

Annex 1:

Measurement diagrams 1-8898-24-01-05_TR1-A202-R04

Number of pages:	26	Date of Report:	2026-Jul-21
Testing company:	cetecom advanced GmbH Untertuerkheimer Str. 6-10 66117 Saarbruecken GERMANY	Applicant:	Busch & Müller KG
Product: Model:	Remote Control Blucon 456BT		
FCC ID:	2BUW5-456BT	IC: PMN HVIN FVIN	35329-456BT 456BT V06 1.0.0
Testing has been carried out in accordance with:	FCC Regulations Title 47 CFR, Chapter I, Subchapter A, Part 15 Subpart C Intentional Radiators § 15.247 Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz ISED-Regulations Radio Standards Specification RSS-Gen, Issue 5 General Requirements for Compliance of Radio Apparatus RSS-247, Issue 4 Digital Transmission Systems (DTSS), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Device		

Measurement diagrams

2.01_BLE_low_standing

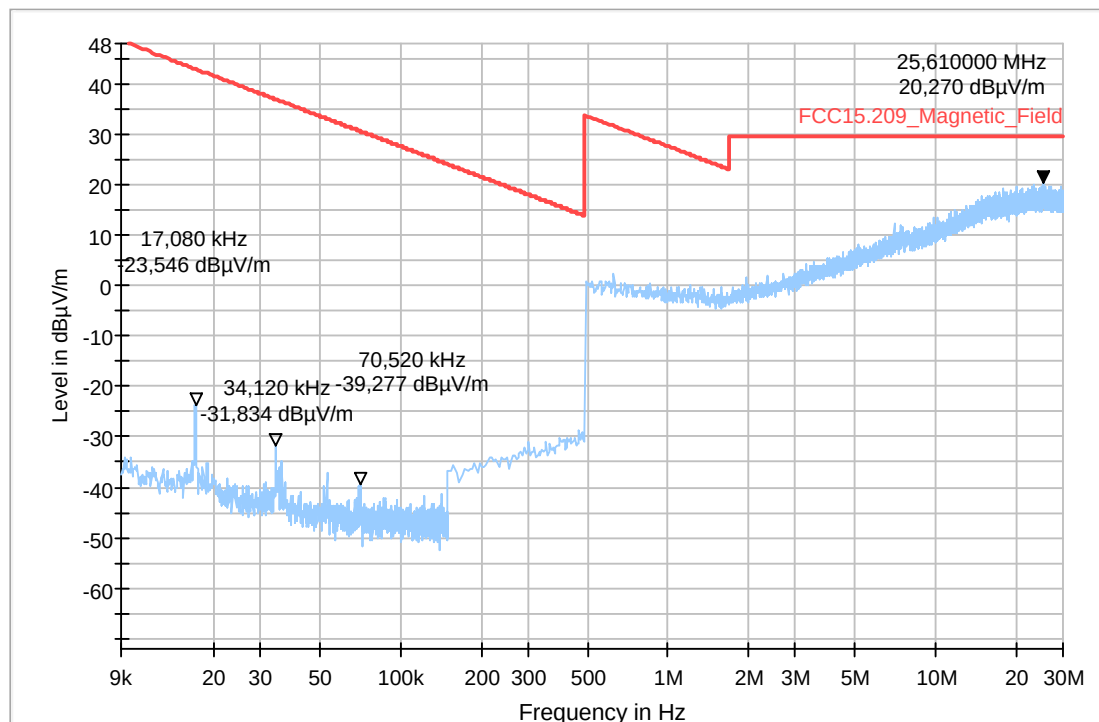
Common Information

Test description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test Site Location:	Ref.-Nr. 441 Semi Anechoic Chamber (SAC3) with 3 m measurement distance
Version of Testsoftware:	EMC32 V10.60.20
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:	ASa
Operating Mode:	BLE Mode / Modulation Type: GFSK / Data rate: 1Mbps
Comment 1:	Channel low
Environmental Conditions:	Humidity: 50 % rH; Temperature: 22.8 °C
EUT Setup:	1
Verdict:	Passed

EUT Information

Sample:	57.182
Power supply:	internal battery

Full Spectrum



2.02_BLE_low_lying

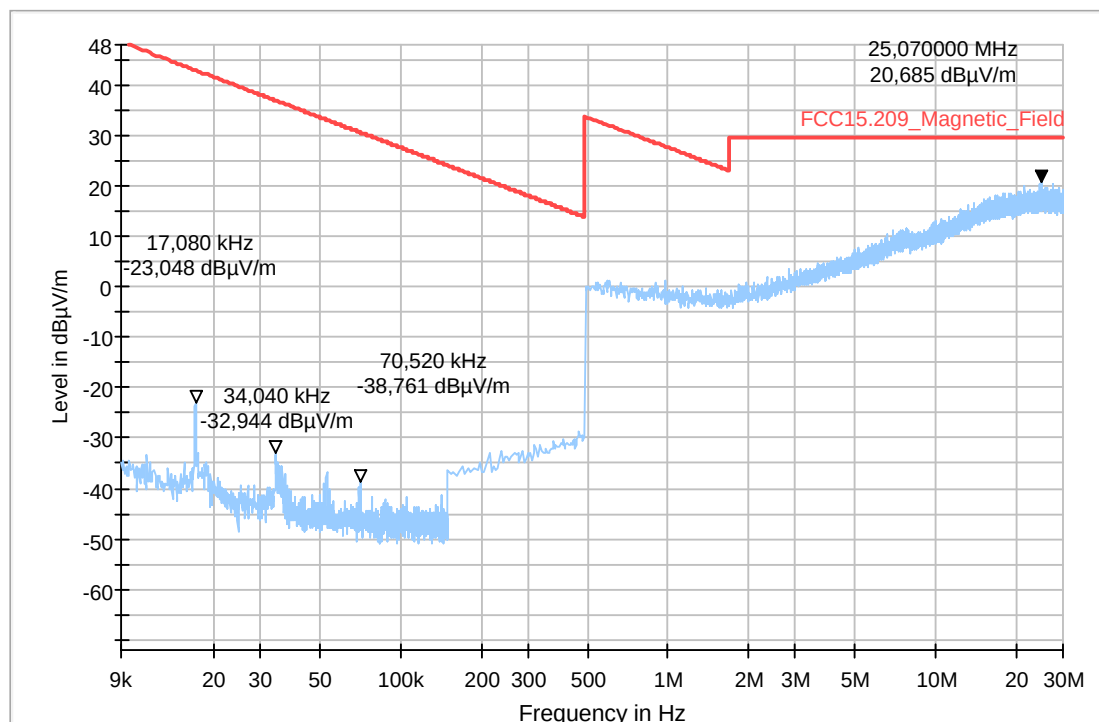
Common Information

Test description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test Site Location:	Ref.-Nr. 441 Semi Anechoic Chamber (SAC3) with 3 m measurement distance
Version of Testsoftware:	EMC32 V10.60.20
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:	ASa
Operating Mode:	BLE Mode / Modulation Type: GFSK / Data rate: 1Mbps
Comment 1:	Channel low
Environmental Conditions:	Humidity: 50 % rH; Temperature: 22.8 °C
EUT Setup:	1
Verdict:	Passed

EUT Information

Sample:	57.182
Power supply:	internal battery

Full Spectrum



2.03_BLE_mid_standing

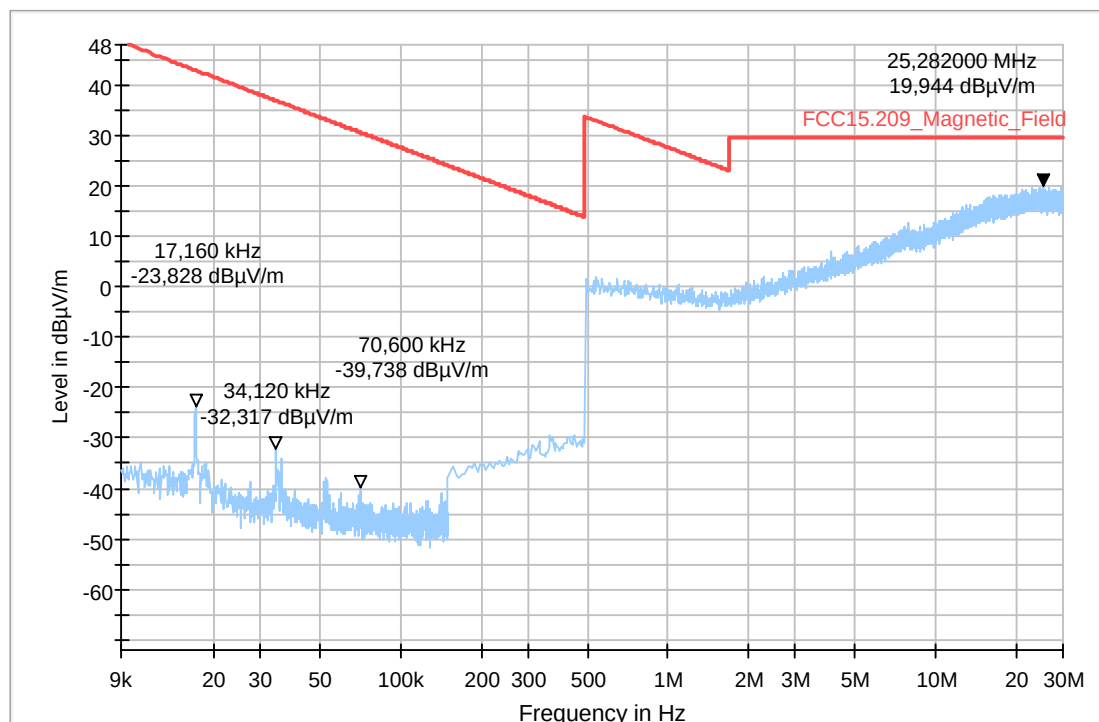
Common Information

Test description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test Site Location:	Ref.-Nr. 441 Semi Anechoic Chamber (SAC3) with 3 m measurement distance
Version of Testsoftware:	EMC32 V10.60.20
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:	ASa
Operating Mode:	BLE Mode / Modulation Type: GFSK / Data rate: 1Mbps
Comment 1:	Channel mid
Environmental Conditions:	Humidity: 50 % rH; Temperature: 22.8 °C
EUT Setup:	2
Verdict:	Passed

