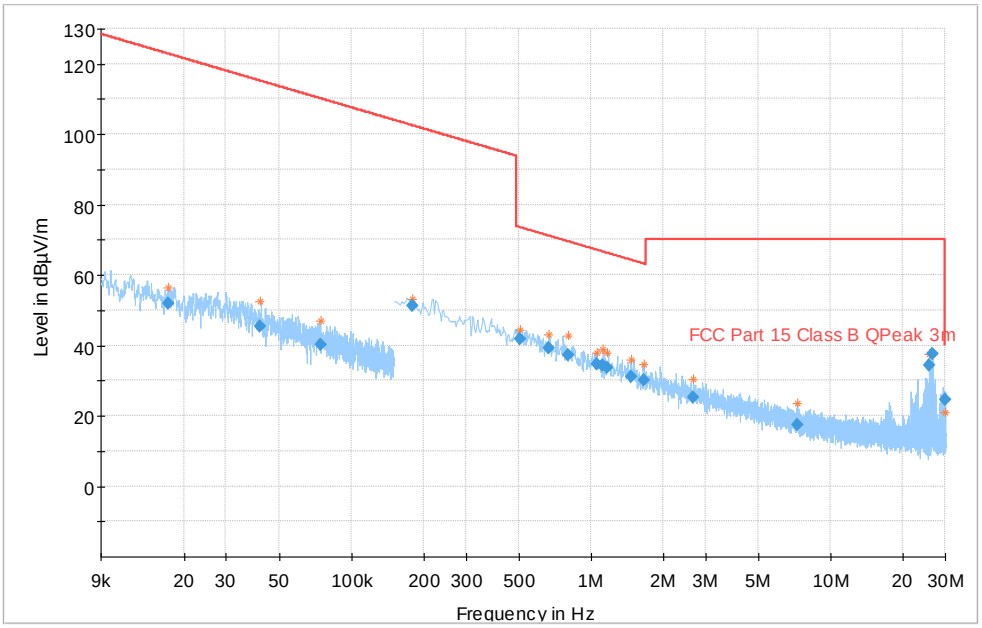
BLE Channel 37 - 9kHz - 30Mhz Perpendicular orientation



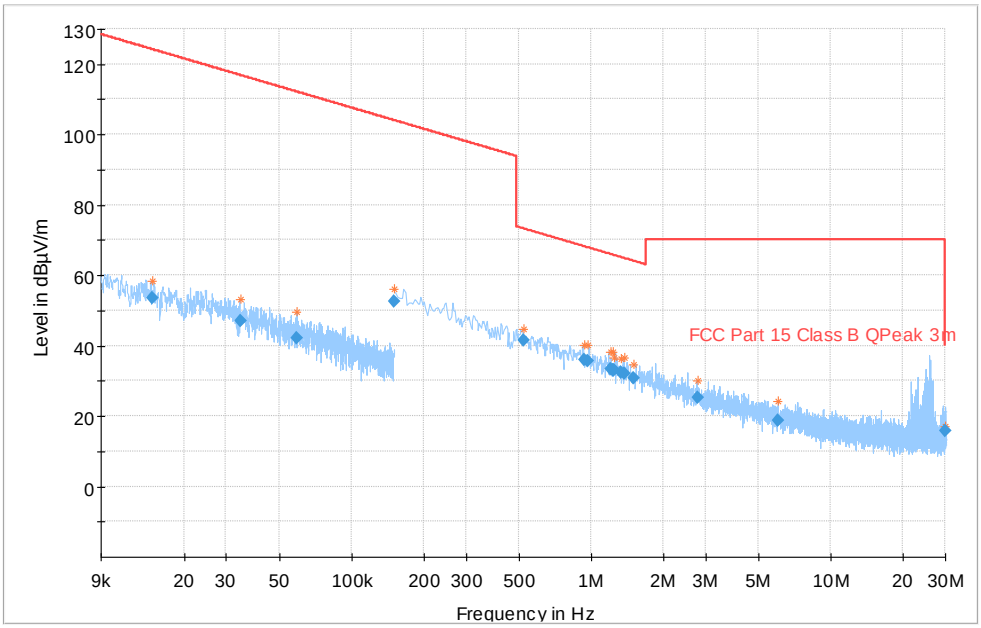
BLE Channel 37 - 9kHz - 30Mhz Parallel orientation



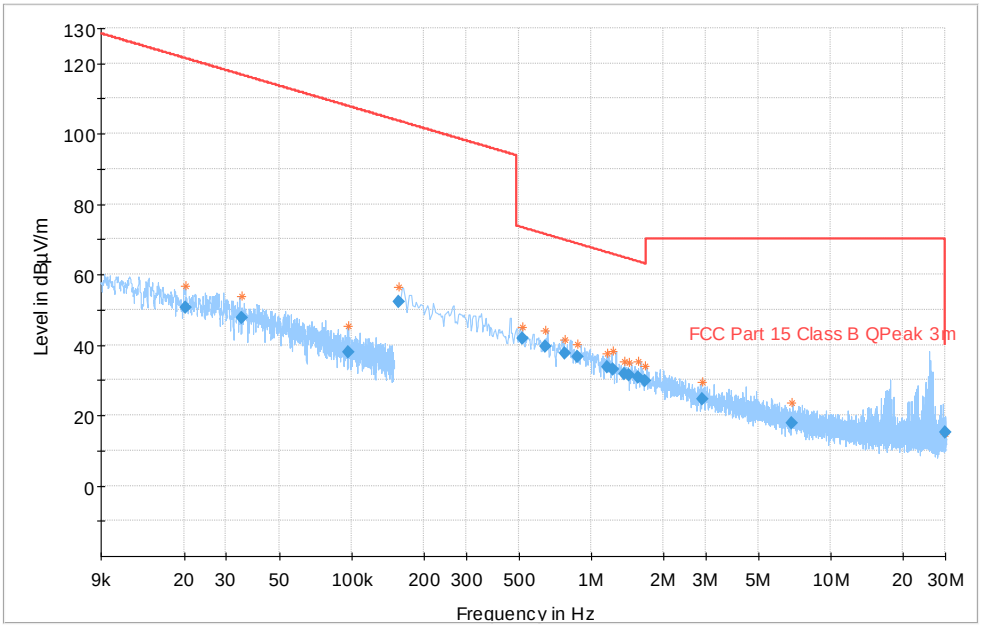
BLE Channel 37 - 9kHz - 30Mhz Ground-Parallel orientation



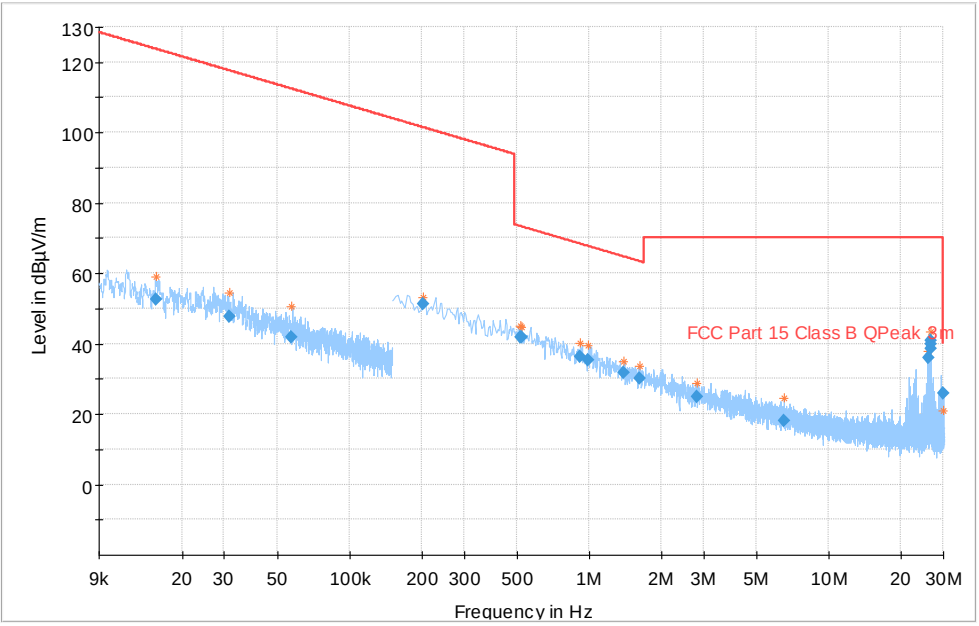
BLE Channel 39 - 9kHz - 30Mhz Perpendicular orientation



