

## FCC Part 15E Compliance Test Report

<b>Test Report no.:</b>	FCC15E_RM-1116_08.docx	<b>Date of Report:</b>	13-Oct-2015
<b>Number of pages:</b>	61	<b>Customer's Contact person:</b>	Tia Melava
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<b>FCC listing no.:</b>	94436		
<b>IC recognition no.:</b>	661AK-1		
<b>Tested devices/ accessories:</b>	<b>Phone RM-1116 / Battery BV-T4D / Charger AC-100E / Headset WH-308</b>		
<b>FCC ID:</b>	PYARM-1116	<b>IC:</b>	661X-RM1116
<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>			

Hannu Söderholm, Engineer, EMC

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

Date of receipt	04-Sep-2015
Testing completed	09-Sep-2015
The customer's contact person	Tia Melava
Test Plan referred to	T:\Projects\RM-1116\TestPlan\RS_TestPlan_RM-1116.xlsm
Notes	-
Document name	T:\Projects\RM-1116\EMC\FCC15E_RM-1116_08.docx

### 1.1. EUT and Accessory Information

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

Devices under tests

Product	Type	SN	HW	MV	SW	DUT
Phone	RM-1116	351832070006920	3030	-	010075.00000.15361.59000	400045
Battery	BV-T4D	4955405174010300359;0670771	LG v3.0	-	-	400025
Charger	AC-100E	40904951255803017590675758	0.3	-	-	400013
Headset	WH-308	-	-	-	-	400014

### 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	-
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	-
	A9.2	6dB(bandwidth)	-
	A9.2	26dB(bandwidth)	-
15.407(a)	A9.2	Maximum power spectral density	-

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.

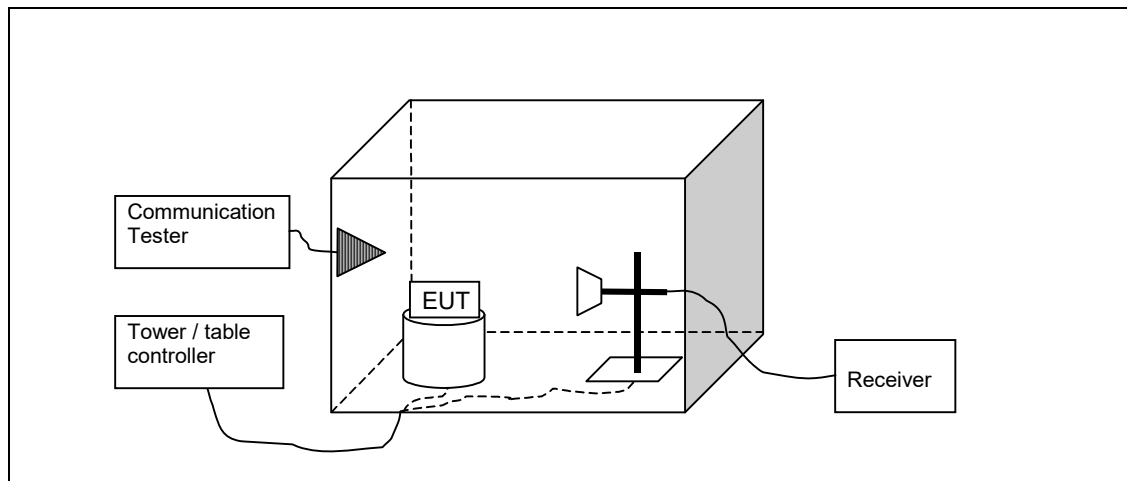
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## 2. Band edge compliance of RF emissions (FCC §15.407(b), RSS-210 A9.2)

<b>EUT with DUT number</b>	RM-1116, DUT 400045
<b>Accessories with DUT numbers</b>	BV-T4D, DUT 400025 ; AC-100E, DUT 400013 ; WH-308, DUT 400014
<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 / 50 / 103
<b>Date of measurements</b>	09-Sep-2015
<b>Measured by</b>	Hannu Söderholm

### 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.

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

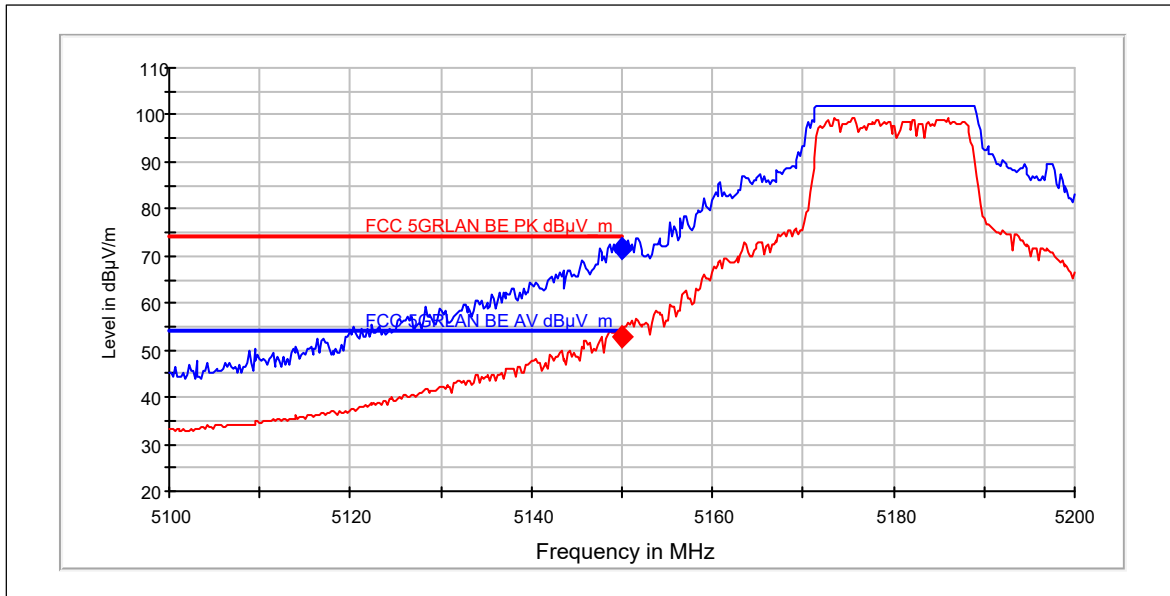
$$E [dB\mu V/m] = 20 * \text{LOG} ((\text{square root } (30 * P [W]) / 3 \text{ m}) * 1000000)$$

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

#### 2.3.1 802.11a, 16QAM modulation, 24 Mbps data rate.

Channel 36 / 5180MHz



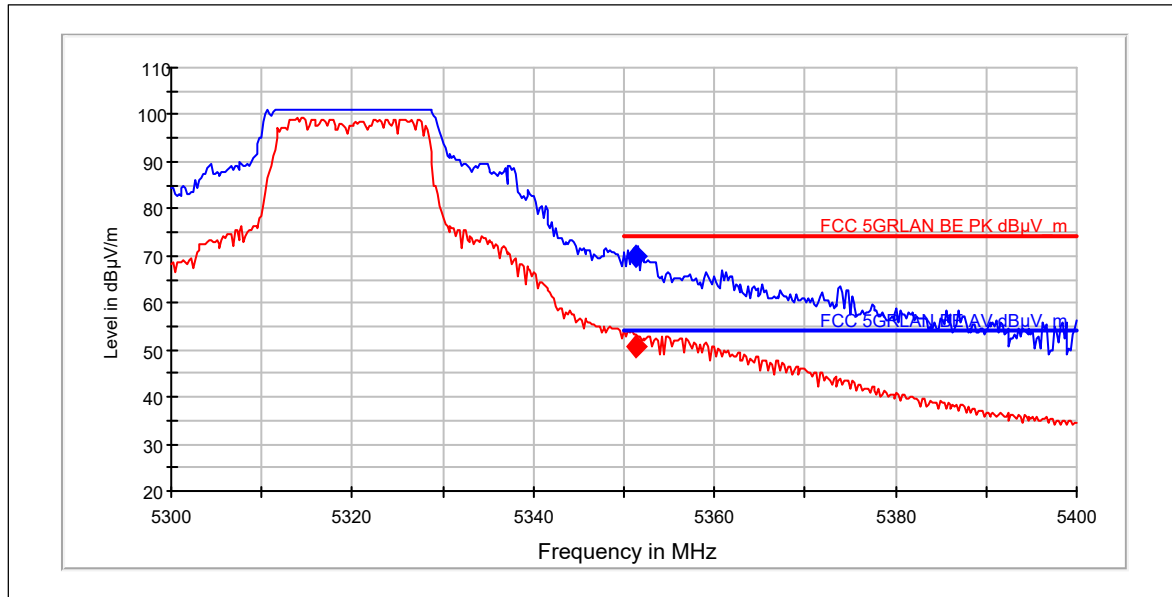
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5150	71.4	74	2.6	170	V	15	2.5	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
5150	52.69	54	1.31	170	V	15	2.5	PASSED

Channel 64 / 5320MHz



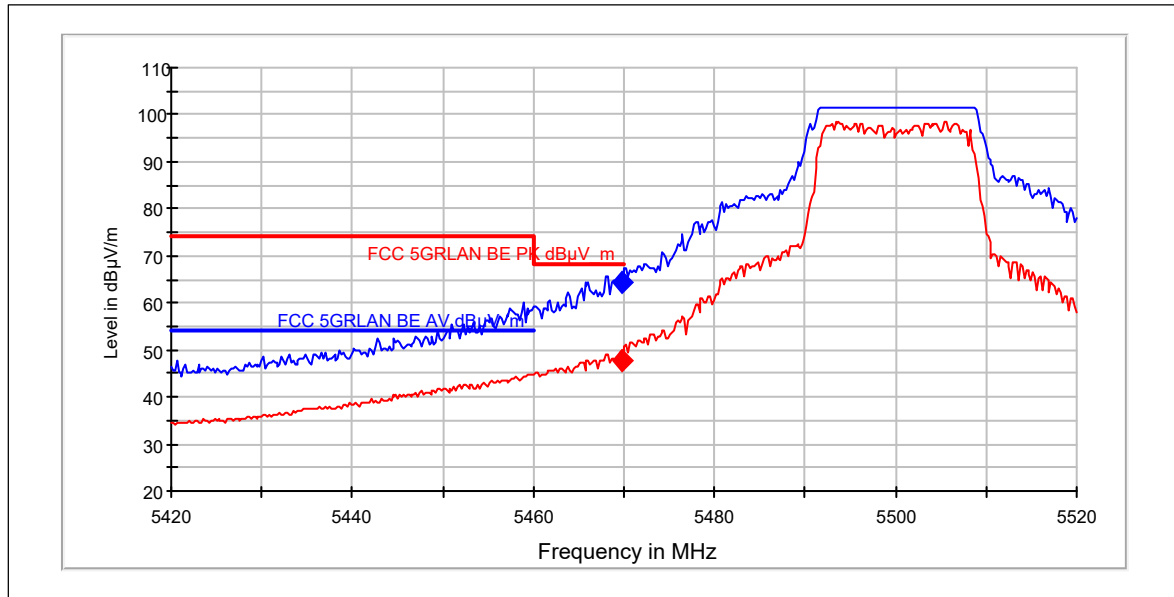
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5351.403	69.95	74	4.05	170	H	13	2.5	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
5351.403	50.72	54	3.28	170	H	13	2.5	PASSED

Channel 100 / 5500MHz



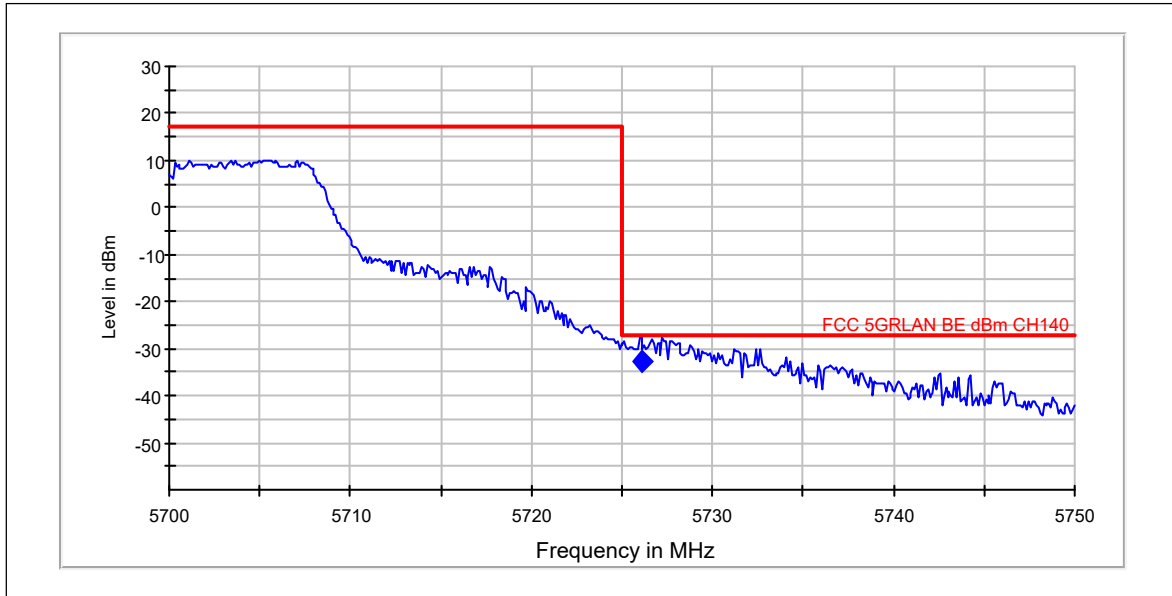
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5469.699	64.16	68.2	4.04	170	H	22	0.5	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
5469.699	47.81	---	---	170	H	22	0.5	PASSED

Channel 140 / 5700MHz

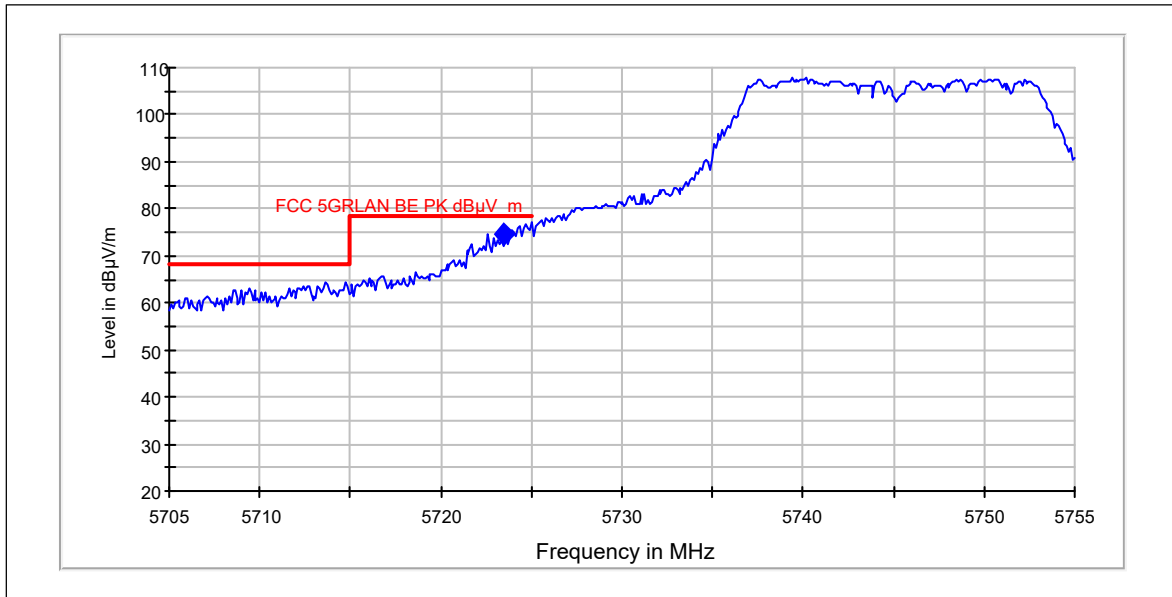


Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5726.152	-32.64	-27	5.64	170	H	17	2.5	PASSED



