

Annex 1: Measurement diagrams to TEST REPORT

No.: 17-1-0180901T11a

According to:

FCC Regulations

Part 15.205 Part 15.209 Part 15.247

for

Datalogic S.r.l.

FALCON X4 Type: E00ANM4HS0GF0A4

FCC ID: U4GFX4WB

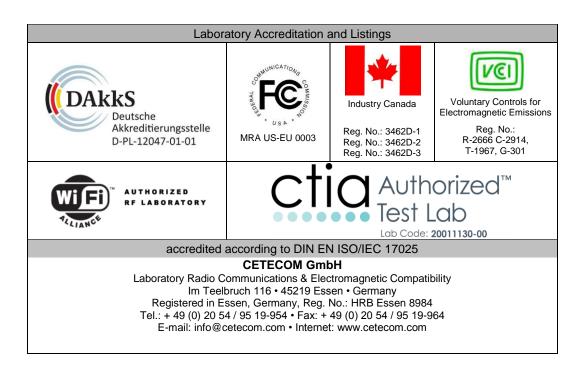




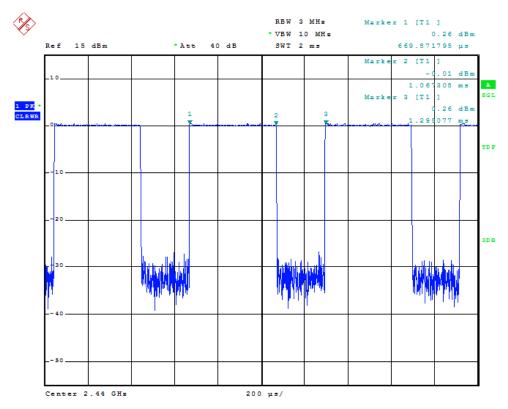
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1. Conducted RF-Measurements

1.1. Duty Cycle Measurements



Plot 1: Duty Cycle-Bluetooth Low Energy Mode (SISO) | 1 MHz | GFSK 1 Mbit | Ch 19 (2440 MHz)



2. Radiated Field Strength Measurements

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

Diagram No. 2.54_FALCON X4-BT-TX-LE Mode-GFSK-1 Mbps-Ch0+7dBm

Common Information

Test description: Electric Field Strength Measurement

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: not used Used filter: not used

Technical Data: please see page 2 for detailed data of measurement setup

FCC 15.247/15.209/15.205 Test specification .:

Operator:

Operating conditions: Continuous TX-BT-LE Mode-GFSK-1 Mbps- Pattern Lenght37-Ch 0 (2402 MHz)-

PWR+7dBm

Power during tests: Battery

EUT Information

Datalogic S.r.l. Manufacturer: EUT MODEL: FALCON X4

E00ANM4HS0GF0A4 EuT Type:

P/N: 945550001 S/N: Z17P02008 HW Version: BETA SW Version: Android 4.4.4 Firmware Version: 2.01.46.20180109

fully Internal Battery charging Input:

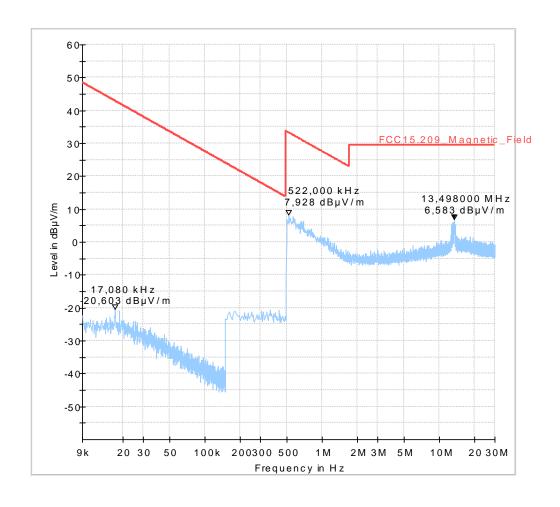




Diagram No. 2.55_FALCON X4-BT-TX-LE Mode-GFSK-1 Mbps-Ch19+7dBm

Common Information

Test description: Electric Field Strength Measurement

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: not used Used filter: not used

Technical Data: please see page 2 for detailed data of measurement setup

Test specification.: FCC 15.247/15.209/15.205

Operator: HE

Operating conditions: Continuous TX-BT-LE Mode-GFSK-1 Mbps-Pattern Lenght37-Ch 19 (2440 MHz)-

PWR+7dBm

Power during tests: Battery

EUT Information

 Manufacturer:
 Datalogic S.r.l.

