

Annex 1: Measurement diagrams to
TEST REPORT
No.: 18-1-0096701T01a

According to:

FCC Regulations

Part 15.205

Part 15.209

Part 15.247

for

Datalogic S.r.l.

Joya Touch A6
A00AN04HLXGT0AN-NY0

FCC ID: U4GJTADG

Laboratory Accreditation and Listings			
 DAkkS Deutsche Akkreditierungsstelle D-PL-12047-01-01	 FEDERAL COMMUNICATIONS COMMISSION FCC USA • NOV MRA US-EU 0003	 Industry Canada Reg. No.: 3462D-1 Reg. No.: 3462D-2 Reg. No.: 3462D-3	 Voluntary Controls for Electromagnetic Emissions Reg. No.: R-2666 C-2914, T-1967, G-301
 WiFi ALLIANCE AUTHORIZED RF LABORATORY	 ctia Authorized TM Test Lab Lab Code: 20011130-00		
accredited according to DIN EN ISO/IEC 17025			
CETECOM GmbH Laboratory Radio Communications & Electromagnetic Compatibility Im Teelbruch 116 • 45219 Essen • Germany Registered in Essen, Germany, Reg. No.: HRB Essen 8984 Tel.: + 49 (0) 20 54 / 95 19-954 • Fax: + 49 (0) 20 54 / 95 19-964 E-mail: info@cetecom.com • Internet: www.cetecom.com			

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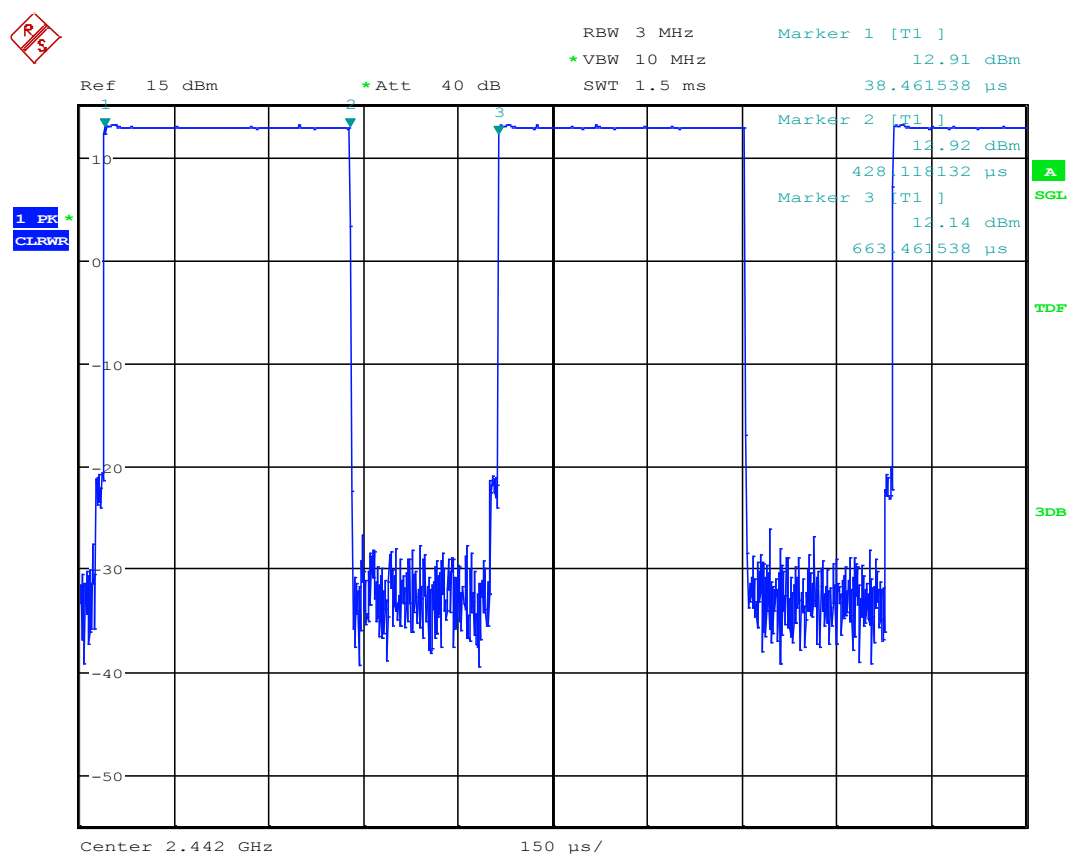
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1. Conducted RF-Measurements

1.1. Conducted Power

Bluetooth DSSS (Mode)	Modulation (Data Rate)	Channel No. (Channel Frequency)	Conducted Peak Power (dBm)	Conducted Peak Power (mW)
Bluetooth Low Energy (LE Mode)	GFSK (1 Mbps)	Channel No. 38 (2426 MHz)	2,43	1,750
	GFSK (1 Mbps)	Channel No. 0 (2402 MHz)	1,06	1,276
	GFSK (1 Mbps)	Channel No. 20 (2442 MHz)	2,49	1,774
	GFSK (1 Mbps)	Channel No. 39 (2480 MHz)	-0,14	0,968