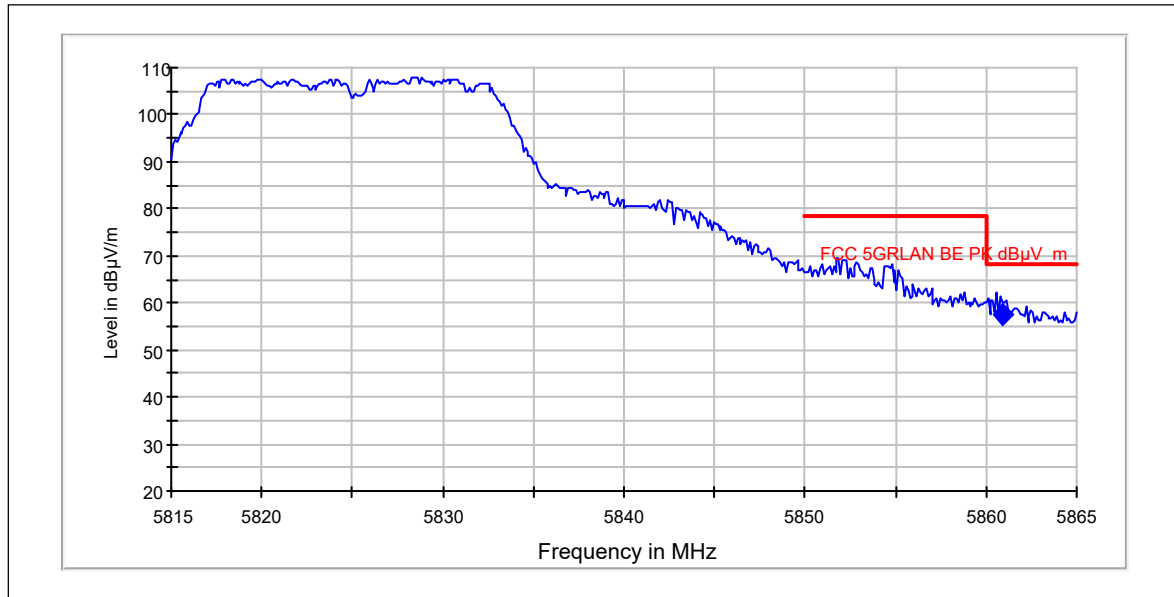
Channel 149 / 5745MHz



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
5723.477	74.59	78.23	3.64	170	H	22	1	PASSED

Channel 165 / 5825MHz

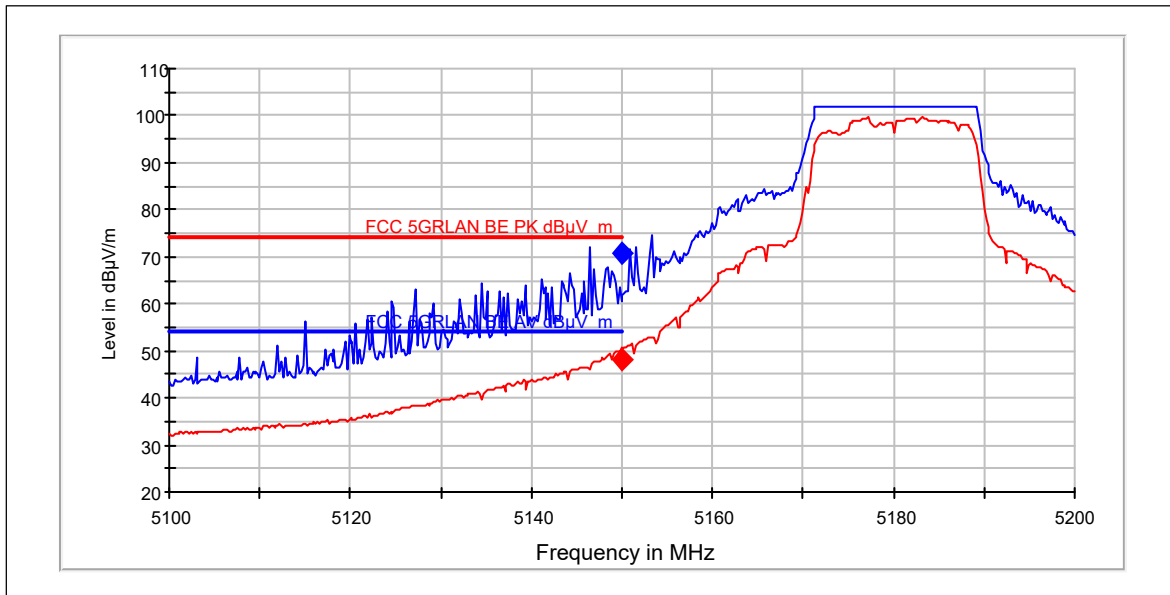


Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5860.882	57.43	68.23	10.8	170	V	22	2.5	PASSED

**2.3.2 802.11n, BPSK modulation, 6.5 / 7.25 Mbps data rate.**

Channel 36 / 5180MHz



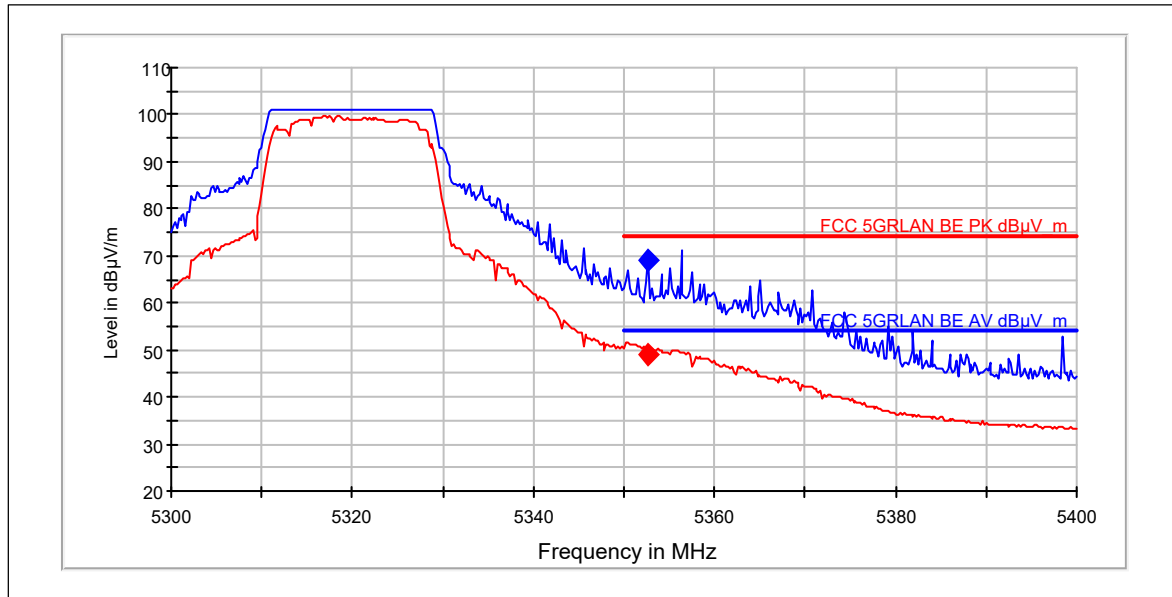
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5150	70.62	74	3.38	170	V	5	2.5	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
5150	47.98	54	6.02	170	V	5	2.5	PASSED

Channel 64 / 5320MHz



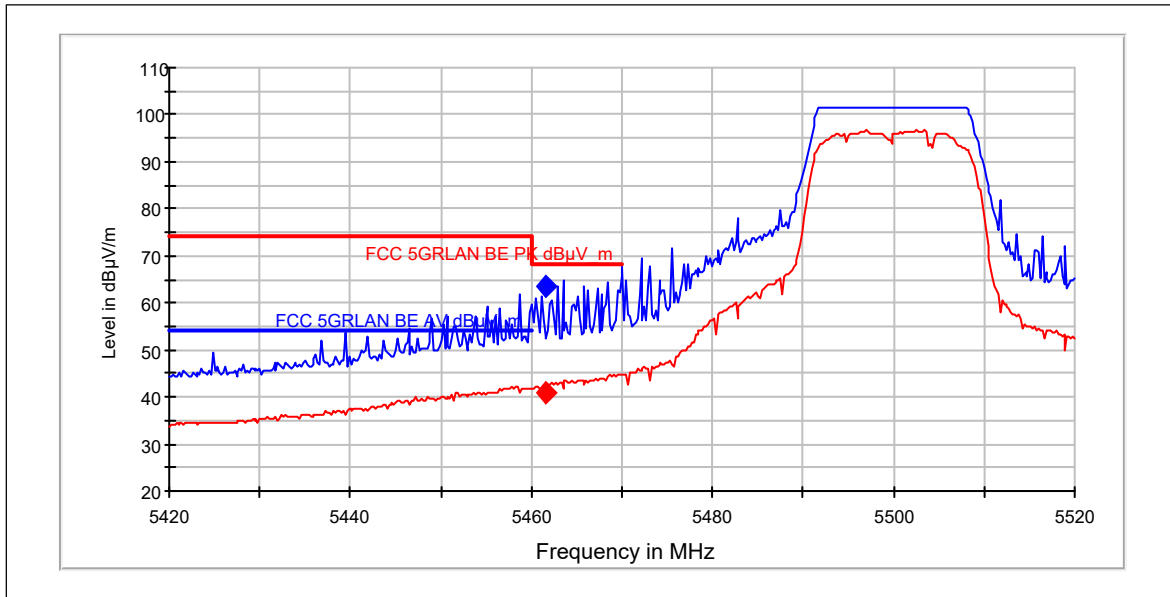
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5352.605	69.04	74	4.96	170	H	22	0.5	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
5352.605	49.13	54	4.87	170	H	22	0.5	PASSED

Channel 100 / 5500MHz



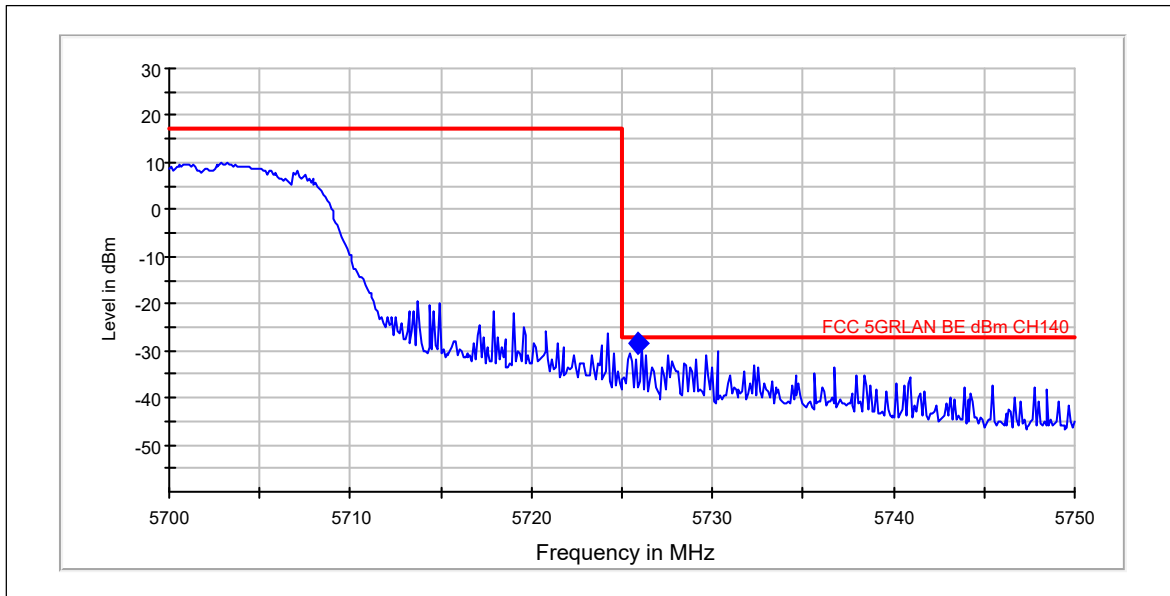
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5461.483	63.35	68.2	4.85	170	H	22	1.5	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
5461.483	41	---	---	170	H	22	1.5	PASSED

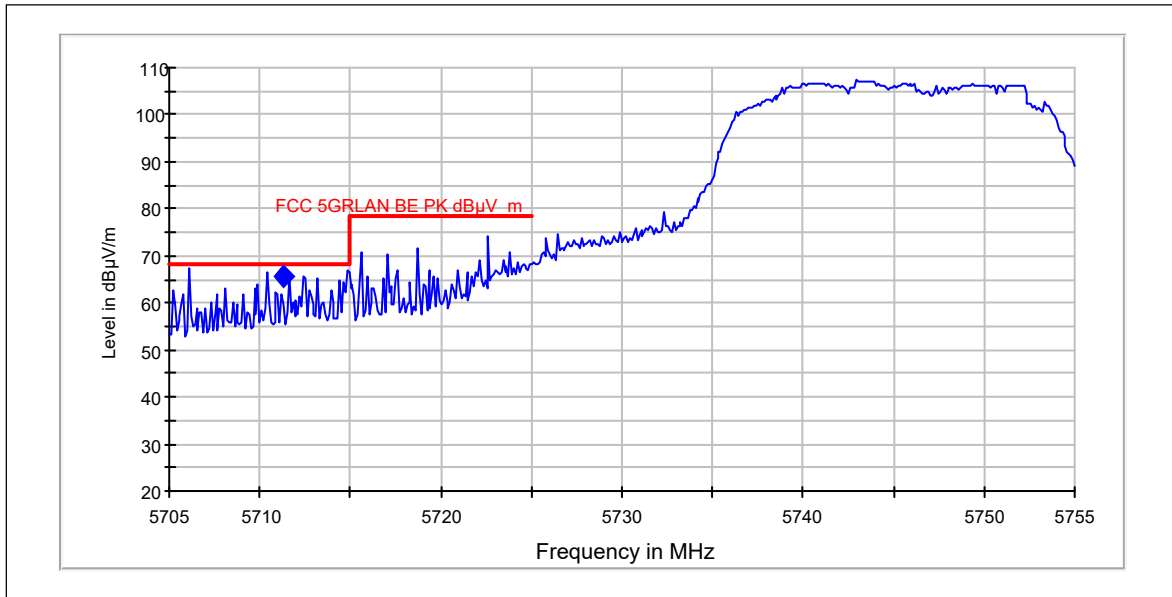
Channel 140 / 5700MHz



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

Frequency [MHz]	MaxPeak [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5725.852	-28.51	-27	1.51	170	H	22	1	PASSED

