

EMI - TEST REPORT

- FCC Part 15.247 and RSS 210 -

Test Report No. : T36325-00-12HS	04 April 2014 Date of issue
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Type / Model Name : SCALANCE W700 / MSN

Product Description : Industrial WLAN access point

Applicant : Siemens AG, Industrial Automation Division

Address : Gleiwitzer Strasse 555

90475 NUERNBERG, GERMANY

Manufacturer : Siemens AG, Automation & Drives

Address : Oestliche Rheinbrueckenstrasse 50

76187 KARLSRUHE, GERMANY

Licence holder : Siemens AG, Automation & Drives

Address : Oestliche Rheinbrueckenstrasse 50

76187 KARLSRUHE, GERMANY

Test Result according to the standards listed in clause 1 test standards:	POSITIVE
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The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test results
without the written permission of the test laboratory.

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Attachment C as separately supplement

Attachment D as separately supplement

1 TEST STANDARDS

The tests were performed according to following standards:

FCC Rules and Regulations Part 15, Subpart A - General (September, 2013)

Part 15, Subpart A, Section 15.31

Measurement standards

Part 15, Subpart A, Section 15.33

Frequency range of radiated measurements

Part 15, Subpart A, Section 15.35

Measurement detector functions and bandwidths

FCC Rules and Regulations Part 15, Subpart C - Intentional Radiators (September, 2013)

Part 15, Subpart C, Section 15.203

Antenna requirement

Part 15, Subpart C, Section 15.204

External radio frequency power amplifiers and antenna modifications

Part 15, Subpart C, Section 15.205

Restricted bands of operation

Part 15, Subpart C, Section 15.207

Conducted limits

Part 15, Subpart C, Section 15.209

Radiated emission limits, general requirements

Part 15, Subpart C, Section 15.212

Modular transmitters

Part 15, Subpart C, Section 15.247

Operation within the bands 902 - 928 MHz, 2400 - 2483.5 MHz and 5725 - 5850 MHz

FCC Rules and Regulations Part 1, Subpart I - Procedures Implementing the National Environmental Policy Act of 1969

Part 1, Subpart I, Section 1.1310

Radiofrequency radiation exposure limits

Part 1, Subpart 2, Section 2.1093

Radiofrequency radiation exposure evaluation: portable device

OET Bulletin 65, 65A, 65B, 65C Edition 97-01, August 1997 – Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.

ANSI C63.4: 2003

Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

ANSI C95.1: 2005

IEEE Standard for Safety Levels with respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz

CISPR 16-4-2: 2003

Uncertainty in EMC measurement

CISPR 22: 2005
EN 55022: 2006

Information technology equipment

KDB 558074 D01 v03

Guidance for performing compliance measurements on DTS operating under Section 15.247, April 9, 2013.

KDB 662911 D01 v02

Emission testing of transmitters with multiple outputs in the same band, 10/31/2013.

2 SUMMARY

2.1 Test result summary

WLAN device using digital modulation:

Operating in the 2400 MHz – 2483.5 MHz and 5725 MHz – 5850 MHz band:

FCC Rule Part	RSS Rule Part	Description	Result
15.207(a)	RSS Gen, 7.2.4.	AC power line conducted emissions	passed
15.247(a)(2)	RSS210, A8.2(a)	-6 dB EBW	passed
15.247(b)(3)	RSS-210, A8.4(4)	Peak power	passed
15.247(d)	RSS-210, A8.5	Out-of-band emission, radiated	passed
15.247(d)	RSS-Gen, 7.2.2	Emissions in restricted bands	passed
15.247(e)	RSS-210, A8.2(b)	PSD	passed
15.35(c)	RSS-Gen, 4.5	Pulsed operation	not applicable
15.247(i)	RSS 102, 2.5.2	MPE	passed
15.247(b)(4)	RSS-Gen, 7.1.2	Antenna requirement	passed
	RSS-Gen, 7.2.6	Transmitter frequency stability	not applicable
	RSS-Gen, 4.6.1	OBW 99 %	passed
OET Bulletin 65	RSS102, 3.2	Co-location, Co-transmission	passed

The mentioned RSS Rule Parts in the above table are related to:

RSS Gen, Issue 3, December 2010

RSS 210, Issue 8, December 2010

RSS 102, Issue 4, March 2010

2.2 General remarks

The EUT is a 2-Port WLAN-access point. The firmware does not support ad-hoc modes. The possibility to choose the channel for data transmission or power setting in relation to the used antenna with antenna cable makes a professional installation necessary. The AP is compatible with 802.11a/b/g, 802.11n Standard. It supports the 2.4 GHz and 5 GHz frequency band and supports no beam forming. The EUT has to be installed professionally to ensure the right power setting in combination with one of the listed antennas.

Variants of the EUT

Variant	Device-Name	WLAN-Interfaces	LAN connector	Antenna Ports	Order numbers
V01	MSN-W1-RJ-E2	1	RJ45	2	6GK5734-1FX00-xxxx
V02	MSN-W1-M12-E2	1	M12	2	6GK5774-1FY00-xxxx

Operation frequency and channel plan

Channel plan:

The operating frequency is 2400 MHz to 2483.5 MHz and 5725 MHz to 5850 MHz.

Channel plan WLAN Standard 802.11a/b/g/n, HT20:

Channel	Frequency
1	2412 MHz
2	2417 MHz
3	2422 MHz
4	2427 MHz
5	2432 MHz
6	2437 MHz
7	2442 MHz
8	2447 MHz
9	2452 MHz
10	2457 MHz
11	2462 MHz

Channel	Frequency
149	5745
153	5765
157	5785
161	5805
165	5825

Channel plan WLAN Standard 802.11n, HT40 up and HT40 down mode:

Channel, HT40 up	Frequency	Channel, HT40 down	Frequency
1 up	2422 MHz	5 down	2422 MHz
7 up	2452 MHz	9 down	2452 MHz
Channel, HT40 up	Frequency	Channel, HT40 down	Frequency
149 up	5755 MHz	153 down	5755 MHz
157 up	5795 MHz	161 down	5795 MHz

Transmit operating modes

The module use OFDM modulation and is capable to provide following data rates:

- 802.11a 54, 48, 36, 24, 18, 12, 9, 6 Mbps
- 802.11b mode 11, 5.5, 2, 1 Mbps as fall back mode (Mbps = megabits per second)
- 802.11g mode 54, 48, 36, 24, 18, 12, 9, 6 Mbps (Mbps = megabits per second)
- 802.11n HT20, MCS 0 - 15
- 802.11n HT40, MCS 0 - 15

HT20

MCS Index	Modulation	R	$N_{BPSCS}(i_{SS})$	N_{SD}	N_{SP}	N_{CBPS}	N_{DBPS}	Data rate (Mb/s)	
								800 ns GI	400 ns GI (see NOTE)
0	BPSK	1/2	1	52	4	52	26	6.5	7.2
1	QPSK	1/2	2	52	4	104	52	13.0	14.4
2	QPSK	3/4	2	52	4	104	78	19.5	21.7
3	16-QAM	1/2	4	52	4	208	104	26.0	28.9
4	16-QAM	3/4	4	52	4	208	156	39.0	43.3
5	64-QAM	2/3	6	52	4	312	208	52.0	57.8
6	64-QAM	3/4	6	52	4	312	234	58.5	65.0
7	64-QAM	5/6	6	52	4	312	260	65.0	72.2

NOTE—Support of 400 ns GI is optional on transmit and receive.

MCS Index	Modulation	R	$N_{BPSCS}(i_{SS})$	N_{SD}	N_{SP}	N_{CBPS}	N_{DBPS}	Data rate (Mb/s)	
								800 ns GI	400 ns GI
8	BPSK	1/2	1	108	6	216	108	27.0	30.0
9	QPSK	1/2	2	108	6	432	216	54.0	60.0
10	QPSK	3/4	2	108	6	432	324	81.0	90.0
11	16-QAM	1/2	4	108	6	864	432	108.0	120.0
12	16-QAM	3/4	4	108	6	864	648	162.0	180.0
13	64-QAM	2/3	6	108	6	1296	864	216.0	240.0
14	64-QAM	3/4	6	108	6	1296	972	243.0	270.0
15	64-QAM	5/6	6	108	6	1296	1080	270.0	300.0

HT40

MCS Index	Modulation	R	$N_{BPSCS}(i_{SS})$	N_{SD}	N_{SP}	N_{CBPS}	N_{DBPS}	Data rate (Mb/s)	
								800 ns GI	400 ns GI
0	BPSK	1/2	1	108	6	108	54	13.5	15.0
1	QPSK	1/2	2	108	6	216	108	27.0	30.0
2	QPSK	3/4	2	108	6	216	162	40.5	45.0
3	16-QAM	1/2	4	108	6	432	216	54.0	60.0
4	16-QAM	3/4	4	108	6	432	324	81.0	90.0
5	64-QAM	2/3	6	108	6	648	432	108.0	120.0
6	64-QAM	3/4	6	108	6	648	486	121.5	135.0
7	64-QAM	5/6	6	108	6	648	540	135.0	150.0

MCS Index	Modulation	R	$N_{BPSCS}(i_{SS})$	N_{SD}	N_{SP}	N_{CBPS}	N_{DBPS}	Data rate (Mb/s)	
								800 ns GI	400 ns GI
8	BPSK	1/2	1	108	6	216	108	27.0	30.0
9	QPSK	1/2	2	108	6	432	216	54.0	60.0
10	QPSK	3/4	2	108	6	432	324	81.0	90.0
11	16-QAM	1/2	4	108	6	864	432	108.0	120.0
12	16-QAM	3/4	4	108	6	864	648	162.0	180.0
13	64-QAM	2/3	6	108	6	1296	864	216.0	240.0
14	64-QAM	3/4	6	108	6	1296	972	243.0	270.0
15	64-QAM	5/6	6	108	6	1296	1080	270.0	300.0

Symbol	Explanation
N_{SS}	Number of spatial streams
R	Coding rate
N_{BPS}	Number of coded bits per single carrier (total across spatial streams)
$N_{BPS}(i_{SS})$	Number of coded bits per single carrier for each spatial stream, $i_{SS} = 1, \dots, N_{SS}$
N_{SD}	Number of complex data numbers per spatial stream per OFDM symbol
N_{SP}	Number of pilot values per OFDM symbol
N_{CBPS}	Number of coded bits per OFDM symbol
N_{DBPS}	Number of data bits per OFDM symbol
N_{ES}	Number of BCC encoders for the DATA field
N_{TBPS}	Total bits per subcarrier

Antennas

Antennas intended for use are classified into 3 gain groups:

2.4 GHz:

- Antenna gain group 1: Antennas 0 to 6 dBi
- Antenna gain group 2: Antennas 6 to 9 dBi

5 GHz:

- Antenna gain group 1: Antennas 0 to 6 dBi
- Antenna gain group 2: Antennas 6 to 9 dBi
- Antenna gain group 3: Antennas 9 to 14 dBi

The following antennas shall be used with the EUT:

Number	Manufacturer Number	Characteristic	Model number	Connector	Frequency (GHz)	Gain 2.4 GHz (dBi)	Gain 5 GHz (dBi)	Cable loss (dB)	Effective gain 2.4 GHz (dBi)	Effective gain 5 GHz (dBi)
1	6GK5795-6DC00-0AA0	Wide angle	ANT 795-6DC	N-female	2.4 + 5 GHz	9	9	0	9	9
2	6GK5795-6MN10-0AA6	Omni	ANT 795-6MN	N-female	2.4 + 5 GHz	6	8	0	6	8
3	6GK5792-6MN00-0AA6	Omni	ANT 792-6MN	N-female	2.4 GHz	6	--	0	6	
4	6GK5 792-4DN00-0AA6	Omni	ANT 792-4DN	N-female	2.4 GHz	4	--	0	4	
5	6GK5795-4MD00-0AA3	Omni	ANT795-4MD	N-male	2.4 + 5 GHz	3	5	0	3	5
6	6GK5795-4MC00-0AA3	Omni	ANT795-4MC	N-male	2.4 + 5 GHz	3	5	0	3	5
7	6GK5795-4MA00-0AA3	Omni	ANT 795-4MA	R-SMA male	2.4 + 5 GHz	3	5	0	3	5
8	6XV1875-2A	Omni	IWLAN Rcoax 1/2"	N-female	2.4 GHz	0	--	0	0	
9	6GK5793-8DK00-0AA0	Directed	ANT 793-8DK	2x N-female	5 GHz	--	23	8.8		14.2
10	6GK5793-8DJ00-0AA0	Directed	ANT 793-8D	2x N-female	5 GHz	--	18	4.4		13.6
11	6GK5793-8DP00-0AA0	Directed	ANT793-8DP	N-female	5 GHz	--	13.5	0		13.5
12	6GK5793-6DG00-0AA0	Wide angle	ANT793-6DG	2x N-female	5 GHz	--	9	0		9
13	6GK5 793-4MN00-0AA6	Omni	ANT 793-4MN	N-female	5 GHz	--	6	0		6
14	6GK5793-6MN00-0AA6	Omni	ANT 793-6MN	N-female	5 GHz	--	5	0		5
15	6XV1875-2D	Omni	IWLAN Rcoax 1/2"	N-female	5 GHz	--	0	0		0

Note: The directed antenna number 9 may be used only with minimum 10 m antenna cable,
Type 6XV 1875-5CN10 with cable loss 8.8 dB at 5.7 GHz.

The directed antenna number 10 may be used only with minimum 5 m antenna cable,
Type 6XV 1875-5CH50 with cable loss 4.4 dB at 5.7 GHz

2.3 Final assessment

The equipment under test **fulfills** the EMC requirements cited in clause 1 test standards.

Date of receipt of test sample : acc. to storage records

Testing commenced on : 20 September 2013

Testing concluded on 12 March 2014

Checked by:



Klaus Gegenfurtner
I confirm the correctness
and Integrity of this
documents
2014.04.04 13:18:46
+02'00'

Klaus Gegenfurtner
Teamleader Radio

Tested by:



Hermann Smetana
I am the author of
this document
2014.04.04
12:56:55 +02'00'

Hermann Smetana
Radio Team

3 EQUIPMENT UNDER TEST

3.1 Photo documentation of the EUT – Detailed photos see attachment C

3.2 Power supply system utilised

Power supply voltage : 100 - 120 VAC

3.3 Short description of the equipment under test (EUT)

The EUT is a 2-Port WLAN-access point for cap rail applications. The EUT provides a menu to choose the channel for data transmission, the connected antenna and the length of the antenna cable. The AP is compatible with 802.11a/b/g, 802.11n Standard. It supports the 2.4 GHz and 5 GHz frequency band.

Number of tested samples: 1
Serial number: VPDN198359

EUT operation mode:

The equipment under test was operated during the measurement under the following conditions:

- TX continuous mode, 802.11b, fallback mode

- TX continuous mode, 802.11g

- TX continuous mode, 802.11a

- TX continuous mode, 802.11n, HT20

- TX continuous mode, 802.11n, HT40

EUT configuration:

(The CDF filled by the applicant can be viewed at the test laboratory.)

The following peripheral devices and interface cables were connected during the measurements:

- LAN cable, 3m	Model : CAT5
- Power supply cable, 1m	Model : Self-made
-	Model :

4 TEST ENVIRONMENT

4.1 Address of the test laboratory

**CSA Group Bayern GmbH
Ohmstrasse 1-4
94342 STRASSKIRCHEN
GERMANY**

4.2 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature: 15-35 °C

Humidity: 30-60 %

Atmospheric pressure: 86-106 kPa

4.3 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16-4-2 „Uncertainties, statistics and limit modelling – Uncertainty in EMC measurements“ and is documented in the quality system acc. to DIN EN ISO/IEC 17025. For all measurements shown in this report, the measurement uncertainty of the test laboratory, mikes-testingpartners gmbh, is below the measurement uncertainty as defined by CISPR. Therefore, no special measures must be taken into consideration with regard to the limits according to CISPR. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

4.4 Measurement protocol for FCC and IC

4.4.1 General information

4.4.1.1 Test methodology

Conducted and radiated disturbance testing is performed according to the procedures set out by the International Special Committee on Radio Interference (CISPR) Publication 22, European Standard EN 55022 as shown under section 1 of this report.

The Open Area test site is a listed Open Site under the Canadian Test-Sites File-No:

IC 3009A

In compliance with RSS 210 testing for RSS compliance may be achieved by following the procedures set out in ANSI C63.4 and applying the CISPR 22 limits.

4.4.1.2 Justification

The equipment under test (EUT) is configured in a typical user arrangement in accordance with the manufacturer's instructions. A cable is connected to each available port and either terminated with a peripheral using the appropriate impedance characteristic or left without termination. Where appropriate, cables are manually manipulated with respect to each other thus obtaining maximum disturbances from the unit.

4.4.1.3 Details of test procedures

The test methods used comply with CISPR Publication 22, EN 55022 - "Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement" and with ANSI C63.4 - "Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz". In compliance with 47 CFR Part 15 Subpart A, Section 15.38 testing for FCC compliance may be achieved by following the procedures set out in ANSI C63.4 and applying the CISPR 22 limits.

4.5 Determination of worst case measurement conditions

Measurements are made in all three orthogonal axes and the settings of the EUT are changed to locate at which position and at what setting of the EUT produce the maximum of the emissions. For the further radiated measurement the EUT is set in Y position on cap rail.

The tests are carried out in the following frequency band:

2400 – 2483.5 MHz and 5725 - 5.850 MHz

Preliminary tests are performed to find the worst case mode from all possible combinations between available modulations and data rates. The maximum output power depends on used data rate. The EUT is controlled for several tests with special test software used for testing only where continuous signals are needed. For the tests a max possible duty cycle (x) is set.

Following channels and test modes are selected as worst case for the final tests:

WLAN	Available channel	Tested channels	Power setting	Modulation	Modulation type	Data rate
802.11b	1 to 11	1, 6, 11	P14, P11, P8	OFDM	BPSK	1 Mbps
802.11g	1 to 11	1, 6, 11	P14, P11, P8	OFDM	BPSK	6 Mbps
802.11a	149 to 165	149, 157, 165	P20, P14, P11	OFDM	BPSK	6 Mbps
802.11n; HT20	1 to 11 149 to 165	1, 6, 11 149, 157, 165	P14, P11, P8 P20, P14, P11	OFDM	BPSK	MCS0 (BW=20 MHz)
802.11n; HT40	1up to 7up 149up,157up	1up, 7up 149up, 157up	P14, P11, P8 P20, P14, P11	OFDM	BPSK	MCS8 (BW=40 MHz)

5 TEST CONDITIONS AND RESULTS

5.1 Conducted emissions

For test instruments and accessories used see section 6 Part A 4.

5.1.1 Description of the test location

Test location: Shielded Room S2

5.1.2 Photo documentation of the test set-up



5.1.3 Applicable standard

According to FCC Part 15C, Section 15.107(a) and Section 15.207(a):

Except as shown in paragraphs (b) and (c) of this Section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the given limits.

5.1.4 Description of Measurement

The measurements are performed using a receiver, which has CISPR characteristic bandwidth and quasi-peak detection and a line impedance stabilization network (LISN) with 50 Ω / 50 μ H (CISPR 16) characteristics and following the procedures set out in ANSI C63.4. If the minimum limit margin appears to be less than 20 dB with a peak mode measurement, the emissions are re-measured using a tuned receiver with quasi-peak and average detection and recorded.

To convert between dB μ V and μ V, the following conversions apply:

$$\text{dB}\mu\text{V} = 20 \log \mu\text{V}$$

$$\mu\text{V} = 10^{(\text{dB}\mu\text{V}/20)}$$

5.1.5 Test result

Frequency range: 0.15 MHz - 30 MHz

Min. limit margin -1.5 dB at 0.318 MHz

Limit according to FCC Part 15, Section 15.207(a):

Frequency of Emission (MHz)	Conducted Limit (dBµV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

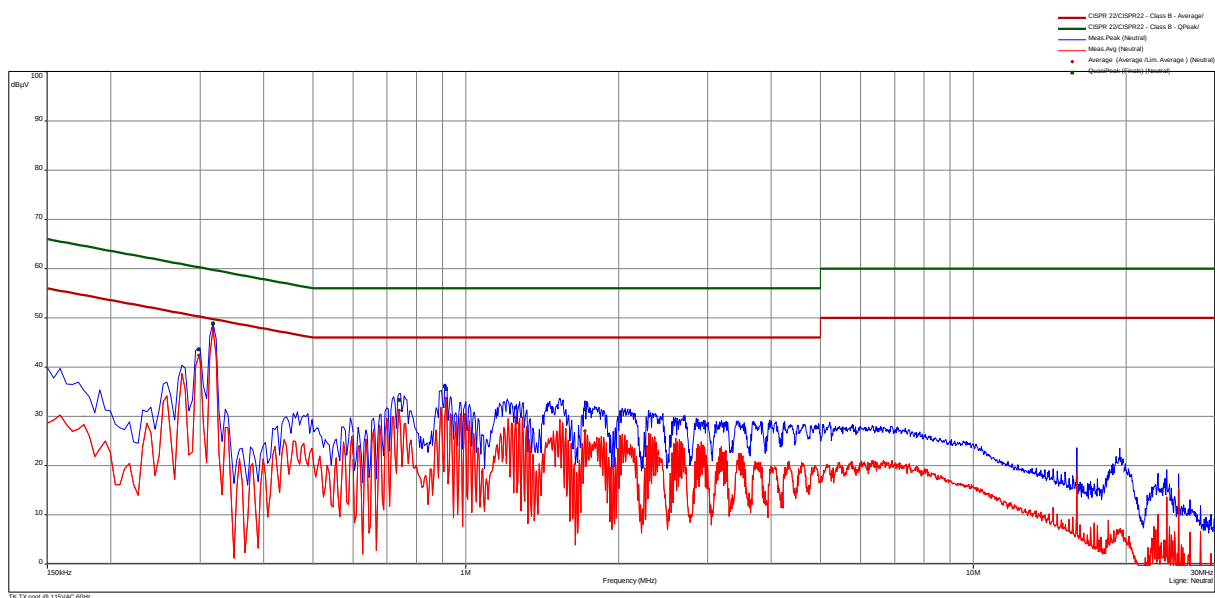
* Decreases with the logarithm of the frequency

The requirements are **FULFILLED**.**Remarks:** For detailed test result please see the following test protocols.

5.1.6 Test protocol

Test point: N
 Operation mode: TX continuous mode, 802.11b, fallback mode
 Remarks:

Result: passed



freq MHz	SR	QP dB(μV)	margin dB	limit dB	AV dB(μV)	margin dB	limit dB	line
0.299	1	43.7	-16.6	60.3	42.5	-7.8	50.3	Neutral
0.318	2	48.9	-10.9	59.8	47.8	-1.9	49.8	Neutral
0.740	3	33.3	-22.7	56.0	31.1	-14.9	46.0	Neutral
0.911	3	36.1	-19.9	56.0	30.1	-15.9	46.0	Neutral
0.915	3	35.6	-20.4	56.0	33.7	-12.3	46.0	Neutral
1.254	4	31.8	-24.3	56.0	29.7	-16.3	46.0	Neutral
1.718	4	31.4	-24.6	56.0	26.8	-19.2	46.0	Neutral

Test point

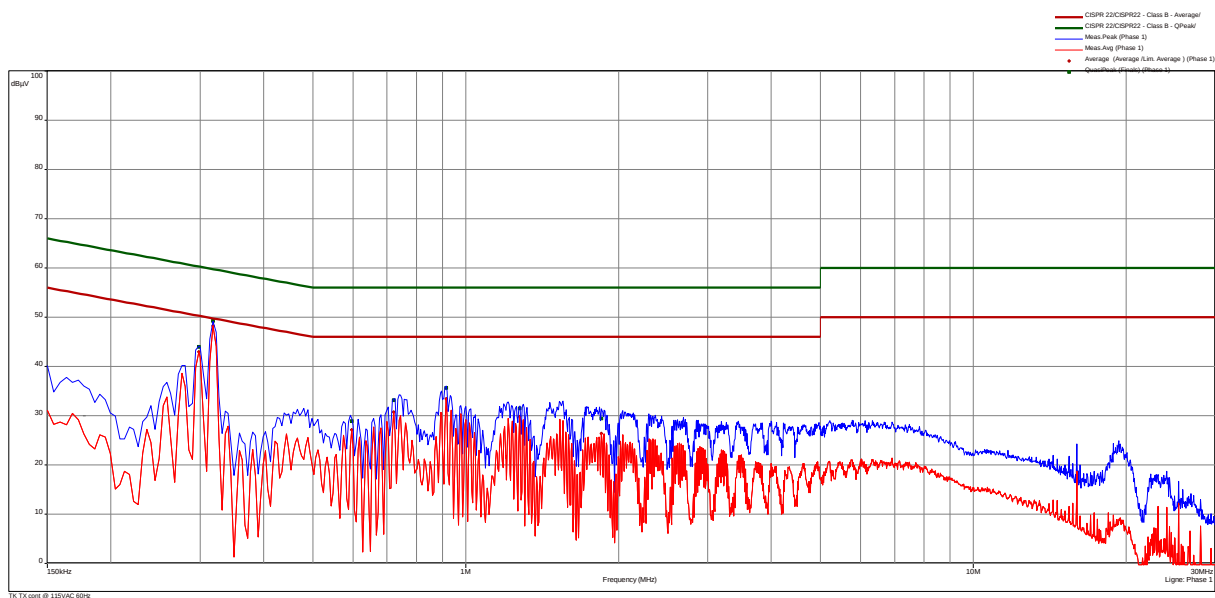
L1

Result: passed

Operation mode:

TX continuous mode, 802.11b, fallback mode

Remarks:



freq	SR	QP	margin	limit	AV	margin	limit	line
MHz		dB(μV)	dB	dB	dB(μV)	dB	dB	
0.299	9	44.0	-16.3	60.3	42.9	-7.4	50.3	Phase 1
0.318	10	49.2	-10.5	59.8	48.3	-1.5	49.8	Phase 1
0.597	10	28.9	-27.1	56.0	27.1	-18.9	46.0	Phase 1
0.722	11	33.2	-22.9	56.0	30.7	-15.3	46.0	Phase 1
0.915	11	35.7	-20.3	56.0	33.5	-12.5	46.0	Phase 1
1.277	12	31.5	-24.5	56.0	29.9	-16.2	46.0	Phase 1
1.853	12	29.5	-26.5	56.0	26.4	-19.6	46.0	Phase 1

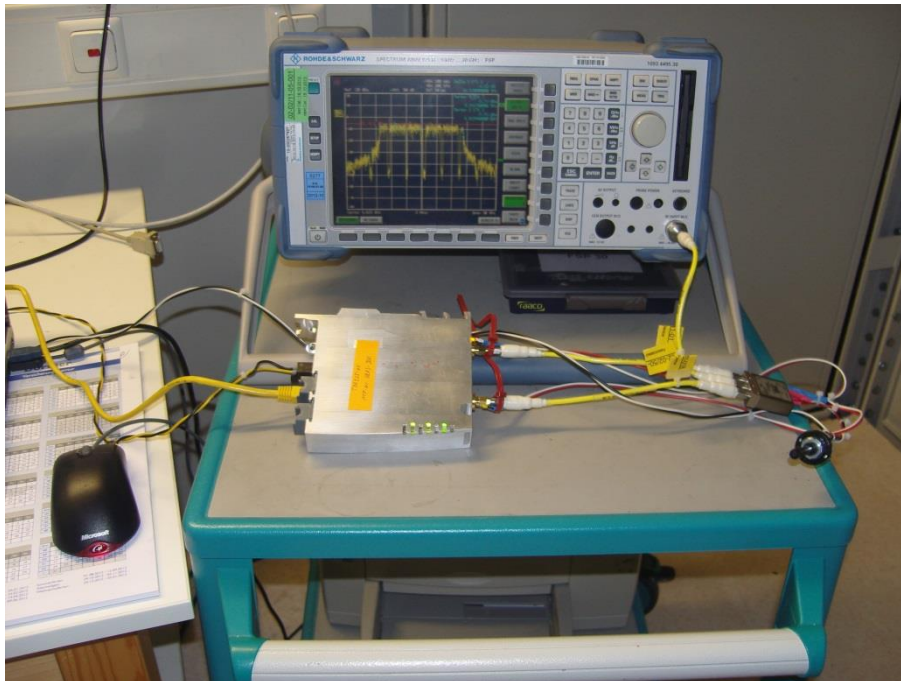
5.2 Emission bandwidth and occupied bandwidth

For test instruments and accessories used see section 6 Part MB.

5.2.1 Description of the test location

Test location: AREA4

5.2.2 Photo documentation of the test set-up



5.2.3 Applicable standard

According to FCC Part 15, Section 15.247(a)(2):

Systems using digital modulation techniques may operate in the 902 – 928 MHz, 2400 – 2483.5 MHz and 5725 – 5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

5.2.4 Description of Measurement

The bandwidth was measured at an amplitude level reduced from the reference level of a modulated channel by a ratio of -6 dB. The reference level is the level of the highest signal amplitude observed at the transmitter at either the fundamental frequency or the first order modulation products in all typical modes of operation, including the unmodulated carrier, even if atypical. An alternative is to use the bandwidth measurement of the analyser.

Spectrum analyser settings:

RBW: 100 kHz VBW: 300 kHz, Detector: Peak, Trace mode: max hold;

5.2.5 Test result

802.11b:

Channel	Centre frequency	6 dB bandwidth	99% OBW	Minimum limit
	(MHz)	(MHz)	(MHz)	(MHz)
1	2412	10.079	13.851	0.5
6	2437	10.079	13.833	0.5
11	2462	10.075	13.815	0.5

802.11g:

Channel	Centre frequency	6 dB bandwidth	99% OBW	Minimum limit
	(MHz)	(MHz)	(MHz)	(MHz)
1	2412	16.325	16.532	0.5
6	2437	16.342	16.526	0.5
11	2462	16.365	16.533	0.5

HT20:

Channel	Centre frequency	6 dB bandwidth	99% OBW	Minimum limit
	(MHz)	(MHz)	(MHz)	(MHz)
1	2412	17.564	17.732	0.5
6	2437	17.565	17.738	0.5
11	2462	17.585	17.738	0.5

HT40:

Channel	Centre frequency	6 dB bandwidth	99% OBW	Minimum limit
	(MHz)	(MHz)	(MHz)	(MHz)
1up	2422	36.442	36.233	0.5
7up	2452	36.439	36.245	0.5

802.11a:

Channel	Centre frequency	6 dB bandwidth	99% OBW	Minimum limit
	(MHz)	(MHz)	(MHz)	(MHz)
149	5745	16.280	16.467	0.5
157	5785	15.900	16.455	0.5
165	5825	16.520	16.485	0.5

HT20:

Channel	Centre frequency	6 dB bandwidth	99% OBW	Minimum limit
	(MHz)	(MHz)	(MHz)	(MHz)
149	5745	17.240	17.654	0.5
157	5785	17.340	17.642	0.5
165	5825	17.300	17.684	0.5

HT40:

Channel	Centre frequency	6 dB bandwidth	99% OBW	Minimum limit
	(MHz)	(MHz)	(MHz)	(MHz)
149up	5755	35.640	36.125	0.5
157up	5795	35.780	36.125	0.5

Note: There is no limit for the OBW 99 %.