1.2. Duty cycle



Date: 28.MAY.2018 09:31:28

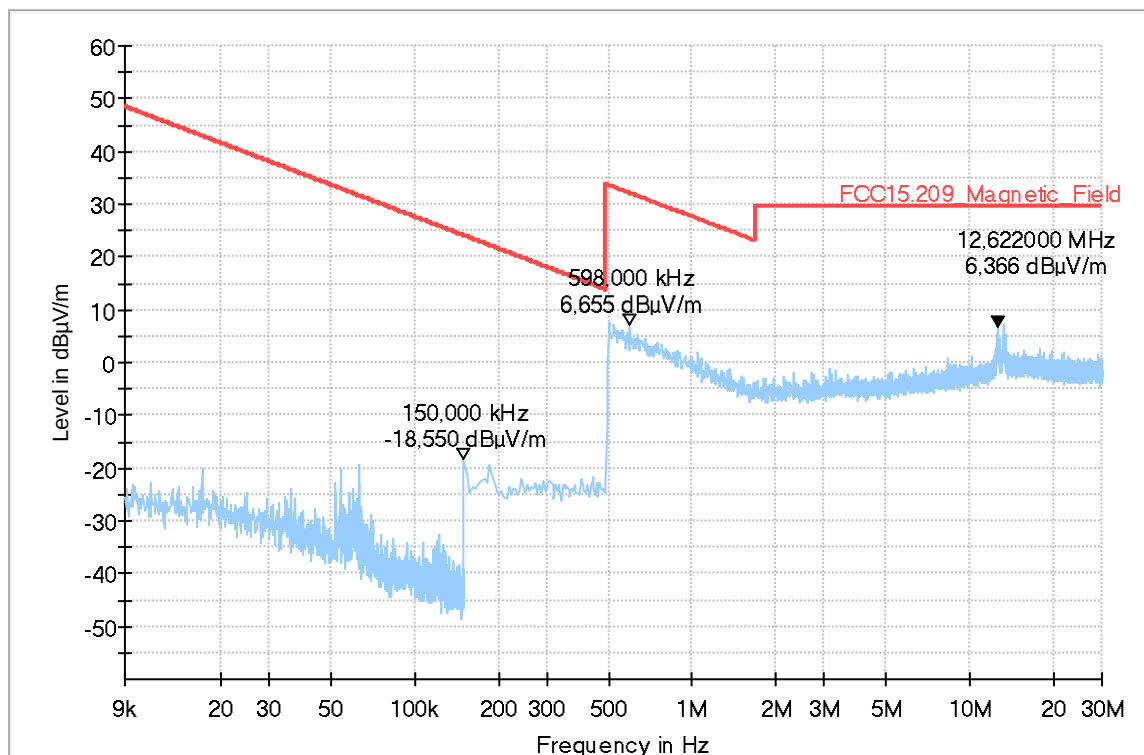
2. Radiated Field Strength Measurements (Gun variant)

2.1. Radiated Field Strength Emissions – 9 kHz to 30 MHz

2.10a_BT_LE_Mid_Channel

Date:	23.04.2018	Page 1 of 2
Test description:	Magnetic Field Strength Measurement related to 30/300 m distance	
Test site and distance:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance	
Version of Testsoftware:	EMC32 V9.25.0	
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 specification:	FCC 15.205 § 15.209; RSS-Gen: Issue 4	
Operating conditions:	BT_LE_Mid_Channel	
Comment 1:	EUT Laying	
Operator:	MBe	
Operating conditions:	BT_LE_Mid_Channel CHAnnel	
Power during tests:	fully loaded batterie	

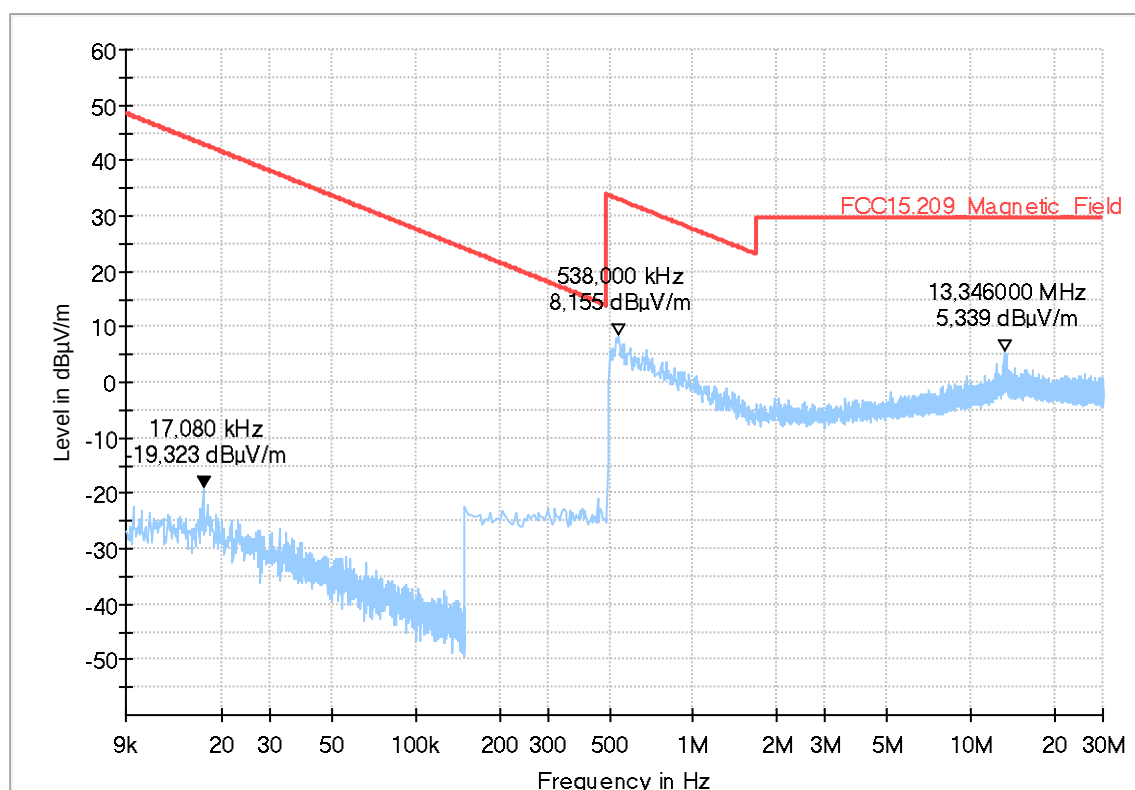
Full Spectrum



2.10b_BT_LE_Mid_Channel

Common Information

Test Description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test site and distance	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Version of Testsoftware	EMC32 V9.25.0
Distance Correction	used accord. table, pls. see test report
Technical Data	Please see page 2 for detailed data of measurement setup
Rec Antenna	height 1.00 m, parallel and 90° to EUT polarisation
Used Filter	bypass
Test Specification	FCC 15.205 § 15.209; RSS-Gen: Issue 4
Operating Mode	BT_LE_Mid_Channel
Operating Conditions:	Humidity: 48%rH; Temperature: 20°C
Operator Name:	Klv
Comment:	EUT standing



2.2. Radiated Field Strength Emissions – 30 MHz to 1 GHz

3.11a_BT_LE_Mid_Channel

Test description:	24.04.2018 Page 1 of 1
Test site and distance:	Electric Field Strength Measurement
Version of Testsoftware:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Distance correction:	EMC32 V9.25.0
Used filter:	not used
Technical Data:	not used
Test specification.:	please see page 2 for detailed data of measurement setup
Operating conditions:	FCC 15.209; RSS-Gen: Issue 3
Comment 1:	BT_LE_Mid_Channel
Operator	EUT Laying
Power during tests:	TFR
	Battery

