

Annex 1: Diagramms to PARTIAL TEST REPORT

No.: 2-20842790-15-10b

According to: **FCC Regulations** Part 15.407

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

for

Datalogic ADC S.r.l.
JOYA TOUCH
Type: P00AN04HL0GT0W7-GRR

FCC-ID: U4GJNGWB IC: 3862E-JNGWB PMN: JOYA TOUCH HVIN: JNG P GUN

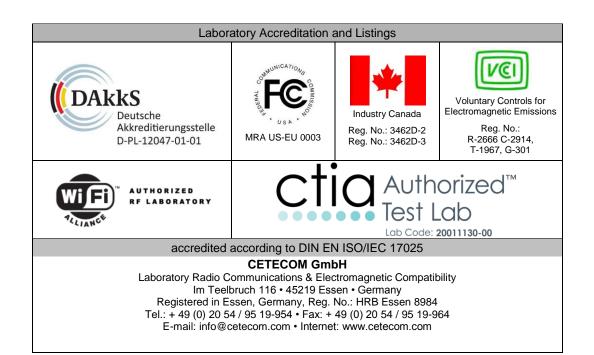




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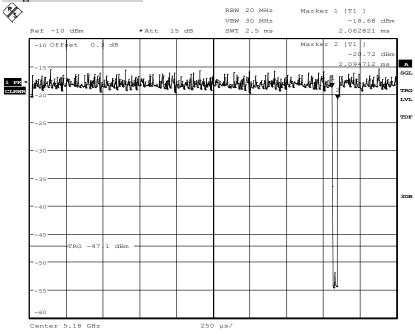
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1. Duty-Cycle of Transmitter

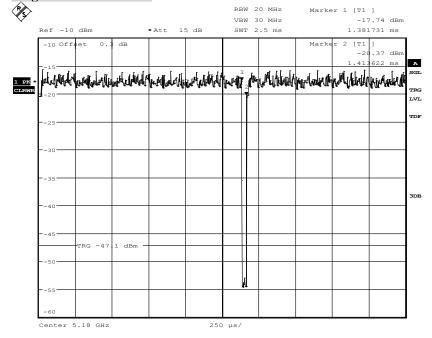
The characteristics of the implemented test mode was checked on middle channel no. 36 (a-Mode and n –Mode HT20) only.

Diagram a-Mode 6Mbit:



Date: 8.JUN.2016 11:00:44

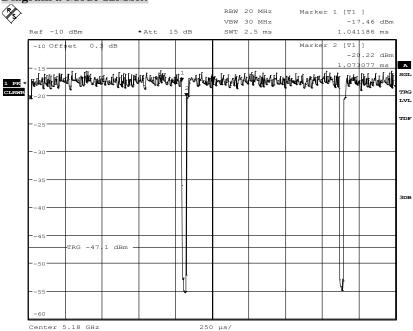
Diagram a-Mode 9Mbit:



Date: 8.JUN.2016 11:01:44

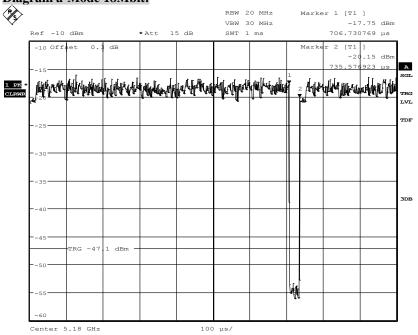






Date: 8.JUN.2016 11:02:52

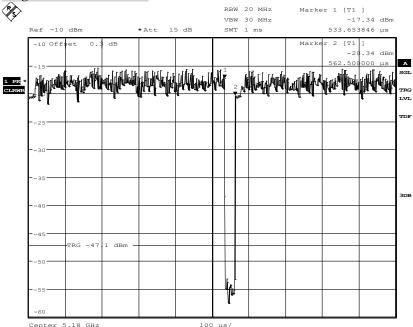
Diagram a-Mode 18Mbit:



Date: 8.JUN.2016 11:03:52

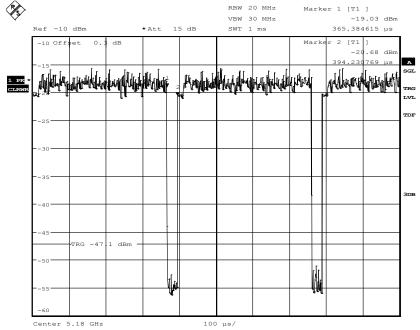






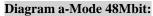
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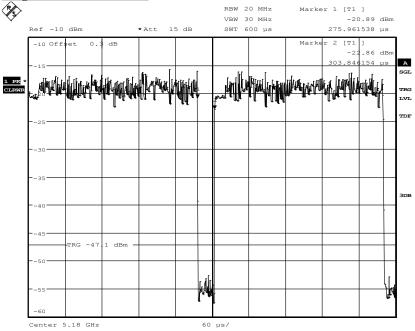
Diagram a-Mode 36Mbit:



Date: 8.JUN.2016 11:06:16

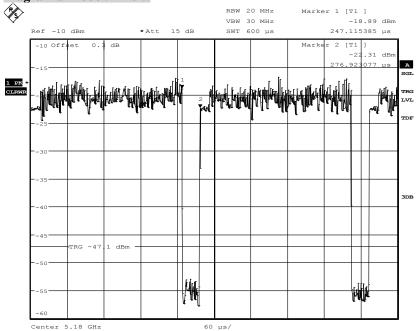






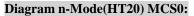
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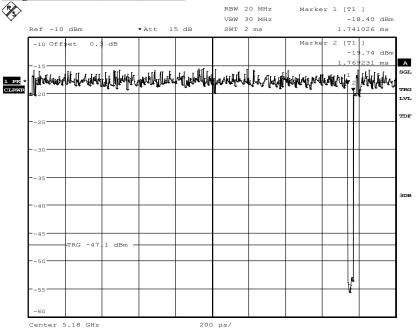
Diagram a-Mode 54Mbit:



Date: 8.JUN.2016 10:57:42

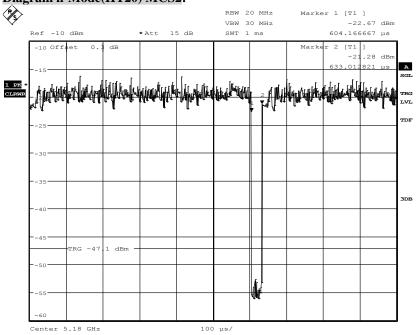






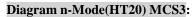
Date: 8.JUN.2016 11:07:42

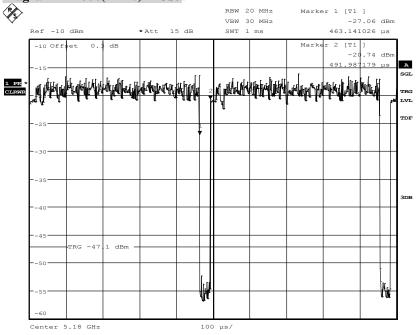
Diagram n-Mode(HT20) MCS2:



Date: 8.JUN.2016 11:25:25

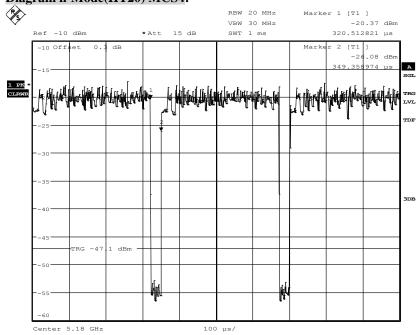






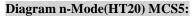
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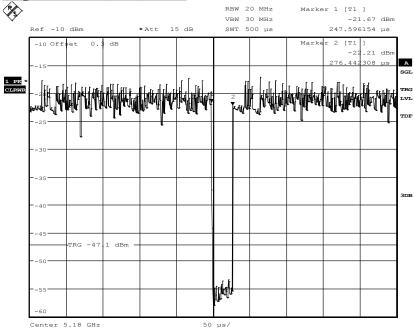
Diagram n-Mode(HT20) MCS4:



Date: 8.JUN.2016 11:26:41

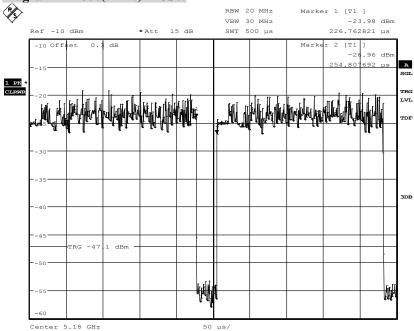






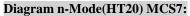
Date: 8.JUN.2016 11:35:21

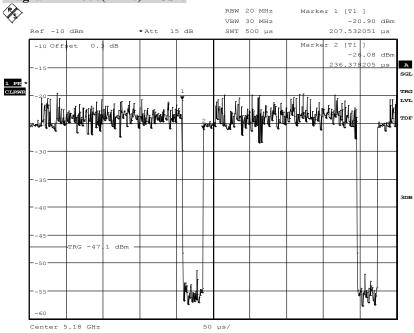
Diagram n-Mode(HT20) MCS6:



Date: 8.JUN.2016 11:33:35







Date: 8.JUN.2016 11:32:15



2. Maximum Peak Conducted Output Power

2.1. 20MHz signal BW

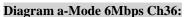
Operational bands:	U-NII 1			U-NII-2A			U-NII 2C			U-NII-3		
Channel no.:	Channel 36	Channel 40	Channel 48	Channel 52	Channel 56	Channel 64	Channel 100	Channel 116	Channel 140	Channel 149	Channel 157	Channel 165
Chaille no	(5180MHz)	(5200MHz)	(5240MHz)	5260MHz	(5280MHz)	(5320MHz)	(5500MHz)	(5580MHz)	(5700MHz)	(5745MHz)	(5785MHz)	(5825MHz)
a-Mode/(90% Power level)												
6Mbit	14,33	14,32	14,32	13,83	13,74	12,32	12,05	11,95	11,13	11,76	12,50	12,73
9Mbit	14,32	14,35	14,31	13,81	13,76	12,25	12,03	11,93	11,13	11,78	12,49	12,75
12Mbit	14,35	14,39	14,30	13,82	13,80	12,17	12,06	11,96	11,18	11,84	12,53	12,79
18Mbit	14,29	14,34	14,24	13,75	13,73	12,16	11,98	12,00	11,11	11,77	12,47	12,74
24Mbit	14,39	14,46	14,35	13,88	13,85	12,13	12,13	12,00	11,24	11,91	12,60	12,82
36Mbit	14,25	14,32	14,18	13,69	13,68	11,96	11,99	11,94	11,05	11,85	12,42	12,69
48Mbit	14,40	14,32	14,15	13,65	12,64	11,97	12,01	11,86	11,07	11,83	12,44	12,71
54MBit	12,89	12,80	12,68	11,52	11,48	10,95	10,92	11,17	10,38	10,63	11,21	11,72
n(HT20)-Mode/(90% Power level)												
MCS0 -6.5Mbps	14,20	14,32	14,26	13,70	13,74	11,95	12,06	11,85	11,13	11,78	12,53	12,69
MCS1 - 13Mbps	13,47	13,829	13,84	13,26	13,59	11,82	12,02	11,74	11,09	11,65	12,40	12,62
MCS2 - 19.5Mbps	14,13	14,34	14,12	13,58	13,67	11,79	12,04	11,70	11,07	11,65	12,37	12,67
MCS3 - 26Mbps	13,83	14,46	14,16	13,25	12,63	11,83	12,15	11,73	11,18	11,72	12,40	12,77
MCS4 -39Mbps	12,37	12,44	13,04	11,35	11,49	10,80	10,56	10,93	9,82	10,53	11,06	11,02
MCS5 - 52MBps	12,10	12,36	12,53	11,35	11,48	10,79	10,58	10,94	9,82	10,52	11,12	11,01
MCS6 - 58.5MBps	9,22	9,45	9,67	9,24	9,30	8,82	8,32	9,27	8,17	8,19	8,74	9,23
MCS7 - 65MBps	9,15	9,38	9,67	9,20	9,32	8,84	8,33	8,81	8,09	8,22	8,75	9,19
Operational bands:	U-NII 1 (Outdoor use: EIRP-Limit of 21dBm)			U-NII-2A			U-NII 2C			U-NII 3		
·												
FCC-Limits [dBm]	24,00			23,98			23,98			30,00		
[us]												
Limit Check:		Limit Check:										
Highest conducted power value												
over channels and	14,46			13,9			12,2			12,8		
modulations:												
Margin to Limit:	9,54			10,10			11,83			17,18		
Declared antenna Gain:	5,88			5,88			5,88			5,88		
Verdict:	pass			pass			pass			pass		

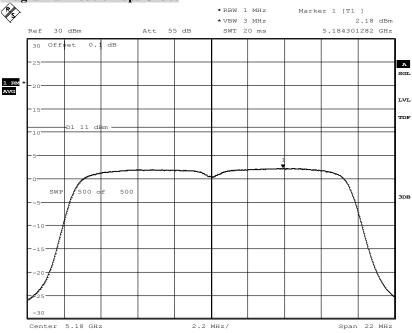
Remarks:

- 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.
- 3.) The above values are inclusive Duty cycle correction factors.



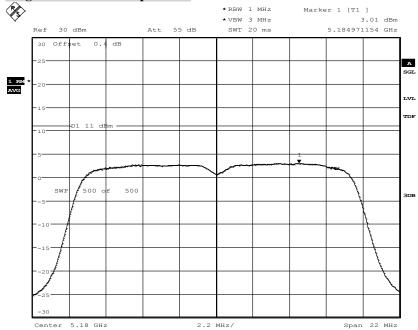
3. Conducted Power Spectral Density





Date: 9.JUN.2016 10:43:39

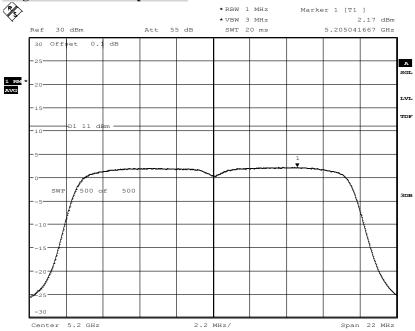
Diagram a-Mode 48Mbps Ch36:



Date: 9.JUN.2016 10:46:54

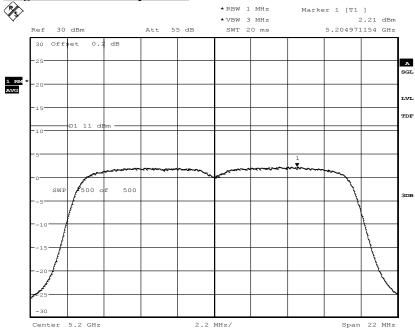






Date: 9.JUN.2016 10:51:21

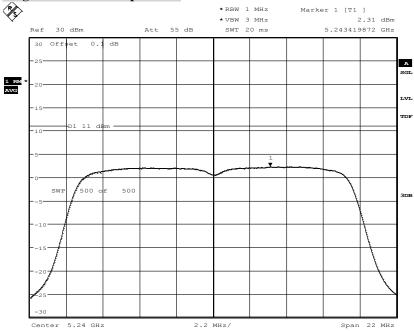
Diagram a-Mode 24Mbps Ch40:



Date: 9.JUN.2016 10:54:13

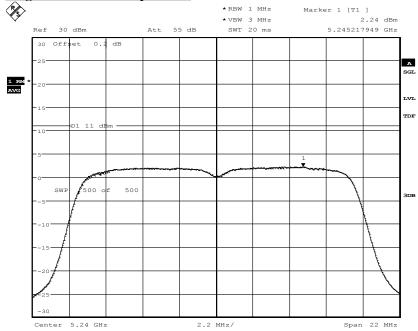






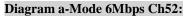
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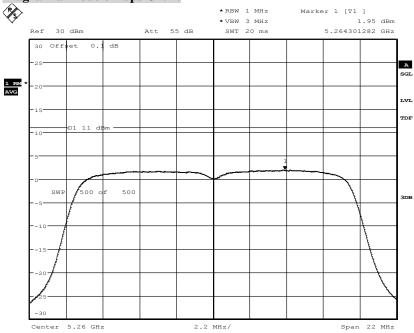
Diagram a-Mode 24Mbps Ch48:



Date: 9.JUN.2016 10:56:14

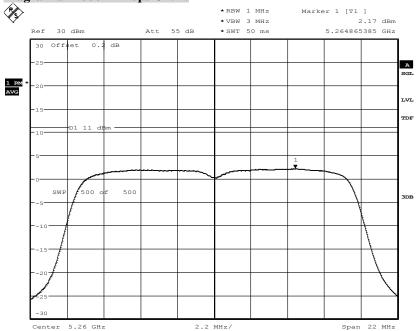






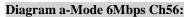
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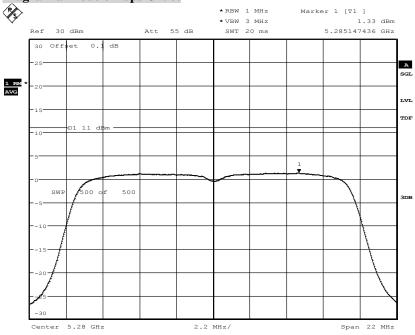
Diagram a-Mode 24Mbps Ch52:



Date: 9.JUN.2016 11:33:49

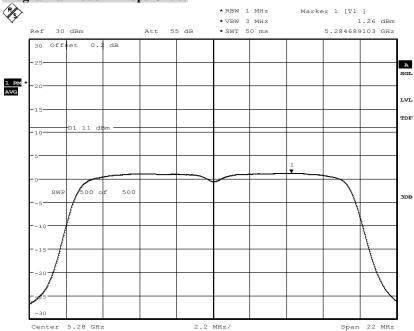






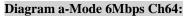
Date: 9.JUN.2016 11:07:01

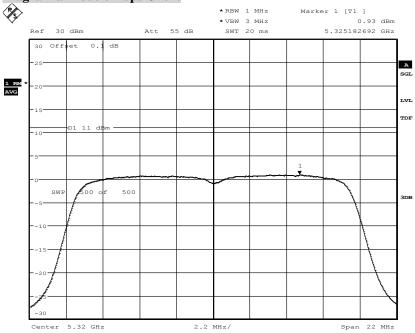
Diagram a-Mode 24Mbps Ch56:



Date: 9.JUN.2016 11:35:25

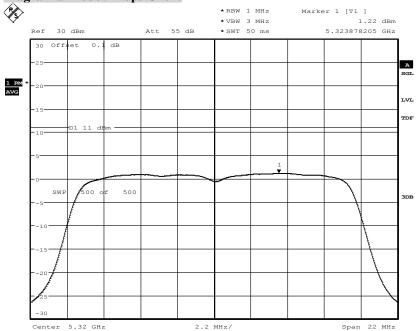






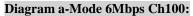
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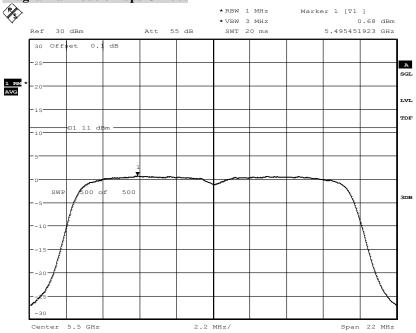
Diagram a-Mode 9Mbps Ch64:



Date: 9.JUN.2016 11:47:36

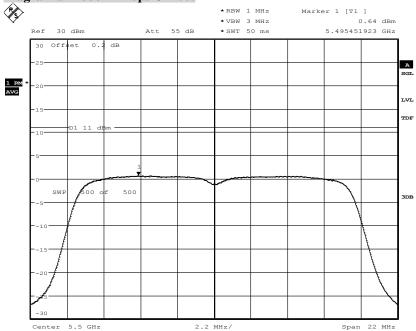






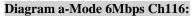
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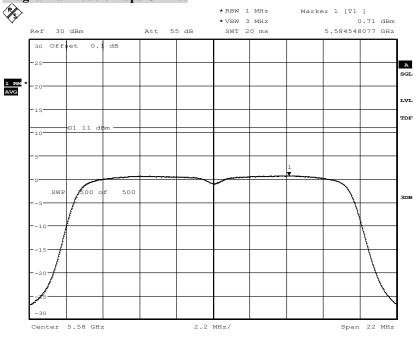
Diagram a-Mode 24Mbps Ch100:



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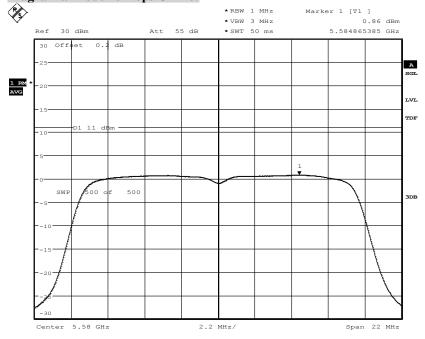






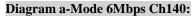
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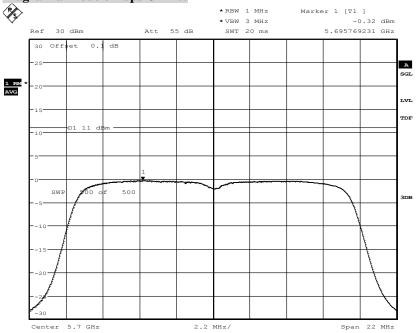
Diagram a-Mode 18Mbps Ch116:



Date: 9.JUN.2016 11:44:06

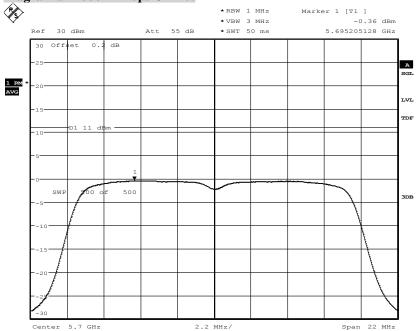






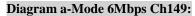
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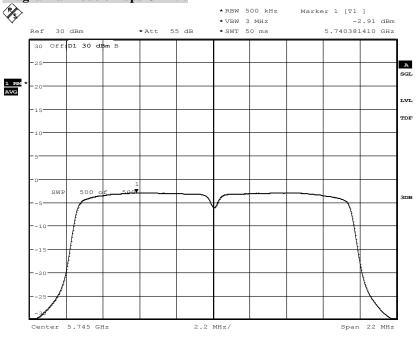
Diagram a-Mode 24Mbps Ch140:



Date: 9.JUN.2016 11:27:37

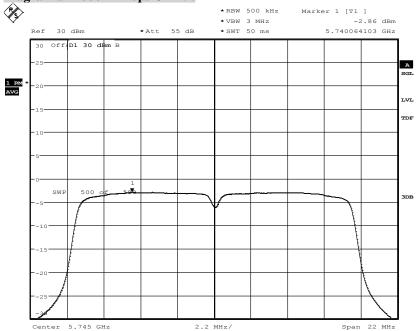






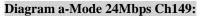
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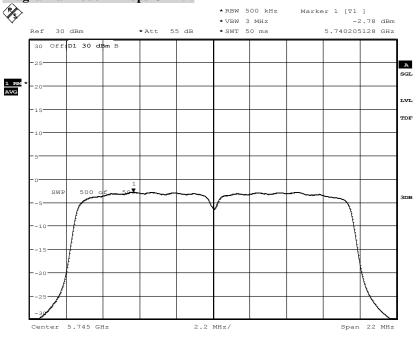
Diagram a-Mode 12Mbps Ch149:



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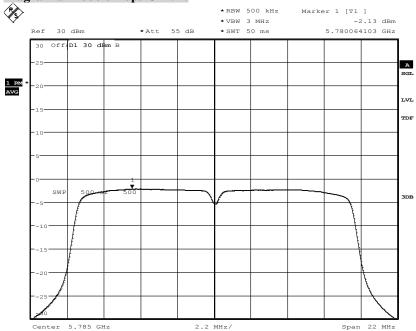






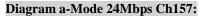
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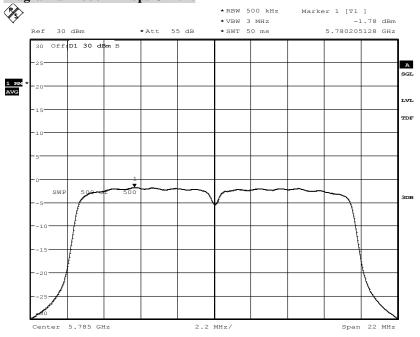
Diagram a-Mode 6Mbps Ch157:



Date: 9.JUN.2016 13:38:54

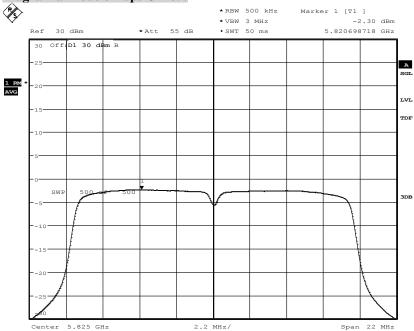






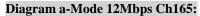
Date: 9.JUN.2016 13:51:35

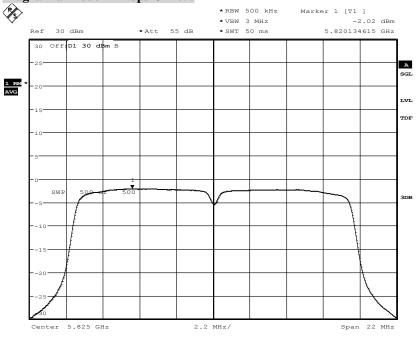
Diagram a-Mode 6Mbps Ch165:



Date: 9.JUN.2016 13:34:55

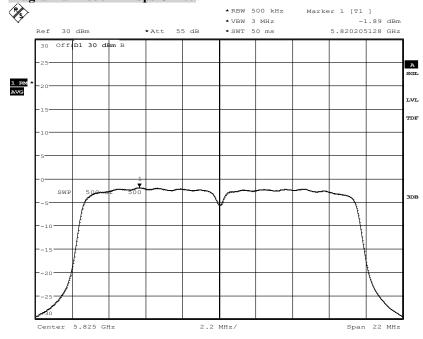






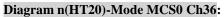
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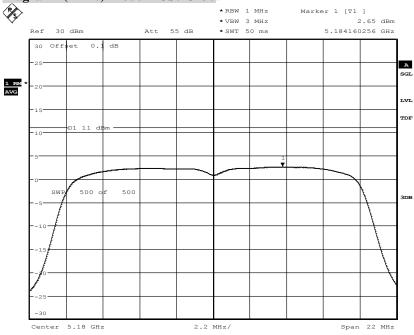
Diagram a-Mode 24Mbps Ch165:



Date: 9.JUN.2016 13:47:20

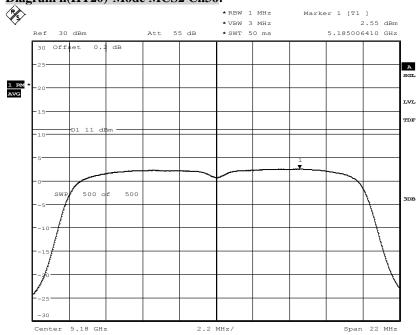






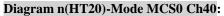
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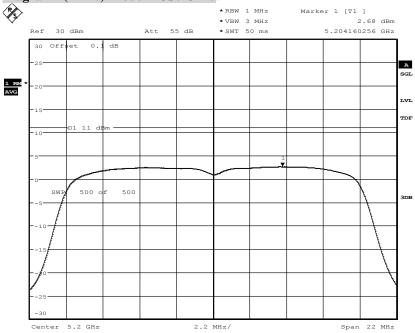
Diagram n(HT20)-Mode MCS2 Ch36:



Date: 9.JUN.2016 12:23:39

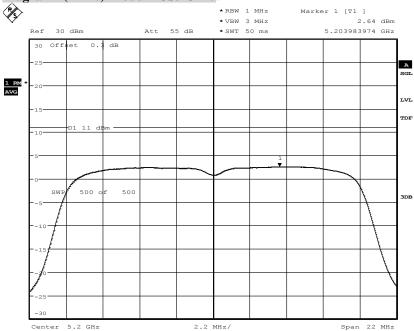






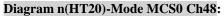
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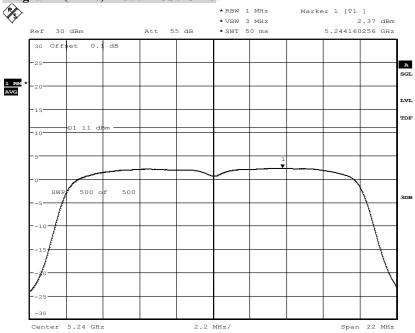
Diagram n(HT20)-Mode MCS3 Ch40:



Date: 9.JUN.2016 12:20:16

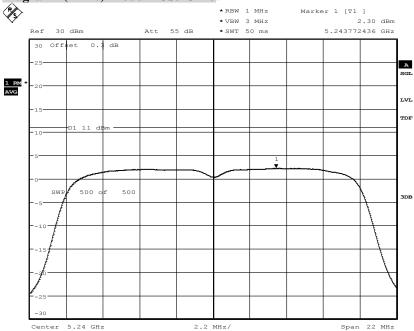






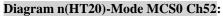
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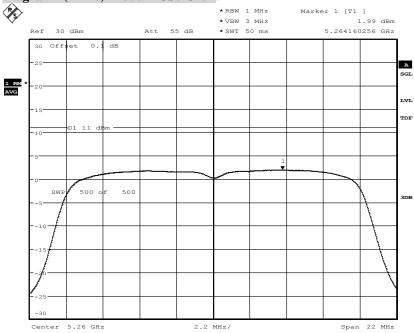
Diagram n(HT20)-Mode MCS3 Ch48:



Date: 9.JUN.2016 12:18:35

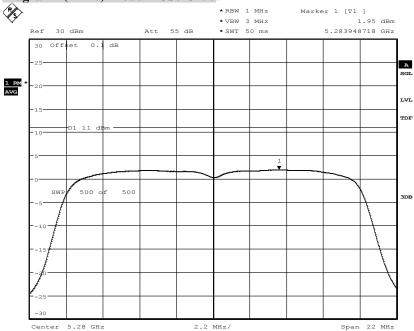






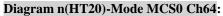
Date: 9.JUN.2016 11:55:41

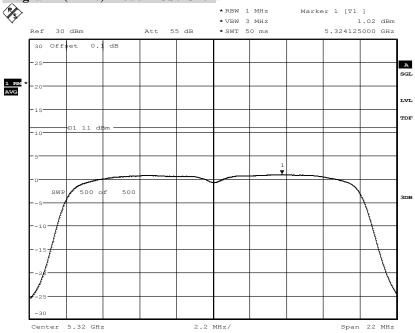
Diagram n(HT20)-Mode MCS0 Ch56:



Date: 9.JUN.2016 11:57:17

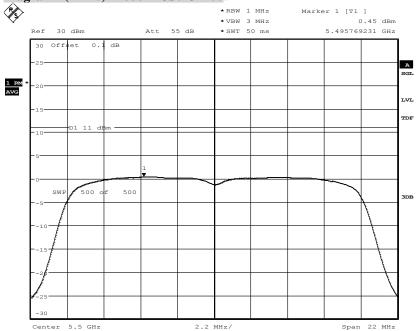






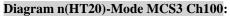
Date: 9.JUN.2016 11:59:04

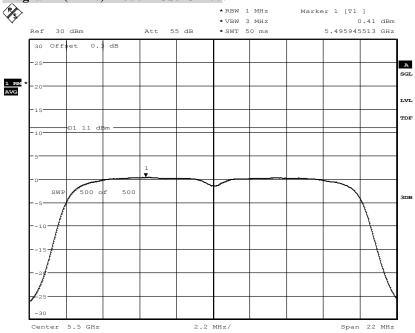
Diagram n(HT20)-Mode MCS0 Ch100:



Date: 9.JUN.2016 12:01:02

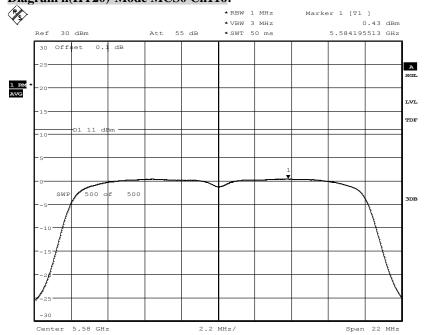






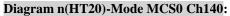
Date: 9.JUN.2016 12:14:28

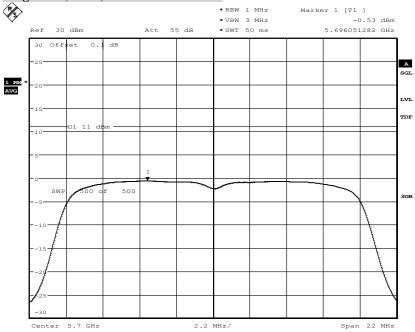
Diagram n(HT20)-Mode MCS0 Ch116:



Date: 9.JUN.2016 12:03:37

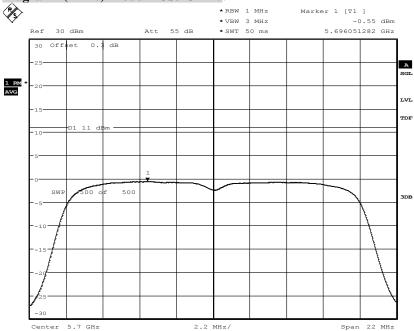






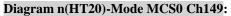
Date: 9.JUN.2016 12:05:34

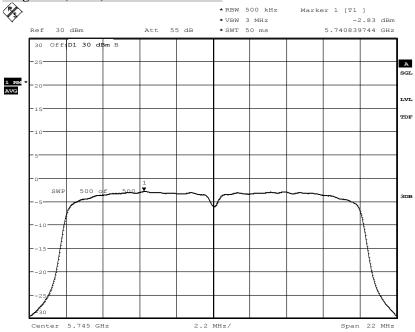
Diagram n(HT20)-Mode MCS3 Ch140:



Date: 9.JUN.2016 12:11:29

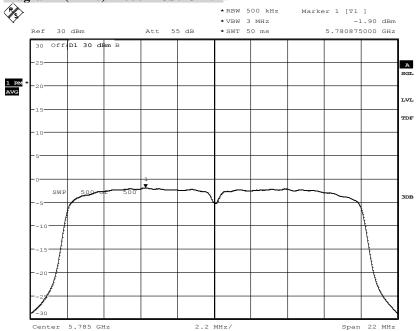






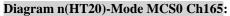
Date: 9.JUN.2016 12:27:04

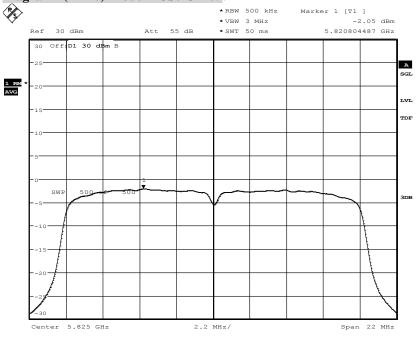
Diagram n(HT20)-Mode MCS0 Ch157:



Date: 9.JUN.2016 12:29:22

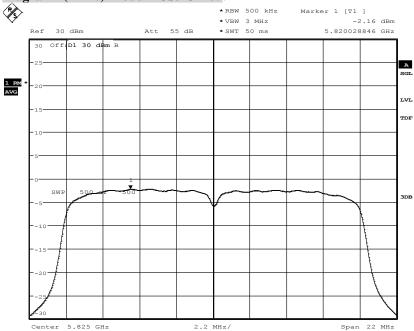






Date: 9.JUN.2016 12:31:12

Diagram n(HT20)-Mode MCS3 Ch165:



Date: 9.JUN.2016 12:33:11



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

Diagram No: 2.07_WLAN_a mode_6Mbps_Ch140_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: R

Operating conditions: TX-on WLAN 802.16 a-mode, BW 20 MHz channel 140; 6Mbps;

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

 P/N:
 911350013

 S/N:
 Z16P00015

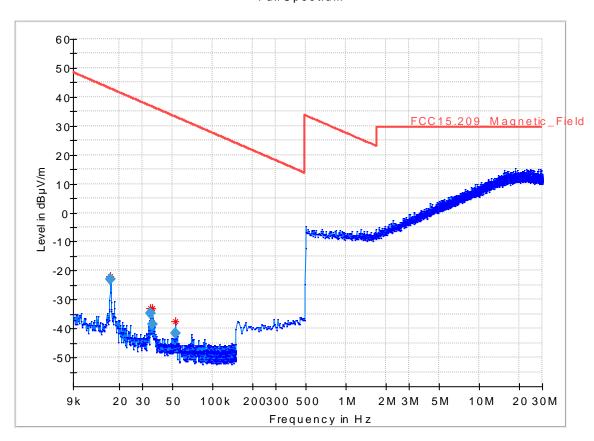
 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery

Comments: Entry Level HAL WLAN+BT Handheld

Full Spectrum





Final_Result

Frequency (MHz)	RMS (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
0.017160	-23.01	42.91	65.91	1000.0	0.200	100.0	Н	103.0	-58.7
0.034360	-34.93	36.88	71.80	1000.0	0.200	100.0	Н	265.0	-59.5
0.035560	-38.42	36.58	75.00	1000.0	0.200	100.0	Н	276.0	-59.5
0.052680	-41.75	33.17	74.92	1000.0	0.200	100.0	Н	49.0	-59.7



Diagram No: 2.08_WLAN_n(HT20)_MCS0_Ch40_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

Operating Mode: TX-on WLAN 802.16 n(HT20), channel 40; MCS0;

Operator Name: Ase

Operating conditions: Humidity: 45%rH; Temperature: 22°C

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

 P/N:
 911350013

 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery

Comments: -

Full Spectrum

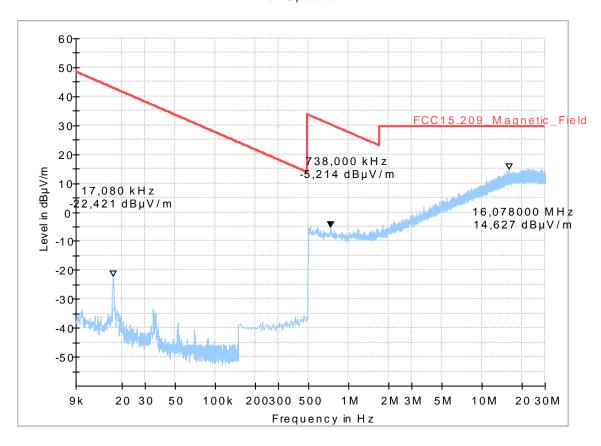




Diagram No: 2.09_WLAN_n(HT20)_MCS0_Ch100_9kHz-30 MHz

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

Operating Mode: TX-on WLAN 802.16 n(HT20), channel 100; MCS0;

Operator Name: Ase

Operating conditions: Humidity: 45%rH; Temperature: 22°C

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

 P/N:
 911350013

 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery

Comments: -

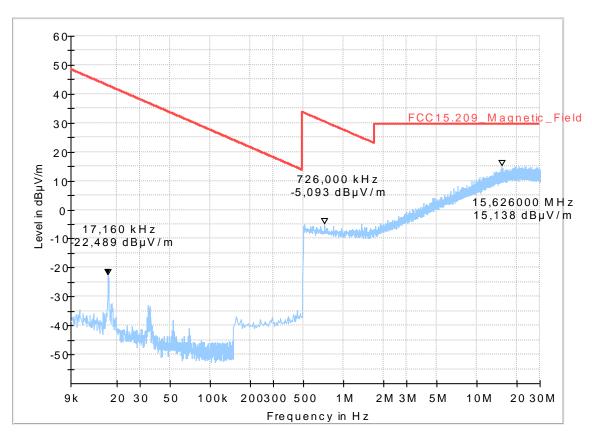




Diagram No: 2.10_WLAN_n(HT20)_MCS0_Ch149_9kHz-30 MHz

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

Operating Mode: TX-on WLAN 802.11 n(HT20), channel 149; MCS0;

Operator Name: As

Operating conditions: Humidity: 45%rH; Temperature: 22°C

Power during tests: full chraged battery

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

 P/N:
 9113500013

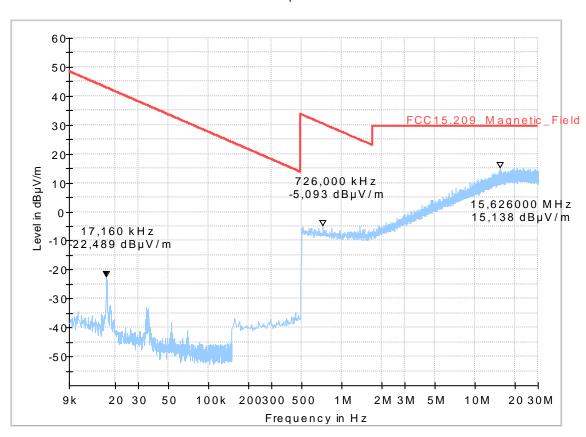
 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.11

Input: Fully Charged Internal Battery

Comments:





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

Diagram No: 3.07_WLAN_a mode_6 Mbpss_Ch140_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: APh

Operating conditions: TX-on Continuous

Operating Mode: TX-on WLAN 802.16 a-mode, BW 20 MHz channel 140; 6 Mbps

Comment 2:

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

 P/N:
 911350013

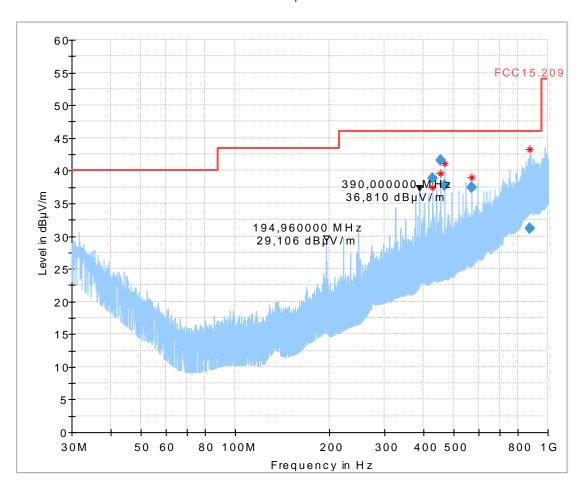
 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery

Comments:





Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margi n (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
429.000000	38.79	46.00	7.21	1000.0	120.000	112.0	V	313.0	0.0	19.3
454.980000	41.55	46.00	4.45	1000.0	120.000	105.0	V	310.0	0.0	19.5
467.980000	37.83	46.00	8.17	1000.0	120.000	105.0	V	121.0	90.0	19.7
571.960000	37.37	46.00	8.63	1000.0	120.000	109.0	Н	108.0	90.0	21.7
873.060000	31.09	46.00	14.91	1000.0	120.000	288.0	Н	20.0	0.0	26.7



Diagram No: 3.08_WLAN_n(HT20) mode_MCS0_Ch40_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: APh