 EUT MODEL:
 FALCON X4

 EuT Type:
 E00ANM4HS0GF0A4

 P/N:
 945550001

 F/N:
 945550001

 S/N:
 Z17P02008

 HW Version:
 BETA

 SW Version:
 Android 4.4.4

 Firmware Version:
 2.01.46.20180109

Input: fully Internal Battery charging

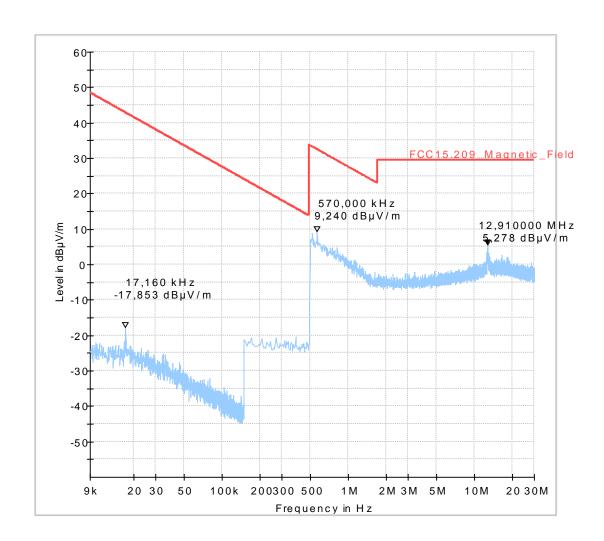




Diagram No. 2.56_FALCON X4-BT-TX-LE Mode-GFSK-1 Mbps-Ch39+7dBm

Common Information

Test description: Electric Field Strength Measurement

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: not used Used filter: not used

Technical Data: please see page 2 for detailed data of measurement setup

Test specification.: FCC 15.247/15.209/15.205

Operator: HE

Operating conditions: Continuous TX-BT-LE Mode-GFSK-1 Mbps- Pattern Lenght37--Ch 39 (2480 MHz)-

PWR+7dBm

Power during tests: Battery

EUT Information

Manufacturer: Datalogic S.r.l.
EUT MODEL: FALCON X4
EuT Type: E00ANM4HS0GF0A4
P/N: 945550001

 P/N:
 945550001

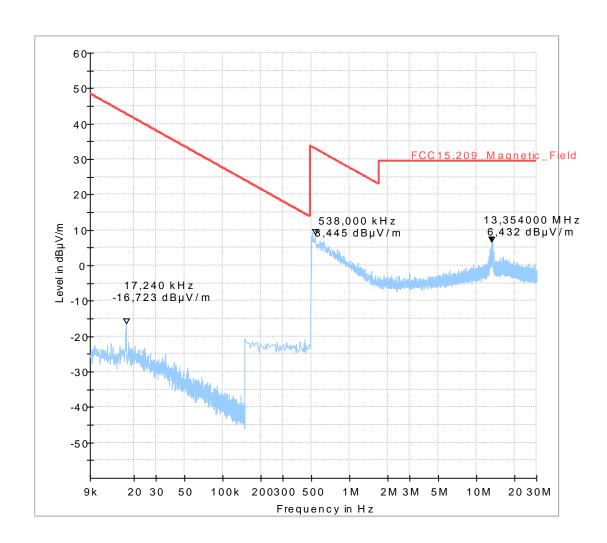
 S/N:
 Z17P02008

 HW Version:
 BETA

 SW Version:
 Android 4.4.4

 Firmware Version:
 2.01.46.20180109

Input: fully Internal Battery charging





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

Diagram No. 3.54_FALCON X4-BT-TX-LE Mode-GFSK-1 Mbps-Ch0+7dBm

Common Information

Test description: Electric Field Strength Measurement

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: not used Used filter: not used

Technical Data: please see page 2 for detailed data of measurement setup

Test specification.: FCC 15.247/15.209/15.205

Operator: RIs

Operating conditions: Continuous TX-BT-LE Mode-GFSK-1 Mbps- Pattern Lenght37-Ch 0 (2402 MHz)-