Full Spectrum

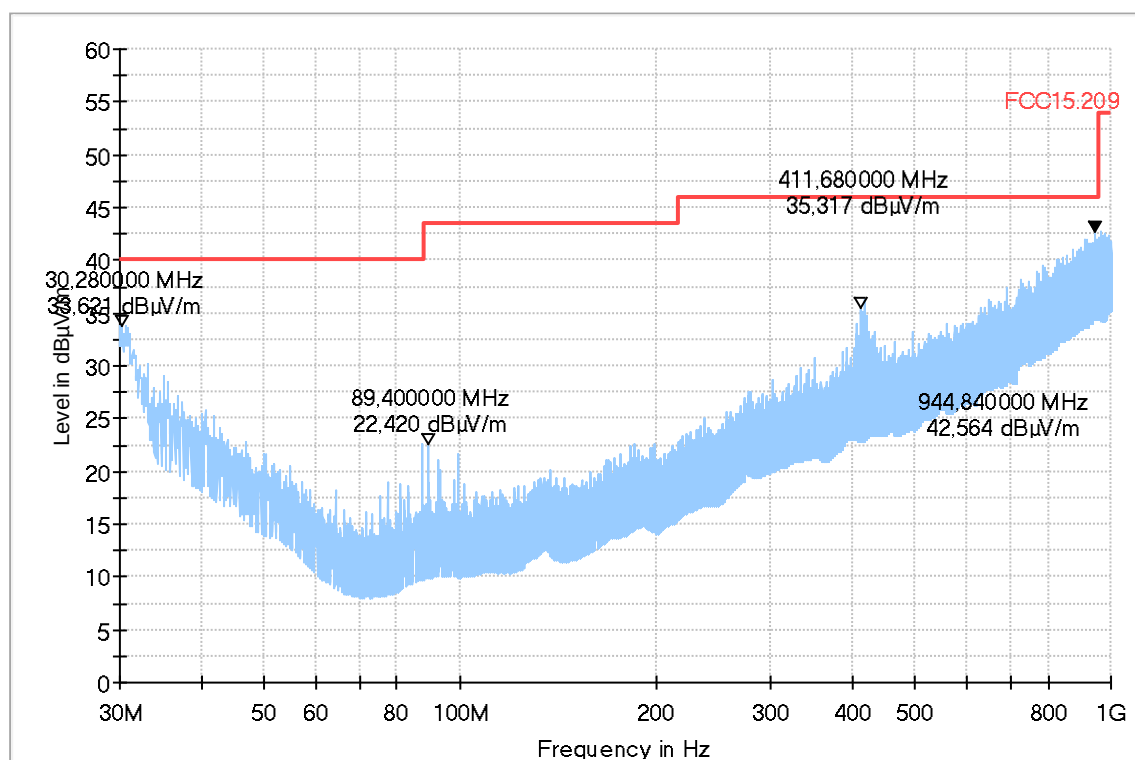


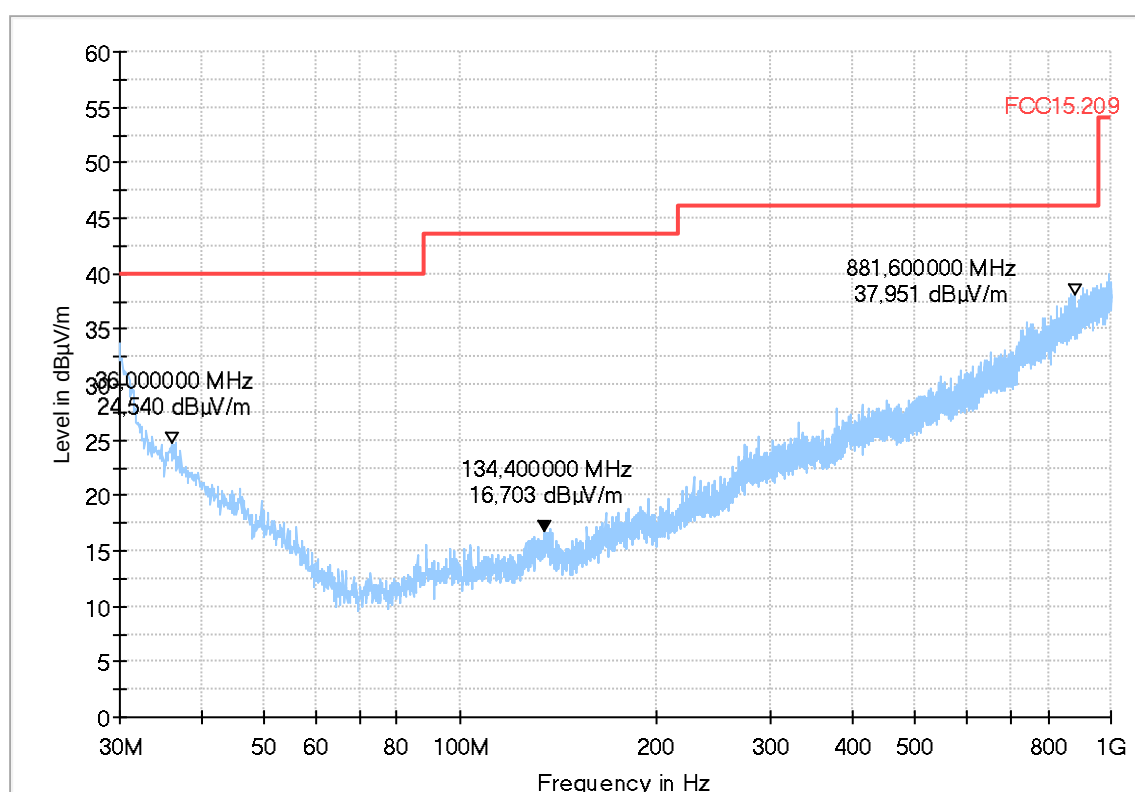
Diagram No. 3.11b_BT_LE_Mid_Channel

Test description:
Test site and distance:
Test specification.:

25.04.2018 Page 1 of 1
Electric Field Strength Measurement
Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
FCC - Testing Part 15.247 & RSS - 247 (WLAN2.4)