BLE Channel 39 - 9kHz - 30Mhz Parallel orientation



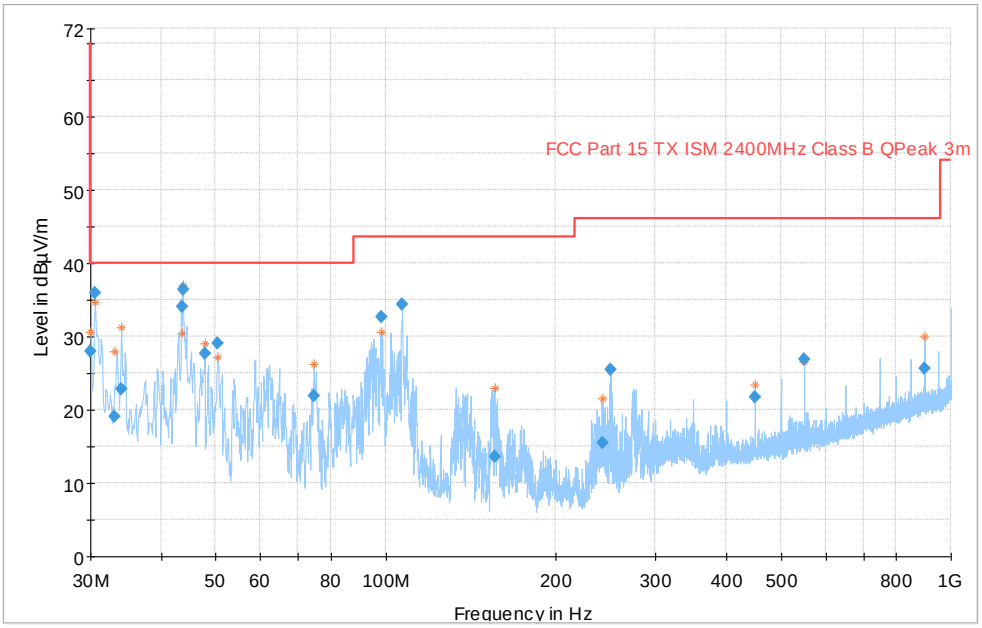
BLE Channel 39 - 9kHz - 30Mhz Ground-Parallel orientation



5.7.2 Radiated Emissions - Test results for frequencies in the range 30 MHz - 1 GHz

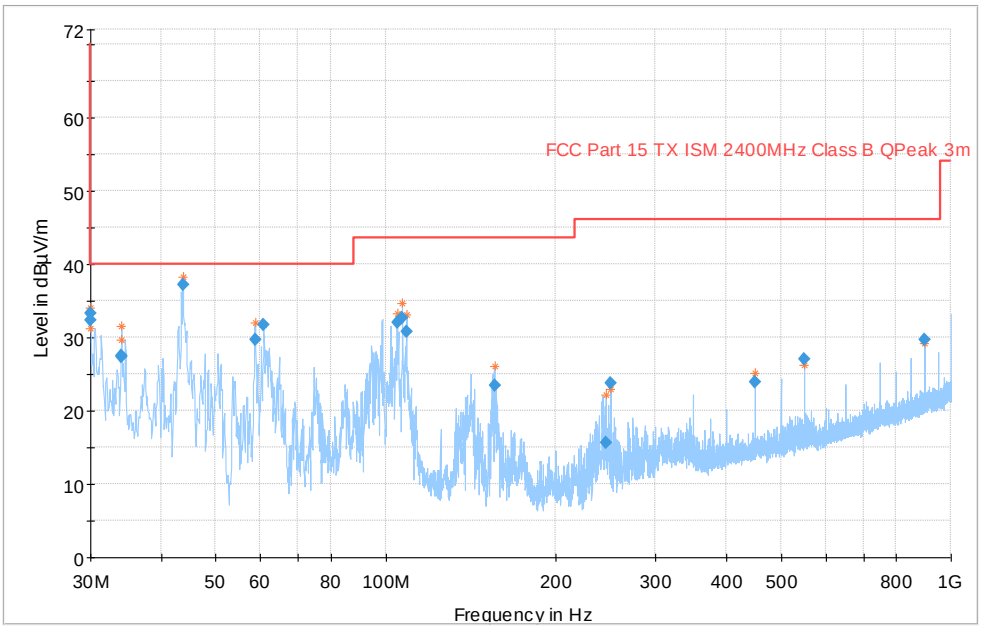
For all tests between 30MHz and 1GHz the 6 measurement points closest to the limit is listed in the table below the graph.

Idle mode



Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
30.616649	35.86	40.00	4,14	1000.0	120.000	100.0	V	22.0
33.154880	19.13	40.00	20,87	1000.0	120.000	100.0	V	22.0
34.097600	22.73	40.00	17,27	1000.0	120.000	100.0	V	22.0
43.497640	34.08	40.00	5,92	1000.0	120.000	100.0	V	92.0
43.800280	36.42	40.00	3,58	1000.0	120.000	125.0	V	22.0
47.792280	27.70	40.00	12,3	1000.0	120.000	100.0	V	253.0

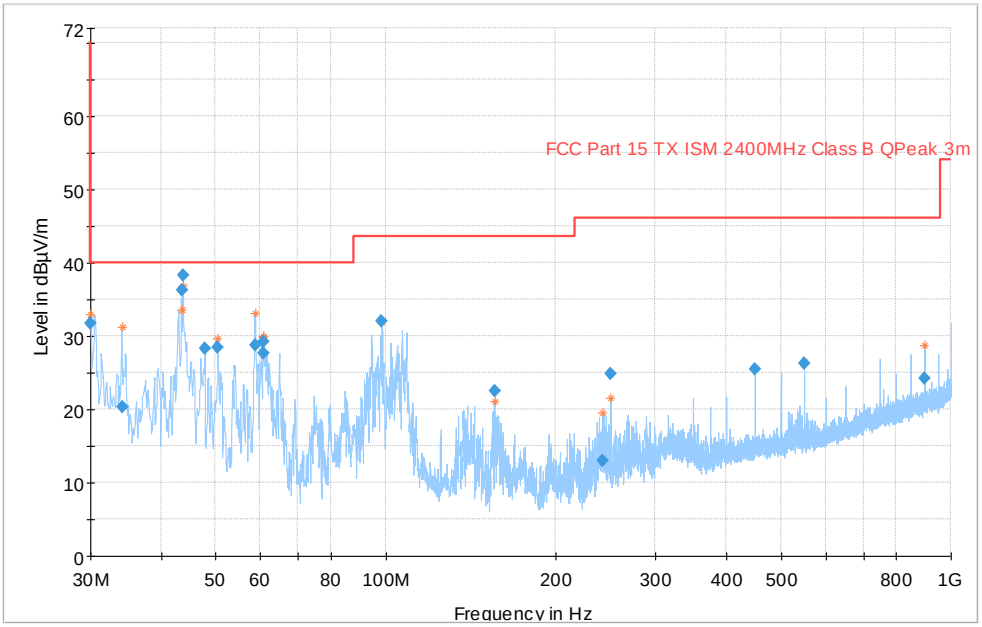
Zigbee Channel 11



Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
30.000900	33.32	40.00	6,68	1000.0	120.000	100.0	V	338.0
30.003546	32.34	40.00	7,66	1000.0	120.000	100.0	V	338.0
*43.796800	37.18	40.00	2,82	1000.0	120.000	125.0	V	22.0
58.718960	29.70	40.00	10,3	1000.0	120.000	225.0	V	289.0
60.830840	31.65	40.00	8,35	1000.0	120.000	275.0	V	272.0
107.035280	32.62	43.50	10,88	1000.0	120.000	100.0	V	2.0

