

## FCC Part 15E Compliance Test Report

<b>Test Report no.:</b>	FCC15E_RM-1085_26.docx	<b>Date of Report:</b>	09-Sep-2015
<b>Number of pages:</b>	61	<b>Customer's Contact person:</b>	Tia Melava
<b>Testing laboratory:</b>	TCC Microsoft Salo Laboratory P.O.Box(86) Joensuunkatu 7E FIN-24101 SALO, FINLAND Tel. +358 (0) 7180 08000 Fax. +358 71 80 44122	<b>Customer:</b>	Microsoft P.O.Box(86) Joensuunkatu 7E FIN-24101 SALO, FINLAND Tel. +358 (0) 7180 08000 Fax. +358 71 80 44122
<b>FCC listing no.:</b>	533467		
<b>IC recognition no.:</b>	661V-1		
<b>Tested devices/ accessories:</b>	<b>Phone RM-1085 / Battery BV-T4D / Charger AC-100E / Headset WH-308</b>		
<b>FCC ID:</b>	PYARM-1085	<b>IC:</b>	661X-RM1085
<b>Supplement reports:</b>	-		
<b>Testing has been carried out in accordance with:</b>	<b>CFR 47, FCC rules Part 15 Subpart E, ANSI C63.4 (2014), DTS procedures KDB 789033 D02 v01, IC standards, RSS-210 (Issue 8, December 2010). Deviations, modifications or clarifications (if any) to above mentioned documents are written in each section under "Test method and limit".</b>		
<b>Documentation:</b>	The test report must always be reproduced in full; reproduction of an excerpt only is subject to written approval of the testing laboratory. The documentation of the testing performed on the tested devices is archived for 15 years at TCC Microsoft.		
<b>Test Results:</b>	<b>The EUT complies with the requirements in respect of all parameters subject to the test.</b> The test results relate only to devices specified in this document		
<b>Date and signature for the contents:</b>			

Kalle Hannila, System Manager, EMC

## 1. Summary for FCC Part 15E Compliance Test Report

Date of receipt	30-Jun-2015
Testing completed	17-Aug-2015
The customer's contact person	Tia Melava
Test Plan referred to	T:\Projects\RM-1085\TestPlan\RS_TestPlan_RM-1085.xlsm
Notes	-
Document name	T:\Projects\RM-1085\EMC\FCC15E_RM-1085_26.docx

### 1.1. EUT and Accessory Information

The EUT is a mobile phone with following features:  
GSM/WCDMA/WLAN/Bluetooth  
The EUT is tested with maximum rated TX power.

Devices under tests

Product	Type	SN	HW	MV	SW	DUT
Phone	RM-1085	0044027423084756059W5J6	2110	-	01065.00000.15264.47000	100191
Battery	BV-T4D	495540517401030034260670771	-	-	-	100190
Charger	AC-100E	409049512558030174860675758	0.3	B2.0	-	100196
Headset	WH-308	51251B1	-	-	-	100195
Phone	RM-1085	004402742308384;059W5J6	2110	-	01063.00001.15244.09000	100024
Battery	BV-T4D	4955405174010300826;0670771	v3.0	-	-	100025
Charger	AC-100E	4090495125580301585;0675758	0.3	B2.0	-	100026
Headset	WH-308	51251B1	-	-	-	100028

### 1.2. Summary of Test Results

5 GHz RLAN:

Section in CFR 47	Section in RSS-GEN or RSS-210	Name of the test	Result
15.407(a)	A9.2	Conducted peak output power	NP
15.407(b)	A9.2	Band edge compliance of RF emissions	PASSED
15.407(b)	A9.2	Spurious radiated emissions	PASSED
15.407(b)(6)	A9.2	AC powerline conducted emissions	PASSED
	A9.2	6dB(bandwidth)	NP
	A9.2	26dB(bandwidth)	NP
15.407(a)	A9.2	Maximum power spectral density	NP

PASSED  
FAILED  
NP

The EUT complies with the essential requirements in the standard.  
The EUT does not comply with the essential requirements in the standard.  
The test was not performed by the TCC Microsoft Laboratory.

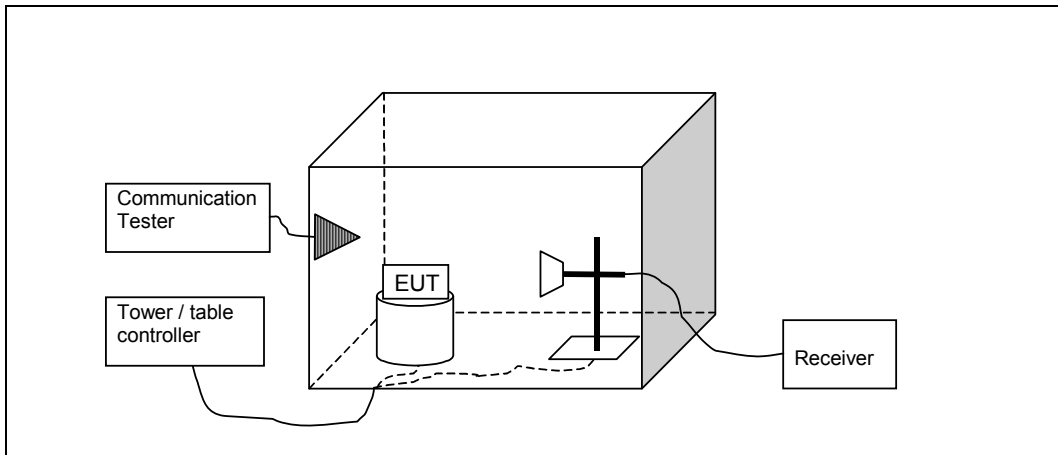
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## 2. Band edge compliance of RF emissions (FCC §15.407(b), RSS-210 A9.2)

<b>EUT with DUT number</b>	RM-1085, DUT 100191
<b>Accessories with DUT numbers</b>	BV-T4D, DUT 100190 ; AC-100E, DUT 100196 ; WH-308, DUT 100195
<b>Operation Voltage [V] / [Hz]</b>	115 / 60
<b>Results</b>	PASSED
<b>Remarks</b>	-
<b>Temp [°C] / Humidity [%RH] / Air Pressure [kPa]</b>	22 / 44 / 100.4 – 101.1
<b>Date of measurements</b>	25 – 28-Jul-2015
<b>Measured by</b>	Kalle Hannila / Ville Mannermaa

### 2.1.1 Test setup



### 2.2. Test method and limit

The measurement is made according to KDB 789033 and IC standard RSS-210. The measurement results are obtained as described below:

$$E [dB\mu V/m] = U_{RX} + A_{TOT}$$

Where  $U_{RX}$  is receiver reading and  $A_{TOT}$  is total correction factor including cable loss, antenna factor and preamplifier gain ( $A_{TOT} = L_{CABLES} + A_F - G_{PREAMP}$ ).

The limits in the table below are listed for the 100 MHz span around the band edges.

$$P [W] = (10 \text{ to power } (P [dBm / 10]) / 1000.$$

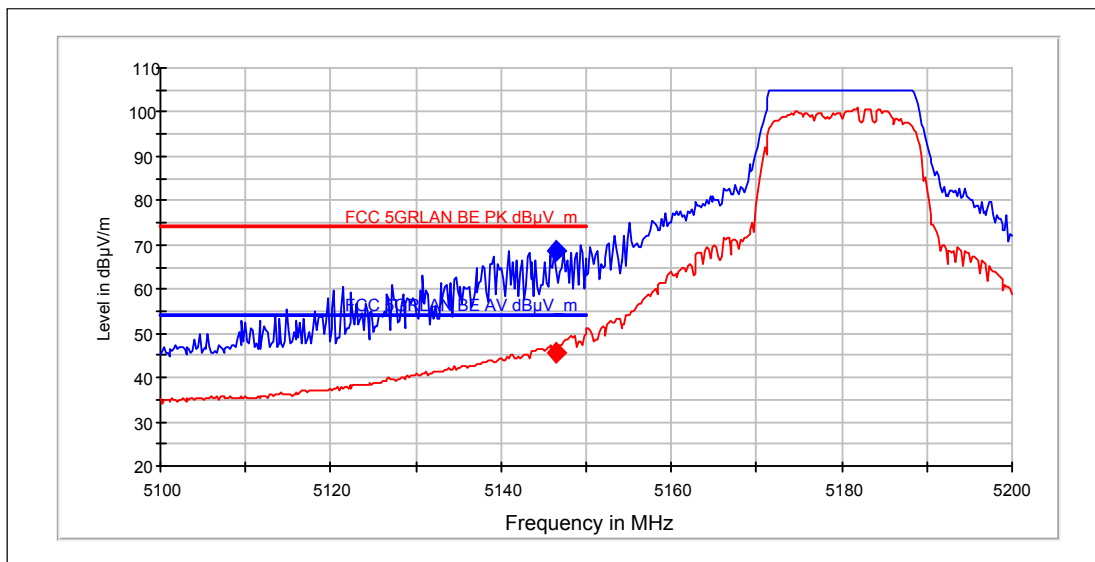
$$E [dB\mu V/m] = 20 * \text{LOG} ((\text{square root } (30 * P [W]) / 3 \text{ m}) * 1000000)$$

Frequency range [MHz]	Limit
5150 - 5250	≤ 5.150 GHz: 54 dBuV/m (avg), 74 dBuV/m (pk)
5250 - 5350	≥ 5.350 GHz: 54 dBuV/m (avg), 74 dBuV/m (pk)
5470 - 5725	≤ 5.460 GHz: 54 dBuV/m (avg), 74 dBuV/m (pk) 5.460 – 5.470 GHz: -27 dBm/MHz (pk) equals 68.23 dBuV/m @ 3m
5725 - 5850	5.715 – 5.725 GHz and 5.850 – 5.860 GHz: -17 dBm/MHz (pk) i.e. 78.23 dBuV/m @ 3m ≤ 5.715 GHz and ≥ 5.860 GHz: -27 dBm/MHz (pk) i.e. 68.23 dBuV/m @ 3m

## 2.3. 5 GHz RLAN test results

### 2.3.1 802.11n, BPSK modulation, 6.5 / 7.25 Mbps data rate.

Channel 36 / 5180MHz



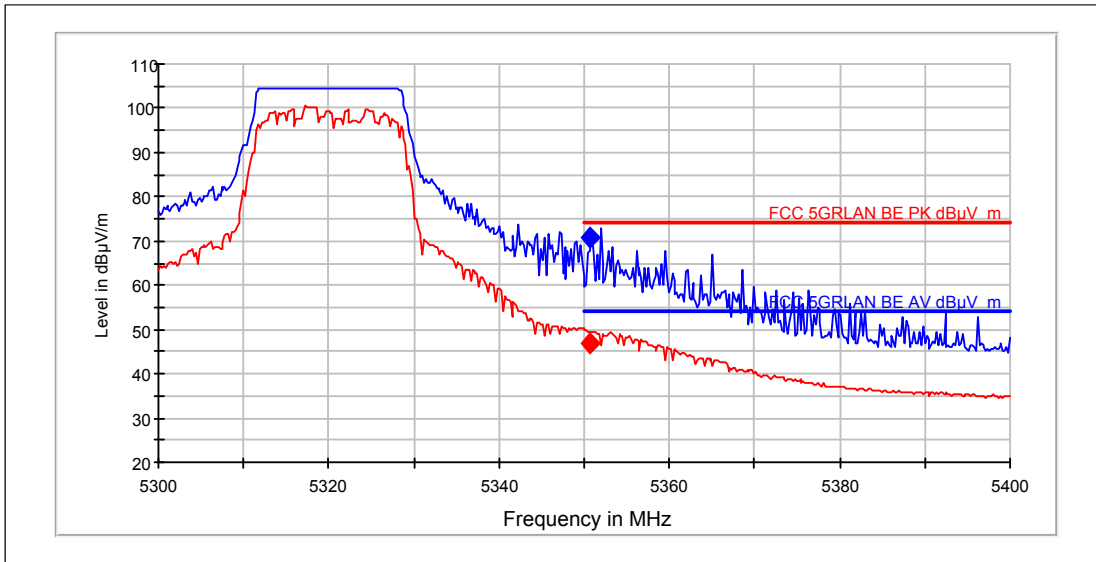
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5146.493	68.69	74	5.31	170	V	22	0	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	Average [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5146.493	45.62	54	8.38	170	V	22	0	PASSED

Channel 64 / 5320MHz



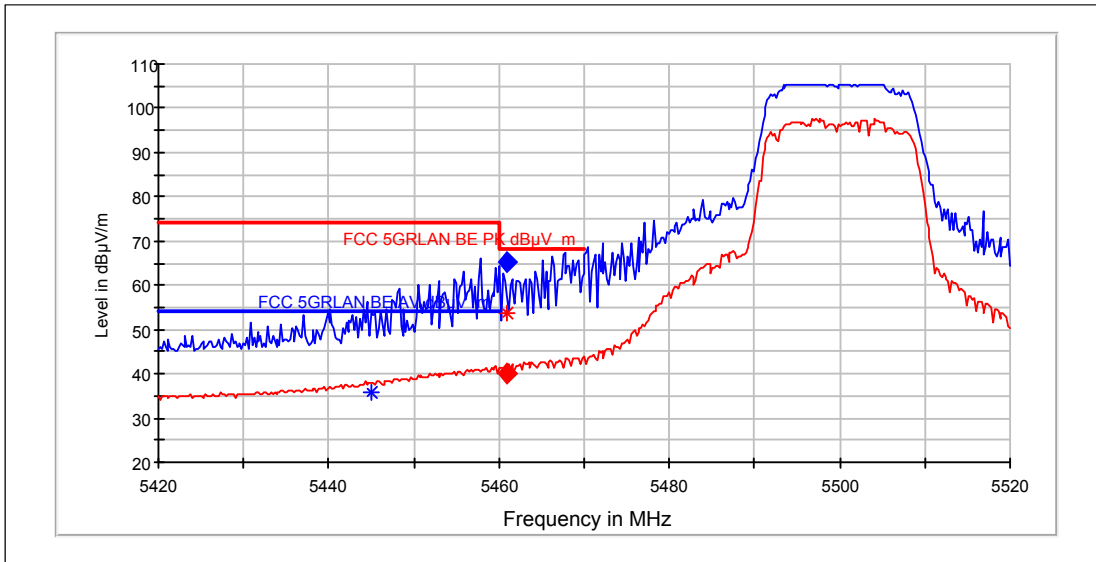
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5350.601	70.72	74	3.28	170	H	6	0	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	Average [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5350.601	46.69	54	7.31	170	H	6	0	PASSED

Channel 100 / 5500MHz



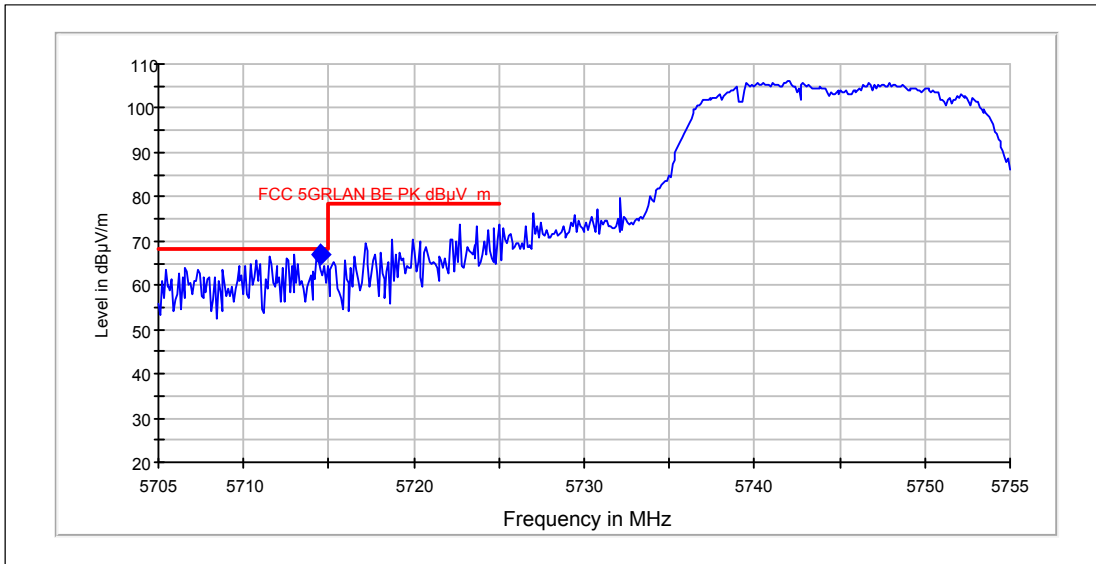
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5460.982	65.41	68.2	2.79	170	H	22	0	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	Average [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5460.982	40.17	---	---	170	H	22	0	PASSED