EUT Information

Sample:	57.174
Power supply:	internal battery

Full Spectrum



2.04_BLE_mid_lying

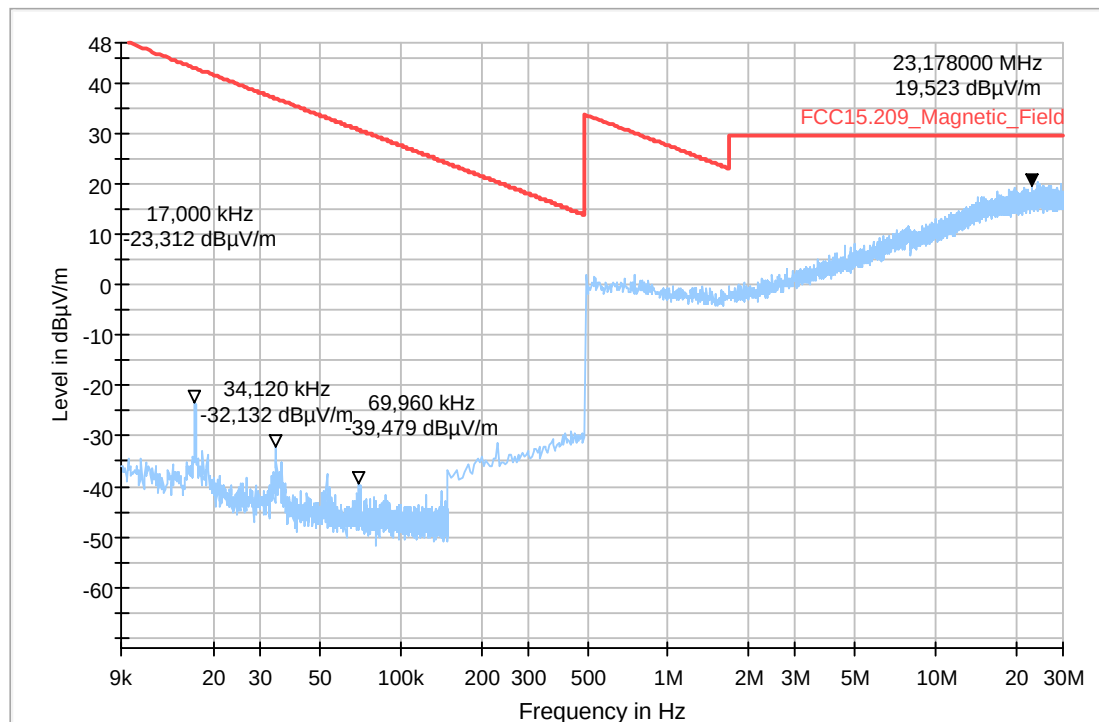
Common Information

Test description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test Site Location:	Ref.-Nr. 441 Semi Anechoic Chamber (SAC3) with 3 m measurement distance
Version of Testsoftware:	EMC32 V10.60.20
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:	ASa
Operating Mode:	BLE Mode / Modulation Type: GFSK / Data rate: 1Mbps
Comment 1:	Channel mid
Environmental Conditions:	Humidity: 50 % rH; Temperature: 22.8 °C
EUT Setup:	2
Verdict:	Passed

EUT Information

Sample:	57.174
Power supply:	internal battery

Full Spectrum



2.05_BLE_high_standing

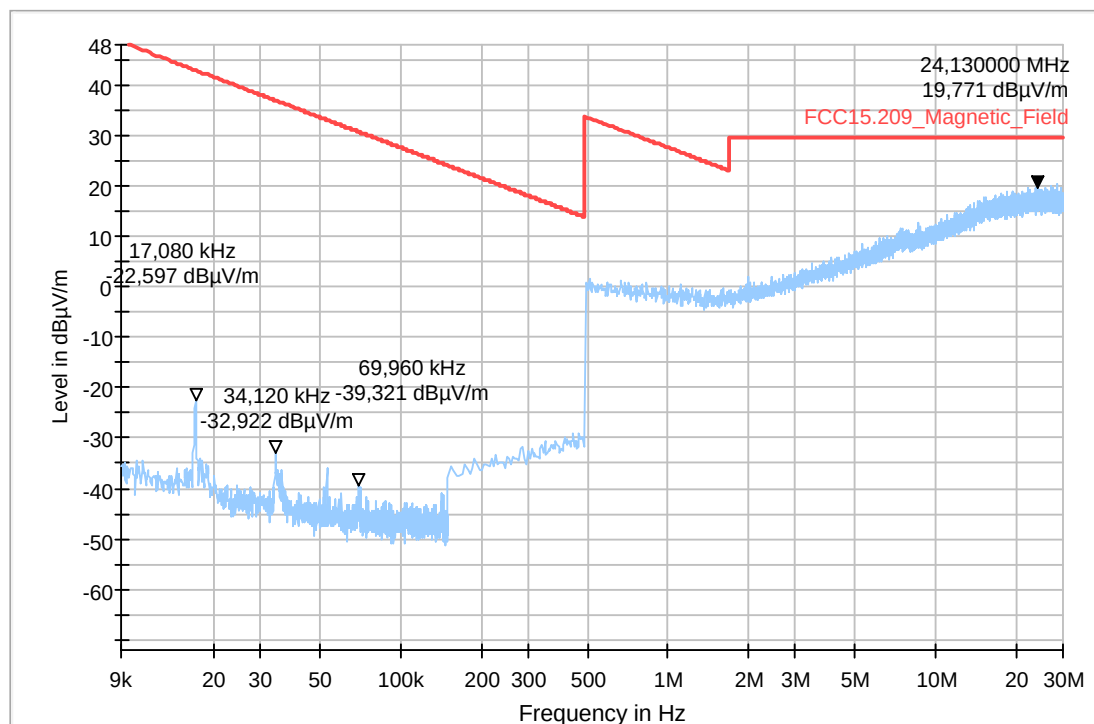
Common Information

Test description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test Site Location:	Ref.-Nr. 441 Semi Anechoic Chamber (SAC3) with 3 m measurement distance
Version of Testsoftware:	EMC32 V10.60.20
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:	ASa
Operating Mode:	BLE Mode / Modulation Type: GFSK / Data rate: 1Mbps
Comment 1:	Channel high
Environmental Conditions:	Humidity: 50 % rH; Temperature: 22.8 °C
EUT Setup:	3
Verdict:	Passed

EUT Information

Sample:	57.175
Power supply:	internal battery

Full Spectrum



2.06_BLE_high_lying

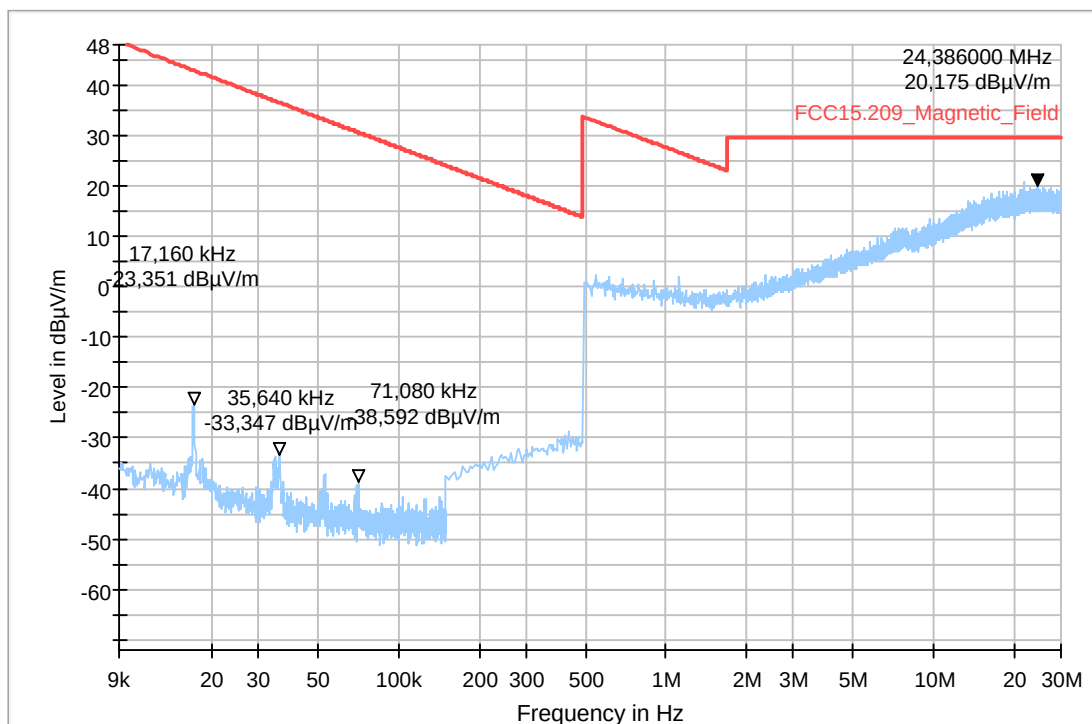
Common Information

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 V10.60.20
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:	ASa
Operating Mode:	BLE Mode / Modulation Type: GFSK / Data rate: 1Mbps
Comment 1:	Channel high
Environmental Conditions:	Humidity: 50 % rH; Temperature: 22.8 °C
EUT Setup:	3
Verdict:	Passed