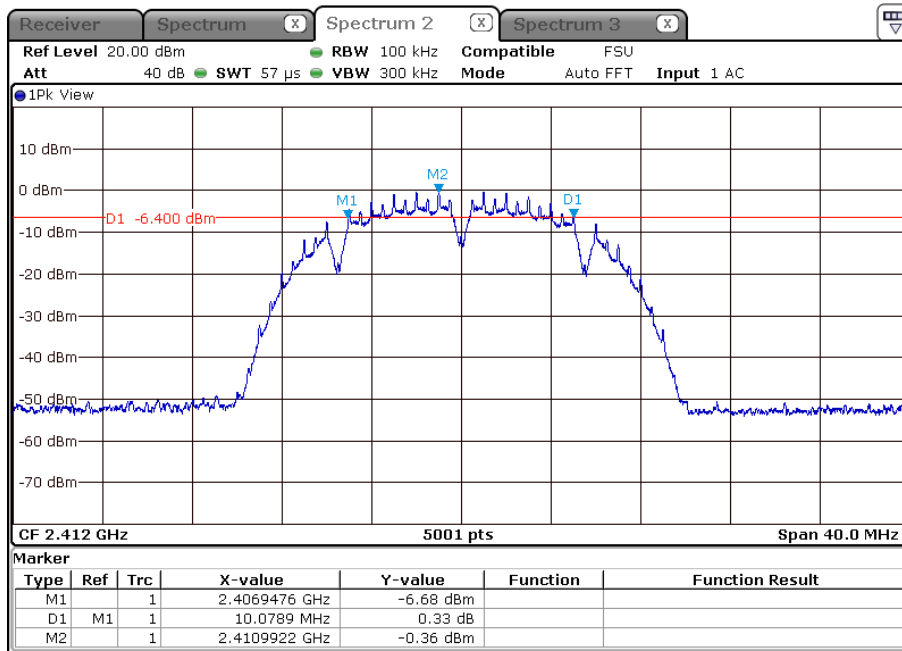
The requirements are **FULFILLED**.

Remarks: For detailed test results please refer to following test protocols.

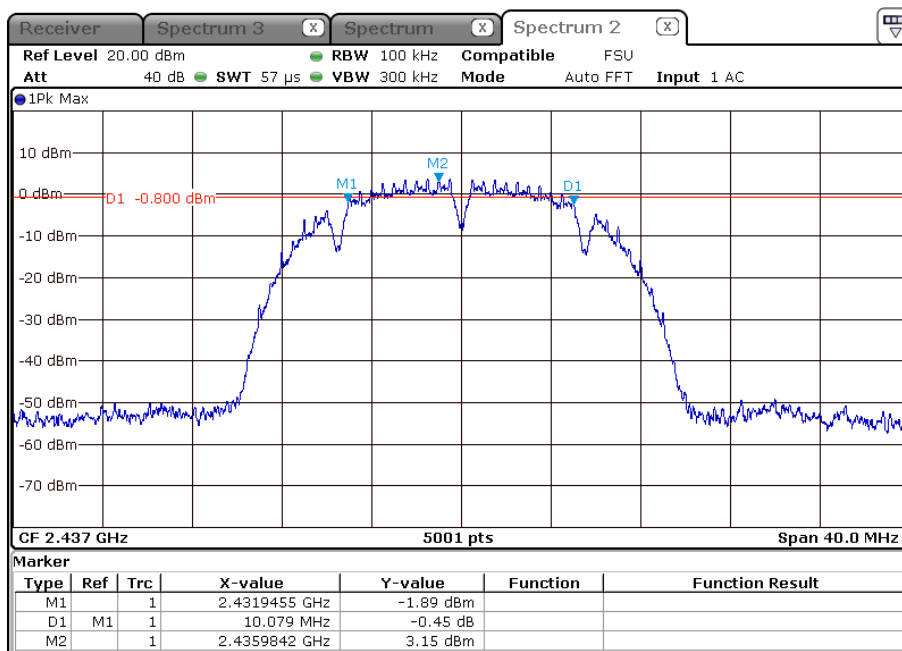
5.2.6 Test protocols emission bandwidth 6 dB

802.11b:

Channel 1 (2412 MHz)



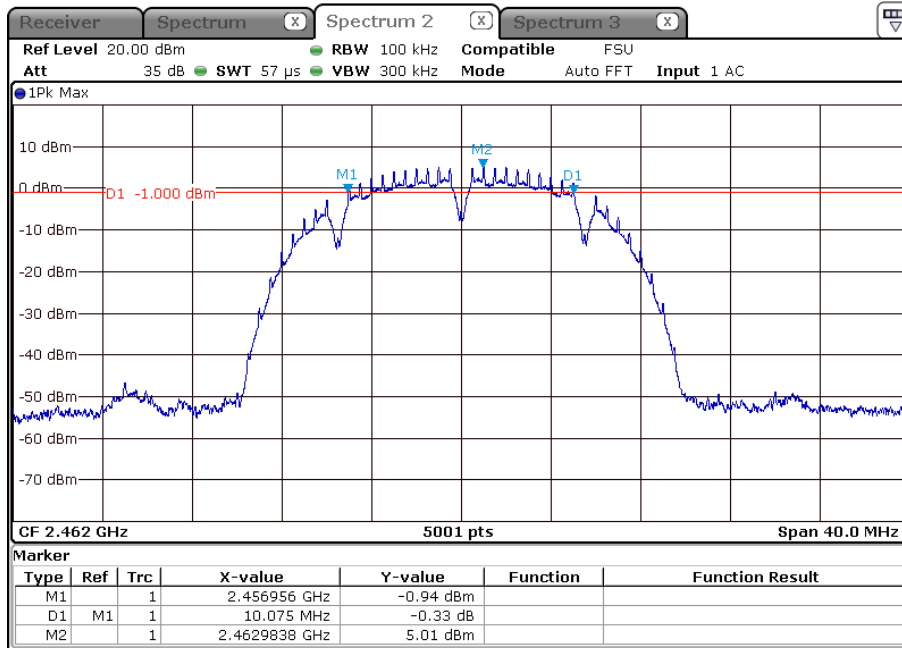
Channel 6 (2437 MHz)



FCC ID: LYHMSN1V1

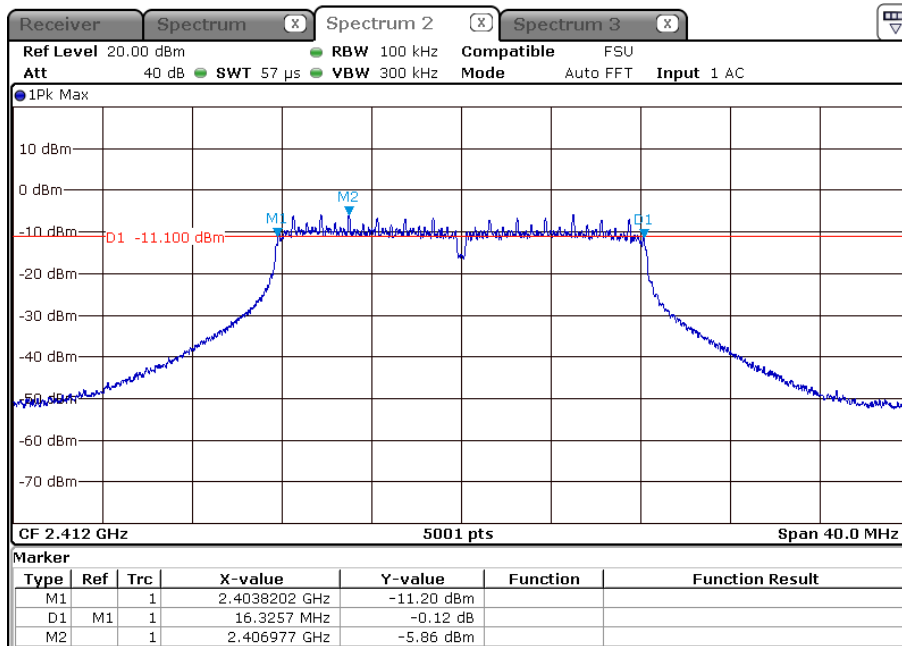
IC: 267AA-MSN1V1

Channel 11 (2462 MHz)



802.11g:

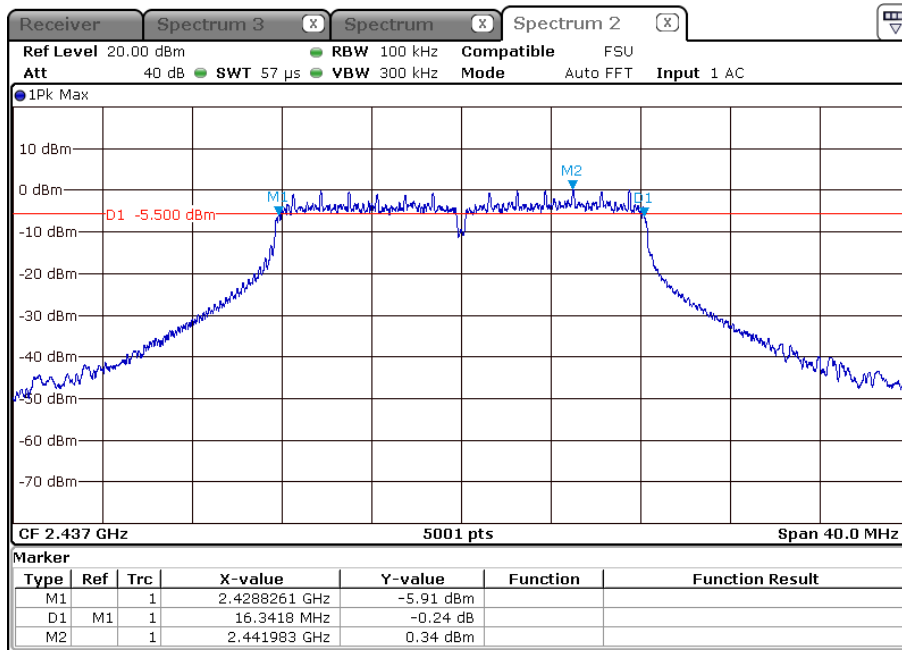
Channel 1 (2412 MHz)



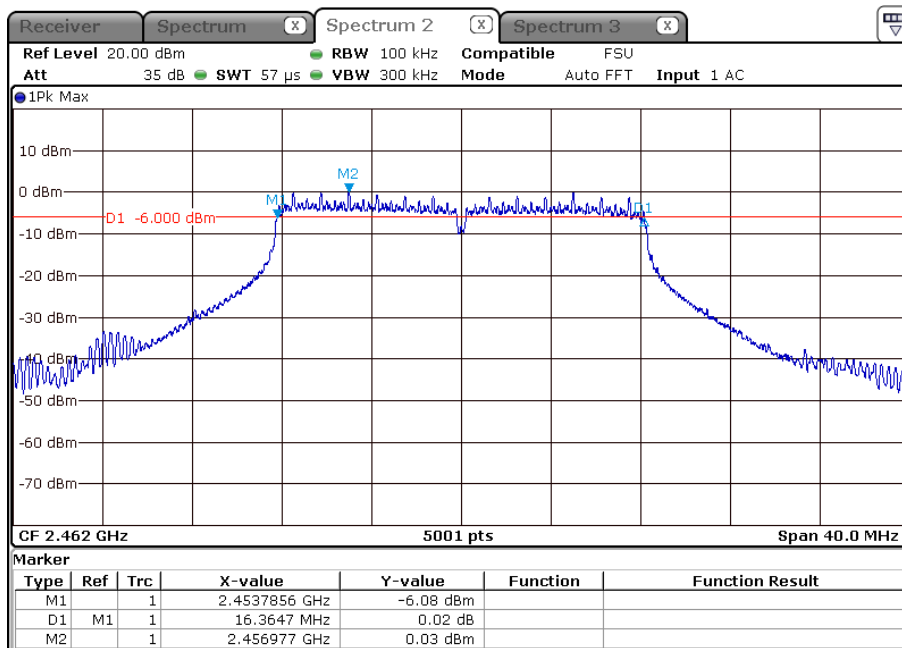
FCC ID: LYHMSN1V1

IC: 267AA-MSN1V1

Channel 6 (2437 MHz)

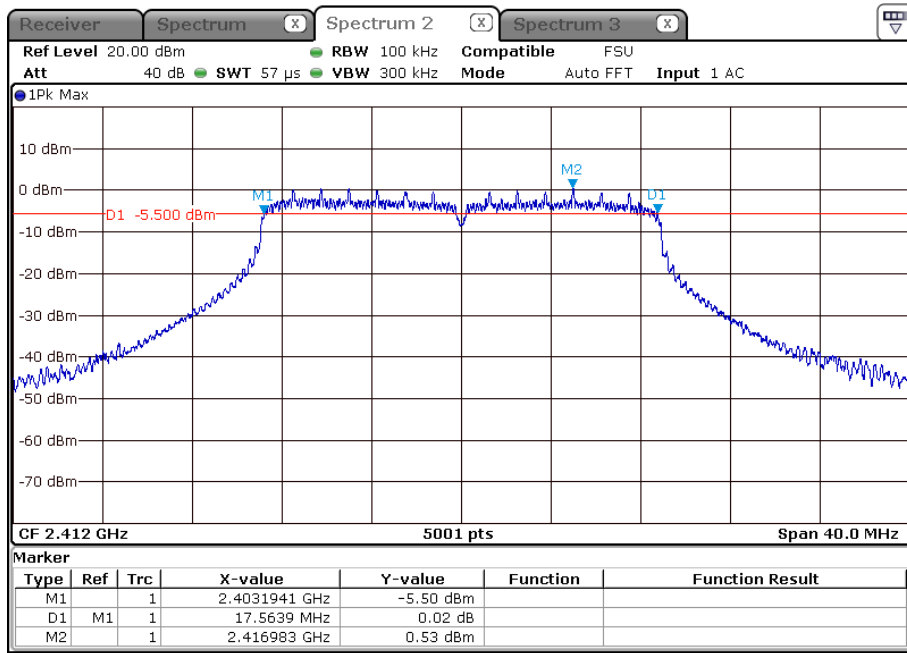


Channel 11 (2462 MHz)

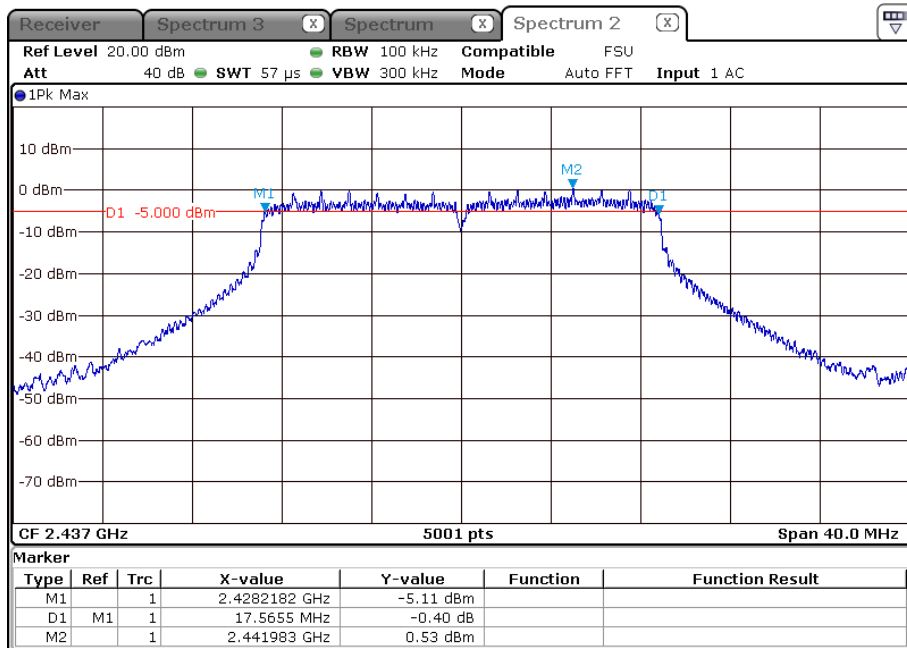


802.11n, HT20:

Channel 1 (2412 MHz)



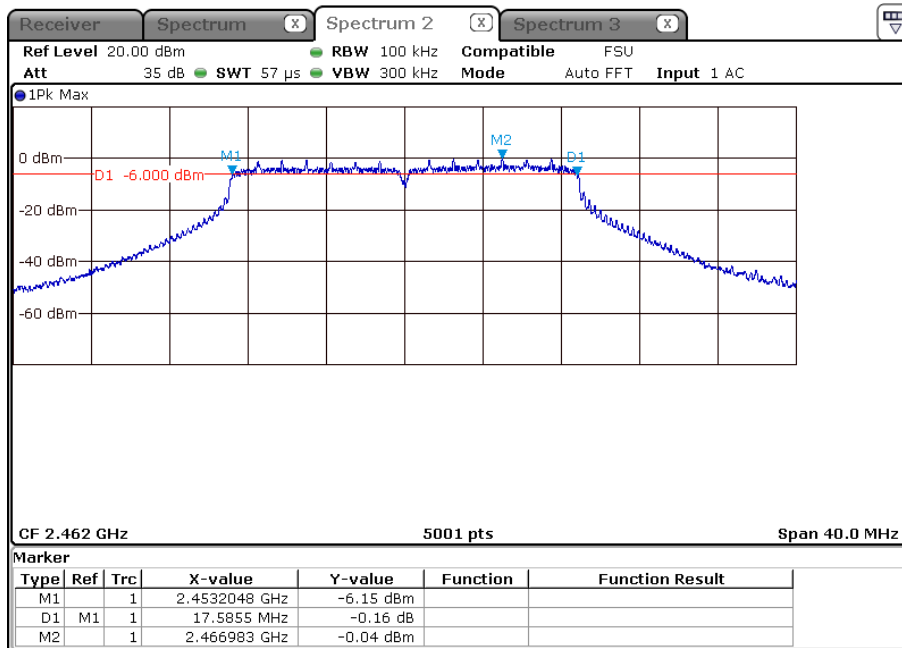
Channel 6 (2437 MHz)



FCC ID: LYHMSN1V1

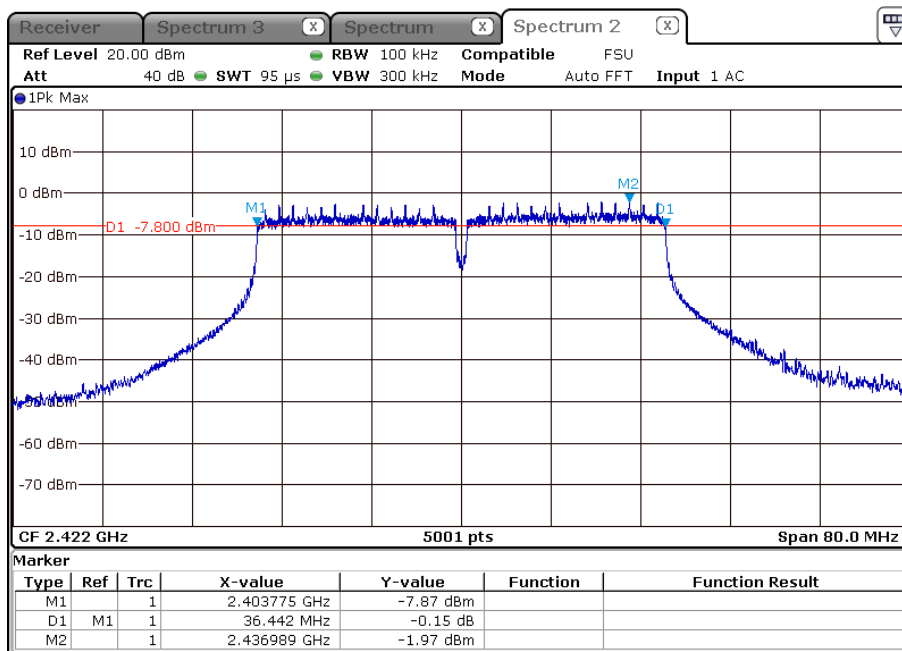
IC: 267AA-MSN1V1

Channel 11 (2462 MHz)



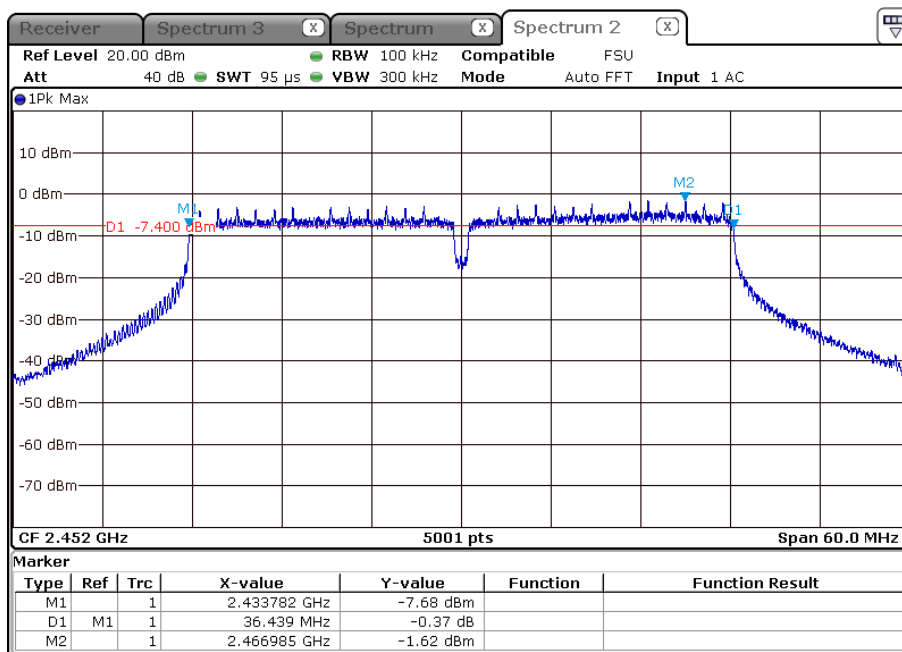
802.11n, HT40:

Channel 1up (2422 MHz)



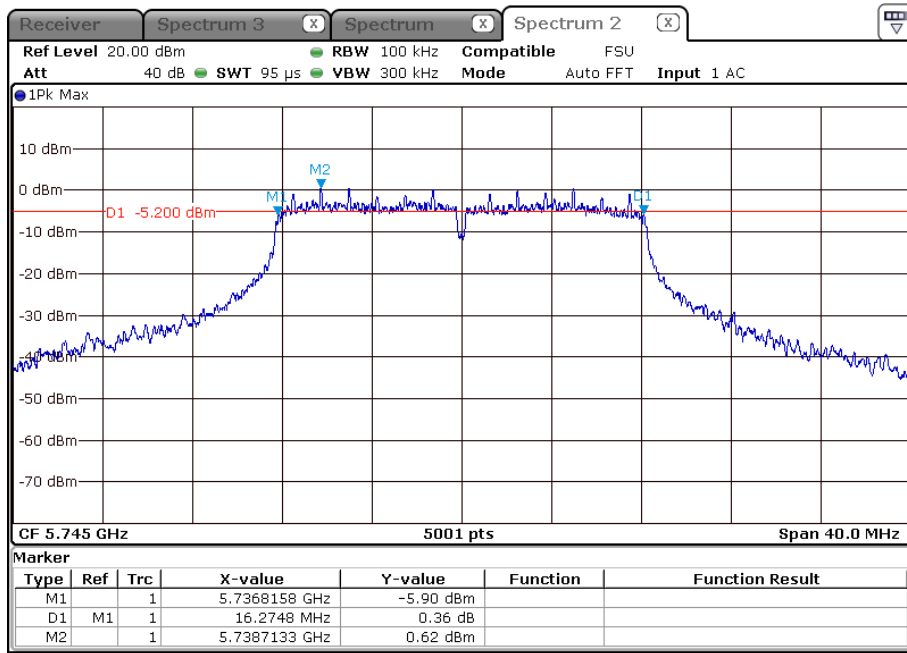
FCC ID: LYHMSN1V1

IC: 267AA-MSN1V1

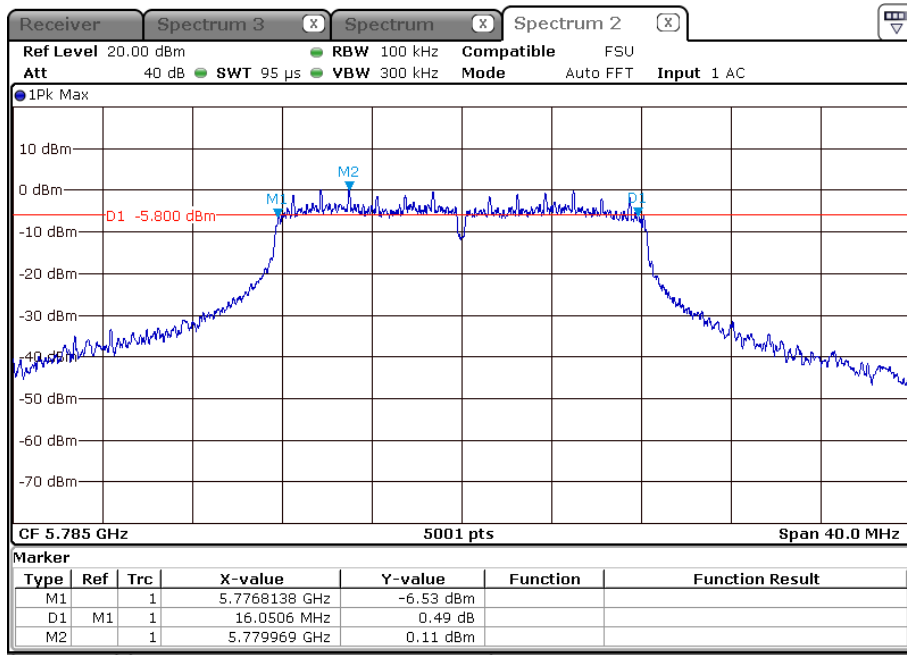


802.11a:

Channel 149 (5745 MHz)



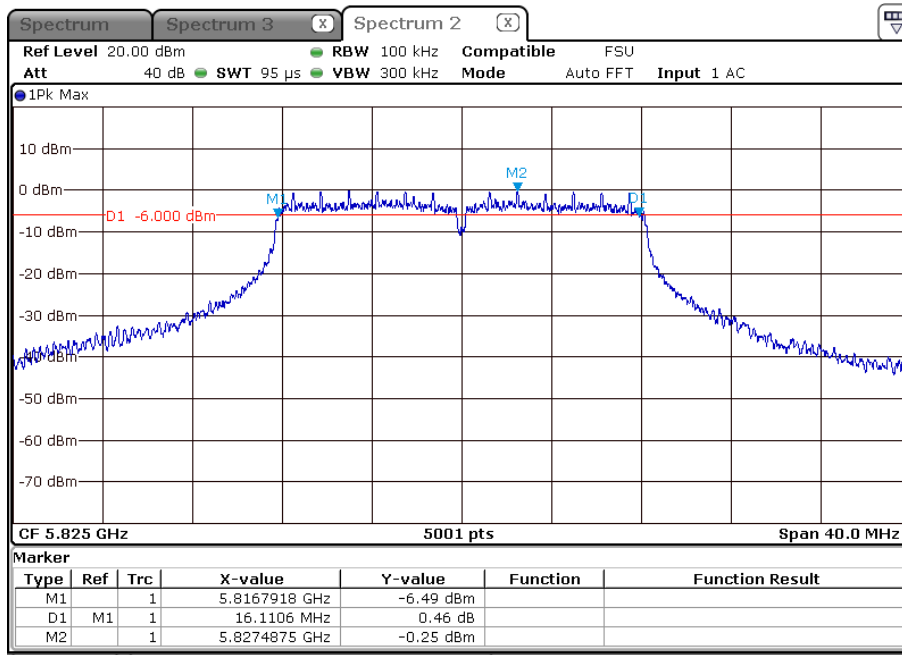
Channel 157 (5785 MHz)



FCC ID: LYHMSN1V1

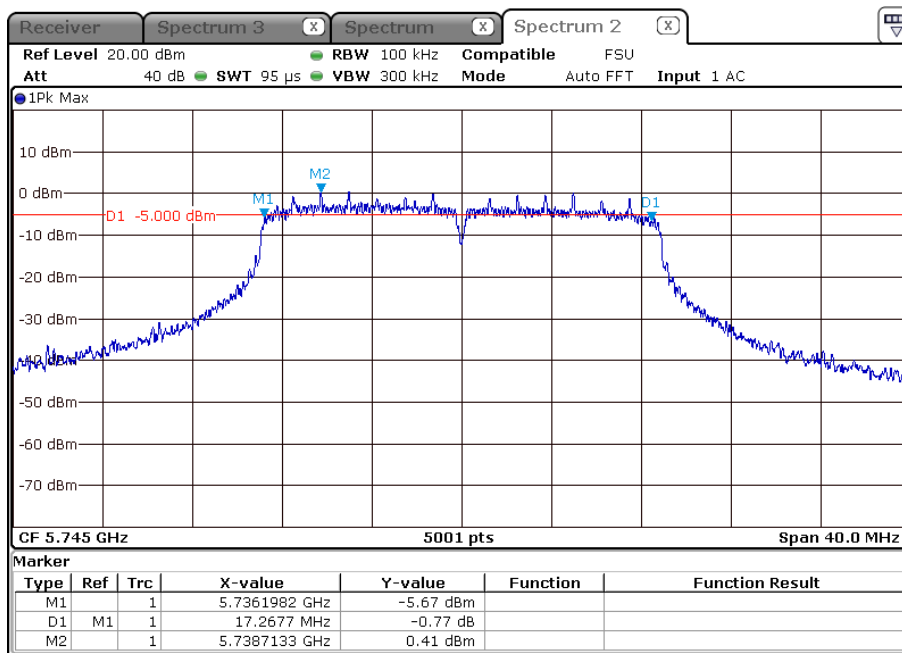
IC: 267AA-MSN1V1

Channel 165 (5825 MHz)



HT20:

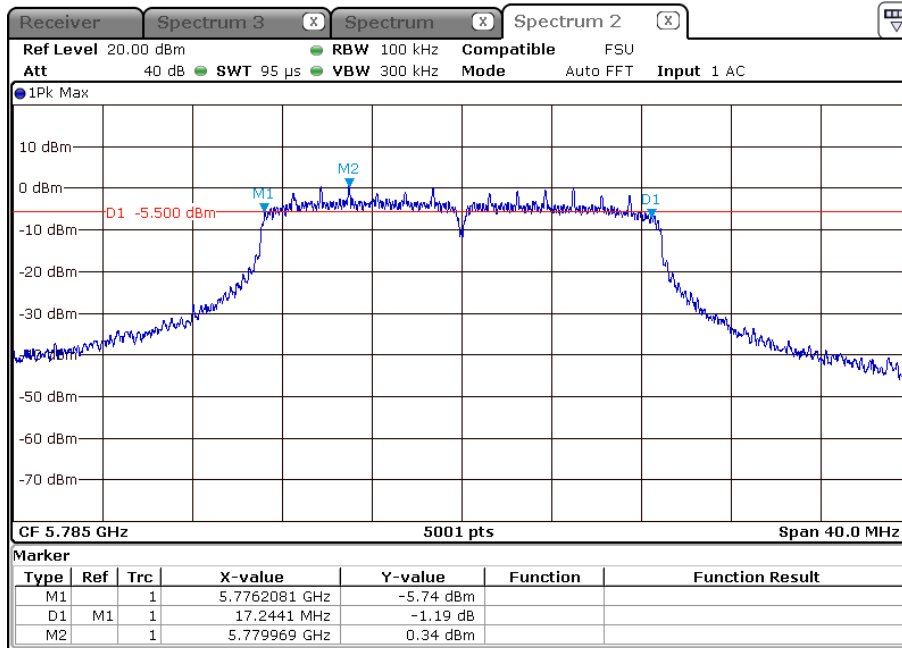
Channel 149 (5745 MHz)



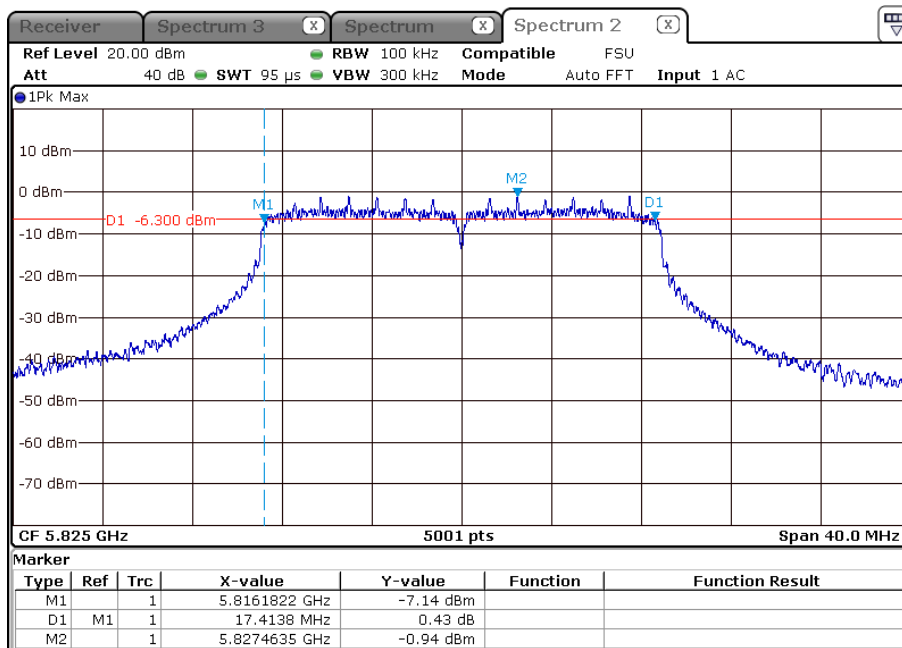
FCC ID: LYHMSN1V1

IC: 267AA-MSN1V1

Channel 157 (5785 MHz)

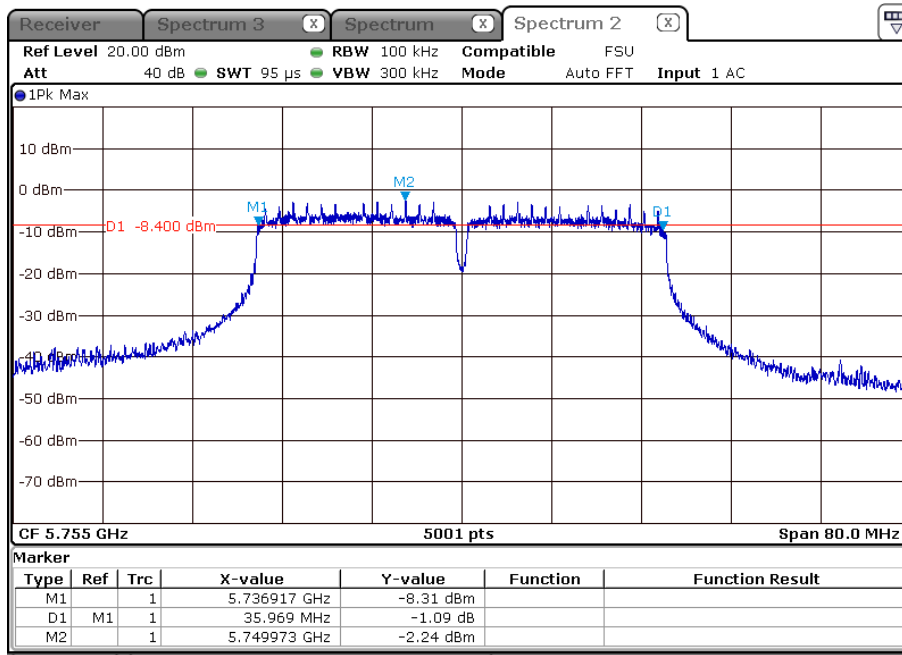


Channel 165 (5825 MHz)

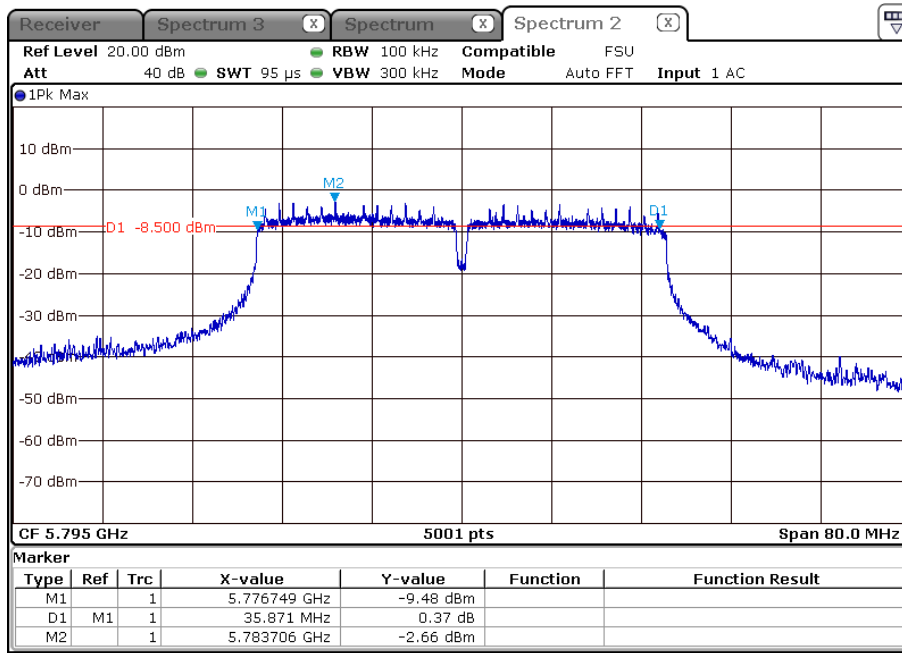


HT40:

Channel 149up (5755 MHz)



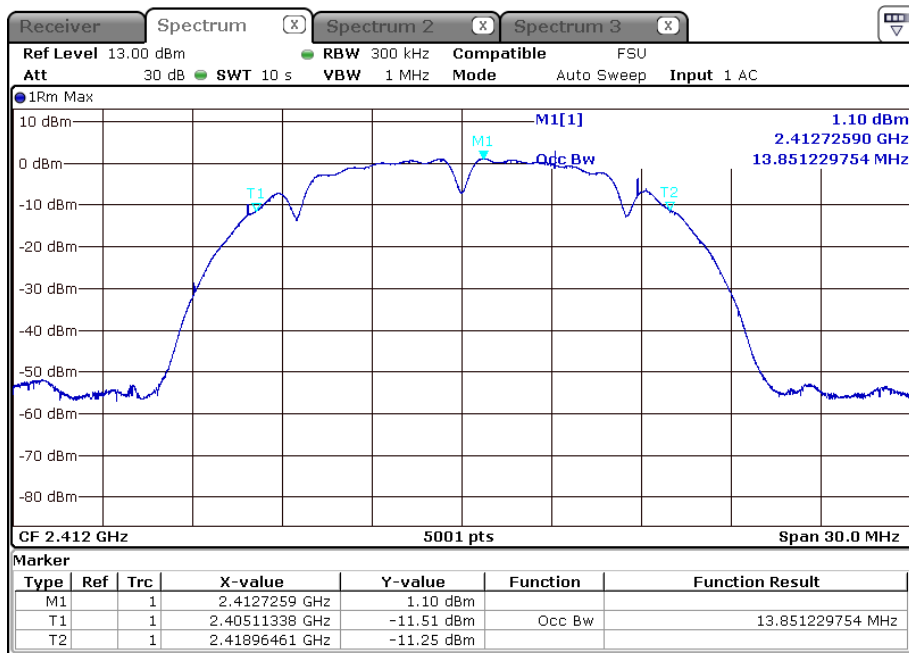
Channel 157up (5795 MHz)



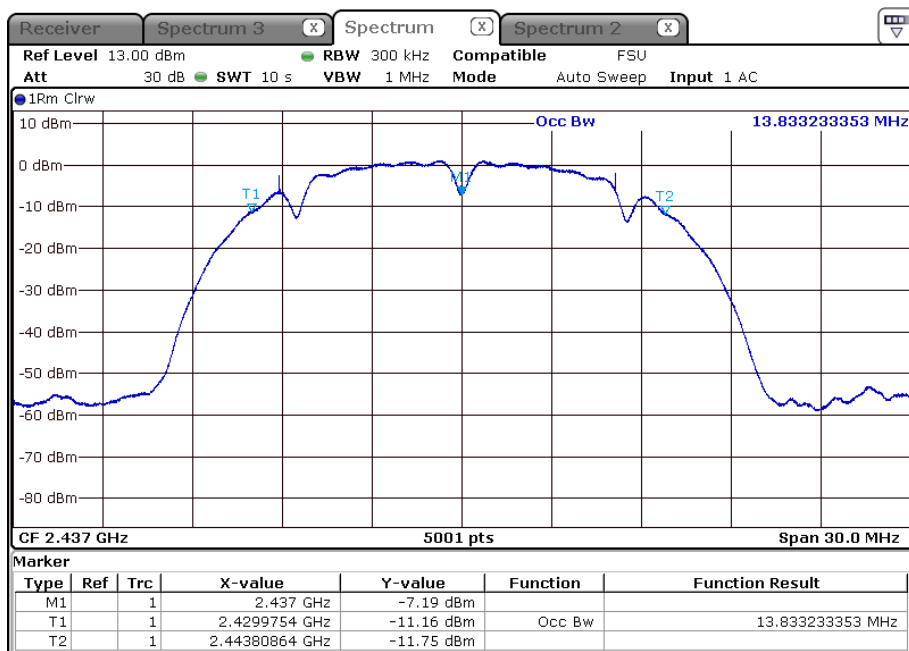
5.2.7 Test protocols OBW 99 %

802.11b:

Channel 1 (2412 MHz)



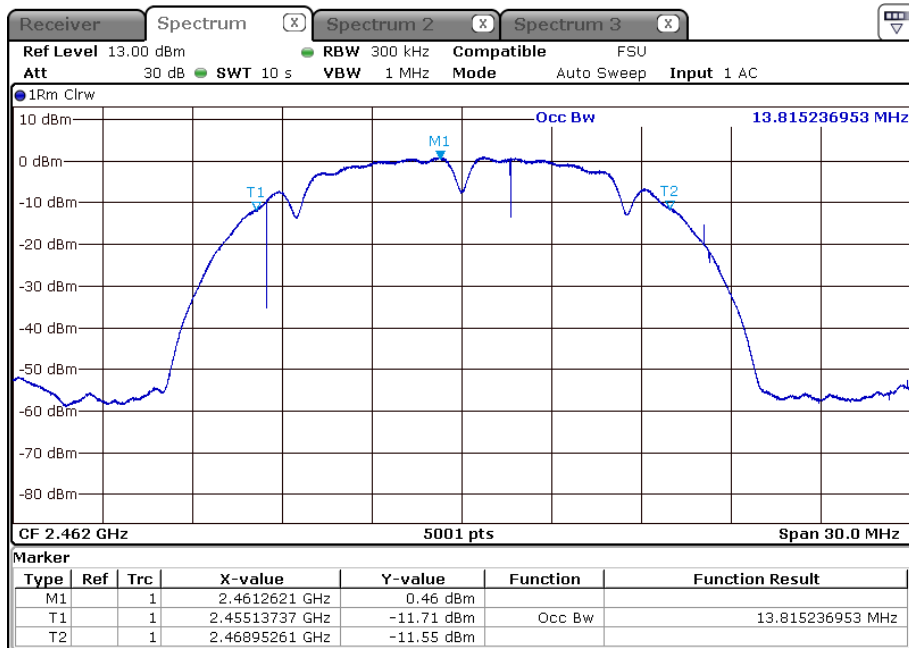
Channel 6 (2437 MHz)



FCC ID: LYHMSN1V1

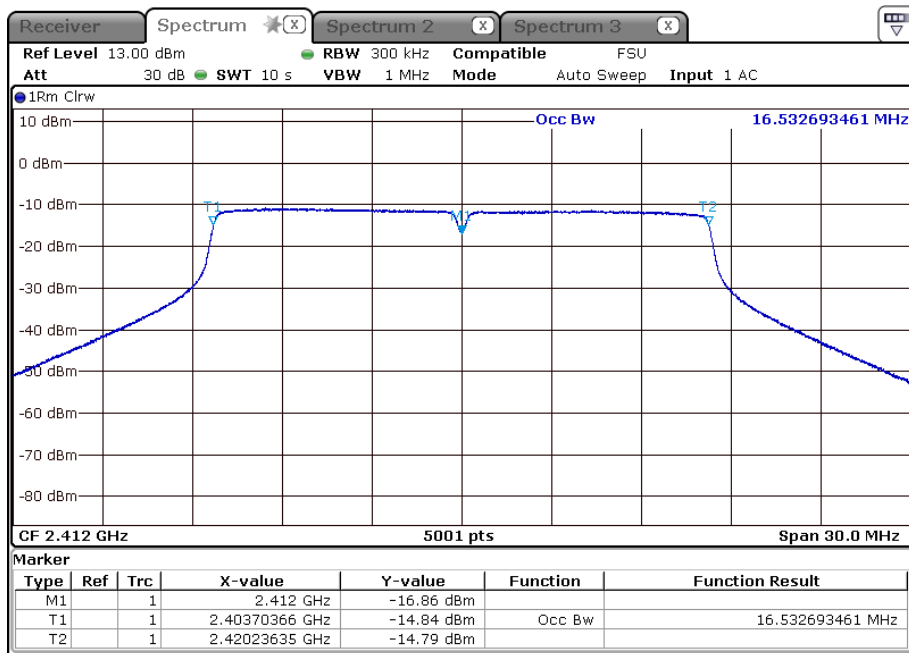
IC: 267AA-MSN1V1

Channel 11 (2462 MHz)



802.11g:

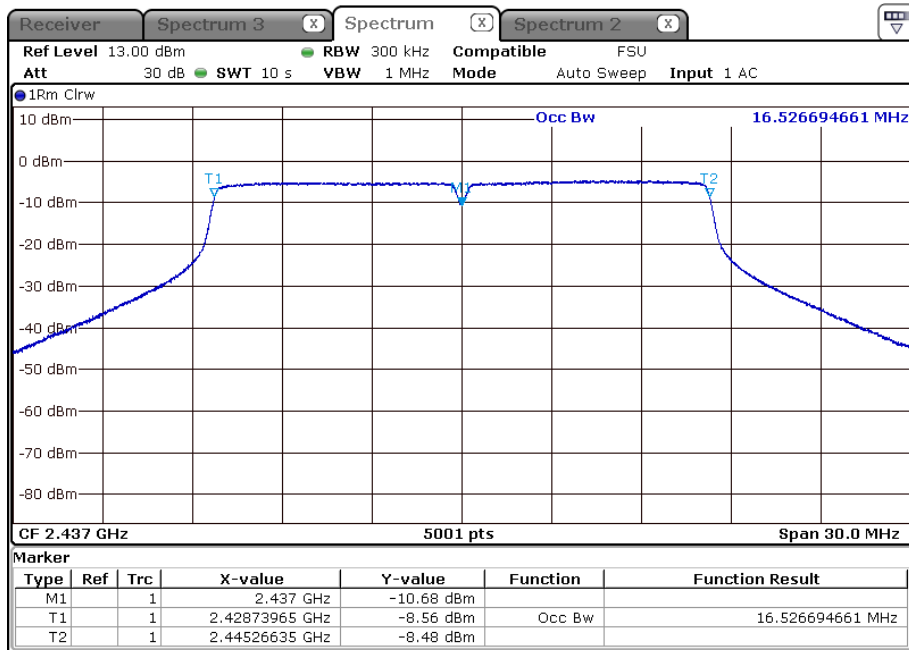
Channel 1 (2412 MHz)



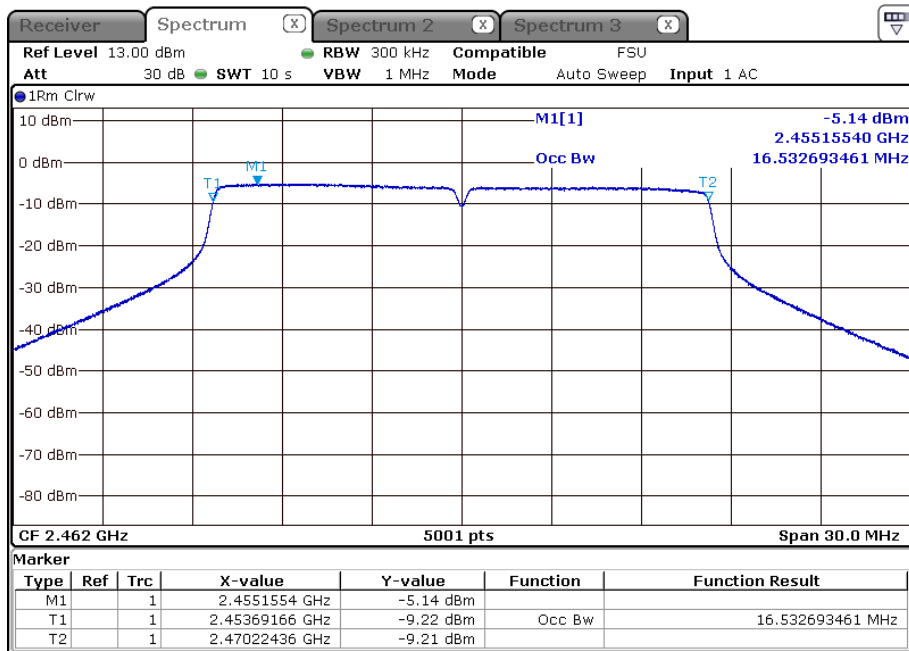
FCC ID: LYHMSN1V1

IC: 267AA-MSN1V1

Channel 6 (2437 MHz)

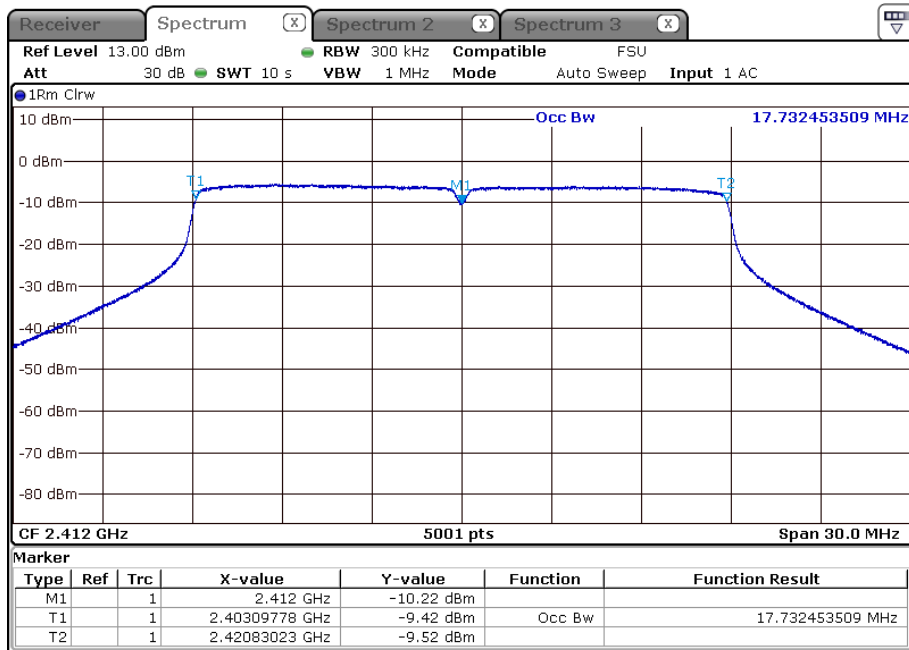


Channel 11 (2462 MHz)

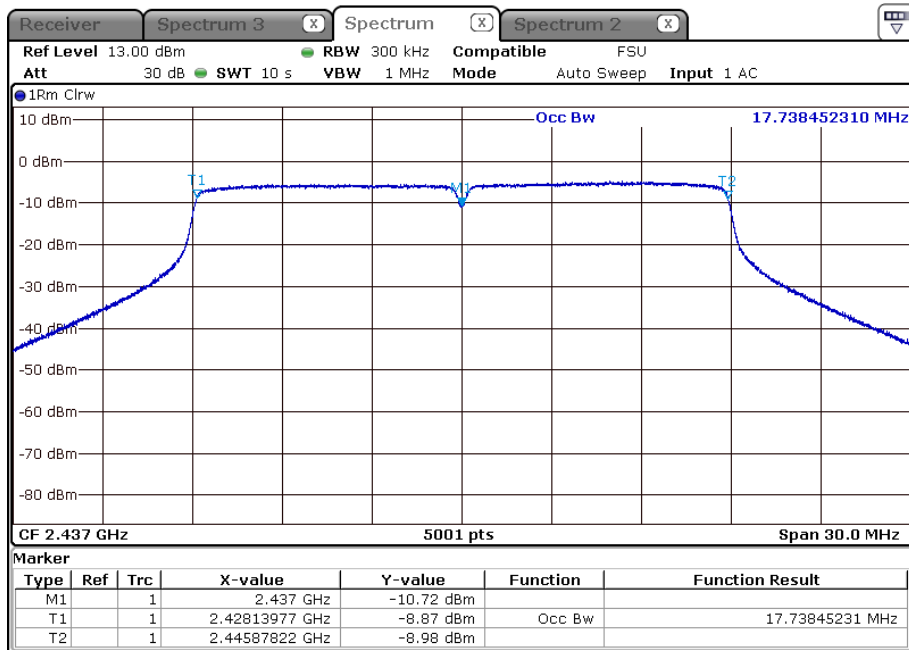


802.11n, HT20:

Channel 1 (2412 MHz)



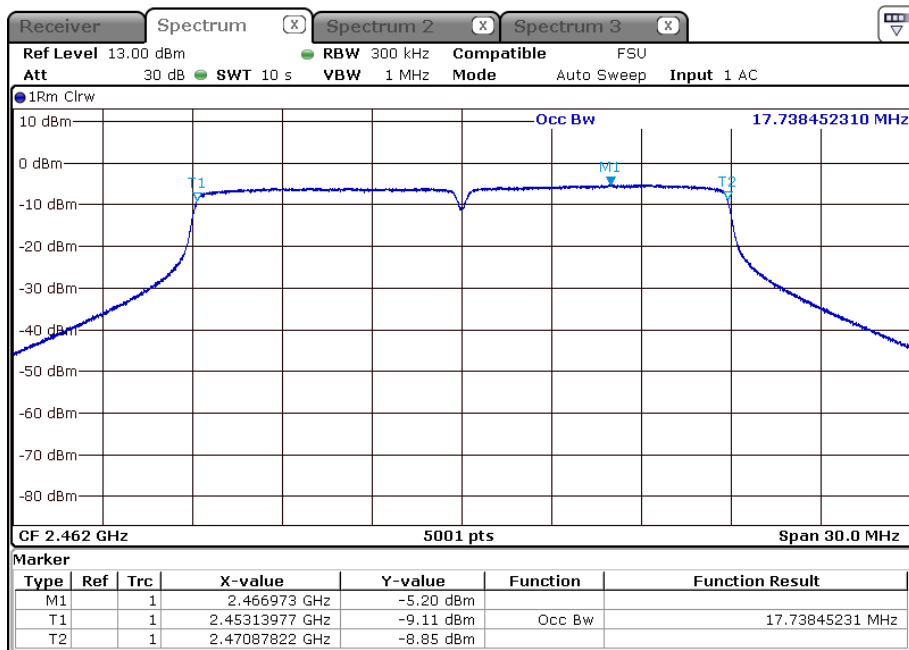
Channel 6 (2437 MHz)



FCC ID: LYHMSN1V1

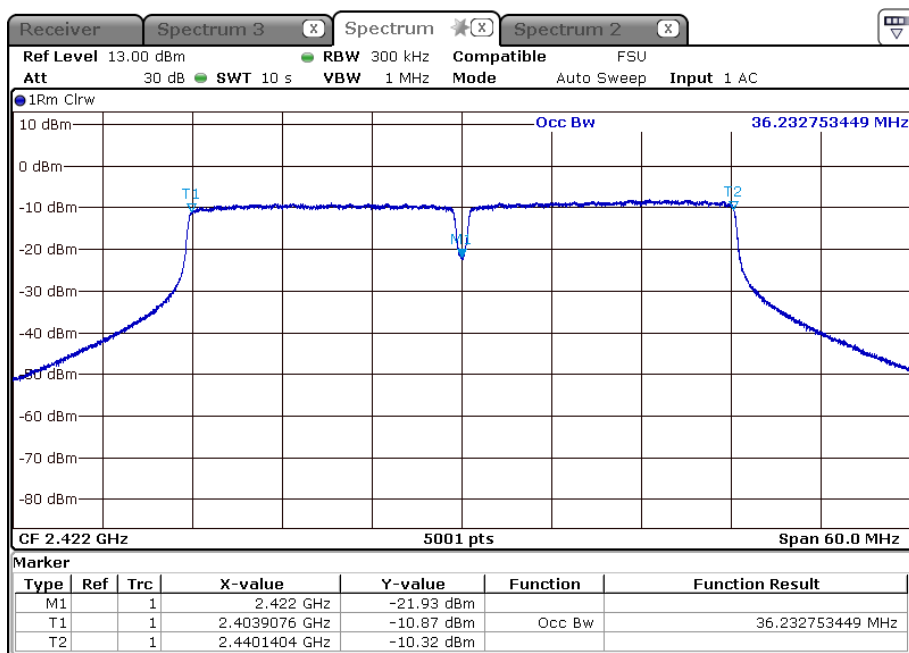
IC: 267AA-MSN1V1

Channel 11 (2462 MHz)



802.11n, HT40:

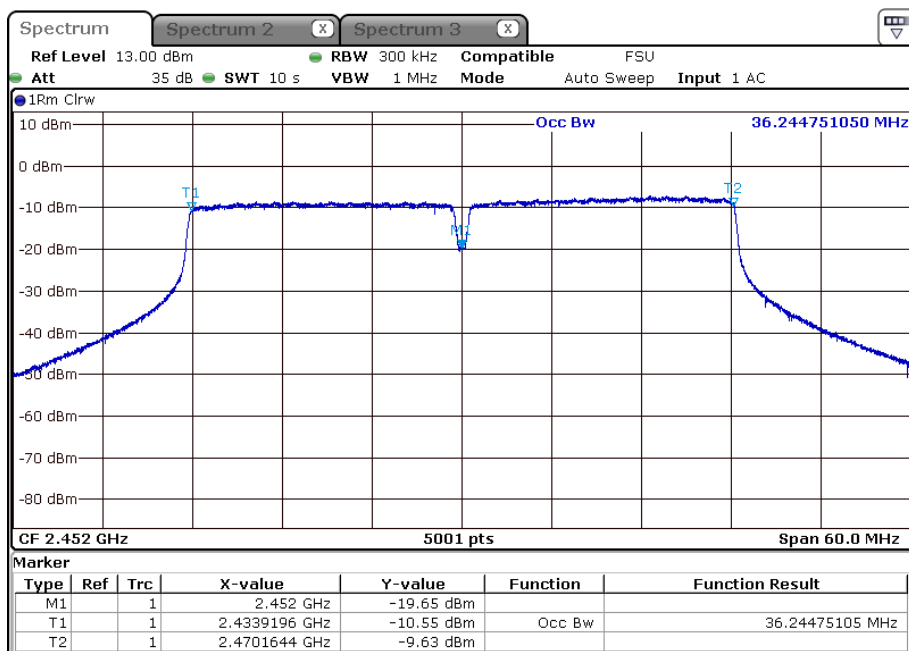
Channel 1up (2422 MHz)



FCC ID: LYHMSN1V1

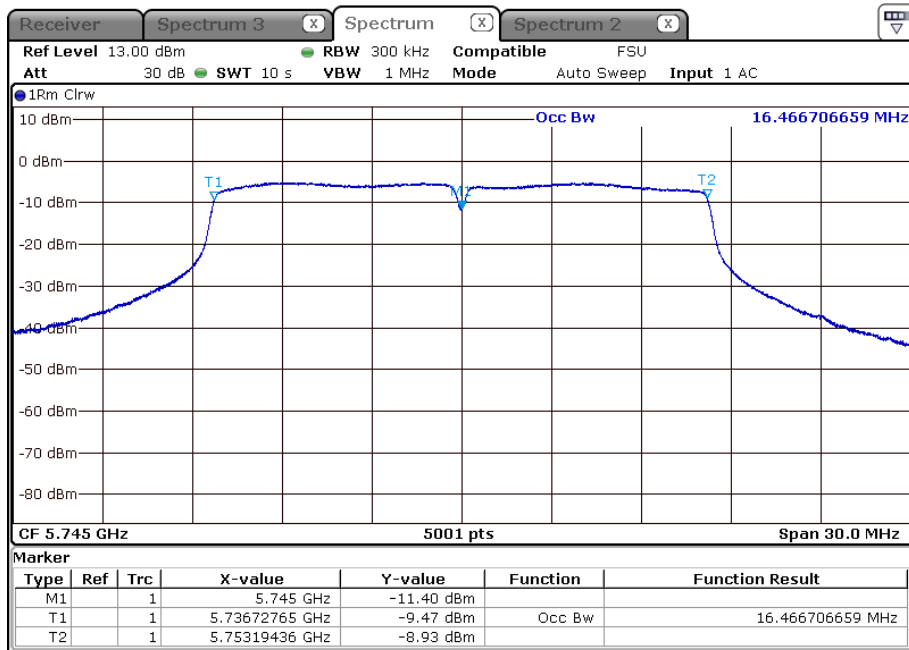
IC: 267AA-MSN1V1

Channel 7up (2452 MHz)

