

Annex 1: Test Result Diagrams to  
**PARTIAL TEST REPORT**  
 No.: 2-20842790-15-7a







According to:  
**FCC Regulations**  
 Part 15.209  
 Part 15.247

**IC-Regulations**  
 RSS-Gen, Issue 4  
 RSS-247, Issue 1

for

Datalogic ADC S.r.l.  
**JOYA TOUCH**  
 Type: B00AN00HL0HT0W7-GR0

FCC-ID: U4GJNGW  
 IC: 3862E-JNGW  
 PMN: JOYA TOUCH  
 HVIN: JNG B HH

Laboratory Accreditation and Listings			
 <b>DAkKS</b> Deutsche Akkreditierungsstelle D-PL-12047-01-01	 FEDERAL COMMUNICATIONS COMMISSION <b>FC</b> U.S.A. 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
 <b>WiFi</b> ALLIANCE AUTHORIZED RF LABORATORY	 <b>ctia</b> Authorized Test Lab Lab Code: 20011130-00		
accredited according to DIN EN ISO/IEC 17025			
<p align="center"> <b>CETECOM GmbH</b>            Laboratory Radio Communications &amp; 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         </p>			

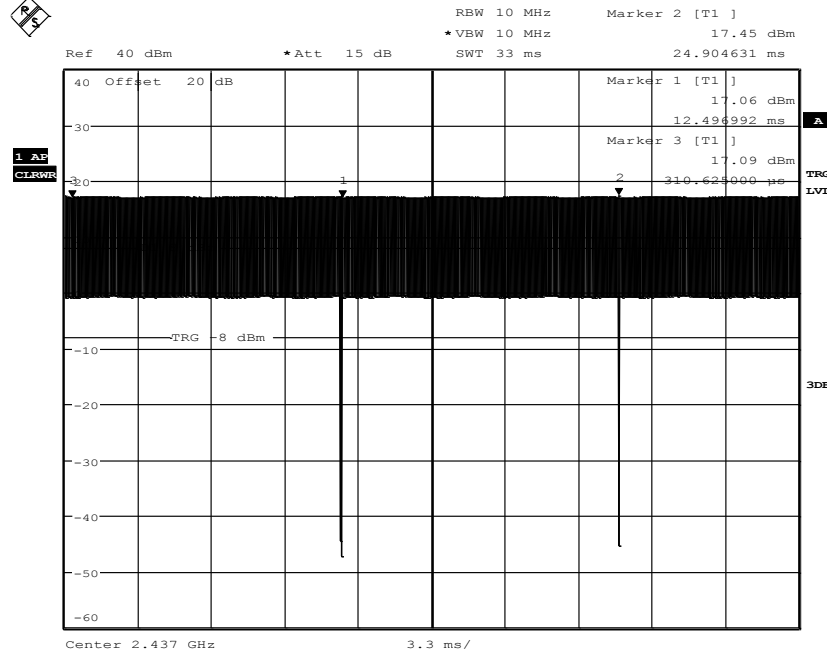
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# 1. Duty-Cycle of Transmitter

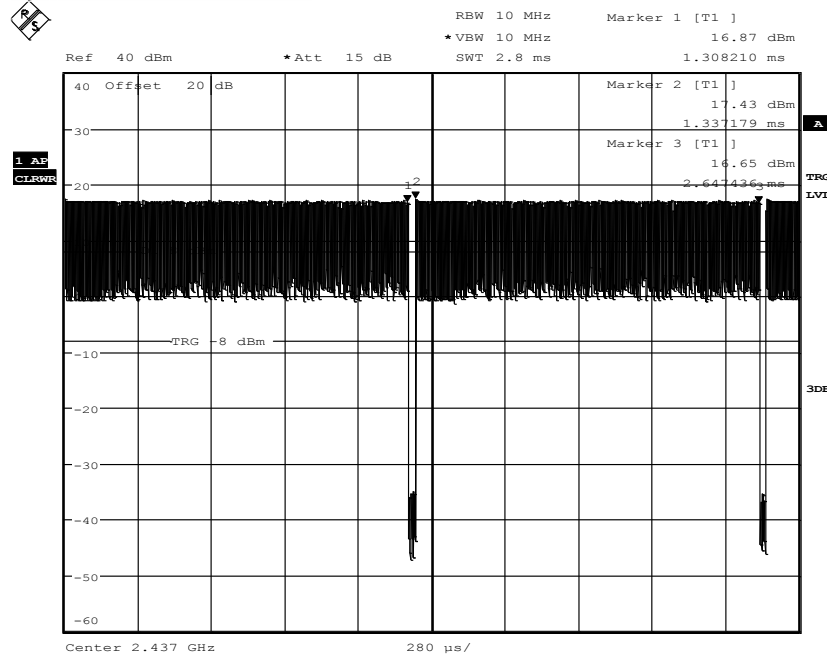
The characteristics of the implemented test mode was checked on middle channel no. 6 (b-Mode , g -Mode and n -Mode HT20) only.