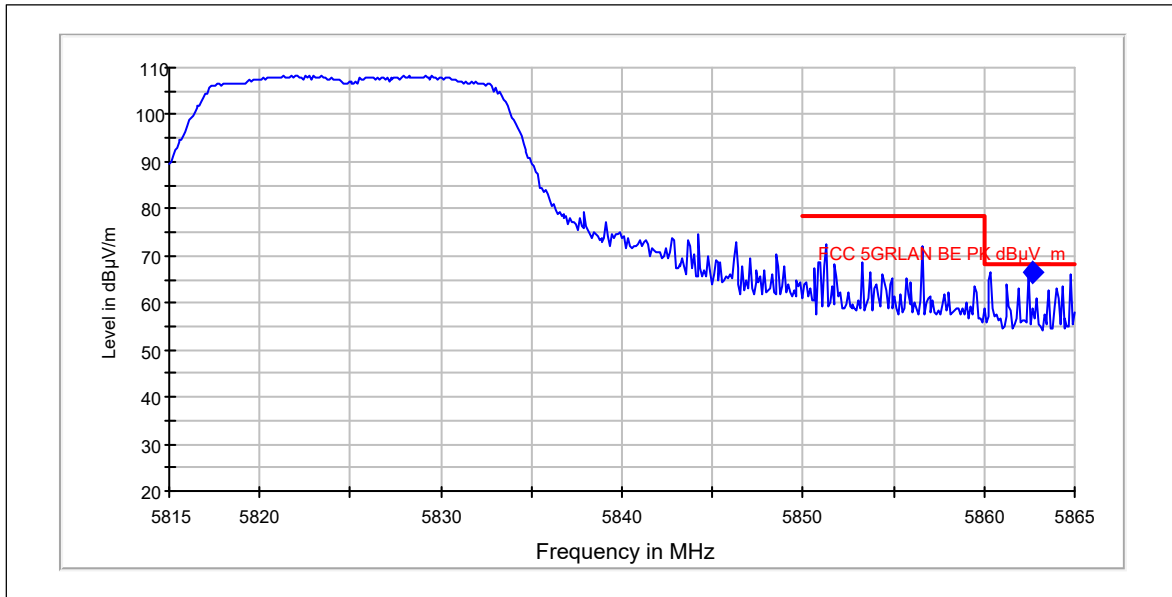
Channel 149 / 5745MHz



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
5711.333	65.7	68.23	2.53	170	H	22	1	PASSED

Channel 165 / 5825MHz



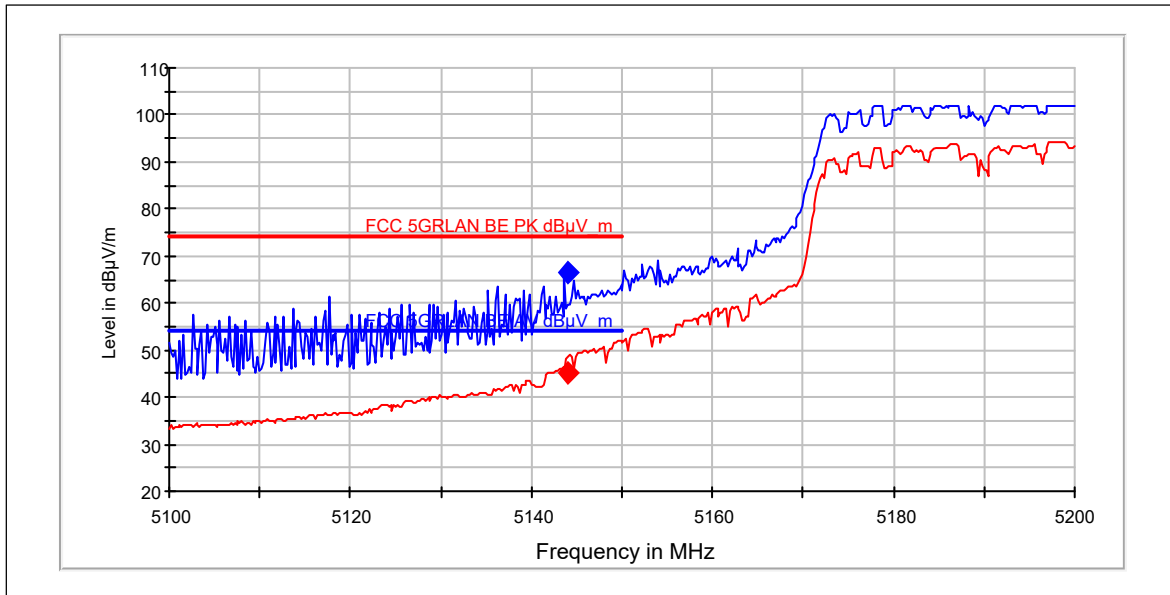
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5862.685	66.45	68.23	1.78	170	H	13	0.5	PASSED



**2.3.3 802.11n, BPSK modulation, 13.5 / 15.0 Mbps data rate.**

Channel 36+40 / 5190MHz



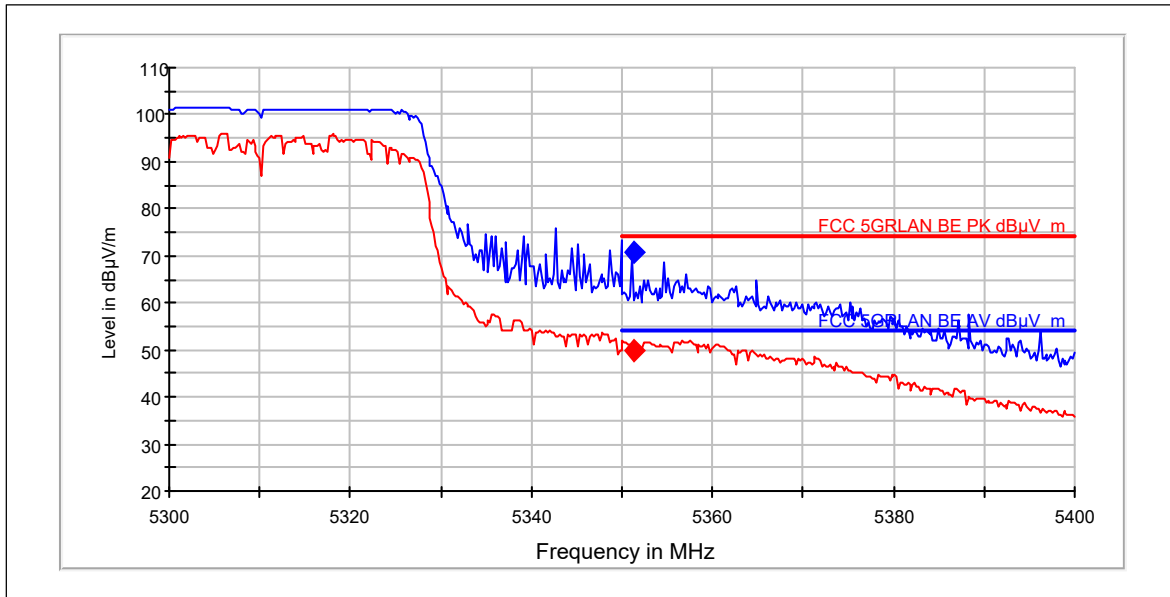
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5144.088	66.44	74	7.56	170	V	22	0.5	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
5144.088	45.27	54	8.73	170	V	22	0.5	PASSED

Channel 60+64 / 5310MHz



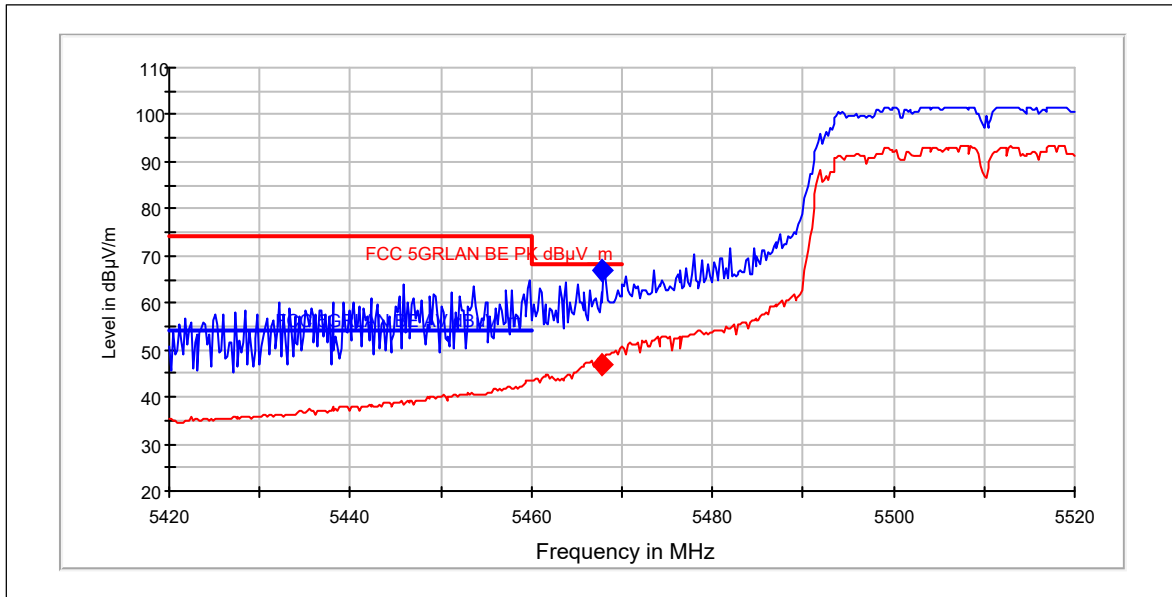
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5351.303	70.57	74	3.43	170	H	22	0.5	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
5351.303	49.98	54	4.02	170	H	22	0.5	PASSED

Channel 100+104 / 5510MHz



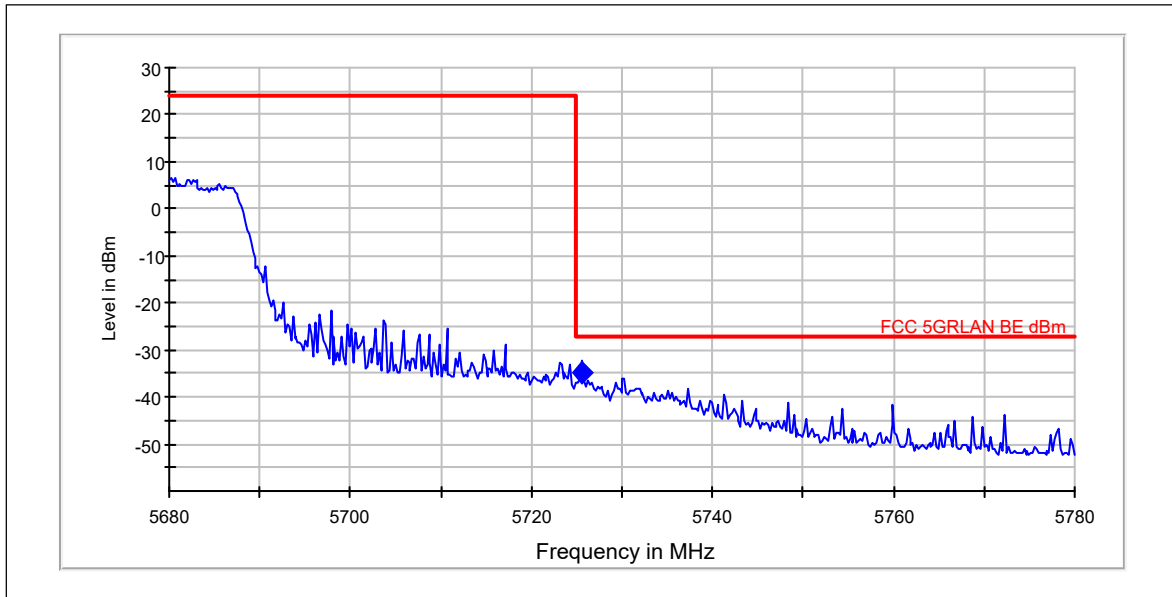
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5467.896	66.87	68.2	1.33	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
5467.896	46.88	---	---	170	H	22	0	PASSED

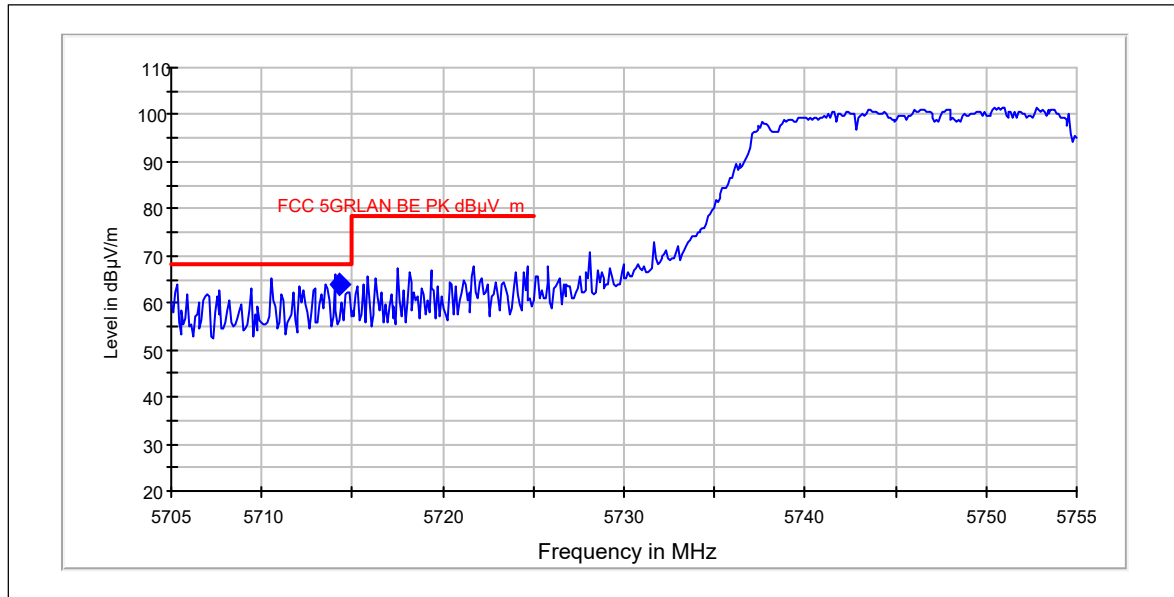
Channel 132+136 / 5670MHz



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

Frequency [MHz]	MaxPeak [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5725.661	-34.7	-27	7.7	170	H	9	1.5	PASSED