Operating conditions: TX-on Continuous

Operating Mode: TX-on WLAN 802.16 n(HT20)-mode, BW 20 MHz channel 40; MCS0

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

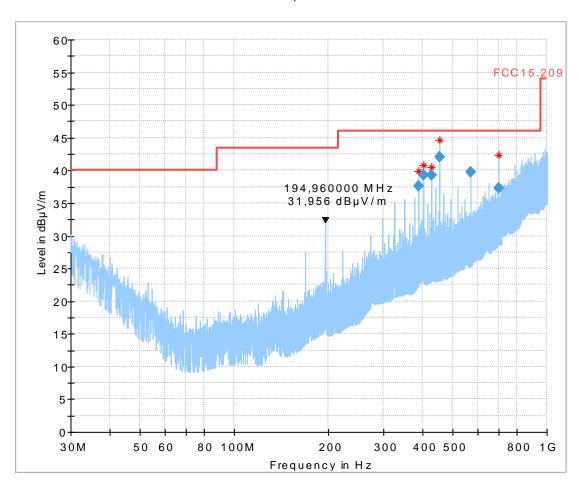
 P/N:
 911350013

 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery





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)
389.990000	37.56	46.00	8.44	1000.0	120.000	113.0	V	117.0	90.0	18.4
402.990000	39.28	46.00	6.72	1000.0	120.000	112.0	V	328.0	0.0	18.7
428.990000	39.23	46.00	6.77	1000.0	120.000	109.0	V	333.0	0.0	19.3
454.990000	42.01	46.00	3.99	1000.0	120.000	105.0	V	333.0	0.0	19.5
572.000000	39.82	46.00	6.18	1000.0	120.000	125.0	Н	291.0	0.0	21.8
701.970000	37.34	46.00	8.66	1000.0	120.000	170.0	Н	65.0	0.0	24.1



Diagram No: 3.09_WLAN_n(HT20)_MCS0_Ch100_30 MHz-1GHz

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

2.16

Used filter: TP NLP-1200

Test specification: FCC 15.205 § 15.209; RSS-Gen: Issue 4

Operator: APh

Operating conditions: TX-on Continuous

Operating Mode: TX-on WLAN 802.16 n(HT20)-mode, BW 20 MHz channel 100; MCS0

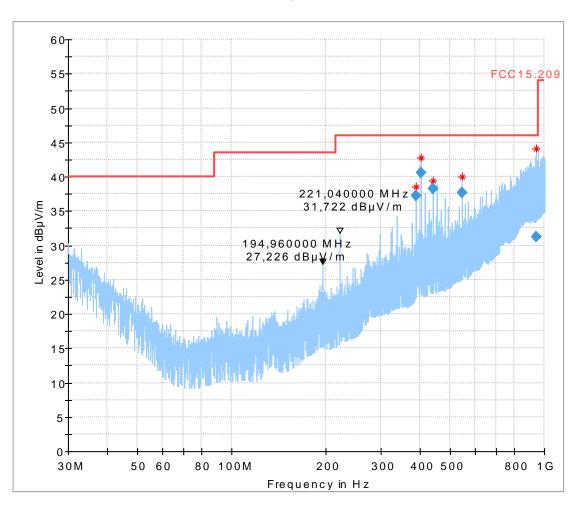
EUT Information

Firmware Version:

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR P/N: 911350013

Input: Fully Charged Internal Battery





$F\underline{inal}_Result$

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
390.000000	37.23	46.00	8.77	1000.0	120.000	112.0	V	103.0	90.0	18.4
402.970000	40.62	46.00	5.38	1000.0	120.000	112.0	V	123.0	90.0	18.7
441.980000	38.26	46.00	7.74	1000.0	120.000	174.0	Н	63.0	0.0	19.4
545.990000	37.70	46.00	8.30	1000.0	120.000	109.0	Н	115.0	90.0	21.5
945.660000	31.26	46.00	14.74	1000.0	120.000	294.0	V	28.0	90.0	27.4



Diagram No: 3.10_WLAN_n(HT20)_MCS0_Ch149_30 MHz-1GHz

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: R

Operating conditions: TX-on Continuous

Operating Mode: TX-on WLAN 802.16 n(HT20)-mode, BW 20 MHz channel 149; MCS0

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

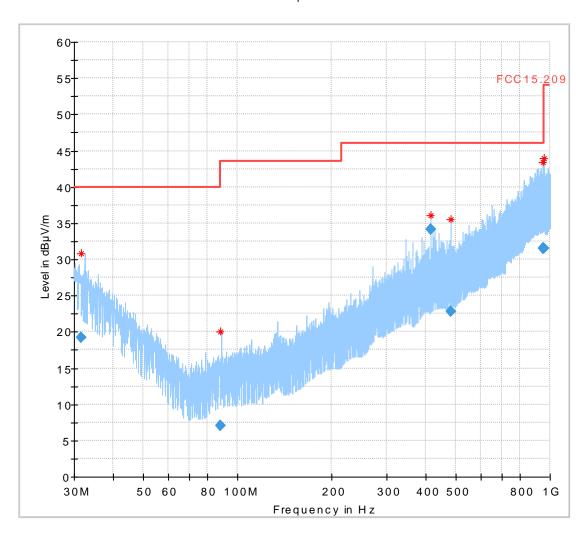
 P/N:
 911350013

 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery





$F\underline{inal}_Result$

Frequency	QuasiPeak	Limit	Margi	Meas.	Bandwidth	Heigh		Azimut	Elevatio	Corr
(MHz)	(dBµV/m)	(dBµV/m)	n	Time	(kHz)	t	Pol	h	n	
(WIIIZ)	(αδμ ν/ιιι)		(dB)	(ms)	(KIIZ)	(cm)		(deg)	(deg)	(dB)
31.700000	19.22	40.00	20.78	1000.0	120.000	112.0	Н	244.0	0.0	20.8
87.840000	7.01	40.00	32.99	1000.0	120.000	120.0	V	97.0	90.0	8.1
415.980000	34.11	46.00	11.89	1000.0	120.000	105.0	V	329.0	90.0	18.6
482.130000	22.86	46.00	23.14	1000.0	120.000	109.0	V	197.0	0.0	19.4
951.630000	31.49	46.00	14.51	1000.0	120.000	324.0	V	270.0	0.0	27.2
957.530000	31.56	46.00	14.44	1000.0	120.000	233.0	Н	138.0	0.0	27.4



6. Radiated field strength measurements (1GHz to 40 GHz)

Diagram No: 4.07_WLAN_TX_a mode _6 Mbps_ CH140_1-7GHz

Common Information

Test Description: Radiated field strength emission in 3m distance

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.407&15.209 Intentional Radiator

Antenna polarisation: horizontal/vertical

Operation mode: TX, continuous WLAN 5GHz a-mode, BW 20 MHz channel 140; 6Mbps;

Operator Name: KM

EUT Information

Manufacturer:

MODEL:

Datalogic ADCL S.r.l.

JOYA TOUCH

EuT Type:

P00AN04HL0GT0W7-GRR

 P/N:
 911350013

 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery

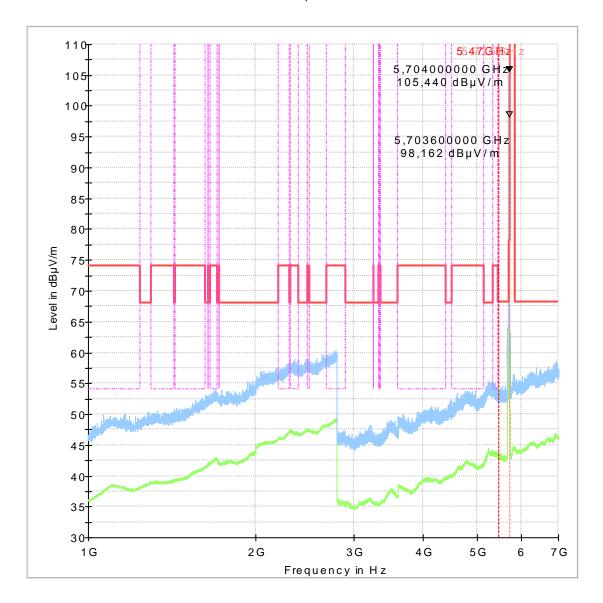




Diagram No: 4.07a_WLAN_TX_a mode _6 Mbps_ CH140_7-18GHz

Common Information

Test Description: Radiated field strength emission in 3m distance

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.407&15.209 Intentional Radiator

Antenna polarisation: horizontal/vertical

Environmental Conditions: Humidity:33 %rH; Temperature: 21°C

Operation mode: TX, continuous WLAN 5GHz a-mode, BW 20 MHz channel 140; 6Mbps;

Operator Name: KMo/APh

EUT Information

Manufacturer:Datalogic ADCL S.r.l.MODEL:JOYA TOUCHEuT Type:P00AN04HL0GT0W7-GRR

 P/N:
 911350013

 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery

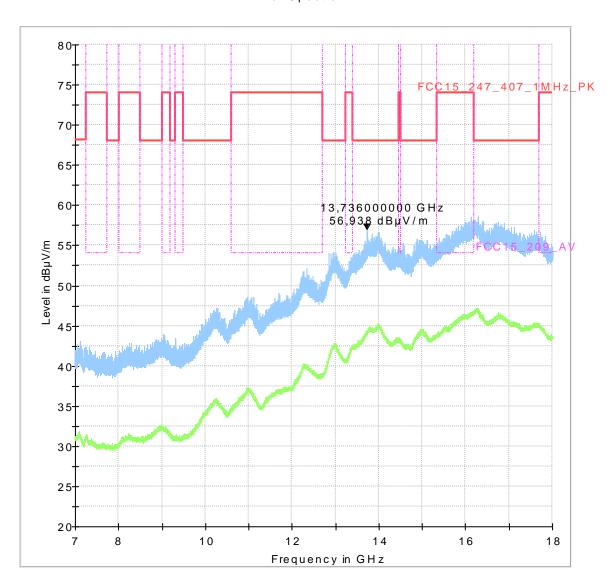




Diagram No: 4.07b_WLAN_TX_a mode _6 Mbps_ CH140_18-40GHz

Common 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 CH140-aMode-6MBit

Operator Name: TFr

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

 P/N:
 911350013

 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery

 $FCC_Sweep_{15.407_{18}40GHz_Pre}$

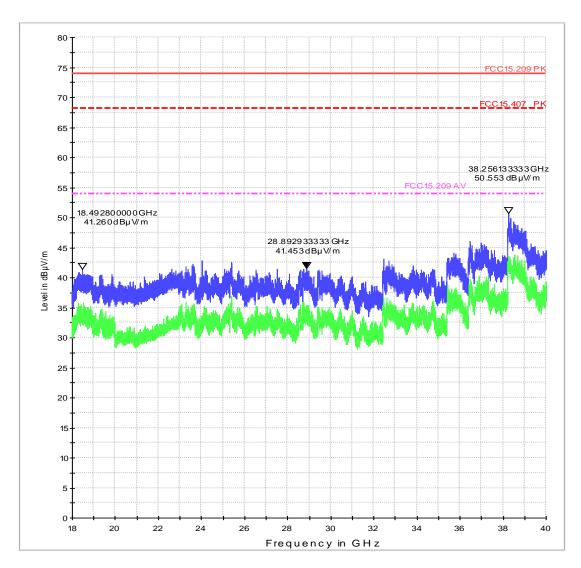




Diagram No: 4.08_WLAN_TX_n(HT20) _MCS0_ CH40_1-7GHz

Common Information

Test Description: Radiated field strength emission in 3m distance

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.407&15.209 Intentional Radiator