EUT Information

Sample:	57.175
Power supply:	internal battery

Full Spectrum



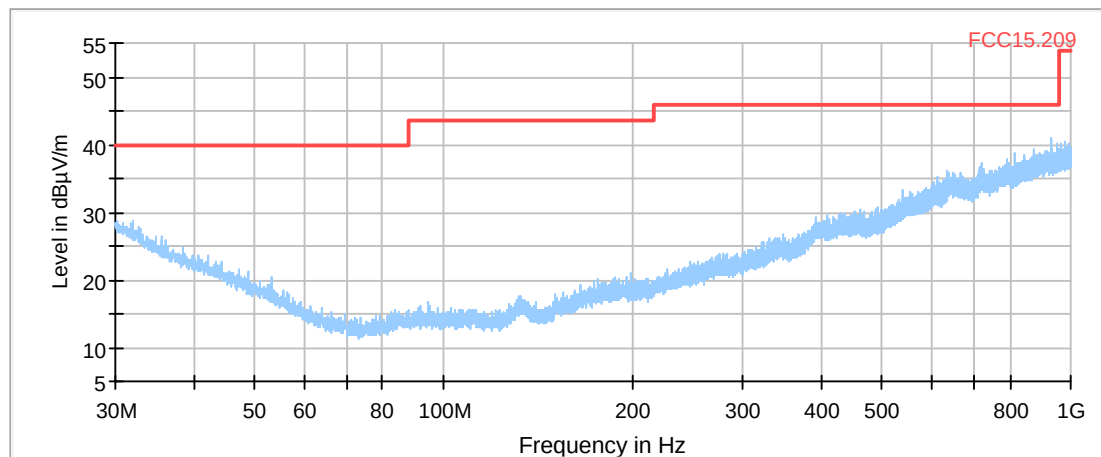
3.01_BLE_low_standing

Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	cetecom advanced GmbH Essen
Test Standard:	FCC 15.205&15.209 & RSS Gen. Issue 5
Antenna polarisation:	horizontal/vertical
Environmental Conditions:	Humidity: 54 % rH; Temperature: 23 °C
Operator Name:	ASa
EUT:	1
Operating Mode:	BLE Mode / Modulation Type: GFSK / Data rate: 1Mbps
Comment:	Channel low
Verdict:	Passed

EUT Information

PMT number:	57.182
Power:	internal battery



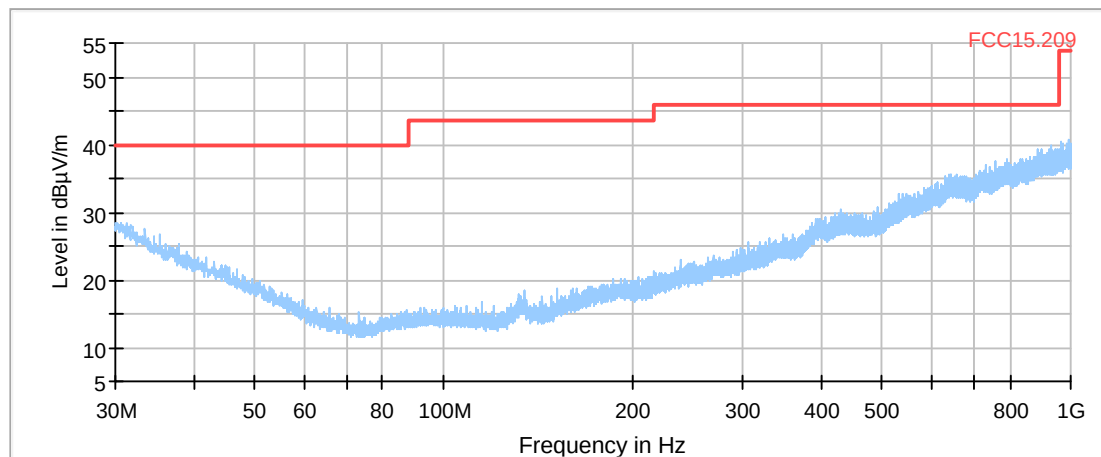
3.02_BLE_low_lying

Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	cetecom advanced GmbH Essen
Test Standard:	FCC 15.205&15.209 & RSS Gen. Issue 5
Antenna polarisation:	horizontal/vertical
Environmental Conditions:	Humidity: 54 % rH; Temperature: 23 °C
Operator Name:	ASa
EUT:	1
Operating Mode:	BLE Mode / Modulation Type: GFSK / Data rate: 1Mbps
Comment:	Channel low
Verdict:	Passed

EUT Information

PMT number:	57.182
Power:	internal battery



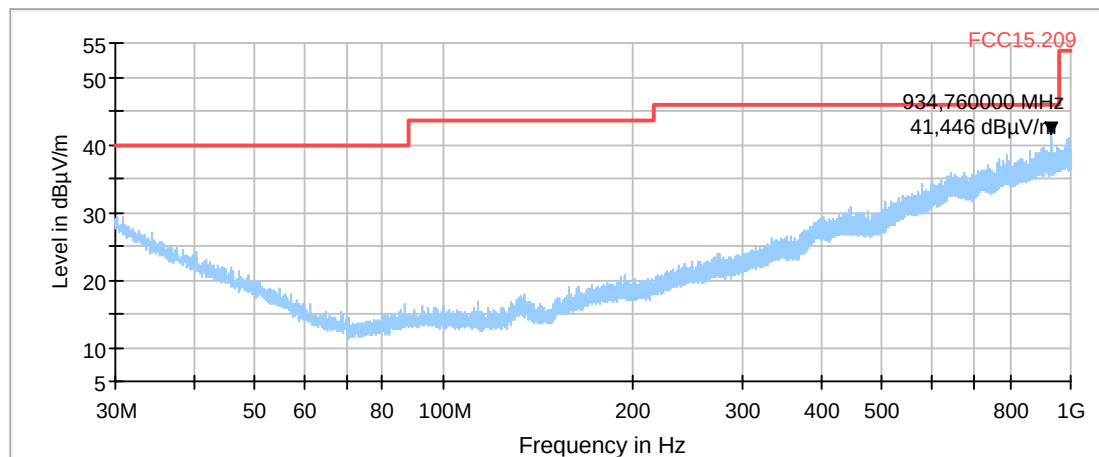
3.03_BLE_mid_standing

Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	cetecom advanced GmbH
Test Standard:	FCC 15.205&15.209 & RSS Gen. Issue 5
Antenna polarisation:	horizontal/vertical
Environmental Conditions:	Humidity: 54 % rH; Temperature: 23.0 °C
Operator Name:	ASa
EUT:	2
Operating Mode:	BLE Mode / Modulation Type: GFSK / Data rate: 1Mbps
Comment:	Channel mid
Verdict:	Passed

EUT Information

PMT number:	57.174
Power:	internal battery



Remark: Emission at 934.76 MHz is outside from chamber and not related to results.

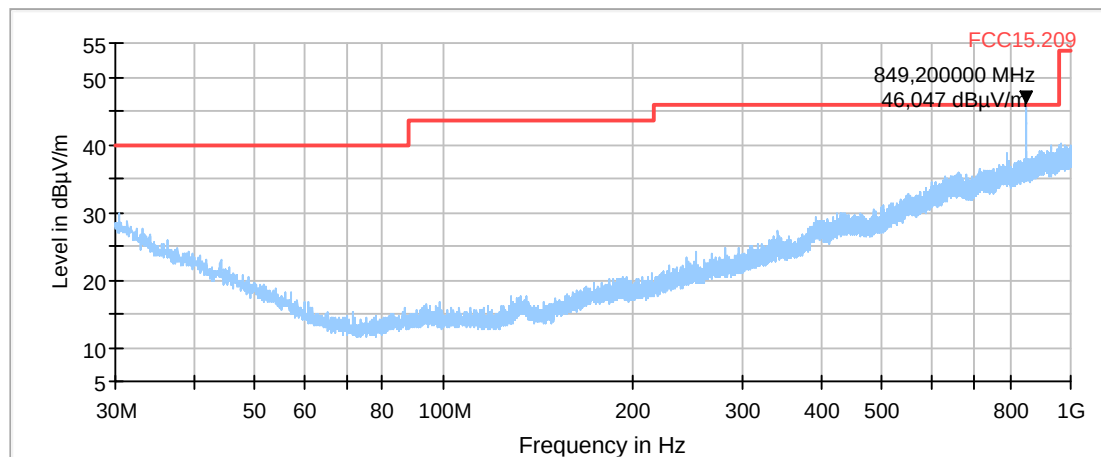
3.04_BLE_mid_lying

Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	cetecom advanced GmbH
Test Standard:	FCC 15.205&15.209 & RSS Gen. Issue 5
Antenna polarisation:	horizontal/vertical
Environmental Conditions:	Humidity: 54 % rH; Temperature: 23.0 °C
Operator Name:	ASa
EUT:	2
Operating Mode:	BLE Mode / Modulation Type: GFSK / Data rate: 1Mbps
Comment:	Channel mid
Verdict:	Passed

EUT Information

PMT number:	57.174
Power:	internal battery



Remark: Emission at 849.20 MHz is outside from chamber and not related to results.