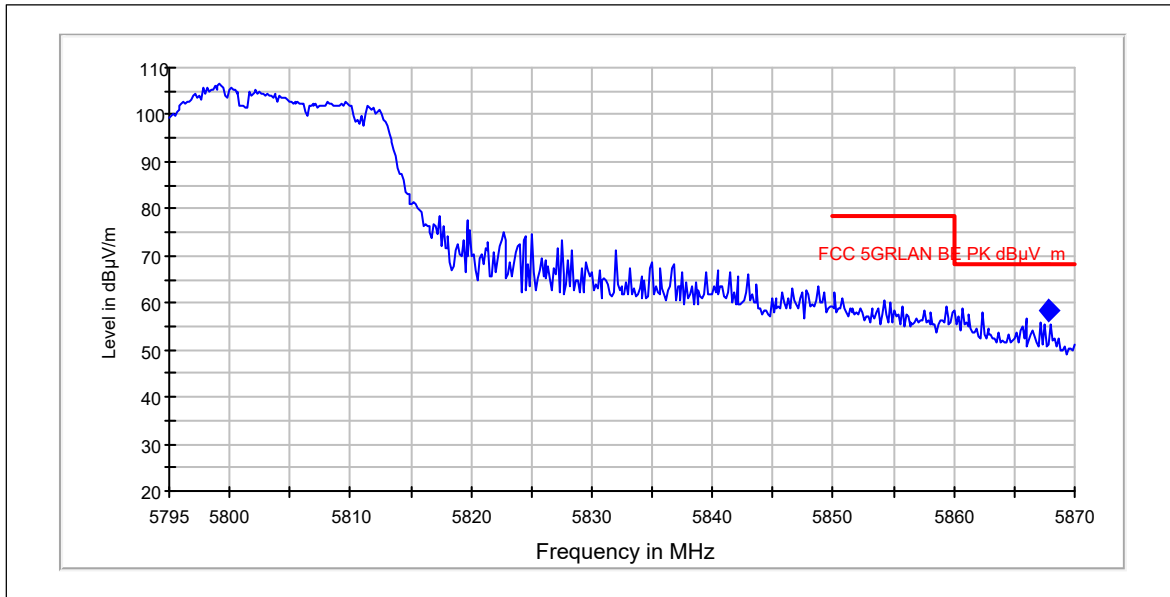
Channel 149+153 / 5755MHz



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
5714.299	63.97	68.23	4.26	170	H	22	0.5	PASSED

Channel 157+161 / 5795MHz

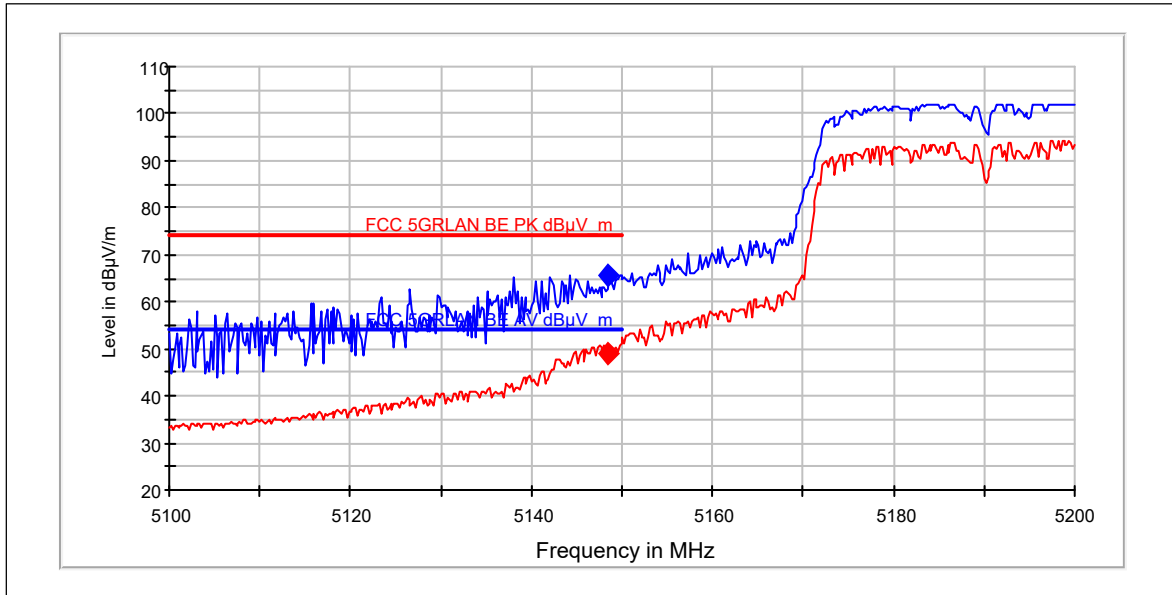


Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5867.876	58.3	68.23	9.93	170	H	14	0.5	PASSED

**2.3.4 802.11n, QPSK modulation, 27.0 / 30.0 Mbps data rate.**

Channel 36+40 / 5190MHz



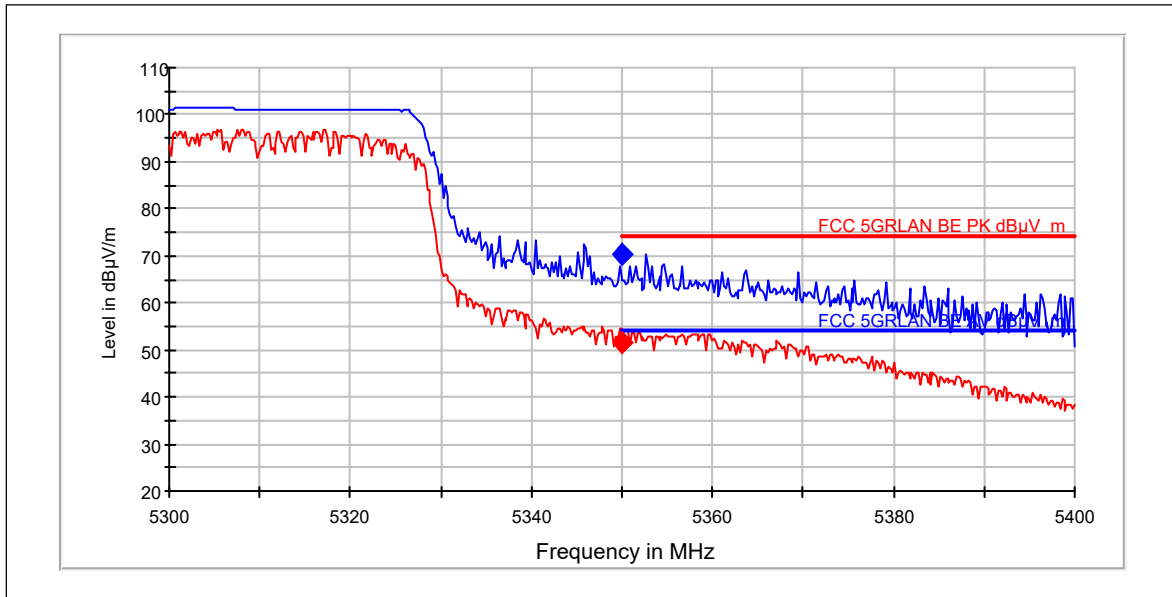
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5148.497	65.58	74	8.42	170	V	4	2.5	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
5148.497	49.18	54	4.82	170	V	4	2.5	PASSED

Channel 60+64 / 5310MHz



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

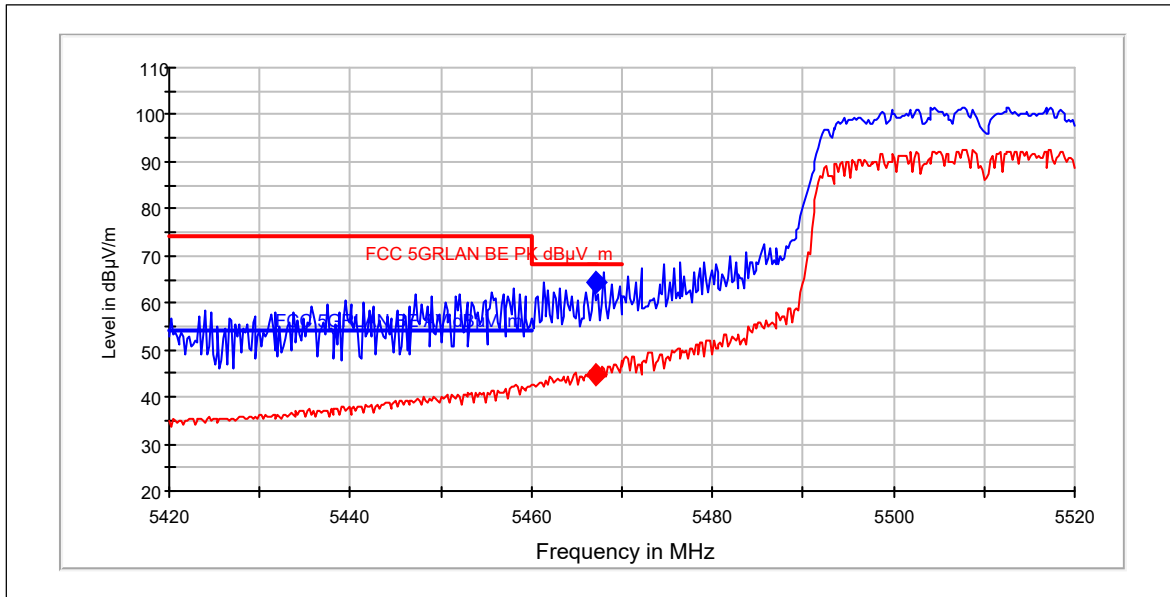
Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5350	70.38	74	3.62	170	H	22	2	PASSED

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	51.72	54	2.28	170	H	22	2	PASSED



Channel 100+104 / 5510MHz



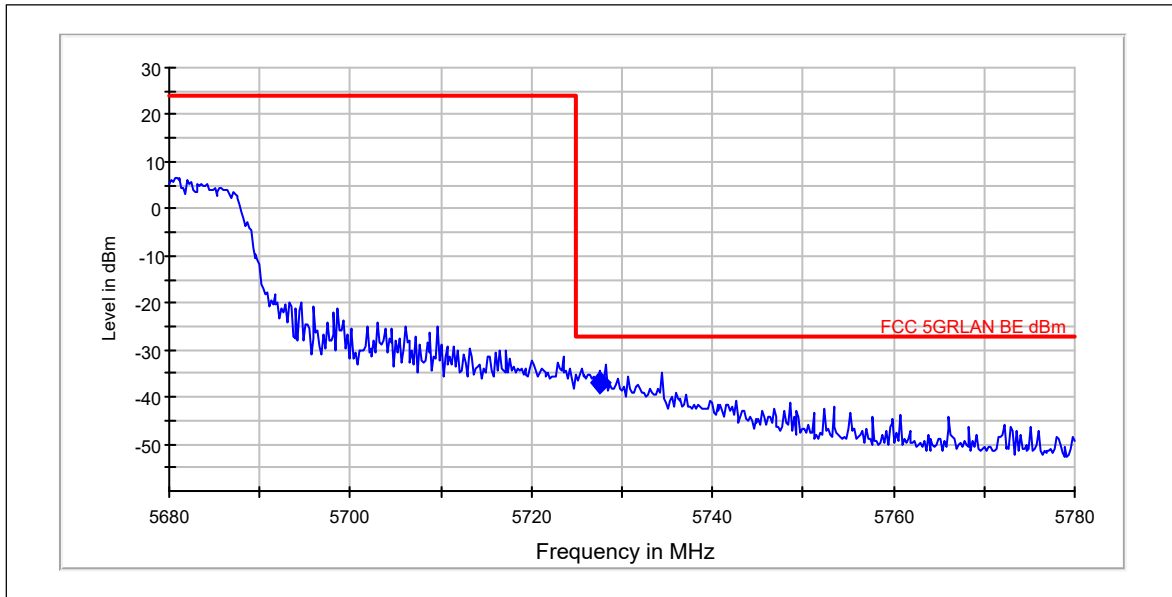
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5467.194	64.44	68.2	3.76	170	H	22	0.5	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
5467.194	44.57	---	---	170	H	22	0.5	PASSED

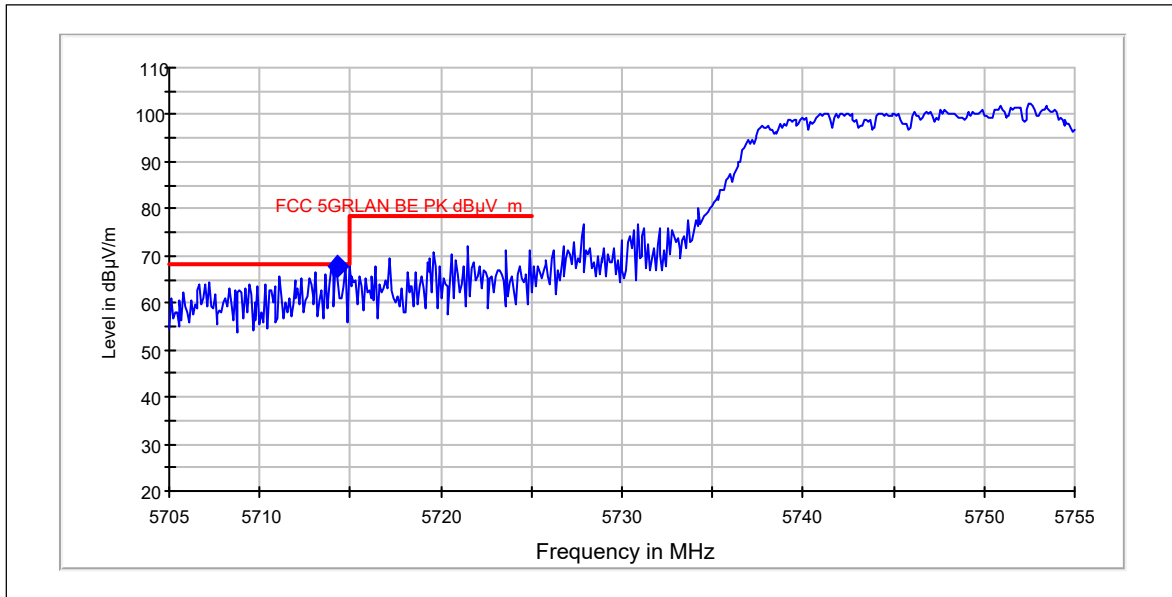
Channel 132+136 / 5670MHz



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

Frequency [MHz]	MaxPeak [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5727.535	-36.78	-27	9.78	170	V	-18	2.5	PASSED