**Diagram b-Mode 1Mbit:**



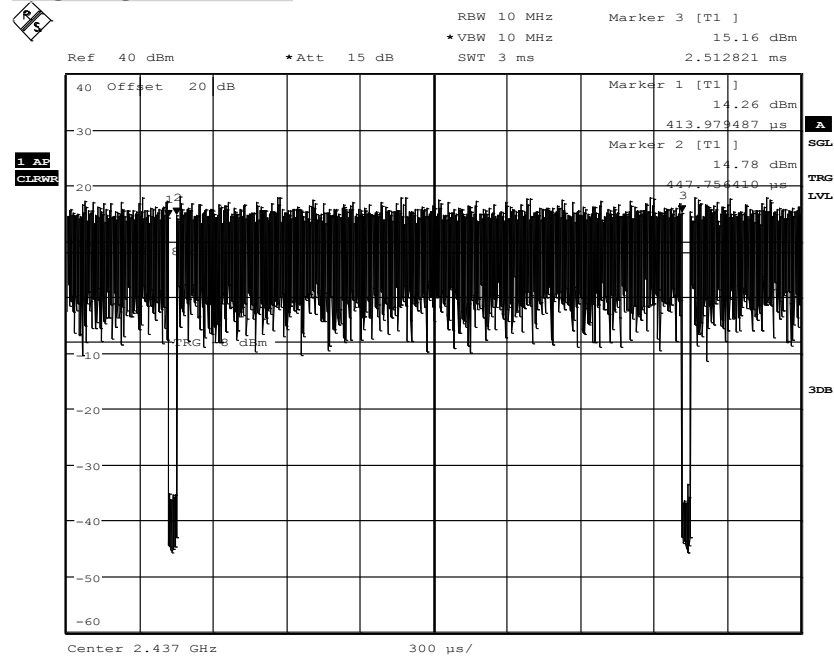
Date: 2.MAY.2016 22:21:11

**Diagram b-Mode 11 Mbit:**



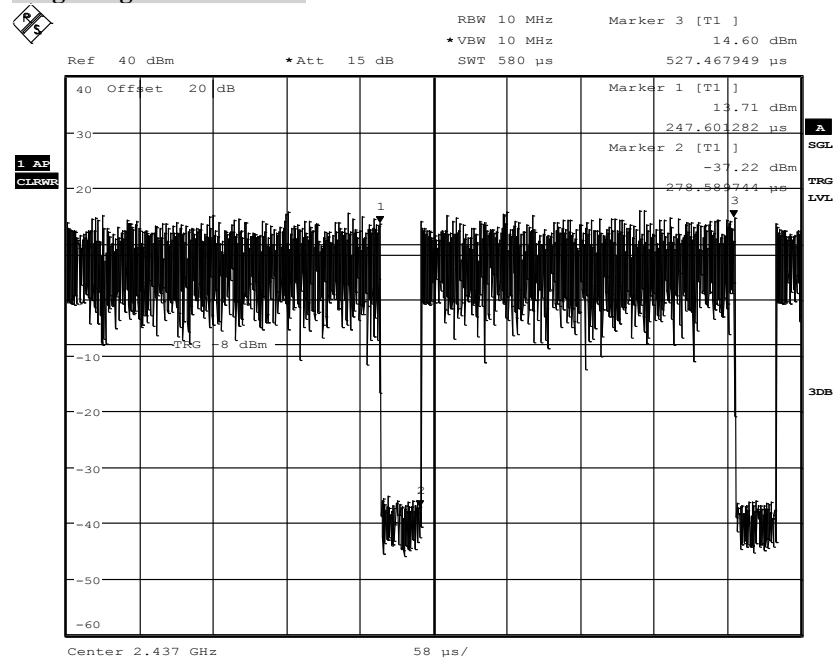
Date: 2.MAY.2016 22:04:53

## Diagram g-Mode 6Mbit:



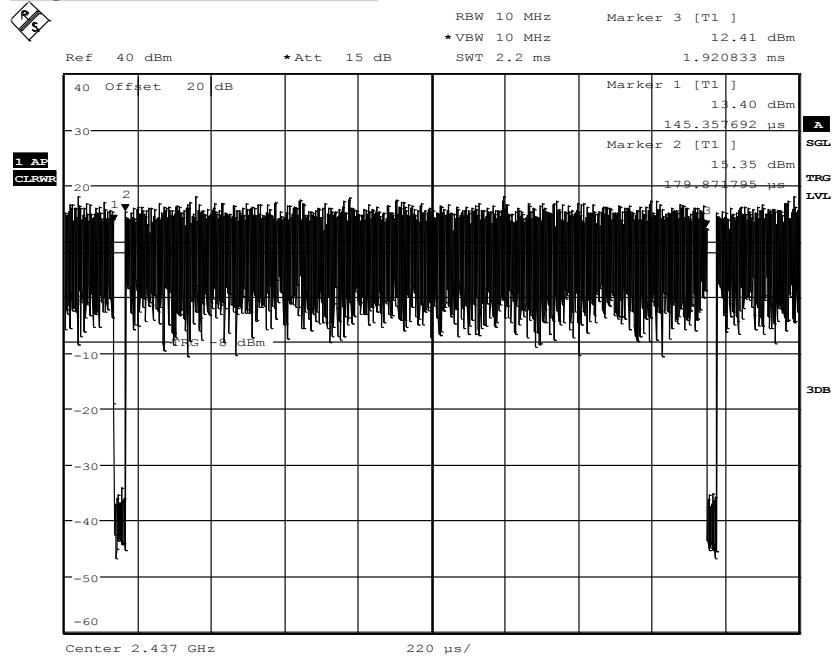
Date: 2.MAY.2016 22:08:55

## Diagram g-Mode 54Mbit:



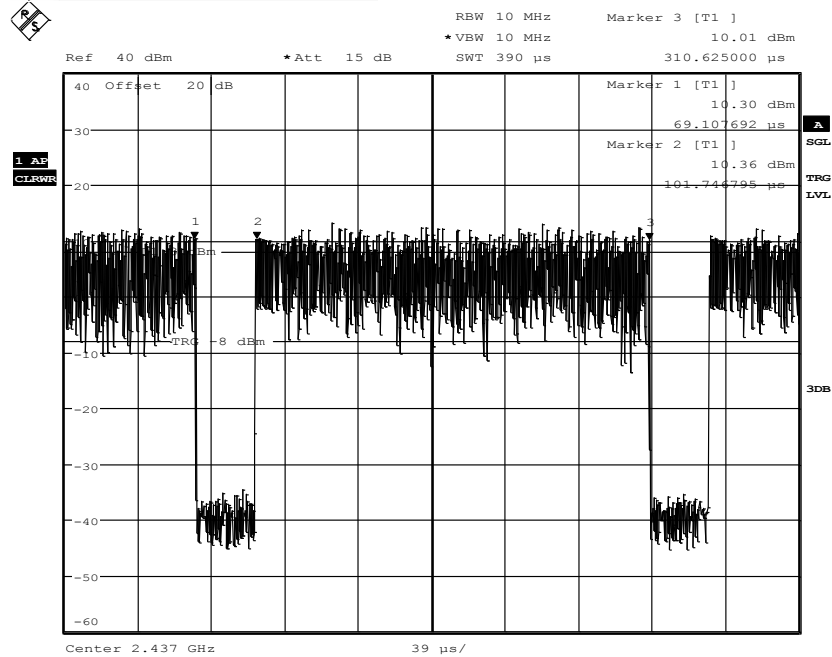
Date: 2.MAY.2016 22:11:06

## Diagram n-Mode(HT20) MCS0:



Date: 2.MAY.2016 22:15:59

## Diagram n-Mode(HT20) MCS7:



Date: 2.MAY.2016 22:19:42

## 2. Maximum Peak Conducted Output Power

### 2.1. 20MHz signal BW

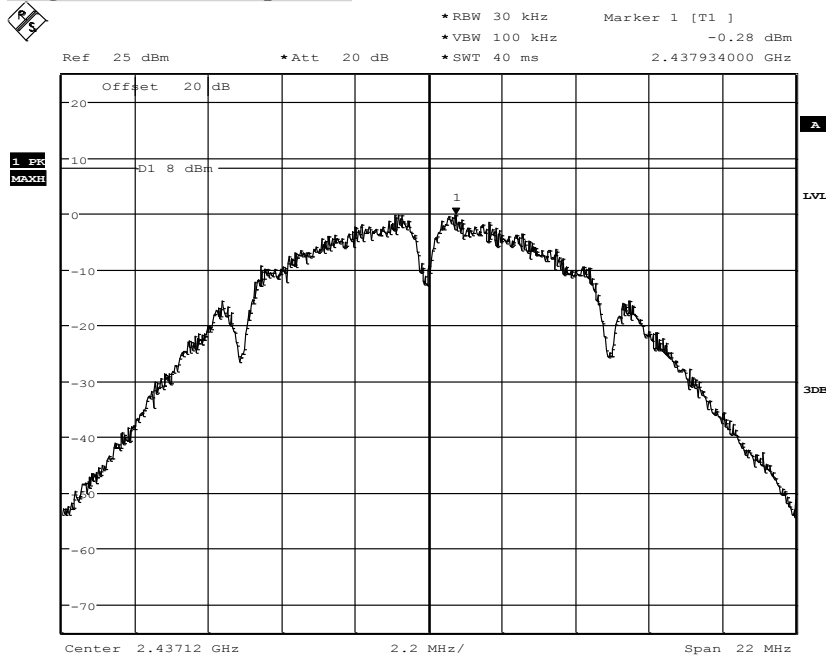
b-mode		Channel no. / [dBm]			Max-Value / [dBm]
Data rate	Modulation	1	6	11	
1MBit		14,46	15,80	15,65	16,04
2Mbit		14,26	16,04	15,67	
5.5Mbit		14,73	16,03	15,63	
11MBit		14,72	16,03	15,97	
22MBit					
g-Mode		Channel no. / [dBm]			Max-Value / [dBm]
Data rate	Modulation	1	6	11	
6Mbit		13,79	16,01	14,18	16,05
9Mbit		13,85	15,9	14,26	
12Mbit		13,75	15,97	14,15	
18Mbit		13,63	15,88	14,09	
24Mbit		13,93	16,05	14,41	
36Mbit		13,51	16,05	14,03	
48Mbit		13,04	15,07	14,07	
54Mbit		13,13	13,96	14,16	
n-Mode HT20 (1 spatial stream: 1SS)		Channel no. / [dBm]			Max-Value / [dBm]
Data rate	Modulation	1	6	11	
MCS0 - 6.5Mbps	BPSK	12,97	13,90	13,51	13,90
MCS1 - 13Mbps	QPSK	12,91	12,60	12,91	
MCS2 - 19.5Mbps	QPSK	12,82	12,92	13,37	
MCS3 - 26Mbps	QAM16	12,9	12,69	13,48	
MCS4 - 39Mbps	QAM16	12,87	13,72	13,46	
MCS5 - 52Mbps	QAM64	12,79	13,65	13,37	
MCS6 - 58.5Mbps	QAM64	11,55	11,29	12,09	
MCS7 - 65Mbps	QAM64	11,39	11,12	11,43	

Remarks:

- 1.) The values in above table are conducted output power without declared antenna gain .
- 2.) The maximum measured conducted power values among each mode for each channel are highlighted.