Channel 149 / 5745MHz

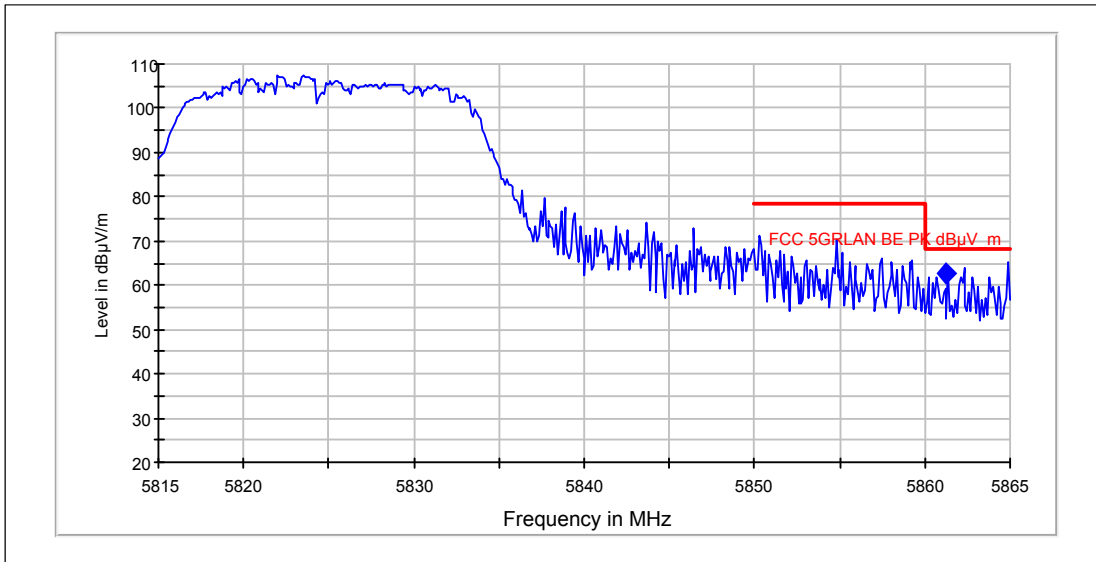


Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5714.539	66.98	68.23	1.25	170	V	-22	0	PASSED



Channel 165 / 5825MHz

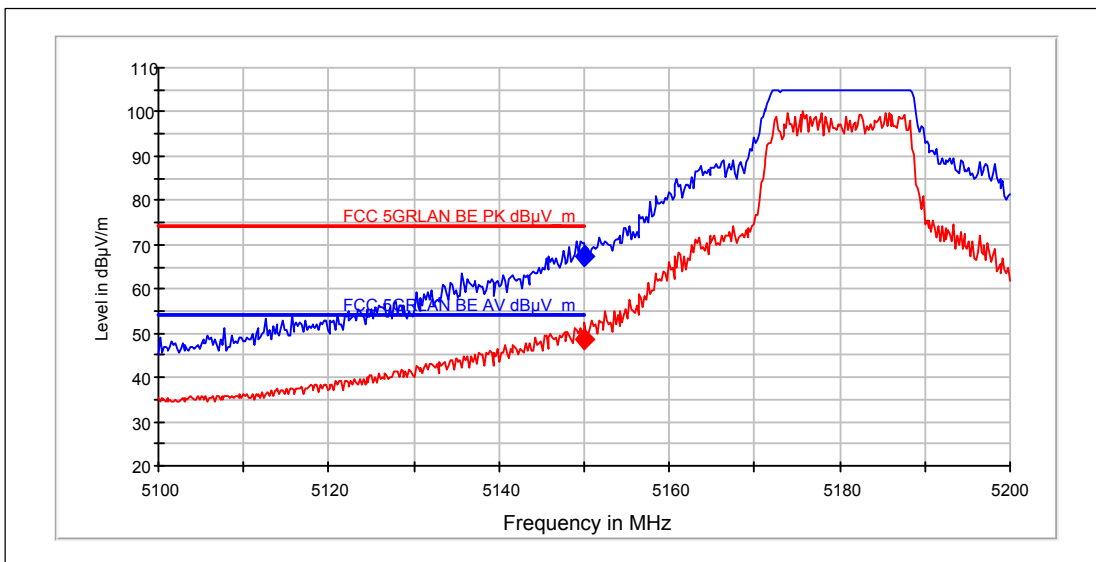


Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5861.273	62.82	68.23	5.41	170	H	22	0	PASSED

### 2.3.2 802.11a, 16QAM modulation, 24 Mbps data rate.

Channel 36 / 5180MHz



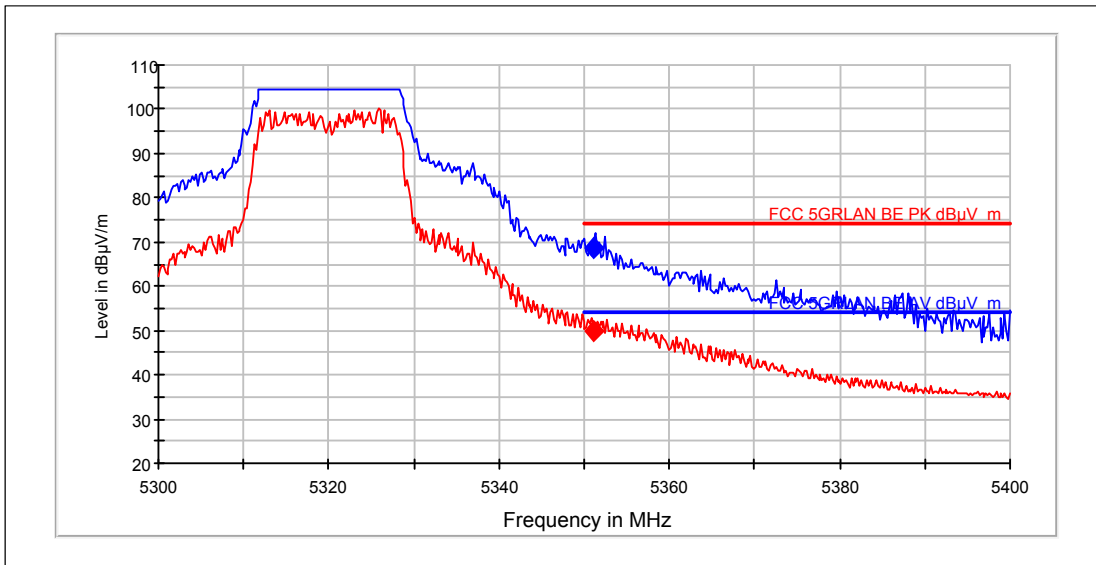
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5150	67.28	74	6.72	170	V	5	0	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	Average [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5150	48.39	54	5.61	170	V	5	0	PASSED

Channel 64 / 5320MHz



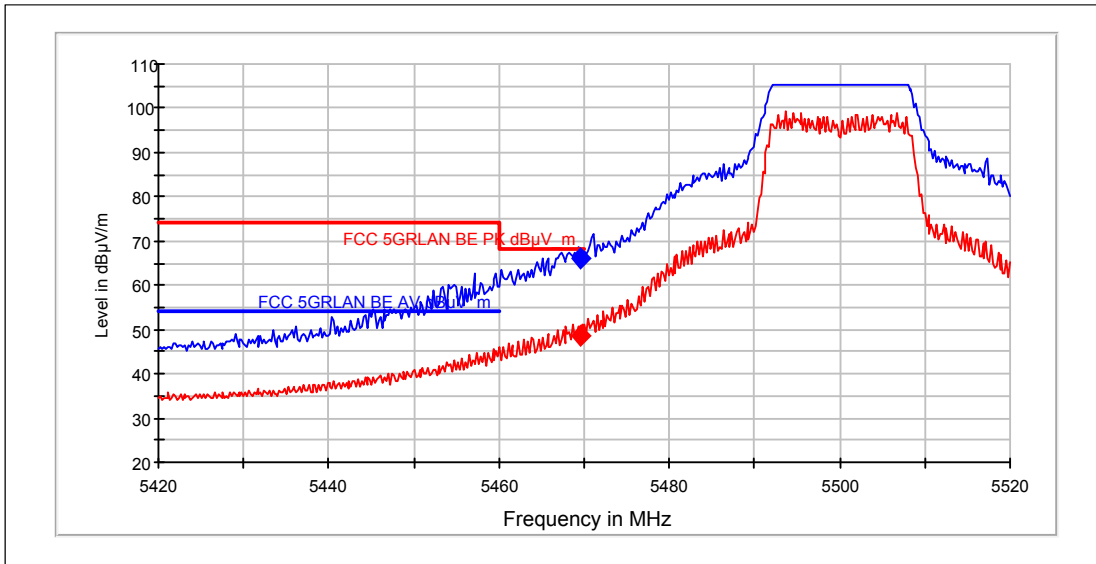
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5351.102	68.46	74	5.54	170	H	5	0	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	Average [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5351.102	49.97	54	4.03	170	H	5	0	PASSED

Channel 100 / 5500MHz



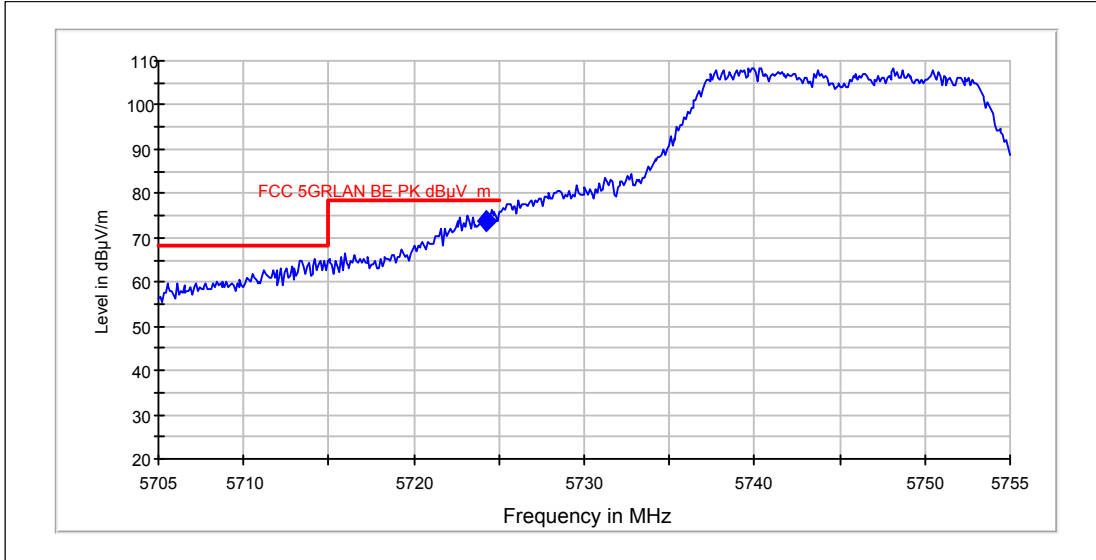
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5469.599	66.13	68.2	2.07	170	H	22	0	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	Average [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5469.599	48.68	---	---	170	H	22	0	PASSED

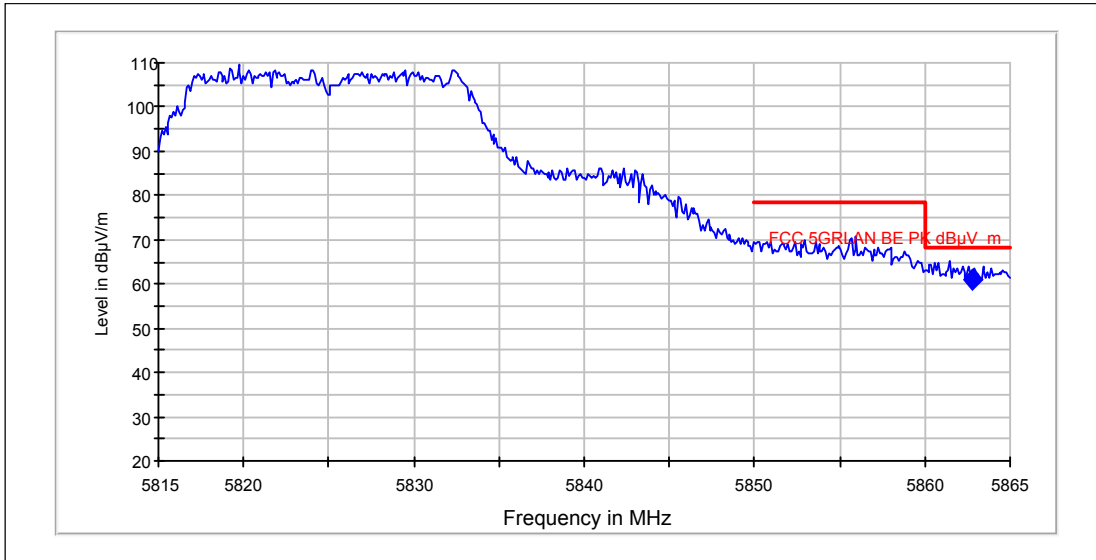
Channel 149 / 5745MHz



Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5724.279	73.89	78.23	4.34	170	V	-18	0	PASSED

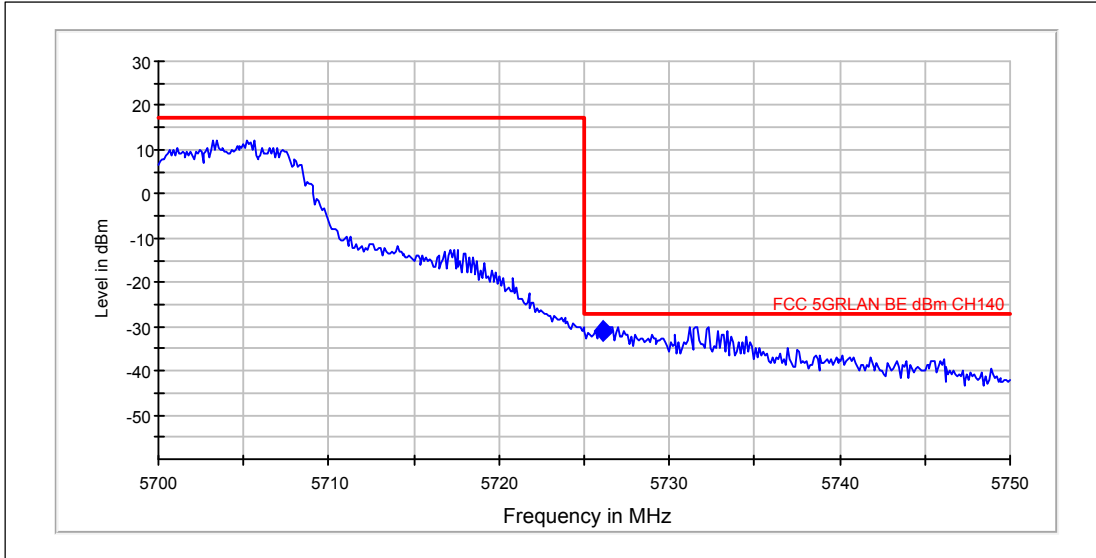
Channel 165 / 5825MHz



Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5862.776	61.13	68.23	7.1	170	H	9	0	PASSED