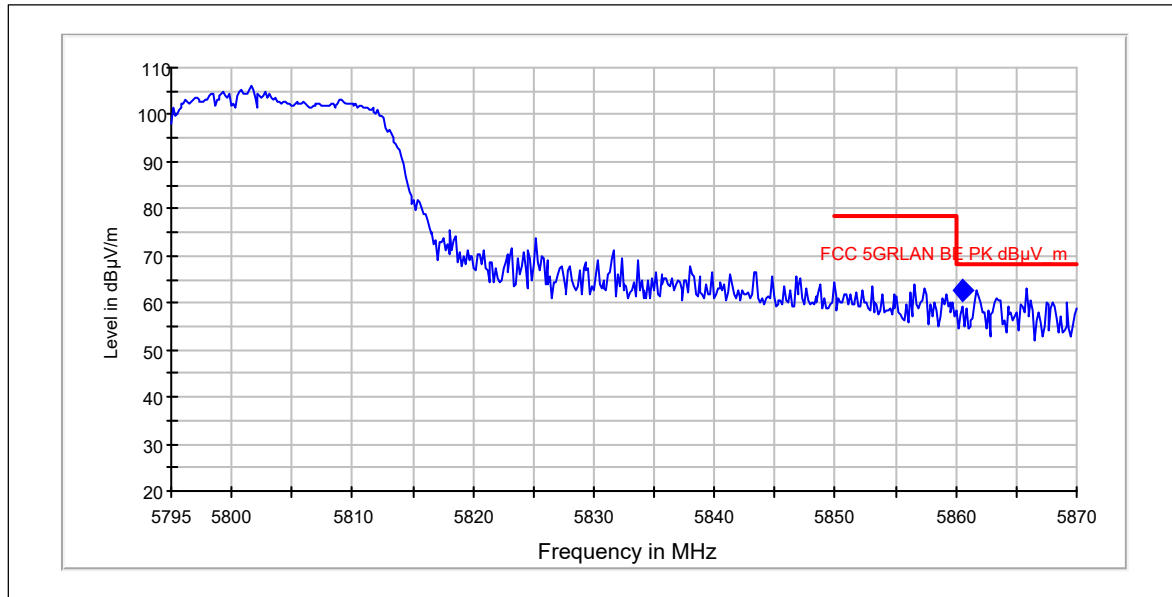
Channel 149+153 / 5755MHz



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
5714.339	67.76	68.23	0.47	170	H	22	0.5	PASSED

Channel 157+161 / 5795MHz

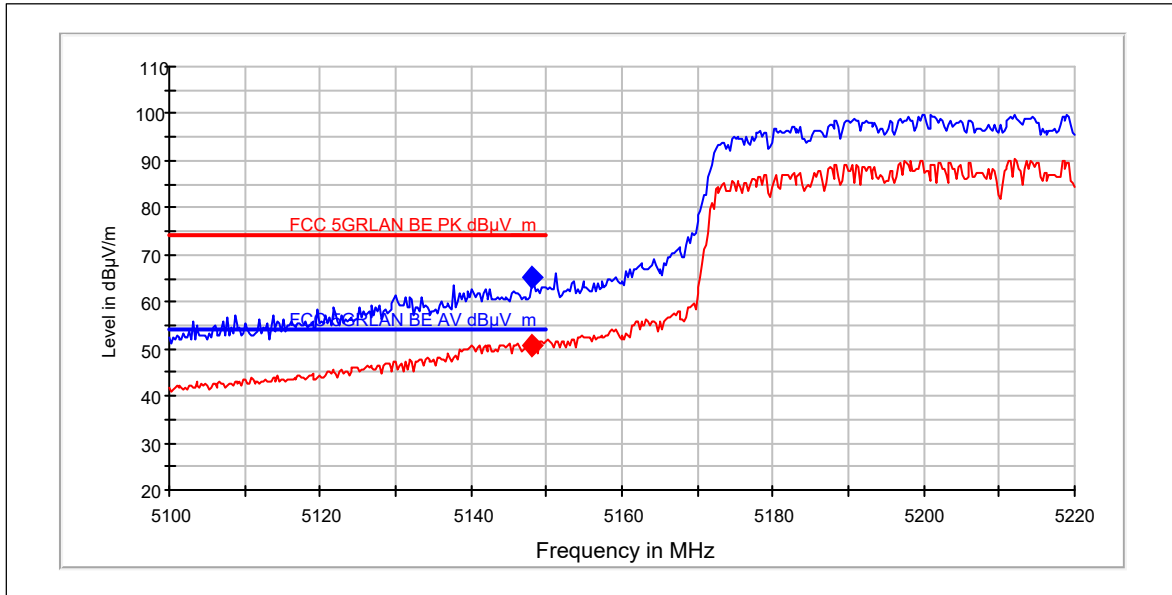


Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5860.541	62.69	68.23	5.54	170	H	17	1.5	PASSED

**2.3.5 802.11ac, BPSK modulation, 29.3 / 32.5 Mbps data rate.**

Channel 36-48 / 5210MHz



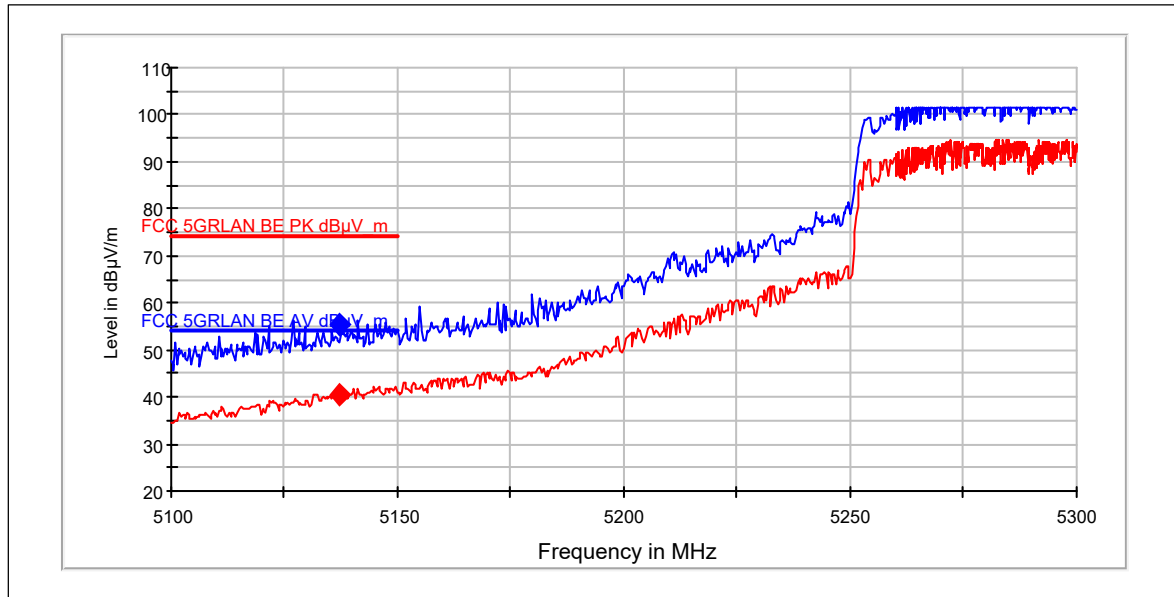
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5148.096	65.38	74	8.62	170	V	4	1.5	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	50.59	54	3.41	170	V	4	1.5	PASSED

Channel 52-64 / 5290MHz



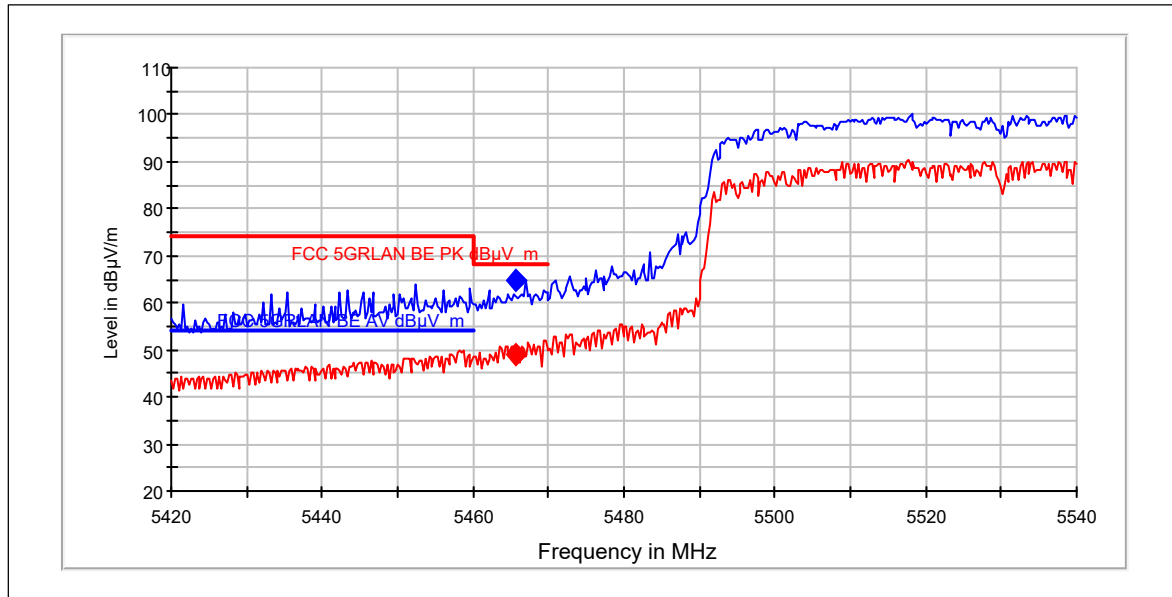
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5137.3	55.35	74	18.65	170	V	3	0.5	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
5137.3	40.59	54	13.41	170	V	3	0.5	PASSED

Channel 100-112 / 5530MHz



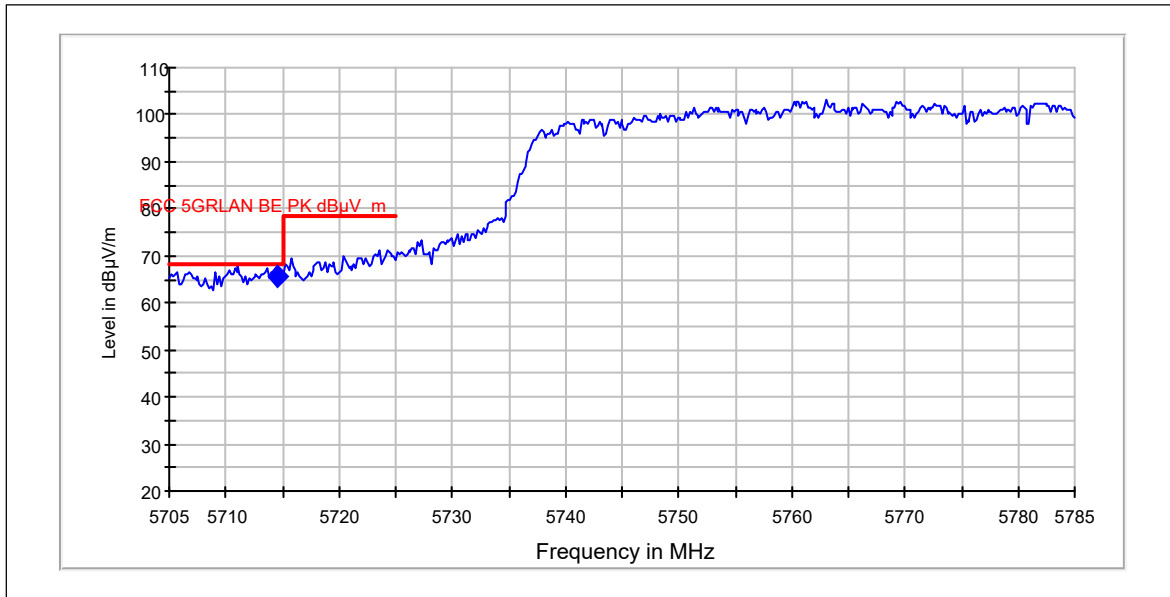
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5465.591	64.94	68.2	3.26	170	H	22	1.5	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
5465.591	49.15	---	---	170	H	22	1.5	PASSED

Channel 149-161 / 5775MHz



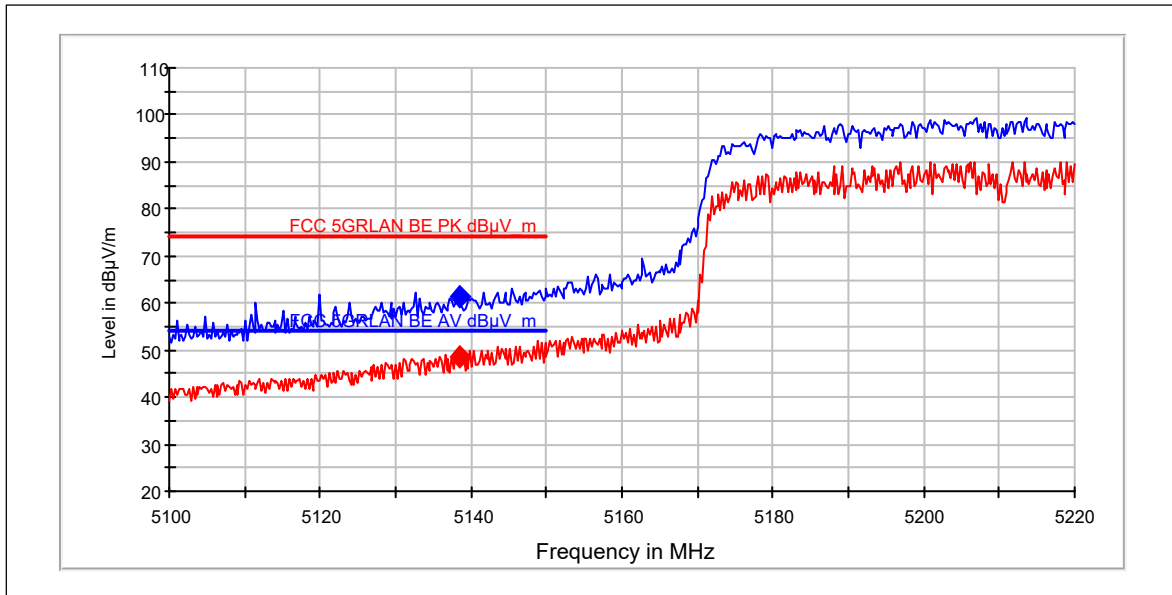
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5714.579	65.8	68.23	2.43	170	H	10	2	PASSED



**2.3.6 802.11ac, QPSK modulation, 58.5 / 65.0 Mbps data rate.**

Channel 36-48 / 5210MHz



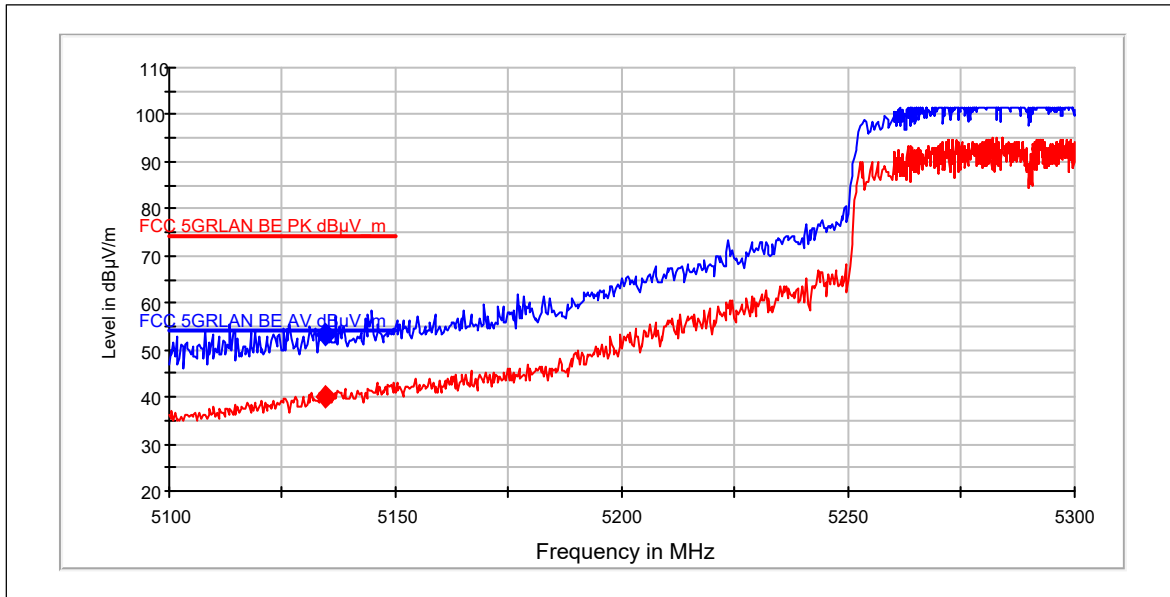
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5138.577	61.52	74	12.48	170	V	3	2	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
5138.577	48.39	54	5.61	170	V	3	2	PASSED