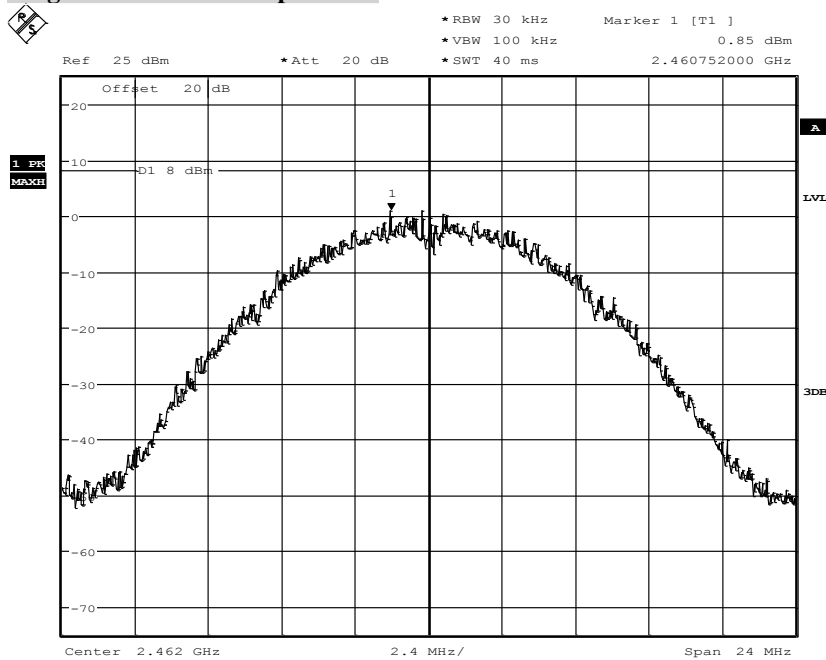


### Diagram b-Mode 2Mbps Ch6:



Date: 2.MAY.2016 19:14:35

### Diagram b-Mode 11Mbps Ch11:



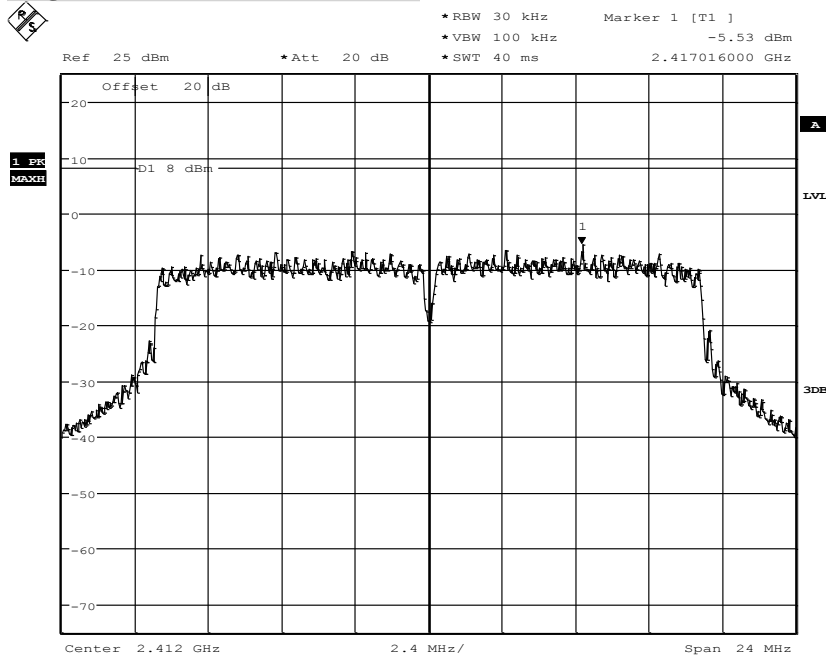
Date: 2.MAY.2016 19:33:24





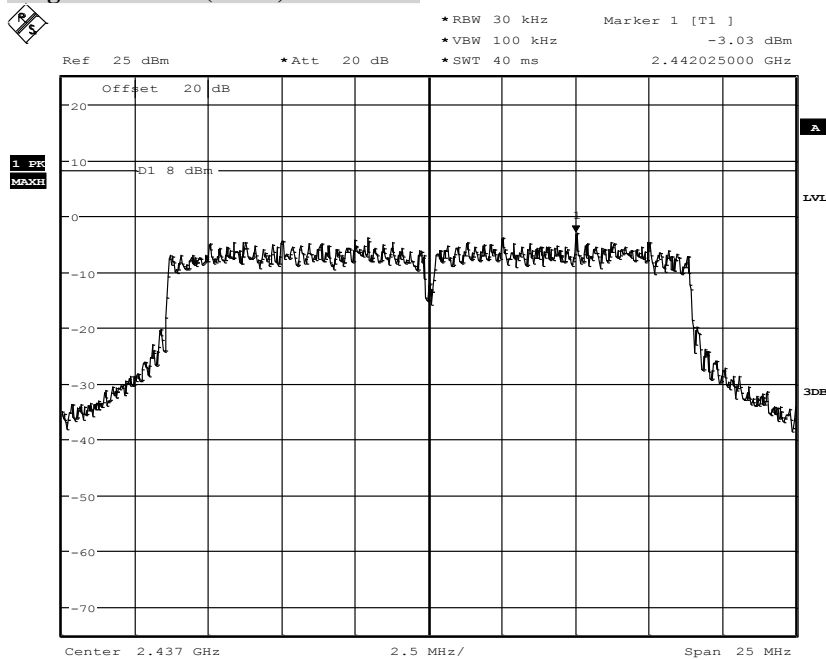


### Diagram n-Mode(HT20) MCS0 Ch1:



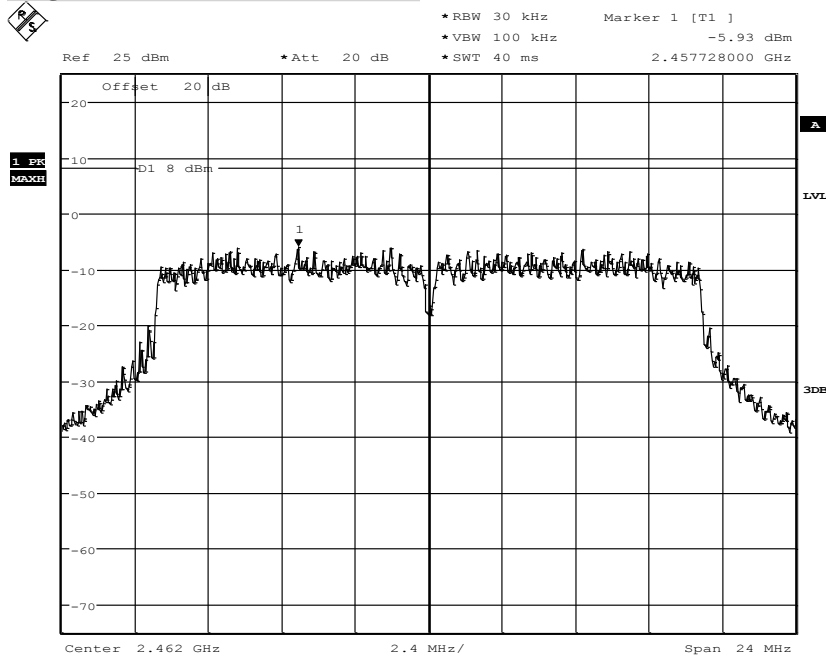
Date: 2.MAY.2016 19:12:01

### Diagram n-Mode(HT20) MCS0 Ch6:



Date: 2.MAY.2016 19:31:44

## Diagram n-Mode(HT20) MCS0 Ch11:



Date: 2.MAY.2016 20:49:15

## 4. Radiated magnetic field strengths measurements ( 9kHz to 30MHz)

### Diagram No: 2.01\_WLAN\_b mode\_1Mbps\_Ch11\_9kHz-30 MHz

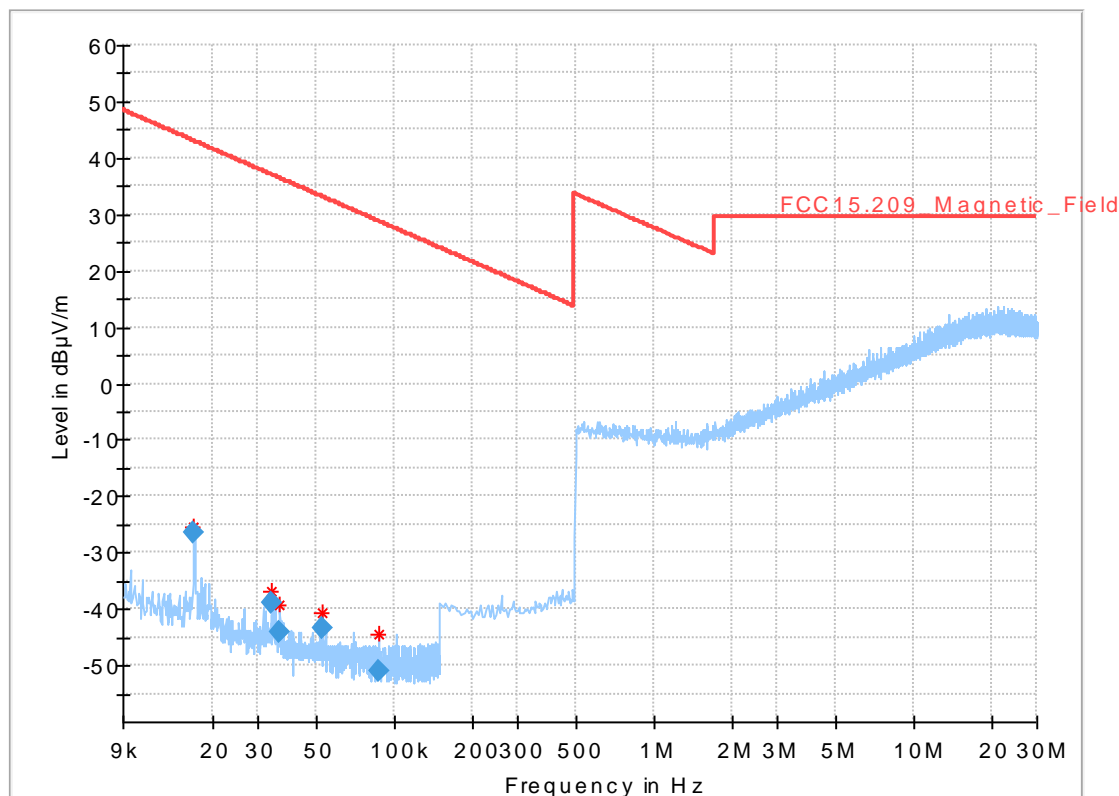
#### Common Information

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
Used filter:	bypass
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
Test specification.:	FCC 15.209/15.205; RSS-Gen., Issue 4
Operator:	RI
Operating conditions:	TX-on WLAN 802.11 b-mode, BW 20 MHz channel 11; 1Mbps;

#### EUT Information

Manufacturer:	Datalogic ADCL S.r.l.
MODEL:	JOYA TOUCH
EuT Type:	B00AN00HL0HT0W7-GR0
P/N:	911350023
S/N:	Z16P00138
HW Version:	Beta HW Version
SW Version:	WEC7
Firmware Version:	2.16
Input:	Fully Charged Internal Battery
Comments:	--

Full Spectrum



**Final Result**

Frequency (MHz)	RMS (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
0.016920	-26.34	43.03	69.36	1000.0	0.200	100.0	H	79.0	-58.7
0.033800	-38.79	37.02	75.81	1000.0	0.200	100.0	H	101.0	-59.5
0.036200	-43.93	36.42	80.35	1000.0	0.200	100.0	H	126.0	-59.5
