

Annex 1: Diagramms to
TEST REPORT
 No.: 6-0668-15-3-13d

According to:
FCC Regulations
 Part 15.407

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

for

ACTIA Nordic AB

Telematic unit for automotive use
ACUII-06

FCC-ID: 2AGKKACUII-06
IC: 20839-ACUII06
PMN: ACUII-06
HVIN: ACUII-06







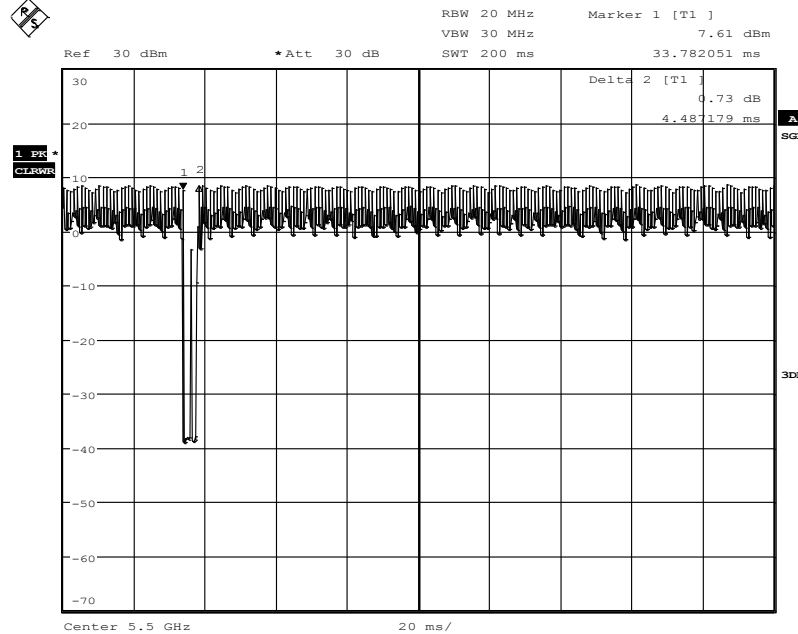
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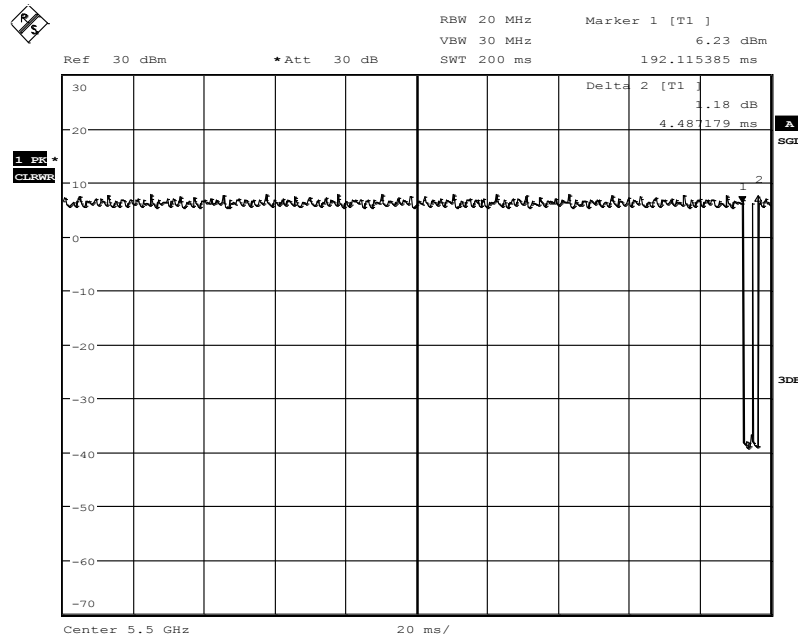
1. Duty-Cycle of transmitter

The characteristics of the implemented test mode was checked on middle channel no. 100(a-Mode and HT20) and 102 (HT40) only.



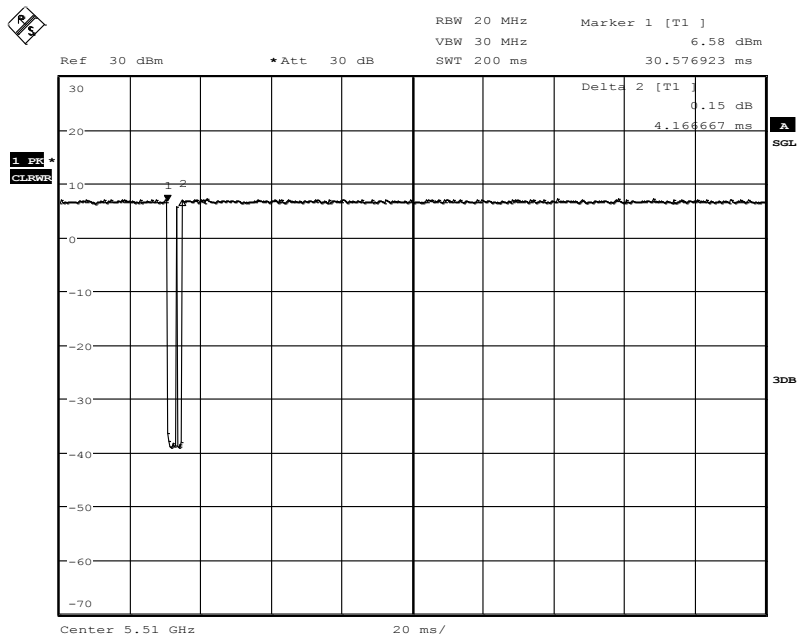
Date: 26.FEB.2016 10:20:12

Diagram a-Mode 6Mbit: Duty_Cycle=TXon/(Txon+Txoff)=195.52ms/200ms=97.76%
Correction factor for AVERAGE measurements: $10 \cdot \log(0.9776) = 0.09$ dB (can be neglected)



Date: 26.FEB.2016 10:17:52

Diagram AC-Mode HT20 MCS0: Duty_Cycle=TXon/(Txon+Txoff)=195.51ms/200ms=97.75%
Correction factor for AVERAGE measurements: $10 \cdot \log(0.9776) = -0.098$ dB (can be neglected)



Date: 26.FEB.2016 10:23:26

Diagram AC-Mode HT40 MCS0: Duty_Cycle=TXon/(Txon+Txoff)=195.84ms/200ms=97.92%

Correction factor for AVERAGE measurements: $10 \cdot \log(0.9792) = 0.091$ dB (can be neglected)

2. Max. conducted RF-power

2.1. 20MHz signal BW

Operational bands:	U-NII 1			U-NII-2A			U-NII 2C			U-NII-3		
Channel no.:	Channel 36 (5180MHz)	Channel 40 (5200MHz)	Channel 48 (5240MHz)	Channel 52 5260MHz	Channel 56 (5280MHz)	Channel 64 (5320MHz)	Channel 100 (5500MHz)	Channel 116 (5580MHz)	Channel 140 (5700MHz)	Channel 149 (5745MHz)	Channel 157 (5785MHz)	Channel 165 (5825MHz)
a-Mode/13dBm												
6Mbit	12,92	12,93	12,94	12,58	12,48	11,97	12,65	12,45	11,35	10,79	10,91	11,05
9Mbit	12,97	12,92	12,76	12,65	12,47	12,02	12,63	12,41	11,36	10,77	10,93	11
12Mbit	12,9	12,86	12,78	12,64	12,41	12,01	12,57	12,51	11,34	10,8	10,95	10,98
18Mbit	12,95	12,95	12,88	12,6	12,39	12,05	12,59	12,55	11,39	10,75	10,99	11,07
24Mbit	12,98	12,94	12,82	12,71	12,47	12,01	12,59	12,46	11,43	10,79	10,98	11,07
36Mbit	12,84	12,89	12,79	12,58	12,41	11,98	12,63	12,49	11,41	10,74	10,94	11,01
48Mbit	12,94	12,91	12,8	12,67	12,48	12,03	12,61	12,45	11,42	10,8	10,95	11,05
54Mbit	12,87	12,93	12,83	12,63	12,42	12,03	12,65	12,53	11,43	10,78	10,91	11,07
AC-Mode/13dBm												
MCS0 - 6.5Mbps	12,93	12,88	12,76	12,63	12,47	12,04	12,42	11,66	10,14	10,78	11,09	11,22
MCS1 - 13Mbps	12,91	12,90	12,77	12,65	12,48	12,15	12,4	11,66	10,2	10,82	11,1	11,23
MCS2 - 19.5Mbps	12,89	12,85	12,77	12,69	12,5	12,14	12,38	11,69	10,16	10,94	11,15	11,22
MCS3 - 26Mbps	12,89	12,89	12,83	12,69	12,48	12,1	12,48	11,78	10,18	10,91	11,16	11,23
MCS4 - 39Mbps	12,88	12,95	12,81	12,70	12,5	12,12	12,44	11,78	10,22	10,95	11,14	11,22
MCS5 - 52Mbps	12,9	12,88	12,83	12,69	12,51	12,15	12,41	11,88	10,24	10,95	11,09	11,25
MCS6 - 58.5Mbps	12,88	12,91	12,83	12,71	12,53	12,12	12,4	11,81	10,22	10,96	11,12	11,25
MCS7 - 65Mbps	12,94	12,95	12,83	12,70	12,57	12,12	12,36	11,79	10,22	10,97	11,09	11,28
Operational bands:	U-NII 1 (Outdoor use: EIRP-Limit of 21dBm)			U-NII-2A			U-NII 2C			U-NII 3		
FCC-Limits [dBm]	21,00			23,98			23,98			30,00		
Limit Check:	Limit Check:											
Highest conducted power value over channels and modulations:	12,98			12,71			12,65			11,28		
Margin to Limit:	6,27			9,52			9,58			16,97		
Declared antenna Gain:	1,75			1,75			1,75			1,75		
Verdict:	pass			pass			pass			pass		

Remarks:

- 1.) for U-NII 1-band 21 dBm e.i.r.p. as maximum limit for e.i.r.p. 30° above horizon as worst-case limit chosen
- 2.) effective antenna gain = declared antenna gain – Path Loss due long cables

2.2. 40MHz signal BW

Operational bands:	U-NII 1		U-NII-2A		U-NII 2C			U-NII-3	
Channel no.:	Channel 38 (5190MHz)	Channel 46 (5230MHz)	Channel 54 (5270MHz)	Channel 62 (5310MHz)	Channel 102 (5550MHz)	Channel 118 (5590MHz)	Channel 134 (5670MHz)	Channel 151 (5755MHz)	Channel 159 (5815MHz)
AC-Mode/8dBm									
MCS0	8,59	10,50	8,43	9,99	9,40	9,30	7,05	7,37	7,42
MCS1	8,70	7,29	8,70	7,48	7,06	7,92	7,54	7,34	7,48
MCS2	8,55	8,36	8,67	6,87	7,53	8,03	8,91	7,12	8,27
MCS3	10,49	10,33	10,40	8,17	7,19	7,96	7,68	7,42	7,39
MCS4	10,51	7,81	8,86	8,54	8,03	7,92	8,92	7,37	8,27
MCS5	10,49	10,31	8,50	6,92	8,12	7,99	7,68	7,24	7,41
MCS6	8,87	8,59	8,56	7,12	8,09	9,29	7,74	8,19	7,45
MCS7	8,53	10,30	8,50	8,28	8,03	7,87	7,42	7,28	7,36
Operational bands:	U-NII 1 (Outdoor use: EIRP-Limit		U-NII-2A		U-NII 2C			U-NII-3	
FCC-Limits [dBm]	21,00		23,98		23,98			30	
Limit Check:	Limit Check:								
Highest conducted power value over channels and	10,51		10,4		9,4			8,27	
Margin to Limit:	8,74		11,83		12,83			19,98	
Declared antenna Gain:	1,75		1,75		1,75			1,75	
Verdict:	pass		pass		pass			pass	

Remarks:

- 3.) for U-NII 1-band 21 dBm e.i.r.p. as maximum limit for e.i.r.p. 30° above horizon as worst-case limit chosen
- 4.) effective antenna gain = declared antenna gain – Path Loss due long cables

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

Diagram No. 2.02_Dwn_Ant_WLan_TX_BW20MHz_Ch36 a-Mode_6MBit_13dBm

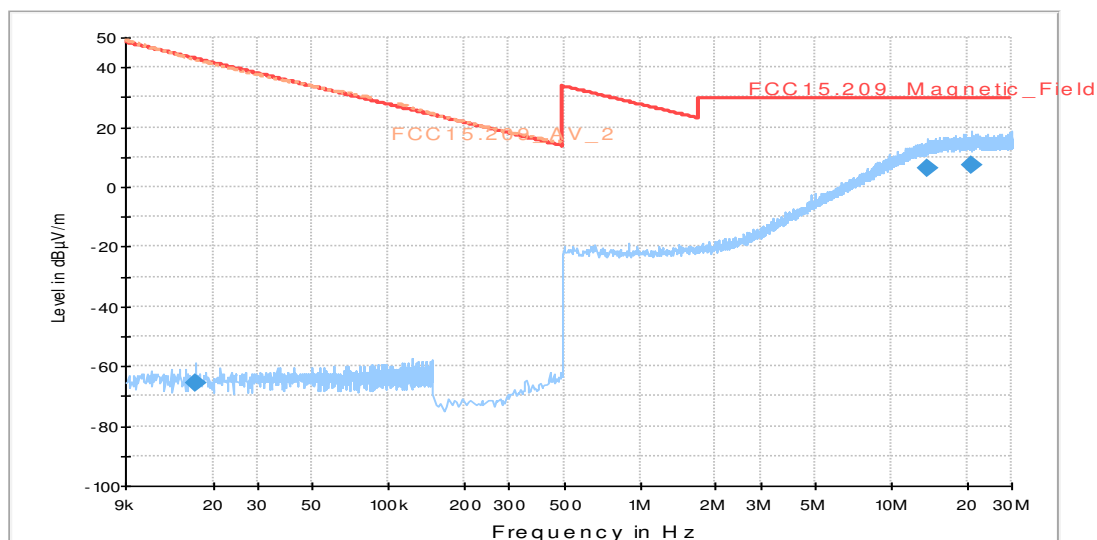
Date: 28.12.2015 Page 1 of 2
 Test description: Magnetic Field Strength Measurement related to 30/300 m distance
 Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
 Version of Testsoftware: EMC32 V8.51.0
 Distance correction: used accord. table, pls. see test report
 Technical Data: Please see page 2 for detailed data of measurement setup
 Rec. antenna (pre-scan): height 1.00 m, parallel and 90° to EUT polarisation
 Used filter: bypass
 Test specification: FCC 15.205 § 15.209; RSS-Gen: Issue 4
 Operator: APh
 Operating conditions: TX-on WLAN 802.11 b-mode, BW 20 MHz channel 36; Data rate 6Mbit; Power: 13 dBm
 Power during tests: 13.8V DC
 Comment 1: Channel 36 (5180 MHz) | Downward directed WLAN Antenna

EUT Information

Manufacturer: ACTIA Nordic AB
 EuT: ACUII-06

 HW Version: C
 SW Version: 13
 Serial Number: 21790250902642
 Connected Interfaces: MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
 Power Supply: 13.8V DC
 Antenna Type: LTE Antenna with SDAR
 434-WLAN-GNSS-SDARS-LTE
 50751424 | 15W421 | Portugal AD801
 SDARS Modified #1

FCC15.209_magn hor+vert



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Corr. (dB)	Margin - QPK	Limit - QPK (dBµV/m)
0.017100	-65.7	1000.0	0.200	V	181.0	-96.1	108.60	42.94
13.932000	6.2	1000.0	10.000	V	92.0	1.2	23.30	29.54
20.700000	7.4	1000.0	10.000	H	92.0	3.3	22.20	29.54

Diagram No. 2.02Up_Ant_WLan_TX_BW20MHz_Ch36_b-Mode_6MBit_13dBm

Date:	28.12.2015	Page 1 of 1
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 V8.51.0	
Distance correction:	used accord. table, pls. see test report	
Technical Data:	Please see page 2 for detailed data of measurement setup	
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation	
Used filter:	bypass	
Test specification:	FCC 15.205 § 15.209; RSS-Gen: Issue 4	
Operator:	APh	
Operating conditions:	TX-on WLAN 802.11 b-mode, BW 20 MHz channel 36; Data rate 6Mbit; Power: 13 dBm	
Power during tests:	13.8V DC	
Comment 1:	Channel 36 (5180 MHz) Upward directed WLAN Antenna	

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902642
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

FCC 15.209_magn hor+vert

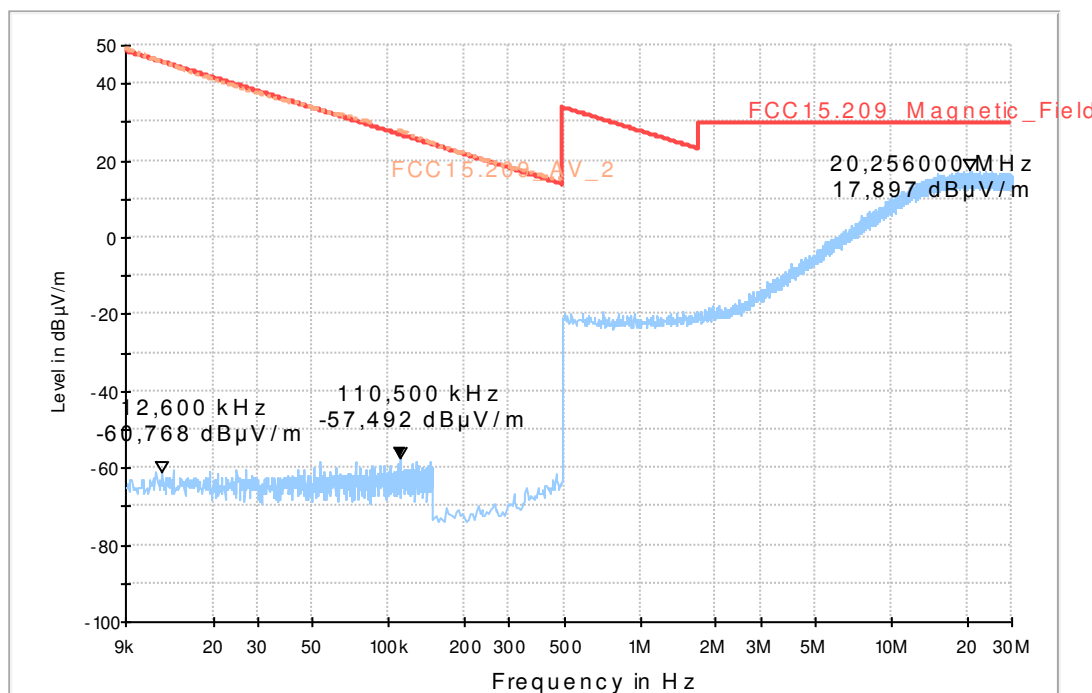


Diagram No. 2.03Dwn_Ant_WLan_TX_BW40MHz_Ch159_ac-Mode_MCS0_8 dBm

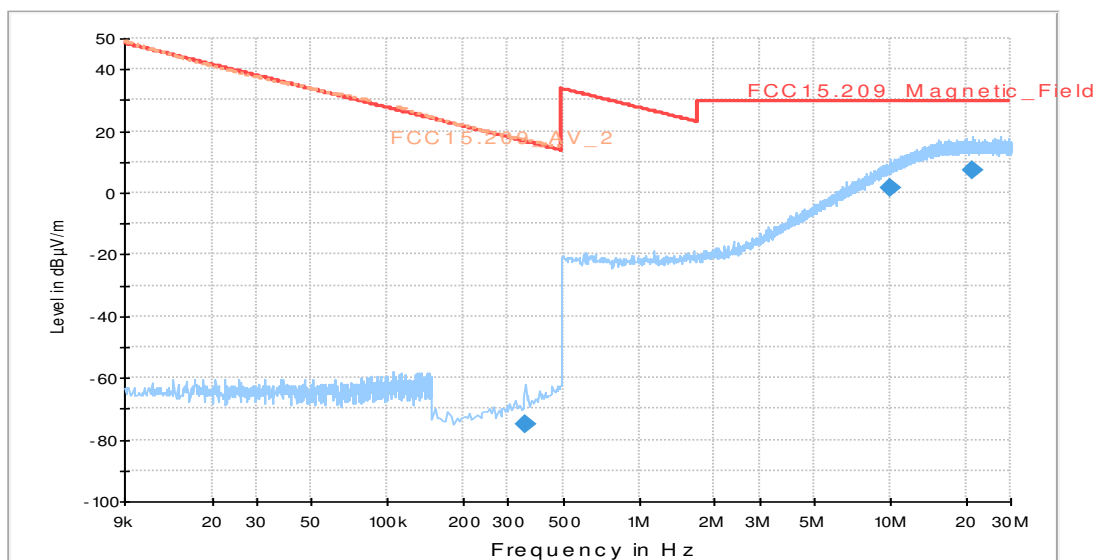
Test description:	Date: 28.12.2015 Page 1 of 2
Test site and distance:	Magnetic Field Strength Measurement related to 30/300 m distance
Version of Testsoftware:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Distance correction:	EMC32 V8.51.0
Technical Data:	used accord. table, pls. see test report
Rec. antenna (pre-scan):	Please see page 2 for detailed data of measurement setup
Used filter:	height 1.00 m, parallel and 90° to EUT polarisation
Test specification:	bypass
Operator:	FCC 15.205 § 15.209; RSS-Gen: Issue 4
Operating conditions:	AHo
	TX-on WLAN 802.11 ac-mode, BW 40 MHz channel 159; Data rate MCS0;
Power during tests:	Power: 8 dBm
Comment 1:	13.8V DC
	Channel 159 (5800 MHz)