PWR+7dBm

Power during tests: Battery

EUT Information

Manufacturer:Datalogic S.r.l.EUT MODEL:FALCON X4EuT Type:E00ANM4HS0GF0A4

 P/N:
 945550001

 S/N:
 Z17P02008

 HW Version:
 BETA

 SW Version:
 Android 4.4.4

 Firmware Version:
 2.01.46.20180109

Input: fully Internal Battery charging

Battery Type: BT-26 | Li-ion|3.7V DC 5200mAh (2 Cylindrical Cells)

Full Spectrum

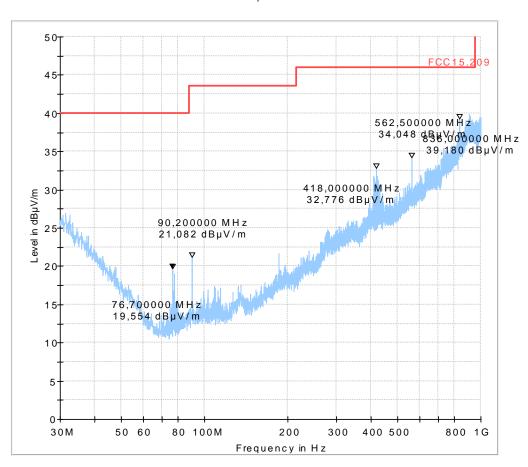




Diagram No. 3.55_FALCON X4-BT-TX-LE Mode-GFSK-1 Mbps-Ch19+7dBm_

Common Information

Test description: Electric Field Strength Measurement

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: not used Used filter: not used

Technical Data: please see page 2 for detailed data of measurement setup

Test specification.: FCC 15.247/15.209/15.205

Operator: RI

Operating conditions: Continuous TX-BT-LE Mode-GFSK-1 Mbps-Pattern Lenght37-Ch 19 (2440 MHz)-

PWR+7dBm

Power during tests: Battery

EUT Information

 Manufacturer:
 Datalogic S.r.l.

 EUT MODEL:
 FALCON X4

 EuT Type:
 E00ANM4HS0GF0A4

 P/N:
 945550001

 P/N:
 945550001

 S/N:
 Z17P02008

 HW Version:
 BETA

 SW Version:
 Android 4.4.4

 Firmware Version:
 2.01.46.20180109

Input: fully Internal Battery charging

Battery Type: BT-26 | Li-ion|3.7V DC 5200mAh (2 Cylindrical Cells)

Full Spectrum

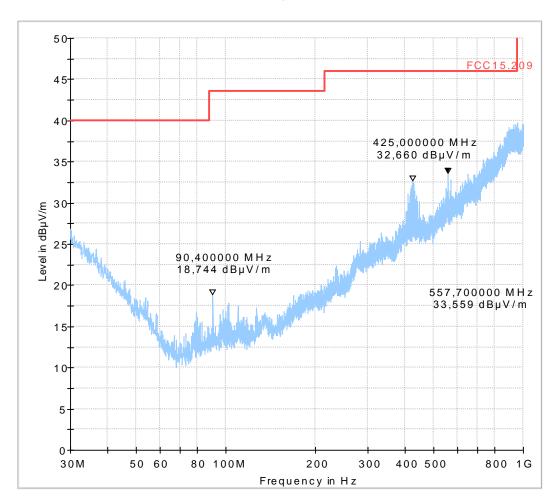




Diagram No. 3.56_FALCON X4-BT-TX-LE Mode-GFSK-1 Mbps-Ch39+7dBm

Common Information

Test description: Electric Field Strength Measurement

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: not used Used filter: not used

Technical Data: please see page 2 for detailed data of measurement setup

Test specification.: FCC 15.247/15.209/15.205

Operator: HEl

Operating conditions: Continuous TX-BT-LE Mode-GFSK-1 Mbps- Pattern Lenght37--Ch 39 (2480 MHz)-