0.053000	-43.41	33.11	76.53	1000.0	0.200	100.0	H	0.0	-59.7
0.086840	-51.09	28.83	79.92	1000.0	0.200	100.0	H	2.0	-59.9

## 5. Radiated field strengths measurements ( 30MHz to 1GHz)

### Diagram No: 3.01\_WLAN\_b mode\_1Mbps\_Ch11\_30 MHz - 1 GHz

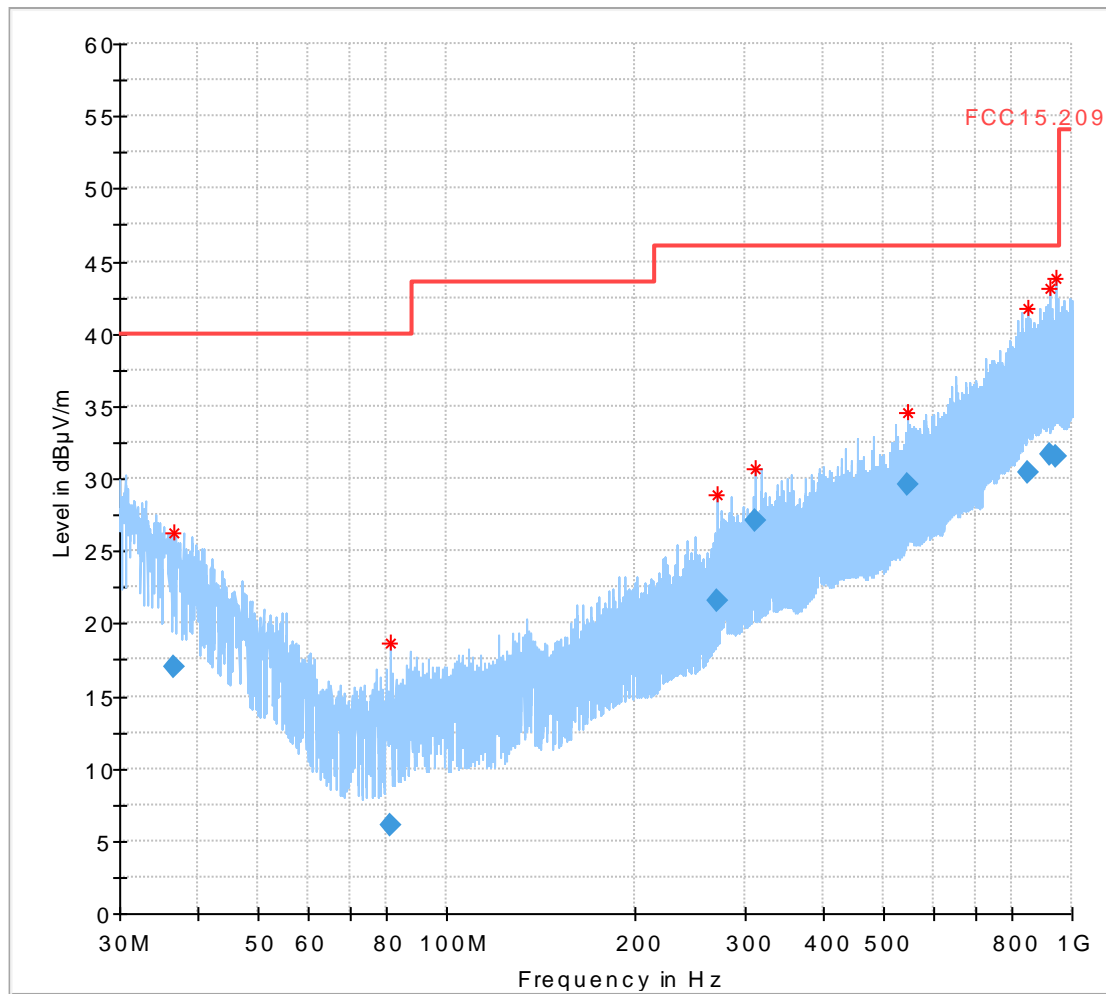
#### Common Information

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
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:	TP NLP-1200
Test specification:	FCC 15.205 § 15.209; RSS-Gen: Issue 4
Operator:	RIs
Operating conditions:	TX-on Continuous
Operating Mode:	TX-on WLAN 802.11 b-mode, BW 20 MHz channel 11; 1Mbit

#### EUT Information

Manufacturer:	Datalogic ADCL S.r.l.
MODEL:	JOYA TOUCH
EuT Type:	B00AN00HLOHT0W7-GR0
P/N:	911350023
S/N:	Z16P00138
HW Version:	Beta HW Version
SW Version:	WEC7
Firmware Version:	2.16
Input:	Fully Charged Internal Battery

Full Spectrum



Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
36.750000	16.95	40.00	23.05	1000.0	120.000	137.0	V	256.0	90.0	18.5
81.500000	6.11	40.00	33.90	1000.0	120.000	219.0	H	123.0	90.0	7.2
270.610000	21.51	46.00	24.49	1000.0	120.000	105.0	H	277.0	90.0	14.6
312.000000	27.04	46.00	18.96	1000.0	120.000	273.0	H	276.0	90.0	15.6
546.010000	29.54	46.00	16.46	1000.0	120.000	105.0	V	287.0	90.0	21.5
851.400000	30.47	46.00	15.53	1000.0	120.000	347.0	H	49.0	90.0	26.1
919.680000	31.62	46.00	14.38	1000.0	120.000	177.0	H	60.0	90.0	27.1
943.000000	31.50	46.00	14.50	1000.0	120.000	283.0	H	201.0	0.0	27.1