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902642
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

FCC 15.209_magn hor+vert



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
0.354000	-75.0	1000.0	10.000	H	32.0	-84.6	91.70	16.62
10.064000	1.5	1000.0	10.000	H	0.0	-3.8	28.10	29.54
21.216000	7.1	1000.0	10.000	V	28.0	3.4	22.40	29.54

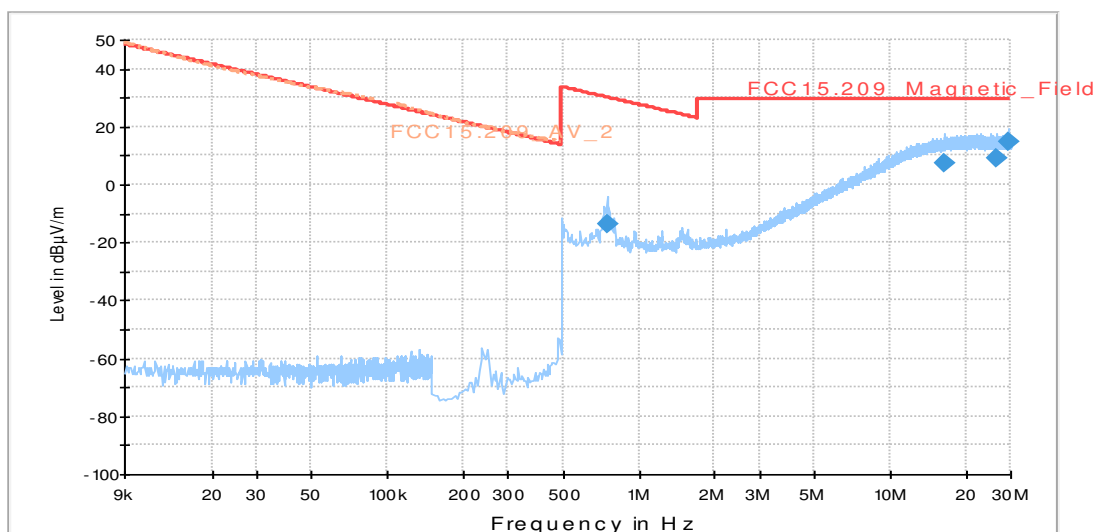
Diagram No. 2.03 UP_Ant_WLan_TX_BW40MHz_Ch159_ac-Mode_MCS0_8 dBm

Test description: Test site and distance: Version of Testsoftware: Distance correction: Technical Data: Rec. antenna (pre-scan): Used filter: Test specification:	Date: 28.12.2015 Page 1 of 2 Magnetic Field Strength Measurement related to 30/300 m distance Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance EMC32 V8.51.0 used accord. table, pls. see test report Please see page 2 for detailed data of measurement setup height 1.00 m, parallel and 90° to EUT polarisation bypass FCC 15.205 § 15.209; RSS-Gen: Issue 4
Operator: Operating conditions:	KMo TX-on WLAN 802.11 ac-mode, BW 40 Mhz channel 159; Data rate MCS0; Power: 8 dBm
Power during tests: Comment 1: Comment 2:	13,8V DC Channel 159 (5800 MHz)

EUT Information

Manufacturer: EuT:	ACTIA Nordic AB ACUII-06
HW Version: SW Version: Serial Number: Connected Interfaces:	C 13 21790250902642 MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply: Antenna Type:	13.8V DC LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

FCC 15.209_magn hor+vert



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
0.744000	-13.6	1000.0	10.000	V	305.0	-35.2	43.70	30.20
16.424000	7.2	1000.0	10.000	V	194.0	2.6	22.40	29.50
26.608000	9.1	1000.0	10.000	H	121.0	3.3	20.40	29.50
29.232000	15.0	1000.0	10.000	H	90.0	3.3	14.60	29.50

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

Diagram No. 3.02Dwn_Ant_WLan_TX_BW20MHz_Ch36_a-Mode_6MBit_13dBm

06.01.2016 Page 1 of 2
 Electric Field Strength Measurement
 Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
 EMC32 V8.51.0
 Distance correction: not used
 Used filter: not used
 Technical Data: please see page 2 for detailed data of measurement setup
 Test specification.: FCC 15.209; RSS-Gen: Issue 3

Operator: AHo
 Operating conditions: TX-on WLAN 802.11 a-mode, BW 20 MHz channel 36; Data rate 6 MBit; Power: 13 dBm
 Power during tests: 13.8V DC
 Comment 1: Channel 36 (5180 MHz) | Downward directed WLAN Antenna

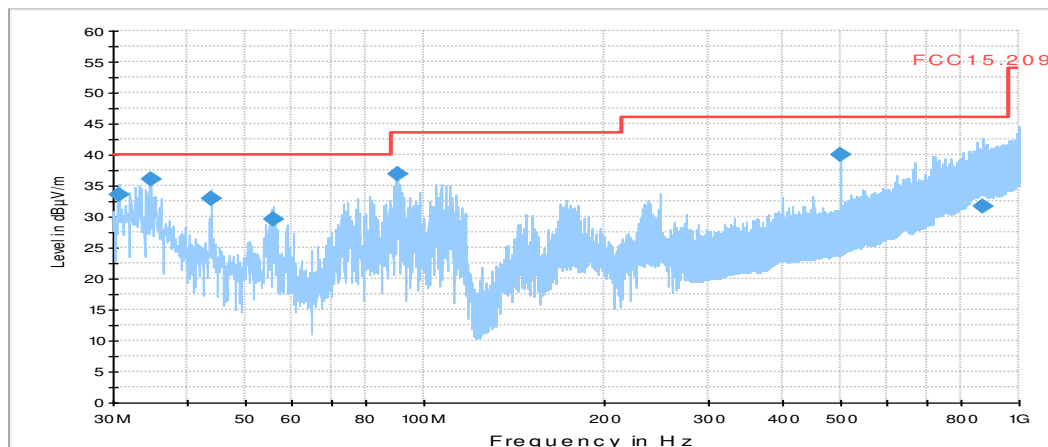
EUT Information

Manufacturer: ACTIA Nordic AB
 EuT: ACUII-06

HW Version: C
 SW Version: 13
 Serial Number: 21790250902642
 Connected Interfaces: MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector

Power Supply: 13.8V DC
 Antenna Type: LTE Antenna with SDAR
 434-WLAN-GNSS-SDARS-LTE
 50751424 | 15W421 | Portugal AD801
 SDARS Modified #1

01_FCC15.209_hor+vert_KP0



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
30.640000	33.4	1000.0	120.000	134.0	H	80.0	21.8	6.60	40.00
34.630000	36.1	1000.0	120.000	233.0	H	127.0	19.8	3.90	40.00
43.820000	32.8	1000.0	120.000	259.0	H	286.0	15.9	7.20	40.00
55.860000	29.6	1000.0	120.000	125.0	V	66.0	11.5	10.40	40.00
90.330000	36.9	1000.0	120.000	105.0	V	183.0	8.7	6.60	43.50
499.980000	40.0	1000.0	120.000	182.0	H	173.0	19.9	6.00	46.00
870.220000	31.7	1000.0	120.000	257.0	V	343.0	26.7	14.30	46.00

Diagram No. 3.02Up_Ant_WLan_TX_BW20MHz_Ch36_a- Mode_6MBit_13dBm

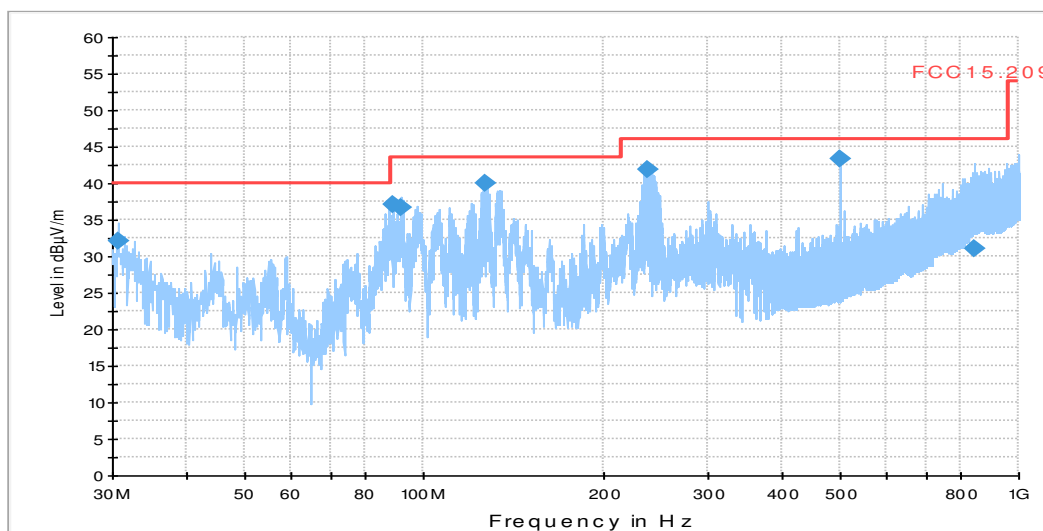
Test description:	06.01.2016 Page 1 of 2
Test site and distance:	Electric Field Strength Measurement
Version of Testsoftware:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Distance correction:	EMC32 V8.51.0
Used filter:	not used
Technical Data:	not used
Test specification.:	please see page 2 for detailed data of measurement setup
	FCC 15.209; RSS-Gen: Issue 3
Operator:	AHo
Operating conditions:	TX-on WLAN 802.11 a-mode, BW 20 MHz channel 36; Data rate 6 MBit; Power: 13 dBm
Power during tests:	13.8V DC
Comment 1:	Channel 36 (5180 MHz) Upward directed WLAN Antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902642
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

01_FCC15.209_hor+vert_KP0



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
30.620000	32.0	1000.0	120.000	174.0	H	259.0	21.8	8.00	40.00
88.860000	37.0	1000.0	120.000	126.0	V	123.0	8.6	6.50	43.50
91.560000	36.8	1000.0	120.000	182.0	H	268.0	8.7	6.70	43.50
127.100000	40.0	1000.0	120.000	118.0	V	2.0	8.8	3.50	43.50
238.420000	41.9	1000.0	120.000	159.0	H	95.0	13.1	4.10	46.00
499.960000	43.2	1000.0	120.000	190.0	H	172.0	19.9	2.80	46.00
841.390000	31.1	1000.0	120.000	217.0	V	28.0	26.0	14.90	46.00

Diagram No. 3.04_Dwn_Ant_TX_WLAN_Ch159_acMode_MCS0_pwr-8 dBm

07.01.2016 Page 1 of 2
 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 V8.51.0
 Distance correction: not used
 Used filter: not used
 Technical Data: please see page 2 for detailed data of measurement setup
 Test specification.: FCC 15.209; RSS-Gen: Issue 3

Operator: APh
 Operating conditions: TX-on WLAN 802.11 b-mode, BW 40 MHz channel 159; Data rate MCS0; Power: 8 dBm
 13.8V DC
 Power during tests: 13.8V DC
 Comment 1: Channel 159 (5795 MHz) | Downward directed WLAN Antenna

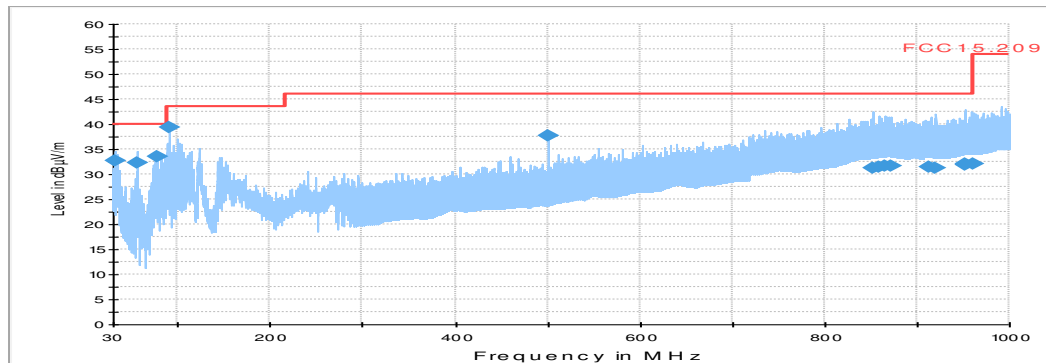
EUT Information

Manufacturer: ACTIA Nordic AB
 EuT: ACUII-06

HW Version: C
 SW Version: 13
 Serial Number: 21790250902642
 Connected Interfaces: MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector

Power Supply: 13.8V DC
 Antenna Type: LTE Antenna with SDAR
 434-WLAN-GNSS-SDARS-LTE
 50751424 | 15W421 | Portugal AD801
 SDARS Modified #1

01_FCC15.209_hor+vert_KP0



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margi n (dB)	Limit (dBµV/m)
32.590000	32.7	1000.0	120.000	198.0	H	260.0	20.8	7.30	40.00
55.910000	32.3	1000.0	120.000	117.0	V	90.0	11.5	7.70	40.00
77.210000	33.6	1000.0	120.000	116.0	V	320.0	7.9	6.40	40.00
90.360000	39.3	1000.0	120.000	368.0	H	15.0	8.6	4.20	43.50
499.950000	37.6	1000.0	120.000	153.0	V	270.0	19.9	8.40	46.00
852.360000	31.3	1000.0	120.000	312.0	V	291.0	26.2	14.70	46.00
858.280000	31.4	1000.0	120.000	302.0	H	49.0	26.2	14.60	46.00
866.190000	31.6	1000.0	120.000	343.0	V	38.0	26.5	14.40	46.00
871.640000	31.7	1000.0	120.000	325.0	V	111.0	26.7	14.40	46.00
913.280000	31.5	1000.0	120.000	223.0	V	113.0	27.4	14.50	46.00
920.360000	31.2	1000.0	120.000	134.0	V	19.0	27.1	14.80	46.00
952.250000	31.8	1000.0	120.000	105.0	H	108.0	27.5	14.20	46.00
952.700000	32.0	1000.0	120.000	125.0	V	83.0	27.5	14.00	46.00
960.610000	32.0	1000.0	120.000	315.0	V	270.0	27.5	22.00	54.00

Diagram No. 3.04_Up_Ant_TX_WLAN_Ch159_acMode_MCS0_pwr-8 dBm

07.01.2016 Page 1 of 2
 Electric Field Strength Measurement
 Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
 Version of Testsoftware: EMC32 V8.51.0
 Distance correction: not used
 Used filter: not used
 Technical Data: please see page 2 for detailed data of measurement setup
 Test specification: FCC 15.209; RSS-Gen: Issue 3

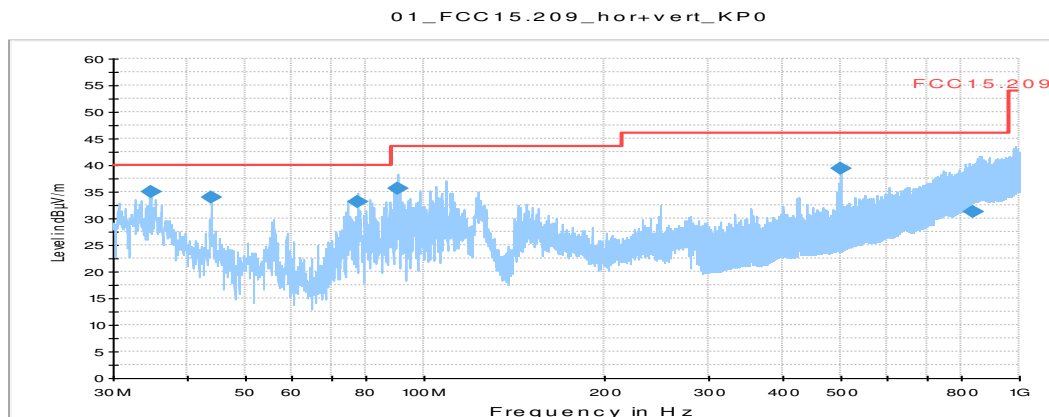
Operator: APh
 Operating conditions: TX-on WLAN 802.11 b-mode, BW 40 MHz channel 159; Data rate MCS0; Power: 8 dBm
 Power during tests: 13.8V DC
 Comment 1: Channel 159 (5795 MHz) | Upward directed WLAN Antenna

EUT Information

Manufacturer: ACTIA Nordic AB
 EuT: ACUII-06

HW Version: C
 SW Version: 13
 Serial Number: 21790250902642
 Connected Interfaces: MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector

Power Supply: 13.8V DC
 Antenna Type: LTE Antenna with SDAR
 434-WLAN-GNSS-SDARS-LTE
 50751424 | 15W421 | Portugal AD801
 SDARS Modified #1



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margi n (dB)	Limit (dBµV/m)
34.630000	35.0	1000.0	120.000	217.0	H	118.0	19.8	5.00	40.00
43.800000	34.0	1000.0	120.000	215.0	H	290.0	16.0	6.00	40.00
77.210000	33.2	1000.0	120.000	105.0	V	319.0	7.9	6.80	40.00
90.340000	35.6	1000.0	120.000	105.0	V	150.0	8.7	7.90	43.50
499.960000	39.4	1000.0	120.000	151.0	H	180.0	19.9	6.60	46.00
836.490000	31.2	1000.0	120.000	348.0	V	356.0	26.2	14.80	46.00