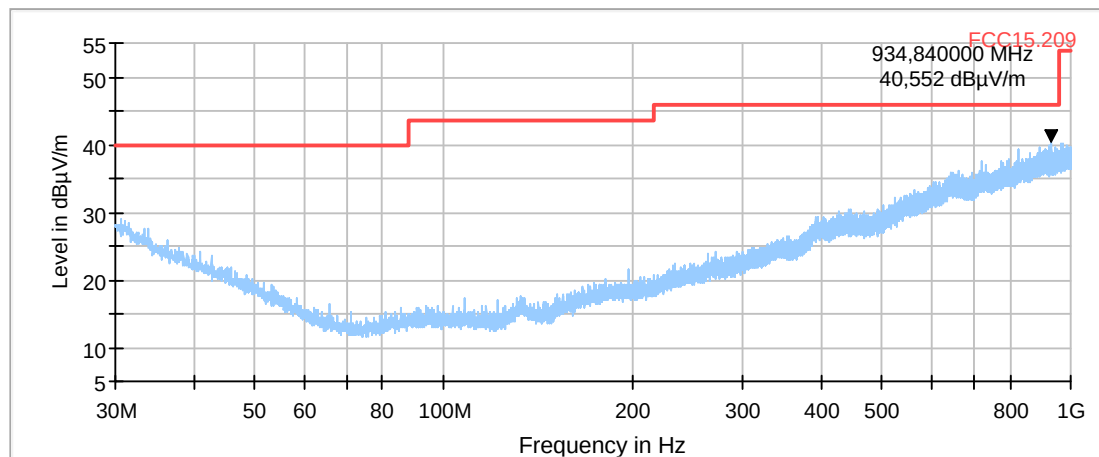
3.05_BLE_high_standing

Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	cetecom advanced GmbH
Test Standard:	FCC 15.205&15.209 & RSS Gen. Issue 5
Antenna polarisation:	horizontal/vertical
Environmental Conditions:	Humidity: 54 % rH; Temperature: 23.0 °C
Operator Name:	ASa
EUT:	3
Operating Mode:	BLE Mode / Modulation Type: GFSK / Data rate: 1Mbps
Comment:	Channel high
Verdict:	Passed

EUT Information

PMT number:	57.175
Power:	internal battery



Remark: Emission at 934.84 MHz is outside from chamber and not related to results.

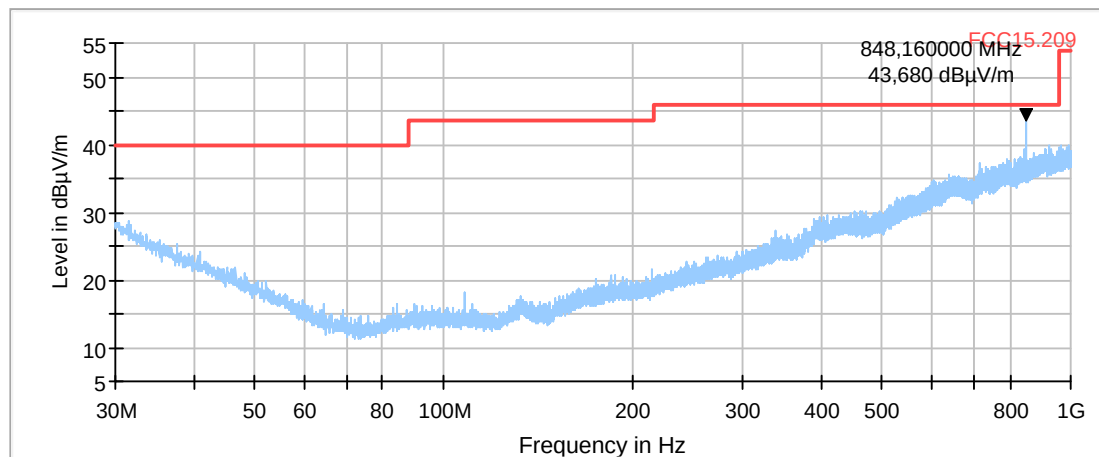
3.06_BLE_high_lying

Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	cetecom advanced GmbH
Test Standard:	FCC 15.205&15.209 & RSS Gen. Issue 5
Antenna polarisation:	horizontal/vertical
Environmental Conditions:	Humidity: 54 % rH; Temperature: 23 °C
Operator Name:	ASa
EUT:	3
Operating Mode:	BLE Mode / Modulation Type: GFSK / Data rate: 1Mbps
Comment:	Channel high
Verdict:	Passed

EUT Information

PMT number:	57.175
Power:	internal battery



Remark: Emission at 848.16 MHz is outside from chamber and not related to results.

4.01_BLE_low

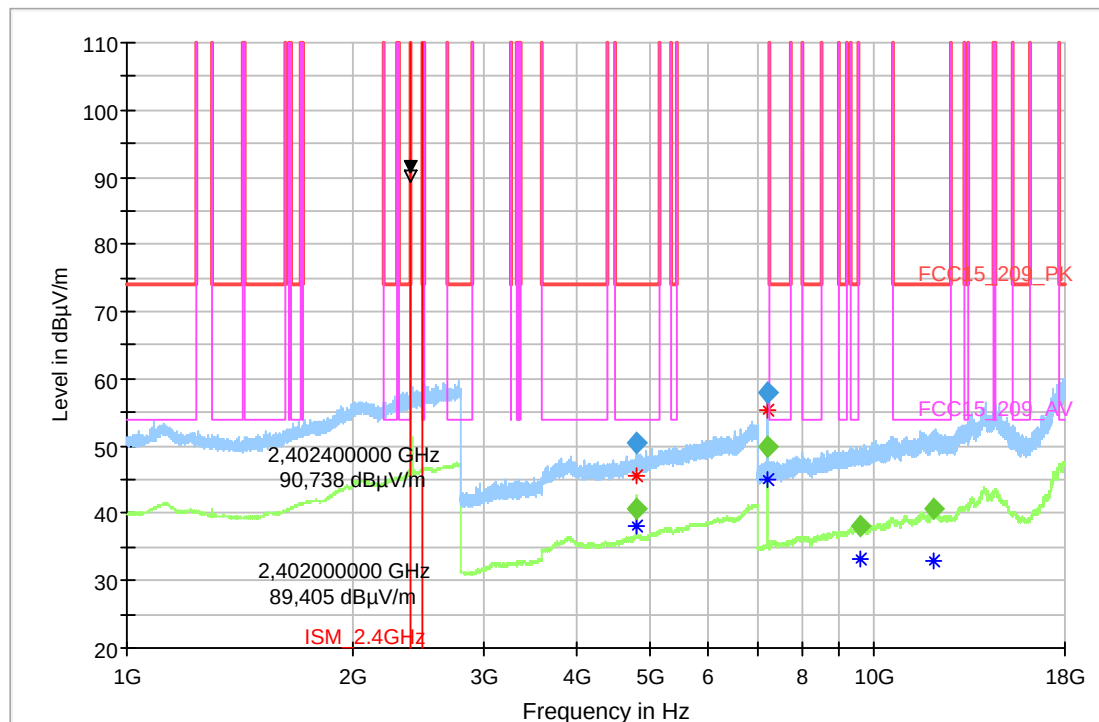
Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
Antenna polarisation:	horizontal/vertical
Operating Mode:	TX, continuous
Set-up no.	4
Operator:	AHo
Comment:	Channel no. low
Comment2:	BLE Mode / Modulation Type: GFSK / Data rate: 1Mbps
Environmental Conditions:	Humidity: 52 % rH; Temperature: 21.0 °C
Verdict:	Passed

EUT Information

Sample:	59.197
Power Supply :	internal battery

Full Spectrum



Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin	Meas. Time (ms)	Bandwidth	Height	Pol	Azimuth	Elevation
4803.770000	50.56	---	74.00	23.44	100.0	1000.000	155.0	H	94.0	90.0
4803.770000	---	40.63	54.00	13.37	100.0	1000.000	155.0	H	314.0	90.0
7205.650000	57.92	---	150.00	92.08	100.0	1000.000	155.0	V	182.0	90.0
7205.850000	---	49.86	150.00	100.14	100.0	1000.000	155.0	V	183.0	90.0
9607.570000	---	37.98	150.00	112.02	100.0	1000.000	155.0	H	-2.0	0.0
12009.490000	---	40.73	54.00	13.27	100.0	1000.000	155.0	V	177.0	90.0

4.02_BLE_mid

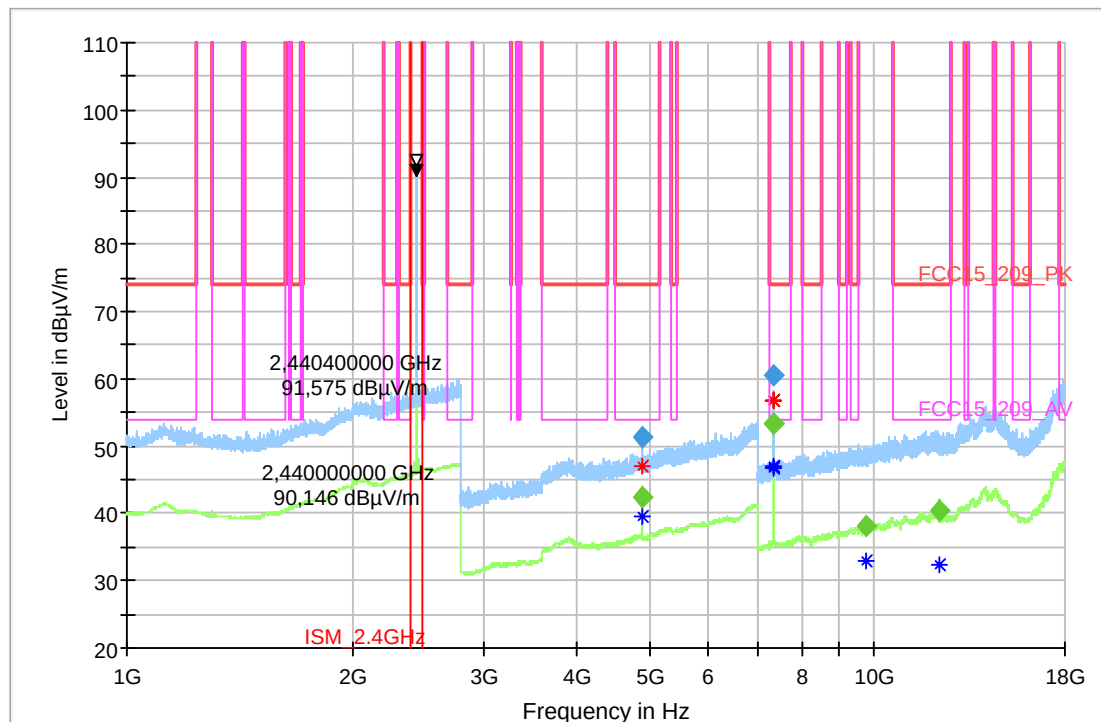
Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
Antenna polarisation:	horizontal/vertical
Operating Mode:	TX, continuous
Set-up no.	4
Operator:	AHo
Comment:	Channel no. mid
Comment2:	BLE Mode / Modulation Type: GFSK / Data rate: 1Mbps
Environmental Conditions:	Humidity: 52 % rH; Temperature: 21.0 °C
Verdict:	Passed