## 6. Radiated field strength measurements (1GHz to 25 GHz)

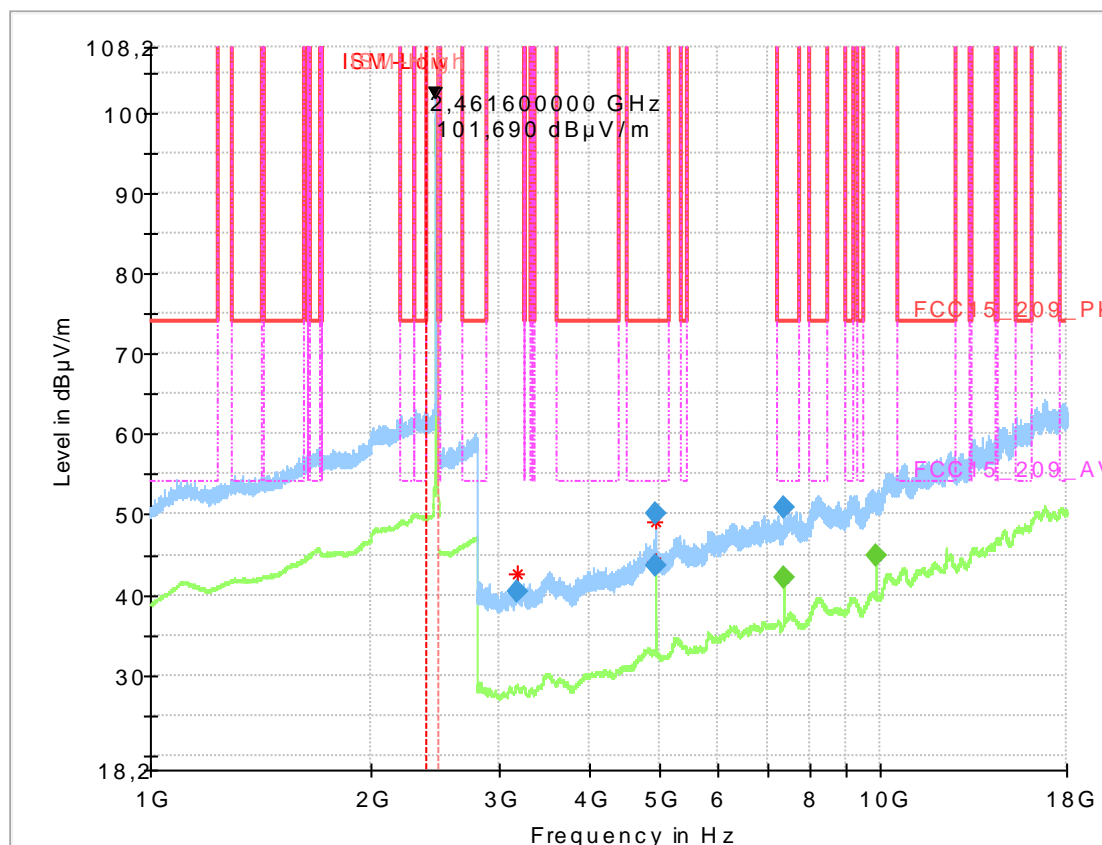
### Diagram No:4.01\_WLAN 802.11\_TX\_b-mode\_BW 20 MHz CH11\_1Mbps

#### Common Information

Test Description:	Radiated field strength emission in 3m distance
Operating Conditions:	CETECOM GmbH Essen
Operator Name:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4
Comment:	horizontal/vertical
Operation Mode:	TX-on WLAN 802.11 n-mode, BW 20 MHz channel 11; Data rate 1Mbps
Operator Name:	MFr
Environmental Conditions:	Humidity: 32%rH; Temperature: 23°C

#### EUT Information

Manufacturer:	Datalogic ADCL S.r.l.
MODEL:	JOYA TOUCH
EuT Type:	B00AN00HLOHT0W7-GR0
P/N:	911350023
S/N:	Z16P00138
HW Version:	Beta HW Version
SW Version:	WEC7
Firmware Version:	2.16
Input:	Fully Charged Internal Battery



**Final Result**

Frequency (MHz)	MaxPeak (dB $\mu$ V/m)	Average (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
3184.120000	40.51	---	150.00	109.49	100.0	1000.000	V	77.0	90.0	-0.2
4924.040000	50.07	---	74.00	23.93	100.0	1000.000	V	206.0	0.0	4.4
4930.360000	43.68	---	74.00	30.32	100.0	1000.000	H	46.0	90.0	4.4
7384.040000	50.87	---	74.00	23.13	100.0	1000.000	V	176.0	0.0	10.8
7386.800000	---	42.18	54.00	11.82	100.0	1000.000	V	175.0	0.0	10.8
9848.040000	---	44.83	150.00	105.17	100.0	1000.000	V	213.0	0.0	14.4

### Diagram No:4.01a\_WLAN 802.11\_TX\_b-mode\_BW 20 MHz CH11\_1Mbps

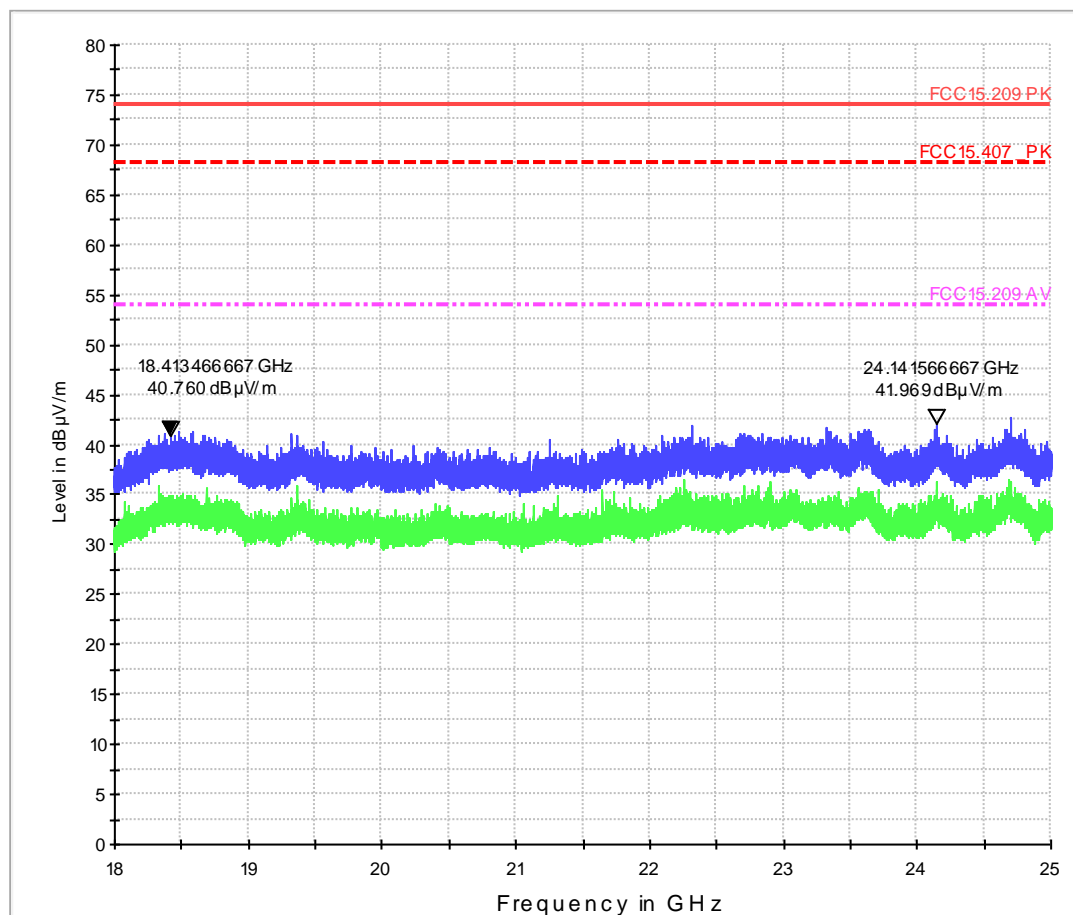
#### Information

Test Description:	Radiated field strength emission in 1m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.247, 15.205&15.209 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:	TX mode continuous bMode Ch1 1Mbps
Operator Name:	TFR