Antenna polarisation: horizontal/vertical

Environmental Conditions: Humidity:33 %rH; Temperature: 21°C

Operation mode: TX, continuous WLAN 5GHz n(HT20), channel 40; MCS0;

Operator Name: KMo/APh

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

P/N: 911350013 S/N: 216P00015 HW Version: Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery

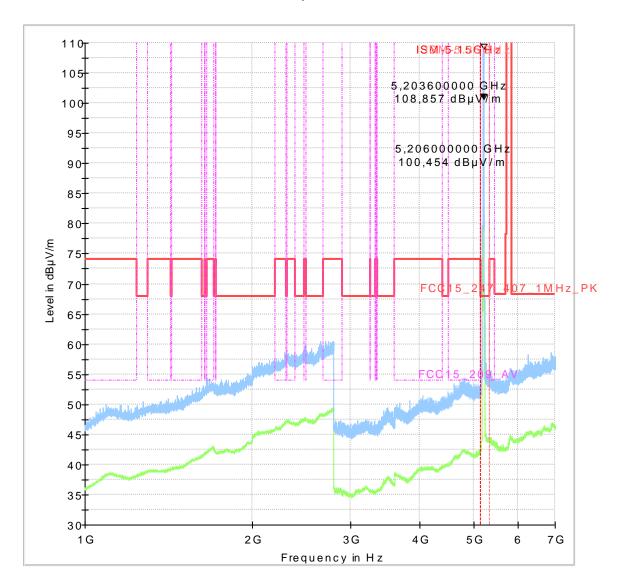




Diagram No: 4.08a_WLAN_TX_n(HT20) _MCS0_ CH40_7-18 GHz

Common Information

Test Description: Radiated field strength emission in 3m distance

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.407&15.209 Intentional Radiator

Antenna polarisation: horizontal/vertical

Environmental Conditions: Humidity:33 %rH; Temperature: 21°C

Operation mode: TX continuous WLAN 5GHz n(HT20), channel 40; MCS0

Operator Name: KMo/APh

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

 P/N:
 911350013

 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

 SW Version:
 WEC7

Firmware Version: 2.16
Input: Fully Charged Internal Battery

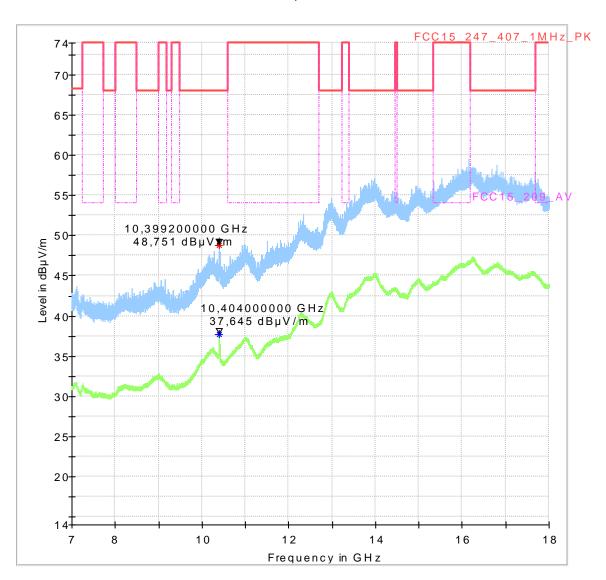




Diagram No: 4.08b_WLAN_TX_n(HT20) _MCS0_ CH40_18-40 GHz

Common 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 CH40-nMode-MCS0

Operator Name: TF1

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

 P/N:
 911350013

 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery

FCC_Sweep_15.407_18_40GHz_Pre

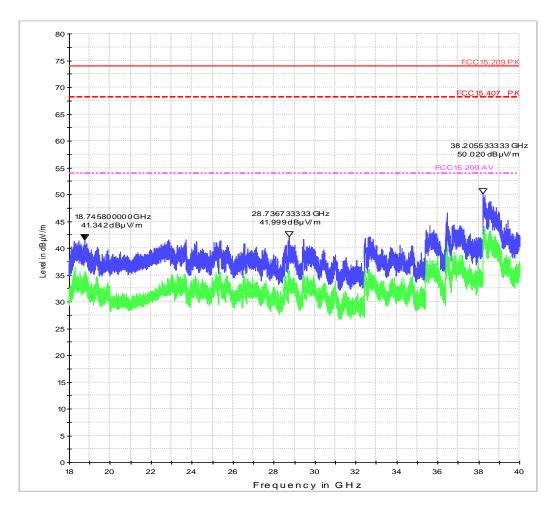




Diagram No: 4.09_WLAN_TX_n(HT20) _MCS0_ CH100_1-7GHz

Common Information

Test Description: Radiated field strength emission in 3m distance

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.407&15.209 Intentional Radiator

Antenna polarisation: horizontal/vertical

Environmental Conditions: Humidity:33 %rH; Temperature: 21°C

Operation mode: TX, continuous WLAN 5GHz n(HT20), channel 100; MCS0;

Operator Name: KMo/APh

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

 P/N:
 911350013

 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery

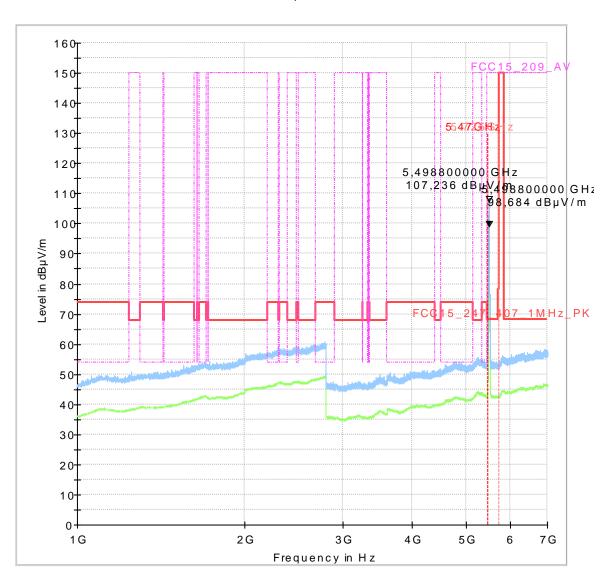




Diagram No: 4.09a_WLAN_TX_n(HT20) _MCS0_ CH100_7-18 GHz

Common Information

Test Description: Radiated field strength emission in 3m distance

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.407&15.209 Intentional Radiator

Antenna polarisation: horizontal/vertical

Operation mode: TX, continuous WLAN 5GHz n(HT20), channel 100; MCS0;;

Operator Name: APh

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

 P/N:
 911350013

 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery

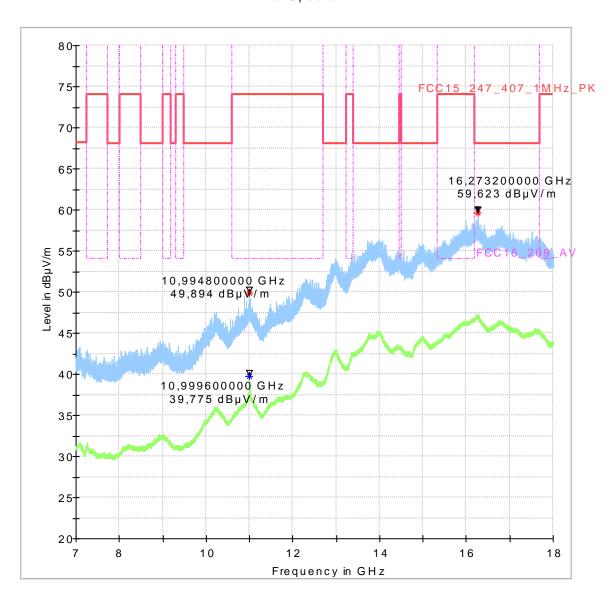




Diagram No: 4.09b_WLAN_TX_n(HT20) _MCS0_ CH100_18-40 GHz

Common 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 CH100-nMode-MCS0

Operator Name: TF1

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

 P/N:
 911350013

 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery

FCC_Sweep_15.407_18_40GHz_Pre

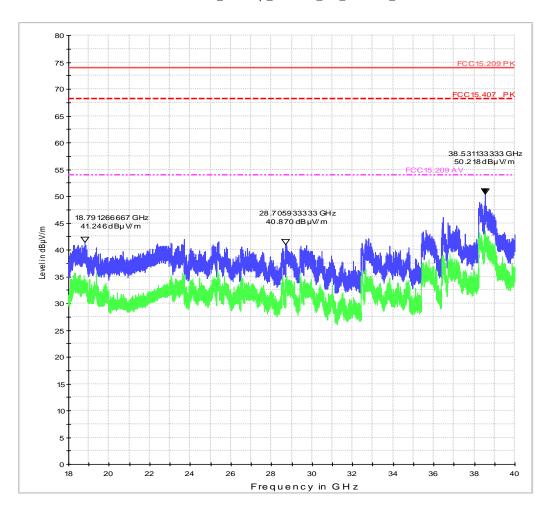




Diagram No: 4.10_WLAN_TX_n(HT20) _MCS0_ CH149_1-7GHz

Common Information

Test Description: Radiated field strength emission in 3m distance

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.407&15.209 Intentional Radiator

Antenna polarisation: horizontal/vertical

Operation mode: TX-on WLAN 802.16 n(HT20)-mode, BW 20 MHz channel 149; MCS0

Operator Name: MF

EUT Information

Manufacturer:Datalogic ADCL S.r.l.MODEL:JOYA TOUCHEuT Type:P00AN04HL0GT0W7-GRR

 P/N:
 911350013

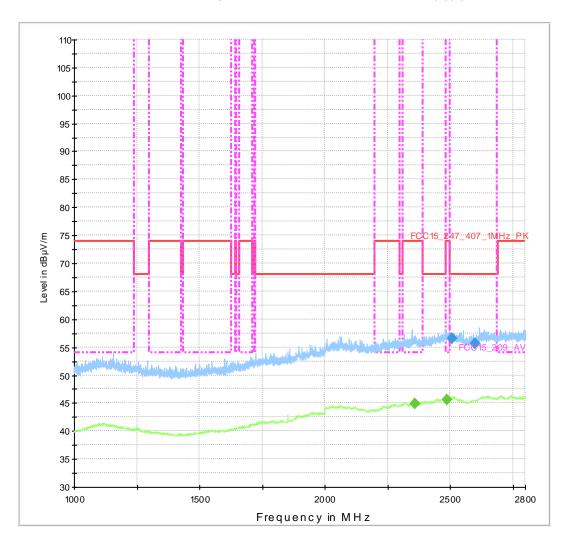
 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