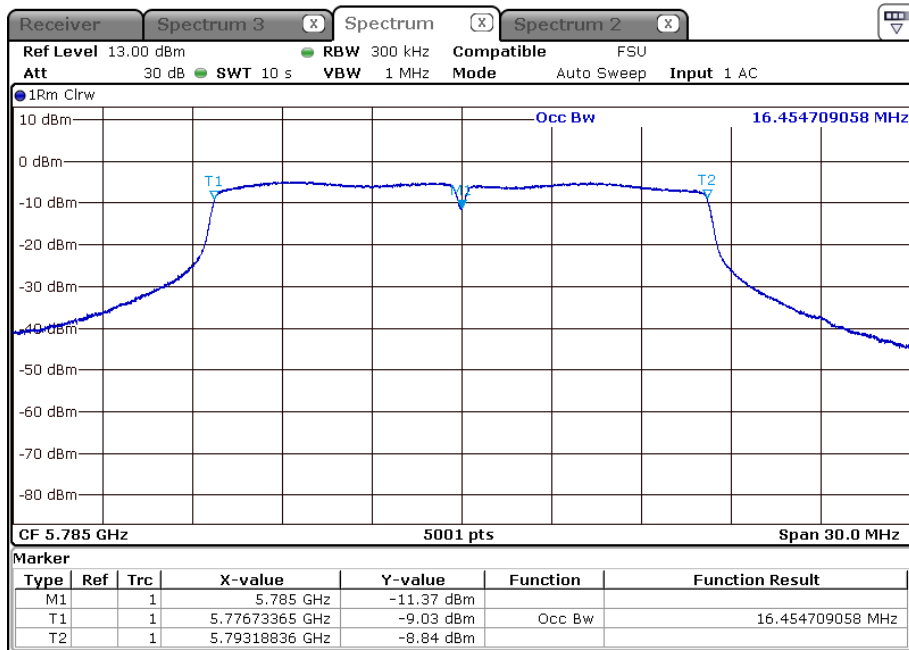


802.11a:

Channel 149 (5745 MHz)



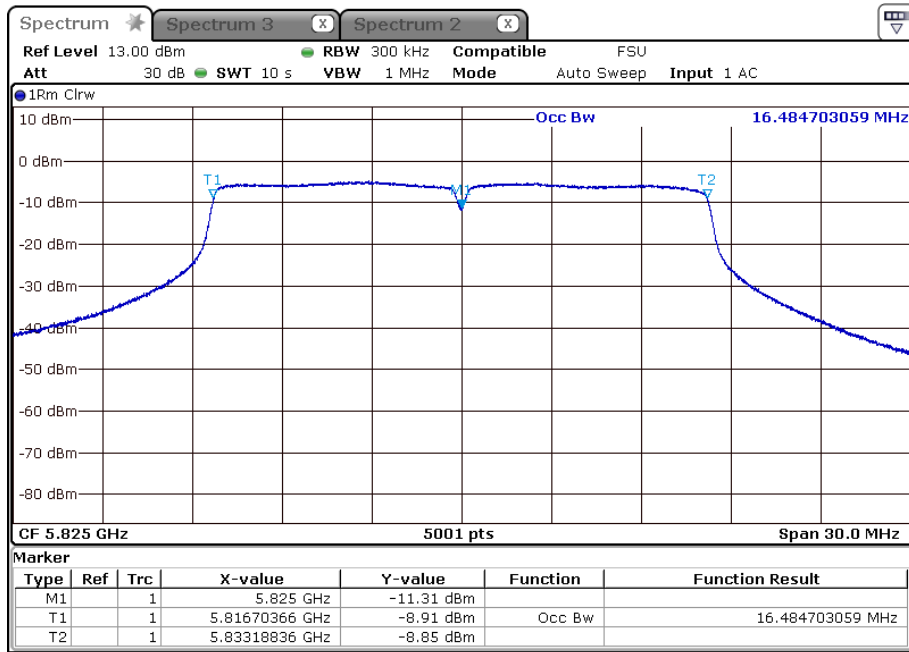
Channel 157 (5785 MHz)



FCC ID: LYHMSN1V1

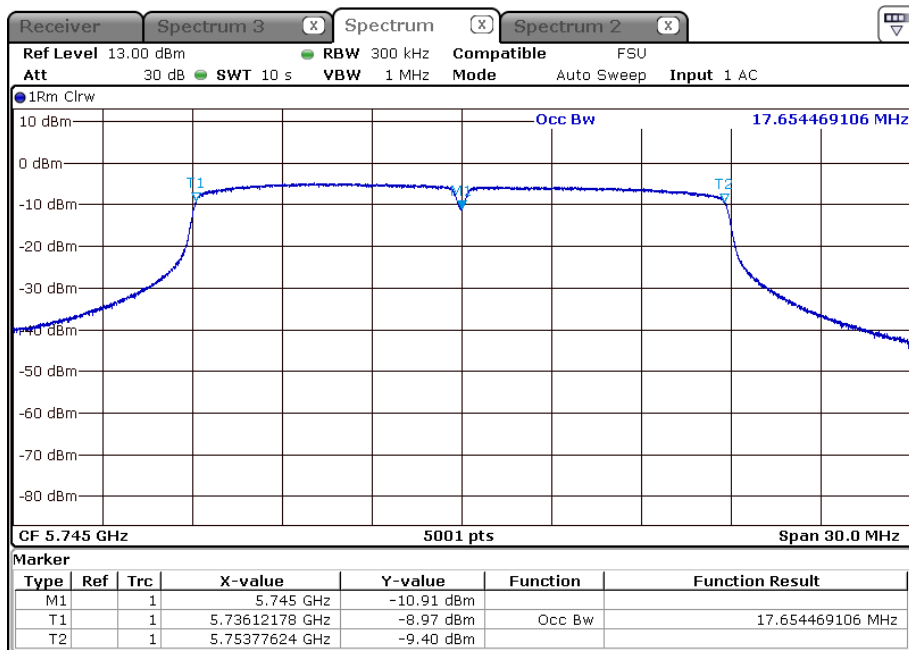
IC: 267AA-MSN1V1

Channel 165 (5825 MHz)



HT20:

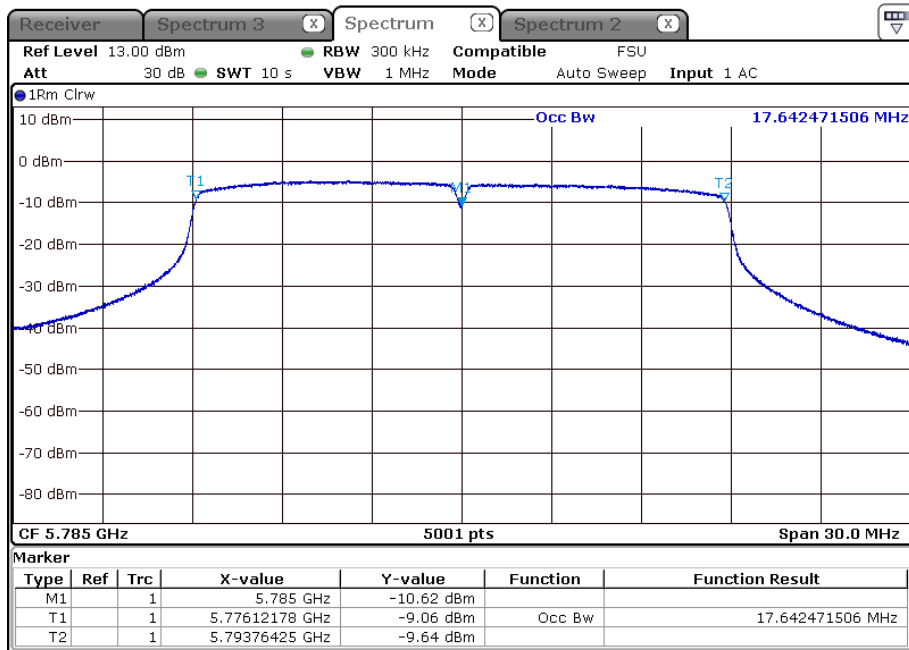
Channel 149 (5745 MHz)



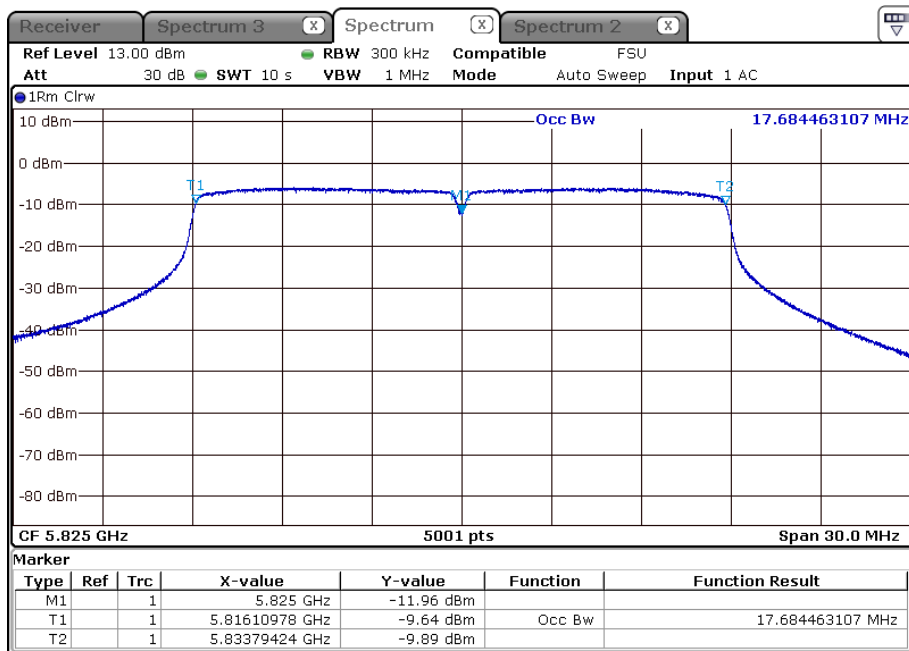
FCC ID: LYHMSN1V1

IC: 267AA-MSN1V1

Channel 157 (5785 MHz)

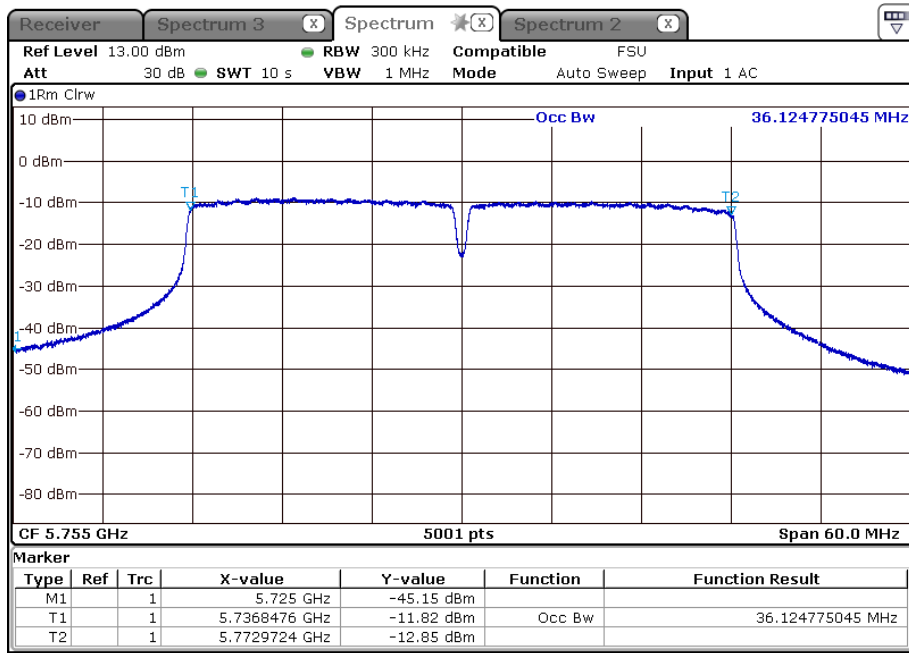


Channel 165 (5825 MHz)

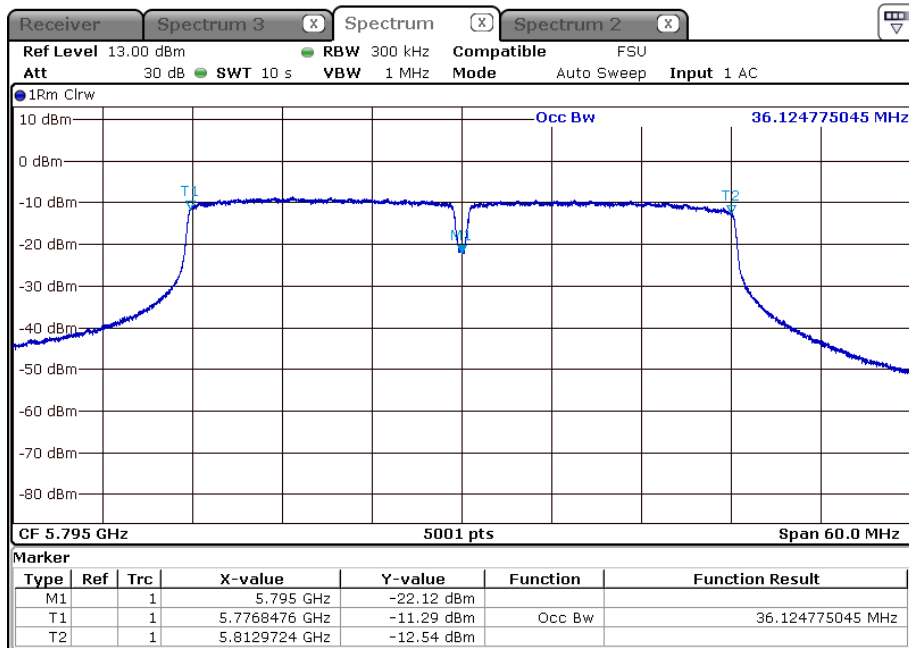


HT40:

Channel 149up (5755 MHz)



Channel 157up (5795 MHz)



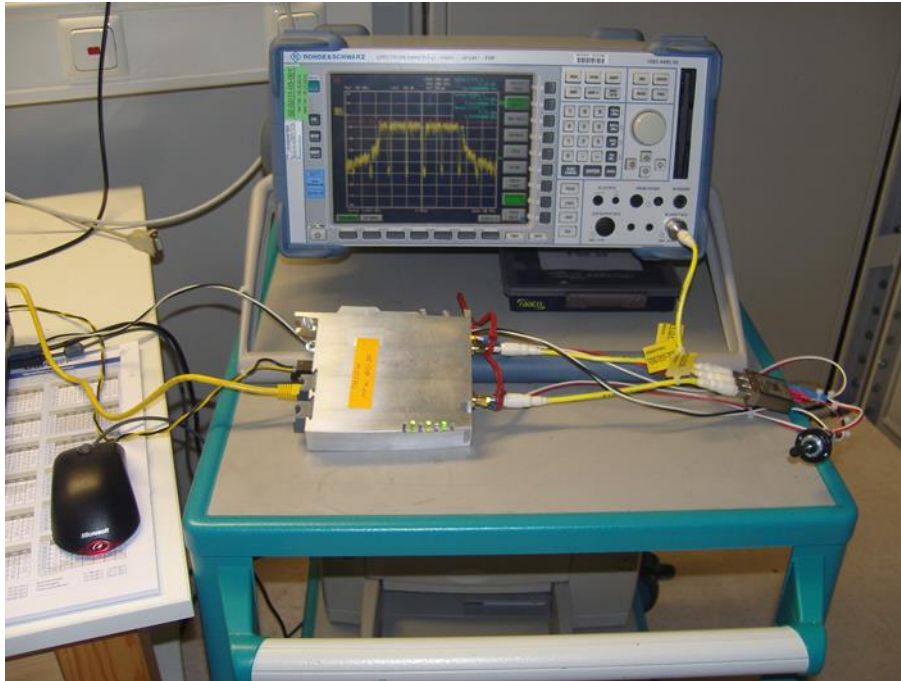
5.3 Maximum peak conducted output power

For test instruments and accessories used see section 6 Part **CPC 3**.

5.3.1 Description of the test location

Test location: AREA 4

5.3.2 Photo documentation of the test set-up



5.3.3 Applicable standard

According to FCC Part 15, Section 15.247(b)(3):

For systems using digital modulation in the 2400-2483.5 MHz and 5725 – 5850 MHz bands, the maximum peak output power of the transmitter shall not exceed 1 Watt. The limit is based on transmitting antennas of directional gain that do not exceed 6 dBi.

5.3.4 Description of Measurement

The maximum peak conducted output power is measured using a spectrum analyser with the function “integrated bandpower measurement” following the procedure set out in OET 558074, item 9.1.2. The EUT is set in TX continuous mode while measuring. The EUT is measured at chain 1 and chain 2. The measurement values are converted into linear values and the chain 1 and chain 2 is summed and converted back into log values. The resulting values are listed in the following tables.

5.3.5 Test result
2.4 GHz Range:

802.11b, 1 Mbps, 2 TX		Test results conducted				
Chain 1+2		A [P8] (dBm)	A [P11] (dBm)	A [P14] (dBm)	A [P20] (dBm)	Limit (dBm)
Lowest frequency: CH1						
T_{nom}	V_{nom}	7.0	9.9	13.3	19.2	30.0
Middle frequency: CH6						
T_{nom}	V_{nom}	6.9	9.8	13.0	19.4	30.0
Highest frequency: CH11						
T_{nom}	V_{nom}	6.7	9.9	12.9	19.4	30.0

802.11g, 6 Mbps, 2 TX		Test results conducted				
Chain 1+2		A [P8] (dBm)	A [P11] (dBm)	A [P14] (dBm)	A [P20] (dBm)	Limit (dBm)
Lowest frequency: CH1						
T_{nom}	V_{nom}	6.2	9.0	12.5	18.4	30.0
Middle frequency: CH6						
T_{nom}	V_{nom}	6.3	9.3	12.5	18.5	30.0
Highest frequency: CH11						
T_{nom}	V_{nom}	6.0	9.1	12.2	18.5	30.0

HT20, MCS0, 2 TX		Test results conducted				
Chain 1+2		A [P8] (dBm)	A [P11] (dBm)	A [P14] (dBm)	A [P20] (dBm)	Limit (dBm)
Lowest frequency: CH1						
T_{nom}	V_{nom}	6.2	8.9	12.3	18.2	30.0
Middle frequency: CH6						
T_{nom}	V_{nom}	5.8	9.0	11.9	18.4	30.0
Highest frequency: CH11						
T_{nom}	V_{nom}	6.6	9.2	12.3	18.5	30.0

HT40, MCS8, 2 TX		Test results conducted				
Chain 1+2		A [P8] (dBm)	A [P11] (dBm)	A [P14] (dBm)	A [P20] (dBm)	Limit (dBm)
Lowest frequency: CH1up						
T_{nom}	V_{nom}	5.2	7.8	11.1	16.9	30.0
Highest frequency: CH7up						
T_{nom}	V_{nom}	4.8	7.8	10.8	17.4	30.0

5.725 GHz Range:

802.11a, 6 Mbps, 2 TX		Test results conducted				
Chain 1+2		A [P14] (dBm)	A [P17] (dBm)	A [P20] (dBm)	Limit (dBm)	Min Margin (dB)
Lowest frequency: CH149						
T_{nom}	V_{nom}	13.0	15.6	18.2	30.0	-11.8
Middle frequency: CH157						
T_{nom}	V_{nom}	13.2	15.6	18.0	30.0	-12.0
Highest frequency: CH165						
T_{nom}	V_{nom}	12.7	15.1	17.6	30.0	-12.4

HT20, MCS0, 2 TX		Test results conducted				
Chain 1+2		A [P14] (dBm)	A [P17] (dBm)	A [P20] (dBm)	Limit (dBm)	Min Margin (dB)
Lowest frequency: CH149						
T_{nom}	V_{nom}	12.6	15.6	18.2	30.0	-11.8
Middle frequency: CH157						
T_{nom}	V_{nom}	12.9	15.9	18.1	30.0	-11.9
Highest frequency: CH165						
T_{nom}	V_{nom}	12.8	15.2	17.8	30.0	-12.2

HT40, MCS8, 2 TX		Test results conducted				
Chain 1+2		A [P14] (dBm)	A [P17] (dBm)	A [P20] (dBm)	Limit (dBm)	Min Margin (dB)
Lowest frequency: CH149up						
T_{nom}	V_{nom}	11.7	14.8	17.7	30.0	-12.3
Highest frequency: CH157up						
T_{nom}	V_{nom}	11.8	14.9	17.3	30.0	-12.7

Peak Power Limit according to FCC Part 15, Section 15.247(b)(3):

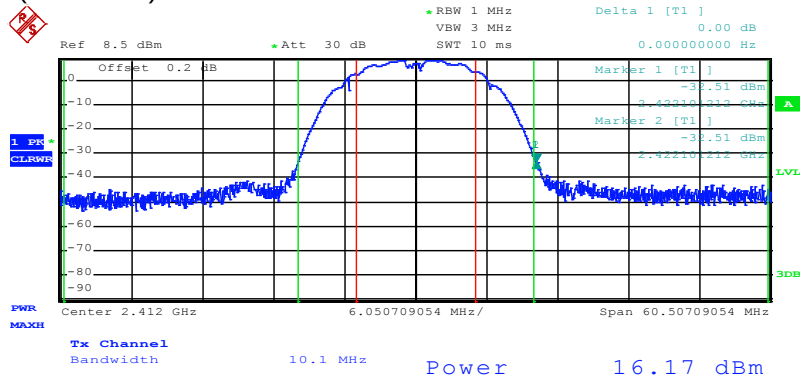
Frequency (MHz)	Peak power limit	
	(dBm)	(Watt)
902 - 928	30	1.0
2400 - 2483.5	30	1.0
5725 - 5850	30	1.0

The requirements are **FULFILLED**.

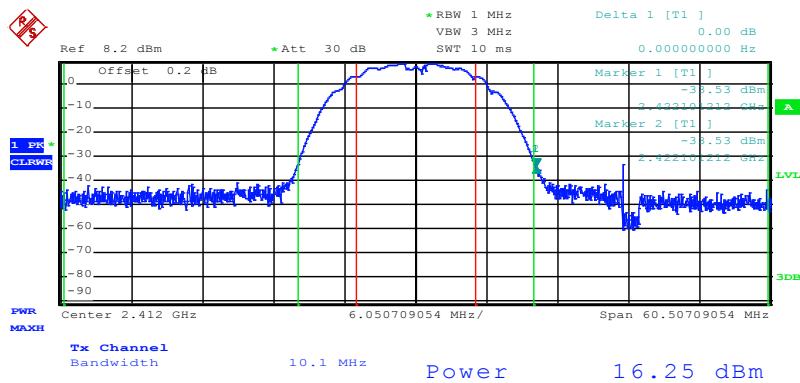
Remarks: For detailed test results please see the following test protocols. CH1 and CH149 of the plots
are listed only.

5.3.1 Test protocols

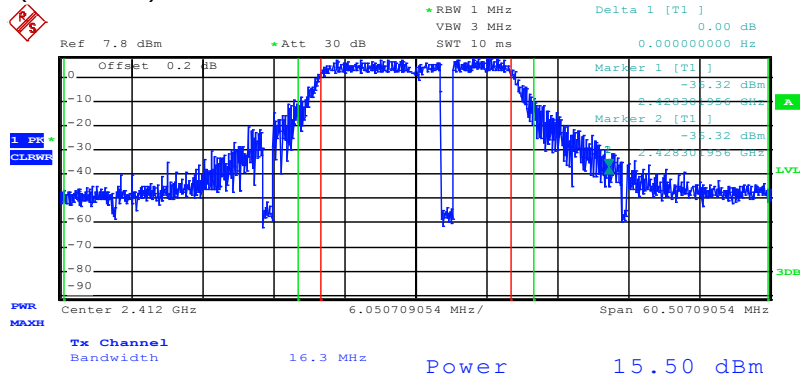
802.11b, Channel 1 (2412 MHz) P20:



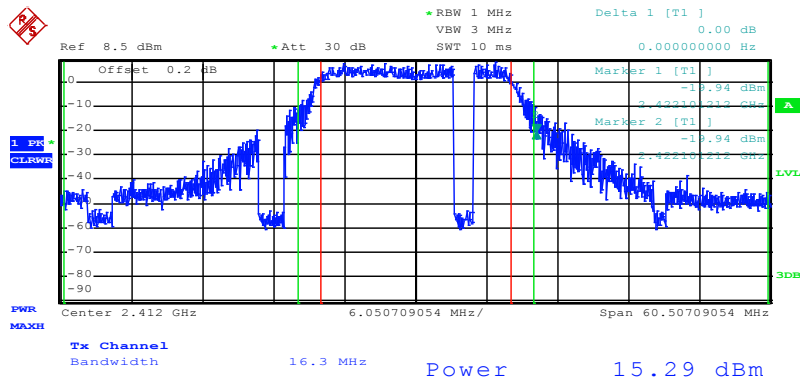
Port 2:



802.11g, Channel 1 (2412 MHz) P20:



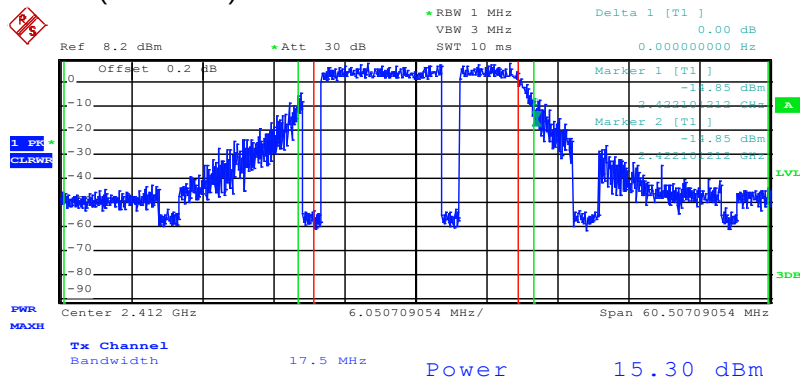
Port 2:



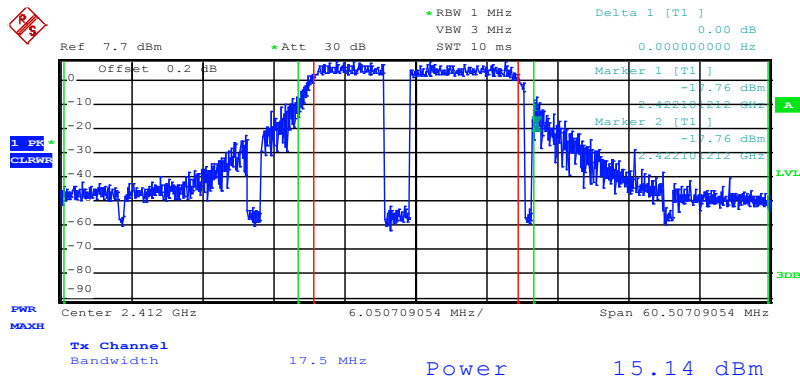
FCC ID: LYHMSN1V1

IC: 267AA-MSN1V1

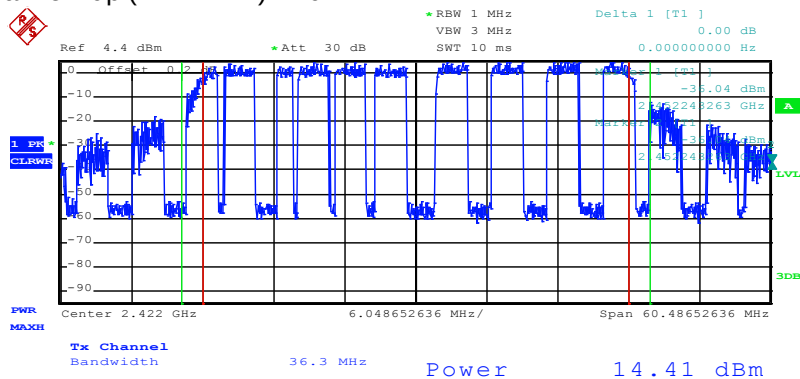
802.11n, HT20, Channel 1 (2412 MHz) P20:



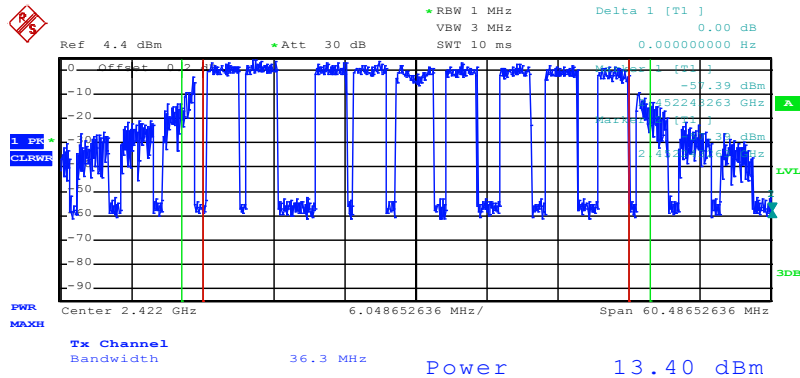
Port 2:



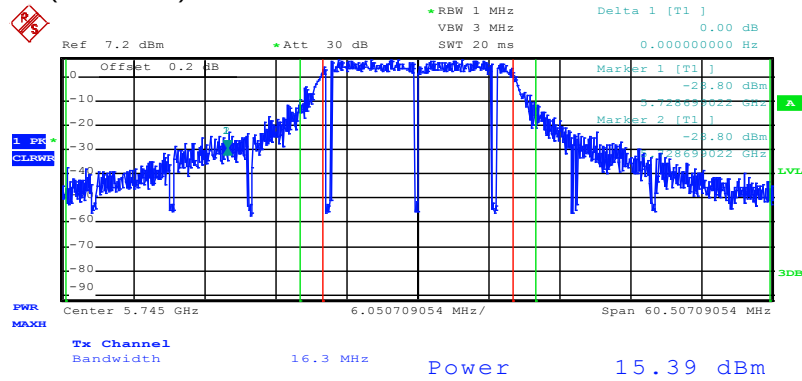
802.11n, HT40, Channel 1up (2422 MHz) P20:



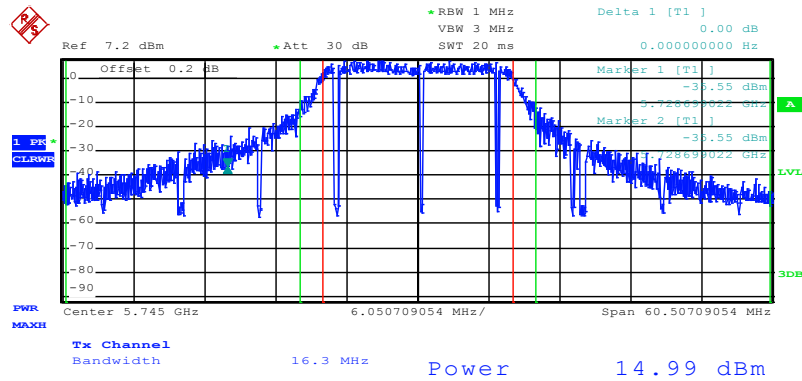
Port 2:



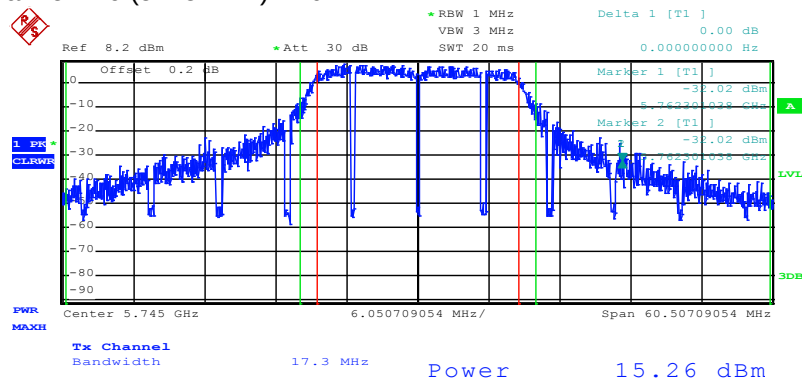
802.11a, Channel 149 (5745 MHz) P20:



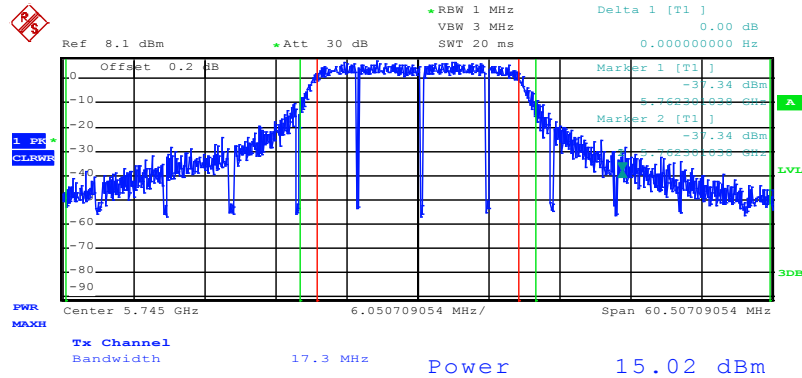
Port 2:



802.11n, HT20, Channel 149 (5745 MHz) P20:



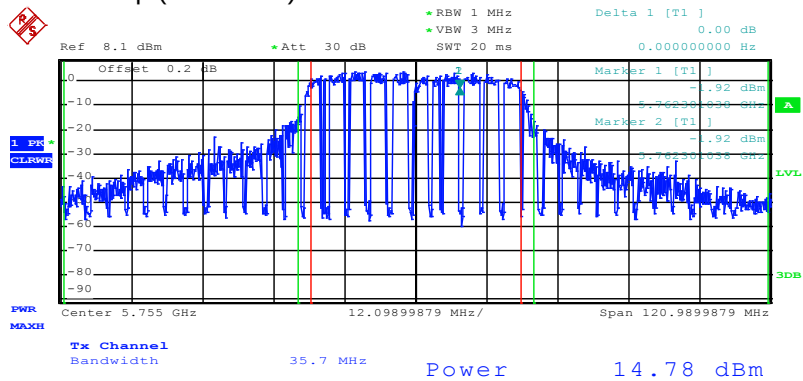
Port 2:



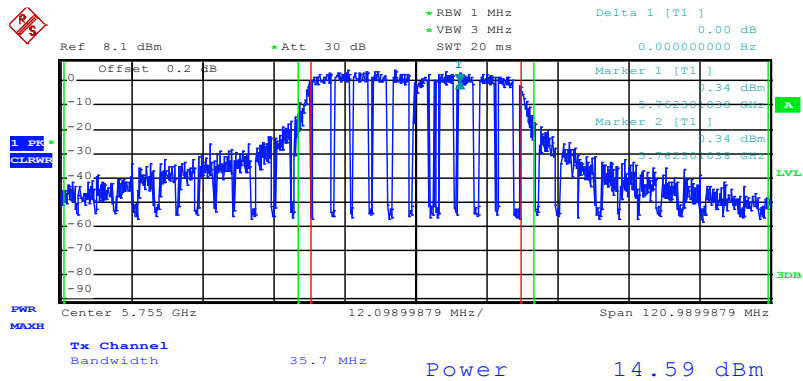
FCC ID: LYHMSN1V1

IC: 267AA-MSN1V1

802.11n, HT40, Channel 149up (5755 MHz) P20:



Port 2:



5.4 Power spectral density

For test instruments and accessories used see section 6 Part CPC 3.