***Note:** Marked point is within the measurement uncertainty of the test system.

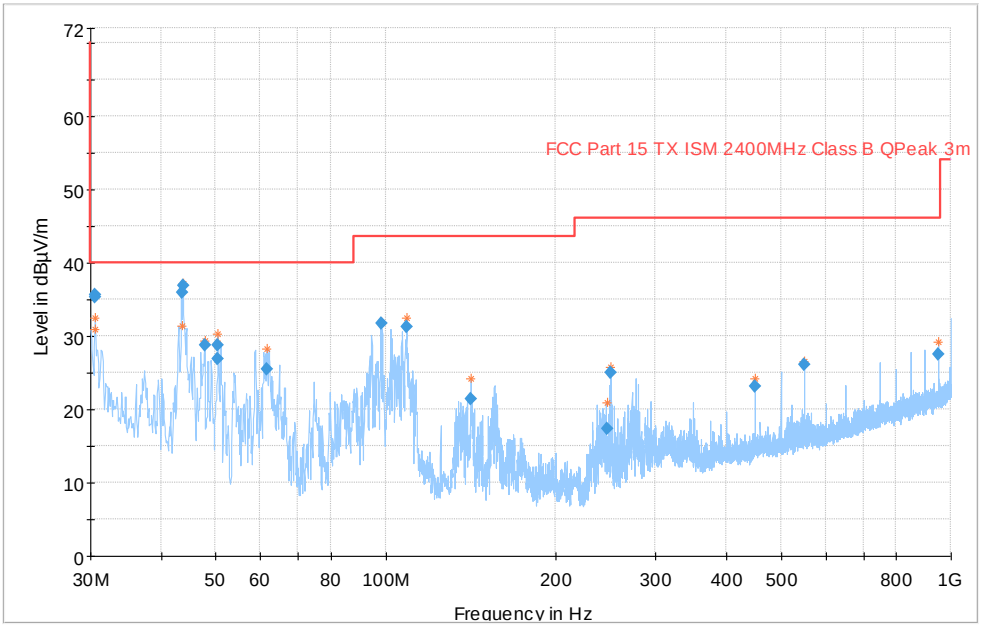
Zigbee Channel 18



Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
30.035154	31.65	40.00	8,35	1000.0	120.000	100.0	V	247.0
43.489960	36.22	40.00	3,78	1000.0	120.000	100.0	V	112.0
*43.815160	38.29	40.00	1,71	1000.0	120.000	100.0	V	112.0
58.716200	28.69	40.00	11,31	1000.0	120.000	328.0	V	291.0
60.825680	29.27	40.00	10,73	1000.0	120.000	175.0	V	292.0
98.441160	32.01	43.50	11,49	1000.0	120.000	125.0	V	292.0

***Note:** Marked point is within the measurement uncertainty of the test system.

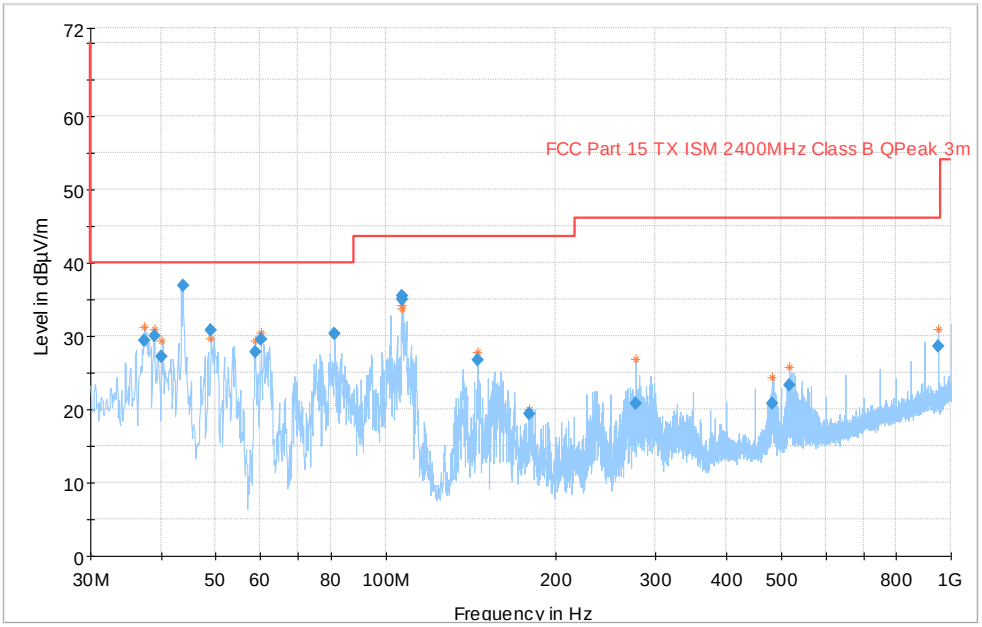
Zigbee Channel 26



Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
30.598620	35.61	40.00	4,39	1000.0	120.000	100.0	V	295.0
30.608257	35.36	40.00	4,64	1000.0	120.000	100.0	V	22.0
43.496800	35.95	40.00	4,05	1000.0	120.000	100.0	V	22.0
*43.804000	36.87	40.00	3,13	1000.0	120.000	100.0	V	295.0
47.805360	28.75	40.00	11,25	1000.0	120.000	100.0	V	26.0
50.441520	28.79	40.00	11,21	1000.0	120.000	100.0	V	-23.0

***Note:** Marked point is within the measurement uncertainty of the test system.

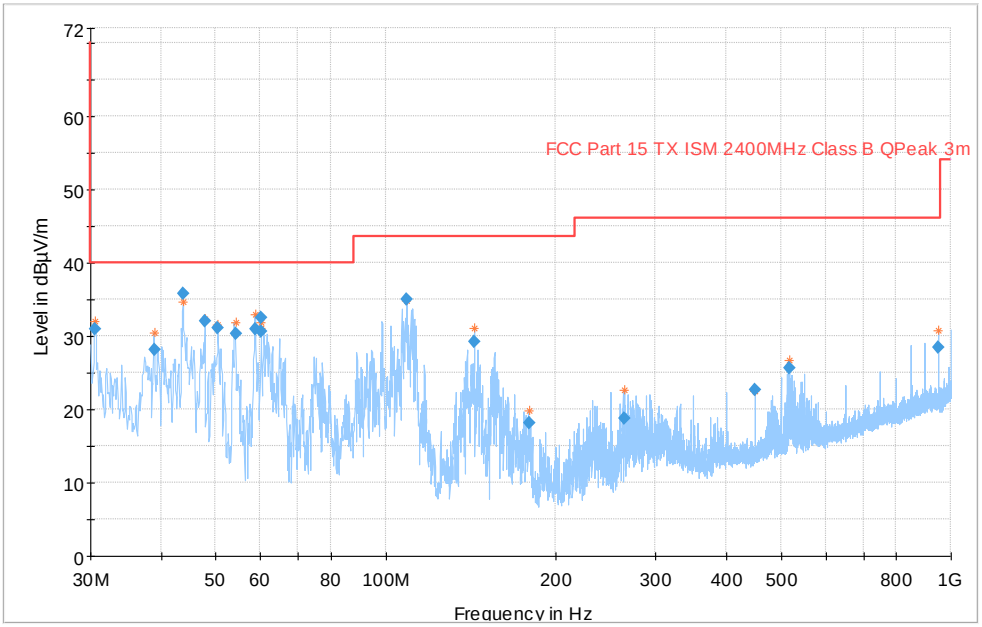
BLE Channel 37



Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
38.946680	29.95	40.00	10,05	1000.0	120.000	100.0	V	338.0
*43.805680	36.80	40.00	3,20	1000.0	120.000	125.0	V	-19.0
49.055560	30.81	40.00	9,19	1000.0	120.000	100.0	V	247.0
81.188360	30.27	40.00	9,73	1000.0	120.000	129.0	V	23.0
106.697200	34.97	43.50	8,53	1000.0	120.000	325.0	H	338.0
106.702600	35.50	43.50	8,00	1000.0	120.000	325.0	H	320.0