EUT Information

Sample:	59.197
Power Supply :	Internal battery

Full Spectrum



Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin	Meas. Time (ms)	Bandwidth	Height	Pol	Azimuth	Elevation
4879.810000	---	42.45	54.00	11.55	100.0	1000.000	155.0	H	81.0	90.0
4880.810000	51.44	---	74.00	22.56	100.0	1000.000	155.0	H	84.0	90.0
7321.050000	---	53.40	54.00	0.60	100.0	1000.000	155.0	V	124.0	90.0
7321.090000	---	53.39	54.00	0.61	100.0	1000.000	155.0	V	124.0	90.0
7321.210000	60.48	---	74.00	13.52	100.0	1000.000	155.0	V	124.0	90.0
9761.610000	---	38.18	150.00	111.82	100.0	1000.000	155.0	H	141.0	90.0
12201.970000	---	40.42	54.00	13.58	100.0	1000.000	155.0	V	39.0	90.0

4.03_BLE_high

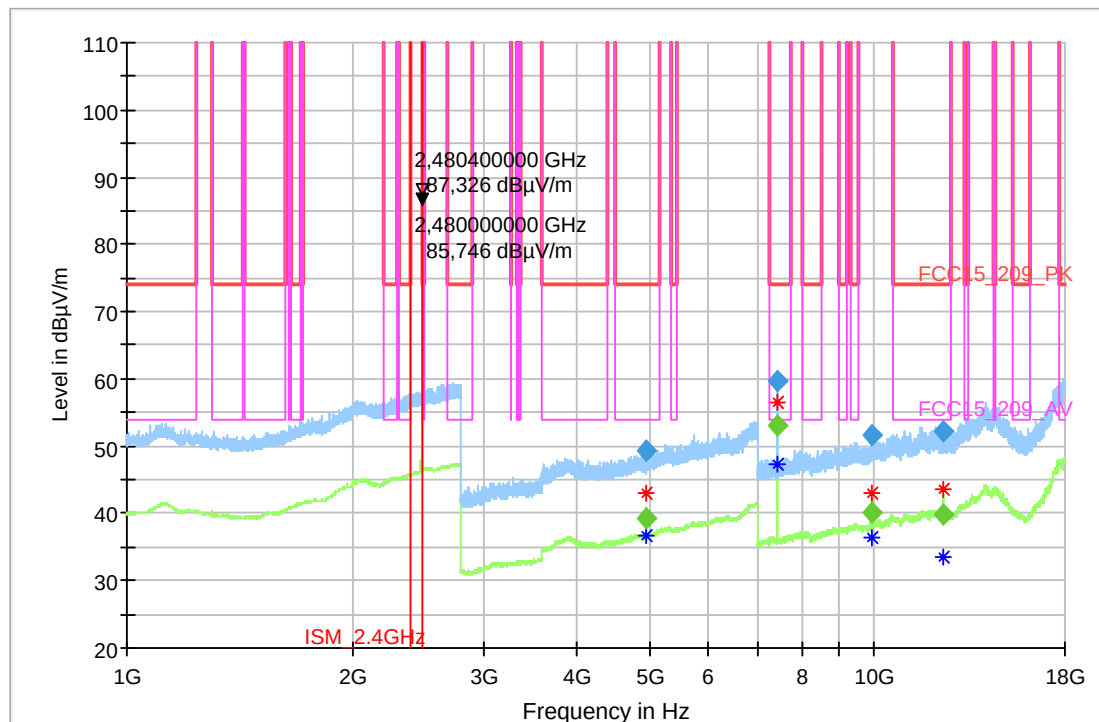
Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
Antenna polarisation:	horizontal/vertical
Operating Mode:	TX, continuous
Set-up no.	4
Operator:	SOz
Comment:	Channel no. high
Comment2:	BLE Mode / Modulation Type: GFSK / Data rate: 1Mbps
Environmental Conditions:	Humidity: 52 % rH; Temperature: 21.0 °C
Verdict:	Passed

EUT Information

Sample:	59.197
Power Supply :	Internal battery

Full Spectrum



Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin	Meas. Time (ms)	Bandwidth	Height	Pol	Azimuth	Elevation
4959.810000	---	39.38	54.00	14.62	100.0	1000.000	155.0	H	50.0	90.0
4960.810000	49.34	---	74.00	24.66	100.0	1000.000	155.0	H	52.0	90.0
7439.650000	59.76	---	74.00	14.24	100.0	1000.000	155.0	V	1.0	0.0
7441.130000	---	52.93	54.00	1.07	100.0	1000.000	155.0	V	-8.0	0.0
9921.610000	---	40.00	150.00	110.00	100.0	1000.000	155.0	H	315.0	90.0
9921.610000	51.66	---	150.00	98.34	100.0	1000.000	155.0	H	314.0	90.0
12401.850000	52.18	---	74.00	21.82	100.0	1000.000	155.0	H	136.0	90.0
12401.930000	---	39.80	54.00	14.20	100.0	1000.000	155.0	H	139.0	90.0

4.04_BLE_low_AntH

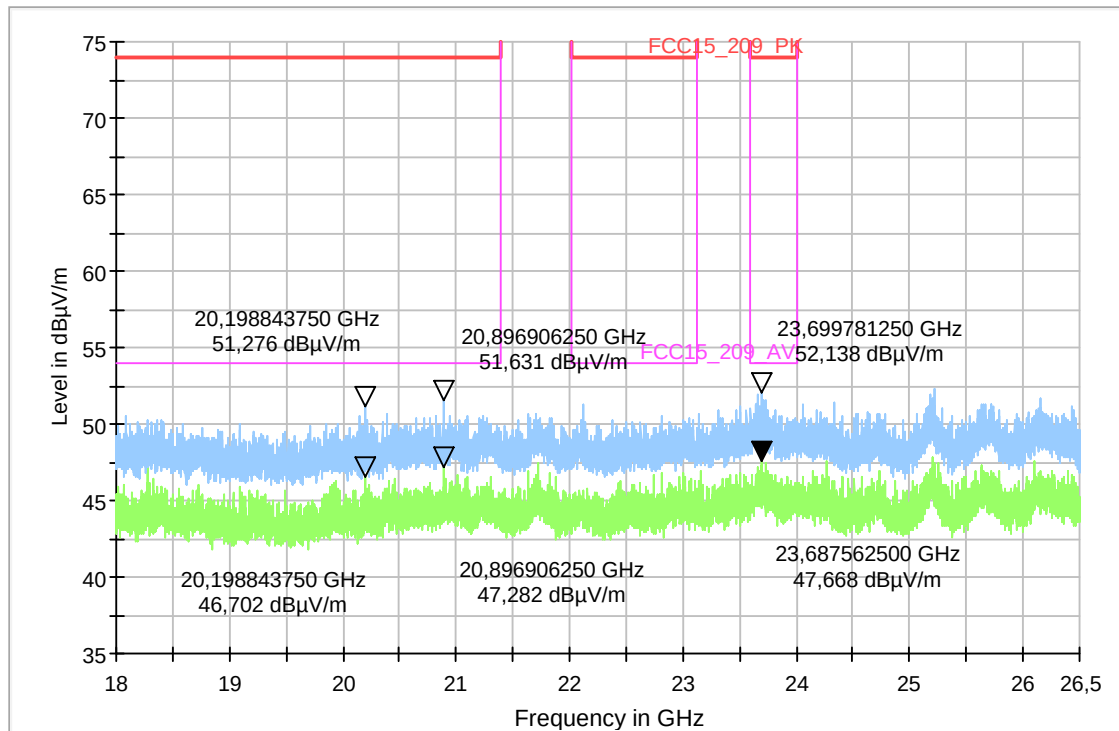
Common Information

Test Description:	Radiated Field Strength Emission@3m distance
Test Site Location:	cetecom advanced GmbH Essen
Test Site:	Fully Anechoic Room (FAC2)
Test Standard:	FCC 15.209 & RSS-Gen, Issue 5
Operating Mode:	BLE Mode / Modulation Type: GFSK / Data rate: 1Mbps
Environmental Conditions:	Humidity: 52 % rH; Temperature: 21.9 °C
SW-Version:	EMC32 V10.60.20
Operator:	SOz
Set-up:	4
Verdict:	Passed