5.4.1 Description of the test location

Test location: AREA 4

5.4.2 Photo documentation of the test set-up



5.4.3 Applicable standard

According to FCC Part 15, Section 15.247(e):

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

5.4.4 Description of Measurement

The maximum peak conducted output power is measured using a spectrum analyser with the function “integrated bandpower measurement” following the procedure set out in OET 558074, item 9.1.2. Therefore the PSD is measured the same way. The “integrated bandpower measurement” is related to PSD (dBm/Hz). The EUT is set in TX continuous mode while measuring. The EUT is measured at chain 1 and chain 2. The measurement values are converted into linear values. The chain 1 and chain 2 are summed and converted back into log values and corrected with the conversion factor Hz to 3 kHz, 34.8 dB. The resulting values are listed in the following tables. The cable loss of .5 dB at 2.45 GHz and 1.0 dB at 5.8 GHz is taken into account.

Spectrum analyser settings: integrated bandpower measurement related to dBm/Hz
 RBW: 1 MHz, VBW: 3 MHz, Detector: Peak, Sweep time: 10 ms,

5.4.5 Test result
2.4 GHz Range:

802.11b, 1 Mbps, 2 TX		Test results conducted				
Chain 1+2		PD [P8] (dBm/3kHz)	PD [P11] (dBm/3kHz)	PD [P14] (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Lowest frequency: CH1						
T_{nom}	V_{nom}	-26.9	-24.4	-20.9	8.0	-28.9
Middle frequency: CH6						
T_{nom}	V_{nom}	-26.9	-24.0	-21.0	8.0	-29.0
Highest frequency: CH11						
T_{nom}	V_{nom}	-27.3	-24.2	-21.5	8.0	-29.5

802.11g, 6 Mbps, 2 TX		Test results conducted				
Chain 1+2		PD [P8] (dBm/3kHz)	PD [P11] (dBm/3kHz)	PD [P14] (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Lowest frequency: CH1						
T_{nom}	V_{nom}	-31.2	-28.0	-24.6	8.0	-32.6
Middle frequency: CH6						
T_{nom}	V_{nom}	-30.8	-27.9	-24.7	8.0	-32.7
Highest frequency: CH11						
T_{nom}	V_{nom}	-31.6	-27.7	-24.8	8.0	-32.8

HT20, MCS0, 2 TX		Test results conducted				
Chain 1+2		PD [P8] (dBm/3kHz)	PD [P11] (dBm/3kHz)	PD [P14] (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Lowest frequency: CH1						
T_{nom}	V_{nom}	-33.7	-30.5	-27.2	8.0	-35.2
Middle frequency: CH6						
T_{nom}	V_{nom}	-30.6	-27.8	-24.5	8.0	-32.5
Highest frequency: CH11						
T_{nom}	V_{nom}	-31.1	-28.1	-25.1	8.0	-33.1

HT40, MCS8, 2 TX		Test results conducted				
Chain 1+2		PD [P8] (dBm/3kHz)	PD [P11] (dBm/3kHz)	PD [P14] (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Lowest frequency: CH1up						
T_{nom}	V_{nom}	-34.1	-31.6	-28.3	8.0	-36.3
Highest frequency: CH7up						
T_{nom}	V_{nom}	-34.7	-31.7	-28.5	8.0	-36.5

5.725 GHz Range:

802.11a, 6 Mbps, 2 TX		Test results conducted				
Chain 1+2		PD [P14] (dBm/3kHz)	PD [P17] (dBm/3kHz)	PD [P20] (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Lowest frequency: CH149						
T_{nom}	V_{nom}	-23.5	-20.6	-18.5	8.0	-26.5
Middle frequency: CH157						
T_{nom}	V_{nom}	-23.2	-20.5	-18.0	8.0	-26.0
Highest frequency: CH165						
T_{nom}	V_{nom}	-23.5	-21.3	-18.9	8.0	-26.9

HT20, MCS0, 2 TX		Test results conducted				
Chain 1+2		PD [P14] (dBm/3kHz)	PD [P17] (dBm/3kHz)	PD [P20] (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Lowest frequency: CH149						
T_{nom}	V_{nom}	-24.0	-20.7	-18.4	-18.9	35.3
Middle frequency: CH157						
T_{nom}	V_{nom}	-23.7	-20.6	-18.5	8.0	-26.5
Highest frequency: CH165						
T_{nom}	V_{nom}	-23.9	-21.6	-19.1	8.0	-27.1

HT40, MCS8, 2 TX		Test results conducted				
Chain 1+2		PD [P14] (dBm/3kHz)	PD [P17] (dBm/3kHz)	PD [P20] (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Lowest frequency: CH149up						
T_{nom}	V_{nom}	-28.8	-25.3	-22.7	8.0	-30.7
Middle frequency: CH157up						
T_{nom}	V_{nom}	-27.7	-24.8	-22.4	8.0	-30.4

Power spectral density limit according to FCC Part 15, Section 15.247(e):

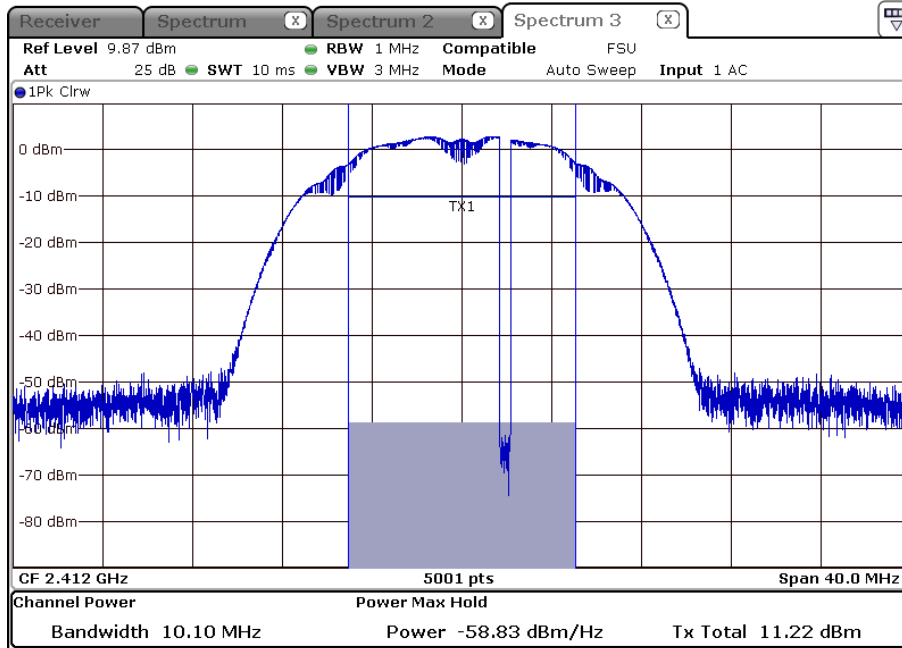
Frequency (MHz)	Power spectral density limit
	(dBm/3 kHz)
2400 – 2483.5	8
5725 - 5850	8

The requirements are **FULFILLED**.

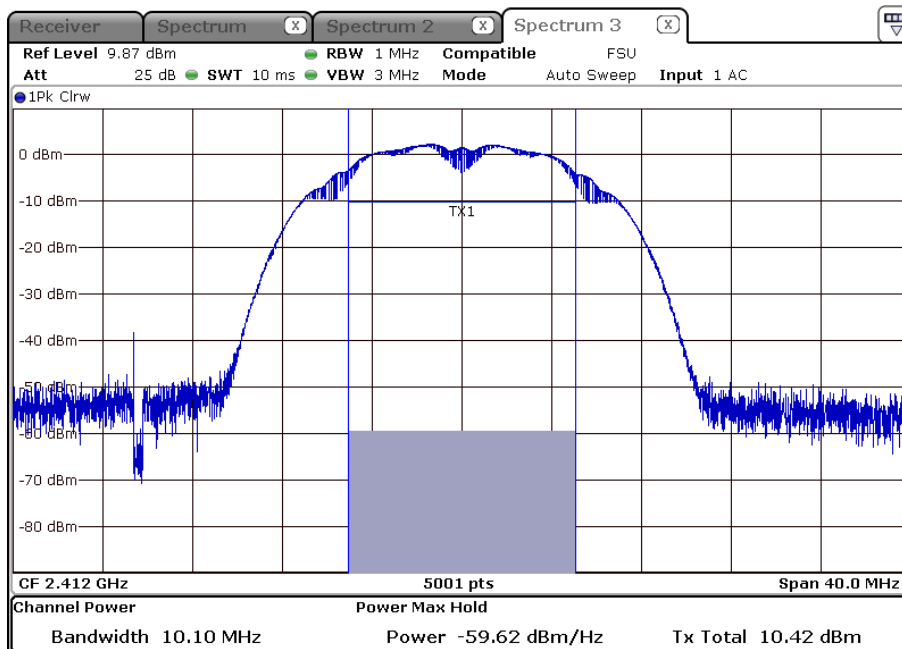
Remarks: For detailed test results please see the following test protocols. CH1 and CH149 of the plots
are listed only.

5.4.1 Test protocols power spectral density plots

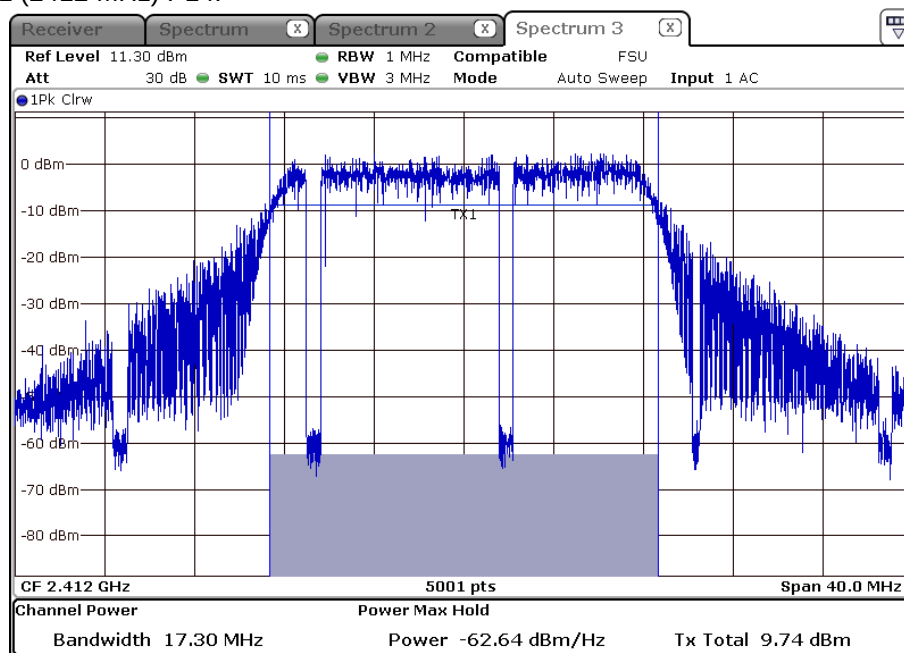
802.11b, Channel 1 (2412 MHz) P14:



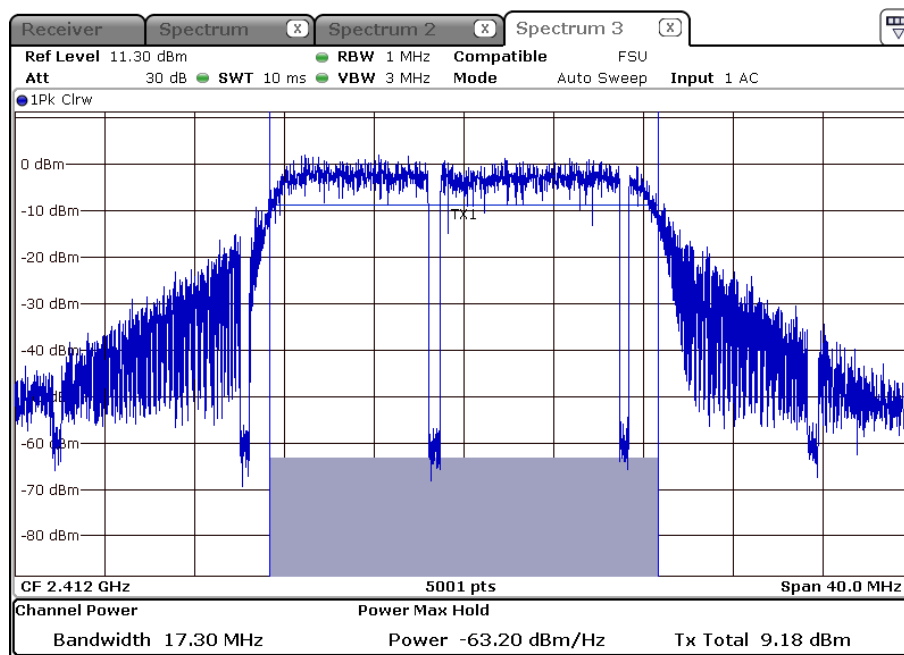
Port 2:



802.11g, Channel 1 (2412 MHz) P14:



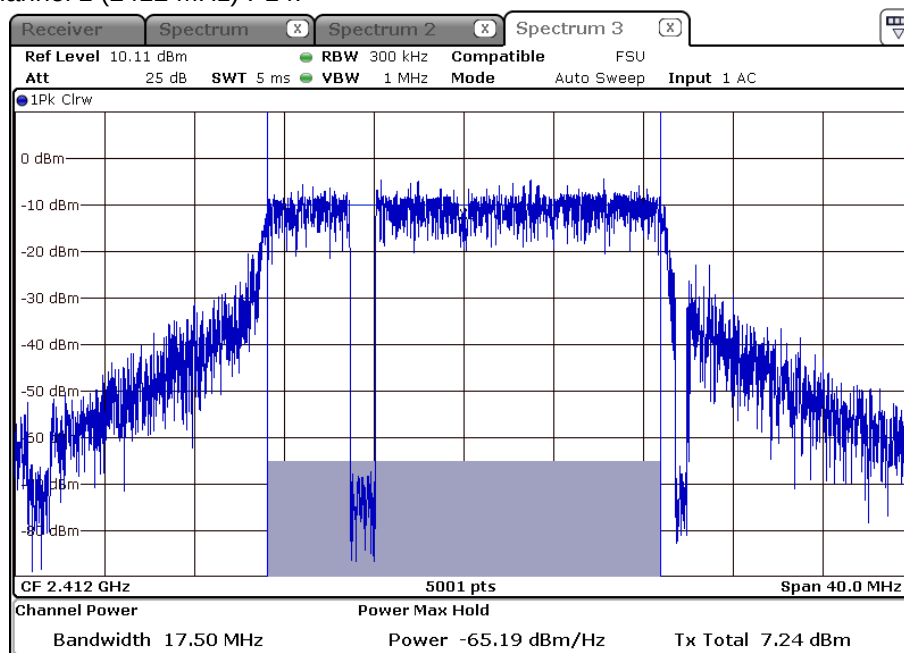
Port 2:



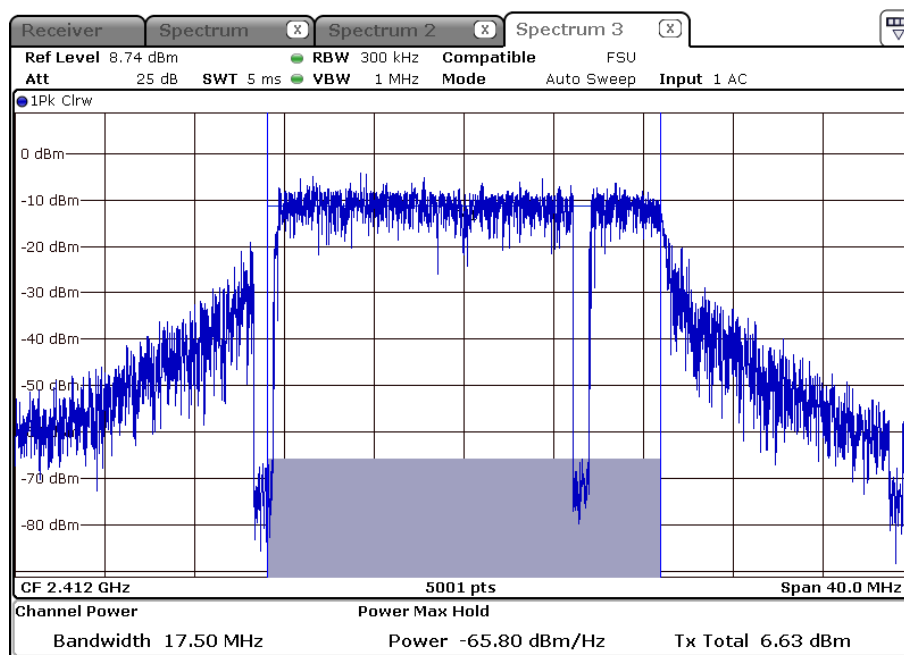
FCC ID: LYHMSN1V1

IC: 267AA-MSN1V1

802.11n, HT20, Channel 1 (2412 MHz) P14:



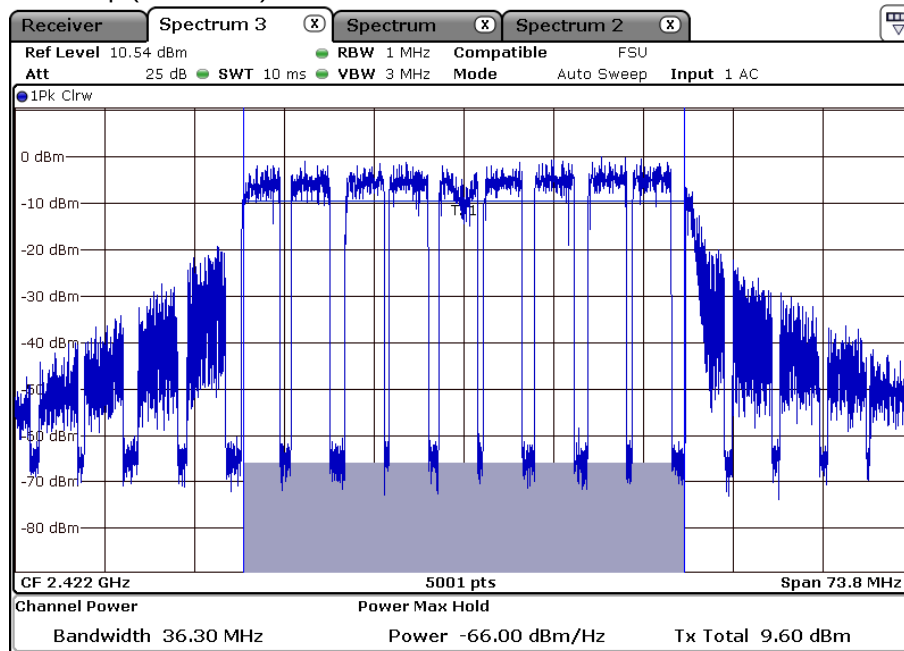
Port 2:



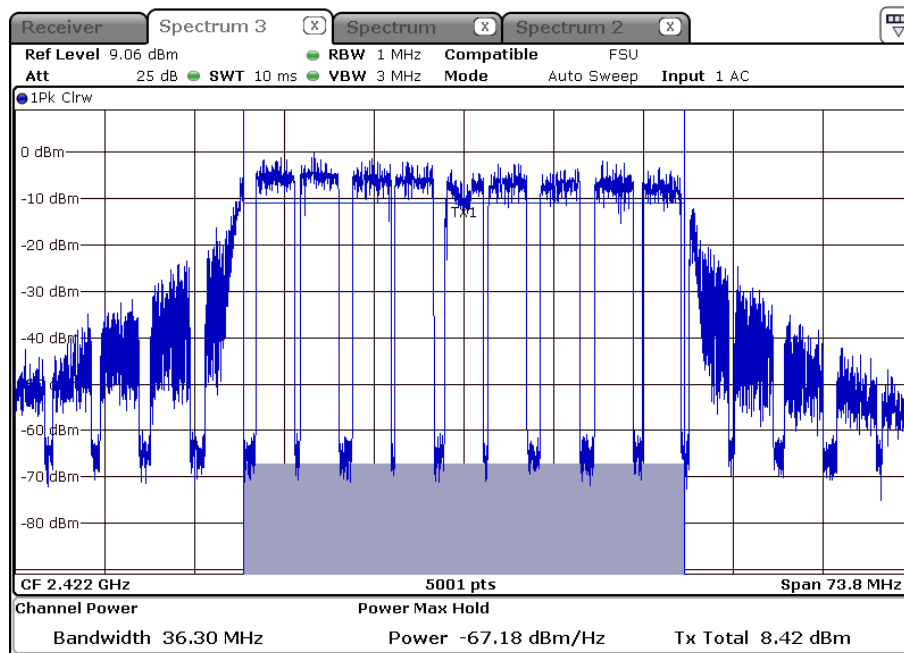
FCC ID: LYHMSN1V1

IC: 267AA-MSN1V1

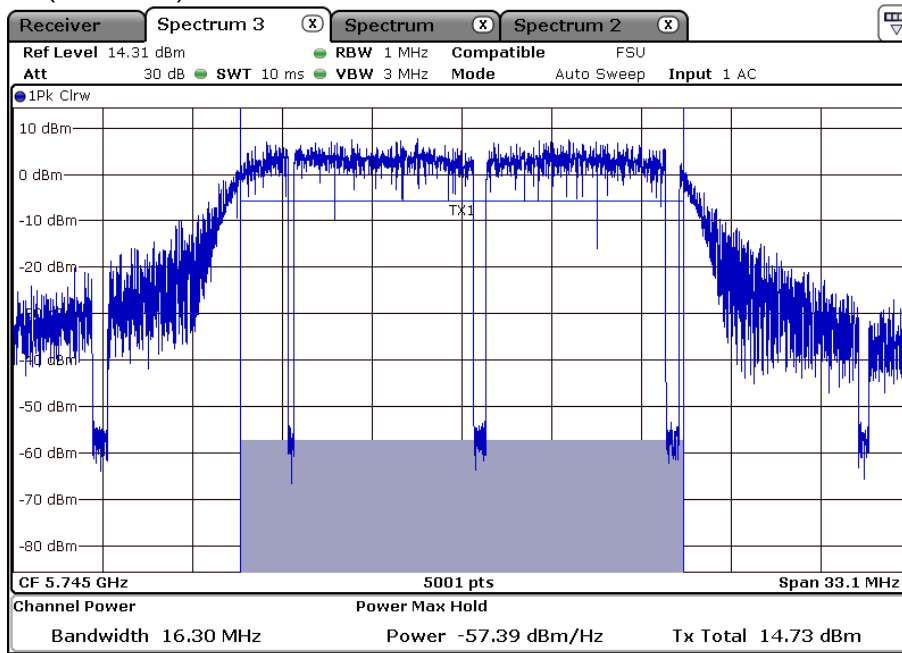
802.11n, HT40, Channel 1up (2422 MHz) P14:



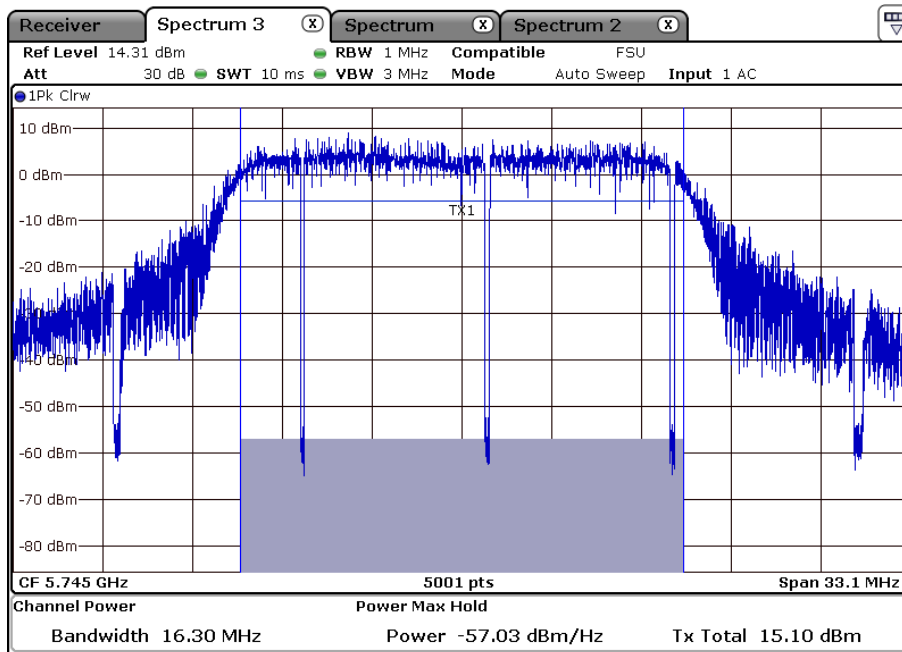
Port 2:



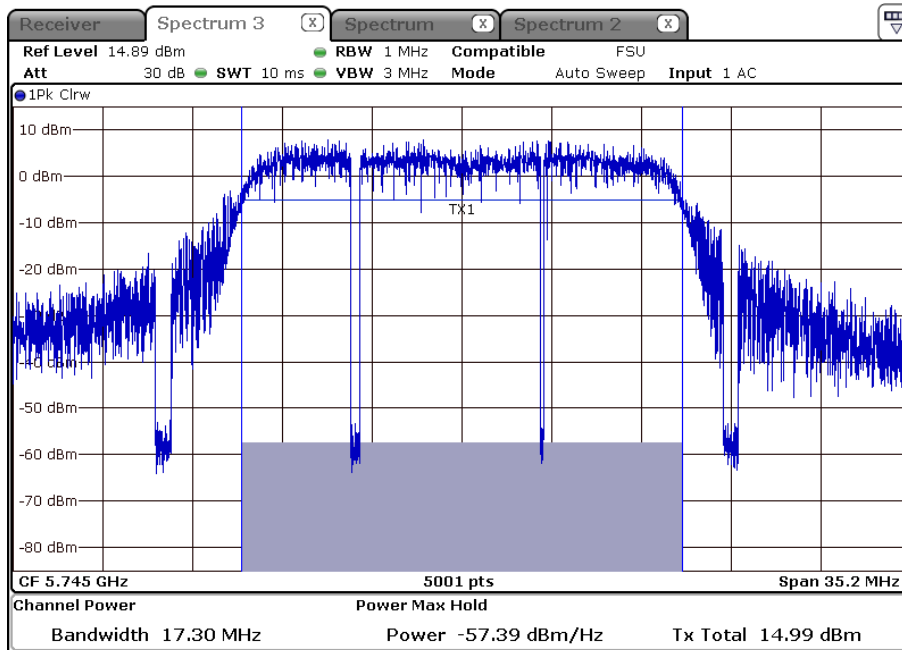
802.11a, Channel 149 (5745 MHz) P20:



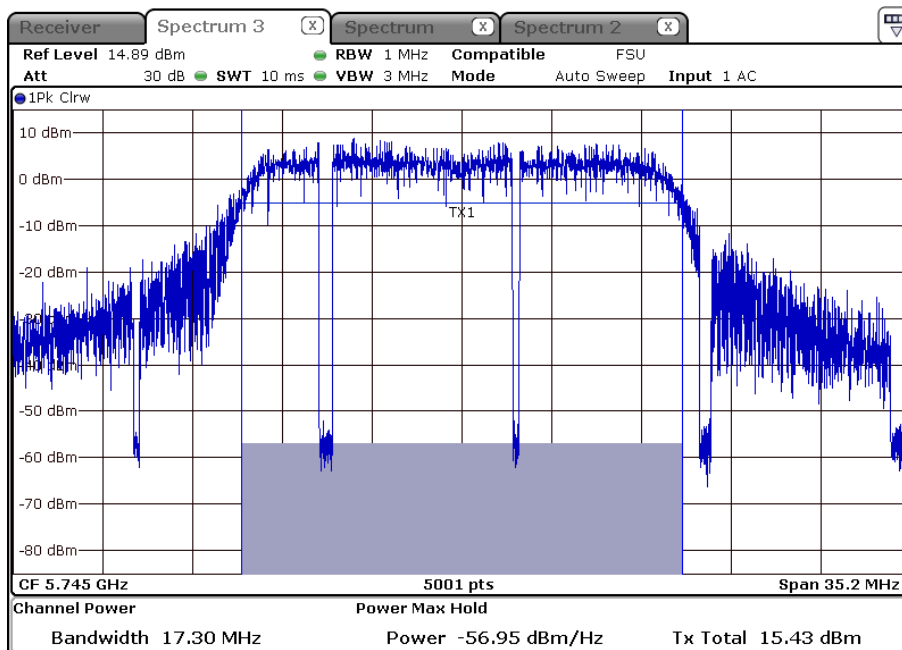
Port 2:



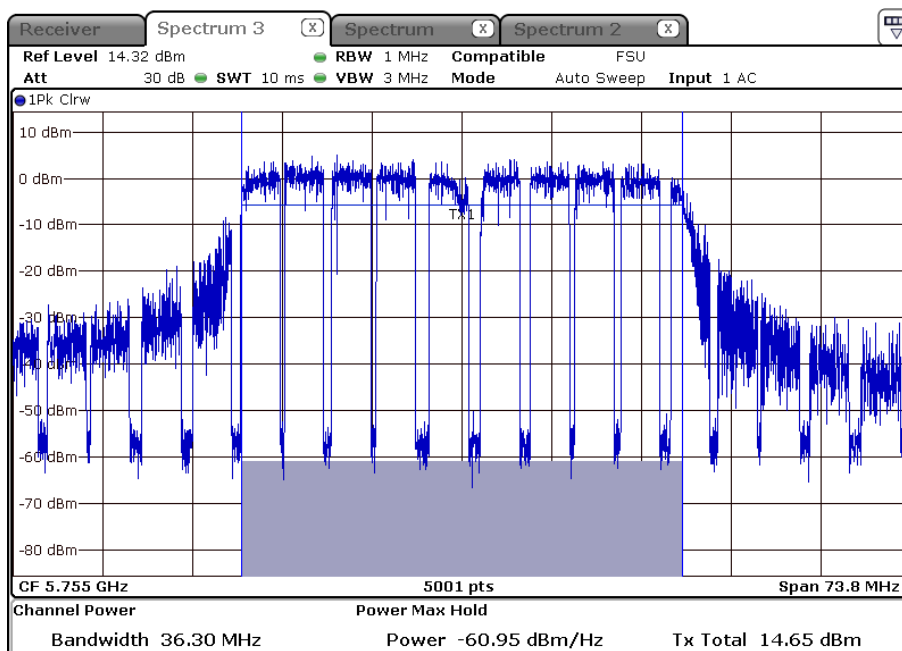
802.11n, HT20, Channel 149 (5745 MHz) P20:



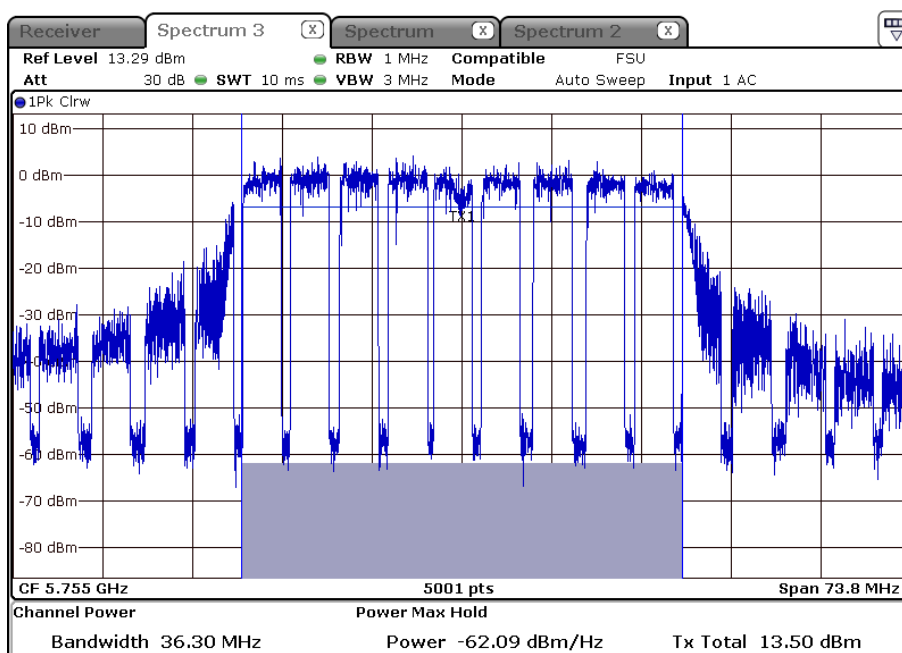
Port 2:



802.11n, HT40, Channel 149up (5755 MHz) P20:



Port 2:



5.5 Radiated emissions in non-restricted bands

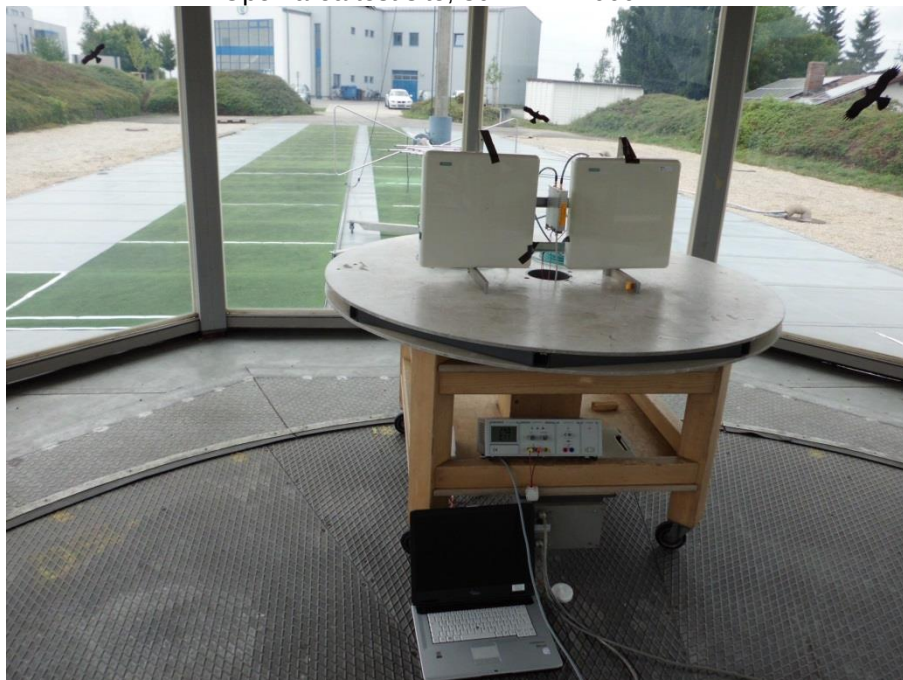
For test instruments and accessories used see section 6 Part **SER 2**, **SER 3**.

5.5.1 Description of the test location

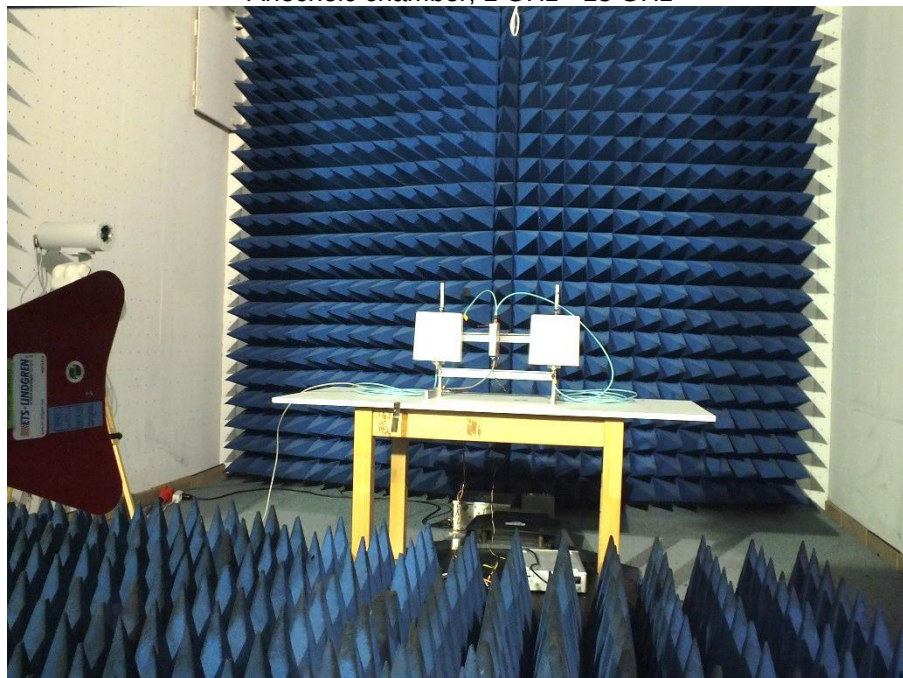
Test location: OATS 1
Test location: Anechoic chamber 2
Test distance: 3 m

5.5.1 Photo documentation of the test set-up

Open area test site, 30 MHz - 1000 MHz



Anechoic chamber, 1 GHz - 18 GHz



Anechoic chamber, 18 GHz - 40 GHz



5.5.2 Applicable standard

According to FCC Part 15, Section 15.247(d):

In any 100 kHz bandwidth outside the frequency bands 2400 – 2483.50 MHz and 5725 – 5850 MHz, the digitally modulated radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or an radiated measurement.

5.5.3 Description of Measurement

The radiated power of the spurious emission from the EUT is measured in a test setup following the procedures set out in ANSI C63.4 and KDB 558074 for DTS. If the emission level of the EUT in peak mode complies with the average limit then testing will be stopped and peak values of the EUT will be reported, otherwise the emission will be measured again in average mode and reported.

Peak-measurement:

30 – 1000 MHz:	RBW: 100 kHz,	VBW: 300 kHz,	Detector: Max peak,	Trace Mode: Max hold;
1 – 40 GHz:	RBW: 100 kHz,	VBW: 300 k Hz,	Detector: Max peak,	Trace Mode: Max hold;

Note: The emissions > 1 GHz are measured with a RBW=1 MHz because they are compliant with the requirements of 15.247. Only in band edges the RBW=100 kHz, if necessary.

5.5.4 Test result

5.5.4.1 Gain group 1 (6 dBi), 2.4 GHz range:
802.11b:

Lowest frequency: CH1						
Test conditions: 2 TX , P14, 1 Mbps						
Reference power level:					104.3 dB μ V/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	dB μ V/m	dB μ V/m	(dB)
30	1000	120	900	41.0	84.3	-43.3
1000	2400	1000	2398	55.5	84.3	-28.8
2483.5	4000	1000	2514	55.5	84.3	-28.8
4000	12000	1000	11982	49.5	84.3	-34.8
12000	25000	1000	16469	55.9	84.3	-28.4
Measurement uncertainty				±6 dB		

Middle frequency: CH6						
Test conditions: 2 TX , P14, 1 Mbps						
Reference power level:					104.3 dBμV/m	
Chain1+2			Test results			
Start f	Stop f	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	84.3	-43.3
1000	2400	1000	2326	56.7	84.3	-27.6
2483.5	4000	1000	3860	55.8	84.3	-28.5
4000	12000	1000	11816	50.0	84.3	-34.3
12000	25000	1000	16415	55.4	84.3	-28.9
Measurement uncertainty				±6 dB		

Highest frequency: CH11						
Test conditions: 2 TX , P14, 1 Mbps						
Reference power level:					104.3 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	84.3	-43.3
1000	2400	1000	2330	57.1	84.3	-27.2
2483.5	4000	1000	2488	55.8	84.3	-28.5
4000	12000	1000	11328	48.8	84.3	-35.5
12000	25000	1000	16533	55.7	84.3	-28.6
Measurement uncertainty				±6 dB		

802.11g:

Lowest frequency: CH1						
Test conditions: 2 TX , P14, 6 Mbps						
Reference power level:					99.1 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	79.1	-38.1
1000	2400	1000	2399	63.4	79.1	-15.7
2483.5	4000	1000	2491	57.1	79.1	-22.0
4000	12000	1000	11776	49.6	79.1	-29.5
12000	25000	1000	16602	55.3	79.1	-23.8
Measurement uncertainty				±6 dB		

Middle frequency: CH6						
Test conditions: 2 TX , P14, 6 Mbps						
Reference power level:					99.1 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	79.1	-38.1
1000	2400	1000	2388	56.6	79.1	-22.5
2483.5	4000	1000	3646	55.6	79.1	-23.5
4000	12000	1000	11806	50.1	79.1	-29.0
12000	25000	1000	16321	56.2	79.1	-22.9
Measurement uncertainty				±6 dB		

Highest frequency: CH11						
Test conditions: 2 TX , P14, 6 Mbps						
Reference power level:					99.1 dBμV/m	
Chain1+2			Test results			
Start f	Stop f	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	79.1	-38.1
1000	2400	1000	2387	59.2	79.1	-19.9
2483.5	4000	1000	2519	56.1	79.1	-23.0
4000	12000	1000	11748	49.5	79.1	-29.6
12000	25000	1000	16998	55.3	79.1	-23.8
Measurement uncertainty				±6 dB		

HT20, 2 TX:

Lowest frequency: CH1						
Test conditions: 2 TX , P14, MCS0						
Reference power level:					99.3 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	79.3	-38.3
1000	2400	1000	2399	61.9	79.3	-17.4
2483.5	4000	1000	2493	56.9	79.3	-22.4
4000	12000	1000	11892	51.1	79.3	-28.2
12000	25000	1000	16491	56.0	79.3	-23.3
Measurement uncertainty				±6 dB		

Middle frequency: CH6						
Test conditions: 2 TX , P14, MCS0						
Reference power level:					99.3 dBμV/m	
Chain1+2			Test results			
Start f	Stop f	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	79.3	-38.3
1000	2400	1000	2360	57.4	79.3	-21.9
2483.5	4000	1000	2511	55.7	79.3	-23.6
4000	12000	1000	11756	49.9	79.3	-29.4
12000	25000	1000	16514	55.4	79.3	-23.9
Measurement uncertainty				±6 dB		

Highest frequency: CH11						
Test conditions: 2 TX , P14, MCS0						
Reference power level:					99.3 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	79.3	-38.3
1000	2400	1000	2384	58.8	79.3	-20.5
2483.5	4000	1000	2507	56.3	79.3	-23.0
4000	12000	1000	11284	48.7	79.3	-30.6
12000	25000	1000	16562	55.9	79.3	-23.4
Measurement uncertainty				±6 dB		

HT40, 2 TX:

Lowest frequency: CH1up						
Test conditions: 2 TX , P14, MCS8						
Reference power level:					95.8 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	75.8	-34.8
1000	2400	1000	2399	66.3	75.8	-9.5
2483.5	4000	1000	2500	56.1	75.8	-19.7
4000	12000	1000	11920	50.7	75.8	-25.1
12000	25000	1000	16550	56.4	75.8	-19.4
Measurement uncertainty				±6 dB		

Highest frequency: CH7up						
Test conditions: 2 TX , P14, MCS8						
Reference power level:					95.8 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	75.8	-34.8
1000	2400	1000	2383	57.5	75.8	-18.3
2483.5	4000	1000	2483.5	63.2	75.8	-12.6
4000	12000	1000	12000	51.1	75.8	-24.7
12000	25000	1000	16518	56.9	75.8	-18.9
Measurement uncertainty				±6 dB		

5.5.4.2 Gain group 2 (9 dBi), 2.4 GHz range:
802.11a:

Lowest frequency: CH1						
Test conditions: 2 TX , P11, 1 Mbps						
Reference power level:					93.9 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	dBμV/m	dBμV/m	(dB)
30	1000	120	900	41.0	73.9	-32.9
1000	2400	1000	2388	61.6	73.9	-12.3
2483.5	4000	1000	2520	56.4	73.9	-17.5
4000	12000	1000	11914	52.2	73.9	-21.7
12000	25000	1000	17026	56.2	73.9	-17.7
Measurement uncertainty				±6 dB		

Middle frequency: CH6						
Test conditions: 2 TX , P11, 1 Mbps						
Reference power level:					93.9 dBμV/m	
Chain1+2			Test results			
Start f	Stop f	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	73.9	-32.9
1000	2400	1000	2280	56.8	73.9	-17.1
2483.5	4000	1000	2518	57.6	73.9	-16.3
4000	12000	1000	11370	52.2	73.9	-21.7
12000	25000	1000	16523	55.8	73.9	-18.1
Measurement uncertainty				±6 dB		

Highest frequency: CH11						
Test conditions: 2 TX , P11, 1 Mbps						
Reference power level:					93.9 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	73.9	-32.9
1000	2400	1000	2380	58.7	73.9	-15.2
2483.5	4000	1000	2521	57.1	73.9	-16.8
4000	12000	1000	11956	52.1	73.9	-21.8
12000	25000	1000	17047	56.4	73.9	-17.5
Measurement uncertainty				±6 dB		

802.11g:

Lowest frequency: CH1						
Test conditions: 2 TX , P11, 6 Mbps						
Reference power level:					94.4 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	74.4	-33.4
1000	2400	1000	2399	62.0	74.4	-12.4
2483.5	4000	1000	2516	56.6	74.4	-17.8
4000	12000	1000	11668	52.6	74.4	-21.8
12000	25000	1000	17070	56.1	74.4	-18.3
Measurement uncertainty				±6 dB		

Middle frequency: CH6						
Test conditions: 2 TX , P11, 6 Mbps						
Reference power level:					94.4 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	74.4	-33.4
1000	2400	1000	2360	57.8	74.4	-16.6
2483.5	4000	1000	2524	56.8	74.4	-17.6
4000	12000	1000	11980	51.9	74.4	-22.5
12000	25000	1000	16563	56.7	74.4	-17.7
Measurement uncertainty				±6 dB		

Highest frequency: CH11						
Test conditions: 2 TX , P11, 6 Mbps						
Reference power level:					94.4 dBμV/m	
Chain1+2			Test results			
Start f	Stop f	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	74.4	-33.4
1000	2400	1000	2360	58.3	74.4	-16.1
2483.5	4000	1000	2506	56.7	74.4	-17.7
4000	12000	1000	11736	53.0	74.4	-21.4
12000	25000	1000	16800	55.8	74.4	-18.6
Measurement uncertainty				±6 dB		

HT20, 2 TX:

Lowest frequency: CH1						
Test conditions: 2 TX , P11, MCS0						
Reference power level:					94.6 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	74.6	-33.6
1000	2400	1000	2399	65.7	74.6	-8.9
2483.5	4000	1000	2526	59.2	74.6	-15.4
4000	12000	1000	11885	54.2	74.6	-20.4
12000	25000	1000	16491	56.7	74.6	-17.9
Measurement uncertainty				±6 dB		

Middle frequency: CH6						
Test conditions: 2 TX , P11, MCS0						
Reference power level:					94.6 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	74.6	-33.6
1000	2400	1000	2360	56.4	74.6	-18.2
2483.5	4000	1000	2514	56.5	74.6	-18.1
4000	12000	1000	11873	52.5	74.6	-22.1
12000	25000	1000	16056	56.2	74.6	-18.4
Measurement uncertainty				±6 dB		

Highest frequency: CH11						
Test conditions: 2 TX , P11, MCS0						
Reference power level:					94.6 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	74.6	-33.6
1000	2400	1000	2280	58.7	74.6	-15.9
2483.5	4000	1000	2516	56.9	74.6	-17.7
4000	12000	1000	11922	52.0	74.6	-22.6
12000	25000	1000	16460	56.2	74.6	-18.4
Measurement uncertainty				±6 dB		

HT40, 2 TX:

Lowest frequency: CH1up						
Test conditions: 2 TX , P11, MCS8						
Reference power level:					91.3 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	71.3	-30.3
1000	2400	1000	2399	61.8	71.3	-9.5
2483.5	4000	1000	2524	58.7	71.3	-12.6
4000	12000	1000	11968	52.5	71.3	-18.8
12000	25000	1000	16477	56.0	71.3	-15.3
Measurement uncertainty				±6 dB		
Highest frequency: CH7up						
Test conditions: 2 TX , P11, MCS8						
Reference power level:					91.3 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	71.3	-30.3
1000	2400	1000	2359	57.0	71.3	-14.3
2483.5	4000	1000	2483.5	62.2	71.3	-9.1
4000	12000	1000	11984	52.0	71.3	-19.3
12000	25000	1000	16441	55.8	71.3	-15.5
Measurement uncertainty				±6 dB		

5.5.4.3 Gain group 1 (6 dBi), 5 GHz range:
802.11a:

Lowest frequency: CH149						
Test conditions: 2 TX , P20, 6 Mbps						
Reference power level:					96.7 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	76.7	-35.7
1000	5725	1000	5724	68.7	76.7	-8.0
5850	13000	1000	7278	58.7	76.7	-18.0
13000	25000	1000	16530	55.7	76.7	-21.0
25000	40000	1000	39975	62.3	76.7	-14.4
Measurement uncertainty				±6 dB		

Middle frequency: CH157						
Test conditions: 2 TX , P20, 6 Mbps						
Reference power level:					96.7 dBμV/m	
Chain1+2			Test results			
Start f	Stop f	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	76.7	-35.7
1000	5725	1000	5706	57.6	76.7	-19.1
5850	13000	1000	7029	58.7	76.7	-18.0
13000	25000	1000	16919	55.5	76.7	-21.2
25000	40000	1000	39986	62.5	76.7	-14.2
Measurement uncertainty				±6 dB		

Highest frequency: CH165						
Test conditions: 2 TX , P20, 6 Mbps						
Reference power level:					96.7 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	76.7	-35.7
1000	5725	1000	5490	58.6	76.7	-18.1
5850	13000	1000	7116	58.7	76.7	-18.0
13000	25000	1000	16540	55.8	76.7	-20.9
25000	40000	1000	39998	59.1	76.7	-17.6
Measurement uncertainty				±6 dB		

HT20:

Lowest frequency: CH149						
Test conditions: 2 TX , P20, MCS0						
Reference power level:					96.4 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	76.4	-35.4
1000	5725	1000	5289	57.6	76.4	-18.8
5850	13000	1000	6816	58.5	76.4	-17.9
13000	25000	1000	16486	55.7	76.4	-20.7
25000	40000	1000	38476	62.8	76.4	-13.6
Measurement uncertainty				±6 dB		

Middle frequency: CH157						
Test conditions: 2 TX , P20, MCS0						
Reference power level:					96.4 dBμV/m	
Chain1+2			Test results			
Start f	Stop f	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	76.4	-35.4
1000	5725	1000	5704	58.1	76.4	-18.3
5850	13000	1000	7018	58.4	76.4	-18.0
13000	25000	1000	17025	55.1	76.4	-21.3
25000	40000	1000	38975	61.3	76.4	-15.1
Measurement uncertainty				±6 dB		

Highest frequency: CH165						
Test conditions: 2 TX , P20, MCS0						
Reference power level:					96.4 dBμV/m	
Chain1+2			Test results			
Start f	Stop f	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	76.4	-35.4
1000	5725	1000	5272	58.9	76.4	-17.5
5850	13000	1000	6732	58.4	76.4	-18.0
13000	25000	1000	16591	55.8	76.4	-20.6
25000	40000	1000	39136	60.9	76.4	-15.5
Measurement uncertainty				±6 dB		

HT40:

Lowest frequency: CH149up						
Test conditions: 2 TX , P20, MCS8						
Reference power level:					94.0 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	74.0	-33.0
1000	5725	1000	5722	73.5	74.0	-0.5
5850	13000	1000	6682	58.6	74.0	-15.4
13000	25000	1000	16591	55.8	74.0	-18.2
25000	40000	1000	39975	62.3	74.0	-11.7
Measurement uncertainty				±6 dB		

Highest frequency: CH157up						
Test conditions: 2 TX , P20, MCS8						
Reference power level:					94.0 dBμV/m	
Chain1+2			Test results			
Start f	Stop f	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	74.0	-33.0
1000	5725	1000	5454	57.8	74.0	-16.2
5850	13000	1000	7489	58.4	74.0	-15.6
13000	25000	1000	16491	55.3	74.0	-18.7
25000	40000	1000	39989	62.5	74.0	-11.5
Measurement uncertainty				±6 dB		

5.5.4.4 Gain group 2 (9 dBi), 5 GHz range:
802.11a:

Lowest frequency: CH149						
Test conditions: 2 TX , P17, 6 Mbps						
Reference power level:					105.4 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	85.4	-44.4
1000	5725	1000	5722	67.6	85.4	-17.8
5850	13000	1000	6578	58.2	85.4	-27.2
13000	25000	1000	17120	55.9	85.4	-29.5
25000	40000	1000	39988	62.9	85.4	-22.5
Measurement uncertainty				±6 dB		

Middle frequency: CH157						
Test conditions: 2 TX , P17, 6 Mbps						
Reference power level:					105.4 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	85.4	-44.4
1000	5725	1000	5389	62.2	85.4	-23.2
5850	13000	1000	6890	59.0	85.4	-26.4
13000	25000	1000	16499	56.4	85.4	-29.0
25000	40000	1000	39897	62.4	85.4	-23.0
Measurement uncertainty				±6 dB		

Highest frequency: CH165						
Test conditions: 2 TX , P17, 6 Mbps						
Reference power level:					105.4 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	85.4	-44.4
1000	5725	1000	5400	62.9	85.4	-22.5
5850	13000	1000	5851	59.4	85.4	-26.0
13000	25000	1000	16476	56.8	85.4	-28.6
25000	40000	1000	39945	61.9	85.4	-23.5
Measurement uncertainty				±6 dB		

HT20:

Lowest frequency: CH149						
Test conditions: 2 TX , P17, MCS0						
Reference power level:					105.3 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	85.3	-44.3
1000	5725	1000	5722	67.3	85.3	-18.0
5850	13000	1000	6940	58.6	85.3	-26.7
13000	25000	1000	16526	56.7	85.3	-28.6
25000	40000	1000	39999	62.6	85.3	-22.7
Measurement uncertainty				±6 dB		

Middle frequency: CH157						
Test conditions: 2 TX , P17, MCS0						
Reference power level:					105.3 dBμV/m	
Chain1+2			Test results			
Start f	Stop f	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	85.3	-44.3
1000	5725	1000	5380	61.7	85.3	-23.6
5850	13000	1000	7370	58.8	85.3	-26.5
13000	25000	1000	16515	56.6	85.3	-28.7
25000	40000	1000	39978	62.1	85.3	-23.2
Measurement uncertainty				±6 dB		

Highest frequency: CH165						
Test conditions: 2 TX , P17, MCS0						
Reference power level:					105.3 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	85.3	-44.3
1000	5725	1000	5400	61.9	85.3	-23.4
5850	13000	1000	5850	61.5	85.3	-23.8
13000	25000	1000	17113	56.5	85.3	-28.8
25000	40000	1000	39961	61.6	85.3	-23.7
Measurement uncertainty				±6 dB		

HT40:

Lowest frequency: CH149up						
Test conditions: 2 TX , P17, MCS8						
Reference power level:					102.0 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	82.0	-41.0
1000	5725	1000	5724	72.6	82.0	-9.4
5850	13000	1000	7974	58.5	82.0	-23.5
13000	25000	1000	16496	56.7	82.0	-25.3
25000	40000	1000	39988	62.8	82.0	-19.2
Measurement uncertainty				±6 dB		

Highest frequency: CH157up						
Test conditions: 2 TX , P20, 6 Mbps						
Reference power level:					102.0 dBμV/m	
Chain1+2			Test results			
Start f	Stop f	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	82.0	-41.0
1000	5725	1000	5560	61.5	82.0	-20.5
5850	13000	1000	6716	58.8	82.0	-23.2
13000	25000	1000	16523	56.9	82.0	-25.1
25000	40000	1000	39999	62.3	82.0	-19.7
Measurement uncertainty				±6 dB		

5.5.4.5 Gain group 3 (14.2 dBi), 5 GHz range:
802.11a:

Lowest frequency: CH149						
Test conditions: 2 TX , P14, 6 Mbps						
Reference power level:					101.6 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	81.6	-40.6
1000	5725	1000	5725	60.5	81.6	-21.1
5850	13000	1000	6938	58.5	81.6	-23.1
13000	25000	1000	16523	56.7	81.6	-24.9
25000	40000	1000	38488	61.4	81.6	-20.2
Measurement uncertainty				±6 dB		

Middle frequency: CH157						
Test conditions: 2 TX , P14, 6 Mbps						
Reference power level:					101.6 dBμV/m	
Chain1+2			Test results			
Start f	Stop f	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	81.6	-40.6
1000	5725	1000	5698	60.2	81.6	-21.4
5850	13000	1000	6867	58.5	81.6	-23.1
13000	25000	1000	16518	57.4	81.6	-24.2
25000	40000	1000	38512	62.3	81.6	-19.3
Measurement uncertainty				±6 dB		

Highest frequency: CH165						
Test conditions: 2 TX , P14, 6 Mbps						
Reference power level:					101.6 dBμV/m	
Chain1+2			Test results			
Start f	Stop f	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	81.6	-40.6
1000	5725	1000	5455	60.0	81.6	-21.6
5850	13000	1000	6864	58.3	81.6	-23.3
13000	25000	1000	16695	56.5	81.6	-25.1
25000	40000	1000	38531	61.7	81.6	-19.9
Measurement uncertainty				.		