Channel 140 / 5700MHz

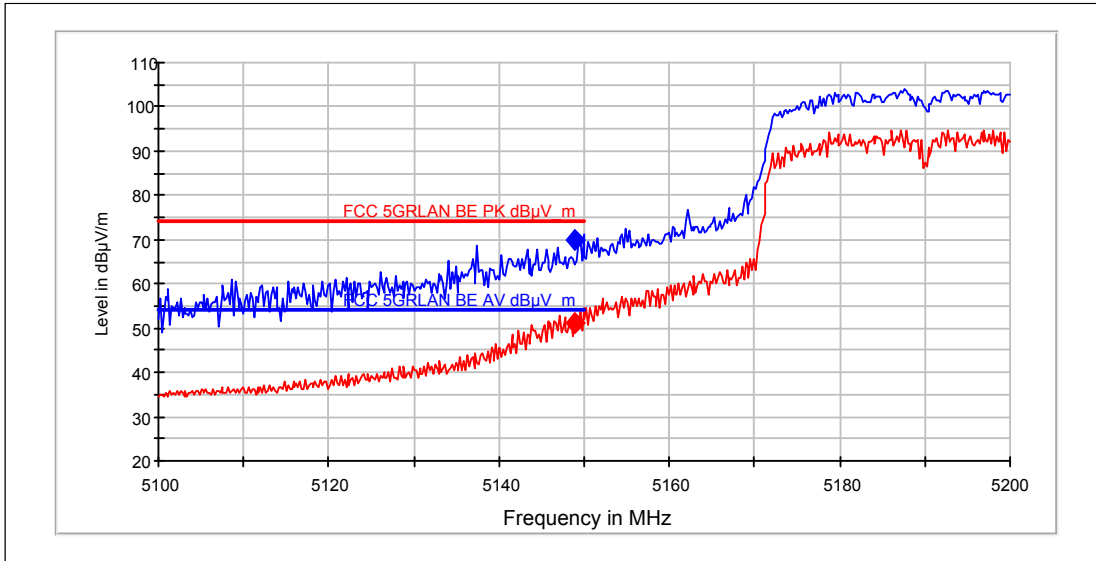


Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5726.102	-31.05	-27	4.05	170	H	22	0	PASSED

**2.3.3 802.11n, QPSK modulation, 27.0 / 30.0 Mbps data rate.**

Channel 36+40 / 5190MHz



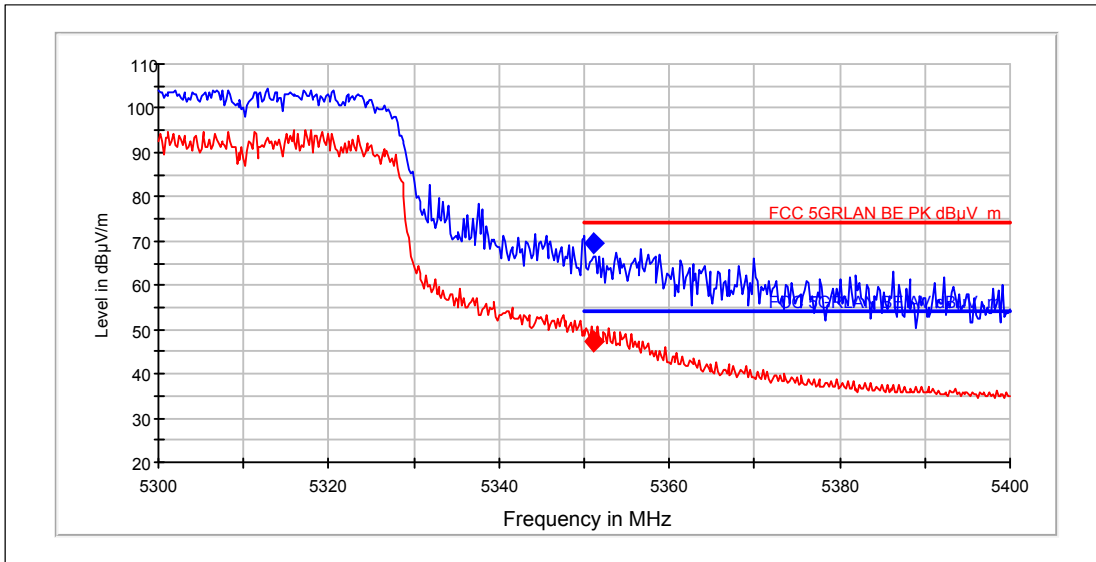
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5148.898	69.8	74	4.2	170	H	1	0	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	Average [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5148.898	51.08	54	2.92	170	H	1	0	PASSED

Channel 60+64 / 5310MHz



Peak (RBW: 1 MHz, VBW: 3 MHz)

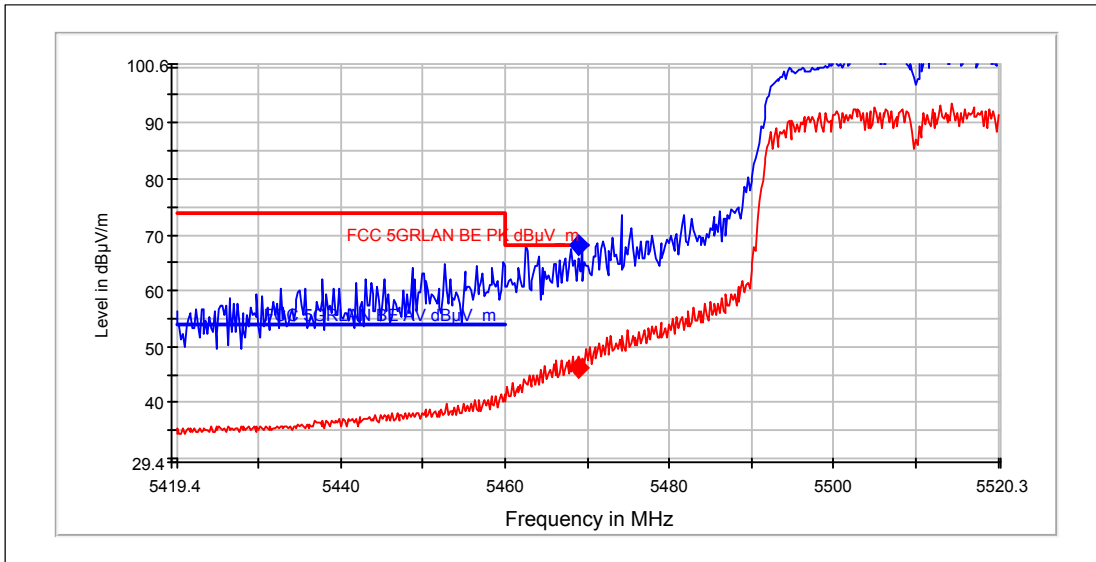
Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5351.202	69.65	74	4.35	170	H	6	0	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	Average [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5351.202	47.19	54	6.81	170	H	6	0	PASSED



Channel 100+104 / 5510MHz



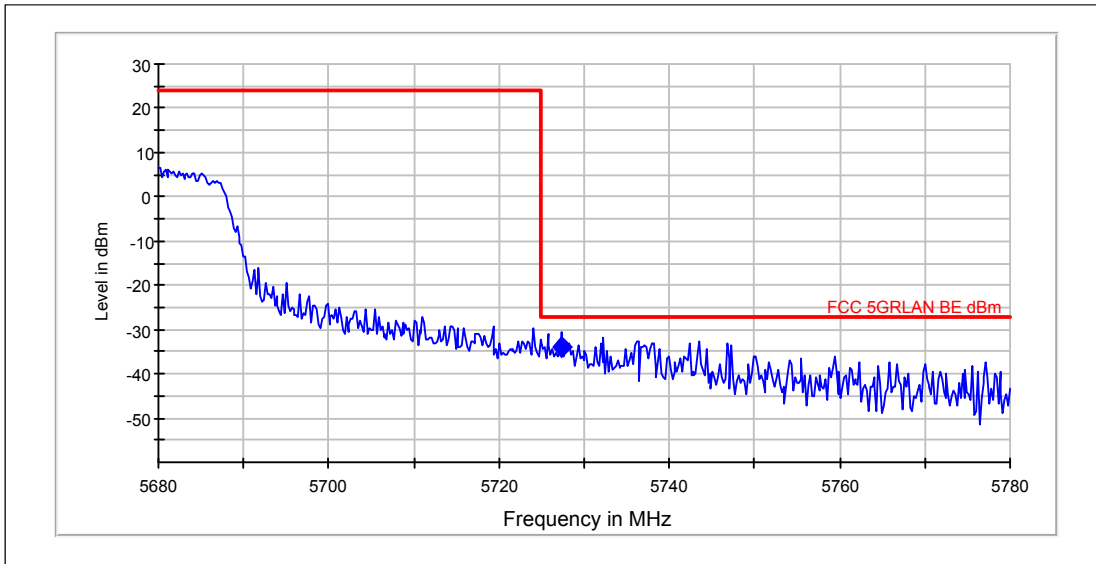
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5468.898	68.09	68.2	0.11	170	H	22	0	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	Average [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5468.898	46.35	---	---	170	H	22	0	PASSED

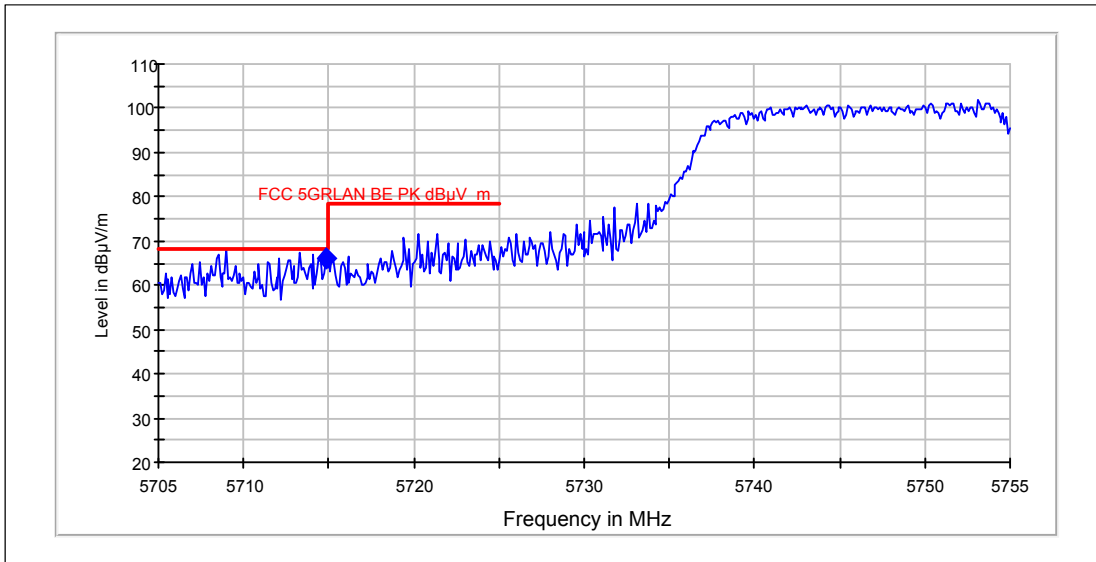
Channel 132+136 / 5670MHz



Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5727.425	-33.81	-27	6.81	170	V	-17	0	PASSED

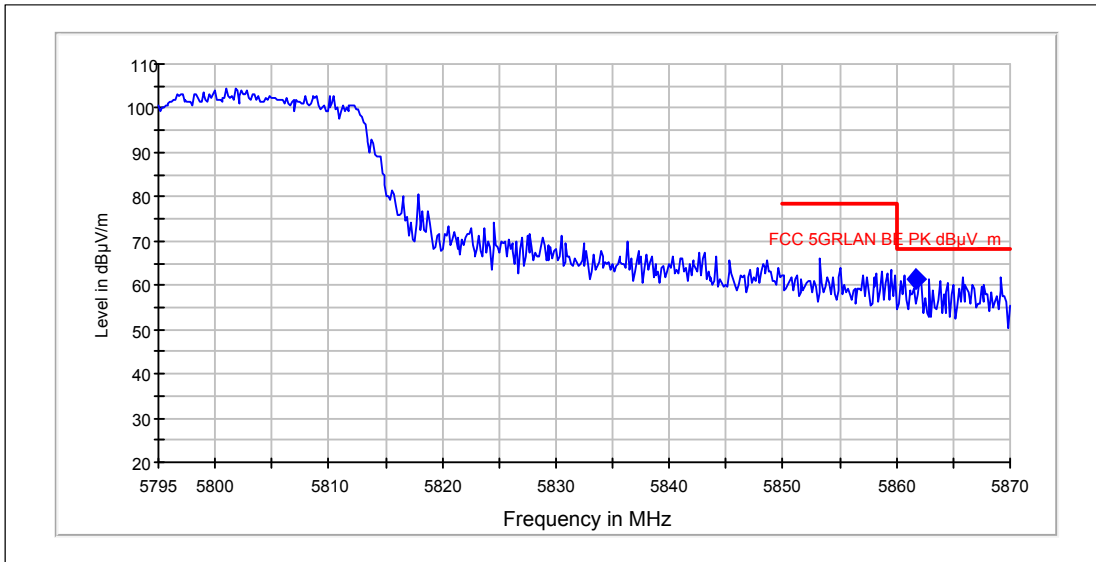
Channel 149+153 / 5755MHz



Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5714.86	65.92	68.23	2.31	170	H	22	0	PASSED

Channel 157+161 / 5795MHz

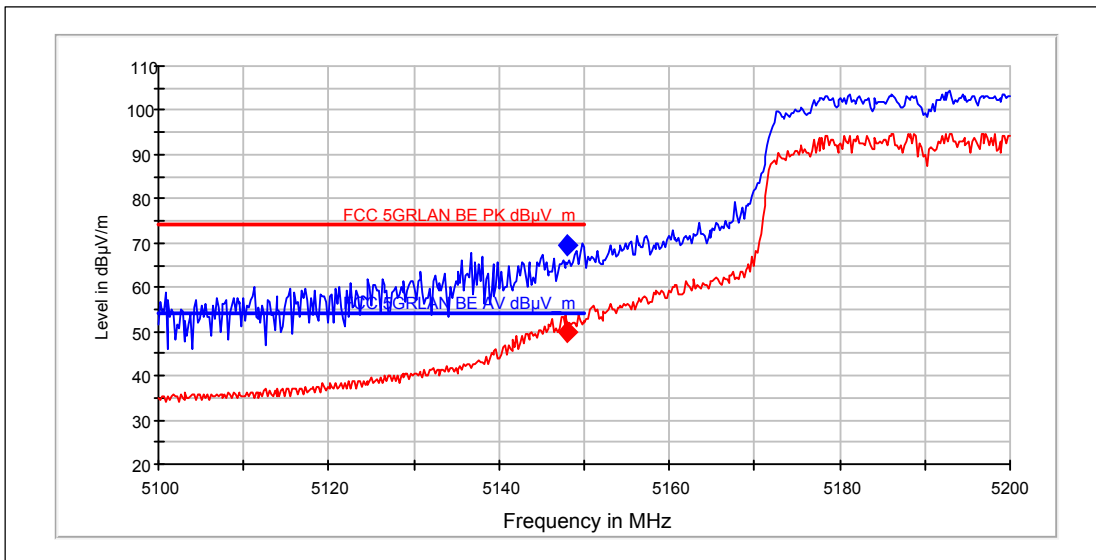


Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5861.703	61.24	68.23	6.99	170	V	-7	0	PASSED

802.11n, BPSK modulation, 13.5 / 15.0 Mbps data rate.