PWR+7dBm

Power during tests: Battery

EUT Information

Manufacturer: Datalogic S.r.l. EUT MODEL: FALCON X4

EuT Type: E00ANM4HS0GF0A4

 P/N:
 945550001

 S/N:
 Z17P02008

 HW Version:
 BETA

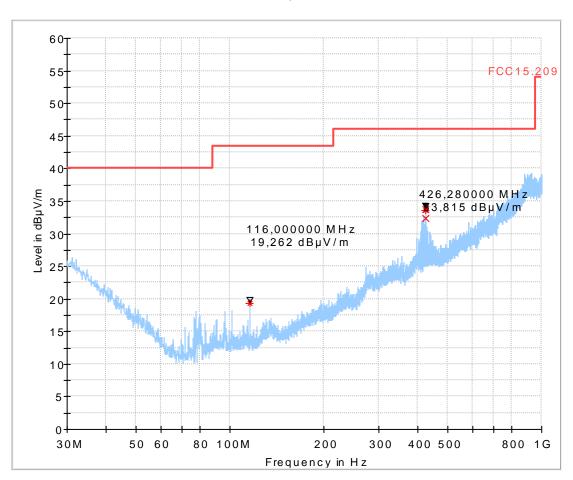
 SW Version:
 Android 4.4.4

 Firmware Version:
 2.01.46.20180109

Input: fully Internal Battery charging

Battery Type: BT-26 | Li-ion|3.7V DC 5200mAh (2 Cylindrical Cells)

Full Spectrum





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

Diagram No. 4.54_FALCON X4-BT-TX-LE Mode-GFSK-1 Mbps-Ch0+7dBm

Common Information

Test Description: Radiated field strength emission in 3m distance

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.247/15.209/15.205 Intentional Radiator

Antenna polarization: horizontal/vertical

Operation mode: Continuous TX-BT-LE Mode-GFSK-1 Mbps- Pattern Lenght37-Ch 0 (2402 MHz)-

PWR+7dBm

Operator Name: KIv

EUT Information

Manufacturer:Datalogic S.r.l.EUT MODEL:FALCON X4EuT Type:E00ANM4HS0GF0A4

 P/N:
 945550001

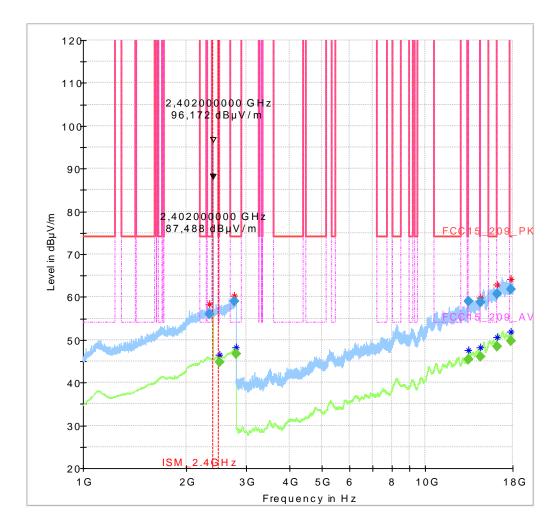
 S/N:
 Z17P02008

 HW Version:
 BETA

 SW Version:
 Android 4.4.4

 Firmware Version:
 2.01.46.20180109

Input: fully charged Internal Battery



For Average RMS Values Duty-Cycle Correction is applicable: Chapter 5.1 Test Report 17-1-0180901T11a



$F\underline{inal}_Result$

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBµV/m) + Duty Cycle Correction (dB)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Elevation (deg)
2344.400000	55.99		74.00	18.01	100.0	1000.000	V	177.0	90.0
2499.200000		46.88	54.00	7.12	100.0	1000.000	V	20.0	90.0
2773.600000	58.92		74.00	15.08	100.0	1000.000	Н	273.0	0.0
2798.000000		48.71	54.00	5.29	100.0	1000.000	V	70.0	90.0
13342.800000	58.91		74.00	15.09	100.0	1000.000	Н	167.0	90.0
13399.600000		47.41	54.00	6.59	100.0	1000.000	Н	196.0	90.0
14489.200000		47.99	54.00	6.01	100.0	1000.000	Н	30.0	90.0
14489.200000	58.87		74.00	15.13	100.0	1000.000	V	192.0	0.0
16198.400000		50.51	54.00	3.49	100.0	1000.000	Н	92.0	90.0
16199.200000	60.82		74.00	13.18	100.0	1000.000	Н	93.0	90.0
17758.800000	61.78		74.00	12.22	100.0	1000.000	V	194.0	0.0
17784.800000		51.77	54.00	2.23	100.0	1000.000	Н	90.0	90.0



Diagram No. 4.55_FALCON X4-BT-TX-LE Mode-GFSK-1 Mbps-Ch19+7dBm

Common Information

Test Description: Radiated field strength emission in 3m distance

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.247/15.209/15.205 Intentional Radiator