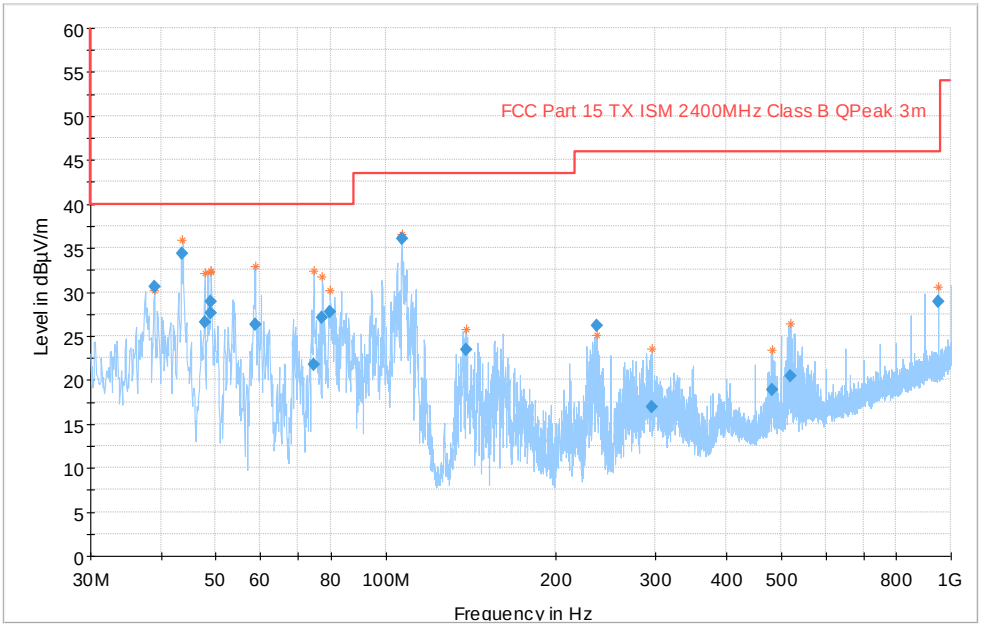
***Note:** Marked point is within the measurement uncertainty of the test system.

BLE Channel 17



Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
30.611330	30.96	40.00	9,04	1000.0	120.000	100.0	V	22.0
43.808080	35.84	40.00	4,16	1000.0	120.000	100.0	V	315.0
47.796360	32.09	40.00	7,91	1000.0	120.000	100.0	V	-20.0
50.444400	31.08	40.00	8,92	1000.0	120.000	100.0	V	247.0
60.221600	32.55	40.00	7,45	1000.0	120.000	129.0	V	253.0
108.818720	35.06	43.50	8,44	1000.0	120.000	100.0	V	-1.0

BLE Channel 39

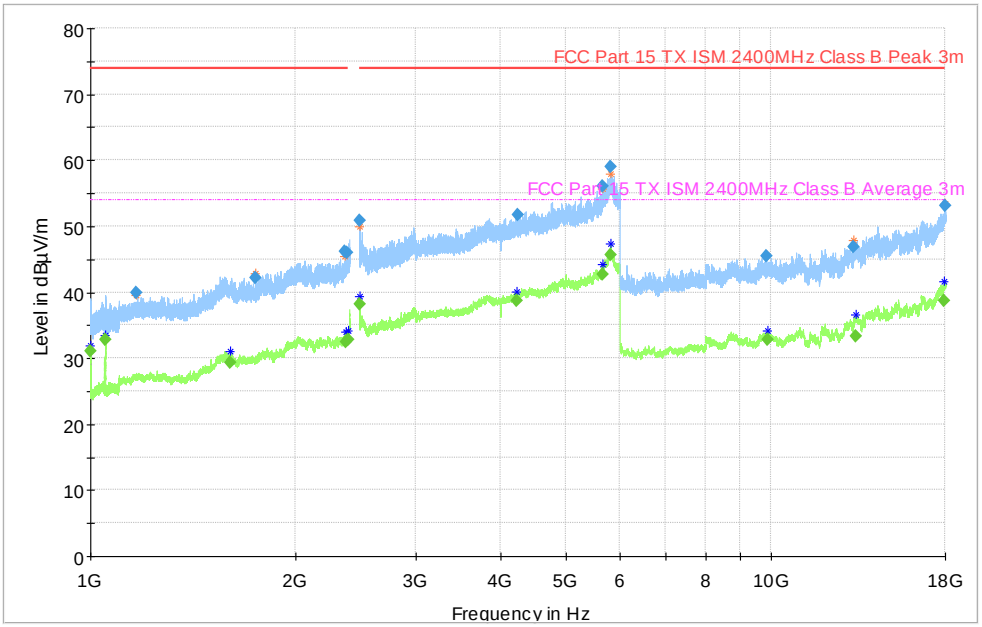


Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
38.968280	30.56	40.00	9,44	1000.0	120.000	100.0	V	-20.0
43.501240	34.42	40.00	5,58	1000.0	120.000	125.0	V	334.0
49.021600	27.62	40.00	12,38	1000.0	120.000	100.0	V	111.0
49.043080	28.86	40.00	11,14	1000.0	120.000	125.0	V	22.0
79.749080	27.72	40.00	12,28	1000.0	120.000	225.0	V	-19.0
106.696400	36.10	43.50	7,40	1000.0	120.000	325.0	H	315.0

5.7.3 Radiated Emissions - Test results for frequencies in the range 1 GHz - 18 GHz

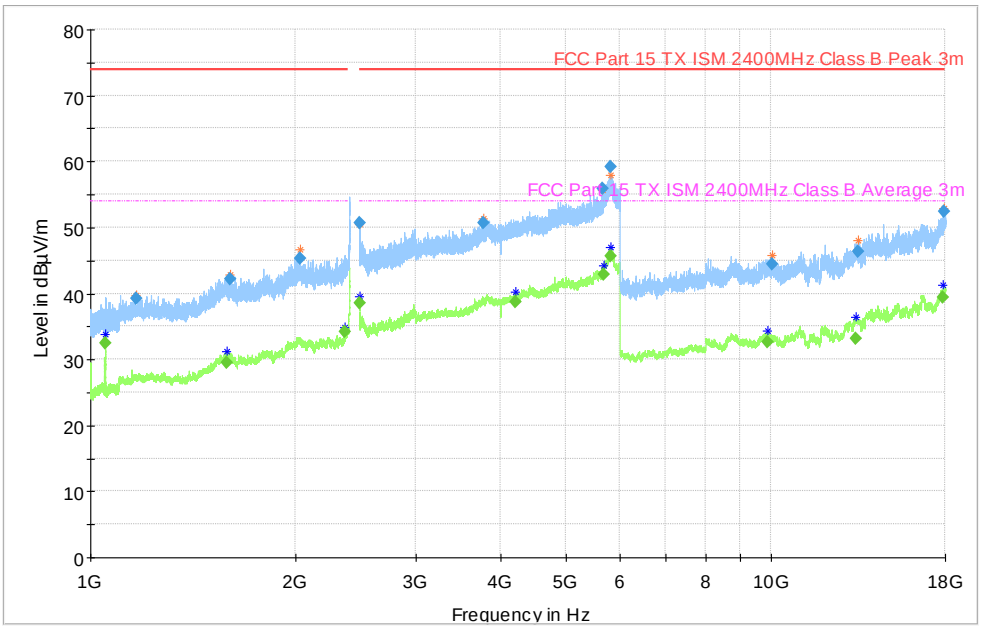
For all tests between 1GHz and 18GHz the 6 measurement points closest to the limit is listed in the table below the graph.