Channel 52-64 / 5290MHz



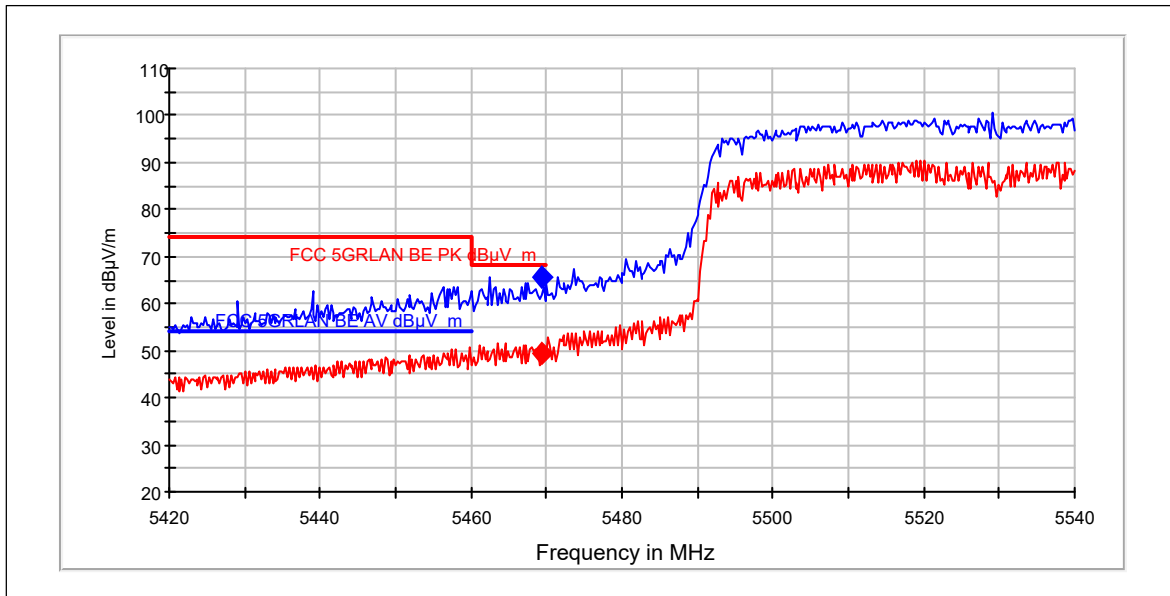
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5134.694	53.26	74	20.74	170	V	22	2.5	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
5134.694	39.99	54	14.01	170	V	22	2.5	PASSED

Channel 100-112 / 5530MHz



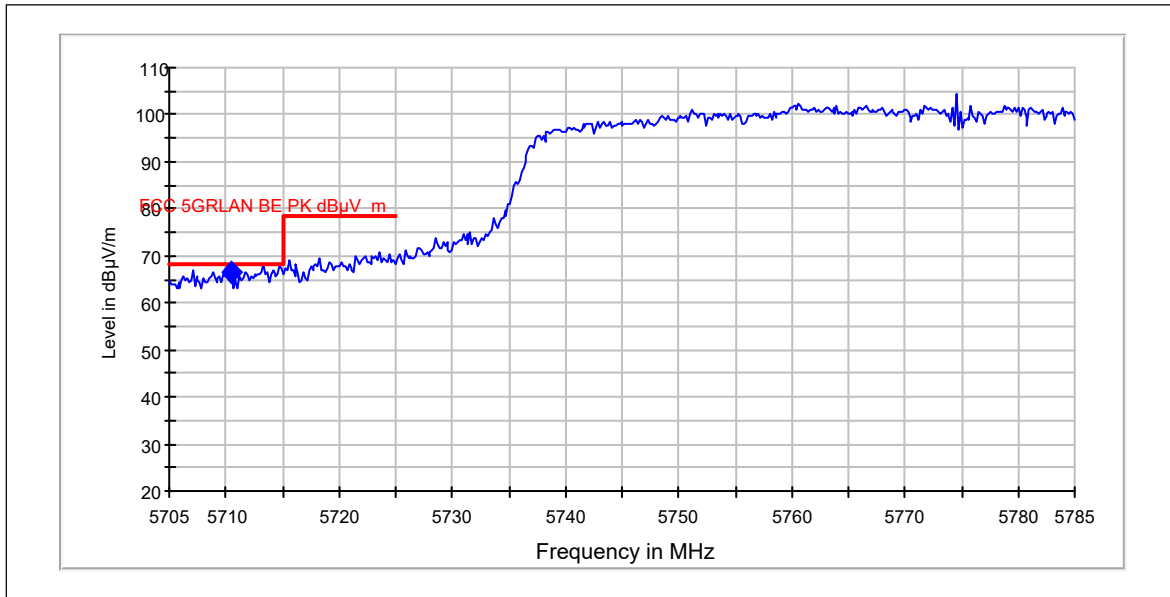
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5469.399	65.77	68.2	2.43	170	H	17	1.5	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
5469.399	49.52	---	---	170	H	17	1.5	PASSED

Channel 149-161 / 5775MHz



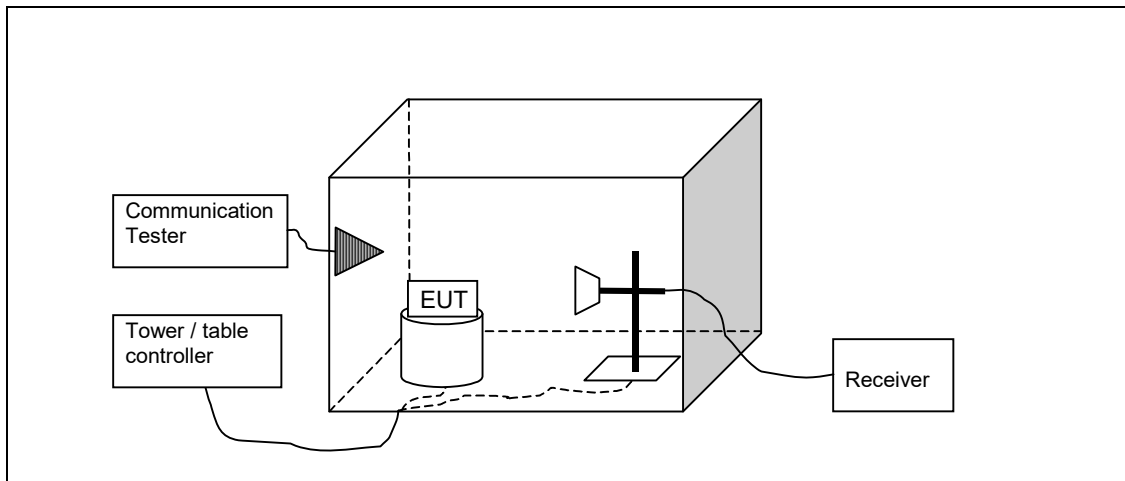
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	MaxPeak [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Elevation [deg]	Results
5710.531	66.54	68.23	1.69	170	H	11	1.5	PASSED

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

<b>EUT with DUT number</b>	RM-1116, DUT 400045
<b>Accessories with DUT numbers</b>	BV-T4D, DUT 400025 ; AC-100E, DUT 400013 ; WH-308, DUT 400014
<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 / 50 / 101.4
<b>Date of measurements</b>	04-Sep-2015
<b>Measured by</b>	Timo Raiskio

#### 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

#### 3.3.1 802.11a, 16QAM modulation, 24 Mbps data rate.

Channel 36 / 5180MHz

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
10360.1	60.87	1105.35	54.37	6.5	68	7.36	PASSED
15531.8	44.11	160.509	41.31	2.8	74	29.87	PASSED
20719.8	48.09	253.805	41.59	6.5	74	25.89	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
10360.1	48.26	258.821	41.76	6.5	---	---	PASSED
15531.8	31.23	36.433	28.43	2.8	54	22.77	PASSED
20719.8	35.45	59.224	28.95	6.5	54	18.55	PASSED

Channel 40 / 5200MHz

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
5168.493	64.76	1729.816	63.56	1.2	68	3.47	PASSED
5171.219	67.29	2314.728	66.09	1.2	68	0.94	PASSED
5231.1	67.72	2432.204	66.92	0.8	68	0.51	PASSED
10401.6	56.63	678.422	49.93	6.7	68	11.6	PASSED
15598.5	44.09	160.14	41.49	2.6	74	29.89	PASSED
20800.1	49.02	282.488	42.62	6.4	74	24.96	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
5168.493	46.07	201.141	44.87	1.2	---	---	PASSED
5171.219	48.65	270.707	47.45	1.2	---	---	PASSED
5231.1	47.34	232.809	46.54	0.8	---	---	PASSED
10401.6	44.53	168.461	37.83	6.7	---	---	PASSED
15598.5	31.23	36.433	28.63	2.6	54	22.77	PASSED
20800.1	38.25	81.752	31.85	6.4	54	15.75	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
10482.9	62.3	1303.167	54.9	7.4	68	5.93	PASSED
15724.5	44.39	165.768	41.99	2.4	74	29.59	PASSED
20959.8	50.21	323.966	44.21	6	74	23.77	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
10482.9	49.66	304.089	42.26	7.4	---	---	PASSED
15724.5	31.45	37.368	29.05	2.4	54	22.55	PASSED
20959.8	40.76	109.144	34.76	6	54	13.24	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
10520.1	63.25	1453.784	55.85	7.4	68	4.98	PASSED
15789.4	43.96	157.761	41.56	2.4	74	30.02	PASSED
21040	50.14	321.366	43.94	6.2	74	23.84	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
10520.1	50.84	348.337	43.44	7.4	---	---	PASSED
15789.4	31.01	35.522	28.61	2.4	54	22.99	PASSED
21040	41.29	116.011	35.09	6.2	54	12.71	PASSED



Channel 60 / 5300MHz

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
5270.8	66.31	2067.759	65.71	0.6	68	1.92	PASSED
5328.1	68.21	2573.357	67.81	0.4	68	0.02	PASSED
10597.898	59.68	963.829	52.28	7.4	68	8.55	PASSED
10599.9	60.33	1038.724	52.93	7.4	68	7.9	PASSED
15900.4	43.97	157.943	41.67	2.3	74	30.01	PASSED
21199.7	48.3	260.016	42	6.3	74	25.68	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
5270.8	47.3	231.739	46.7	0.6	---	---	PASSED
5328.1	49.51	298.882	49.11	0.4	---	---	PASSED
10597.898	47.25	230.409	39.85	7.4	---	---	PASSED
10599.9	48.29	259.717	40.89	7.4	---	---	PASSED
15900.4	31.01	35.522	28.71	2.3	54	22.99	PASSED
21199.7	35.64	60.534	29.34	6.3	54	18.36	PASSED

Channel 64 / 5320MHz

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
10640.1	64.33	1646.266	57.33	7	74	9.65	PASSED
15959.2	44.67	171.199	42.47	2.2	74	29.31	PASSED
21279.7	49.07	284.119	42.07	7	74	24.91	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
10640.1	52.07	401.328	45.07	7	54	1.93	PASSED
15959.2	31.09	35.851	28.89	2.2	54	22.91	PASSED
21279.7	37.84	77.983	30.84	7	54	16.16	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
10997.8	58.5	841.395	50.9	7.6	74	15.48	PASSED
16505.3	44.46	167.109	41.56	2.9	68	23.77	PASSED
21999.8	50.75	344.747	44.75	6	68	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
10997.8	45.4	186.209	37.8	7.6	54	8.6	PASSED
16505.3	31.25	36.517	28.35	2.9	---	---	PASSED
21999.8	42.65	135.675	36.65	6	---	---	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
5611.4	66.87	2205.464	66.47	0.4	68	1.36	PASSED
11161.7	56.34	656.145	48.34	8	74	17.64	PASSED
16738.3	43.98	158.125	41.18	2.8	68	24.25	PASSED
22319.9	47.69	242.382	41.59	6.1	74	26.29	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
5611.4	47.45	235.776	47.05	0.4	---	---	PASSED
11161.7	43.09	142.725	35.09	8	54	10.91	PASSED
16738.3	31.43	37.282	28.63	2.8	---	---	PASSED
22319.9	35.36	58.614	29.26	6.1	54	18.64	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
11401.7	54.37	522.998	47.27	7.1	74	19.61	PASSED
17103.5	44.64	170.608	41.04	3.6	68	23.59	PASSED
22799.8	50.63	340.017	44.23	6.4	74	23.35	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
11401.7	40.9	110.917	33.8	7.1	54	13.1	PASSED
17103.5	31.19	36.266	27.59	3.6	---	---	PASSED
22799.8	41.99	125.748	35.59	6.4	54	12.01	PASSED

Channel 149 / 5745MHz

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
11491.6	52.93	443.098	45.53	7.4	74	21.05	PASSED
17233.7	43.68	152.757	40.28	3.4	68	24.55	PASSED
22979.8	48.93	279.576	42.63	6.3	74	25.05	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
11491.6	39.88	98.628	32.48	7.4	54	14.12	PASSED
17233.7	31.19	36.266	27.79	3.4	---	---	PASSED
22979.8	39.37	93.004	33.07	6.3	54	14.63	PASSED

Channel 157 / 5785MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U <sub>RX</sub> [dBµV]	A <sub>TOT</sub> [dB]	Limit [dBµV/m]	Margin	Results
30	24.2	16.218	45	-20.8	40	15.8	PASSED

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
11571.4	51.76	387.258	43.76	8	74	22.22	PASSED
17346.9	44.06	159.588	40.36	3.7	68	24.17	PASSED
23139.9	49.35	293.427	42.75	6.6	68	18.88	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
5764.5	57.53	752.489	56.63	0.9	---	---	PASSED
5806	52.12	403.645	51.02	1.1	---	---	PASSED
11571.4	38.72	86.298	30.72	8	54	15.28	PASSED
17346.9	31.31	36.771	27.61	3.7	---	---	PASSED
23139.9	37.75	77.179	31.15	6.6	---	---	PASSED

Channel 165 / 5825MHz

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
11650.1	52.17	405.976	44.07	8.1	74	21.81	PASSED
17443.9	44.16	161.436	40.36	3.8	68	24.07	PASSED
23299.8	50.54	336.512	43.84	6.7	68	17.69	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
11650.1	39.53	94.733	31.43	8.1	54	14.47	PASSED
17443.9	31.34	36.898	27.54	3.8	---	---	PASSED
23299.8	41.96	125.314	35.26	6.7	---	---	PASSED