Operator:
Operating conditions:
Comment 1:

Klv
BT_LE_Mid_Channel
EUT standing



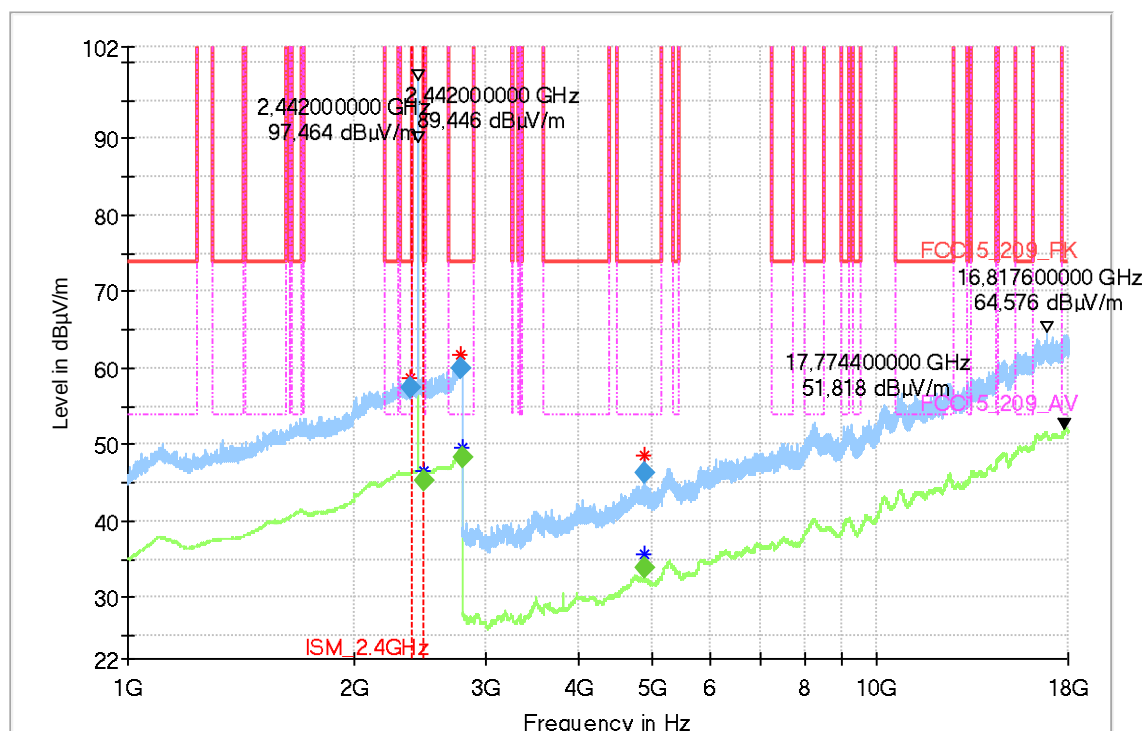
2.3. Radiated Field Strength Emissions – 1 GHz to 18 GHz

4.01a_BT_LE_Mid_Channel

Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4
Antenna polarisation:	horizontal/vertical
Operation mode:	BT BDR GFSK ch20 = 2441MHz
Operator Name:	Klv
Comment:	

Full Spectrum



Final Result

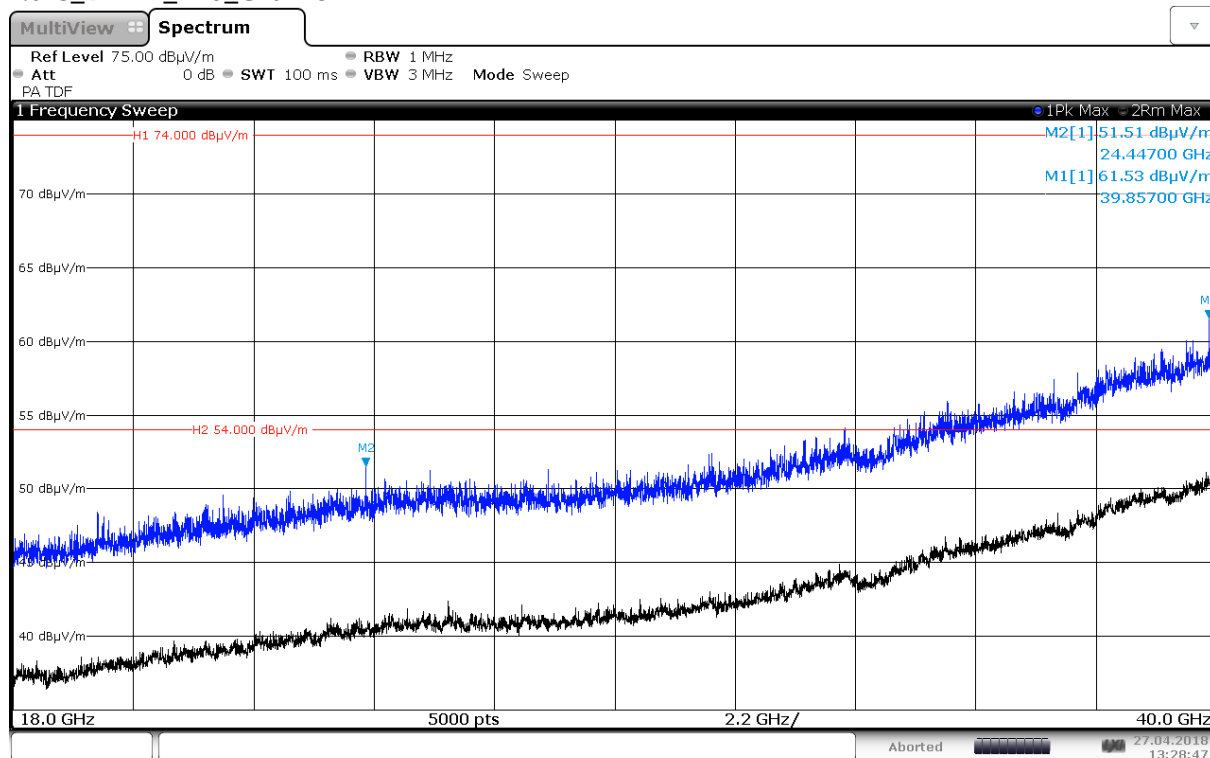
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement Time	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)
2384.000000	57.40	---	74.00	16.60	100.0	1000.000	155.0	V	33.0	90.0
2486.800000	---	45.30	54.00	8.70	100.0	1000.000	155.0	V	358.0	90.0
2787.200000	60.03	---	74.00	13.97	100.0	1000.000	155.0	V	81.0	0.0
2797.200000	---	48.28	54.00	5.72	100.0	1000.000	155.0	V	89.0	90.0
4884.000000	---	33.79	54.00	20.21	100.0	1000.000	155.0	H	177.0	0.0
4884.000000	46.41	---	74.00	27.59	100.0	1000.000	155.0	H	217.0	0.0

(continuation of the "Final_Result" table from column 16 ...)