Idle mode



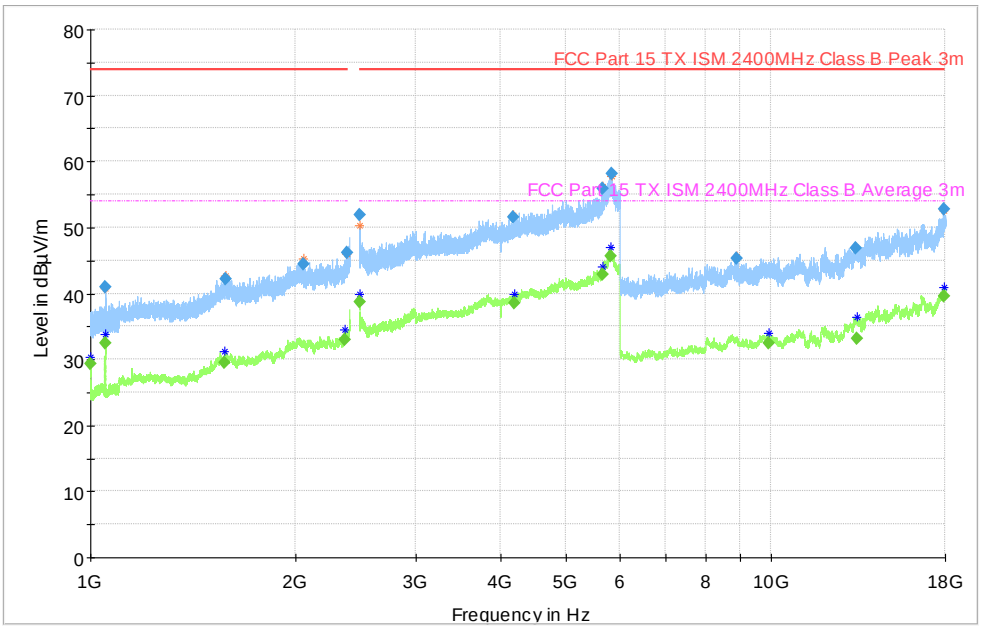
Frequency (MHz)	Average (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
2483.643000	38.09	---	54.00	15,91	1000.0	1000.000	100.0	H	41.0
4234.360000	38.63	---	54.00	15,37	1000.0	1000.000	148.0	H	8.0
5661.456000	42.69	---	54.00	11,31	1000.0	1000.000	165.0	V	142.0
5807.236000	---	59.03	74.00	14,97	1000.0	1000.000	200.0	V	45.0
5808.909000	45.68	---	54.00	8,32	1000.0	1000.000	100.0	V	322.0
17930.42700	38.78	---	54.00	15,22	1000.0	1000.000	186.0	V	-4.0

Zigbee Channel 11



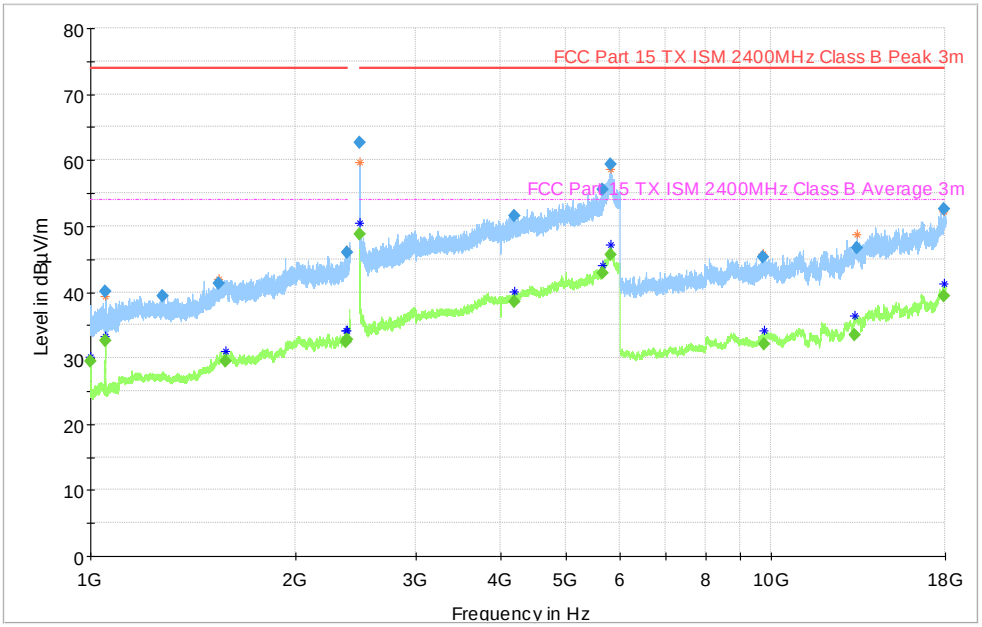
Frequency (MHz)	Average (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
2483.513134	38,49	---	54	15,51	1000.0	1000	210	H	187
4203.287000	38,69	---	54	15,31	1000.0	1000	135	V	172
5666.417000	42,78	---	54	11,22	1000.0	1000	100	H	-2
5810.700000	---	59,1	74	14,90	1000.0	1000	100	H	90
5811.242000	45,67	---	54	8,33	1000.0	1000	185	V	1
17891.864000	39,47	---	54	14,53	1000.0	1000	101	H	131

Zigbee Channel 18



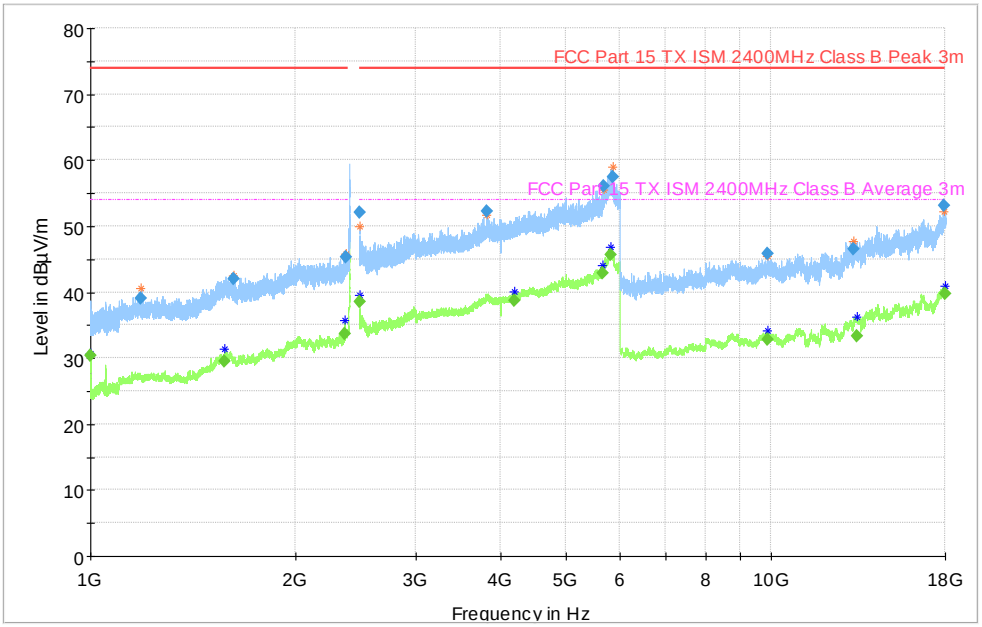
Frequency (MHz)	Average (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
2483.569915	38.65	---	54.00	15,35	1000.0	1000.000	198.0	V	266.0
4191.646000	38.55	---	54.00	15,45	1000.0	1000.000	185.0	V	127.0
5640.592000	42.84	---	54.00	11,16	1000.0	1000.000	205.0	H	127.0
5807.094000	45.66	---	54.00	8,34	1000.0	1000.000	185.0	V	177.0
5835.640000	---	58.09	74.00	15,91	1000.0	1000.000	100.0	V	180.0
17952.64000	39.64	---	54.00	14,36	1000.0	1000.000	100.0	V	127.0