Antenna polarisation: horizontal/vertical

Operation mode: Continuous TX-BT-LE Mode-GFSK-1 Mbps-Pattern Lenght37-Ch 19 (2440 MHz)-

PWR+7dBm

Operator Name: KIv

EUT Information

Manufacturer:Datalogic S.r.l.EUT MODEL:FALCON X4EuT Type:E00ANM4HS0GF0A4

 P/N:
 945550001

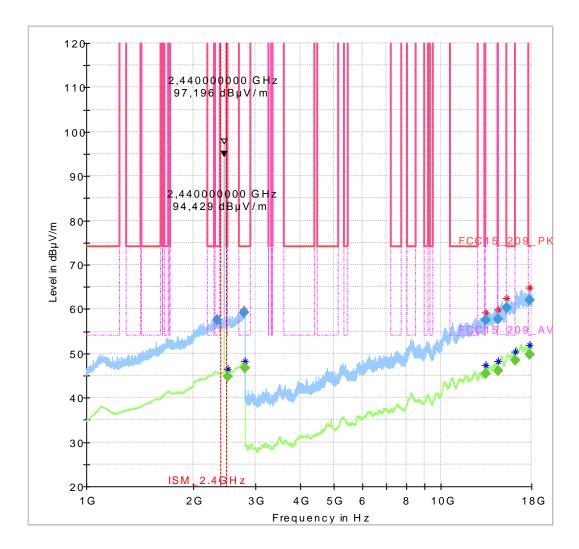
 S/N:
 Z17P02008

 HW Version:
 BETA

 SW Version:
 Android 4.4.4

 Firmware Version:
 2.01.46.20180109

Input: fully charged Internal Battery



For Average RMS Values Duty-Cycle Correction is applicable: Chapter 5.1 Test Report 17-1-0180901T11a



$F\underline{inal}_Result$

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBµV/m) + Duty Cycle Correction (dB)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Elevation (deg)
2342.800000	57.41		74.00	16.59	100.0	1000.000	V	240.0	0.0
2498.400000		46.88	54.00	7.12	100.0	1000.000	V	214.0	90.0
2786.400000	59.30		74.00	14.70	100.0	1000.000	V	176.0	90.0
2800.000000		48.71	54.00	5.29	100.0	1000.000	V	258.0	90.0
13388.800000	57.43		74.00	16.57	100.0	1000.000	V	-41.0	0.0
13394.400000		47.38	54.00	6.62	100.0	1000.000	Н	3.0	90.0
14474.000000	57.78		74.00	16.22	100.0	1000.000	Н	195.0	0.0
14490.800000		48.01	54.00	5.99	100.0	1000.000	Н	-15.0	90.0
15352.000000	60.36		74.00	13.64	100.0	1000.000	Н	126.0	90.0
16198.000000		50.50	54.00	3.50	100.0	1000.000	Н	-13.0	90.0
17770.400000	61.94		74.00	12.06	100.0	1000.000	Н	287.0	90.0
17774.800000		51.75	54.00	2.25	100.0	1000.000	Н	181.0	90.0



Diagram No. 4.56_FALCON X4-BT-TX-LE Mode-GFSK-1 Mbps-Ch39+7dBm

Common Information

Test Description: Radiated field strength emission in 3m distance

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.247/15.209/15.205 Intentional Radiator

Antenna polarisation: horizontal/vertical

Operation mode: Continuous TX-BT-LE Mode-GFSK-1 Mbps- Pattern Lenght37--Ch 39 (2480 MHz)-