EUT Information

PMT Sample Nr.:	59.197
Power:	internal battery

Full Spectrum



4.05_BLE_low_AntV

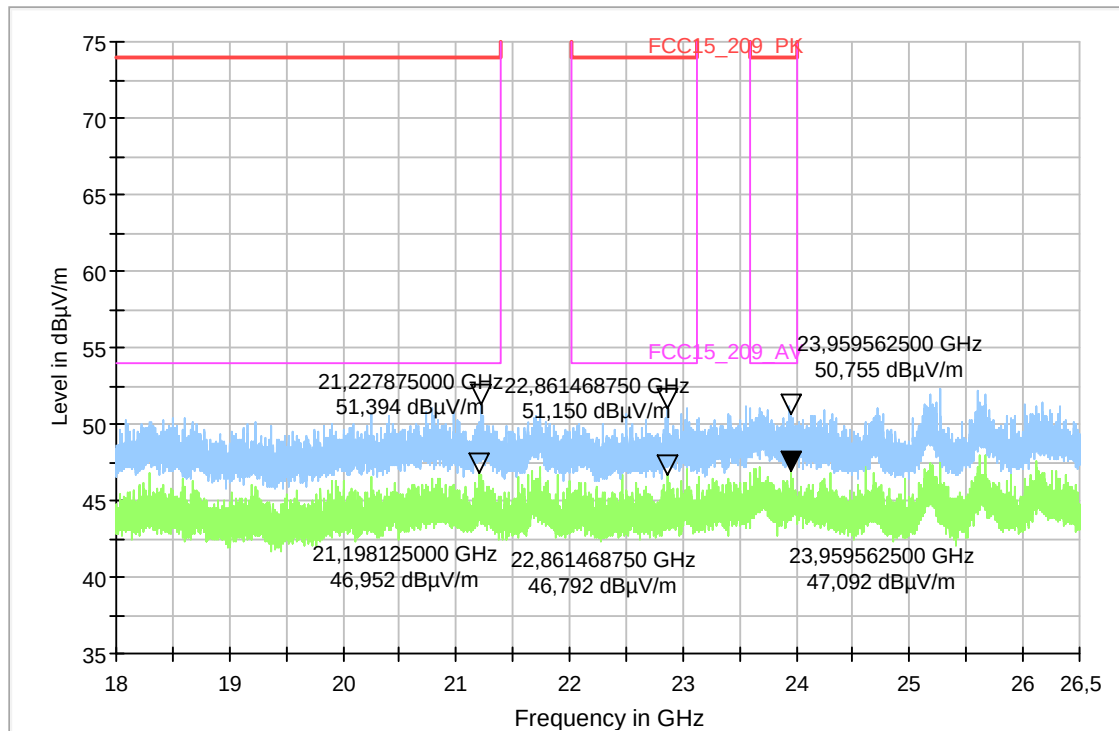
Common Information

Test Description:	Radiated Field Strength Emission@3m distance
Test Site Location:	cetecom advanced GmbH Essen
Test Site:	Fully Anechoic Room (FAC2)
Test Standard:	FCC 15.209 & RSS-Gen, Issue 5
Operating Mode:	BLE Mode / Modulation Type: GFSK / Data rate: 1Mbps
Environmental Conditions:	Humidity: 52 % rH; Temperature: 21.9 °C
SW-Version:	EMC32 V10.60.20
Operator:	SOz
Set-up:	4
Verdict:	Passed

EUT Information

PMT Sample Nr.:	59.197
Power:	internal battery

Full Spectrum



4.06_BLE_mid_Anth

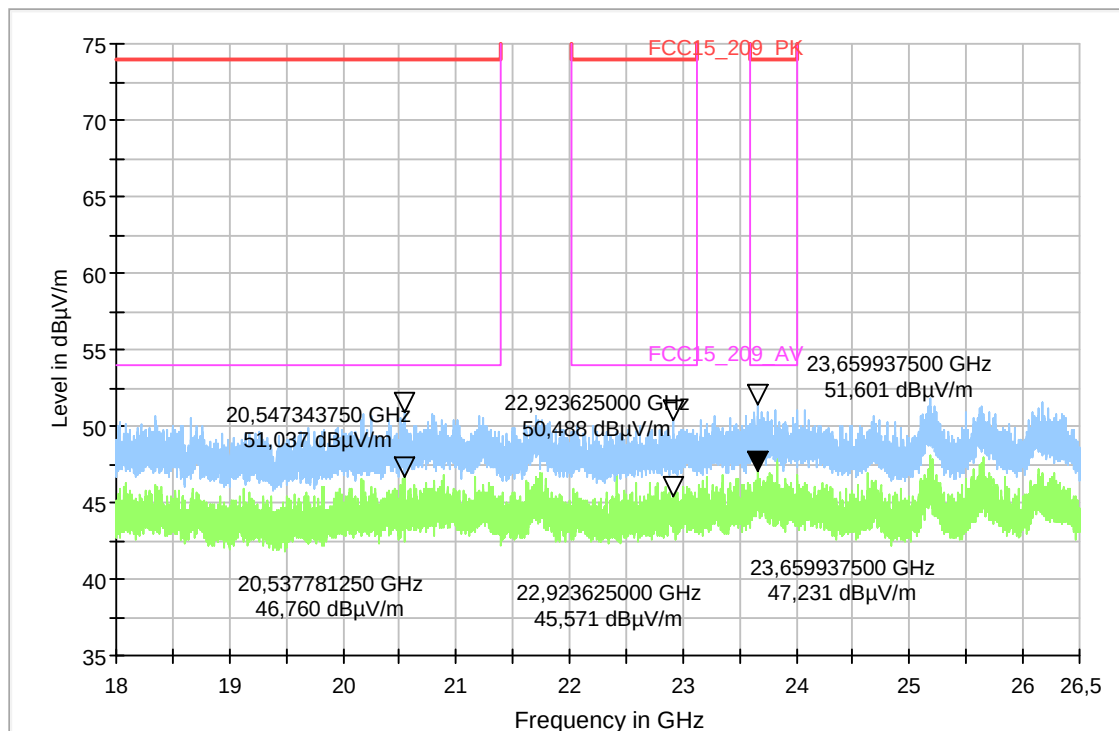
Common Information

Test Description:	Radiated Field Strength Emission@3m distance
Test Site Location:	cetecom advanced GmbH Essen
Test Site:	Fully Anechoic Room (FAC2)
Test Standard:	FCC 15.209 & RSS-Gen, Issue 5
Operating Mode:	BLE Mode / Modulation Type: GFSK / Data rate: 1Mbps
Environmental Conditions:	Humidity: 52 % rH; Temperature: 21.9 °C
SW-Version:	EMC32 V10.60.20
Operator:	SOz
Set-up:	4
Verdict:	Passed

EUT Information

PMT Sample Nr.:	59.197
Power:	internal battery

Full Spectrum



4.07_BLE_mid_AntV

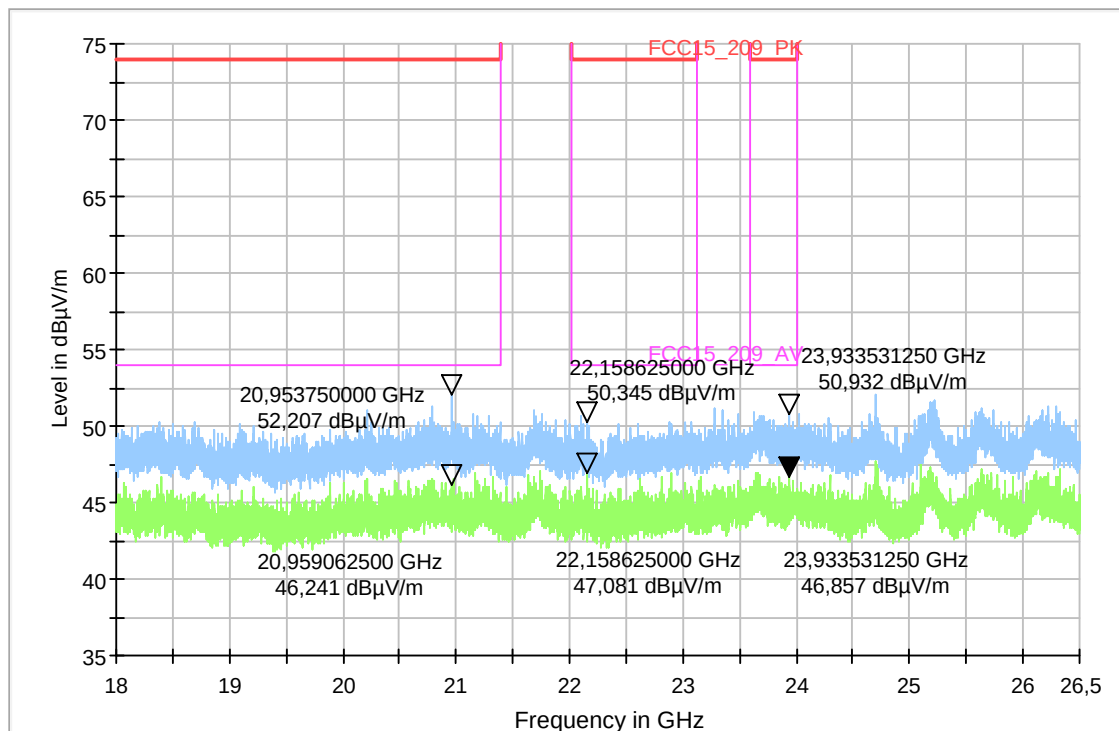
Common Information

Test Description:	Radiated Field Strength Emission@3m distance
Test Site Location:	cetecom advanced GmbH Essen
Test Site:	Fully Anechoic Room (FAC2)
Test Standard:	FCC 15.209 & RSS-Gen, Issue 5
Operating Mode:	BLE Mode / Modulation Type: GFSK / Data rate: 1Mbps
Environmental Conditions:	Humidity: 52 % rH; Temperature: 21.9 °C
SW-Version:	EMC32 V10.60.20
Operator:	SOz
Set-up:	4
Verdict:	Passed