Frequency (MHz)	Correction
2384.000000	35.6
2486.800000	35.9
2787.200000	38.3
2797.200000	38.4
4884.000000	4.7
4884.000000	4.7

2.4. Radiated Field Strength Emissions – 18 GHz to 25 GHz

4.01b_BT-LE_Mid_Channel



13:28:47 27.04.2018

3. Radiated Band-Edge Measurements (Gun variant)

3.1. LE Mode-GFSK-Low Channel 2402 MHz (2.4 GHz ISM: left band edge)

9.05_ BT_LE_ch00

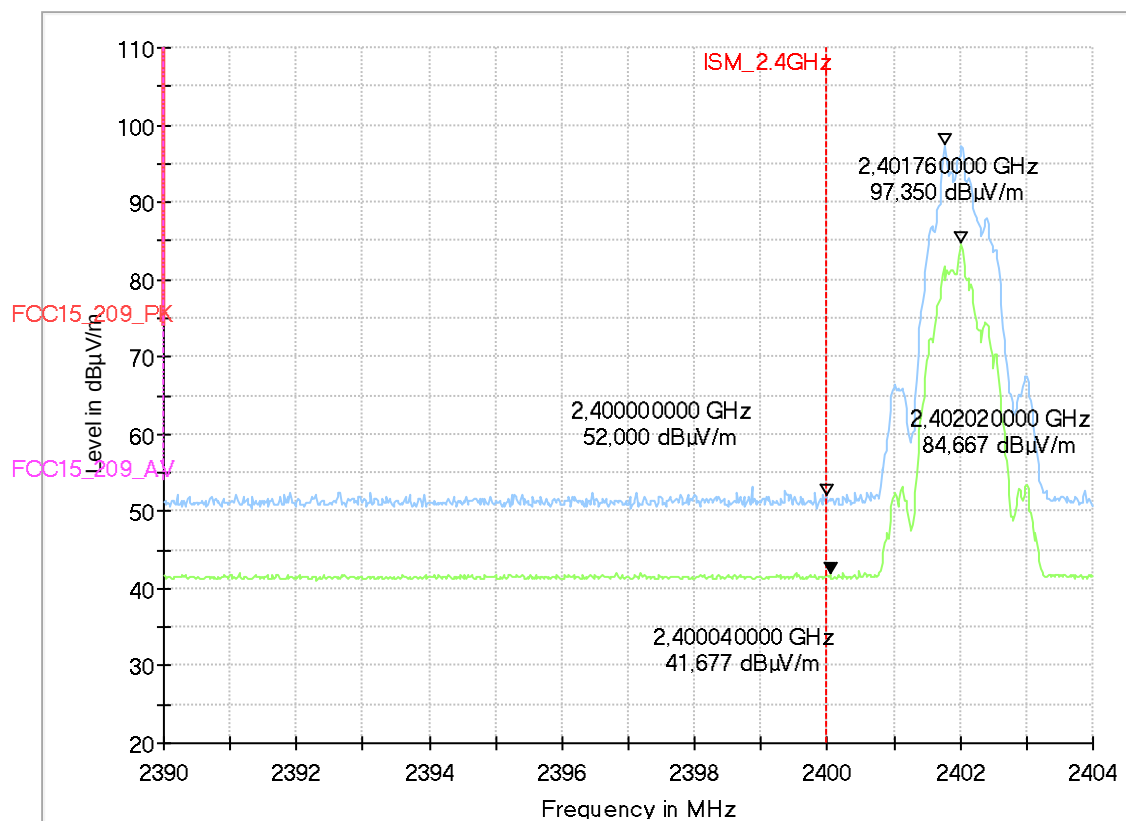
Common Information

Test Description:	Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4
Antenna polarisation:	horizontal/vertical
Operation mode:	BT LE GFSK ch00 = 2402MHz
Operator Name:	RI's
Comment:	

EUT Information

Manufacturer:	Datalogic S.r.l.
Product:	A00AN04HLXHT0AN
EUT Model:	JOYA TOUCH A6
HW:	tbd
SW:	tbd
Serial Nr.:	G18D03794