Zigbee Channel 26



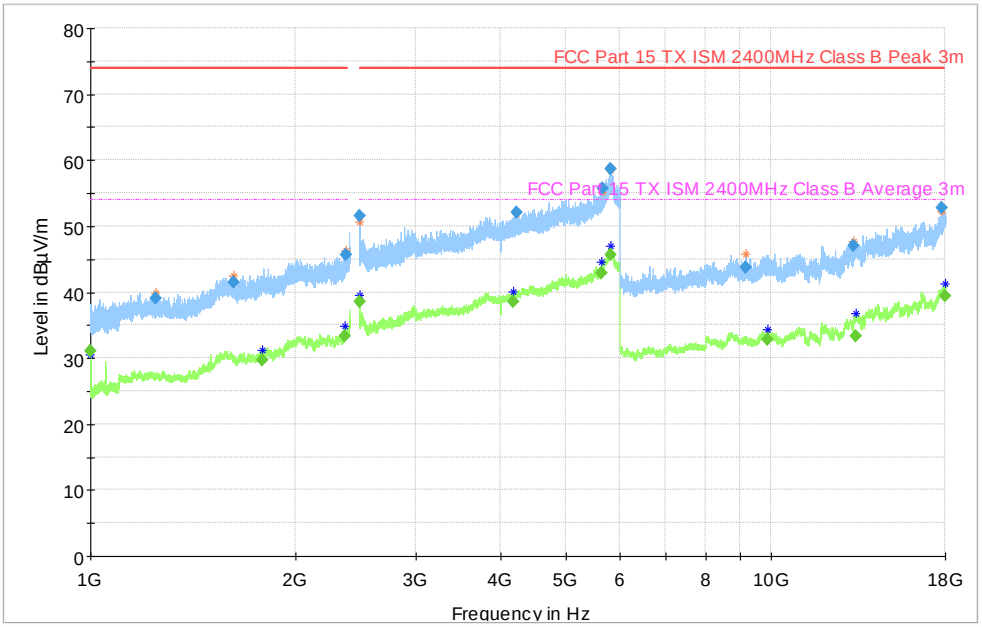
Frequency (MHz)	Average (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
2483.517000	48.70	---	54.00	5,30	1000.0	1000.000	197.0	V	-5.0
2483.643078	---	62.64	74.00	11,36	1000.0	1000.000	200.0	V	0.0
4190.008000	38.59	---	54.00	15,41	1000.0	1000.000	206.0	V	176.0
4190.168000	---	51.55	74.00	22,45	1000.0	1000.000	150.0	H	225.0
5641.685000	42.84	---	54.00	11,16	1000.0	1000.000	195.0	V	97.0
5658.029000	---	55.56	74.00	18,44	1000.0	1000.000	150.0	V	225.0

BLE Channel 37



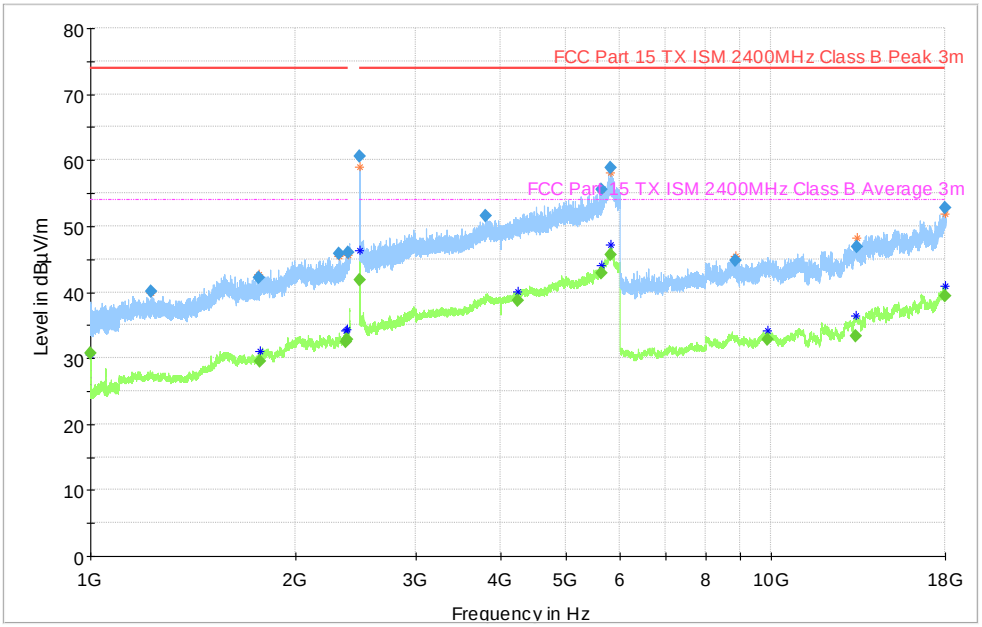
Frequency (MHz)	Average (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
2483.502500	38.49	---	54.00	15,51	1000.0	1000.000	102.0	V	96.0
4187.782000	38.64	---	54.00	15,36	1000.0	1000.000	147.0	H	307.0
5642.283000	42.89	---	54.00	11,11	1000.0	1000.000	187.0	H	187.0
5810.516000	45.67	---	54.00	8,33	1000.0	1000.000	115.0	V	307.0
5859.982000	---	57.46	74.00	16,54	1000.0	1000.000	100.0	V	180.0
17979.70300	39.69	---	54.00	14,31	1000.0	1000.000	100.0	H	307.0

BLE Channel 17



Frequency (MHz)	Average (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
2483.514650	38.53	---	54.00	15,47	1000.000	185.0	H	187.	2483.51
4172.339000	38.55	---	54.00	15,45	1000.000	210.0	V	277.	4172.33
5634.990000	42.94	---	54.00	11,06	1000.000	157.0	H	177.	5634.99
5802.230000	45.68	---	54.00	8,32	1000.000	185.0	V	187.	5802.23
5812.367000	---	58.73	74.00	15,27	1000.000	200.0	V	0.0	5812.36
17994.03000	39.44	---	54.00	14,56	1000.000	100.0	V	185.	17994.0

BLE Channel 39

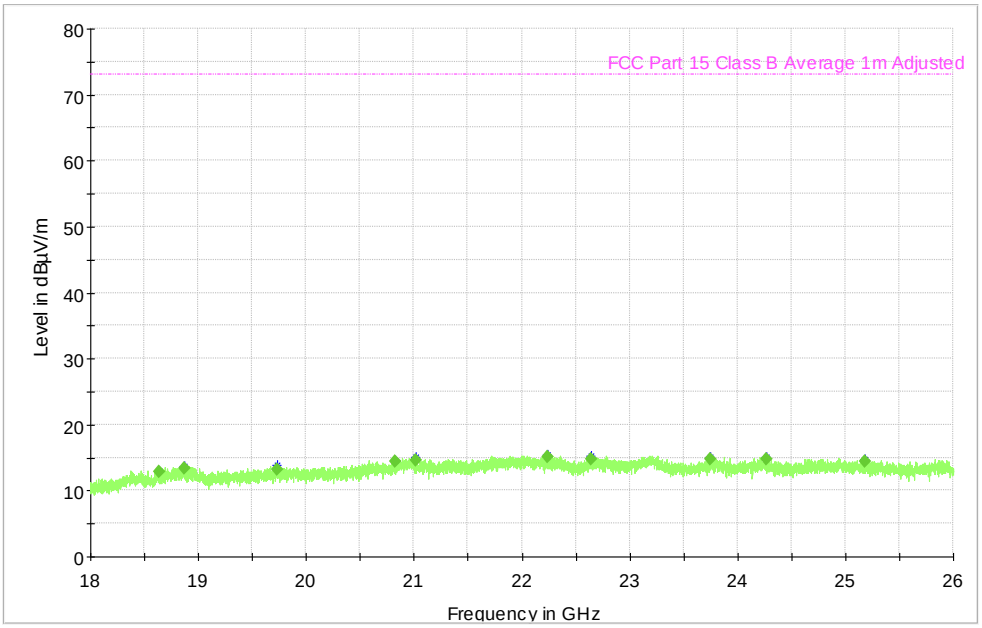


Frequency (MHz)	Average (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
2483.528000	41.82	---	54.00	12,18	1000.0	1000.000	197.0	V	-5.0
2483.563146	---	60.64	74.00	13,36	1000.0	1000.000	200.0	V	270.0
5637.274000	42.92	---	54.00	11,08	1000.0	1000.000	187.0	V	52.0
5809.878000	---	58.76	74.00	15,24	1000.0	1000.000	150.0	V	0.0
5810.795000	45.70	---	54.00	8,30	1000.0	1000.000	100.0	V	221.0
17990.40600	39.40	---	54.00	14,60	1000.0	1000.000	135.0	V	320.0