#### EUT Information

Manufacturer:	Datalogic ADCL S.r.l.
MODEL:	JOYA TOUCH
EuT Type:	B00AN00HL0HT0W7-GR0
P/N:	911350023
S/N:	Z16P00138
HW Version:	Beta HW Version
SW Version:	WEC7
Firmware Version:	2.16
Input:	Fully Charged Internal Battery

FCC\_Sweep\_15.247\_18\_25GHz\_Pre



## 7. Radiated Band-Edge Measurements accord. §15.209 & §15.205

### 7.1. Channel 1 b-Mode (left band edge)

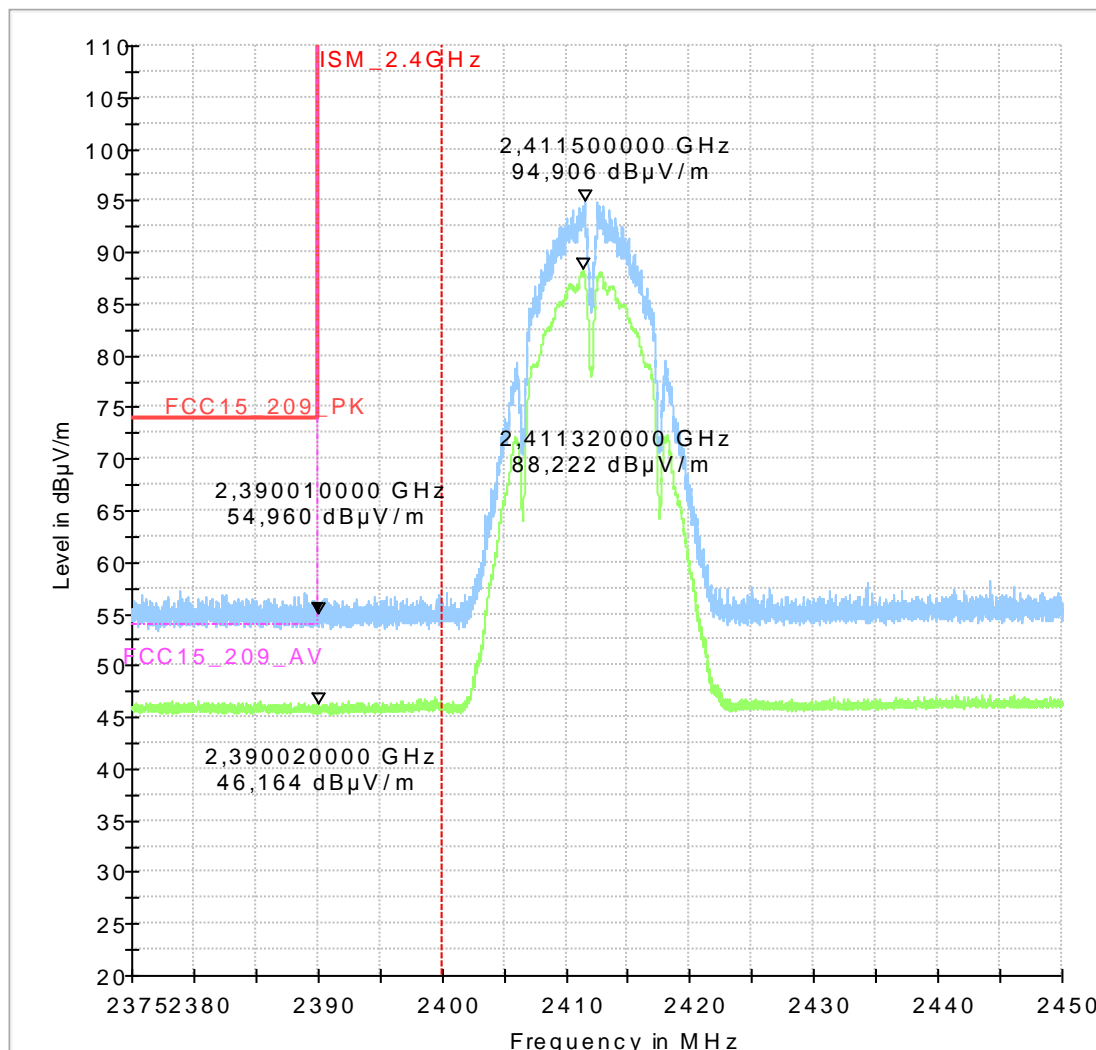
#### 9.01\_BE\_Low\_TX\_b-mode\_BW 20 MHz CH1\_1Mbps

##### 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 Intentional Radiator / RSS-Gen, Issue 4
Antenna polarisation:	horizontal/vertical
Operation Mode:	TX-on WLAN 802.11 n-mode, BW 20 MHz channel 1; Data rate 1Mbps
Operator Name:	APh
Environmental Conditions:	Humidity: %34; Temperature: 23°C

##### EUT Information

Manufacturer:	Datalogic ADCL S.r.l.
MODEL:	JOYA TOUCH
EuT Type:	B00AN00HL0HT0W7-GR0
P/N:	911350023
S/N:	Z16P00138
HW Version:	Beta HW Version
SW Version:	WEC7
Firmware Version:	2.16
Input:	Fully Charged Internal Battery