PWR+7dBm

Operator Name: KIv

EUT Information

Manufacturer:Datalogic S.r.l.EUT MODEL:FALCON X4EuT Type:E00ANM4HS0GF0A4

 P/N:
 945550001

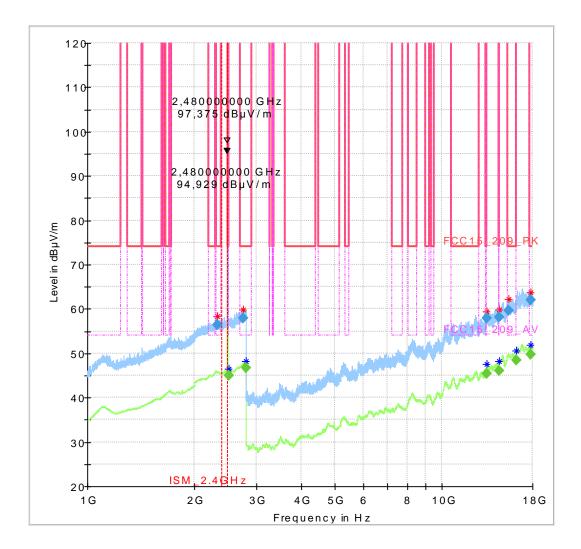
 S/N:
 Z17P02008

 HW Version:
 BETA

 SW Version:
 Android 4.4.4

 Firmware Version:
 2.01.46.20180109

Input: fully charged Internal Battery



For Average RMS Values Duty-Cycle Correction is applicable: Chapter 5.1 Test Report 17-1-0180901T11a



Final_Result

E	MaxPeak	Average (dBμV/m)	Limit	Maurin	Meas.	Bandwidth		Azimuth	Elevation
Frequency (MHz)	(dBµV/m)	+ Duty Cycle Correction (dB)	(dBµV/m)	Margin (dB)	Time (ms)	(kHz)	Pol	(deg)	(deg)
2320.400000	56.35		74.00	17.65	100.0	1000.000	V	36.0	0.0
2498.000000		46.90	54.00	7.10	100.0	1000.000	V	39.0	0.0
2755.600000	58.03		74.00	15.97	100.0	1000.000	Н	216.0	0.0
2797.600000		48.70	54.00	5.30	100.0	1000.000	V	198.0	0.0
13351.600000	57.88		74.00	16.12	100.0	1000.000	V	70.0	0.0
13393.600000		47.39	54.00	6.61	100.0	1000.000	Н	247.0	90.0
14480.800000	58.18		74.00	15.82	100.0	1000.000	Н	314.0	90.0
14494.400000		48.01	54.00	5.99	100.0	1000.000	Н	32.0	90.0
15442.000000	59.61		74.00	14.39	100.0	1000.000	Н	102.0	0.0
16199.200000		50.53	54.00	3.47	100.0	1000.000	Н	60.0	90.0
17796.400000		51.79	54.00	2.21	100.0	1000.000	Н	166.0	90.0
17804.800000	62.04		74.00	11.96	100.0	1000.000	Н	97.0	90.0



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

Diagram No.: 4.54a_FALCON X4-BT-TX-LE Mode-GFSK-1 Mbps-Ch0+7dBm

Common Information

Test Description: Radiated field strength emission in 1m distance

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.247/15.209/15.205 Intentional Radiator

Antenna polarisation: horizontal/vertical

Distance correction factor 3 to 1m: -10.5 dB applying to measurement results

SW-Version: EMC32 V8.53.0

Operation mode: Continuous TX-BT-LE Mode-GFSK-1 Mbps- Pattern Lenght37-Ch 0 (2402 MHz)-

PWR+7dBm

Operator Name: DLe

EUT Information

Manufacturer:Datalogic S.r.l.EUT MODEL:FALCON X4EuT Type:E00ANM4HS0GF0A4

 P/N:
 945550001

 S/N:
 Z17P02008

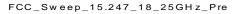
 HW Version:
 BETA

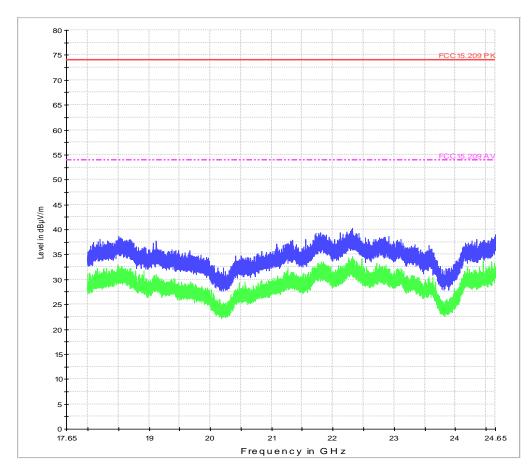
 SW Version:
 Android 4.4.4

 Firmware Version:
 2.01.46.20180109

Input: fully charged Internal Battery

Battery Type: BT-26 | Li-ion|3.7V DC 5200mAh (2 Cylindrical Cells)





For Average RMS Values Duty-Cycle Correction is applicable: Chapter 5.1 Test Report 17-1-0180901T11a