Channel 36+40 / 5190MHz



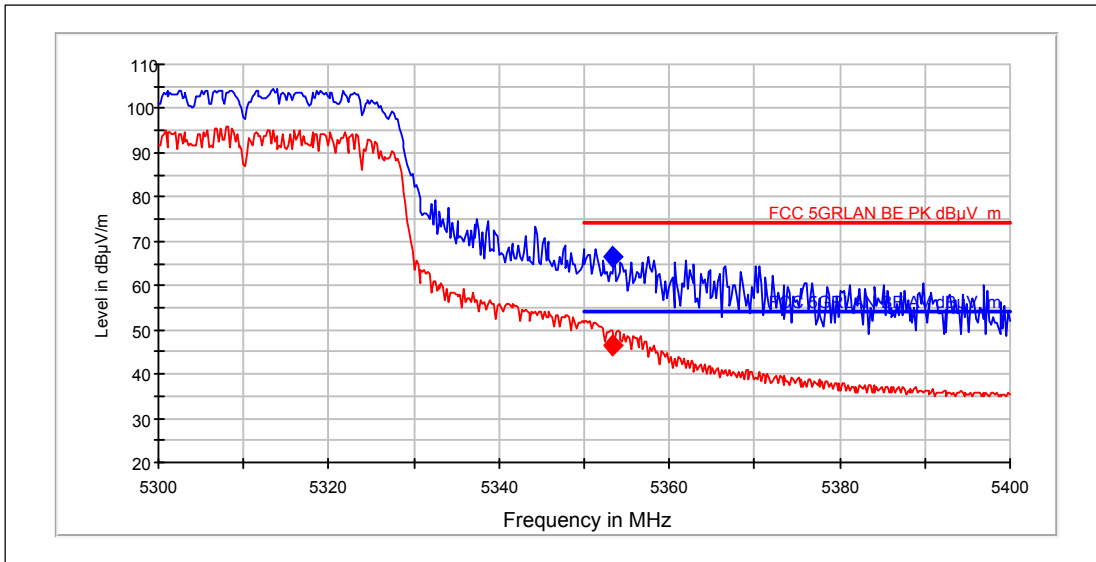
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5148.096	69.31	74	4.69	170	H	22	0	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	Average [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5148.096	49.91	54	4.09	170	H	22	0	PASSED

Channel 60+64 / 5310MHz



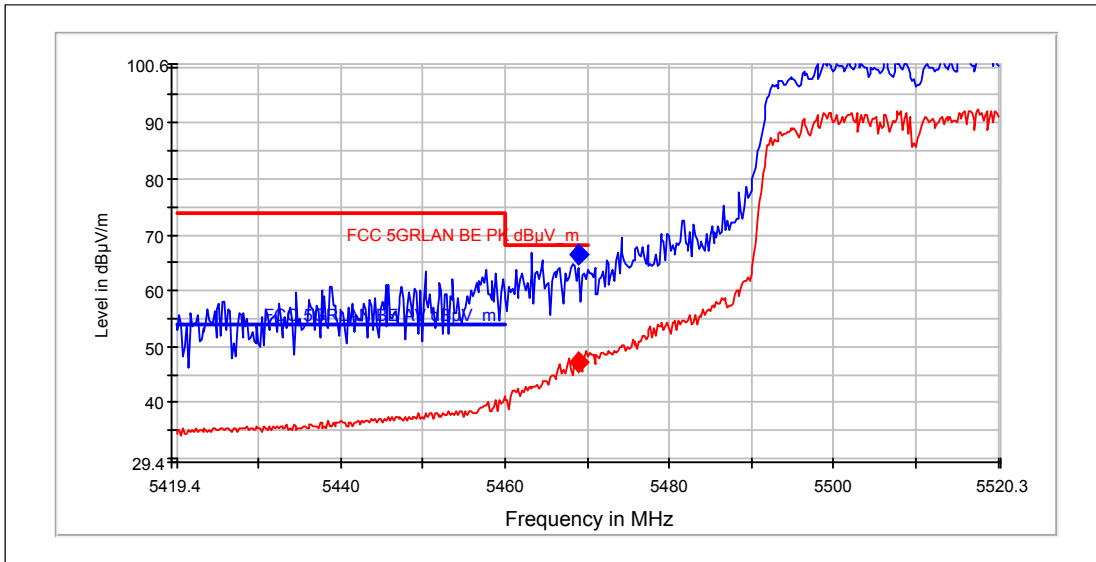
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5353.307	66.57	74	7.43	170	H	9	0	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	Average [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5353.307	46.39	54	7.61	170	H	9	0	PASSED

Channel 100+104 / 5510MHz



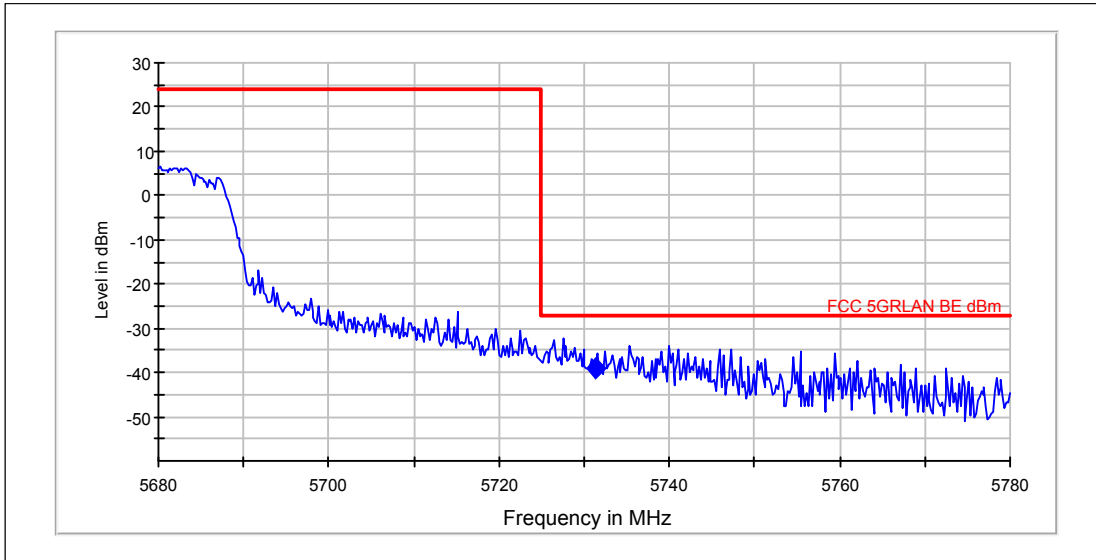
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5468.898	66.56	68.2	1.64	170	H	14	0	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	Average [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5468.898	47.13	---	---	170	H	14	0	PASSED

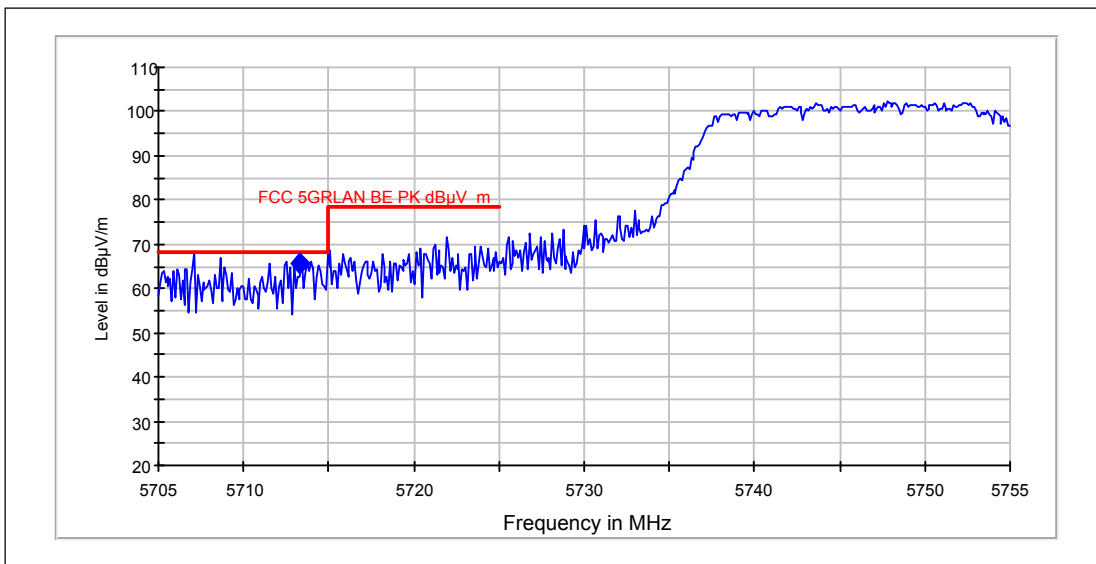
Channel 132+136 / 5670MHz



Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	PoI	Azimuth [deg]	Elevation [deg]	Results
5731.393	-39.18	-27	12.18	170	H	7	0	PASSED

Channel 149+153 / 5755MHz

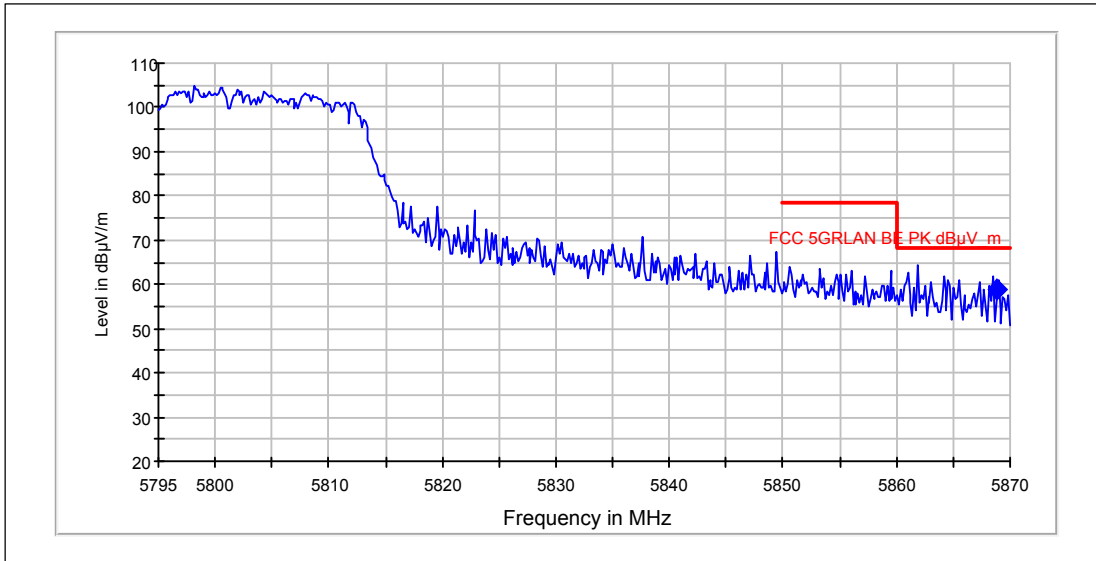


Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	PoI	Azimuth [deg]	Elevation [deg]	Results
5715	68	70	-2					

5713.257	65.71	68.23	2.52	170	V	-16	0	PASSED
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Channel 157+161 / 5795MHz



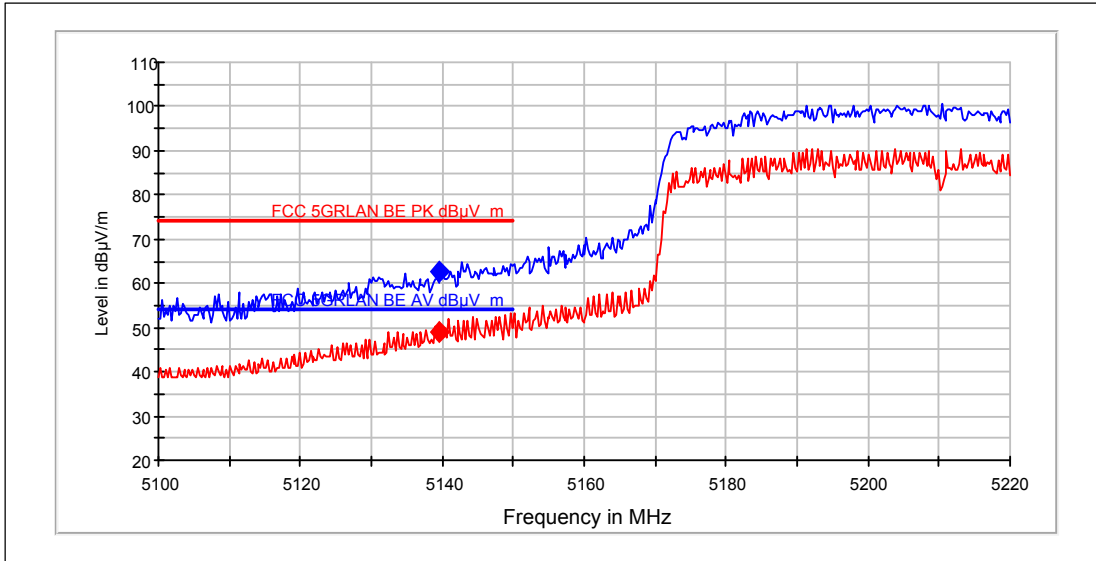
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5868.838	58.7	68.23	9.53	170	V	-1	0	PASSED



**2.3.4 802.11ac, BPSK modulation, 29.3 / 32.5 Mbps data rate.**

Channel 36-48 / 5210MHz



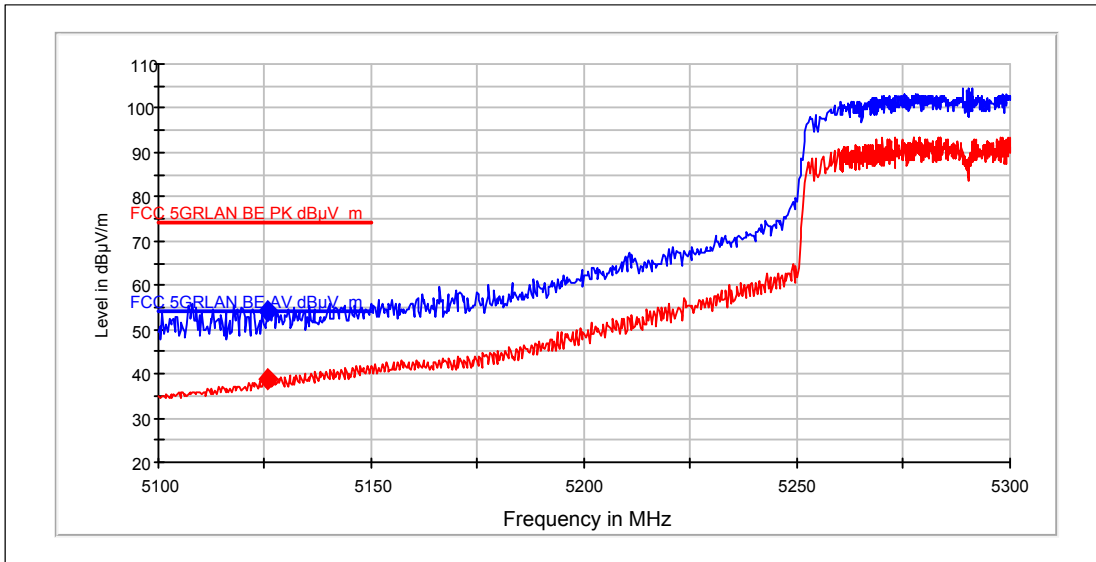
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5139.579	62.61	74	11.39	170	V	22	0	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	Average [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5139.579	48.99	54	5.01	170	V	22	0	PASSED