## 7.2. Channel 11 b-Mode (right band edge)

Diagram No.: 9.02\_BE\_High\_TX\_b-mode\_BW 20 MHz CH11\_1Mbps\_

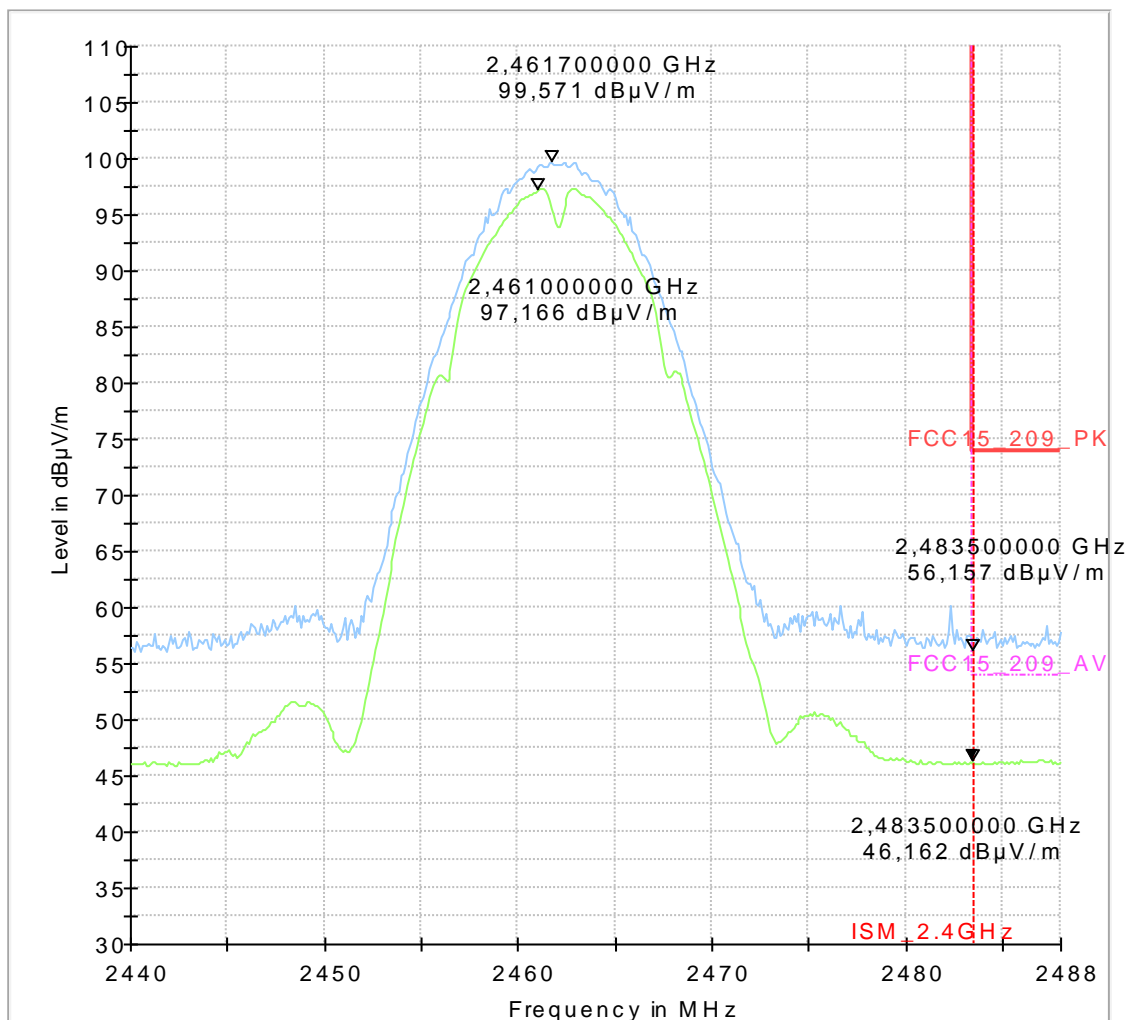
### Common Information

Test Description:	Band-Edge: Radiated Field Strength Emissions in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4
Antenna polarisation:	horizontal/vertical
Operation mode:	TX-on WLAN 802.11 b-mode, BW 20 MHz channel 11; Data rate 1Mbps
Environment Conditions:	Humidity: 38%rH; Temperature: 22°C
Operator Name:	Aph

### EUT Information

Manufacturer:	Datalogic ADCL S.r.l.
MODEL:	JOYA TOUCH
EuT Type:	B00AN00HLOGT0W7-GRR
P/N:	911350024
S/N:	Z16P00218
HW Version:	Beta HW Version
SW Version:	WEC7
Firmware Version:	2.16
Input:	Fully Charged Internal Battery

Full Spectrum



### 7.3. Channel 1 g-Mode (left band edge)

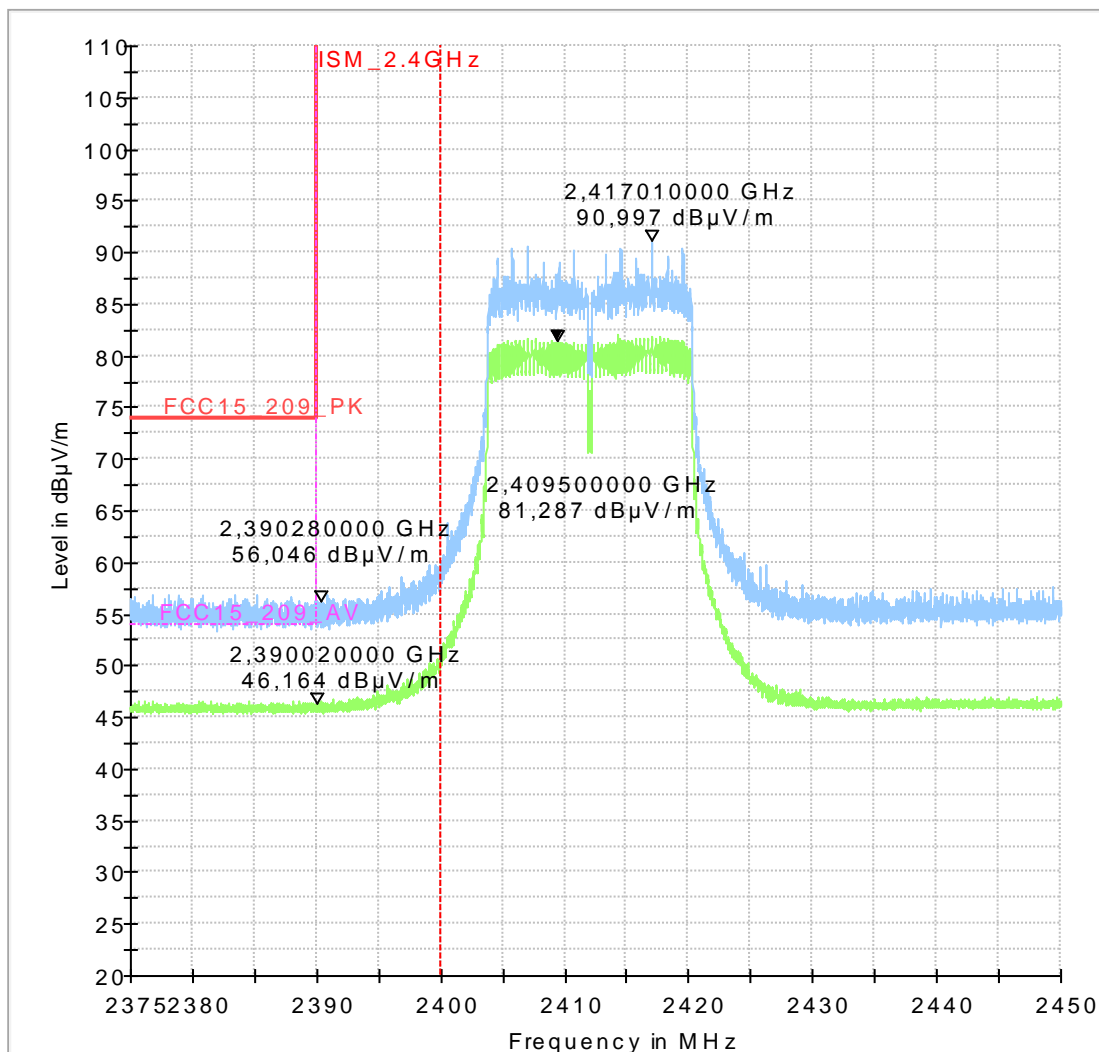
#### 9.03\_BE\_Low\_TX\_g-mode\_BW 20 MHz CH1\_6Mbps\_reduced power levels

##### 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 Intentional Radiator / RSS-Gen, Issue 4
Antenna polarisation:	horizontal/vertical
Operation mode:	TX-on WLAN 802.11 g-mode, BW 20 MHz channel 1; Data rate 6Mbps
Operator Name:	Aph
Environmental Conditions:	Humidity: 34%rH; Temperature: 21°C

##### EUT Information

Manufacturer:	Datalogic ADCL S.r.l.
MODEL:	JOYA TOUCH
EuT Type:	B00AN00HLOHT0W7-GR0
P/N:	911350023
S/N:	Z16P00138
HW Version:	Beta HW Version
SW Version:	WEC7
Firmware Version:	2.16
Input:	Fully Charged Internal Battery