HT20:

Lowest frequency: CH149						
Test conditions: 2 TX , P14, MCS0						
Reference power level:					101.7 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	81.7	-40.7
1000	5725	1000	5725	61.9	81.7	-19.8
5850	13000	1000	7415	59.2	81.7	-22.5
13000	25000	1000	16516	56.6	81.7	-25.1
25000	40000	1000	39992	62.1	81.7	-19.6
Measurement uncertainty				±6 dB		

Middle frequency: CH157						
Test conditions: 2 TX , P14, MCS0						
Reference power level:					101.7 dBμV/m	
Chain1+2			Test results			
Start f	Stop f	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	81.7	-40.7
1000	5725	1000	5455	60.8	81.7	-20.9
5850	13000	1000	6787	59.1	81.7	-22.6
13000	25000	1000	16513	56.2	81.7	-25.5
25000	40000	1000	39963	61.4	81.7	-20.3
Measurement uncertainty				±6 dB		

Highest frequency: CH165						
Test conditions: 2 TX , P14, MCS0						
Reference power level:					101.7 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	81.7	-40.7
1000	5725	1000	5159	59.8	81.7	-21.9
5850	13000	1000	6851	59.1	81.7	-22.6
13000	25000	1000	16480	56.1	81.7	-25.6
25000	40000	1000	39931	61.8	81.7	-19.9
Measurement uncertainty				±6 dB		

HT40:

Lowest frequency: CH149up						
Test conditions: 2 TX , P14, MCS8						
Reference power level:					98.6 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	78.6	-37.6
1000	5725	1000	5723	67.7	78.6	-10.9
5850	13000	1000	7929	59.4	78.6	-19.2
13000	25000	1000	16536	56.4	78.6	-22.2
25000	40000	1000	39975	62.3	78.6	-16.3
Measurement uncertainty				±6 dB		

Highest frequency: CH157up						
Test conditions: 2 TX , P14, MCS8						
Reference power level:					98.6 dBμV/m	
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
30	1000	120	900	41.0	78.6	-37.6
1000	5725	1000	5710	59.7	78.6	-18.9
5850	13000	1000	6896	59.0	78.6	-19.6
13000	25000	1000	16564	57.1	78.6	-21.5
25000	40000	1000	39991	61.9	78.6	-16.7
Measurement uncertainty				±6 dB		

Radiated emission limits according to FCC Part 15C, Section 15.247(d):

In any 100 kHz bandwidth outside the frequency bands 2400 – 2483.50 MHz and 5725 – 5850 MHz, the digitally modulated radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or an radiated measurement.

The requirements are **FULFILLED**.

Remarks: For detailed test results please see the test protocols for emissions radiated.

Only CH1 and CH149 are listed.

5.6 Radiated emissions in restricted bands

For test instruments and accessories used see section 6 Part **SER 1**, **SER 2**, **SER 3**.

5.6.1 Description of the test location

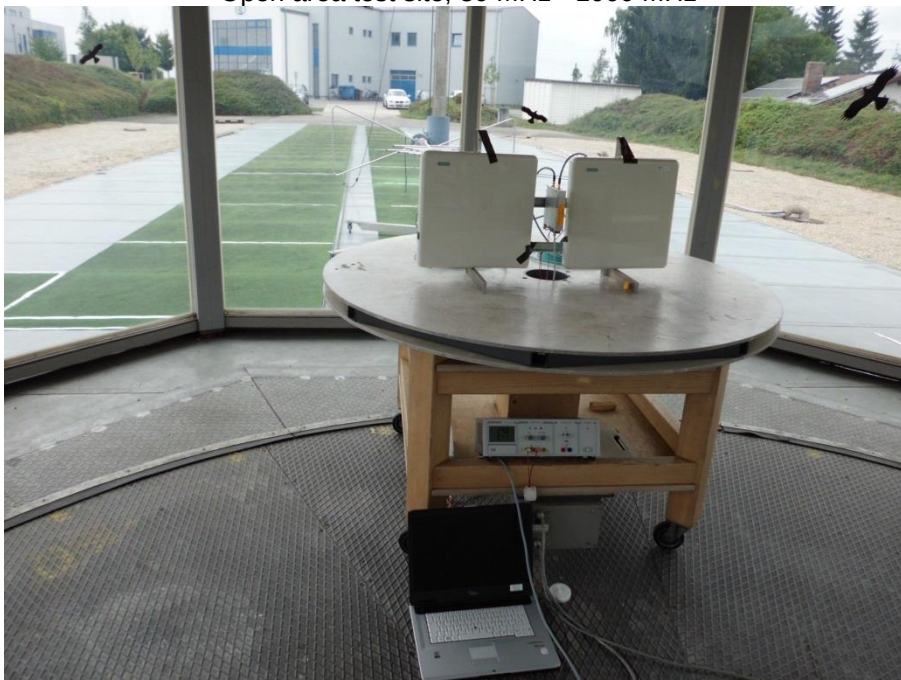
Test location: OATS 1
Test location: Anechoic chamber 2
Test distance: 3 m

5.6.2 Photo documentation of the test set-up

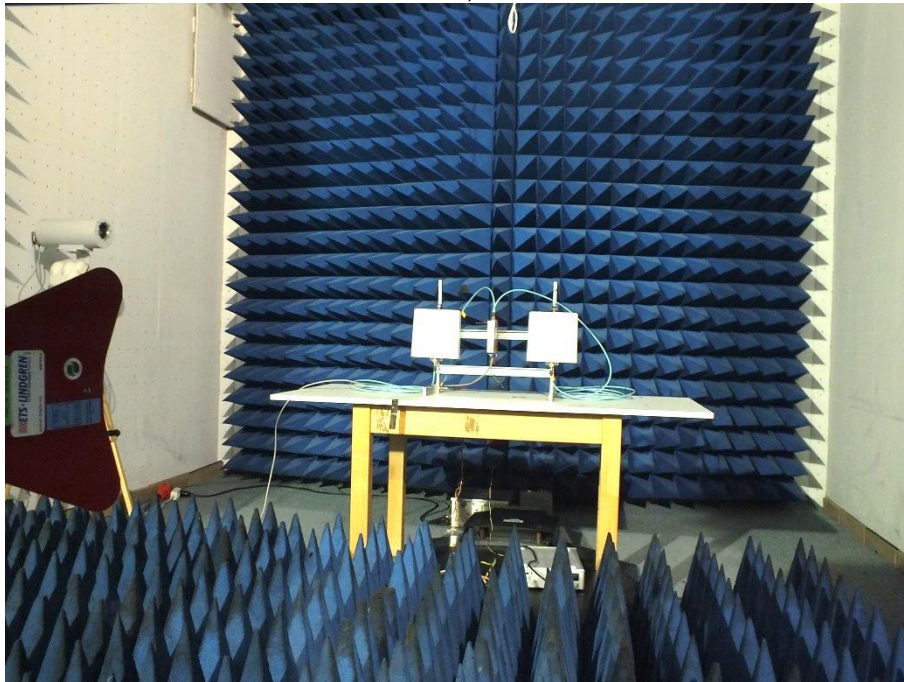
Open area test site, 9 kHz - 30 MHz



Open area test site, 30 MHz - 1000 MHz



Anechoic chamber, 1 GHz - 18 GHz



Anechoic chamber, 18 GHz - 40 GHz



5.6.3 Applicable standard

According to FCC Part 15, Section 15.247(d):

In any 100 kHz bandwidth outside the frequency bands 2400 – 2483.50 MHz and 5725 – 5850 MHz, the digitally modulated radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or an radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limit specified in Section 15.209(a) (see Section 15.205(c)).

5.6.4 Description of Measurement

The radiated power of the spurious emission from the EUT is measured in a test setup following the procedures set out in ANSI C63.4 and KDB 558074 for DTS. If the emission level of the EUT in peak mode complies with the average limit then testing will be stopped and peak values of the EUT will be reported, otherwise the emission will be measured again in average mode and reported.

Peak-measurement:

9 - 150 kHz:	RBW: 300 Hz,	VBW: 1 kHz,	Detector: Max peak,	Trace Mode: Max hold;
0.15 - 30 MHz:	RBW: 10 kHz,	VBW: 30 kHz,	Detector: Max peak,	Trace Mode: Max hold;
30 - 1000 MHz:	RBW: 120 kHz;			
1 - 40 GHz:	RBW: 1 MHz,	VBW: 3 MHz,	Detector: Max peak,	Trace Mode: Max hold;

AV-measurement according 558074 D01 DTS, Item 12.2.5.3:

RBW: 1 MHz,	VBW: $\geq 1/T$,	Detector: Max peak,	Trace Mode: Max hold,	Sweep time: auto;
For 802.11b: VBW = 300 Hz, for 802.11a, g, n HT20: VBW = 1 kHz, for 802.11n, HT40: VBW = 3 kHz;				

5.6.5 Test result
0.009 - 30 MHz:

In the frequency range 9 kHz to 30 MHz no emission could be detected!

5.6.5.1 Gain group 1 (6 dBi), 2.4 GHz range:
802.11b:

Lowest frequency: CH1						
Test conditions: 2 TX , P14, 1 Mbps						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission	Limit	Margin	
(MHz)	(MHz)	(kHz)	(MHz)	(dB μ V/m)	(dB μ V/m)	(dB)
1000	2400	1000	2388	55.3	74.0	-18.7
2483.5	4000	1000	2491	55.5	74.0	-18.5
4000	12000	1000	11982	49.5	74.0	-24.5
12000	25000	1000	16169	55.9	74.0	-18.1
Measurement uncertainty				± 6 dB		

Note: The marked emissions needs an AV-Measurement.

AV-Measurement						
Lowest frequency: CH1						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission	Limit	Margin	
(MHz)	(MHz)	(kHz)	(MHz)	(dB μ V/m)	(dB μ V/m)	(dB)
2310	2390	1000	2388	48.9	54.0	-5.1
2483.5	2500	1000	2491	47.9	54.0	-6.1
15350	16200	1000	16169	47.0	54.0	-7.0
Measurement uncertainty				± 6 dB		

Middle frequency: CH6						
Test conditions: 2 TX , P14, 1 Mbps						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission	Limit	Margin	
(MHz)	(MHz)	(kHz)	(MHz)	(dB μ V/m)	(dB μ V/m)	(dB)
1000	2400	1000	2326	56.7	74.0	-17.3
2483.5	4000	1000	3860	55.8	74.0	-18.2
4000	12000	1000	11816	50.0	74.0	-24.0
12000	25000	1000	16200	54.0	74.0	-20.0
Measurement uncertainty				± 6 dB		

AV-Measurement						
Middle frequency: CH6			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
2310	2390	1000	2386	52.8	54.0	-1.2
2483.5	2500	1000	2499	48.8	54.0	-5.2
15350	16200	1000	16200	47.6	54.0	-6.4
Measurement uncertainty			±6 dB			

Highest frequency: CH11						
Test conditions: 2 TX , P14, 1 Mbps						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	2400	1000	2330	57.1	74.0	-16.9
2483.5	4000	1000	2488	55.8	74.0	-18.2
4000	12000	1000	11328	48.8	74.0	-25.2
12000	25000	1000	15933	54.1	74.0	-19.9
Measurement uncertainty			±6 dB			

AV-Measurement						
Highest frequency: CH11			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
2310	2390	1000	2330	51.4	54.0	-2.6
2483.5	2500	1000	2488	48.2	54.0	-5.8
15350	16200	1000	15933	45.9	54.0	-8.1
Measurement uncertainty			±6 dB			

802.11g:

Lowest frequency: CH1						
Test conditions: 2 TX , P14, 6 Mbps						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	2400	1000	2389	63.4	74.0	-10.6
2483.5	4000	1000	2491	57.1	74.0	-16.9
4000	12000	1000	11776	49.6	74.0	-24.4
12000	25000	1000	16200	55.3	74.0	-18.7
Measurement uncertainty			±6 dB			

Note: The marked emissions need an AV-Measurement.

AV-Measurement						
Lowest frequency: CH1			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
2310	2390	1000	2399	50.8	54.0	-3.2
2483.5	2500	1000	2488	49.7	54.0	-4.3
15350	16200	1000	16200	47.2	54.0	-6.8
Measurement uncertainty			±6 dB			

Middle frequency: CH6						
Test conditions: 2 TX , P14, 6 Mbps						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	2400	1000	2388	56.6	74.0	-17.4
2483.5	4000	1000	3646	55.6	74.0	-18.4
4000	12000	1000	11806	50.1	74.0	-23.9
12000	25000	1000	16321	56.2	74.0	-17.8
Measurement uncertainty				±6 dB		

AV-Measurement						
Middle frequency: CH6			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
2310	2390	1000	2388	50.8	54.0	-3.2
3600	4400	1000	3646	48.1	54.0	-5.9
15350	16200	1000	15902	47.2	54.0	-6.8
Measurement uncertainty				±6 dB		

Highest frequency: CH11						
Test conditions: 2 TX , P14, 6 Mbps						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	2400	1000	2387	59.2	74.0	-14.8
2483.5	4000	1000	2499	56.1	74.0	-17.9
4000	12000	1000	11748	49.5	74.0	-24.5
12000	25000	1000	15998	55.3	74.0	-18.7
Measurement uncertainty				±6 dB		

AV-Measurement						
Highest frequency: CH11			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
2310	2390	1000	2389	50.8	54.0	-3.2
2483.5	2500	1000	2499	48.4	54.0	-5.6
15350	16200	1000	15998	46.2	54.0	-7.8
Measurement uncertainty				±6 dB		

HT20:

Lowest frequency: CH1						
Test conditions: 2 TX , P14, MCS0						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	2400	1000	2388	56.4	74.0	-17.6
2483.5	4000	1000	2493	56.9	74.0	-17.1
4000	12000	1000	11892	51.1	74.0	-22.9
12000	25000	1000	15991	55.0	74.0	-19.0
Measurement uncertainty				±6 dB		

Note: The marked emissions need an AV-Measurement.

AV-Measurement						
Lowest frequency: CH1			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
2310	2390	1000	2388	50.9	54.0	-3.1
2483.5	2500	1000	2493	50.1	54.0	-3.9
15350	16200	1000	15991	46.5	54.0	-7.5
Measurement uncertainty				±6 dB		

Middle frequency: CH6						
Test conditions: 2 TX , P14, MCS0						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	2400	1000	2380	57.4	74.0	-16.6
2483.5	4000	1000	2499	55.7	74.0	-18.3
4000	12000	1000	11756	49.9	74.0	-24.1
12000	25000	1000	15962	54.9	74.0	-19.1
Measurement uncertainty				±6 dB		

AV-Measurement						
Middle frequency: CH6			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
2310	2390	1000	2383	50.4	54.0	-3.6
2483.5	2500	1000	2499	48.4	54.0	-5.6
15350	16200	1000	15962	46.5	54.0	-7.5
Measurement uncertainty				±6 dB		

Highest frequency: CH11						
Test conditions: 2 TX , P14, MCS0						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	2400	1000	2384	58.8	74.0	-15.2
2483.5	4000	1000	2484	56.3	74.0	-17.7
4000	12000	1000	11284	48.7	74.0	-25.3
12000	25000	1000	16200	54.2	74.0	-19.8
Measurement uncertainty				±6 dB		

HT40:

AV-Measurement						
Highest frequency: CH11			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
2310	2390	1000	2374	52.3	54.0	-1.7
2483.5	2500	1000	2484	49.2	54.0	-4.8
15350	16200	1000	16200	47.0	54.0	-7.0
Measurement uncertainty			±6 dB			

Lowest frequency: CH1up						
Test conditions: 2 TX , P14, MCS8						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	2400	1000	2389	64.5	74.0	-9.5
2483.5	4000	1000	2500	56.1	74.0	-17.9
4000	12000	1000	11920	50.7	74.0	-23.3
12000	25000	1000	15950	56.4	74.0	-17.6
Measurement uncertainty			±6 dB			

Note: The marked emissions need an AV-Measurement.

AV-Measurement						
Lowest frequency: CH1up			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
2310	2390	1000	2390	46.5	54.0	-7.5
2483.5	2500	1000	2500	50.7	54.0	-3.3
15350	16200	1000	15950	47.5	54.0	-6.5
Measurement uncertainty			±6 dB			

Highest frequency: CH7up						
Test conditions: 2 TX , P14, MCS8						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	2400	1000	2383	57.5	74.0	-16.5
2483.5	4000	1000	2483.5	63.2	74.0	-10.8
4000	12000	1000	12000	51.1	74.0	-22.9
12000	25000	1000	15918	54.9	74.0	-19.1
Measurement uncertainty			±6 dB			

AV-Measurement						
Highest frequency: CH7up			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
2310	2390	1000	2389	50.9	54.0	-3.1
2483.5	2500	1000	2484	50.8	54.0	-3.2
15350	16200	1000	15918	47.5	54.0	-6.5
Measurement uncertainty			±6 dB			

5.6.5.2 Gain group 2 (9 dBi), 2.4 GHz range:
802.11b:

Lowest frequency: CH1						
Test conditions: 2 TX , P11, 1 Mbps						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	2400	1000	2388	61.6	74.0	-12.4
2483.5	4000	1000	2520	56.4	74.0	-17.6
4000	12000	1000	11914	52.2	74.0	-21.8
12000	25000	1000	15963	56.2	74.0	-17.8
Measurement uncertainty				±6 dB		

Note: The marked emissions need an AV-Measurement.

AV-Measurement						
Lowest frequency: CH1			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
2310	2390	1000	2320	52.7	54.0	-1.3
2483.5	2500	1000	2499	50.3	54.0	-3.7
15350	16200	1000	15963	47.6	54.0	-6.4
Measurement uncertainty				±6 dB		

Middle frequency: CH6						
Test conditions: 2 TX , P11, 1 Mbps						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	2400	1000	2280	56.8	74.0	-17.2
2483.5	4000	1000	2499	56.6	74.0	-17.4
4000	12000	1000	11370	52.2	74.0	-21.8
12000	25000	1000	15923	54.8	74.0	-19.2
Measurement uncertainty				±6 dB		

AV-Measurement						
Middle frequency: CH6			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
2310	2390	1000	2380	51.8	54.0	-2.2
2483.5	2500	1000	2499	50.0	54.0	-4.0
15350	16200	1000	15923	47.0	54.0	-7.0
Measurement uncertainty				±6 dB		

Highest frequency: CH11						
Test conditions: 2 TX , P11, 1 Mbps						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	2400	1000	2380	58.7	74.0	-15.3
2483.5	4000	1000	2499	57.1	74.0	-16.9
4000	12000	1000	11956	52.1	74.0	-21.9
12000	25000	1000	15947	56.4	74.0	-17.6
Measurement uncertainty				±6 dB		

AV-Measurement						
Highest frequency: CH11			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
2310	2390	1000	2380	52.5	54.0	-1.5
2483.5	2500	1000	2499	50.7	54.0	-3.3
15350	16200	1000	15947	47.2	54.0	-6.8
Measurement uncertainty				±6 dB		

802.11g:

Lowest frequency: CH1						
Test conditions: 2 TX , P11, 6 Mbps						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	2400	1000	2360	57.9	74.0	-16.1
2483.5	4000	1000	2499	57.6	74.0	-16.4
4000	12000	1000	11668	52.6	74.0	-21.4
12000	25000	1000	15970	56.1	74.0	-17.9
Measurement uncertainty				±6 dB		

Note: The marked emissions need an AV-Measurement.

AV-Measurement						
Lowest frequency: CH1			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
2310	2390	1000	2360	51.4	54.0	-2.6
2483.5	2500	1000	2499	53.1	54.0	-0.9
15350	16200	1000	15970	47.5	54.0	-6.5
Measurement uncertainty				±6 dB		

Middle frequency: CH6						
Test conditions: 2 TX , P11, 6 Mbps						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	2400	1000	2360	57.8	74.0	-16.2
2483.5	4000	1000	2499	56.8	74.0	-17.2
4000	12000	1000	11980	51.9	74.0	-22.1
12000	25000	1000	15963	56.7	74.0	-17.3
Measurement uncertainty				±6 dB		

AV-Measurement						
Middle frequency: CH6			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
2310	2390	1000	2360	52.6	54.0	-1.4
2483.5	2500	1000	2499	51.0	54.0	-3.0
15350	16200	1000	15963	46.5	54.0	-7.5
Measurement uncertainty			±6 dB			

Highest frequency: CH11						
Test conditions: 2 TX , P11, 6 Mbps						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	2400	1000	2360	58.3	74.0	-15.7
2483.5	4000	1000	2499	56.7	74.0	-17.3
4000	12000	1000	11736	53.0	74.0	-21.0
12000	25000	1000	15900	55.8	74.0	-18.2
Measurement uncertainty			±6 dB			

AV-Measurement						
Highest frequency: CH11			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
2310	2390	1000	2360	53.0	54.0	-1.0
2483.5	2500	1000	2499	50.6	54.0	-3.4
15350	16200	1000	15900	47.6	54.0	-6.4
Measurement uncertainty			±6 dB			

HT20:

Lowest frequency: CH1						
Test conditions: 2 TX , P11, MCS0						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	2400	1000	2359	58.0	74.0	-16.0
2483.5	4000	1000	2499	59.2	74.0	-14.8
4000	12000	1000	11885	54.2	74.0	-19.8
12000	25000	1000	15991	56.7	74.0	-17.3
Measurement uncertainty			±6 dB			

Note: The marked emissions need an AV-Measurement.

AV-Measurement						
Lowest frequency: CH1			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
2310	2390	1000	2360	52.5	54.0	-1.5
2483.5	2500	1000	2499	52.9	54.0	-1.1
10600	12700	1000	11885	46.1	54.0	-7.9
15350	16200	1000	15991	47.9	54.0	-6.1
Measure			±6 dB			

Middle frequency: CH6						
Test conditions: 2 TX , P11, MCS0						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	2400	1000	2360	56.4	74.0	-17.6
2483.5	4000	1000	2499	56.5	74.0	-17.5
4000	12000	1000	11873	52.5	74.0	-21.5
12000	25000	1000	16056	56.2	74.0	-17.8
Measurement uncertainty				±6 dB		

AV-Measurement						
Middle frequency: CH6			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
2310	2390	1000	2360	51.7	54.0	-2.3
2483.5	2500	1000	2499	50.8	54.0	-3.2
15350	16200	1000	16056	46.9	54.0	-7.1
Measurement uncertainty				±6 dB		

Highest frequency: CH11						
Test conditions: 2 TX , P11, MCS0						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	2400	1000	2380	58.7	74.0	-15.3
2483.5	4000	1000	2499	56.9	74.0	-17.1
4000	12000	1000	11922	52.0	74.0	-22.0
12000	25000	1000	15860	56.2	74.0	-17.8
Measurement uncertainty				±6 dB		

AV-Measurement						
Highest frequency: CH11			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
2310	2390	1000	2380	52.7	54.0	-1.3
2483.5	2500	1000	2499	51.0	54.0	-3.0
15350	16200	1000	15860	47.0	54.0	-7.0
Measurement uncertainty				±6 dB		

HT40:

Lowest frequency: CH1up						
Test conditions: 2 TX , P11, MCS8						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	2400	100	2389	60.0	74.0	-14.0
2483.5	4000	1000	2499	58.7	74.0	-15.3
4000	12000	1000	11968	52.5	74.0	-21.5
12000	25000	1000	15977	56.0	74.0	-18.0
Measurement uncertainty				±6 dB		

Note: The marked emissions need an AV-Measurement.

AV-Measurement						
Lowest frequency: CH1up			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
2310	2390	1000	2360	51.6	54.0	-2.4
2483.5	2500	1000	2499	52.2	54.0	-1.8
15350	16200	1000	15977	47.7	54.0	-6.3
Measurement uncertainty				±6 dB		

Highest frequency: CH7up						
Test conditions: 2 TX , P11, MCS8						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	2400	1000	2359	57.0	74.0	-17.0
2483.5	4000	1000	2483.5	62.2	74.0	-11.8
4000	12000	1000	11984	52.0	74.0	-22.0
12000	25000	1000	15941	54.8	74.0	-19.2
Measurement uncertainty				±6 dB		

AV-Measurement						
Highest frequency: CH7up			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
2310	2390	1000	2360	51.4	54.0	-2.6
2483.5	2500	1000	2483.5	52.3	54.0	-1.7
15350	16200	1000	15941	47.9	54.0	-6.1
Measurement uncertainty				±6 dB		

5.6.5.3 Gain group 1 (6 dBi), 5 GHz range:
802.11a:

Lowest frequency: CH149						
Test conditions: 2 TX , P20, 6 Mbps						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5345	59.0	74.0	-15.0
5850	13000	1000	7278	58.7	74.0	-15.3
13000	40000	1000	15830	54.7	74.0	-19.3
Measurement uncertainty				±6 dB		

AV-Measurement						
Lowest frequency: CH149			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5345	46.0	54.0	-8.0
7250	7750	1000	7278	50.3	54.0	-3.7
15350	16200	1000	15830	46.8	54.0	-7.2
Measurement uncertainty				±6 dB		

Middle frequency: CH157						
Test conditions: 2 TX , P20, 6 Mbps						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5406	57.6	74.0	-16.4
5850	13000	1000	7250	58.7	74.0	-15.3
13000	40000	1000	15719	54.3	74.0	-19.7
Measurement uncertainty				±6 dB		

AV-Measurement						
Middle frequency: CH157			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5406	50.0	54.0	-4.0
7250	7750	1000	7250	51.1	54.0	-2.9
15350	16200	1000	15719	46.4	54.0	-7.6
Measurement uncertainty				±6 dB		

Highest frequency: CH165						
Test conditions: 2 TX , P20, 6 Mbps						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5350	58.6	74.0	-15.4
5850	13000	1000	7316	58.7	74.0	-15.3
13000	40000	1000	15740	54.4	74.0	-19.6
Measurement uncertainty				±6 dB		

AV-Measurement						
Highest frequency: CH165			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5350	50.2	54.0	-3.8
7250	7750	1000	7316	52.0	54.0	-2.0
15350	16200	1000	15740	46.3	54.0	-7.7
Measurement uncertainty			±6 dB			

HT20:

Lowest frequency: CH149						
Test conditions: 2 TX , P20, MCS0						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5440	57.6	74.0	-16.4
5850	13000	1000	7250	58.5	74.0	-15.5
13000	40000	1000	15986	55.7	74.0	-18.3
Measurement uncertainty			±6 dB			

AV-Measurement						
Lowest frequency: CH149			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5440	45.0	54.0	-9.0
7250	7750	1000	7250	51.9	54.0	-2.1
15350	16200	1000	15986	47.0	54.0	-7.0
Measurement uncertainty			±6 dB			

Middle frequency: CH157						
Test conditions: 2 TX , P20, MCS0						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5350	58.1	74.0	-15.9
5850	13000	1000	7250	57.4	74.0	-16.6
13000	40000	1000	16025	55.1	74.0	-18.9
Measurement uncertainty			±6 dB			

AV-Measurement						
Middle frequency: CH157			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5350	50.0	54.0	-4.0
7250	7750	1000	7250	52.1	54.0	-1.9
15350	16200	1000	16025	46.6	54.0	-7.4
Measurement uncertainty			±6 dB			

Highest frequency: CH165						
Test conditions: 2 TX , P20, MCS0						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5374	57.9	74.0	-16.1
5850	13000	1000	7250	58.4	74.0	-15.6
13000	40000	1000	16191	54.3	74.0	-19.7
Measurement uncertainty				±6 dB		

AV-Measurement						
Highest frequency: CH165			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5374	49.5	54.0	-4.5
7250	7750	1000	7250	52.2	54.0	-1.8
15350	16200	1000	16191	47.0	54.0	-7.0
Measurement uncertainty				±6 dB		

HT40:

Lowest frequency: CH149up						
Test conditions: 2 TX , P20, MCS8						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5396	73.5	74.0	-0.5
5850	13000	1000	7430	58.6	74.0	-15.4
13000	40000	1000	16091	54.1	74.0	-19.9
Measurement uncertainty				±6 dB		

AV-Measurement						
Lowest frequency: CH149up			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5396	49.8	54.0	-4.2
7250	7750	1000	7430	52.3	54.0	-1.7
15350	16200	1000	16091	46.0	54.0	-8.0
Measurement uncertainty				±6 dB		

Highest frequency: CH157up						
Test conditions: 2 TX , P20, MCS8						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5454	57.8	74.0	-16.2
5850	13000	1000	7489	58.4	74.0	-15.6
13000	40000	1000	15691	55.3	74.0	-18.7
Measurement uncertainty				±6 dB		

AV-Measurement						
Highest frequency: CH157up			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5454	50.7	54.0	-3.3
7250	7750	1000	7489	51.7	54.0	-2.3
15350	16200	1000	15691	46.1	54.0	-7.9
Measurement uncertainty			±6 dB			

5.6.5.4 Gain group 2 (9 dBi), 5 GHz range:
802.11a:

Lowest frequency: CH149						
Test conditions: 2 TX , P17, 6 Mbps						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5400	62.6	74.0	-11.4
5850	13000	1000	7290	58.4	74.0	-15.6
13000	40000	1000	15988	55.7	74.0	-18.3
Measurement uncertainty			±6 dB			

AV-Measurement						
Lowest frequency: CH149			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5400	53.7	54.0	-0.3
7250	7750	1000	7290	52.2	54.0	-1.8
15350	16200	1000	15988	48.3	54.0	-5.7
Measurement uncertainty			±6 dB			

Middle frequency: CH157						
Test conditions: 2 TX , P17, 6 Mbps						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5389	62.2	74.0	-11.8
5850	13000	1000	7250	58.0	74.0	-16.0
13000	40000	1000	16015	54.5	74.0	-19.5
Measurement uncertainty			±6 dB			

AV-Measurement						
Middle frequency: CH157			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5389	53.4	54.0	-0.6
7250	7750	1000	7250	51.7	54.0	-2.3
15350	16200	1000	16015	46.9	54.0	-7.1
Measurement uncertainty			±6 dB			

Highest frequency: CH165						
Test conditions: 2 TX , P17, 6 Mbps						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5400	62.9	74.0	-11.1
5850	13000	1000	7325	58.3	74.0	-15.7
13000	40000	1000	16029	55.4	74.0	-18.6
Measurement uncertainty				±6 dB		

AV-Measurement						
Highest frequency: CH165			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5400	51.7	54.0	-2.3
7250	7750	1000	7325	52.1	54.0	-1.9
15350	16200	1000	16029	47.8	54.0	-6.2
Measurement uncertainty				±6 dB		

HT20:

Lowest frequency: CH149						
Test conditions: 2 TX , P17, MCS0						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5398	60.6	74.0	-13.4
5850	13000	1000	7250	57.6	74.0	-16.4
13000	40000	1000	15987	55.1	74.0	-18.9
Measurement uncertainty				±6 dB		

AV-Measurement						
Lowest frequency: CH149			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5398	53.8	54.0	-0.2
7250	7750	1000	7250	51.3	54.0	-2.7
15350	16200	1000	15987	47.0	54.0	-7.0
Measurement uncertainty				±6 dB		

Middle frequency: CH157						
Test conditions: 2 TX , P17, MCS0						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5400	61.7	74.0	-12.3
5850	13000	1000	7370	58.8	74.0	-15.2
13000	40000	1000	15923	54.2	74.0	-19.8
Measurement uncertainty				±6 dB		

AV-Measurement						
Middle frequency: CH157			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5400	51.5	54.0	-2.5
7250	7750	1000	7704	52.4	54.0	-1.6
15350	16200	1000	15923	47.2	54.0	-6.8
Measurement uncertainty			±6 dB			