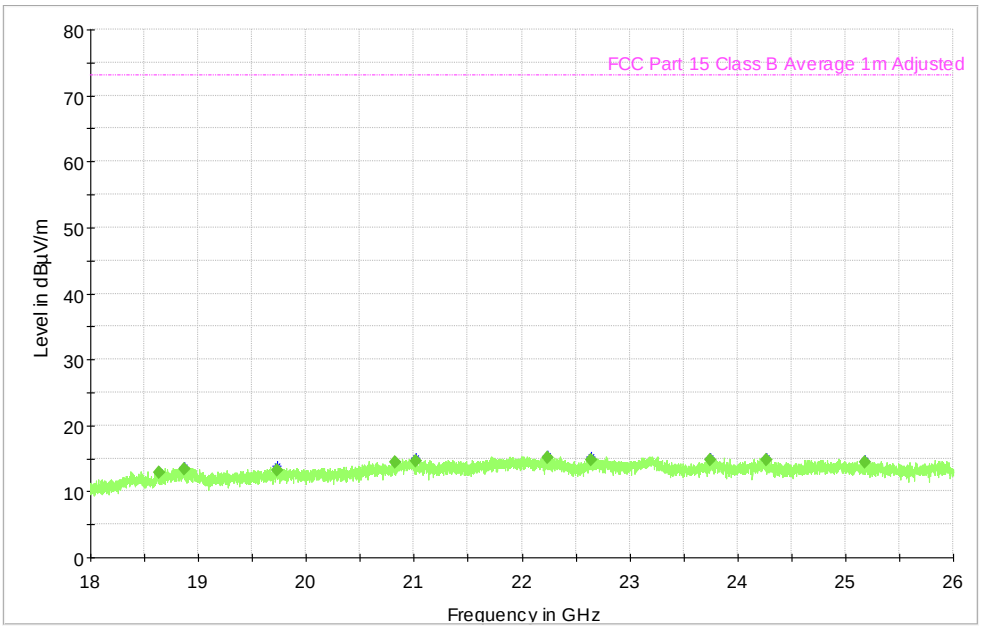
5.7.4 Radiated Emissions - Test results for frequencies in the range 18 GHz - 26 GHz

No tables of measured emissions are present since all emissions are more than 20dB lower than the limit.