Diagram No.: 4.55a_FALCON X4-BT-TX-LE Mode-GFSK-1 Mbps-Ch19+7dBm

Common Information

Test Description: Radiated field strength emission in 1m distance

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.247/15.209/15.205 Intentional Radiator

Antenna polarisation: horizontal/vertical

Distance correction factor 3 to 1m: -10.5 dB applying to measurement results

SW-Version: EMC32 V8.53.0

Operation mode: Continuous TX-BT-LE Mode-GFSK-1 Mbps-Pattern Lenght37-Ch 19 (2440 MHz)-

PWR+7dBm

Operator Name: DLe

EUT Information

Manufacturer: Datalogic S.r.l.
EUT MODEL: FALCON X4
EuT Type: E00ANM4HS0GF0A4

 P/N:
 945550001

 S/N:
 Z17P02008

 HW Version:
 BETA

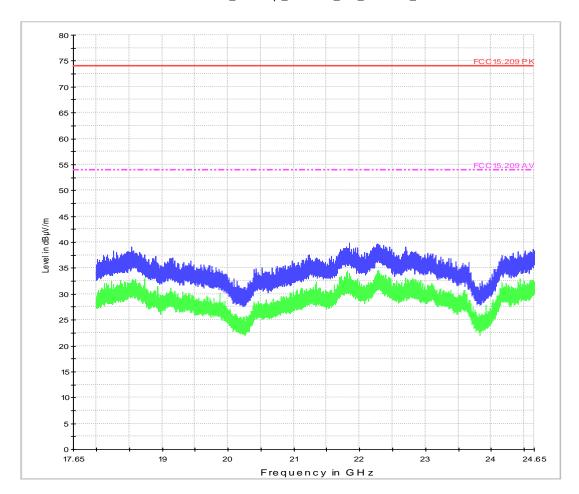
 SW Version:
 Android 4.4.4

 Firmware Version:
 2.01.46.20180109

Input: fully charged Internal Battery

Battery Type: BT-26 | Li-ion|3.7V DC 5200mAh (2 Cylindrical Cells)

FCC_Sweep_15.247_18_25GHz_Pre



For Average RMS Values Duty-Cycle Correction is applicable: Chapter 5.1 Test Report 17-1-0180901T11a



Diagram No 4.56a_FALCON X4-BT-TX-LE Mode-GFSK-1 Mbps-Ch39+7dBm

Common Information

Test Description: Radiated field strength emission in 1m distance

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.247/15.209/15.205 Intentional Radiator

Antenna polarisation: horizontal/vertical

Distance correction factor 3 to 1m: -10.5 dB applying to measurement results

SW-Version: EMC32 V8.53.0

Operation mode: Continuous TX-BT-LE Mode-GFSK-1 Mbps- Pattern Lenght37--Ch 39 (2480 MHz)-

PWR+7dBm

Operator Name: DLe

EUT Information

Manufacturer:Datalogic S.r.l.EUT MODEL:FALCON X4EuT Type:E00ANM4HS0GF0A4

 P/N:
 945550001

 S/N:
 Z17P02008

 HW Version:
 BETA

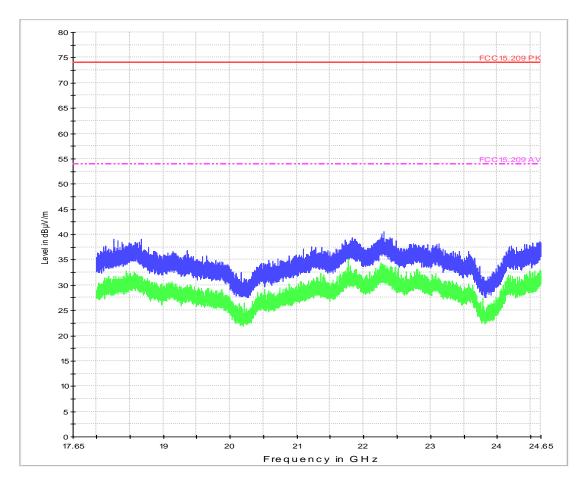
 SW Version:
 Android 4.4.4

 Firmware Version:
 2.01.46.20180109

Input: fully charged Internal Battery

Battery Type: BT-26 | Li-ion|3.7V DC 5200mAh (2 Cylindrical Cells)

FCC_Sweep_15.247_18_25GHz_Pre



For Average RMS Values Duty-Cycle Correction is applicable: Chapter 5.1 Test Report 17-1-0180901T11a