HW Version: Beta H
SW Version: WEC7
Firmware Version: 2.16

Input: Fully Charged Internal Battery

 $00431c_Sw\,eep1_SM\,1_K\,P1_W\,LAN_FCC1540\,7\,(b)(3)_Ch100_165$





Final Result 1

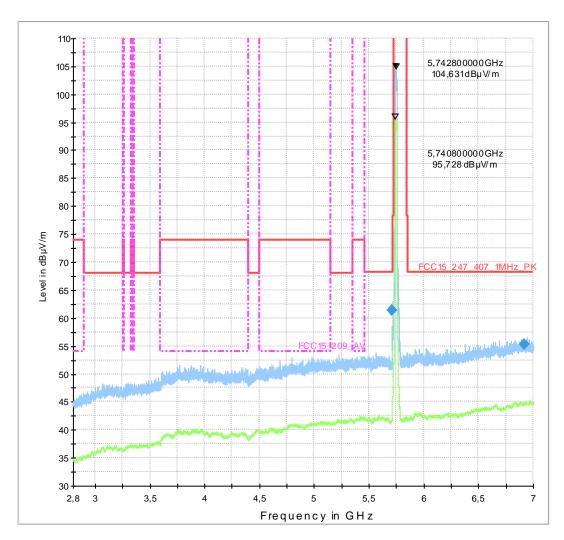
Frequency (MHz)	MaxPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Polarizatio n	Azimut h (deg)	Elevatio n (deg)	Corr · (dB)	Margi n (dB)	Limit (dBµV/m)
2509.800000	56.6	100.0	1000.000	V	21.0	-3.0	40.4	11.4	68.0
2600.950000	55.7	100.0	1000.000	Н	257.0	87.0	40.5	12.3	68.0

(Final Result 2

Frequency (MHz)	RMS (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Polarizatio n	Azimut h (deg)	Elevatio n (deg)	Corr · (dB)	Margi n (dB)	Limit (dBµV/m)
2359.350000	44.8	100.0	1000.000	V	252.0	87.0	40.1	9.2	54.0
2486.600000	45.6	100.0	1000.000	V	175.0	-3.0	40.5	8.4	54.0



$00431c_Sweep1_SM1_KP1_WLAN_FCC15407(b)(3)_Ch100_165$



Final Result 1

Frequency (MHz)	MaxPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Polarizatio n	Azimut h (deg)	Elevatio n (deg)	Corr (dB)	Margi n (dB)	Limit (dBµV/m)
5713.600000	61.4	100.0	1000.000	V	137.0	87.0	7.6	6.8	68.2
6917.850000	55.3	100.0	1000.000	V	106.0	87.0	12.1	12.9	68.2

Final Result 2

Frequency (MHz)	RMS (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Polarizatio n	Azimut h (deg)	Elevatio n (deg)	Corr (dB)	Margi n (dB)	Limit (dBµV/m)
7508.250000	45.9	100.0	1000.000	V	65.0	0.0	14.1	8.1	54.0
8222.850000	46.2	100.0	1000.000	V	122.0	87.0	14.5	7.9	54.0



Diagram No: 4.10a_WLAN_TX_n(HT20) _MCS0_ CH149_7-18 GHz

Common Information

Test Description: Radiated field strength emission in 3m distance

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.407&15.209 Intentional Radiator

Antenna polarisation: horizontal/vertical

Operation mode: TX, continuous WLAN 5GHz n(HT20), channel 149; MCS0;;

Operator Name: AP

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

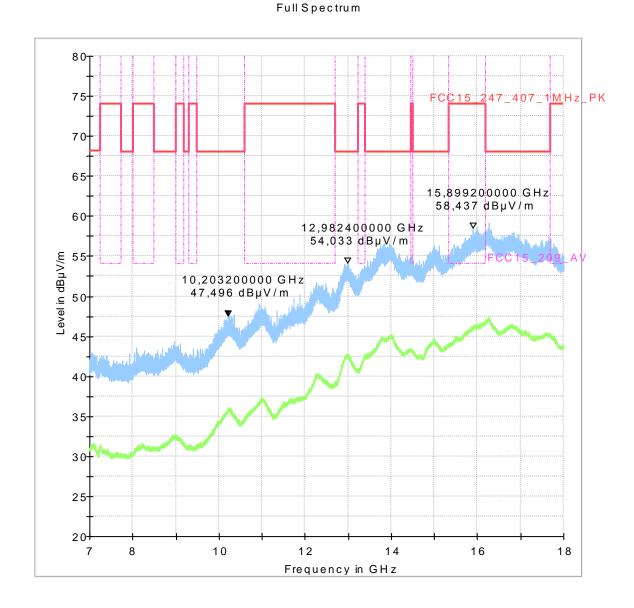
 P/N:
 911350013

 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery





$Diagram~No:~4.10b_WLAN_TX_n(HT20)~_MCS0_~CH149_18-40~GHz$

Common 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 CH149-nMode-MCS0

Operator Name: TFr

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

 P/N:
 911350013

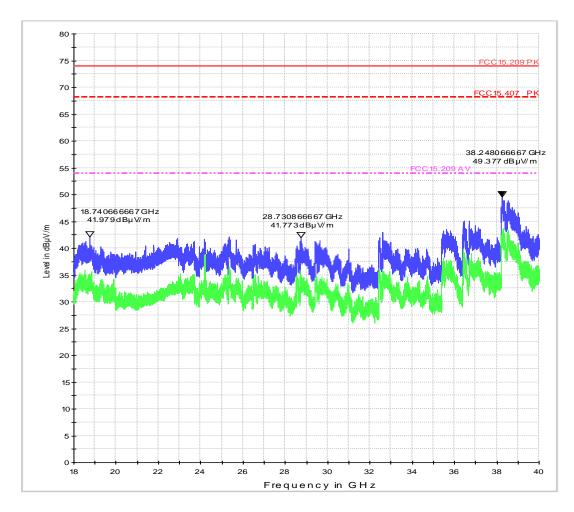
 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery

 $FCC_Sw\,eep_15.407_18_40\,GH\,z_Pre$





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

7.1. Channel 36 a-Mode

Diagram No: 9.13_BE_Low_a mode _6 Mbps_ CH36

Common Information

Test Description: Radiated field strength emission in 3m distance

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.407&15.209 Intentional Radiator

Antenna polarisation: horizontal/vertical

Operation mode: TX, continuous WLAN 5GHz a-mode, channel 36; 6Mbps;

Environmental Conditions: Humidity:33 %rH; Temperature: 21°C

Operator Name: PSa/APh

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

 P/N:
 911350013

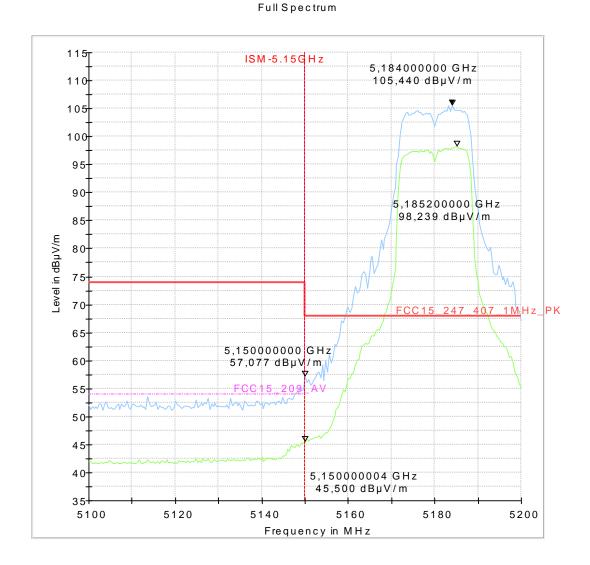
 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

 SW Version:
 WEC7

SW Version: WEC Firmware Version: 2.16

Input: Fully Charged Internal Battery





7.2. Channel 64 a-Mode

Diagram No: 9.14_BE_High_a mode _6 Mbps_ CH64

Common Information

Test Description: Radiated field strength emission in 3m distance Band Edge

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.407&15.209 Intentional Radiator

Antenna polarisation: horizontal/vertical

Operation mode: TX, continuous WLAN 5GHza-mode), channel 64; 6 Mbps;

Environmental Conditions Humidity:33 %rH; Temperature: 21°C

Operator Name: PSa/APh

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

 P/N:
 911350013

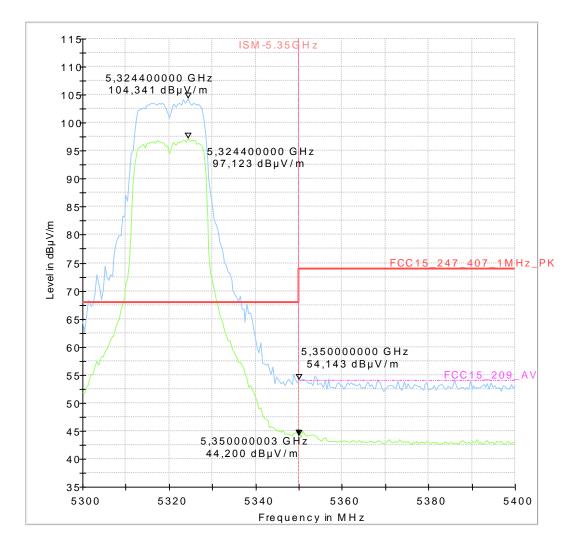
 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery

 $Full \, Spectrum$





7.3. Channel 100 a-Mode

Diagram No: 9.15_BE_Low_a mode _6 Mbps_ CH100

Common Information

Test Description: Radiated field strength emission in 3m distance Band Edge

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.407&15.209 Intentional Radiator

Antenna polarisation: horizontal/vertical

Operation mode: TX, continuous WLAN 5GHz a-mode, channel 100; 6Mbps;

Environmental Conditions Humidity: 31%rH; Temperature: 23°C

Operator Name: PSa/APh

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

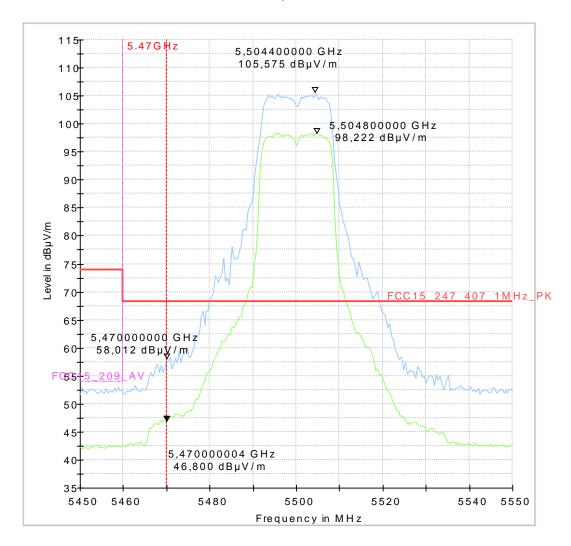
 P/N:
 911350013

 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery





7.4. Channel 140 a-Mode

Diagram No: 9.16_BE_High_a-mode_6 Mbps_ CH140

Common Information

Test Description: Radiated field strength emission in 3m distance Band Edge

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.407&15.209 Intentional Radiator