5. Radiated field strength measurements (1GHz to 18GHz)

5.1. Channel 36 Downward antenna (a-Mode, 6Mbps)

4.08_Dwn_An_TX_BW20MHz_Ch36_a-Mode_6MBit_13dBm

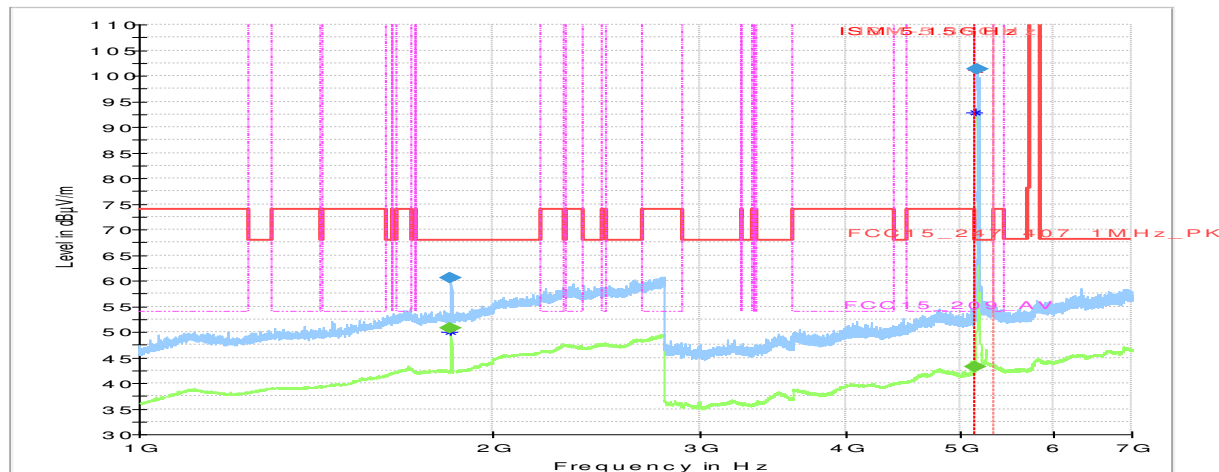
Common Information

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:	WLAN 802.11a-mode, BW 20 MHz channel 36; Data rate 6Mbit ; Power 13 dBm
Operator Name:	MFr
Comment:	Channel no.36 High (5180 MHz) Downward directed WLAN Antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06
-----	-----
HW Version:	C
SW Version:	13
Serial Number:	21790250902642
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum



Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	RMS (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
1843.500000	---	50.69	150.00	99.31	100.0	1000.000	155.0	H	304.0
1843.700000	60.56	---	68.00	7.44	100.0	1000.000	155.0	H	212.0
5149.900000	---	43.28	54.00	10.72	100.0	1000.000	155.0	V	273.0
5176.950000	101.31	---	68.00	-33.31	100.0	1000.000	155.0	V	83.0

Frequency (MHz)	Elevation (deg)	Corr. (dB)	Comment
1843.500000	0.0	38.1	08:46:23 - 05.01.2016
1843.700000	0.0	38.1	08:45:08 - 05.01.2016
5149.900000	0.0	10.8	09:34:24 - 05.01.2016
5176.950000	0.0	11.4	09:32:51 - 05.01.2016

Diagram No.: 4.09_Dwn_An_TX_BW20MHz_Ch36_a-Mode_6MBit_13dBm

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:	WLAN 802.11a-mode, BW 20 MHz channel 36; Data rate 6Mbit ; Power 13 dBm
Operator Name:	APh
Comment:	Channel no.36 High (5180 MHz) Downward directed WLAN Antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902642
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum

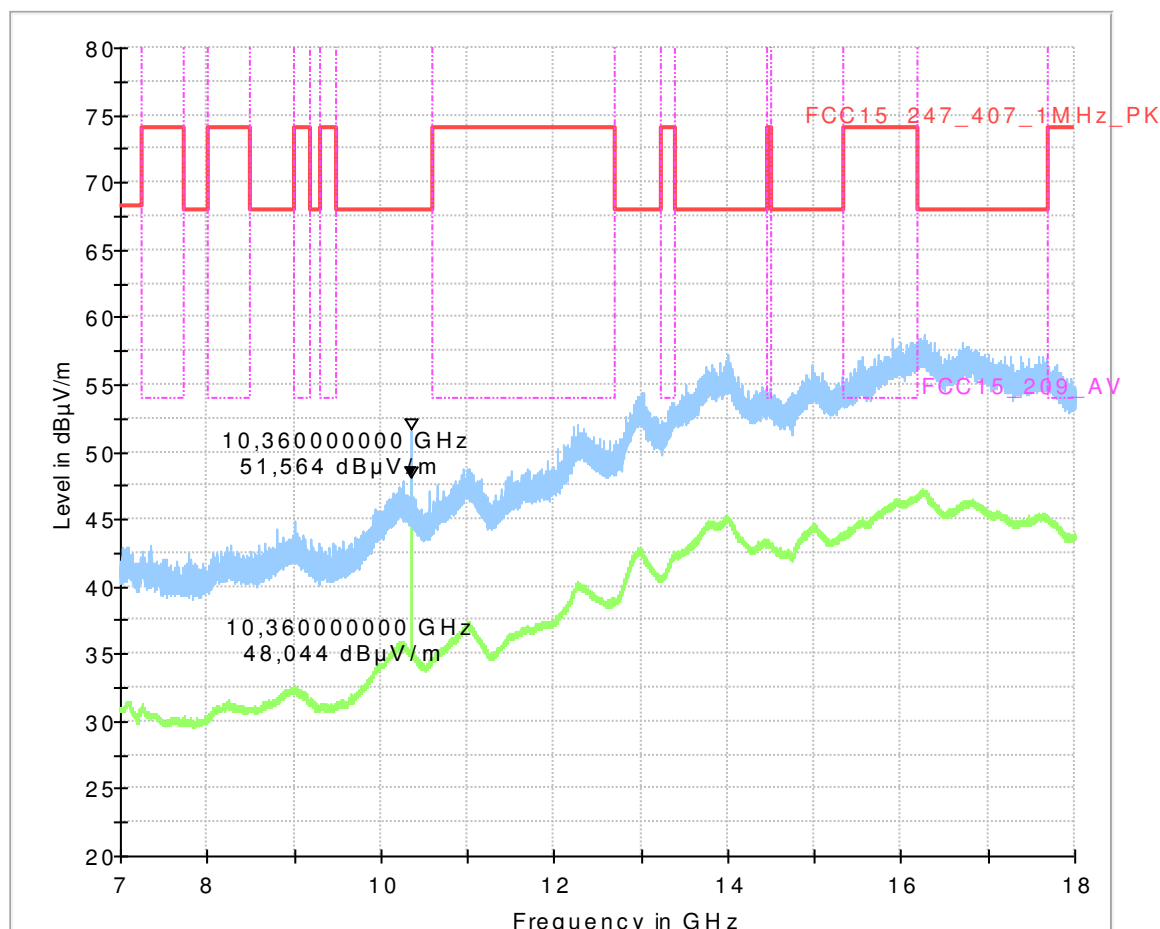


Diagram No.: 4.12_Down_Ch36_6MBit_13dBm

Common Information

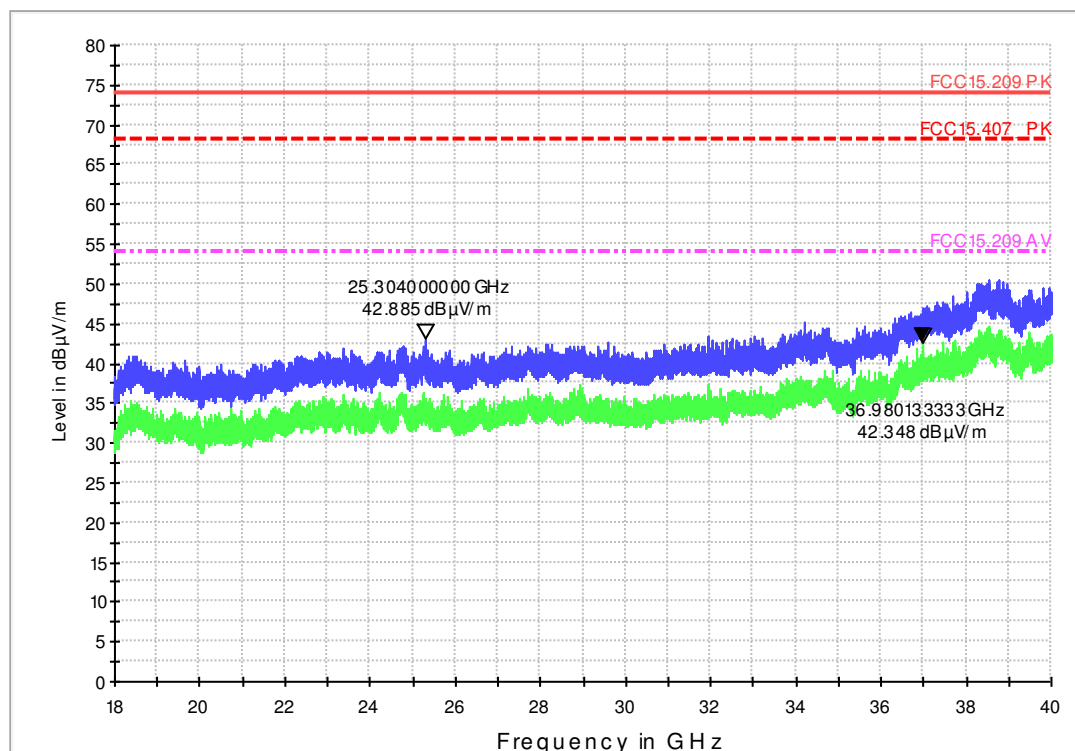
Test Description:	Radiated field strength emission in 1m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.247, 15.205&15.209 &RSS-247, Issue 1
Antenna polarisation:	horizontal/vertical
Distance correction factor	3 to 1m: -10.5 dB applying to measurement results
SW-Version:	EMC32 V8.53.0
Operation mode:	TX mode continuous
Operator Name:	Lor
Comment:	Channel no. high=36, 6MBit, 13dBm power setting, Downward antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	1.1.0.17
Serial Number:	21790250902643
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

FCC_Sweep_15.407_18_40GHz_Pre



5.2. Channel 36 Upward antenna (a-Mode, 6Mbps)

4.08_Up_Ant_TX_BW20MHz_Ch36_a-Mode_6MBit_13dBm

Common Information

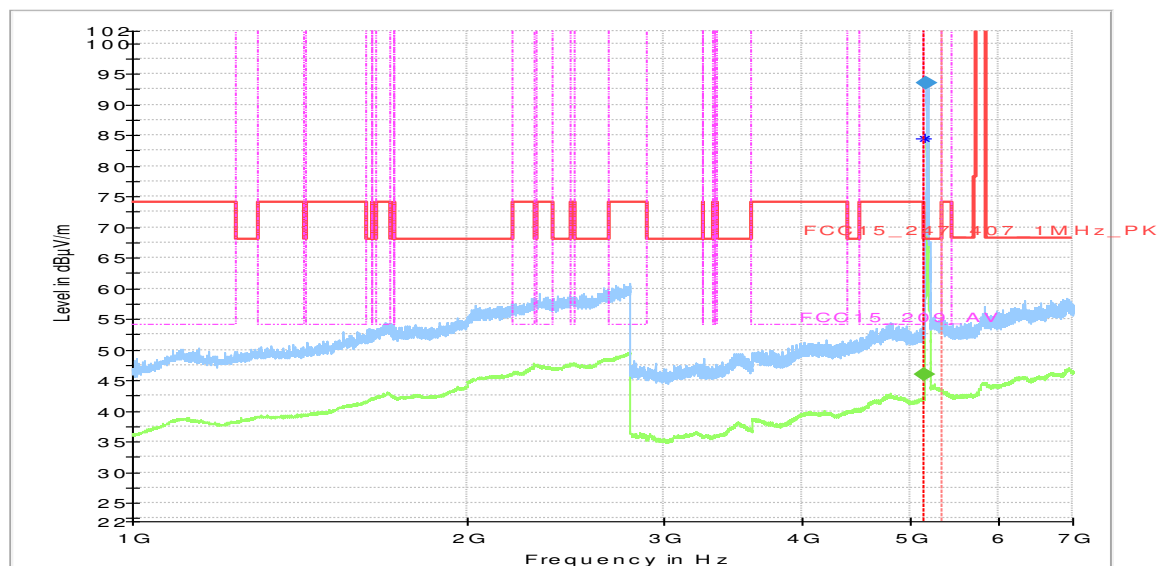
Test Description:	Radiated field strength emission in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.407&15.209 Intentional Radiator
Antenna polarisation:	horizontal/vertical
Operation mode:	WLAN 802.11a-mode, BW 20 MHz channel 36; Data rate 6Mbit ; Power 13 dBm
Operator Name:	MFr
Comment:	Channel no.36 High (5180 MHz) Upward directed WLAN Antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902642
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum



Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	RMS (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
5149.550000	---	46.00	54.00	8.00	100.0	1000.000	155.0	H	9.0
5178.250000	93.60	---	68.00	-25.60	100.0	1000.000	155.0	H	-1.0

(continuation of the "Final_Result" table from column 15 ...)

Frequency (MHz)	Elevation (deg)	Corr. (dB)	Comment
5149.550000	90.0	10.8	11:03:41 - 05.01.2016
5178.250000	90.0	11.5	11:02:29 - 05.01.2016

Diagram No.: 4.09_Up_An_TX_BW20MHz_Ch36_a-Mode_6MBit_13dBm

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:	WLAN 802.11a-mode, BW 20 MHz channel 36; Data rate 6Mbit ; Power 13 dBm
Operator Name:	APh
Comment:	Channel no.36 High (5180 MHz) Upward directed WLAN Antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902642
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

s

Full Spectrum

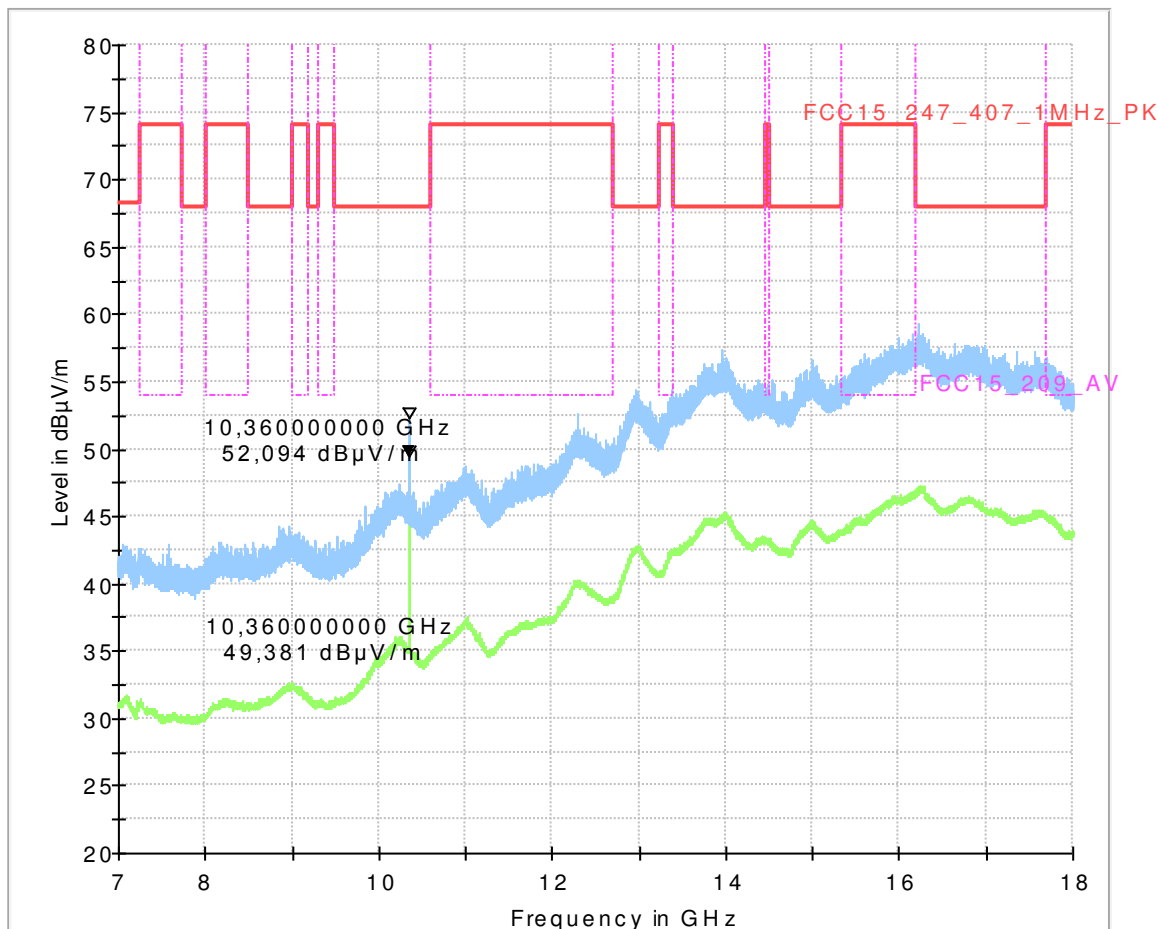


Diagram No.: 4.12_Up_Ch36_6MBit_13dBm

Common Information

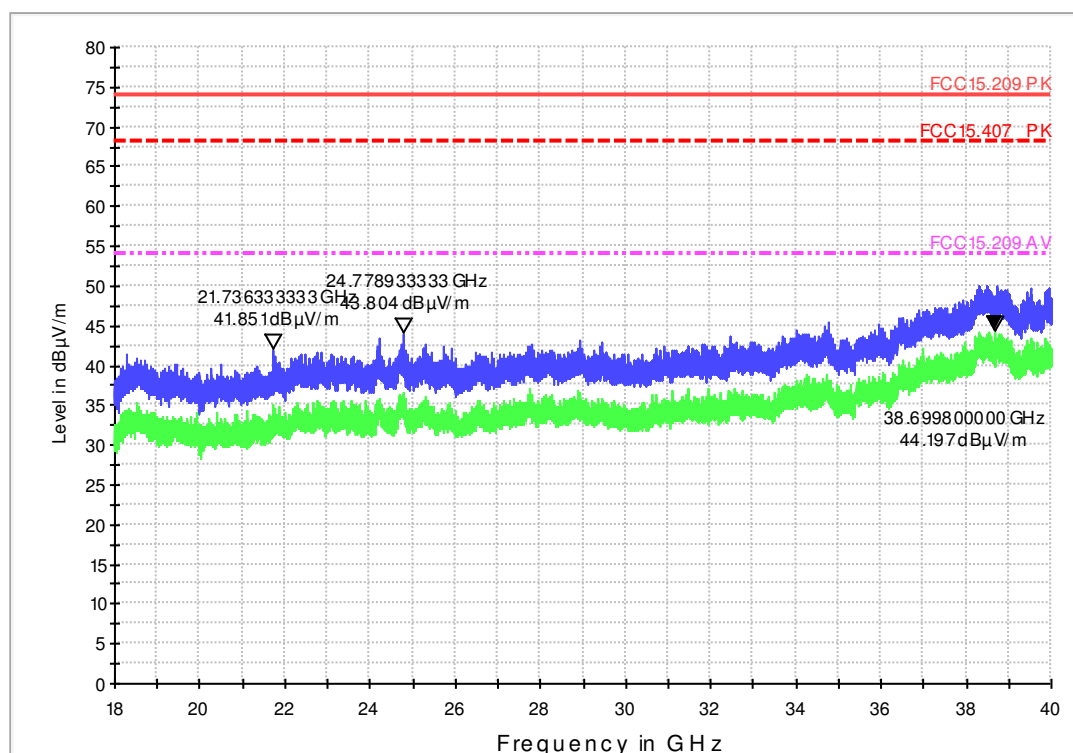
Test Description:	Radiated field strength emission in 1m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.247, 15.205&15.209 &RSS-247, Issue 1
Antenna polarisation:	horizontal/vertical
Distance correction factor	3 to 1m: -10.5 dB applying to measurement results
SW-Version:	EMC32 V8.53.0
Operation mode:	TX mode continuous
Operator Name:	Lor
Comment:	Channel no. high=36, 6MBit, 13dBm power setting, Upward antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	1.1.0.17
Serial Number:	21790250902643
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	12.0 VDC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