Channel 52-64 / 5290MHz



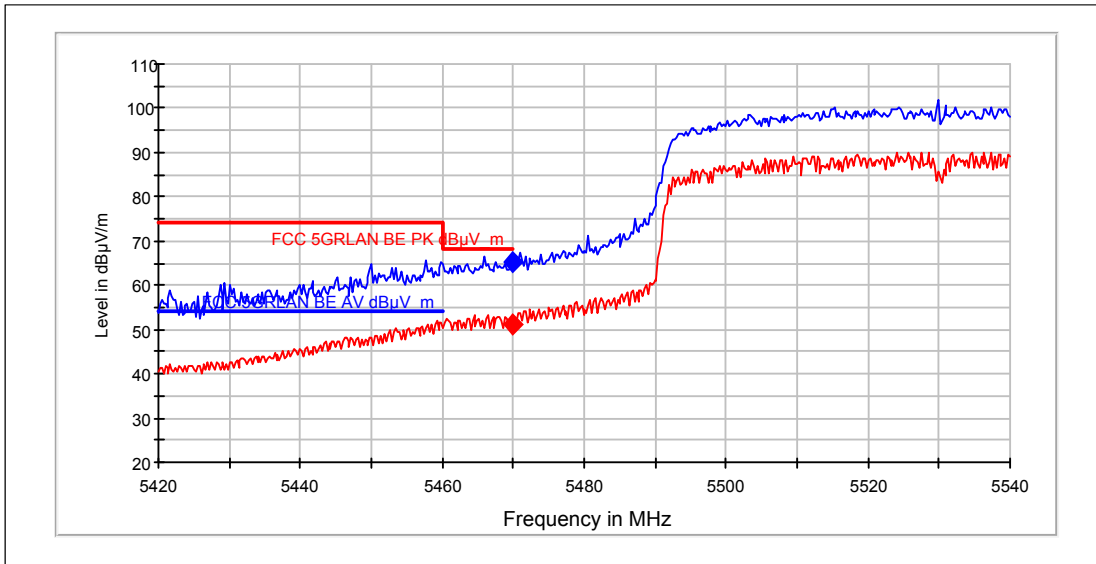
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5125.726	54.16	74	19.84	170	V	22	0	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	Average [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5125.726	38.69	54	15.31	170	V	22	0	PASSED

Channel 100-112 / 5530MHz



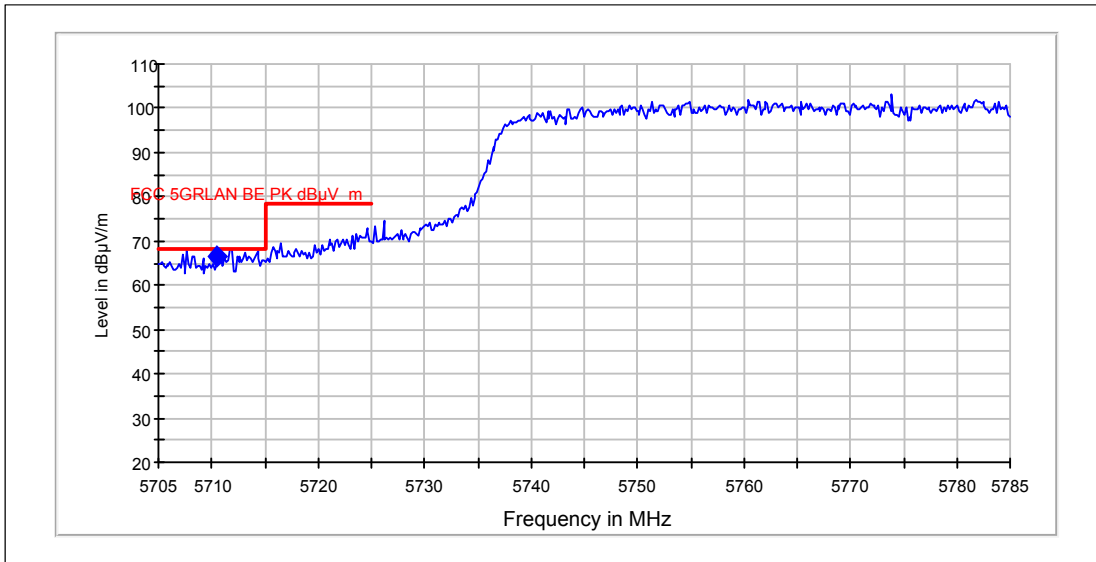
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5469.8	65.03	68.2	3.17	170	H	22	0	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	Average [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5469.8	51.2	---	---	170	H	22	0	PASSED

Channel 149-161 / 5775MHz

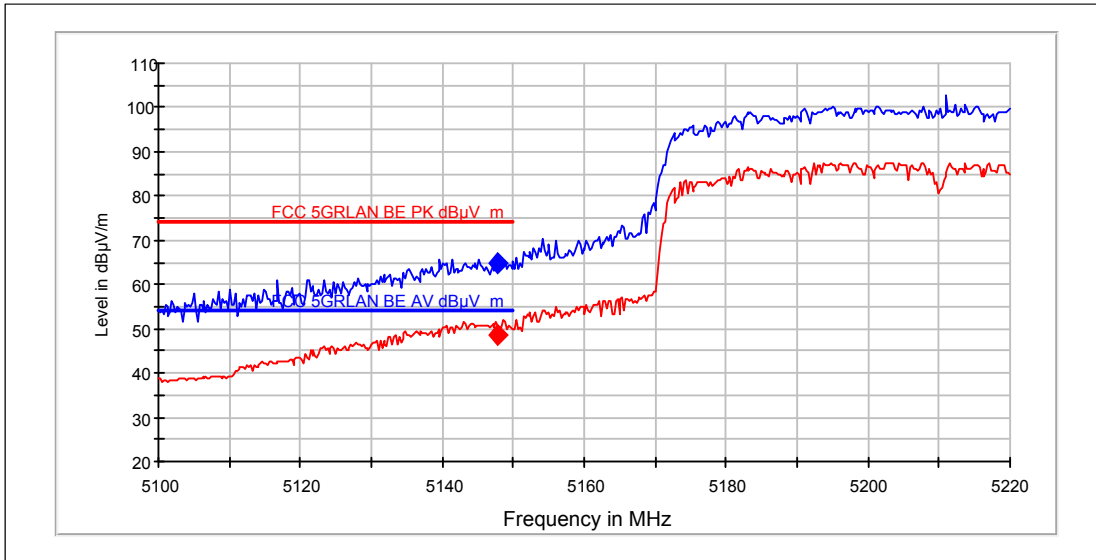


Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5710.491	66.67	68.23	1.56	170	H	22	0	PASSED

**2.3.5 802.11ac, QPSK modulation, 58.5 / 65.0 Mbps data rate.**

Channel 36-48 / 5210MHz



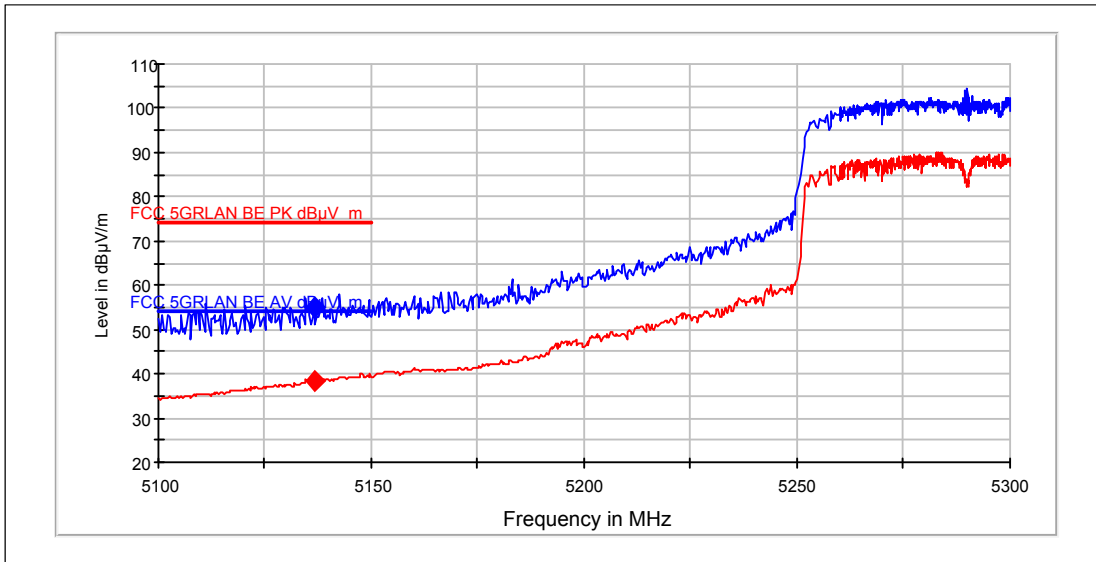
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	PoI	Azimuth [deg]	Elevation [deg]	Results
5147.695	64.6	74	9.4	170	H	11	0	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	Average [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	PoI	Azimuth [deg]	Elevation [deg]	Results
5147.695	48.65	54	5.35	170	H	11	0	PASSED

Channel 52-64 / 5290MHz



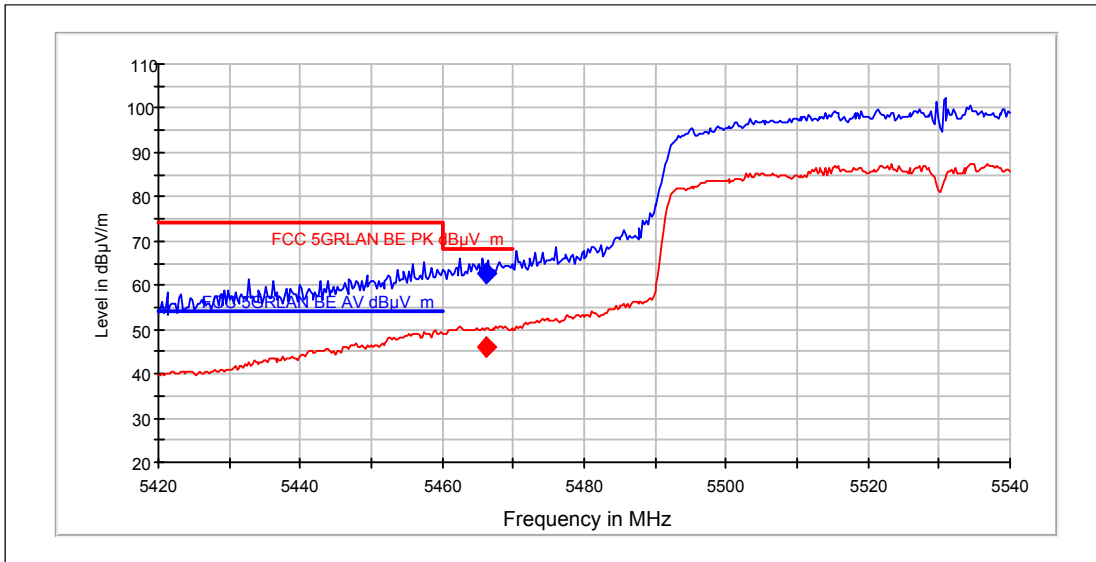
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5136.799	55.05	74	18.95	170	V	22	0	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	Average [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5136.799	38.31	54	15.69	170	V	22	0	PASSED

Channel 100-112 / 5530MHz



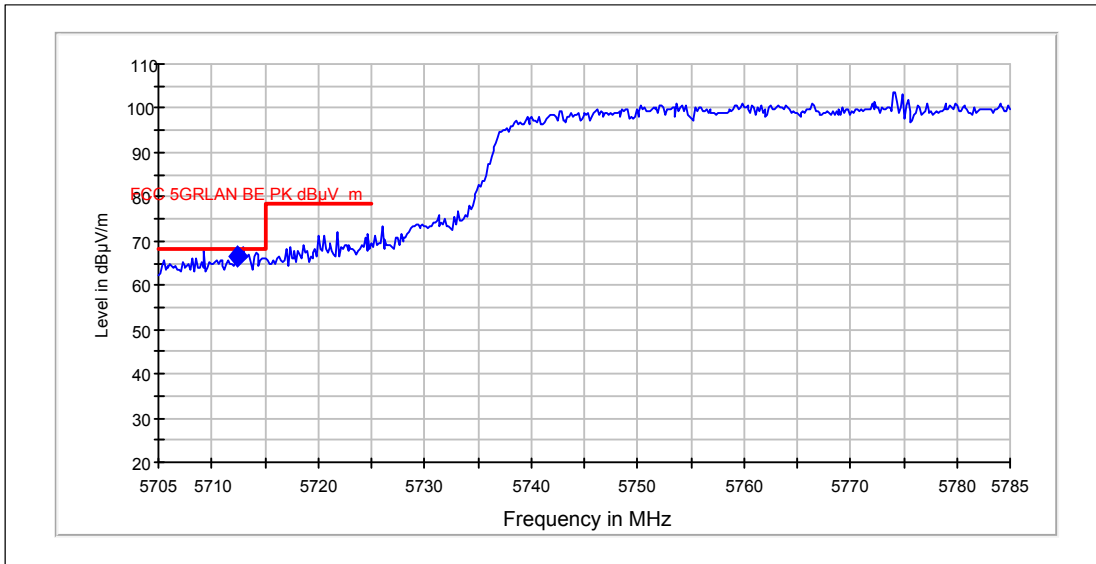
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5466.192	62.75	68.2	5.45	170	H	2	0	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	Average [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5466.192	46.22	---	---	170	H	2	0	PASSED

Channel 149-161 / 5775MHz



Peak (RBW: 1 MHz, VBW: 3 MHz)

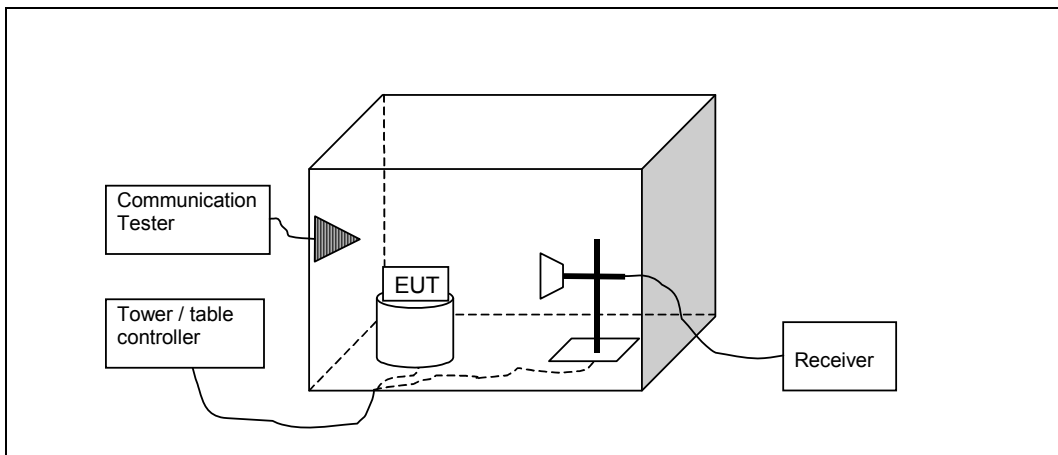
Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5712.415	66.66	68.23	1.57	170	V	-18	0	PASSED



### 3. Spurious radiated emissions (FCC §15.407(b), RSS-210 A9.2)

<b>EUT with DUT number</b>	RM-1085, DUT 100191
<b>Accessories with DUT numbers</b>	BV-T4D, DUT 100190 ; AC-100E, DUT 100196 ; WH-308, DUT 100195
<b>Operation Voltage [V] / [Hz]</b>	115 / 60
<b>Results</b>	PASSED
<b>Remarks</b>	-
<b>Temp [°C] / Humidity [%RH] / Air Pressure [kPa]</b>	22 / 44 / 100.4 – 101.1
<b>Date of measurements</b>	25 – 28-Jul & 17-Aug-2015
<b>Measured by</b>	Kalle Hannila

#### 3.1.1 Test setup



#### 3.2. Test method and limit

The measurement is made the following way:

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with absorbers on the floor and measuring antenna at fixed height using 2-axis EUT position system.

The Final Measurement is performed in the Semi-Anechoic Chamber with conducting metal floor, if the Preliminary Measurement results are closer than 20 dB to the permissible value.

The EUT is placed at nonconductive plate at the turntable center.

For each suspected frequency, the turntable is rotated 360 degrees and antenna is scanned from 1 to 4 m. This is repeated for both horizontal and vertical receive antenna polarizations.

The emissions less than 20 dB below the permissible value are reported.  
The measurement is made up to 10th harmonic of the EUT highest TX channel.