Antenna polarisation: horizontal/vertical

Operation mode: TX, continuous WLAN 5GHz a-mode, channel 140; 6 Mbps;

Environmental Conditions: Humidity: 31%rH; Temperature: 23°C

Operator Name: PSa/APh

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

 P/N:
 911350013

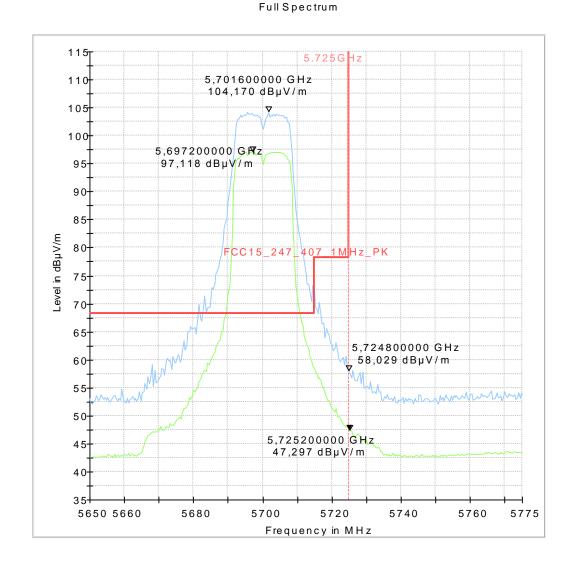
 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

 SW Version:
 WEC7

SW Version: WEC Firmware Version: 2.16

Input: Fully Charged Internal Battery





7.5. Channel 36 n-Mode(HT20)

Diagram No: 9.17_BE_Low_n(HT20) _MCS0_ CH36

Common Information

Test Description: Radiated field strength emission in 3m distance

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.407&15.209 Intentional Radiator

Antenna polarisation: horizontal/vertical

Operation mode: TX, continuous WLAN 5GHz n(HT20), channel 36; MCS0;

Environmental Conditions: Humidity:33 %rH; Temperature: 21°C

Operator Name: PSa/APh

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

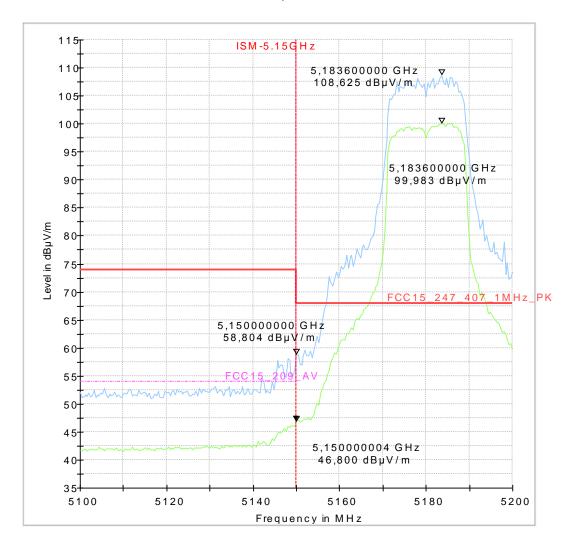
 P/N:
 911350013

 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery





7.6. Channel 64 n-Mode(HT20)

Diagram No: 9.18_BE_High_n(HT20) _MCS0_ CH64

Common Information

Test Description: Radiated field strength emission in 3m distance Band Edge

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.407&15.209 Intentional Radiator

Antenna polarisation: horizontal/vertical

Operation mode: TX, continuous WLAN 5GHz n-mode), channel 64; MCS0;

Environmental Conditions Humidity:33 %rH; Temperature: 21°C

Operator Name: PSa/APh

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

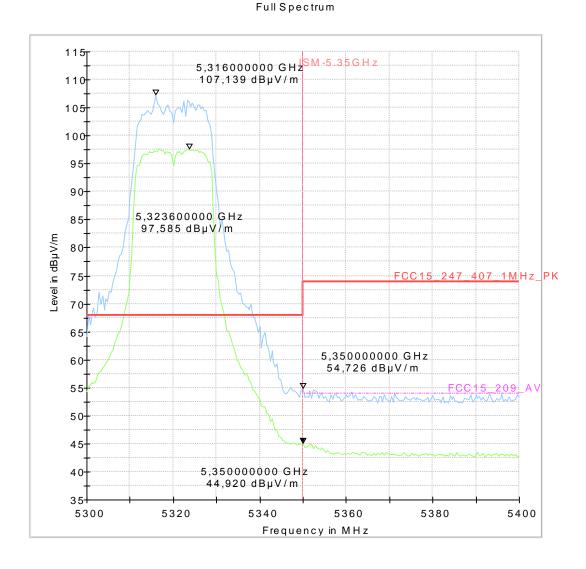
 P/N:
 911350013

 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery





7.7. Channel 100 n-Mode(HT20)

Diagram No: 9.19_BE_Low_n(HT20) _MCS0_ CH100

Common Information

Test Description: Radiated field strength emission in 3m distance Band Edge

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.407&15.209 Intentional Radiator

Antenna polarisation: horizontal/vertical

Operation mode: TX, continuous WLAN 5GHz n-mode, channel 100; MCS0;

Environmental Conditions Humidity: 31%rH; Temperature: 23°C

Operator Name: PSa/APh

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

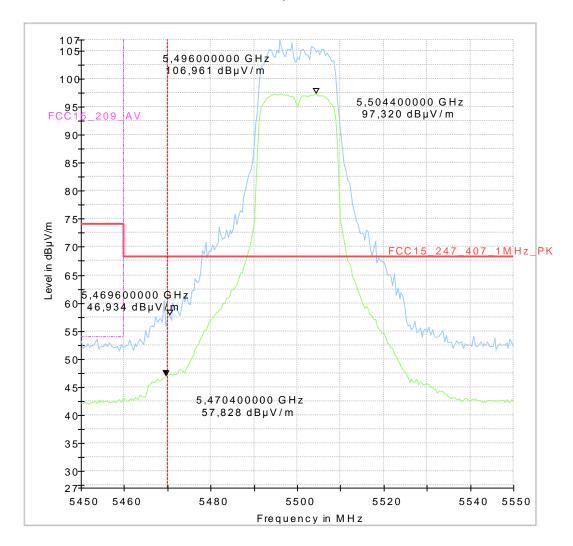
 P/N:
 911350013

 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery





7.8. Channel 140 n-Mode(HT20)

Diagram No: 9.20_BE_High_n(HT20) _MCS0_ CH140

Common Information

Test Description: Radiated field strength emission in 3m distance Band Edge

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.407&15.209 Intentional Radiator

Antenna polarisation: horizontal/vertical

Operation mode: TX, continuous WLAN 5GHz a-mode, channel 140; 6 Mbps;

Environmental Conditions: Humidity: 31%rH; Temperature: 23°C

Operator Name: PSa/APh

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

 P/N:
 911350013

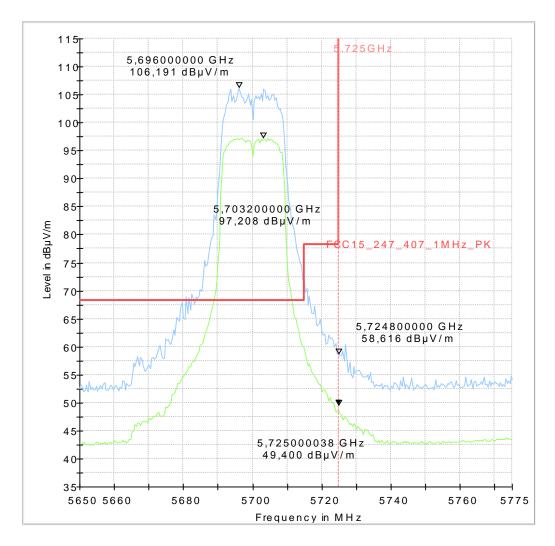
 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery

 $Full \, Spectrum$





7.9. Channel 149 n-Mode(HT20)

Diagram No: 9.21_BE_Low_n(HT20) _MCS0_ CH149

Common Information

Test Description: Radiated field strength emission in 3m distance

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.407&15.209 Intentional Radiator

Antenna polarisation: horizontal/vertical

Operation mode: TX, continuous WLAN 5GHz n(HT20)-mode, channel 149; MCS0

Operator Name: APh

Comment: Channel no. low = 149

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

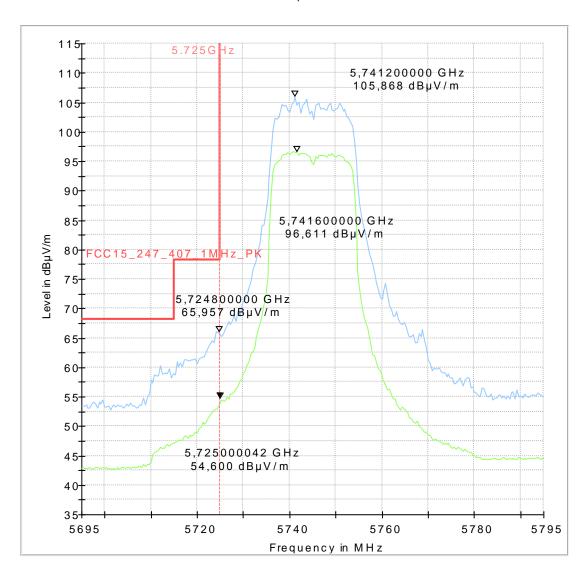
 P/N:
 911350013

 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery





7.10. Channel 165 n-Mode(HT20)

Diagram No: 9.22_BE_High_n(HT20) _MCS0_ CH165

Common Information

Test Description: Radiated field strength emission in 3m distance

Test Site: CETECOM GmbH Essen

Test Standard: FCC 15.407&15.209 Intentional Radiator

Antenna polarisation: horizontal/vertical

Operation mode: TX, continuous WLAN 5GHz n(HT20)-mode, channel 165; MCS0

Operator Name: APh

Comment: Channel no. high = 165

EUT Information

Manufacturer: Datalogic ADCL S.r.l. MODEL: JOYA TOUCH

EuT Type: P00AN04HL0GT0W7-GRR

 P/N:
 911350013

 S/N:
 Z16P00015

 HW Version:
 Beta HW Version

SW Version: WEC7 Firmware Version: 2.16

Input: Fully Charged Internal Battery