FCC_Sweep_15.407_18_40GHz_Pre



5.3. Channel 159 – Downward antenna (HT40, MCS0)

Diagram No.:4.10Dwn_An_TX_BW40MHz_Ch159_a-Mode_MCS0_8 dBm

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:	WLAN 802.11a-mode, channel 159; Data rate MCS0 ; Power 8 dBm
Operator Name:	KMo
Comment:	Channel no.159 High (5795 MHz) Downward directed WLAN Antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902642
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum

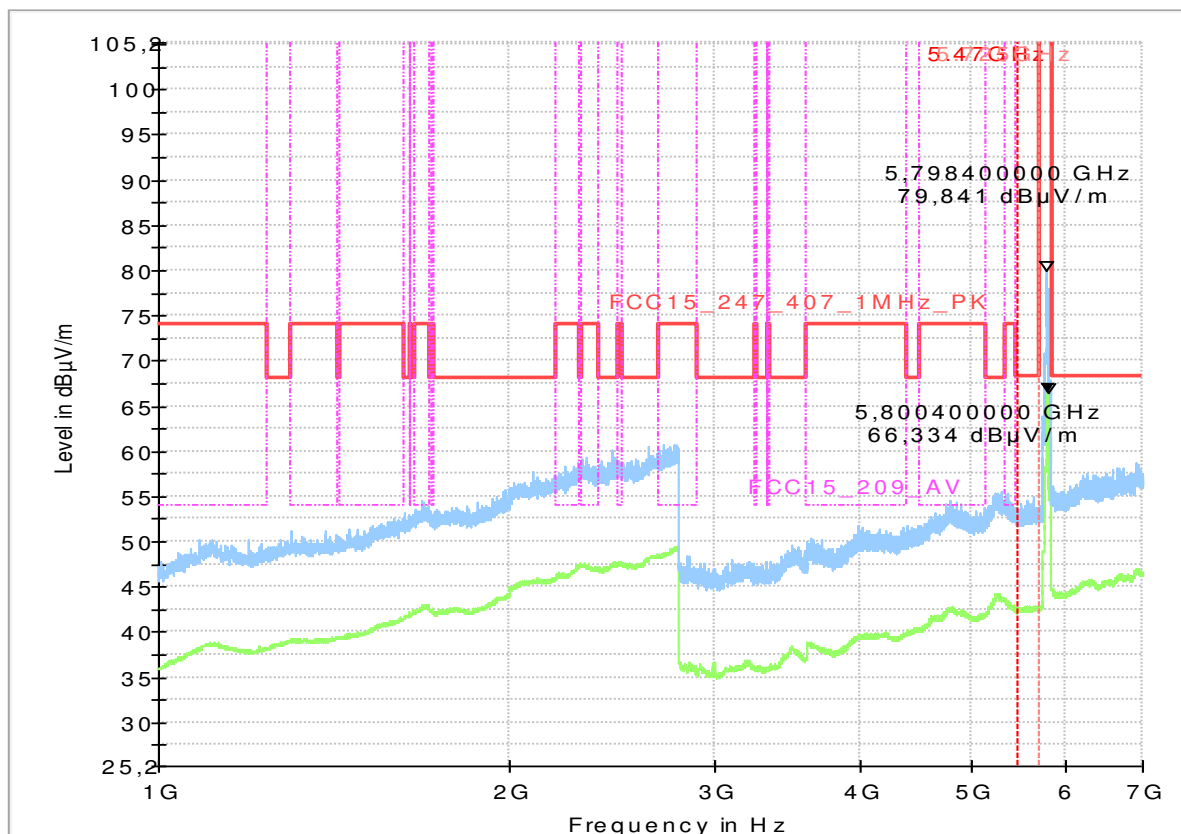


Diagram No.: 4.11Dwn_An_TX_BW40MHz_Ch159_a-Mode_MCS0_8 dBm

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:	WLAN 802.11ac-mode, BW 40 MHz channel 159; Data rate MCS0 ; Power 8
Operator Name:	APh
Comment:	Channel no.159 High (5795 MHz) Downward directed WLAN Antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902642
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum

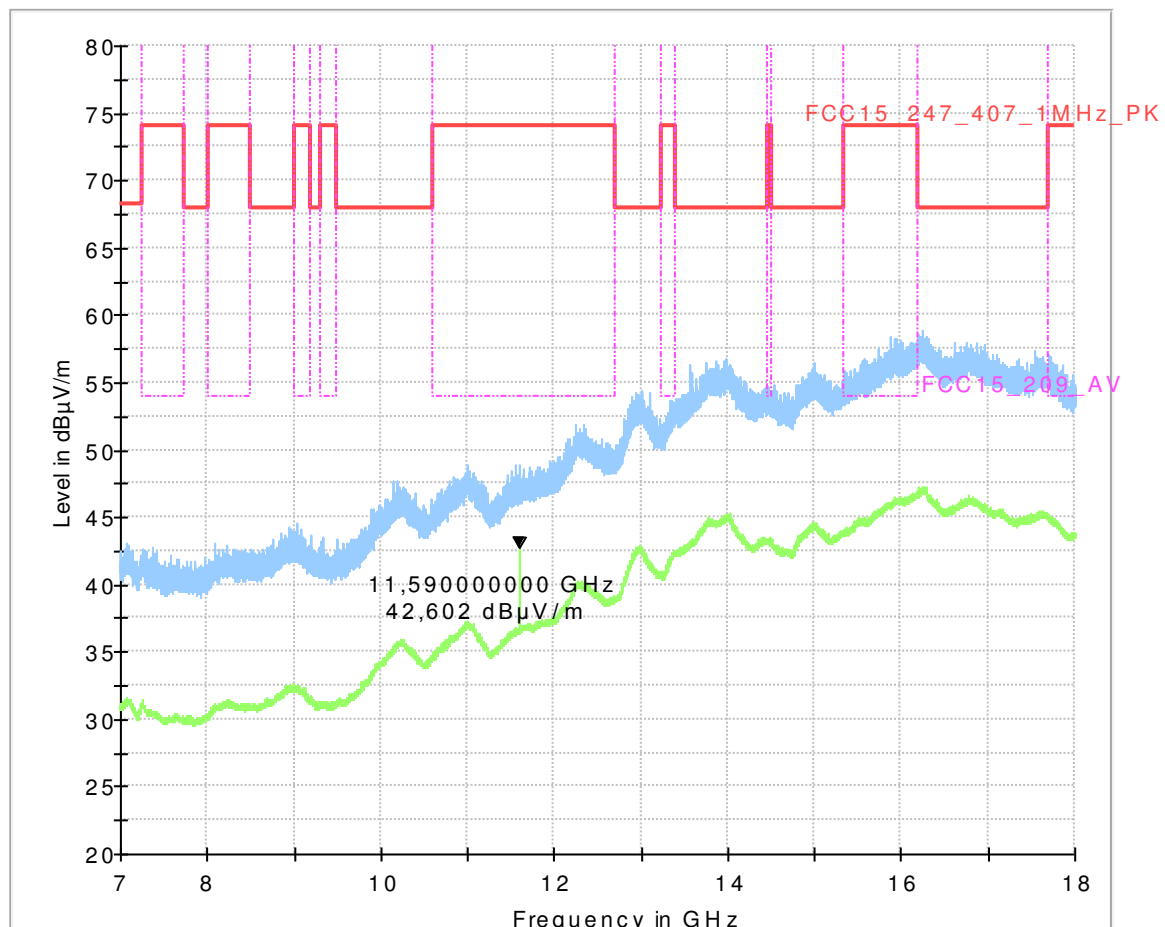


Diagram No.: 4.13_Down_Ch159_MCS0_8dBm

Common Information

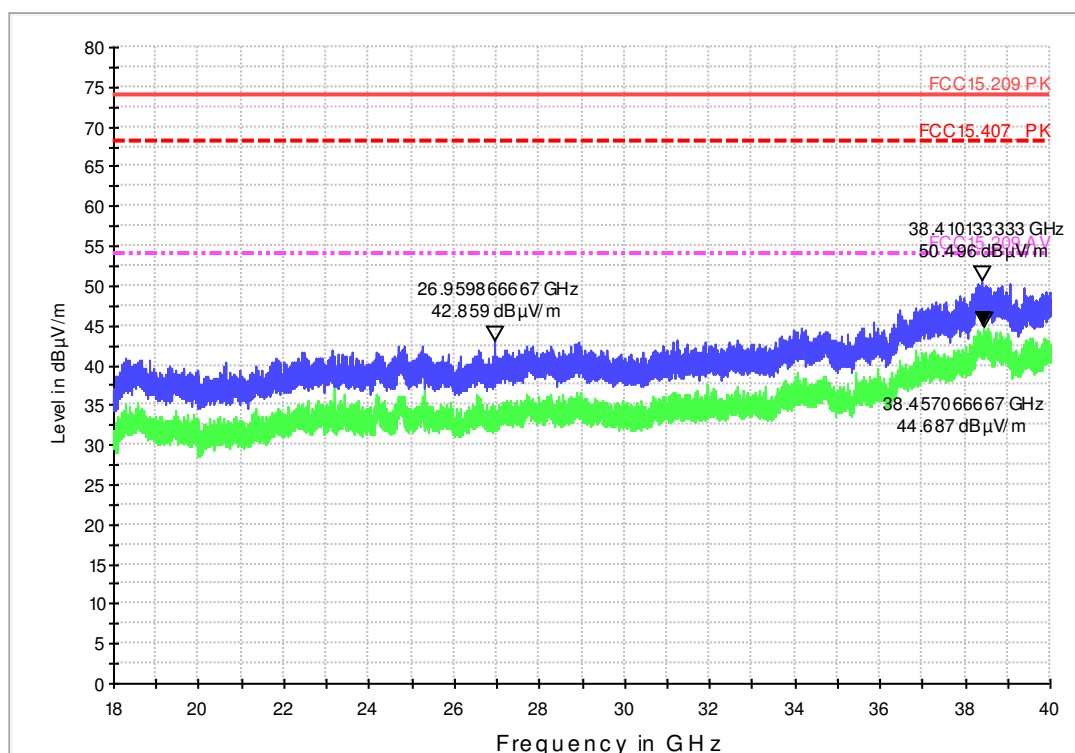
Test Description:	Radiated field strength emission in 1m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.247, 15.205&15.209 & RSS-247, Issue 1
Antenna polarisation:	horizontal/vertical
Distance correction factor	3 to 1m: -10.5 dB applying to measurement results
SW-Version:	EMC32 V8.53.0
Operation mode:	TX mode continuous
Operator Name:	Lor
Comment:	Channel no. high=159, MCS0, 8dBm power setting, Downward antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	1.1.0.17
Serial Number:	21790250902643
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	12.0 VDC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

FCC_Sweep_15.407_18_40GHz_Pre



5.4. Channel 159 – Upward antenna (HT40, MCS0)

Diagram No.: 4.10Up_Ant_TX_BW40MHz_Ch159_ac-Mode_MCS0_8 dBm

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:	WLAN 802.11ac-mode, BW 40 MHz channel 159; Data rate MCS0 ; Power 8
Operator Name:	KMo
Comment:	Channel no.159 High (5795 MHz) Upward directed WLAN Antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902642
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum

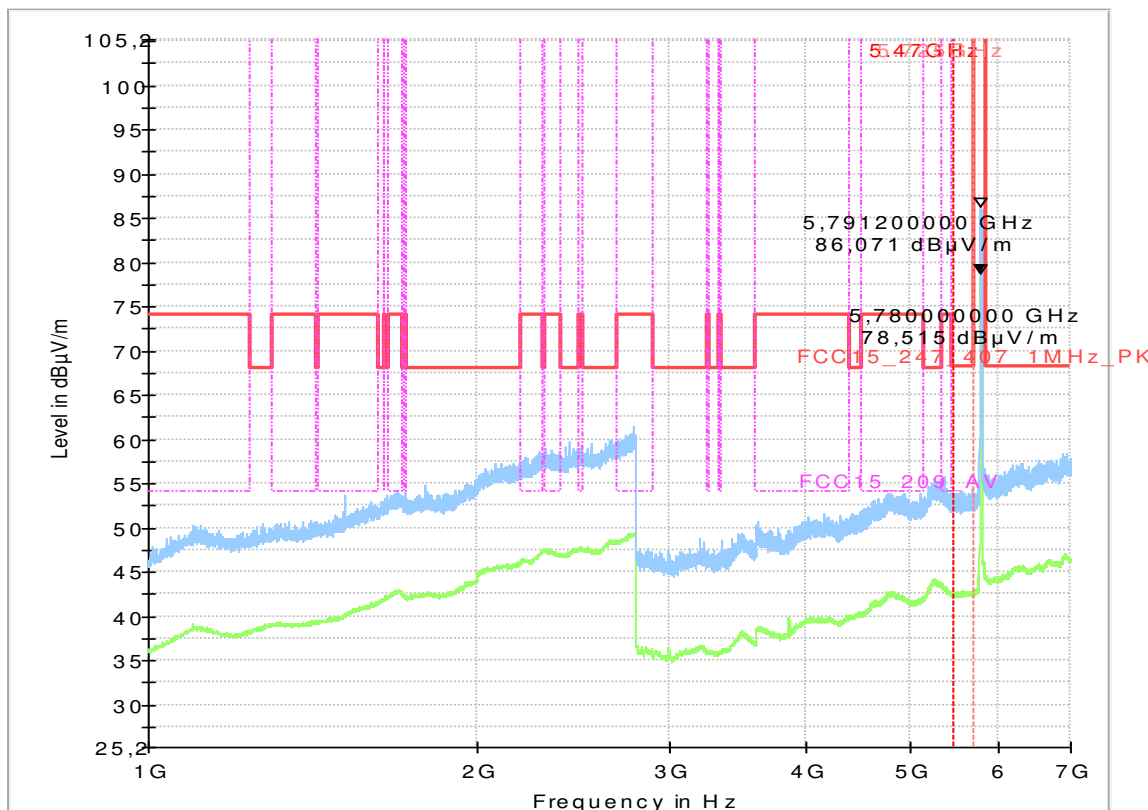


Diagram No.: 4.11Up_An_TX_BW40MHz_Ch159_a-Mode_MCS0_8 dBm

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:	WLAN 802.11ac-mode, BW 40 MHz channel 159; Data rate MCS0 ; Power 8
Operator Name:	Aph
Comment:	Channel no.159 High (5795 MHz) Upward directed WLAN Antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06
-----	-----
HW Version:	C
SW Version:	13
Serial Number:	21790250902642
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum

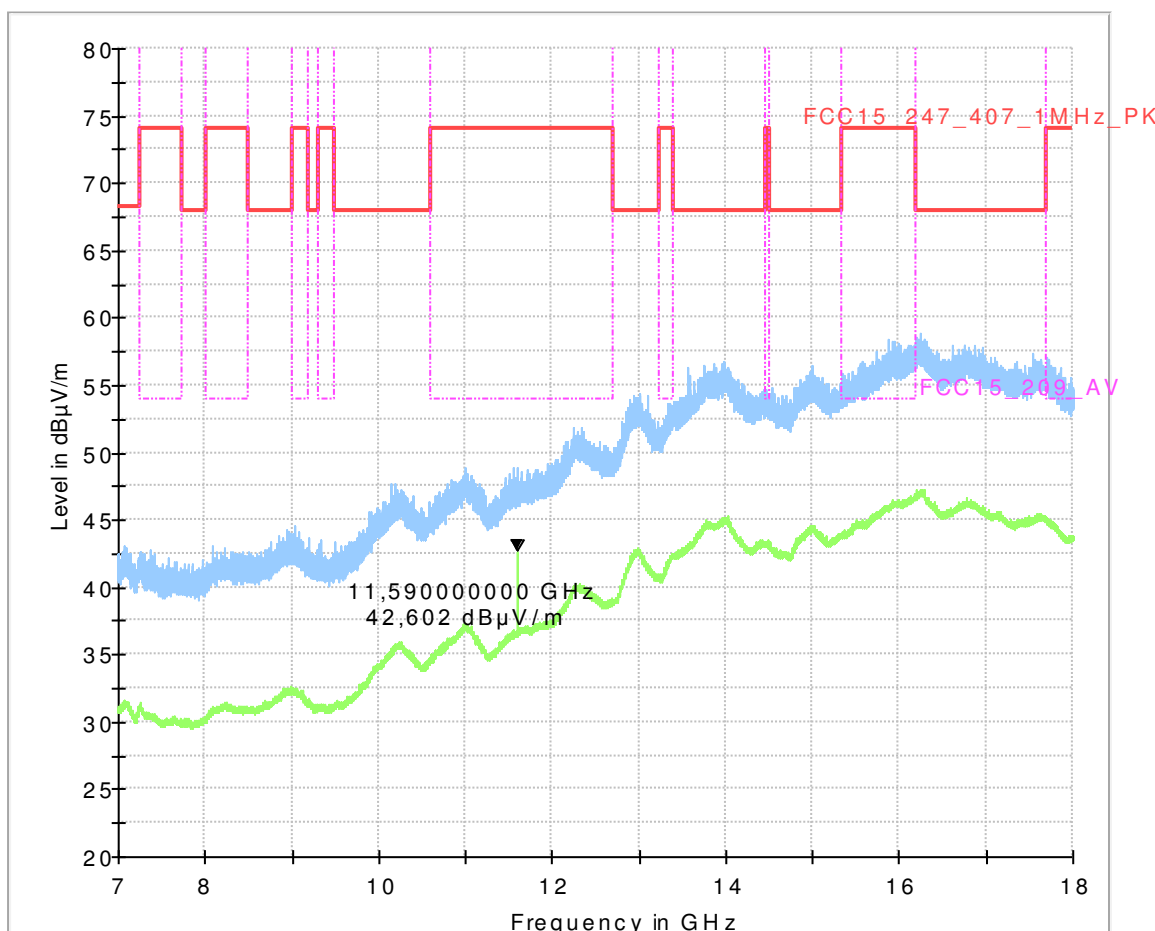


Diagram No.: 4.13_Up_Ch159_MCS0_8dBm

Common Information

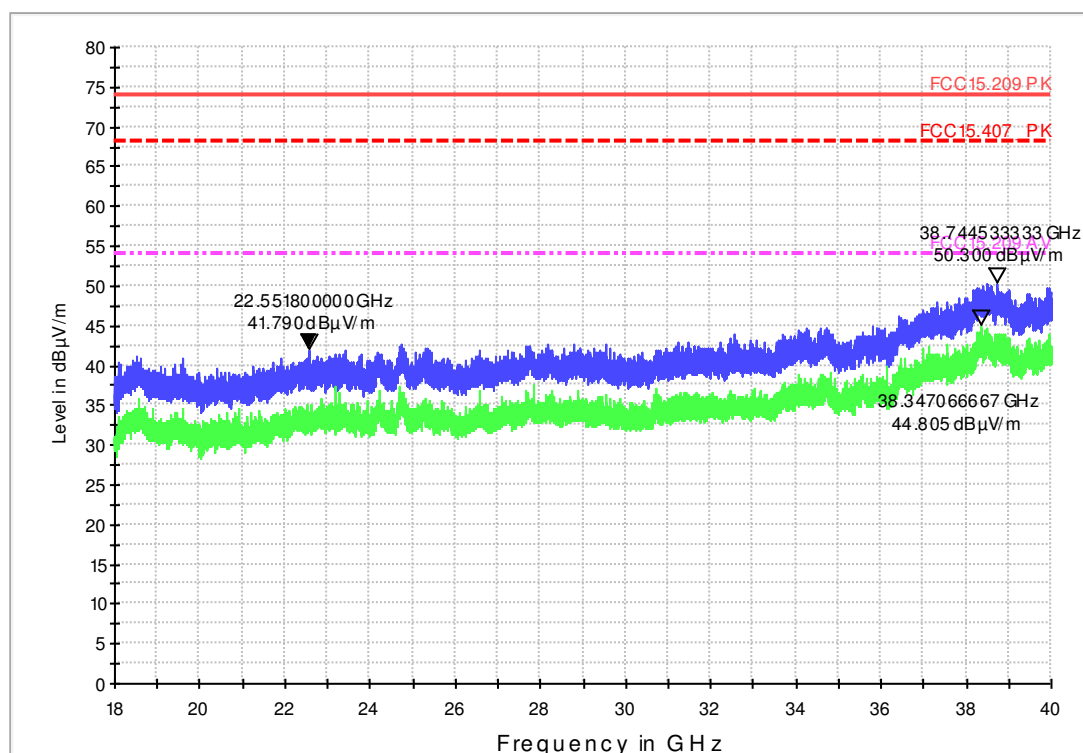
Test Description:	Radiated field strength emission in 1m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.247, 15.205&15.209 &RSS-247, Issue 1
Antenna polarisation:	horizontal/vertical
Distance correction factor	3 to 1m: -10.5 dB applying to measurement results
SW-Version:	EMC32 V8.53.0
Operation mode:	TX mode continuous
Operator Name:	Lor
Comment:	Channel no. high=159, MCS0, 8dBm power setting, Upward antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	1.1.0.17
Serial Number:	21790250902643
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	12.0 VDC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