The measurement results are obtained as described below:

$$E [dB\mu V/m] = U_{RX} + A_{TOT}$$

Where  $U_{RX}$  is receiver reading and  $A_{TOT}$  is total correction factor including cable loss, antenna factor and preamplifier gain ( $A_{TOT} = L_{CABLES} + A_F - G_{PREAMP}$ ).

Limits for spurious radiated emissions measurements (3 m measurement distance)  
 There are 2 sets of limit lines. Part 15.209 limits apply below 1 GHz and on restricted bands above 1GHz. The other limits are described in the table below.

Frequency range [MHz]	Limit [dBm / MHz]
5150 - 5250	1 GHz – 5.15 GHz, 5.35 GHz – 40 GHz: -27
5250 - 5350	1 GHz – 5.15 GHz, 5.35 GHz – 40 GHz: -27
5470 - 5725	1 GHz – 5.47 GHz, 5.725 GHz – 40 GHz: -27
5725 - 5850	1 GHz – 5.715 GHz, 5.860 GHz – 40 GHz: -27 5.715 GHz – 5.725 GHz, 5.850 GHz – 5.860 GHz: -17

### 3.3. 5 GHz RLAN test results

#### 3.3.1 802.11n, BPSK modulation, 6.5 / 7.25 Mbps data rate.

Channel 36 / 5180MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
10353.9	59.51	945.148	48.41	11.1	68	8.72	PASSED
15535	50.35	329.23	41.35	9	74	23.63	PASSED
20720	58.27	819.408	42.87	15.4	74	15.71	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
10353.9	44.94	176.604	33.84	11.1	---	---	PASSED
15535	36.44	66.374	27.44	9	54	17.56	PASSED
20720	47.59	239.607	32.19	15.4	54	6.41	PASSED

Channel 40 / 5200MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5165.127	64.53	1684.612	60.53	4	68	3.7	PASSED
5167.112	66.52	2118.361	62.52	4	68	1.71	PASSED
5168.956	66.79	2185.244	62.79	4	68	1.44	PASSED
10399.5	55.03	564.287	43.43	11.6	68	13.2	PASSED
15601.1	49.4	295.121	40.2	9.2	74	24.58	PASSED
20799	55.81	617.305	40.41	15.4	74	18.17	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5165.127	41.38	117.22	37.38	4	---	---	PASSED
5167.112	42.04	126.474	38.04	4	---	---	PASSED
5168.956	42.65	135.675	38.65	4	---	---	PASSED
10399.5	41.89	124.308	30.29	11.6	---	---	PASSED
15601.1	36.48	66.681	27.28	9.2	54	17.52	PASSED
20799	43	141.254	27.6	15.4	54	11	PASSED

Channel 48 / 5240MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
10478.1	61.58	1199.499	49.58	12	68	6.65	PASSED
15713.9	50.02	316.957	40.82	9.2	74	23.96	PASSED
20959.9	58.29	821.297	43.29	15	74	15.69	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
10478.1	46.73	217.02	34.73	12	---	---	PASSED
15713.9	36.51	66.911	27.31	9.2	54	17.49	PASSED
20959.9	46.71	216.521	31.71	15	54	7.29	PASSED

Channel 52 / 5260MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
10520.3	62.26	1297.179	50.36	11.9	68	5.97	PASSED
15782	49.96	314.775	40.56	9.4	74	24.02	PASSED
21040	57.87	782.528	42.67	15.2	74	16.11	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
10520.3	48.82	276.058	36.92	11.9	---	---	PASSED
15782	36.34	65.615	26.94	9.4	54	17.66	PASSED
21040	47.67	241.824	32.47	15.2	54	6.33	PASSED

Channel 60 / 5300MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
10598	57.98	792.501	46.58	11.4	68	10.25	PASSED
15898.4	49.04	283.139	40.14	8.9	74	24.94	PASSED
21200.1	56.22	647.143	40.92	15.3	74	17.76	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5264.025	41.17	114.419	37.67	3.5	---	---	PASSED
5269.836	43.68	152.757	40.18	3.5	---	---	PASSED
5270.518	44.08	159.956	40.58	3.5	---	---	PASSED
10598	43.75	153.993	32.35	11.4	---	---	PASSED
15898.4	36.19	64.491	27.29	8.9	54	17.81	PASSED
21200.1	44.35	165.006	29.05	15.3	54	9.65	PASSED

Channel 64 / 5320MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
10638.5	62.3	1303.167	50.9	11.4	74	11.68	PASSED
15955.6	49.16	287.078	40.16	9	74	24.82	PASSED
21280.2	57.55	754.223	41.85	15.7	74	16.43	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
10638.5	49.33	292.752	37.93	11.4	54	4.67	PASSED
15955.6	35.63	60.464	26.63	9	54	18.37	PASSED
21280.2	46.19	203.939	30.49	15.7	54	7.81	PASSED

Channel 100 / 5500MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
10998.1	61.14	1140.25	49.34	11.8	74	12.84	PASSED
16495.4	48.95	280.221	39.55	9.4	68	19.28	PASSED
21999.9	56.71	684.699	41.41	15.3	68	11.52	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
10998.1	46.09	201.604	34.29	11.8	54	7.91	PASSED
16495.4	35.93	62.589	26.53	9.4	---	---	PASSED
21999.9	43.89	156.495	28.59	15.3	---	---	PASSED

Channel 116 / 5580MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5550.7	67.34	2328.091	62.54	4.8	68	0.89	PASSED
11161.4	55.92	625.173	44.52	11.4	74	18.06	PASSED
16738.1	49.85	310.814	39.95	9.9	68	18.38	PASSED
22322	55.5	595.662	40.3	15.2	74	18.48	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5550.7	42.71	136.616	37.91	4.8	---	---	PASSED
11161.4	42.8	138.038	31.4	11.4	54	11.2	PASSED
16738.1	36.57	67.375	26.67	9.9	---	---	PASSED
22322	41.68	121.339	26.48	15.2	54	12.32	PASSED

Channel 140 / 5700MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
11405.8	54.68	542.001	42.78	11.9	74	19.3	PASSED
17098.3	49.82	309.742	39.32	10.5	68	18.41	PASSED
22794.1	56.19	644.911	40.79	15.4	74	17.79	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
11405.8	41.19	114.683	29.29	11.9	54	12.81	PASSED
17098.3	36.64	67.92	26.14	10.5	---	---	PASSED
22794.1	42.84	138.676	27.44	15.4	54	11.16	PASSED

Channel 149 / 5745MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
11484.2	53.13	453.419	40.93	12.2	74	20.85	PASSED
17236	50.71	343.163	39.81	10.9	68	17.52	PASSED
22985.4	53.91	496.021	38.81	15.1	74	20.07	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
11484.2	40.32	103.753	28.12	12.2	54	13.68	PASSED
17236	36.99	70.713	26.09	10.9	---	---	PASSED
22985.4	41.14	114.025	26.04	15.1	54	12.86	PASSED

Channel 157 / 5785MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
11570.4	53.41	468.274	41.61	11.8	74	20.57	PASSED
17351.9	50.46	333.426	40.36	10.1	68	17.77	PASSED
23143.9	54.2	512.861	39.4	14.8	68	14.03	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5752.696	40.8	109.648	35.4	5.4	---	---	PASSED
5761.874	47.82	246.037	42.32	5.5	---	---	PASSED
5805.7	48.29	259.717	42.59	5.7	---	---	PASSED
11570.4	40.36	104.232	28.56	11.8	54	13.64	PASSED
17351.9	37.06	71.285	26.96	10.1	---	---	PASSED
23143.9	41.26	115.611	26.46	14.8	---	---	PASSED

Channel 165 / 5825MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
11654	54.85	552.713	43.65	11.2	74	19.13	PASSED
17432	50.51	335.351	40.61	9.9	68	17.72	PASSED
23296.1	56.1	638.263	40.5	15.6	68	12.13	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
11654	41.95	125.17	30.75	11.2	54	12.05	PASSED
17432	37.13	71.862	27.23	9.9	---	---	PASSED
23296.1	42.56	134.276	26.96	15.6	---	---	PASSED

### 3.3.2 802.11a, 16QAM modulation, 24 Mbps data rate.

Channel 116 / 5580MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5550.1	64.32	1644.372	59.52	4.8	68	3.91	PASSED
11161.3	56.8	691.831	45.4	11.4	74	17.18	PASSED
16738.9	50.02	316.957	40.12	9.9	68	18.21	PASSED
22318.1	55.01	562.989	39.91	15.1	74	18.97	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5550.1	44.5	167.88	39.7	4.8	---	---	PASSED
11161.3	43.11	143.054	31.71	11.4	54	10.89	PASSED
16738.9	36.6	67.608	26.7	9.9	---	---	PASSED
22318.1	41.76	122.462	26.66	15.1	54	12.24	PASSED

Channel 157 / 5785MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5749.87	59.51	945.148	54.11	5.4	68	8.72	PASSED
11564.4	53.27	460.787	41.47	11.8	74	20.71	PASSED
17355.1	50.92	351.56	40.82	10.1	68	17.31	PASSED
23132.6	54.58	535.797	39.78	14.8	68	13.65	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5749.87	41.39	117.355	35.99	5.4	---	---	PASSED
5764.6	54.91	556.545	49.41	5.5	---	---	PASSED
5806.3	50.89	350.348	45.19	5.7	---	---	PASSED
11564.4	40.17	101.976	28.37	11.8	54	13.83	PASSED
17355.1	37.15	72.028	27.05	10.1	---	---	PASSED
23132.6	41.34	116.681	26.54	14.8	---	---	PASSED



Channel 157 / 5785MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5753.909	67.83	2463.202	62.43	5.4	68	0.4	PASSED
11563.7	53.91	496.021	42.11	11.8	74	20.07	PASSED
17362.2	50.34	328.852	40.24	10.1	68	17.89	PASSED
23143.9	54.49	530.274	39.69	14.8	68	13.74	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5753.909	41.4	117.49	36	5.4	---	---	PASSED
5758.948	43.86	155.955	38.36	5.5	---	---	PASSED
5761.774	49.03	282.813	43.53	5.5	---	---	PASSED
11563.7	40.19	102.212	28.39	11.8	54	13.81	PASSED
17362.2	37.2	72.444	27.1	10.1	---	---	PASSED
23143.9	41.3	116.145	26.5	14.8	---	---	PASSED

### 3.3.3 802.11n, BPSK modulation, 13.5 / 15.0 Mbps data rate.

Channel 36+40 / 5190MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5124.242	61.26	1156.112	57.06	4.2	74	12.72	PASSED
5252.411	62.43	1322.818	58.93	3.5	68	5.8	PASSED
5280.566	57.37	738.754	53.87	3.5	68	10.86	PASSED
10381.3	56.13	640.472	44.73	11.4	68	12.1	PASSED
15566.2	49.14	286.418	40.24	8.9	74	24.84	PASSED
20761.7	56.65	679.986	41.35	15.3	74	17.33	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5124.242	42.72	136.773	38.52	4.2	54	11.28	PASSED
5252.411	44.97	177.215	41.47	3.5	---	---	PASSED
5280.566	38.81	87.197	35.31	3.5	---	---	PASSED
10381.3	41.42	117.761	30.02	11.4	---	---	PASSED
15566.2	36.15	64.195	27.25	8.9	54	17.85	PASSED
20761.7	42.78	137.721	27.48	15.3	54	11.22	PASSED

Channel 44+48 / 5230MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
10456.6	59.23	915.166	47.23	12	68	9	PASSED
15579.3	48.78	274.789	39.68	9.1	74	25.2	PASSED

20672.8	55.55	599.101	39.85	15.7	74	18.43	PASSED
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Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
10456.6	44.58	169.434	32.58	12	---	---	PASSED
15579.3	36.28	65.163	27.18	9.1	54	17.72	PASSED
20672.8	42.67	135.988	26.97	15.7	54	11.33	PASSED

Channel 52+56 / 5270MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5209.371	63.21	1447.105	59.41	3.8	68	5.02	PASSED
5210.917	65.83	1956.591	62.03	3.8	68	2.4	PASSED
5212.079	64.11	1605.092	60.41	3.7	68	4.12	PASSED
10543.8	56.61	676.862	44.91	11.7	68	11.62	PASSED
15806.7	49.58	301.301	40.18	9.4	74	24.4	PASSED
21080.2	56.99	707.131	41.79	15.2	74	16.99	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5209.371	42.49	133.199	38.69	3.8	---	---	PASSED
5210.917	42.99	141.091	39.19	3.8	---	---	PASSED
5212.079	43.65	152.23	39.95	3.7	---	---	PASSED
10543.8	43.25	145.378	31.55	11.7	---	---	PASSED
15806.7	36.44	66.374	27.04	9.4	54	17.56	PASSED
21080.2	44.1	160.325	28.9	15.2	54	9.9	PASSED

Channel 60+64 / 5310MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
10600	57.61	759.451	46.21	11.4	68	10.62	PASSED
15927.1	49.53	299.571	40.63	8.9	74	24.45	PASSED
21255.2	56.12	639.735	40.62	15.5	74	17.86	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
10600	43.65	152.23	32.25	11.4	54	10.35	PASSED
15927.1	36.68	68.234	27.78	8.9	54	17.32	PASSED
21255.2	43.27	145.714	27.77	15.5	54	10.73	PASSED

Channel 100+104 / 5510MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
11020.4	56.54	671.429	44.74	11.8	74	17.44	PASSED
16538	48.6	269.153	39.1	9.5	68	19.63	PASSED
22040	55.93	625.893	40.73	15.2	74	18.05	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
11020.4	43.78	154.525	31.98	11.8	54	10.22	PASSED
16538	35.89	62.302	26.39	9.5	---	---	PASSED
22040	44.34	164.816	29.14	15.2	54	9.66	PASSED

Channel 108+112 / 5550MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5474.843	60	1000	55.6	4.4	68	8.23	PASSED
5480.716	60.25	1029.201	55.85	4.4	68	7.98	PASSED
5606.5	62.15	1280.855	57.15	5	68	6.08	PASSED
11100.2	56.38	659.174	44.68	11.7	74	17.6	PASSED
16652.3	50.63	340.017	40.83	9.8	68	17.6	PASSED
22196.5	56.5	668.344	41.1	15.4	74	17.48	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5474.843	37.8	77.625	33.4	4.4	---	---	PASSED
5480.716	39.34	92.683	34.94	4.4	---	---	PASSED
5606.5	44.44	166.725	39.44	5	---	---	PASSED
11100.2	43.76	154.17	32.06	11.7	54	10.24	PASSED
16652.3	36.54	67.143	26.74	9.8	---	---	PASSED
22196.5	42.98	140.929	27.58	15.4	54	11.02	PASSED

Channel 149+153 / 5755MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5677.294	59	891.251	53.8	5.2	68	9.23	PASSED
5694.107	62.06	1267.652	56.86	5.2	68	6.17	PASSED
5819.479	61.3	1161.449	55.6	5.7	68	6.93	PASSED
11511.3	52.79	436.014	40.69	12.1	74	21.19	PASSED
17261.8	50.24	325.087	39.44	10.8	68	17.99	PASSED
23022.8	54.31	519.398	39.21	15.1	74	19.67	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5677.294	37.55	75.422	32.35	5.2	---	---	PASSED
5694.107	41.95	125.17	36.75	5.2	---	---	PASSED
5819.479	42.13	127.791	36.43	5.7	---	---	PASSED
11511.3	40.05	100.577	27.95	12.1	54	13.95	PASSED
17261.8	37.04	71.121	26.24	10.8	---	---	PASSED
23022.8	41.13	113.894	26.03	15.1	54	12.87	PASSED

Channel 157+161 / 5795MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
11581.1	54.14	509.331	42.44	11.7	74	19.84	PASSED
17385.2	50.23	324.713	40.13	10.1	68	18	PASSED
23173.1	55.48	594.292	40.48	15	68	12.75	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
11581.1	40.84	110.154	29.14	11.7	54	13.16	PASSED
17385.2	37.34	73.621	27.24	10.1	---	---	PASSED
23173.1	42.36	131.22	27.36	15	---	---	PASSED