Full Spectrum



3.2. LE Mode-GFSK-High Channel 2480 MHz (2.4 GHz ISM: right band edge) 9.04_BT_LE_ch39

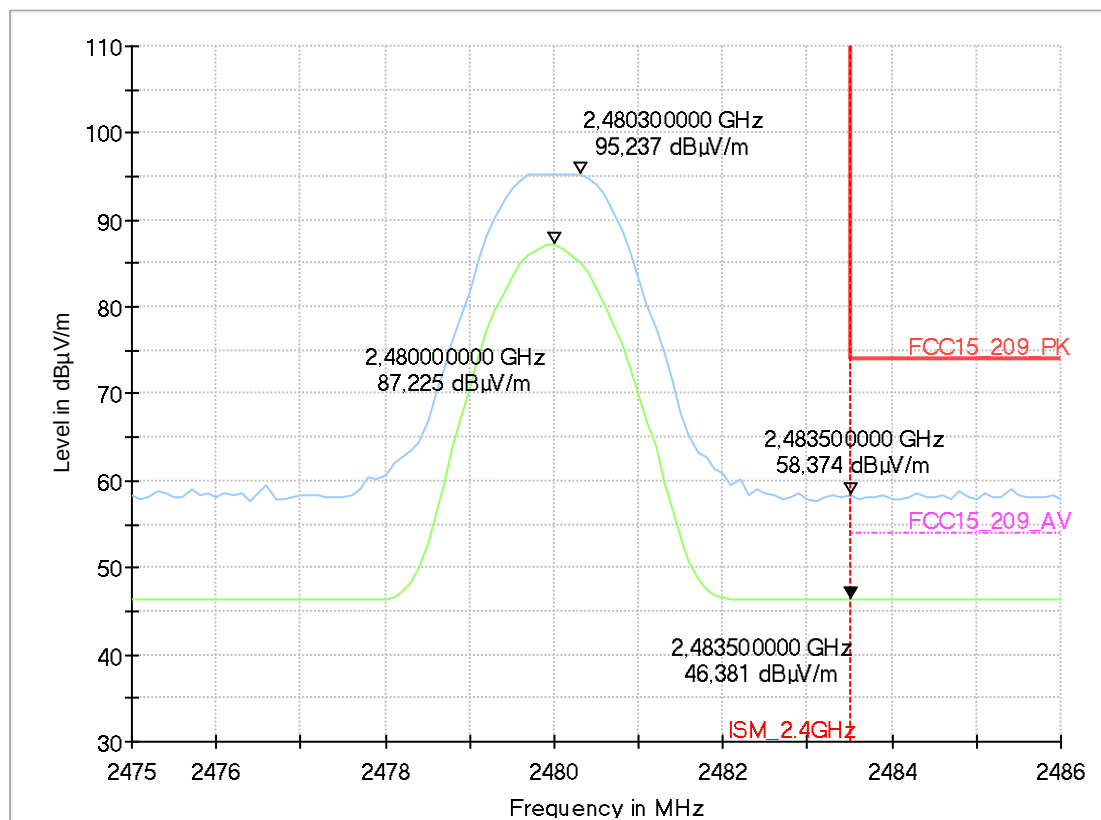
Common Information

Test Description:	Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4
Antenna polarisation:	horizontal/vertical
Operation mode:	BT LE GFSK ch78 = 2480MHz
Operator Name:	RI's
Comment:	

EUT Information

Manufacturer:	Datalogic S.r.l.
Product:	A00AN04HLXHT0AN
EUT Model:	JOYA TOUCH A6
HW:	tbd
SW:	tbd
Serial Nr.:	G18D03794

Full Spectrum



4. Radiated Field Strength Measurements (Handheld variant)

4.1. Radiated Field Strength Emissions – 9 kHz to 30 MHz

2.01_BT_LE_ch38_Laying

Test description:

Test site and distance:

Version of Testsoftware:

Distance correction:

Technical Data:

Rec. antenna (pre-scan):

Used filter:

Test specification:

Date: 01.05.2018 Page 1 of 2

Magnetic Field Strength Measurement related to 30/300 m distance

Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance

EMC32 V9.25.0

used accord. table, pls. see test report

Please see page 2 for detailed data of measurement setup

height 1.00 m, parallel and 90° to EUT polarisation

bypass

FCC 15.205 § 15.209; RSS-Gen: Issue 4

Operator:

Operating conditions:

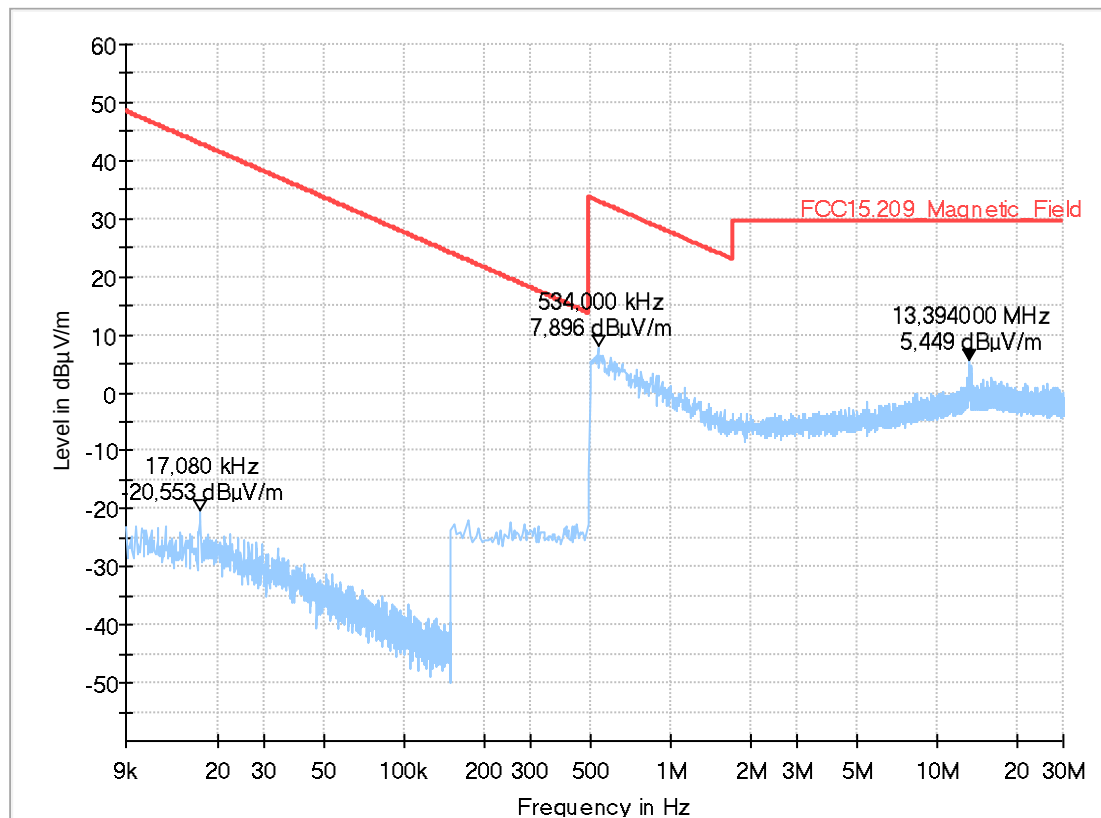
Power during tests:

TFR

BT LE | ch=38 |

fully loaded batterie

Full Spectrum

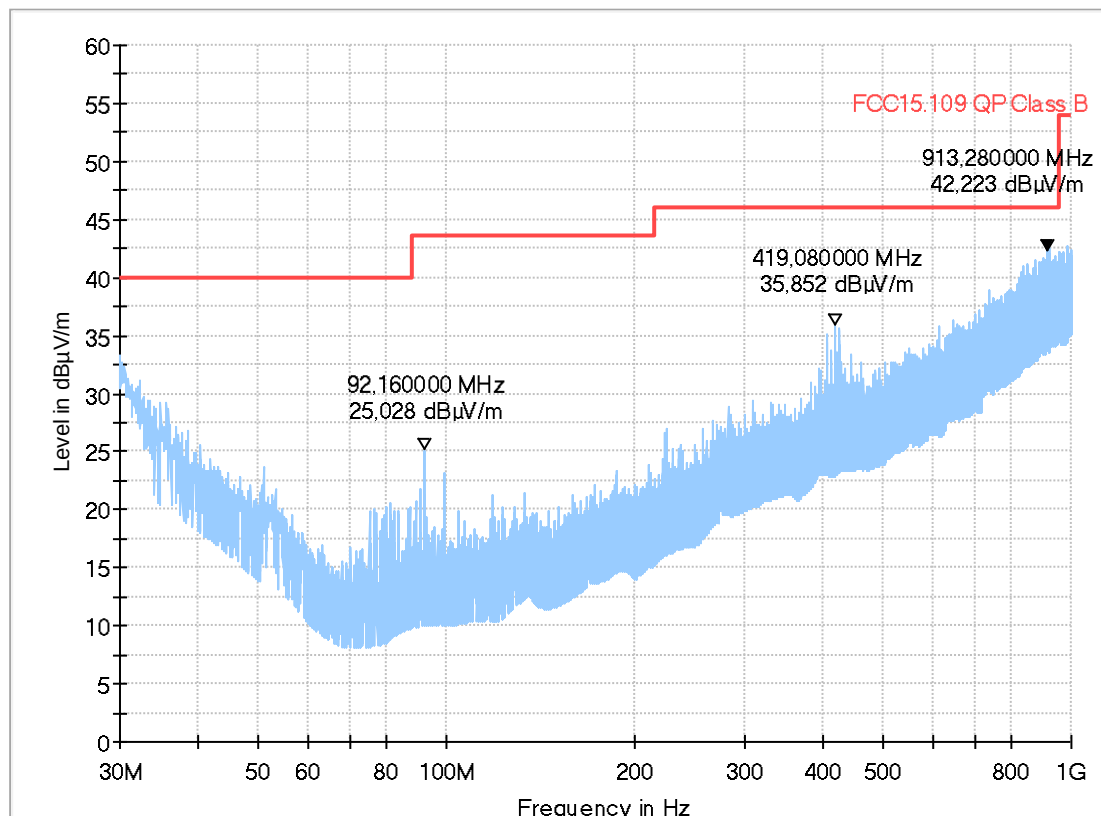


4.2. Radiated Field Strength Emissions – 30 MHz to 1 GHz

3.01_BT_LE_ch38_Laying

Test description:	01.05.2018 Page 1 of 1
Test site and distance:	Electric Field Strength Measurement
Version of Testsoftware:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Distance correction:	EMC32 V9.25.0
Used filter:	not used
Technical Data:	not used
Test specification.:	please see page 2 for detailed data of measurement setup
	FCC 15.109 Class B; RSS-Gen. Issue 4
Operator:	TFR
Operating conditions:	BT_LE_ch38
Power during tests:	full battery

Full Spectrum



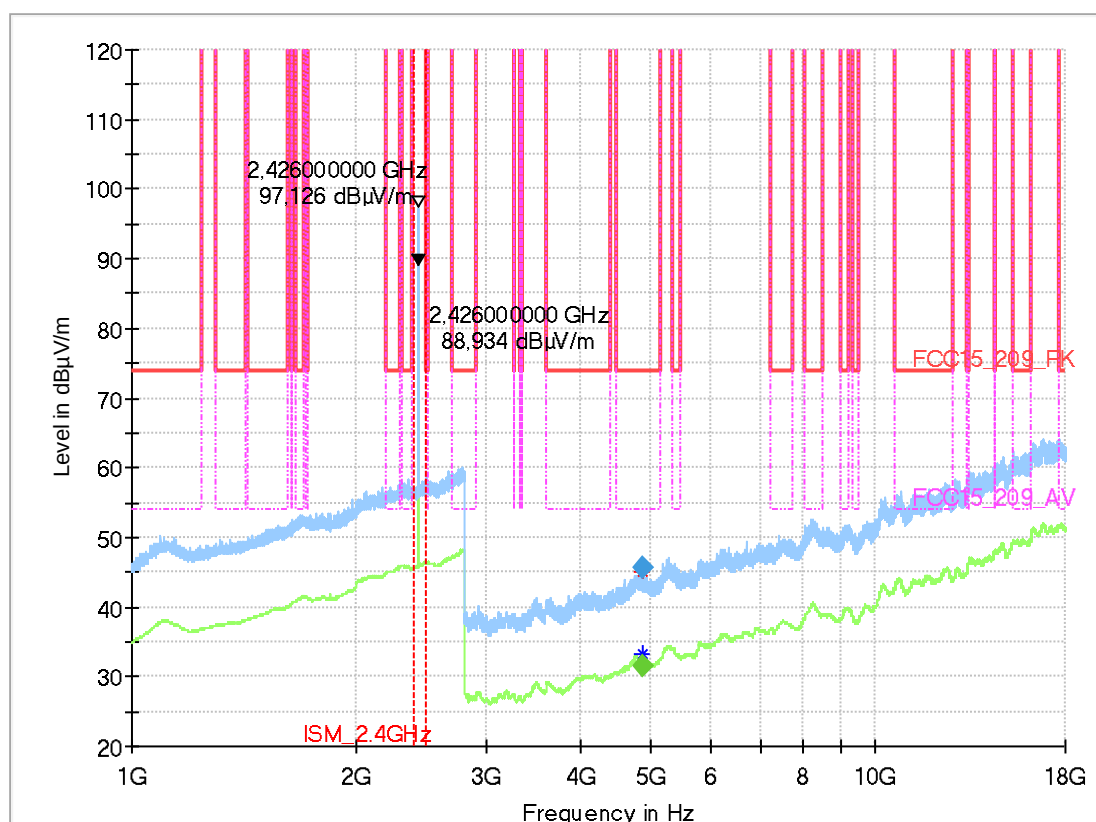
4.3. Radiated Field Strength Emissions – 1 GHz to 18 GHz

4.01_BT_LE_ch38

Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4
Antenna polarisation:	horizontal/vertical
Operation mode:	BT BDR GFSK ch38 = 2426MHz
Operator Name:	RLs
Comment:	