EUT Information

PMT Sample Nr.:	59.197
Power:	internal battery

Full Spectrum



4.08_BLE_high_Anth

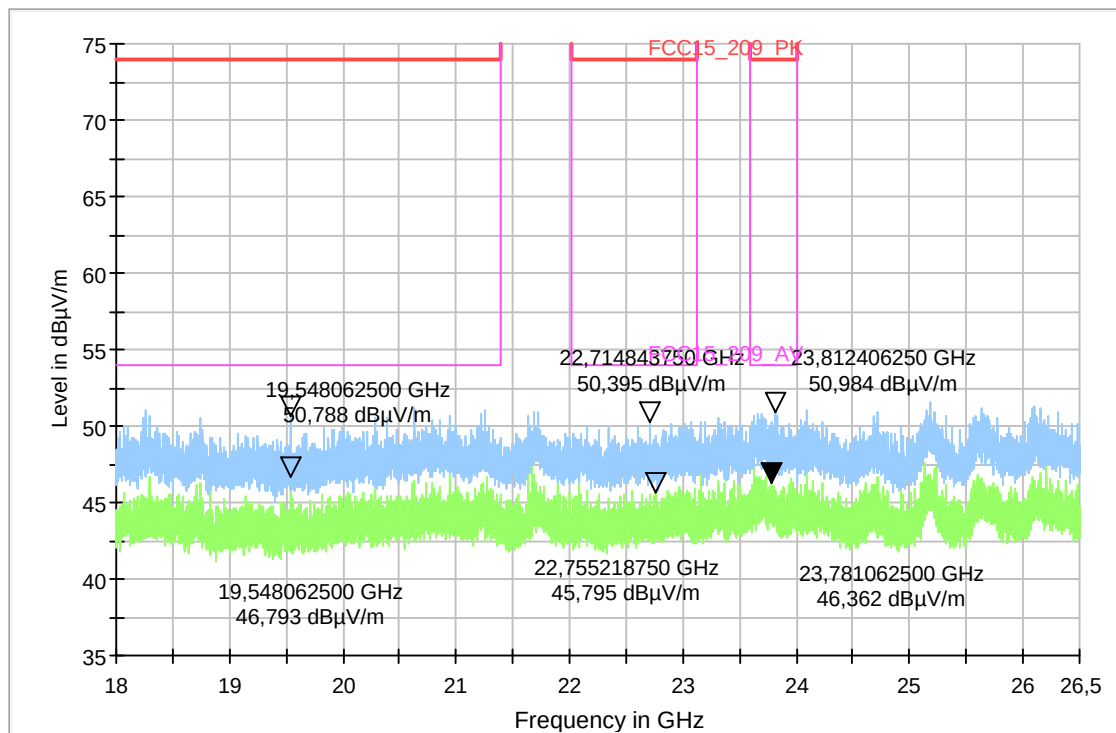
Common Information

Test Description:	Radiated Field Strength Emission@3m distance
Test Site Location:	cetekom advanced GmbH Essen
Test Site:	Fully Anechoic Room (FAC2)
Test Standard:	FCC 15.209 & RSS-Gen, Issue 5
Operating Mode:	BLE Mode / Modulation Type: GFSK / Data rate: 1Mbps
Environmental Conditions:	Humidity: 52 % rH; Temperature: 21.9 °C
SW-Version:	EMC32 V10.60.20
Operator:	SOz
Set-up:	4
Verdict:	Passed

EUT Information

PMT Sample Nr.:	59.197
Power:	internal battery

Full Spectrum



4.09_BLE_high_AntV

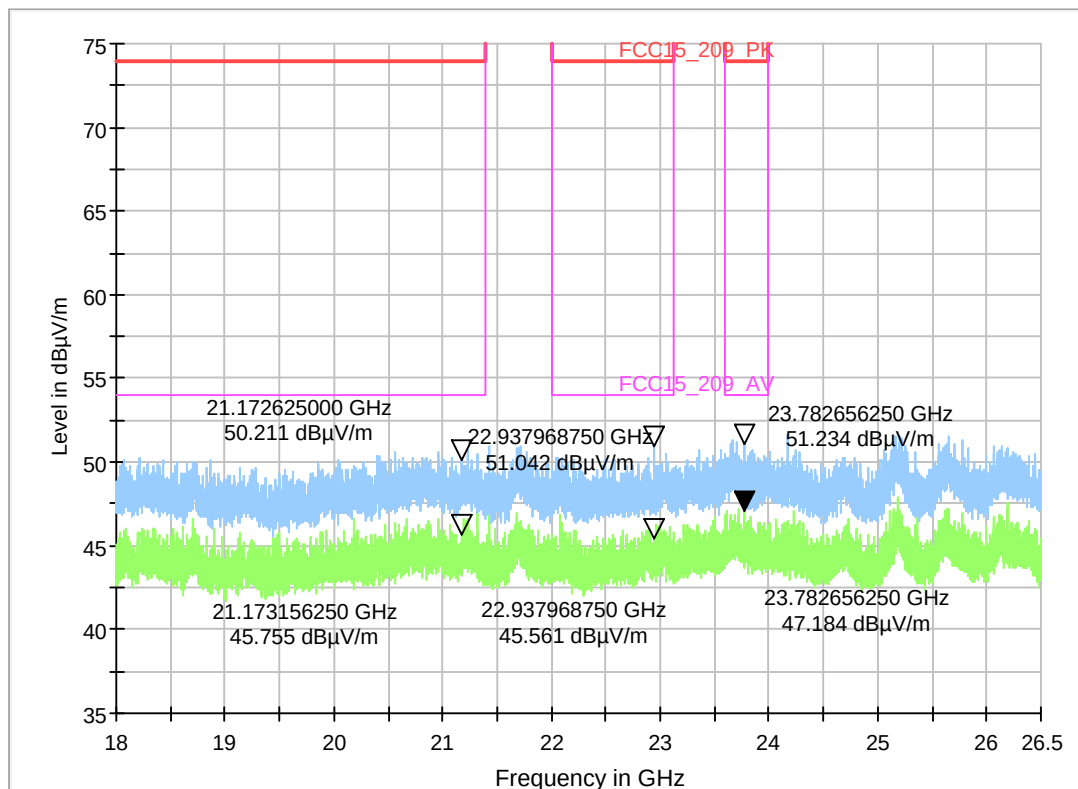
Common Information

Test Description:	Radiated Field Strength Emission@3m distance
Test Site Location:	cetecom advanced GmbH Essen
Test Site:	Fully Anechoic Room (FAC2)
Test Standard:	FCC 15.209 & RSS-Gen, Issue 5
Operating Mode:	BLE Mode / Modulation Type: GFSK / Data rate: 1Mbps
Environmental Conditions:	Humidity: 52 % rH; Temperature: 21.9 °C
SW-Version:	EMC32 V10.60.20
Operator:	SOz
Set-up:	4
Verdict:	Passed

EUT Information

PMT Sample Nr.:	59.197
Power:	internal battery

Full Spectrum



9.01_BE_BLE_1Mbps_low

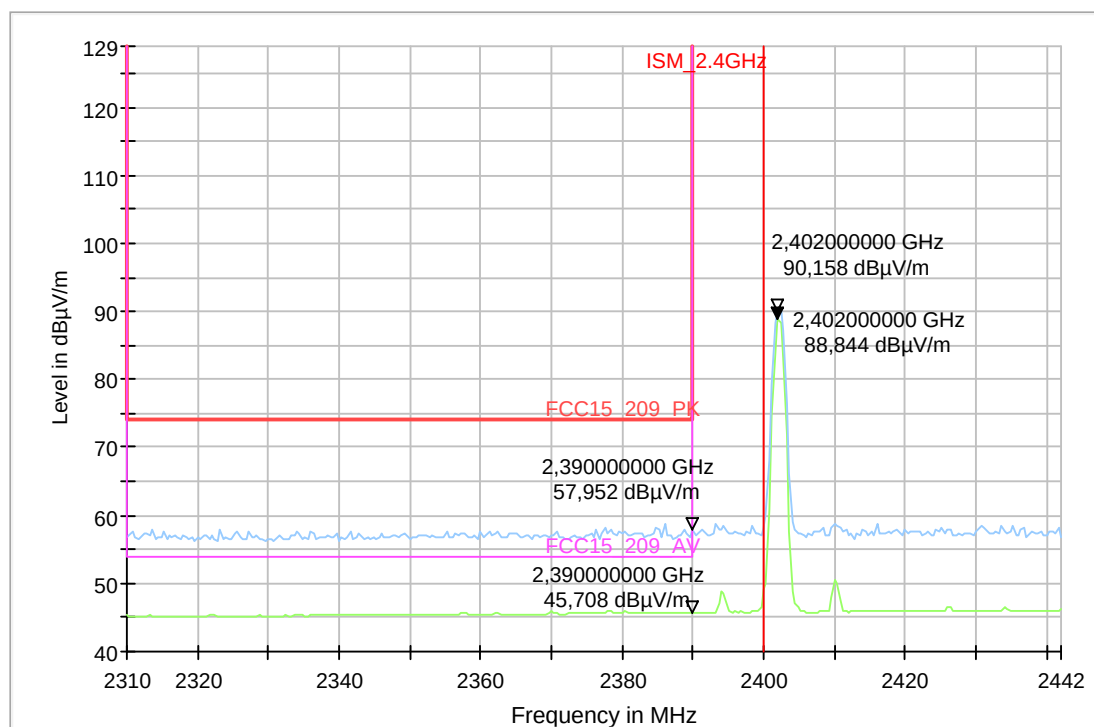
Common Information

Test Description:	Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
Antenna polarisation:	horizontal/vertical
Operating Mode:	TX, continuous
Operator:	SOz
Comment:	Channel no. low
Comment2:	BLE Mode / Modulation Type: GFSK / Data rate: 1Mbps
Environmental Conditions:	Humidity: 58 % rH; Temperature: 19.5 °C
EUT Setup:	4
Verdict:	Passed