Channel 132+136 / 5670MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
11336.9	54.52	532.108	43.12	11.4	74	19.46	PASSED
17013.2	49.83	310.099	39.73	10.1	68	18.4	PASSED
22662.3	55.62	603.949	39.92	15.7	74	18.36	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
11336.9	41.35	116.815	29.95	11.4	54	12.65	PASSED
17013.2	36.12	63.973	26.02	10.1	---	---	PASSED
22662.3	42.65	135.675	26.95	15.7	54	11.35	PASSED



### 3.3.4 802.11n, QPSK modulation, 27.0 / 30.0 Mbps data rate.

Channel 36+40 / 5190MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5133.439	63.81	1550.601	59.71	4.1	74	10.17	PASSED
5246.3	63.97	1579.429	60.37	3.6	68	4.26	PASSED
5286.177	57.99	793.414	54.49	3.5	68	10.24	PASSED
10381.3	56.42	662.217	45.02	11.4	68	11.81	PASSED
15566.4	49.27	290.737	40.37	8.9	74	24.71	PASSED
20758.3	55.74	612.35	40.44	15.3	74	18.24	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5133.439	45.2	181.97	41.1	4.1	54	8.8	PASSED
5246.3	45.27	183.443	41.67	3.6	---	---	PASSED
5286.177	36.77	68.945	33.27	3.5	---	---	PASSED
10381.3	41.63	120.642	30.23	11.4	---	---	PASSED
15566.4	36.12	63.973	27.22	8.9	54	17.88	PASSED
20758.3	42.64	135.519	27.34	15.3	54	11.36	PASSED

Channel 44+48 / 5230MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
10461.1	58.75	865.964	46.75	12	68	9.48	PASSED
15581.1	49.72	306.196	40.62	9.1	74	24.26	PASSED
20680.7	55.89	623.017	40.19	15.7	74	18.09	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
10461.1	44.77	173.181	32.77	12	---	---	PASSED
15581.1	36.3	65.313	27.2	9.1	54	17.7	PASSED
20680.7	42.53	133.814	26.83	15.7	54	11.47	PASSED

Channel 52+56 / 5270MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5211.817	62.44	1324.342	58.74	3.7	68	5.79	PASSED
5212.279	63.61	1515.305	59.91	3.7	68	4.62	PASSED
5330.4	64.42	1663.413	60.82	3.6	68	3.81	PASSED
10541.4	57.33	735.36	45.63	11.7	68	10.9	PASSED
15812.8	49.32	292.415	39.92	9.4	74	24.66	PASSED
21076.9	55.06	566.239	39.86	15.2	74	18.92	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5211.817	42.75	137.246	39.05	3.7	---	---	PASSED
5212.279	43.7	153.109	40	3.7	---	---	PASSED
5330.4	45.46	187.499	41.86	3.6	---	---	PASSED
10541.4	42.92	139.959	31.22	11.7	---	---	PASSED
15812.8	36.23	64.789	26.83	9.4	54	17.77	PASSED
21076.9	42.37	131.371	27.17	15.2	54	11.63	PASSED

Channel 60+64 / 5310MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
10600	56.84	695.024	45.44	11.4	74	17.14	PASSED
15924.5	50.3	327.341	41.4	8.9	74	23.68	PASSED
21234.1	55.9	623.735	40.6	15.3	74	18.08	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
10600	43.38	147.571	31.98	11.4	54	10.62	PASSED
15924.5	36.74	68.707	27.84	8.9	54	17.26	PASSED
21234.1	43.22	144.877	27.92	15.3	54	10.78	PASSED

Channel 100+104 / 5510MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
11016.6	58.57	848.203	46.77	11.8	74	15.41	PASSED
16520.2	49.62	302.691	40.22	9.4	68	18.61	PASSED
22035.4	55.31	582.774	40.11	15.2	74	18.67	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
11016.6	43.53	150.141	31.73	11.8	54	10.47	PASSED
16520.2	35.84	61.944	26.44	9.4	---	---	PASSED
22035.4	41.97	125.458	26.77	15.2	54	12.03	PASSED

Channel 108+112 / 5550MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5491.818	63.39	1477.406	58.99	4.4	68	4.84	PASSED
5608.8	62.94	1402.814	57.94	5	68	5.29	PASSED
5621.469	60.78	1093.956	55.88	4.9	68	7.45	PASSED
11101.1	56.49	667.575	44.79	11.7	74	17.49	PASSED
16646.4	49.31	292.079	39.41	9.9	68	18.92	PASSED
22200.6	56.66	680.769	41.26	15.4	74	17.32	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5491.818	42.67	135.988	38.27	4.4	---	---	PASSED
5608.8	44.04	159.221	39.04	5	---	---	PASSED
5621.469	42.2	128.825	37.3	4.9	---	---	PASSED
11101.1	42.72	136.773	31.02	11.7	54	11.28	PASSED
16646.4	36.55	67.22	26.65	9.9	---	---	PASSED
22200.6	43	141.254	27.6	15.4	54	11	PASSED

Channel 132+136 / 5670MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
11339.9	55.12	570.164	43.72	11.4	74	18.86	PASSED
17012.4	49.18	287.74	39.08	10.1	68	19.05	PASSED
22667.2	55.62	603.949	39.92	15.7	74	18.36	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
11339.9	41.63	120.642	30.23	11.4	54	12.37	PASSED
17012.4	36.06	63.533	25.96	10.1	---	---	PASSED
22667.2	42.71	136.616	27.01	15.7	54	11.29	PASSED



Channel 149+153 / 5755MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5682.287	59.41	934.329	54.21	5.2	68	8.82	PASSED
5690.622	60.89	1107.899	55.69	5.2	68	7.34	PASSED
5696.007	63.5	1496.236	58.3	5.2	68	4.73	PASSED
11510.4	53.72	485.289	41.62	12.1	74	20.26	PASSED
17263.5	49.71	305.844	38.91	10.8	68	18.52	PASSED
23017.8	54.82	550.808	39.72	15.1	74	19.16	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5682.287	38.81	87.197	33.61	5.2	---	---	PASSED
5690.622	40.14	101.625	34.94	5.2	---	---	PASSED
5696.007	43.13	143.384	37.93	5.2	---	---	PASSED
11510.4	40.25	102.92	28.15	12.1	54	13.75	PASSED
17263.5	37.04	71.121	26.24	10.8	---	---	PASSED
23017.8	41.2	114.815	26.1	15.1	54	12.8	PASSED

Channel 157+161 / 5795MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
11572.8	54.32	519.996	42.52	11.8	74	19.66	PASSED
17378.6	50.58	338.065	40.48	10.1	68	17.65	PASSED
23194.4	55.19	574.778	40.09	15.1	68	13.04	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
11572.8	41.01	112.331	29.21	11.8	54	12.99	PASSED
17378.6	37.36	73.79	27.26	10.1	---	---	PASSED
23194.4	42.35	131.069	27.25	15.1	---	---	PASSED

### 3.3.5 802.11ac, BPSK modulation, 29.3 / 32.5 Mbps data rate.

Channel 36-48 / 5210MHz

Quasi peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
30.06	24.16	16.144	27.36	-3.2	40	15.84	PASSED

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5340.752	57.04	711.214	53.44	3.6	68	11.19	PASSED
5344.301	55.44	591.562	51.84	3.6	68	12.79	PASSED
10427.1	54.39	524.204	42.49	11.9	68	13.84	PASSED
15632	50.16	322.107	40.76	9.4	74	23.82	PASSED
20843.5	55.99	630.231	40.59	15.4	74	17.99	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5340.752	40.03	100.346	36.43	3.6	---	---	PASSED
5344.301	39.36	92.897	35.76	3.6	---	---	PASSED
10427.1	41.04	112.72	29.14	11.9	---	---	PASSED
15632	36.87	69.743	27.47	9.4	54	17.13	PASSED
20843.5	43.21	144.71	27.81	15.4	54	10.79	PASSED

Channel 52-64 / 5290MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5161.635	55.59	601.866	51.59	4	68	12.64	PASSED
5170.615	54.83	551.442	50.83	4	68	13.4	PASSED
5172.93	55.56	599.791	51.56	4	68	12.67	PASSED
10580	53.92	496.592	42.52	11.4	68	14.31	PASSED
15864.5	49.79	308.674	40.79	9	74	24.19	PASSED
21165.1	55.76	613.762	40.56	15.2	74	18.22	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5161.635	39.1	90.157	35.1	4	---	---	PASSED
5170.615	39.31	92.363	35.31	4	---	---	PASSED
5172.93	39.65	96.051	35.65	4	---	---	PASSED
10580	42	125.893	30.6	11.4	---	---	PASSED
15864.5	35.89	62.302	26.89	9	54	18.11	PASSED
21165.1	42.65	135.675	27.45	15.2	54	11.35	PASSED

Channel 100-112 / 5530MHz

Quasi peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
30.27	23.64	15.205	26.94	-3.3	40	16.36	PASSED

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5661.828	55.7	609.537	50.6	5.1	68	12.53	PASSED
5684.066	54.93	557.828	49.73	5.2	68	13.3	PASSED
11065.6	54.31	519.398	42.71	11.6	74	19.67	PASSED
16586.4	49.2	288.403	39.4	9.8	68	19.03	PASSED
22113.2	55.35	585.464	40.35	15	74	18.63	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5661.828	38.87	87.801	33.77	5.1	---	---	PASSED
5684.066	37.31	73.367	32.11	5.2	---	---	PASSED
11065.6	41.01	112.331	29.41	11.6	54	12.99	PASSED
16586.4	36.16	64.269	26.36	9.8	---	---	PASSED
22113.2	42.08	127.057	27.08	15	54	11.92	PASSED

Channel 149-161 / 5775MHz

Quasi peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
30.36	23.64	15.205	27.04	-3.4	40	16.36	PASSED

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5658.675	56.19	644.911	51.09	5.1	68	12.04	PASSED
5916.792	53.68	483.059	47.18	6.5	68	14.55	PASSED
11557.7	53.41	468.274	41.51	11.9	74	20.57	PASSED
17332.6	50.41	331.513	40.01	10.4	68	17.82	PASSED
23102.7	54.38	523.6	39.18	15.2	74	19.6	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5658.675	40.75	109.018	35.65	5.1	---	---	PASSED
5916.792	38.51	84.236	32.01	6.5	---	---	PASSED
11557.7	40.06	100.693	28.16	11.9	54	13.94	PASSED
17332.6	37.4	74.131	27	10.4	---	---	PASSED
23102.7	41.1	113.501	25.9	15.2	54	12.9	PASSED

### 3.3.6 802.11ac, QPSK modulation, 58.5 / 65.0 Mbps data rate.

Channel 36-48 / 5210MHz

Quasi peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
30	23.82	15.524	27.02	-3.2	40	16.18	PASSED

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5330.151	58.67	858.025	55.07	3.6	68	9.56	PASSED
5342.952	55.41	589.522	51.81	3.6	68	12.82	PASSED
10427.7	55.39	588.166	43.49	11.9	68	12.84	PASSED
15630.2	50.55	336.899	41.05	9.5	74	23.43	PASSED
20847.2	56	630.957	40.6	15.4	74	17.98	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5330.151	41.34	116.681	37.74	3.6	---	---	PASSED
5342.952	39.34	92.683	35.74	3.6	---	---	PASSED
10427.7	41.52	119.124	29.62	11.9	---	---	PASSED
15630.2	36.87	69.743	27.37	9.5	54	17.13	PASSED
20847.2	43.2	144.544	27.8	15.4	54	10.8	PASSED

Channel 52-64 / 5290MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5158.951	53.74	486.407	49.74	4	68	14.49	PASSED
5175.456	56.03	633.14	52.03	4	68	12.2	PASSED
5177.019	57.5	749.894	53.5	4	68	10.73	PASSED
10577	52.37	415.432	40.97	11.4	68	15.86	PASSED
15864.9	48.64	270.396	39.64	9	74	25.34	PASSED
21157	55.25	578.762	40.05	15.2	74	18.73	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Limit [dB $\mu$ V/m]	Margin	Results
5158.951	38.83	87.398	34.83	4	---	---	PASSED
5175.456	39.67	96.272	35.67	4	---	---	PASSED
5177.019	39.78	97.499	35.78	4	---	---	PASSED
10577	39.56	95.06	28.16	11.4	---	---	PASSED
15864.9	35.84	61.944	26.84	9	54	18.16	PASSED
21157	42.41	131.978	27.21	15.2	54	11.59	PASSED

Channel 100-112 / 5530MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U <sub>RX</sub> [dBµV]	A <sub>TOT</sub> [dB]	Limit [dBµV/m]	Margin	Results
5647.209	56.78	690.24	51.68	5.1	68	11.45	PASSED
5662.338	55.32	583.445	50.22	5.1	68	12.91	PASSED
5702.313	53.74	486.407	48.54	5.2	68	14.49	PASSED
11052.2	52.79	436.014	41.09	11.7	74	21.19	PASSED
16595.1	48.96	280.543	39.16	9.8	68	19.27	PASSED
22124.6	55.32	583.445	40.32	15	74	18.66	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U <sub>RX</sub> [dBµV]	A <sub>TOT</sub> [dB]	Limit [dBµV/m]	Margin	Results
5647.209	40.25	102.92	35.15	5.1	---	---	PASSED
5662.338	38.57	84.82	33.47	5.1	---	---	PASSED
5702.313	36.07	63.606	30.87	5.2	---	---	PASSED
11052.2	40.12	101.391	28.42	11.7	54	13.88	PASSED
16595.1	36.17	64.343	26.37	9.8	---	---	PASSED
22124.6	42.15	128.086	27.15	15	54	11.85	PASSED

Channel 132+136 / 5670MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U <sub>RX</sub> [dBµV]	A <sub>TOT</sub> [dB]	Limit [dBµV/m]	Margin	Results
11340.1	56.24	648.634	44.84	11.4	74	17.74	PASSED
17008.7	48.86	277.332	38.76	10.1	68	19.37	PASSED
22666.5	55.63	604.644	39.93	15.7	74	18.35	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U <sub>RX</sub> [dBµV]	A <sub>TOT</sub> [dB]	Limit [dBµV/m]	Margin	Results
11340.1	43.24	145.211	31.84	11.4	54	10.76	PASSED
17008.7	36.21	64.64	26.11	10.1	---	---	PASSED
22666.5	42.75	137.246	27.05	15.7	54	11.25	PASSED

Channel 149-161 / 5775MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U <sub>RX</sub> [dBµV]	A <sub>TOT</sub> [dB]	Limit [dBµV/m]	Margin	Results
5644.624	55.58	601.174	50.48	5.1	68	12.65	PASSED
5647.761	55.42	590.201	50.32	5.1	68	12.81	PASSED
5899.737	55.73	611.646	49.33	6.4	68	12.5	PASSED
11556.8	52.99	446.17	41.09	11.9	74	20.99	PASSED
17326.7	50.68	341.979	40.18	10.5	68	17.55	PASSED
23106.8	53.77	488.09	38.67	15.1	74	20.21	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U <sub>RX</sub> [dBµV]	A <sub>TOT</sub> [dB]	Limit [dBµV/m]	Margin	Results
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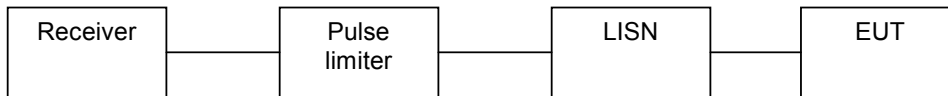
---

5644.624	38.94	88.512	33.84	5.1	---	---	PASSED
5647.761	39.26	91.833	34.16	5.1	---	---	PASSED
5899.737	39.22	91.411	32.82	6.4	---	---	PASSED
11556.8	40.04	100.462	28.14	11.9	54	13.96	PASSED
17326.7	37.45	74.559	26.95	10.5	---	---	PASSED
23106.8	41.07	113.11	25.97	15.1	54	12.93	PASSED

#### 4. AC powerline conducted emissions (FCC §15.407(b)(6), RSS-210 A9.2)

EUT with DUT number	RM-1085, DUT 100024
Accessories with DUT numbers	BV-T4D, DUT 100025 ; AC-100E, DUT 100026 ; WH-308, DUT 100028
Operation Voltage [V] / [Hz]	115 / 60
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22 / 45 / 102.6
Date of measurements	02-Jul-2015
Measured by	Tomi Lipponen

##### 4.1. Test Setup



##### 4.2. Test method and limit

The EUT is placed on a wooden table 80 cm above the reference groundplane.