### 3.3.2 802.11n, 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
10357.8	61.15	1141.563	54.65	6.5	68	7.08	PASSED
15542.2	44.43	166.533	41.63	2.8	74	29.55	PASSED
20719.6	48.21	257.336	41.71	6.5	74	25.77	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
10357.8	46.78	218.273	40.28	6.5	---	---	PASSED
15542.2	31.23	36.433	28.43	2.8	54	22.77	PASSED
20719.6	37.01	70.876	30.51	6.5	54	16.99	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
5166.871	66.72	2167.704	65.52	1.2	68	1.51	PASSED
5168.275	66.7	2162.719	65.5	1.2	68	1.53	PASSED
5168.337	66.7	2162.719	65.5	1.2	68	1.53	PASSED
10400.2	58.6	851.138	51.9	6.7	68	9.63	PASSED
15598.7	44.57	169.239	41.97	2.6	74	29.41	PASSED
20800.1	49.52	299.226	43.12	6.4	74	24.46	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
5166.871	44.01	158.672	42.81	1.2	---	---	PASSED
5168.275	44.45	166.917	43.25	1.2	---	---	PASSED
5168.337	44.39	165.768	43.19	1.2	---	---	PASSED
10400.2	45.47	187.715	38.77	6.7	---	---	PASSED
15598.7	31.23	36.433	28.63	2.6	54	22.77	PASSED
20800.1	39.2	91.201	32.8	6.4	54	14.8	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	64.32	1644.372	56.92	7.4	68	3.91	PASSED
15723.2	44.27	163.493	41.87	2.4	74	29.71	PASSED
20959.9	49.78	308.319	43.78	6	74	24.2	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	49.87	311.53	42.47	7.4	---	---	PASSED
15723.2	31.45	37.368	29.05	2.4	54	22.55	PASSED
20959.9	39.44	93.756	33.44	6	54	14.56	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
10518.1	63.78	1545.254	56.28	7.5	68	4.45	PASSED
15776.6	43.99	158.307	41.69	2.3	74	29.99	PASSED
21039.8	50.54	336.512	44.34	6.2	74	23.44	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
10518.1	49.88	311.889	42.38	7.5	---	---	PASSED
15776.6	31.1	35.892	28.8	2.3	54	22.9	PASSED
21039.8	41.44	118.032	35.24	6.2	54	12.56	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
5268.877	67.21	2293.507	66.61	0.6	68	1.02	PASSED
5269.095	68.09	2538.049	67.49	0.6	68	0.14	PASSED
10599.4	59.69	964.939	52.29	7.4	68	8.54	PASSED
15901.3	44.49	167.687	42.29	2.2	74	29.49	PASSED
21200.1	48.3	260.016	42	6.3	74	25.68	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
5268.877	42.44	132.434	41.84	0.6	---	---	PASSED
5269.095	43.22	144.877	42.62	0.6	---	---	PASSED
5328.1	46.34	207.491	45.94	0.4	---	---	PASSED
10599.4	46.28	206.063	38.88	7.4	---	---	PASSED
15901.3	31.01	35.522	28.81	2.2	54	22.99	PASSED
21200.1	37.48	74.817	31.18	6.3	54	16.52	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	64.35	1650.061	57.35	7	74	9.63	PASSED
15964.1	43.9	156.675	41.7	2.2	74	30.08	PASSED
21279.9	49.31	292.079	42.31	7	74	24.67	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
10638	49.98	315.5	42.98	7	54	4.02	PASSED
15964.1	31.14	36.058	28.94	2.2	54	22.86	PASSED
21279.9	39.54	94.842	32.54	7	54	14.46	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	60.41	1048.335	52.81	7.6	74	13.57	PASSED
16497.7	43.84	155.597	40.94	2.9	68	24.39	PASSED
22000	50.2	323.594	44.2	6	68	18.03	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
10998.1	45.89	197.015	38.29	7.6	54	8.11	PASSED
16497.7	31.22	36.392	28.32	2.9	---	---	PASSED
22000	42.21	128.973	36.21	6	---	---	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
5544.387	65.93	1979.247	65.33	0.6	68	2.3	PASSED
11158.4	55.64	605.341	47.64	8	74	18.34	PASSED
16739.1	44.09	160.14	41.29	2.8	68	24.14	PASSED
22320	47.81	245.754	41.71	6.1	74	26.17	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
5544.387	41.18	114.551	40.58	0.6	---	---	PASSED
11158.4	42.49	133.199	34.49	8	54	11.51	PASSED
16739.1	31.32	36.813	28.52	2.8	---	---	PASSED
22320	35.86	62.087	29.76	6.1	54	18.14	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
11402.5	54.72	544.503	47.62	7.1	74	19.26	PASSED
17100.2	45.21	182.18	41.71	3.5	68	23.02	PASSED
22800	49.65	303.739	43.25	6.4	74	24.33	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
11402.5	40.89	110.79	33.79	7.1	54	13.11	PASSED
17100.2	31.71	38.503	28.21	3.5	---	---	PASSED
22800	40.66	107.895	34.26	6.4	54	13.34	PASSED

Channel 149 / 5745MHz

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
11490.3	53.17	455.512	45.77	7.4	74	20.81	PASSED
17238.1	45.83	195.659	42.53	3.3	68	22.4	PASSED
22980	51.37	370.254	45.07	6.3	74	22.61	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
11490.3	39.73	96.939	32.33	7.4	54	14.27	PASSED
17238.1	31.16	36.141	27.86	3.3	---	---	PASSED
22980	44.62	170.216	38.32	6.3	54	9.38	PASSED

Channel 157 / 5785MHz

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
5744.031	62.63	1353.63	61.83	0.8	68	5.6	PASSED
5749.07	66.26	2055.891	65.36	0.9	68	1.97	PASSED
11575	51.9	393.55	43.9	8	74	22.08	PASSED
17362.4	44.07	159.772	40.37	3.7	68	24.16	PASSED
23132.2	47.3	231.739	40.7	6.6	68	20.93	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
5744.031	40.16	101.859	39.36	0.8	---	---	PASSED
5749.07	41.29	116.011	40.39	0.9	---	---	PASSED
5764.4	54.99	561.694	54.09	0.9	---	---	PASSED
11575	38.59	85.016	30.59	8	54	15.41	PASSED
17362.4	31.39	37.111	27.69	3.7	---	---	PASSED
23132.2	34.43	52.662	27.83	6.6	---	---	PASSED

Channel 165 / 5825MHz

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
11650.8	53.08	450.817	45.08	8	74	20.9	PASSED
17441.4	44.14	161.065	40.34	3.8	68	24.09	PASSED
23300.1	48.45	264.545	41.75	6.7	68	19.78	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
11650.8	39.45	93.864	31.45	8	54	14.55	PASSED
17441.4	31.23	36.433	27.43	3.8	---	---	PASSED
23300.1	37.09	71.532	30.39	6.7	---	---	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
5129.053	59.76	972.747	58.26	1.5	74	14.22	PASSED
5248.4	61.96	1253.141	61.26	0.7	68	6.27	PASSED
5278.655	49.24	289.734	48.64	0.6	68	18.99	PASSED
10381.1	54.33	520.595	47.73	6.6	68	13.9	PASSED
15571.5	44.41	166.15	41.61	2.8	74	29.57	PASSED
20760	48.77	274.473	42.37	6.4	74	25.21	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
5129.053	41.6	120.226	40.1	1.5	54	12.4	PASSED
5248.4	43.56	150.661	42.86	0.7	---	---	PASSED
5278.655	33.23	45.867	32.63	0.6	---	---	PASSED
10381.1	40.68	108.143	34.08	6.6	---	---	PASSED
15571.5	31.12	35.975	28.32	2.8	54	22.88	PASSED
20760	38.14	80.724	31.74	6.4	54	15.86	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
10459.2	61.15	1141.563	53.95	7.2	68	7.08	PASSED
15587.3	44.09	160.14	41.29	2.8	74	29.89	PASSED
20685.7	46.83	219.533	40.23	6.6	74	27.15	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
10459.2	48.06	252.93	40.86	7.2	---	---	PASSED
15587.3	31.19	36.266	28.39	2.8	54	22.81	PASSED
20685.7	33.76	48.753	27.16	6.6	54	20.24	PASSED



Channel 52+56 / 5270MHz

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
5202.258	61.29	1160.112	60.29	1	68	6.94	PASSED
5211.879	63.01	1414.165	62.11	0.9	68	5.22	PASSED
5334.851	63.86	1559.553	63.46	0.4	68	4.37	PASSED
10541.2	57.37	738.754	49.97	7.4	68	10.86	PASSED
15806	43.99	158.307	41.59	2.4	74	29.99	PASSED
21080.1	50.3	327.341	44	6.3	74	23.68	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
5202.258	41.06	112.98	40.06	1	---	---	PASSED
5211.879	43.69	152.933	42.79	0.9	---	---	PASSED
5334.851	44.69	171.593	44.29	0.4	---	---	PASSED
10541.2	44.39	165.768	36.99	7.4	---	---	PASSED
15806	30.94	35.237	28.54	2.4	54	23.06	PASSED
21080.1	39.33	92.576	33.03	6.3	54	14.67	PASSED

Channel 60+64 / 5310MHz

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
10600	56.79	691.035	49.39	7.4	74	17.19	PASSED
15936.3	44.94	176.604	42.84	2.1	74	29.04	PASSED
21239.8	49.61	302.343	42.91	6.7	74	24.37	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
10600	43.31	146.386	35.91	7.4	54	10.69	PASSED
15936.3	30.7	34.277	28.6	2.1	54	23.3	PASSED
21239.8	40.35	104.112	33.65	6.7	54	13.65	PASSED

Channel 100+104 / 5510MHz

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
11017.9	55.6	602.56	47.9	7.7	74	18.38	PASSED
16547.6	44.23	162.742	41.43	2.8	68	24	PASSED
22039.8	50.87	349.543	44.87	6	74	23.11	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
11017.9	41.37	117.085	33.67	7.7	54	12.63	PASSED
16547.6	31.16	36.141	28.36	2.8	---	---	PASSED
22039.8	43.1	142.889	37.1	6	54	10.9	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
5484.762	62.87	1391.554	62.27	0.6	68	5.36	PASSED
5490.154	63.16	1438.799	62.46	0.7	68	5.07	PASSED
5493.6	64.1	1603.245	63.4	0.7	68	4.13	PASSED
11100	54.8	549.541	46.9	7.9	74	19.18	PASSED
16648.6	44.33	164.627	41.63	2.7	68	23.9	PASSED
22200	47.97	250.323	41.67	6.3	74	26.01	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
5484.762	41.16	114.288	40.56	0.6	---	---	PASSED
5490.154	42.74	137.088	42.04	0.7	---	---	PASSED
5493.6	43.12	143.219	42.42	0.7	---	---	PASSED
11100	42.14	127.938	34.24	7.9	54	11.86	PASSED
16648.6	30.97	35.359	28.27	2.7	---	---	PASSED
22200	36.73	68.628	30.43	6.3	54	17.27	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
11339.8	54.39	524.204	47.39	7	74	19.59	PASSED
17025	43.93	157.217	40.03	3.9	68	24.3	PASSED
22680	49.97	315.137	43.37	6.6	74	24.01	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
11339.8	41.91	124.595	34.91	7	54	12.09	PASSED
17025	31.19	36.266	27.29	3.9	---	---	PASSED
22680	41.12	113.763	34.52	6.6	54	12.88	PASSED

Channel 149+153 / 5755MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U <sub>RX</sub> [dBµV]	A <sub>TOT</sub> [dB]	Limit [dBµV/m]	Margin	Results
191.963	26.35	20.773	58.25	-31.9	44	17.17	PASSED

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
5694.914	57.79	775.354	57.29	0.5	68	10.44	PASSED
5698.7	58.3	822.243	57.8	0.5	68	9.93	PASSED
11508.8	49.55	300.262	41.85	7.7	74	24.43	PASSED
17266.4	44.91	175.995	41.61	3.3	68	23.32	PASSED
23020.6	47.2	229.087	40.6	6.6	74	26.78	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
5694.914	36.47	66.604	35.97	0.5	---	---	PASSED
5698.7	37.14	71.945	36.64	0.5	---	---	PASSED
11508.8	36.72	68.549	29.02	7.7	54	17.28	PASSED
17266.4	31.2	36.308	27.9	3.3	---	---	PASSED
23020.6	33.64	48.084	27.04	6.6	54	20.36	PASSED

Channel 157+161 / 5795MHz

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
11589.6	51.59	379.752	43.69	7.9	74	22.39	PASSED
17402.1	44.24	162.93	40.64	3.6	68	23.99	PASSED
23179.9	51.66	382.825	45.26	6.4	68	16.57	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
11589.6	37.97	79.159	30.07	7.9	54	16.03	PASSED
17402.1	31.15	36.099	27.55	3.6	---	---	PASSED
23179.9	44.56	169.044	38.16	6.4	---	---	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 [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
5128.411	43.34	146.893	41.74	1.6	74	30.64	PASSED
10379.1	50.85	348.739	44.45	6.4	68	17.38	PASSED
10380.254	50.06	318.42	43.66	6.4	68	18.17	PASSED
10403.902	50.35	329.23	43.95	6.4	68	17.88	PASSED
15569.2	43.53	150.141	41.03	2.5	74	30.45	PASSED
20760.3	49.13	286.088	42.53	6.6	74	24.85	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
5128.411	30.21	32.397	28.61	1.6	54	23.79	PASSED
10379.1	37.35	73.706	30.95	6.4	---	---	PASSED
10380.254	37.37	73.875	30.97	6.4	---	---	PASSED
10403.902	37.41	74.216	31.01	6.4	---	---	PASSED
15569.2	30.48	33.42	27.98	2.5	54	23.52	PASSED
20760.3	37.98	79.25	31.38	6.6	54	16.02	PASSED