3. Radiated Band-Edge Measurements

3.1. LE Mode-GFSK-Low Channel 2402 MHz (2.4 GHz ISM: left band edge) Diagram No.: 9.57_BE-Low- FALCON X4-BT-TX--LE Mode-GFSK-1 Mbps-Ch0+7dBm

Common Information

Test Description: Band-Edge: Radiated Field Strength Emissions in 3m distance

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.247/15.209/15.205 Intentional Radiator

Antenna polarizations: horizontal/vertical

Operation mode: Continuous TX-BT-LE Mode-GFSK-1 Mbps-Pattern Lenght37-Ch 0 (2402 MHz)-

PWR+7dBm

Operator Name: KIv

Comment: Channel no. low

EUT Information

Manufacturer: Datalogic S.r.l.
EUT MODEL: FALCON X4
EUT Type: E00ANM4HS0GF0A4

 P/N:
 945550001

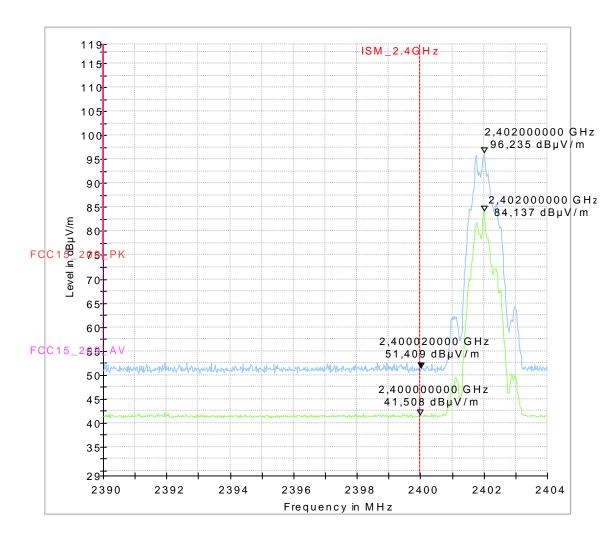
 S/N:
 Z17P02008

 HW Version:
 BETA

 SW Version:
 Android 4.4.4

 Firmware Version:
 2.01.46.20180109

Input: fully charged Internal Battery



For Average RMS Values Duty-Cycle Correction is applicable: Chapter 5.1 Test Report 17-1-0180901T11a



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

Diagram No.: 9.58_BE-High- FALCON X4-BT-TX- LE Mode-GFSK-1 Mbps-Ch39+7dBm

Common Information

Test Description: Band-Edge: Radiated Field Strength Emissions in 3m distance

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.247/15.209/15.205 Intentional Radiator

Antenna polarizations: horizontal/vertical

Operation mode: Continuous TX-BT-LE Mode-GFSK-1 Mbps- Pattern Lenght37--Ch 39 (2480 MHz)-

PWR+7dBm

Operator Name: KIv

EUT Information

 Manufacturer:
 Datalogic S.r.l.

 EUT MODEL:
 FALCON X4

 EuT Type:
 E00ANM4HS0GF0A4

 P/N:
 945550001

 P/N:
 945550001

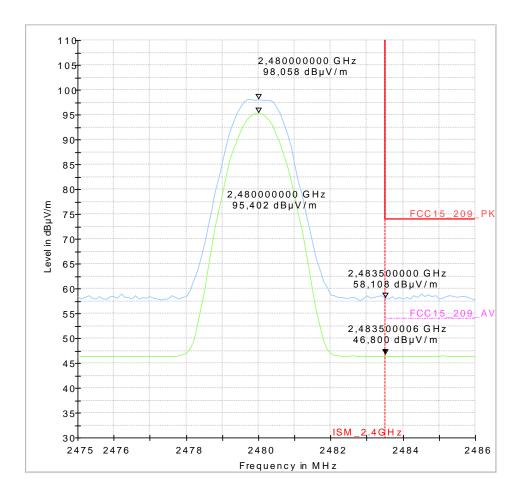
 S/N:
 Z17P02008

 HW Version:
 BETA

 SW Version:
 Android 4.4.4

 Firmware Version:
 2.01.46.20180109

Input: fully charged Internal Battery



For Average RMS Values Duty-Cycle Correction is applicable: Chapter 5.1 Test Report 17-1-0180901T11a