The EUT is connected via LISN to a test power supply.

The measurement results are obtained as described below:

$$U [dB\mu V] = U_{RX} + A_{TOT}$$

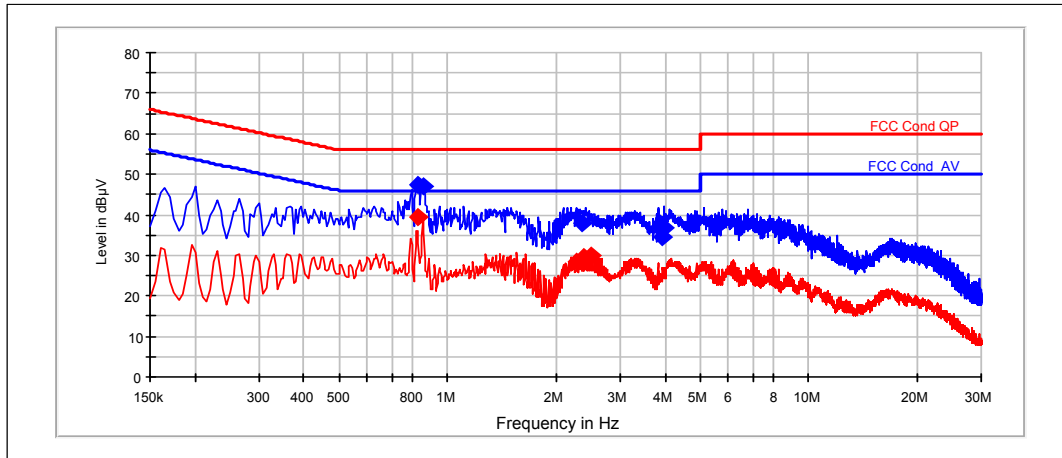
Where  $U_{RX}$  is receiver reading and  $A_{TOT}$  is total correction factor including cable and pulse limiter attenuations.

CISPR 22 Class B limits

Frequency range [MHz]	Quasi peak limit [dB $\mu$ V]	Average limit [dB $\mu$ V]
0.15 - 0.5	66 - 56	56 - 46
0.5 - 5	56	46
5 - 30	60	50

### 4.3. 5 GHz RLAN Test results

#### 4.3.1 802.11n mode, BPSK modulation, 6.5 / 7.25 Mbps data rate, channel 116



#### QuasiPeak (RBW: 9 kHz)

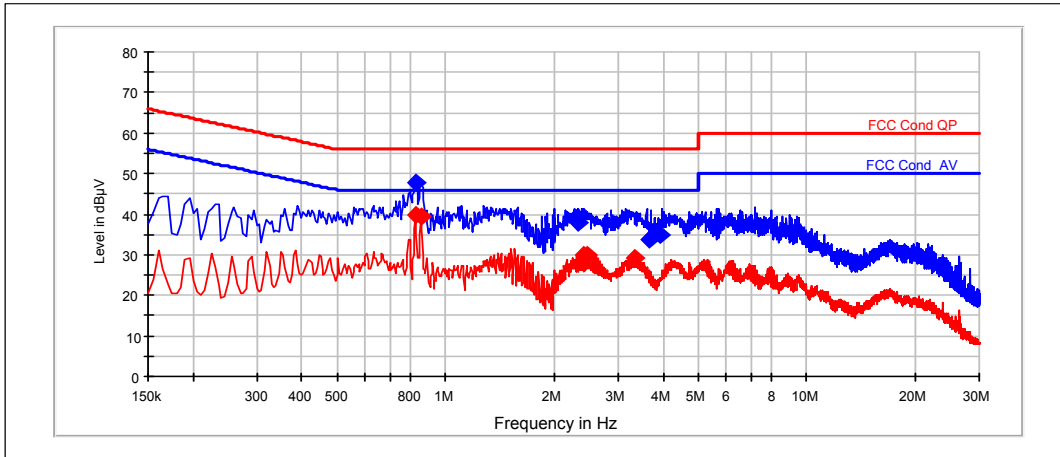
Frequency [MHz]	U [dBµV]	Line	Result
0.825	47.41	N	PASSED
0.855	47	N	PASSED
2.345	38.08	N	PASSED
3.905	34.41	N	PASSED
3.955	36.88	N	PASSED

#### Average (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.825	39.47	N	PASSED
2.275	28.35	N	PASSED
2.38	29.66	N	PASSED
2.505	29.77	N	PASSED



**4.3.2 802.11n mode, BPSK modulation, 6.5 / 7.25 Mbps data rate, channel 157**



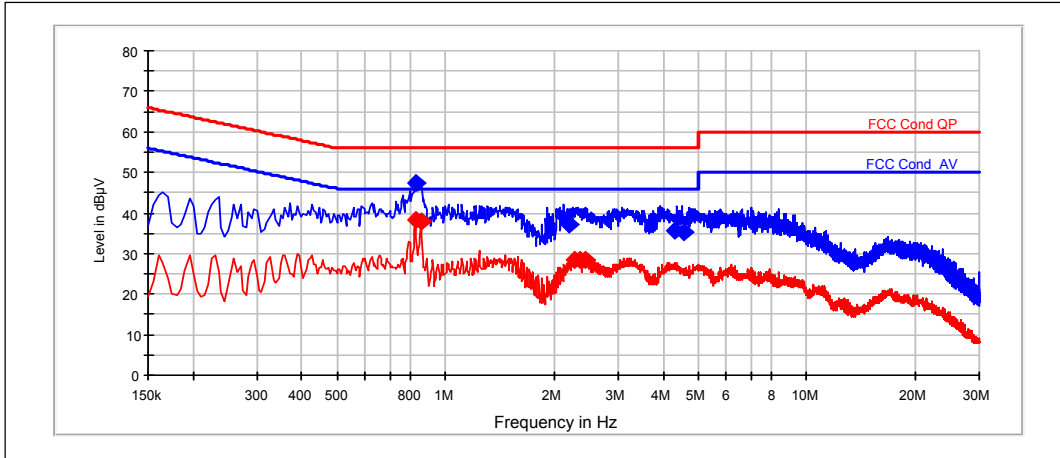
QuasiPeak (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.825	47.65	N	PASSED
2.33	37.9	N	PASSED
3.67	33.74	N	PASSED
3.92	34.97	N	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.825	39.73	N	PASSED
0.855	39.52	N	PASSED
2.41	29.93	N	PASSED
2.475	29.83	N	PASSED
3.33	29.31	N	PASSED

**4.3.3 802.11a mode, 16QAM modulation, 24 Mbps data rate, channel 116**



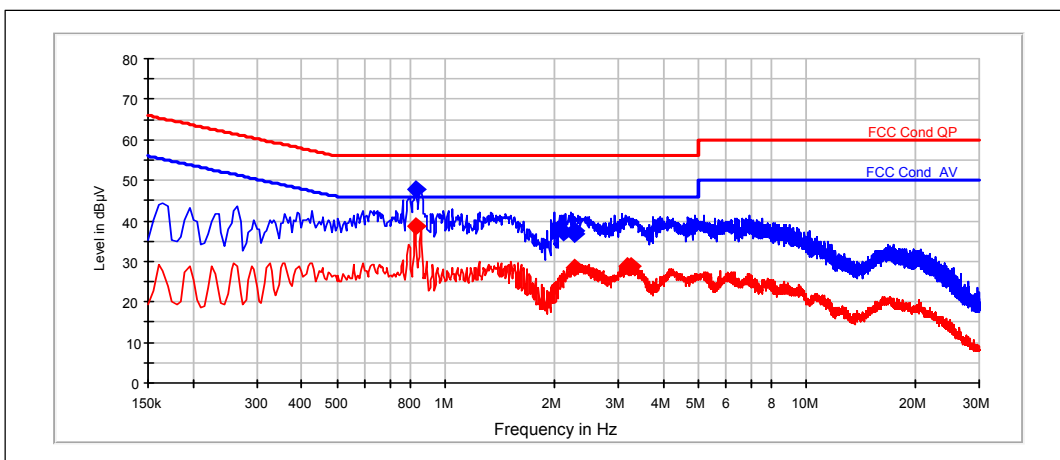
QuasiPeak (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.825	47.54	N	PASSED
2.19	37.2	N	PASSED
4.33	35.82	N	PASSED
4.55	35.24	N	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.825	38.19	N	PASSED
0.855	37.81	N	PASSED
2.285	28.47	N	PASSED
2.35	28.36	N	PASSED
2.44	28.29	N	PASSED

**4.3.4 802.11a mode, 16QAM modulation, 24 Mbps data rate, channel 157**



QuasiPeak (RBW: 9 kHz)

Frequency [MHz]	U [dB $\mu$ V]	Line	Result
0.825	47.62	N	PASSED
2.12	37.26	N	PASSED
2.265	37.52	N	PASSED
2.27	36.67	N	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dB $\mu$ V]	Line	Result
0.825	38.77	N	PASSED
2.285	28.46	N	PASSED
3.17	28.9	N	PASSED
3.265	28.92	N	PASSED

## 5. Test Equipment

### 5.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
6039	USB Interface	5541765	Testo	22/24/27, 15C, 15B
6044	V-network	ESH3-Z6	R&S	-
2059	V-network	ESH3-Z6	R&S	-
1759	LISN 50 µH	ESH3-Z5	R&S	22/24/27, 15C, 15B
2097	Pulse Limiter	ESH3-Z2	R&S	22/24/27, 15C, 15B
1999	Receiver	ESIB26	R&S	22/24/27, 15C, 15B
2180	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
2390	Directional Coupler	DC2600	AR	-
-	RF immunity / Emission Software	EMC32	R&S	22/24/27, 15C, 15B
2060	LISN 50 µH	ESH3-Z5	R&S	15C, 15B
1759	LISN 50 µH	ESH3-Z5	R&S	15C, 15B
2039	Power Supply	PL330QMD	Thurlby	15C, 15B
6036	Data Logger	175-H2	Testo	22/24/27, 15C, 15B
2359	Temperature Test Chamber	VT4002	Vötsch	22/24/27
2352	Spectrum Analyzer	FSP-30	R&S	22/24/27, 15C
6109	Communication Tester	CMU200	R&S	22/24/27, 15C
6246	Power Supply	66332A	HP	22/24/27, 15C
1992	Signal Generator	83630B	Agilent	15C, 15B
6098	Signal Generator	8648C	Agilent	-
6046	Attenuator 10dB	8493C	Agilent	22/24/27, 15C
6047	Attenuator 20dB	8493C	Agilent	22/24/27, 15C
6045	Power splitter	11667B	Agilent	22/24/27, 15C
6247	Communication Tester	CBT	R&S	22/24/27, 15C 15B
6052	Communication Tester	CMU200	R&S	22/24/27, 15C 15B
6248	Power Supply	6632B	-	22/24/27, 15C 15B
6106	Spectrum Analyzer	FSP-30	R&S	22/24/27, 15C 15B
6113	Signal Generator	SMP100A	R&S	22/24/27, 15C 15B
6202	Temperature Test Chamber	VT4002	Vötsch	22/24/27, 15C 15B
6122	Power Splitter	11667B	Agilent	22/24/27, 15C 15B
6134	Attenuator 10dB	BW-S10-2W263+	Mini-Circuits	22/24/27, 15C
6136	Attenuator 20dB	BW-S20-2W263+	Mini-Circuits	22/24/27, 15C
6103	Bluetooth tester	CBT	R&S	22/24/27, 15C 15B
6250	Power Supply	6651A	Agilent	22/24/27, 15C 15B
6108	Communication Tester	CMU200	R&S	22/24/27, 15C 15B
6105	Spectrum Analyzer	FSV-30	R&S	22/24/27, 15C 15B
6251	Temperature Test Chamber	VT4002	Vötsch	22/24/27, 15C 15B
6243	Power Splitter	1167B	Agilent	22/24/27, 15C 15B
6245	Attenuator 10dB	BW-S10-2W263+	Mini-Circuits	22/24/27, 15C 15B
6244	Attenuator 20dB	BW-S20-2W263+	Mini-Circuits	22/24/27, 15C 15B

### 5.2. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
2388	Bluetooth Tester	CBT	R&S	15B
10479	Communication Tester	CMW500	R&S	22/24/27, 15C, 15B
2347	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
2009	Signal Generator	SMP 22	R&S	22/24/27, 15C, 15B
2348	Controller	G-1000DXC	Yaesu	22/24/27, 15C, 15B
2349	Computer Controller	g-1000DXC	Yaesu	22/24/27, 15C, 15B
2116	Controller	EMCO 2090	ETS	22/24/27, 15C, 15B
2109	Power Supply	PL330QMD	Thurlby	22/24/27, 15C, 15B
2353	Receiver	ESIB26	R&S	22/24/27, 15C, 15B
6115	Open switch and control unit	OSP 130	R&S	22/24/27, 15C 15B
6116	Open switch and control unit	OSP 150	R&S	22/24/27, 15C 15B

Eq. No	Equipment	Type	Manufacturer	Used in
6117	Open switch and control unit	OSP 150	R&S	22/24/27, 15C, 15B
6131	Notch Filter	WRCT902.4-0.4/40-8SS	Wainwright	22/24/27, 15C, 15B
6130	Notch Filter	WRCD1880-1.1.25/50-10SS	Wainwright	22/24/27
6159	Band Reject Filter	WRCD1747.8-0.4/40-5SS	Wainwright	22/24/27, 15C, 15B
6158	Band Reject Filter	WRCT836.6-0.4/40-8SS	Wainwright	22/24/27, 15C, 15B
6197	Band Reject Filter	WRCJV2531/2539-2523/2547-60/12SS	Wainwright	22/24/27, 15C, 15B
2231	Band Reject Filter	WRCG1947/1953-1940/1960-40/6SS	Wainwright	22/24/27, 15C, 15B
2391	Band Reject Filter	WRCG1729.4/1735.4-1722.4/1742.4-40/6SS	Wainwright	27
2386	Band Reject Filter	WRCG1764.4/1770.4-1760.4/1774.4-40/6SS	Wainwright	22/24/27, 15C, 15B
2385	Band Reject Filter	WRCG1744.4/1750.4-1740.4/1754.4-40/6SS	Wainwright	22/24/27, 15C, 15B
2357	Band Reject Filter	WRCG2400/2483-2390/2493-35/10SS	Wainwright	15C
2188	Preamplifier	AFS4-00100300-20-23P-6	Miteq	22/24/27, 15C, 15B
6195	High Pass Filter	-	Wainwright	22/24/27, 15C, 15B
2364	Band Reject Filter	WRCG1877/1883 - 1870/1890-40/6SS	Wainwright	24
2361	Anechoic Chamber	3 m Semi / Full Anechoic Chamber	Euroshield	22/24/27, 15C, 15B
6212	Antenna Array system	-	TCC	22/24/27, 15C, 15B
-	RF immunity / Emission Software	EMC32	R&S	22/24/27, 15C, 15B
6089	Antenna	HFH2-Z2	R&S	15C, 15B
2027	CDN	M2 (modified) DC1	MEB	22/24/27, 15C, 15B
2028	CDN	M3 (modified) DC2	MEB	22/24/27, 15C, 15B
2176	CDN	CDN 801-M3	Lüthi	22/24/27, 15C, 15B
2135	CDN	CDN 801-M3	Lüthi	22/24/27, 15C, 15B
2029	Power Supply	PL330	Thurlby	22/24/27, 15C
6038	Data Logger	Testo 580	Testo	22/24/27, 15C, 15B
6037	Data Logger	175-H2	Testo	22/24/27, 15C, 15B
6039	USB Interface	5541765	Testo	22/24/27, 15C, 15B

## END OF REPORT