Channel 44+48 / 5230MHz

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
10459.4	62.37	1313.711	55.17	7.2	68	5.86	PASSED
15588.8	44.47	167.302	41.67	2.8	74	29.51	PASSED
20689.2	47.09	226.204	40.49	6.6	74	26.89	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
10459.4	47.9	248.313	40.7	7.2	---	---	PASSED
15588.8	31.24	36.475	28.44	2.8	54	22.76	PASSED
20689.2	33.81	49.034	27.21	6.6	54	20.19	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
5206.808	61.39	1173.546	60.39	1	68	6.84	PASSED
5211.417	62.74	1370.882	61.84	0.9	68	5.49	PASSED
5326.9	64.4	1659.587	64	0.4	68	3.83	PASSED
10541.3	57.97	791.589	50.57	7.4	68	10.26	PASSED
15809.4	43.45	148.765	41.05	2.4	74	30.53	PASSED
21080.1	49.21	288.735	42.91	6.3	74	24.77	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
5206.808	40.7	108.393	39.7	1	---	---	PASSED
5211.417	43.46	148.936	42.56	0.9	---	---	PASSED
5326.9	47.57	239.056	47.17	0.4	---	---	PASSED
10541.3	44.36	165.196	36.96	7.4	---	---	PASSED
15809.4	30.88	34.995	28.48	2.4	54	23.12	PASSED
21080.1	39.23	91.517	32.93	6.3	54	14.77	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	56.56	672.977	49.16	7.4	74	17.42	PASSED
15946.1	44.23	162.742	42.13	2.1	74	29.75	PASSED
21240	49.71	305.844	43.01	6.7	74	24.27	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	36.25	7.4	54	10.35	PASSED
15946.1	31.22	36.392	29.12	2.1	54	22.78	PASSED
21240	40.43	105.075	33.73	6.7	54	13.57	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	55.4	588.844	47.7	7.7	74	18.58	PASSED
16543.7	44.21	162.368	41.51	2.7	68	24.02	PASSED
22039.7	50.2	323.594	44.2	6	74	23.78	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	42.9	139.637	35.2	7.7	54	11.1	PASSED
16543.7	31.12	35.975	28.42	2.7	---	---	PASSED
22039.7	42.48	133.045	36.48	6	54	11.52	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
5475.825	60.6	1071.519	60	0.6	68	7.63	PASSED
5491.9	63.44	1485.936	62.74	0.7	68	4.79	PASSED
5615.19	61.91	1245.948	61.51	0.4	68	6.32	PASSED
11098.8	54.41	525.412	46.51	7.9	74	19.57	PASSED
16647.7	44.21	162.368	41.51	2.7	68	24.02	PASSED
22199.7	47.85	246.888	41.55	6.3	74	26.13	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
5475.825	38.33	82.509	37.73	0.6	---	---	PASSED
5491.9	43.09	142.725	42.39	0.7	---	---	PASSED
5615.19	44.3	164.059	43.9	0.4	---	---	PASSED
11098.8	41.03	112.59	33.13	7.9	54	12.97	PASSED
16647.7	31	35.481	28.3	2.7	---	---	PASSED
22199.7	35.9	62.373	29.6	6.3	54	18.1	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
11339.7	54.15	509.918	47.15	7	74	19.83	PASSED
17011.1	44.05	159.404	40.35	3.7	68	24.18	PASSED
22679.7	49.33	292.752	42.73	6.6	74	24.65	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
11339.7	40.93	111.301	33.93	7	54	13.07	PASSED
17011.1	30.95	35.278	27.25	3.7	---	---	PASSED
22679.7	39.25	91.728	32.65	6.6	54	14.75	PASSED

Channel 149+153 / 5755MHz

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
30.03	23.55	15.049	44.35	-20.8	40	16.45	PASSED
191.987	27.87	24.746	59.77	-31.9	44	15.65	PASSED
191.993	28.03	25.206	59.93	-31.9	44	15.49	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
11508.6	49.28	291.072	41.58	7.7	74	24.7	PASSED
17264.6	44.11	160.509	40.81	3.3	68	24.12	PASSED
23018.6	46.92	221.82	40.32	6.6	74	27.06	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
11508.6	36.65	67.999	28.95	7.7	54	17.35	PASSED
17264.6	31.19	36.266	27.89	3.3	---	---	PASSED
23018.6	33.61	47.918	27.01	6.6	54	20.39	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
11591.1	51.74	386.367	43.84	7.9	74	22.24	PASSED
17403.2	44.25	163.117	40.65	3.6	68	23.98	PASSED
23179.7	50.17	322.478	43.77	6.4	68	18.06	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
11591.1	38.1	80.353	30.2	7.9	54	15.9	PASSED
17403.2	31.17	36.183	27.57	3.6	---	---	PASSED
23179.7	41.36	116.95	34.96	6.4	---	---	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
30.69	23.5	14.962	44.6	-21.1	40	16.5	PASSED
192.013	28.3	26.002	60.2	-31.9	44	15.22	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
10423.338	53.16	454.988	46.26	6.9	68	15.07	PASSED
10427.4	52.69	431.023	45.79	6.9	68	15.54	PASSED
15627.1	44.79	173.58	42.09	2.7	74	29.19	PASSED
20839.8	48.81	275.74	42.61	6.2	74	25.17	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
10423.338	38.87	87.801	31.97	6.9	---	---	PASSED
10427.4	39.11	90.261	32.21	6.9	---	---	PASSED
15627.1	31.31	36.771	28.61	2.7	54	22.69	PASSED
20839.8	37.47	74.731	31.27	6.2	54	16.53	PASSED

Channel 52-64 / 5290MHz

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
30.63	23.6	15.136	44.7	-21.1	40	16.4	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
5172.108	55.25	578.762	54.05	1.2	68	12.98	PASSED
10585.8	57.65	762.957	50.25	7.4	68	10.58	PASSED
10596.594	58.42	833.681	51.02	7.4	68	9.81	PASSED
15876.6	43.7	153.109	41.5	2.2	74	30.28	PASSED
21159.9	49.77	307.964	43.37	6.4	74	24.21	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
5172.108	39.14	90.573	37.94	1.2	---	---	PASSED
10585.8	43.06	142.233	35.66	7.4	---	---	PASSED
10596.594	42.1	127.35	34.7	7.4	---	---	PASSED
15876.6	30.73	34.395	28.53	2.2	54	23.27	PASSED
21159.9	38.37	82.89	31.97	6.4	54	15.63	PASSED



Channel 100-112 / 5530MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U <sub>RX</sub> [dBµV]	A <sub>TOT</sub> [dB]	Limit [dBµV/m]	Margin	Results
30.03	23.05	14.207	43.85	-20.8	40	16.95	PASSED
191.983	27.78	24.491	59.68	-31.9	44	15.74	PASSED

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
5651.209	54.55	533.949	54.25	0.3	68	13.68	PASSED
11054.7	51.89	393.097	44.09	7.8	74	22.09	PASSED
16591.6	44.06	159.588	41.46	2.6	68	24.17	PASSED
22119.9	47.82	246.037	41.82	6	74	26.16	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
5651.209	39.14	90.573	38.84	0.3	---	---	PASSED
11054.7	38.77	86.796	30.97	7.8	54	15.23	PASSED
16591.6	31.11	35.934	28.51	2.6	---	---	PASSED
22119.9	36.8	69.183	30.8	6	54	17.2	PASSED

Channel 149-161 / 5775MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U <sub>RX</sub> [dBµV]	A <sub>TOT</sub> [dB]	Limit [dBµV/m]	Margin	Results
30.06	23.18	14.421	43.98	-20.8	40	16.82	PASSED
192.013	28.41	26.333	60.31	-31.9	44	15.11	PASSED

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
5652.512	53.48	472.063	53.18	0.3	68	14.75	PASSED
11542.6	49.92	313.329	41.92	8	74	24.06	PASSED
17321.6	44.8	173.78	41.1	3.7	68	23.43	PASSED
23099.7	48.67	271.331	41.97	6.7	74	25.31	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
5652.512	38.86	87.7	38.56	0.3	---	---	PASSED
11542.6	36.84	69.502	28.84	8	54	17.16	PASSED
17321.6	31.44	37.325	27.74	3.7	---	---	PASSED
23099.7	37.42	74.302	30.72	6.7	54	16.58	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 [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
30.12	24.09	16.014	44.99	-20.9	40	15.91	PASSED
191.953	26.55	21.257	58.45	-31.9	44	16.97	PASSED
192.019	27.85	24.689	59.75	-31.9	44	15.67	PASSED

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
10425.4	52.67	430.031	45.77	6.9	68	15.56	PASSED
15635.3	43.8	154.882	41.2	2.6	74	30.18	PASSED
20839.1	46.88	220.8	40.68	6.2	74	27.1	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
10425.4	38.98	88.92	32.08	6.9	---	---	PASSED
15635.3	31.04	35.645	28.44	2.6	54	22.96	PASSED
20839.1	33.97	49.946	27.77	6.2	54	20.03	PASSED

Channel 52-64 / 5290MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U <sub>RX</sub> [dBμV]	A <sub>TOT</sub> [dB]	Limit [dBμV/m]	Margin	Results
30.18	23.96	15.776	44.86	-20.9	40	16.04	PASSED

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
5159.495	54.85	552.713	53.55	1.3	68	13.38	PASSED
10585	55.91	624.453	48.51	7.4	68	12.32	PASSED
10585.462	56.87	697.429	49.47	7.4	68	11.36	PASSED
15867.5	43.46	148.936	41.16	2.3	74	30.52	PASSED
21160	48.99	281.514	42.59	6.4	74	24.99	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
5159.495	38.46	83.753	37.16	1.3	---	---	PASSED
10585	42.19	128.677	34.79	7.4	---	---	PASSED
10585.462	42.66	135.831	35.26	7.4	---	---	PASSED
15867.5	30.76	34.514	28.46	2.3	54	23.24	PASSED
21160	38.34	82.604	31.94	6.4	54	15.66	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
30.12	23.71	15.329	44.61	-20.9	40	16.29	PASSED
191.977	27.21	22.935	59.11	-31.9	44	16.31	PASSED
191.983	27.73	24.35	59.63	-31.9	44	15.79	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
11059.9	53.71	484.73	45.91	7.8	74	20.27	PASSED
16593.8	44.45	166.917	41.85	2.6	68	23.78	PASSED
22112.3	46.21	204.409	40.31	5.9	74	27.77	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
11059.9	40.77	109.27	32.97	7.8	54	13.23	PASSED
16593.8	31.09	35.851	28.49	2.6	---	---	PASSED
22112.3	33.12	45.29	27.22	5.9	54	20.88	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
30.06	23.93	15.722	44.73	-20.8	40	16.07	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
5602.27	53	446.684	52.6	0.4	68	15.23	PASSED
5652.299	56	630.957	55.7	0.3	68	12.23	PASSED
11549.9	50.56	337.287	42.76	7.8	74	23.42	PASSED
17327	44.33	164.627	40.63	3.7	68	23.9	PASSED
23100.5	47.79	245.188	41.09	6.7	74	26.19	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
5602.27	35.38	58.749	34.98	0.4	---	---	PASSED
5652.299	41.01	112.331	40.71	0.3	---	---	PASSED
11549.9	38.24	81.658	30.44	7.8	54	15.76	PASSED
17327	31.46	37.411	27.76	3.7	---	---	PASSED
23100.5	34.27	51.701	27.57	6.7	54	19.73	PASSED

## 4. Test Equipment

### 4.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
TM38112	Power supply	6632A	Agilent	22/24/27, 15C, 15E
TM38114	Power supply	6632A	Agilent	22/24/27, 15C, 15E
TM210233	Communication Tester	CMU200	R&S	22/24/27
TM30600	Impulse limiter	ESH3-Z2	R&S	15C, 15B
TM26490	LISN 50 µH	ESH3-Z5	R&S	15C, 15B
TM26491	LISN 50 µH	ESH3-Z5	R&S	15C, 15B
TM37610	Spectrum Analyzer	FSU26	R&S	22/24/27, 15C, 15E
TM23007	Oscilloscope	TDS684B	Tektronix	15E
TM22806	Battery	BAT 20/E	Fiskars	15C, 15B
TM22805	UPS	PS 20/1.2	Fiskars	15C, 15B
-	Temperature and humidity logger	175-H2	Testo	15C, 15B
-	Temperature and humidity logger	175-H2	Testo	22/24/27, 15C
-	Air pressure and temperature logger	635-2	Testo	22/24/27, 15C, 15B
-	Air pressure sensor	0638-1835	Testo	22/24/27, 15C, 15B
-	Temperature test chamber	VT 4002	Vötsch	22/24/27
2001	Bluetooth tester	CBT	R&S	15C, 15B
2009	LISN 50 µH	ENV216	R&S	15C, 15B
2010	LISN 50 µH	ENV216	R&S	15C, 15B
2012	Power splitter	11667B	Agilent	22/24/27, 15C
2013	Attenuator	8493C	Agilent	22/24/27, 15C
2014	Attenuator	8493C	Agilent	22/24/27, 15C
2019	Power splitter	ZN2PD-9G-S+	Mini-Circuits	15E
2020	Power splitter	ZN2PD-9G-S+	Mini-Circuits	15E
2021	Communication Tester	CMW500	R&S	22/24/27
2022	Communication Tester	CMU200	R&S	22/24/27
2023	Spectrum Analyzer	ESMI-RF	R&S	15B/15C
2024	Analyzer display unit	ESAI-D	R&S	15B/15C
2026	Signal Generator	SMF 100A	R&S	22/24/27, 15C, 15E, 15B
-	Bluetooth tester	CBT	R&S	15C, 15B
-	Communication Tester	CMU200	R&S	22/24/27, 15B

## 4.2. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
-	Antenna	BBHA 9120 D	Schwarzbeck	22/24/27, 15C
TM38845	Receiver	ESIB 26	R&S	22/24/27, 15C, 15E, 15B
-	Antenna	HL562	R&S	22/24/27, 15C, 15E, 15B
-	Turntable	2188	EMCO	22/24/27, 15C, 15E, 15B
-	Turntable controller	2090	EMCO	22/24/27, 15C, 15E, 15B
-	RF system panel	OSP130	R&S	22/24/27, 15C, 15E, 15B
-	Mini mast	2075-2	ETS Lindgren	22/24/27, 15C, 15B
TM38843	Mini mast	2075	Emco	22/24/27, 15C, 15B
TM38842	Antenna mast controller	2090	Emco	22/24/27, 15C, 15B
TM30643	LISN 50 µH	LISN-5-20-2	FCC	22/24/27, 15C, 15B
TM30644	LISN 50 µH	LISN-5-20-2	FCC	22/24/27, 15C, 15B
-	Temperature and humidity logger	175-H2	Testo	22/24/27, 15C, 15B
-	Air pressure and temperature logger	635-2	Testo	22/24/27, 15C, 15B
-	Air pressure sensor	0638-1835	Testo	22/24/27, 15C, 15B
TM37523	Preamplifier	AMF-4D-10M-3G-25-20P	Miteq	22/24/27, 15C, 15B
TM37498	Preamplifier	AMF-5D-020180-26-10P	Miteq	22/24/27, 15C, 15B
TM30599	Semi anechoic chamber	UNKNOWN	TDK	22/24/27, 15C, 15B
TM22638	Power supply	OL63743-901	-	22/24/27, 15C, 15E, 15B
TM38066	High pass filter	WHKX3.0/18G-12SS	Wainwright	22/24/27, 15C, 15E, 15B
2028	High pass filter	WHKX 1.0/15G-12SS	Wainwright	22/24/27, 15C, 15E, 15B
TM37545	Tunable notch filter	800.0/960.0-0.2/40-8SSK	Wainwright	22
TM26512	Tunable notch filter	WRCD1850/1910-0.2/40-10SSK	Wainwright	24
-	Band reject filter	WRCG1877/1883-1870/1890-40/6EE	Wainwright	24
-	Band reject filter	WRCG1729.4/1735.4-1722.4/1742.4-40/6SS	Wainwright	27
TM23892	Controller	G-1000SDX	Yaesu	22/24/27, 15C, 15E
2001	Bluetooth tester	CBT	R&S	15C, 15B
2002	Communication Tester	CMU200	R&S	22/24/27, 15B
6023	Antenna	VUBA 9117	Schwarzbeck	22/24/27
2021	Communication Tester	CMW500	R&S	22/24/27
2025	Antenna	HFH2-Z2	R&S	15C
2026	Signal Generator	SMF 100A	R&S	22/24/27, 15C, 15E, 15B
2052	Antenna	BBHA 9120 D	Schwarzbeck	22/24/27, 15C, 15B, 15E
-	Antenna	QSH18S20	Q-Par	22/24/27, 15C, 15B, 15E
-	Antenna	QSH20S20	Q-Par	22/24/27, 15C, 15B, 15E
-	Antenna	QSH20S20	Q-Par	22/24/27, 15C, 15B, 15E
-	Bluetooth tester	CBT	R&S	15C, 15B