EUT Information

Sample:	59.197
Power Supply :	internal battery

Full Spectrum



9.02_BE_BLE_1Mbps_high

Common Information

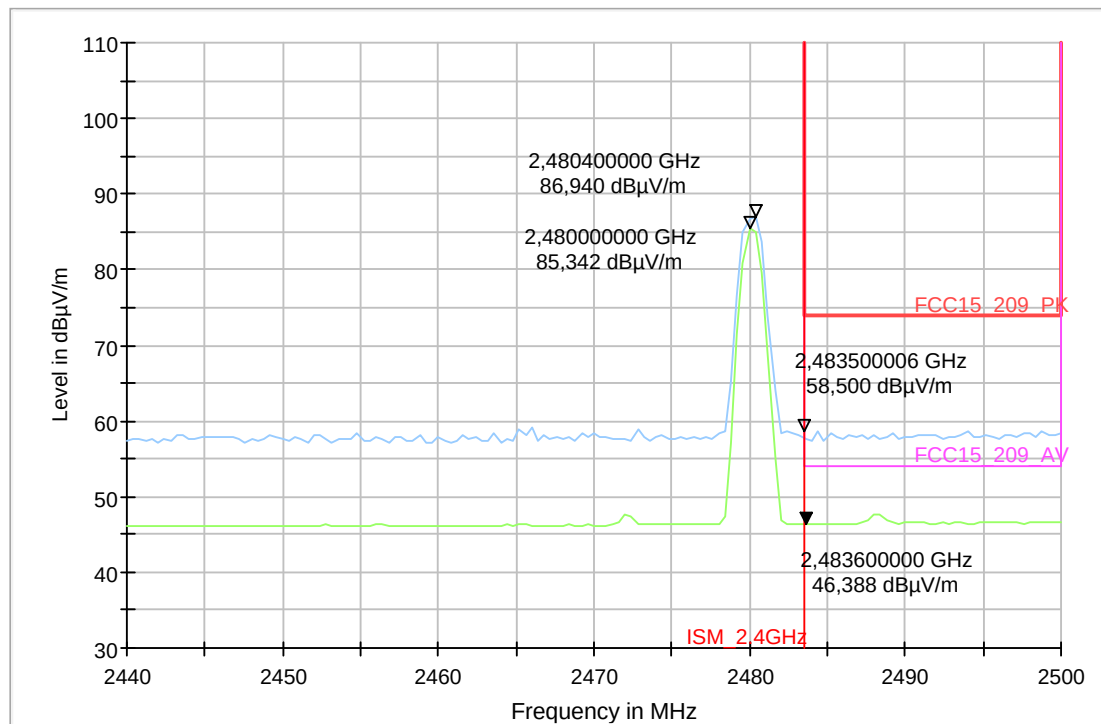
Test Description:	Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
Antenna polarisation:	horizontal/vertical

Operating Mode:	TX, continuous
Operator:	SOz
Comment:	Channel no. high
Comment2:	BLE Mode / Modulation Type: GFSK / Data rate: 1Mbps
Environmental Conditions:	Humidity: 58 % rH; Temperature: 19.5 °C
EUT Setup:	4
Verdict:	Passed

EUT Information

Sample:	59.197
Power Supply :	internal battery

Full Spectrum



9.03_BE_BLE_2Mbps_low

Common Information

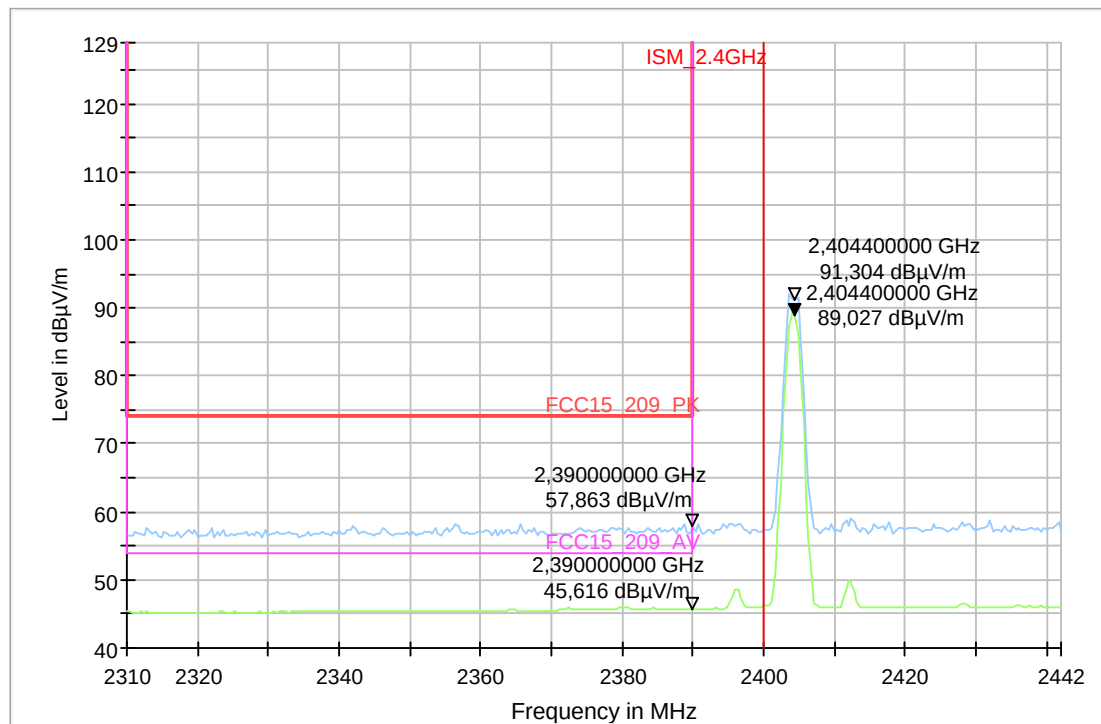
Test Description:	Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
Antenna polarisation:	horizontal/vertical

Operating Mode:	TX, continuous
Operator:	SOz
Comment:	Channel no. low
Comment2:	BLE Mode / Modulation Type: GFSK / Data rate: 2Mbps
Environmental Conditions:	Humidity: 58 % rH; Temperature: 19.5 °C
EUT Setup:	4
Verdict:	Passed

EUT Information

Sample:	59.197
Power Supply :	internal battery

Full Spectrum



9.04_BE_BLE_2Mbps_high

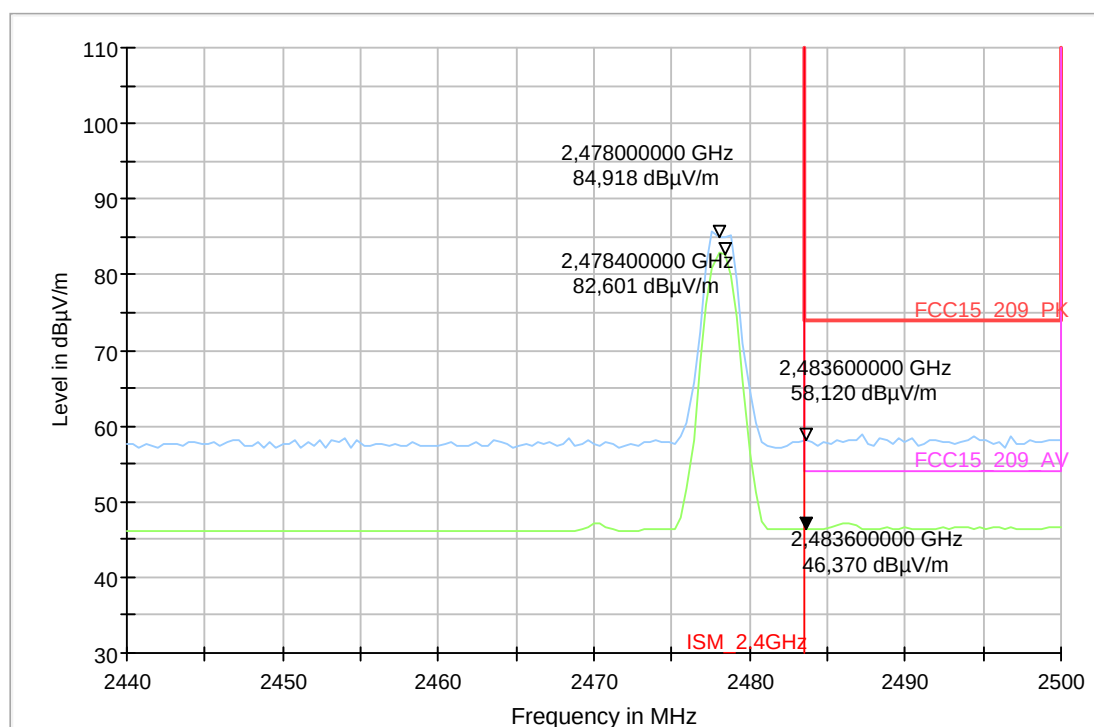
Common Information

Test Description:	Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
Antenna polarisation:	horizontal/vertical
Operating Mode:	TX, continuous
Operator:	SOz
Comment:	Channel no. high
Comment2:	BLE Mode / Modulation Type: GFSK / Data rate: 2Mbps
Environmental Conditions:	Humidity: 58 % rH; Temperature: 19,5 °C
EUT Setup:	4
Verdict:	Passed

EUT Information

Sample:	59.197
Power Supply :	internal battery

Full Spectrum



End Of Annex 1