Highest frequency: CH165						
Test conditions: 2 TX , P17, MCS0						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5400	61.9	74.0	-12.1
5850	13000	1000	7650	59.1	74.0	-14.9
13000	40000	1000	16028	55.0	74.0	-19.0
Measurement uncertainty			±6 dB			

AV-Measurement						
Highest frequency: CH165			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5400	51.5	54.0	-2.5
7250	7750	1000	7650	51.2	54.0	-2.8
15350	16200	1000	16028	47.6	54.0	-6.4
Measurement uncertainty			±6 dB			

HT40:

Lowest frequency: CH149up						
Test conditions: 2 TX , P17, MCS8						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5359	60.6	74.0	-13.4
5850	13000	1000	7290	58.5	74.0	-15.5
13000	40000	1000	15988	56.7	74.0	-17.3
Measurement uncertainty			±6 dB			

AV-Measurement						
Lowest frequency: CH149up			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5360	53.0	54.0	-1.0
7250	7750	1000	7290	52.2	54.0	-1.8
15350	16200	1000	15988	48.3	54.0	-5.7
Measurement uncertainty			±6 dB			

Highest frequency: CH157up						
Test conditions: 2 TX , P17, MCS8						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5360	61.5	74.0	-12.5
5850	13000	1000	7250	58.1	74.0	-15.9
13000	40000	1000	16021	54.2	74.0	-19.8
Measurement uncertainty				±6 dB		

AV-Measurement						
Highest frequency: CH157up			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5360	52.2	54.0	-1.8
7250	7750	1000	7250	51.3	54.0	-2.7
15350	16200	1000	16021	48.3	54.0	-5.7
Measurement uncertainty				±6 dB		

5.6.5.5 Gain group 3 (14.2 dBi), 5 GHz range:
802.11a:

Lowest frequency: CH149						
Test conditions: 2 TX , P14, 6 Mbps						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5400	57.2	74.0	-16.8
5850	13000	1000	7250	57.5	74.0	-16.5
13000	40000	1000	16023	54.4	74.0	-19.6
Measurement uncertainty				±6 dB		

AV-Measurement						
Lowest frequency: CH149			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5400	50.1	54.0	-3.9
7250	7750	1000	7250	51.3	54.0	-2.7
15350	16200	1000	16023	47.3	54.0	-6.7
Measurement uncertainty				±6 dB		

Middle frequency: CH157						
Test conditions: 2 TX , P14, 6 Mbps						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5400	58.0	74.0	-16.0
5850	13000	1000	7350	58.1	74.0	-15.9
13000	40000	1000	16068	55.4	74.0	-18.6
Measurement uncertainty				±6 dB		

AV-Measurement						
Middle frequency: CH157			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5400	52.3	54.0	-1.7
7250	7750	1000	7350	52.1	54.0	-1.9
15350	16200	1000	16068	46.9	54.0	-7.1
Measurement uncertainty			±6 dB			

Highest frequency: CH165						
Test conditions: 2 TX , P14, 6 Mbps						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5455	60.0	74.0	-14.0
5850	13000	1000	7300	57.3	74.0	-16.7
13000	40000	1000	16095	54.6	74.0	-19.4
Measurement uncertainty			±6 dB			

AV-Measurement						
Highest frequency: CH165			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5455	52.8	54.0	-1.2
7250	7750	1000	7300	51.8	54.0	-2.2
15350	16200	1000	16095	46.3	54.0	-7.7
Measurement uncertainty			±6 dB			

HT20:

Lowest frequency: CH149						
Test conditions: 2 TX , P14, MCS0						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5455	57.9	74.0	-16.1
5850	13000	1000	7415	59.2	74.0	-14.8
13000	40000	1000	15983	54.8	74.0	-19.2
Measurement uncertainty			±6 dB			

AV-Measurement						
Lowest frequency: CH149			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5455	50.9	54.0	-3.1
7250	7750	1000	7415	51.0	54.0	-3.0
15350	16200	1000	15983	47.2	54.0	-6.8
Measurement uncertainty			±6 dB			

Middle frequency: CH157						
Test conditions: 2 TX , P14, MCS0						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5455	60.8	74.0	-13.2
5850	13000	1000	7270	58.1	74.0	-15.9
13000	40000	1000	16013	54.6	74.0	-19.4
Measurement uncertainty				±6 dB		

AV-Measurement						
Middle frequency: CH157			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5455	52.8	54.0	-1.2
7250	7750	1000	7270	52.1	54.0	-1.9
15350	16200	1000	15780	47.0	54.0	-7.0
Measurement uncertainty				±6 dB		

Highest frequency: CH165						
Test conditions: 2 TX , P14, MCS0						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5456	58.8	74.0	-15.2
5850	13000	1000	7359	58.1	74.0	-15.9
13000	40000	1000	15780	56.1	74.0	-17.9
Measurement uncertainty				±6 dB		

AV-Measurement						
Highest frequency: CH165			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5456	52.5	54.0	-1.5
7250	7750	1000	7359	51.5	54.0	-2.5
15350	16200	1000	15780	47.4	54.0	-6.6
Measurement uncertainty				±6 dB		

HT40:

Lowest frequency: CH149up						
Test conditions: 2 TX , P14, MCS8						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5458	58.3	74.0	-15.7
5850	13000	1000	7329	58.4	74.0	-15.6
13000	40000	1000	16136	55.3	74.0	-18.7
Measurement uncertainty				±6 dB		

AV-Measurement						
Lowest frequency: CH149up			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5400	50.6	54.0	-3.4
7250	7750	1000	7329	52.1	54.0	-1.9
15350	16200	1000	15936	48.2	54.0	-5.8
Measurement uncertainty				±6 dB		

Highest frequency: CH157up						
Test conditions: 2 TX , P14, MCS8						
Chain1+2			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
1000	5725	1000	5401	59.2	74.0	-14.8
5850	13000	1000	7250	57.0	74.0	-17.0
13000	40000	1000	15964	56.1	74.0	-17.9
Measurement uncertainty				±6 dB		

AV-Measurement						
Highest frequency: CH157up			Test results			
Start <i>f</i>	Stop <i>f</i>	RBW	Maximum emission		Limit	Margin
(MHz)	(MHz)	(kHz)	(MHz)	(dBμV/m)	(dBμV/m)	(dB)
5350	5460	1000	5456	52.4	54.0	-1.6
7250	7750	1000	7250	51.8	54.0	-2.2
15350	16200	1000	15964	47.3	54.0	-6.7
Measurement uncertainty				±6 dB		

Radiated emission limits according to FCC Part 15C, Section 15.209(a):

Frequency (MHz)	Field strength of spurious emissions		Measurement distance
	(μV/m)	dB(μV/m)	(metres)
0.009-0.490	2400/F (kHz)		300
0.490-1.705	24000/F (kHz)		30
1.705-30	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

Restricted bands of operation:

The field strength of emissions in these frequency bands shall not exceed the limits in Section 15.209

MHz	MHz	MHz	GHz
0.090 – 0.110	16.42 – 16.423	399.9 – 410	4.5 – 5.15
0.495 – 0.505	16.69475 – 16.69525	608 – 614	5.35 – 5.46
2.1735 – 2.1905	16.80425 – 16.80475	960 – 1240	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1300 – 1427	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1435 – 1626.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1645.5 – 1646.5	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1660 – 1710	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	1718.8 – 1722.2	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2200 – 2300	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2310 – 2390	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2483.5 – 2500	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	2690 – 2900	22.01 – 23.12
8.41425 – 8.41475	162.0125 – 167.17	3260 – 3267	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3332 – 3339	31.2 – 31.8
12.51975 – 12.52025	240 – 285	3345.8 – 3358	36.43 – 36.5
12.57675 – 12.57725	322 – 335.4	3600 – 4400	Above 38.6

The requirements are **FULFILLED**.

Remarks: For detailed test results please see the following test protocols. CH1 and CH149 are listed only.

5.6.6 Test protocols of spurious emissions radiated - see attachment D

5.6.7 Test protocols of spurious emissions radiated 5 GHz range - see attachment D

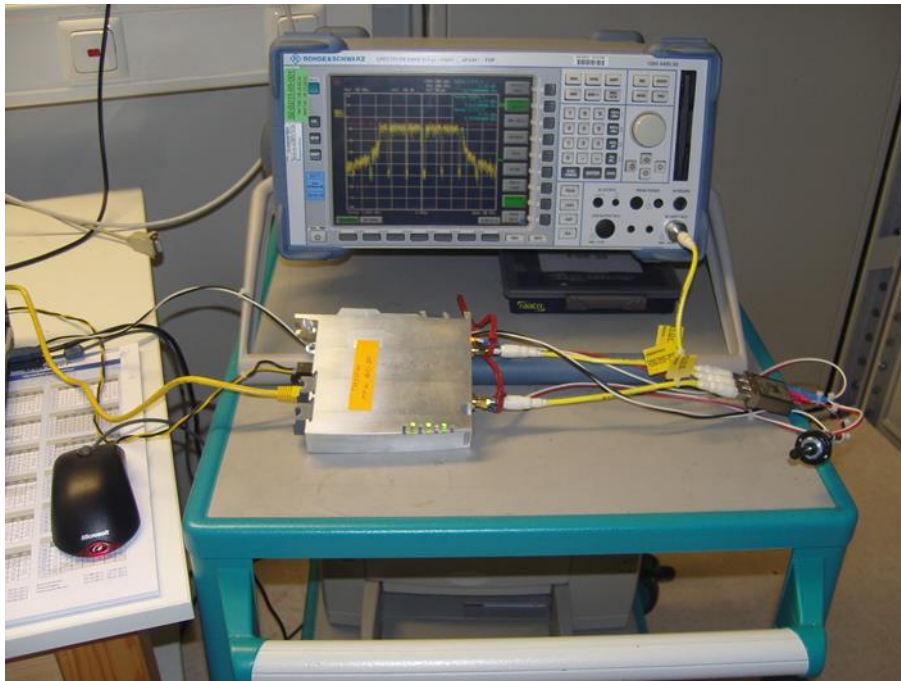
5.7 CDD functionality

For test instruments and accessories used see section 6 Part **CPC 3**.

5.7.1 Description of the test location

Test location: AREA 4

5.7.2 Photo documentation of the test set-up



5.7.3 Applicable standard

According to FCC KDB 662911 D01, accounting for directional and array gain.

5.7.4 Description of Measurement

The CCD functionality is measured with the spectrum analyser. The different amplitude level of the transmission modes are stored with different traces.

5.7.5 Test result

Array gain:

The only correlated signal is sent in legacy mode. The spurious emission measurement is made radiated. Therefore it is accounted for the array gain.

Directional gain:

The directional gain calculation for in-band measurements:

If any transmit signals are correlated with each other,

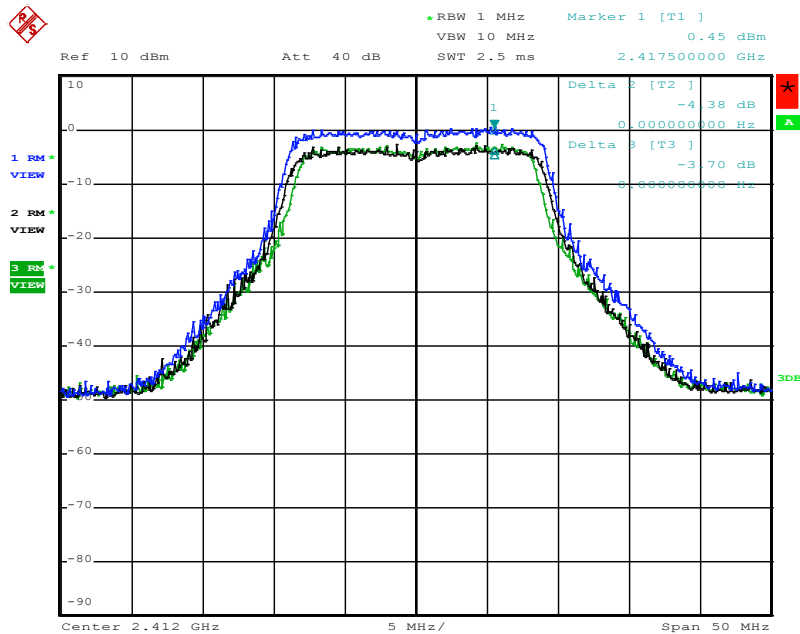
$$\text{Directional gain} = G_{\text{ANT}} + 10 \log (N_{\text{ANT}}) \text{ dBi};$$

If all transmit signals are completely uncorrelated with each other,

$$\text{Directional gain} = G_{\text{ANT}}$$

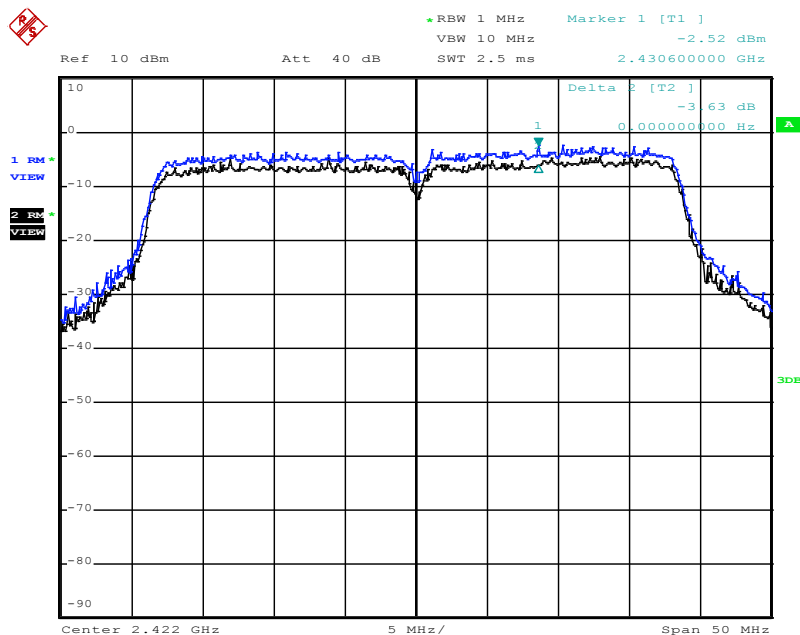
The directional gain appears when the transmission rate fall back from dual stream transmission to one stream or legacy mode. In this case the EUT reduce the output power 3 dB in order to be at the same as before.

802.11n, HT20, MCS15 to MCS7 or to 6 Mbps (P14)
CH1



Trace1 (blue) MCS15;
Trace2 (black) MCS7;
Trace3 (green) 6 Mbps;

802.11n, HT40, MCS15 to MCS7 (P14)
CH1up



Trace1 (blue) MCS15;
Trace2 (black) MCS7;

Frequency range 5725 – 5850 MHz:

For ease of implementation MSN allows for a 3db beamforming gain in all possible data rates from MCS0...MCS15 if two antennas are used, although for MCS8...MCS15 this would not be necessary. Therefore no CDD fallback implementation is necessary.

The implementation is as follows:

The TX power check calculates if the EIRP including 3dB beamforming gain exceeds the allowed EIRP limits for the respective frequency band and indicates in this case that the TX power must be reduced in order stay within the allowed EIRP limit.

The requirements are **FULFILLED**.

Remarks:

5.8 Maximum permissible exposure (MPE)

For test instruments and accessories used see section 6 Part **CPC 3**.

5.8.1 Description of the test location

Test location: AREA4

5.8.2 Applicable standard

According to FCC Part 15, Section 15.247(i):

Systems operating under the provisions of this section shall be operated in a manner that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines.

The test methods used comply with ANSI/IEEE C95.1, "IEEE Standard for Safety Levels with respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz".

This test report shows the compliance with the limits for Maximum Permissible Exposure (MPE) specified in FCC Part 1, Section 1.1310 and the criteria to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in FCC Part 1, Section 1.1307(b).

5.8.3 Description of Measurement

The maximum total power input to the antenna has been measured conducted as described in clause 5.3 of this document. Through the Friis transmission formula, the known maximum gain of the antenna and the maximum power, can be calculated the MPE in a defined distance away from the product.

Friis transmission formula:

$$P_d = \frac{P_{out} * G}{4 * \pi * r^2}$$

where

P_d = power density (mW/cm²)

P_{out} = output power to antenna (mW)

G = gain of antenna (linear scale)

r = distance between antenna and observation point (cm)

According to FCC Rules 47CFR 2.1093(b) the EUT is not a portable device. The EUT is designed to be used that radiating structures are 20 cm outside of the body of the user. ($r = 20$ cm)

5.8.4 Test result
Gain group 1:
WLAN Standard 802.11b, 1 Mbps, 2 TX chains, highest power level

Channel No.	Power	A1 + A2 (dBm)	Antgain (dBi)	A (mW)	G linear	P (W)	S (mW/cm ²)	Limit S _{eq} (mW/cm ²)
1	P14	13.3	6.0	21.19	3.98	0.0843	0.0168	1.0
6	P14	13.0	6.0	19.84	3.98	0.0790	0.0157	1.0
11	P14	12.9	6.0	19.32	3.98	0.0769	0.0153	1.0

WLAN Standard 802.11g, 6 Mbps, 2 TX chains, highest power level

Channel No.	Power	A1 + A2 (dBm)	Antgain (dBi)	A (mW)	G linear	P (W)	S (mW/cm ²)	Limit S _{eq} (mW/cm ²)
1	P14	12.5	6.0	17.84	3.98	0.0710	0.0141	1.0
6	P14	12.5	6.0	17.87	3.98	0.0711	0.0142	1.0
11	P14	12.2	6.0	16.64	3.98	0.0662	0.0132	1.0

WLAN Standard 802.11n, HT20, MCS0, 2 TX chains, highest power level

Channel No.	Power	A1 + A2 (dBm)	Antgain (dBi)	A (mW)	G linear	P (W)	S (mW/cm ²)	Limit S _{eq} (mW/cm ²)
1	P14	12.3	6.0	17.10	3.98	0.0681	0.0135	1.0
6	P14	11.9	6.0	15.35	3.98	0.0611	0.0122	1.0
11	P14	12.3	6.0	17.10	3.98	0.0681	0.0135	1.0

WLAN Standard 802.11n, HT40, MCS8, 2 TX chains, highest power level

Channel No.	Power	A1 + A2 (dBm)	Antgain (dBi)	A (mW)	G linear	P (W)	S (mW/cm ²)	Limit S _{eq} (mW/cm ²)
1up	P14	11.1	6.0	12.96	3.98	0.0516	0.0103	1.0
7up	P14	10.8	6.0	12.10	3.98	0.0482	0.0096	1.0

WLAN Standard 802.11a, 6 Mbps, 2 TX chains, highest power level

Channel No.	Power	A1 + A2 (dBm)	Antgain (dBi)	A (mW)	G linear	P (W)	S (mW/cm ²)	Limit S _{eq} (mW/cm ²)
149	P20	18.2	6.0	66.30	3.98	0.2639	0.0525	1.0
157	P20	18.0	6.0	63.31	3.98	0.2521	0.0501	1.0
165	P20	17.6	6.0	57.02	3.98	0.2270	0.0452	1.0

WLAN Standard 802.11n, HT20, MCS0, 2 TX chains, highest power level

Channel No.	Power	A1 + A2 (dBm)	Antgain (dBi)	A (mW)	G linear	P (W)	S (mW/cm ²)	Limit S _{eq} (mW/cm ²)
149	P20	18.2	6.0	65.51	3.98	0.2608	0.0519	1.0
157	P20	18.1	6.0	64.72	3.98	0.2576	0.0513	1.0
165	P20	17.8	6.0	60.40	3.98	0.2405	0.0478	1.0

WLAN Standard 802.11n, HT40, MCS8, 2 TX chains, highest power level

Channel No.	Power	A1 + A2 (dBm)	Antgain (dBi)	A (mW)	G linear	P (W)	S (mW/cm ²)	Limit S _{eq} (mW/cm ²)
149up	P20	17.7	6.0	59.04	3.98	0.2350	0.0468	1.0
157up	P20	17.3	6.0	53.83	3.98	0.2143	0.0426	1.0

Gain group 2:
WLAN Standard 802.11b, 1 Mbps, 2 TX chains, highest power level

Channel No.	Power	A1 + A2 (dBm)	Antgain (dBi)	A (mW)	G linear	P (W)	S (mW/cm ²)	Limit S _{eq} (mW/cm ²)
1	P11	9.9	9.0	9.69	7.94	0.0770	0.0153	1.0
6	P11	9.8	9.0	9.61	7.94	0.0764	0.0152	1.0
11	P11	9.9	9.0	9.82	7.94	0.0780	0.0155	1.0

WLAN Standard 802.11g, 6 Mbps, 2 TX chains, highest power level

Channel No.	Power	A1 + A2 (dBm)	Antgain (dBi)	A (mW)	G linear	P (W)	S (mW/cm ²)	Limit S _{eq} (mW/cm ²)
1	P11	9.0	9.0	7.88	7.94	0.0626	0.0124	1.0
6	P11	9.3	9.0	8.55	7.94	0.0679	0.0135	1.0
11	P11	9.1	9.0	8.06	7.94	0.0640	0.0127	1.0

WLAN Standard 802.11n, HT20, MCS0, 2 TX chains, highest power level

Channel No.	Power	A1 + A2 (dBm)	Antgain (dBi)	A (mW)	G linear	P (W)	S (mW/cm ²)	Limit S _{eq} (mW/cm ²)
1	P11	8.9	9.0	7.78	7.94	0.0618	0.0123	1.0
6	P11	9.0	9.0	7.96	7.94	0.0633	0.0126	1.0
11	P11	9.2	9.0	8.26	7.94	0.0656	0.0130	1.0

WLAN Standard 802.11n, HT40, MCS8, 2 TX chains, highest power level

Channel No.	Power	A1 + A2 (dBm)	Antgain (dBi)	A (mW)	G linear	P (W)	S (mW/cm ²)	Limit S _{eq} (mW/cm ²)
1up	P11	7.8	9.0	5.98	7.94	0.0475	0.0094	1.0
7up	P11	7.8	9.0	6.07	7.94	0.0482	0.0096	1.0

WLAN Standard 802.11a, 6 Mbps, 2 TX chains, highest power level

Channel No.	Power	A1 + A2 (dBm)	Antgain (dBi)	A (mW)	G linear	P (W)	S (mW/cm ²)	Limit S _{eq} (mW/cm ²)
149	P17	15.6	9.0	36.26	7.94	0.2880	0.0573	1.0
157	P17	15.6	9.0	36.19	7.94	0.2875	0.0572	1.0
165	P17	15.1	9.0	32.07	7.94	0.2547	0.0507	1.0

WLAN Standard 802.11n, HT20, MCS0, 2 TX chains, highest power level

Channel No.	Power	A1 + A2 (dBm)	Antgain (dBi)	A (mW)	G linear	P (W)	S (mW/cm ²)	Limit S _{eq} (mW/cm ²)
149	P17	15.6	9.0	36.00	7.94	0.2859	0.0569	1.0
157	P17	15.9	9.0	39.01	7.94	0.3098	0.0616	1.0
165	P17	15.2	9.0	33.20	7.94	0.2637	0.0525	1.0

WLAN Standard 802.11n, HT40, MCS8, 2 TX chains, highest power level

Channel No.	Power	A1 + A2 (dBm)	Antgain (dBi)	A (mW)	G linear	P (W)	S (mW/cm ²)	Limit S _{eq} (mW/cm ²)
149up	P17	14.8	9.0	29.97	7.94	0.2381	0.0474	1.0
157up	P17	14.9	9.0	30.62	7.94	0.2433	0.0484	1.0

Gain group 3:
WLAN Standard 802.11a, 6 Mbps, 2 TX chains, highest power level

Channel No.	Power	A1 + A2 (dBm)	Antgain (dBi)	A (mW)	G linear	P (W)	S (mW/cm ²)	Limit S _{eq} (mW/cm ²)
149	P14	13.0	14.2	19.84	26.30	0.5217	0.1038	1.0
157	P14	13.2	14.2	20.70	26.30	0.5446	0.1083	1.0
165	P14	12.7	14.2	18.45	26.30	0.4854	0.0966	1.0

WLAN Standard 802.11n, HT20, MCS0, 2 TX chains, highest power level

Channel No.	Power	A1 + A2 (dBm)	Antgain (dBi)	A (mW)	G linear	P (W)	S (mW/cm ²)	Limit S _{eq} (mW/cm ²)
149	P14	12.6	14.2	18.04	26.30	0.4746	0.0944	1.0
157	P14	12.9	14.2	19.55	26.30	0.5142	0.1023	1.0
165	P14	12.8	14.2	19.12	26.30	0.5029	0.1001	1.0

WLAN Standard 802.11n, HT40, MCS8, 2 TX chains, highest power level

Channel No.	Power	A1 + A2 (dBm)	Antgain (dBi)	A (mW)	G linear	P (W)	S (mW/cm ²)	Limit S _{eq} (mW/cm ²)
149up	P14	11.7	14.2	14.67	26.30	0.3857	0.0767	1.0
157up	P14	11.8	14.2	15.18	26.30	0.3992	0.0794	1.0

Limits for maximum permissible exposure (MPE):

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(B) Limits for General Population / Uncontrolled Exposure				
0.3 – 3.0	614	1.63	100	30
3.0 – 30	824/f	2.19/f	180/f ²	30
30 - 300	27.5	0.073	0.2	30
300-1500	---	---	f/1500	30
1500-100000	---	---	1.0	30

f = Frequency in MHz

The requirements are **FULFILLED**.

Remarks:

5.9 Co-location and co-transmission

Applicable standard:

OET Bulletin 65, Edition 97-01, Section 2: Multiple-transmitter sites and Complex Environments

There is only one transmitter, there is no co-location issue.

Remarks:

5.10 Antenna application

5.10.1 Applicable standard

According to FCC Part 15C, Section 15.203:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit that broken antennas can be replaced by the user, but the use of a standard antenna jack is prohibited.

The listed antennas shall be used with the device. The EUT has R-SMA connectors and has to be professionally installed. All supplied antennas meet the requirements of part 15.203 and 15.204.

5.10.2 Antenna requirements

According to FCC Part 15C, Section 15.247(b)(4):

The conducted output power limit specified in paragraph (b) of 15.247 is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from intentional radiator shall be reduced below the stated values in paragraph (b)(1), (b)(2) and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Defacto EIRP-Limit:

2.4 GHz:

Antenna	G _x (dBi)	Cond. limit (dBm)	G (dBi)	A _{max} (dBm)	Limit P _{out} (dBm)	Reduction (dB)	P set 2.4 GHz
ANT 795-6DC	9.0	30.0	6.0	9.9	27.0	-17.1	P11
ANT 795-6MN	6.0	30.0	6.0	13.3	30.0	-16.7	P14
ANT 792-6MN	6.0	30.0	6.0	13.3	30.0	-16.7	P14
ANT 792-4DN	4.0	30.0	6.0	13.3	32.0	-18.7	P14
ANT795-4MD	3.0	30.0	6.0	13.3	33.0	-19.7	P14
ANT795-4MC	3.0	30.0	6.0	13.3	33.0	-19.7	P14
ANT 795-4MA	3.0	30.0	6.0	13.3	33.0	-19.7	P14
IWLAN Rcoax 1/2"	0.0	30.0	6.0	13.3	36.0	-22.7	P14

5 GHz:

Antenna	Gx	Cond. limit	G	Amax	Limit P _{out}	Reduction	P set
	(dBi)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)	5 GHz
ANT 793-8DK	14.2	30.0	6.0	13.2	21.8	-8.6	P14
ANT 793-8DJ	13.6	30.0	6.0	13.2	22.4	-9.2	P14
ANT793-8DP	13.5	30.0	6.0	13.2	22.5	-9.3	P14
Antenna	Gx	Cond. limit	G	Amax	Limit P _{out}	Reduction	P set
	(dBi)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)	5 GHz
ANT793-6DG	9.0	30.0	6.0	15.9	27.0	-11.1	P17
Antenna	Gx	Cond. limit	G	Amax	Limit P _{out}	Reduction	P set
	(dBi)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)	5 GHz
ANT 793-4MN	6.0	30.0	6.0	18.2	30.0	-11.8	P20
ANT 793-6MN	5.0	30.0	6.0	18.2	31.0	-12.8	P20
IWLAN Rcoax 1/2"	0.0	30.0	6.0	18.2	36.0	-17.8	P20
ANT 795-6DC	9.0	30.0	6.0	18.2	27.0	-8.8	P20
ANT 795-6MN	8.0	30.0	6.0	18.2	28.0	-9.8	P20
ANT795-4MD	5.0	30.0	6.0	18.2	31.0	-12.8	P20
ANT795-4MC	5.0	30.0	6.0	18.2	31.0	-12.8	P20
ANT 795-4MA	5.0	30.0	6.0	18.2	31.0	-12.8	P20

Remarks: No power reduction results from the de facto limit.

6 USED TEST EQUIPMENT AND ACCESSORIES

All test instruments used are calibrated and verified regularly. The calibration history is available on request.

Test ID	Model Type	Equipment No.	Next Calib.	Last Calib.	Next Verif.	Next Verif.
A 4	ESHS 30	02-02/03-05-002	16/07/2014	16/07/2013		
	ESH 2 - Z 5	02-02/20-05-004	06/06/2014	06/06/2013		
	KEMA 801	02-02/22-05-016				
	N-4000-BNC	02-02/50-05-138				
	N-1500-N	02-02/50-05-140				
	ESH 3 - Z 2	02-02/50-05-155				
	SP 103 /3.5-60	02-02/50-05-182				
CPC 3	ESR7	02-02/03-13-001	21/05/2014	21/05/2013		
	FSP 30	02-02/11-05-001	18/10/2013	18/10/2012		
	HM8143	02-02/50-10-016				
MB	ESR7	02-02/03-13-001	21/05/2014	21/05/2013		
	HM8143	02-02/50-10-016				
SER 1	FMZB 1516	01-02/24-01-018				
	ESR7	02-02/03-13-001	21/05/2014	21/05/2013		
	S10162-B	02-02/50-05-031				
	KK-EF393-21N-16	02-02/50-05-033				
	NW-2000-NB	02-02/50-05-113				
SER 2	ESVS 30	02-02/03-05-006	28/06/2014	28/06/2013		
	VULB 9168	02-02/24-05-005	11/04/2014	11/04/2013		
	S10162-B	02-02/50-05-031				
	NW-2000-NB	02-02/50-05-113				
	KK-EF393/U-16N-21N20 m	02-02/50-12-018				
SER 3	FSP 40	02-02/11-11-001	30/09/2014	30/09/2013		
	AMF-4F-04001200-15-10P	02-02/17-05-004				
	AFS5-12001800-18-10P-6	02-02/17-06-002				
	3117	02-02/24-05-009	04/04/2014	04/04/2013		
	R1 _ 18 - 40 GHz	02-02/30-09-002			08/01/2014	08/01/2013
	Sucoflex N-1000-SMA	02-02/50-05-072				
	Sucoflex N-1600-SMA	02-02/50-05-073				
	Sucoflex N-2000-SMA	02-02/50-05-075				