Full Spectrum



Final Result

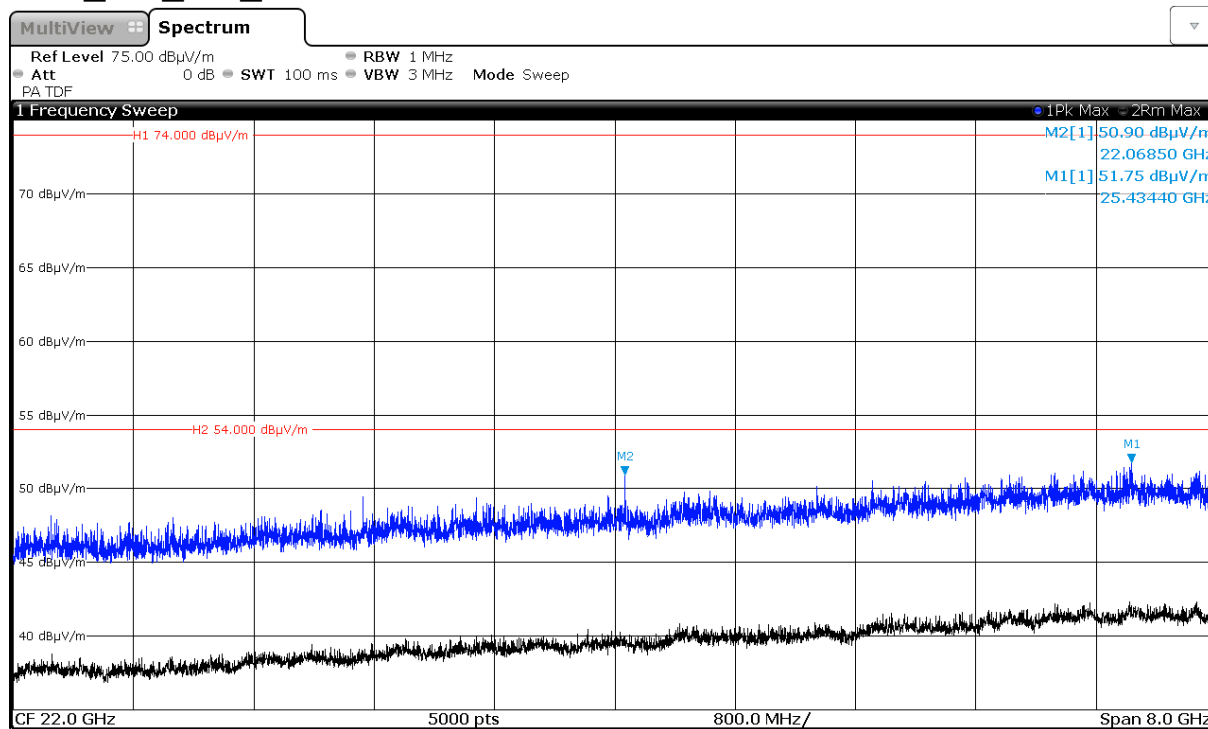
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)
4851.600000	---	31.42	54.00	22.58	100.0	1000.000	155.0	H	271.0	90.0
4852.400000	45.51	---	74.00	28.49	100.0	1000.000	155.0	H	300.0	90.0

(continuation of the "Final_Result" table from column 16 ...)

Frequency (MHz)	Corr.	Comment
4851.600000	4.8	18:18:18 - 01.05.2018
4852.400000	4.7	18:16:36 - 01.05.2018

4.4. Radiated Field Strength Emissions – 18 GHz to 25 GHz

4.02_BT_LE_CH38



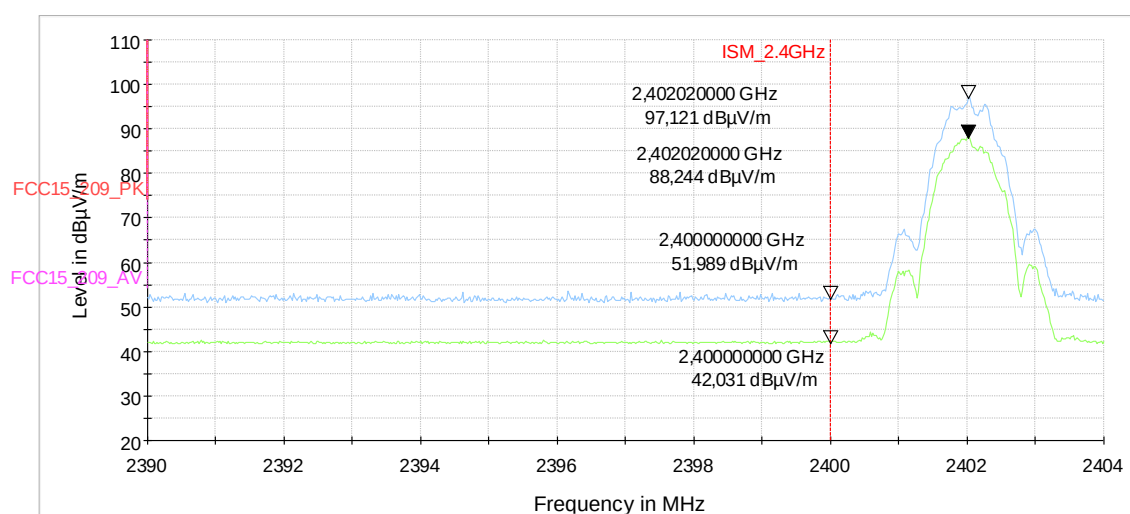
5. Radiated Band-Edge Measurements (Handheld variant)

5.1. LE Mode-GFSK-Low Channel 2402 MHz (2.4 GHz ISM: left band edge)

9.03_BT_LE_ch00

Common Information

Test Description:	Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4
Antenna polarisation:	horizontal/vertical
Operation mode:	TX, continuous
Operator Name:	SLo
Comment:	BT LE GFSK ch00 = 2402MHz



5.2. LE Mode-GFSK-High Channel 2480 MHz (2.4 GHz ISM: right band edge)

9.04_BT_LE_ch39

Common Information

Test Description:	Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4
Antenna polarisation:	horizontal/vertical
Operation mode:	BT LE GFSK ch78 = 2480MHz
Operator Name:	RI
Comment:	