### 7.4. Channel 11 g-Mode (right band edge)

Diagram No.: 9.04\_BE\_High\_TX\_g-mode\_BW 20 MHz CH11\_6Mbps

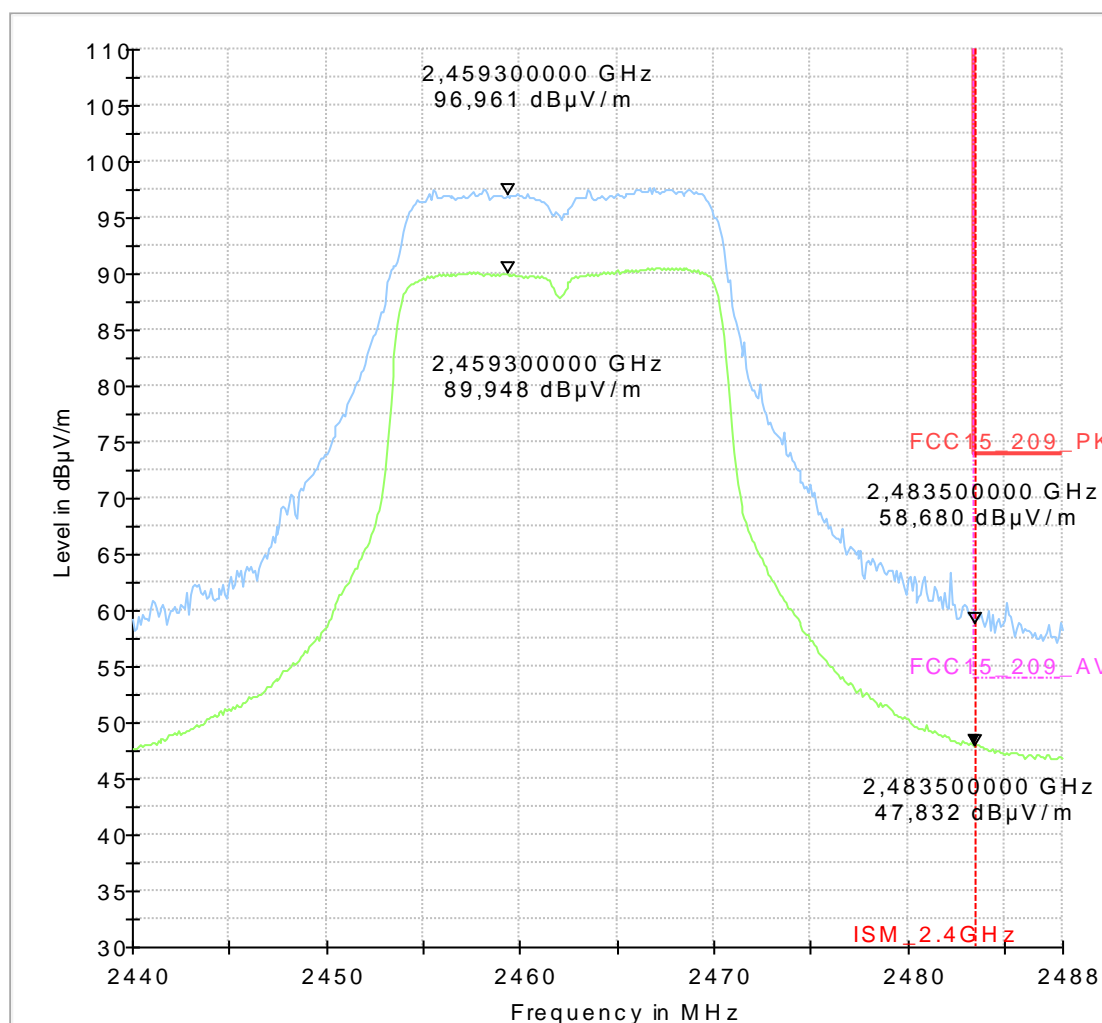
#### Common Information

Test Description:	Band-Edge: Radiated Field Strength Emissions in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4
Antenna polarisation:	horizontal/vertical
Operation mode:	TX-on WLAN 802.11 g-mode, BW 20 MHz channel 11; Data rate 6Mbps
Environment Conditions:	Humidity: 32%rH; Temperature: 22°C
Operator Name:	APh

#### EUT Information

Manufacturer:	Datalogic ADCL S.r.l.
MODEL:	JOYA TOUCH
EuT Type:	B00AN00HLOGT0W7-GRR
P/N:	911350023
S/N:	Z16P00138
HW Version:	Beta HW Version
SW Version:	WEC7
Firmware Version:	2.16
Input:	Fully Charged Internal Battery

Full Spectrum



## 7.5. Channel 1 n-Mode(HT20) (left band edge)

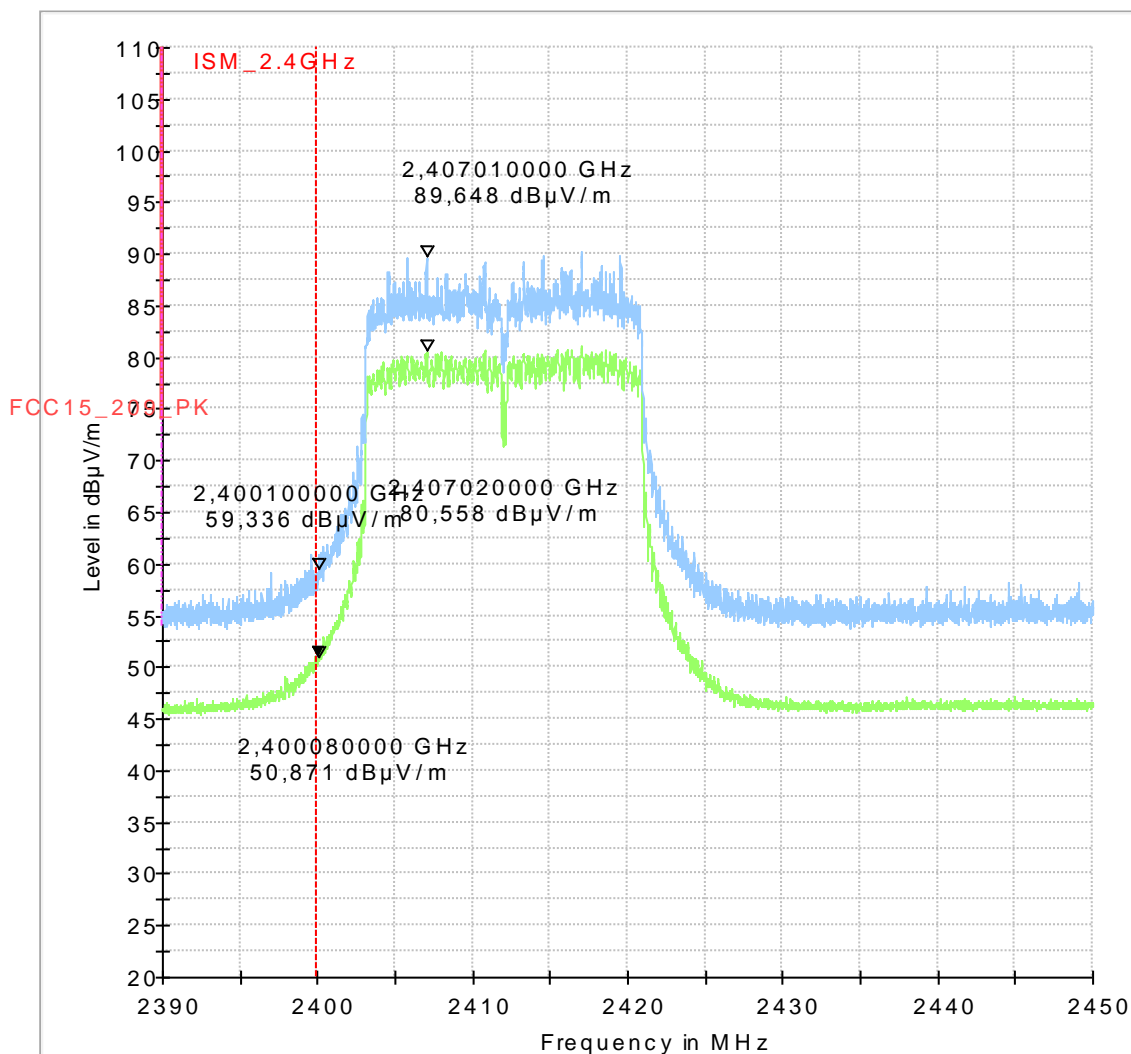
### 9.05\_BE\_Low\_TX\_n-mode\_BW 20 MHz CH1\_MCS0

#### 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 Intentional Radiator / RSS-Gen, Issue 4
Antenna polarisation:	horizontal/vertical
Operation mode:	TX-on WLAN 802.11 n-mode, BW 20 MHz channel 1; Data rate MCS0
Operator Name:	Aph
Environmental Conditions:	Humidity: 34%rH; Temperature: 21°C

#### EUT Information

Manufacturer:	Datalogic ADCL S.r.l.
MODEL:	JOYA TOUCH
EuT Type:	B00AN00HL0HT0W7-GR0
P/N:	911350023
S/N:	Z16P00138
HW Version:	Beta HW Version
SW Version:	WEC7
Firmware Version:	2.16
Input:	Fully Charged Internal Battery





### 7.6. Channel 11 n-Mode(HT20) (right band edge)

Diagram No.: 9.06\_BE\_High\_TX\_n-mode\_BW 20 MHz CH11\_MCS0

#### 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 Intentional Radiator / RSS-Gen, Issue 4
Antenna polarisation:	horizontal/vertical
Operation mode:	TX-on WLAN 802.11 n-mode, BW 20 MHz channel 11; Data rate MCS0
Environment Conditions:	Humidity: 32%rH; Temperature: 22°C
Operator Name:	Aph

#### EUT Information

Manufacturer:	Datalogic ADCL S.r.l.
MODEL:	JOYA TOUCH
EuT Type:	B00AN00HLOHT0W7-GR0
P/N:	911350023
S/N:	Z16P00138
HW Version:	Beta HW Version
SW Version:	WEC7
Firmware Version:	2.16
Input:	Fully Charged Internal Battery

Full Spectrum