FCC_Sweep_15.407_18_40GHz_Pre



6. Radiated band-edge measurements accord. §15.209 & §15.205

6.1. Channel 36 a-Mode (left band edge)

9.06_down_Ant_BE_BW20MHz_Ch36_a-Mode_6MBit_13dBm

Common Information

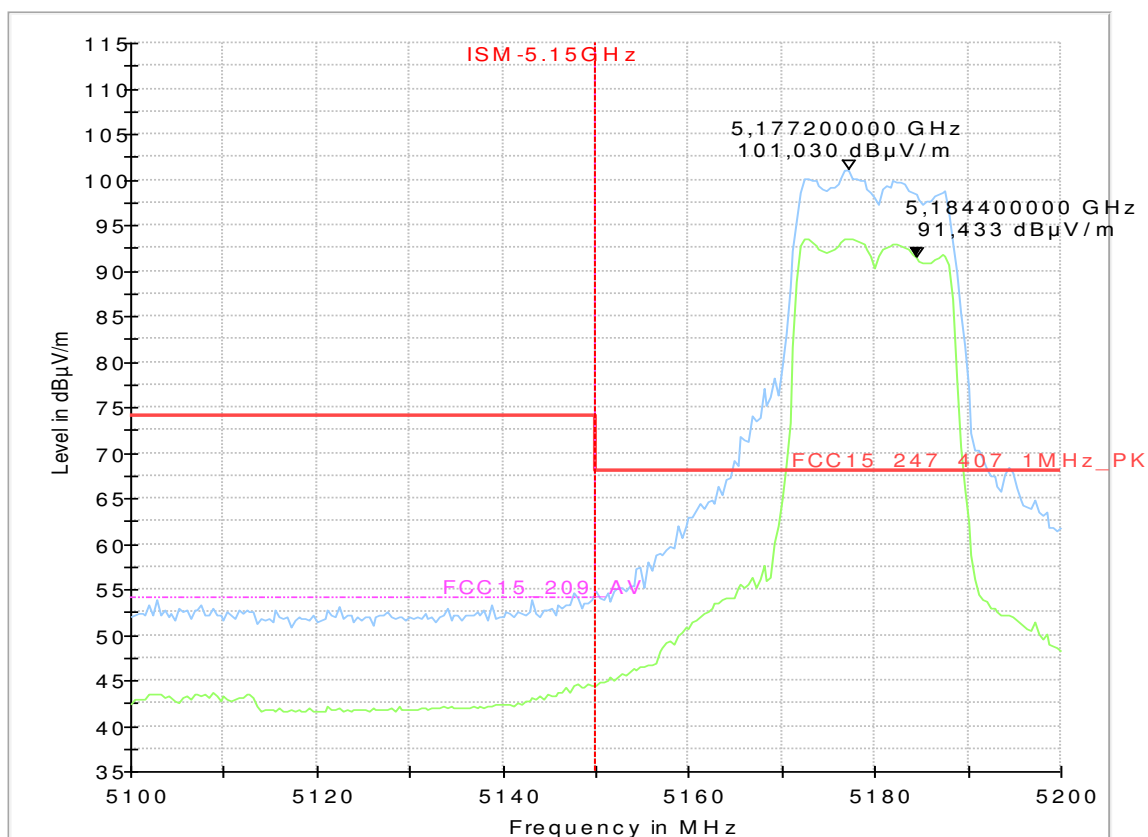
Test Description:	Band Edge Measurement in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.407&15.209 Intentional Radiator
Antenna polarisation:	horizontal/vertical
Operation mode:	WLAN 802.11a-mode, BW 20 MHz channel 36; Data rate 6Mbit ; Power 13 dBm
Operator Name:	MFr
Comment:	Channel no.36 low (5180 MHz) Downward directed WLAN Antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902642
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum



9.06_Up_An_BE_BW20MHz_Ch36_a-Mode_6MBit_13dBm

Common Information

Test Description: Band Edge Measurement in 3 m
 Test Site: CETECOM GmbH Essen
 Test Standard: FCC 15.407&15.209 Intentional Radiator
 Antenna polarisation: horizontal/vertical

 Operation mode: WLAN 802.11a-mode,BW 20 MHz channel 36; Data rate 6Mbit ; Power 13 dBm
 Operator Name: MFr
 Comment: Channel no.36 High (5180 MHz) | Upward directed WLAN Antenna

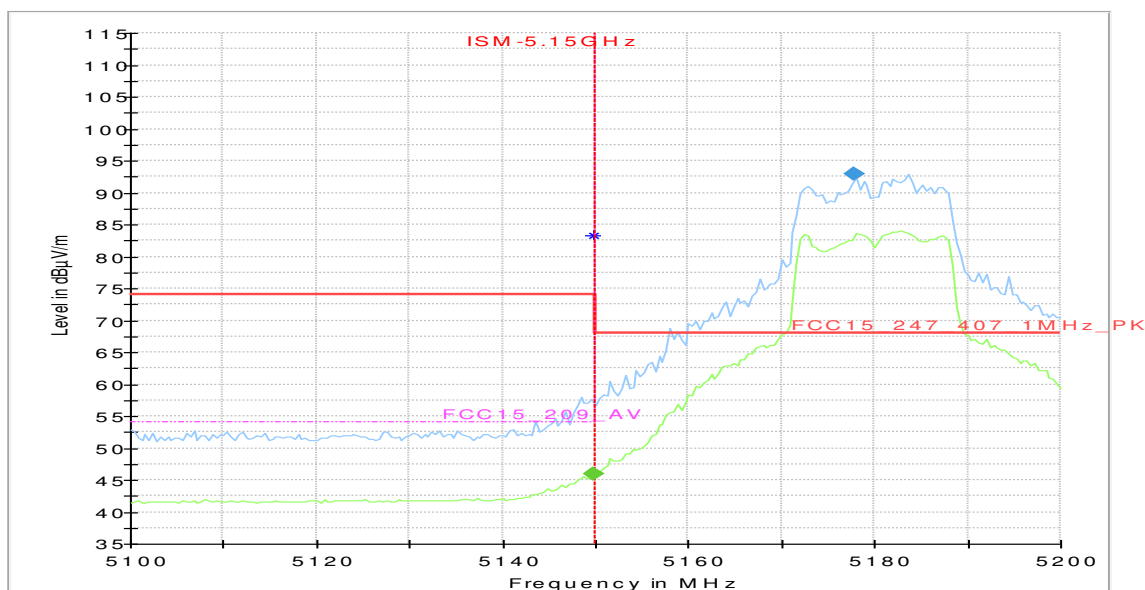
EUT Information

Manufacturer: ACTIA Nordic AB
 EuT: ACUII-06

 HW Version: C
 SW Version: 13
 Serial Number: 21790250902642
 Connected Interfaces: MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector

 Power Supply: 13.8V DC
 Antenna Type: LTE Antenna with SDAR
 434-WLAN-GNSS-SDARS-LTE
 50751424 | 15W421 | Portugal AD801
 SDARS Modified #1

Full Spectrum



Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	RMS (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas Time	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
5149.800000	---	46.02	54.00	7.98	100.0	1000.000	155.0	H	-19.0
5177.850000	92.92	---	68.00	-24.92	100.0	1000.000	155.0	H	1.0

(continuation of the "Final_Result" table from column 15 ...)

Frequency (MHz)	Elevation (deg)	Correction (dB)	Comment
5149.800000	90.0	10.8	11:29:28 - 05.01.2016
5177.850000	90.0	11.4	11:28:19 - 05.01.2016

6.2. Channel 64 a-Mode (right band edge)

Diagram No.: 9.07_down_Ant_BE_BW20MHz_Ch64_a-Mode_6MBit_13dBm

Common Information

Test Description:	Band Edge measurement in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.407&15.209 Intentional Radiator
Antenna polarisation:	horizontal/vertical
Operation mode:	WLAN 802.11a-mode, BW 20 MHz channel 64; Data rate 6Mbit ; Power 13 dBm
Operator Name:	MFr
Comment:	Channel no. 64 (5320 MHz) Downward directed WLAN Antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902642
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum

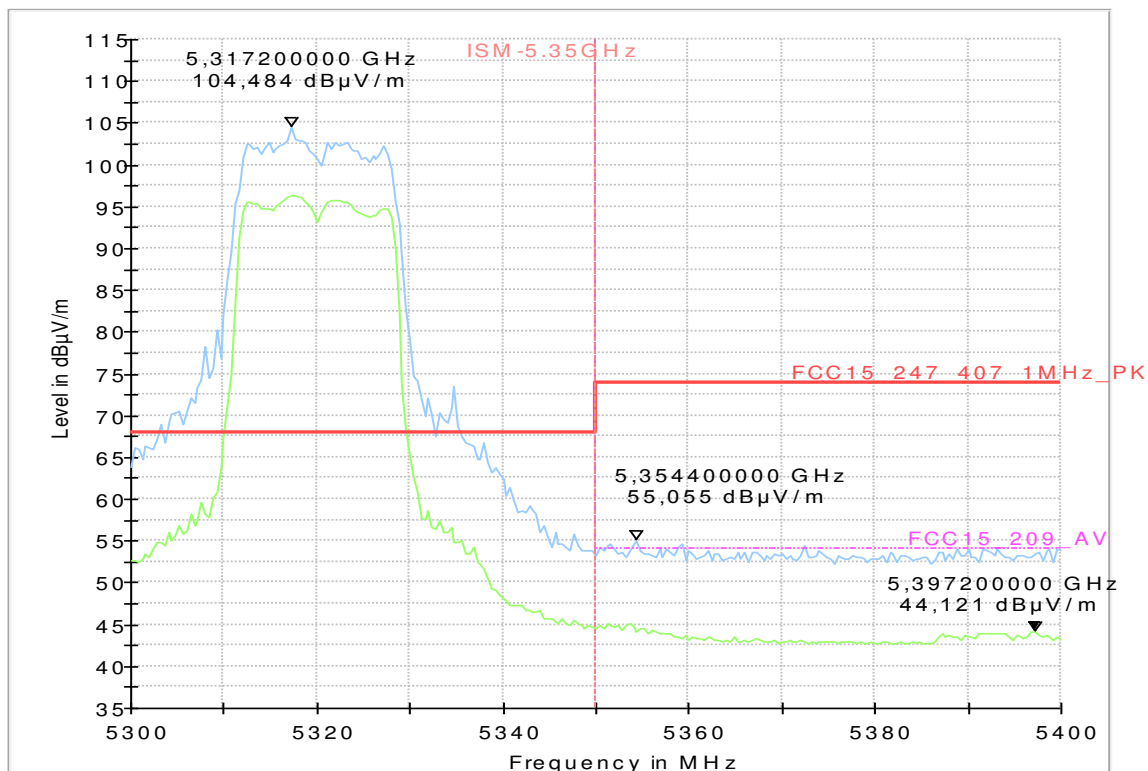


Diagram No.: 9.07_Up_Ant_BE_BW20MHz_Ch64_a-Mode_6MBit_13dBm

Common Information

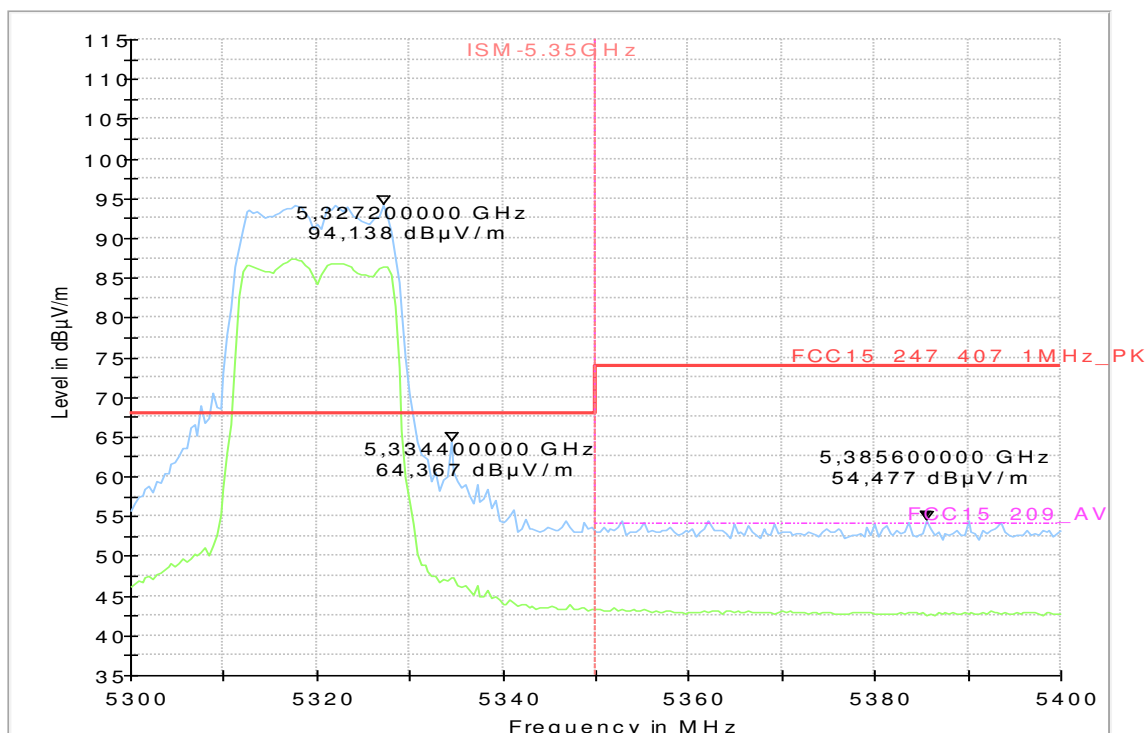
Test Description:	Band-Edge Measurement in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.407&15.209 Intentional Radiator
Antenna polarisation:	horizontal/vertical
Operation mode:	WLAN 802.11a-mode, BW 20 MHz channel 64; Data rate 6Mbit ; Power 13 dBm
Operator Name:	MFr
Comment:	Channel no.64 (5320 MHz) Upward directed WLAN Antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902642
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum



6.3. Channel 100 a-Mode (left band edge)

Diagram No: 9.10a_Dwn_Ch100_6MBit_13dBm

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, 5GHz Band
Operator Name:	AHo
Comment:	Channel no. low=100, 6MBit, Downward antenna, 13dBm

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902643
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum

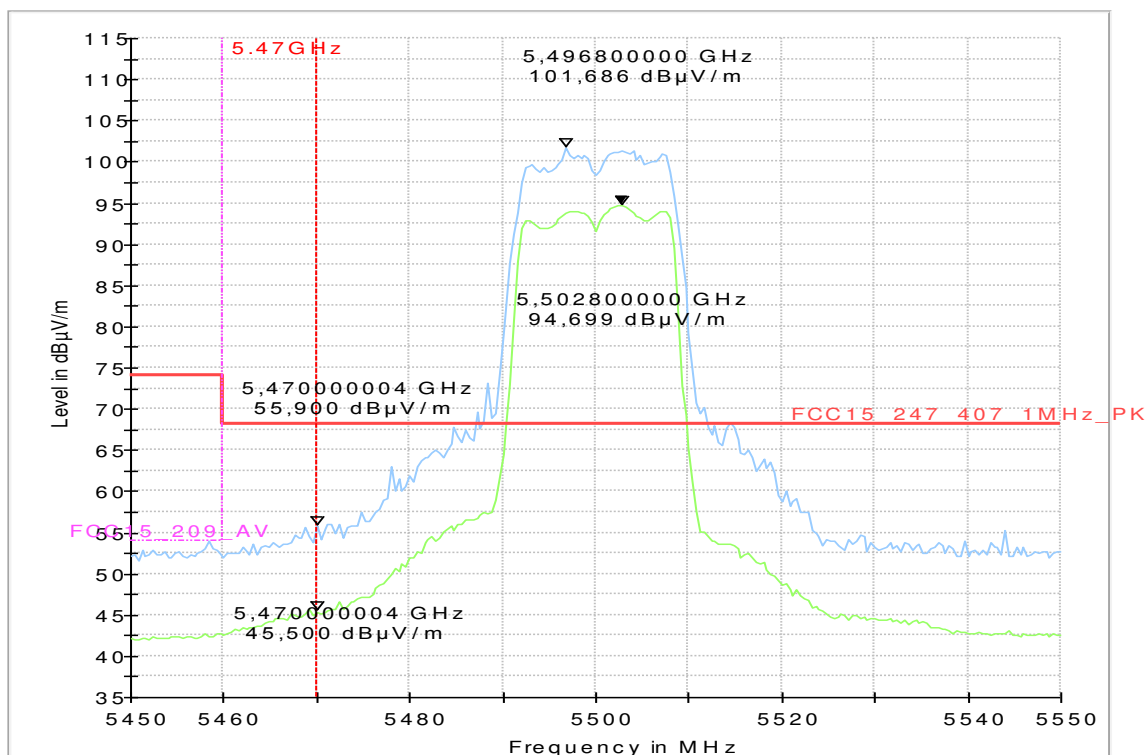


Diagram No: 9.10b_Up_Ch100_6MBit_13dBm

Common Information

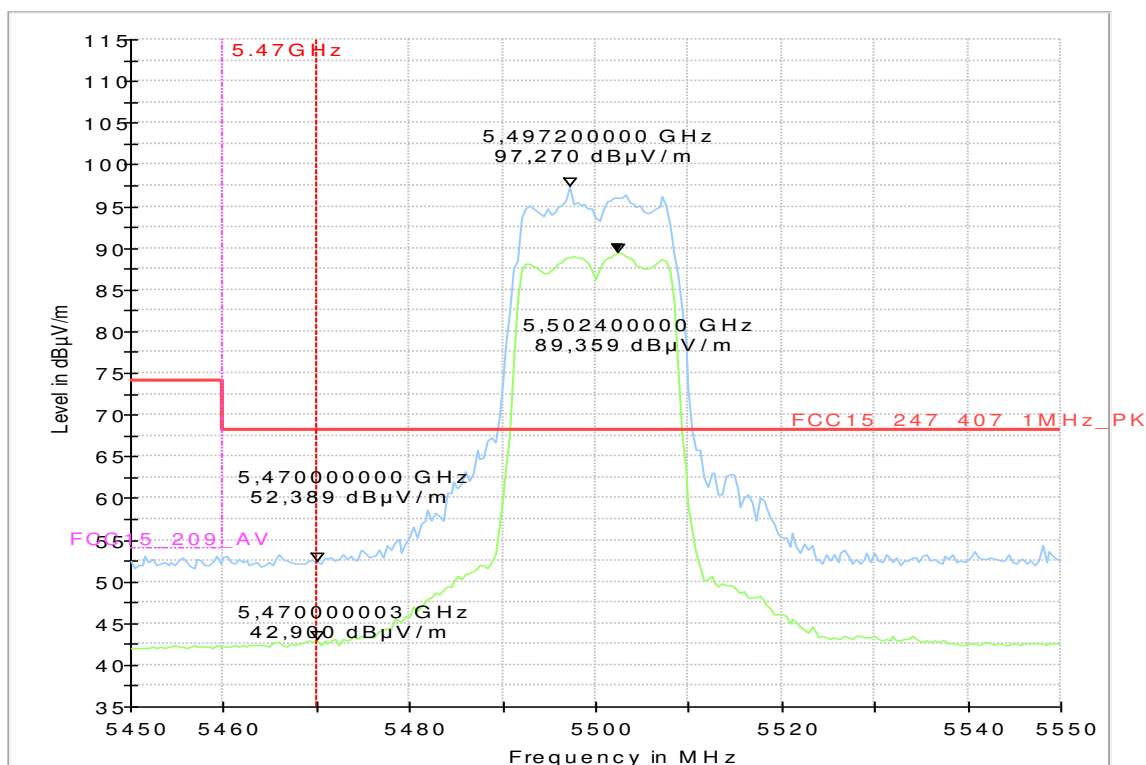
Test Description:	Radiated field strength emission in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.407&15.209 Intentional Radiator
Antenna polarisation:	horizontal/vertical
Operation mode:	TX, continuous, 5GHz Band
Operator Name:	AHo
Comment:	Channel no. low=100, 6MBit, Upward antenna, 13dBm