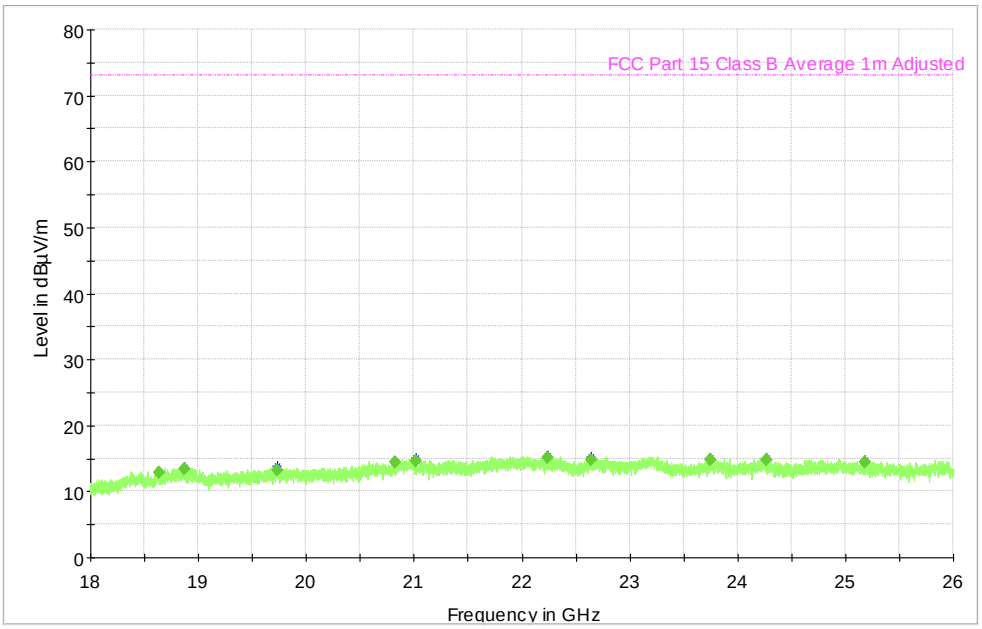
Idle mode



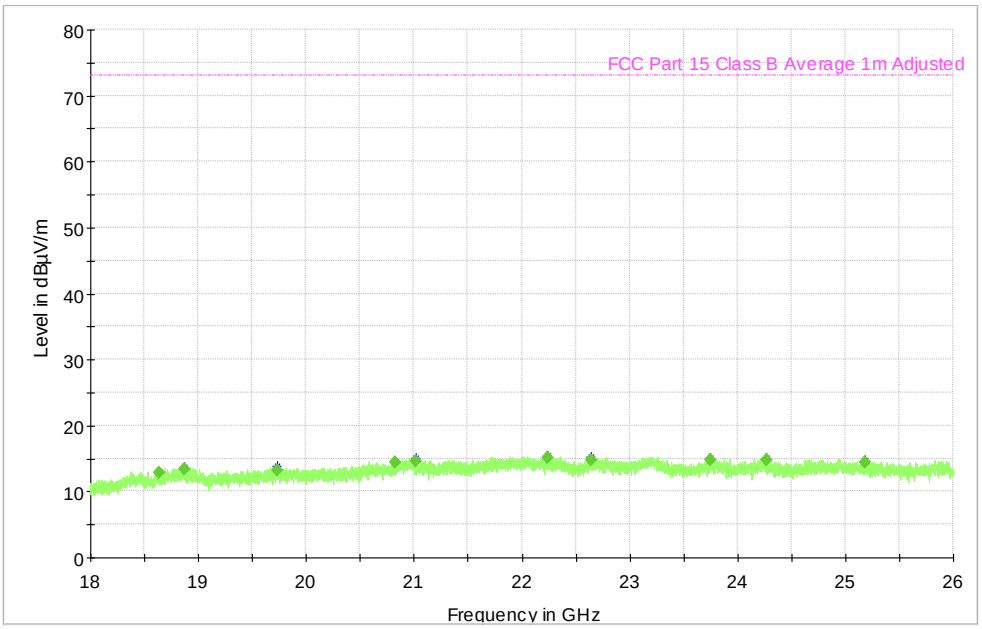
Zigbee Channel 11



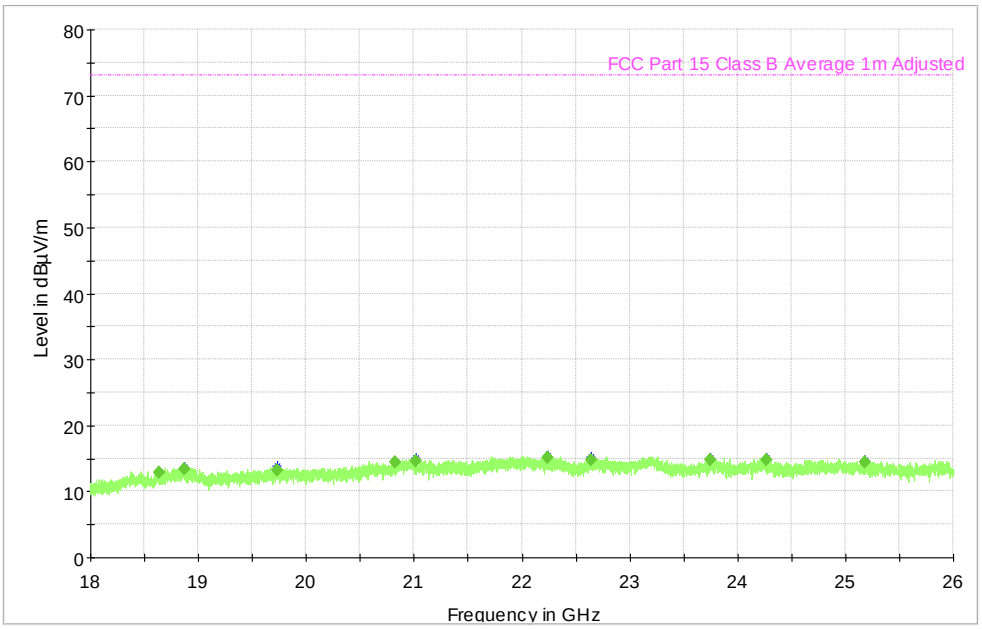
Zigbee Channel 18



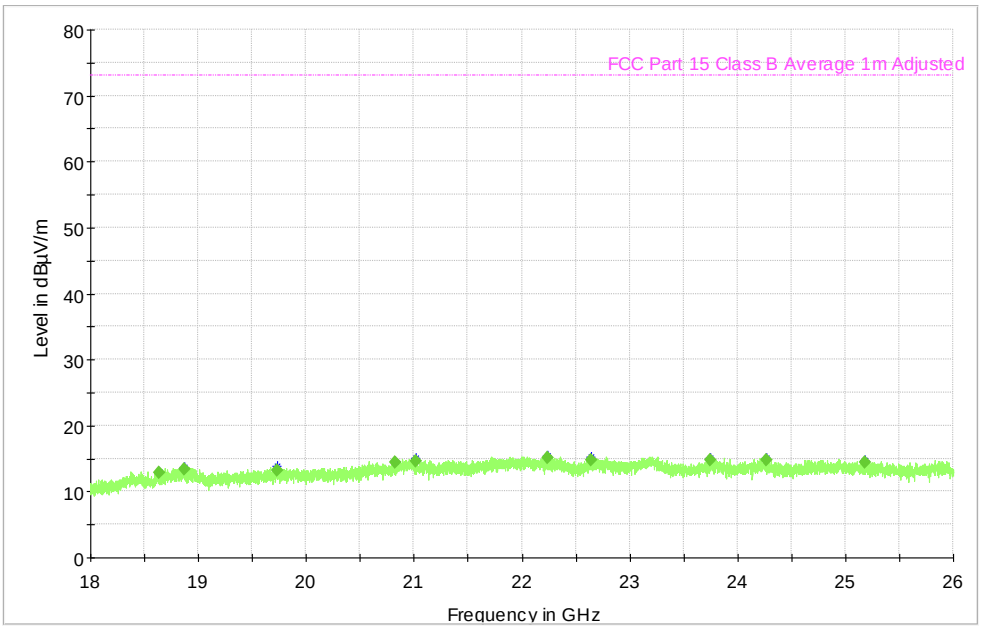
Zigbee Channel 26



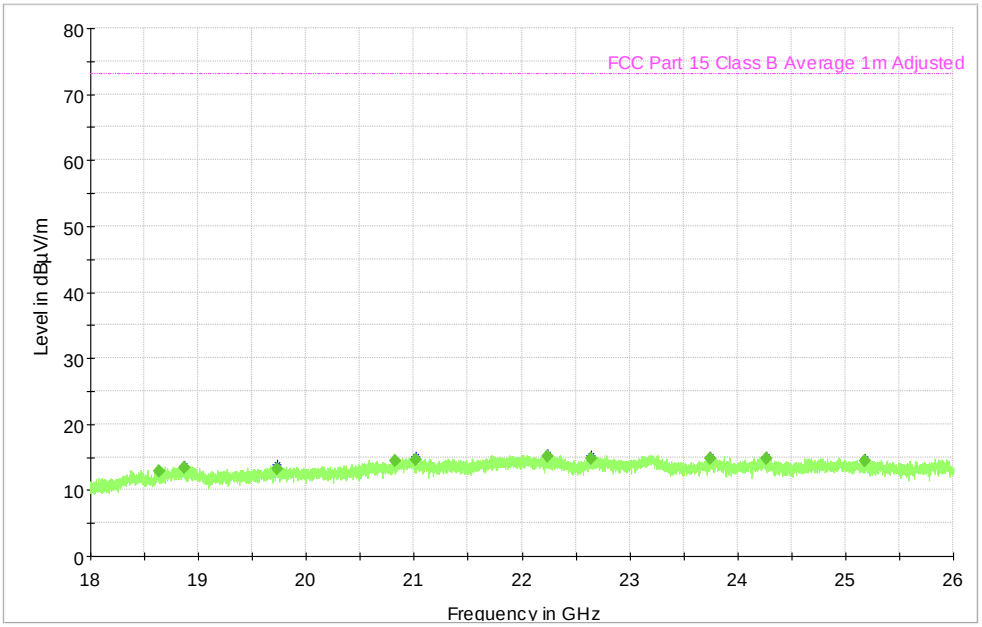
BLE Channel 37



BLE Channel 17



BLE Channel 39



6 TEST EQUIPMENT LIST

SAC 5 – Radiated emissions						
Type:	**Manufacturer**	**Model**	**Serial Number**	**GTEM ID**	**Calibration date**	**Calibration Due:**
EMI Test Receiver	Rohde & Schwarz	ESW44	101760	2881044	27.07.2018	27.07.2019
Active Loop Antenna	EMCO	6502	9206-2775	2759035	31.10.2018	31.10.2019
Ultra Broadband Antenna	Rohde & Schwarz	HL562E	100988	2823181	08.03.2018	08.03.2020
Double Ridged Waveguide Horn Antenna	Rohde & Schwarz	HF907	102678	2823164	13.02.2018	13.02.2020
Horn Antenna – 18 GHz – 26 GHz	ETS Lindgren	UG-596A/U	20898	2814839	10.08.2018	10.08.2019
Horn Antenna – 26 GHz - 40 GHz	ETS Lindgren	UG-600A/U	20623	2814834	10.08.2018	10.08.2019
Frequency Multiplier	Rohde & Schwarz	SMZ-90	101350	2886126	13.08.2018	13.08.2019
Control device	Maturo	NCD	NCD/393/2372.01	2884216	N/A	N/A
Open Switch & Control Unit	Rohde & Schwarz	OSP150	100081	2884198	09.09.2018	09.09.2019
Open Switch & Control Unit	Rohde & Schwarz	OSP120	100084	2761253	09.09.2018	09.09.2019
Shielded Filter Unit	Rohde & Schwarz	OSP-F Extension 1	101333	2761265	09.09.2018	09.09.2019
Shielded Filter Unit	Rohde & Schwarz	OSP-F Extension 2	101335	2761266	09.09.2018	09.09.2019
Shielded Filter Unit	Rohde & Schwarz	OSP-F Base Unit	101330	2761262	09.09.2018	09.09.2019
Humidity Temperature Probe	Rotronic	HF532-DG1XX21X	0061829280	2926379	14.08.2018	14.08.2020

Conducted Emissions					
Type:	**Manufacturer**	**Model**	**Serial Number**	**ID**	**Calibration Due:**
Two-Line V-network	Rohde & Schwarz	ENV216	845268/010	2704076	09.05.2019
Test Receiver 9KHz to 3.5 GHz	Rohde & Schwarz	ESR3	101674	2704016	19.07.2019
AC Power Source	Schaffner	NSG 1007	L07538	2704051	-

7 MEASUREMENT UNCERTAINTY

Measurement Uncertainty for Radiated Emission (Coverage Factor k=2)	
Parameter	**Uncertainty**
Field Strength 10 Hz -9 kHz	3,38 dB
Field Strength 9 kHz -30 MHz	3,38 dB
Field Strength 30 MHz -1000 MHz	3,38 dB
Field Strength 1 GHz -18 GHz	4,88 dB
Field Strength 18 GHz - 40 GHz	5,14 dB

Measurement Uncertainty for Conducted Emission (Coverage Factor k=2)	
Parameter	**Uncertainty**
Conducted emissions with LISN 150KHz to 30 MHz	2,98

8 APPENDIX 1 – TEST SETUP PHOTOS

See report no. 60239283-001 Appendix 1