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902643
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum



6.4. Channel 140 a-Mode (right band edge)

Diagram No: 9.11a_Dwn_Ch140_6MBit_13dBm

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, 5GHz Band
Operator Name:	AHo
Comment:	Channel no. low=140, 6MBit, Downward antenna, 13dBm

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902643
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum

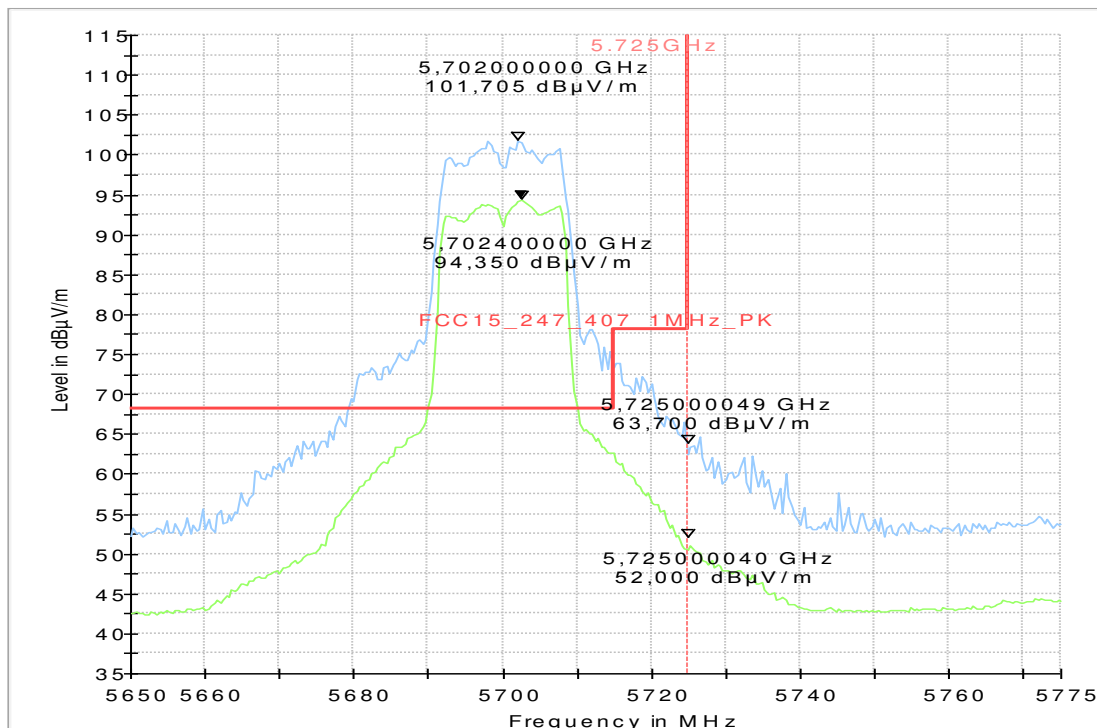


Diagram No: 9.11b_Up_Ch140_6MBit_13dBm

Common Information

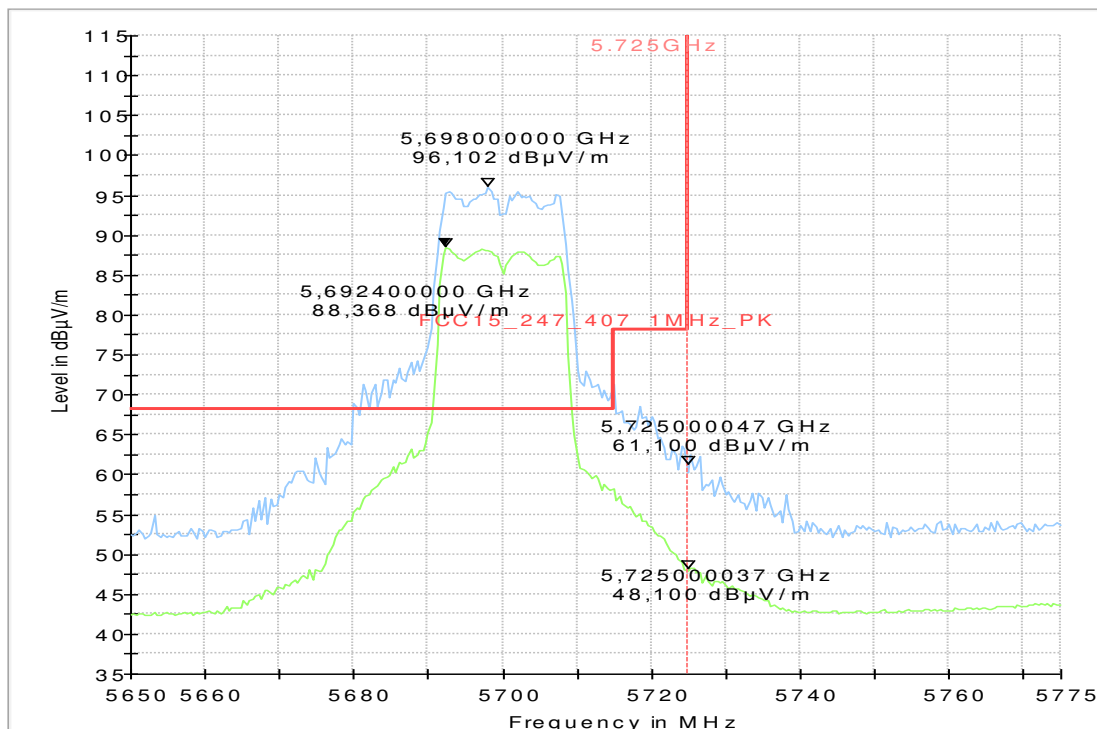
Test Description:	Radiated field strength emission in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.407&15.209 Intentional Radiator
Antenna polarisation:	horizontal/vertical
Operation mode:	TX, continuous, 5GHz Band
Operator Name:	AHo
Comment:	Channel no. low=140, 6MBit, Upward antenna, 13dBm

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902643
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum



6.5. Channel 149 a-Mode (left band edge)

Diagram No.: 9.08a_Dwn_Ch149_6MBit_13dBm

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, 5GHz Band
Operator Name:	AHo
Comment:	Channel no. low=149, 6MBit, Downward antenna, 13dBm

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902643
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum

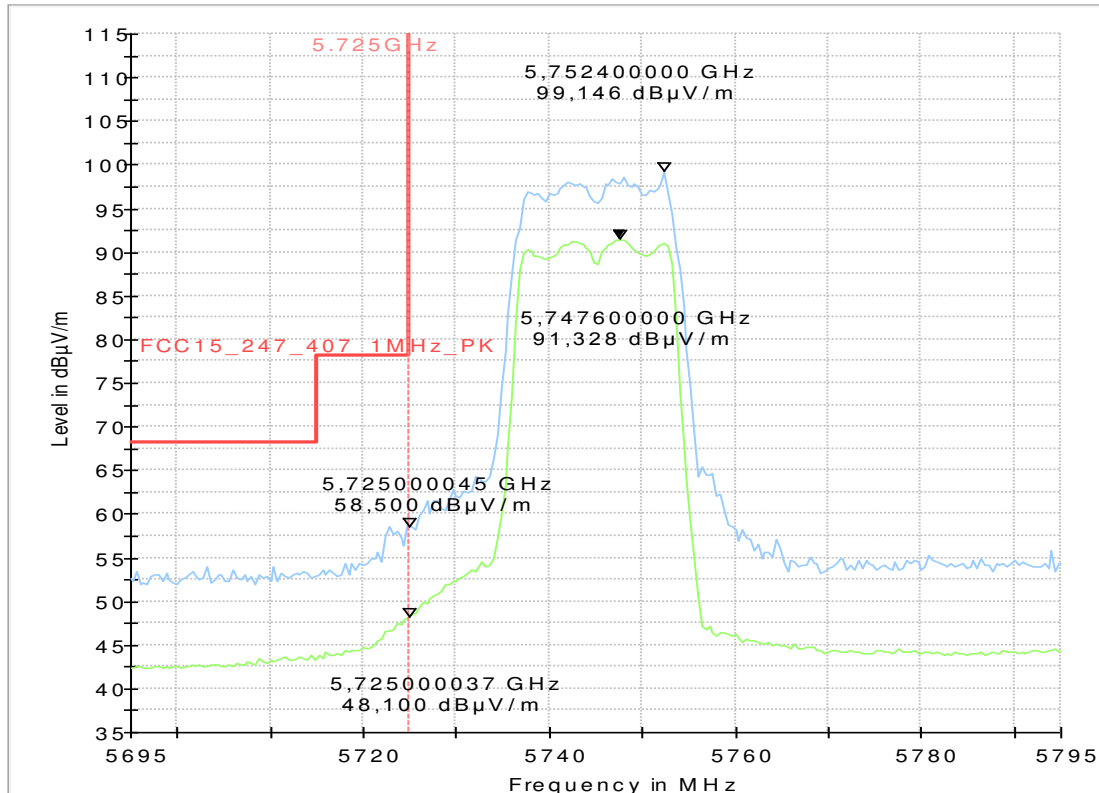


Diagram No.: 9.08b_Up_Ch149_6MBit_13dBm

Common Information

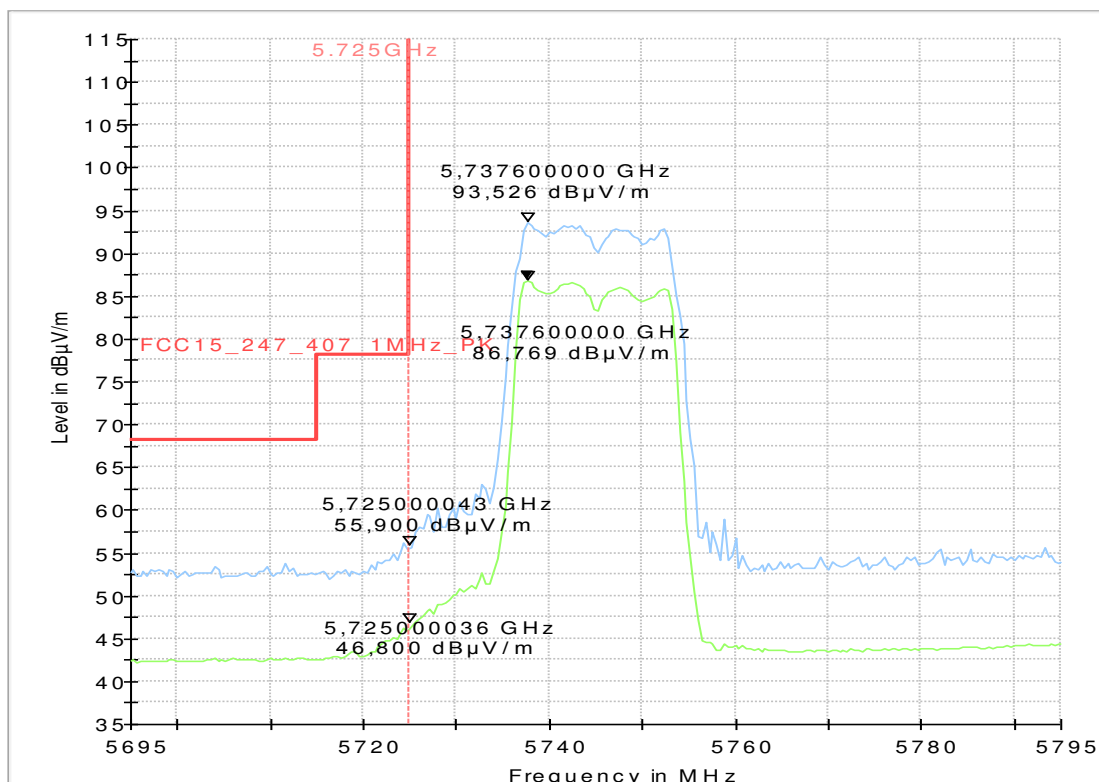
Test Description:	Radiated field strength emission in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.407&15.209 Intentional Radiator
Antenna polarisation:	horizontal/vertical
Operation mode:	TX, continuous, 5GHz Band
Operator Name:	AHo
Comment:	Channel no. low=149, 6MBit, Upward antenna, 13dBm

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902643
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum



6.6. Channel 165 a-Mode (right band edge)

Diagram No.: 9.09_Dwn_Ant_BE_BW20MHz_Ch165_a-Mode_6MBit_13dBm

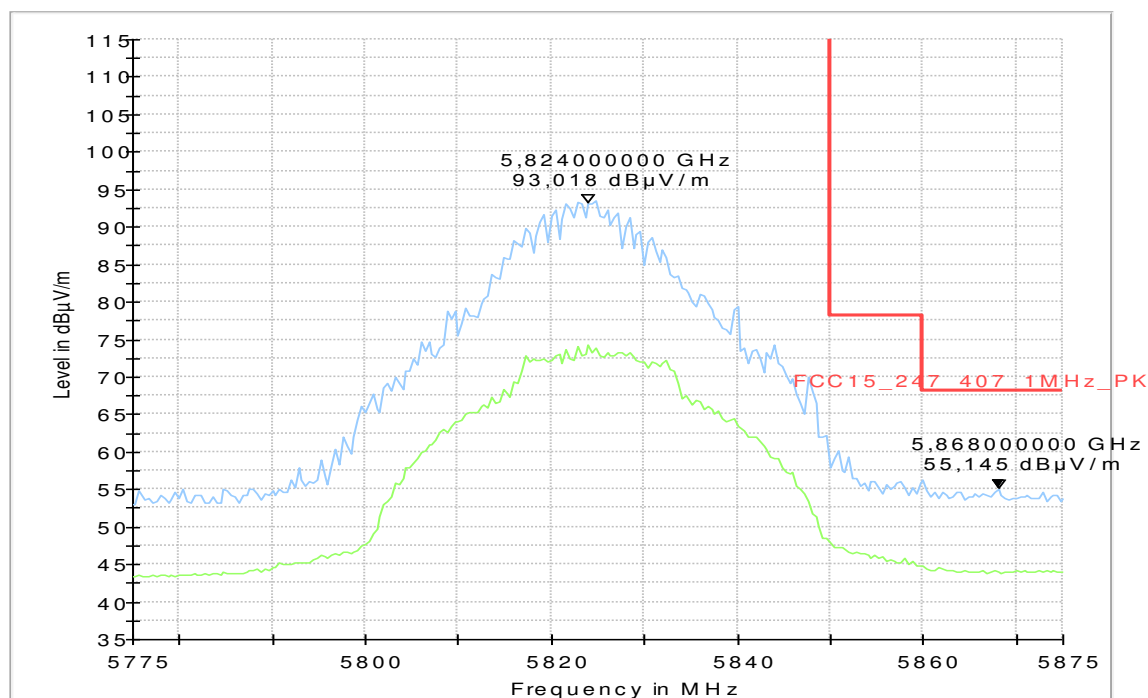
Common Information

Test Description:	Band-Edge Measurements in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.407&15.209 Intentional Radiator
Antenna polarisation:	horizontal/vertical
Operation mode:	WLAN 802.11a-mode, BW 20 MHz channel 159; Data rate 6 MBit ; Power 13 dBm
Operator Name:	APh
Comment:	Channel no.165 High (5825 MHz) Downward directed WLAN Antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06
-----	-----
HW Version:	C
SW Version:	13
Serial Number:	21790250902642
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum



9.09_Up_Ant_BE_BW20MHz_Ch165_a-Mode_6MBit_13dBm

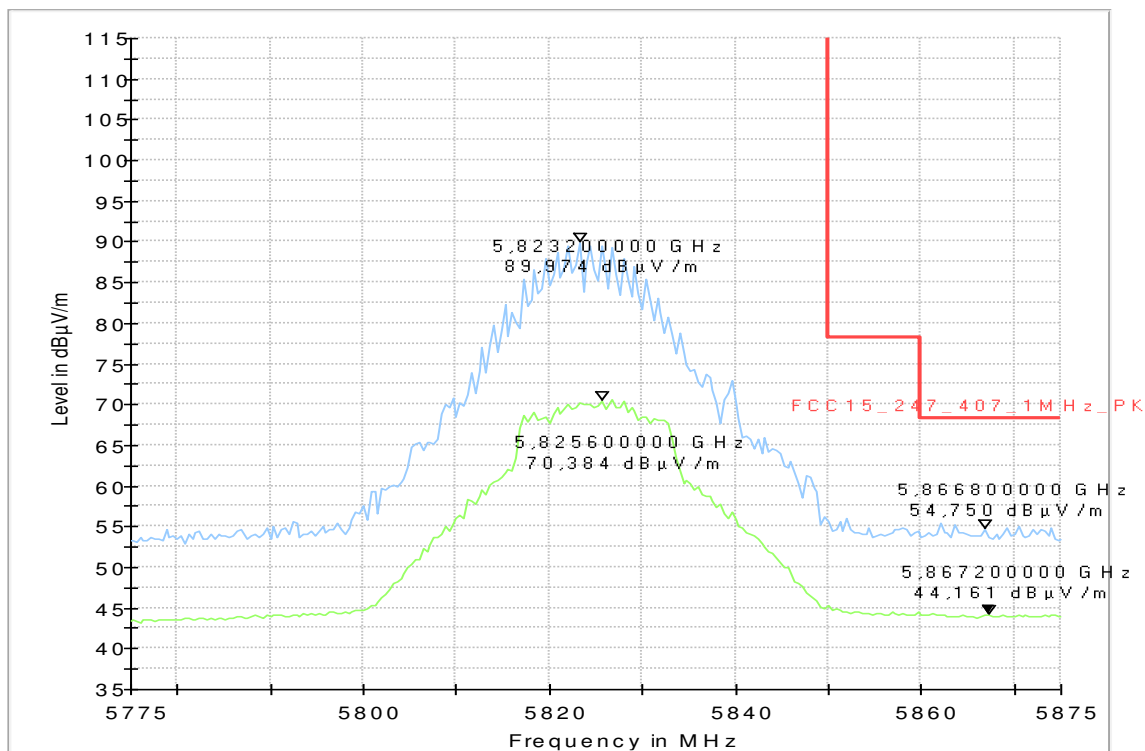
Common Information

Test Description:	Band-Edge Measurements in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.407&15.209 Intentional Radiator
Antenna polarisation:	horizontal/vertical
Operation mode:	WLAN 802.11a-mode, BW 20 MHz channel 165; Data rate 6 MBit ; Power 13 dBm
Operator Name:	KMo
Comment:	Channel no.165 High (5825 MHz) Upward directed WLAN Antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06
-----	-----
HW Version:	C
SW Version:	13
Serial Number:	21790250902642
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum



6.7. Channel 38 n-Mode (left band edge)

Diagram No: 9.15_Dwn_Ch38_MCS0_8dBm

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, 5GHz Band
Operator Name:	AHo
Comment:	Channel no. low=38, MCS0, Downward antenna, 8dBm

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902643
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum

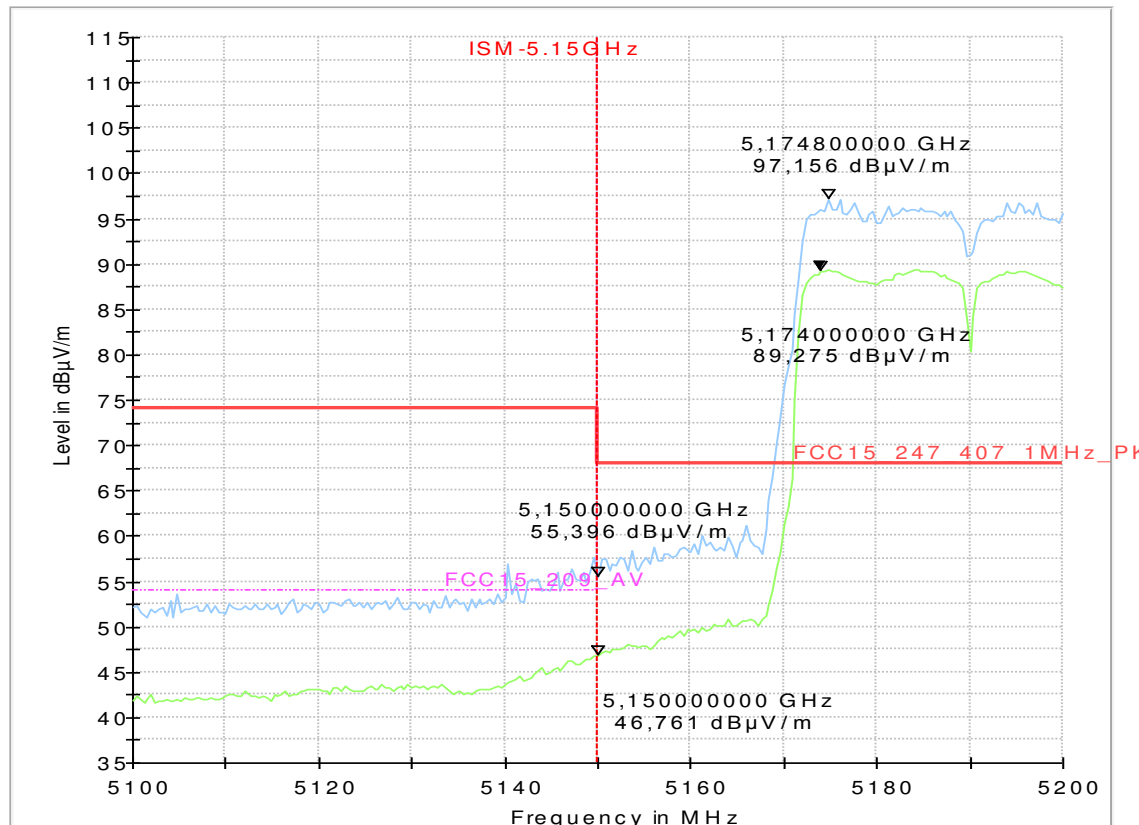


Diagram No.: 9.12_Up_Ch38_MCS0_8dBm

Common Information

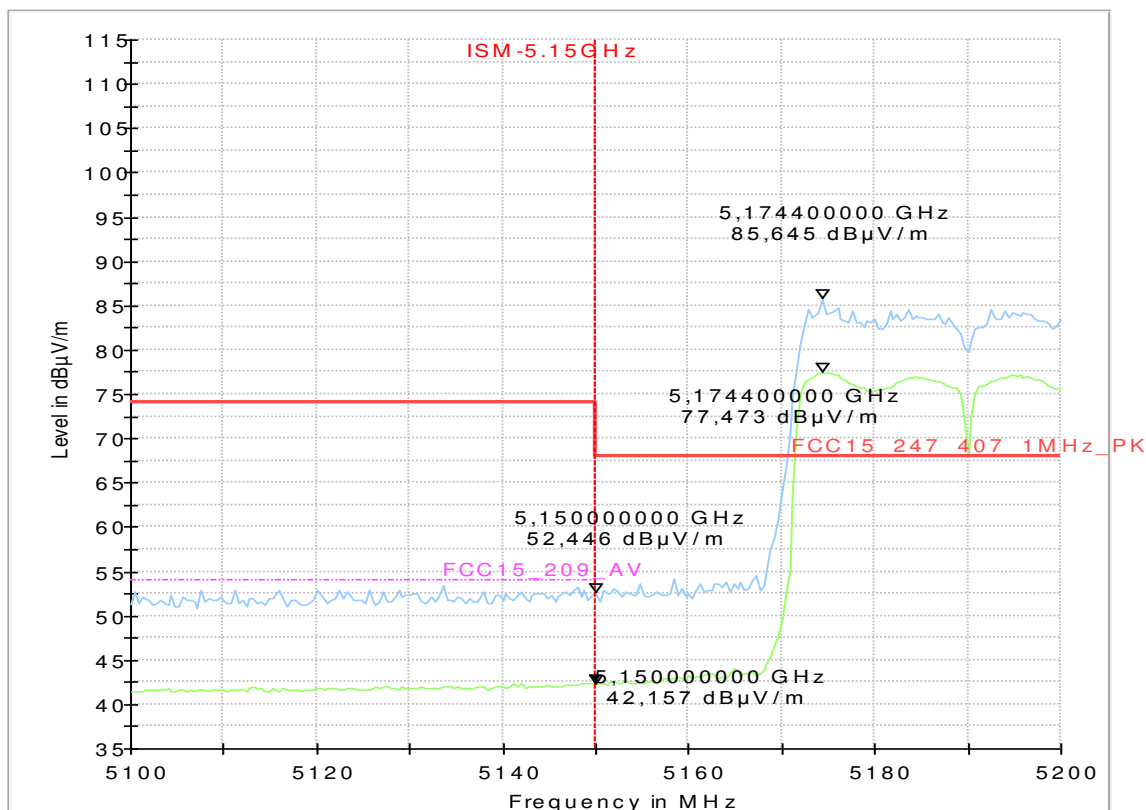
Test Description:	Radiated field strength emission in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.407&15.209 Intentional Radiator
Antenna polarisation:	horizontal/vertical
Operation mode:	TX, continuous, 5GHz Band
Operator Name:	AHo
Comment:	Channel no. low=38, MCS0, Upward antenna, 8dBm

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902643
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum



6.8. Channel 62 n-Mode (right band edge)

Diagram No: 9.16_Dwn_Ch62_MSC0_8dBm

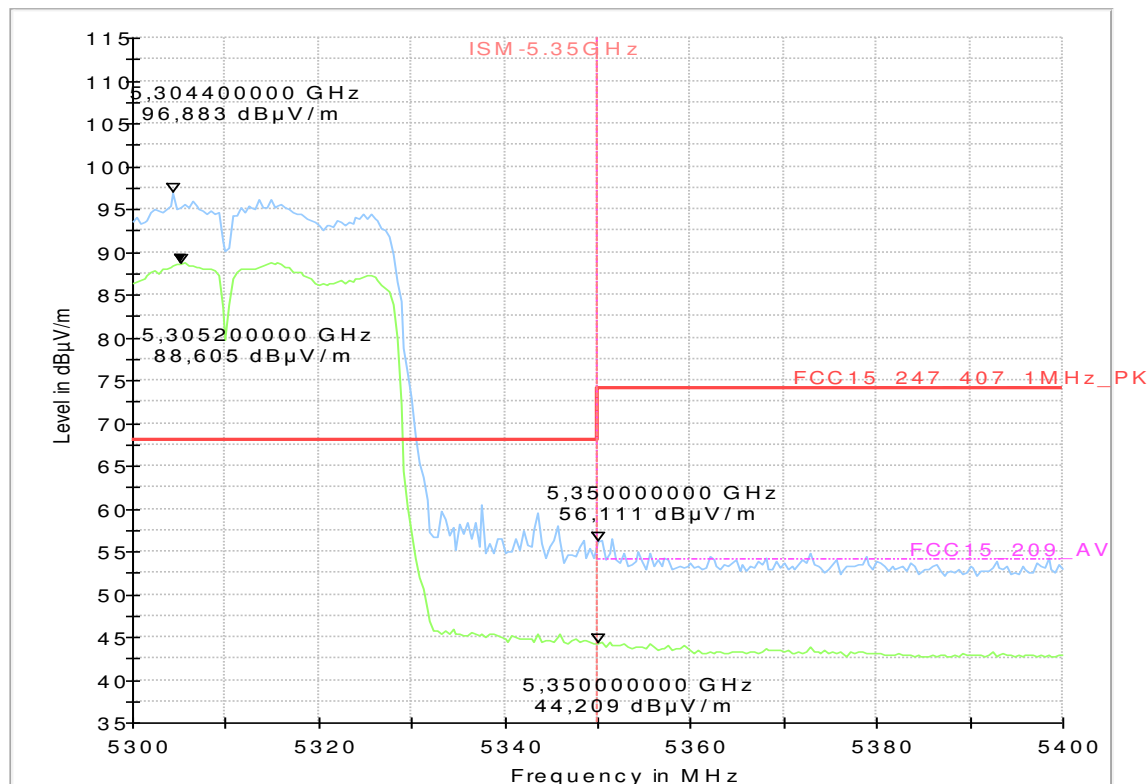
Common Information

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, 5GHz Band
Operator Name:	Lor
Comment:	Channel no. high=62, MCS0, Downward antenna, 8dBm

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06
-----	-----
HW Version:	C
SW Version:	13
Serial Number:	21790250902643
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum



9.13_Up_Ant_BE_BW40MHz_Ch62_ac-Mode_MCS0_8dBm

Common Information

Test Description: Band-Edge Measurements in 3m distance
 Test Site: CETECOM GmbH Essen
 Test Standard: FCC 15.407&15.209 Intentional Radiator
 Antenna polarisation: horizontal/vertical

 Operation mode: WLAN 802.11ac-mode, BW 40 MHz channel 62; Data rate MCS0 ; Power 8 dBm

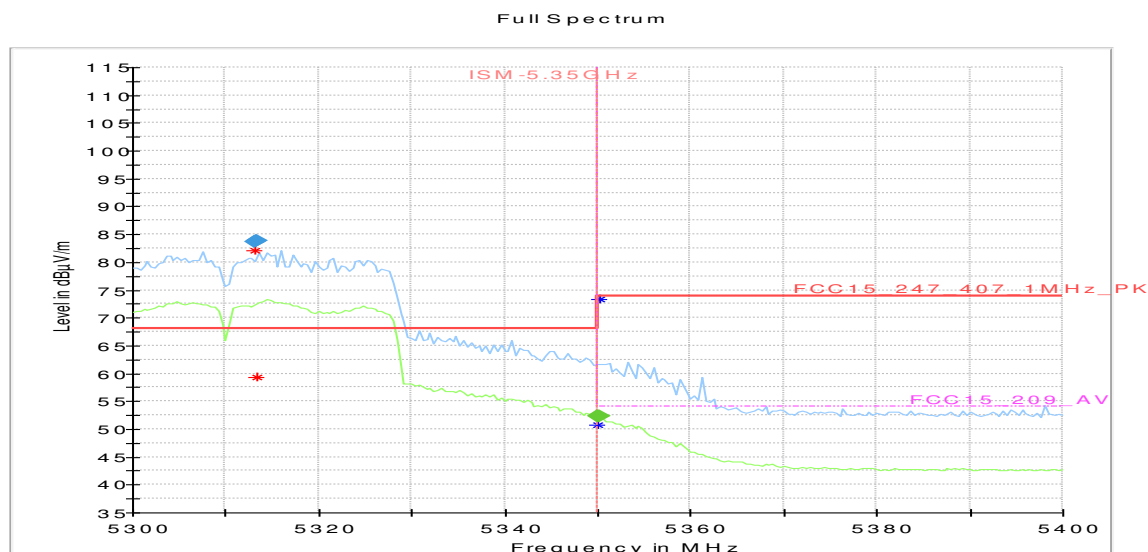
 Operator Name: KMo
 Comment: Channel no.62 (5310MHz) Upward directed WLAN Antenna

EUT Information

Manufacturer: ACTIA Nordic AB
 EuT: ACUII-06

 HW Version: C
 SW Version: 13
 Serial Number: 21790250902642
 Connected Interfaces: MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector

 Power Supply: 13.8V DC
 Antenna Type: LTE Antenna with SDAR
 434-WLAN-GNSS-SDARS-LTE
 50751424 | 15W421 | Portugal AD801
 SDARS Modified #1



Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	RMS (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
5313.250000	83.69	---	68.00	-15.69	100.0	1000.000	155.0	H	8.0
5313.450000	83.88	---	68.00	-15.88	100.0	1000.000	155.0	H	7.0
5350.100000	---	52.24	54.00	1.76	100.0	1000.000	155.0	H	22.0
5350.150000	---	52.30	54.00	1.70	100.0	1000.000	155.0	H	22.0

(continuation of the "Final_Result" table from column 15 ...)

Frequency (MHz)	Elevation (deg)	Corr. (dB)
5313.250000	90.0	12.4
5313.450000	90.0	12.4
5350.100000	90.0	12.2
5350.150000	90.0	12.2

6.9. Channel 102 n-Mode (left band edge)

Diagram No.: 9.14_Dwn_Ch102_MCS0_8dBm

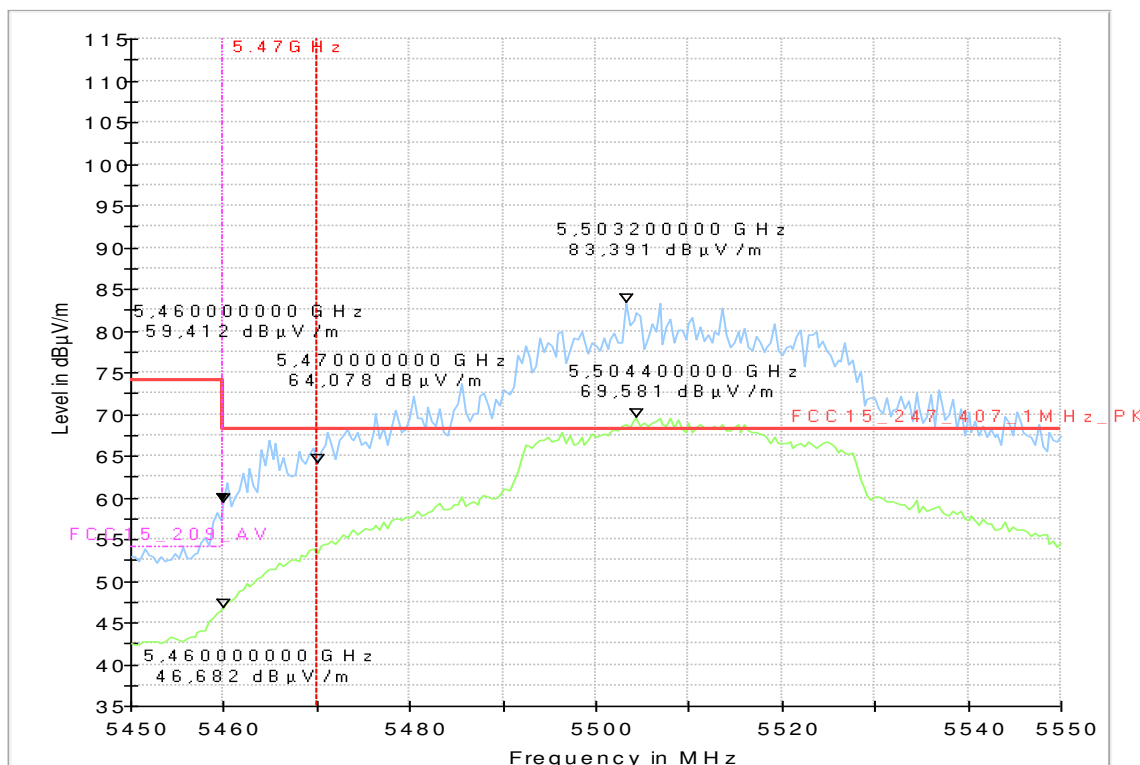
Common Information

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, 5GHz Band
Operator Name:	Lor
Comment:	Channel no. low=102, MCS0, Downward Ant, 8dBm

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06
-----	-----
HW Version:	C
SW Version:	13
Serial Number:	21790250902643
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum



9.14_Up_Ant_BE_BW40MHz_Ch102_ac-Mode_MCS0_8dBm

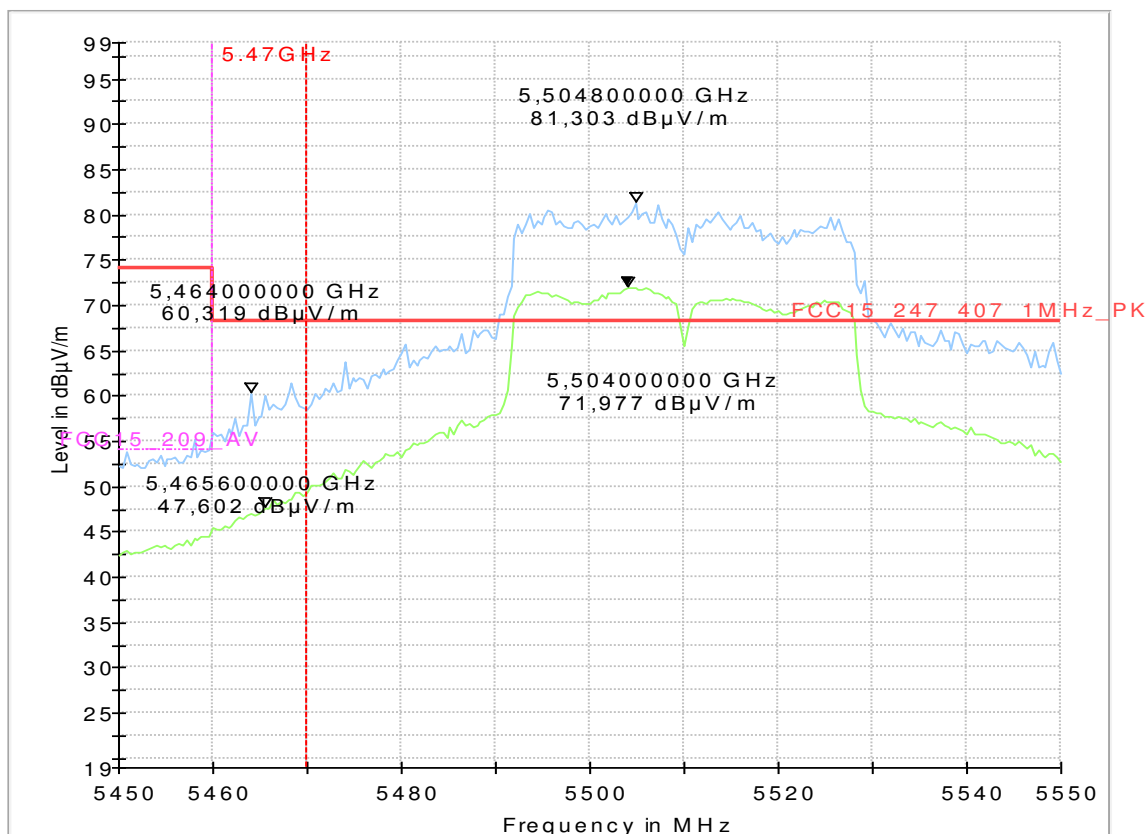
Common Information

Test Description:	Band-Edge Measurements in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.407&15.209 Intentional Radiator
Antenna polarisation:	horizontal/vertical
Operation mode:	WLAN 802.11ac-mode, BW 40 MHz channel 102; Data rate MCS0 ; Power 8 dBm
Operator Name:	KMo
Comment:	Channel no.102 (5510MHz) Upward directed WLAN Antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06
-----	-----
HW Version:	C
SW Version:	13
Serial Number:	21790250902642
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum



6.10. Channel 134 n-Mode (right band edge)

9.15_Dwn_Ant_BE_BW40MHz_Ch134_ac-Mode_MCS0_8dBm

Common Information

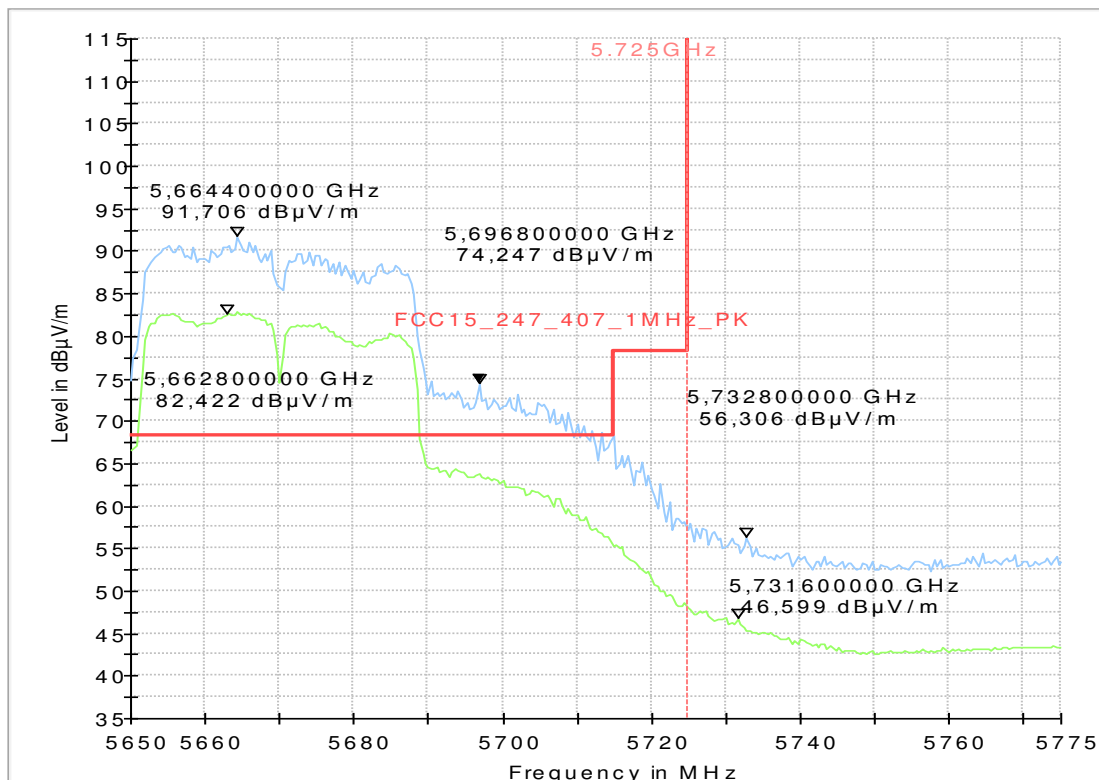
Test Description:	Band-Edge Measurements in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.407&15.209 Intentional Radiator
Antenna polarisation:	horizontal/vertical
Operation mode:	WLAN 802.11ac-mode, BW 40 MHz channel 134; Data rate MCS0 ; Power 8 dBm
Operator Name:	Lor
Comment:	Channel no.134 (5670MHz) Downward directed WLAN Antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902642
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum



9.15_Up_Ant_BE_BW40MHz_Ch134_ac-Mode_MCS0_8dBm

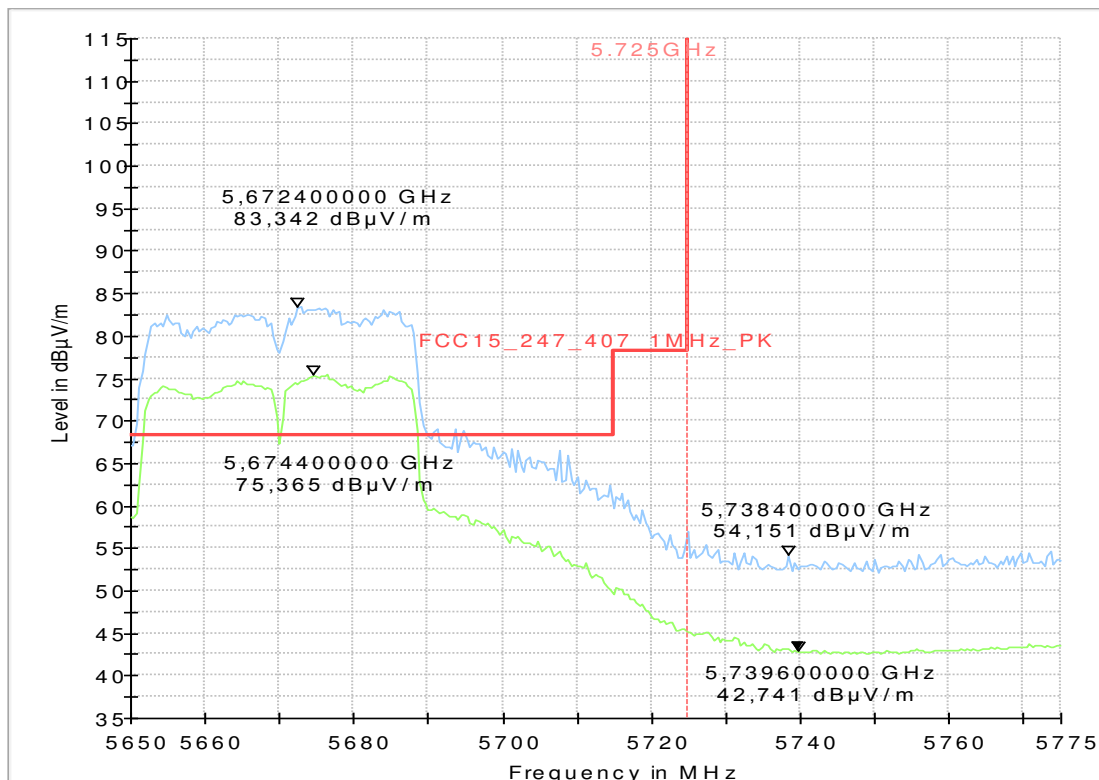
Common Information

Test Description:	Band-Edge Measurements in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.407&15.209 Intentional Radiator
Antenna polarisation:	horizontal/vertical
Operation mode:	WLAN 802.11ac-mode, BW 40 MHz channel 134; Data rate MCS0 ; Power 8 dBm
Operator Name:	KMo
Comment:	Channel no.134 (5670MHz) Upward directed WLAN Antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06
-----	-----
HW Version:	C
SW Version:	13
Serial Number:	21790250902642
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum



6.11. Channel 151 n-Mode (left band edge)

Diagram No.: 9.13_Dwn_Ch151_MCS0_8dBm

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

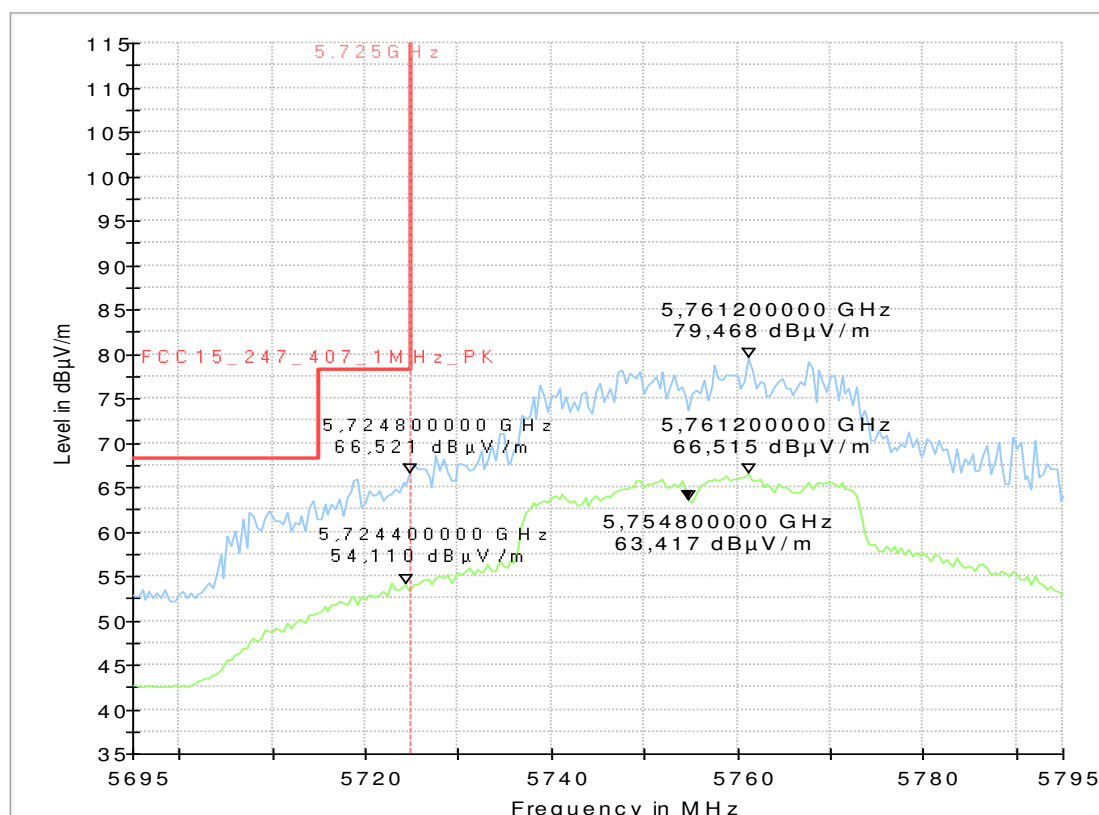
Operation mode:	TX, continuous, 5GHz Band
Operator Name:	Lor
Comment:	Channel no. low=151, MCS0, Downward, 8dBm

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902643
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum



9.16_Up_Ant_BE_BW40MHz_Ch151_ac-Mode_MCS0_8dBm

Common Information

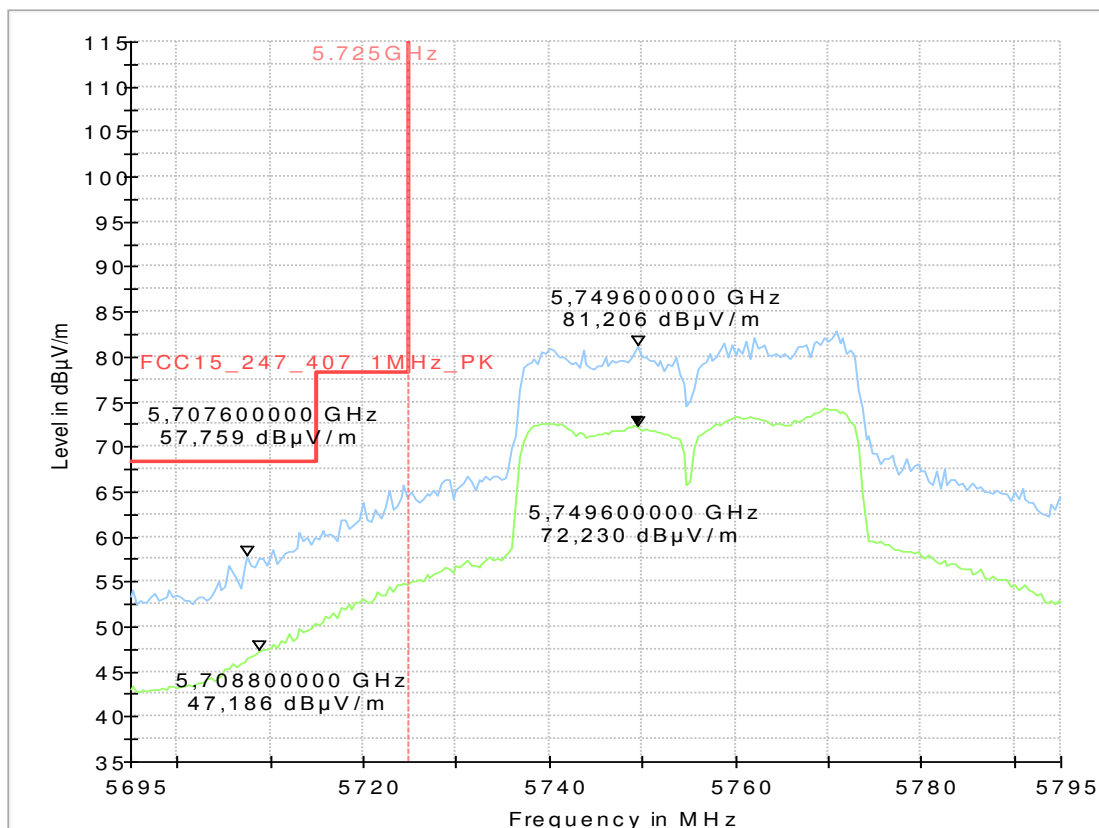
Test Description:	Band-Edge Measurements in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.407&15.209 Intentional Radiator
Antenna polarisation:	horizontal/vertical
Operation mode:	WLAN 802.11ac-mode, BW 40 MHz channel 151; Data rate MCS0 ; Power 8 dBm
Operator Name:	KMo
Comment:	Channel no.151 (5755MHz) Upward directed WLAN Antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902642
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum



6.12. Channel 159 n-Mode (right band edge)

Diagram No.: 9.17_Dwn_Ant_BE_BW40MHz_Ch159_ac-Mode_MCS0_8dBm

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:	WLAN 802.11ac-mode, BW 40 MHz channel 159; Data rate MCS0 ; Power 8 dBm
Operator Name:	APh
Comment:	Channel no.159 (5795 MHz) Downward directed WLAN Antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACUII-06
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HW Version:	C
SW Version:	13
Serial Number:	21790250902642
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum

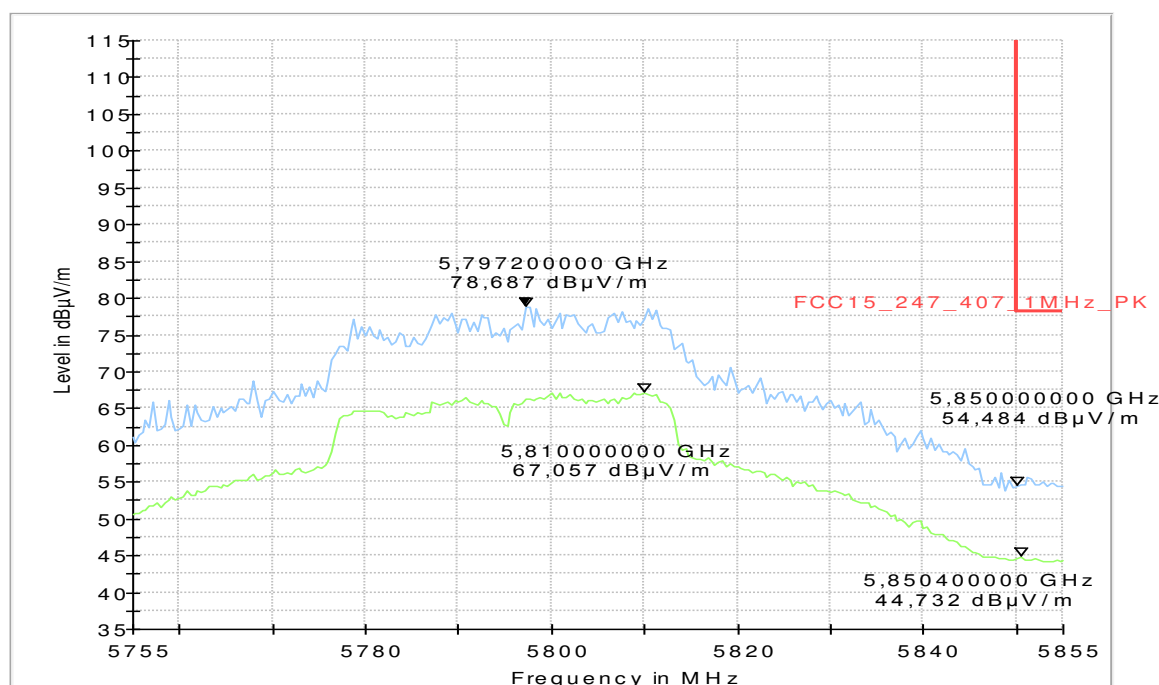


Diagram No.: 9.17_Up_Ant_BE_BW40MHz_Ch159_ac-Mode_MCS0_8dBm

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:	WLAN 802.11ac-mode, BW 40 MHz channel 159; Data rate MCS0 ; Power 8 dBm
Operator Name:	APh
Comment:	Channel no.159 (5795 MHz) Upward directed WLAN Antenna

EUT Information

Manufacturer:	ACTIA Nordic AB
EuT:	ACU11-06

HW Version:	C
SW Version:	13
Serial Number:	21790250902642
Connected Interfaces:	MAIN harness, DCL Ethernet cable, Antenna with power supply cable, WLAN antenna cable, GNSS antenna cable, 2G/3G/4G antenna cable, 3G/4G Diversity antenna cable, Termination for IHU Ethernet connector
Power Supply:	13.8V DC
Antenna Type:	LTE Antenna with SDAR 434-WLAN-GNSS-SDARS-LTE 50751424 15W421 Portugal AD801 SDARS Modified #1

Full Spectrum

